

केवल सरकारी उपयोग हेतु

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भारत सरकार/ GOVERNMENT OF INDIA

केन्द्रीय जल आयोग/ CENTRAL WATER COMMISSION



कृष्णा बेसीन / KRISHNA BASIN

वर्ष पुस्तिका (भाग - I)

WATER YEAR BOOK (Vol. I)

निस्सारण वर्ष पुस्तिका/DISCHARGE YEAR BOOK

(जून-2021 - मई-2022)

(JUNE-2021 – MAY-2022)

कृष्णा एवं समन्वय परिमंडल / KRISHNA & CO-ORDINATION CIRCLE

हैदराबाद / HYDERABAD

मार्च-2023

March-2023

प्रस्तावना

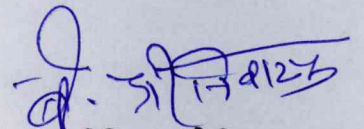
जल, सीमित संसाधन होने के कारण, विवेकपूर्णता से उपयोग करने के लिए उचित योजना अत्यधिक आवश्यक है। योजना के लिए, सांख्यिकता से मान्य आंकड़ा संग्रह प्राथमिक जरूरत है। भारत में सभी नदी क्षेत्रों में जल विज्ञान संबंधी प्रेक्षण स्टेशनों के अच्छे नेटवर्क के माध्यम से इस उद्देश्य को निभाने के लिए केंद्रीय जल आयोग प्रयत्न करता आ रहा है। यह रिपोर्ट कृष्णा नदी क्षेत्र से संबंध रखता है जो चार राज्यों यथा महाराष्ट्र, कर्नाटक, तेलंगाना और आंध्र प्रदेश को सम्मिलित करता है।

कृष्णा नदी क्षेत्र से संबंधित जल वर्ष पुस्तक **2021-22** तीन खंड में तैयार की गयी है। खंड **I**, **II** व **III** क्रमशः प्रवाह डेटा, तलछट डेटा और जल गुणवत्ता डेटा अंतर्विष्ट करता है। वर्ष **2021-22** के लिए अनुभाग खंड **I** में, स्थल अनुसार इतिहास, सामान्य प्रवाह डेटा, जल विज्ञान संबंधी डेटा, प्रतिदिन स्तर-निर्वहन डेटा और नक्शे/मानचित्र को सम्मिलित किया गया है। इसी प्रकार, स्थल अनुसार प्रतिदिन तलछट डेटा खंड **II** में और जल नमूनों की जल गुणवत्ता विश्लेषण खंड **III** में शामिल किया जाता है।

इस जल वर्ष पुस्तक (खंड **I**) में कृष्णा नदी क्षेत्र के **55** स्टेशनों से एकत्रित प्रतिदिन डेटा को समाविष्ट करके प्रकाशित किया गया है जिस में से **37** स्टेशन कृष्णा एवं समन्वय परिमंडल, हैदराबाद के क्षेत्राधिकार में हैं और शेष **18** स्टेशन जल विज्ञान एवं समन्वय परिमंडल, बेंगलुरु क्षेत्राधिकार में हैं। प्रति वर्ष जल वर्ष पुस्तक प्रकाशित की जाती है जिस में माह जून से मई तक का डेटा रहता है। यह डेटा डिजिटल रूप में भी उपलब्ध है और डब्ल्यू.आर.आई.एस. वैबसाइट पर अपलोड किया जायेगा और डेटा विकीर्णन पर दिशानिर्देशों के अनुसार विभिन्न उपयोगकर्ता एजेंसियों की जरूरत के अनुसार भी उपलब्ध करवाया जाएगा।

यह जल वर्ष पुस्तक **2021-22** को प्रकाशित करने में इस कार्यालय और विभिन्न मंडल कार्यालयों यथा ऊपरी कृष्णा मंडल, पुणे, निचली कृष्णा मंडल, हैदराबाद और कावेरी मंडल, बेंगलुरु के अधिकारियों और कर्मचारियों के प्रयासों को अभिस्वीकृत किया जाता है जिन के बिना यह खंड प्रकाशित करना संभव नहीं होता।

हैदराबाद
मार्च 2023


(श्रीनिवासू बैरी)
अधीक्षण अभियंता

PREFACE

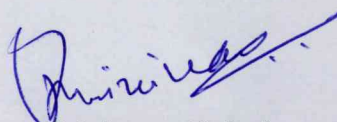
Water, being a limited resource needs to be judiciously utilized for which proper planning is very essential. In order to plan, a statistically valid data bank is a primary requirement. Central Water Commission endeavours to achieve this objective through a good network of Hydrological observation Stations in all river basins in India. This report pertains to the Krishna river basin which encompasses four states viz. Maharashtra, Karnataka, Telangana and Andhra Pradesh.

Water Year Book 2021-22 pertaining to Krishna Basin is prepared in three volumes. The Volume I, II & III contains stream flow data, Sediment data and Water Quality data respectively. Site-wise history of stream flow data and Hydrological data for the year 2021-22 comprising abstract of daily stage-discharge data and charts/maps are included in Volume I. Similarly, site-wise daily sediment data with charts are included in the Volume II and site-wise results of Water Quality analysis of Water Samples are included in Volume III.

This volume of the Water Year Book (Vol-I) contains the daily discharge data collected at 55 sites in the Krishna Basin, out of which 37 sites are under the jurisdiction of Krishna and Co-ordination Circle, Hyderabad and remaining 18 sites are under Hydrological observation & coordination circle, Bengaluru. The Water Year Book containing data from June to May is published every year. The data is also available in digital form and would be uploaded onto WRIS website and also supplied to various user agencies according to their requirement following the guidelines on data dissemination.

The efforts of the officers and staff of this office and that of field Divisions viz. Upper Krishna Division, Pune, Lower Krishna Division, Hyderabad and Cauvery Division, Bengaluru in bringing out this Water Year Book 2021-22 are hereby acknowledged, without which, it would not have been possible to bring out this volume.

Hyderabad
March 2023


(Srinivasu Bairy)
Superintending Engineer

अनुक्रमणिका

		विवरण	पृष्ठ संख्या
1		परिचय	
	1.1	कृष्णा नदी प्रणाली	i
	1.2	नदी क्षेत्र में वर्षा का स्वरूप	ii
	1.3	कृष्णा नदी क्षेत्र में जलविज्ञान तंत्र	ii
	1.4	तकनीकी अवलोकन	iii
	1.4.1	गेज अवलोकन	iii
i	1.4.2	निर्वहन अवलोकन	iii
	1.4.3	गैर-निरीक्षण दिनों के लिए निर्वहन की गणना	iv
	1.5	स्पष्टीकरण और व्याख्या टिप्पणी	v
	1.6	प्रस्तुति का तरीका	vii
		कृष्णा नदी क्षेत्र का सूचकांक मानचित्र	xv
2		धारा प्रवाह डाटा	
	2.1	तारागांव में कृष्ण नदी	1-14
	2.2	वारुज्जी में कोयना नदी	15-30
	2.3	कराड में कृष्णा नदी	31-47
	2.4	नांदेरे में यरला नदी	48-61
	2.5	सामडोली (मौसमी) में वारणा नदी	62-78
	2.6	अर्जुनवाड़ (मौसमी) में कृष्णा नदी	79-94
	2.7	कुरुंदवाड़ में कृष्णा नदी	95-109
	2.8	तेरवाड़ (मौसमी) में पंचगंगा नदी	110-123
	2.9	सदलगा (मौसमी) में दुधगंगा नदी	124-139
	2.10	गोकक फाल (मौसमी) में घाटप्रभा नदी	140-153
	2.11	मुढोल में घाटप्रभा नदी	154-166
	2.12	चौलाछगुडा (मौसमी) में मालप्रभा नदी	167-180
	2.13	तालीकोट (मौसमी) में डॉन नदी	181-194
	2.14	हविनहेडगी में कृष्णा नदी	195-209
	2.15	सुददाकल्लु में डिंडी नदी	210-222
	2.16	पारगाव में भीमा नदी	223-236
	2.17	मीरावाड़ी में मुलमुट्टा नदी	237-250
	2.18	फूलगाव (मौसमी) में भीमा नदी	251-264
	2.19	सारती में नीरा नदी	265-281
	2.20	नरसिंहपुर में भीमा नदी	282-298
	2.21	टाकली में भीमा नदी	299-316
	2.22	वडकबाल में सिना नदी	317-334
	2.23	मलखेड़ में कागना नदी	335-348
	2.24	यादगीर में भीमा नदी	349-365
	2.25	होलेहोन्नूर में भद्रा नदी	366-378
	2.26	लक्कवल्ली में तुंगा नदी	379-391
	2.27	हरिहरपुरा में तुंगभद्रा नदी	392-404
	2.28	एयरानी में तुंगभद्रा नदी	405-417
	2.29	महिषी में तुंगभद्रा नदी	418-430
	2.30	शिमोगा में तुंग नदी	431-444
	2.31	होन्नाल्ली में तुंगभद्रा नदी	445-458
	2.32	कुप्पेलूर में कुमुदावथी नदी	459-472
	2.33	ब्यालदाहल्ली में हरिद्रा नदी	473-486
	2.34	कलमन में तुंगभद्रा नदी	487-499
	2.35	हरलाहल्ली में तुंगभद्रा नदी	500-515
	2.36	मरोल में वरदा नदी	516-531
	2.37	होवेनहल्ली में स्वर्णमुखी नदी	532-541
	2.38	केल्लोडु में वेदावथी नदी	542-555
	2.39	टी. रामापुरम में हगरी नदी	556-572
	2.40	मेलगनूर में तुंगभद्रा नदी	573-586
	2.41	मंत्रालयम में तुंगभद्रा नदी	587-601
	2.42	बावपुरम में तुंगभद्रा नदी	602-618
	2.43	डोडीपोडु में हंडरी नदी	619-632
	2.44	हालिया में हालिया नदी	633-647
	2.45	वीरलापलेम में तुंगपाडु नदी	648-661
	2.46	अनंथरम में आलेरु नदी	662-675
	2.47	दमाराचेरला में मूसी नदी	676-691
	2.48	वलीगोडा में मूसी नदी	692-705
	2.49	वादेनापल्ली में कृष्णा नदी	706-722
	2.50	पलेरु ब्रिज में पलेरु नदी	723-738
	2.51	मुनुगोडु में एडुवगु नदी	739-752
	2.52	पेनुयंचिप्रोलु में मुनुरु नदी	753-764
	2.53	मधीरा में वायरा नदी	765-779
	2.54	केसरा में मुनुरु नदी	780-796
	2.55	विजयवाड़ा में कृष्णा नदी	797-813

CONTENTS

		DESCRIPTION	PAGE NO.
1		INTRODUCTION	
	1.1	Krishna River system	viii
	1.2	Rainfall pattern in the basin	ix
	1.3	Hydrological network in Krishna basin	ix
	1.4	Observation techniques	x
	1.4.1	Gauge observation	x
	1.4.2	Discharge observation	x
	1.4.3	Computation of Discharge for non-observed days	xi
	1.5	Explanatory & Interpretation note	xii
	1.6	Method of presentation	xiv
	1.7	Index map of the Krishna basin	xv
2		STREAM FLOW DATA	
	2.1	Krishna at Targaon	1-14
	2.2	Koyna at Warunji	15-30
	2.3	Krishna at Karad	31-47
	2.4	Yerla at Nandre	48-61
	2.5	Varna at Samdoli (Seasonal)	62-78
	2.6	Krishna at Arjunwad (Seasonal)	79-94
	2.7	Krishna at Kurundwad	95-109
	2.8	Panchganga at Terwad (Seasonal)	110-123
	2.9	Dudhganga at Sadalgi (Seasonal)	124-139
	2.10	Ghataprabha at Gokakfalls (Seasonal)	140-153
	2.11	Ghataprabha at Mudhol	154-166
	2.12	H Malaprabha at Chalachagudda (Seasonal)	167-180
	2.13	Don at Talikot (Seasonal)	181-194
	2.14	Krishna at Huvinhedgi	195-209
	2.15	Dindi at Suddakallu	210-222
	2.16	Bhima at Paragaon	223-236
	2.17	Mula Mutta at Mirawadi	237-250
	2.18	Bhima at Phulgaon (Seasonal)	251-264
	2.19	Nira at Sarati	265-281
	2.20	Bhima at Narsingpur	282-298
	2.21	Bhima at Takli	299-316
	2.22	Sina at Wadakbal	317-334
	2.23	Kagna at Malkhed	335-348
	2.24	Bhima at Yadgir	349-365
	2.25	Bhadra at Holehonnur	366-378
	2.26	Bhadra at Lakkavalli	379-391
	2.27	Tungabhadra at Hariharapura	392-404
	2.28	Tungabhadra at Airani	405-417
	2.29	Tungabhadra at Mahishi	418-430
	2.30	Tunga at Shimoga	431-444
	2.31	Tungabhadra at Honnali	445-458
	2.32	Kumudavathi at Kuppelur	459-472
	2.33	Haridra at Byaladahalli	473-486
	2.34	Tungabhadra at Kalmane	487-499
	2.35	Tungabhadra at Harlahalli	500-515
	2.36	Varada at Marol	516-531
	2.37	Swarnamukhi at Hoovinahole	532-541
	2.38	Vedavathi at Kellodu	542-555
	2.39	Hagari at T. Rampuram	556-572
	2.40	Tungadhadra at Melaganur	573-586
	2.41	Tungabhadra at Mantralayam	587-601
	2.42	Tungabhadra at Bawapuram	602-618
	2.43	Hundri at Doddipadu	619-632
	2.44	Halia at Halia	633-647
	2.45	Tungapadu at Veerlapalem	648-661
	2.46	Aleru at Anantharam	662-675
	2.47	Musi at Dameracherla	676-691
	2.48	Musi at Valigonda	692-705
	2.49	Krishna at Wadenapally	706-722
	2.50	Paleru at Paleru Bridge	723-738
	2.51	Eddu Vagu at Munugodu	739-752
	2.52	Munneru at Penugranchiprolu	753-764
	2.53	Wyra at Madhira	765-779
	2.54	Munneru at Keesara	780-796
	2.55	Krishna at Vijayawada	797-813

कृष्णा नदी क्षेत्र
दैनिक निर्वहन डेटा (खंड - I)
(जून 2021 - मई 2022)

1. परिचय

1.1 कृष्णा नदी प्रणाली

1.1.1 कृष्णा नदी प्रायद्वीपीय भारत में दूसरी सबसे बड़ी पूर्व-निकासी अंतरराज्यीय नदी है। नदी क्षेत्र पूर्वी रेखांश 73°21' से 81°09' तक और उत्तरी अक्षांश 13°07' से 19°25' के बीच स्थित है, जो महाराष्ट्र, कर्नाटक, तेलंगाना और आंध्र प्रदेश के बड़े क्षेत्रों को कवर करते हुए डेक्कन के पठार में है।

कृष्णा नदी क्षेत्र उत्तर में गोदावरी नदी क्षेत्र से अलग चोटी द्वारा, दक्षिण और पूर्व में पूर्वी घाटों द्वारा तथा पश्चिम में पश्चिमी घाटों द्वारा घिरा हुआ है। नदी क्षेत्र का आकार त्रिकोणीय है जिसका आधार पश्चिमी घाट है तथा शीर्ष विजयवाड़ा है और कृष्णा नदी स्वयं मध्यस्थ बनती हैं। सभी प्रमुख सहायक नदियां पश्चिमी घाट से निकलते हुए हैं और वो कृष्णा नदी में इसकी लंबाई के ऊपरी दो-तिहाई हिस्से में आकर मिलती हैं।

1.1.2 कृष्णा नदी 2,59,439 वर्ग किलोमीटर (भू स्थानिक डेटा सेट के आधार पर) क्षेत्र में बहती है जो कि देश के कुल भौगोलिक क्षेत्र का लगभग 8% है।

जल निकासी क्षेत्र का राज्यवार वितरण नीचे दी गई तालिका में दिखाया गया है।

राज्य का नाम	लम्बाई (कि.मी.)	जल निकासी क्षेत्र (वर्ग कि.मी.)	जल निकासी क्षेत्र %
महाराष्ट्र	306	69,044	26.8
कर्नाटक	483	1,13,622	43.7
तेलंगाना	612	51,388	19.8
आंध्र प्रदेश		25,385	9.8
कुल	1401	2,59,439	100.0

1.1.3 कृष्णा नदी अरब सागर से लगभग 64 किमी दूर महाबलेश्वर के उत्तर में 1337 मीटर की ऊंचाई पर पश्चिमी घाटों में उदित होती है और महाराष्ट्र, कर्नाटक, तेलंगाना और आंध्र प्रदेश राज्यों से होते हुये पश्चिम से पूर्व तक बहती हुये विजयवाड़ा के नीचे की ओर बहाव के साथ बंगाल की खाड़ी में मिल जाती है।

1.1.4 कृष्णा नदी जलमार्ग 1400 किमी लम्बा है जिसमें शामिल होने वाली 13 प्रमुख सहायक नदियां हैं, जिनमें से छह दाएं किनारे की सहायक नदियां हैं और सात बाएं किनारे की सहायक नदियां हैं। घटप्रभा, मलप्रभा और तुंगभद्रा प्रमुख दाएं किनारे की सहायक नदियां हैं जो कुल मिलाकर 35.45% हिस्सेदारी रखते हैं, जबकि भीमा, मुसी और मुन्नरू प्रमुख बाएं किनारे की सहायक नदियां हैं जो कुल

मिलाकर 35.62 % क्षेत्र हिस्सेदारी रखते हैं। सहायक नदियों के स्रोत की ऊंचाई, लंबाई और अपवाह क्षेत्रों की जानकारी नीचे तालिका में दी गई है।

कृष्णा नदी की महत्वपूर्ण सहायक नदियां

स. क्र.	सहायक नदी का नाम	तट	औ. स. त. के ऊपर स्रोत की ऊंचाई (मी.)	लम्बाई (कि.मी.)	अपवाह-क्षेत्र (वर्ग कि.मी.)
1	कोयना	दायाँ	1441	118	4,890
2	पंचगंगा	दायाँ	1020	74	2,575
3	दुधगंगा	दायाँ	870	103	2,350
4	घटप्रभा	दायाँ	884	283	8,829
5	मलप्रभा	दायाँ	793	304	11,549
6	भीमा	बायाँ	945	861	70,614
7	तुंगभद्रा	दायाँ	610	531	71,417
8	दिंडी	बायाँ	718	178	3,490
9	पेददवागु	बायाँ	707	109	2,343
10	हालिया	बायाँ	708	112	3,780
11	मूसी	बायाँ	661	265	11,212
12	पालेरु	बायाँ	515	152	3,263
13	मुन्नेरु	बायाँ	238	195	10,409

1.2 कृष्णा नदी क्षेत्र में बारिश का स्वरूप

कृष्णा नदी क्षेत्र में औसत वार्षिक वर्षा 750 मि.मी. है। वर्ष 2021-22 में कृष्णा नदी बेसिन में तुंगभद्रा उप बेसिन के क्षेत्र में कम वर्षा और अन्य क्षेत्रों औसत वर्षा हुई, जिसके कारण तुंगभद्रा बेसिन के कई साइटों पर कम वार्षिक उपज देखी गई, जबकि अधिकांश अन्य साइटों पर पिछले वर्ष की तुलना में अच्छा प्रदर्शन देखा गया। दक्षिण पश्चिम मॉनसून जून के मध्य में शुरू होता है और अक्टूबर के मध्य तक वापस चला जाता है। मानसून अवधि के दौरान लगभग 90% वार्षिक वर्षा प्राप्त होती है, जिसमें से 70% जुलाई, अगस्त और सितंबर के दौरान होती है।

1.3 कृष्णा नदी क्षेत्र में जल-विज्ञान संबंधी तंत्र

कृष्णा गोदावरी आयोग ने जुलाई 1962 की अपनी रिपोर्ट में कृष्णा बेसिन में कई स्थानों पर स्थायी आधार पर दैनिक बहाव अवलोकन साइटों की एक वैज्ञानिक तरीके से स्थापित करने की सिफारिश की थी। 1973 की अपनी रिपोर्ट में कृष्णा जल विवाद न्यायाधिकरण ने भी कृष्णा बेसिन में अतिरिक्त जल-विज्ञान निरीक्षण केंद्रों की स्थापना की सिफारिश की थी।

केन्द्रीय जल आयोग ने 1963 में कृष्णा बेसिन में जल-विज्ञान अवलोकन शुरू किया। कृष्णा नदी और इसकी सहायक नदियों पर जल-विज्ञान स्थलों की स्थापना की गई और डेटा संग्रहण जारी है। मानसून के मौसम के दौरान, स्टेशन गेज लाइन पर गेज घंटे प्रति घंटा दर्ज की जाता है। गैर मानसून के मौसम के दौरान 0800 घंटे, 1300 घंटे और 1800 घंटे प्रतिदिन तीन बार दर्ज की जाता है।

कृष्णा बेसिन के 55 जल-विज्ञान अवलोकन केंद्रों में से 37, कृष्णा और समन्वय परिमंडल, हैदराबाद के नियंत्रण में हैं और 18 कावेरी मंडल, जल विज्ञानीय प्रेशरण एवं समन्वय परिमंडल, (एच.वो. और सी.सी.), बेंगलुरु के अधीन हैं। कृष्णा और समन्वय परिमंडल के तहत, दो मंडल हैं, यथा ऊपरी कृष्णा मंडल, पुणे ने 16 अवलोकन केंद्रों को और निचली कृष्णा मंडल, हैदराबाद ने 21 अवलोकन केंद्रों को सम्भाले रखा है।

2021-22 के दौरान एकत्रित 55 केंद्रों का दैनिक गेज और निर्वहन डेटा इस खंड में प्रस्तुत किया गया है। गेज और निर्वहन अवलोकन के अलावा, इनमें से कुछ केंद्रों पर तलछट और जल गुणवत्ता निगरानी भी की जाती है। सभी 55 साइटों का वर्ष 2021-22 के लिए जल स्तर और निर्वहन डेटा खंड -1 में प्रस्तुत किया गया है। निलंबित तलछट डेटा (27 साइट) और जल गुणवत्ता डेटा (44 साइट) वर्ष 2021-22 के लिए अनुक्रम II और III में क्रमशः प्रस्तुत किए जाते हैं।

1.4 निरीक्षण तकनीकें

गेज और निर्वहन डेटा के संग्रह के लिए अपनाए गए मानक तरीकों को निम्नलिखित पैरा में संक्षेप में समझाया गया है।

1.4.1 गेज निरीक्षण

नदी के जल स्तर या चरण को औसत समुद्र तल के आधार के ऊपर इसकी ऊंचाई के रूप में मापा जाता है। गैर-अभिलिखित गेज को मैन्युअल रूप से पढ़ कर जल स्तर माप किया जाता है। लंबवत चिह्नित छड़ी की श्रृंखला प्रत्येक साइट पर तीन लड़कों में स्थापित की जाती है। मेट्रिक इकाई अंकन के साथ इनेमल पेन्ट गेज प्लेटें गेज पोस्ट पर स्थापित की जाती हैं ताकि गेज को तीन दशमलव तक पढ़ा जा सके। तीन गेजिंग लाइनों में से, मध्य लाइन को स्टेशन गेज लाइन के रूप में उपयोग किया जाता है और अन्य दो लाइनों की रीडिंग का उपयोग पानी की सतह के ढलान की गणना के लिए किया जाता है।

1.4.2 निर्वहन निरीक्षण

आमतौर पर, रविवार और छुट्टियों के दिनों को छोड़कर सभी दिनों में क्षेत्र-वेग विधि का उपयोग करके लगभग 0800 घंटे पर एक बार निर्वहन अवलोकन किया जाता है।

स्टेशन गेज लाइन पर नदी के गहराई और वेग अवलोकन हेतु IS: 1192-2013 में उल्लेखित विधि अनुसार नदी को 15-25 भागों में विभाजित किया जाता है। नदी के प्रवाह की चौड़ाई

और प्रवाह की स्थिति के आधार पर प्रत्येक खंड का केंद्रीय बिंदु टैग लाइन का उपयोग करके या खंड प्रणाली द्वारा चिह्नित किया जाता है।

मध्य खंड विधि का आमतौर पर पालन किया जाता है और प्रत्येक खंड के मध्य बिंदु पर गहराई और वेग मापा जाता है। वेडिंग राड या गहराई रॉड का उपयोग करके गहराई दर्ज की जाती है, किंतु 3.0 मीटर से अधिक गहराई के लिये साउंडिंग रील या इको साउंडर का उपयोग किया जाता है। असाधारण मामलों में, जहां नदी का नदीतल स्थिर है, अवलोकन अनुभाग में नदी के हालिया ली गई क्रॉस सेक्शन को उपयोग करके गहराई का अनुमान लगाया जाता है।

हराई और वेग अवलोकन कम प्रवाह के दौरान वेडिंग के द्वारा तथा ज्यादा प्रवाह के दौरान नाव के साथ केबल वे द्वारा या आईबी / ओबी इंजन द्वारा किया जाता है। कुछ साइटों पर, पुल का उपयोग करके उस साइट पर उपलब्ध अवलोकन सुविधाओं के माध्यम से डेटा के संग्रह किया जाता है।

IS: 3910-1992 के अनुसार बनाई गई एक कप प्रकार के धारामापी का उपयोग करके IS: 3918-1966 के अनुरूप वेग को मापा जाता है। आमतौर पर धारामापी IS: 6064-1971 के अनुसार निलंबन उपकरण द्वारा प्रत्येक खंड बिंदु पर सतह से कुल गहराई की 0.6 गहराई तक नीचे किया जाता है और जब जल की गहराई 0.3 मीटर से कम होती है, तो वेग पानी की सतह के बिल्कुल नीचे मापा जाता है।

अत्यधिक प्रवाह वेग के दौरान नदी के मध्यम और उच्च स्थलों में, इंजनों वाली नाव का उपयोग किया जाता है। जहां इंजन के बिना FRP नाव का उपयोग किया जाता है उन कुछ स्टेशनों पर नावों के संचालन हेतु केबल वे स्थापित किये गये हैं। जब धारा प्रवाह की स्थिति के कारण नाव को अवलोकन के लिए स्थिर रखना मुश्किल हो जाता है, वहां कभी-कभी वेग मापन सड़क-पुलों से किए जाता हैं, जहां भी संभव होता हैं। जब उपर्युक्त प्रक्रियाओं में से कोई भी संभव नहीं होती है, तो या तो फ्लोट अवलोकन या ढलान-क्षेत्र विधि द्वारा गणना की जाती है।

विभिन्न साइटों पर विभिन्न विधियों द्वारा ली गया डेटा, निर्वहन की गणना करने के लिए निर्धारित मानक रूपों में दर्ज किया जाता है और फिर सतह जल डेटा प्रविष्टि प्रणाली (SWDES) में अंकित करने के लिए उप मंडलीय डेटा केंद्र में प्रेषित किया जाता है। डेटा की सॉफ्ट कॉपी मंडल कार्यालय में जमा की जाती है। मंडल डेटा प्रसंस्करण केंद्र में प्राथमिक सत्यापन के बाद, क्षेत्रीय डेटा प्रसंस्करण केंद्र, परिमंडल कार्यालय में HYMOS सॉफ्टवेयर का उपयोग कर डेटा को संशोधित करके अंतिम रूप दिया जाता है। वर्ष 2016 से लिया गया डेटा को e-SWIS (ऑनलाइन डेटा बेस) में दर्ज किया जा रहा है।

1.4.3 गैर-निरीक्षण दिनों के लिए निर्वहन डेटा की गणना

प्रत्येक सत्र (मानसून या गैर मानसून) के दौरान मापा नदी स्तर और निर्वहन डेटा SWDES से HYMOS में भेजा जाता है। HYMOS में सभी अवलोकन बिंदुओं को वेटेज देकर और ऐसे अवलोकनों को छोड़कर जो असंगत हो, एक स्तर-निर्वहन दर-निर्धारण वक्र तैयार किया जाता

हैं। वर्तमान मौसम के लिए चरण-निर्वहन वक्र को इस तरह से अंतिम रूप दिया गया है कि यह पूर्वाग्रह से मुक्त हो और उपयुक्त परीक्षणों को पास करता हो। पिछले वर्ष के एस-डी वक्र के साथ अध्यारोपित करके तुलना की जाती है और वर्तमान वर्ष के वक्र में यदि कोई परिवर्तन देखा जाता है तो इसके सत्यापन के लिए चरण-क्षेत्र और चरण-वेग आरेखों का उपयोग करके अध्ययन किया जाता है। परिवर्तन की उपयुक्तता के संतोषजनक निष्कर्ष पर, वर्तमान मौसम के चरण-निर्वहन वक्र को अंतिम रूप दिया गया है और गैर-निरीक्षण दिनों के लिए 0800 घंटे बजे पानी के स्तर के लिये दर-निर्धारण वक्र से निर्वहन की गणना की जाती है। अमान्य अवलोकनों के लिए निर्वहन की गणना, चरण-निर्वहन दर-निर्धारण वक्र से की जाती है।

1.5 व्याख्यात्मक & विवेचनात्मक टिप्पणी

1.5.1 इस प्रकाशन में प्रस्तुत डेटा और आलेखी प्रस्तुतिकरणों में निहित जल-विज्ञान मानकों को समझने में सहायता के लिए निम्नलिखित स्पष्टीकरण / व्याख्या दी गयी है।

- i. जल वर्ष, कैलेंडर वर्ष के 1 जून से शुरू होता है और अगले कैलेंडर वर्ष के 31 मई तक चलता है और एक पूर्ण जल-विज्ञान चक्र को पूर्ण करता है।
- ii. दिए गए निर्वहन आंकड़े दैनिक निरीक्षित / अनुमानित प्रवाह होते हैं। गैर-अवलोकन दिनों और अमान्य अवलोकनों के लिए, 0800 घंटों के गेज के लिए निर्वहन का अनुमान लगाया जाता है और प्रति सेकंड घन मीटर (Cumecs) में दर्शाया जाता है।
- iii. गेज का शून्य प्रत्येक साइट के लिए निर्धारित डेटम स्तर का संदर्भ है और बारहमासी नदी के निम्नतम पानी के स्तर से 1 या 2 मीटर कम रखा जाता है। गैर-बारहमासी नदी में, इसे नदी के तल के स्तर से 1 मीटर कम रखा जाता है।
- iv. निर्वहन को निम्न तरीकों से पूर्णांकित किया जाता है :
 - a) 1000 क्यूमेक्स से अधिक होने पर निकटतम पूर्ण पूर्णांक।
 - b) 100-999 क्यूमेक्स के बीच होने पर निकटतम पहला दशमलव मान।
 - c) 10-99 क्यूमेक्स के बीच होने पर निकटतम दूसरा दशमलव मान।
 - d) 10 से कम होने पर निकटतम तीसरा दशमलव मान।
- v. महीने के अधिकतम और न्यूनतम निर्वहन (अवलोकित / गणना) दैनिक निर्वहन से लिया जाता है।
- vi. अपवाह (रन-ऑफ) मिलीमीटर में जल निकासी क्षेत्र पर निर्वहन माप स्टेशन तक पानी की वास्तविक गहराई होती है, जो कि वार्षिक गणित रन-ऑफ के जो समतुल्य होती है, जिसे निम्नलिखित संबंधों का उपयोग करके गणना किया जाता है।

$$\text{अपवाह (मि.मी.)} = \frac{\text{वार्षिक अपवाह (मिलियन क्यूबिक मीटर) \times 1000}}{\text{अपवाह क्षेत्र (वर्ग किमी)}}$$

- vii. रिकॉर्ड पर अधिकतम और सबसे निचला निर्वहन मापने के समय के अनुरूप होता है (निर्वहन मापने का समय आमतौर पर 08.00 घंटे से निर्वहन माप के अंत तक होता है) और पूर्ण अधिकतम और सबसे कम पानी के स्तर के अनुरूप नहीं होता है।

हालांकि, अधिकतम उत्पन्न जल स्तर घटना के दिनांक और समय के साथ इसकी अनुमानित निर्वहन का उल्लेख प्रत्येक साइट की इतिहास पुस्तिका में किया गया है।

गेजिंग साइट का कोड नंबर एक सात-कॉलम वाला अद्वितीय अक्षरांकीय संदर्भ संख्या होती है, जो डेटा बैंकों में प्रवाह डेटा के भंडारण और पुनर्प्राप्ति की सुविधा प्रदान करता है। पहला वर्ण या तो एक अभिन्न नदी बेसिन या एक क्षेत्र है जिसमें कई संगत नदी अपवहन क्षेत्र प्रदर्शित करता है। इसके बाद एक वर्ण होता है, जो एक स्वतंत्र नदी प्रणाली की पहचान करता है, जिसमें समुद्र में एक या एक से अधिक आउटलेट होते हैं या जो किसी अन्य देश में प्रवेश करने के लिए अंतरराष्ट्रीय सीमा पार करते हैं। तीसरे, चौथे और पांचवें वर्ण समुद्र / अंतरराष्ट्रीय सीमा से धारा की ओर बढ़ते क्रमशः पहले, दूसरे और तीसरे अनुक्रम की सहायक नदियों को दर्शाते हैं। छठे और सातवें वर्ण नदी पर निर्धारित गेजिंग साइट का स्थान इंगित करते हैं। रिक्त स्थान, यदि कोई हो तो, शून्य से भरे होते हैं।

1.5.2 चित्रात्मक निरूपण की व्याख्या

आयतचित्र-हाइड्रोग्राफ, पट्टी मानचित्र और एक पाई आरेख आदि; स्वचालित रूप से दर्ज किए गए डेटा के आधार पर सॉफ्टवेयर द्वारा उत्पन्न होते हैं, जिनकी संक्षेप में व्याख्या नीचे दी गयी है।

A. आयतचित्र-हाइड्रोग्राफ : इस आलेखीय निरूपण से पता चलता है (ए) अधिकतम ऐतिहासिक निर्वहन जिसका मतलब है उपलब्ध डेटा की पूरी अवधि में जल वर्ष के प्रत्येक महीने में दिन में उच्चतम निर्वहन कितना है। (बि) इसी प्रकार न्यूनतम ऐतिहासिक निर्वहन का मतलब है उपलब्ध डेटा की पूरी अवधि में जल वर्ष के प्रत्येक महीने में दिन में सबसे कम निर्वहन कितना है। (सि) वर्तमान वर्ष सहित उपलब्ध डेटा की पूरी अवधि के लिए जल वर्ष में प्रत्येक महीने में औसत ऐतिहासिक निर्वहन (डि) वर्तमान वर्ष का औसत निर्वहन का मतलब है कि वर्तमान वर्ष के प्रत्येक माह में दैनिक निर्वहन का औसत मान। इस प्रकार यह ग्राफ एक दिन के अधिकतम न्यूनतम निर्वहन और प्रत्येक वर्ष के लिए प्रत्येक माह के औसत निर्वहन का जिसके लिए डेटा उपलब्ध है निरूपण करता है। तथा इन मानों की तुलना मौजूदा वर्ष के मासिक औसत मानों से करता है।

B. रनऑफ का बार चार्ट: यह निम्नलिखित सूत्रों का उपयोग करते हुए दस लाख घन मीटर (एम.सी.एम.) में मौजूदा वर्ष सहित सभी वर्षों के उपलब्ध आंकड़ों के लिए प्रत्येक जल वर्ष के वार्षिक प्रवाह का सचित्र प्रदर्शन है।

दैनिक डिस्चार्ज (घन मीटर प्रति सेकेंड में) $\times 60 \times 60 \times 24 / 1000000 = \text{एम.सी.एम.}$

में दिन का रनऑफ

दैनिक रनऑफ का योग एक वर्ष में वार्षिक रनऑफ देता है। यह चार्ट उपलब्ध डेटा के सभी वर्षों के लिए साइट पर प्रत्येक वर्ष के वार्षिक रन ऑफ की तुलना करता है।

C. पाई आरेख: मासिक औसत रनऑफ का पाई आरेख वर्ष के प्रत्येक महीने के लिए सालाना रन ऑफ का औसत प्रतिशत दर्शाता है जिसके लिए चालू वर्ष का डेटा भी उपलब्ध हो। इसी तरह वर्तमान वर्ष का पाई आरेख वर्तमान जल वर्ष में प्रत्येक महीने के वार्षिक प्रवाह के प्रतिशत का निरूपित करता है। यह निरूपण किसी विशेष साइट पर वार्षिक उपज में पानी का मासिक योगदान दिखाता है। क्षेत्र में धारा के मार्ग में बारिश गिरने के आधार पर मासिक रन ऑफ एक साइट से दूसरे साइट पर भिन्न हो सकता है।

D. अध्यारोपित अनुप्रस्थ काट: नदी के तल का अनुप्रस्थ काट मानक निर्वहन क्षेत्र के साथ प्रत्येक साइट पर मानसून के पहले और मानसून के बाद दर्ज की जाती है और अनुप्रस्थ काट में परिवर्तन पता करने हेतु इसे अध्यारोपित भी करते हैं।

E. जल स्तर बनाम समय चार्ट: प्रत्येक साइट पर 3 शीर्ष चोटी के बाढ़ का निरूपण इन चार्टों द्वारा किया जाता है। जिसमें प्रत्येक बाढ़ के लिए 72 घंटे (3 दिन) के समय के साथ पानी का स्तर तिथि और समय दिया होता है।

1.6 प्रस्तुति का तरीका

इस खंड में साइट-वार जल-विज्ञान डेटा वृत्तपत्रक प्रवाह तालिका और चित्रमय सारांश प्रस्तुत किए जाते हैं। हाइड्रोलॉजिकल स्टेशनों का अनुक्रमण समुद्र से ऊपर की ओर बढ़ने वाली नदी के साथ या मुख्य नदी / अंतरराष्ट्रीय सीमा के साथ संगम से नदी के स्रोत तक व्यवस्थित किया जाता है। जिसमें मध्यवर्ती सहायक नदियों स्थित साइटों को भी समान रूप से प्राथमिकता दी जाती है।

प्रवाह सारणी निम्नलिखित तथ्य इंगित करती है:

- दैनिक निर्वहन (क्यूमेक्स में)
- दस दैनिक औसत निर्वहन (क्यूमेक्स में)
- मासिक औसत निर्वहन (क्यूमेक्स में)
- मासिक अधिकतम और न्यूनतम निर्वहन (क्यूमेक्स में)
- वार्षिक रन-ऑफ (मि. क्यूमेक्स और मिमी में)

KRISHNA BASIN

DAILY DISCHARGE DATA (VOL - I)

(JUNE 2021 – MAY 2022)

1.0 INTRODUCTION

1.1 THE KRISHNA RIVER SYSTEM

- 1.1.1** The River Krishna is the second largest eastward draining interstate river in Peninsular India. The basin of Krishna is situated between East longitudes 73° 21' to 81° 09' and North latitudes 13° 07' to 19° 25' in the Deccan Plateau covering large areas in the States of Maharashtra, Karnataka, Telangana and Andhra Pradesh.

The Krishna Basin is bounded on the North by the ridge, separating it from the Godavari basin and on the South and East by the Eastern Ghats and on the West by the Western Ghats. The basin is more or less triangular in shape with its base along the Western Ghats, the apex at Vijayawada and the river Krishna itself forming the median. All the major tributaries are originating in the Western Ghats and joining river Krishna at the base of the triangle in the upper two-thirds of its length.

- 1.1.2** The Krishna drains an area of 2,59,439 sq.km (based on geo spatial data sets) which is nearly 8% of the total geographical area of the country.

The State wise distribution of drainage area is shown in the Table given below.

Name of State	Length (km)	Drainage area (sq.km)	Drainage area %
Maharashtra	306	69,044	26.8
Karnataka	483	1,13,622	43.7
Telangana	612	51,388	19.8
Andhra Pradesh		25,385	9.8
Total	1401	2,59,439	100.0

- 1.1.3** The river Krishna rises in the Western Ghats at an altitude of 1337m just North of Mahabaleswar, about 64 km from the Arabian Sea and flows from West to East through the States of Maharashtra, Karnataka, Telangana and Andhra Pradesh before it joins the Bay of Bengal at downstream of Vijayawada.

- 1.1.4** There are about 13 major tributaries which join the river Krishna along its 1400 km course, out of which, six tributaries are on right bank and remaining seven are on left bank. Among the major tributaries, the Ghataprabha, Malaprabha and Tunga- Bhadra are the principal right bank tributaries which together contribute 35.45% of the total catchment area, whereas the Bhima, Musi and Munneru are the principal left bank tributaries which together contribute 35.62% of the total catchment area.

The elevation of source, length and catchment areas of the tributaries are indicated in given table below.

The important tributaries of river Krishna

Sl.No.	Name of tributary	Bank	Elevation of source in m above MSL	Length (km)	Catchment area (sq.km)
1	Koyna	Right	1441	118	4,890
2	Panchganga	Right	1020	74	2,575
3	Dudhganga	Right	870	103	2,350
4	Ghataprabha	Right	884	283	8,829
5	Malaprabha	Right	793	304	11,549
6	Bhima	Left	945	861	70,614
7	Tunga Bhadra	Right	610	531	71,417
8	Dindi	Left	718	178	3,490
9	Peddavagu	Left	707	109	2,343
10	Halia	Left	708	112	3,780
11	Musi	Left	661	265	11,212
12	Paleru	Left	515	152	3,263
13	Munneru	Left	238	195	10,409

1.2 RAINFALL PATTERN IN THE KRISHNA BASIN

The average annual rainfall in the Krishna basin is 750 mm. In 2021-22 Tungabhadra sub basin in Krishna River Basin experienced less rainfall and above average rainfall in other areas, due to which less annual yield observed at many of the sites in Tungabhadra basin while most of other sites experienced good runoff compared to the previous year. The South West Monsoon sets in the middle of June and withdraws by the middle of October. About 90% of annual rainfall is received during the Monsoon period, of which more than 70% occurs during July, August and September.

1.3 Hydrological Network in Krishna Basin

Krishna Godavari Commission in their report of July 1962 recommended for establishment of daily discharge observation sites on permanent basis and in a scientific way at various locations in Krishna basin. Krishna Water Dispute Tribunal in their report of 1973 also recommended setting up of additional Hydrological Observation stations in Krishna basin. Central Water Commission commenced Hydrological Observations in Krishna Basin in 1963. Hydrological Observation sites on main Krishna River and its tributaries were established and data collection is being continued. During monsoon

season, gauges are recorded hourly at the station gauge line. During non-monsoon season gauges are recorded thrice daily at 0800 hours, 1300 hours and 1800 hours.

Out of 55 Hydrological observation stations in the Krishna Basin, 37 are under the control of Krishna & Co-Ordination Circle, Hyderabad and 18 are under Hydrological observation, & coordination circle Bangalore. Under the Krishna & Co-Ordination Circle, there are two divisions namely, Upper Krishna Division, (UKD) Pune maintaining 16 observation stations and Lower Krishna Division, (LKD) Hyderabad maintaining 21 observation stations.

The daily gauge and discharge data of 55 stations collected during 2021-22 have been presented in this volume. In addition to gauge and discharge observations, Sediment and Water Quality monitoring are also conducted at some of these stations. The water level and discharge data for the year 2021-22 of all the 55 sites are presented in Volume-I. Suspended Sediment data (27 sites) and Water Quality data (44 Sites) are presented for the year 2021-22 in volumes II and III respectively.

1.4 OBSERVATION TECHNIQUES

The standard methods adopted for collection of Gauge and Discharge data are explained briefly in the following Para's.

1.4.1 Gauge Observation

Water level or stage of the river is measured as its elevation above MSL datum. Water level measurement is carried out by manually reading non-recording gauges. Series of vertical staff gauges are fixed at three sections at every site. Enameled gauge plates with metric unit markings are fixed on the gauge posts so that gauges can be read up to three decimals. Out of the three gauging lines, the central one is used as station gauge line and readings of the other two lines are used for calculation of water surface slope.

1.4.2 Discharge Observation

In general, discharge observations are conducted once in a day commencing at about 0800 hours using area-velocity method on all days except Sundays and holidays.

Across the river at station gauge line, the river is divided into 15 – 25 segments as outlined in IS 1192 – 2013 for conducting depth and velocity observations. The central point of each segment is located / marked using the tag line or by Segmentation system depending on the width of the river and flow conditions.

Mid-section method is generally followed and depth and velocity are observed at midpoint of each segment. Depth is recorded using wading rod and sounding rod up to 3.0 m above which Sounding reel or Echo Sounder is used. In exceptional cases, where

the river bed is stable, depths are estimated using recent cross section of the stream at the observation section.

Depth and velocity observations are carried out by wading during lean flow and at higher flow conditions by Boat with cable way or Boat with IB /OB Engine or Catamaran or Motor Launch. At certain sites, Bridge sections are used for collection of data depending on the means of observation facilities available at that site.

The velocity is measured as per IS 3918 - 1966 by using a cup type current meter conforming to IS 3910 - 1992. In general the current meter is lowered to the requisite depth i.e. 0.6 of total depth from the surface at every segment point by suspension equipment as per IS: 6064 - 1971 and when the depth is less than 0.3 meter, the velocity is observed just below the water surface.

At medium and high stages with significant flow velocities, boats fitted with power engines are being used. At some stations cableway has been established for navigating the boat, where FRP boats without engines are used. Measurements of velocity are sometimes carried out from road bridges, wherever feasible, when it becomes difficult to keep the boat stable for velocity observations due to the river flow conditions. When none of the above procedures is possible, either float observation is resorted to or computed by slope area method.

The data observed by different methods at various sites is entered in prescribed standard forms to compute the discharge and then transmitted to sub divisional data centre to be entered into Surface Water Data Entry System (SWDES). The soft copy of the data is submitted to division. After Primary validation at Divisional Data Processing Centre, the data is processed and finalized in Regional Data Processing Centre using the HYMOS software at the Circle. From June 2016 onwards the observed is being entered in e-SWIS (online database).

1.4.3 Computation of discharge for non-observed days

The stages and corresponding discharges measured during each season (monsoon or non-monsoon) are exported to HYMOS from SWDES. Stage-Discharge rating curve will be generated in HYMOS giving weightage to all the observation points and discarding such observations which appear inconsistent. The Stage-Discharge curve for the current season is then finalised such that it is free from bias and passes all the goodness of fit tests. It is also compared by superimposition with the previous year's S-D curve and shift, if any, of the current year's curve is studied with reference to changes in the river cross-section and using the stage-area and stage-velocity diagrams for

verification. On satisfactory conclusion of the appropriateness of the shift, the Stage-Discharge curve of the current season is finalised and used for computation of discharge from the rating curve against 0800 hours water level for non-observed days. The discharge for the discarded observations, are computed from the Stage-Discharge rating curve.

1.5 EXPLANATORY & INTERPRETATION NOTE

1.5.1 The following explanatory/ interpretation note is given for assistance in understanding hydrological parameters contained in the data and graphical representations presented in this publication.

- i. Water year commences from 1st June of a calendar year and extends up to 31st of May of next calendar year and covers one complete hydrologic cycle.
- ii. The discharge figures given are daily observed/estimated flows. For non-observation days and discarded observations, the discharge is estimated against 0800 hours gauge reading and represented in cubic meter per second (cumec).
- iii. The zero RL of gauge is a reference of datum level, fixed for each site and is kept 1 or 2m lower than the lowest water level of a perennial stream. In a non-perennial stream, it is kept 1m lower than the bed level of the stream.
- iv. Discharge is rounded off to
 - a) Nearest full integer when it exceeds 1000 cumec.
 - b) Nearest first decimal value when it is between 100-999 cumec.
 - c) Nearest second decimal value when it is between 10-99 cumec.
 - d) Nearest third decimal value when it is less than 10 cumec.
- v. Maximum and minimum discharges (observed / computed) of the month are taken from daily discharges.
- vi. Run-off in millimeters (mm) is the notional depth of water over the drainage area up to the discharge measurement station converted as equivalent to the calculated Annual run-off, which is computed using the following relation.

$$\text{Run-off (mm)} = \frac{\text{Annual run-off (Million cubic metre)* 1000}}{\text{Catchment area (sq.km)}}$$

- vii. The peak and the lowest discharge on record correspond to the measuring time (Discharge measuring time is generally from 08.00 hours to the end of discharge

measurement) and are not corresponding to absolute peak and lowest observed water level.

However Maximum Water level occurred with date and time of occurrence and corresponding estimated discharge has been mentioned in History sheet of each site.

The gauging site's code number is a unique seven-column alphanumeric reference number, which facilitates storage and retrieval of flow data in data banks. The first character is identifier of either an integral river basin or for convenience a region having several contiguous river catchments. This is followed by a character, which identifies an independent river system, which either has one or more outlets to the sea or crosses international border to enter another country. The third, fourth and fifth characters denote first, second and third order of tributaries respectively from the sea/international boundary moving upstream. The sixth and seventh characters indicate the location of gauging site earmarked on the river. Blank spaces, if any, are filled by zeros.

1.5.2 Interpretation of Graphical representations

Histogram-Hydrograph, Bar Chart and a pie diagram etc; are automatically generated by the software based on the data entered, which are briefly interpreted below.

A) Histogram-Hydrograph: This graphical representation reveals (a) Maximum discharge historical, which means, highest discharge observed, on a day, in each month of water year, in the entire period of available data. (b) Similarly minimum historical discharge means, lowest discharge observed, on a day, in each month of water year, in the entire period of available data. (c) Mean discharge-Historical means, average value of discharge, for each month, in a water year, for the entire period of available data including current year. (d) Mean discharge current year means, average value of daily discharge in each month, in current water year. Therefore this graph represents maximum, minimum discharge observed on a day and mean of each month discharge for all years for which data is available and comparing these values with current year monthly mean values.

B) Bar chart of Runoff: This is the graphical representation of annual runoff of each water year, for all years of available data, including current year, in million cubic meter (MCM) using the following formula.

Daily discharge, in Cubic meter per second $\times (60 \times 60 \times 24 / 1000000) =$ Runoff of the day in MCM.

Sum of daily Run off in a year gives annual runoff. This chart compares annual run off of each year at a site for all years of available data.

C) Pie Diagrams: Pie diagram of monthly average runoff represents average percentage of annual run off, for each month of water year, of all years, for which data is available including current year. Similarly current year pie diagram represents percentage of annual runoff of each month in current water year. This representation shows monthly contribution of water yield, in annual runoff, at a particular site. The monthly run off may vary from one site to another site depending up on rain fall at upstream in that region.

D) Superimposed cross section: The profile of river bed along standard discharge section is recorded, at on set and off set of monsoon at each site and superimpose the same, to find out cross sectional variations of river bed.

E) Water level Vs Time Charts: At each site 3 highest peak floods have been represented by these charts, showing water level ,date and time of occurrence with a time span of 72 hours (3 days) for each flood.

1.6 METHOD OF PRESENTATION

Site-wise hydrological data history sheets, flow tables and pictorial summary are presented in this volume. The serial order of hydrological stations is arranged along the river moving upstream from the sea or confluence with main river /international boundary towards its source, giving due priority to sites on intermediate tributary in similar way.

The flow tables indicate the following.

a) Daily discharge	(in cumec)
b) Ten-daily mean discharge	(in cumec)
c) Monthly mean discharge	(in cumec)
d) Monthly maximum and minimum discharge	(in cumec)
e) Annual run-off	(in M.cum. & mm)

HISTORY SHEET

Water Year : 2021-2022

Site : Targaon

Code : TARGAON

State : Maharashtra

District : Satara

Basin : Krishna

Independent River : Krishna

Tributary :

Sub Tributary :

Sub-Sub Tributary :

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj

Drainage Area : 2303 Sq. Km.

Bank : Right

Latitude : 17°31'00"

Longitude : 74°09'00"

Zero of Gauge (m) : 584 (m.s.l)
584 (m.s.l)01-07-2018 - 31-03-2019
01-04-2019

Opening Date

Closing Date

Gauge : 02-07-2018

HFL During 2021-22 : 594.470 m
Corres. Discharge : 2553 (Estimated)

Discharge : 07-08-2018

Date & Time of
occurrence : 24-07-2021
: 03:00 Hrs

HFL Recorded so far in m : 594.750 dt 07-08-2019

Corresponding Discharge (cumecs) : 2875*

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2019-2020	2483	594.330	07-08-2019	0.000	584.470	24-05-2020
2020-2021	1136	587.260	15-10-2020	0.000	588.470	08-04-2021

Annual Runoff of Krishna at Targaon

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	2018-2019	393	0	393	14	0	14
2	2019-2020	2877	30	2907	102	1	103
3	2020-2021	1084	0	1084	38	0	38
4	2021-2022	1306	0	1306	46	0	46
Average		1415	8	1422	50	0	50

Instantaneous Flood Peak of Krishna at Targaon

Instantaneous Annual Flood Peak					
Sl. No.	Year	Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	2018-19	589.700	19-08-2018	19:00:00	403 *
2	2019-20	594.750	07-08-2019	03:00:00	2875 *
3	2020-21	592.260	15-10-2020	08:00:00	1553 *
4	2021-22	594.470	24-07-2021	03:00:00	2553 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : Targaon (TARGAON)

Division : Upper Krishna Divn, Pune

Local River : Krishna

Sub-Division : Upper Krishna SD, Miraj

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	588.530	0.000	588.490	17.46 *	589.560	152.2 *	588.440	12.75	588.530	21.73	588.400	0.000
2	588.490	0.000	588.440	13.78 *	589.335	113.8	588.425	11.29	588.525	20.17	588.410	0.000
3	588.430	0.000	588.410	11.73 *	589.170	95.46	588.400	9.759	588.470	15.95 *	588.400	0.000
4	588.410	0.000	588.390	10.43 *	589.115	84.55	588.390	8.891	588.570	24.43	588.490	0.000
5	588.390	0.000	588.350	7.994 *	589.100	79.83	588.380	9.799 *	588.635	28.04	588.400	0.000
6	588.810	0.000	588.305	6.116	589.215	93.13	588.430	13.15	588.885	57.09	588.460	0.000
7	588.570	0.000	588.480	15.53	589.140	88.38	588.450	13.14	589.020	67.04	588.450	0.000
8	588.520	0.000	588.480	16.17	589.070	78.95 *	588.525	20.56	588.815	47.66	588.420	0.000
9	588.480	0.000	588.490	17.28	589.040	77.69	588.540	21.92	588.540	21.65	588.490	0.000
10	588.450	0.000	588.500	17.34	588.845	49.92	588.600	26.24	589.550	150.6 *	588.480	0.000
11	588.400	0.000	588.530	20.62 *	588.750	43.69	588.635	32.68	589.470	143.9	588.430	0.000
12	588.400	0.000	588.505	17.56	588.705	36.25	588.660	32.13 *	589.075	83.16	588.270	0.000
13	588.390	0.000	588.545	19.24	588.670	35.75	588.720	38.15	588.940	58.71	588.210	0.000
14	588.350	0.000	588.550	21.14	588.640	34.98	588.860	54.72	589.160	91.19	588.730	0.000
15	588.320	0.000	588.550	21.19	588.630	29.31 *	589.065	81.17	588.700	36.27	589.750	0.000
16	588.280	0.000	588.520	18.08	588.630	33.32	589.030	71.60	588.820	46.24	589.900	0.000
17	588.510	0.000	588.505	17.58	588.610	30.11	588.960	63.41	588.710	37.02 *	589.920	0.000
18	589.400	126.4 *	588.490	17.46 *	588.610	29.63	588.755	43.28	588.320	0.000	590.010	0.000
19	589.640	165.7 *	588.490	17.41	588.605	28.66	588.640	30.24 *	588.500	14.91	590.030	0.000
20	589.120	85.63 *	588.500	17.95	588.590	27.09	588.500	19.67	588.650	29.89	590.000	0.000
21	588.910	58.94 *	588.615	27.17	588.560	24.79	588.315	7.997	588.480	14.21	590.020	0.000
22	588.830	49.74 *	590.050	739.1	588.570	23.97 *	588.265	5.059	588.370	7.845	590.020	0.000
23	588.750	41.11 *	590.870	1341	588.530	21.72	588.270	3.872 *	588.440	12.26	590.030	0.000
24	588.650	31.18 *	594.210	2120 *	588.495	17.86	588.290	4.802 *	588.310	5.801 *	589.970	0.000
25	588.620	28.39 *	591.610	1772	588.470	15.87	588.725	38.77	588.440	12.67	589.980	0.000
26	588.580	24.83 *	591.560	1737	588.415	11.56	588.280	4.328 *	588.350	6.469	589.920	0.000
27	588.560	23.11 *	590.640	1182	588.390	11.06	588.330	0.000	588.375	9.201	589.940	0.000
28	588.540	21.44 *	590.180	841.6	588.360	9.202	588.490	16.42	588.380	8.631	589.890	0.000
29	588.600	26.59 *	590.450	967.5	588.360	8.581 *	588.530	21.27	588.330	0.000	589.840	0.000
30	588.540	21.44 *	591.140	1495	588.355	8.249	588.615	29.49	588.300	0.000	589.830	0.000
31			590.350	921.6	588.380	10.46			588.400	0.000		
Ten-Daily Mean												
I Ten-Daily	588.508	0.000	588.433	13.38	589.159	91.39	588.458	14.75	588.754	45.43	588.440	0.000
II Ten-Daily	588.681	21.21	588.519	18.82	588.644	32.88	588.783	46.70	588.834	54.13	589.325	0.000
III Ten-Daily	588.658	32.68	590.880	1002	588.444	14.85	588.411	13.20	588.380	7.009	589.944	0.000
Monthly												
Min.	588.280	0.000	588.305	0.000	588.355	8.249	588.265	0.000	588.300	0.000	588.210	0.000
Max.	589.640	126.4	594.210	1772	589.560	152.2	589.065	81.17	589.550	150.6	590.030	0.000
Mean	588.616	17.96	589.329	366	588.739	45.36	588.551	24.89	588.647	34.6	589.236	0

Annual Runoff in MCM = 1306 Annual Runoff in mm =

Peak Observed Discharge = 1772 cumecs on 25-07-2021 Corres. Water Level :591.61 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021 Corres. Water Level :588.53 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : Targaon (TARGAON)

Division : Upper Krishna Divn, Pune

Local River : Krishna

Sub-Division : Upper Krishna SD, Miraj

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	589.790	0.000	589.790	0.000	589.820	0.000	589.300	0.000	589.010	0.000	589.800	0.000
2	592.710	0.000	589.830	0.000	589.830	0.000	589.140	0.000	588.930	0.000	589.730	0.000
3	590.420	0.000	589.790	0.000	589.820	0.000	588.950	0.000	588.940	0.000	589.790	0.000
4	590.310	0.000	589.740	0.000	589.810	0.000	588.790	0.000	588.980	0.000	589.650	0.000
5	590.260	0.000	589.810	0.000	589.810	0.000	588.640	0.000	589.060	0.000	589.560	0.000
6	590.210	0.000	589.840	0.000	589.810	0.000	588.470	0.000	589.220	0.000	589.510	0.000
7	590.170	0.000	589.820	0.000	589.790	0.000	588.340	0.000	589.390	0.000	589.440	0.000
8	590.160	0.000	589.760	0.000	589.790	0.000	588.320	0.000	589.720	0.000	589.450	0.000
9	590.160	0.000	589.680	0.000	589.800	0.000	588.420	0.000	589.750	0.000	589.540	0.000
10	590.050	0.000	589.550	0.000	589.800	0.000	588.580	0.000	589.790	0.000	589.470	0.000
11	590.050	0.000	589.380	0.000	589.820	0.000	588.840	0.000	589.730	0.000	589.540	0.000
12	589.980	0.000	589.140	0.000	589.830	0.000	589.100	0.000	589.670	0.000	589.820	0.000
13	589.980	0.000	589.200	0.000	589.820	0.000	589.320	0.000	589.680	0.000	589.790	0.000
14	589.940	0.000	589.620	0.000	589.800	0.000	589.470	0.000	589.780	0.000	589.670	0.000
15	589.930	0.000	589.860	0.000	589.780	0.000	589.560	0.000	589.750	0.000	589.690	0.000
16	589.920	0.000	589.840	0.000	589.790	0.000	589.560	0.000	589.790	0.000	589.820	0.000
17	589.910	0.000	589.750	0.000	589.800	0.000	589.520	0.000	589.790	0.000	589.790	0.000
18	589.860	0.000	589.570	0.000	589.810	0.000	589.520	0.000	589.770	0.000	589.760	0.000
19	589.850	0.000	589.380	0.000	589.810	0.000	589.530	0.000	589.780	0.000	589.820	0.000
20	589.860	0.000	589.480	0.000	589.790	0.000	589.580	0.000	589.770	0.000	589.830	0.000
21	589.830	0.000	589.650	0.000	589.770	0.000	589.590	0.000	589.760	0.000	589.840	0.000
22	589.810	0.000	589.530	0.000	589.760	0.000	589.600	0.000	589.770	0.000	589.890	0.000
23	589.800	0.000	589.420	0.000	589.620	0.000	589.560	0.000	589.800	0.000	589.840	0.000
24	589.810	0.000	589.450	0.000	589.570	0.000	589.500	0.000	589.880	0.000	589.810	0.000
25	589.780	0.000	589.530	0.000	589.610	0.000	589.450	0.000	589.820	0.000	589.850	0.000
26	589.740	0.000	589.630	0.000	589.590	0.000	589.350	0.000	589.750	0.000	589.810	0.000
27	589.760	0.000	589.590	0.000	589.520	0.000	589.240	0.000	589.840	0.000	589.830	0.000
28	589.770	0.000	589.570	0.000	589.400	0.000	589.130	0.000	589.850	0.000	589.650	0.000
29	589.800	0.000	589.660	0.000			589.100	0.000	589.810	0.000	589.520	0.000
30	589.820	0.000	589.770	0.000			589.120	0.000	589.770	0.000	589.550	0.000
31	589.820	0.000	589.780	0.000			589.080	0.000			589.510	0.000
Ten-Daily Mean												
I Ten-Daily	590.424	0.000	589.761	0.000	589.808	0.000	588.695	0.000	589.279	0.000	589.594	0.000
II Ten-Daily	589.928	0.000	589.522	0.000	589.805	0.000	589.400	0.000	589.751	0.000	589.753	0.000
III Ten-Daily	589.794	0.000	589.598	0.000	589.605	0.000	589.338	0.000	589.805	0.000	589.736	0.000
Monthly												
Min.	589.740	0.000	589.140	0.000	589.400	0.000	588.320	0.000	588.930	0.000	589.440	0.000
Max.	592.710	0.000	589.860	0.000	589.830	0.000	589.600	0.000	589.880	0.000	589.890	0.000
Mean	590.041	0	589.626	0	589.749	0	589.151	0	589.612	0	589.696	0

Peak Computed Discharge = 152.2 cumecs on 01-08-2021

Corres. Water Level :589.56 m

Lowest Computed Discharge = 0.000 cumecs on 19-06-2021

Corres. Water Level :589.64 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

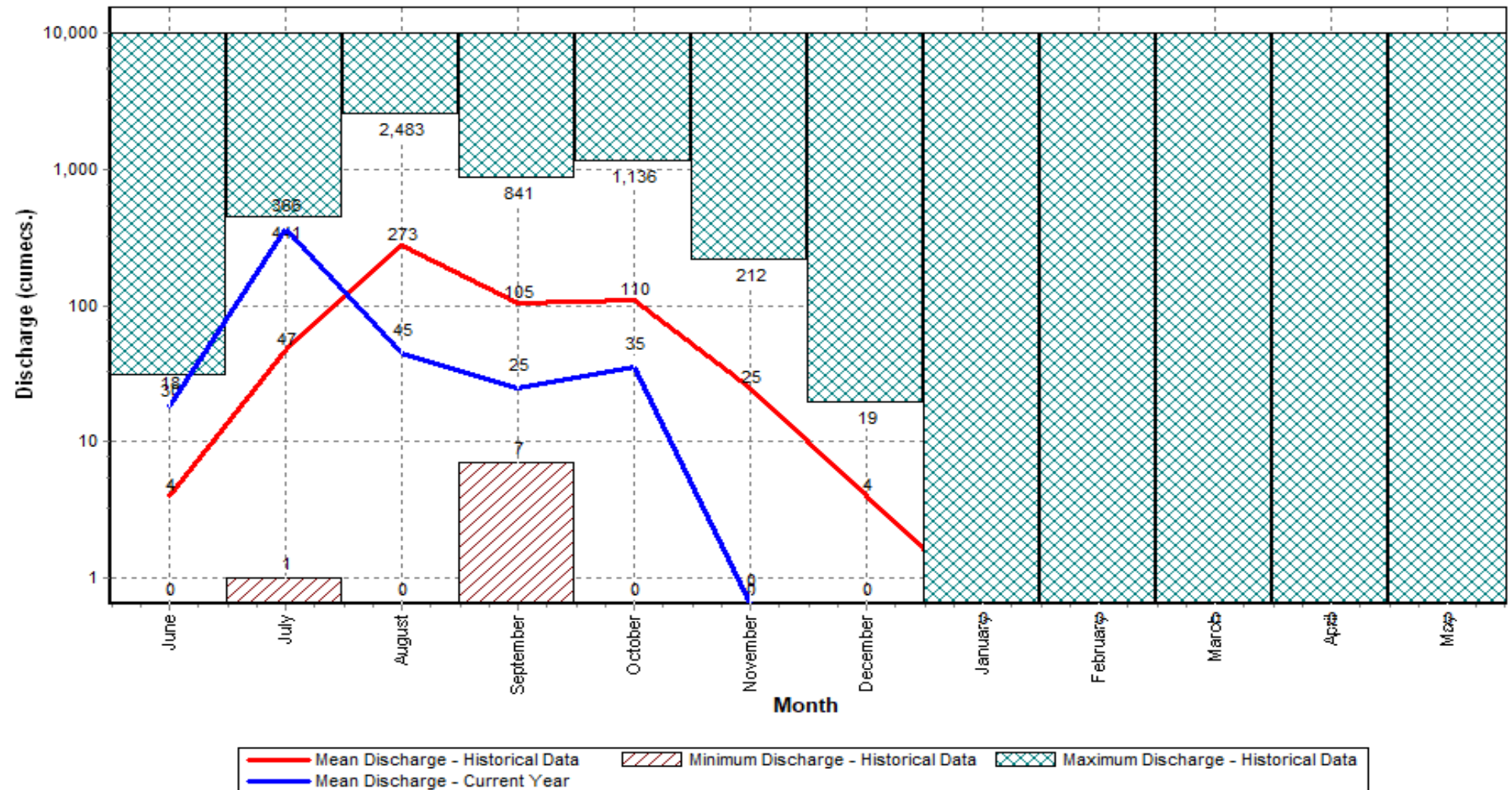
Station Name : Targaon (TARGAON)

Data considered : 2019-2022

Division : Upper Krishna Divn, Pune

Local River : Krishna

Sub-Division : Upper Krishna SD, Miraj



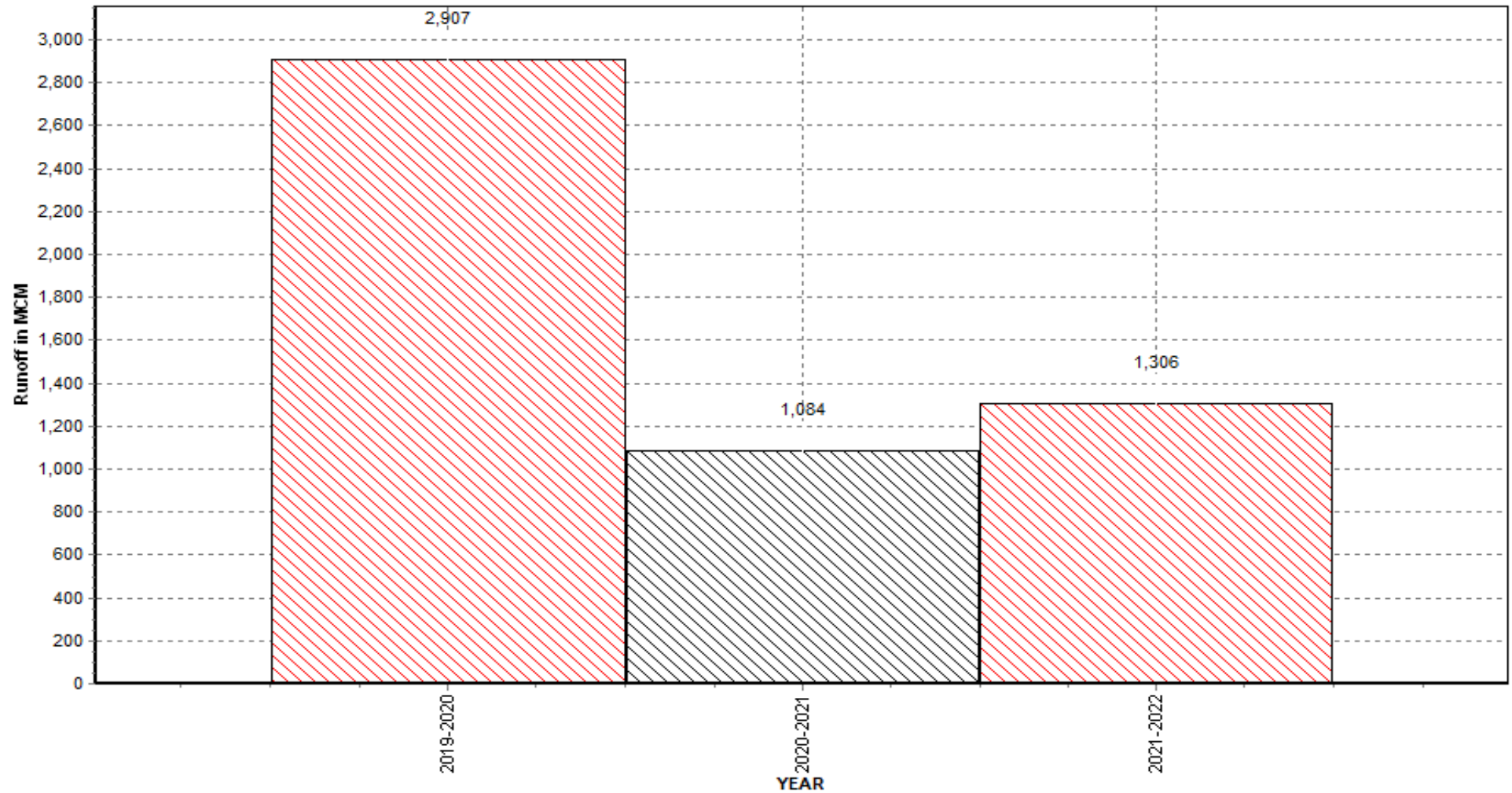
Annual Runoff Values for the period: 2019 - 2022

Station Name : Targaon (TARGAON)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



Note: Missing values have not been considered while arriving at Annual Runoff

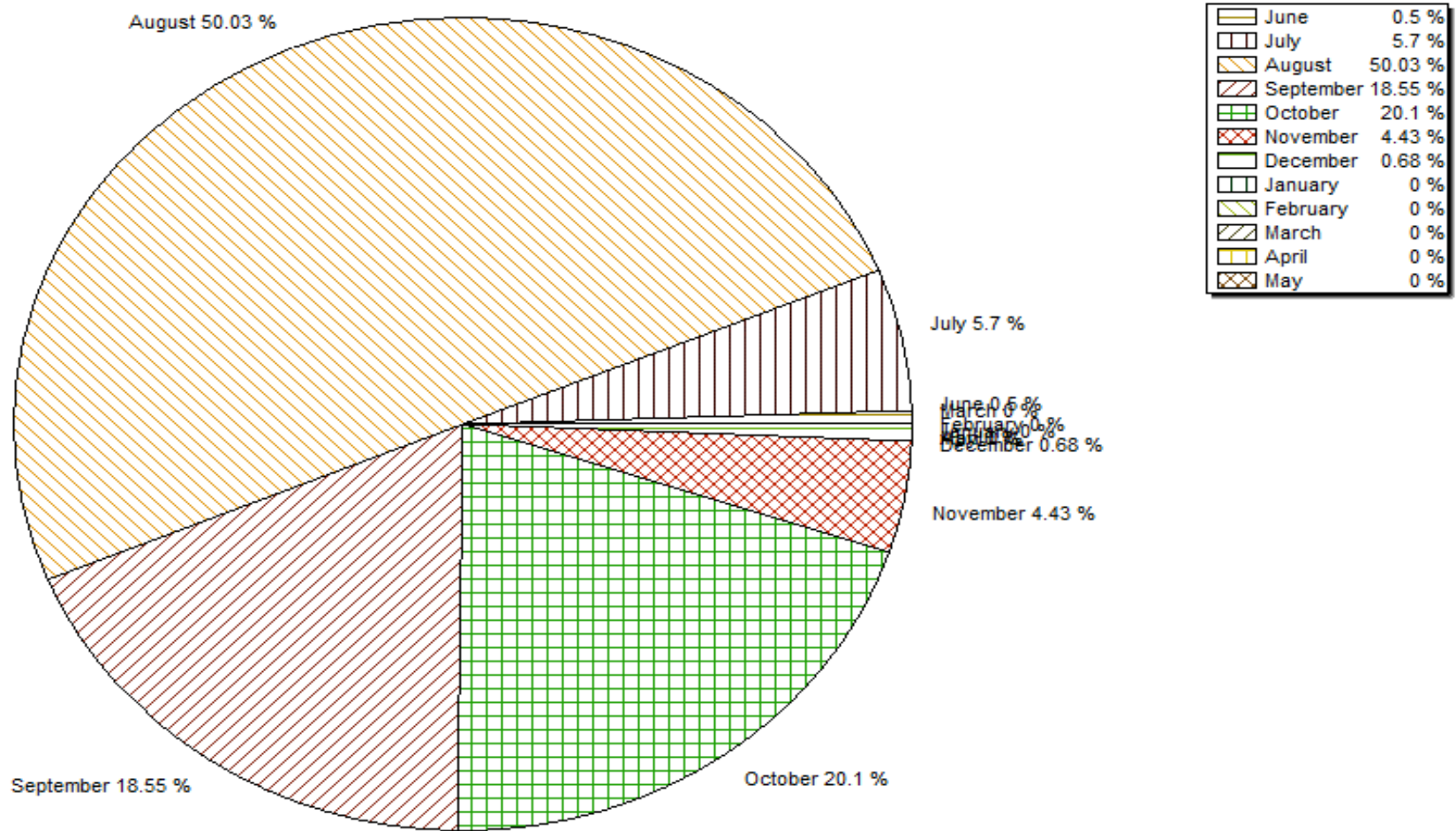
Monthly Average Runoff based on period : 2019-2021

Station Name : Targaon (TARGAON)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



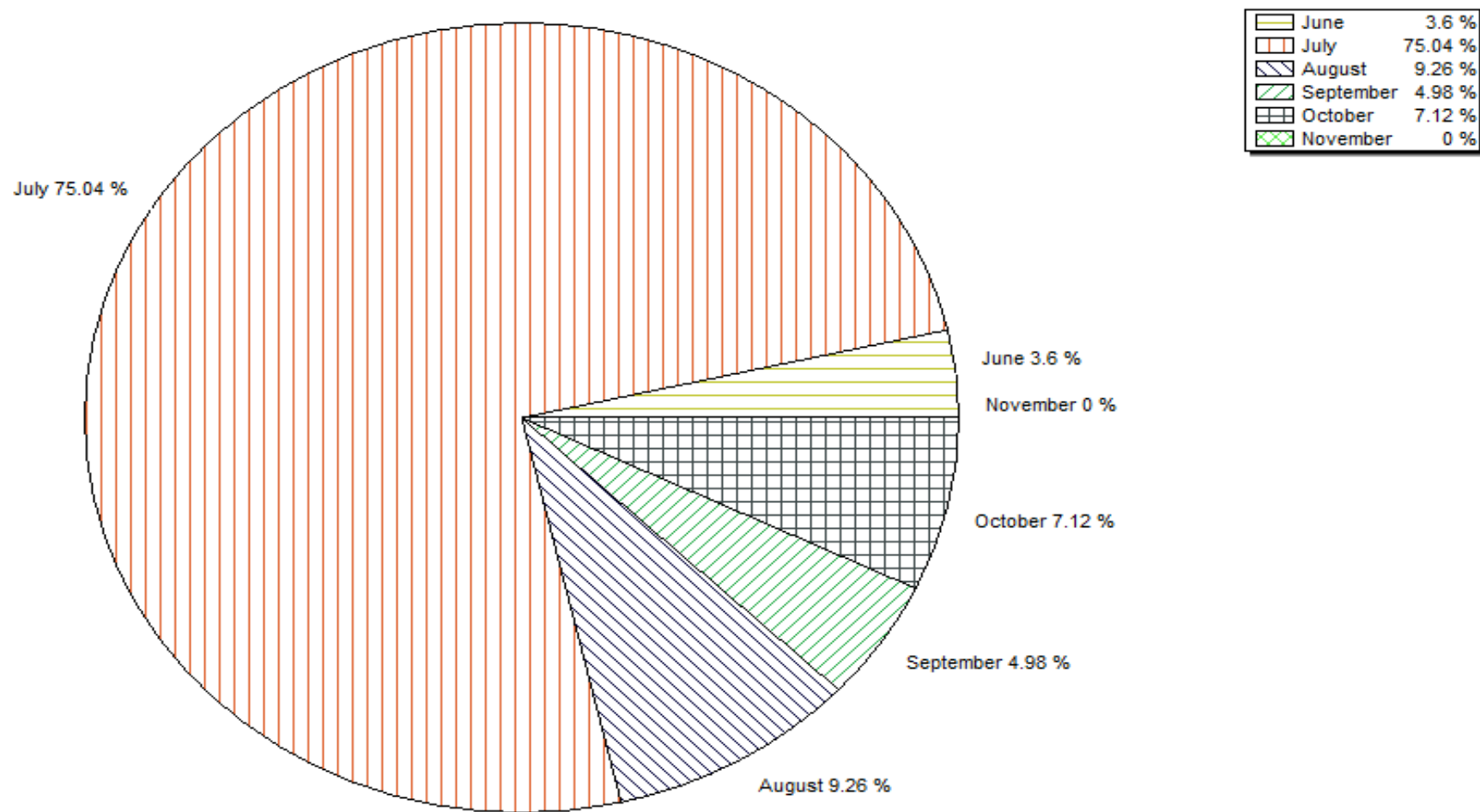
Monthly Runoff for the Year : 2021-2022

Station Name : Targaon (TARGAON)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



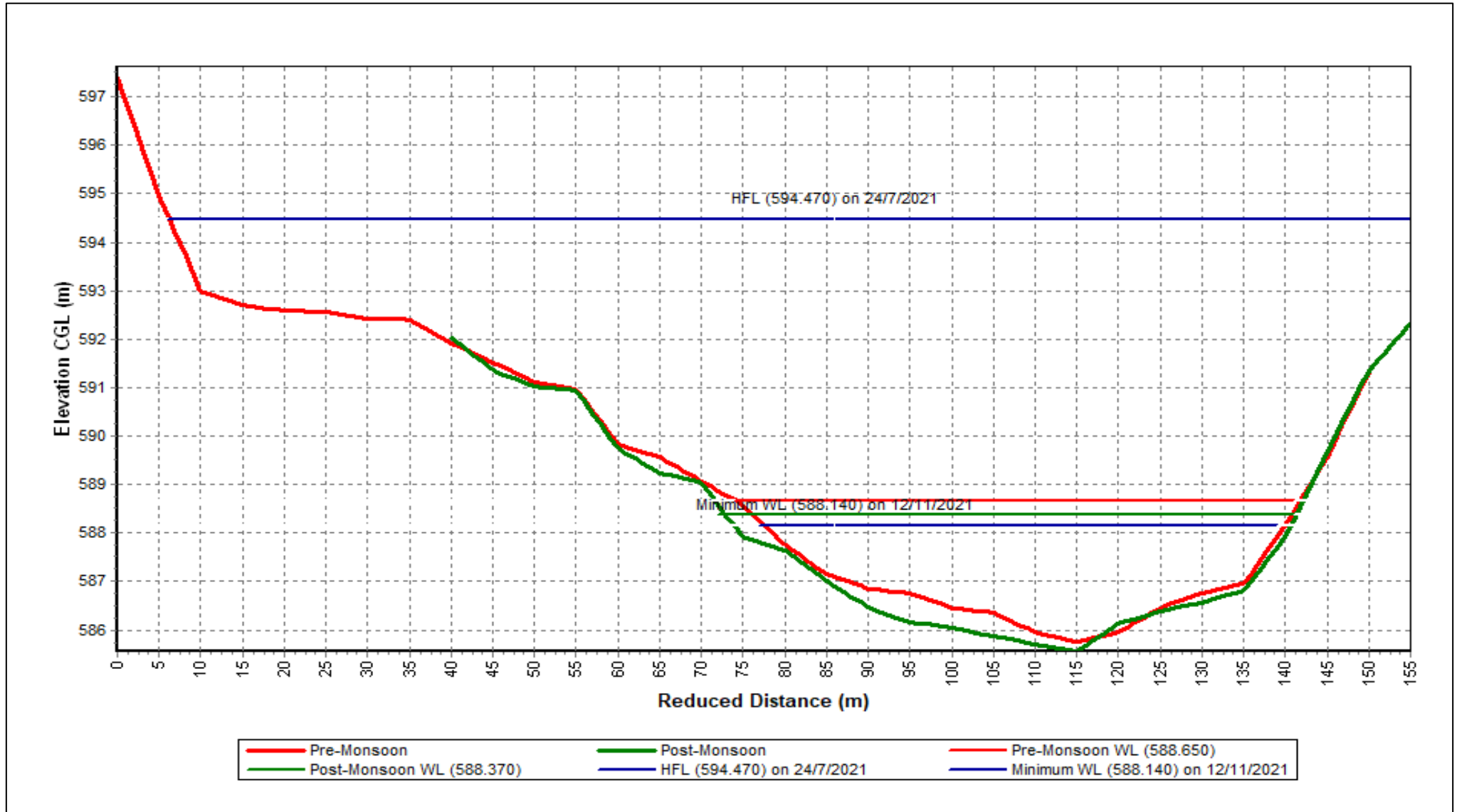
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : Targaon (TARGAON)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



Zero of Gauge : 584 (m.s.l)

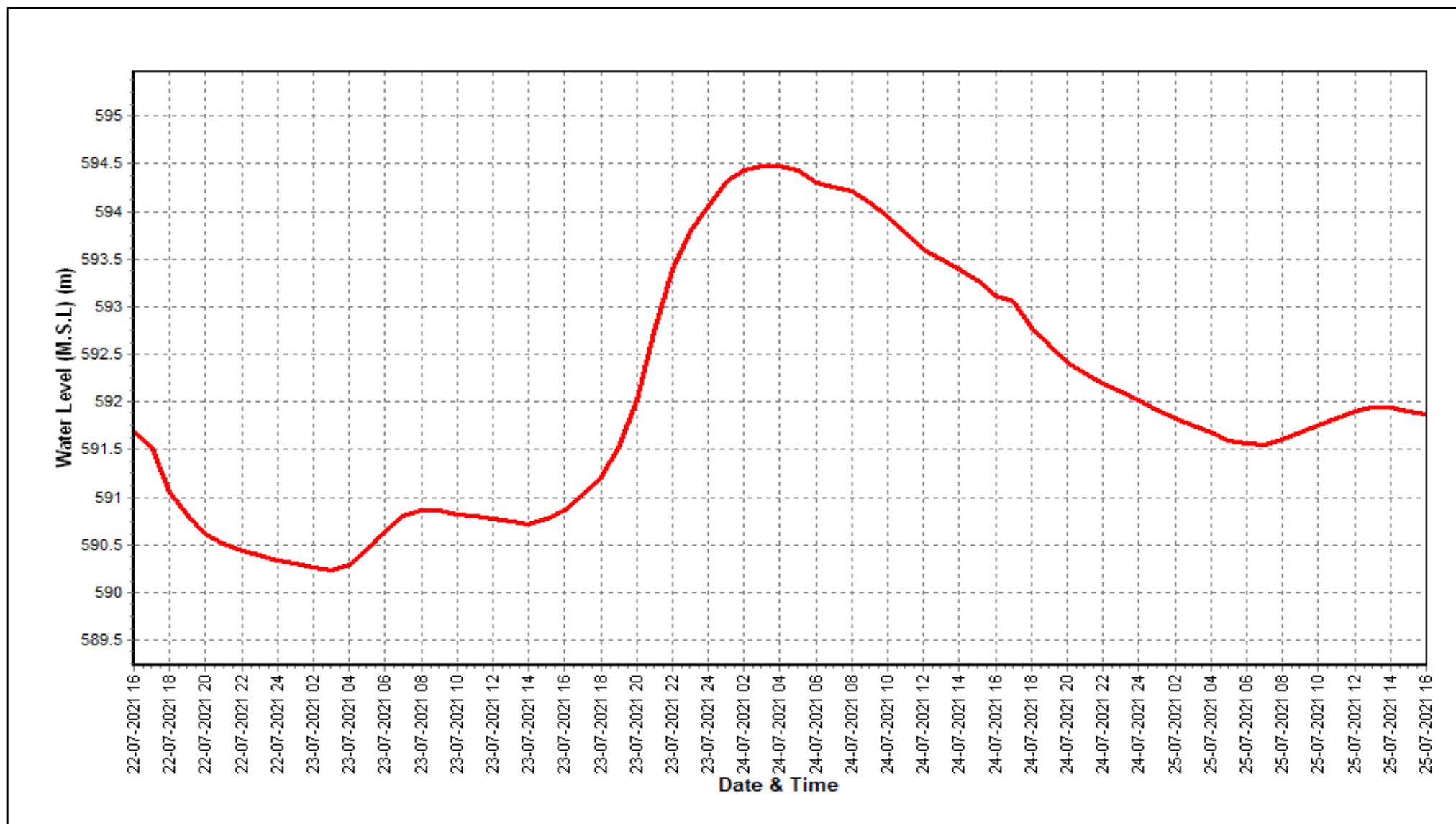
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Targaon (TARGAON)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division :Upper Krishna SD, Miraj



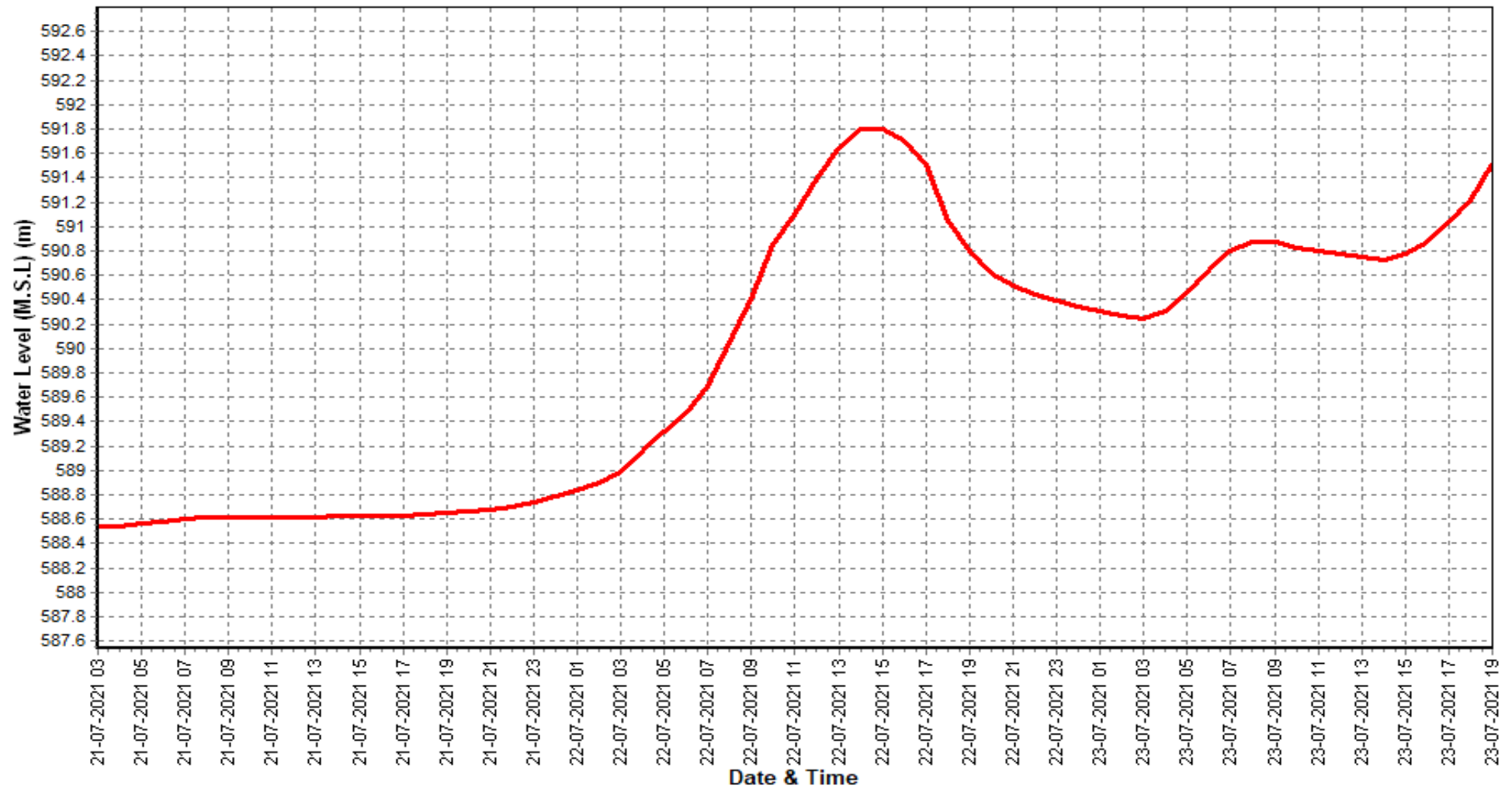
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Targaon (TARGAON)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



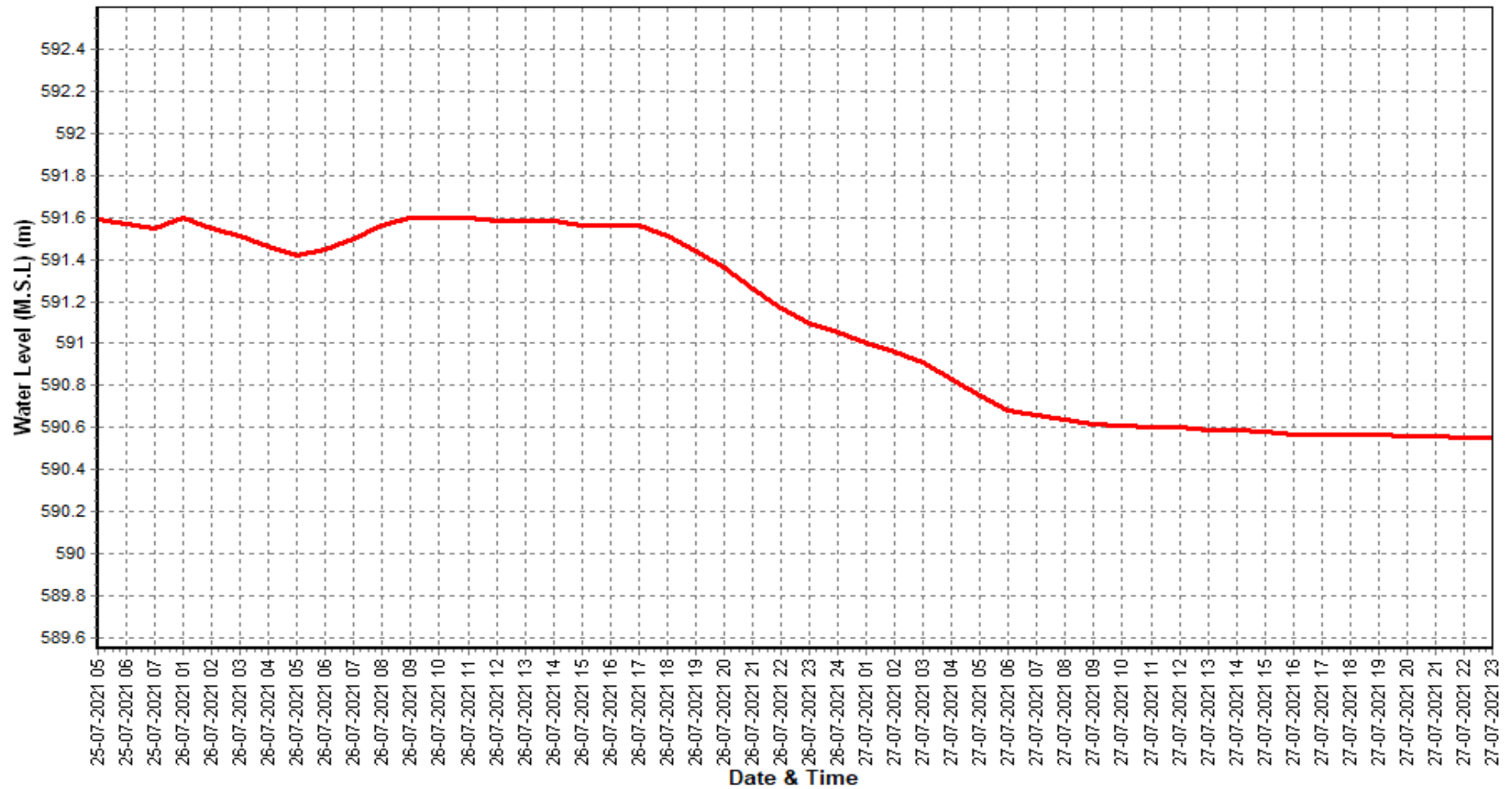
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Targaon (TARGAON)

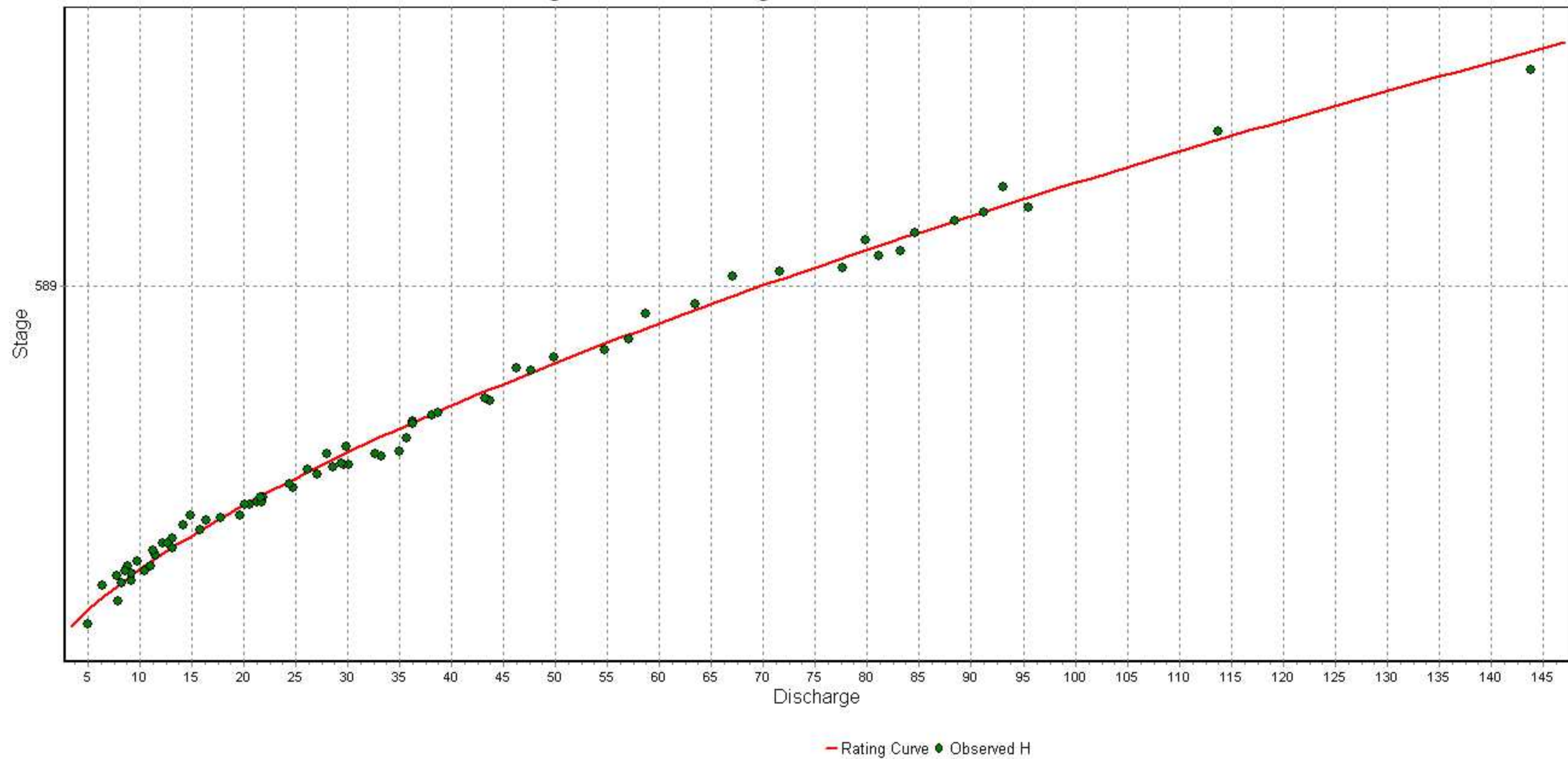
Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



Rating Curve of Site Targaon 01/06/2021 to 30/11/2021



HISTORY SHEET

		Water Year : 2021-2022	
Site	: Warunji	Code	: AKZ00A7
State	: Maharashtra	District	Satara
Basin	: Krishna	Independent River	: Krishna
Tributary	: Koyna	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Koyna
Division	: Upper Krishna Divn, Pune	Sub-Division	: Upper Krishna SD, Miraj
Drainage Area	: 1890 Sq. Km.	Bank	: Left
Latitude	: 17°16'37"	Longitude	: 74°10'15"
Zero of Gauge (m)	: 549.962 (m.s.l)	01-08-1963	- 31-03-1964
	: 550.937 (m.s.l)	01-04-1964	- 31-12-1971
	: 549.437 (m.s.l)	01-01-1972	
	Opening Date	Closing Date	
Gauge	: 20-08-1963	HFL During 2021-22	: 567.987 m
		Corres. Discharge	: 5945 (Estimated)
Discharge	: 28-12-1966	Date & Time of occurrence	: 24-07-2021 : 05:00 Hrs
Sediment	: 01-06-1974		
Water Quality	: 01-06-1974		

HFL Recorded so far in m : 567.087 dt 30/07/2006

Corresponding Discharge (cumecs) : 5033*

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1967-1968	3027	563.617	28-07-1967	0.000	551.082	08-06-1967
1968-1969	680	557.117	07-08-1968	0.000	550.972	29-03-1969
1969-1970	2262	561.977	01-08-1969	0.100	550.862	23-05-1970
1970-1971	1164	558.977	21-08-1970	0.100	550.762	22-04-1971
1971-1972	1109	558.792	31-08-1971	0.000	550.747	21-04-1972
1972-1973	1079	558.687	08-07-1972	0.000	550.637	27-02-1973
1973-1974	1823	560.902	08-07-1973	0.000	550.752	05-04-1974
1974-1975	1459	559.897	05-07-1974	0.000	550.767	22-03-1975
1975-1976	1833	560.927	10-07-1975	0.000	550.712	18-05-1976
1976-1977	2959	563.480	07-06-1976	0.000	550.737	23-02-1977
1977-1978	1409	559.749	04-09-1977	0.000	550.797	10-05-1978
1978-1979	1307	559.436	02-09-1978	0.000	550.907	05-03-1979
1979-1980	1525	560.087	07-08-1979	0.000	550.870	13-03-1980
1980-1981	1863	561.004	06-08-1980	0.000	550.960	31-01-1981
1981-1982	1036	558.537	10-07-1981	0.000	550.867	23-06-1981
1982-1983	1029	558.512	29-07-1982	0.000	550.877	05-03-1983
1983-1984	1420	559.782	17-08-1983	0.000	551.097	01-01-1984

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1984-1985	1188	559.057	18-07-1984	0.000	550.947	30-12-1984
1985-1986	976	558.322	02-08-1985	0.000	550.957	12-02-1986
1986-1987	1136	558.882	30-06-1986	0.000	551.057	26-01-1987
1987-1988	888	557.987	08-07-1987	0.000	550.677	24-01-1988
1988-1989	2840	563.237	03-08-1988	0.000	550.907	28-01-1989
1989-1990	1602	560.307	25-07-1989	0.000	550.977	14-01-1990
1990-1991	2835	563.227	18-08-1990	0.000	551.097	06-04-1991
1991-1992	2028	561.419	28-07-1991	0.000	551.124	07-12-1991
1992-1993	1464	559.912	14-08-1992	0.000	550.807	28-03-1993
1993-1994	1154	558.942	19-06-1993	0.000	551.125	12-06-1993
1994-1995	2762	563.077	03-09-1994	0.000	551.197	09-05-1995
1995-1996	798	557.627	20-07-1995	0.000	551.007	11-07-1995
1996-1997	2064	561.507	04-10-1996	0.000	550.947	09-05-1997
1997-1998	3595	564.697	24-08-1997	0.000	550.897	09-01-1998
1998-1999	1014	558.457	09-07-1998	0.000	550.807	01-04-1999
1999-2000	1468	559.922	28-07-1999	0.000	551.067	28-02-2000
2000-2001	518	556.317	13-07-2000	0.421	550.927	12-12-2000
2001-2002	480	556.107	10-07-2001	0.000	550.917	10-01-2002
2002-2003	637	556.917	07-09-2002	0.000	550.807	28-04-2003
2003-2004	465	556.022	28-07-2003	0.000	550.777	10-03-2004
2004-2005	2762	563.077	13-08-2004	0.000	550.822	20-03-2005
2005-2006	4187	565.732	02-08-2005	0.000	550.977	15-05-2006
2006-2007	4935	566.937	30-07-2006	1.480	550.857	06-01-2007
2007-2008	2331	562.137	02-07-2007	0.000	550.947	22-06-2007
2008-2009	1887	561.067	11-08-2008	0.000	551.077	26-03-2009
2009-2010	689	557.157	15-07-2009	0.000	551.727	16-02-2010
2010-2011	633	556.897	27-07-2010	0.000	553.657	08-02-2011
2011-2012	3400	564.337	04-09-2011	0.000	553.077	25-11-2011
2012-2013	541	556.440	06-09-2012	0.000	555.950	24-05-2013
2013-2014	1642	560.417	25-07-2013	0.000	552.637	14-05-2014
2014-2015	901	558.037	24-07-2014	0.000	554.857	19-10-2014
2015-2016	182	553.682	25-07-2015	0.000	555.717	21-12-2015
2016-2017	842	557.807	06-08-2016	0.000	554.847	28-11-2016
2017-2018	711	557.257	29-08-2017	0.000	552.867	12-11-2017
2018-2019	906	558.057	31-07-2018	0.000	553.087	23-06-2018
2019-2020	4800	566.727	07-08-2019	0.000	555.937	20-04-2020
2020-2021	1990	560.037	18-08-2020	0.000	556.587	16-04-2021

Annual Runoff of Koyna at Warunji

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1965-1966		114	114		4	4
2	1966-1967		60	60		2	2
3	1967-1968	4020	854	4874	142	30	172
4	1968-1969	1409	74	1483	50	3	52
5	1969-1970	3251	107	3358	115	4	119
6	1970-1971	3313	132	3445	117	5	122
7	1971-1972	2623	182	2805	93	6	99
8	1972-1973	1266	187	1452	45	7	51
9	1973-1974	2440	244	2684	86	9	95
10	1974-1975	1694	213	1907	60	8	67
11	1975-1976	2633	239	2872	93	8	101
12	1976-1977	3864	206	4070	137	7	144
13	1977-1978	2391	192	2583	84	7	91
14	1978-1979	2873	144	3017	102	5	107
15	1979-1980	2215	23	2239	78	1	79
16	1980-1981	2967	190	3157	105	7	112
17	1981-1982	1974	184	2158	70	6	76
18	1982-1983	1501	251	1752	53	9	62
19	1983-1984	2119	295	2414	75	10	85
20	1984-1985	1918	392	2310	68	14	82
21	1985-1986	1488	598	2086	53	21	74
22	1986-1987	1757	566	2323	62	20	82
23	1987-1988	1105	424	1529	39	15	54
24	1988-1989	2490	504	2994	88	18	106
25	1989-1990	1523	536	2060	54	19	73
26	1990-1991	3746	815	4561	132	29	161
27	1991-1992	3811	747	4558	135	26	161
28	1992-1993	1864	522	2386	66	18	84
29	1993-1994	2650	765	3415	94	27	121
30	1994-1995	5248	546	5794	185	19	205
31	1995-1996	1288	451	1739	46	16	61
32	1996-1997	1775	524	2299	63	19	81
33	1997-1998	4200	535	4736	148	19	167
34	1998-1999	1862	528	2390	66	19	84
35	1999-2000	2981	519	3500	105	18	124
36	2000-2001	1219	475	1694	43	17	60
37	2001-2002	1160	502	1661	41	18	59
38	2002-2003	1515	506	2021	54	18	71
39	2003-2004	1330	505	1835	47	18	65
40	2004-2005	2838	441	3278	100	16	116
41	2005-2006	6110	383	6493	216	14	229
42	2006-2007	6086	346	6432	215	12	227
43	2007-2008	3947	332	4279	139	12	151
44	2008-2009	2359	314	2673	83	11	94
45	2009-2010	1998	39	2037	71	1	72
46	2010-2011	1958	37	1995	69	1	70
47	2011-2012	3042	0	3042	107	0	107

48	2012-2013	890	0	890	31	0	31
49	2013-2014	2639	0	2639	93	0	93
50	2014-2015	1651	0	1651	58	0	58
51	2015-2016	337	12	349	12	0	12
52	2016-2017	2322	0	2322	82	0	82
53	2017-2018	1697	0	1697	60	0	60
54	2018-2019	3077	0	3077	109	0	109
55	2019-2020	7229	0	7229	255	0	255
56	2020-2021	2258	0	2258	80	0	80
57	2021-2022	2891	0	2891	102	0	102
Average		2560	294	2764	90	10	98

Instantaneous Flood Peak of Krishna at Warunji

Sl. No.	Year	Instantaneous Annual Flood Peak		Time	Discharge * (Cumecs)
		Peak WL (m) Recorded	Date		
3	1967-1968	564.387	28-07-1967	00:00:00	3427 *
4	1968-1969	557.222	07-08-1968	07:00:00	703 *
5	1969-1970	562.167	01-08-1969	07:00:00	2344 *
6	1970-1971	559.047	21-08-1970	15:00:00	1185 *
7	1971-1972	558.837	31-08-1971	06:00:00	1122 *
8	1972-1973	559.757	08-07-1972	22:00:00	1412 *
9	1973-1974	561.127	08-07-1973	05:00:00	1911 *
10	1974-1975	560.177	05-07-1974	12:00:00	1556 *
11	1975-1976	562.327	10-07-1975	16:00:00	2415 *
12	1976-1977	568.047	07-06-1976	23:00:00	5680 *
13	1977-1978	560.387	04-09-1977	15:00:00	1631 *
14	1978-1979	559.577	02-09-1978	16:00:00	1352 *
15	1979-1980	560.187	07-08-1979	03:00:00	1560 *
16	1980-1981	561.537	06-08-1980	18:00:00	2076 *
17	1981-1982	559.057	10-07-1981	00:00:00	1188 *
18	1982-1983	558.517	29-07-1982	15:00:00	1030 *
19	1983-1984	559.907	17-08-1983	04:00:00	1463 *
20	1984-1985	559.937	18-07-1984	16:00:00	1473 *
21	1985-1986	558.437	02-08-1985	05:00:00	1008 *
22	1986-1987	559.327	30-06-1986	02:00:00	1272 *
23	1987-1988	559.187	08-07-1987	14:00:00	1228 *
24	1988-1989	563.537	03-08-1988	05:00:00	2987 *
25	1989-1990	560.387	25-07-1989	11:00:00	1631 *
26	1990-1991	563.397	18-08-1990	03:00:00	2918 *
27	1991-1992	561.817	28-07-1991	06:00:00	2193 *
28	1992-1993	560.487	14-08-1992	10:00:00	1668 *
29	1993-1994	559.857	19-06-1993	15:00:00	1446 *
30	1994-1995	563.127	03-09-1994	15:00:00	2786 *
31	1995-1996	558.037	20-07-1995	13:00:00	901 *
32	1996-1997	562.227	04-10-1996	11:00:00	2371 *
33	1997-1998	564.697	24-08-1997	07:00:00	3595 *
34	1998-1999	559.207	09-07-1998	03:00:00	1234 *
35	1999-2000	559.947	28-07-1999	07:00:00	1476 *
36	2000-2001	557.007	13-07-2000	21:00:00	656 *
37	2001-2002	557.707	10-07-2001	19:00:00	817 *
38	2002-2003	557.207	07-09-2002	03:00:00	700 *
39	2003-2004	556.137	28-07-2003	00:00:00	486 *
40	2004-2005	563.537	13-08-2004	23:00:00	2987 *
41	2005-2006	565.927	02-08-2005	20:00:00	4304 *
42	2006-2007	567.087	30-07-2006	12:00:00	5033 *
43	2007-2008	562.137	02-07-2007	07:00:00	2331 *
44	2008-2009	561.087	11-08-2008	09:00:00	1895 *
45	2009-2010	557.207	15-07-2009	19:00:00	700 *
46	2010-2011	557.237	27-07-2010	00:00:00	707 *
47	2011-2012	564.457	04-09-2011	11:00:00	3465 *
48	2012-2013	556.687	06-09-2012	04:00:00	590 *
49	2013-2014	560.647	25-07-2013	18:00:00	1727 *
50	2014-2015	558.097	24-07-2014	12:00:00	916 *
51	2015-2016	556.507	25-07-2015	09:00:00	554 *
52	2016-2017	557.837	06-08-2016	06:00:00	850 *
53	2017-2018	557.467	29-08-2017	11:00:00	760 *
54	2018-2019	558.057	23-08-2018	17:00:00	906 *
55	2019-2020	567.067	07-08-2019	21:00:00	5015 *
56	2020-2021	560.937	17-08-2020	20:00:00	1837 *
57	2021-2022	567.987	24-07-2021	05:00:00	5945 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : Warunji (AKZ00A7)

Local River : Koyna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	556.507	0.000	552.647	64.62 *	557.937	1301 *	553.957	0.000	553.807	0.000	554.037	0.000
2	556.637	0.000	552.507	49.94 *	557.507	1159	553.897	0.000	554.097	0.000	553.837	0.000
3	556.697	0.000	552.397	39.40 *	554.522	400.8	553.717	0.000	553.497	0.000	553.907	0.000
4	556.467	0.000	552.317	32.33 *	554.772	435.5	553.497	0.000	554.027	0.000	552.437	0.000
5	555.977	0.000	552.237	25.79 *	554.577	414.3	553.357	0.000	554.247	0.000	552.917	0.000
6	556.437	0.000	552.277	29.60	554.102	310.3	553.577	0.000	553.787	0.000	552.237	0.000
7	555.377	0.000	552.262	28.65	553.752	233.3	554.357	0.000	554.077	0.000	552.737	0.000
8	555.287	0.000	552.177	20.01	554.247	314.1 *	553.977	0.000	554.317	0.000	553.137	0.000
9	555.387	0.000	552.177	19.90	553.807	256.4	553.927	0.000	553.557	0.000	553.437	0.000
10	555.487	0.000	552.287	29.54	553.562	207.2	554.097	0.000	554.007	0.000	553.887	0.000
11	555.327	0.000	552.367	36.69 *	553.367	133.3	553.957	0.000	554.717	0.000	553.797	0.000
12	555.147	0.000	552.522	48.63	553.167	105.3	554.247	0.000	554.357	0.000	553.187	0.000
13	555.077	0.000	553.042	133.0	554.287	0.000	554.797	508.0	553.817	0.000	552.367	0.000
14	555.047	0.000	552.987	105.7 #	554.767	0.000	556.952	868.9	553.647	0.000	552.377	0.000
15	554.967	0.000	553.172	131.1	553.077	0.000	556.867	844.6	554.137	0.000	552.587	0.000
16	554.787	0.000	553.062	115.8	553.287	0.000	554.932	524.3	553.557	0.000	553.127	0.000
17	557.487	1156 *	553.027	111.0	554.477	0.000	553.627	180.9	553.757	0.000	553.587	0.000
18	554.497	364.5 *	553.087	119.2 *	554.087	0.000	553.567	0.000	553.387	0.000	553.427	0.000
19	555.847	681.3 *	552.897	94.13 #	554.067	0.000	553.647	0.000	553.687	0.000	553.027	0.000
20	555.237	529.3 *	553.772	241.0	553.987	0.000	553.707	0.000	553.967	0.000	552.747	0.000
21	554.027	272.1 *	553.967	265.5	553.347	0.000	553.637	0.000	554.167	0.000	552.657	0.000
22	553.577	193.2 *	556.827	1042	553.987	0.000	553.327	0.000	553.717	0.000	552.507	0.000
23	553.447	172.3 *	564.037	3420	554.187	0.000	553.757	0.000	554.157	0.000	552.487	0.000
24	553.367	159.9 *	566.237	5276	554.197	0.000	554.047	0.000	553.507	0.000	552.637	0.000
25	553.337	155.3 *	559.937	2021 *	554.117	0.000	553.417	0.000	554.067	0.000	552.537	0.000
26	553.287	147.8 *	558.022	1347	553.837	0.000	554.217	0.000	553.567	0.000	553.337	0.000
27	553.287	147.8 *	557.827	1279	554.177	0.000	553.987	0.000	554.277	0.000	552.227	0.000
28	553.267	144.8 *	557.232	1058	554.357	0.000	553.807	0.000	552.807	0.000	551.917	0.000
29	553.207	136.1 *	556.997	891.0	554.217	0.000	553.887	0.000	553.847	0.000	551.837	0.000
30	553.137	126.1 *	558.012	1301	554.017	0.000	553.597	0.000	554.047	0.000	551.817	0.000
31			558.677	1500	553.987	0.000			553.487	0.000		
Ten-Daily Mean												
I Ten-Daily	556.026	0.000	552.328	33.98	554.879	503.2	553.836	0.000	553.942	0.000	553.257	0.000
II Ten-Daily	555.342	273.1	552.993	113.6	553.857	23.85	554.630	292.7	553.903	0.000	553.023	0.000
III Ten-Daily	553.394	165.5	558.888	1764	554.039	0.000	553.768	0.000	553.786	0.000	552.396	0.000
Monthly												
Min.	553.137	0.000	552.177	19.90	553.077	0.000	553.327	0.000	552.807	0.000	551.817	0.000
Max.	557.487	1156	566.237	5276	557.937	1301	556.952	868.9	554.717	0.000	554.037	0.000
Mean	554.921	146.2	554.871	673.4	554.251	170	554.078	97.55	553.874	0	552.892	0

Annual Runoff in MCM = 2891 Annual Runoff in mm = 1530

Peak Observed Discharge = 5276 cumecs on 24-07-2021 Corres. Water Level :566.237 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021 Corres. Water Level :556.507 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : Warunji (AKZ00A7)

Local River : Koyna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	552.027	0.000	552.137	0.000	554.577	0.000	554.507	0.000	553.997	0.000	554.337	0.000
2	553.337	0.000	552.747	0.000	554.657	0.000	554.417	0.000	554.637	0.000	554.727	0.000
3	552.487	0.000	553.537	0.000	554.697	0.000	554.237	0.000	554.637	0.000	554.277	0.000
4	552.337	0.000	553.277	0.000	554.467	0.000	554.657	0.000	554.607	0.000	554.487	0.000
5	552.227	0.000	553.237	0.000	554.397	0.000	554.327	0.000	554.397	0.000	554.777	0.000
6	552.157	0.000	554.217	0.000	554.587	0.000	554.457	0.000	554.367	0.000	554.667	0.000
7	552.057	0.000	553.777	0.000	554.707	0.000	554.537	0.000	554.637	0.000	554.387	0.000
8	552.187	0.000	554.427	0.000	554.547	0.000	554.887	0.000	554.707	0.000	554.527	0.000
9	552.187	0.000	554.737	0.000	554.617	0.000	554.627	0.000	554.327	0.000	554.787	0.000
10	552.087	0.000	554.017	0.000	554.677	0.000	554.327	0.000	554.727	0.000	554.657	0.000
11	552.097	0.000	553.727	0.000	554.627	0.000	554.727	0.000	555.097	0.000	554.417	0.000
12	552.037	0.000	554.117	0.000	554.677	0.000	554.917	0.000	554.317	0.000	554.357	0.000
13	552.057	0.000	554.557	0.000	554.907	0.000	554.137	0.000	554.867	0.000	554.327	0.000
14	552.037	0.000	554.457	0.000	554.507	0.000	554.237	0.000	554.787	0.000	554.837	0.000
15	551.997	0.000	554.567	0.000	554.437	0.000	553.997	0.000	554.717	0.000	554.867	0.000
16	551.987	0.000	553.997	0.000	554.067	0.000	553.987	0.000	554.607	0.000	554.947	0.000
17	551.987	0.000	554.267	0.000	554.797	0.000	553.987	0.000	554.427	0.000	554.927	0.000
18	551.997	0.000	554.517	0.000	554.537	0.000	553.777	0.000	554.737	0.000	554.817	0.000
19	551.977	0.000	554.337	0.000	554.527	0.000	553.357	0.000	554.727	0.000	554.977	0.000
20	551.957	0.000	554.447	0.000	554.547	0.000	553.717	0.000	554.457	0.000	554.877	0.000
21	551.947	0.000	554.767	0.000	554.457	0.000	552.717	0.000	554.807	0.000	554.267	0.000
22	551.907	0.000	554.507	0.000	554.457	0.000	552.737	0.000	554.497	0.000	554.537	0.000
23	551.887	0.000	554.467	0.000	554.537	0.000	552.927	0.000	554.317	0.000	554.787	0.000
24	552.177	0.000	554.637	0.000	554.477	0.000	553.237	0.000	554.667	0.000	554.237	0.000
25	552.927	0.000	554.657	0.000	554.427	0.000	553.187	0.000	554.907	0.000	554.537	0.000
26	553.287	0.000	554.387	0.000	554.357	0.000	552.887	0.000	554.607	0.000	554.747	0.000
27	553.277	0.000	554.517	0.000	554.887	0.000	552.777	0.000	554.207	0.000	554.717	0.000
28	553.047	0.000	554.697	0.000	554.697	0.000	552.617	0.000	554.107	0.000	554.627	0.000
29	553.027	0.000	554.337	0.000			552.237	0.000	554.367	0.000	554.487	0.000
30	553.117	0.000	554.587	0.000			552.577	0.000	554.427	0.000	554.497	0.000
31	553.167	0.000	554.847	0.000			553.137	0.000			554.587	0.000
<u>Ten-Daily Mean</u>												
I Ten-Daily	552.309	0.000	553.611	0.000	554.593	0.000	554.498	0.000	554.504	0.000	554.563	0.000
II Ten-Daily	552.013	0.000	554.299	0.000	554.563	0.000	554.084	0.000	554.674	0.000	554.735	0.000
III Ten-Daily	552.706	0.000	554.582	0.000	554.537	0.000	552.822	0.000	554.491	0.000	554.548	0.000
<u>Monthly</u>												
Min.	551.887	0.000	552.137	0.000	554.067	0.000	552.237	0.000	553.997	0.000	554.237	0.000
Max.	553.337	0.000	554.847	0.000	554.907	0.000	554.917	0.000	555.097	0.000	554.977	0.000
Mean	552.354	0	554.178	0	554.566	0	553.770	0	554.556	0	554.613	0

Peak Computed Discharge = 2021 cumecs on 25-07-2021

Corres. Water Level :559.937 m

Lowest Computed Discharge = 25.79 cumecs on 05-07-2021

Corres. Water Level :552.237 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

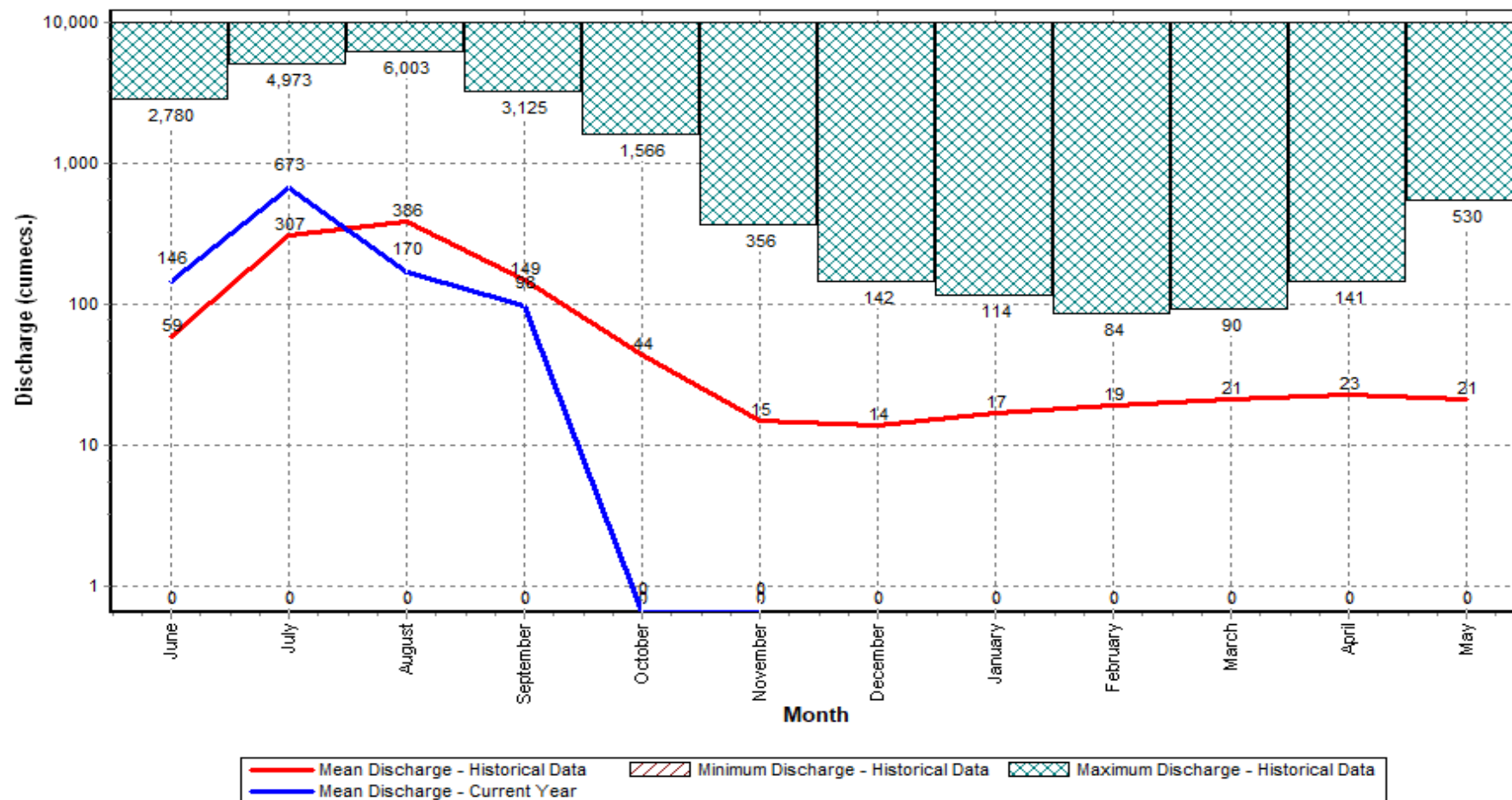
Station Name : Warunji (AKZ00A7)

Local River : Koyna

Data considered : 1967-2022

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



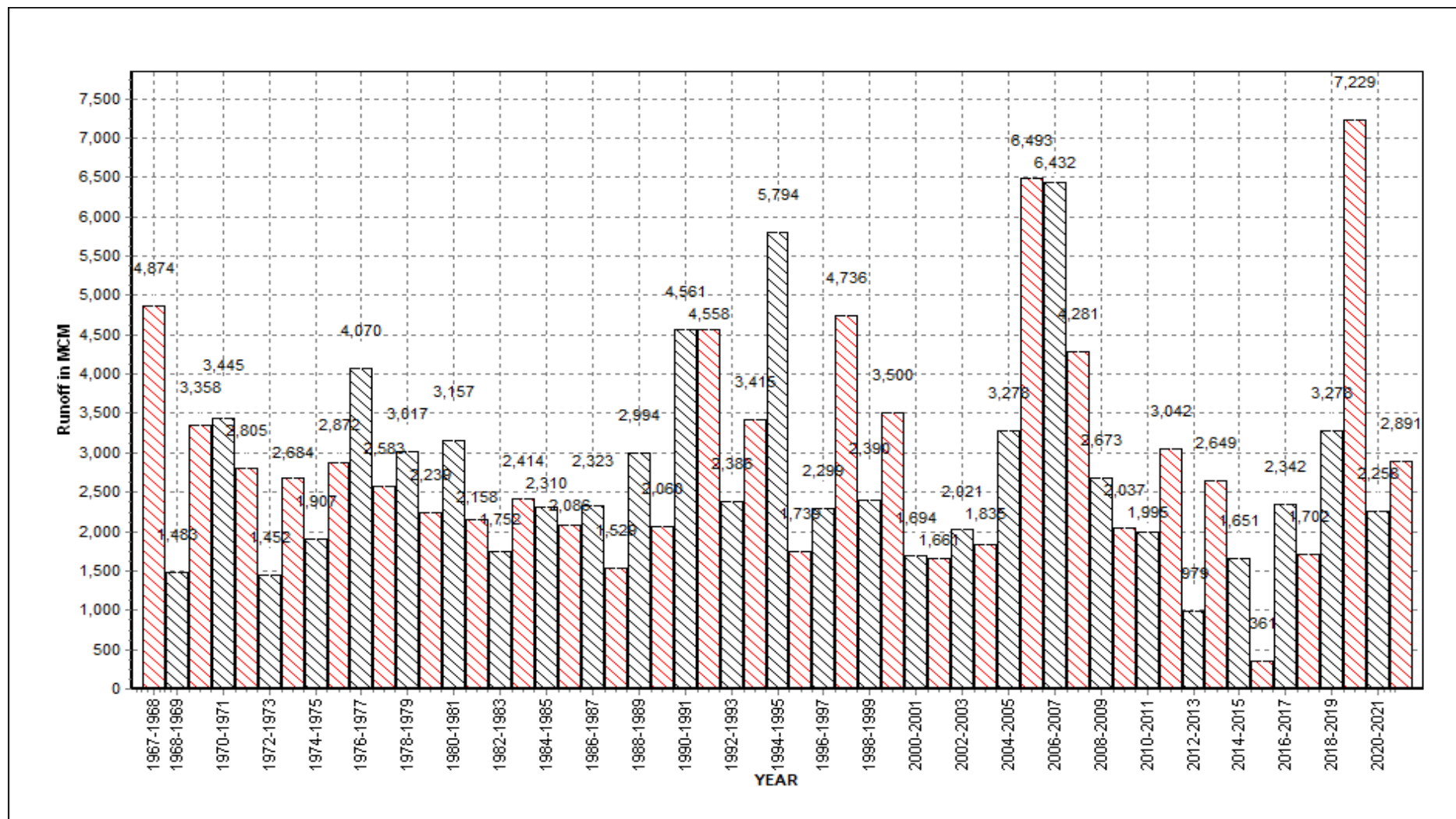
Annual Runoff Values for the period: 1967 - 2022

Station Name : Warunji (AKZ00A7)

Local River : Koyna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



Note: Missing values have not been considered while arriving at Annual Runoff

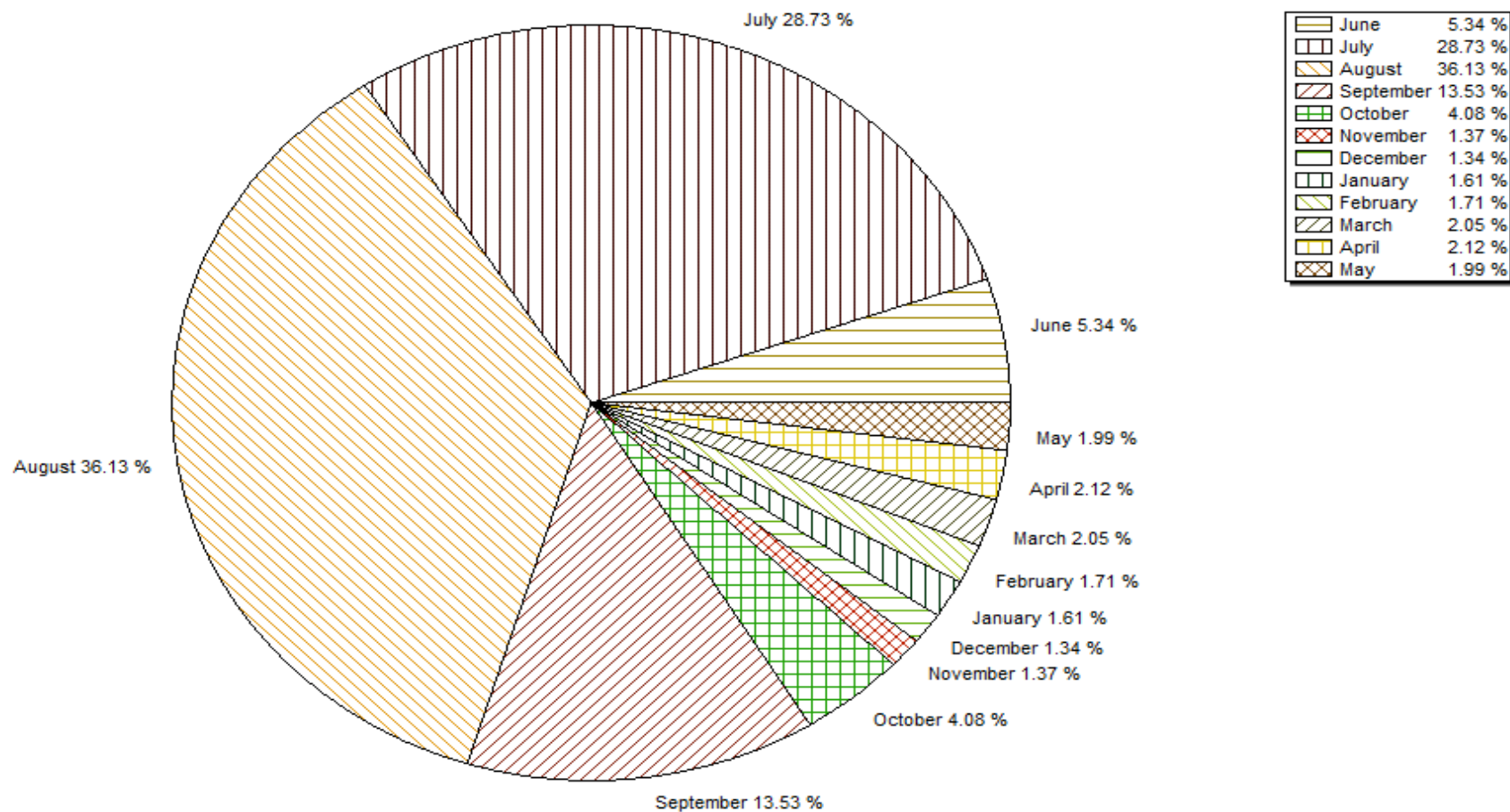
Monthly Average Runoff based on period : 1967-2021

Station Name : Warunji (AKZ00A7)

Local River : Koyna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



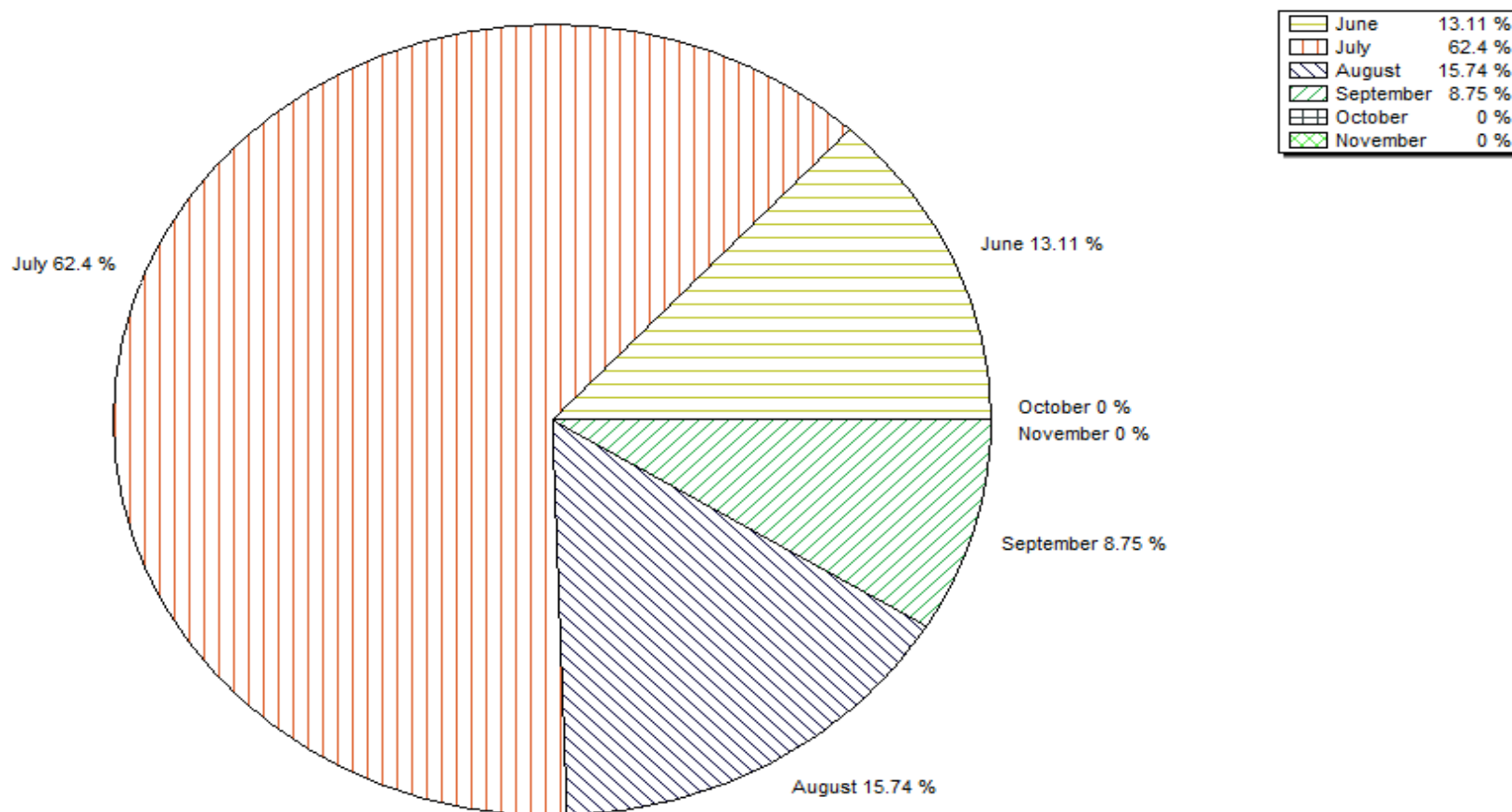
Monthly Runoff for the Year : 2021-2022

Station Name : Warunji (AKZ00A7)

Local River : Koyna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



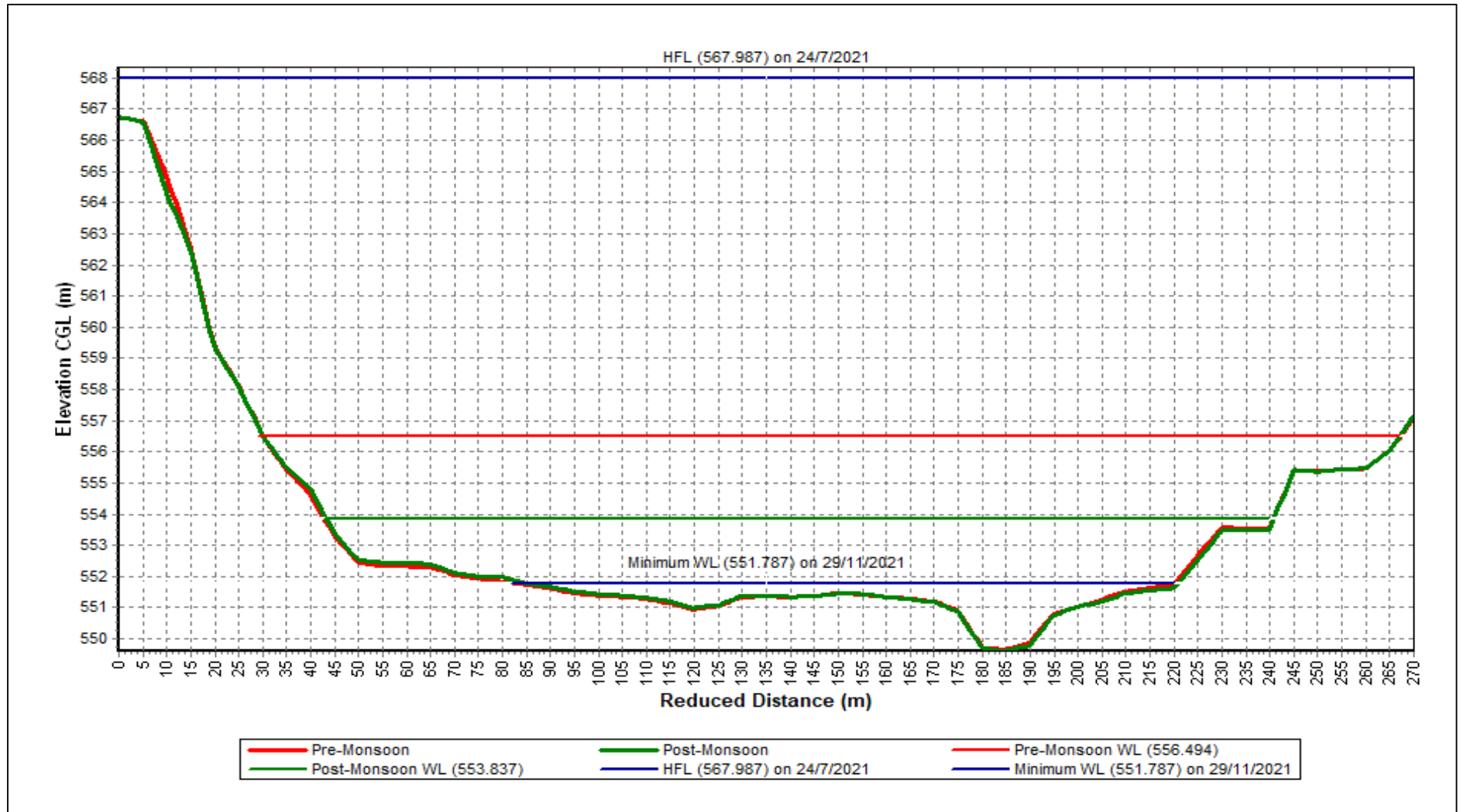
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : Warunji (AKZ00A7)

Local River : Koyna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



Zero of Gauge : 549.437 (m.s.l)

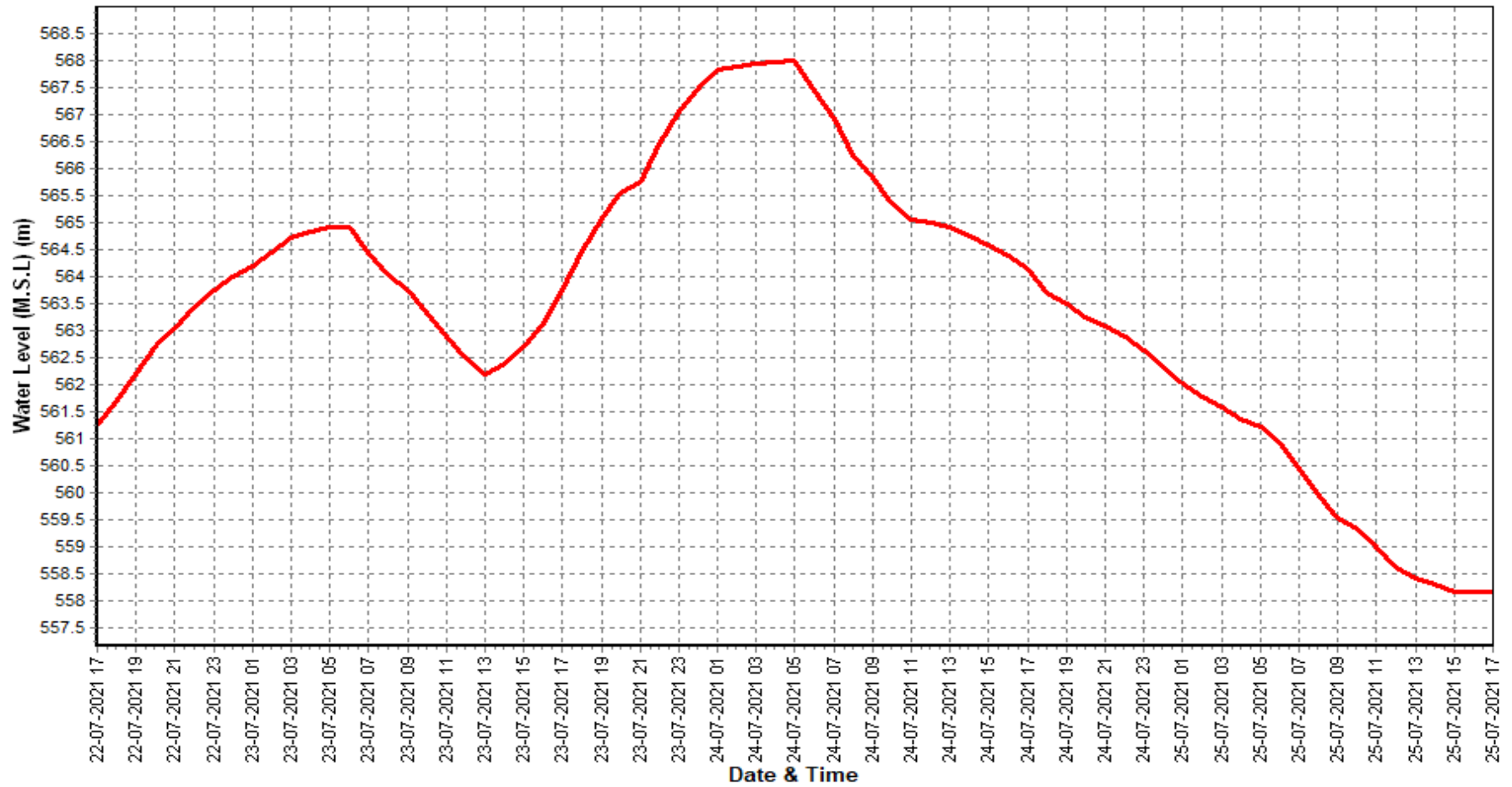
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Warunji (AKZ00A7)

Local River : Koyna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



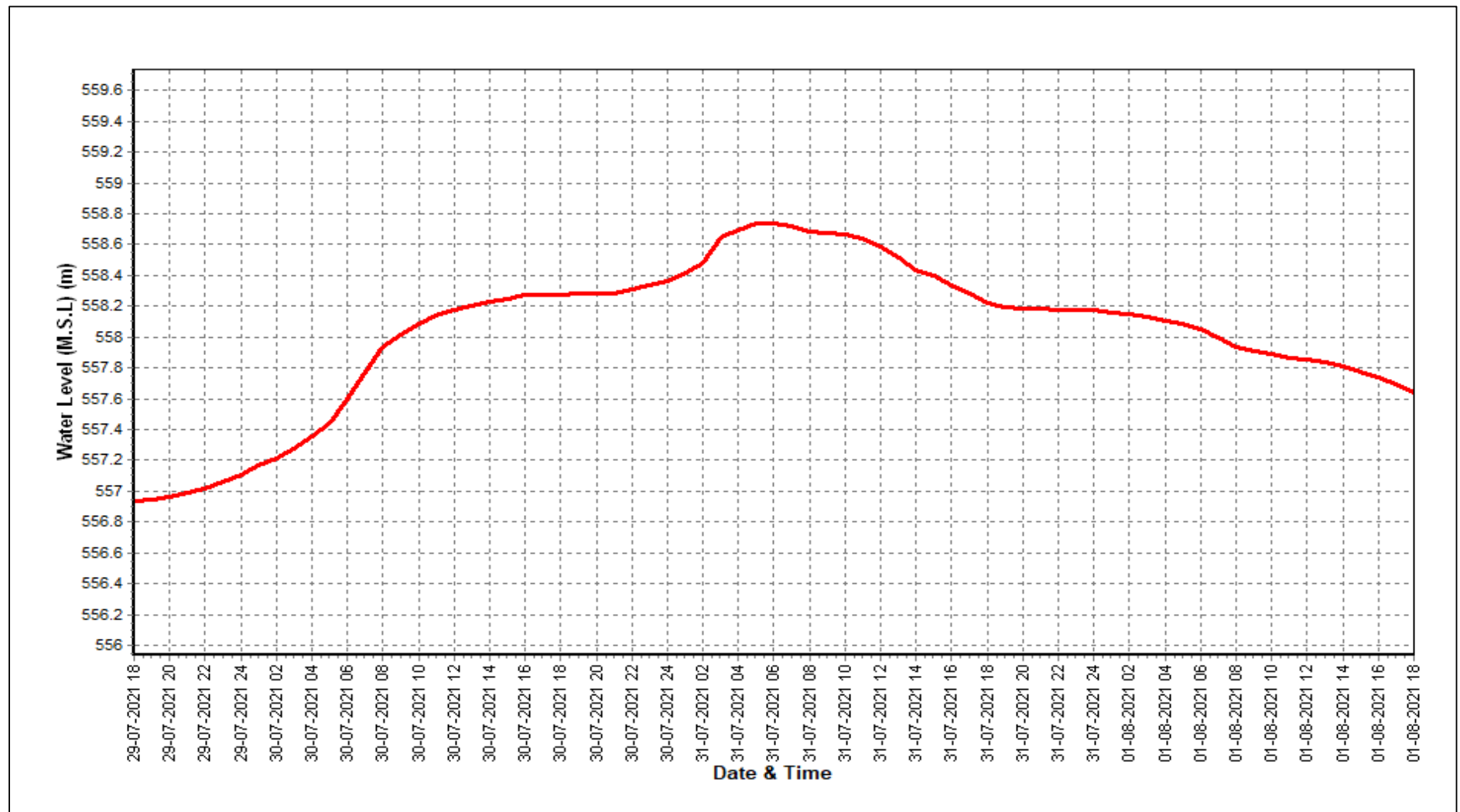
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Warunji (AKZ00A7)

Local River : Koyna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



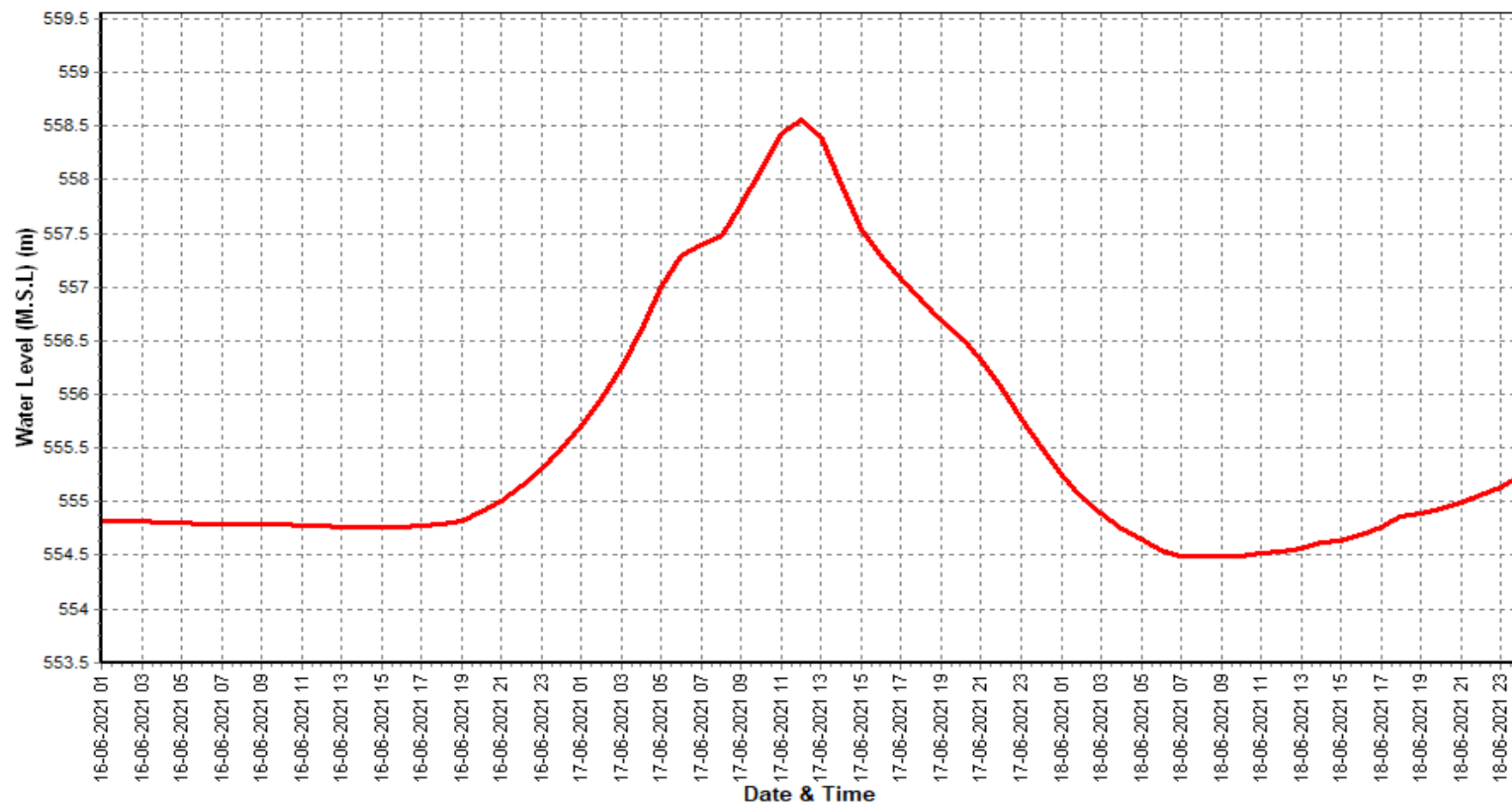
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Warunji (AKZ00A7)

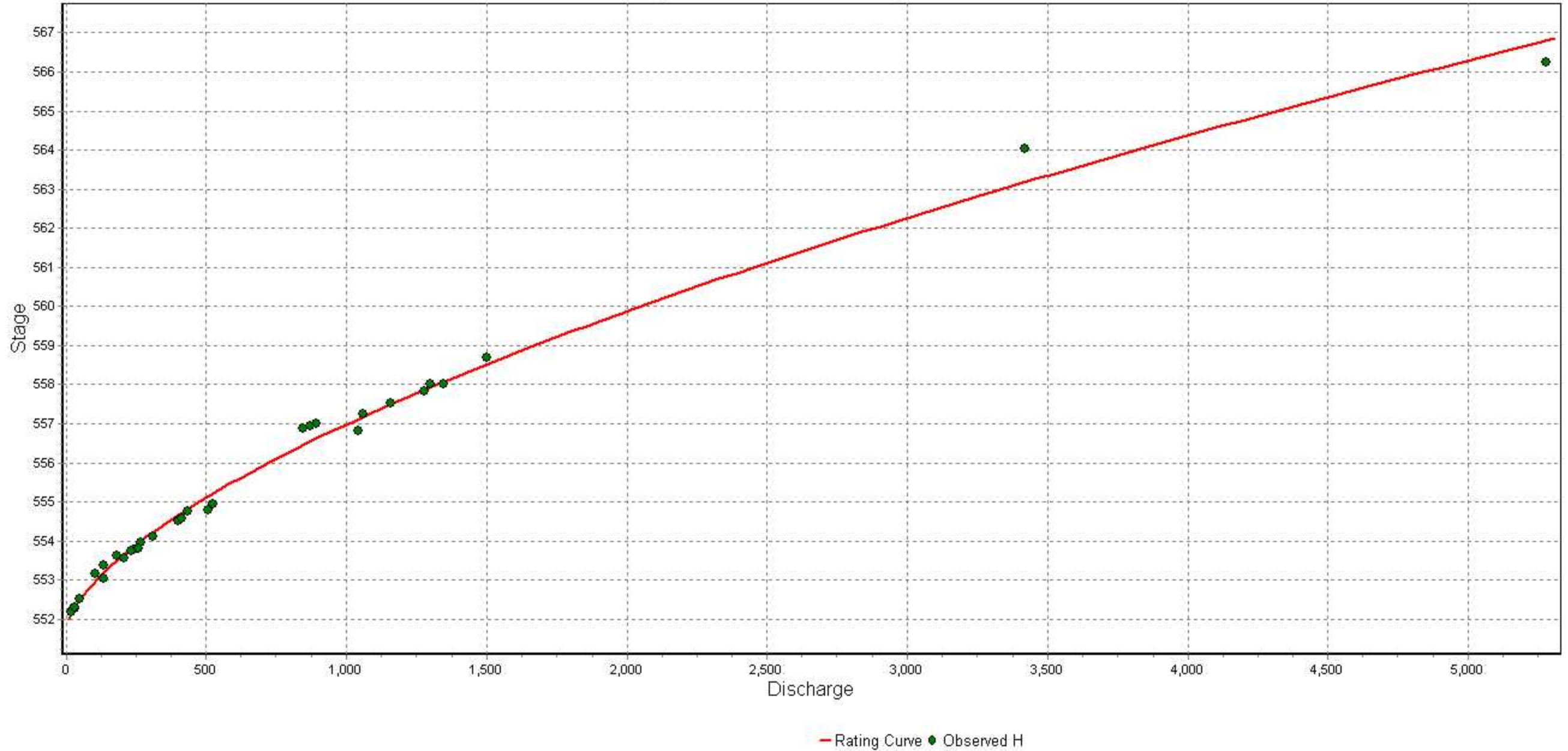
Local River : Koyna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



Rating Curve of Site Warunji 2021



HISTORY SHEET

Water Year : 2021-2022

Site : Karad

Code : AK000X6

State : Maharashtra

District : Satara

Basin : Krishna

Independent River : Krishna

Tributary : -

Sub Tributary : -

Sub-Sub Tributary : -

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD,Pune

Drainage Area : 5462 Sq. Km.

Bank : Right

Latitude : 17°17'30"

Longitude : 74°11'42"

Zero of Gauge (m) : 549.962 (m.s.l)
549.915 (m.s.l)01-06-1965 - 31-05-2004
01-06-2004

Opening Date

Closing Date

Gauge : 25-12-1964

HFL During 2021-22 : 565.485 m
Corres. Discharge : 6080 (Estimated)

Discharge : 21-06-1965

Date & Time of
occurrence : 24-07-2021
: 08:00 Hrs

Sediment : 22-06-1965

Water Quality : 01-09-1972

HFL Recorded so far in m : 567.162 dt 07-06-1976

Corresponding Discharge (cumecs) : 7177 *

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1965-1966	4160	561.837	21-07-1965	0.000	550.162	08-06-1965
1966-1967	2673	559.067	29-07-1966	0.010	550.232	06-05-1967
1967-1968	4482	562.997	28-07-1967	0.020	550.152	09-06-1967
1968-1969	1527	556.640	08-08-1968	0.010	550.092	30-05-1969
1969-1970	4267	561.672	01-08-1969	0.200	550.242	09-05-1970
1970-1971	2248	558.245	21-08-1970	0.100	550.352	20-04-1971
1971-1972	2156	558.002	31-08-1971	0.000	550.162	23-05-1972
1972-1973	2190	557.982	08-07-1972	0.000	549.987	12-03-1973
1973-1974	3051	560.362	08-07-1973	0.000	549.882	02-06-1973
1974-1975	2501	559.360	05-07-1974	0.000	550.157	24-03-1975
1975-1976	3231	560.117	10-07-1975	0.000	550.012	21-05-1976
1976-1977	4162	561.735	02-08-1976	0.000	550.127	15-04-1977
1977-1978	3122	559.898	07-07-1977	0.000	550.102	16-03-1978
1978-1979	2187	558.292	27-08-1978	0.200	550.052	30-01-1979
1979-1980	2435	559.402	07-08-1979	0.000	550.142	14-05-1980
1980-1981	2848	560.077	06-08-1980	0.000	550.187	08-05-1981
1981-1982	2142	558.142	10-07-1981	0.000	550.192	01-06-1981

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1982-1983	1261	556.727	14-08-1982	0.000	550.182	23-03-1983
1983-1984	2331	558.778	17-08-1983	0.000	550.127	19-12-1983
1984-1985	1979	558.250	19-07-1984	0.000	550.152	04-03-1985
1985-1986	1563	557.239	02-08-1985	0.000	550.202	27-03-1986
1986-1987	2012	558.287	30-06-1986	0.000	550.272	27-12-1986
1987-1988	1323	556.722	08-07-1987	0.000	550.132	23-02-1988
1988-1989	4705	562.912	03-08-1988	0.000	550.152	12-01-1989
1989-1990	2504	559.587	25-07-1989	0.000	550.072	19-01-1990
1990-1991	4361	562.212	18-08-1990	0.000	550.012	22-04-1991
1991-1992	3350	560.942	28-07-1991	0.000	550.192	14-11-1991
1992-1993	2827	559.757	14-08-1992	0.000	550.042	25-12-1992
1993-1994	2312	558.702	19-06-1993	0.692	550.032	01-06-1993
1994-1995	4215	562.127	15-07-1994	0.000	550.002	27-01-1995
1995-1996	1356	556.577	20-07-1995	0.000	550.037	09-07-1995
1996-1997	2944	559.997	04-10-1996	0.000	549.892	02-06-1996
1997-1998	5554	563.922	24-08-1997	0.000		12-03-1998
1998-1999	1741	557.627	09-07-1998	0.000	549.932	06-01-1999
1999-2000	2111	558.697	28-07-1999	0.000	549.842	18-04-2000
2000-2001	774.1	555.172	13-07-2000	0.000	549.912	12-12-2000
2001-2002	911.2	555.117	10-07-2001	0.000	549.912	08-02-2002
2002-2003	1121	555.432	13-08-2002	0.000	549.922	18-01-2003
2003-2004	936.5	554.912	28-07-2003	0.000	549.912	21-01-2004
2004-2005	4163	561.745	13-08-2004	0.000	549.795	19-04-2005
2005-2006	5812	564.815	03-08-2005	0.000	549.825	02-04-2006
2006-2007	6808	566.075	30-07-2006	0.000	549.865	01-03-2007
2007-2008	3868	561.425	02-07-2007	0.000	549.825	02-01-2008
2008-2009	2884	560.115	11-08-2008	4.620	549.815	01-03-2009
2009-2010	1258	555.755	15-07-2009	0.000	552.855	28-02-2010
2010-2011	1189	555.790	27-07-2010	0.000	553.515	29-01-2011
2011-2012	5074	563.375	04-09-2011	0.000	553.995	03-02-2012
2012-2013	993.4	555.520	26-07-2012	0.000	555.460	08-04-2013
2013-2014	2507	558.930	26-07-2013	0.000	554.315	25-04-2014
2014-2015	1700	556.805	24-07-2014	0.000	554.115	27-06-2014
2015-2016	1045	555.885	24-06-2015	0.000	553.745	13-11-2015
2016-2017	1462	556.770	06-08-2016	0.000	556.535	09-03-2017
2017-2018	1453	556.565	24-09-2017	0.000	556.855	24-04-2018
2018-2019	1410	556.320	23-08-2018	0.000	556.135	31-03-2019
2019-2020	6559	565.765	07-08-2019	0.000	556.235	21-04-2020
2020-2021	7177	567.162	12-08-2020	0.000	555.315	18-03-2021

Annual Runoff of Krishna at Karad

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1965-1966	6541	185	6726	231	7	238
2	1966-1967	3949	88	4037	140	3	143
3	1967-1968	5820	1020	6840	206	36	242
4	1968-1969	2917	82	2999	103	3	106
5	1969-1970	6861	148	7009	242	5	248
6	1970-1971	5173	153	5326	183	5	188
7	1971-1972	4152	204	4356	147	7	154
8	1972-1973	2287	192	2479	81	7	88
9	1973-1974	4786	279	5064	169	10	179
10	1974-1975	3155	182	3337	111	6	118
11	1975-1976	5088	225	5313	180	8	188
12	1976-1977	6765	257	7021	239	9	248
13	1977-1978	4372	306	4678	154	11	165
14	1978-1979	4914	285	5199	174	10	184
15	1979-1980	4528	272	4800	160	10	170
16	1980-1981	5161	331	5492	182	12	194
17	1981-1982	3499	376	3875	124	13	137
18	1982-1983	2401	396	2796	85	14	99
19	1983-1984	3188	415	3603	113	15	127
20	1984-1985	3112	504	3616	110	18	128
21	1985-1986	2264	613	2878	80	22	102
22	1986-1987	2843	625	3468	100	22	123
23	1987-1988	1678	516	2194	59	18	78
24	1988-1989	3566	566	4132	126	20	146
25	1989-1990	2344	580	2925	83	20	103
26	1990-1991	5707	873	6580	202	31	233
27	1991-1992	6220	732	6952	220	26	246
28	1992-1993	2703	534	3238	96	19	114
29	1993-1994	3925	1037	4962	139	37	175
30	1994-1995	9337	649	9986	330	23	353
31	1995-1996	2035	509	2544	72	18	90
32	1996-1997	3222	568	3790	114	20	134
33	1997-1998	6506	672	7178	230	24	254
34	1998-1999	3065	558	3622	108	20	128
35	1999-2000	4661	630	5291	165	22	187
36	2000-2001	1780	606	2386	63	21	84
37	2001-2002	1720	523	2243	61	18	79
38	2002-2003	2091	499	2590	74	18	92
39	2003-2004	1779	544	2323	63	19	82
40	2004-2005	4646	434	5080	164	15	179
41	2005-2006	10046	435	10481	355	15	370
42	2006-2007	10337	488	10824	365	17	382

43	2007-2008	6273	450	6723	222	16	238
44	2008-2009	3367	520	3887	119	18	137
45	2009-2010	3221	168	3389	114	6	120
46	2010-2011	2754	3	2757	97	0	97
47	2011-2012	3742	0	3742	132	0	132
48	2012-2013	1501	0	1501	53	0	53
49	2013-2014	3716	0	3716	131	0	131
50	2014-2015	2309	0	2309	82	0	82
51	2015-2016	970	35	1006	34	1	36
52	2016-2017	2305	0	2305	81	0	81
53	2017-2018	1358	0	1358	48	0	48
54	2018-2019	2449	0	2449	87	0	87
55	2019-2020	8458	0	8458	299	0	299
56	2020-2021	3121	0	3121	110	0	110
57	2021-2022	3181	0	3181	112	0	112
Average		4033	356	4388	143	13	155

Instantaneous Flood Peak of Krishna at Karad

Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	1965-1966	562.657	21-07-1965	00:00:00	4186 *
2	1966-1967	561.042	29-07-1966	21:00:00	3302 *
3	1967-1968	564.112	28-07-1967	02:00:00	5067 *
4	1968-1969	556.682	07-08-1968	14:00:00	1414 *
5	1969-1970	561.682	01-08-1969	09:00:00	3641 *
6	1970-1971	558.242	21-08-1970	12:00:00	2006 *
7	1971-1972	558.097	31-08-1971	09:00:00	1947 *
8	1972-1973	558.762	07-07-1972	22:00:00	2224 *
9	1973-1974	560.442	08-07-1973	07:00:00	2999 *
10	1974-1975	559.377	05-07-1974	13:00:00	2496 *
11	1975-1976	561.442	10-07-1975	17:00:00	3512 *
12	1976-1977	567.162	07-06-1976	03:00:00	7177 *
13	1977-1978	559.912	07-07-1977	15:00:00	2743 *
14	1978-1979	558.402	02-09-1978	16:00:00	2072 *
15	1979-1980	559.462	08-08-1979	18:00:00	2534 *
16	1980-1981	560.562	05-08-1980	21:00:00	3059 *
17	1981-1982	558.632	10-07-1981	02:00:00	2169 *
18	1982-1983	557.392	29-07-1982	16:00:00	1672 *
19	1983-1984	558.982	17-08-1983	06:00:00	2320 *
20	1984-1985	559.082	18-07-1984	20:00:00	2364 *
21	1985-1986	557.317	02-08-1985	07:00:00	1644 *
22	1986-1987	559.062	30-06-1986	02:00:00	2355 *
23	1987-1988	557.472	08-07-1987	14:00:00	1702 *
24	1988-1989	563.212	03-08-1988	05:00:00	4513 *
25	1989-1990	559.722	25-07-1989	13:00:00	2654 *
26	1990-1991	562.312	18-08-1990	12:00:00	3989 *
27	1991-1992	561.147	28-07-1991	07:00:00	3357 *
28	1992-1993	559.772	14-08-1992	10:00:00	2677 *
29	1993-1994	559.402	19-06-1993	15:00:00	2507 *
30	1994-1995	562.252	15-07-1994	13:00:00	3955 *
31	1995-1996	556.892	20-07-1995	15:00:00	1488 *
32	1996-1997	561.512	04-10-1996	13:00:00	3549 *
33	1997-1998	563.922	24-08-1997	08:00:00	4948
34	1998-1999	558.182	09-07-1998	06:00:00	1982 *
35	1999-2000	558.742	28-07-1999	07:00:00	2216 *
36	2000-2001	555.662	12-07-2000	22:00:00	1077 *
37	2001-2002	556.342	09-07-2001	18:00:00	1297 *
38	2002-2003	555.582	07-09-2002	08:00:00	1052
39	2003-2004	554.912	28-07-2003	08:00:00	855
40	2004-2005	562.395	12-08-2004	23:00:00	4036 *
41	2005-2006	565.045	02-08-2005	23:00:00	5675 *
42	2006-2007	566.305	30-07-2006	13:00:00	6548 *
43	2007-2008	561.465	02-07-2007	08:00:00	3524
44	2008-2009	560.115	11-08-2008	09:00:00	2840 *
45	2009-2010	555.775	15-07-2009	11:00:00	1112 *
46	2010-2011	556.195	27-07-2010	01:00:00	1248 *

47	2011-2012	563.485	04-09-2011	11:00:00	4678 *
48	2012-2013	556.235	26-07-2012	02:00:00	1262 *
49	2013-2014	559.235	25-07-2013	15:00:00	2432 *
50	2014-2015	556.865	24-07-2014	10:00:00	1479 *
51	2015-2016	556.345	04-10-2015	07:00:00	1298 *
52	2016-2017	557.085	26-09-2016	18:00:00	1558 *
53	2017-2018	557.545	07-10-2017	12:00:00	1730 *
54	2018-2019	557.245	13-04-2018	13:00:00	1617 *
55	2019-2020	566.145	06-08-2019	19:00:00	6434 *
56	2020-2021	559.505	17-08-2020	19:00:00	2553 *
57	2021-2022	565.485	24-07-2021	08:00:00	6080 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : Karad (AK000X6)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	556.475	0.000	551.675	126.6 *	556.095	1068 *	553.905	0.000	553.915	0.000	553.985	0.000
2	556.675	0.000	551.485	106.7 *	555.795	960.2	553.885	0.000	554.085	0.000	553.785	0.000
3	556.575	0.000	551.355	94.05 *	553.515	431.1	553.755	0.000	553.565	0.000	553.915	0.000
4	556.535	0.000	551.255	84.87 *	553.545	434.5	553.535	0.000	553.955	0.000	551.765	0.000
5	555.875	0.000	551.125	73.64 *	553.635	445.7	553.315	0.000	554.185	0.000	552.125	0.000
6	556.745	0.000	551.025	65.55 *	553.115	349.7	553.515	0.000	553.825	0.000	551.865	0.000
7	556.055	0.000	550.985	62.44 *	552.445	223.2	554.335	0.000	554.135	0.000	552.695	0.000
8	555.215	0.000	550.905	56.45 *	553.515	407.1 *	553.885	0.000	554.295	0.000	553.185	0.000
9	555.335	0.000	550.945	59.41 *	553.350	390.6	553.595	0.000	553.615	0.000	553.295	0.000
10	555.435	0.000	551.035	65.40	553.035	335.9	553.935	0.000	554.215	0.000	553.915	0.000
11	555.255	0.000	551.195	79.59 *	552.835	301.7	553.825	0.000	554.715	0.000	553.775	0.000
12	555.025	0.000	551.495	100.2	552.685	287.4	554.055	0.000	554.175	0.000	553.135	0.000
13	554.925	0.000	551.785	135.1	553.855	0.000	553.520	408.6	553.855	0.000	552.575	0.000
14	554.845	0.000	551.705	124.3	554.135	0.000	554.855	695.7	553.635	0.000	552.545	0.000
15	554.955	0.000	551.855	144.3	552.665	0.000	554.895	710.6	554.135	0.000	552.785	0.000
16	554.905	0.000	551.745	132.5	553.115	0.000	553.135	339.6	553.785	0.000	553.235	0.000
17	558.845	2116 *	551.720	125.6	554.725	0.000	552.830	294.2	553.905	0.000	553.725	0.000
18	554.675	665.6 *	551.835	144.7 *	554.395	0.000	553.485	0.000	553.495	0.000	553.545	0.000
19	554.765	688.3 *	551.695	125.7	554.335	0.000	553.665	0.000	553.885	0.000	553.135	0.000
20	553.685	441.0 *	552.245	190.5	554.285	0.000	553.795	0.000	553.995	0.000	552.895	0.000
21	553.425	389.7 *	552.475	242.2	553.555	0.000	553.745	0.000	554.165	0.000	553.115	0.000
22	553.225	352.3 *	556.780	1275	554.345	0.000	553.205	0.000	553.835	0.000	552.765	0.000
23	553.005	313.4 *	562.115	3753	554.565	0.000	553.915	0.000	554.125	0.000	552.665	0.000
24	552.805	280.0 *	564.765	5611	554.475	0.000	553.975	0.000	553.625	0.000	552.715	0.000
25	552.685	260.9 *	558.515	1972 *	554.025	0.000	553.415	0.000	554.045	0.000	552.575	0.000
26	552.615	250.0 *	557.495	1620	553.755	0.000	554.385	0.000	553.735	0.000	552.415	0.000
27	552.535	237.9 *	556.595	1165	554.125	0.000	553.895	0.000	554.215	0.000	552.155	0.000
28	552.455	226.1 *	555.825	970.8	554.315	0.000	553.865	0.000	552.915	0.000	551.555	0.000
29	552.005	165.2 *	555.635	870.6	554.125	0.000	553.965	0.000	553.905	0.000	551.225	0.000
30	551.825	143.5 *	556.695	1195	553.985	0.000	553.705	0.000	553.935	0.000	551.125	0.000
31			557.115	1430	553.905	0.000			553.515	0.000		
<u>Ten-Daily Mean</u>												
I Ten-Daily	556.092	0.000	551.179	79.51	553.805	504.6	553.766	0.000	553.979	0.000	553.053	0.000
II Ten-Daily	555.188	391.1	551.727	130.3	553.703	58.91	553.806	244.9	553.958	0.000	553.135	0.000
III Ten-Daily	552.658	261.9	557.637	1828	554.107	0.000	553.807	0.000	553.820	0.000	552.231	0.000
<u>Monthly</u>												
Min.	551.825	0.000	550.905	56.45	552.445	0.000	552.830	0.000	552.915	0.000	551.125	0.000
Max.	558.845	2116	564.765	5611	556.095	1068	554.895	710.6	554.715	0.000	553.985	0.000
Mean	554.646	217.7	553.648	716.2	553.879	181.8	553.793	81.62	553.916	0	552.806	0

Annual Runoff in MCM = 3181 Annual Runoff in mm = 582

Peak Observed Discharge = 5611 cumecs on 24-07-2021 Corres. Water Level :564.765 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021 Corres. Water Level :556.475 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : Karad (AK000X6)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	551.245	0.000	552.115	0.000	554.565	0.000	554.465	0.000	553.915	0.000	554.315	0.000
2	553.095	0.000	552.905	0.000	554.665	0.000	554.375	0.000	554.355	0.000	554.755	0.000
3	552.295	0.000	553.155	0.000	554.695	0.000	554.215	0.000	554.415	0.000	554.355	0.000
4	552.275	0.000	553.255	0.000	554.425	0.000	554.615	0.000	554.515	0.000	554.455	0.000
5	552.305	0.000	553.285	0.000	554.375	0.000	554.365	0.000	554.345	0.000	554.765	0.000
6	552.185	0.000	554.175	0.000	554.485	0.000	554.445	0.000	554.315	0.000	554.635	0.000
7	552.105	0.000	553.715	0.000	554.695	0.000	554.505	0.000	554.595	0.000	554.405	0.000
8	551.965	0.000	554.365	0.000	554.495	0.000	554.855	0.000	554.665	0.000	554.635	0.000
9	552.095	0.000	554.725	0.000	554.595	0.000	554.605	0.000	554.295	0.000	554.785	0.000
10	552.015	0.000	554.005	0.000	554.655	0.000	554.305	0.000	554.655	0.000	554.705	0.000
11	552.015	0.000	553.875	0.000	554.625	0.000	554.695	0.000	554.925	0.000	554.545	0.000
12	551.965	0.000	554.055	0.000	554.665	0.000	554.895	0.000	554.255	0.000	554.335	0.000
13	551.915	0.000	554.345	0.000	554.745	0.000	554.125	0.000	554.665	0.000	554.315	0.000
14	551.895	0.000	554.445	0.000	554.555	0.000	554.195	0.000	554.755	0.000	554.595	0.000
15	551.885	0.000	554.435	0.000	554.405	0.000	553.965	0.000	554.705	0.000	554.825	0.000
16	551.865	0.000	554.325	0.000	554.025	0.000	553.945	0.000	554.485	0.000	554.865	0.000
17	551.835	0.000	554.275	0.000	554.795	0.000	553.915	0.000	554.315	0.000	554.965	0.000
18	551.795	0.000	554.495	0.000	554.505	0.000	553.735	0.000	554.875	0.000	554.785	0.000
19	551.765	0.000	554.325	0.000	554.505	0.000	553.615	0.000	554.695	0.000	553.965	0.000
20	551.745	0.000	554.365	0.000	554.535	0.000	553.635	0.000	554.485	0.000	554.805	0.000
21	551.725	0.000	554.745	0.000	554.425	0.000	553.455	0.000	554.785	0.000	554.235	0.000
22	551.715	0.000	554.475	0.000	554.475	0.000	552.505	0.000	554.465	0.000	554.535	0.000
23	551.685	0.000	554.415	0.000	554.535	0.000	552.975	0.000	554.285	0.000	554.765	0.000
24	551.755	0.000	554.615	0.000	554.465	0.000	553.295	0.000	554.625	0.000	554.235	0.000
25	552.125	0.000	554.575	0.000	554.395	0.000	553.285	0.000	554.875	0.000	554.515	0.000
26	552.905	0.000	554.435	0.000	554.335	0.000	552.945	0.000	554.545	0.000	554.715	0.000
27	553.275	0.000	554.595	0.000	554.825	0.000	552.665	0.000	554.345	0.000	554.695	0.000
28	553.285	0.000	554.635	0.000	554.675	0.000	552.505	0.000	554.115	0.000	554.625	0.000
29	553.015	0.000	554.375	0.000			551.015	0.000	554.375	0.000	554.485	0.000
30	553.195	0.000	554.725	0.000			551.585	0.000	554.525	0.000	554.485	0.000
31	553.255	0.000	554.805	0.000			552.235	0.000			554.585	0.000
<u>Ten-Daily Mean</u>												
I Ten-Daily	552.158	0.000	553.570	0.000	554.565	0.000	554.475	0.000	554.407	0.000	554.581	0.000
II Ten-Daily	551.868	0.000	554.294	0.000	554.536	0.000	554.072	0.000	554.616	0.000	554.600	0.000
III Ten-Daily	552.539	0.000	554.581	0.000	554.516	0.000	552.588	0.000	554.494	0.000	554.534	0.000
<u>Monthly</u>												
Min.	551.245	0.000	552.115	0.000	554.025	0.000	551.015	0.000	553.915	0.000	553.965	0.000
Max.	553.285	0.000	554.805	0.000	554.825	0.000	554.895	0.000	554.925	0.000	554.965	0.000
Mean	552.200	0	554.162	0	554.541	0	553.675	0	554.506	0	554.570	0

Peak Computed Discharge = 2116 cumecs on 17-06-2021

Corres. Water Level :558.845 m

Lowest Computed Discharge = 56.45 cumecs on 08-07-2021

Corres. Water Level :550.905 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

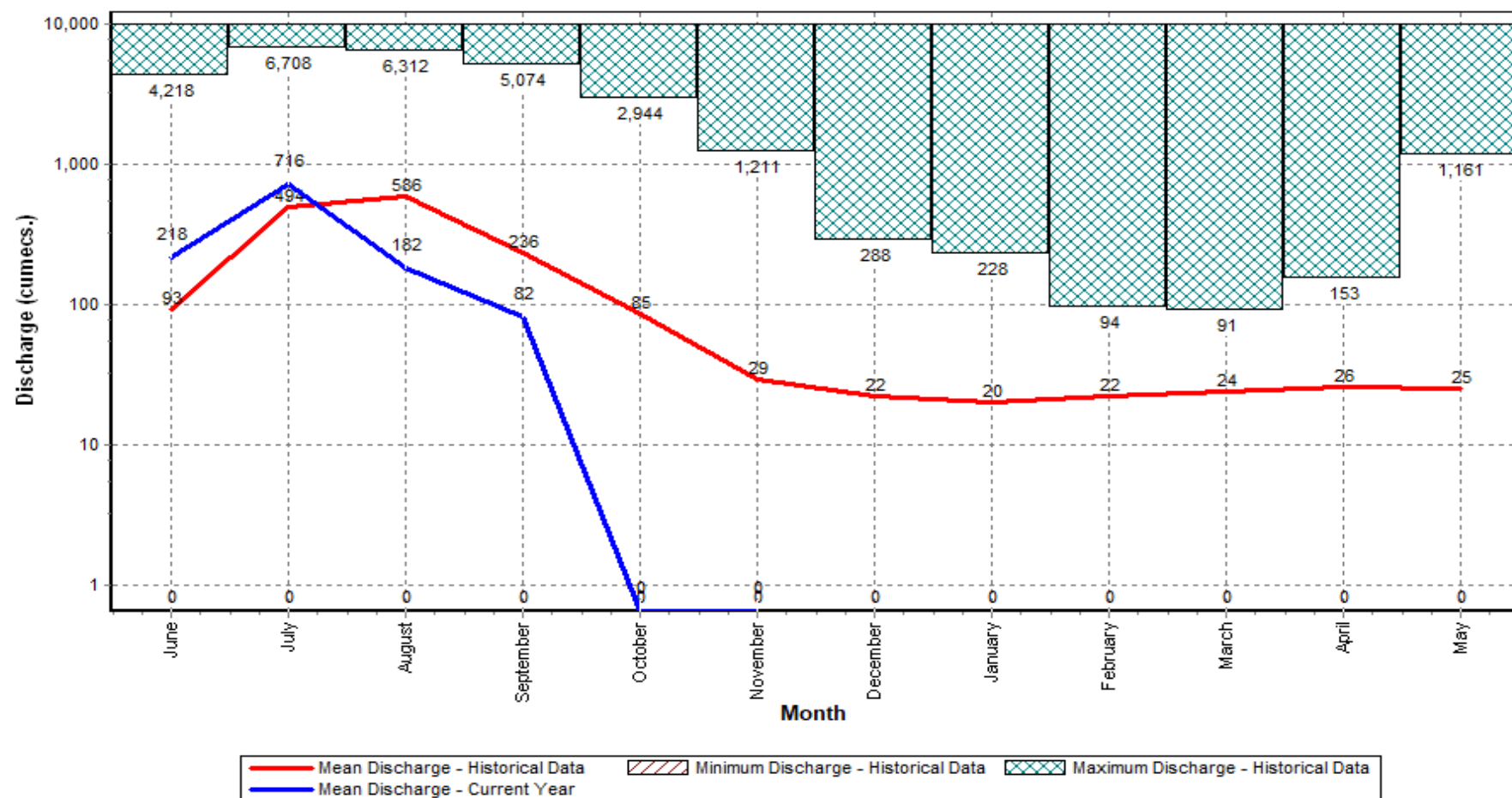
Station Name : Karad (AK000X6)

Data considered : 1965-2022

Division : Upper Krishna Divn, Pune

Local River : Krishna

Sub-Division : Upper Krishna SD, Miraj



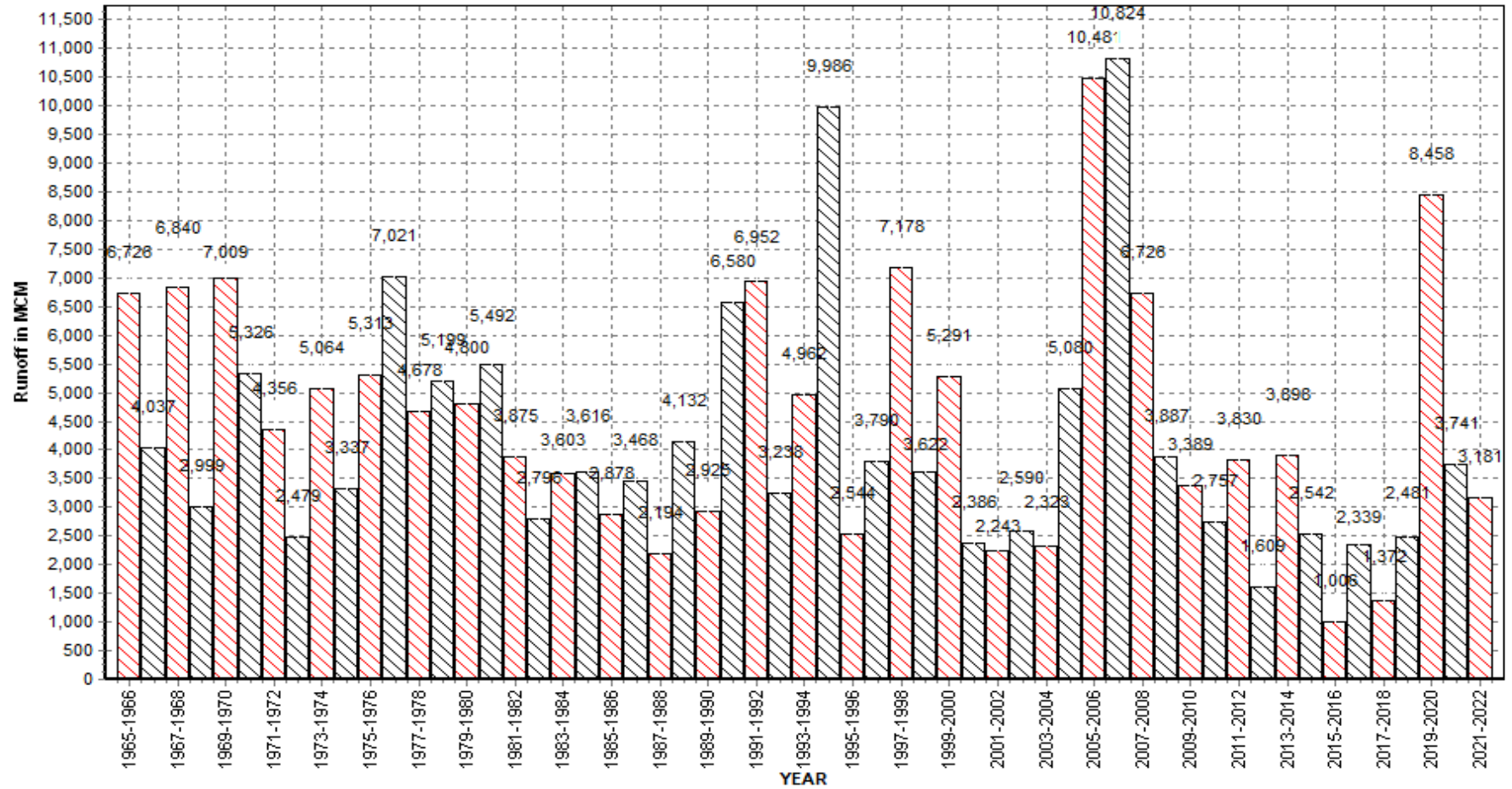
Annual Runoff Values for the period: 1965 - 2022

Station Name : Karad (AK000X6)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



Note: Missing values have not been considered while arriving at Annual Runoff

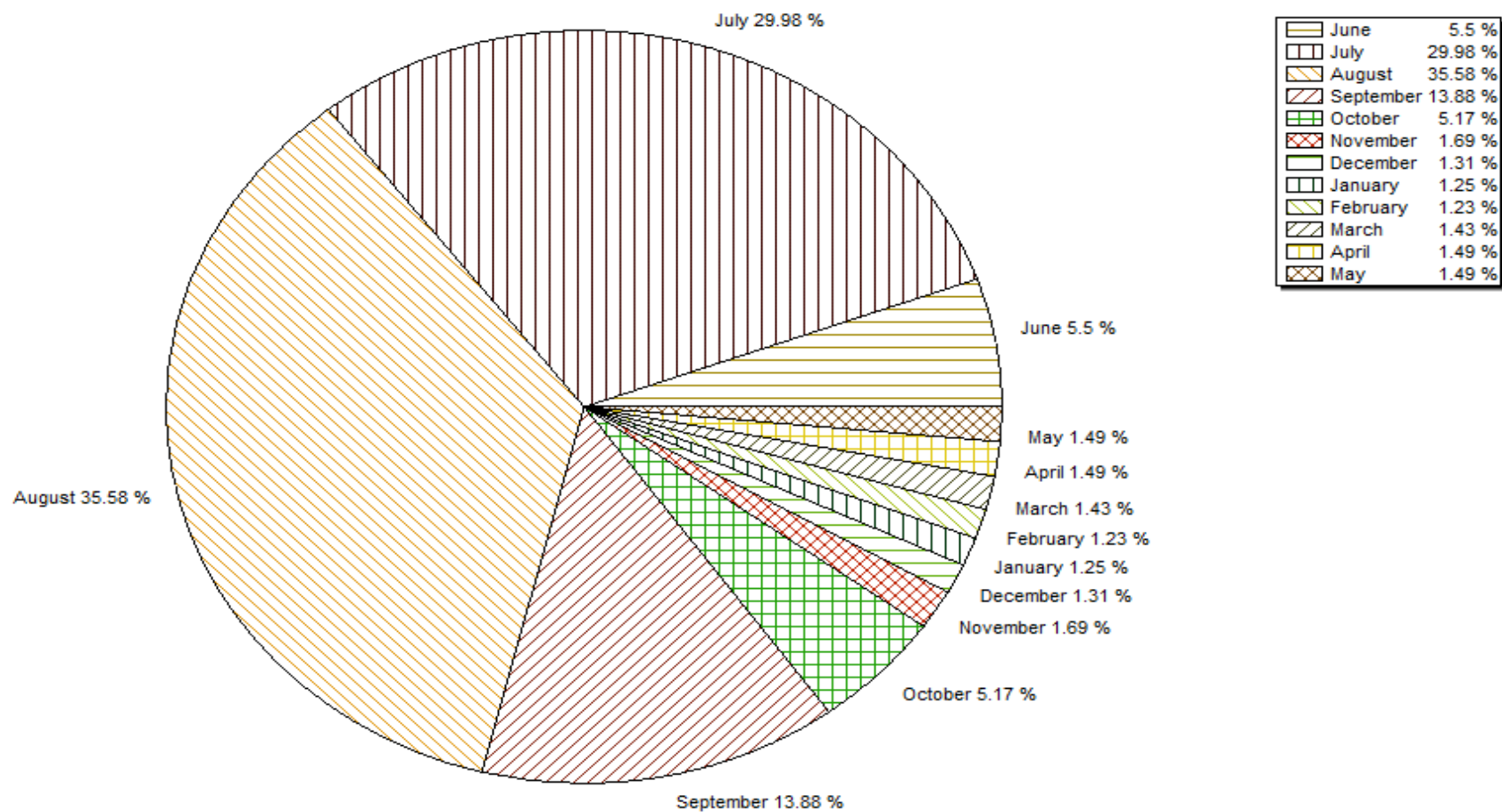
Monthly Average Runoff based on period : 1965-2021

Station Name : Karad (AK000X6)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



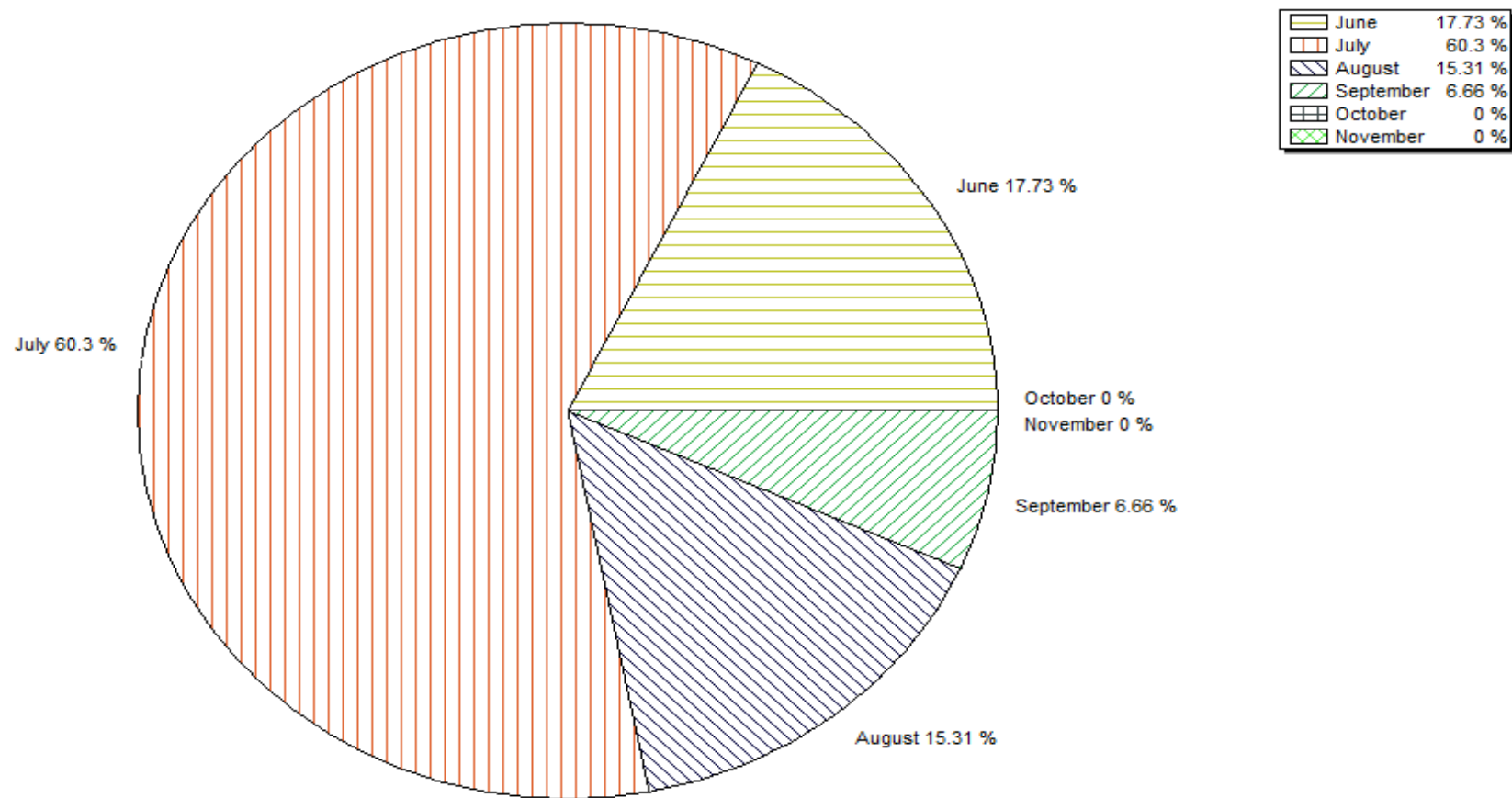
Monthly Runoff for the Year : 2021-2022

Station Name : Karad (AK000X6)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj

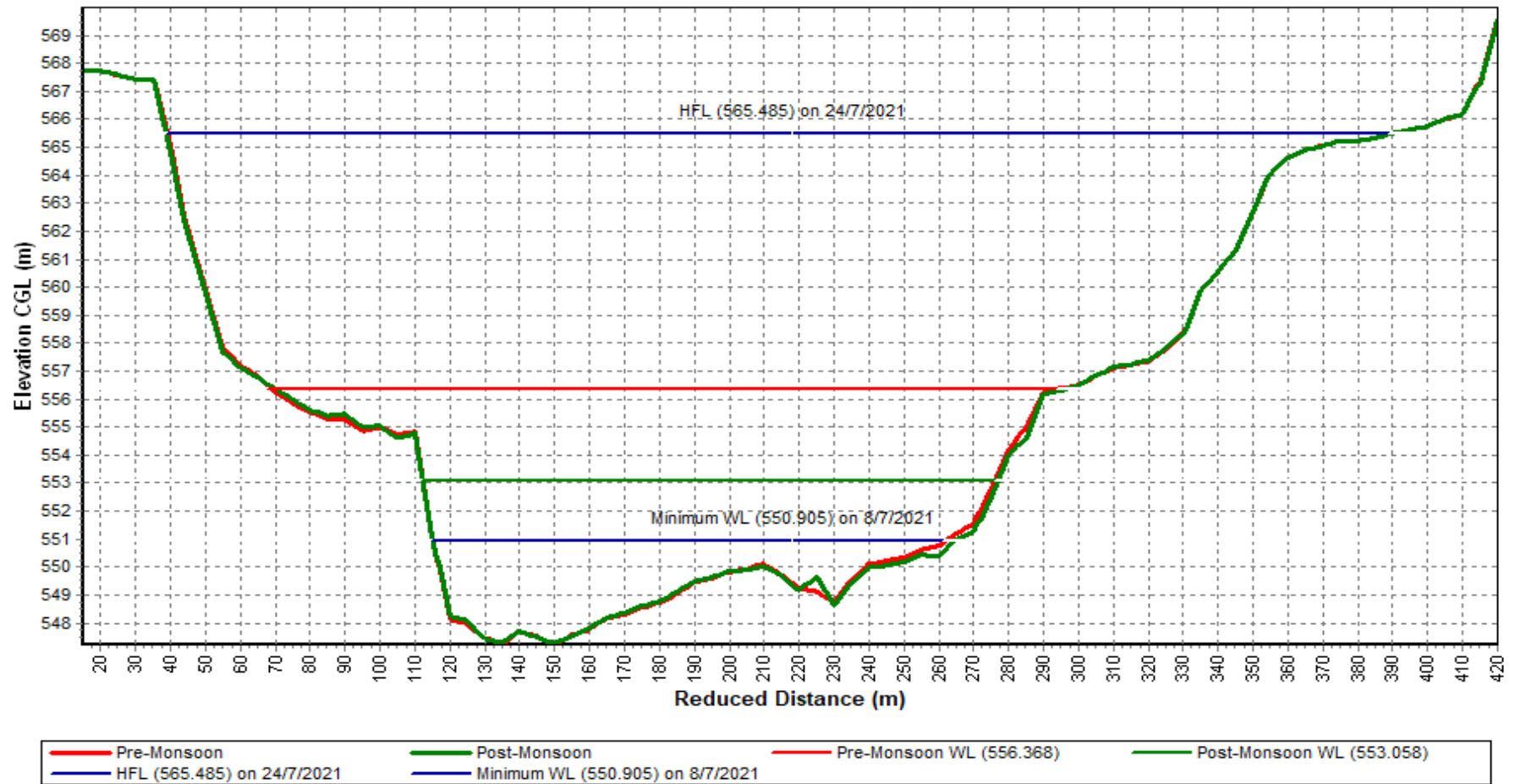


Station Name : Karad (AK000X6)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



Zero of Gauge : 549.915 (m.s.l)

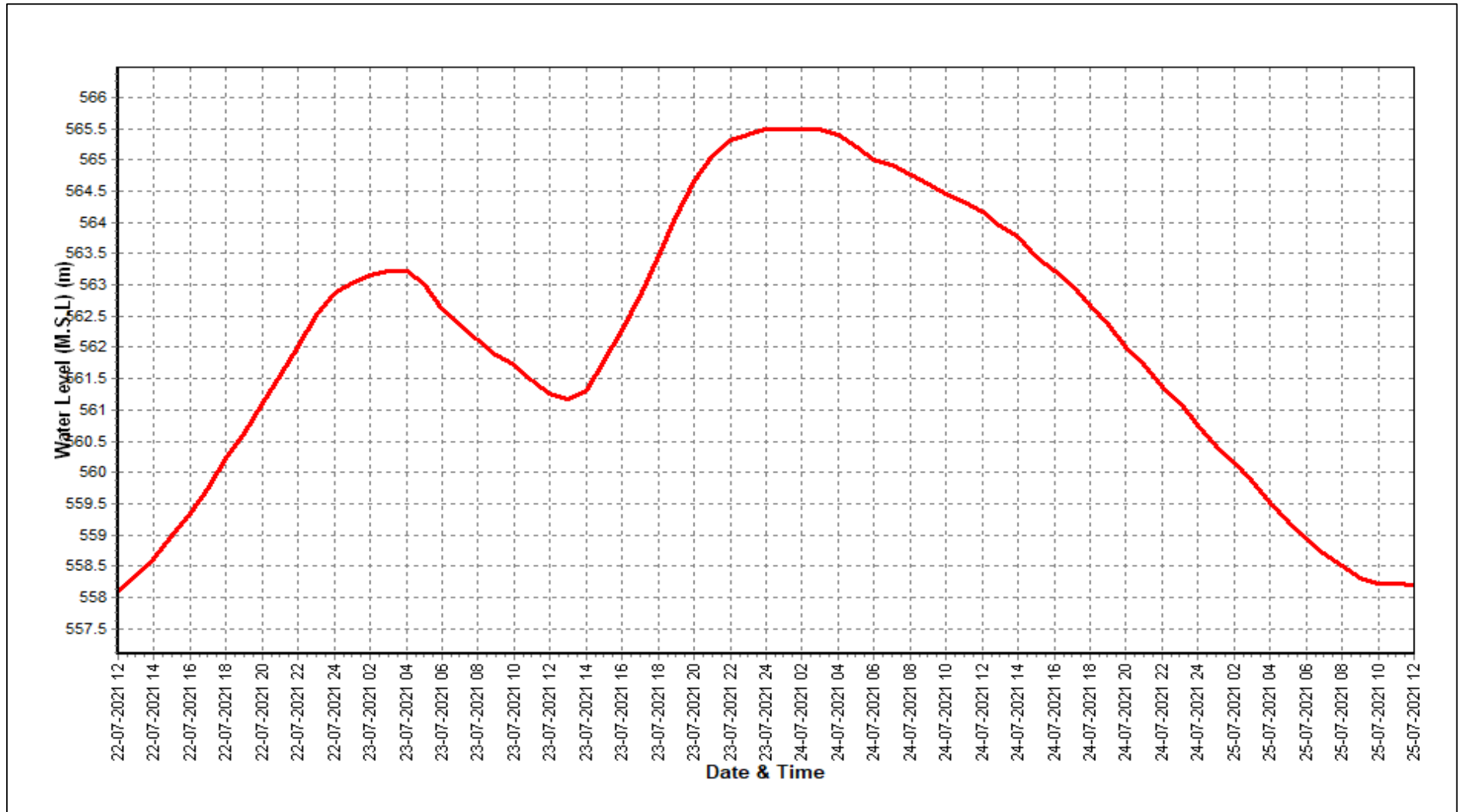
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Karad (AK000X6)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



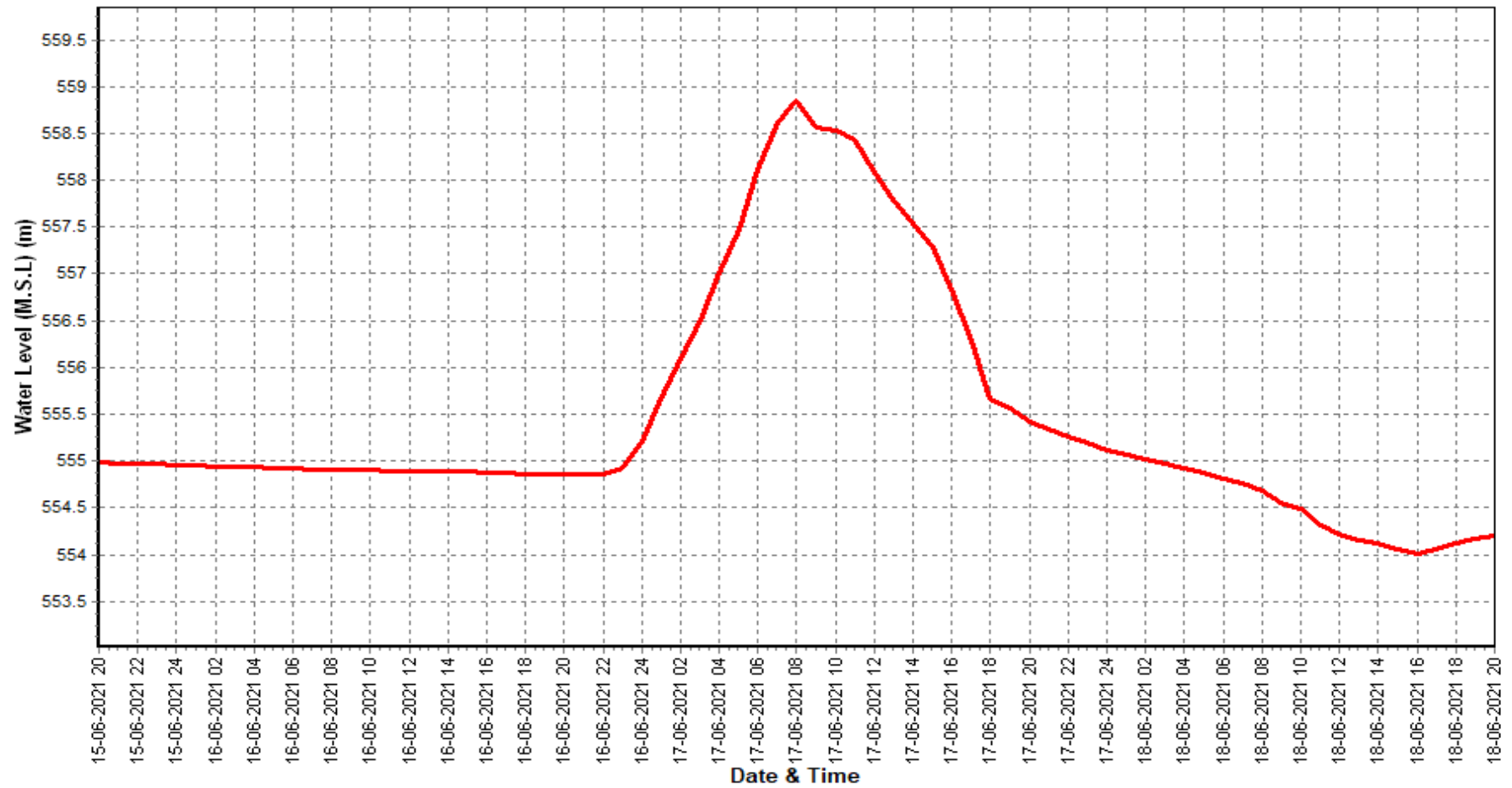
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Karad (AK000X6)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



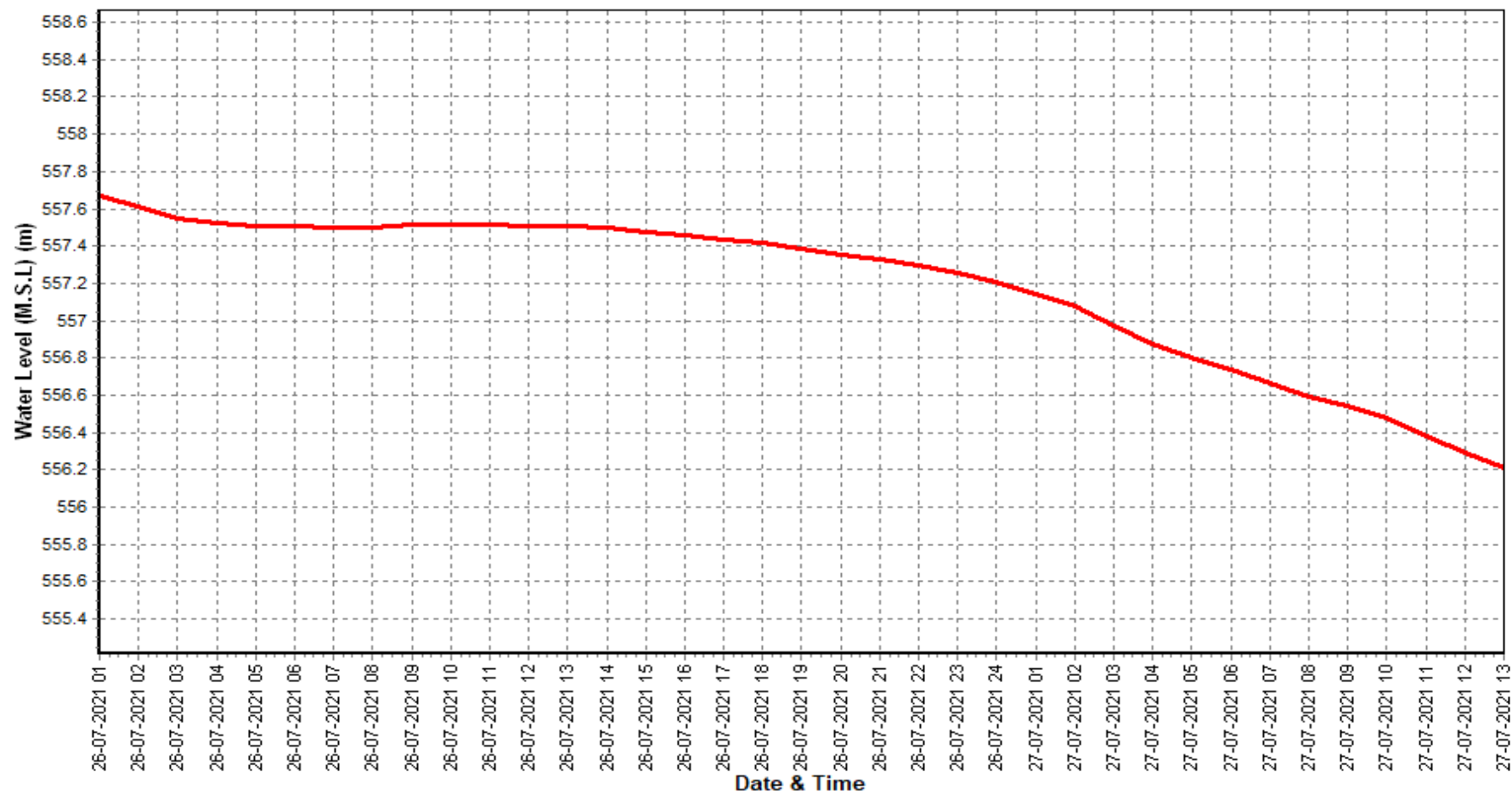
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Karad (AK000X6)

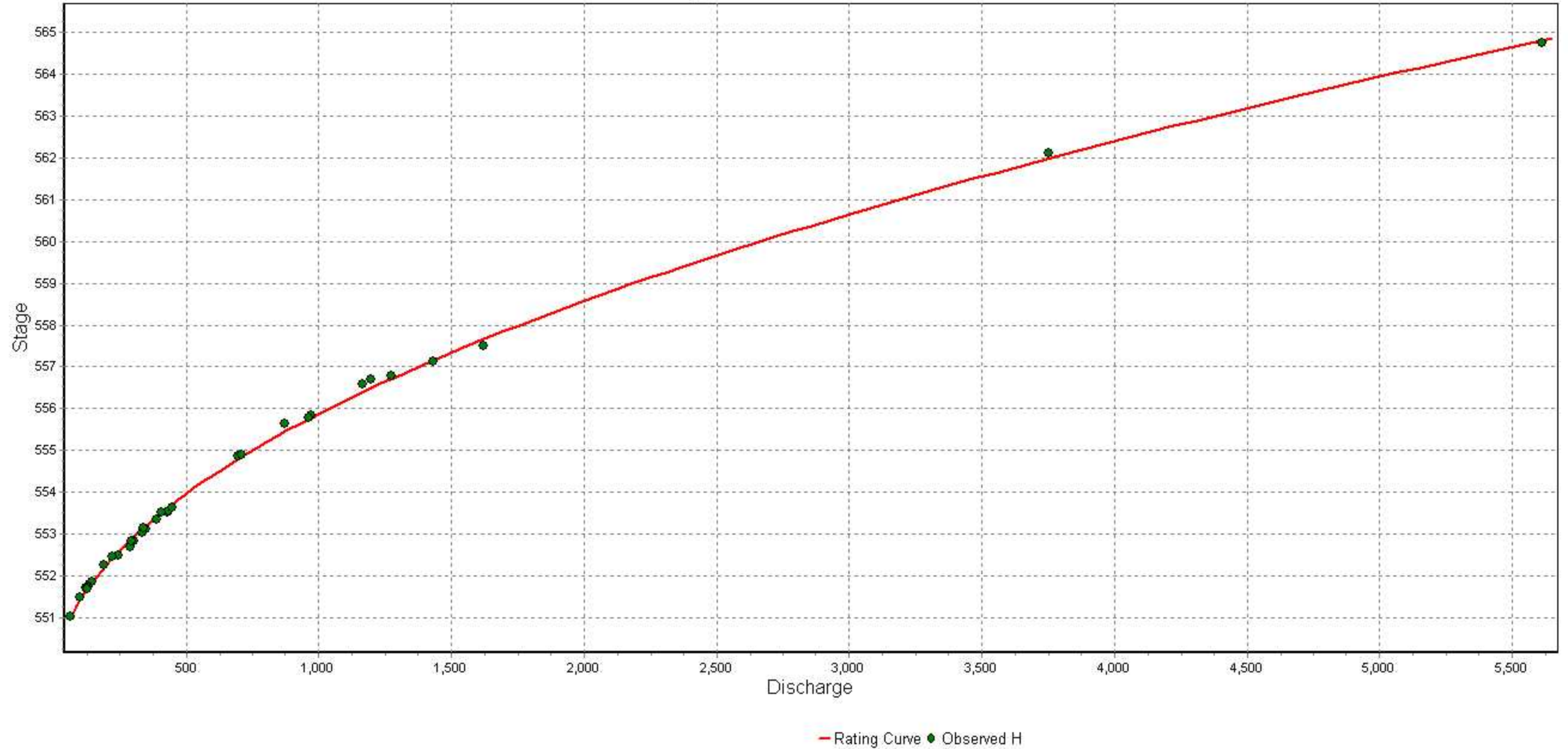
Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



Rating Curve of Karad 2021



HISTORY SHEET

		Water Year	: 2021-2022
Site	: Nandre	Code	: NANDRE
State	: Maharashtra	District	Sangli
Basin	: Krishna	Independent River	: Krishna
Tributary	: Yerala	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Yerala
Division	: Upper Krishna Divn, Pune	Sub-Division	: Upper Krishna SD, Miraj
Drainage Area	: 3038 Sq. Km.	Bank	:
Latitude	: 16°56'58"	Longitude	: 74°34'29"
Zero of Gauge (m)	: 526.5 (m.s.l)	18-10-2016	
	Opening Date	Closing Date	
Gauge	: 01-06-2017	HFL During 2021-22	: 535.790 m
		Corres. Discharge	: 71 (Estimated)
Discharge	: 07-08-2018	Date & Time of occurrence	: 01-08-2021 : 02:00 Hrs

HFL Recorded so far in m : 543.55 dt 08-08-2019

Corresponding Discharge (cumecs) : 5745 *

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2019-2020	5690	543.410	08-08-2019	0.000	527.520	24-05-2020
2020-2021	1600	536.610	19-08-2020	0.000	534.830	22-02-2021

Note: 2021-2022 Discharge Low due to back water effect of krishna river at temporary section

Annual Runoff of Yerala at Nandre							
Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	2018-2019	26	0	26	1	0	1
2	2019-2020	4491	15	4506	159	1	160
3	2020-2021	1419	0	1419	50	0	50
4	2021-2022	58	0	58	2	0	2
Average		1498	4	1502	53	0	53

Instantaneous Flood Peak of Yerala at Nandre

Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	2018-2019	532.930	24-08-2018	11:00:00	450 *
2	2019-2020	543.550	08-08-2019	16:00:00	5745 *
3	2020-2021	536.610	19-08-2020	06:00:00	1600 *
4	2021-2022	535.79	01-08-2021	02:00:00	71 *

Note: 2021-2022 Discharge Low due to back water effect of krishna river at temporary section

Stage-Discharge Data for the period 2021 - 2022

Station Name : Nandre (NANDRE)

Division : Upper Krishna Divn, Pune

Local River : Yerala

Sub-Division : Upper Krishna SD, Miraj

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	528.910	0.000	528.940	0.000	535.770	67.36 *	528.780	0.000	528.760	0.000	528.730	0.000
2	528.930	0.000	528.900	0.000	534.770	61.66 #	528.790	0.000	528.770	0.000	528.720	0.000
3	528.960	0.000	528.870	0.000	533.640	54.66 #	528.810	0.000	528.790	0.000	528.710	0.000
4	529.020	0.000	528.880	0.000	531.580	39.48 #	528.830	0.000	528.840	0.000	528.700	0.000
5	529.190	0.000	528.910	0.000	530.140	25.88	528.840	0.000	529.180	7.897	528.700	0.000
6	529.360	0.000	528.880	0.000	530.070	24.20	528.840	0.000	529.150	7.532	528.690	0.000
7	529.360	0.000	528.840	0.000	529.940	21.82	528.810	0.000	529.120	6.424	528.770	0.000
8	529.360	0.000	528.820	0.000	529.770	20.07 *	528.820	0.000	529.080	5.826	528.700	0.000
9	529.190	0.000	528.830	0.000	529.650	16.65	528.820	0.000	529.030	3.865	528.710	0.000
10	529.020	0.000	528.890	0.000	529.510	14.69	528.910	0.000	529.040	2.725 *	528.720	0.000
11	528.980	0.000	528.940	0.000	529.350	13.93	528.970	0.000	529.300	18.22	528.710	0.000
12	528.940	0.000	528.940	0.000	529.300	12.73	528.990	0.000	529.450	18.97	528.720	0.000
13	528.970	0.000	528.960	0.000	529.280	12.02	529.010	0.000	529.400	14.58	528.690	0.000
14	529.060	0.000	528.950	0.000	529.210	9.420 #	529.420	0.000	529.330	14.31	528.720	0.000
15	529.030	0.000	528.930	0.000	529.150	7.642 *	531.750	0.000	529.300	13.30	528.680	0.000
16	528.940	0.000	528.980	0.000	529.120	5.822	532.080	0.000	529.190	7.239	528.690	0.000
17	528.970	0.000	528.990	0.000	529.110	5.597	529.990	0.000	529.160	7.961 *	528.760	0.000
18	531.710	0.000	528.960	0.000	529.130	6.024	528.860	0.000	529.070	5.715	528.790	0.000
19	530.740	0.000 *	528.940	0.000	529.130	6.970 #	528.880	0.000	529.070	5.823	528.830	0.000
20	530.920	0.000 *	529.040	0.000	529.100	5.325	528.820	0.000	529.040	4.510	529.010	0.000
21	530.350	27.52 *	529.120	6.428	529.080	3.995	528.780	0.000	529.000	4.381	529.260	0.000
22	529.510	15.88 *	529.500	15.70	529.030	1.860 *	528.760	0.000	528.990	3.750	529.310	0.000
23	529.450	14.77 *	535.780	0.000	528.990	0.000	528.740	0.000	528.940	0.000	529.350	0.000
24	529.420	14.20 *	541.000	0.000	528.930	0.000	528.750	0.000	528.890	0.000	529.490	0.000
25	529.390	13.60 *	541.840	0.000	528.840	0.000	528.770	0.000	528.860	0.000	529.420	0.000
26	529.360	12.98 *	541.310	0.000	528.800	0.000	528.770	0.000	528.840	0.000	529.360	0.000
27	529.300	11.66 *	539.280	0.000	528.790	0.000	528.760	0.000	528.800	0.000	529.290	0.000
28	529.240	10.21 *	537.870	0.000	528.810	0.000	528.760	0.000	528.740	0.000	529.230	0.000
29	529.080	4.991 *	536.620	0.000	528.820	0.000	528.770	0.000	528.760	0.000	529.160	0.000
30	528.980	0.000	535.320	0.000	528.800	0.000	528.760	0.000	528.740	0.000	529.190	0.000
31			535.340	0.000	528.780	0.000			528.710	0.000		
Ten-Daily Mean												
I Ten-Daily	529.130	0.000	528.876	0.000	531.484	34.65	528.825	0.000	528.976	3.427	528.715	0.000
II Ten-Daily	529.626	0.000	528.963	0.000	529.188	8.548	529.677	0.000	529.231	11.06	528.760	0.000
III Ten-Daily	529.408	12.58	536.635	2.011	528.879	0.532	528.762	0.000	528.843	0.739	529.306	0.000
Monthly												
Min.	528.910	0.000	528.820	0.000	528.780	0.000	528.740	0.000	528.710	0.000	528.680	0.000
Max.	531.710	27.52	541.840	15.70	535.770	67.36	532.080	0.000	529.450	18.97	529.490	0.000
Mean	529.388	4.194	531.657	0.714	529.819	14.12	529.088	0	529.011	4.936	528.927	0

Annual Runoff in MCM = 64 Annual Runoff in mm = 21

Peak Observed Discharge = 61.66 cumecs on 02-08-2021 Corres. Water Level :534.77 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021 Corres. Water Level :528.91 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : Nandre (NANDRE)

Division : Upper Krishna Divn, Pune

Local River : Yerala

Sub-Division : Upper Krishna SD, Miraj

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	529.070	0.000	534.700	0.000	528.700	0.000	528.680	0.000	528.710	0.000	529.130	0.000
2	529.030	0.000	534.710	0.000	528.690	0.000	528.690	0.000	528.700	0.000	529.140	0.000
3	529.670	0.000	534.700	0.000	528.700	0.000	528.680	0.000	528.670	0.000	529.090	0.000
4	530.010	0.000	534.720	0.000	528.690	0.000	528.700	0.000	528.640	0.000	529.050	0.000
5	530.170	0.000	534.740	0.000	528.710	0.000	528.710	0.000	528.610	0.000	529.010	0.000
6	530.260	0.000	534.770	0.000	528.700	0.000	528.690	0.000	528.600	0.000	528.970	0.000
7	530.210	0.000	534.820	0.000	528.700	0.000	528.680	0.000	528.590	0.000	528.910	0.000
8	529.960	0.000	534.840	0.000	528.690	0.000	528.690	0.000	528.610	0.000	528.860	0.000
9	529.540	0.000	534.830	0.000	528.690	0.000	528.700	0.000	528.630	0.000	528.760	0.000
10	528.870	0.000	534.820	0.000	528.700	0.000	528.680	0.000	528.650	0.000	528.720	0.000
11	528.890	0.000	534.810	0.000	528.690	0.000	528.690	0.000	528.670	0.000	528.680	0.000
12	528.970	0.000	534.790	0.000	528.690	0.000	528.690	0.000	528.700	0.000	528.630	0.000
13	529.110	0.000	534.770	0.000	528.700	0.000	528.680	0.000	528.720	0.000	528.620	0.000
14	529.310	0.000	534.750	0.000	528.680	0.000	528.700	0.000	528.710	0.000	528.600	0.000
15	529.440	0.000	534.740	0.000	528.690	0.000	528.690	0.000	528.700	0.000	528.610	0.000
16	529.470	0.000	534.730	0.000	529.020	0.000	528.690	0.000	528.690	0.000	528.610	0.000
17	529.440	0.000	534.730	0.000	528.960	0.000	528.680	0.000	528.700	0.000	528.610	0.000
18	529.380	0.000	534.730	0.000	528.750	0.000	528.690	0.000	528.680	0.000	528.620	0.000
19	529.320	0.000	534.720	0.000	528.780	0.000	528.680	0.000	528.690	0.000	528.620	0.000
20	529.280	0.000	534.740	0.000	528.740	0.000	528.690	0.000	528.700	0.000	528.650	0.000
21	529.240	0.000	534.730	0.000	528.730	0.000	528.690	0.000	528.720	0.000	528.720	0.000
22	529.200	0.000	534.720	0.000	528.710	0.000	528.680	0.000	528.760	0.000	528.750	0.000
23	529.200	0.000	534.720	0.000	528.700	0.000	528.690	0.000	528.880	0.000	528.770	0.000
24	529.170	0.000	534.710	0.000	528.700	0.000	528.700	0.000	528.920	0.000	528.790	0.000
25	529.070	0.000	534.700	0.000	528.680	0.000	528.690	0.000	528.980	0.000	528.780	0.000
26	529.000	0.000	534.690	0.000	528.690	0.000	528.700	0.000	528.970	0.000	528.770	0.000
27	528.920	0.000	534.710	0.000	528.700	0.000	528.700	0.000	528.930	0.000	528.750	0.000
28	528.840	0.000	534.700	0.000	528.690	0.000	528.710	0.000	528.930	0.000	528.750	0.000
29	528.800	0.000	534.690	0.000			528.700	0.000	528.990	0.000	528.760	0.000
30	528.760	0.000	534.710	0.000			528.690	0.000	529.080	0.000	528.750	0.000
31	528.720	0.000	534.690	0.000			528.700	0.000			528.750	0.000
Ten-Daily Mean												
I Ten-Daily	529.679	0.000	534.765	0.000	528.697	0.000	528.690	0.000	528.641	0.000	528.964	0.000
II Ten-Daily	529.261	0.000	534.751	0.000	528.770	0.000	528.688	0.000	528.696	0.000	528.625	0.000
III Ten-Daily	528.993	0.000	534.706	0.000	528.700	0.000	528.695	0.000	528.916	0.000	528.758	0.000
Monthly												
Min.	528.720	0.000	534.690	0.000	528.680	0.000	528.680	0.000	528.590	0.000	528.600	0.000
Max.	530.260	0.000	534.840	0.000	529.020	0.000	528.710	0.000	529.080	0.000	529.140	0.000
Mean	529.301	0	534.740	0	528.724	0	528.691	0	528.751	0	528.782	0

Peak Computed Discharge = 67.36 cumecs on 01-08-2021

Corres. Water Level :535.77 m

Lowest Computed Discharge = 0.000 cumecs on 19-06-2021

Corres. Water Level :530.74 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

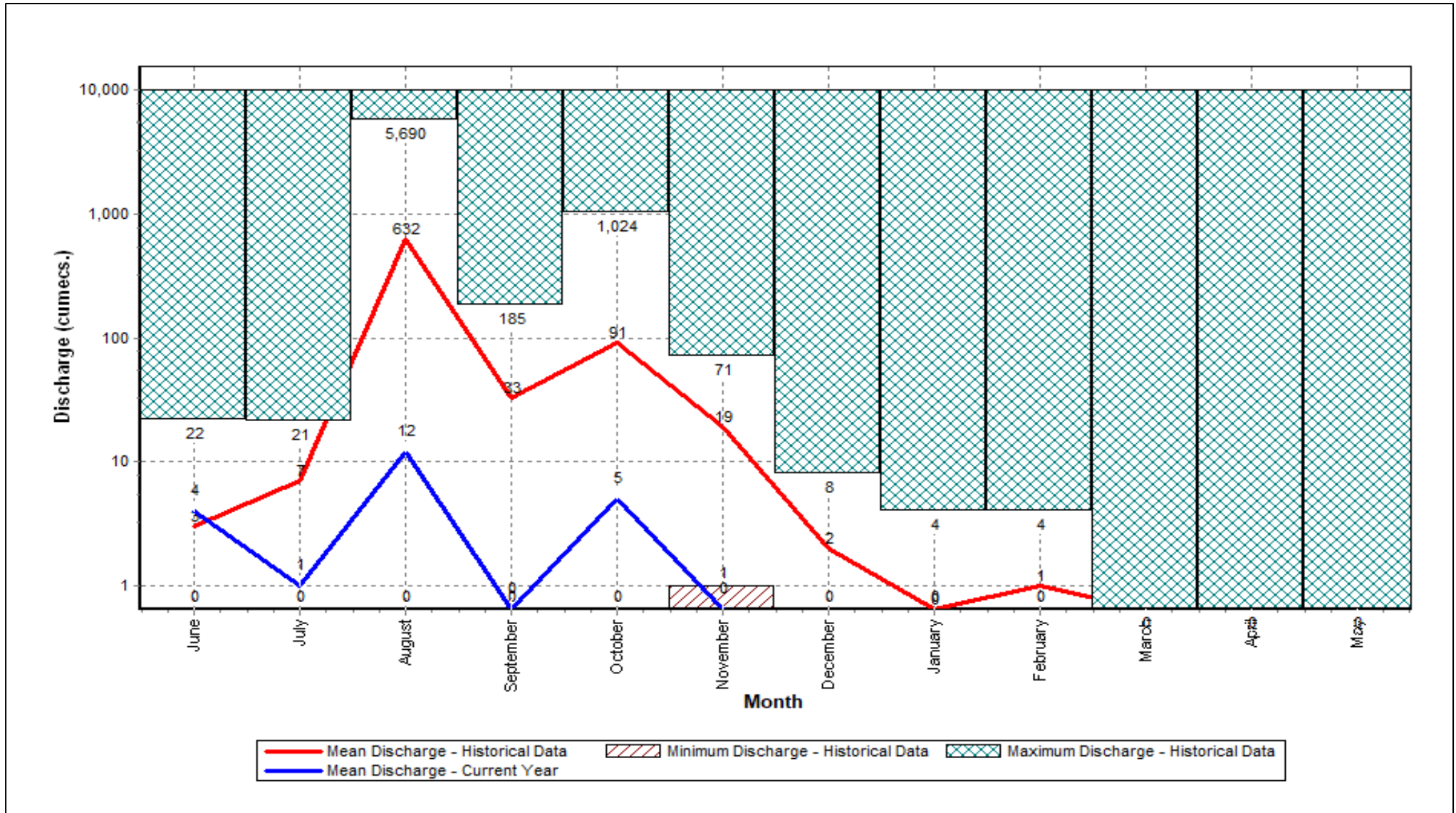
Station Name : Nandre (NANDRE)

Data considered : 2019-2022

Division : Upper Krishna Divn, Pune

Local River : Yerala

Sub-Division : Upper Krishna SD, Miraj



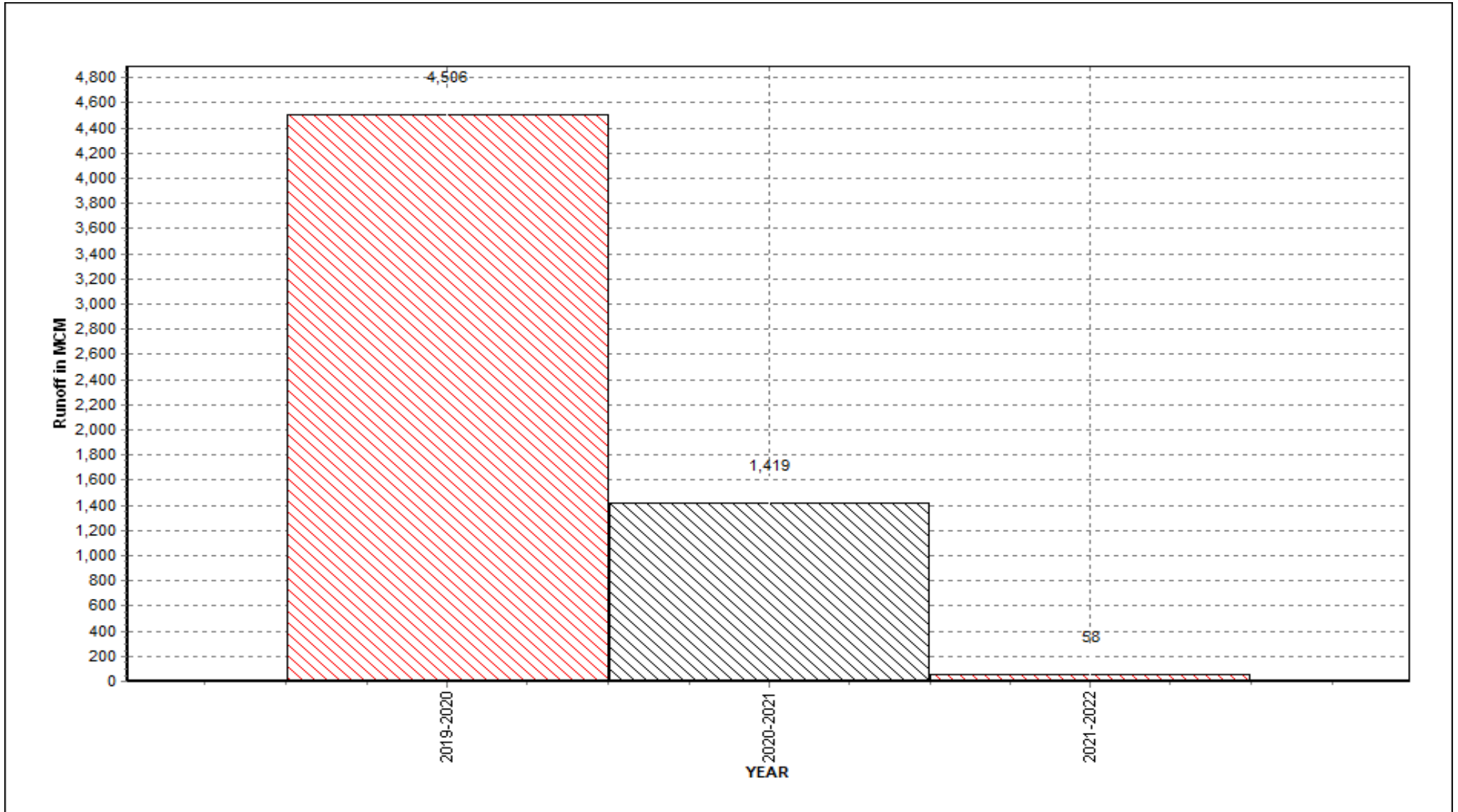
Annual Runoff Values for the period: 2019 - 2022

Station Name : Nandre (NANDRE)

Local River : Yerala

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



Note: Missing values have not been considered while arriving at Annual Runoff

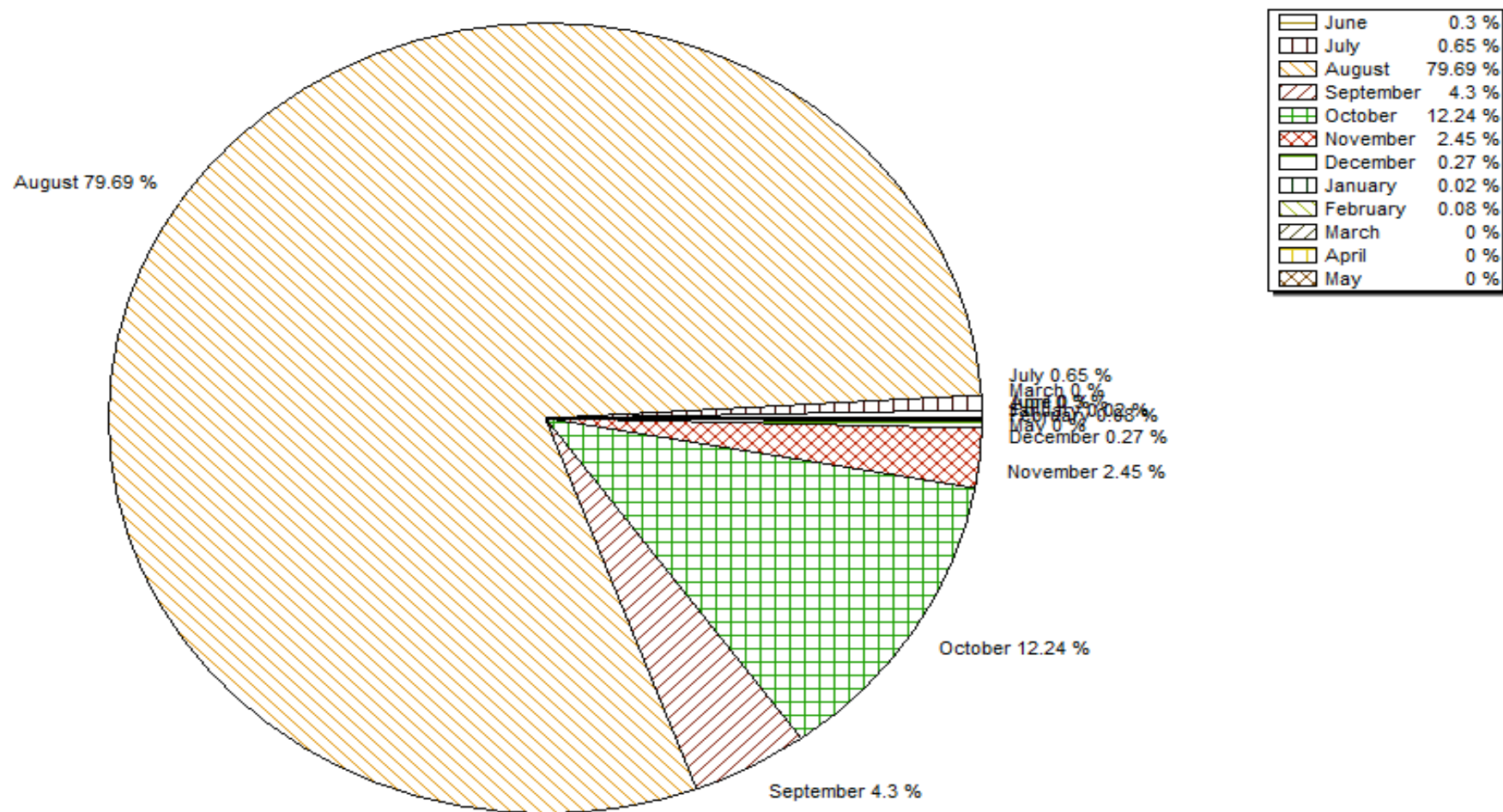
Monthly Average Runoff based on period : 2019-2021

Station Name : Nandre (NANDRE)

Local River : Yerala

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



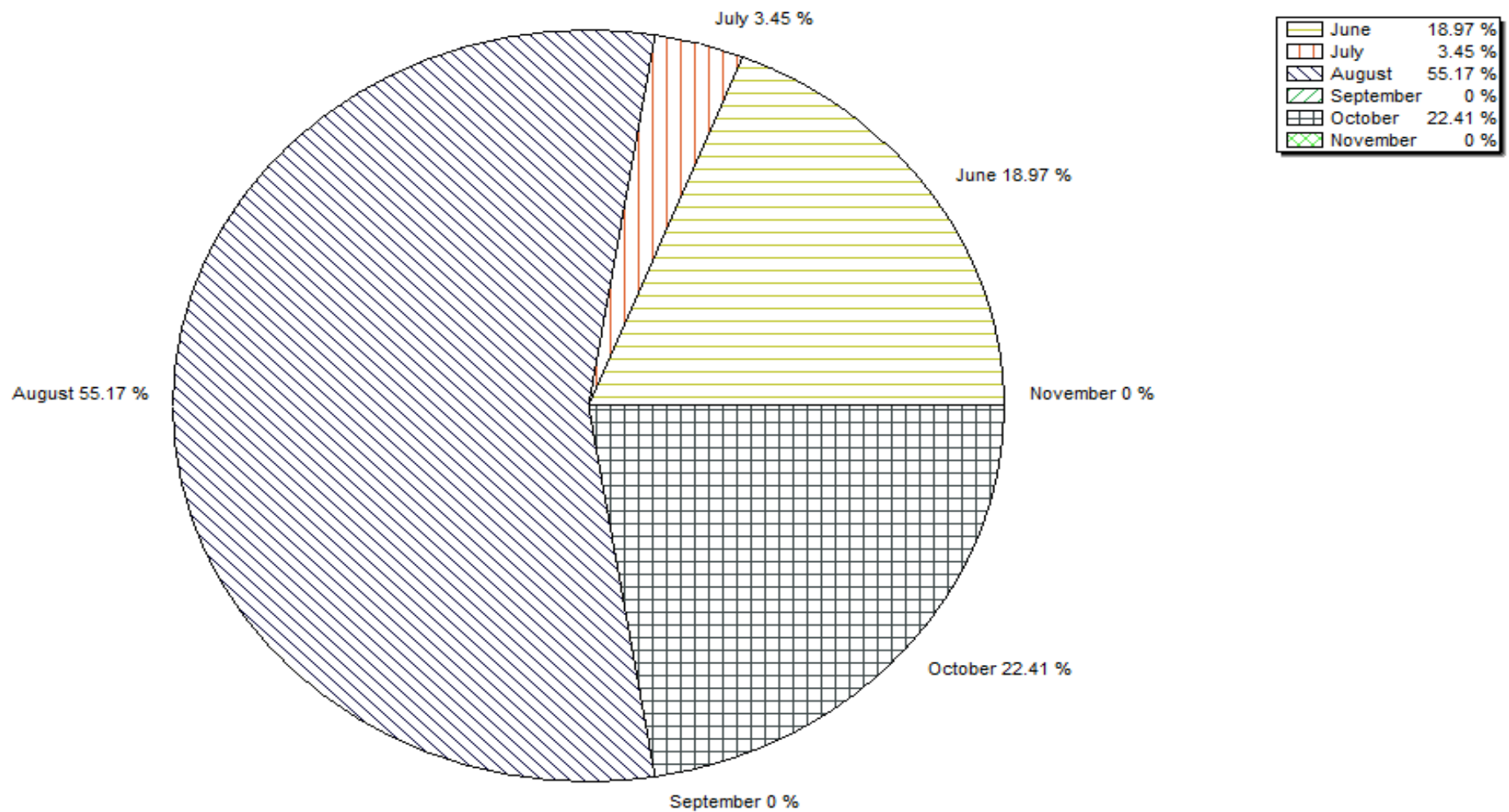
Monthly Runoff for the Year : 2021-2022

Station Name : Nandre (NANDRE)

Local River : Yerala

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



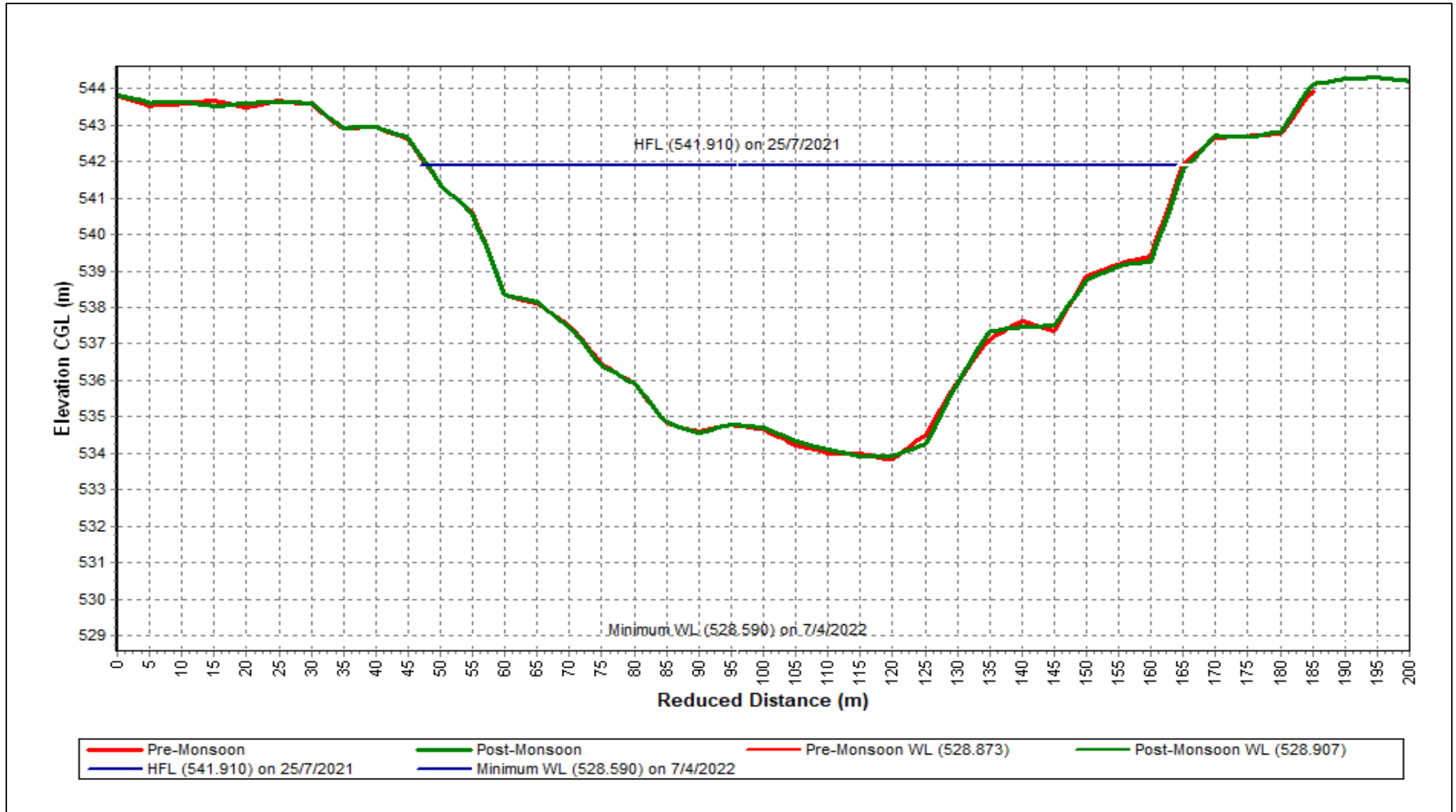
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : Nandre (NANDRE)

Local River : Yerala

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



Zero of Gauge : 526.5 (m.s.l)

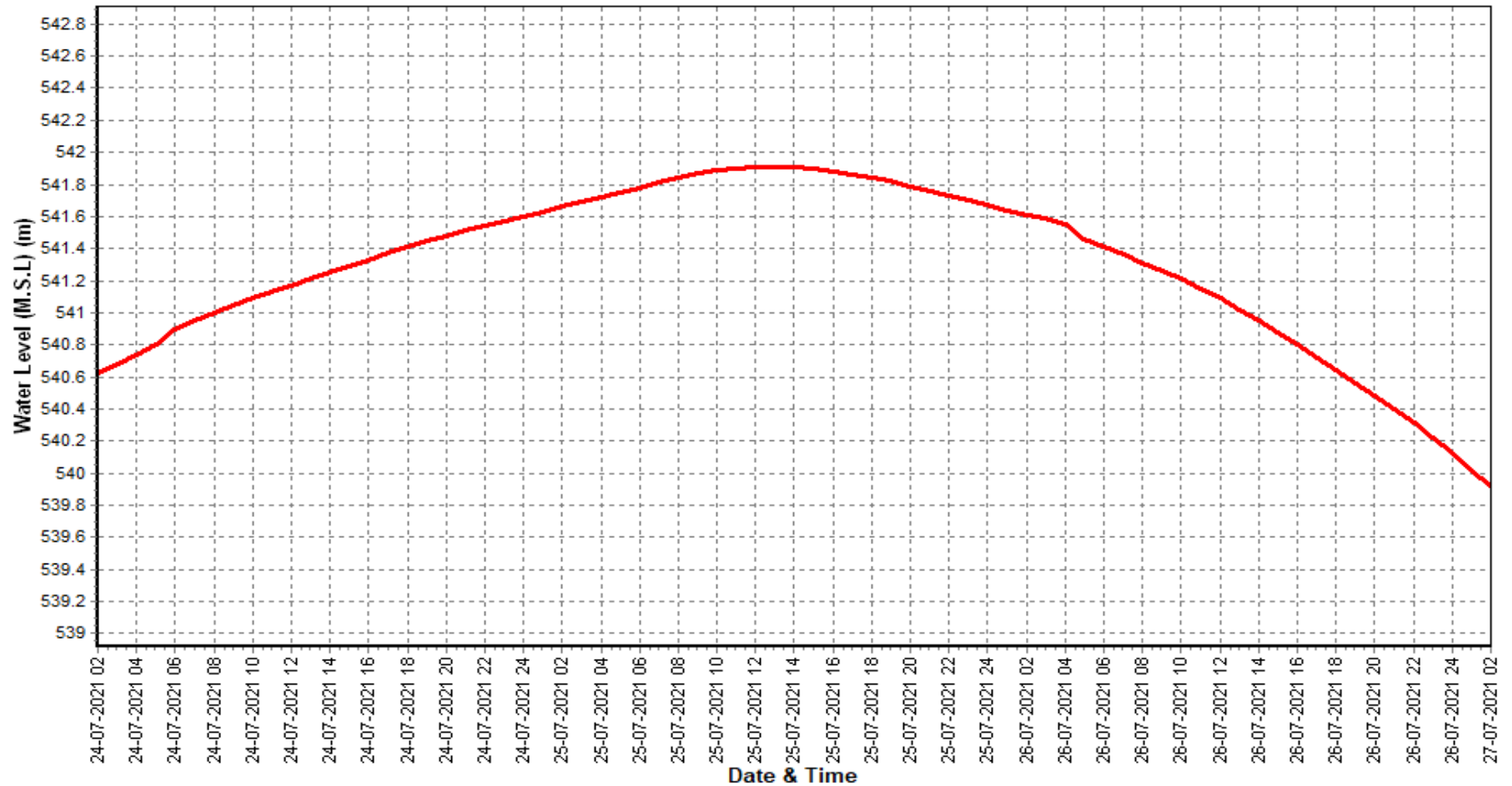
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Nandre (NANDRE)

Local River : Yerala

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



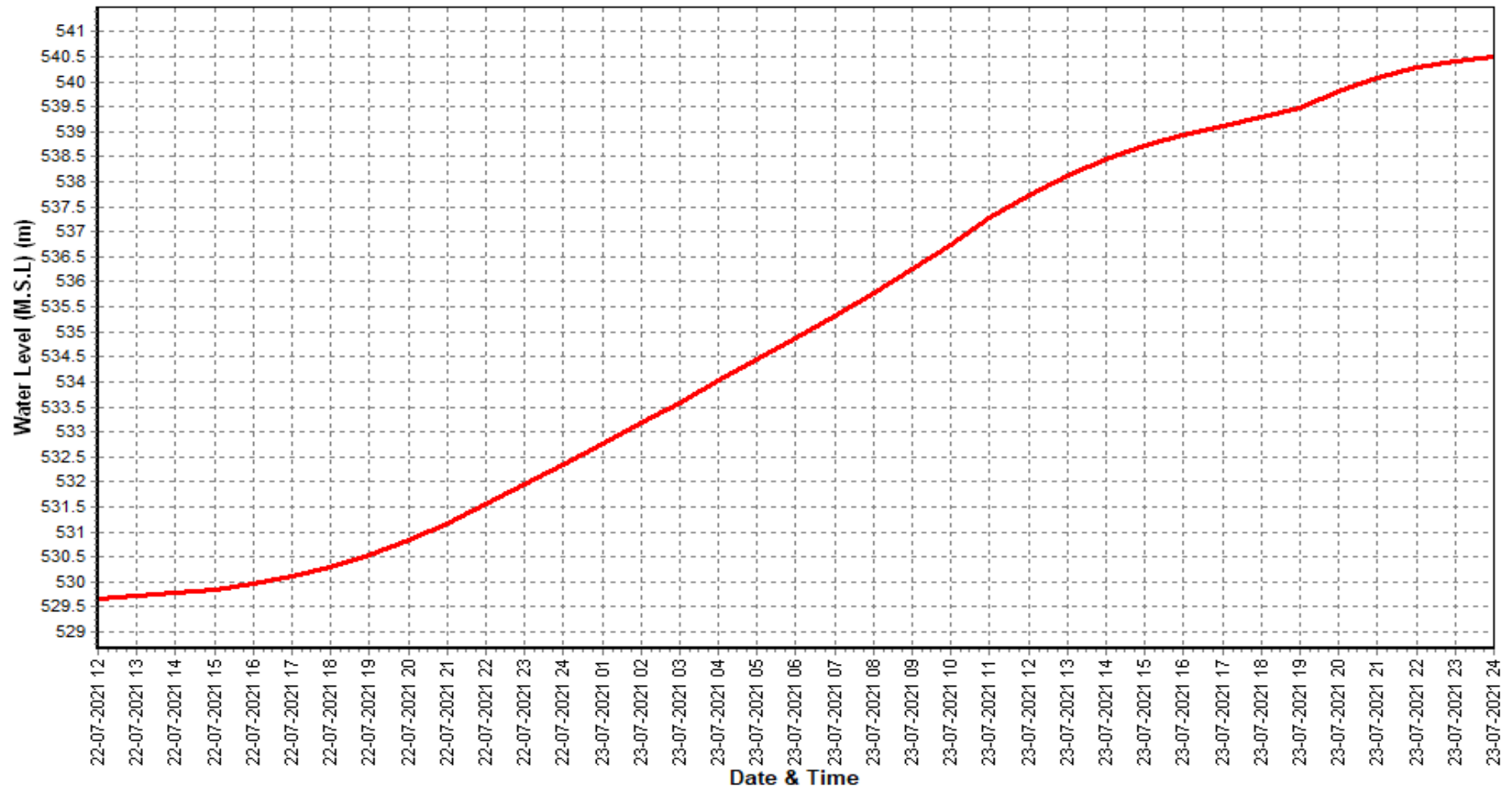
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Nandre (NANDRE)

Local River : Yerala

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



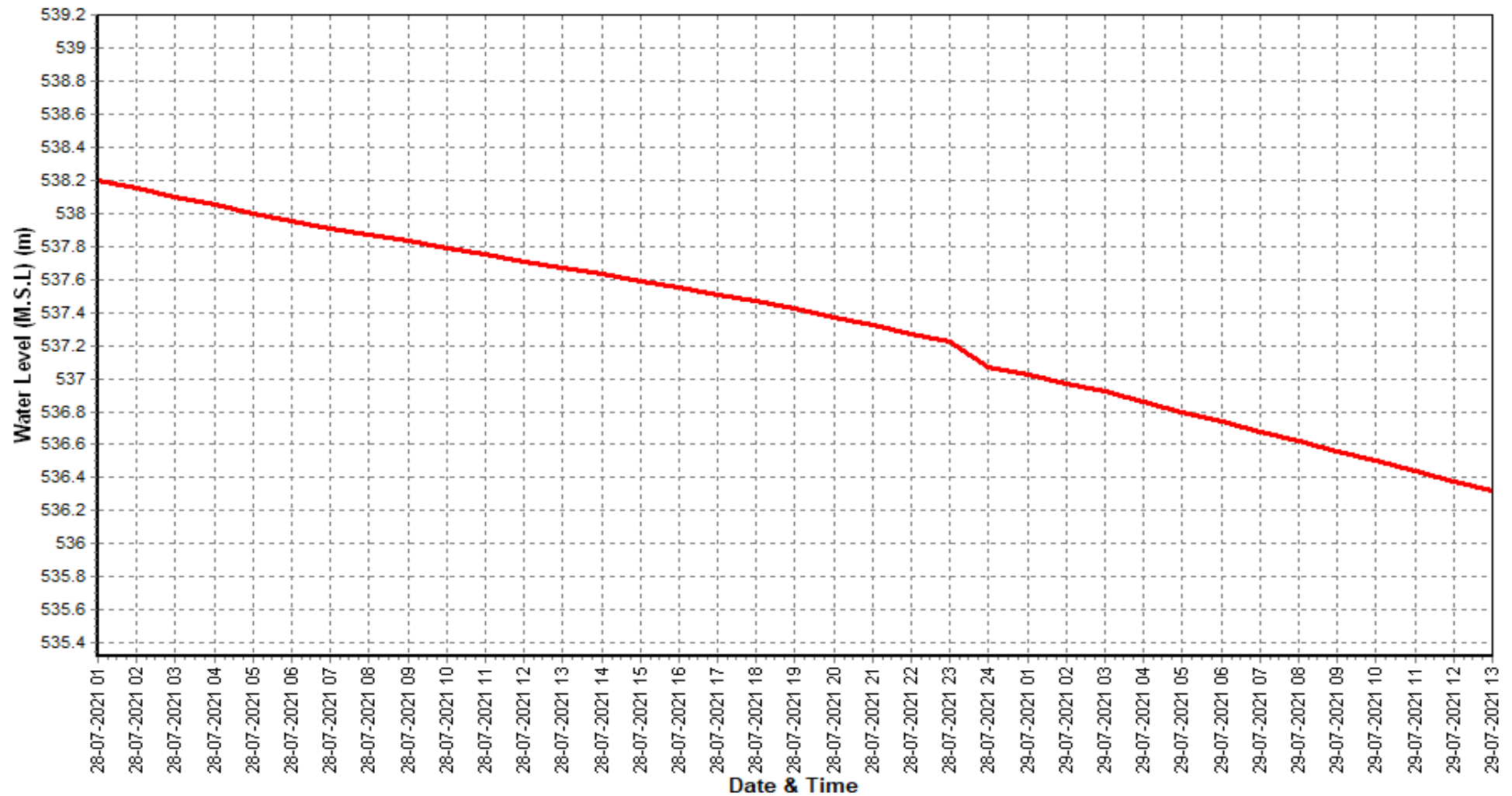
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Nandre (NANDRE)

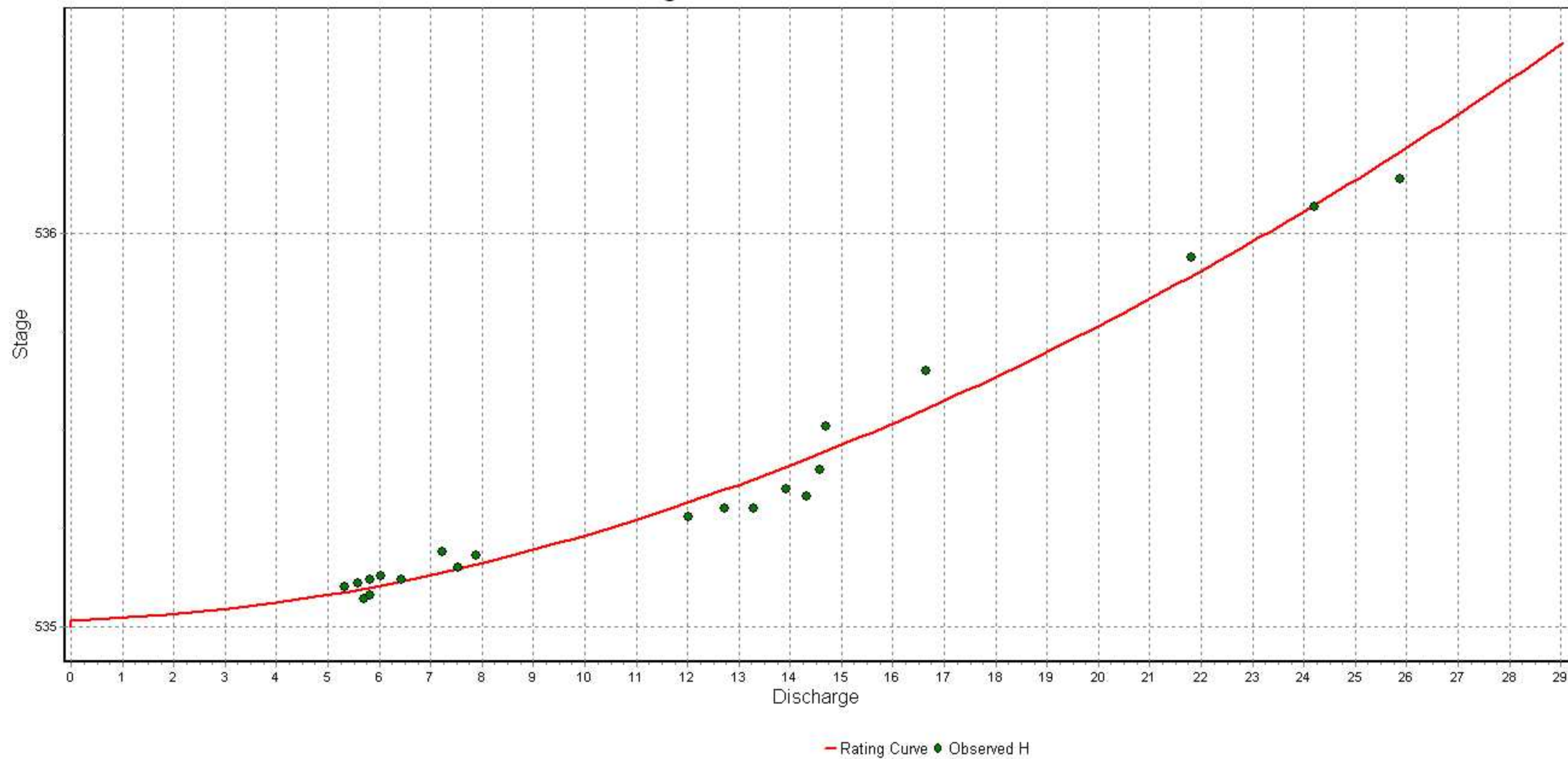
Local River : Yerala

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



Rating Curve of Site Nandre 2021



HISTORY SHEET

		Water Year	: 2021-2022
Site	: Samdoli (Seasonal)	Code	: AKX00A7
State	: Maharashtra	District	Sangli
Basin	: Krishna	Independent River	: Krishna
Tributary	: Varna	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Varna
Division	: Upper Krishna Divn, Pune	Sub-Division	: Upper Krishna SD , Miraj
Drainage Area	: 1948 Sq. Km.	Bank	: Left
Latitude	: 16°51'00"	Longitude	: 74°30'00"
Zero of Gauge (m)	: 529.594 (m.s.l) 528.594 (m.s.l)	01-09-1963 21-04-1966	- 20-04-1966
	Opening Date	Closing Date	
Gauge	: 23-08-1963	HFL During 2021-22	: 546.044 m
		Corres. Discharge	: 2144 (Estimated)
Discharge	: 01-12-1964	Date & Time of occurrence	: 25-07-2021 : 12:00 Hrs
Sediment	: 26-12-2014		
Water Quality	: 01-09-2014		

HFL Recorded so far in m : 546.994 dt 09-08-2019

Corresponding Discharge (cumecs) : 2417 *

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1965-1966	17.90	530.649	11-05-1966	0.000	529.529	11-03-1966
1966-1967	36.2	531.134	05-12-1966	0.000	529.509	05-04-1967
1967-1968	2000	544.224	29-07-1967	0.000	529.499	13-02-1968
1968-1969	1268	539.704	03-08-1968	0.000	529.334	31-01-1969
1969-1970	1850	543.294	02-08-1969	0.000	529.524	25-01-1970
1970-1971	1555	541.294	22-08-1970	0.000	529.524	25-01-1971
1971-1972	1220	540.334	26-06-1971	0.000	Dry Bed	26-01-1972
1972-1973	1419	540.974	09-07-1972	0.000	Dry Bed	25-01-1973
1973-1974	1815	543.279	09-07-1973	0.000	531.754	25-01-1974
1974-1975	1228	540.264	07-07-1974	0.000	530.124	25-01-1975
1975-1976	1857	543.414	12-07-1975	0.000	529.734	02-02-1976
1976-1977	1820	543.322	03-08-1976	0.000	529.794	25-01-1977
1977-1978	1458	541.003	09-07-1977	0.000	533.529	25-01-1978
1978-1979	1218	539.592	14-08-1978	0.000	531.894	25-01-1979
1979-1980	1630	542.219	08-08-1979	0.000	533.429	26-01-1980
1980-1981	1675	542.485	04-07-1980	0.000	529.704	25-01-1981
1981-1982	1437	541.014	09-07-1981	0.000	532.254	25-01-1982

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1982-1983	1272	540.077	31-07-1982	0.000	531.114	25-01-1983
1983-1984	1382	540.527	30-06-1983	0.000	530.414	26-01-1984
1984-1985	1469	541.232	20-07-1984	0.000	Dry Bed	25-01-1985
1985-1986	1330	540.689	03-08-1985	0.000	531.704	25-01-1986
1986-1987	1347	540.091	10-08-1986	0.000	532.274	25-01-1987
1987-1988	1080	539.199	09-07-1987	0.000	Dry Bed	26-01-1988
1988-1989	1770	542.854	04-08-1988	0.000	530.264	25-01-1989
1989-1990	1851	543.424	27-07-1989	0.000	533.724	25-01-1990
1990-1991	1875	543.514	20-08-1990	0.000	534.444	25-01-1991
1991-1992	1881	543.418	30-07-1991	0.000	532.004	26-01-1992
1992-1993	1178	540.031	16-08-1992	0.000	533.494	25-01-1993
1993-1994	1463	540.953	05-08-1993	0.000	533.174	25-01-1994
1994-1995	1871	543.654	17-07-1994	0.000	534.194	25-01-1995
1995-1996	869	538.019	04-09-1995	0.000	532.719	26-01-1996
1996-1997	1551	541.614	05-10-1996	0.000	531.064	25-01-1997
1997-1998	1852	543.564	27-08-1997	0.000	533.534	25-01-1998
1998-1999	1027	538.712	10-07-1998	0.000	532.544	25-01-1999
1999-2000	1199	540.169	24-07-1999	0.000	532.714	26-01-2000
2000-2001	1001	538.294	14-07-2000	0.000	531.824	25-01-2001
2001-2002	837	537.339	10-07-2001	0.000	532.954	25-01-2002
2002-2003	694.6	536.819	14-08-2002	0.000	532.484	25-01-2003
2003-2004	772.1	536.829	23-06-2003	0.000	Dry Bed	26-01-2004
2004-2005	1560	541.831	14-08-2004	0.000	532.584	25-01-2005
2005-2006	2387	546.324	05-08-2005	0.000	533.144	25-01-2006
2006-2007	1973	544.274	12-08-2006	0.000	532.454	14-11-2006
2007-2008	1569	542.394	03-07-2007	0.000	532.554	10-11-2007
2008-2009	1603	541.634	14-08-2008	0.000	532.214	10-11-2008
2009-2010	1141	538.844	17-07-2009	0.000	532.354	26-11-2009
2010-2011	1145	538.844	27-07-2010	0.000	532.794	13-11-2010
2011-2012	1663	542.414	06-09-2011	0.000	532.434	27-10-2011
2012-2013	888	537.190	06-09-2012	0.000	531.850	17-11-2012
2013-2014	1483	541.744	27-07-2013	0.000	530.594	07-06-2013
2014-2015	1325	540.094	25-07-2014	0.000	532.864	18-11-2014
2015-2016	669.2	536.684	26-06-2015	0.000	532.564	09-06-2015
2016-2017	1660	541.944	13-07-2016	0.000	531.404	16-06-2016
2017-2018	962.7	537.934	22-07-2017	0.000	531.314	21-11-2017
2018-2019	1351	539.994	21-07-2018	0.000	532.294	16-11-2018
2019-2020	2517	546.994	09-08-2019	0.000	531.214	30-11-2019
2020-2021	1569	541.864	19-08-2020	0.000	531.594	14-06-2020

Annual Runoff of Varna at Samdoli (Seasonal)							
Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
2	1965-1966		16	16		1	1
3	1966-1967	32	40	72	1	1	3
4	1967-1968	4119	5	4124	146	0	146
5	1968-1969	2030	0	2030	72	0	72
6	1969-1970	3342	0	3342	118	0	118
7	1970-1971	4006	0	4006	142	0	142
8	1971-1972	3178	0	3178	112	0	112
9	1972-1973	1645	0	1645	58	0	58
10	1973-1974	3493	0	3493	123	0	123
11	1974-1975	3154	0	3154	111	0	111
12	1975-1976	4326	1	4328	153	0	153
13	1976-1977	4310	0	4310	152	0	152
14	1977-1978	3333	0	3333	118	0	118
15	1978-1979	4285	0	4285	151	0	151
16	1979-1980	2951	0	2951	104	0	104
17	1980-1981	3711	0	3711	131	0	131
18	1981-1982	3364	0	3364	119	0	119
19	1982-1983	3045	0	3045	108	0	108
20	1983-1984	3781	0	3781	134	0	134
21	1984-1985	2884	0	2884	102	0	102
22	1985-1986	2692	0	2692	95	0	95
23	1986-1987	2130	0	2130	75	0	75
24	1987-1988	1693	0	1693	60	0	60
25	1988-1989	3198	0	3198	113	0	113
26	1989-1990	2685	0	2685	95	0	95
27	1990-1991	3586	0	3586	127	0	127
28	1991-1992	4612	0	4612	163	0	163
29	1992-1993	2490	0	2490	88	0	88
30	1993-1994	3345	0	3345	118	0	118
31	1994-1995	4735	0	4735	167	0	167
32	1995-1996	1502	0	1502	53	0	53
33	1996-1997	2410	0	2410	85	0	85
34	1997-1998	3497	0	3497	124	0	124
35	1998-1999	1791	0	1791	63	0	63
36	1999-2000	2844	0	2844	100	0	100
37	2000-2001	1399	0	1399	49	0	49
38	2001-2002	1520	0	1520	54	0	54
39	2002-2003	1361	0	1361	48	0	48
40	2003-2004	1436	0	1436	51	0	51
41	2004-2005	2708	0	2708	96	0	96
42	2005-2006	5839	0	5839	206	0	206

43	2006-2007	5650	Site downgraded as Seasonal Site from 2006-07	5650	200	Site downgraded as Seasonal Site from 2006-07	200
44	2007-2008	3839		3839	136		136
45	2008-2009	2343		2343	83		83
46	2009-2010	1949		1949	69		69
47	2010-2011	2114		2114	75		75
48	2011-2012	3190		3190	113		113
49	2012-2013	2105		2105	74		74
50	2013-2014	3129		3129	111		111
51	2014-2015	2713		2713	96		96
52	2015-2016	948		948	34		34
53	2016-2017	2744		2744	97		97
54	2017-2018	1975		1975	70		70
55	2018-2019	3277		3278	116		116
56	2019-2020	5728		5728	202		202
57	2020-2021	3359		3359	119		119
Average		2973	2	2921	105	0	103

Instantaneous Flood Peak of Krishna at Samdoli

Instantaneous Annual Flood Peak					
Sl. No.	Year	Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	1964-1965	542.944	09-08-1964	18:00:00	1751 *
2	1965-1966	544.084	22-07-1965	14:00:00	1939 *
3	1966-1967	543.409	31-07-1966	00:00:00	1827 *
4	1967-1968	544.354	29-07-1967	15:00:00	1983 *
5	1968-1969	539.789	09-08-1968	05:00:00	1232 *
6	1969-1970	543.379	02-08-1969	13:00:00	1822 *
7	1970-1971	541.434	21-08-1970	10:00:00	1502 *
8	1971-1972	540.639	01-09-1971	18:00:00	1371 *
9	1972-1973	541.119	09-07-1972	00:00:00	1450 *
10	1973-1974	543.334	09-07-1973	13:00:00	1815 *
11	1974-1975	540.394	06-07-1974	19:00:00	1331 *
12	1975-1976	543.594	11-07-1975	18:00:00	1858 *
13	1976-1977	543.504	03-08-1976	23:00:00	1843 *
14	1977-1978	541.354	08-07-1977	19:00:00	1489 *
15	1978-1979	539.614	14-08-1978	12:00:00	1203 *
16	1979-1980	542.414	09-08-1979	08:00:00	1664
17	1980-1981	542.834	05-07-1980	03:00:00	1733 *
18	1981-1982	541.019	09-07-1981	06:00:00	1434 *
19	1982-1983	540.314	30-07-1982	23:00:00	1318 *
20	1983-1984	541.204	17-08-1983	20:00:00	1464 *
21	1984-1985	541.254	20-07-1984	12:00:00	1473 *
22	1985-1986	540.724	03-08-1985	15:00:00	1385 *
23	1986-1987	540.224	11-08-1986	01:00:00	1303 *
24	1987-1988	539.544	09-07-1987	23:00:00	1191 *
25	1988-1989	543.064	04-08-1988	17:00:00	1771 *
26	1989-1990	543.554	26-07-1989	17:00:00	1851 *
27	1990-1991	543.644	19-08-1990	20:00:00	1866 *
28	1991-1992	543.544	29-07-1991	18:00:00	1850 *
29	1992-1993	540.264	15-08-1992	23:00:00	1310 *
30	1993-1994	541.194	05-08-1993	02:00:00	1463 *
31	1994-1995	543.674	16-07-1994	16:00:00	1871 *
32	1995-1996	538.879	21-07-1995	09:00:00	1082 *
33	1996-1997	541.844	05-10-1996	15:00:00	1570 *
34	1997-1998	543.564	27-08-1997	03:00:00	1853 *
35	1998-1999	538.864	10-07-1998	06:00:00	1079 *
36	1999-2000	540.244	23-07-1999	17:00:00	1306 *
37	2000-2001	538.294	14-07-2000	08:00:00	985
38	2001-2002	537.734	10-07-2001	18:00:00	893 *
39	2002-2003	536.874	14-08-2002	06:00:00	752 *
40	2003-2004	537.944	23-06-2003	21:00:00	928 *
41	2004-2005	541.864	14-08-2004	15:00:00	1573 *
42	2005-2006	546.324	05-08-2005	01:00:00	2307 *
43	2006-2007	544.294	01-08-2006	13:00:00	1973 *
44	2007-2008	542.444	02-07-2007	23:00:00	1669 *
45	2008-2009	541.634	14-08-2008	06:00:00	1535 *
46	2009-2010	538.864	17-07-2009	05:00:00	1079 *

47	2010-2011	539.764	29-07-2010	11:00:00	1227 *
48	2011-2012	542.634	05-09-2011	22:00:00	1700 *
49	2012-2013	537.494	06-09-2012	19:00:00	854 *
50	2013-2014	541.794	27-07-2013	13:00:00	1562 *
51	2014-2015	540.514	24-07-2014	18:00:00	1351 *
52	2015-2016	537.284	25-06-2015	13:00:00	819 *
53	2016-2017	542.294	13-07-2016	15:00:00	1644 *
54	2017-2018	537.944	22-07-2017	06:00:00	928 *
55	2018-2019	540.144	20-07-2018	02:00:00	1290 *
56	2019-2020	546.994	09-08-2019	07:00:00	2418 *
57	2020-2021	541.864	19-08-2020	06:00:00	1573 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : Samdoli (Seasonal) (AKX00A7)

Local River : Varna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	532.124	0.000	531.944	68.26 *	540.564	1251 *	531.599	40.87	532.154	92.66	529.994	0.000
2	532.144	0.000	531.894	63.21 *	540.354	1181	531.544	29.80 #	532.244	99.11	531.094	0.000
3	532.094	0.000	531.874	61.21 *	539.184	1043	531.494	25.37 #	532.314	107.2 *	531.344	0.000
4	532.784	0.000	531.814	55.27 *	536.594	706.0	531.454	21.90 #	532.274	99.11	531.304	0.000
5	532.544	0.000	531.774	51.36 *	535.074	510.1	531.414	18.51 *	532.304	105.6	531.364	0.000
6	532.494	0.000	531.614	41.39	535.434	556.1	531.424	19.35 #	532.254	99.11	531.394	0.000
7	532.394	0.000	531.554	27.13	535.214	530.1	531.614	36.18 #	532.174	98.45	531.344	0.000
8	532.254	0.000	531.514	22.76 #	534.974	434.2 *	531.854	49.18	532.044	90.33	531.444	0.000
9	532.014	0.000	531.464	8.951 #	534.744	460.1	532.979	169.8	532.054	90.82	531.504	0.000
10	531.774	0.000	531.294	30.68 #	533.514	275.1	534.354	345.2	531.944	68.26 *	531.474	0.000
11	531.664	0.000	531.404	17.68 *	532.984	195.1	534.914	370.9	531.904	49.35	531.444	0.000
12	531.614	0.000	531.344	12.81 #	532.914	185.0	534.834	415.6 *	532.144	92.66	531.044	0.000
13	531.554	0.000	531.884	47.82	532.814	170.1	534.864	361.8	532.364	109.1	530.794	0.000
14	531.524	0.000	532.624	133.2	532.744	160.0	535.694	549.7	532.249	99.11	530.644	0.000
15	531.764	0.000	532.944	168.6	532.864	169.0 *	536.669	672.8	532.134	92.66	530.894	0.000
16	531.764	0.000	533.194	175.1	533.224	229.6	537.474	780.8	531.934	63.34	531.494	0.000
17	532.494	126.9 *	533.474	220.2	532.984	194.9	536.254	637.6	531.814	55.27 *	531.644	0.000
18	538.094	875.2 *	533.284	218.7 *	532.764	164.3	534.434	348.4	531.704	43.01	532.044	0.000
19	537.874	842.7 *	533.434	218.1	532.704	150.0	533.464	240.6 *	531.614	41.37	532.504	0.000
20	537.614	804.5 *	533.434	217.9	532.644	135.0	532.934	168.6	531.514	27.13	532.534	0.000
21	535.594	518.0 *	533.654	254.2	532.474	130.1	532.694	133.0	531.424	19.35	532.564	0.000
22	533.994	306.6 *	536.309	647.7	532.404	117.0 *	532.454	121.6	531.224	3.967	532.594	0.000
23	533.694	268.9 *	540.924	1330	532.354	109.1	532.214	98.45	530.984	22.38	532.624	0.000
24	533.014	186.5 *	544.364	1863 *	532.304	105.6	532.104	92.57	530.754	15.53 *	532.654	0.000
25	532.754	156.3 *	546.004	2138 *	532.134	92.66	532.314	105.6	530.504	0.000	532.684	0.000
26	532.694	149.4 *	545.874	2116 *	531.894	49.35	532.224	97.46 *	530.264	0.000	532.644	0.000
27	532.474	124.7 *	544.824	1940 *	531.804	46.90	532.194	98.45	530.034	0.000	532.494	0.000
28	532.244	99.60 *	543.874	1782 *	531.764	44.29	532.314	105.6	529.794	0.000	532.294	0.000
29	532.214	96.39 *	542.904	1624 *	531.724	46.53 *	532.244	99.12	529.744	0.000	532.254	0.000
30	531.974	71.31 *	541.664	1425 *	531.674	43.04	532.194	98.45	529.704	0.000	532.294	0.000
31			540.594	1248	531.634	41.37			529.744	0.000		
<u>Ten-Daily Mean</u>												
I Ten-Daily	532.262	0.000	531.674	43.02	536.565	694.7	531.973	75.62	532.176	95.06	531.226	0.000
II Ten-Daily	533.596	264.9	532.702	143.0	532.864	175.3	535.154	454.7	531.938	67.29	531.504	0.000
III Ten-Daily	533.065	197.8	541.908	1488	532.015	75.08	532.295	105.0	530.379	5.566	532.510	0.000
<u>Monthly</u>												
Min.	531.524	0.000	531.294	8.951	531.634	41.37	531.414	18.51	529.704	0.000	529.994	0.000
Max.	538.094	875.2	546.004	2138	540.564	1251	537.474	780.8	532.364	109.1	532.684	0.000
Mean	532.974	154.2	535.637	588	533.757	307.3	533.141	211.8	531.462	54.35	531.747	0

Annual Runoff in MCM = 3492 Annual Runoff in mm = 1793

Peak Observed Discharge = 1330 cumecs on 23-07-2021 Corres. Water Level :540.924 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021 Corres. Water Level :532.124 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : Samdoli (Seasonal) (AKX00A7)

Local River : Varna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	532.314	0.000	532.374	0.000	532.244	0.000	532.394	0.000	532.454	0.000	532.584	0.000
2	532.544	0.000	532.334	0.000	532.204	0.000	532.324	0.000	532.564	0.000	532.544	0.000
3	533.394	0.000	532.294	0.000	532.344	0.000	532.264	0.000	532.534	0.000	532.554	0.000
4	532.094	0.000	532.264	0.000	532.294	0.000	532.294	0.000	532.504	0.000	532.564	0.000
5	532.544	0.000	532.234	0.000	532.264	0.000	532.324	0.000	532.554	0.000	532.434	0.000
6	532.744	0.000	532.334	0.000	532.234	0.000	532.294	0.000	532.524	0.000	532.344	0.000
7	532.694	0.000	532.304	0.000	532.204	0.000	532.264	0.000	532.494	0.000	532.364	0.000
8	532.544	0.000	532.344	0.000	532.304	0.000	532.234	0.000	532.464	0.000	532.394	0.000
9	532.444	0.000	532.314	0.000	532.274	0.000	532.204	0.000	532.564	0.000	532.344	0.000
10	532.374	0.000	532.284	0.000	532.244	0.000	531.894	0.000	532.534	0.000	532.194	0.000
11	532.294	0.000	532.254	0.000	532.214	0.000	531.774	0.000	532.504	0.000	532.014	0.000
12	532.344	0.000	532.344	0.000	532.344	0.000	531.394	0.000	532.594	0.000	531.994	0.000
13	532.244	0.000	532.244	0.000	532.394	0.000	531.794	0.000	532.564	0.000	532.164	0.000
14	532.174	0.000	532.274	0.000	532.294	0.000	532.314	0.000	532.544	0.000	532.264	0.000
15	532.344	0.000	532.374	0.000	532.314	0.000	532.414	0.000	532.514	0.000	532.344	0.000
16	532.394	0.000	532.394	0.000	532.254	0.000	532.544	0.000	532.484	0.000	532.444	0.000
17	532.424	0.000	532.314	0.000	532.294	0.000	532.584	0.000	532.454	0.000	532.434	0.000
18	532.314	0.000	532.364	0.000	532.224	0.000	532.444	0.000	532.424	0.000	532.414	0.000
19	532.294	0.000	532.394	0.000	532.264	0.000	532.414	0.000	532.394	0.000	532.394	0.000
20	532.224	0.000	532.444	0.000	532.344	0.000	532.344	0.000	532.394	0.000	532.474	0.000
21	532.164	0.000	532.414	0.000	532.294	0.000	532.494	0.000	532.354	0.000	532.654	0.000
22	532.194	0.000	532.464	0.000	532.444	0.000	532.524	0.000	532.324	0.000	532.744	0.000
23	532.064	0.000	532.394	0.000	532.574	0.000	532.444	0.000	532.294	0.000	532.784	0.000
24	531.954	0.000	532.434	0.000	532.544	0.000	532.514	0.000	532.444	0.000	532.744	0.000
25	532.014	0.000	532.394	0.000	532.474	0.000	532.544	0.000	532.544	0.000	532.584	0.000
26	532.164	0.000	532.344	0.000	532.424	0.000	532.514	0.000	532.574	0.000	532.544	0.000
27	532.294	0.000	532.334	0.000	532.364	0.000	532.564	0.000	532.604	0.000	532.324	0.000
28	532.444	0.000	532.394	0.000	532.294	0.000	532.544	0.000	532.634	0.000	532.184	0.000
29	532.544	0.000	532.424	0.000			532.514	0.000	532.644	0.000	531.944	0.000
30	532.494	0.000	532.364	0.000			532.484	0.000	532.614	0.000	531.494	0.000
31	532.434	0.000	532.294	0.000			532.544	0.000			531.214	0.000
<u>Ten-Daily Mean</u>												
I Ten-Daily	532.569	0.000	532.308	0.000	532.261	0.000	532.249	0.000	532.519	0.000	532.432	0.000
II Ten-Daily	532.305	0.000	532.340	0.000	532.294	0.000	532.202	0.000	532.487	0.000	532.294	0.000
III Ten-Daily	532.251	0.000	532.387	0.000	532.427	0.000	532.517	0.000	532.503	0.000	532.292	0.000
<u>Monthly</u>												
Min.	531.954	0.000	532.234	0.000	532.204	0.000	531.394	0.000	532.294	0.000	531.214	0.000
Max.	533.394	0.000	532.464	0.000	532.574	0.000	532.584	0.000	532.644	0.000	532.784	0.000
Mean	532.371	0	532.346	0	532.320	0	532.329	0	532.503	0	532.338	0

Peak Computed Discharge = 2138 cumecs on 25-07-2021

Corres. Water Level :546.004 m

Lowest Computed Discharge = 15.53 cumecs on 24-10-2021

Corres. Water Level :530.754 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

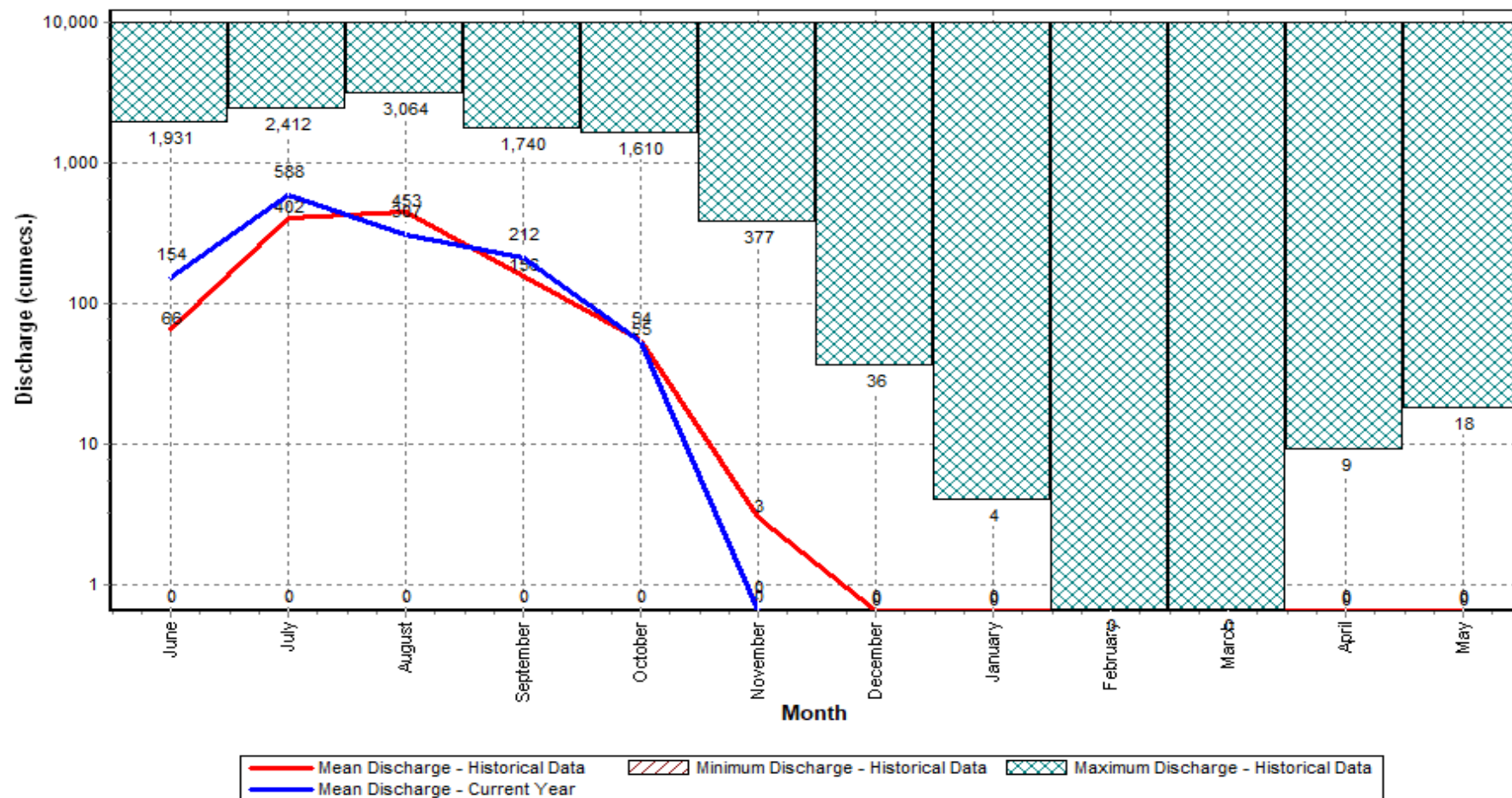
Station Name : Samdoli (Seasonal) (AKX00A7)

Data considered : 1965-2022

Division : Upper Krishna Divn, Pune

Local River : Varna

Sub-Division : Upper Krishna SD, Miraj



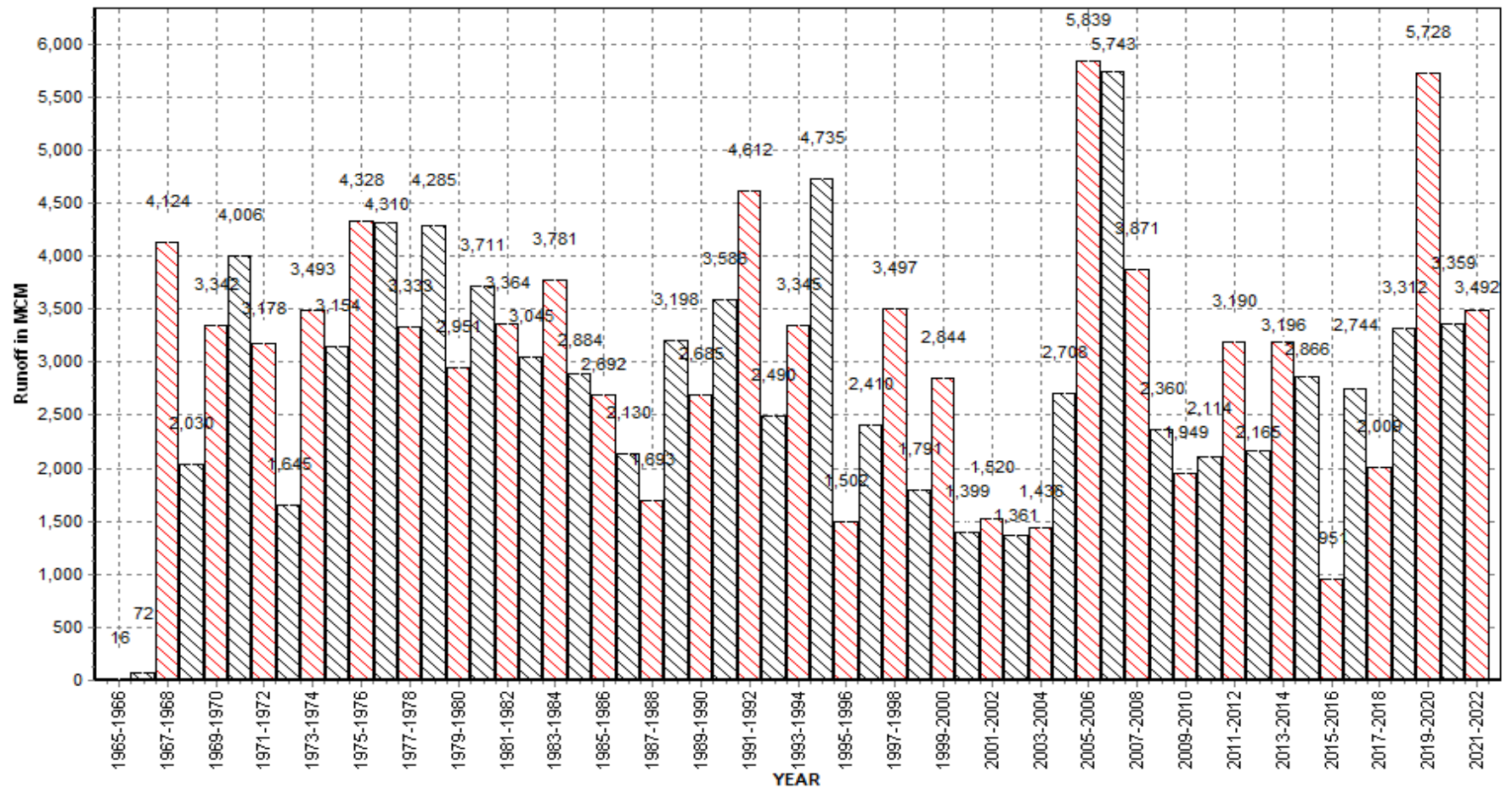
Annual Runoff Values for the period: 1965 - 2022

Station Name : Samdoli (Seasonal) (AKX00A7)

Local River : Varna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



Note: Missing values have not been considered while arriving at Annual Runoff

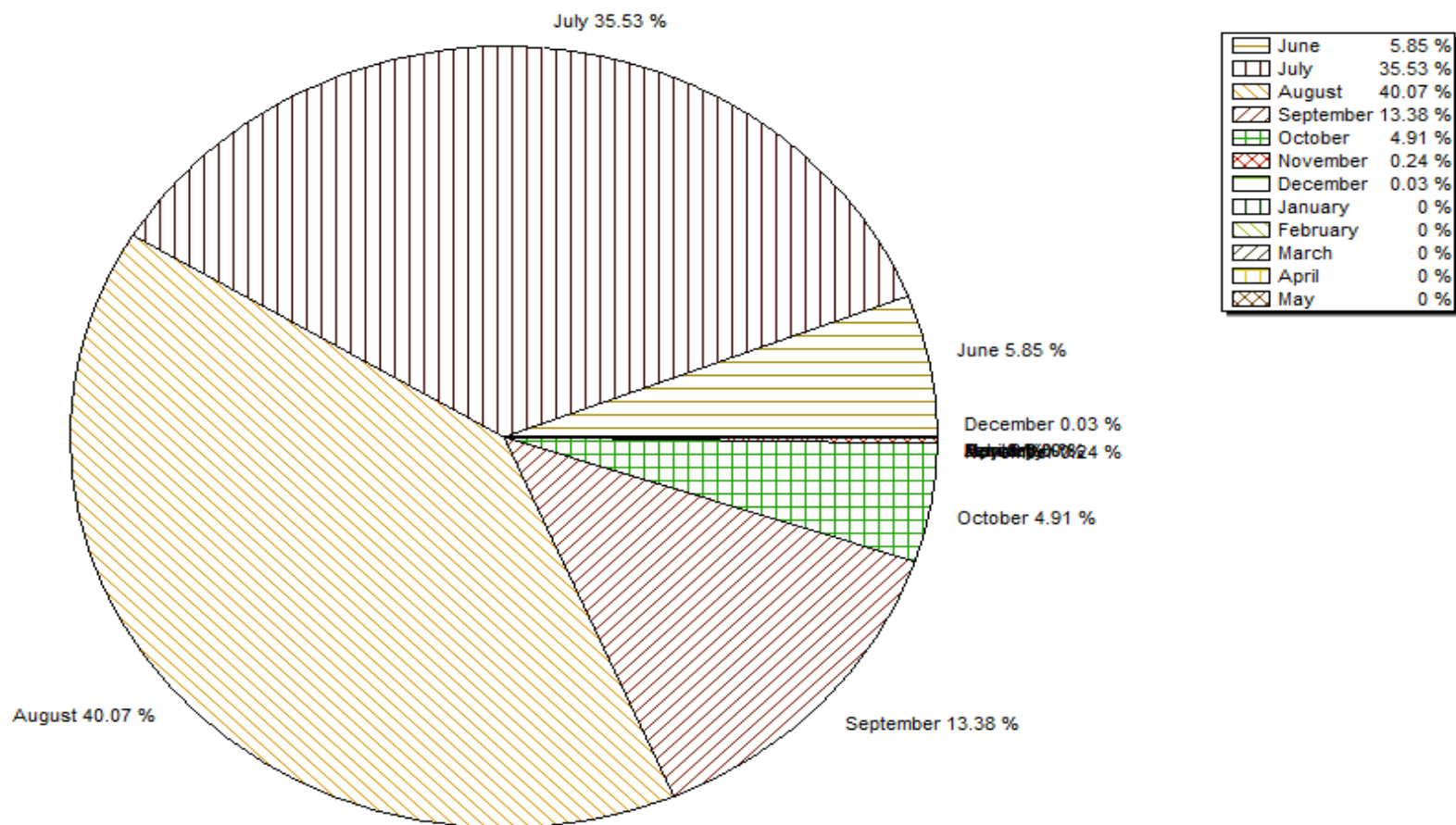
Monthly Average Runoff based on period : 1965-2021

Station Name : Samdoli (Seasonal) (AKX00A7)

Local River : Varna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



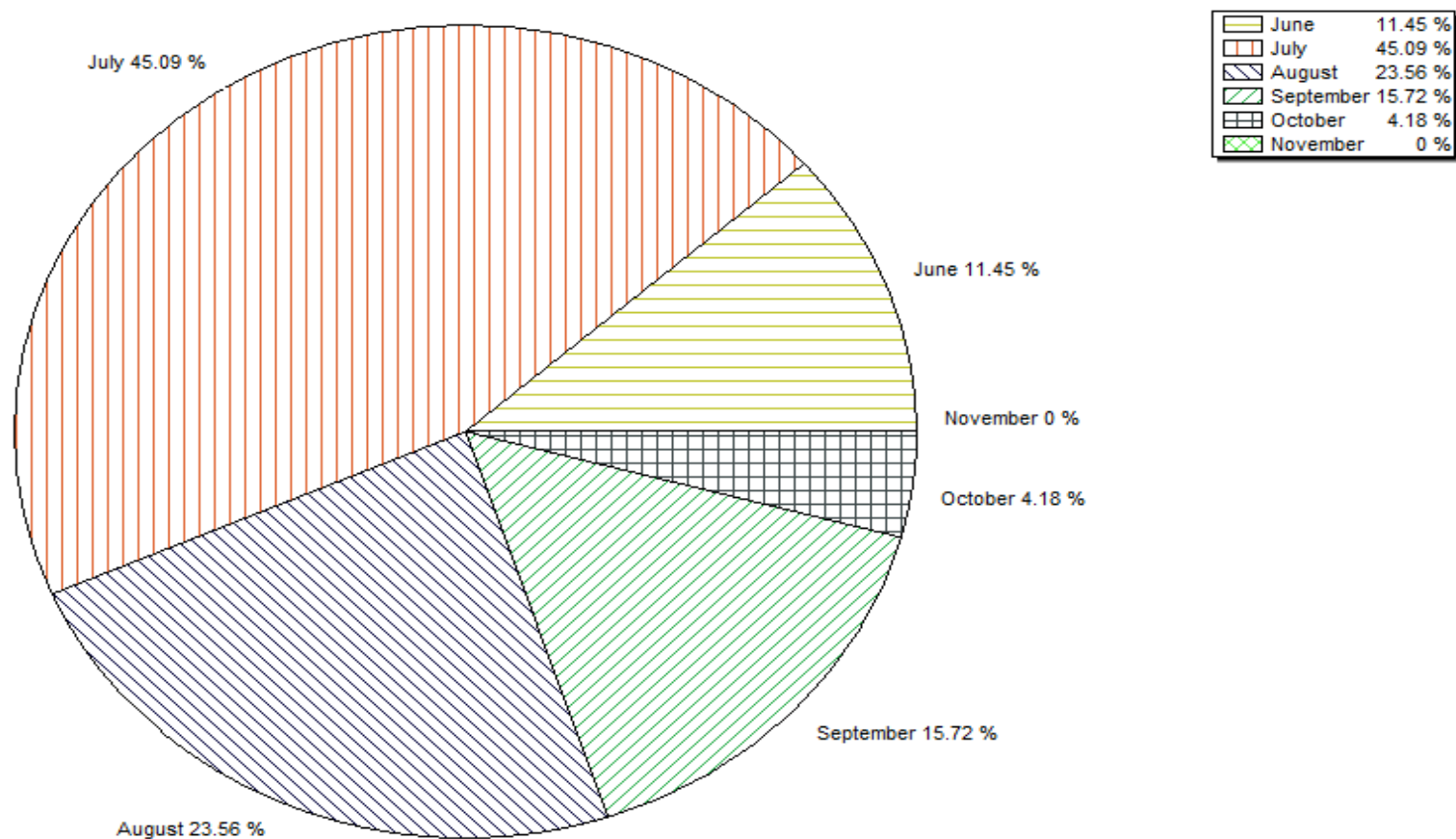
Monthly Runoff for the Year : 2021-2022

Station Name : Samdoli (Seasonal) (AKX00A7)

Local River : Varna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj

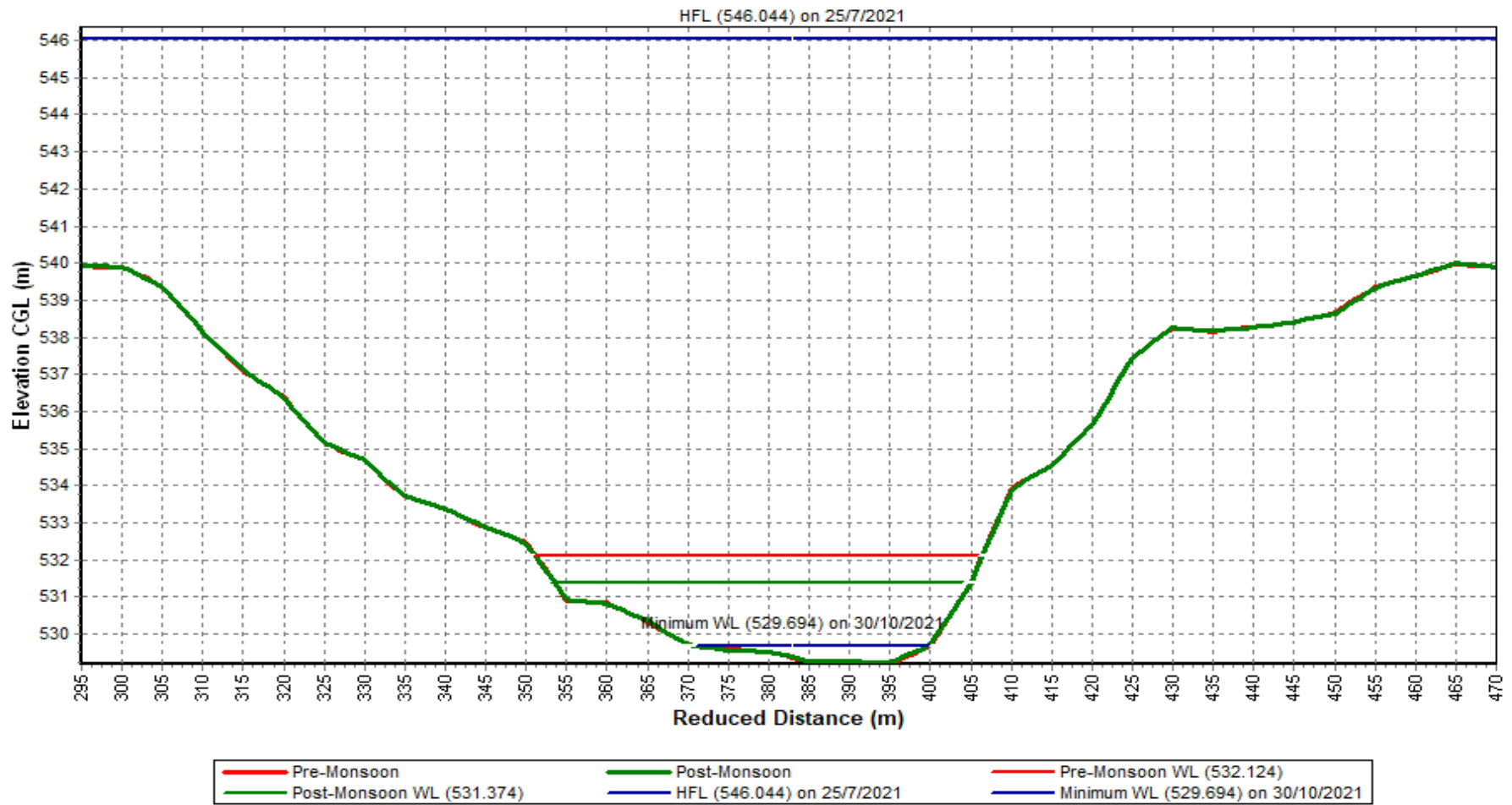


Station Name : Samdoli (Seasonal) (AKX00A7)

Local River : Varna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



Zero of Gauge : 528.594 (m.s.l)

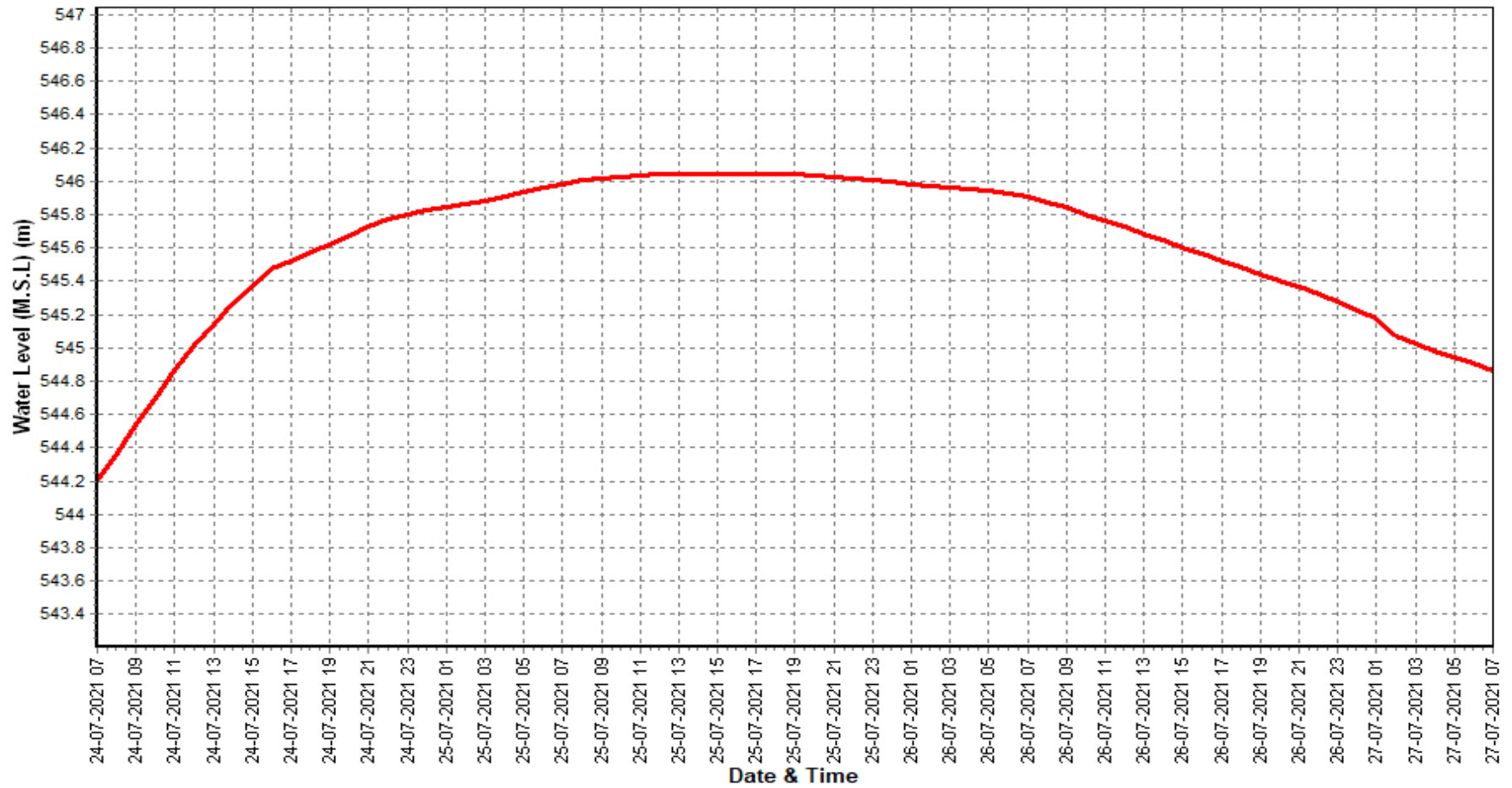
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Samdoli (Seasonal) (AKX00A7)

Local River : Varna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



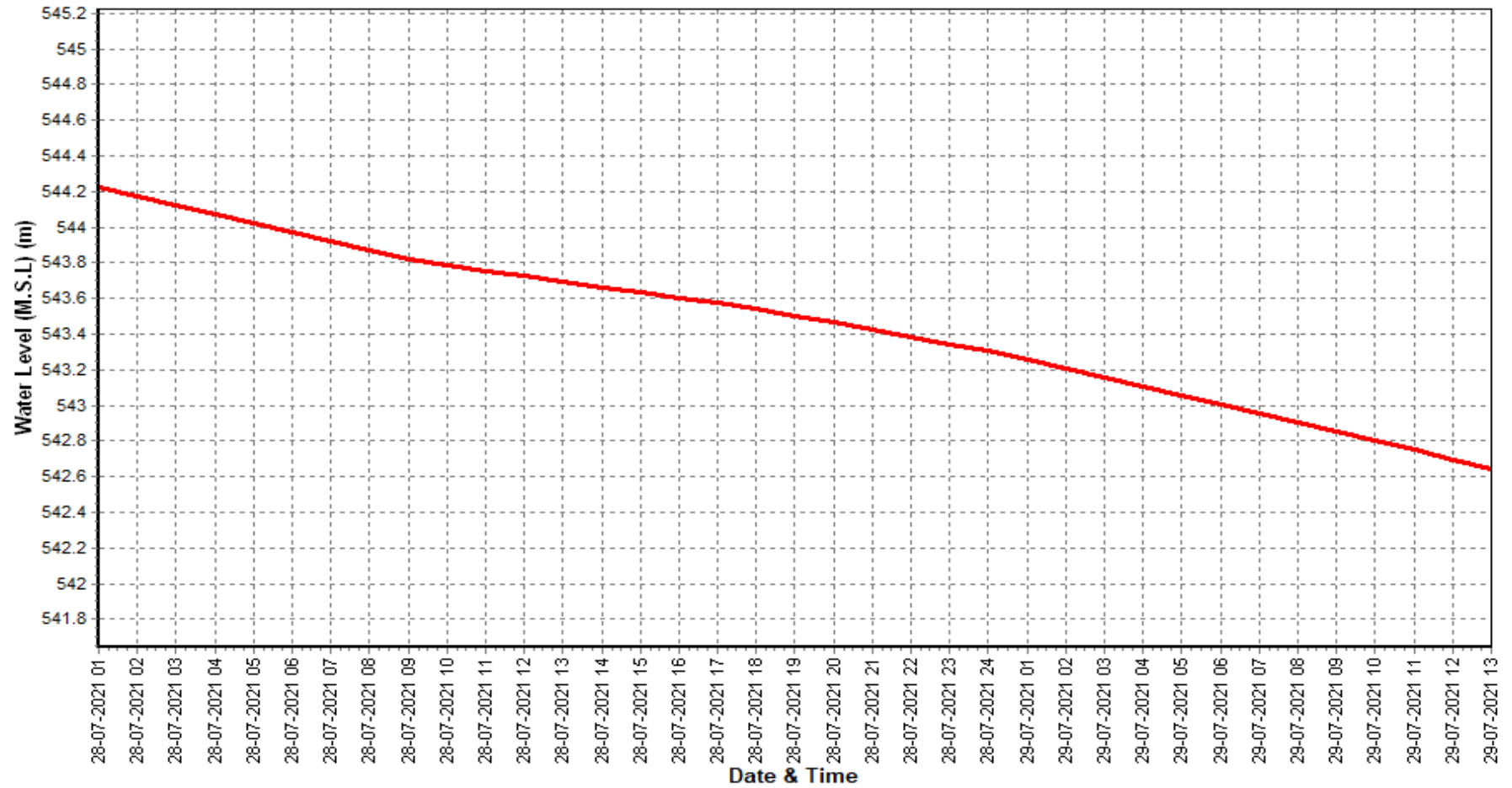
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Samdoli (Seasonal) (AKX00A7)

Local River : Varna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



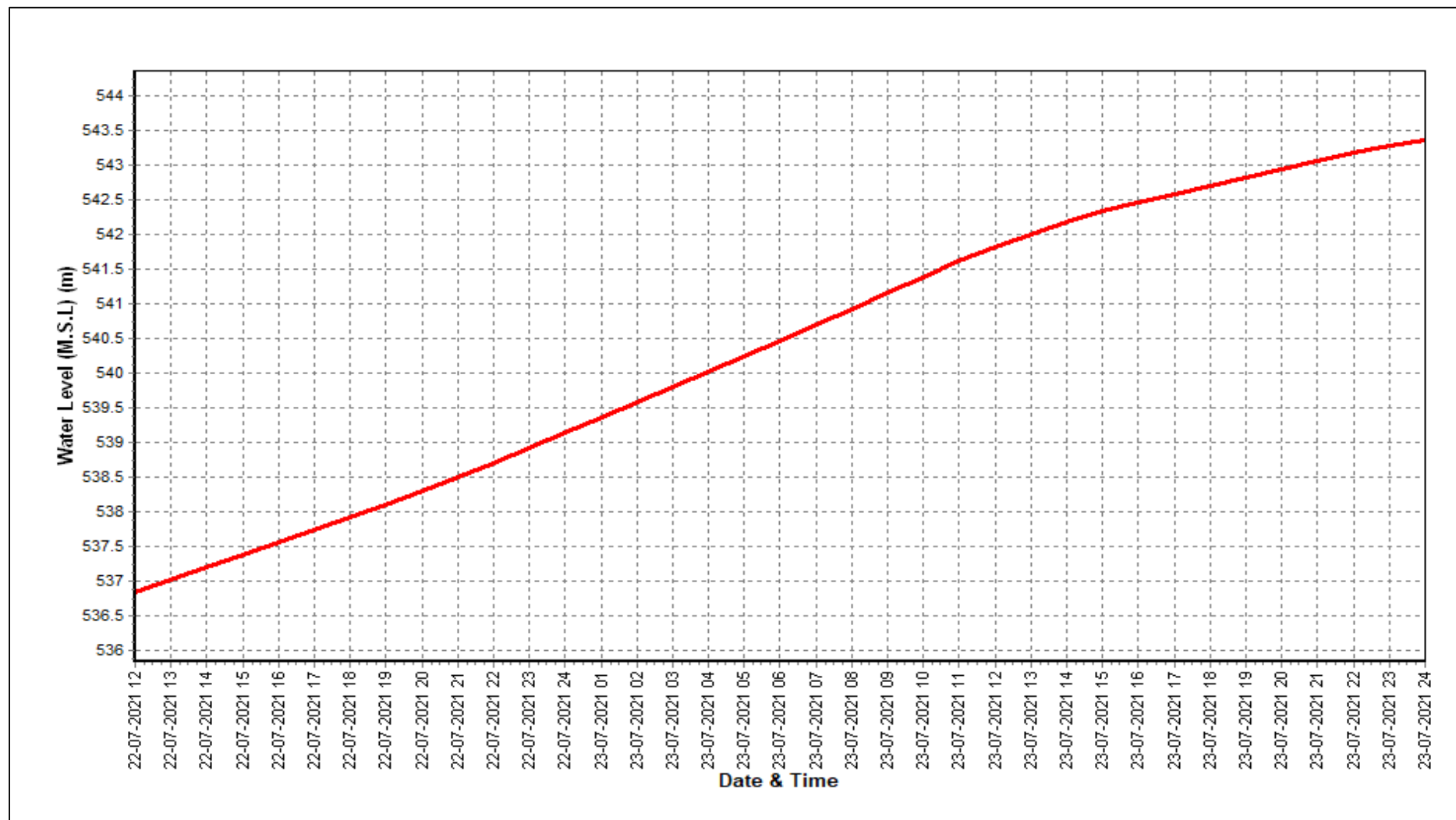
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Samdoli (Seasonal) (AKX00A7)

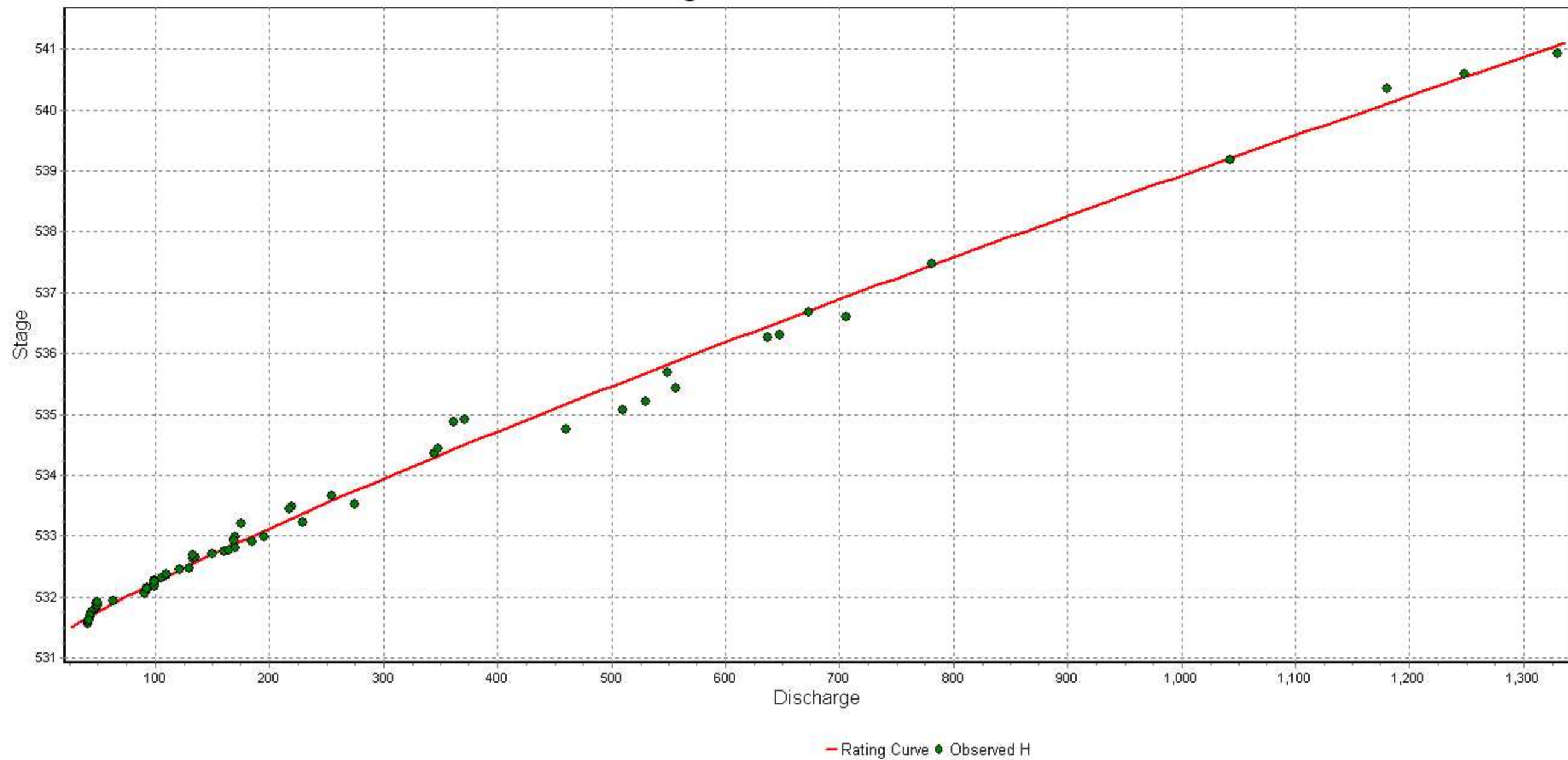
Local River : Varna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



Rating Curve of Samdoli 2021



HISTORY SHEET

		Water Year	: 2021-2022
Site	: Arjunwad (Seasonal)	Code	: AK000V4
State	: Maharashtra	District	Kolhapur
Basin	: Krishna	Independent River	: Krishna
Tributary	: -	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Krishna
Division	: Upper Krishna Divn, Pune	Sub-Division	: Upper Krishna SD, Miraj
Drainage Area	: 12660 Sq. Km.	Bank	: Right
Latitude	: 16°46'33"	Longitude	: 74°38'18"
Zero of Gauge (m)	: 523 (m.s.l) 523.225 (m.s.l)	01-02-1969 01-01-1974	- 31-12-1973
	Opening Date	Closing Date	
Gauge	: 12-01-1969	HFL During 2021-22	: 543.955 m
Discharge	: 12-01-1969	Corres. Discharge	: 3595(Estimated)
Sediment	: 26-12-2014	Date & Time of occurrence	: 26-07-2021 : 02:00 Hrs
Water Quality	: 01-09-2014		

HFL Recorded so far in m : 543.685 dt 05-08-2005

Corresponding Discharge (cumecs) : 10151*

Note :- Discharge Effected from 2019-2020 due to Partially Closing of D/S kt-weir.

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1969-1970	5300	540.395	02-08-1969	0.000	525.245	04-03-1970
1970-1971	3733	538.000	22-08-1970	0.000	525.070	02-02-1971
1971-1972	2936	536.843	01-09-1971	0.000	525.610	14-01-1972
1972-1973	3200	537.760	09-07-1972	0.000	525.620	25-01-1973
1973-1974	4950	539.870	10-07-1973	0.000	527.205	25-01-1974
1974-1975	2469	536.403	07-07-1974	0.000	526.675	25-01-1975
1975-1976	5270	540.460	12-07-1975	0.000	527.575	26-01-1976
1976-1977	6000	541.070	08-06-1976	0.000	527.325	25-01-1977
1977-1978	3460	537.817	08-07-1977	0.000	527.595	12-11-1977
1978-1979	2579	536.321	03-09-1978	0.000	527.135	25-01-1979
1979-1980	4904	539.767	09-08-1979	0.000	525.175	09-02-1980
1980-1981	4800	539.895	05-07-1980	0.000	527.265	25-01-1981
1981-1982	3362	538.195	10-07-1981	0.000	527.945	25-01-1982
1982-1983	2241	536.213	16-08-1982	0.000	526.835	25-01-1983
1983-1984	4035	538.615	18-08-1983	0.000	527.125	26-01-1984

Note :- Discharge Effected from 2019-2020 due to Partially Closing of D/S kt-weir.

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1984-1985	3284	538.045	20-07-1984	0.000	526.465	25-01-1985
1985-1986	3085	537.449	04-08-1985	0.000	527.545	25-01-1986
1986-1987	2868	537.640	14-08-1986	0.000	526.910	25-01-1987
1987-1988	2351	536.205	09-07-1987	0.000	525.205	26-01-1988
1988-1989	4997	539.895	04-08-1988	0.000	528.025	25-01-1989
1989-1990	4954	539.735	26-07-1989	0.000	527.945	25-01-1990
1990-1991	6010	540.795	20-08-1990	0.000	527.975	25-01-1991
1991-1992	5698	540.416	30-07-1991	0.000	527.755	26-01-1992
1992-1993	2928	537.316	15-08-1992	0.000	527.325	25-01-1993
1993-1994	2843	537.060	05-08-1993	0.000	527.585	18-01-1994
1994-1995	6300	541.175	17-07-1994	0.000	527.265	25-01-1995
1995-1996	2550	535.670	21-07-1995	0.000	526.225	26-01-1996
1996-1997	4060	539.125	05-10-1996	0.000	524.635	25-01-1997
1997-1998	5780	540.995	27-08-1997	0.000	527.525	25-01-1998
1998-1999	2411	535.618	10-07-1998	0.000	526.375	25-01-1999
1999-2000	3193	537.773	28-07-1999	0.000	526.535	26-01-2000
2000-2001	1747	534.482	14-07-2000	0.000	526.785	25-01-2001
2001-2002	1764	533.590	10-07-2001	0.000	527.085	25-01-2002
2002-2003	1514	533.705	15-08-2002	0.000	526.515	25-01-2003
2003-2004	1333	532.785	29-07-2003	0.000	527.275	25-01-2004
2004-2005	4211	539.455	14-08-2004	0.000	526.925	25-01-2005
2005-2006	9040	543.680	05-08-2005	0.000	526.520	25-01-2006
2006-2007	7205	542.125	12-08-2006	0.000	527.490	17-11-2006
2007-2008	4543	539.885	03-07-2007	0.000	526.125	12-11-2007
2008-2009	4057	538.345	15-08-2008	0.000	526.075	08-11-2008
2009-2010	1848	533.925	25-07-2009	0.000	529.320	22-11-2009
2010-2011	2587	536.275	29-07-2010	0.000	529.465	10-11-2010
2011-2012	4497	539.935	06-09-2011	0.000	527.815	09-11-2011
2012-2013	1614	533.130	07-09-2012	0.000	527.190	27-11-2012
2013-2014	3741	538.655	28-07-2013	0.000	527.055	03-11-2013
2014-2015	2606	536.255	02-08-2014	0.000	526.065	12-06-2014
2015-2016	1460	532.365	26-06-2015	0.000	527.295	18-06-2015
2016-2017	3523	537.785	09-08-2016	0.000	527.205	17-11-2016
2017-2018	1824	533.535	22-07-2017	0.000	525.235	11-06-2017
2018-2019	2567	536.335	19-07-2018	0.000	527.375	10-06-2018
2019-2020	5607	544.185	10-08-2019	0.000	526.815	11-06-2019
2020-2021	2476	538.995	19-08-2020	0.000	528.815	08-06-2020

Annual Runoff of Krishna at Arjunwad (Seasonal)

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1968-1969		2	2		0	0
2	1969-1970	8907	73	8980	315	3	317
3	1970-1971	10066	70	10136	356	2	358
4	1971-1972	7485	25	7511	265	1	265
5	1972-1973	3914	0	3914	138	0	138
6	1973-1974	8534	0	8534	302	0	302
7	1974-1975	6505	0	6505	230	0	230
8	1975-1976	10790	0	10790	381	0	381
9	1976-1977	10597	0	10597	374	0	374
10	1977-1978	7323	0	7323	259	0	259
11	1978-1979	8838	0	8838	312	0	312
12	1979-1980	8718	47	8765	308	2	310
13	1980-1981	8904	0	8904	315	0	315
14	1981-1982	7654	0	7654	270	0	270
15	1982-1983	5266	0	5266	186	0	186
16	1983-1984	7659	0	7659	271	0	271
17	1984-1985	5964	0	5964	211	0	211
18	1985-1986	4619	0	4619	163	0	163
19	1986-1987	4884	0	4884	173	0	173
20	1987-1988	2703	0	2703	96	0	96
21	1988-1989	7889	0	7889	279	0	279
22	1989-1990	5140	0	5140	182	0	182
23	1990-1991	10048	0	10048	355	0	355
24	1991-1992	11529	0	11529	407	0	407
25	1992-1993	5620	0	5620	199	0	199
26	1993-1994	8295	182	8477	293	6	300
27	1994-1995	15463	0	15463	546	0	546
28	1995-1996	4350	0	4350	154	0	154
29	1996-1997	6273	0	6273	222	0	222
30	1997-1998	10449	0	10449	369	0	369
31	1998-1999	5152	0	5152	182	0	182
32	1999-2000	8115	0	8115	287	0	287
33	2000-2001	2874	0	2874	102	0	102
34	2001-2002	3398	0	3398	120	0	120
35	2002-2003	2946	0	2946	104	0	104
36	2003-2004	2697	0	2697	95	0	95
37	2004-2005	7776	0	7776	275	0	275
38	2005-2006	18332	0	18332	648	0	648
39	2006-2007	17640	Site downgraded as Seasonal Site from 2006-07	17640	623	Site downgraded as Seasonal Site from 2006-07	623
40	2007-2008	9962		9962	352		352
41	2008-2009	5794		5794	205		205
42	2009-2010	4811		4811	170		170
43	2010-2011	5410		5410	191		191
44	2011-2012	7328		7328	259		259
45	2012-2013	4099		4099	145		145
46	2013-2014	7809		7809	276		276
47	2014-2015	5974		5974	211		211

48	2015-2016	1438	Site downgraded as Seasonal Site from 2006-07	1438	51	Site downgraded as Seasonal Site from 2006-07	51
49	2016-2017	7208		7208	255		255
50	2017-2018	3929		3929	139		139
51	2018-2019	7179		7179	254		254
52	2019-2020	14064		14064	497		497
53	2020-2021	5846		5846	207		207
54	2021-2022	6218		6218	220		220
Average		7366	10	7237	260	0	256

Instantaneous Flood Peak of Krishna at Arjunwad

Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	1969-1970	540.540	02-08-1969	17:00:00	5629 *
2	1970-1971	538.025	22-08-1970	03:00:00	3434 *
3	1971-1972	537.045	01-09-1971	22:00:00	2816 *
4	1972-1973	537.760	09-07-1972	07:00:00	3254 *
5	1973-1974	540.060	10-07-1973	08:00:00	5143
6	1974-1975	536.665	06-07-1974	12:00:00	2612 *
7	1975-1976	540.505	12-07-1975	01:00:00	5593 *
8	1976-1977	541.120	08-06-1976	09:00:00	6260 *
9	1977-1978	538.035	08-07-1977	17:00:00	3441 *
10	1978-1979	536.665	03-09-1978	23:00:00	2612 *
11	1979-1980	539.775	09-08-1979	11:00:00	4869 *
12	1980-1981	539.895	05-07-1980	08:00:00	4983 *
13	1981-1982	538.315	10-07-1981	08:00:00	3642
14	1982-1983	536.275	15-08-1982	19:00:00	2424 *
15	1983-1984	538.675	18-08-1983	01:00:00	3917 *
16	1984-1985	538.055	20-07-1984	11:00:00	3455 *
17	1985-1986	537.535	03-08-1985	23:00:00	3108 *
18	1986-1987	537.640	14-08-1986	08:00:00	3175 *
19	1987-1988	536.245	09-07-1987	16:00:00	2410
20	1988-1989	539.980	04-08-1988	13:00:00	5065 *
21	1989-1990	540.045	27-07-1989	03:00:00	5128 *
22	1990-1991	540.810	20-08-1990	08:00:00	5917
23	1991-1992	540.530	30-07-1991	02:00:00	5619 *
24	1992-1993	537.555	15-08-1992	18:00:00	3121 *
25	1993-1994	537.345	05-08-1993	00:00:00	2991 *
26	1994-1995	541.225	17-07-1994	01:00:00	6379 *
27	1995-1996	535.725	21-07-1995	13:00:00	2194 *
28	1996-1997	539.505	05-10-1996	19:00:00	4620 *
29	1997-1998	540.995	27-08-1997	05:00:00	6120 *
30	1998-1999	535.715	10-07-1998	08:00:00	2191
31	1999-2000	537.925	29-07-1999	03:00:00	3365 *
32	2000-2001	534.520	14-07-2000	14:00:00	1838 *
33	2001-2002	534.200	10-07-2001	23:00:00	1777 *
34	2002-2003	534.335	14-08-2002	06:00:00	1801 *
35	2003-2004	532.835	29-07-2003	05:00:00	1677 *
36	2004-2005	539.455	14-08-2004	10:00:00	4575 *
37	2005-2006	543.685	05-08-2005	09:00:00	10151 *
38	2006-2007	542.150	12-08-2006	15:00:00	7495 *
39	2007-2008	539.885	03-07-2007	08:00:00	4973 *
40	2008-2009	538.395	15-08-2008	08:00:00	3702
41	2009-2010	535.045	17-07-2009	10:00:00	1968 *
42	2010-2011	536.345	29-07-2010	15:00:00	2456 *
43	2011-2012	540.285	05-09-2011	20:00:00	5367 *

44	2012-2013	533.175	07-09-2012	02:00:00	1677 *
45	2013-2014	538.695	27-07-2013	13:00:00	3933 *
46	2014-2015	536.255	02-08-2014	06:00:00	2415 *
47	2015-2016	532.555	25-06-2015	08:00:00	1688
48	2016-2017	537.975	13-07-2016	16:00:00	3399 *
49	2017-2018	533.615	21-07-2017	18:00:00	1702 *
50	2018-2019	536.395	20-07-2018	16:00:00	2480 *
51	2019-2020	544.275	09-08-2019	02:00:00	5647 *
52	2020-2021	538.995	19-08-2020	08:00:00	2476
53	2021-2022	543.955	26-07-2021	02:00:00	3595 *

Note :- Discharge Effected from 2019-2020 due to Partially Closing of D/S kt-weir.

Stage-Discharge Data for the period 2021 - 2022

Station Name : Arjunwad (Seasonal) (AK000V4)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	528.045	0.000	528.525	260.6 *	539.305	2336 *	527.365	147.3	527.975	224.3	527.055	0.000
2	527.905	0.000	528.105	212.2 *	538.305	2075	527.345	133.4	527.825	181.8 *	527.225	0.000
3	527.775	0.000	527.875	187.1 *	536.565	1649	527.230	125.5	527.825	181.8 *	527.625	0.000
4	528.045	0.000	527.805	179.6 *	535.190	1363	527.055	110.9	528.015	214.3	527.985	0.000
5	528.585	0.000	527.595	158.0 *	532.165	796.9	527.055	106.9 *	528.230	217.0	528.225	0.000
6	528.365	0.000	527.505	149.0	531.755	715.9	527.145	124.5	528.075	216.7	528.475	0.000
7	528.315	0.000	527.475	146.1 #	531.555	677.7	527.325	134.2	527.695	191.9	528.675	0.000
8	528.545	0.000	527.455	144.1 #	530.735	565.7 *	527.385	141.1	527.695	181.2	528.655	0.000
9	527.965	0.000	527.415	140.2 #	530.125	486.3	530.035	467.1	527.730	199.8	528.665	0.000
10	527.875	0.000	527.435	142.1 #	529.645	413.7	530.055	463.6 *	527.985	198.9 *	528.605	0.000
11	527.695	0.000	527.595	158.0 #	529.525	384.0	530.085	472.9	527.945	214.3	528.525	0.000
12	527.475	0.000	527.595	87.55	529.385	364.7	529.725	416.6 *	529.010	335.5	528.395	0.000
13	527.355	0.000	527.965	161.5	529.235	347.3	530.835	595.0	529.435	373.1	528.275	0.000
14	527.385	0.000	529.085	271.0	528.995	322.7	532.175	817.2	528.685	301.7	528.245	0.000
15	527.455	0.000	529.125	311.5	529.225	340.4	533.355	1008	527.755	174.4 *	528.205	0.000
16	527.445	0.000	529.575	365.0	529.655	414.0	533.795	1088	527.755	193.3	528.645	0.000
17	527.905	190.3 *	529.305	342.2	529.125	335.4	531.805	751.7	527.755	174.4 *	528.735	0.000
18	533.625	1070 *	529.095	331.6 *	528.885	317.2	529.405	380.7	527.685	189.4	528.745	0.000
19	533.175	984.6 *	529.255	351.9	529.005	320.0 *	529.085	330.3 *	527.455	144.1 *	528.785	0.000
20	534.175	1178 *	529.245	339.8	528.755	295.5	528.525	272.1	527.235	109.6	528.825	0.000
21	532.615	881.7 *	529.845	433.5 *	528.705	292.7	528.245	232.1	527.115	105.4	528.945	0.000
22	530.955	600.2 *	531.095	713.7	528.485	255.9 *	527.965	199.4	527.065	109.7	528.975	0.000
23	529.955	449.2 *	538.125	1946	528.175	231.9	527.905	189.3	526.915	102.8	529.095	0.000
24	529.645	405.4 *	541.185	2823 *	528.175	231.4	527.875	179.7	526.945	97.29 *	529.075	0.000
25	529.285	356.6 *	543.365	3425 *	528.075	216.1	528.205	235.5	527.065	111.8	529.005	0.000
26	529.185	343.4 *	543.925	3586 *	527.855	187.0	528.285	232.5 *	527.305	123.5	529.005	0.000
27	528.965	314.9 *	543.455	3451 *	527.845	186.8	528.205	227.2	527.415	134.4	528.865	0.000
28	528.965	314.9 *	542.905	3295 *	527.635	170.1	527.895	189.0	527.485	147.0 #	528.815	0.000
29	528.805	294.8 *	541.425	2887 *	527.415	140.2 *	527.815	182.5	527.205	120.4 #	528.775	0.000
30	528.695	281.2 *	540.225	2570 *	527.385	156.4	527.795	177.1	526.975	0.000	528.785	0.000
31			539.915	2589	527.375	156.4			526.975	0.000		
Ten-Daily Mean												
I Ten-Daily	528.142	0.000	527.719	171.9	533.535	1108	527.799	195.4	527.905	200.8	528.119	0.000
II Ten-Daily	529.369	342.3	528.784	272.0	529.179	344.1	530.879	613.3	528.071	221.0	528.538	0.000
III Ten-Daily	529.707	424.2	539.588	2520	527.920	202.3	528.019	204.4	527.133	95.67	528.934	0.000
Monthly												
Min.	527.355	0.000	527.415	87.55	527.375	140.2	527.055	106.9	526.915	0.000	527.055	0.000
Max.	534.175	1178	543.925	3586	539.305	2336	533.795	1088	529.435	373.1	529.095	0.000
Mean	529.073	255.5	532.274	1037	530.137	540.2	528.899	337.7	527.685	170	528.530	0

Annual Runoff in MCM = 6218 Annual Runoff in mm = 491

Peak Observed Discharge = 2589 cumecs on 31-07-2021 Corres. Water Level :539.915 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021 Corres. Water Level :528.045 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

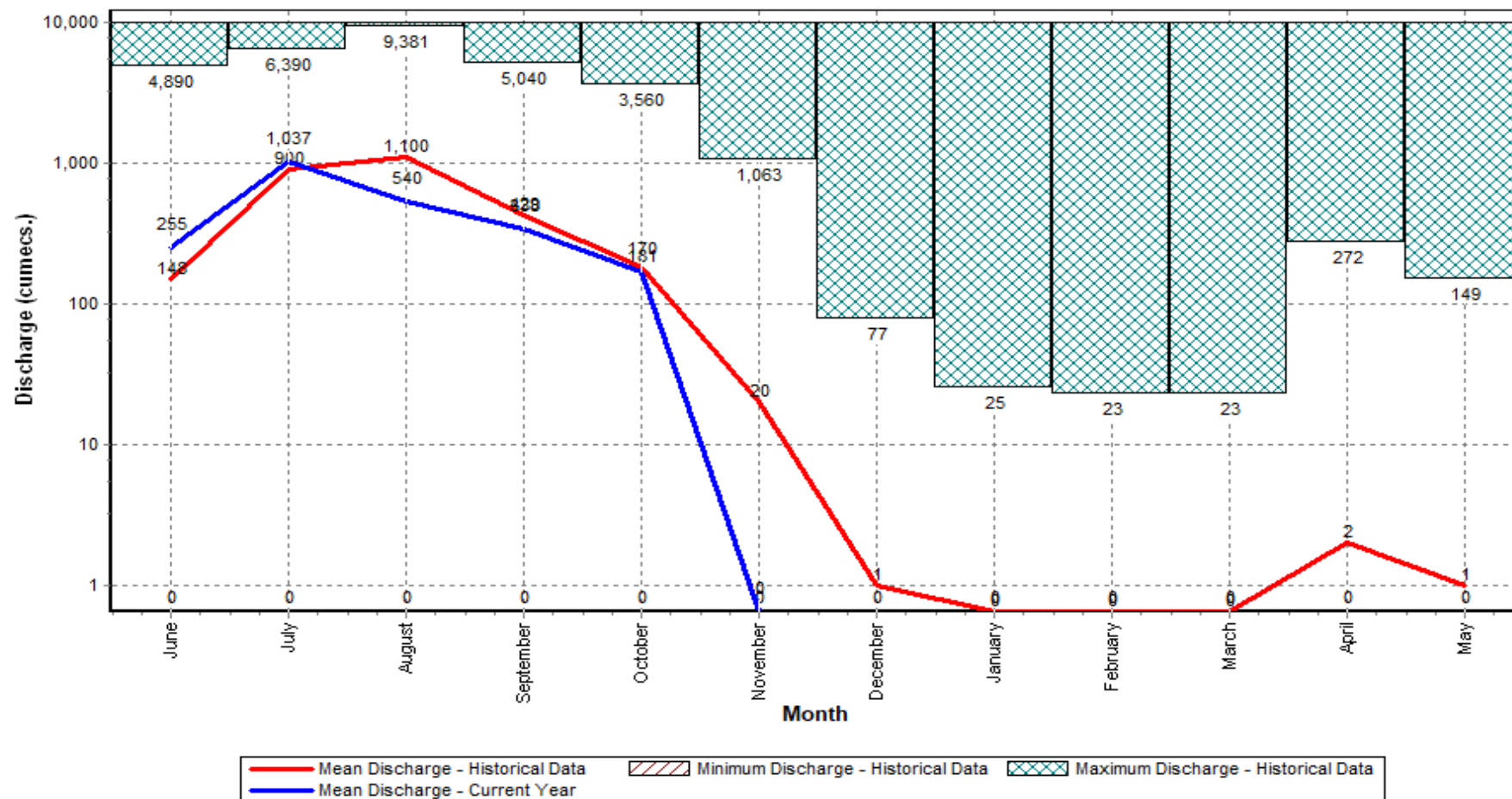
Station Name : Arjunwad (Seasonal) (AK000V4)

Data considered : 1969-2022

Division : Upper Krishna Divn, Pune

Local River : Krishna

Sub-Division : Upper Krishna SD, Miraj



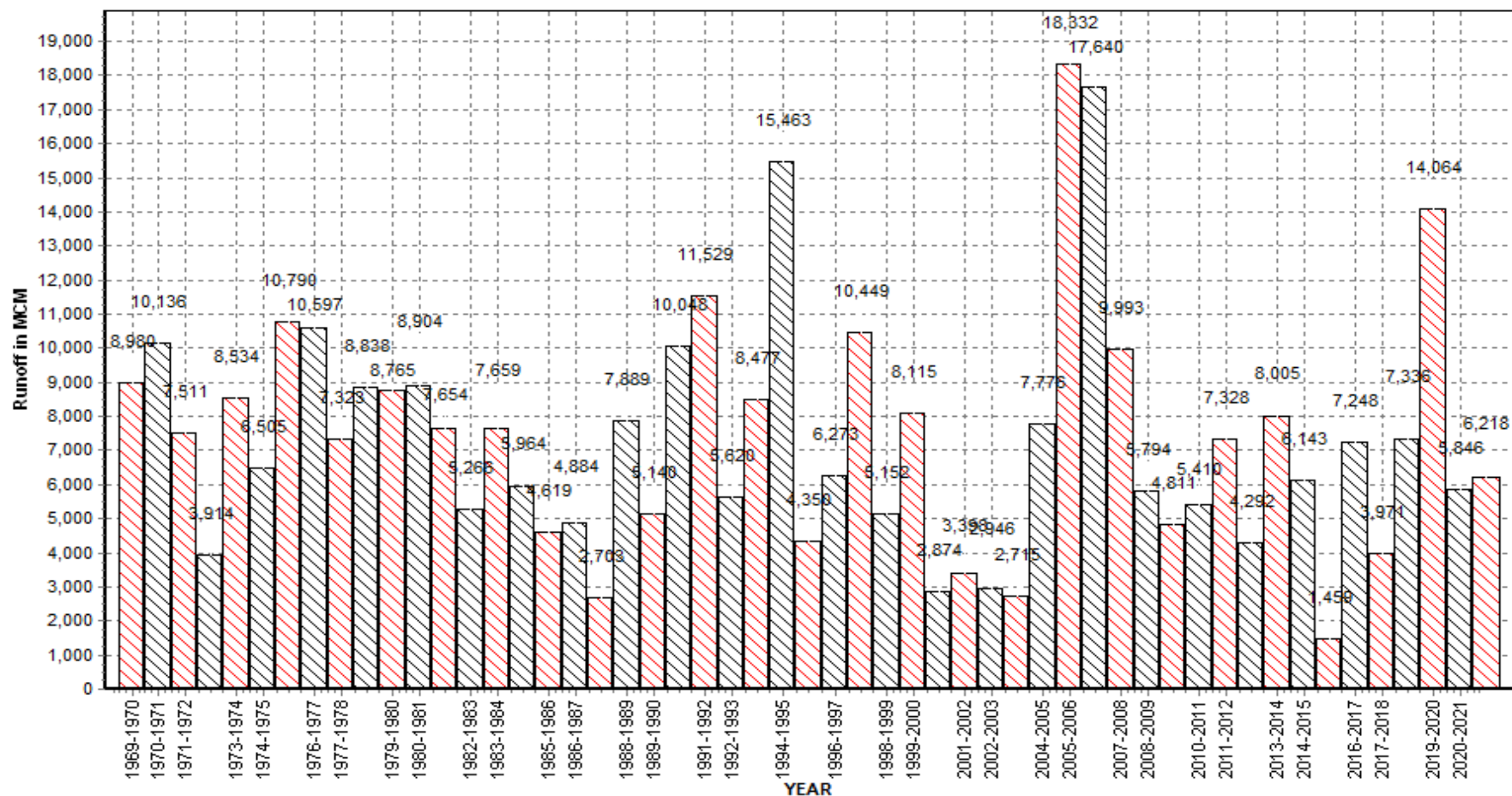
Annual Runoff Values for the period: 1969 - 2022

Station Name : Arjunwad (Seasonal) (AK000V4)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



Note: Missing values have not been considered while arriving at Annual Runoff

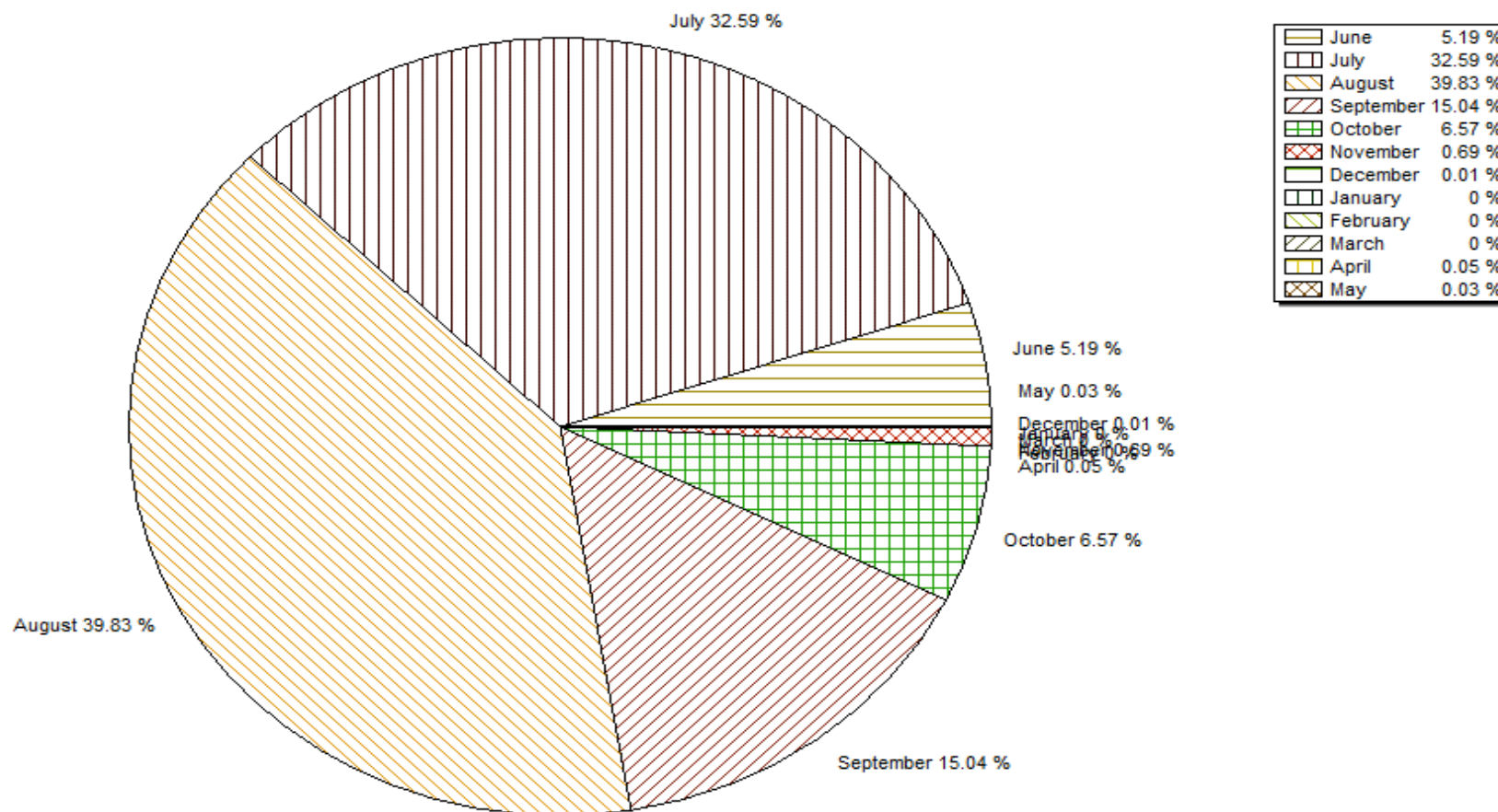
Monthly Average Runoff based on period : 1969-2021

Station Name : Arjunwad (Seasonal) (AK000V4)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



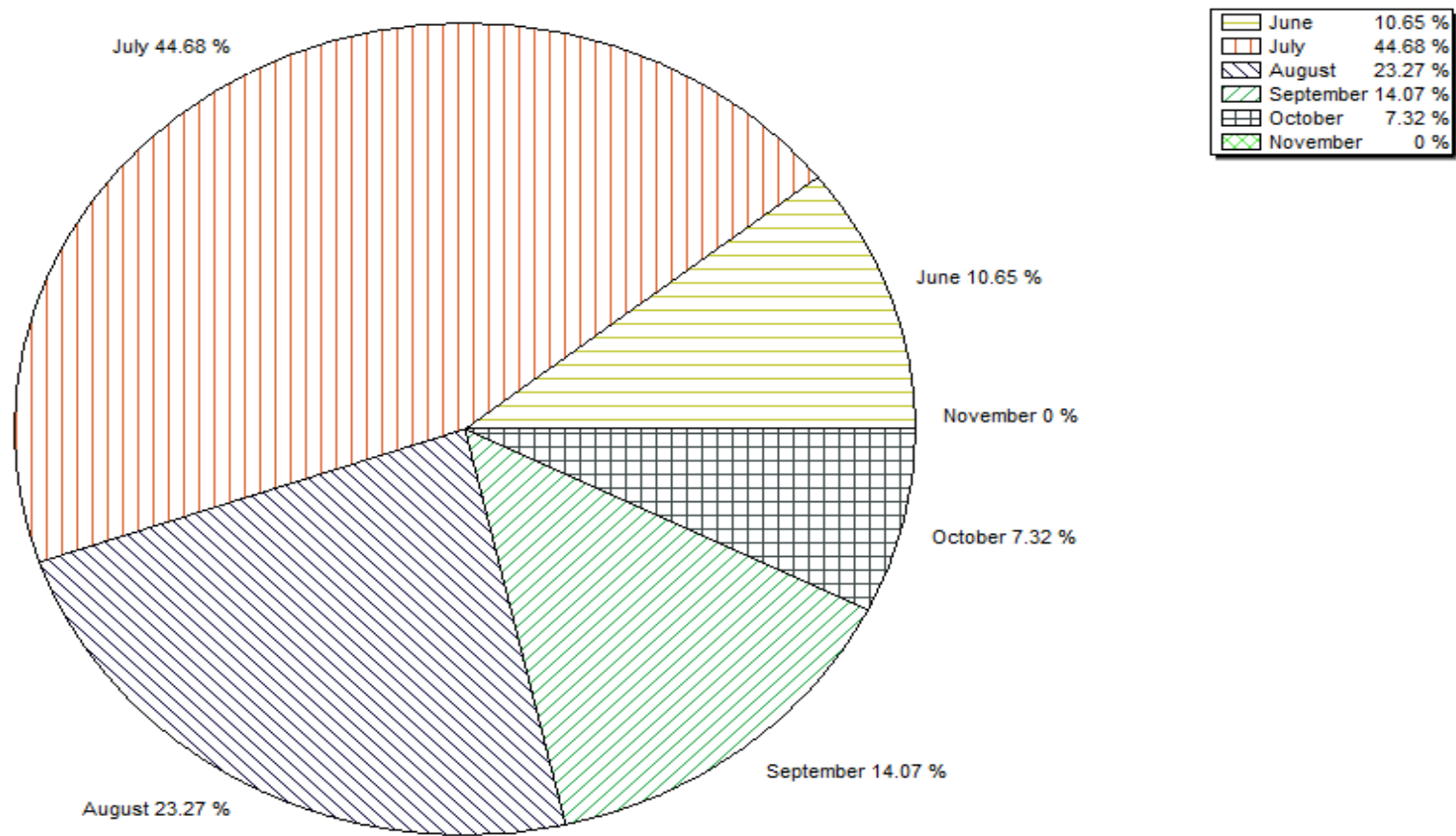
Monthly Runoff for the Year : 2021-2022

Station Name : Arjunwad (Seasonal) (AK000V4)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



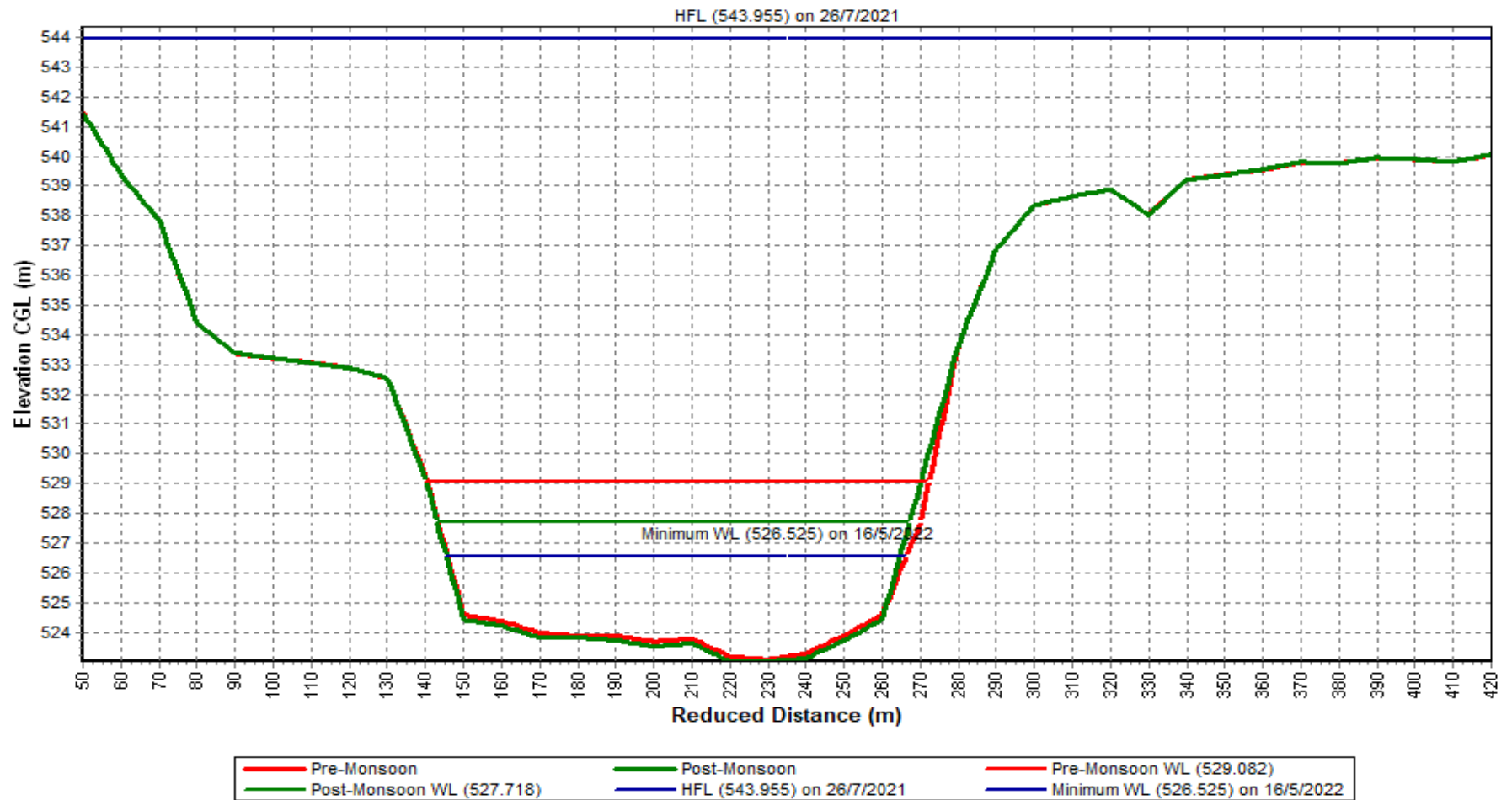
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : Arjunwad (Seasonal) (AK000V4)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



Zero of Gauge : 523.225 (m.s.l)

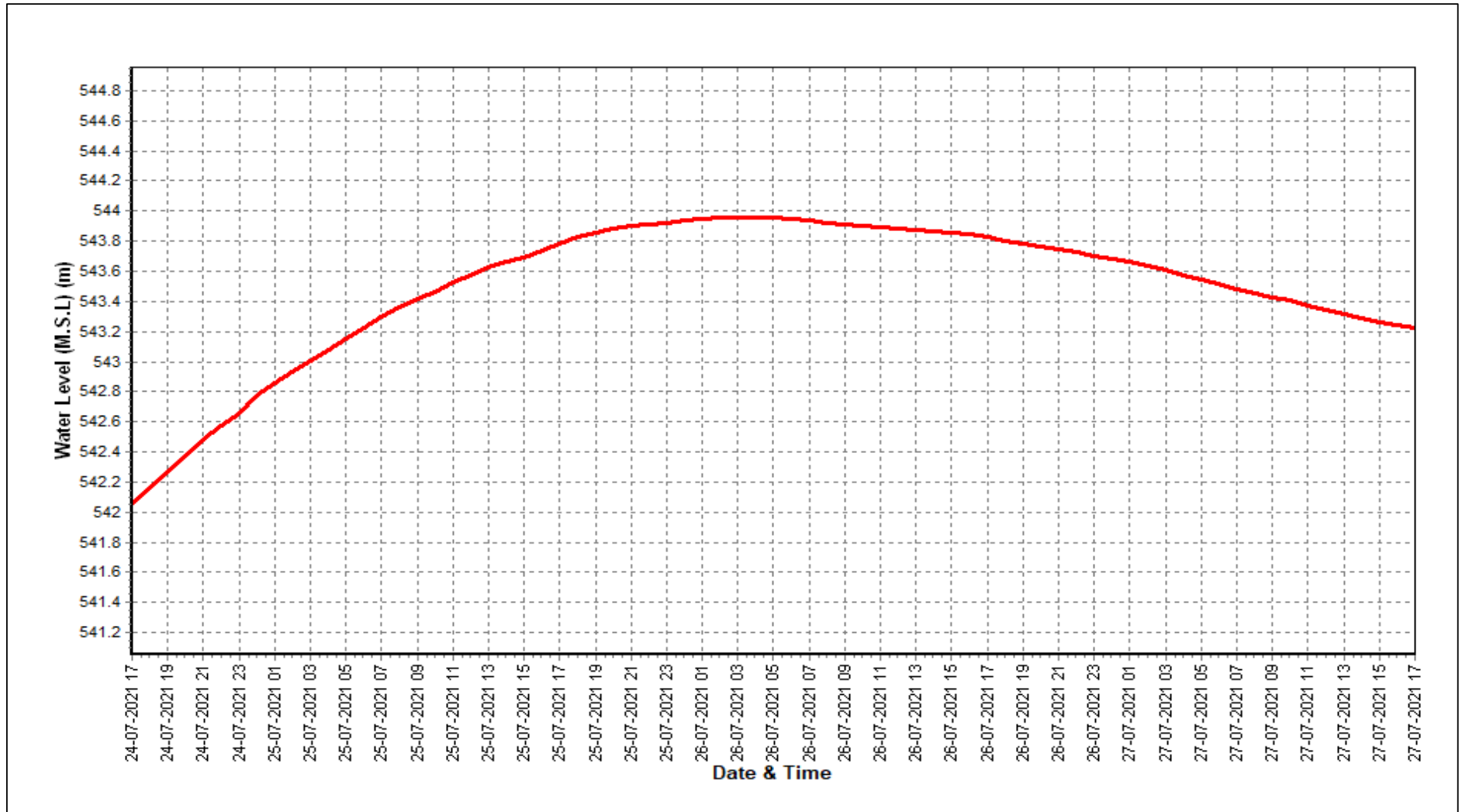
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Arjunwad (Seasonal) (AK000V4)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



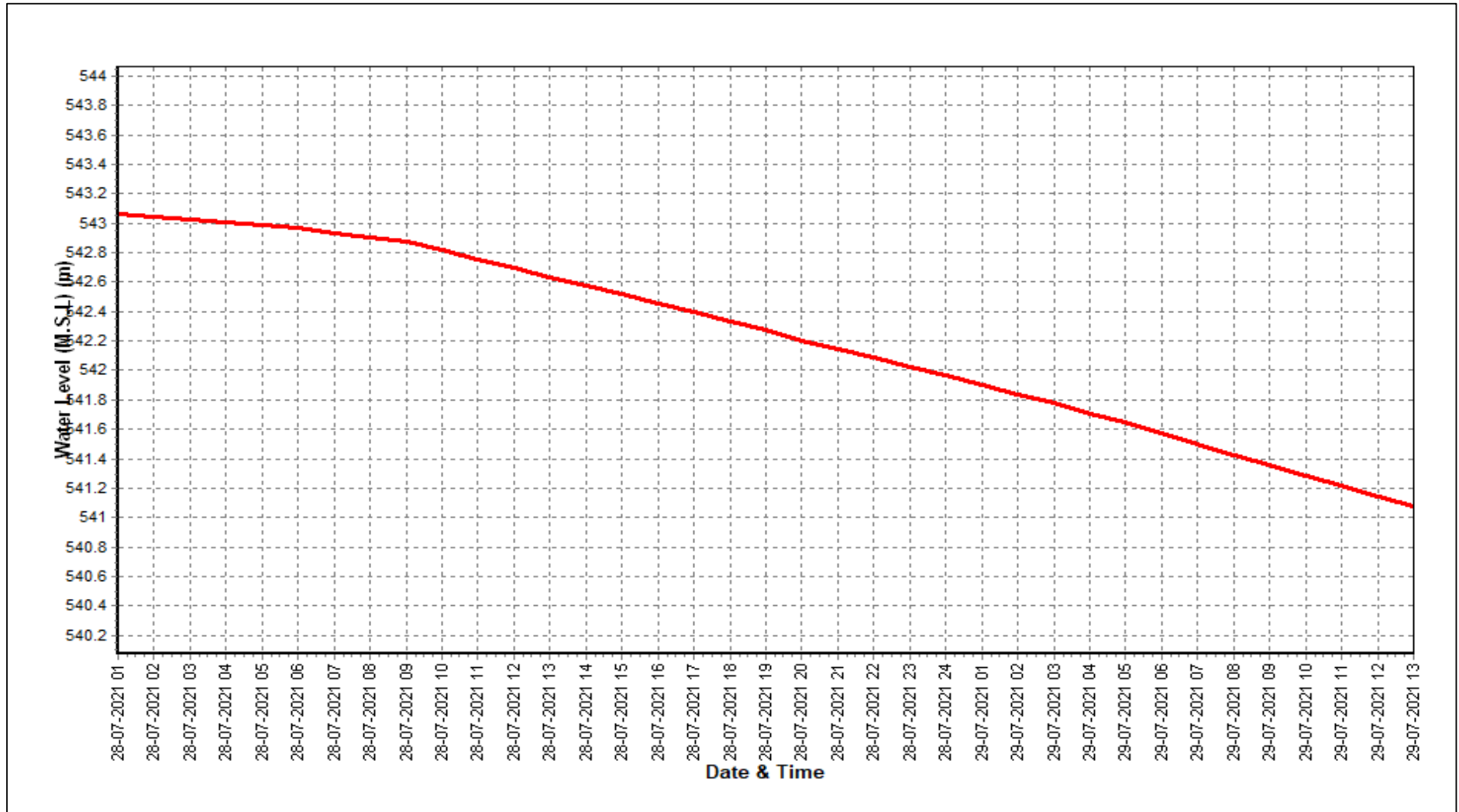
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Arjunwad (Seasonal) (AK000V4)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : UKSD, Miraj



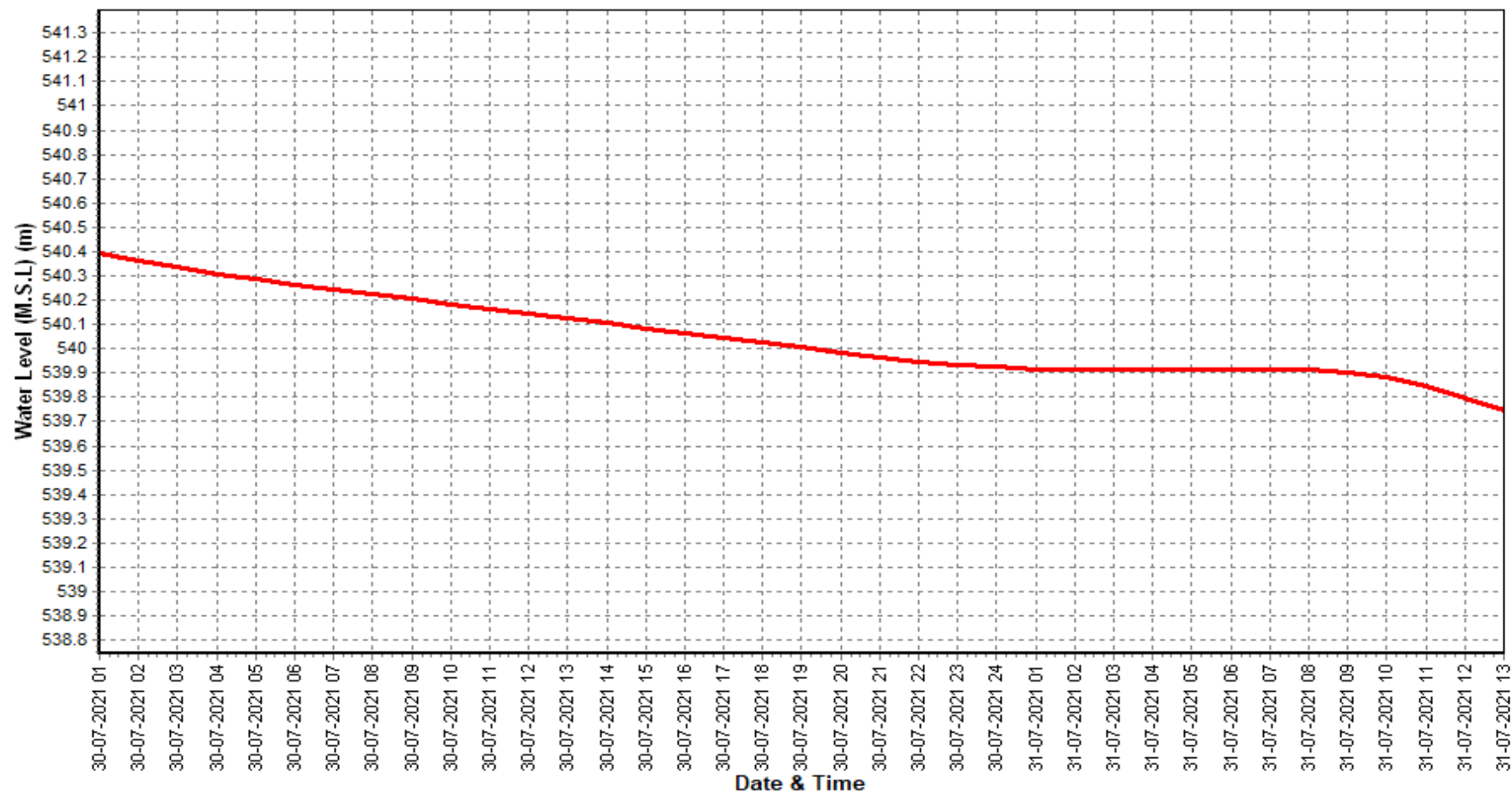
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Arjunwad (Seasonal) (AK000V4)

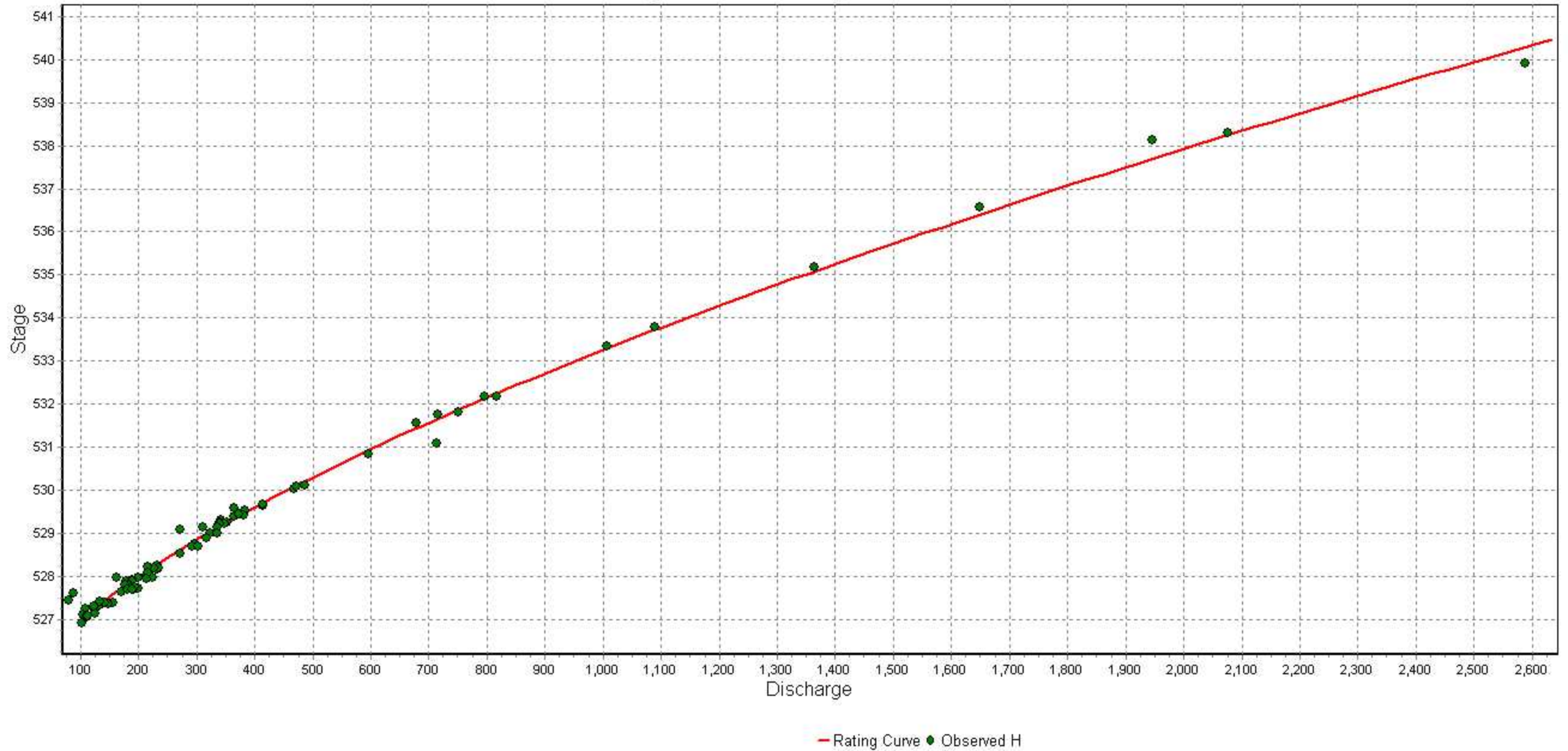
Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : UKSD, Miraj



Rating Curve of site Arjunwad 2021



HISTORY SHEET

Water Year : 2021-2022

Site : Kurundwad

Code : AK000V1

State : Maharashtra

District : Kolhapur

Basin : Krishna

Independent River : Krishna

Tributary : -

Sub Tributary : -

Sub-Sub Tributary : -

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj

Drainage Area : 15190 Sq. Km.

Bank : Right

Latitude : 16°40'57"

Longitude : 74°36'14"

Zero of Gauge (m) : 519.455 (m.s.l)
519.455 (m.s.l)20-05-1972 31-12-1989
01-01-1990 -

Opening Date

Closing Date

Gauge : 21-05-1972

HFL During 2021-22 : 540.165 m
Corres. Discharge : 6970 (Estimated)

Discharge : 26-05-1972

Date & Time of
occurrence : 26-07-2021
: 09:00 Hrs

Sediment : 06-08-2003

Water Quality : 01-07-2003

HFL Recorded so far in m : 541.205 dt 10-08-2019

Corresponding Discharge (cumecs) : 11020 *

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1972-1973	4166	535.390	09-07-1972	0.000	520.505	12-01-1973
1973-1974	5809	537.115	10-07-1973	0.000	521.745	06-02-1974
1974-1975	3436	534.220	07-07-1974	0.000	521.280	09-02-1975
1975-1976	5781	536.935	12-07-1975	0.000	521.505	11-02-1976
1976-1977	5681	537.090	04-08-1976	0.000	520.875	18-02-1977
1977-1978	3981	535.172	09-07-1977	0.000	520.515	15-03-1978
1978-1979	3584	534.200	19-08-1978	0.000	520.675	01-02-1979
1979-1980	5288	536.740	10-08-1979	0.000	522.240	16-02-1980
1980-1981	4875	535.951	08-07-1980	0.000	523.645	25-01-1981
1981-1982	4366	535.572	10-07-1981	0.000	522.775	25-01-1982
1982-1983	3438	533.616	15-08-1982	0.000	521.360	16-01-1983
1983-1984	5111	536.198	18-08-1983	0.000	522.135	26-01-1984
1984-1985	3964	535.270	21-07-1984	0.000	522.580	23-01-1985
1985-1986	3934	535.115	04-08-1985	0.000	524.445	25-01-1986
1986-1987	4587	535.495	14-08-1986	0.000	524.545	25-01-1987
1987-1988	3290	533.593	10-07-1987	0.000	522.525	26-01-1988
1988-1989	4870	536.415	05-08-1988	0.000	524.705	25-01-1989

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1989-1990	6000	537.500	27-07-1989	0.000	523.585	25-01-1990
1990-1991	5760	537.265	20-08-1990	0.000	525.785	25-01-1991
1991-1992	6322	537.363	31-07-1991	0.000	525.965	26-01-1992
1992-1993	3919	534.455	16-08-1992	0.000	525.215	25-01-1993
1993-1994	4051	534.775	05-08-1993	0.000	525.655	25-01-1994
1994-1995	6620	538.065	18-07-1994	0.000	525.185	25-01-1995
1995-1996	2796	533.025	21-07-1995	0.000	524.705	26-01-1996
1996-1997	4525	535.590	06-10-1996	0.000	523.715	25-01-1997
1997-1998	5972	537.255	28-08-1997	0.000	524.935	25-01-1998
1998-1999	3000	533.165	10-07-1998	0.000	524.545	25-01-1999
1999-2000	4225	535.685	24-07-1999	0.000	522.955	26-01-2000
2000-2001	2853	532.990	15-07-2000	0.000	524.005	25-01-2001
2001-2002	2594	532.315	11-07-2001	0.000	523.360	25-01-2002
2002-2003	3014	533.128	14-08-2002	0.000	522.970	25-01-2003
2003-2004	2275	530.805	29-07-2003	0.000	524.905	26-01-2004
2004-2005	4650	535.665	15-08-2004	0.000	523.685	25-01-2005
2005-2006	8527	539.750	06-08-2005	0.000	523.005	25-01-2006
2006-2007	7619	538.720	13-08-2006	0.000	524.515	25-01-2007
2007-2008	5673	536.765	03-07-2007	0.000	523.085	25-01-2008
2008-2009	5143	536.395	16-08-2008	0.000	523.785	25-01-2009
2009-2010	3082	533.165	19-07-2009	0.000	524.615	25-01-2010
2010-2011	3847	534.395	30-07-2010	0.000	524.525	25-01-2011
2011-2012	5134	536.425	06-09-2011	0.000	522.475	23-02-2012
2012-2013	2281	531.110	07-09-2012	0.000	523.320	20-04-2013
2013-2014	4966	535.965	29-07-2013	0.000	524.305	24-11-2013
2014-2015	3197	533.870	02-08-2014	0.000	524.705	11-01-2015
2015-2016	2322	530.790	26-06-2015	0.000	523.225	18-07-2015
2016-2017	4111	535.105	13-07-2016	0.000	523.175	09-04-2017
2017-2018	2477	532.205	23-07-2017	0.000	524.075	22-05-2018
2018-2019	4254	534.635	20-07-2018	0.000	522.835	24-01-2019
2019-2020	11020	541.205	10-08-2019	0.000	524.455	01-03-2020
2020-2021	4304	536.015	20-08-2020	0.000	523.145	02-04-2021

Annual Runoff of Krishna at Kurundwad

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1972-1973	5615	19	5634	198	1	199
2	1973-1974	12587	117	12704	445	4	449
3	1974-1975	9587	30	9616	339	1	340
4	1975-1976	15788	70	15858	558	2	560
5	1976-1977	15622	49	15671	552	2	554
6	1977-1978	13005	244	13248	460	9	468
7	1978-1979	14256	9	14264	504	0	504
8	1979-1980	12693	72	12765	449	3	451
9	1980-1981	14371	0	14371	508	0	508
10	1981-1982	12709	0	12709	449	0	449
11	1982-1983	9301	23	9324	329	1	329
12	1983-1984	11962	0	11962	423	0	423
13	1984-1985	8994	1	8996	318	0	318
14	1985-1986	8372	0	8372	296	0	296
15	1986-1987	7682	0	7682	271	0	271
16	1987-1988	5253	0	5253	186	0	186
17	1988-1989	11698	0	11698	413	0	413
18	1989-1990	7825	0	7825	277	0	277
19	1990-1991	14474	0	14474	511	0	511
20	1991-1992	15352	0	15352	542	0	542
21	1992-1993	8965	0	8965	317	0	317
22	1993-1994	12531	0	12531	443	0	443
23	1994-1995	18785	0	18785	664	0	664
24	1995-1996	5919	0	5919	209	0	209
25	1996-1997	8605	0	8605	304	0	304
26	1997-1998	15382	0	15382	544	0	544
27	1998-1999	8273	0	8273	292	0	292
28	1999-2000	10622	0	10622	375	0	375
29	2000-2001	5348	0	5348	189	0	189
30	2001-2002	6034	0	6034	213	0	213
31	2002-2003	5886	0	5886	208	0	208
32	2003-2004	4706	0	4706	166	0	166
33	2004-2005	10797	0	10797	382	0	382
34	2005-2006	23671	0	23671	836	0	836
35	2006-2007	24683	0	24683	872	0	872
36	2007-2008	16759	0	16759	592	0	592
37	2008-2009	11813	0	11813	417	0	417
38	2009-2010	8346	0	8346	295	0	295
39	2010-2011	9826	0	9826	347	0	347
40	2011-2012	11582	0	11582	409	0	409
41	2012-2013	8574	0	8574	303	0	303
42	2013-2014	12350	0	12350	436	0	436
43	2014-2015	10147	0	10147	359	0	359
44	2015-2016	3440	0	3440	122	0	122
45	2016-2017	10937	0	10937	386	0	386
46	2017-2018	8640	0	8640	305	0	305
47	2018-2019	11876	0	11876	420	0	420
48	2019-2020	21699	0	21699	767	0	767
49	2020-2021	12429	0	12429	439	0	439
50	2021-2022	13384	0	13384	473	0	473
Average		11383	13	11396	402	0	403

Instantaneous Flood Peak of Krishna at KURUNDWAD

Sl. No.	Year	Instantaneous Annual Flood Peak		Time	Discharge* (Cumecs)
		Peak WL (m) Recorded	Date		
1	1972-1973	534.920	09-07-1972	15:00:00	2778 *
2	1973-1974	536.595	10-07-1973	15:00:00	4332 *
3	1974-1975	534.280	07-07-1974	17:00:00	2308 *
4	1975-1976	537.025	12-07-1975	18:00:00	4806 *
5	1976-1977	537.135	04-08-1976	16:00:00	4932 *
6	1977-1978	535.185	09-07-1977	13:00:00	2993 *
7	1978-1979	534.220	19-08-1978	16:00:00	2267 *
8	1979-1980	536.740	10-08-1979	05:00:00	4488 *
9	1980-1981	536.625	08-07-1980	01:00:00	4364 *
10	1981-1982	535.745	10-07-1981	06:00:00	3485 *
11	1982-1983	534.100	15-08-1982	15:00:00	2188 *
12	1983-1984	536.210	18-08-1983	13:00:00	3933 *
13	1984-1985	535.295	21-07-1984	06:00:00	3085 *
14	1985-1986	535.115	04-08-1985	07:00:00	2935 *
15	1986-1987	535.495	14-08-1986	09:00:00	3259 *
16	1987-1988	533.645	10-07-1987	02:00:00	1909 *
17	1988-1989	536.415	05-08-1988	03:00:00	4142 *
18	1989-1990	537.550	27-07-1989	18:00:00	5427 *
19	1990-1991	537.355	20-08-1990	00:00:00	5191 *
20	1991-1992	537.455	31-07-1991	01:00:00	5311 *
21	1992-1993	534.455	16-08-1992	06:00:00	2430 *
22	1993-1994	534.805	05-08-1993	12:00:00	2689 *
23	1994-1995	538.115	18-07-1994	20:00:00	6146 *
24	1995-1996	533.345	21-07-1995	07:00:00	1743 *
25	1996-1997	535.590	06-10-1996	07:00:00	3344 *
26	1997-1998	537.255	28-08-1997	08:00:00	5072
27	1998-1999	533.205	10-07-1998	13:00:00	1671 *
28	1999-2000	535.695	24-07-1999	13:00:00	3439 *
29	2000-2001	533.015	15-07-2000	13:00:00	1579 *
30	2001-2002	532.325	11-07-2001	10:00:00	1294 *
31	2002-2003	533.205	14-08-2002	15:00:00	1671 *
32	2003-2004	530.835	29-07-2003	06:00:00	948 *
33	2004-2005	535.785	15-08-2004	19:00:00	3522 *
34	2005-2006	539.760	05-08-2005	22:00:00	8543 *
35	2006-2007	538.720	13-08-2006	04:00:00	6975 *
36	2007-2008	536.790	03-07-2007	12:00:00	4543 *
37	2008-2009	536.435	16-08-2008	16:00:00	4163 *
38	2009-2010	533.295	19-07-2009	20:00:00	1717 *
39	2010-2011	534.435	30-07-2010	18:00:00	2415 *
40	2011-2012	536.425	06-09-2011	08:00:00	4153
41	2012-2013	531.125	07-09-2012	00:00:00	986 *
42	2013-2014	535.995	29-07-2013	18:00:00	3722 *
43	2014-2015	533.885	02-08-2014	10:00:00	2052 *
44	2015-2016	530.815	26-06-2015	06:00:00	946 *
45	2016-2017	535.575	13-07-2016	07:00:00	3330 *
46	2017-2018	532.255	23-07-2017	20:00:00	1269 *
47	2018-2019	534.675	20-07-2018	19:00:00	2590 *
48	2019-2020	541.205	10-08-2019	05:00:00	11020 *
49	2020-2021	536.015	20-08-2020	08:00:00	4304
50	2021-2022	540.165	26-07-2021	09:00:00	6970 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : Kurundwad (AK000V1)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	524.165	0.000	525.105	398.2 *	536.425	4916 *	524.615	287.3 #	525.555	536.3	524.445	0.000
2	523.995	0.000	524.705	306.8 *	535.655	4446	524.635	291.6 #	525.365	461.4 *	524.435	0.000
3	523.745	0.000	524.365	235.3 *	534.515	3688	524.680	301.4	525.295	444.1 *	524.435	0.000
4	523.865	0.000	524.305	223.3 *	531.625	2521	524.835	335.7 #	525.175	414.9 #	524.435	0.000
5	524.295	0.000	524.245	211.5 *	529.965	1901	524.745	315.6 *	525.195	419.8 #	524.445	0.000
6	524.585	0.000	524.135	239.1	529.955	1906	524.935	358.5 #	525.185	417.3 #	524.505	0.000
7	524.345	0.000	523.935	195.9	529.695	1828	525.085	393.5	524.810	330.1 #	524.535	0.000
8	524.385	0.000	523.855	191.1	528.855	1541 *	525.380	465.1	524.985	370.0 #	524.755	0.000
9	524.335	0.000	523.780	156.4	527.805	1215	527.245	994.9	525.270	438.0 #	524.855	0.000
10	524.095	0.000	523.910	199.0	526.955	989.7	527.875	1200 *	525.135	405.3 *	524.825	0.000
11	524.035	0.000	524.055	175.4 *	526.455	833.2	527.905	1210	525.000	361.0	524.705	0.000
12	523.985	0.000	524.080	210.6	526.135	738.7	527.585	1104 *	525.705	577.4	524.575	0.000
13	523.935	0.000	524.955	347.8	525.835	642.0	528.325	1353	526.025	732.9	524.545	0.000
14	524.045	0.000	526.885	958.4	525.785	642.3	529.915	1939	525.225	462.4	524.525	0.000
15	524.145	0.000	526.945	933.3	526.075	648.0 *	531.395	2539	525.155	410.1 *	524.525	0.000
16	524.215	0.000	527.655	1192	526.295	782.4	531.745	2688	525.045	332.8	524.515	0.000
17	524.745	0.000	527.475	1089	526.020	692.3	529.475	1770	524.955	363.1 *	524.555	0.000
18	531.195	2455 *	527.055	935.5 *	525.755	559.3	526.845	871.1	524.755	304.4	524.755	0.000
19	532.235	2902 *	526.995	956.0	525.685	543.0 *	525.715	550.9 *	524.805	329.0 *	524.835	0.000
20	532.375	2964 *	527.235	996.6	525.425	498.4	525.285	441.7	524.625	289.5	524.745	0.000
21	531.885	2749 *	527.915	1213 *	525.535	533.2	525.125	403.0	524.610	286.3	524.805	0.000
22	530.265	2076 *	529.565	1713	525.195	419.8 *	524.905	351.6	524.645	293.8	524.845	0.000
23	528.255	1329 *	534.475	3516	524.955	403.7	525.205	422.2	524.785	324.5	524.805	0.000
24	526.545	781.7 *	536.595	5147	524.855	365.0	525.465	486.5	524.765	320.1 *	524.765	0.000
25	526.195	681.4 *	539.435	6552 *	524.755	334.9	525.615	524.8	524.625	289.5	524.815	0.000
26	525.955	615.1 *	540.155	6964 *	524.785	367.6	525.455	483.9 *	524.575	278.8	524.835	0.000
27	525.865	590.7 *	540.045	6900 *	524.765	348.4	525.255	434.3 #	524.535	270.3	524.635	0.000
28	525.765	564.1 *	539.565	6625 *	524.885	275.6	525.055	386.4 #	524.550	273.5	524.635	0.000
29	525.525	501.7 *	538.865	6231 *	524.885	347.0 *	525.115	400.6	524.505	0.000	524.715	0.000
30	525.345	456.4 *	537.935	5718 *	524.720	244.7	525.105	398.2 #	524.465	0.000	524.735	0.000
31			537.155	5670	524.575	235.0			524.445	0.000		
Ten-Daily Mean												
I Ten-Daily	524.181	0.000	524.234	235.7	531.145	2495	525.403	494.3	525.197	423.7	524.567	0.000
II Ten-Daily	526.491	832.1	526.334	779.5	525.946	658.0	528.419	1447	525.130	416.2	524.628	0.000
III Ten-Daily	527.160	1035	536.519	5114	524.901	352.2	525.230	429.1	524.591	212.4	524.759	0.000
Monthly												
Min.	523.745	0.000	523.780	156.4	524.575	235.0	524.615	287.3	524.445	0.000	524.435	0.000
Max.	532.375	2964	540.155	6964	536.425	4916	531.745	2688	526.025	732.9	524.855	0.000
Mean	525.944	622.2	529.270	2142	527.252	1142	526.351	790.1	524.960	346.3	524.651	0

Annual Runoff in MCM = 13384 Annual Runoff in mm = 881

Peak Observed Discharge = 5670 cumecs on 31-07-2021 Corres. Water Level :537.155 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021 Corres. Water Level :524.165 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : Kurundwad (AK000V1)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	524.725	0.000	524.635	0.000	524.375	0.000	524.695	0.000	524.095	0.000	523.985	0.000
2	524.705	0.000	524.485	0.000	524.335	0.000	524.705	0.000	524.035	0.000	523.715	0.000
3	526.775	0.000	524.515	0.000	524.335	0.000	524.755	0.000	523.945	0.000	523.625	0.000
4	525.675	0.000	524.535	0.000	524.345	0.000	524.745	0.000	523.865	0.000	523.465	0.000
5	525.235	0.000	524.545	0.000	524.355	0.000	524.735	0.000	523.795	0.000	523.365	0.000
6	525.245	0.000	524.545	0.000	524.365	0.000	524.655	0.000	523.815	0.000	523.385	0.000
7	525.105	0.000	524.555	0.000	524.365	0.000	524.545	0.000	523.875	0.000	523.345	0.000
8	524.895	0.000	524.545	0.000	524.365	0.000	524.475	0.000	523.935	0.000	523.315	0.000
9	524.825	0.000	524.545	0.000	524.385	0.000	524.355	0.000	523.955	0.000	523.295	0.000
10	524.925	0.000	524.475	0.000	524.385	0.000	524.235	0.000	524.035	0.000	523.295	0.000
11	524.905	0.000	524.515	0.000	524.405	0.000	524.125	0.000	524.155	0.000	523.235	0.000
12	524.745	0.000	524.555	0.000	524.415	0.000	524.015	0.000	524.395	0.000	523.225	0.000
13	524.635	0.000	524.605	0.000	524.435	0.000	523.885	0.000	524.655	0.000	523.215	0.000
14	524.725	0.000	524.655	0.000	524.405	0.000	523.785	0.000	524.735	0.000	523.269	0.000
15	524.745	0.000	524.655	0.000	524.505	0.000	523.765	0.000	524.675	0.000	523.405	0.000
16	524.745	0.000	524.685	0.000	524.565	0.000	523.755	0.000	524.435	0.000	523.495	0.000
17	524.725	0.000	524.695	0.000	524.605	0.000	523.845	0.000	524.095	0.000	523.495	0.000
18	524.645	0.000	524.695	0.000	524.625	0.000	523.865	0.000	523.945	0.000	523.525	0.000
19	524.565	0.000	524.645	0.000	524.625	0.000	523.885	0.000	523.845	0.000	523.545	0.000
20	524.545	0.000	524.655	0.000	524.625	0.000	523.935	0.000	523.835	0.000	523.865	0.000
21	524.515	0.000	524.585	0.000	524.615	0.000	523.935	0.000	523.775	0.000	524.615	0.000
22	524.455	0.000	524.605	0.000	524.625	0.000	523.945	0.000	523.675	0.000	524.525	0.000
23	524.405	0.000	524.545	0.000	524.655	0.000	523.955	0.000	523.645	0.000	524.235	0.000
24	524.455	0.000	524.515	0.000	524.675	0.000	523.965	0.000	523.655	0.000	524.185	0.000
25	524.545	0.000	524.505	0.000	524.655	0.000	523.975	0.000	523.665	0.000	524.095	0.000
26	524.625	0.000	524.485	0.000	524.685	0.000	523.995	0.000	523.755	0.000	523.935	0.000
27	524.725	0.000	524.475	0.000	524.685	0.000	524.045	0.000	523.935	0.000	523.885	0.000
28	524.705	0.000	524.485	0.000	524.685	0.000	524.075	0.000	523.965	0.000	523.645	0.000
29	524.555	0.000	524.455	0.000			524.105	0.000	524.055	0.000	523.445	0.000
30	524.595	0.000	524.435	0.000			524.125	0.000	524.095	0.000	523.245	0.000
31	524.595	0.000	524.405	0.000			524.145	0.000			523.185	0.000
Ten-Daily Mean												
I Ten-Daily	525.211	0.000	524.538	0.000	524.361	0.000	524.590	0.000	523.935	0.000	523.479	0.000
II Ten-Daily	524.698	0.000	524.636	0.000	524.521	0.000	523.886	0.000	524.277	0.000	523.427	0.000
III Ten-Daily	524.561	0.000	524.500	0.000	524.660	0.000	524.024	0.000	523.822	0.000	523.909	0.000
Monthly												
Min.	524.405	0.000	524.405	0.000	524.335	0.000	523.755	0.000	523.645	0.000	523.185	0.000
Max.	526.775	0.000	524.695	0.000	524.685	0.000	524.755	0.000	524.735	0.000	524.615	0.000
Mean	524.815	0	524.556	0	524.504	0	524.162	0	524.011	0	523.615	0

Peak Computed Discharge = 6964 cumecs on 26-07-2021

Corres. Water Level :540.155 m

Lowest Computed Discharge = 175.4 cumecs on 11-07-2021

Corres. Water Level :524.055 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

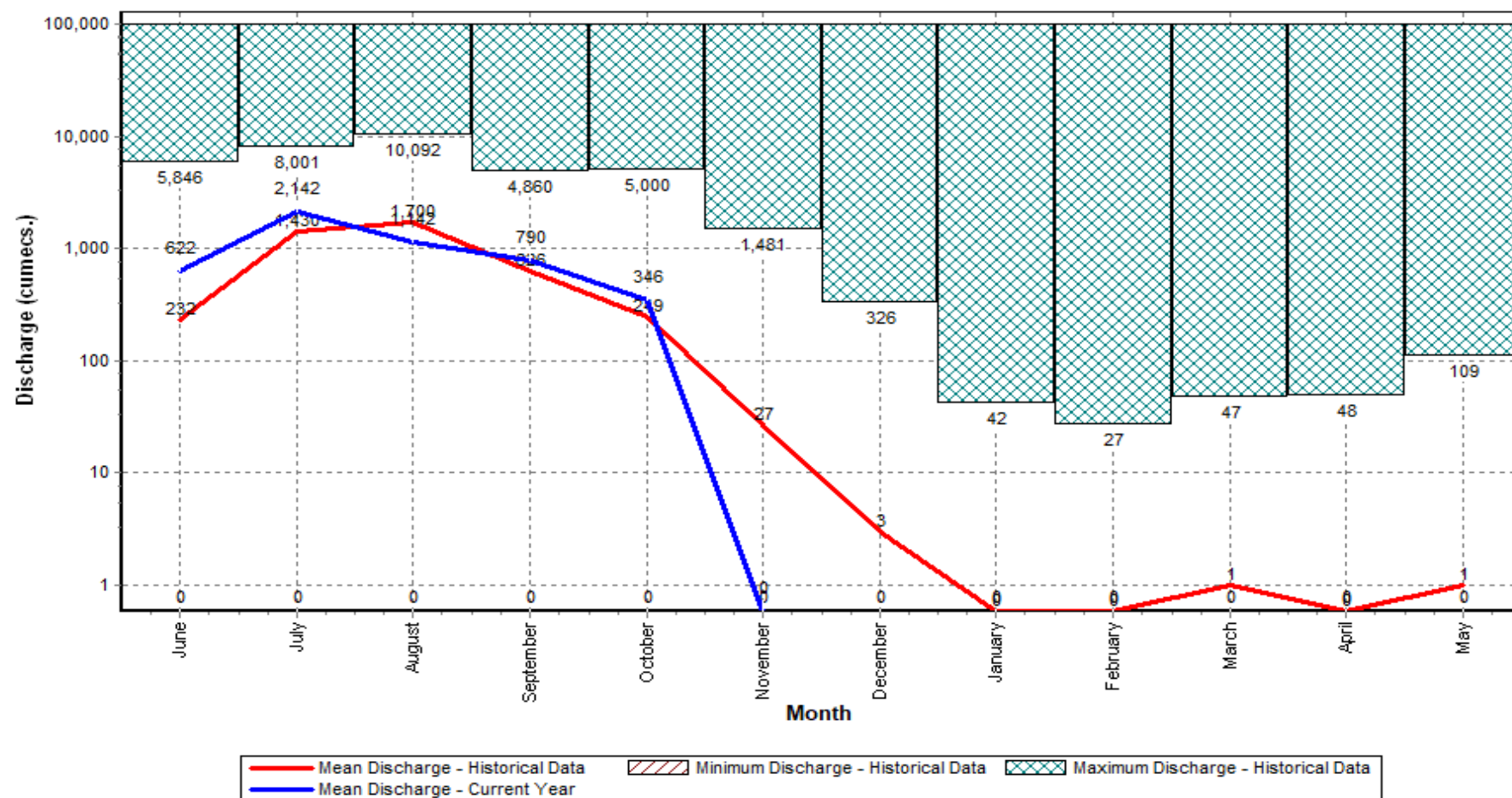
Station Name : Kurundwad (AK000V1)

Data considered : 1972-2022

Division : Upper Krishna Divn, Pune

Local River : Krishna

Sub-Division : Upper Krishna SD, Miraj



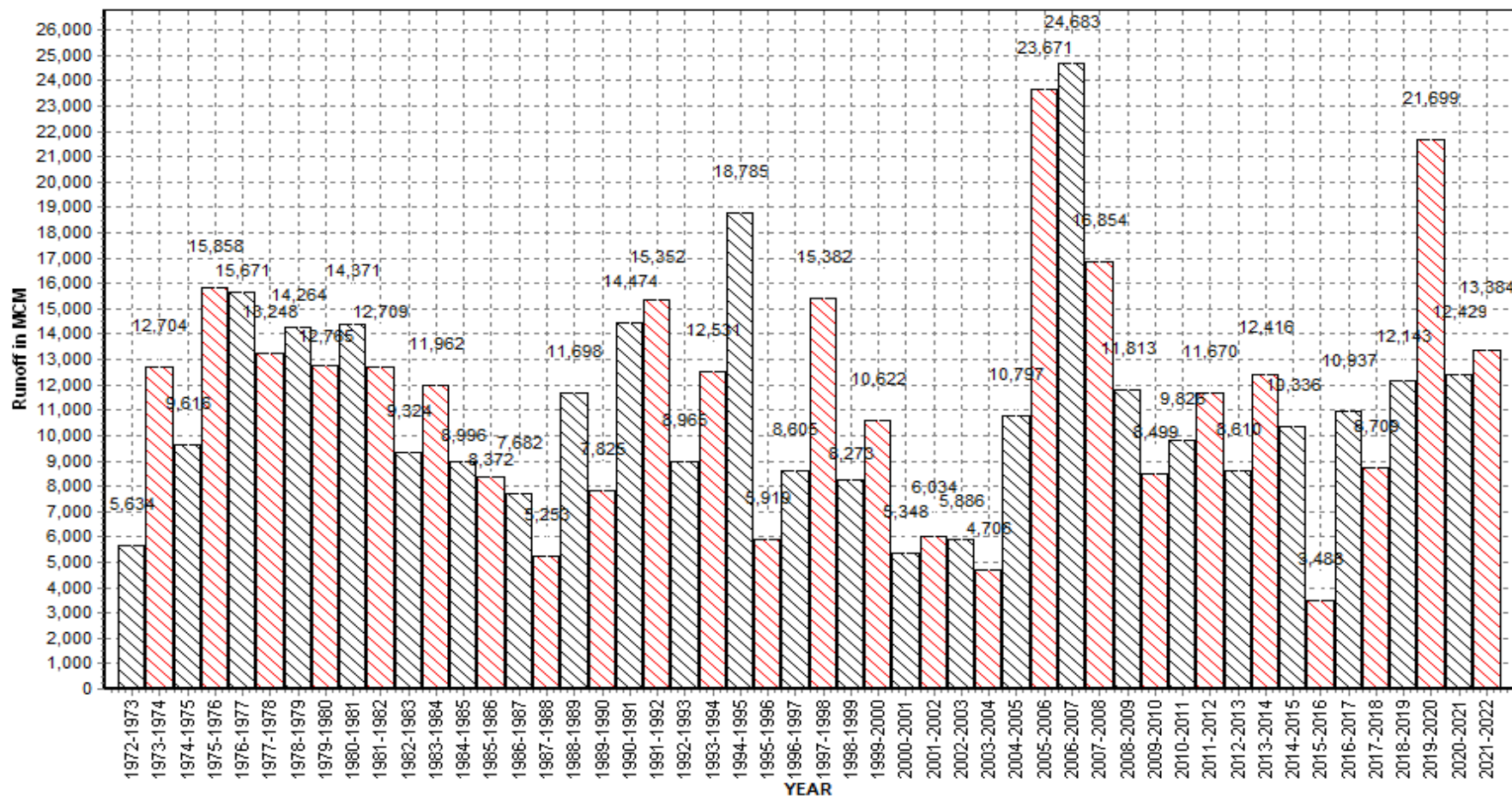
Annual Runoff Values for the period: 1972 - 2022

Station Name : Kurundwad (AK000V1)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



Note: Missing values have not been considered while arriving at Annual Runoff

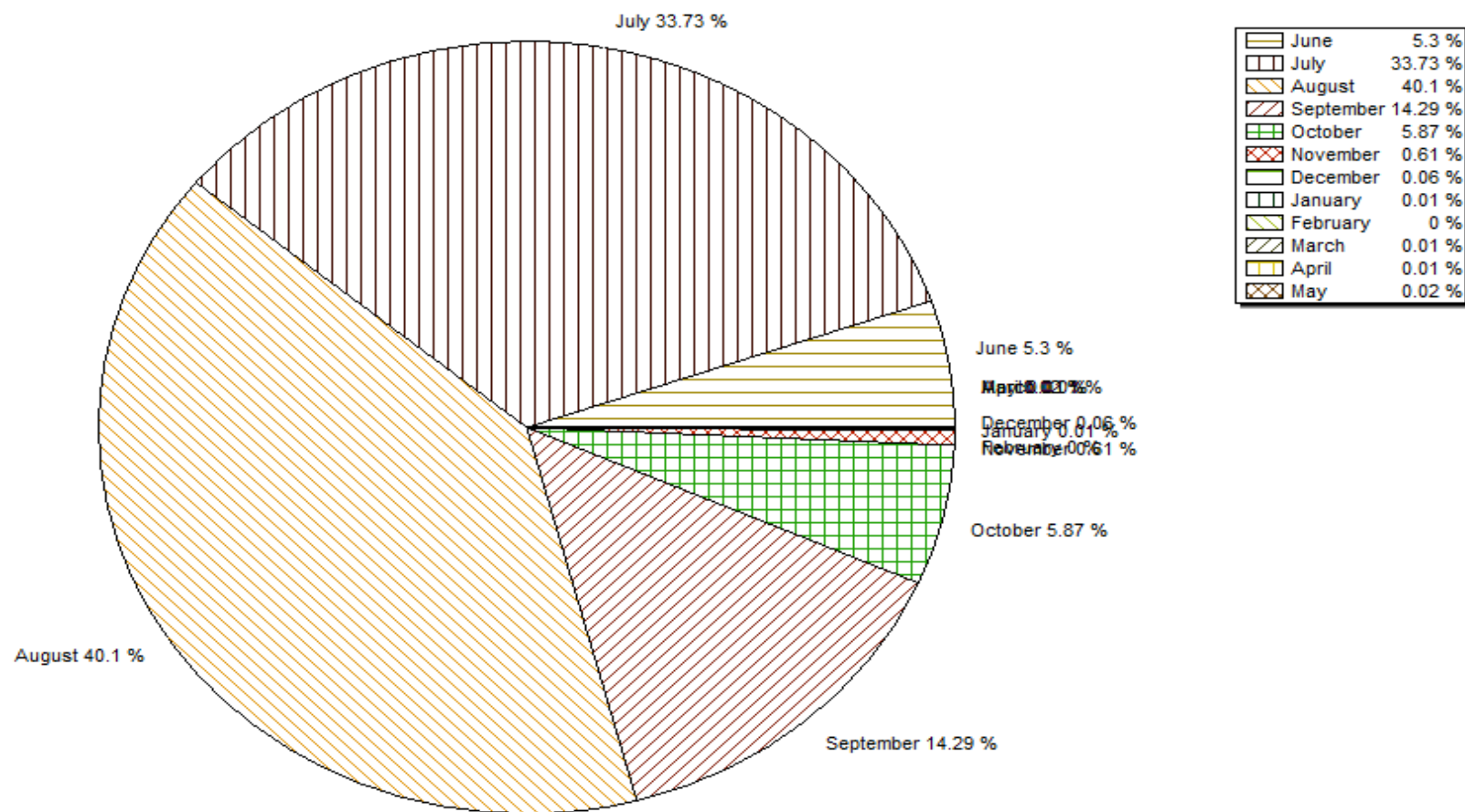
Monthly Average Runoff based on period : 1972-2021

Station Name : Kurundwad (AK000V1)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



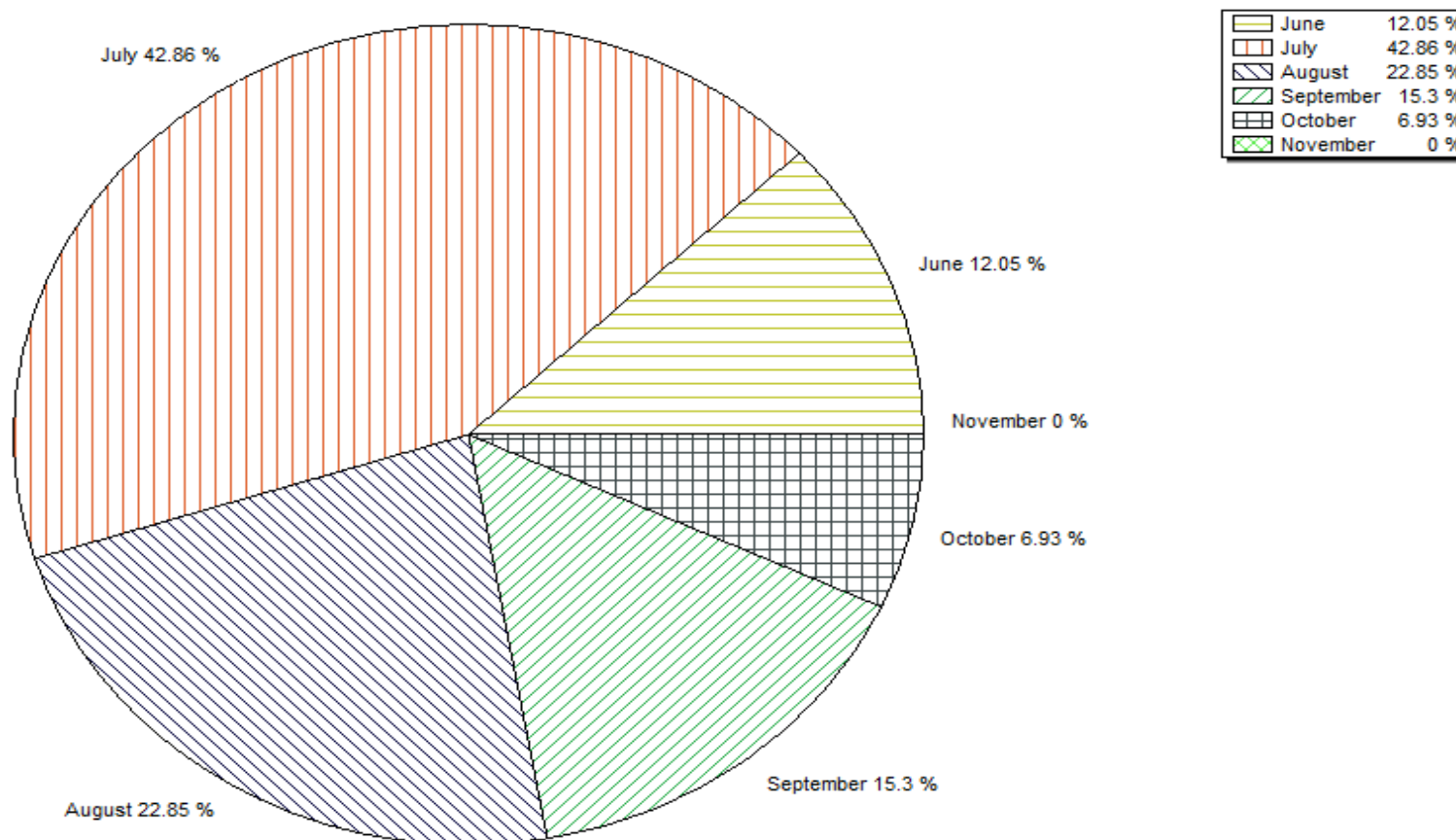
Monthly Runoff for the Year : 2021-2022

Station Name : Kurundwad (AK000V1)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



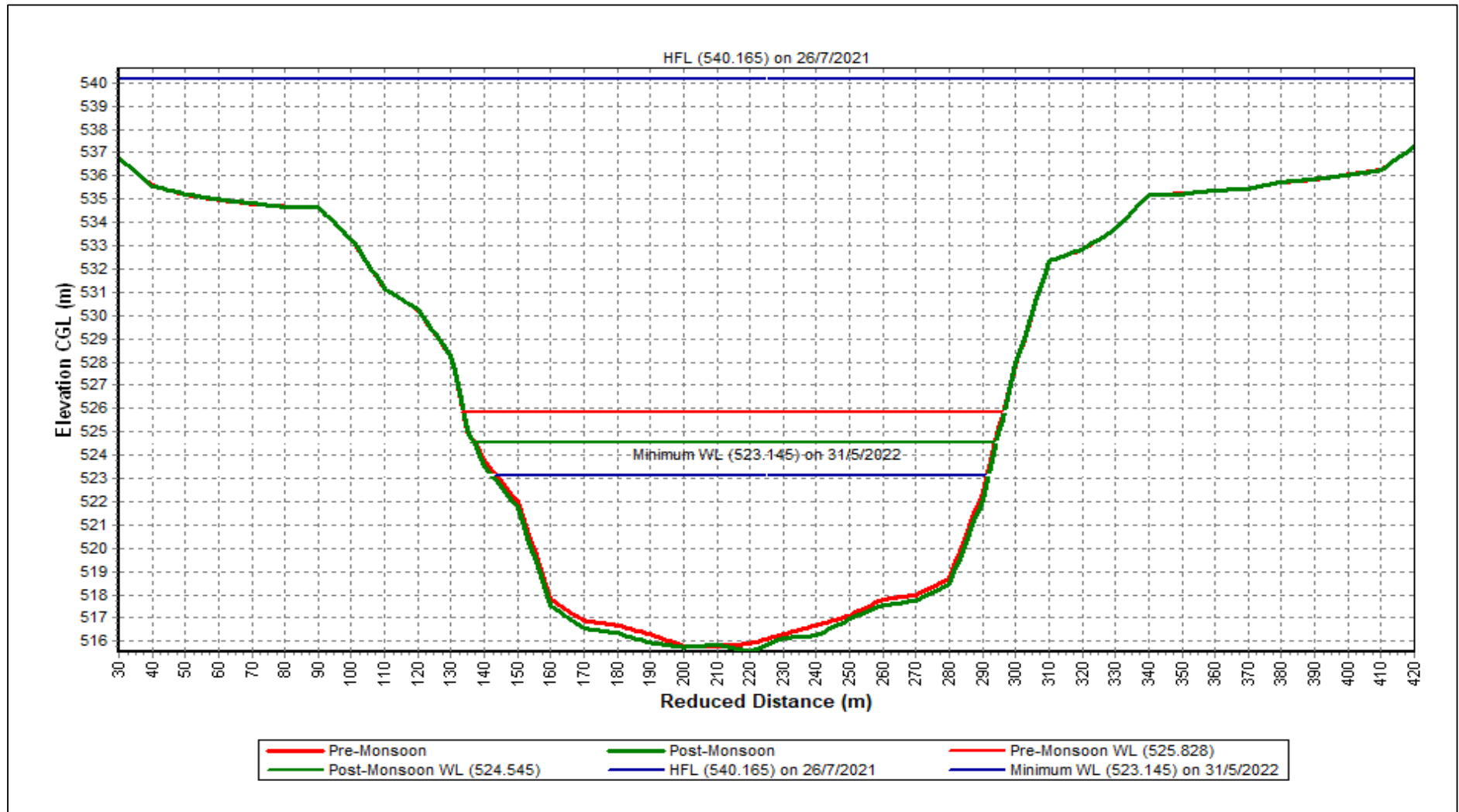
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : Kurundwad (AK000V1)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



Zero of Gauge : 519.455 (m.s.l)

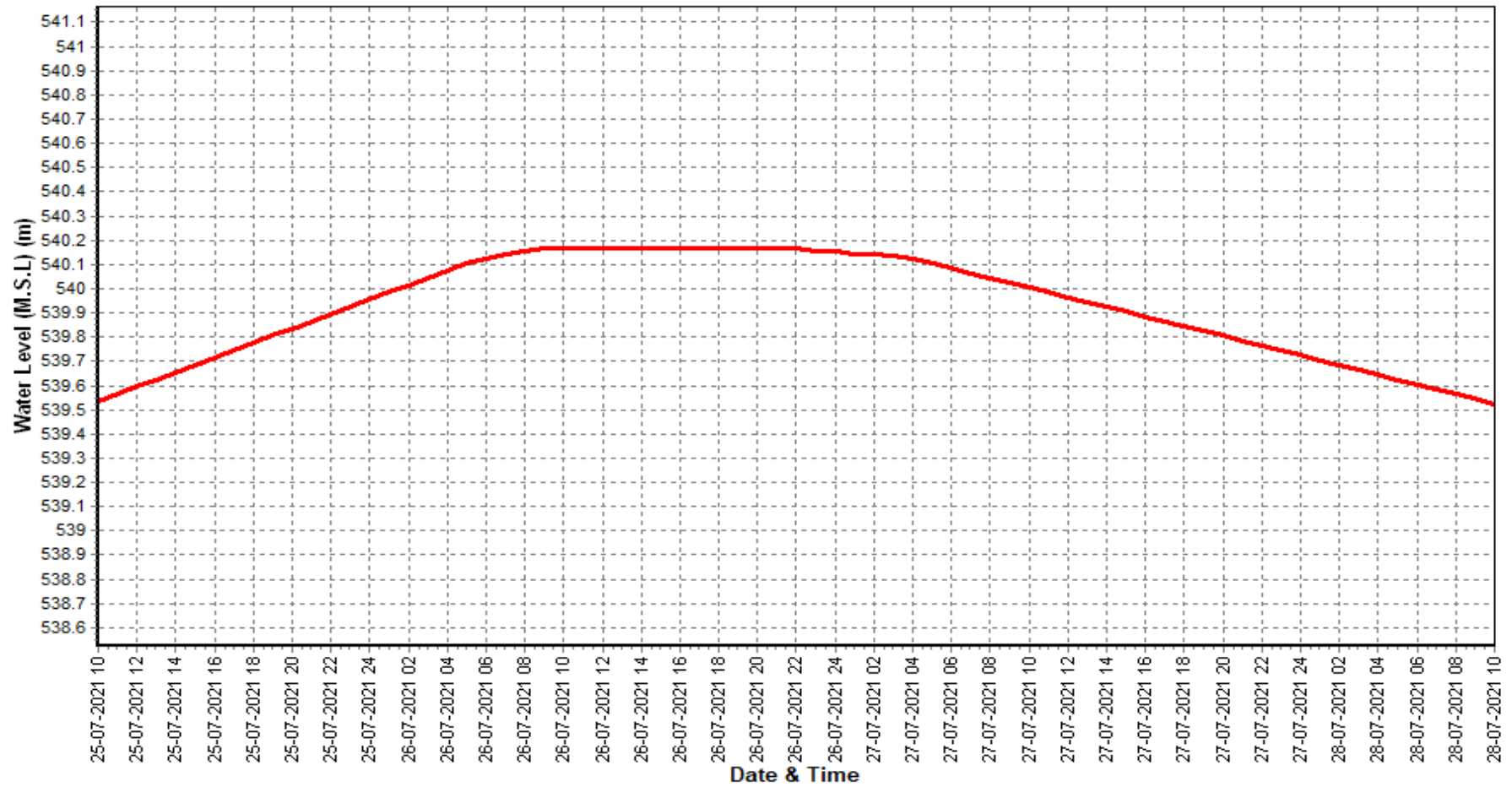
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Kurundwad (AK000V1)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



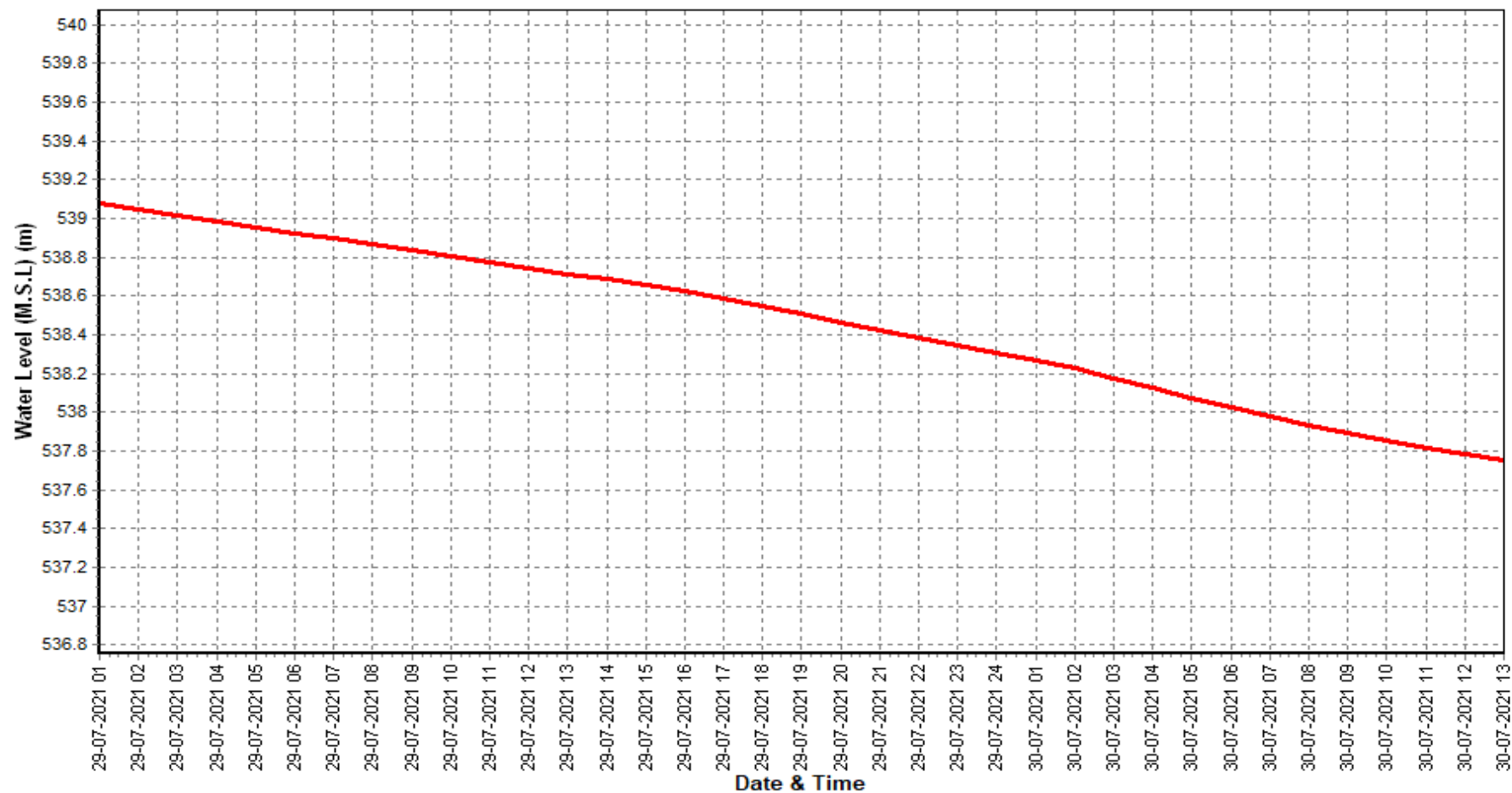
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Kurundwad (AK000V1)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



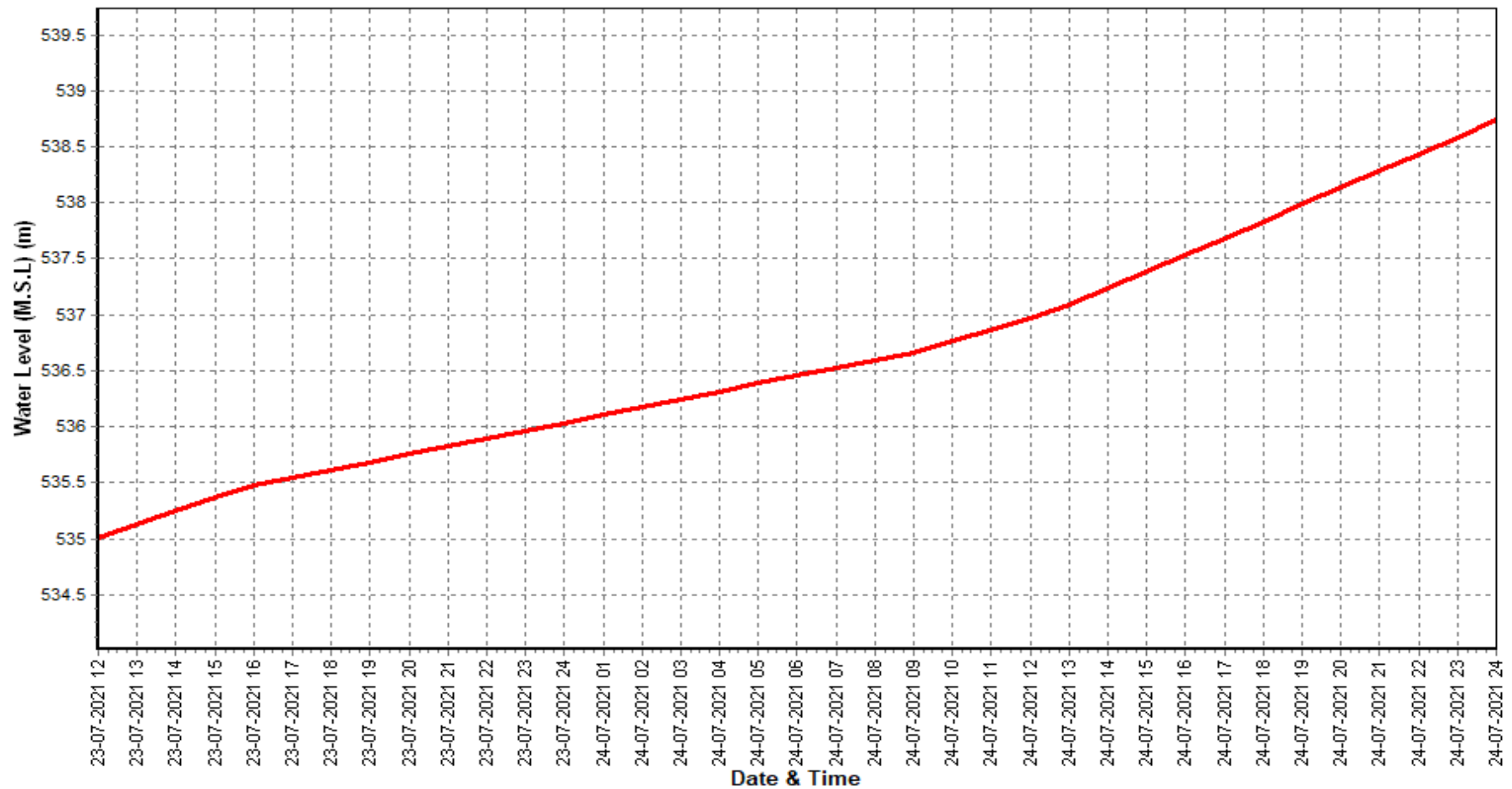
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Kurundwad (AK000V1)

Local River : Krishna

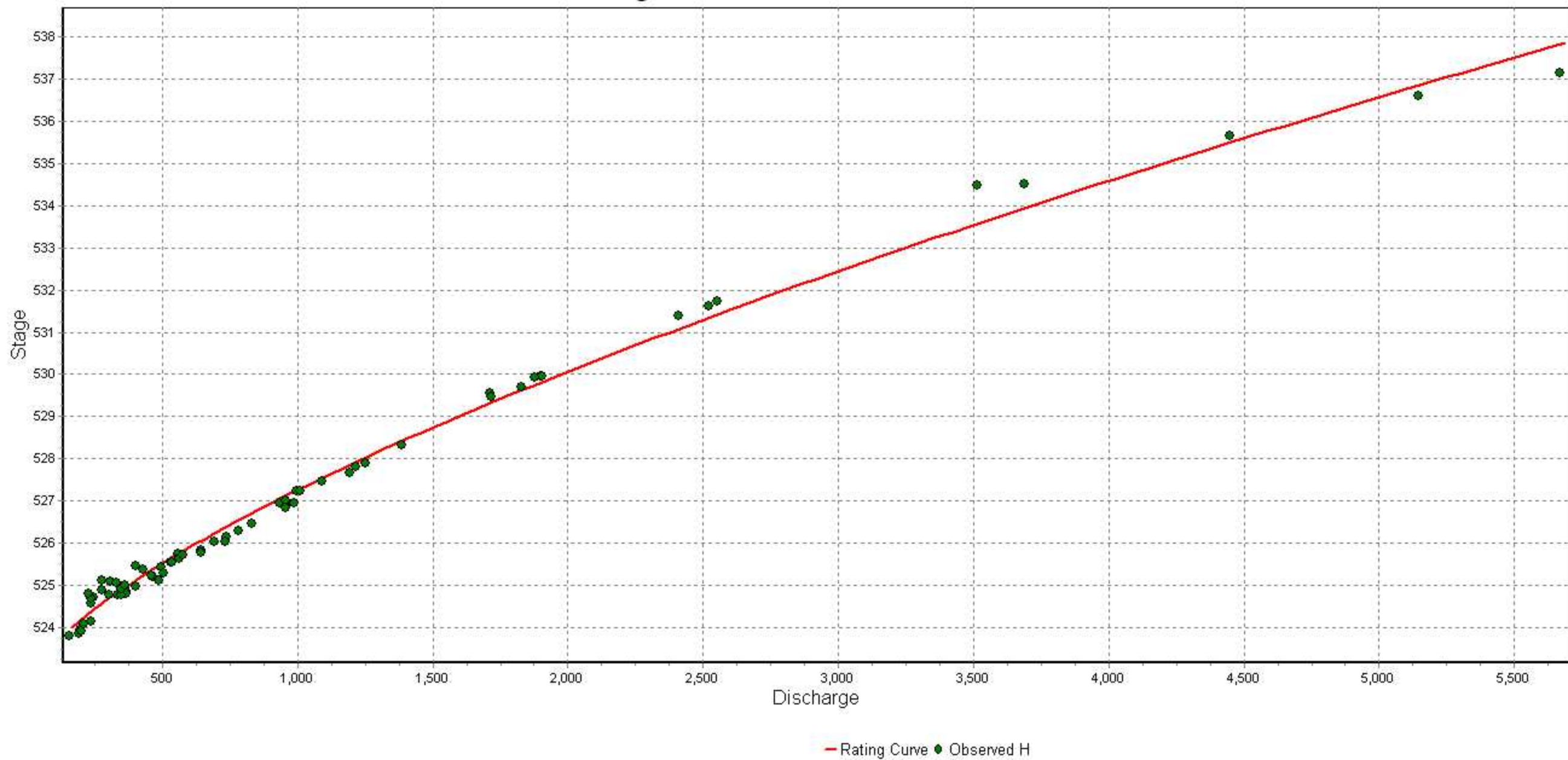
Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



Time Span: 72 Hrs

Rating Curve of Site Kurundwad 2021



HISTORY SHEET

		Water Year	: 2021-2022
Site	: Terwad (Seasonal)	Code	: AKW00A7
State	: Maharashtra	District	Kolhapur
Basin	: Krishna	Independent River	: Krishna
Tributary	: Panchganga	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Panchganga
Division	: Upper Krishna Divn, Pune	Sub-Division	: Upper Krishna SD, Miraj
Drainage Area	: 2425 Sq. Km.	Bank	: Right
Latitude	: 16°40'27"	Longitude	: 74°34'29"
Zero of Gauge (m)	: 520 (m.s.l) 520 (m.s.l)	01-01-1979 01-01-2011	- 31-12-2010
	Opening Date	Closing Date	
Gauge	: 01-03-1979	HFL During 2020-21	: 540.930 m
		Corres. Discharge	: 3567 (Estimated)
Discharge	: 22-08-1979	Date & Time of occurrence	: 26-07-2021 : 09:00 Hrs

HFL Recorded so far in m : 542.110 dt 10-09-2019

Corresponding Discharge (cumecs) : 4798 *

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1980-1981	1918	536.925	07-08-1980	0.000	524.800	25-01-1981
1981-1982	1790	536.500	11-07-1981	0.000	524.800	25-01-1982
1982-1983	1431	535.135	01-08-1982	0.000	523.875	12-01-1983
1983-1984	1845	536.875	18-08-1983	0.000	524.525	25-01-1984
1984-1985	1695	535.995	21-07-1984	0.000	524.725	15-11-1984
1985-1986	1570	535.910	04-08-1985	0.000	524.310	25-01-1986
1986-1987	1750	536.450	13-08-1986	0.000	523.410	25-01-1987
1987-1988	1392	534.725	10-07-1987	0.000	522.510	26-01-1988
1988-1989	2080	537.370	22-07-1988	0.000	523.725	04-02-1989
1989-1990	2505	538.545	27-07-1989	0.000	522.145	25-01-1990
1990-1991	2250	537.760	20-08-1990	0.000	525.680	25-01-1991
1991-1992	2553	538.230	31-07-1991	0.000	525.810	26-01-1992
1992-1993	1306	535.136	16-08-1992	0.000	523.810	25-01-1993
1993-1994	1447	535.748	14-07-1993	0.000	525.120	25-01-1994
1994-1995	2680	538.600	17-07-1994	0.000	526.020	25-01-1995
1995-1996	1270	534.740	22-07-1995	0.000	523.310	26-01-1996
1996-1997	1750	536.180	30-07-1996	0.000	523.440	25-01-1997
1997-1998	2593	538.395	10-08-1997	0.000	524.880	25-01-1998
1998-1999	1051	534.330	11-07-1998	0.000	524.340	25-01-1999
1999-2000	1840	536.700	24-07-1999	0.000	524.290	26-01-2000

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2000-2001	1190	534.780	16-07-2000	0.000	524.100	25-01-2001
2001-2002	1150	534.360	11-07-2001	0.000	524.600	25-01-2002
2002-2003	1443	534.850	14-08-2002	0.000	524.400	25-01-2003
2003-2004	825	532.640	23-06-2003	0.000	524.600	26-01-2004
2004-2005	1832	536.500	08-08-2004	0.000	524.600	25-01-2005
2005-2006	3540	540.390	06-08-2005	0.000	524.080	25-01-2006
2006-2007	2797	539.215	13-08-2006	0.000	525.220	30-10-2006
2007-2008	2021	537.470	03-07-2007	0.000	525.050	12-11-2007
2008-2009	1952	537.390	15-08-2008	0.000	524.550	31-10-2008
2009-2010	1345	535.100	19-07-2009	0.000	526.420	22-11-2009
2010-2011	1464	535.860	30-07-2010	0.000	525.440	01-06-2010
2011-2012	2021	537.060	06-09-2011	0.000	524.420	20-11-2011
2012-2013	1011	533.420	02-08-2012	0.000	524.350	20-11-2012
2013-2014	1854	536.920	29-07-2013	0.000	525.060	03-11-2013
2014-2015	1534	535.020	25-07-2014	0.000	524.500	13-11-2014
2015-2016	1086	533.560	26-06-2015	0.000	525.880	10-06-2015
2016-2017	2067	536.950	15-07-2016	0.000	525.530	23-11-2016
2017-2018	1210	534.615	22-07-2017	0.000	525.210	24-06-2017
2018-2019	1772	536.430	20-07-2018	0.000	526.380	23-10-2018
2019-2020	4688	542.100	10-08-2019	0.000	526.180	23-11-2019
2020-2021	2900	536.930	01-08-2020	0.000	526.560	20-11-2020

Annual Runoff of Panchganga at Terwad

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1979-1980	529	0	529	19	0	19
2	1980-1981	5290	0	5290	187	0	187
3	1981-1982	4517	0	4517	160	0	160
4	1982-1983	3762	13	3774	133	0	133
5	1983-1984	4812	4	4817	170	0	170
6	1984-1985	4100	7	4108	145	0	145
7	1985-1986	3679	0	3679	130	0	130
8	1986-1987	3412	0	3412	121	0	121
9	1987-1988	2818	0	2818	100	0	100
10	1988-1989	5135	0	5135	181	0	181
11	1989-1990	3971	0	3971	140	0	140
12	1990-1991	5413	0	5413	191	0	191
13	1991-1992	5771	0	5771	204	0	204
14	1992-1993	3207	0	3207	113	0	113
15	1993-1994	4146	0	4146	147	0	147
16	1994-1995	7200	0	7200	254	0	254
17	1995-1996	2263	0	2263	80	0	80
18	1996-1997	3144	0	3144	111	0	111
19	1997-1998	5883	0	5883	208	0	208
20	1998-1999	2916	0	2916	103	0	103
21	1999-2000	3588	0	3588	127	0	127
22	2000-2001	2666	0	2666	94	0	94
23	2001-2002	3179	0	3179	112	0	112
24	2002-2003	3155	0	3155	111	0	111
25	2003-2004	2535	0	2535	90	0	90
26	2004-2005	4302	0	4302	152	0	152
27	2005-2006	8176	0	8176	289	0	289
28	2006-2007	8038	Site downgraded as Seasonal Site from 2006-07	8038	Site downgraded as Seasonal Site from 2006-07		284
29	2007-2008	5496		5496			194
30	2008-2009	4067		4067			144
31	2009-2010	3163		3163			112
32	2010-2011	3435		3435			121
33	2011-2012	4797		4797			170
34	2012-2013	3931		3931			139
35	2013-2014	5079		5079			179
36	2014-2015	4264		4264			151
37	2015-2016	1748		1748			62
38	2016-2017	4984		4984			176
39	2017-2018	4113		4113			145
40	2018-2019	5703		5703			202
41	2019-2020	9286		9286			328
42	2020-2021	5068		5068			179
43	2021-2022	5764		5764			204
Average		4384	1	4384	155	0	155

Instantaneous Flood Peak of Krishna at Terwad

Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	1979-1980	537.550	27-09-1979	11:00:00	3137 *
2	1980-1981	537.340	07-08-1980	08:00:00	3054 *
3	1981-1982	536.500	11-07-1981	06:00:00	2746 *
4	1982-1983	535.185	01-08-1982	20:00:00	2337 *
5	1983-1984	536.925	18-08-1983	15:00:00	2897 *
6	1984-1985	535.995	21-07-1984	08:00:00	2578 *
7	1985-1986	535.920	04-08-1985	09:00:00	2555 *
8	1986-1987	536.450	13-08-1986	15:00:00	2729 *
9	1987-1988	534.780	10-07-1987	09:00:00	2230 *
10	1988-1989	537.410	22-07-1988	18:00:00	3082 *
11	1989-1990	538.615	27-07-1989	05:00:00	3592 *
12	1990-1991	537.920	20-08-1990	17:00:00	3288 *
13	1991-1992	538.230	31-07-1991	17:00:00	3421 *
14	1992-1993	535.180	16-08-1992	09:00:00	2336 *
15	1993-1994	535.840	14-07-1993	08:00:00	2530
16	1994-1995	538.740	18-07-1994	18:00:00	3650 *
17	1995-1996	534.800	22-07-1995	16:00:00	2235 *
18	1996-1997	536.280	30-07-1996	16:00:00	2671 *
19	1997-1998	538.400	10-08-1997	09:00:00	3496 *
20	1998-1999	534.680	11-07-1998	16:00:00	2204 *
21	1999-2000	536.720	24-07-1999	16:00:00	2823 *
22	2000-2001	534.830	16-07-2000	16:00:00	2242 *
23	2001-2002	534.400	11-07-2001	15:00:00	2136 *
24	2002-2003	534.900	15-08-2002	16:00:00	2261 *
25	2003-2004	533.620	23-06-2003	08:00:00	1968
26	2004-2005	536.500	08-08-2004	14:00:00	2746 *
27	2005-2006	540.390	06-08-2005	23:00:00	4282 *
28	2006-2007	539.225	13-08-2006	10:00:00	3779 *
29	2007-2008	537.515	03-07-2007	14:00:00	3123 *
30	2008-2009	537.400	15-08-2008	15:00:00	3078 *
31	2009-2010	535.130	19-07-2009	18:00:00	2322 *
32	2010-2011	535.860	30-07-2010	23:00:00	2536 *
33	2011-2012	537.090	06-09-2011	10:00:00	2959 *
34	2012-2013	533.660	02-08-2012	21:00:00	1976 *
35	2013-2014	536.920	29-07-2013	18:00:00	2896 *
36	2014-2015	535.240	25-07-2014	17:00:00	2353 *
37	2015-2016	533.560	26-06-2015	06:00:00	1957 *
38	2016-2017	536.950	15-07-2016	20:00:00	2907 *
39	2017-2018	534.850	22-07-2017	08:00:00	2248 *
40	2018-2019	536.480	21-07-2018	18:00:00	2739 *
41	2019-2020	542.110	10-08-2019	01:00:00	4798 *
42	2020-2021	536.930	20-08-2020	07:00:00	2009
43	2021-2022	540.930	26-07-2021	09:00:00	3567 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : Terwad (Seasonal) (AKW00A7)

Division : Upper Krishna Divn, Pune

Local River : Panchganga

Sub-Division : Upper Krishna SD 2, Miraj

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	525.440	0.000	527.700	161.7 *	537.250	2178 *	526.250	68.09	528.050	193.3	524.800	0.000
2	525.340	0.000	527.360	135.3 *	536.640	1967 *	526.130	62.96	527.590	152.9 *	525.160	0.000
3	525.220	0.000	527.120	118.0 *	535.800	1678	526.260	69.80	527.290	130.1 *	525.210	0.000
4	525.200	0.000	527.010	110.5 *	533.170	897.6	526.930	109.6	527.045	105.7	525.250	0.000
5	526.090	0.000	526.910	103.8 *	532.450	719.8	526.750	93.57 *	526.730	90.88	525.220	0.000
6	526.490	0.000	526.660	95.37	533.280	923.6	527.160	130.4	526.660	87.18	525.210	0.000
7	526.300	0.000	526.420	81.57	532.930	847.4	527.730	161.1	526.230	68.81	525.090	0.000
8	525.960	0.000	526.090	53.29	532.040	684.5 *	528.335	221.7	526.870	111.2	524.970	0.000
9	526.050	0.000	525.770	36.70	530.530	455.2	531.250	520.7	527.470	157.6	524.840	0.000
10	526.290	0.000	525.865	48.88	529.440	321.0	531.720	634.5 *	527.000	109.8 *	524.830	0.000
11	526.300	0.000	526.320	68.53 *	528.520	238.0	531.360	550.4	526.710	91.26	524.830	0.000
12	526.140	0.000	526.495	72.29	528.240	210.3	530.960	522.9 *	526.610	79.59	524.810	0.000
13	526.100	0.000	526.725	85.26	527.960	206.8	532.130	673.8	527.110	118.9	524.740	0.000
14	526.490	0.000	531.710	600.6	528.550	245.9	532.900	825.3	526.620	81.46	524.710	0.000
15	527.110	0.000	531.735	617.5	528.580	240.0 *	533.430	950.9	526.620	85.62 *	524.680	0.000
16	527.350	134.6 *	532.180	678.6	529.070	281.6	533.560	976.5	526.485	72.16	524.730	0.000
17	528.060	192.0 *	532.140	648.6	528.820	265.1	531.880	652.0	526.000	52.28 *	524.760	0.000
18	533.250	907.5 *	531.500	601.1 *	528.470	231.0	529.190	316.8	525.690	40.35	524.800	0.000
19	534.110	1155 *	531.340	536.2	528.180	202.6 *	528.010	187.6 *	525.500	31.07 *	524.820	0.000
20	534.310	1215 *	531.940	637.0	528.080	196.8	527.360	145.9	525.250	23.60	525.040	0.000
21	533.990	1120 *	532.310	728.1 *	528.210	206.0	527.185	119.0	525.350	25.46	525.130	0.000
22	532.910	829.4 *	533.370	937.6	528.220	206.2 *	527.020	109.3	525.310	24.60	525.180	0.000
23	531.680	628.4 *	535.060	1461	527.750	156.9	527.420	142.6	525.245	21.82	525.160	0.000
24	529.550	343.0 *	537.950	2428 *	527.690	150.3	527.990	182.1	525.140	19.04 *	525.190	0.000
25	528.500	232.3 *	540.220	3285 *	527.430	135.3	528.130	217.7	525.130	17.42	525.240	0.000
26	528.830	264.9 *	540.920	3563 *	526.870	107.7	527.730	164.1 *	525.120	16.88	525.260	0.000
27	528.830	264.9 *	540.830	3527 *	526.570	87.31	527.660	169.0	525.090	15.36	525.270	0.000
28	528.750	256.8 *	540.240	3293 *	526.520	79.68	527.090	120.1	525.070	0.000	525.270	0.000
29	528.580	240.0 *	539.740	3098 *	526.670	88.64 *	527.100	121.2	524.650	0.000	525.310	0.000
30	528.180	202.6 *	538.820	2748 *	526.580	82.93	527.140	123.2	524.560	0.000	525.300	0.000
31			537.970	2436 *	526.400	70.09			524.530	0.000		
Ten-Daily Mean												
I Ten-Daily	525.838	0.000	526.690	94.51	533.353	1067	527.851	207.2	527.093	120.7	525.058	0.000
II Ten-Daily	528.922	360.5	530.208	454.6	528.447	231.8	531.078	580.2	526.259	67.63	524.792	0.000
III Ten-Daily	529.980	438.2	537.948	2500	527.174	124.6	527.447	146.8	525.018	12.78	525.231	0.000
Monthly												
Min.	525.200	0.000	525.770	36.70	526.400	70.09	526.130	62.96	524.530	0.000	524.680	0.000
Max.	534.310	1215	540.920	3563	537.250	2178	533.560	976.5	528.050	193.3	525.310	0.000
Mean	528.247	266.2	531.820	1064	529.578	463.3	528.792	311.4	526.088	65.3	525.027	0

Annual Runoff in MCM = 5764 Annual Runoff in mm = 2377

Peak Observed Discharge = 1678 cumecs on 03-08-2021 Corres. Water Level :535.8 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021 Corres. Water Level :525.44 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

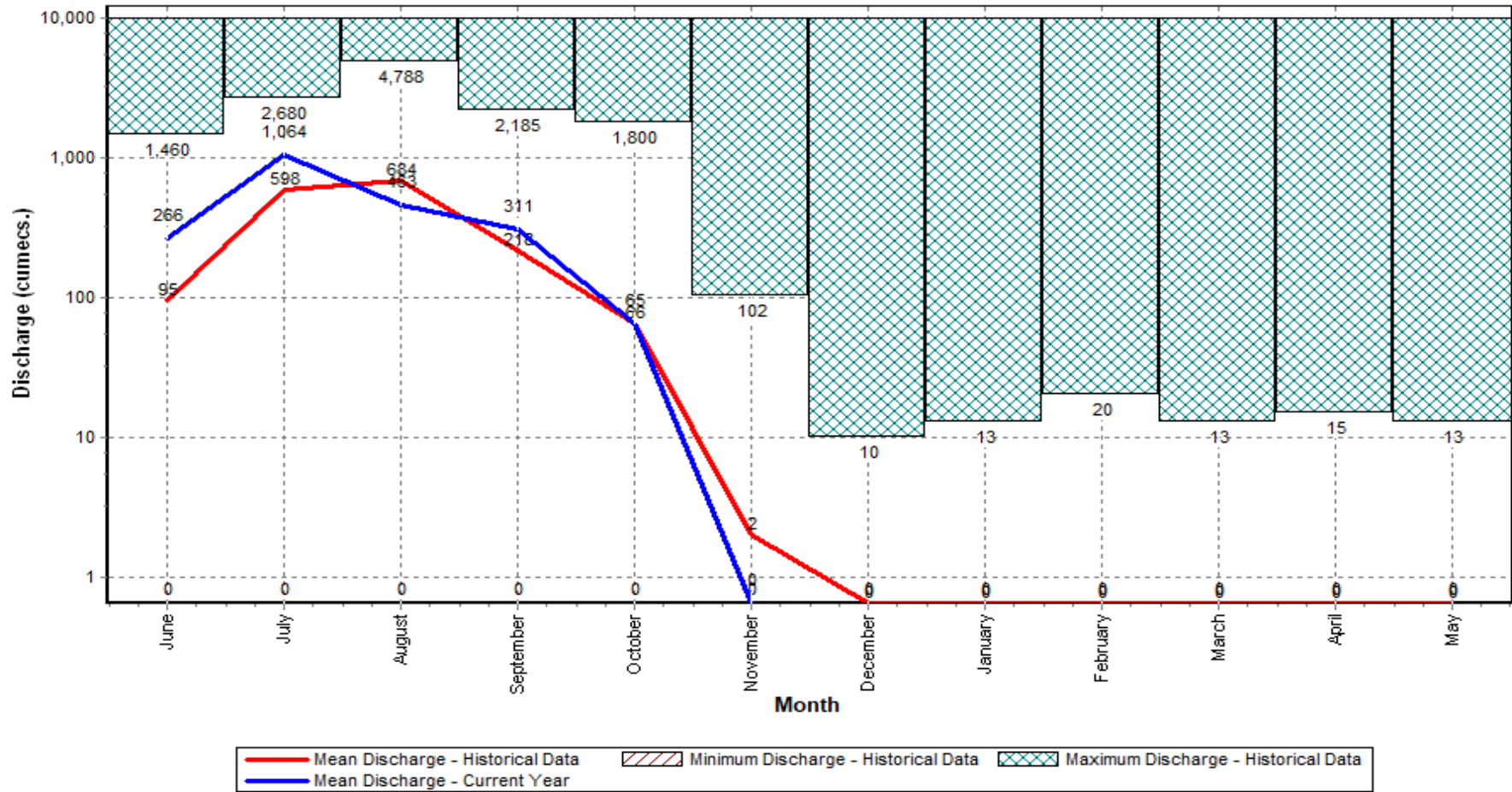
Station Name : Terwad (Seasonal) (AKW00A7)

Data considered : 1980-2022

Division : Upper Krishna Divn, Pune

Local River : Panchganga

Sub-Division : Upper Krishna SD 2, Miraj



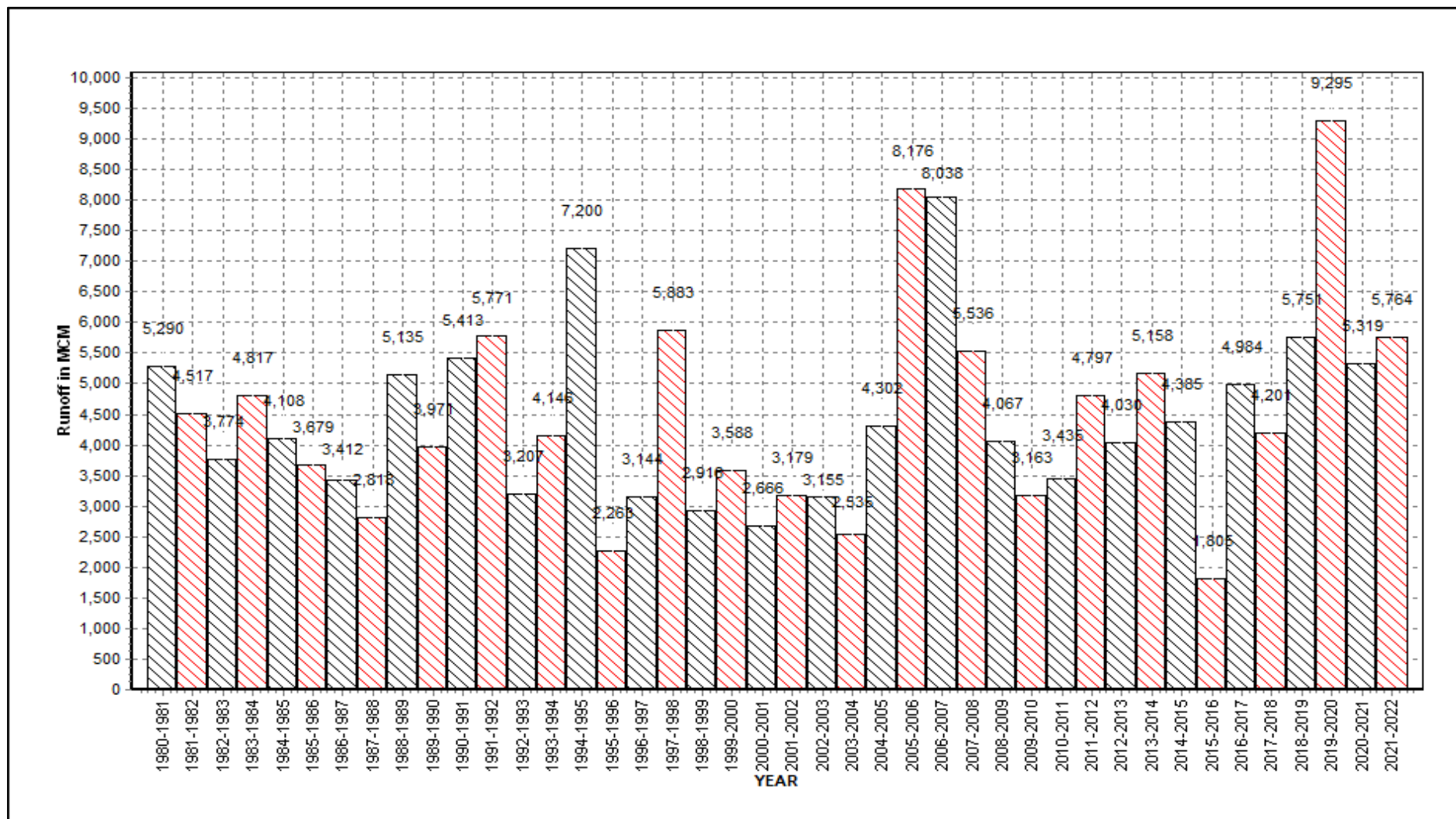
Annual Runoff Values for the period: 1980 - 2022

Station Name : Terwad (Seasonal) (AKW00A7)

Local River : Panchganga

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



Note: Missing values have not been considered while arriving at Annual Runoff

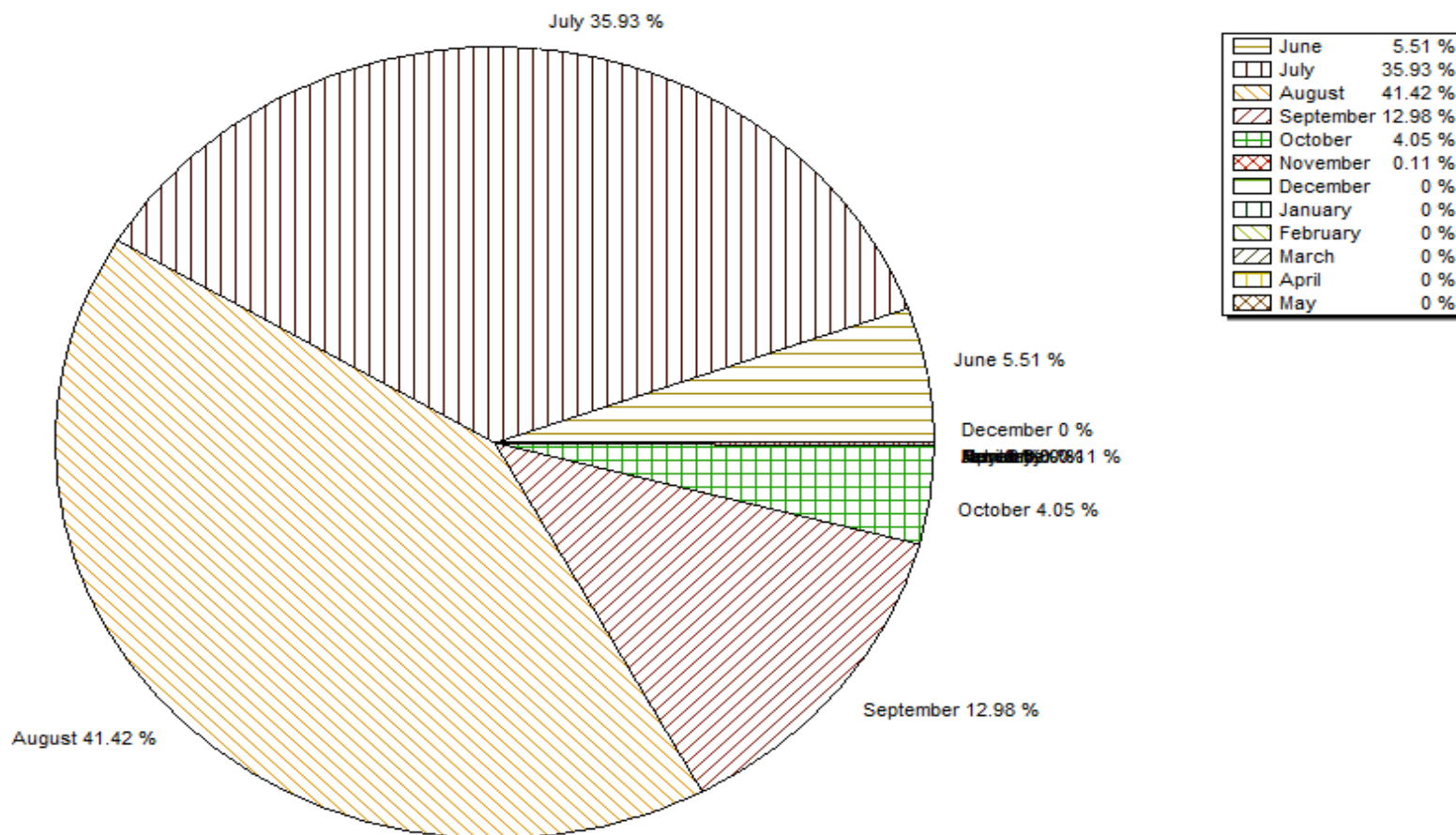
Monthly Average Runoff based on period : 1980-2021

Station Name : Terwad (Seasonal) (AKW00A7)

Local River : Panchganga

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



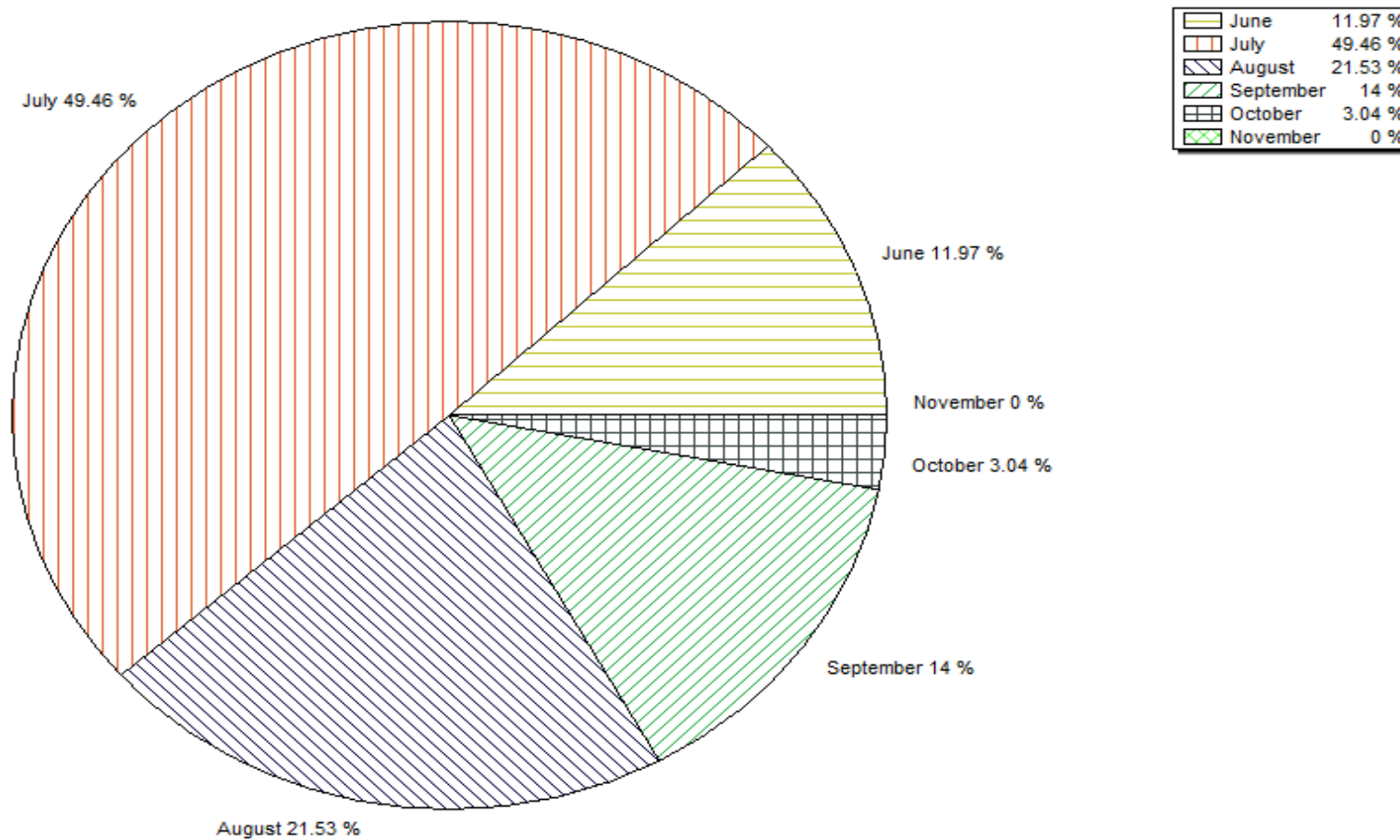
Monthly Runoff for the Year : 2021-2022

Station Name : Terwad (Seasonal) (AKW00A7)

Local River : Panchganga

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



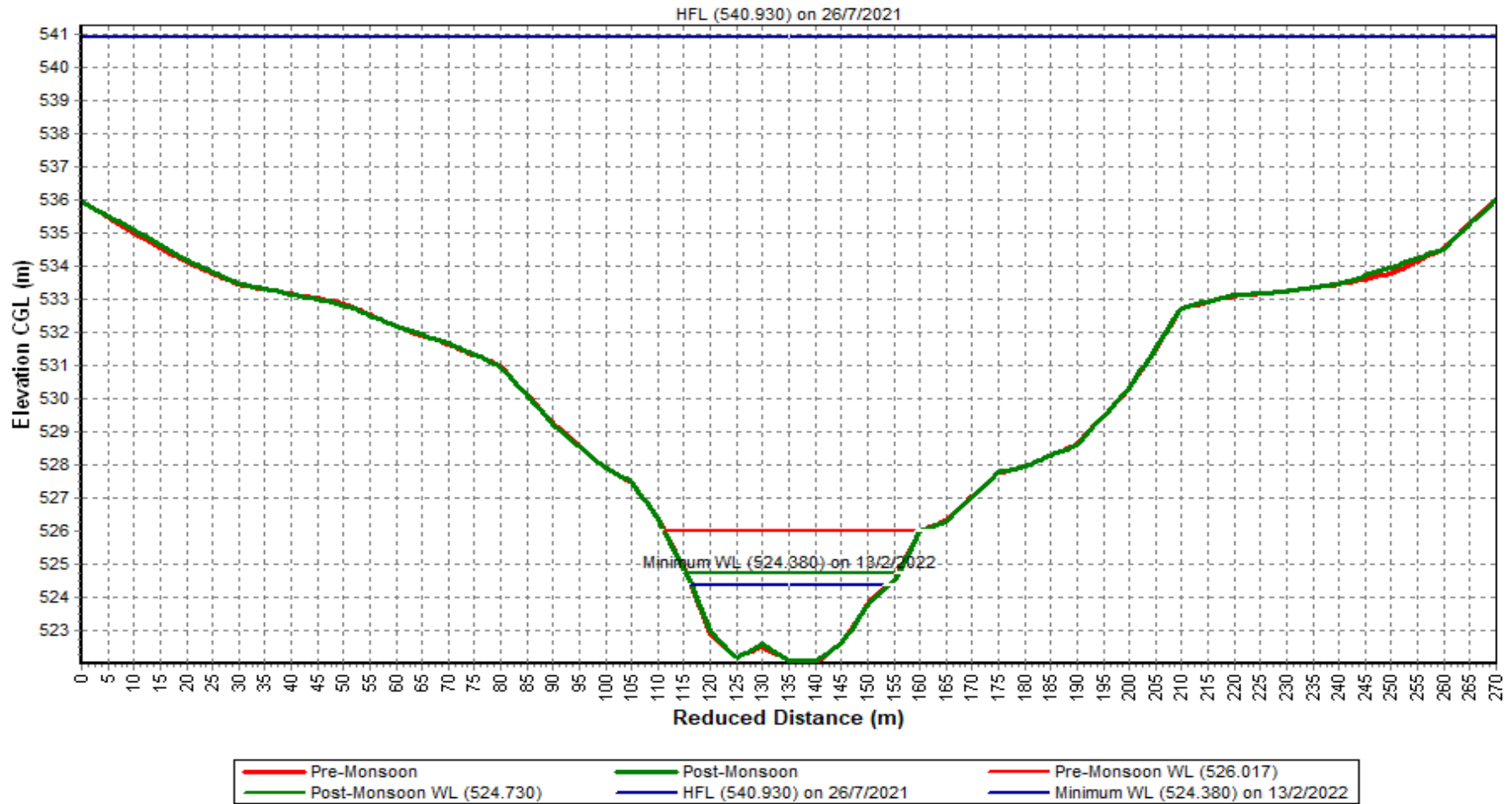
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : Terwad (Seasonal) (AKW00A7)

Local River : Panchganga

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



Zero of Gauge : 520 (m.s.l)

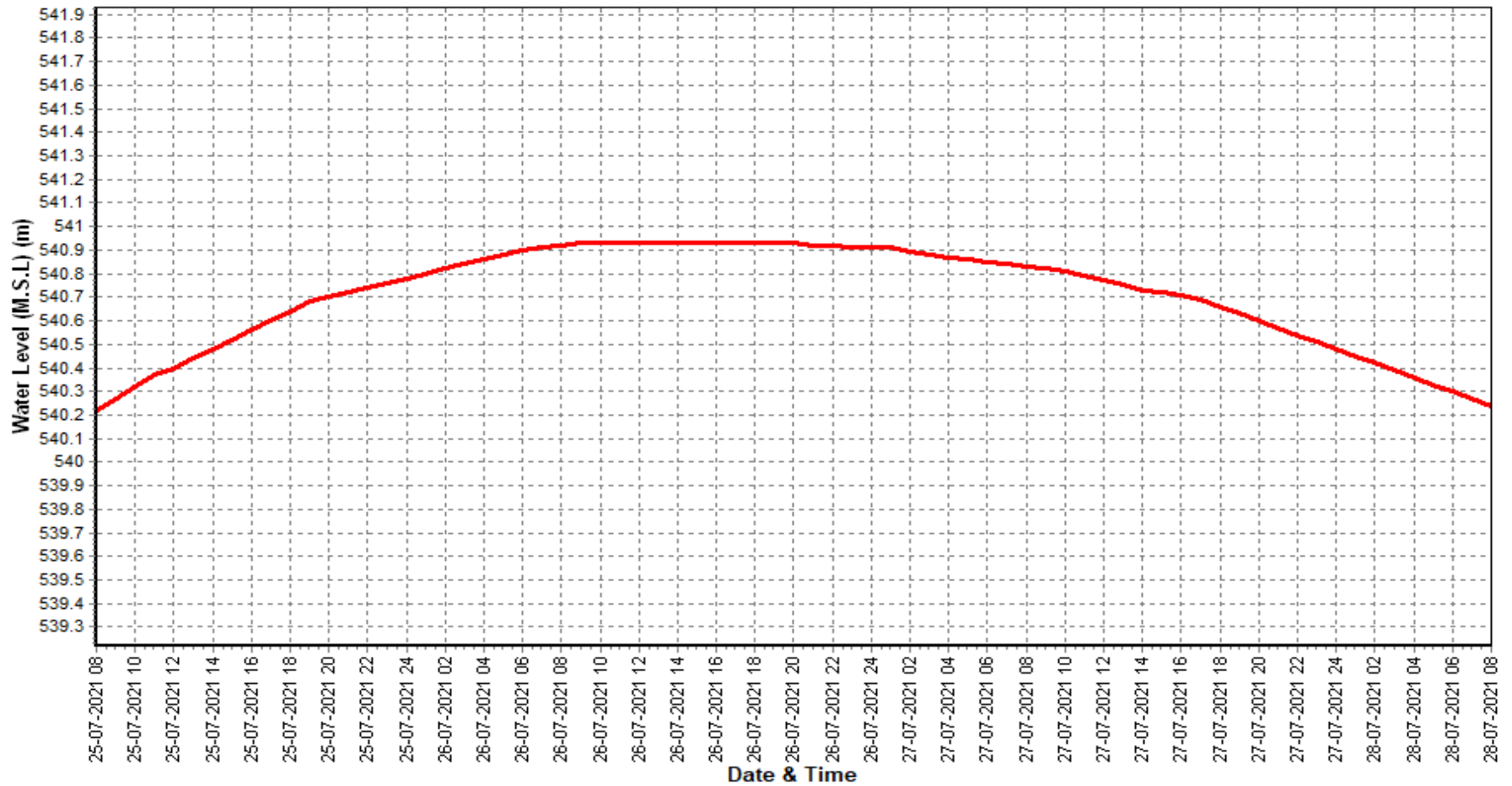
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Terwad (Seasonal) (AKW00A7)

Local River : Panchganga

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



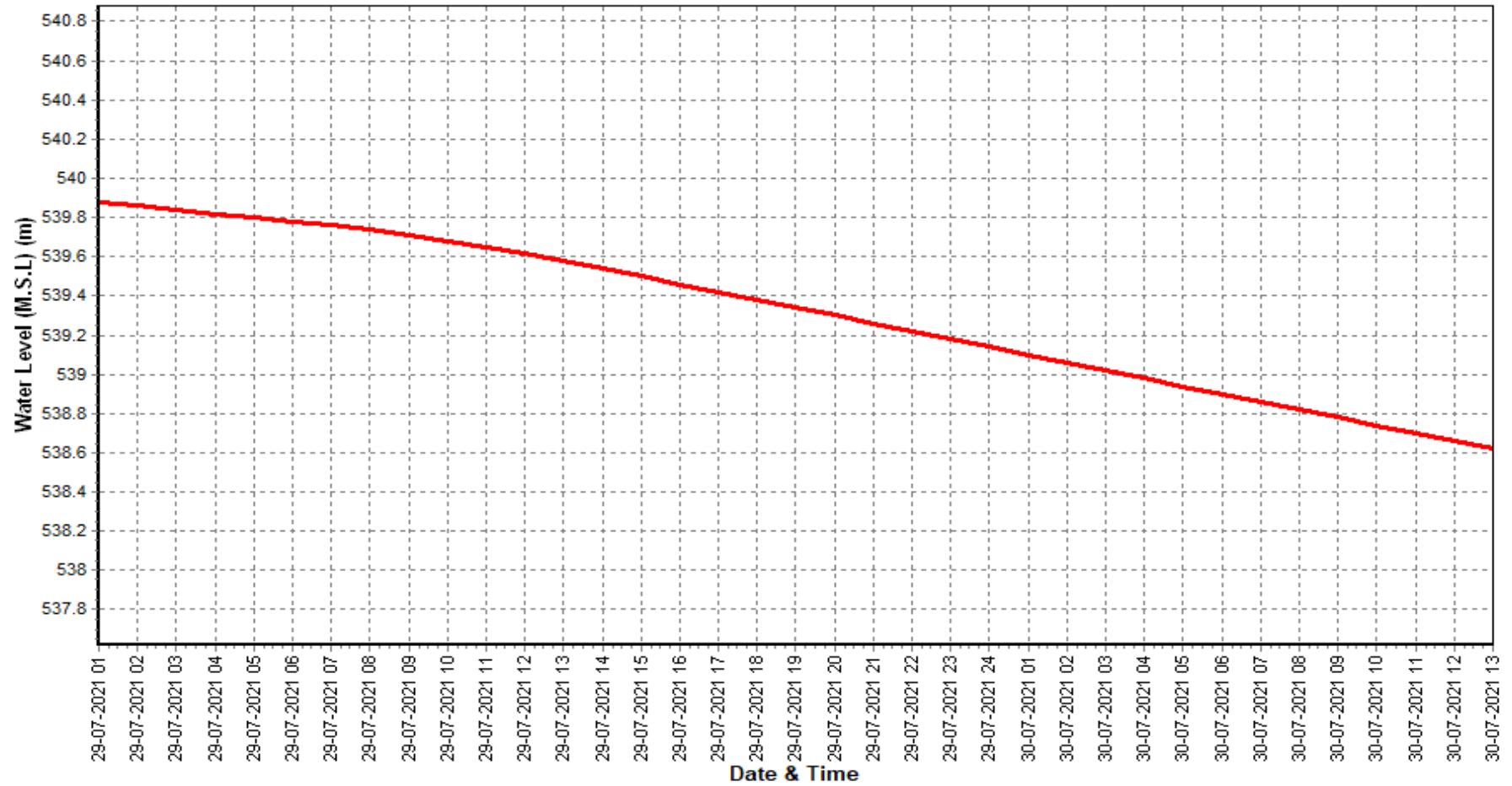
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Terwad (Seasonal) (AKW00A7)

Local River : Panchganga

Division : Upper Krishna Divn, Pune

Sub-Division : UKSD, Miraj



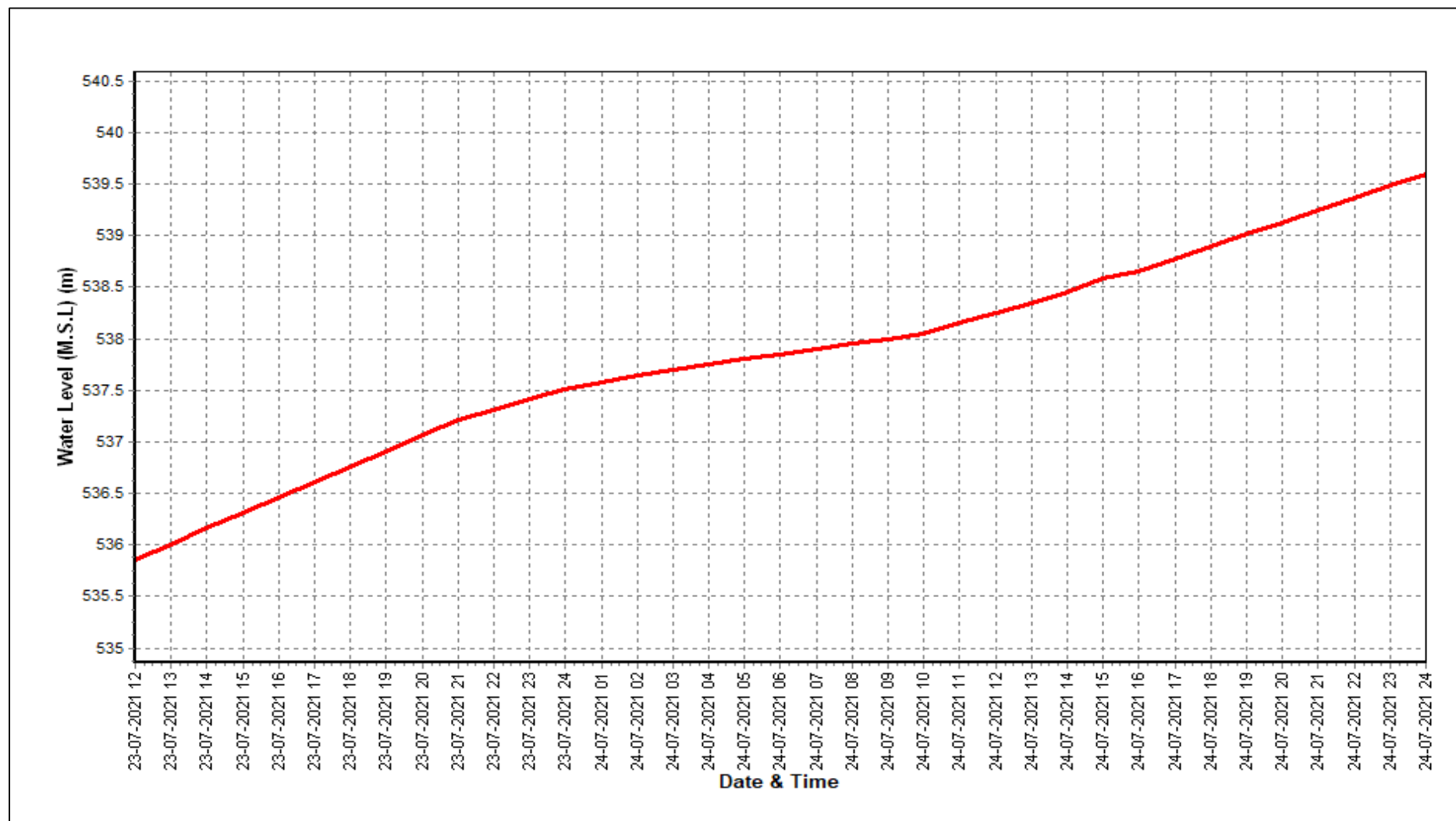
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Terwad (Seasonal) (AKW00A7)

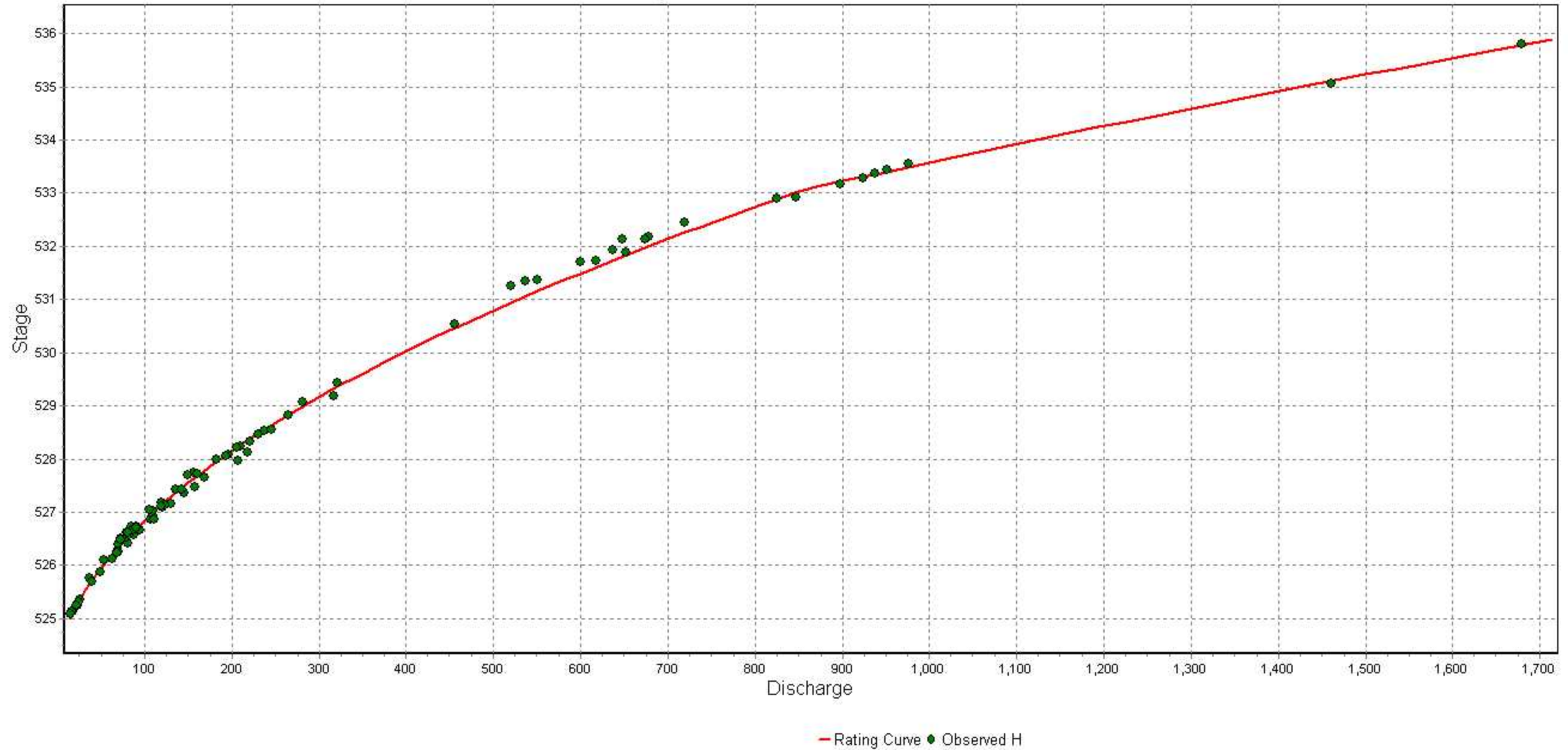
Local River : Panchganga

Division : Upper Krishna Divn, Pune

Sub-Division : UKSD, Miraj



Rating Curve of Site Terwad 2021



HISTORY SHEET

		Water Year	: 2021-2022
Site	: Sadalgi (Seasonal)	Code	: AKV00D3
State	: Karnataka	District	Belgaum
Basin	: Krishna	Independent River	: Krishna
Tributary	: Dudhganga	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Dudhganga
Division	: Upper Krishna Divn, Pune	Sub-Division	: Upper Krishna SD , Miraj
Drainage Area	: 2322 Sq. Km.	Bank	: Right
Latitude	: 16°33'49"	Longitude	: 74°31'47"
Zero of Gauge (m)	: 522.976 (m.s.l)	01-01-1964	- 04-06-1964
	: 526.16 (m.s.l)	05-06-1964	- 25-04-1966
	: 525.16 (m.s.l)	26-04-1966	- 23-06-1969
	: 525.16 (m.s.l)	24-06-1969	
Opening Date		Closing Date	
Gauge	: 05-06-1964	HFL During 2021-22	: 539.610
		Corres. Discharge	: 1486 (Estimated)
Discharge	: 24-06-1969	Date & Time of occurrence	: 24-07-2021 : 18:00 Hrs

HFL Recorded so far in m : 540.580 dt 10-08-2019

Corresponding Discharge (cumecs) : 3215 *

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1970-1971	1320	536.850	23-08-1970	0.000	527.230	25-01-1971
1971-1972	1050	535.888	26-06-1971	0.000	526.030	26-01-1972
1972-1973	1230	536.245	09-07-1972	0.000		23-01-1973
1973-1974	1228	536.760	10-07-1973	0.000	527.550	25-01-1974
1974-1975	1120	536.483	07-07-1974	0.000	526.700	25-01-1975
1975-1976	1659	537.550	11-07-1975	0.000	529.515	26-01-1976
1976-1977	1303	536.804	02-08-1976	0.000	527.985	24-01-1977
1977-1978	1329	536.597	09-07-1977	0.000	529.595	25-01-1978
1978-1979	1244	536.317	18-08-1978	0.000	528.125	25-01-1979
1979-1980	1429	537.285	12-08-1979	0.000	529.000	26-01-1980
1980-1981	1303	536.612	09-07-1980	0.000		25-01-1981
1981-1982	1457	536.833	09-07-1981	0.000	527.750	25-01-1982
1982-1983	1168	536.510	31-07-1982	0.000	526.660	25-01-1983
1983-1984	2257	538.950	29-06-1983	0.000		26-01-1984
1984-1985	980	536.026	19-07-1984	0.000		25-01-1985
1985-1986	1221	536.472	03-08-1985	0.000		25-01-1986
1986-1987	1148	536.425	11-08-1986	0.000		25-01-1987
1987-1988	872.6	535.430	09-07-1987	0.000		26-01-1988

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1988-1989	1510	537.300	20-07-1988	0.000		25-01-1989
1989-1990	1920	538.055	26-07-1989	0.000	527.635	25-01-1990
1990-1991	1452	537.058	19-08-1990	0.000	529.425	09-03-1991
1991-1992	1615	537.707	30-07-1991	0.000	529.925	26-01-1992
1992-1993	773.1	535.365	20-08-1992	0.000	531.210	25-01-1993
1993-1994	1228	536.630	13-07-1993	0.000	531.500	25-01-1994
1994-1995	1900	538.150	18-07-1994	0.000	531.450	25-01-1995
1995-1996	710.9	534.900	04-09-1995	0.000	528.760	26-01-1996
1996-1997	1380	536.480	03-10-1996	0.000	530.470	25-01-1997
1997-1998	1584	537.640	09-08-1997	0.000	530.380	25-01-1998
1998-1999	673.9	534.980	10-07-1998	0.000	529.920	25-01-1999
1999-2000	1335	536.960	23-07-1999	0.000	529.010	26-01-2000
2000-2001	853.5	535.565	15-07-2000	0.000	530.980	25-01-2001
2001-2002	594.6	534.400	11-07-2001	0.000	528.450	25-01-2002
2002-2003	927	535.750	13-08-2002	0.000	529.940	25-01-2003
2003-2004	637	534.560	23-06-2003	0.000	530.490	26-01-2004
2004-2005	1287	536.450	07-08-2004	0.000	530.415	25-01-2005
2005-2006	2200	538.890	06-08-2005	0.000	530.285	25-01-2006
2006-2007	1978	538.410	13-08-2006	0.000	528.375	01-11-2006
2007-2008	1291	536.685	02-07-2007	0.000	530.190	13-11-2007
2008-2009	1676	537.840	14-08-2008	0.000	528.260	07-11-2008
2009-2010	950	535.810	18-07-2009	0.000	529.795	25-11-2009
2010-2011	1240	536.455	30-07-2010	0.000	528.750	26-11-2010
2011-2012	1095	536.110	06-09-2011	0.000	527.680	04-11-2011
2012-2013	559.5	534.028	06-09-2012	0.000	528.250	12-11-2012
2013-2014	1147	536.270	29-07-2013	0.000	528.385	02-11-2013
2014-2015	710.5	535.040	26-07-2014	0.000	527.580	12-11-2014
2015-2016	555.4	534.040	26-06-2015	0.000	528.600	25-11-2015
2016-2017	1288	536.920	14-07-2016	0.000	526.130	09-11-2016
2017-2018	716.4	535.235	22-07-2017	0.000	527.590	19-11-2017
2018-2019	1076	536.120	19-07-2018	0.000	528.750	25-11-2018
2019-2020	3116	540.560	10-08-2019	0.000	528.060	24-11-2019
2020-2021	980.4	536.750	20-08-2020	0.000	529.500	07-06-2020

Annual Runoff of Dudhganga at Sadalga (Seasonal)

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1969-1970	2697	0	2697	95	0	95
2	1970-1971	2854	0	2854	101	0	101
3	1971-1972	2293	0	2293	81	0	81
4	1972-1973	1549	8	1556	55	0	55
5	1973-1974	2913	0	2913	103	0	103
6	1974-1975	2586	0	2586	91	0	91
7	1975-1976	3648	0	3648	129	0	129
8	1976-1977	2493	0	2493	88	0	88
9	1977-1978	2557	0	2557	90	0	90
10	1978-1979	3354	0	3354	119	0	119
11	1979-1980	2887	0	2887	102	0	102
12	1980-1981	3475	0	3475	123	0	123
13	1981-1982	3220	0	3220	114	0	114
14	1982-1983	2719	0	2719	96	0	96
15	1983-1984	3900	0	3900	138	0	138
16	1984-1985	2710	0	2710	96	0	96
17	1985-1986	2592	0	2592	92	0	92
18	1986-1987	1987	0	1987	70	0	70
19	1987-1988	1416	0	1416	50	0	50
20	1988-1989	3156	0	3156	112	0	112
21	1989-1990	2250	0	2250	80	0	80
22	1990-1991	3089	0	3089	109	0	109
23	1991-1992	3258	0	3258	115	0	115
24	1992-1993	2147	0	2147	76	0	76
25	1993-1994	2948	0	2948	104	0	104
26	1994-1995	3954	0	3954	140	0	140
27	1995-1996	1648	0	1648	58	0	58
28	1996-1997	2259	0	2259	80	0	80
29	1997-1998	3438	0	3438	121	0	121
30	1998-1999	1868	0	1868	66	0	66
31	1999-2000	2449	0	2449	87	0	87
32	2000-2001	1380	0	1380	49	0	49
33	2001-2002	964	2	966	34	0	34
34	2002-2003	1573	0	1573	56	0	56
35	2003-2004	907	0	907	32	0	32
36	2004-2005	1860	0	1860	66	0	66
37	2005-2006	4918	0	4918	174	0	174
38	2006-2007	4924	Site downgraded as Seasonal Site from 2006-07	4924	174	Site downgraded as Seasonal Site from 2006-07	174
39	2007-2008	2673		2673	94		94
40	2008-2009	2216		2216	78		78
41	2009-2010	1736		1736	61		61
42	2010-2011	2167		2167	77		77
43	2011-2012	2864		2864	101		101
44	2012-2013	1727		1727	61		61
45	2013-2014	2504		2504	88		88
46	2014-2015	1956		1956	69		69
47	2015-2016	783		783	28		28

48	2016-2017	2353	Site downgraded as Seasonal Site from 2006-07	2353	83	Site downgraded as Seasonal Site from 2006-07	83
49	2017-2018	1900		1900	67		67
50	2018-2019	2636		2636	93		93
51	2019-2020	4399		4399	155		155
52	2020-2021	2840		2840	100		100
53	2021-2022	2996		2996	106		106
Average		2577	0	2577	91	0	91

Instantaneous Flood Peak of Dudhganga at Sadalga (Seasonal)

		Instantaneous Annual Flood Peak			
Sl. No.	Year	Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	1964-1965	537.060	10-08-1964	08:00:00	1412 *
2	1965-1966	537.065	01-08-1965	03:00:00	1440 *
3	1966-1967	537.230	31-07-1966	08:00:00	1352 *
4	1967-1968	538.045	30-07-1967	20:00:00	1865 *
5	1968-1969	535.475	09-08-1968	10:00:00	815 *
6	1969-1970	537.040	02-08-1969	19:00:00	1392 *
7	1970-1971	536.910	23-08-1970	15:00:00	1320 *
8	1971-1972	535.900	25-06-1971	23:00:00	1190 *
9	1972-1973	536.260	09-07-1972	05:00:00	1230 *
10	1973-1974	536.760	10-07-1973	01:00:00	1397 *
11	1974-1975	536.490	07-07-1974	11:00:00	1304 *
12	1975-1976	537.550	11-07-1975	06:00:00	1759 *
13	1976-1977	536.860	02-08-1976	22:00:00	1279 *
14	1977-1978	536.600	09-07-1977	10:00:00	1179 *
15	1978-1979	536.360	18-08-1978	21:00:00	1244 *
16	1979-1980	537.340	09-08-1979	14:00:00	1466 *
17	1980-1981	536.905	05-07-1980	02:00:00	1292 *
18	1981-1982	536.845	09-07-1981	05:00:00	1457 *
19	1982-1983	536.510	31-07-1982	06:00:00	1368 *
20	1983-1984	538.950	29-06-1983	06:00:00	2457 *
21	1984-1985	536.550	03-07-1984	08:00:00	1514
22	1985-1986	536.485	03-08-1985	12:00:00	1421 *
23	1986-1987	536.485	11-08-1986	21:00:00	1139 *
24	1987-1988	535.540	09-07-1987	21:00:00	873 *
25	1988-1989	537.300	20-07-1988	08:00:00	1810
26	1989-1990	538.150	25-07-1989	20:00:00	2100 *
27	1990-1991	537.075	19-08-1990	19:00:00	1452 *
28	1991-1992	537.720	30-07-1991	13:00:00	1631 *
29	1992-1993	535.390	20-08-1992	05:00:00	808 *
30	1993-1994	536.630	13-07-1993	08:00:00	1190
31	1994-1995	538.160	17-07-1994	22:00:00	1900 *
32	1995-1996	534.945	04-09-1995	15:00:00	711 *
33	1996-1997	536.560	03-10-1996	06:00:00	1180 *
34	1997-1998	537.640	09-08-1997	02:00:00	1595 *
35	1998-1999	534.980	10-07-1998	08:00:00	710
36	1999-2000	536.980	23-07-1999	11:00:00	1321 *
37	2000-2001	535.580	15-07-2000	01:00:00	859 *
38	2001-2002	534.400	11-07-2001	08:00:00	595
39	2002-2003	535.770	13-08-2002	14:00:00	912 *
40	2003-2004	534.560	23-06-2003	12:00:00	538 *
41	2004-2005	536.500	06-08-2004	21:00:00	1287 *
42	2005-2006	538.900	06-08-2005	09:00:00	2219 *
43	2006-2007	538.410	13-08-2006	02:00:00	1978 *
44	2007-2008	536.700	02-07-2007	11:00:00	1215 *
45	2008-2009	537.860	13-08-2008	18:00:00	1694 *
46	2009-2010	535.820	18-07-2009	04:00:00	926 *

47	2010-2011	536.455	30-07-2010	06:00:00	851 *
48	2011-2012	536.110	06-09-2011	08:00:00	833 *
49	2012-2013	534.080	06-09-2012	15:00:00	560 *
50	2013-2014	536.280	28-07-2013	12:00:00	1069 *
51	2014-2015	535.110	25-07-2014	22:00:00	780 *
52	2015-2016	534.040	26-06-2015	08:00:00	723
53	2016-2017	536.920	14-07-2016	06:00:00	1302 *
54	2017-2018	535.260	22-07-2017	16:00:00	770 *
55	2018-2019	536.120	19-07-2018	13:00:00	1155 *
56	2019-2020	540.580	10-08-2019	12:00:00	3215 *
57	2020-2021	536.760	20-08-2020	09:00:00	984 *
58	2021-2022	539.610	24-07-2021	18:00:00	1486 *

Note :- Discharge is less in 2020-2021 due to partial closure d/s weir .

Stage-Discharge Data for the period 2021 - 2022

Station Name : Sadalgi (Seasonal) (AKV00D3)

Local River : Dudhganga

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	528.020	0.000	530.010	80.47 *	536.450	915.2 *	529.500	41.04	530.575	141.5	528.950	0.000
2	528.260	0.000	529.930	74.19 *	535.790	811.6	529.460	39.06	530.590	130.3 *	529.060	0.000
3	528.910	0.000	529.820	65.83 *	534.940	698.0	529.755	60.33	530.410	114.0 *	528.410	0.000
4	529.200	25.09 *	529.910	72.65 *	533.710	510.1	529.465	36.63	530.380	115.0	528.460	0.000
5	529.740	59.94 *	529.720	58.50 *	533.230	426.1	529.600	50.06 *	530.405	116.7	528.710	0.000
6	529.910	72.65 *	529.565	38.81	533.400	446.2	529.690	53.53	529.910	68.43	528.900	0.000
7	529.620	51.43 *	529.460	34.84	533.095	395.5	529.860	61.38	530.185	103.1	528.950	0.000
8	529.290	30.24 *	529.330	27.01	532.880	385.0 *	529.980	73.15	531.095	210.1	528.850	0.000
9	528.940	12.02 *	529.335	33.35	532.300	302.5	530.440	125.2	530.470	122.8	528.800	0.000
10	528.840	7.849	529.450	37.04	531.165	198.5	530.460	118.5 *	530.260	101.0 *	528.680	0.000
11	528.940	12.02 *	529.690	56.35 *	530.855	173.7	530.440	123.0	530.140	90.51	528.310	0.000
12	528.920	11.15 *	529.720	53.12	530.680	149.4	530.810	151.0 *	530.845	169.6	528.340	0.000
13	529.030	16.22 *	530.850	176.2	530.660	150.6	532.080	292.2	530.510	136.9	528.560	0.000
14	529.000	14.78 *	530.820	172.8	530.700	151.3	532.880	359.5	530.365	104.3	528.660	0.000
15	529.890	71.12 *	531.830	261.1	530.760	146.2 *	533.300	397.1	530.330	107.0 *	528.790	0.000
16	529.950	75.75 *	532.410	304.4	530.775	160.5	533.190	378.3	530.255	94.01	528.770	0.000
17	533.470	462.8 *	531.790	242.5	530.660	150.0	531.485	201.6	530.130	90.16 *	528.490	0.000
18	535.160	708.0 *	531.030	172.6 *	530.545	140.7	530.660	150.0	530.215	93.91	528.560	0.000
19	535.610	778.4 *	531.235	215.9	530.400	113.2 *	530.510	123.0 *	530.000	79.67 *	528.540	0.000
20	535.790	807.2 *	532.685	337.9	530.360	100.3	530.400	118.2	529.675	56.15	528.540	0.000
21	535.550	768.9 *	532.900	387.6 *	530.430	120.5	530.255	95.00	529.610	51.88	528.670	0.000
22	534.720	641.1 *	534.240	561.2	530.380	111.4 *	530.130	89.38	529.595	48.68	528.950	0.000
23	532.860	382.5 *	536.770	975.9	530.245	93.29	530.175	98.97	529.525	46.61	529.000	0.000
24	531.030	172.6 *	539.270	1420 *	530.035	78.16	530.340	103.0	529.110	20.25 *	528.890	0.000
25	530.740	144.3 *	539.500	1465 *	529.935	65.98	530.320	100.8	528.920	17.59	529.100	0.000
26	530.690	139.6 *	539.330	1432 *	529.850	65.18	530.190	95.13 *	528.840	15.61	528.960	0.000
27	530.540	125.7 *	539.240	1415 *	529.800	60.34	530.075	84.43	528.760	14.92	528.890	0.000
28	530.530	124.8 *	538.960	1362 *	529.800	60.54	529.985	74.31	528.705	14.56	528.810	0.000
29	530.310	105.3 *	538.450	1267 *	529.710	57.78 *	530.020	79.90	528.750	14.69	528.760	0.000
30	530.190	95.13 *	537.850	1158 *	529.610	50.77	530.560	138.8	528.940	17.62	528.790	0.000
31			537.070	1031	529.540	48.09			528.860	8.640 *		
<u>Ten-Daily Mean</u>												
I Ten-Daily	529.073	25.92	529.653	52.27	533.696	508.9	529.821	65.88	530.428	122.3	528.777	0.000
II Ten-Daily	531.576	295.7	531.206	199.3	530.639	143.6	531.576	229.4	530.246	102.2	528.556	0.000
III Ten-Daily	531.716	270.0	537.598	1134	529.940	73.82	530.205	95.98	529.056	24.64	528.882	0.000
<u>Monthly</u>												
Min.	528.020	0.000	529.330	27.01	529.540	48.09	529.460	36.63	528.705	8.640	528.310	0.000
Max.	535.790	807.2	539.500	1465	536.450	915.2	533.300	397.1	531.095	210.1	529.100	0.000
Mean	530.788	197.2	532.973	483.5	531.377	236.7	530.534	130.4	529.883	81.17	528.738	0

Annual Runoff in MCM = 2996 Annual Runoff in mm = 1290

Peak Observed Discharge = 1031 cumecs on 31-07-2021 Corres. Water Level :537.07 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021 Corres. Water Level :528.02 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

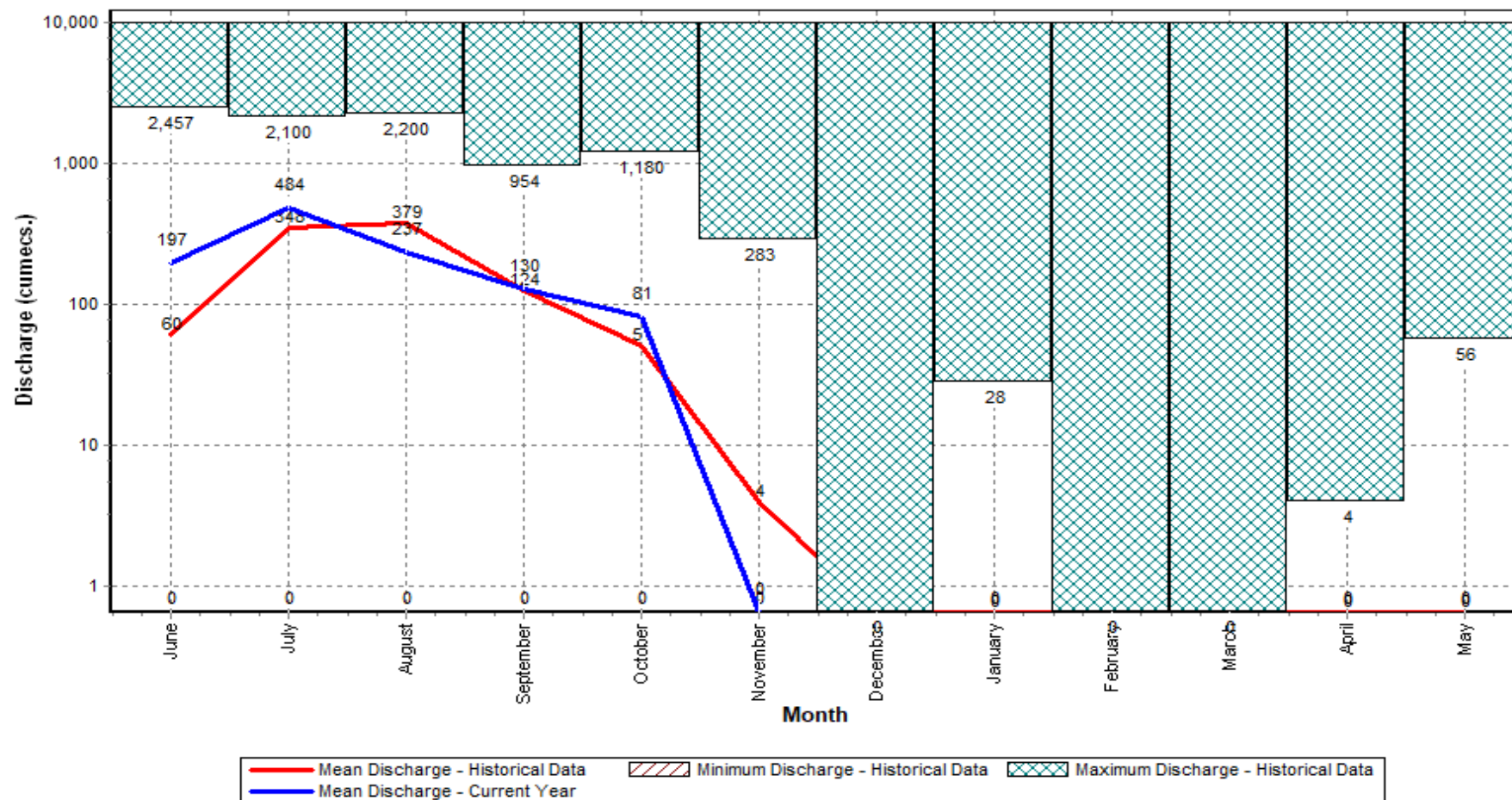
Station Name : Sadalgi (Seasonal) (AKV00D3)

Data considered : 1970-2022

Division : Upper Krishna Divn, Pune

Local River : Dudhganga

Sub-Division : Upper Krishna SD, Miraj



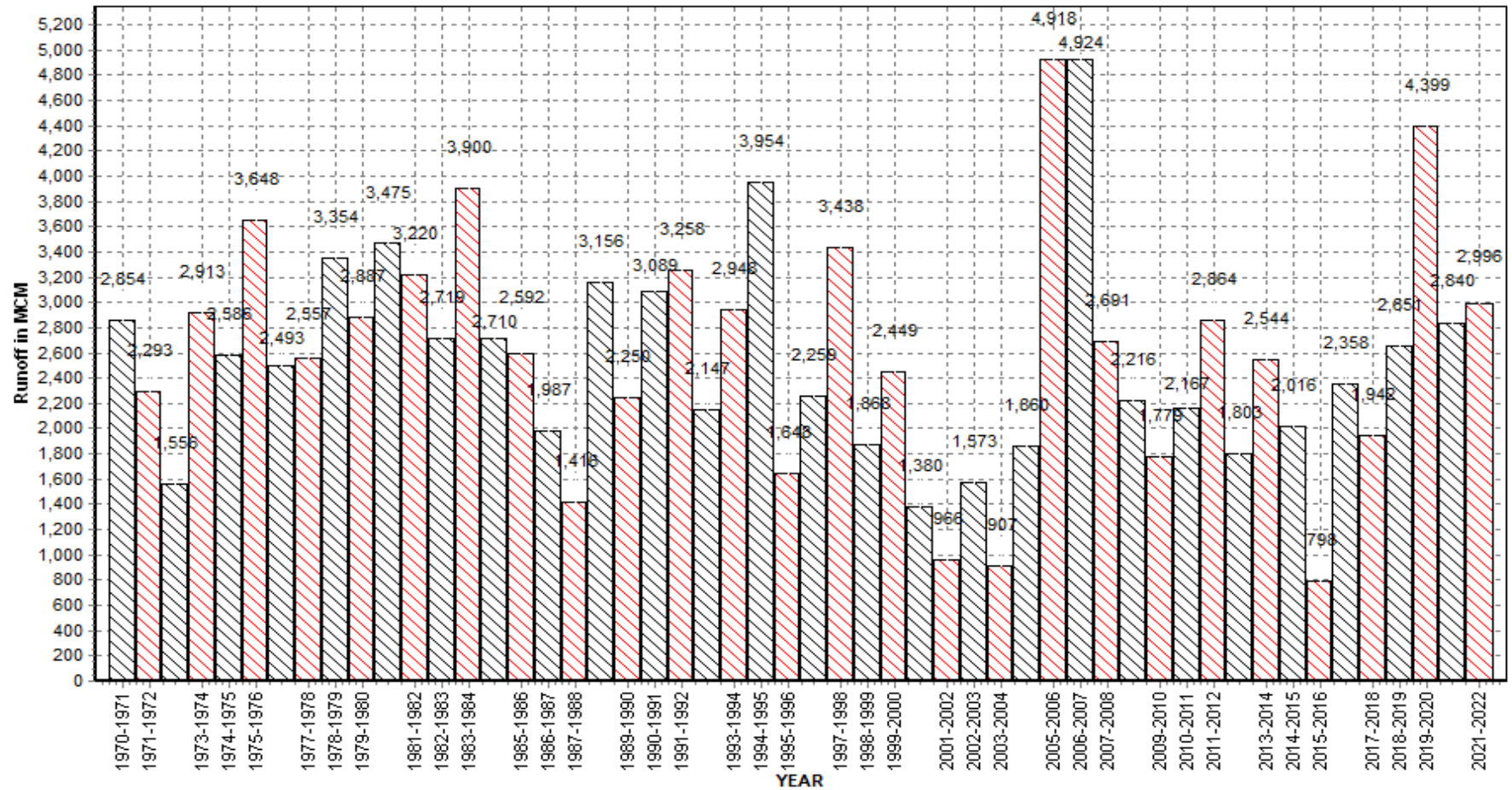
Annual Runoff Values for the period: 1970 - 2022

Station Name : Sadalgi (Seasonal) (AKV00D3)

Local River : Dudhganga

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



Note: Missing values have not been considered while arriving at Annual Runoff

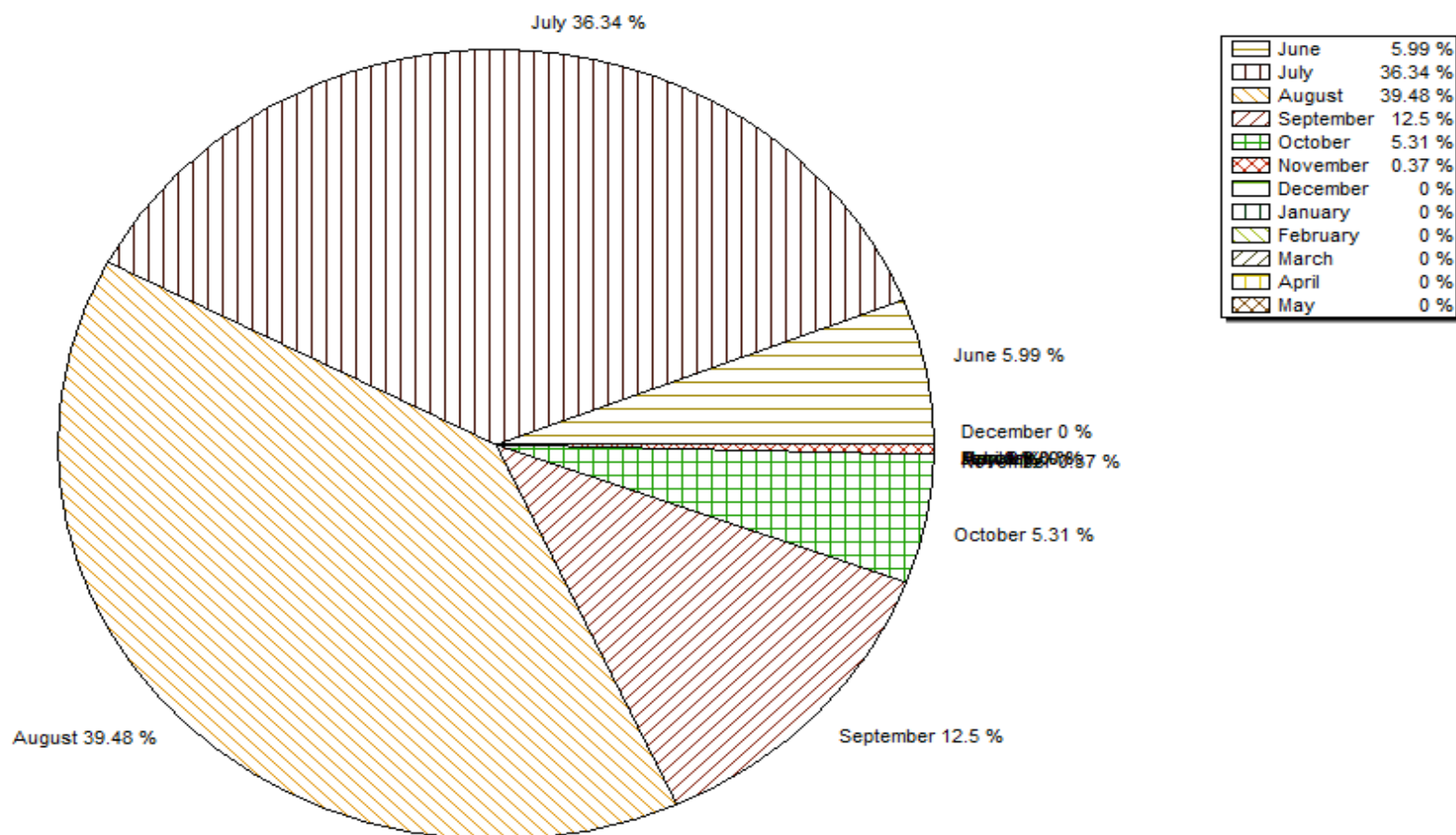
Monthly Average Runoff based on period : 1970-2021

Station Name : Sadalgi (Seasonal) (AKV00D3)

Local River : Dudhganga

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



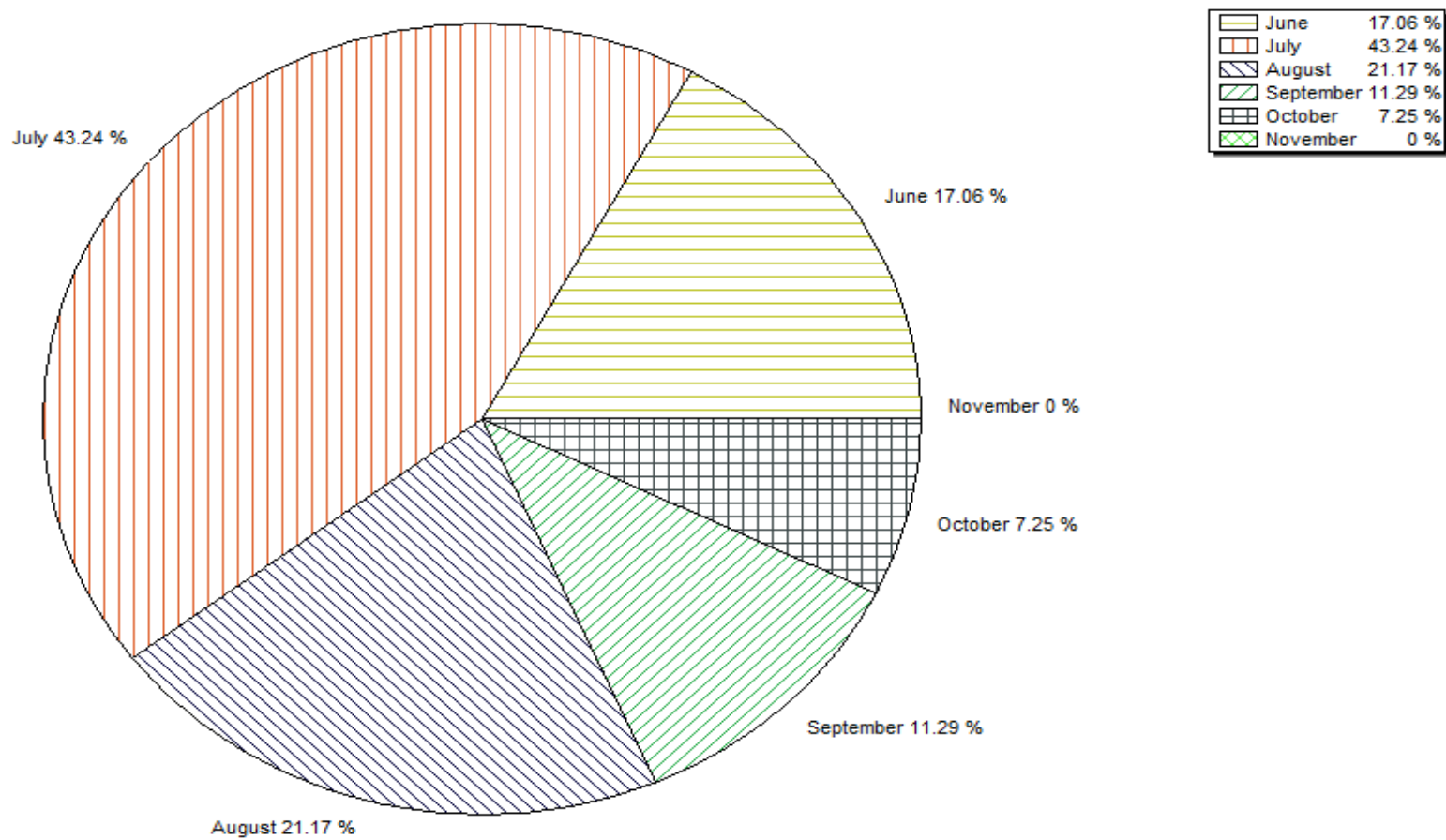
Monthly Runoff for the Year : 2021-2022

Station Name : Sadalgi (Seasonal) (AKV00D3)

Local River : Dudhganga

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj

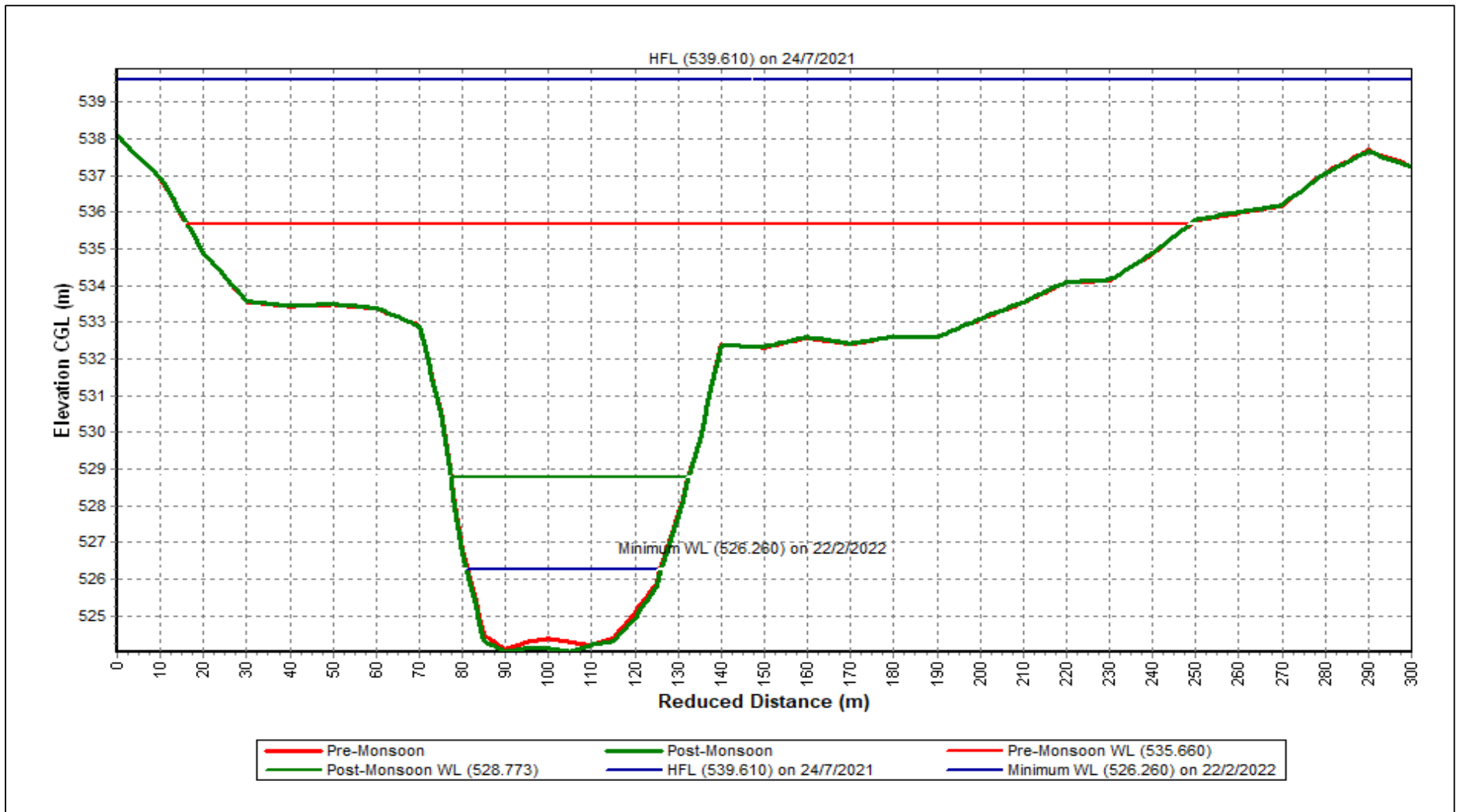


Station Name : Sadalgi (Seasonal) (AKV00D3)

Local River : Dudhganga

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



Zero of Gauge : 525.16 (m.s.l)

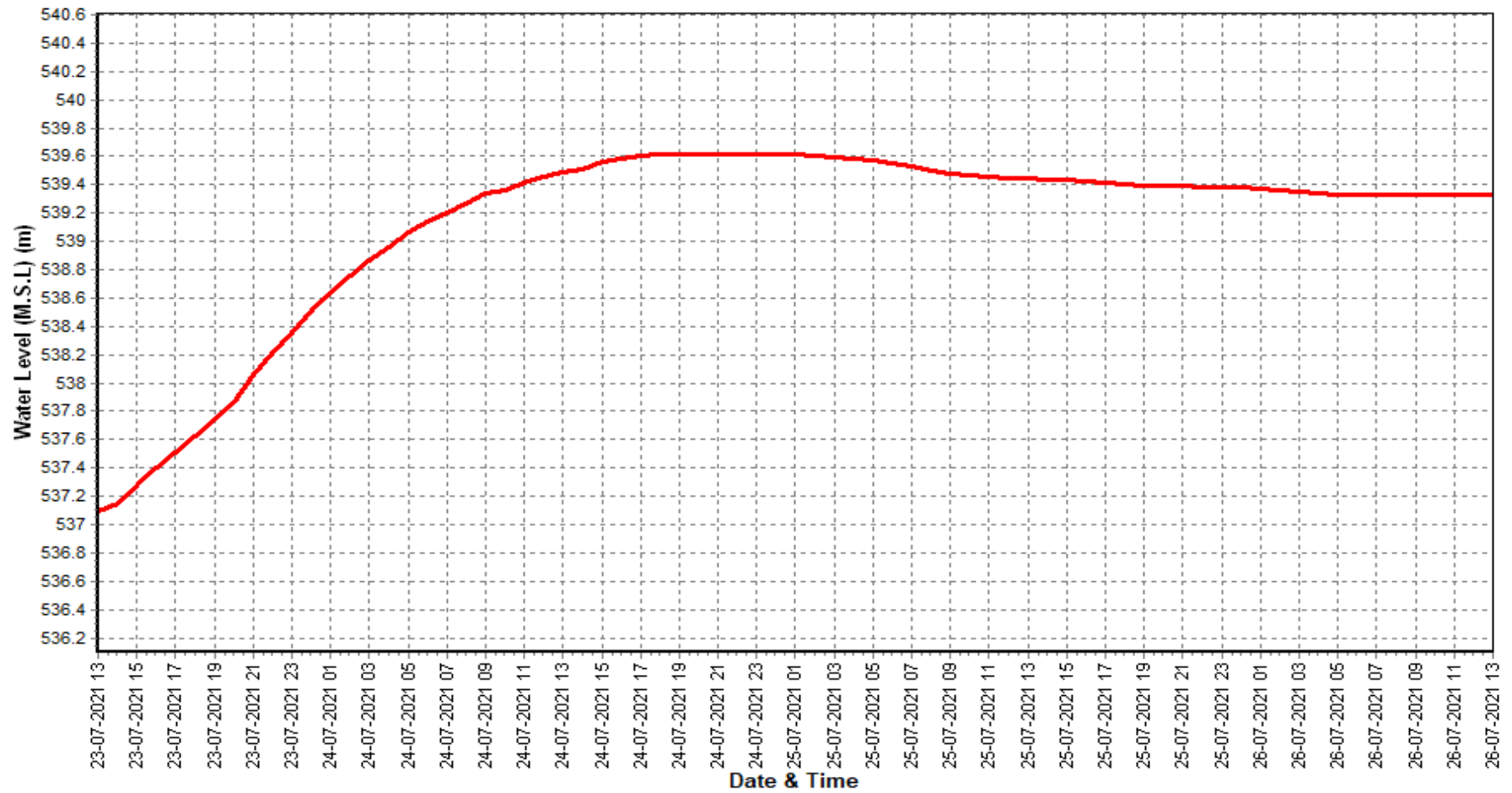
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Sadalgi (Seasonal) (AKV00D3)

Local River : Dudhganga

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD, Miraj



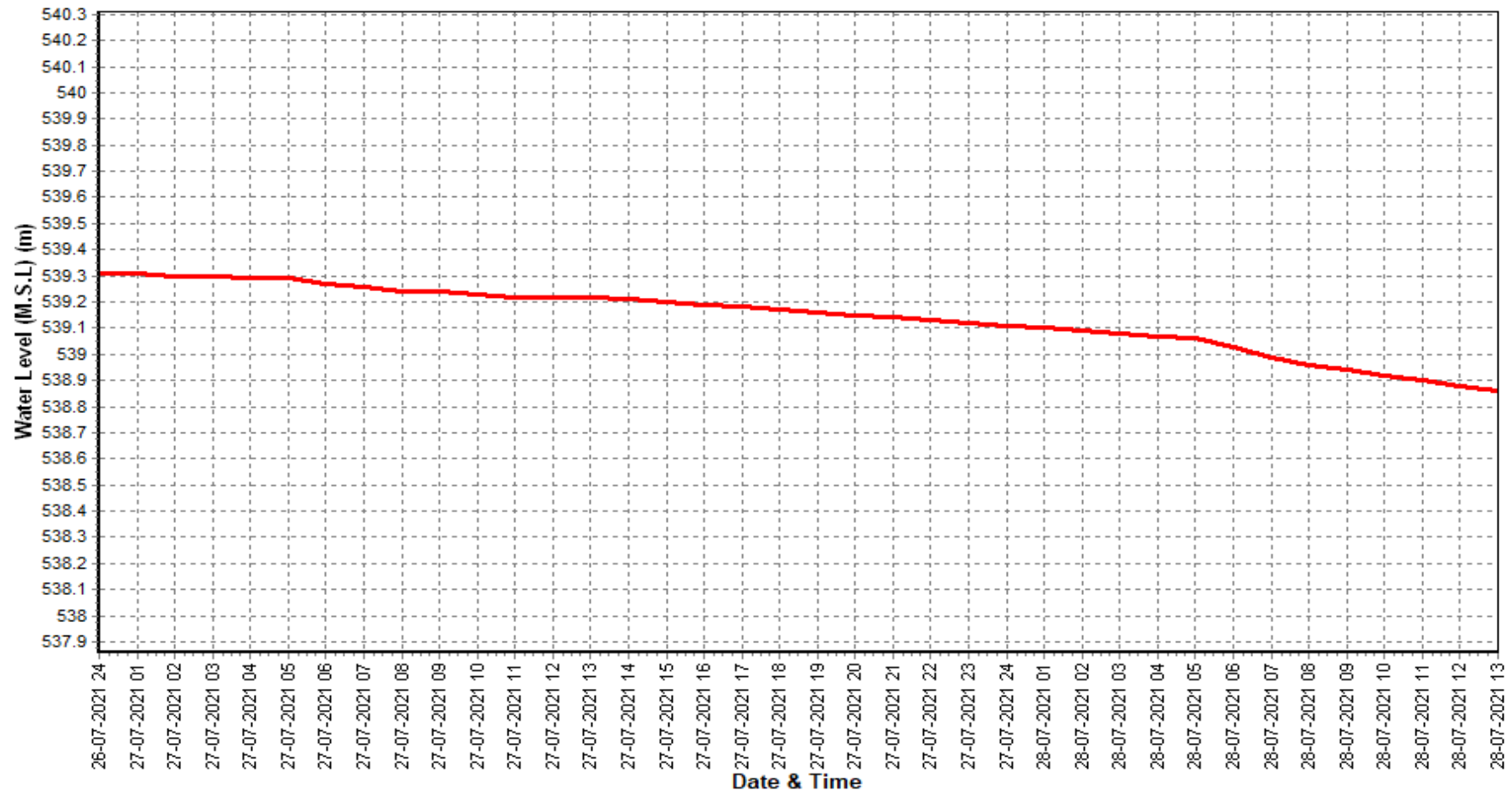
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Sadalgi (Seasonal) (AKV00D3)

Local River : Dudhganga

Division : Upper Krishna Divn, Pune

Sub-Division : UKSD , Miraj



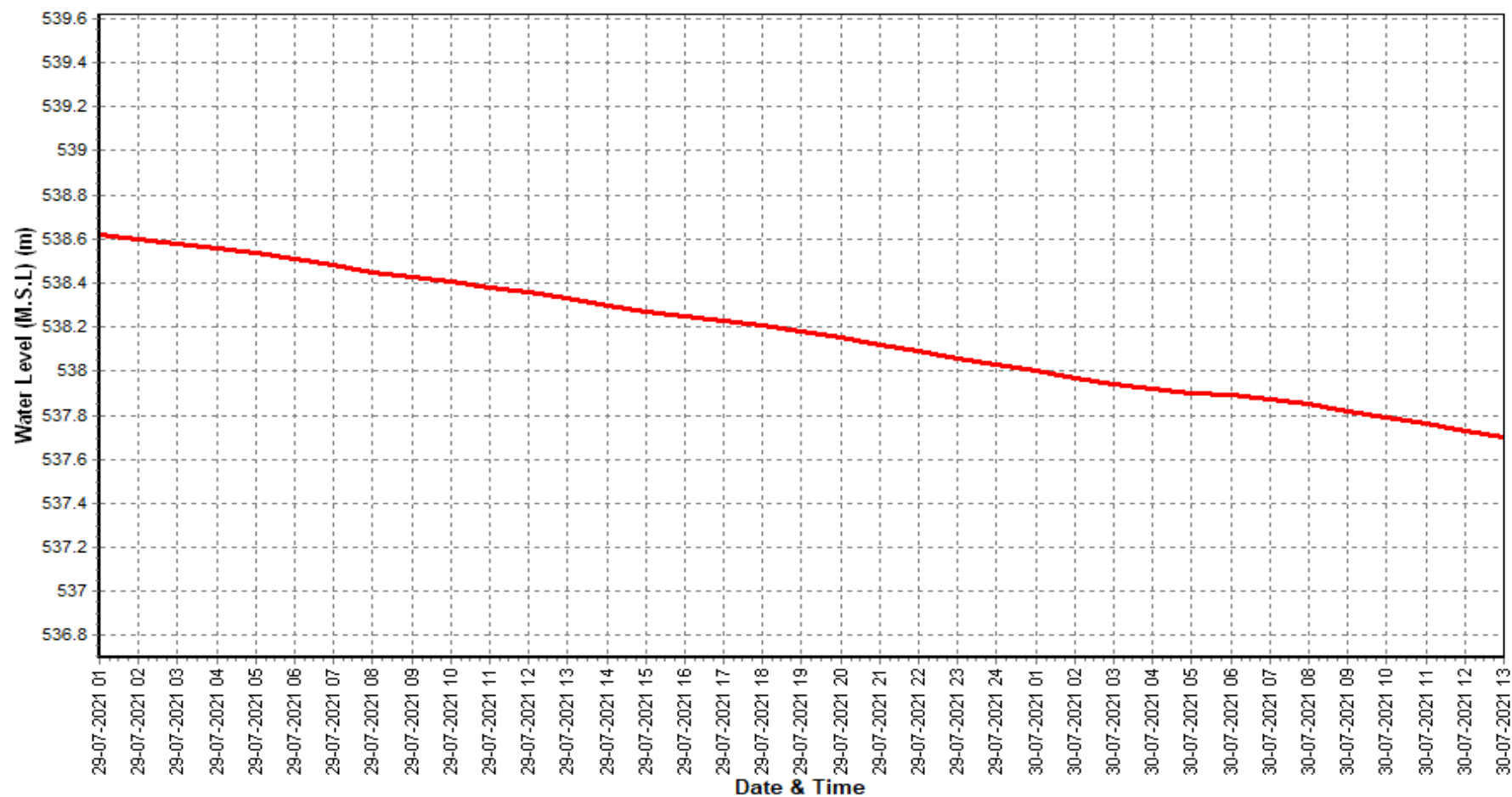
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Sadalgi (Seasonal) (AKV00D3)

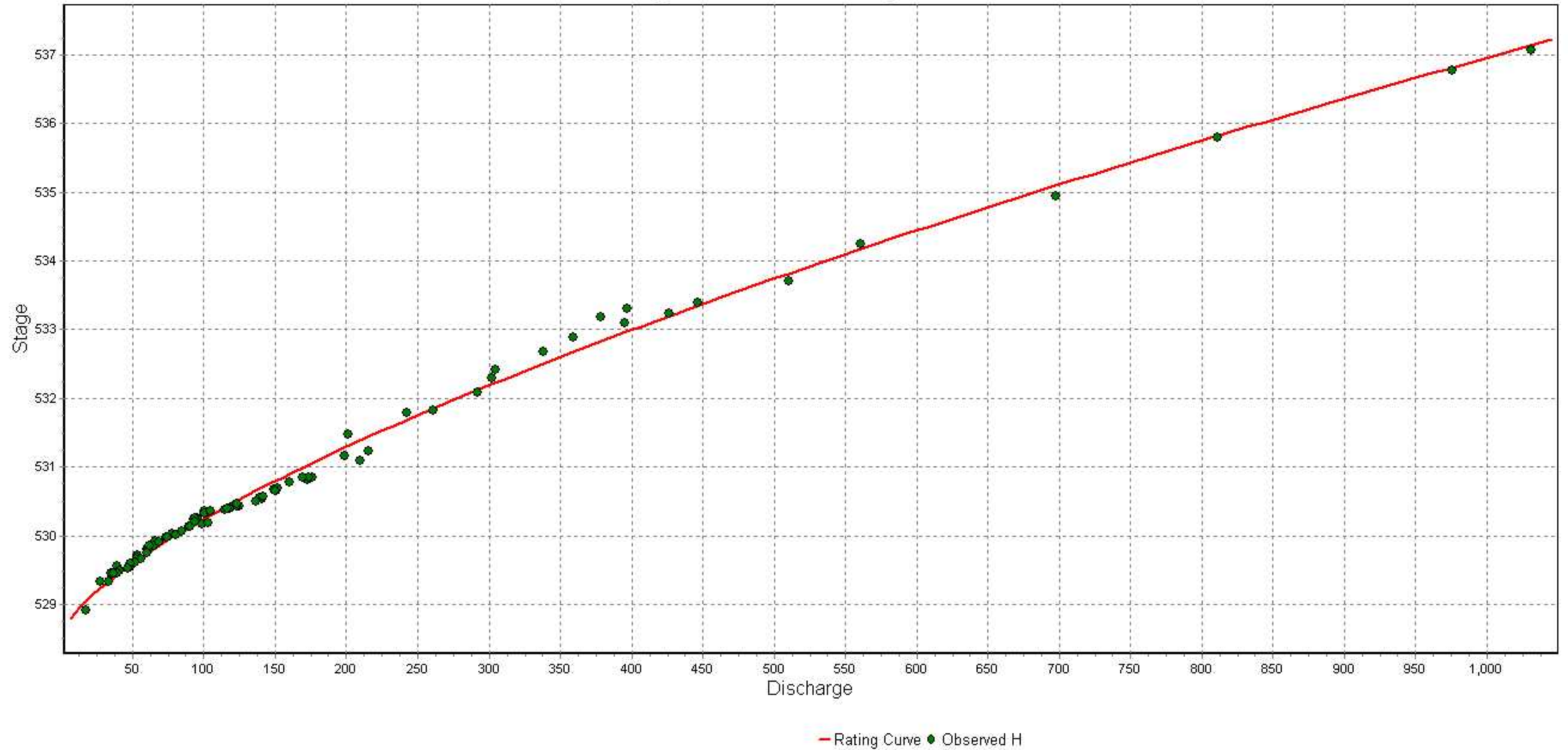
Local River : Dudhganga

Division : Upper Krishna Divn, Pune

Sub-Division : UKSD, Miraj



Rating Curve of site Sadalga 2021



HISTORY SHEET

Water Year : 2021-2022

Site : Gokak Falls (Seasonal)

Code : AKT00P9

State : Karnataka

District : Belgaum

Basin : Krishna

Independent River : Krishna

Tributary : Ghataprabha

Sub Tributary : -

Sub-Sub Tributary : -

Local River : Ghataprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot

Drainage Area : 2770 Sq. Km.

Bank : Right

Latitude : 16°11'24"

Longitude : 74°47'29"

Zero of Gauge (m) : 536.004 (m.s.l)
536 (m.s.l)20-03-1971 - 31-08-2003
01-09-2003

Opening Date

Closing Date

Gauge : 21-03-1971

Discharge : 14-07-1971

Sediment : 27-12-2014

Water Quality : 01-09-2014

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1972-1973	1571	544.389	08-07-1972	0.000	538.559	14-02-1973
1973-1974	1318	543.884	09-07-1973	0.000	538.570	26-01-1974
1974-1975	1503	544.254	07-07-1974	0.000	538.469	30-03-1975
1975-1976	2135	545.474	11-07-1975	0.000	538.604	24-04-1976
1976-1977	1360	543.879	02-08-1976	0.000	538.414	22-04-1977
1977-1978	1195	543.244	27-07-1977	0.000	538.604	13-06-1977
1978-1979	1473	544.194	18-08-1978	0.200	538.554	13-03-1979
1979-1980	2077	545.364	10-08-1979	0.300	538.794	05-06-1979
1980-1981	1725	544.249	07-08-1980	1.100	538.784	25-05-1981
1981-1982	858	542.933	04-08-1981	3.000	538.734	12-06-1981
1982-1983	1360	543.969	15-08-1982	5.800	539.024	13-05-1983
1983-1984	2473	546.099	29-06-1983	5.400	539.024	17-04-1984
1984-1985	708.9	542.394	03-07-1984	2.300	538.894	02-05-1985
1985-1986	533	542.234	03-08-1985	1.300	538.779	17-06-1985
1986-1987	237	541.574	12-08-1986	5.600	539.004	12-10-1986
1987-1988	268.8	540.904	09-07-1987	1.244	538.724	16-03-1988
1988-1989	1786	544.809	06-08-1988	0.000	539.079	22-02-1989
1989-1990	1365	543.979	26-07-1989	0.000	539.084	24-03-1990
1990-1991	1073	543.279	19-08-1990	0.000	539.054	13-03-1991
1991-1992	1351	543.833	16-08-1991	0.000	539.094	05-02-1992
1992-1993	871.4	542.954	23-08-1992	0.000	539.034	24-01-1993

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1993-1994	1444	544.160	14-08-1993	0.000	539.094	31-01-1994
1994-1995	6112	552.004	08-07-1994	0.000	539.054	12-02-1995
1995-1996	119	541.304	21-07-1995	0.000	539.104	10-01-1996
1996-1997	565	542.304	21-10-1996	0.000	539.084	10-03-1997
1997-1998	2503	546.154	08-08-1997	0.000	539.044	27-03-1998
1998-1999	226	541.549	03-07-1998	0.000	539.154	09-03-1999
1999-2000	1815	544.864	23-07-1999	0.000	539.144	12-02-2000
2000-2001	483.4	541.942	15-07-2000	0.000	539.004	12-03-2001
2001-2002	332.7	541.221	11-07-2001	0.000	539.074	02-02-2002
2002-2003	193	541.474	13-08-2002	0.000	538.924	30-01-2003
2003-2004	210.4	540.504	23-06-2003	0.000	538.610	26-01-2004
2004-2005	703	542.602	05-08-2004	0.000	538.950	25-01-2005
2005-2006	2638	546.400	23-09-2005	0.000	538.910	25-01-2006
2006-2007	2016	545.250	13-08-2006	6.340	538.610	20-06-2006
2007-2008	2321	545.820	08-08-2007	0.000	538.590	18-06-2007
2008-2009	1313	544.030	13-08-2008	0.000	538.820	12-06-2008
2009-2010	856	542.930	04-10-2009	0.000	539.045	30-06-2009
2010-2011	704	542.605	30-07-2010	0.000	539.410	15-06-2010
2011-2012	1705	544.650	04-09-2011	0.000	539.835	08-06-2011
2012-2013	257	541.620	05-08-2012	0.000	539.820	28-06-2012
2013-2014	730	542.660	04-08-2013	0.000	539.800	07-05-2014
2014-2015	451.6	542.130	01-08-2014	0.000	539.880	01-06-2014
2015-2016	342.6	541.180	25-06-2015	0.000	539.830	22-06-2015
2016-2017	515.0	542.370	14-07-2016	0.000	539.680	11-06-2016
2017-2018	414.8	541.960	23-07-2017	0.000	538.800	16-11-2017
2018-2019	1336	543.920	19-08-2018	0.000	539.750	09-06-2018
2019-2020	4912	550.320	11-08-2019	0.000	538.750	26-01-2020
2020-2021	1687	546.200	19-08-2020	0.000	538.750	04-02-2021

Annual Runoff of Krishna at Gokagfalls

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1971-1972	1502	1	1503	53	0	53
2	1972-1973	1905	1	1906	67	0	67
3	1973-1974	2799	0	2799	99	0	99
4	1974-1975	2818	11	2829	100	0	100
5	1975-1976	3427	31	3458	121	1	122
6	1976-1977	2150	24	2174	76	1	77
7	1977-1978	2079	102	2181	73	4	77
8	1978-1979	2639	57	2696	93	2	95
9	1979-1980	2170	107	2277	77	4	80
10	1980-1981	3228	84	3312	114	3	117
11	1981-1982	2323	119	2441	82	4	86
12	1982-1983	1988	129	2117	70	5	75
13	1983-1984	3410	143	3553	121	5	126
14	1984-1985	1256	141	1398	44	5	49
15	1985-1986	873	145	1017	31	5	36
16	1986-1987	747	147	894	26	5	32
17	1987-1988	365	133	498	13	5	18
18	1988-1989	2142	129	2271	76	5	80
19	1989-1990	1178	52	1230	42	2	43
20	1990-1991	1410	112	1522	50	4	54
21	1991-1992	2103	16	2119	74	1	75
22	1992-1993	1290	0	1290	46	0	46
23	1993-1994	1703	11	1714	60	0	61
24	1994-1995	4280	20	4300	151	1	152
25	1995-1996	581	19	600	21	1	21
26	1996-1997	780	54	834	28	2	29
27	1997-1998	3042	79	3121	107	3	110
28	1998-1999	857	70	927	30	2	33
29	1999-2000	1948	85	2033	69	3	72
30	2000-2001	847	63	910	30	2	32
31	2001-2002	517	3	520	18	0	18
32	2002-2003	569	0	569	20	0	20
33	2003-2004	354	0	354	13	0	13
34	2004-2005	770	0	770	27	0	27
35	2005-2006	3999	0	3999	141	0	141
36	2006-2007	3087	Site Converted as Seasonal Site from June 2006	3087	109	Site Converted as Seasonal Site from June 2006	109
37	2007-2008	2239		2239	79		79
38	2008-2009	1428		1428	50		50
39	2009-2010	1233		1233	44		44
40	2010-2011	1389		1389	49		49
41	2011-2012	2376		2376	84		84
42	2012-2013	851		851	30		30
43	2013-2014	1746		1746	62		62
44	2014-2015	894		894	32		32
45	2015-2016	726		726	26		26
46	2016-2017	840		840	30		30
47	2017-2018	463		463	16		16
48	2018-2019	1306		1306	46		46
49	2019-2020	4044		4044	143		143
50	2020-2021	2502		2502	88		88
51	2021-2022	1179	107	1286	42	4	45
Average		1772	60	1815	63	2.11	64.12

Instantaneous Flood Peak of Krishna at Gokak falls					
Sl. No.	Year	Instantaneous Annual Flood Peak		Time	Discharge * (Cumecs)
		Peak WL (m) Recorded	Date		
1	1971-1972	543.319	21-07-1971	18:00:00	1042 *
2	1972-1973	544.389	08-07-1972	08:00:00	1571
3	1973-1974	543.884	09-07-1973	08:00:00	1318 *
4	1974-1975	544.404	07-07-1974	00:00:00	1579 *
5	1975-1976	545.614	11-07-1975	04:00:00	2210 *
6	1976-1977	543.884	02-08-1976	11:00:00	1318 *
7	1977-1978	543.244	27-07-1977	07:00:00	1006 *
8	1978-1979	544.264	18-08-1978	13:00:00	1508 *
9	1979-1980	545.489	10-08-1979	05:00:00	2143 *
10	1980-1981	544.264	07-08-1980	09:00:00	1508 *
11	1981-1982	542.954	04-08-1981	06:00:00	868 *
12	1982-1983	544.154	17-08-1982	10:00:00	1453 *
13	1983-1984	546.254	28-06-1983	22:00:00	2558 *
14	1984-1985	542.404	03-07-1984	06:00:00	611 *
15	1985-1986	542.334	03-08-1985	00:00:00	579 *
16	1986-1987	541.594	12-08-1986	05:00:00	246 *
17	1987-1988	541.154	10-07-1987	00:00:00	54 *
18	1988-1989	544.814	06-08-1988	09:00:00	1789 *
19	1989-1990	544.324	25-07-1989	20:00:00	1538 *
20	1990-1991	543.444	19-08-1990	15:00:00	1103 *
21	1991-1992	544.084	16-08-1991	11:00:00	1418 *
22	1992-1993	542.954	23-08-1992	07:00:00	868 *
23	1993-1994	544.354	14-08-1993	11:00:00	1554 *
24	1994-1995	546.564	16-07-1994	11:00:00	2730 *
25	1995-1996	541.354	22-07-1995	08:00:00	140
26	1996-1997	542.454	21-10-1996	12:00:00	634 *
27	1997-1998	546.244	07-08-1997	18:00:00	2552 *
28	1998-1999	541.554	03-07-1998	09:00:00	228 *
29	1999-2000	544.924	23-07-1999	01:00:00	1846 *
30	2000-2001	542.034	14-07-2000	18:00:00	442 *
31	2001-2002	541.484	10-07-2001	17:00:00	197 *
32	2002-2003	541.504	13-08-2002	21:00:00	206 *
33	2003-2004	540.704	23-06-2003	09:00:00	121 *
34	2004-2005	542.670	05-08-2004	14:00:00	734 *
35	2005-2006	546.880	23-09-2005	14:00:00	2907 *
36	2006-2007	545.390	13-08-2006	00:00:00	2091 *
37	2007-2008	545.870	08-08-2007	09:00:00	2348 *
38	2008-2009	544.060	13-08-2008	10:00:00	1406 *
39	2009-2010	543.210	03-10-2009	17:00:00	990 *
40	2010-2011	542.660	27-07-2010	17:00:00	730 *
41	2011-2012	544.880	04-09-2011	19:00:00	1823 *
42	2012-2013	541.645	05-08-2012	18:00:00	268 *
43	2013-2014	542.860	04-08-2013	16:00:00	823 *
44	2014-2015	542.320	01-08-2014	17:00:00	572 *
45	2015-2016	541.250	25-06-2015	18:00:00	95 *
46	2016-2017	542.380	14-07-2016	07:00:00	600 *
47	2017-2018	542.070	22-07-2017	13:00:00	458 *
48	2018-2019	543.940	19-08-2018	10:00:00	1346 *
49	2019-2020	550.350	11-08-2019	11:00:00	4920 *
50	2020-2021	546.310	18-08-2020	18:00:00	2589 *
51	2021-2022	548.900	25-07-2021	10:00:00	4097 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : Gokak Falls (Seasonal) (AKT00P9)

Division : Upper Krishna Divn, Pune

Local River : Ghataprabha

Sub-Division : Middle Krishna SD 1, Bagalkot

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	539.150	0.000	538.730	0.000	542.380	308.0 *	538.550	12.19	538.930	30.06	538.900	14.82
2	538.910	0.000	538.570	0.000	542.100	275.9 *	538.550	11.60	539.750	69.46 *	538.850	12.98
3	538.800	0.000	538.530	0.000	541.450	207.3 *	538.525	10.60	539.230	40.43 *	538.900	16.28
4	538.680	0.000	538.530	0.000	540.550	126.5 *	538.500	10.23	538.850	26.01	538.950	22.21 *
5	539.040	0.000	538.530	0.000	540.550	126.5 *	538.480	11.06 *	538.830	23.40	538.950	22.21 #
6	539.320	0.000	538.530	0.000	543.250	417.2 *	538.440	11.29	538.835	23.60	538.900	14.95
7	539.040	0.000	538.530	0.000	541.810	244.3 *	538.605	16.33	538.840	26.09	538.900	18.68 *
8	538.560	0.000	538.530	0.000	540.760	143.8 *	539.360	47.06 *	538.980	28.92 *	538.900	17.07
9	538.540	0.000	538.520	0.000	540.100	92.63 *	539.660	63.96 *	540.070	90.54 *	538.890	18.02 #
10	538.480	0.000	538.520	0.000	539.580	59.24 *	540.420	116.3 *	539.270	42.43 *	538.890	18.02 #
11	538.500	0.000	538.560	0.000	539.120	35.16 *	540.150	96.18 *	539.610	60.99 *	538.950	25.28
12	538.480	0.000	538.720	0.000	538.900	29.32	540.430	117.0 *	539.660	63.96 *	538.960	25.47
13	538.590	0.000	538.570	0.000	538.710	18.38 #	542.130	279.3 *	539.100	34.24 *	538.950	22.21 #
14	538.570	0.000	539.720	67.60 *	539.710	66.99 *	542.140	280.4 *	539.000	29.78 *	538.760	10.66 *
15	538.480	0.000	539.680	65.16 *	539.470	53.00 *	541.720	234.8 *	538.840	23.20 *	538.760	10.66 #
16	539.500	0.000	540.300	107.1 *	539.920	80.36 *	541.020	166.6 *	538.820	22.43 *	538.760	13.06
17	540.730	0.000	540.020	87.09 *	539.850	75.79 *	540.130	94.75 *	538.830	22.81 *	538.760	10.66 #
18	542.160	282.7 *	539.480	53.55 *	539.720	67.60 *	539.770	70.71 *	538.820	22.53	538.820	13.77 #
19	542.260	294.1 *	539.180	38.00 *	540.040	88.46 *	539.600	60.40 *	538.820	22.43 *	538.910	21.93
20	542.020	267.0 *	539.920	80.36 *	539.830	74.50 *	539.230	40.43 *	538.710	18.38	538.980	23.89
21	541.080	0.000	540.050	89.15 *	539.670	64.56 *	538.900	23.95	538.825	19.45	539.050	30.40 *
22	540.080	0.000	540.670	136.3 *	539.610	60.99 *	538.580	15.73	538.815	12.40	539.060	32.87
23	539.290	0.000	543.520	453.9 *	538.940	27.23 *	538.580	15.95	538.850	15.50 #	539.120	37.17
24	539.020	0.000	547.430	1126 *	538.830	22.81 *	538.580	14.05 #	538.720	8.836 *	539.120	36.52
25	538.820	0.000	548.880	1438 *	538.880	24.78	538.530	12.51 #	538.730	9.272 #	539.270	54.09 *
26	538.630	0.000	544.710	631.2 *	538.965	27.44	538.640	15.98 *	538.790	12.15 #	539.130	44.47
27	538.600	0.000	545.480	759.0 *	538.895	20.67	538.600	14.68 #	538.895	19.56	539.100	35.08 *
28	538.580	0.000	544.680	626.5 *	538.710	16.76	538.580	14.05 #	538.810	15.10	539.050	30.40 *
29	538.580	0.000	541.500	212.3 *	538.580	14.05 *	538.570	17.03	538.820	16.82	539.100	35.08 *
30	538.580	0.000	541.000	164.8 *	538.570	13.67	538.605	10.83	538.910	16.18	539.080	33.17 *
31			541.890	252.9 *	538.550	15.13			538.960	22.97 *		
Ten-Daily Mean												
I Ten-Daily	538.852	0.000	538.552	0.000	541.253	200.1	538.909	31.06	539.159	40.09	538.903	17.52
II Ten-Daily	539.929	84.38	539.415	49.89	539.527	58.96	540.632	144.1	539.021	32.07	538.861	17.76
III Ten-Daily	539.126	0.000	543.619	535.5	538.927	28.01	538.617	15.48	538.830	15.29	539.108	36.92
Monthly												
Min.	538.480	0.000	538.520	0.000	538.550	13.67	538.440	10.23	538.710	8.836	538.760	10.66
Max.	542.260	294.1	548.880	1438	543.250	417.2	542.140	280.4	540.070	90.54	539.270	54.09
Mean	539.302	28.13	540.628	206.1	539.871	93.52	539.386	63.53	538.997	28.71	538.957	24.07

Annual Runoff in MCM = 1286 Annual Runoff in mm = 464

Peak Observed Discharge = 44.47 cumecs on 26-11-2021 Corres. Water Level :539.13 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021 Corres. Water Level :539.15 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : Gokak Falls (Seasonal) (AKT00P9)

Division : Upper Krishna Divn, Pune

Local River : Ghataprabha

Sub-Division : Middle Krishna SD 1, Bagalkot

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	539.070	33.86	538.940	24.06 #	538.910	0.000	538.650	0.000	538.730	0.000	539.010	0.000
2	539.100	32.10 *	538.960	25.01 *	538.920	0.000	538.660	0.000	538.720	0.000	539.020	0.000
3	539.260	41.20 *	539.050	29.47 #	538.930	0.000	538.820	0.000	538.700	0.000	539.000	0.000
4	539.150	40.86	539.050	29.47 #	538.950	0.000	538.880	0.000	538.690	0.000	538.980	0.000
5	539.100	32.10 *	539.040	25.04	538.970	0.000	538.880	0.000	538.740	0.000	539.990	0.000
6	538.970	21.12	538.950	24.54 #	538.990	0.000	538.900	0.000	538.780	0.000	538.980	0.000
7	539.000	30.97	539.040	23.81	538.980	0.000	538.910	0.000	538.800	0.000	538.960	0.000
8	539.090	30.83	538.930	23.60 #	538.990	0.000	538.950	0.000	538.630	0.000	538.950	0.000
9	539.020	28.04	538.920	23.14 *	538.980	0.000	539.080	0.000	538.620	0.000	538.940	0.000
10	539.070	27.15	538.900	22.23 #	538.980	0.000	539.240	0.000	538.610	0.000	538.920	0.000
11	539.050	26.14	538.790	7.804	539.000	0.000	539.090	0.000	538.600	0.000	538.870	0.000
12	539.000	26.95 *	538.760	8.382	538.990	0.000	538.950	0.000	538.690	0.000	538.900	0.000
13	539.050	26.35	538.820	18.75 #	538.960	0.000	538.860	0.000	538.710	0.000	538.920	0.000
14	539.070	30.06	538.820	18.75 *	538.940	0.000	538.860	0.000	538.700	0.000	539.100	0.000
15	539.050	31.18	538.800	5.651	538.780	0.000	538.830	0.000	538.730	0.000	538.970	0.000
16	539.070	36.49	538.820	18.75 *	538.740	0.000	538.810	0.000	538.760	0.000	538.950	0.000
17	539.040	32.26	538.820	18.75 #	538.650	0.000	538.810	0.000	538.740	0.000	538.900	0.000
18	539.020	32.05	538.820	0.000	538.700	0.000	538.800	0.000	538.730	0.000	538.930	0.000
19	539.000	26.95 *	538.810	0.000	538.750	0.000	539.100	0.000	538.710	0.000	538.870	0.000
20	538.980	30.11	538.800	0.000	538.760	0.000	538.980	0.000	538.700	0.000	538.890	0.000
21	538.850	20.02 #	538.780	0.000	538.790	0.000	538.900	0.000	538.680	0.000	539.160	0.000
22	538.900	24.35	538.760	0.000	538.800	0.000	538.720	0.000	538.670	0.000	539.120	0.000
23	538.970	25.56	538.760	0.000	538.770	0.000	538.700	0.000	538.650	0.000	539.020	0.000
24	538.960	25.65	538.780	0.000	538.750	0.000	538.690	0.000	539.750	0.000	538.970	0.000
25	539.000	26.95 *	538.810	0.000	538.700	0.000	538.680	0.000	539.620	0.000	538.940	0.000
26	539.020	27.95 *	538.810	0.000	538.700	0.000	538.650	0.000	539.600	0.000	538.850	0.000
27	538.990	27.18	538.840	0.000	538.700	0.000	538.680	0.000	539.720	0.000	538.800	0.000
28	539.000	25.79	538.880	0.000	538.660	0.000	538.700	0.000	539.060	0.000	538.620	0.000
29	538.960	24.47	538.860	0.000			538.710	0.000	538.960	0.000	538.590	0.000
30	538.950	21.43	538.860	0.000			538.720	0.000	538.980	0.000	538.570	0.000
31	538.950	22.37	538.870	0.000			538.740	0.000			538.560	0.000
<u>Ten-Daily Mean</u>												
I Ten-Daily	539.083	31.82	538.978	25.04	538.960	0.000	538.897	0.000	538.702	0.000	539.075	0.000
II Ten-Daily	539.033	29.85	538.806	9.684	538.827	0.000	538.909	0.000	538.707	0.000	538.930	0.000
III Ten-Daily	538.959	24.70	538.819	0.000	538.734	0.000	538.717	0.000	539.169	0.000	538.836	0.000
<u>Monthly</u>												
Min.	538.850	20.02	538.760	0.000	538.650	0.000	538.650	0.000	538.600	0.000	538.560	0.000
Max.	539.260	41.20	539.050	29.47	539.000	0.000	539.240	0.000	539.750	0.000	539.990	0.000
Mean	539.023	28.66	538.866	11.2	538.848	0	538.837	0	538.859	0	538.944	0

Peak Computed Discharge = 1438 cumecs on 25-07-2021

Corres. Water Level :548.88 m

Lowest Computed Discharge = 8.836 cumecs on 24-10-2021

Corres. Water Level :538.72 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

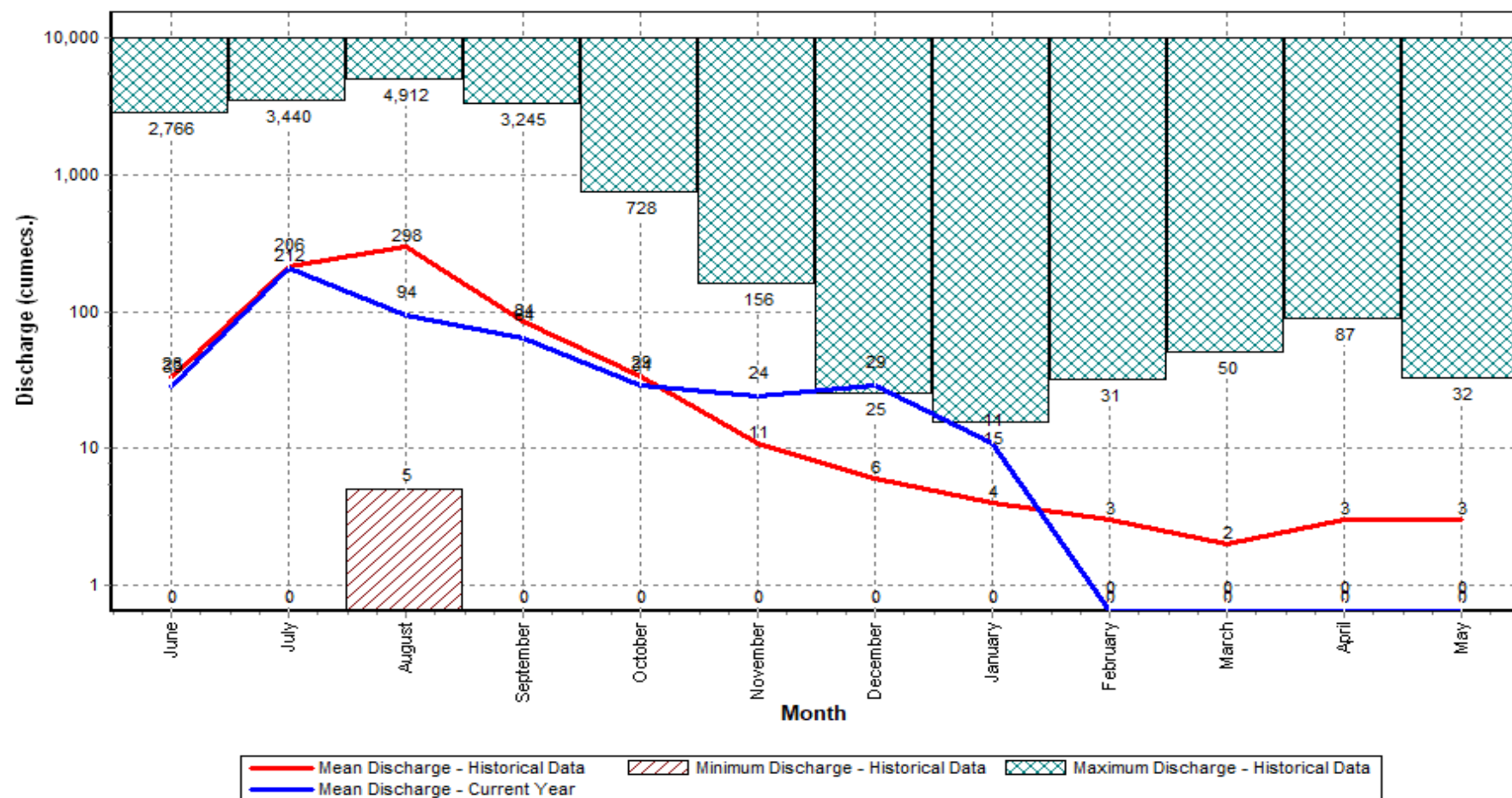
Station Name : Gokak Falls (Seasonal) (AKT00P9)

Data considered : 1972-2022

Division : Upper Krishna Divn, Pune

Local River : Ghataprabha

Sub-Division : Middle Krishna SD 1, Bagalkot



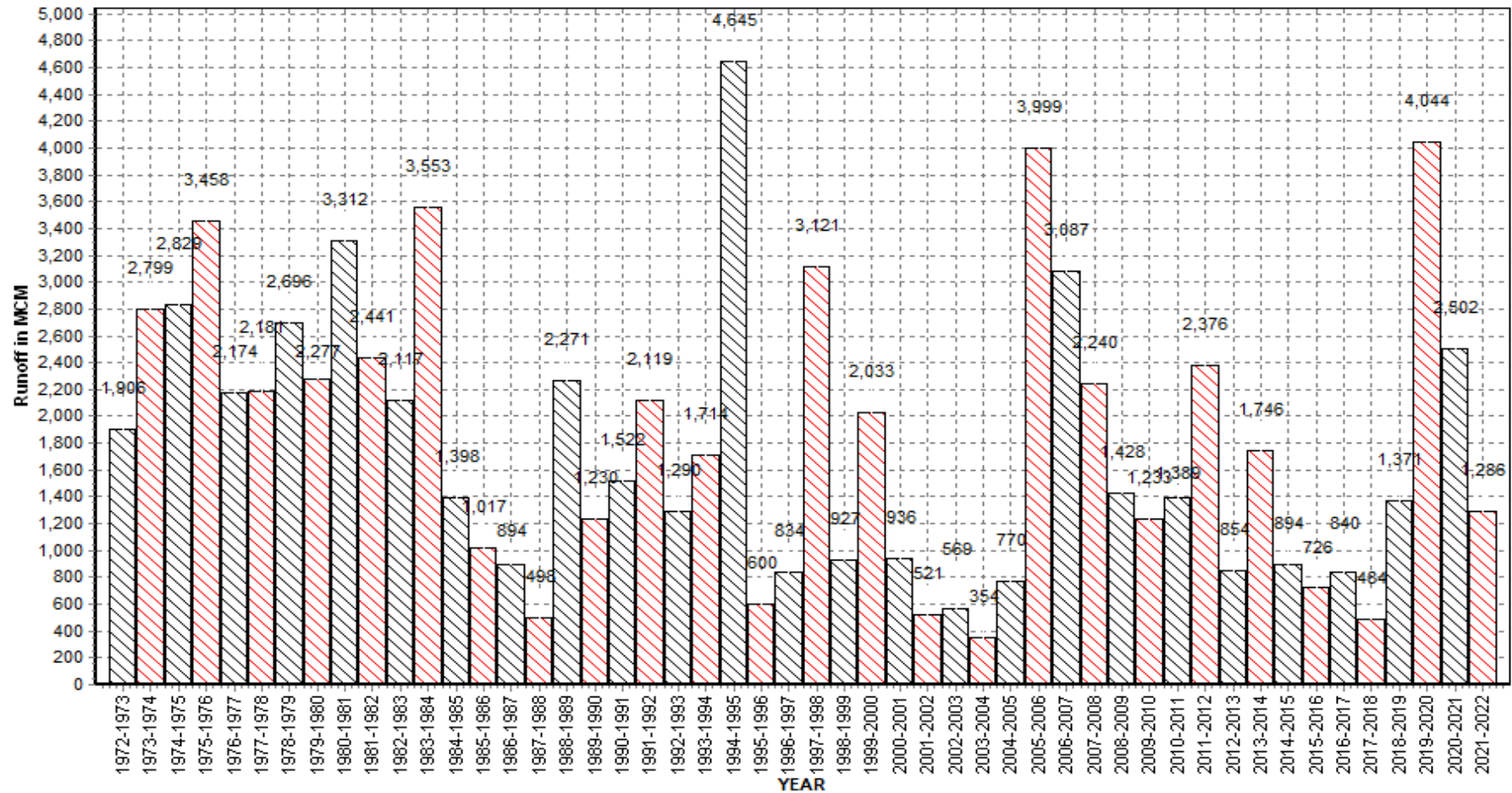
Annual Runoff Values for the period: 1972 - 2022

Station Name : Gokak Falls (Seasonal) (AKT00P9)

Local River : Ghataprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



Note: Missing values have not been considered while arriving at Annual Runoff

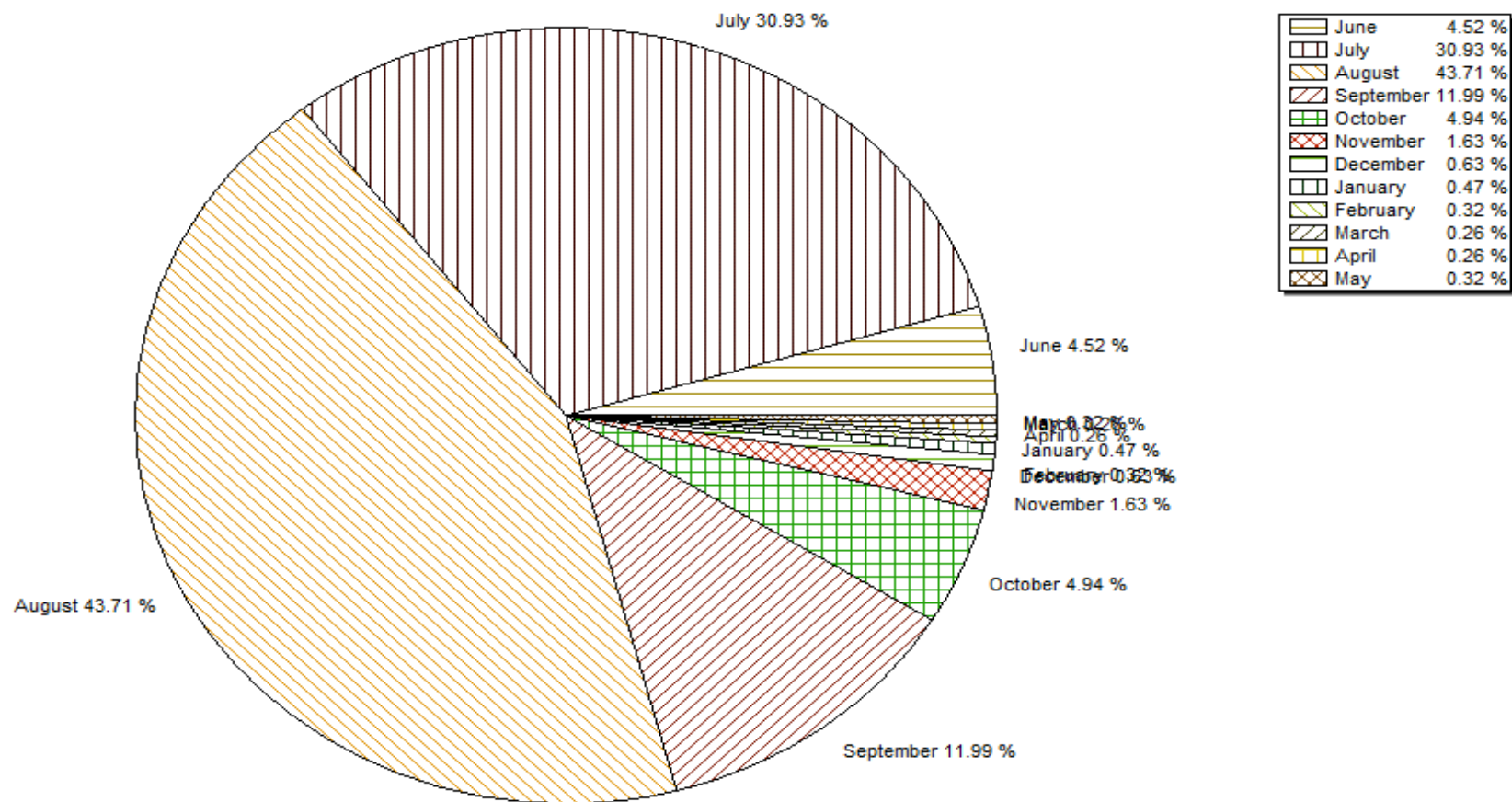
Monthly Average Runoff based on period : 1972-2021

Station Name : Gokak Falls (Seasonal) (AKT00P9)

Local River : Ghataprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



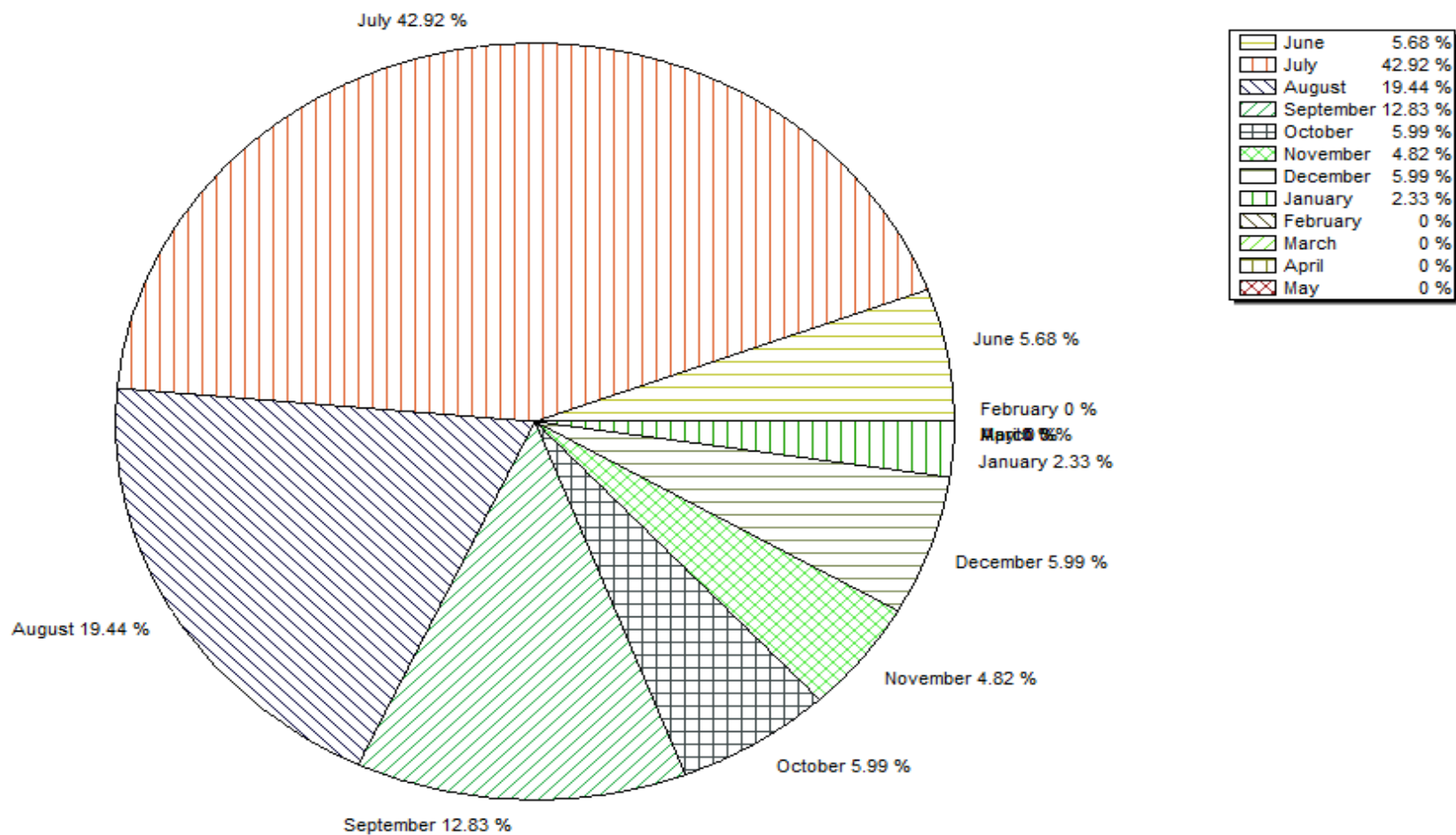
Monthly Runoff for the Year : 2021-2022

Station Name : Gokak Falls (Seasonal) (AKT00P9)

Local River : Ghataprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot

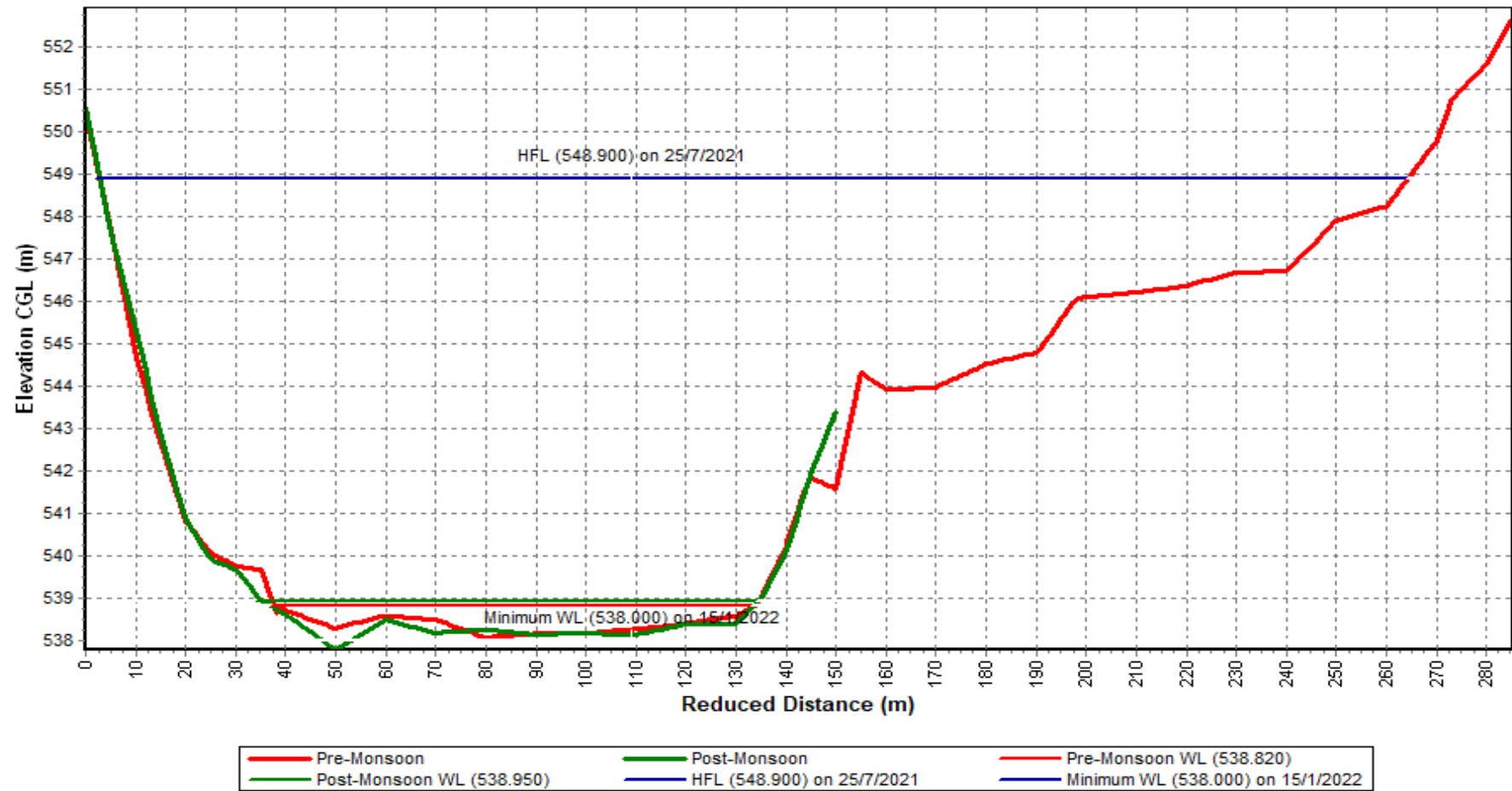


Station Name : Gokak Falls (Seasonal) (AKT00P9)

Local River : Ghataprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



Zero of Gauge : 536 (m.s.l)

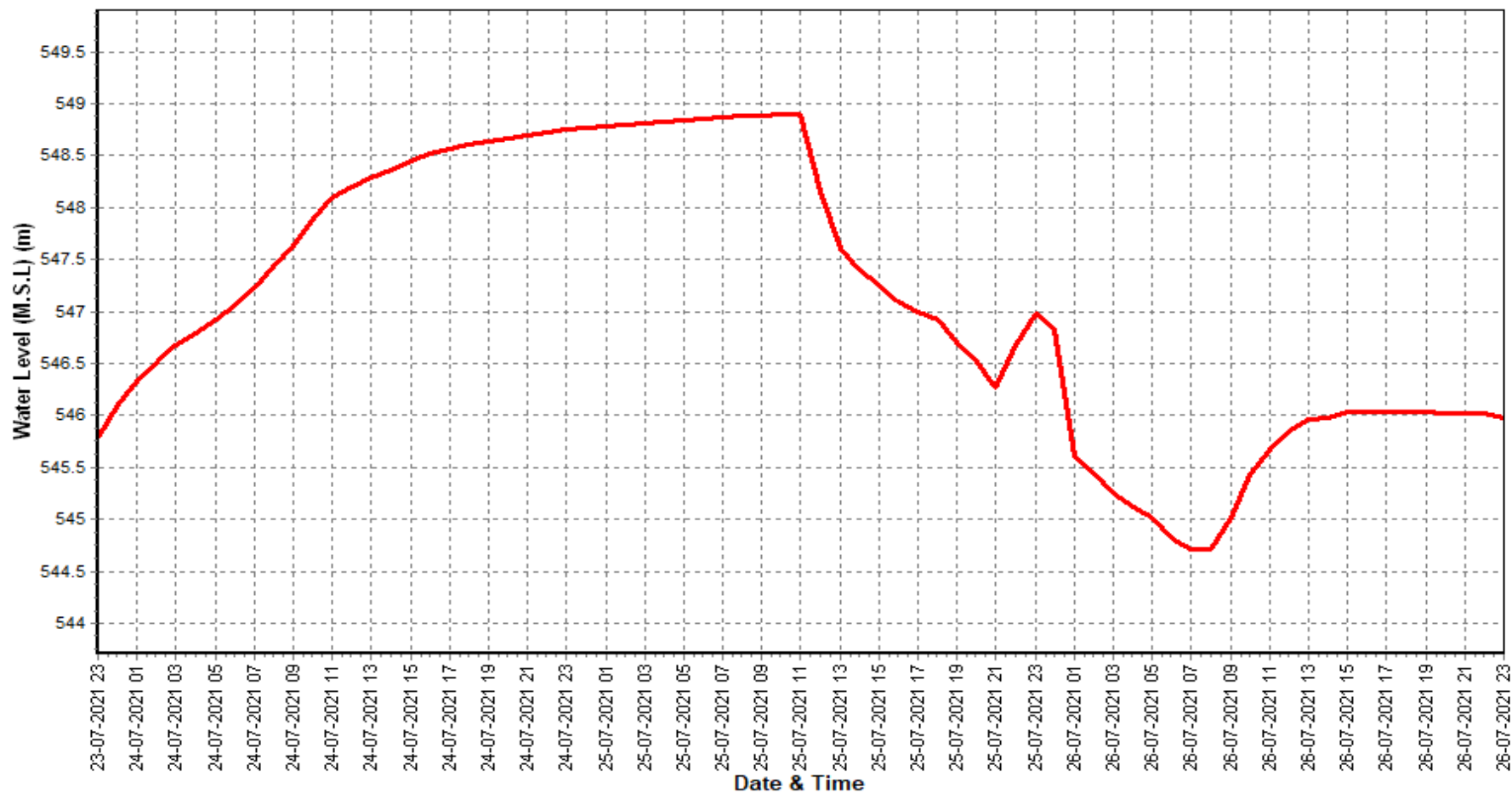
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Gokak Falls (Seasonal) (AKT00P9)

Local River : Ghataprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



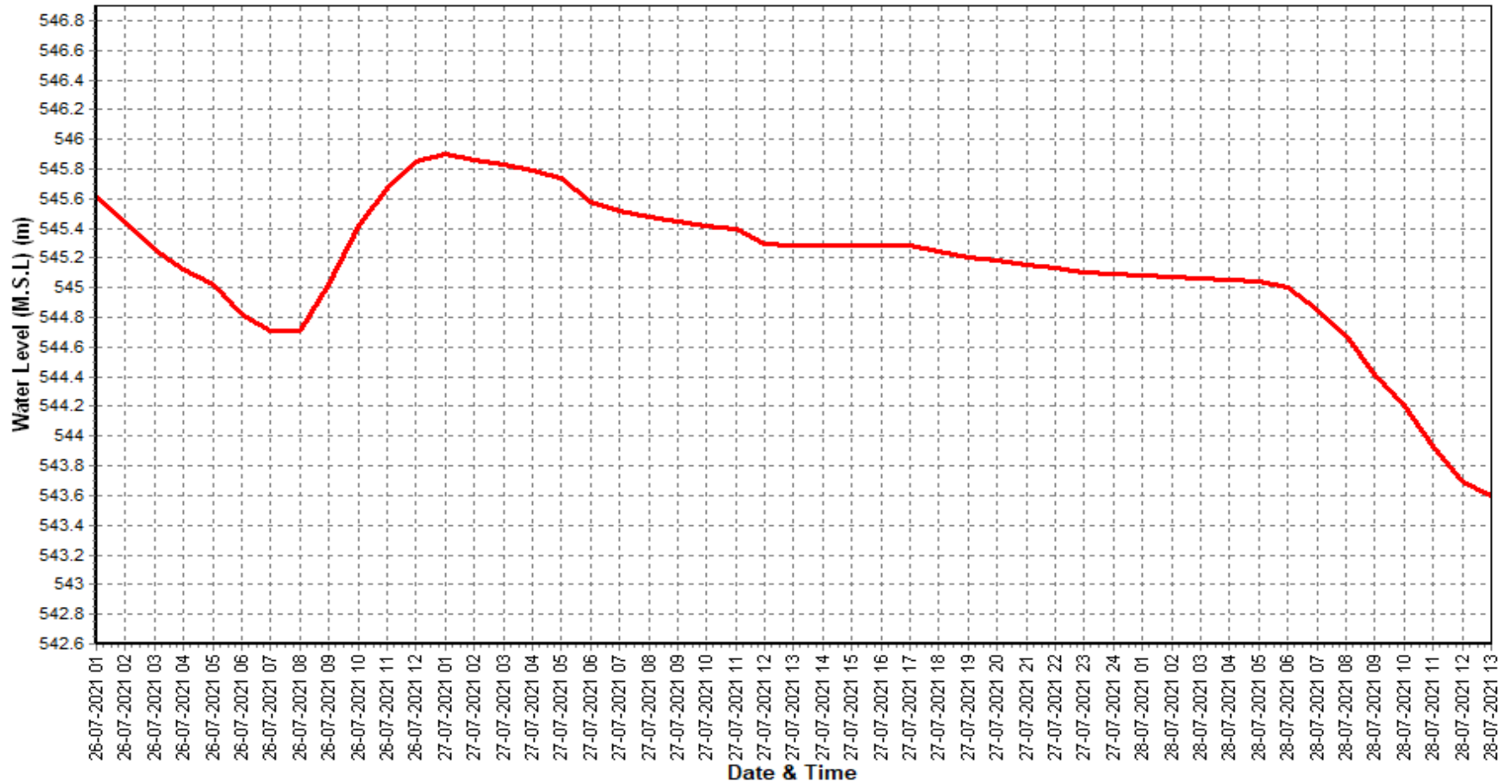
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Gokak Falls (Seasonal) (AKT00P9)

Local River : Ghataprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



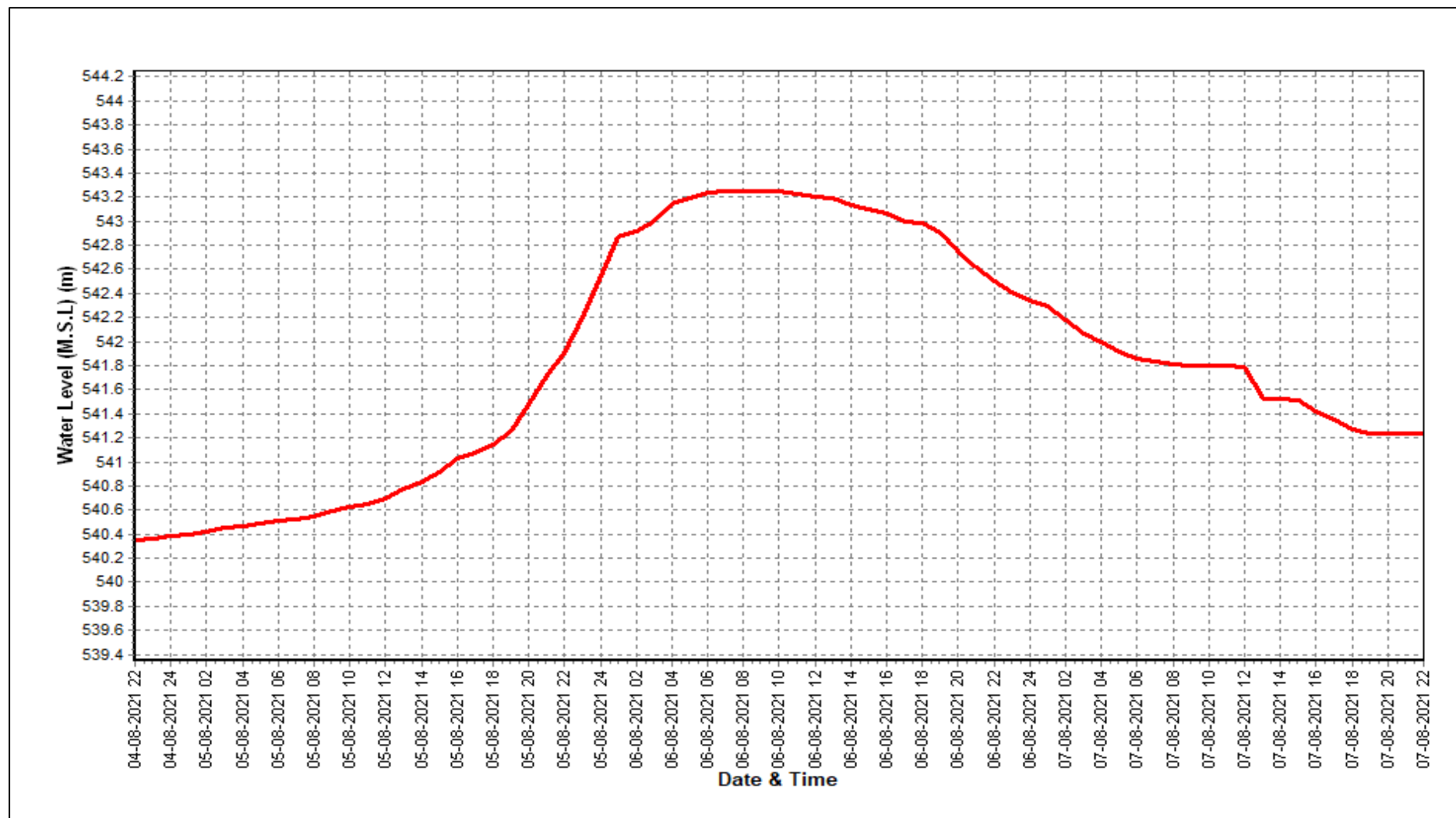
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Gokak Falls (Seasonal) (AKT00P9)

Local River : Ghataprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



HISTORY SHEET

		Water Year : 2021-2022	
Site	: Mudhol	Code	: MUDHOL
State	: Karnataka	District	Bagalkot
Basin	: Krishna	Independent River	: Krishna
Tributary	: Ghataprabha	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Ghataprabha
Division	: Upper Krishna Divn, Pune	Sub-Division	: Middle Krishna SD 1, Bagalkot
Drainage Area	: 6734 Sq. Km.	Bank	: Right
Latitude	: 16°19'00"	Longitude	: 75°12'00"
Zero of Gauge (m)	: 530 (m.s.l)	13-07-1998	- 31-05-2007
	: 530 (m.s.l)	01-06-2007	- 26-11-2014
	: 530 (m.s.l)	27-11-2014	
	Opening Date	Closing Date	
Gauge	: 13-07-2000		
Discharge	: 25-07-2000		

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2001-2002	414.1	526.650	07-10-2001	0.000	522.980	03-03-2002
2002-2003	418.8	526.750	15-08-2002	0.000	523.810	05-02-2003
2003-2004	213.9	525.053	24-06-2003	0.000	522.045	23-01-2004
2004-2005	643.4	528.410	08-08-2004	0.000	524.790	25-01-2005
2005-2006	1150	532.340	06-08-2005	0.000	524.030	24-02-2006
2006-2007	1018	531.395	14-08-2006	0.000	525.100	20-02-2007
2015-2016	109	533.470	23-09-2015	0.000		02-04-2016
2016-2017	275.9	535.830	01-06-2016	0.000		25-01-2017
2017-2018	275.5	535.365	23-07-2017	0.000	531.850	10-08-2017
2018-2019	509.2	538.100	20-08-2018	0.000	533.580	26-01-2019
2019-2020	1600	544.660	09-08-2019	0.000	530.580	03-01-2020
2020-2021	2402	541.320	20-08-2020	0.000	534.760	15-05-2021

Gauge and Discharge observation suspended on 31/05/2007. Gauge observation restarted on 28-11-2014. Discharge restarted on 16-09-2015

Annual Runoff of Krishna at Mudhol

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	2000-2001	751	69	820	27	2	29
2	2001-2002	705	44	749	25	2	26
3	2002-2003	532	44	576	19	2	20
4	2003-2004	334	28	363	12	1	13
5	2004-2005	1048	0	1048	37	0	37
6	2005-2006	4082	52	4134	144	2	146
7	2006-2007	3299	38	3336	117	1	118
8	2007-2008	Gauge and Discharge observation suspended on 31/05/2007. Gauge observation restarted on 28-11-2014. Discharge restarted on 16-09-2015					
9	2008-2009						
10	2009-2010						
11	2010-2011						
12	2011-2012						
13	2012-2013						
14	2013-2014						
15	2014-2015						
16	2015-2016	49	0	49	2	0	2
17	2016-2017	342	0	342	12	0	12
18	2017-2018	387		387	14	0	14
19	2018-2019	1072	14	1086	38	1	38
20	2019-2020	3406	77	3484	120	3	123
21	2020-2021	2837	17	2854	100	1	101
22	2021-2022	1985	124	2109	70	4	75
Average		1488	39	1524	53	1	54

Instantaneous Flood Peak of Krishna at Mudhol					
Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	2000-2001	537.480	16-07-2000	17:00:00	458 *
2	2001-2002	536.860	07-10-2001	14:00:00	414 *
3	2002-2003	536.770	15-08-2002	03:00:00	419 *
4	2003-2004	535.070	24-06-2003	05:00:00	350 *
5	2004-2005	538.410	08-08-2004	07:00:00	643 *
6	2005-2006	542.350	06-08-2005	00:00:00	1060 *
7	2006-2007	541.430	14-08-2006	15:00:00	900 *
8	2015-2016	538.23	23-09-2015	07:00:00	533 *
9	2016-2017	535.830	15-07-2016	09:00:00	480 *
10	2017-2018	535.390	23-07-2017	09:00:00	405 *
11	2018-2019	538.250	20-08-2018	18:00:00	550 *
12	2019-2020	544.66	09-08-2019	12:00:00	1600 *
13	2020-2021	541.38	20-08-2020	13:00:00	900 *
14	2021-2022	543.370	26-07-2021	07:00:00	1271 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : Mudhol (MUDHOL)

Local River : Ghataprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	534.800	0.000	531.010	13.80 *	537.180	461.4 *	531.530	26.14 *	531.180	21.08	530.955	11.21
2	534.670	0.000	530.960	12.83 *	537.240	469.2 *	531.480	24.77 *	534.200	159.9 *	531.010	14.18
3	534.480	0.000	530.820	10.33 *	537.070	447.2 *	531.340	21.14 *	532.720	70.72 *	530.960	11.40
4	535.600	0.000	530.760	9.339 *	535.970	318.7 *	531.270	19.44 *	532.180	47.59 *	531.020	14.00 *
5	535.620	0.000	530.570	6.563 *	534.750	203.0 *	531.180	17.37 *	531.970	39.91 *	531.050	15.85
6	535.530	0.000	530.610	7.104 *	536.180	341.4 *	531.230	18.51 #	531.960	39.56 *	531.050	15.62
7	535.450	0.000	530.550	6.301 #	537.630	521.7 *	531.250	18.97 #	533.010	85.18 *	531.030	14.20 *
8	535.340	0.000	530.900	12.55	537.130	454.9 *	532.160	46.83 *	532.710	70.25 *	531.055	16.16
9	535.300	0.000	530.925	14.79	534.610	191.5 *	532.100	44.58 *	535.070	230.7 *	531.010	13.65
10	535.150	0.000	531.900	37.00	533.650	122.3 *	533.200	95.44 *	533.950	142.1 *	530.740	9.022 #
11	534.500	0.000	531.770	33.26 *	532.770	73.11 *	533.510	113.5 *	533.050	87.29 *	531.190	21.58
12	532.120	0.000	531.610	27.92	532.290	51.90 *	533.500	112.9 *	533.370	105.2 *	531.250	18.97 #
13	532.020	0.000	531.570	25.57	532.140	46.07 *	534.790	206.4 *	533.710	126.1 *	531.320	20.65 *
14	531.040	0.000	532.565	58.02	532.970	83.10 *	535.910	312.4 *	532.850	77.02 *	531.270	19.44 *
15	530.720	0.000	532.645	60.80	532.880	78.52 *	536.340	359.3 *	532.440	58.11 *	531.070	18.59
16	530.750	9.180 #	533.350	104.0 *	533.290	100.5 *	535.680	288.7 *	532.270	51.11 *	531.040	14.25
17	534.230	172.6	533.380	105.7 *	533.600	119.1 *	533.790	131.3 *	532.100	44.58 *	531.310	20.40 *
18	536.700	400.5	532.920	80.54 *	533.260	98.81 *	533.430	108.7 *	532.010	41.32 *	531.470	24.50 *
19	537.170	460.1 *	532.360	54.76 *	533.530	114.8 *	533.070	88.35 *	531.900	37.51 *	532.040	42.39 *
20	537.320	479.7 *	533.500	112.9 *	533.490	112.3 *	532.370	55.17 *	531.660	29.88 *	531.980	40.26 *
21	537.030	442.1 *	533.460	110.5 *	533.210	96.00 *	531.990	40.61 *	531.340	21.14 *	532.100	44.58 *
22	535.400	261.2 *	533.920	140.1 *	533.080	88.98 *	531.750	32.63 *	531.400	22.66 *	532.200	48.36 *
23	534.050	149.1 *	535.660	286.7 *	532.630	66.52 *	531.640	29.29 *	531.050	15.73	532.040	42.39 *
24	533.660	122.9 *	537.700	531.4 *	532.210	48.75 *	531.770	33.26 *	531.020	14.00 *	531.940	38.87 *
25	533.150	92.68 *	540.350	972.3 *	532.160	46.83 *	531.700	31.09 *	530.900	9.463	532.060	43.11 *
26	533.020	85.70 *	543.370	1652 *	531.860	36.17 *	531.720	31.70 *	530.900	8.945	532.100	44.58 *
27	532.790	74.08 *	542.920	1538 *	531.900	37.51 *	531.490	25.04 *	531.010	14.05	531.940	38.87 *
28	531.540	26.41 *	542.250	1377 *	531.730	32.01 *	531.490	25.04 *	531.005	13.85	531.900	37.15 *
29	531.380	22.15 *	541.410	1189 *	531.930	38.53 *	531.440	23.70 *	530.945	10.99	531.900	37.15 *
30	531.250	18.97 *	540.370	976.2 *	531.720	31.70 *	531.310	20.40 #	530.930	10.70	531.720	31.70 *
31			538.970	725.0 *	531.640	29.29 *			530.940	12.46 *		
<u>Ten-Daily Mean</u>												
I Ten-Daily	535.194	0.000	530.901	13.06	536.141	353.1	531.674	33.32	532.895	90.70	530.988	13.53
II Ten-Daily	533.657	152.2	532.567	66.35	533.022	87.82	534.239	177.7	532.536	65.81	531.394	24.10
III Ten-Daily	533.327	129.5	539.125	863.5	532.188	50.21	531.630	29.28	531.040	14.00	531.990	40.68
<u>Monthly</u>												
Min.	530.720	0.000	530.550	6.301	531.640	29.29	531.180	17.37	530.900	8.945	530.740	9.022
Max.	537.320	479.7	543.370	1652	537.630	521.7	536.340	359.3	535.070	230.7	532.200	48.36
Mean	534.059	93.91	534.357	332	533.732	160.1	532.514	80.09	532.121	55.45	531.457	26.1

Annual Runoff in MCM = 2109 Annual Runoff in mm = 313

Peak Observed Discharge = 400.5 cumecs on 18-06-2021 Corres. Water Level :536.7 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021 Corres. Water Level :534.8 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : Mudhol (MUDHOL)

Local River : Ghataprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	531.190	21.64	531.420	32.26 *	532.870	0.000	530.170	0.000	533.250	0.000	535.270	0.000
2	531.700	51.00 *	531.450	34.05 *	532.880	0.000	530.170	0.000	533.060	0.000	534.900	0.000
3	531.740	54.06 *	531.370	29.40 *	532.880	0.000	530.170	0.000	532.850	0.000	534.760	0.000
4	531.950	71.78 *	531.400	31.10 *	532.930	0.000	530.170	0.000	532.630	0.000	534.450	0.000
5	532.040	80.21 *	531.400	31.10 *	532.890	0.000	530.170	0.000	532.480	0.000	534.230	0.000
6	531.680	49.50 *	531.370	29.40 *	532.870	0.000	530.170	0.000	532.210	0.000	534.010	0.000
7	531.580	42.39 *	531.340	27.76 *	532.990	0.000	530.170	0.000	531.980	0.000	533.780	0.000
8	531.590	43.08 *	531.370	29.40 *	533.000	0.000	530.160	0.000	531.780	0.000	533.520	0.000
9	531.520	38.42 *	531.190	20.30 *	532.990	0.000	530.150	0.000	531.670	0.000	533.300	0.000
10	531.430	32.85 *	530.875	8.584	532.990	0.000	530.150	0.000	531.410	0.000	533.000	0.000
11	531.400	31.10 *	530.615	2.780	533.000	0.000	532.650	0.000	531.190	0.000	532.690	0.000
12	531.330	27.22 *	530.650	3.850	532.970	0.000	535.260	0.000	530.970	0.000	532.450	0.000
13	531.340	27.76 *	530.480	0.000	532.860	0.000	535.060	0.000	530.850	0.000	532.330	0.000
14	531.720	52.52 *	530.440	0.000	532.320	0.000	535.170	0.000	530.364	0.000	532.130	0.000
15	531.400	31.10 *	530.390	0.000	532.090	0.000	535.210	0.000	530.500	0.000	531.890	0.000
16	531.360	28.85 *	530.240	0.000	531.960	0.000	535.210	0.000	530.400	0.000	531.810	0.000
17	531.350	28.30 *	530.240	0.000	531.820	0.000	535.000	0.000	530.300	0.000	531.650	0.000
18	531.330	27.22 *	530.230	0.000	531.640	0.000	535.370	0.000	530.200	0.000	531.620	0.000
19	531.260	23.62 *	530.230	0.000	531.450	0.000	535.490	0.000	Dry bed	0.000	531.520	0.000
20	531.310	26.12 *	530.220	0.000	531.270	0.000	535.370	0.000		0.000	531.550	0.000
21	531.190	21.64	530.220	0.000	531.030	0.000	535.020	0.000		0.000	536.760	0.000
22	531.360	28.85 *	530.220	0.000	530.930	0.000	534.960	0.000		0.000	535.960	0.000
23	531.380	29.96 *	530.220	0.000	530.870	0.000	534.900	0.000	535.770	0.000	535.740	0.000
24	531.400	31.10 *	530.220	0.000	530.680	0.000	534.790	0.000	535.670	0.000	535.530	0.000
25	531.430	32.85 *	530.220	0.000	530.390	0.000	534.630	0.000	535.620	0.000	535.490	0.000
26	531.450	34.05 *	530.200	0.000	530.200	0.000	534.430	0.000	535.530	0.000	535.370	0.000
27	531.450	34.05 *	531.125	15.19	530.180	0.000	534.220	0.000	535.480	0.000	535.290	0.000
28	531.490	36.51 *	532.530	0.000	530.180	0.000	534.060	0.000	534.910	0.000	535.210	0.000
29	531.470	35.26 *	532.620	0.000			533.850	0.000	534.800	0.000	535.130	0.000
30	531.440	33.44 *	532.760	0.000			533.680	0.000	535.320	0.000	535.000	0.000
31	531.400	31.10 *	532.860	0.000			533.480	0.000			534.870	0.000
<u>Ten-Daily Mean</u>												
I Ten-Daily	531.642	48.49	531.318	27.34	532.929	0.000	530.165	0.000	532.332	0.000	534.122	0.000
II Ten-Daily	531.380	30.38	530.374	0.663	532.138	0.000	534.979	0.000	530.597	0.000	531.964	0.000
III Ten-Daily	531.405	31.71	531.200	1.381	530.557	0.000	534.365	0.000	535.387	0.000	535.486	0.000
<u>Monthly</u>												
Min.	531.190	21.64	530.200	0.000	530.180	0.000	530.150	0.000	530.200	0.000	531.520	0.000
Max.	532.040	80.21	532.860	34.05	533.000	0.000	535.490	0.000	535.770	0.000	536.760	0.000
Mean	531.474	36.69	530.971	9.522	531.969	0	533.208	0	532.738	0	533.910	0

Peak Computed Discharge = 1652 cumecs on 26-07-2021

Corres. Water Level :543.37 m

Lowest Computed Discharge = 6.563 cumecs on 05-07-2021

Corres. Water Level :530.57 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

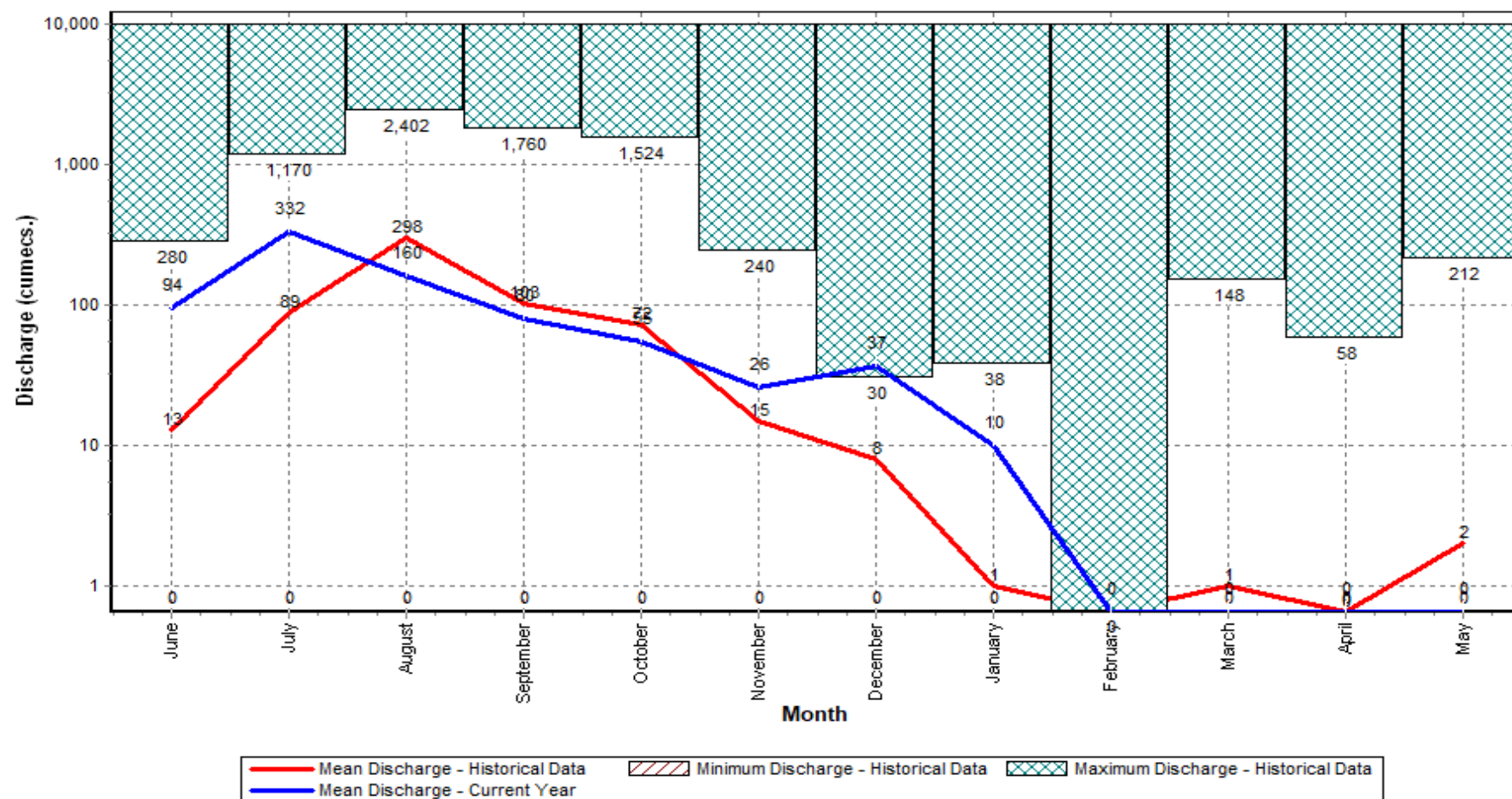
Station Name : Mudhol (MUDHOL)

Data considered : 2001-2022

Division : Upper Krishna Divn, Pune

Local River : Ghataprabha

Sub-Division : Middle Krishna SD 1, Bagalkot



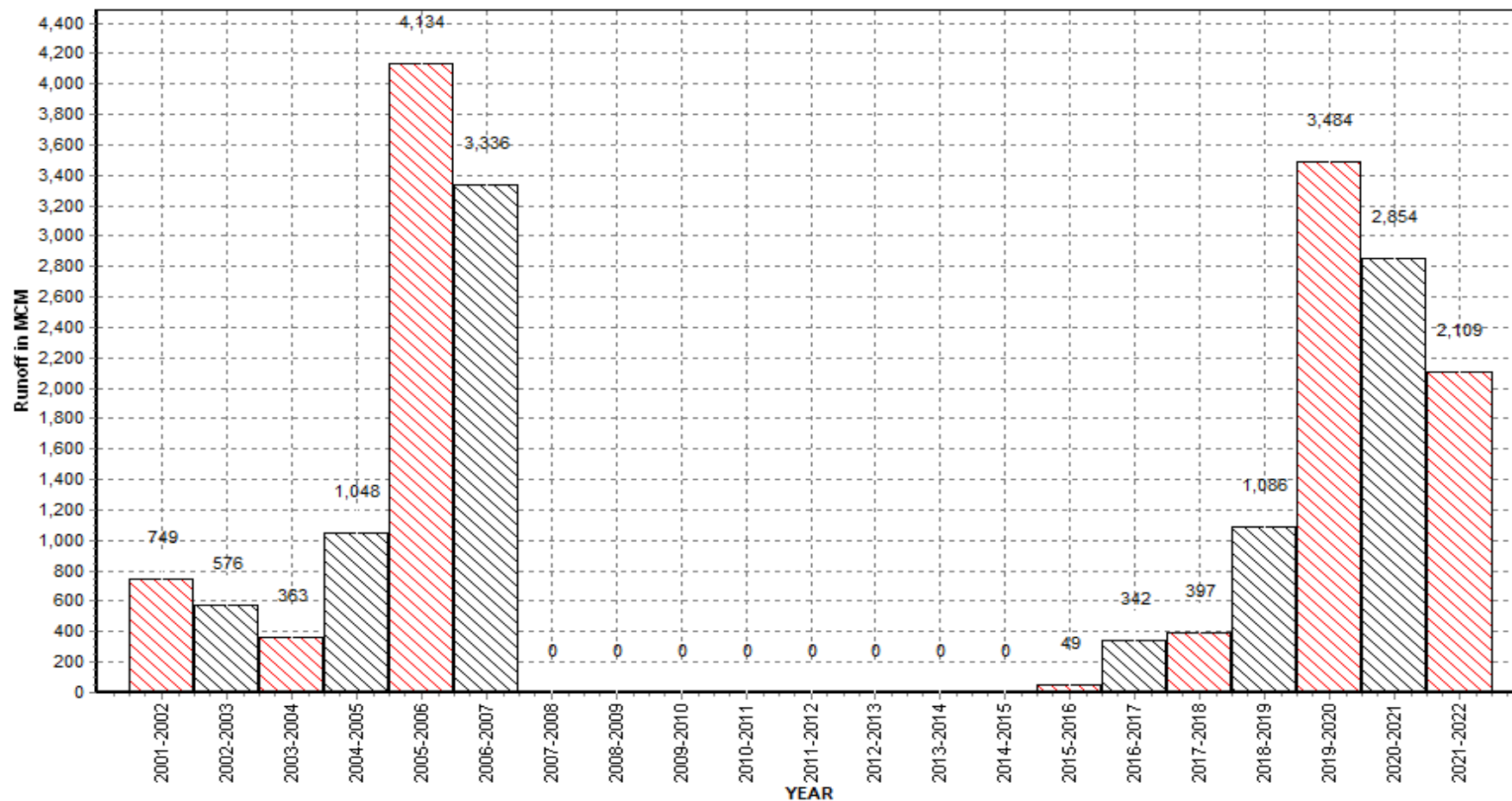
Annual Runoff Values for the period: 2001 - 2022

Station Name : Mudhol (MUDHOL)

Local River : Ghataprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



Note: Missing values have not been considered while arriving at Annual Runoff

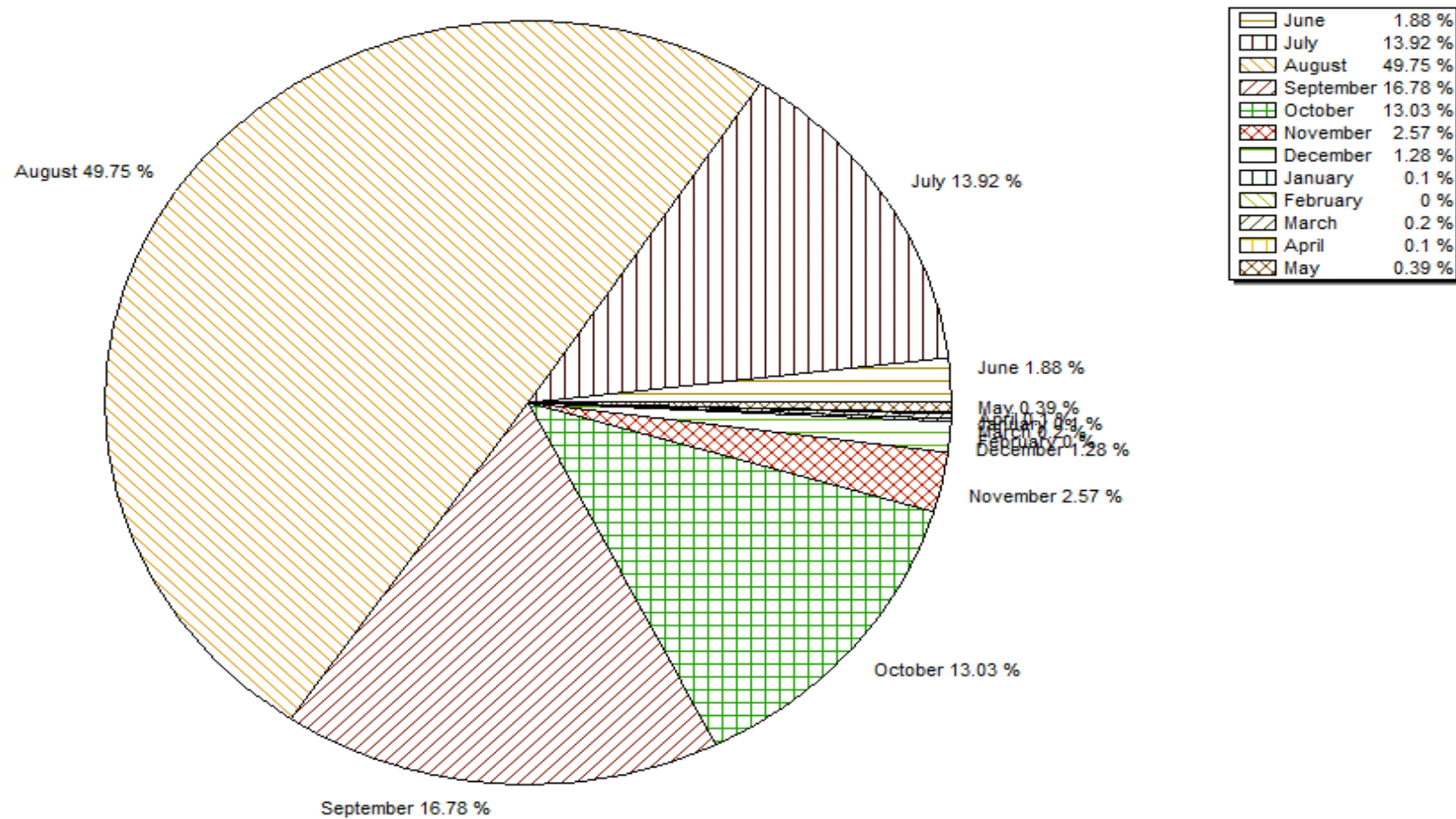
Monthly Average Runoff based on period : 2001-2021

Station Name : Mudhol (MUDHOL)

Local River : Ghataprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



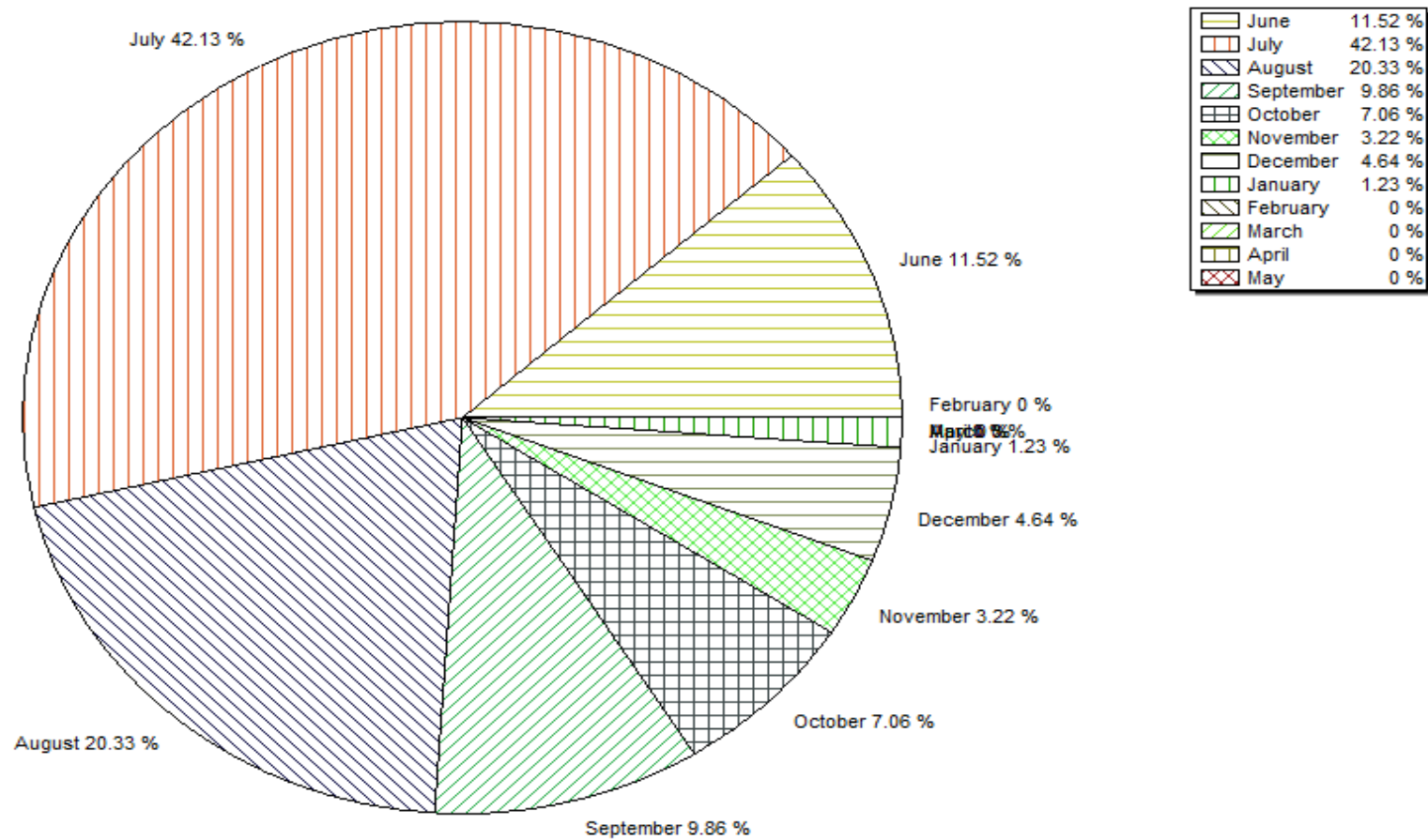
Monthly Runoff for the Year : 2021-2022

Station Name : Mudhol (MUDHOL)

Local River : Ghataprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot

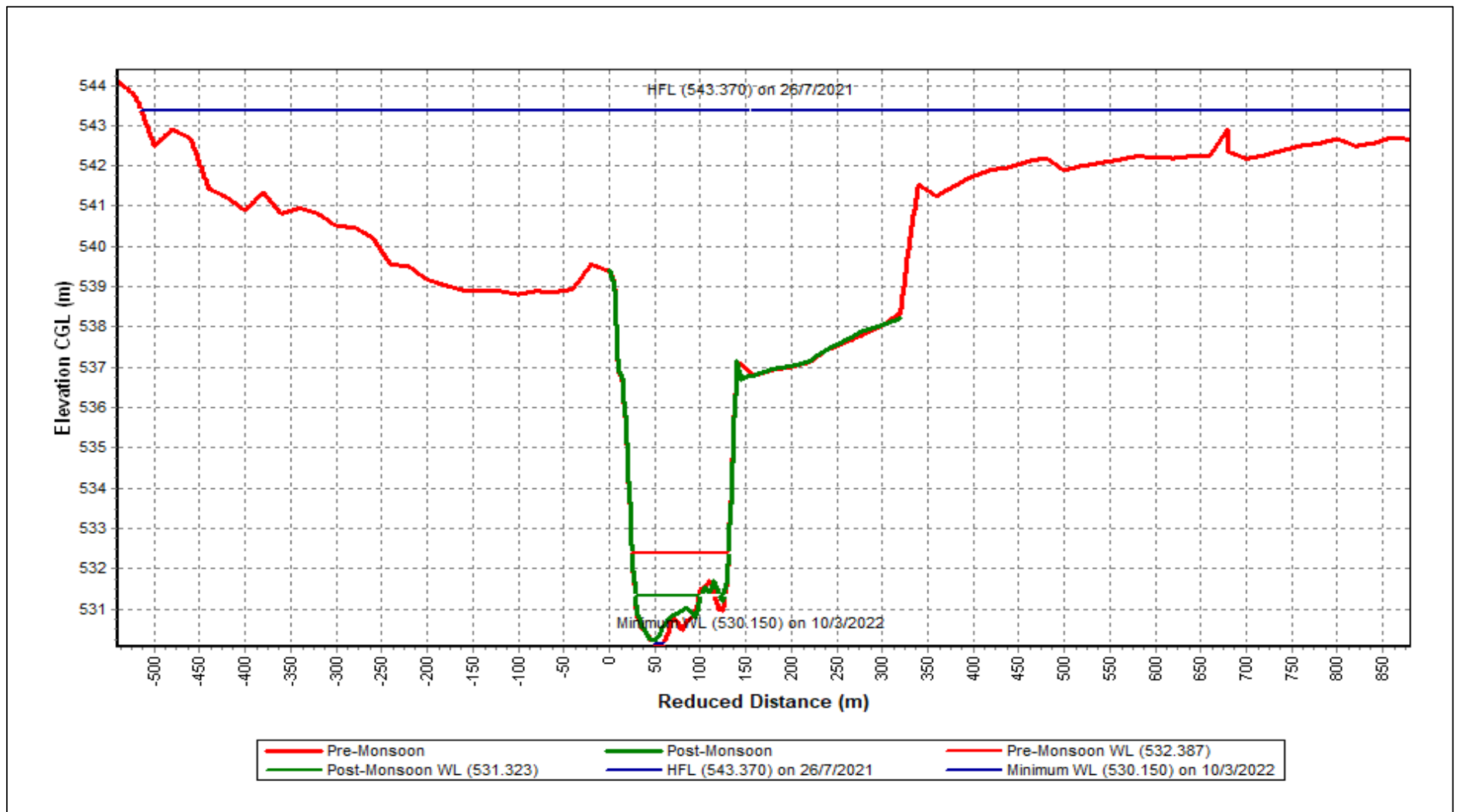


Station Name : Mudhol (MUDHOL)

Local River : Ghataprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



Zero of Gauge : 530 (m.s.l)

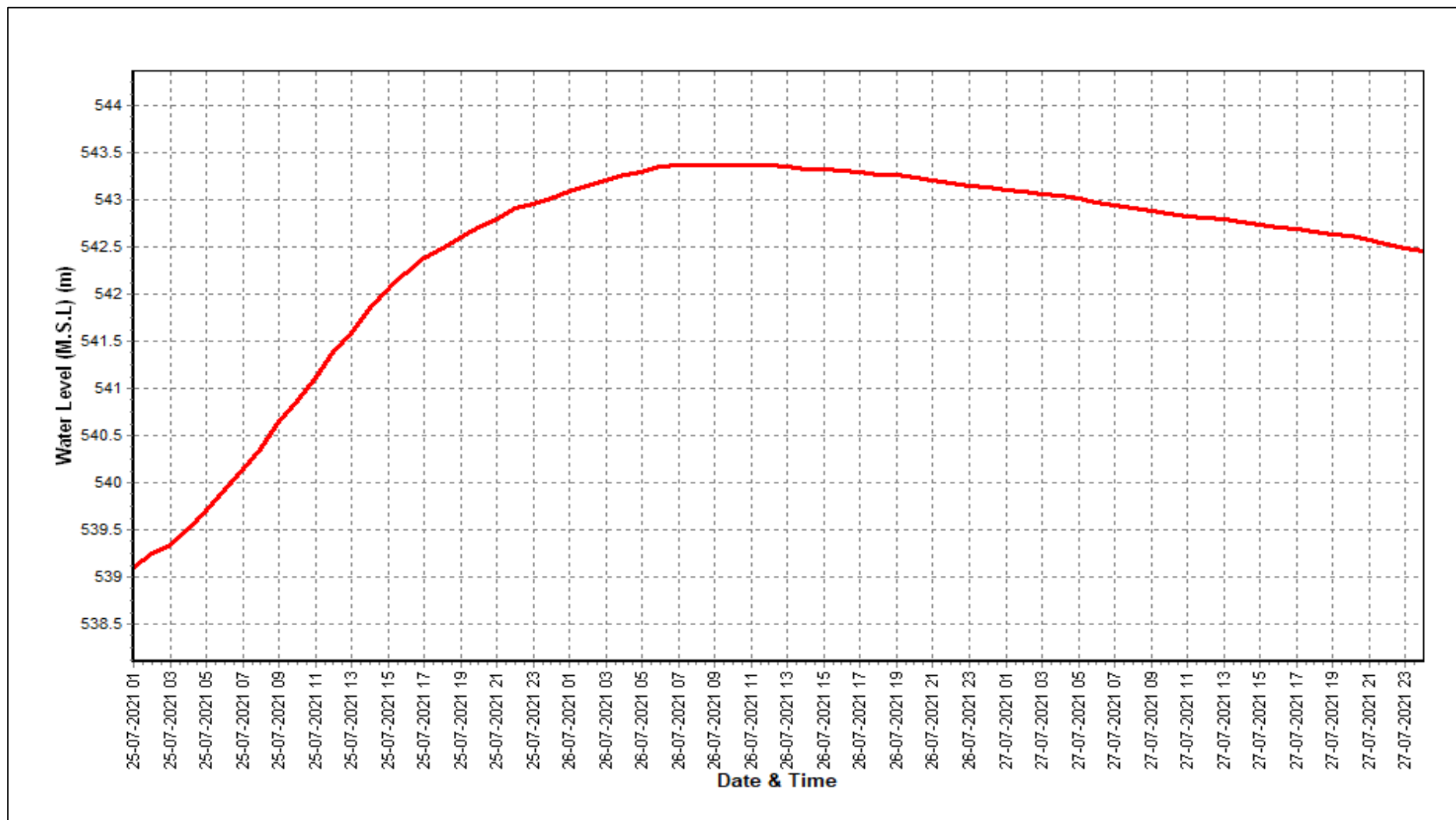
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Mudhol (MUDHOL)

Local River : Ghataprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



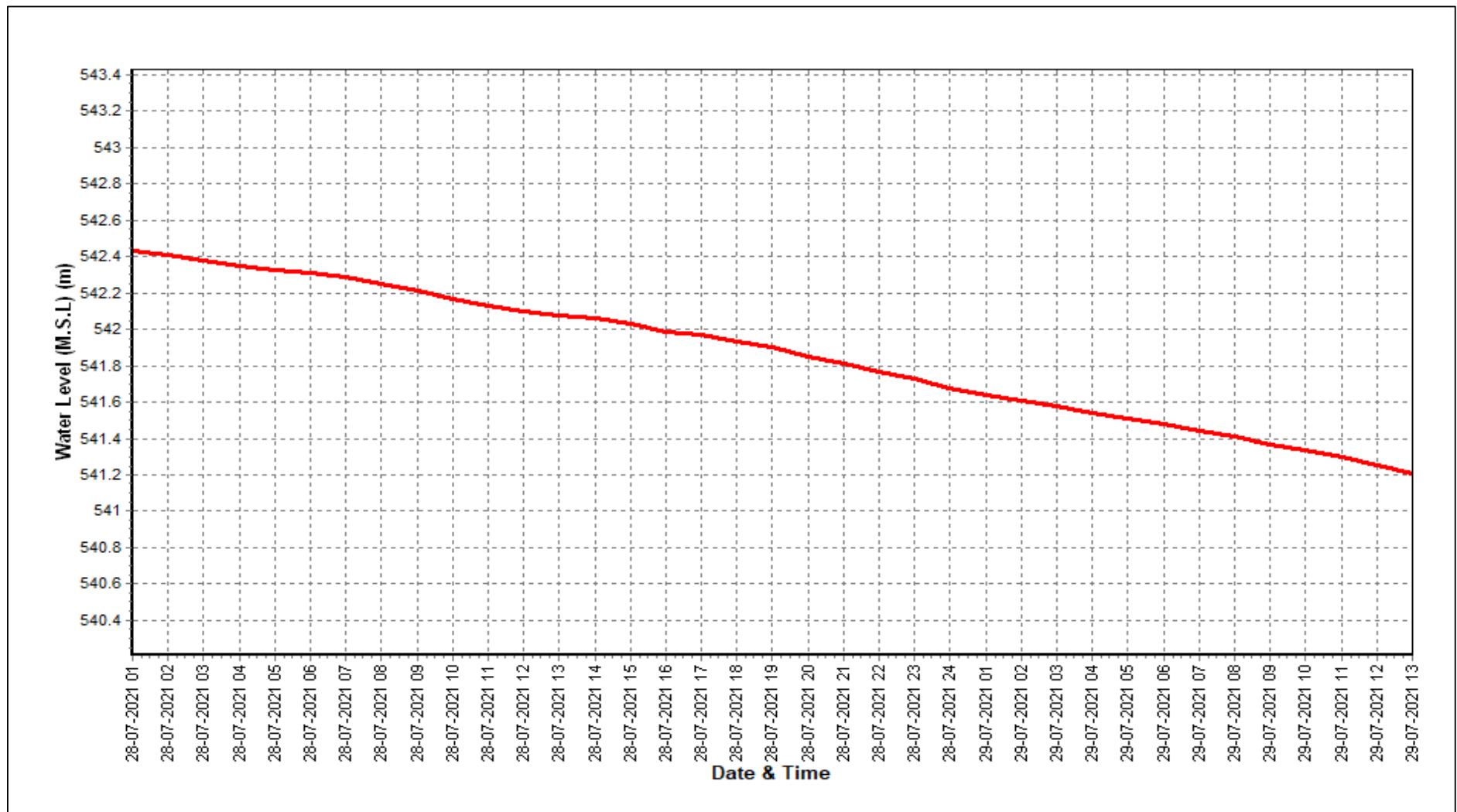
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Mudhol (MUDHOL)

Local River : Ghataprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



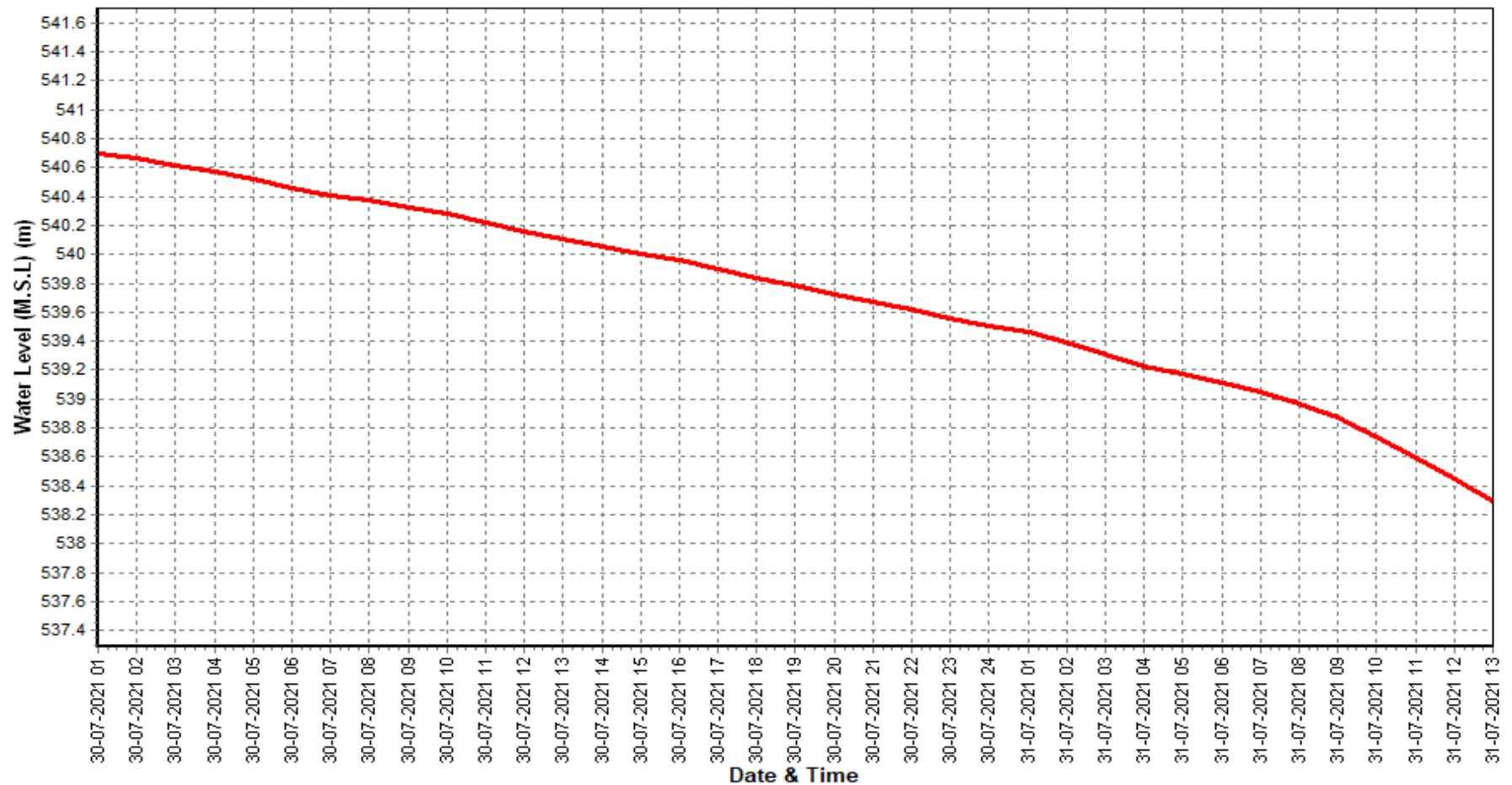
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Mudhol (MUDHOL)

Local River : Ghataprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



HISTORY SHEET

Water Year : 2021-2022

Site : Chalachguda (Seasonal)

Code : AKS00H1

State : Karnataka

District : Vijayapuri

Basin : Krishna

Independent River : Krishna

Tributary : Malaprabha

Sub Tributary : -

Sub-Sub Tributary : -

Local River : Malaprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot

Drainage Area : 9373 Sq. Km.

Bank : Left

Latitude : 15°52'43"

Longitude : 75°43'16"

Zero of Gauge (m) : 522.5 (m.s.l)
522 (m.s.l)01-06-1982 - 31-05-2010
01-06-2010

Opening Date

Closing Date

Gauge : 01-06-1982

Discharge : 01-06-1982

Sediment : 01-06-1982

Water Quality : 01-06-1982

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1982-1983	987.2	530.410	06-11-1982	2.300	523.820	15-04-1983
1983-1984	507	528.150	18-08-1983	1.400	523.765	02-06-1983
1984-1985	550	528.310	24-10-1984	1.700	523.800	27-06-1984
1985-1986	356.5	527.500	31-05-1986	0.000		07-03-1986
1986-1987	685.7	529.375	24-09-1986	0.000		14-03-1987
1987-1988	812.9	529.900	07-08-1987	0.000		08-03-1988
1988-1989	808	529.380	18-09-1988	0.000	523.740	27-07-1988
1989-1990	1190	531.155	20-09-1989	0.000		11-02-1990
1990-1991	95	526.250	23-05-1991	0.000		10-05-1991
1991-1992	1372	531.637	29-06-1991	0.000	523.670	27-04-1992
1992-1993	2541	535.600	18-11-1992	0.000	523.820	10-05-1993
1993-1994	1785	533.289	19-10-1993	0.000		13-05-1994
1994-1995	499.6	528.400	03-09-1994	0.000	523.610	01-07-1994
1995-1996	572.8	528.865	26-09-1995	0.000		13-05-1996
1996-1997	990	530.700	03-10-1996	0.000	523.600	26-07-1996
1997-1998	1060	530.800	23-09-1997	0.000		23-07-1997
1998-1999	1073	530.590	16-10-1998	0.000		17-04-1999
1999-2000	582	529.100	15-10-1999	0.000		01-04-2000
2000-2001	571.2	529.000	19-09-2000	0.000	523.530	24-03-2001
2001-2002	530.3	528.900	24-09-2001	0.000	523.590	27-02-2002
2002-2003	413.4	528.150	03-08-2002	0.000		06-04-2003

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2003-2004	747	529.780	08-10-2003	0.000	523.630	11-12-2003
2004-2005	934.5	530.345	13-07-2004	0.000	523.585	31-01-2005
2005-2006	553.8	529.010	26-09-2005	0.000	523.660	27-03-2006
2006-2007	452.8	528.475	15-08-2006	0.000	523.500	20-07-2006
2007-2008	2181	534.300	20-09-2007	0.000	523.650	21-06-2007
2008-2009	356.7	527.900	06-09-2008	0.000	523.540	01-08-2008
2009-2010	2892	536.610	02-10-2009	0.000	523.620	09-08-2009
2010-2011	1023	531.000	09-11-2010	0.000	523.605	08-07-2010
2011-2012	201	527.260	11-09-2011	0.000	523.610	04-08-2011
2012-2013	71	525.720	28-09-2012	0.000		02-11-2012
2013-2014	294	528.210	03-09-2013	0.000	523.640	09-08-2013
2014-2015	209	527.870	07-06-2014	0.000	523.580	24-07-2014
2015-2016	167.5	527.520	18-09-2015	0.000	524.840	24-08-2015
2016-2017	250	527.950	20-06-2016	0.000	523.120	30-10-2016
2017-2018	553	529.130	16-10-2017	0.000		02-08-2017
2018-2019	371	528.570	04-06-2018	0.000	525.320	08-10-2018
2019-2020	2724	536.200	10-08-2019	0.000	523.200	04-07-2019
2020-2021	1077	532.920	19-08-2020	0.000	523.500	18-07-2020

Annual Runoff of Malaprabha at Chalachguda

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1982-1983	1297	199	1496	46	7	53
2	1983-1984	1042	220	1262	37	8	45
3	1984-1985	516	197	713	18	7	25
4	1985-1986	245	88	333	9	3	12
5	1986-1987	679	51	730	24	2	26
6	1987-1988	628	48	676	22	2	24
7	1988-1989	710	175	885	25	6	31
8	1989-1990	599	64	663	21	2	23
9	1990-1991	241	63	304	9	2	11
10	1991-1992	1387	211	1598	49	7	56
11	1992-1993	861	195	1056	30	7	37
12	1993-1994	848	157	1005	30	6	36
13	1994-1995	1045	268	1313	37	9	46
14	1995-1996	745	124	868	26	4	31
15	1996-1997	1072	221	1293	38	8	46
16	1997-1998	734	252	986	26	9	35
17	1998-1999	904	163	1067	32	6	38
18	1999-2000	642	250	893	23	9	32
19	2000-2001	837	170	1006	30	6	36
20	2001-2002	427	63	490	15	2	17
21	2002-2003	318	47	365	11	2	13
22	2003-2004	200	105	305	7	4	11
23	2004-2005	561	84	645	20	3	23
24	2005-2006	789	233	1022	28	8	36
25	2006-2007	784	Site Converted as seasonal Site from june 2006	784	28	Site Converted as seasonal Site from june 2006	28
26	2007-2008	1596		1596	56		56
27	2008-2009	352		352	12		12
28	2009-2010	1347		1347	48		48
29	2010-2011	533		533	19		19
30	2011-2012	392		392	14		14
31	2012-2013	64		64	2		2
32	2013-2014	287		287	10		10
33	2014-2015	305		305	11		11
34	2015-2016	266		266	9		9
35	2016-2017	55		55	2		2
36	2017-2018	696		696	25		25
37	2018-2019	150		150	5		5
38	2019-2020	2275	205	2480	80	7	88
38	2020-2021	1362	791	2153	48	28	76
39	2021-2022	1190	301	1491	42	11	53
Average		724	179	848	25.60	6.47	29.97

Instantaneous Flood Peak of Malaprabha at Chalachguda					
Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	1982-1983	530.580	06-11-1982	10:00:00	1099 *
2	1983-1984	528.240	18-08-1983	12:00:00	423 *
3	1984-1985	528.800	24-10-1984	06:00:00	585 *
4	1985-1986	526.990	31-05-1986	23:00:00	63 *
5	1986-1987	530.150	24-09-1986	12:00:00	974 *
6	1987-1988	530.000	07-08-1987	10:00:00	931 *
7	1988-1989	529.380	18-09-1988	08:00:00	752 *
8	1989-1990	531.520	20-09-1989	12:00:00	1370 *
9	1990-1991	527.400	23-05-1991	13:00:00	181 *
10	1991-1992	533.805	29-06-1991	03:00:00	2029 *
11	1992-1993	535.600	18-11-1992	07:00:00	2547 *
12	1993-1994	534.230	19-10-1993	09:00:00	2152 *
13	1994-1995	528.550	03-09-1994	06:00:00	513 *
14	1995-1996	528.950	26-09-1995	13:00:00	628 *
15	1996-1997	531.150	03-10-1996	15:00:00	1263 *
16	1997-1998	532.930	23-09-1997	12:00:00	1777 *
17	1998-1999	530.590	16-10-1998	06:00:00	1101 *
18	1999-2000	529.100	15-10-1999	07:00:00	671 *
19	2000-2001	529.700	19-09-2000	20:00:00	845 *
20	2001-2002	528.900	24-09-2001	07:00:00	614 *
21	2002-2003	529.200	03-08-2002	01:00:00	700 *
22	2003-2004	530.140	08-10-2003	11:00:00	972 *
23	2004-2005	530.345	13-07-2004	08:00:00	1031
24	2005-2006	529.020	26-09-2005	10:00:00	648 *
25	2006-2007	528.520	15-08-2006	12:00:00	504 *
26	2007-2008	535.650	20-09-2007	22:00:00	2562 *
27	2008-2009	528.350	06-09-2008	06:00:00	455 *
28	2009-2010	536.840	02-10-2009	09:00:00	2905 *
29	2010-2011	531.450	09-11-2010	12:00:00	1350 *
30	2011-2012	527.480	11-09-2011	14:00:00	204 *
31	2012-2013	525.850	28-09-2012	00:00:00	90 *
32	2013-2014	528.390	03-09-2013	11:00:00	467 *
33	2014-2015	527.990	07-06-2014	12:00:00	351 *
34	2015-2016	527.820	18-09-2015	06:00:00	302 *
35	2016-2017	528.000	20-06-2016	06:00:00	354 *
36	2017-2018	529.340	16-10-2017	15:00:00	741 *
37	2018-2019	528.600	04-06-2018	11:00:00	527 *
38	2019-2020	537.200	10-08-2019	20:00:00	3009 *
39	2020-2021	532.960	19-08-2020	15:00:00	1785 *
40	2021-2022	531.450	26-07-2021	06:00:00	1349 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : Chalachguda (Seasonal) (AKS00H1)

Division : Upper Krishna Divn, Pune

Local River : Malaprabha

Sub-Division : Middle Krishna SD 1, Bagalkot

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	526.150	122.4 *	524.950	41.96 *	525.250	57.62 *	524.770	30.52	524.610	34.82	524.600	40.48
2	526.010	110.5 *	524.950	41.96 *	525.175	52.42	524.800	36.61	524.550	39.84	524.500	31.57
3	525.940	104.8 *	524.940	41.48 *	524.980	50.92	524.730	30.28	525.550	93.25 *	524.410	30.96
4	526.250	131.3 *	524.940	41.48 *	524.950	47.82	524.700	25.62	524.700	42.21	524.380	27.98 *
5	527.880	329.8 *	525.100	49.43 *	524.990	48.80	524.700	31.02 *	524.470	35.01	524.390	30.80
6	526.020	111.3 *	525.000	44.37 *	525.080	52.12	525.060	46.52	524.605	40.02	524.490	30.60
7	525.030	45.86 *	525.120	50.48 *	524.950	47.67	524.975	50.02	524.720	42.48	524.490	32.69 *
8	525.010	44.86 *	525.700	86.56 *	524.950	41.96 *	525.225	53.07	524.795	42.83	524.490	31.20
9	525.000	44.37 *	525.860	98.49 *	525.020	52.54	524.900	45.83	526.130	137.1 #	524.440	25.24
10	525.040	46.36 *	526.010	110.5 *	525.000	52.68	524.900	39.62 *	526.300	151.3 *	524.430	24.50
11	524.950	41.96 *	525.310	61.10 *	524.995	51.10	524.830	38.67	525.965	139.6	524.440	24.99
12	524.900	39.62 *	524.750	33.05 *	524.885	45.71	525.420	67.77 *	525.375	102.5	524.440	24.11
13	524.900	39.62 *	524.500	23.59 *	524.780	31.62	525.190	59.93	526.430	162.6 #	524.480	27.05
14	524.900	39.62 *	524.450	21.91 *	524.700	24.49	525.550	71.96	526.000	138.3	524.480	32.25 *
15	524.900	39.62 *	524.470	22.57 *	525.000	44.37 *	526.100	109.2	525.900	118.9 *	524.910	49.33
16	524.910	40.08 *	524.500	23.59 *	524.700	24.88	526.100	113.8	525.735	110.1	524.920	49.88
17	524.930	41.01 *	524.470	22.57 *	524.820	31.91	526.250	119.7	525.100	64.13 *	524.960	49.74
18	525.100	49.43 *	524.930	41.01 *	524.800	33.39	526.100	113.3	524.600	37.97	525.200	62.56
19	525.620	80.93 *	526.080	116.3 *	524.800	33.95	525.500	72.87 *	524.600	37.72 *	525.600	96.74 *
20	526.220	128.6 *	526.200	126.8 *	524.800	35.17 *	524.870	42.91	524.500	45.60	525.465	76.59
21	526.410	146.3 *	524.980	43.39 *	524.790	32.94	525.210	67.97	524.500	33.14 #	526.190	142.1 *
22	525.570	77.51 *	524.850	37.35 *	524.700	31.02 *	525.260	58.19 #	524.500	42.84	527.170	233.1
23	525.100	49.43 *	524.750	29.68	524.660	24.65	525.030	52.33	524.500	42.16	525.500	85.61
24	525.050	46.86 *	526.650	171.4	526.030	117.1	524.920	40.54 #	524.680	41.56 *	525.170	63.09
25	525.010	44.86 *	528.350	406.7 *	524.855	34.14	524.800	41.06	524.750	42.11	524.980	51.18
26	524.970	42.91 *	531.400	1142 *	524.700	31.02 #	524.800	35.17 *	524.775	44.57	524.940	51.05
27	524.960	42.43 *	529.375	518.0	524.650	24.30	524.910	42.65	524.630	40.77	524.890	51.19
28	524.960	42.43 *	529.670	673.1 *	524.630	24.00	524.525	43.39	524.600	40.46	524.860	50.79 *
29	524.980	43.39 *	528.890	510.0	524.750	33.05 *	524.590	48.06	524.600	41.08	524.850	52.69
30	524.960	42.43 *	526.550	165.1	524.750	31.16	524.665	40.49	524.600	39.94	524.820	46.38
31			525.850	102.2	525.350	62.43			524.600	37.72 *		
Ten-Daily Mean												
I Ten-Daily	525.833	109.2	525.257	60.67	525.035	50.46	524.876	38.91	525.043	65.88	524.462	30.60
II Ten-Daily	525.133	54.05	524.966	49.25	524.828	35.66	525.591	81.01	525.421	95.75	524.889	49.32
III Ten-Daily	525.197	57.85	527.392	345.4	524.897	40.53	524.871	46.99	524.612	40.58	525.337	82.72
Monthly												
Min.	524.900	39.62	524.450	21.91	524.630	24.00	524.525	25.62	524.470	33.14	524.380	24.11
Max.	527.880	329.8	531.400	1142	526.030	117.1	526.250	119.7	526.430	162.6	527.170	233.1
Mean	525.388	73.69	525.921	158	524.919	42.16	525.113	55.64	525.012	66.54	524.896	54.22

Annual Runoff in MCM = 1491 Annual Runoff in mm = 159

Peak Observed Discharge = 518.0 cumecs on 27-07-2021 Corres. Water Level :529.375 m

Lowest Observed Discharge = 0.000 cumecs on 16-03-2022 Corres. Water Level :525.59 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : Chalachguda (Seasonal) (AKS00H1)

Division : Upper Krishna Divn, Pune

Local River : Malaprabha

Sub-Division : Middle Krishna SD 1, Bagalkot

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	524.800	47.57	524.780	46.79 #	524.840	26.80	524.730	21.36 *	524.850	0.000	525.850	0.000
2	524.800	50.49	524.720	42.84 *	524.840	26.84	524.750	24.20	524.700	0.000	525.850	0.000
3	524.790	49.16	524.700	30.75	524.830	26.07	524.750	24.20	524.460	0.000	525.850	0.000
4	525.130	70.44	524.680	29.48	524.820	26.05	524.760	24.03	524.450	0.000	525.650	0.000
5	524.950	59.09 *	524.680	28.79	524.820	25.86	524.730	23.74	524.360	0.000	525.650	0.000
6	524.800	49.20	524.720	30.93	524.820	25.72 *	524.730	21.36 *	524.000	0.000	525.600	0.000
7	524.790	49.16	524.740	31.66	524.810	25.54	524.710	21.61	523.800	0.000	525.600	0.000
8	524.750	47.14	524.750	33.73	524.810	25.08	524.710	21.67	523.750	0.000	525.600	0.000
9	524.730	47.36	524.790	35.09 *	524.800	25.47	524.720	21.22	523.750	0.000	526.300	0.000
10	524.700	41.57 #	524.820	36.32	524.800	25.21	524.720	21.76	523.450	0.000	526.400	0.000
11	524.700	41.34	524.810	38.76	524.810	25.27	524.750	21.79	523.300	0.000	526.400	0.000
12	524.680	40.32 *	524.780	36.77	524.810	24.89	524.800	21.89	523.200	0.000	526.250	0.000
13	524.750	46.17	524.800	33.74	524.790	24.21 *	524.830	26.24 *	523.200	0.000	526.250	0.000
14	524.820	50.13	524.810	36.16 *	524.790	24.86	524.850	22.17	523.200	0.000	526.100	0.000
15	524.820	49.11	524.810	33.90	524.820	25.91	524.800	21.62	523.200	0.000	526.100	0.000
16	524.780	46.15	524.800	35.62 *	524.810	25.41	525.590	0.000	523.000	0.000	526.100	0.000
17	524.780	46.73	524.720	32.96	524.810	25.69	525.740	0.000	523.200	0.000	525.950	0.000
18	524.800	49.30	524.830	30.85	524.810	25.63	525.720	0.000	523.150	0.000	525.950	0.000
19	524.800	48.15 *	524.860	31.06	524.830	25.77	525.700	0.000	523.150	0.000	525.950	0.000
20	524.770	42.17	524.880	32.21	524.820	25.72 *	525.700	0.000	523.350	0.000	526.350	0.000
21	524.720	39.51	524.900	32.27	524.820	25.69	525.690	0.000	523.550	0.000	526.920	0.000
22	524.700	39.06	524.870	32.07	524.820	21.00	525.650	0.000	523.650	0.000	529.800	0.000
23	524.720	42.84 #	524.850	27.28 *	524.810	20.81	525.630	0.000	523.880	0.000	525.500	0.000
24	524.700	41.57 #	524.870	32.05	524.810	25.12 *	525.620	0.000	524.240	0.000	525.300	0.000
25	524.700	41.57 *	524.860	31.94	524.790	20.22	525.610	0.000	524.700	0.000	525.100	0.000
26	524.690	40.94 *	524.860	27.81 *	524.770	20.14	525.610	0.000	525.100	0.000	525.000	0.000
27	524.720	38.45	524.890	28.05	524.750	22.29 *	525.600	0.000	526.220	0.000	524.950	0.000
28	524.800	50.24	524.880	27.69	524.730	20.07	525.600	0.000	526.400	0.000	524.900	0.000
29	524.800	49.25	524.870	26.07			525.600	0.000	526.100	0.000	524.900	0.000
30	524.800	49.39	524.850	27.28 *			525.350	0.000	526.000	0.000	524.800	0.000
31	524.840	50.95 #	524.850	26.92			525.050	0.000			524.500	0.000
<u>Ten-Daily Mean</u>												
I Ten-Daily	524.824	51.12	524.738	34.64	524.819	25.86	524.731	22.51	524.157	0.000	525.835	0.000
II Ten-Daily	524.770	45.96	524.810	34.20	524.810	25.34	525.248	11.37	523.195	0.000	526.140	0.000
III Ten-Daily	524.744	43.98	524.868	29.04	524.787	21.92	525.546	0.000	524.984	0.000	525.606	0.000
<u>Monthly</u>												
Min.	524.680	38.45	524.680	26.07	524.730	20.07	524.710	0.000	523.000	0.000	524.500	0.000
Max.	525.130	70.44	524.900	46.79	524.840	26.84	525.740	26.24	526.400	0.000	529.800	0.000
Mean	524.778	46.92	524.807	32.51	524.807	24.55	525.187	10.93	524.112	0	525.852	0

Peak Computed Discharge = 1142 cumecs on 26-07-2021

Corres. Water Level :531.4 m

Lowest Computed Discharge = 21.36 cumecs on 01-03-2022

Corres. Water Level :524.73 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

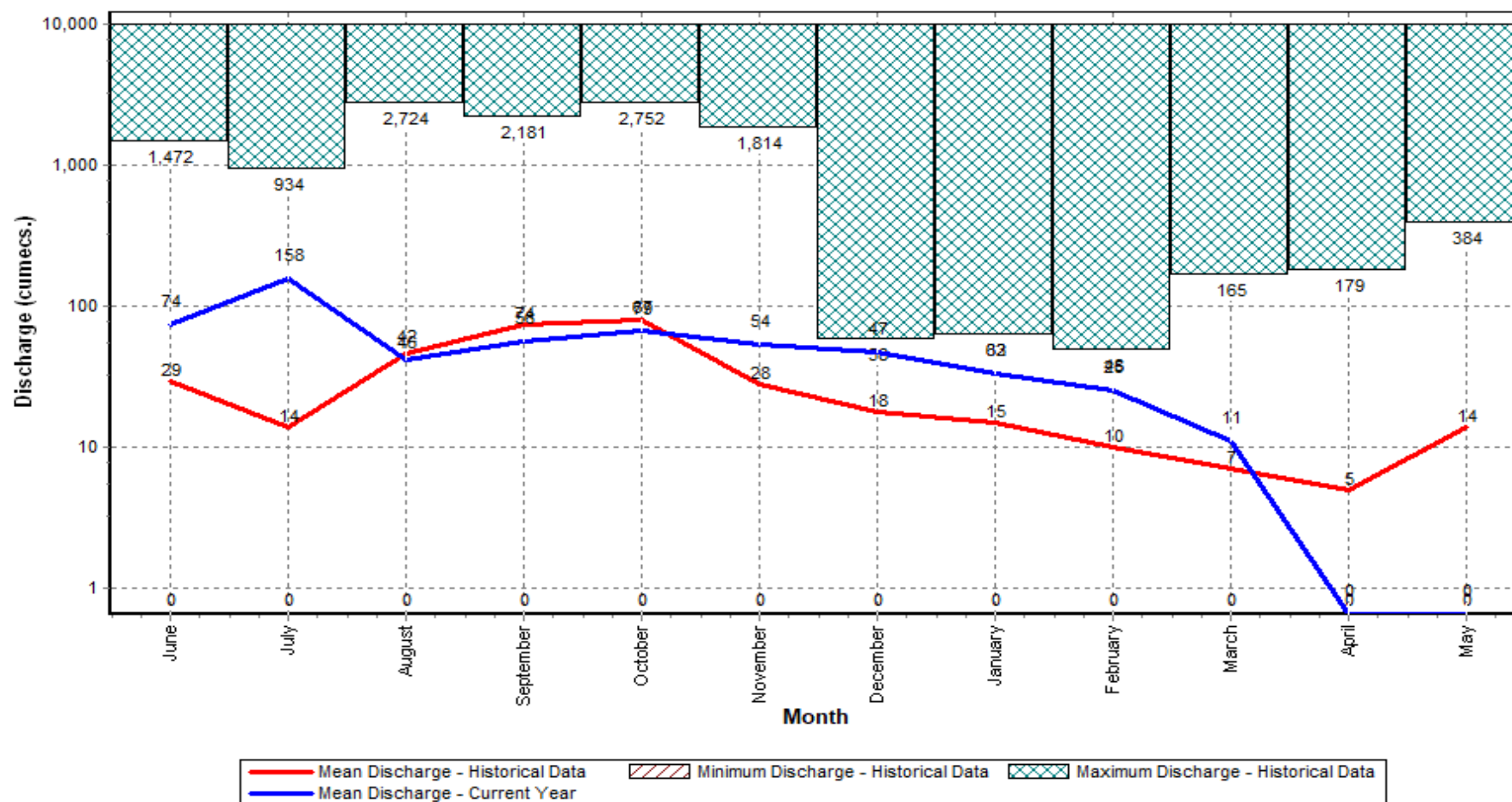
Station Name : Chalachguda (Seasonal) (AKS00H1)

Data considered : 1982-2022

Division : Upper Krishna Divn, Pune

Local River : Malaprabha

Sub-Division : Middle Krishna SD 1, Bagalkot



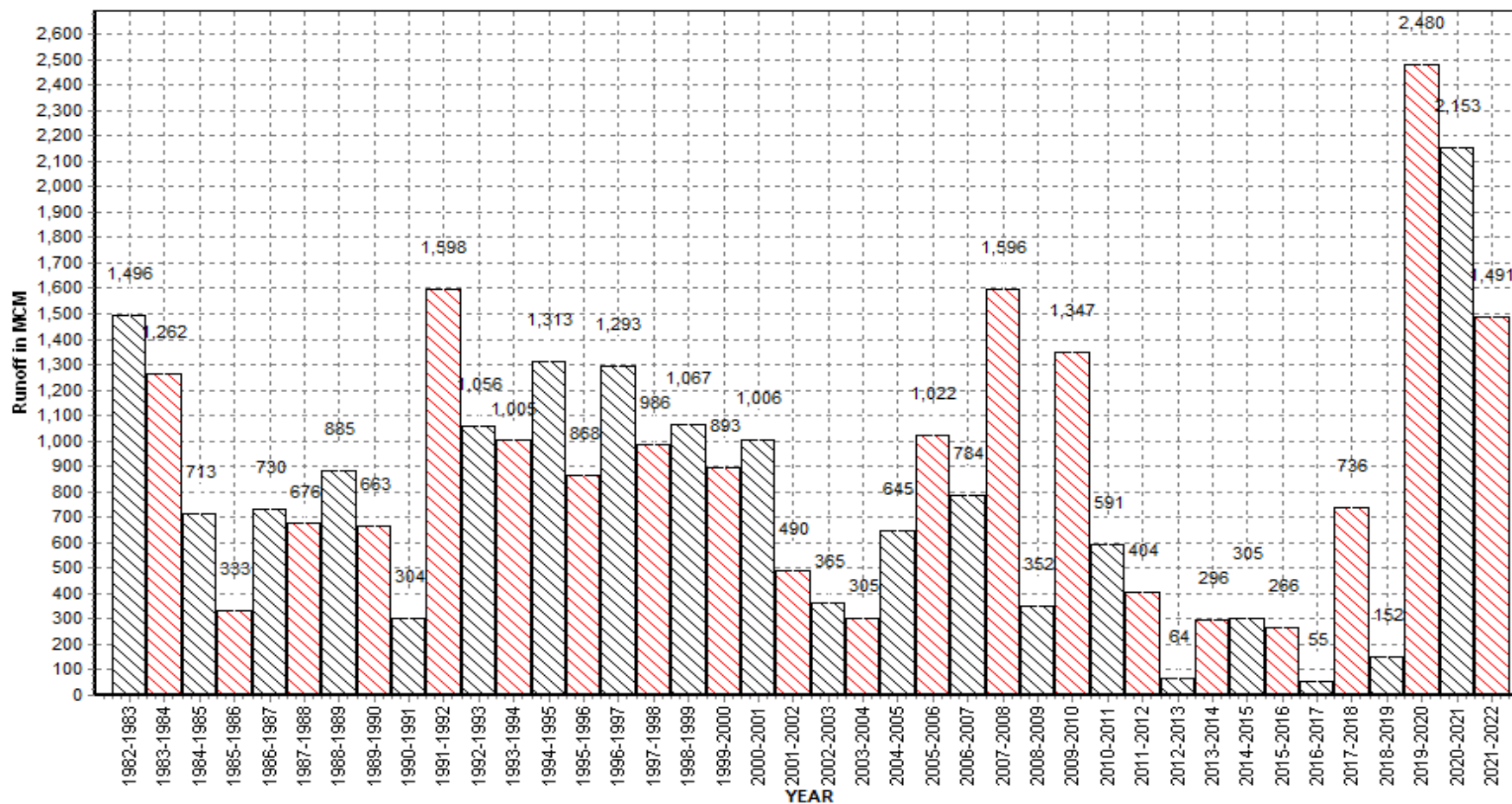
Annual Runoff Values for the period: 1982 - 2022

Station Name : Chalachguda (Seasonal) (AKS00H1)

Local River : Malaprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



Note: Missing values have not been considered while arriving at Annual Runoff

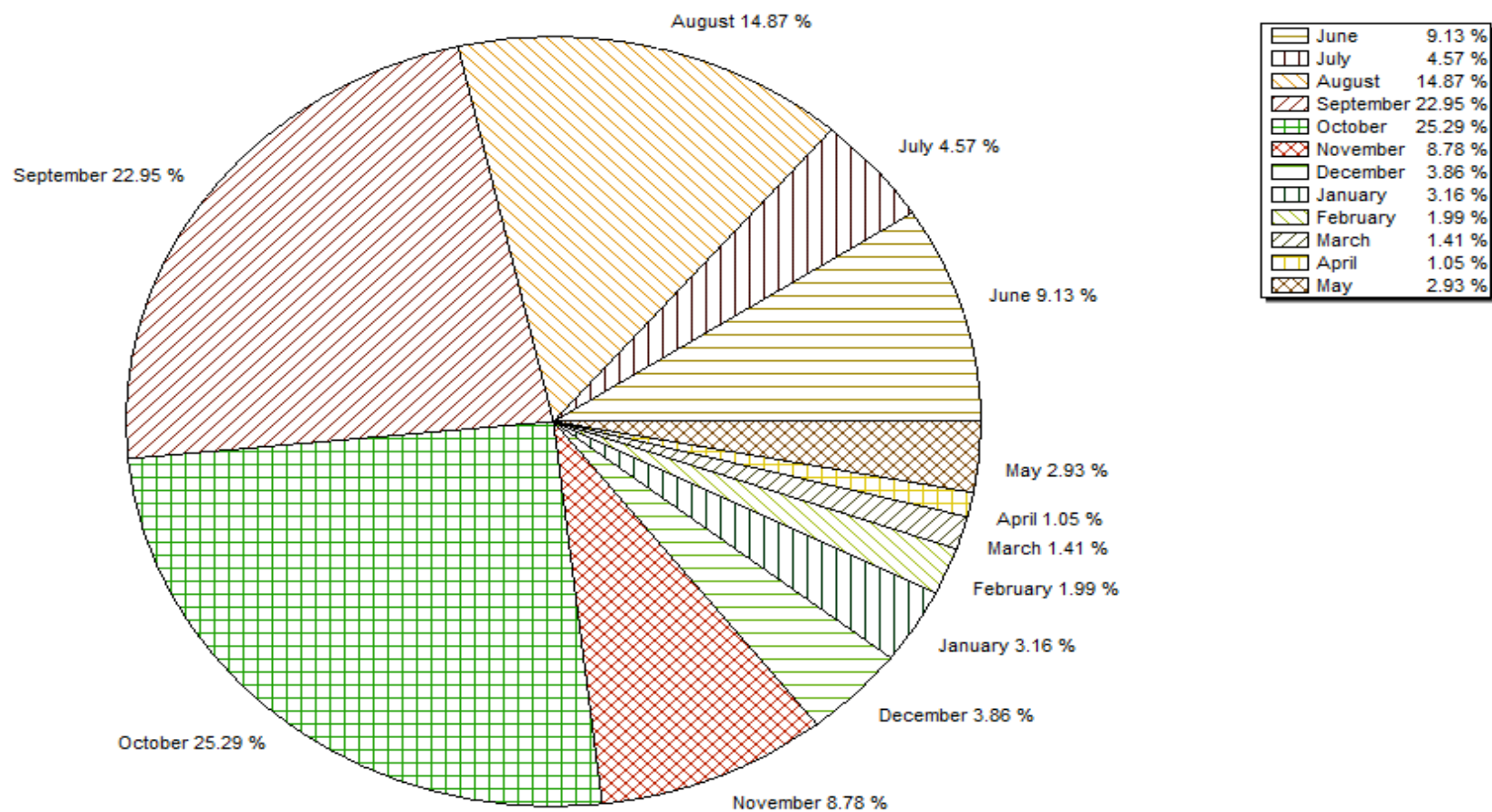
Monthly Average Runoff based on period : 1982-2021

Station Name : Chalachguda (Seasonal) (AKS00H1)

Local River : Malaprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



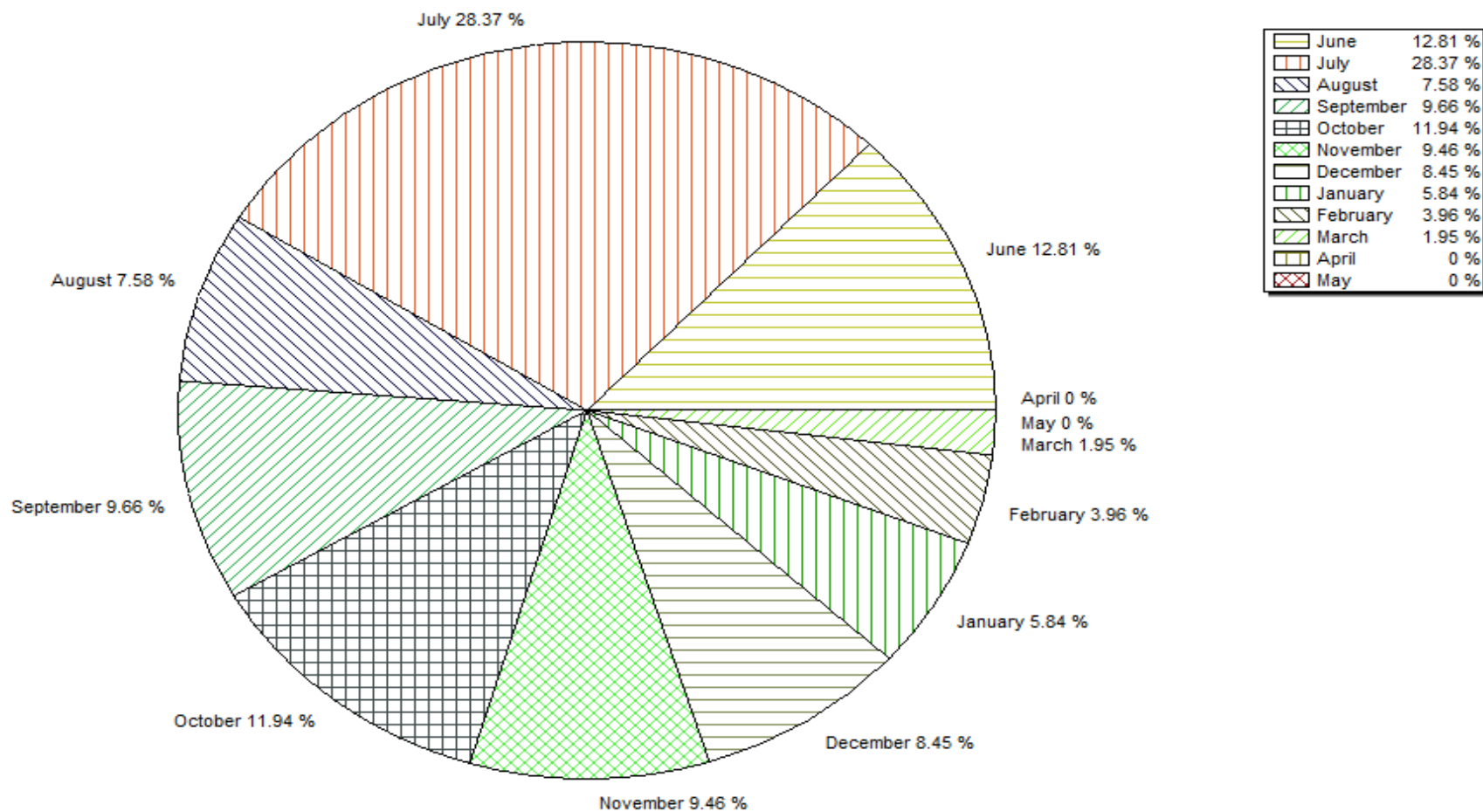
Monthly Runoff for the Year : 2021-2022

Station Name : Chalachguda (Seasonal) (AKS00H1)

Local River : Malaprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



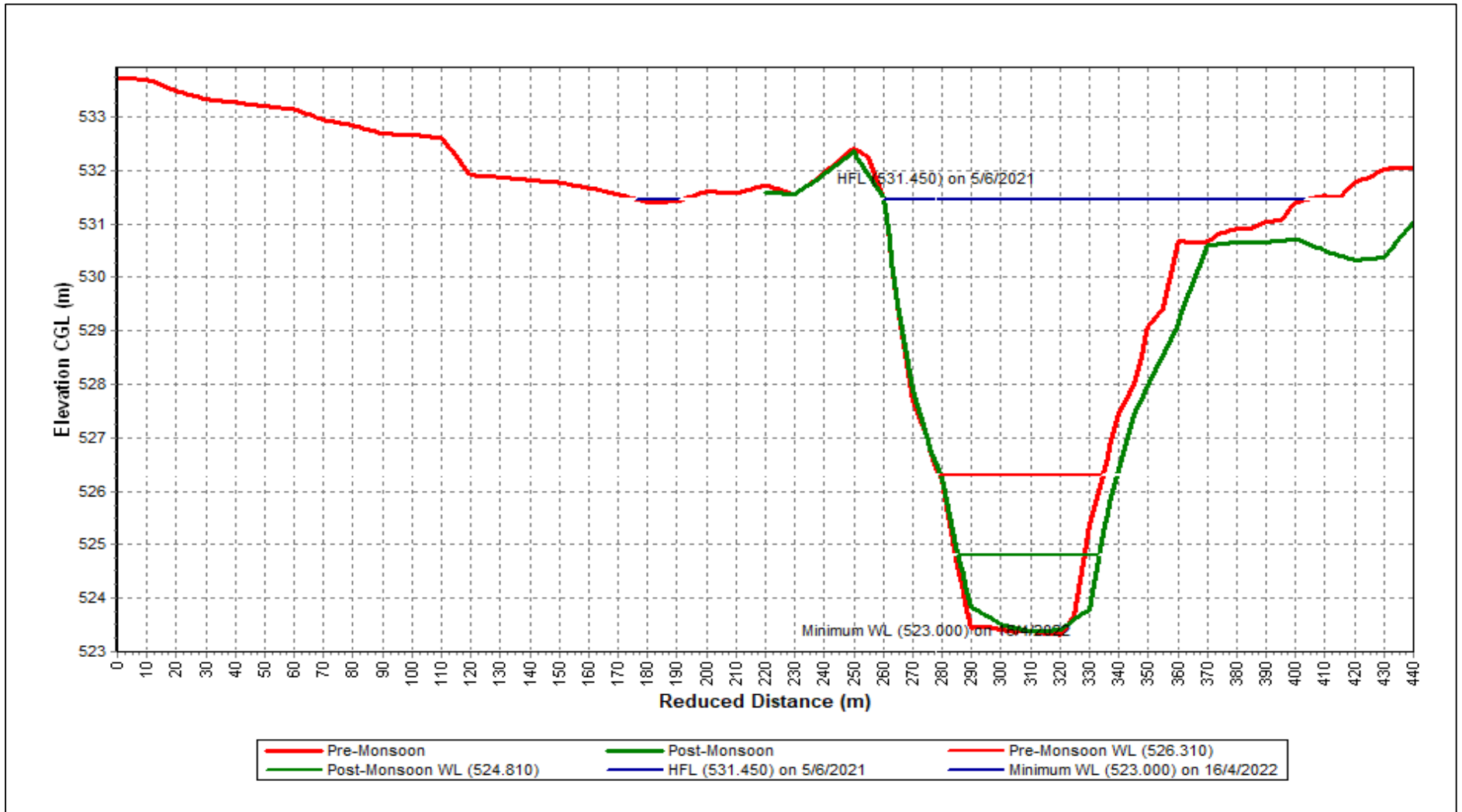
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : Chalachguda (Seasonal) (AKS00H1)

Local River : Malaprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



Zero of Gauge : 522 (m.s.l)

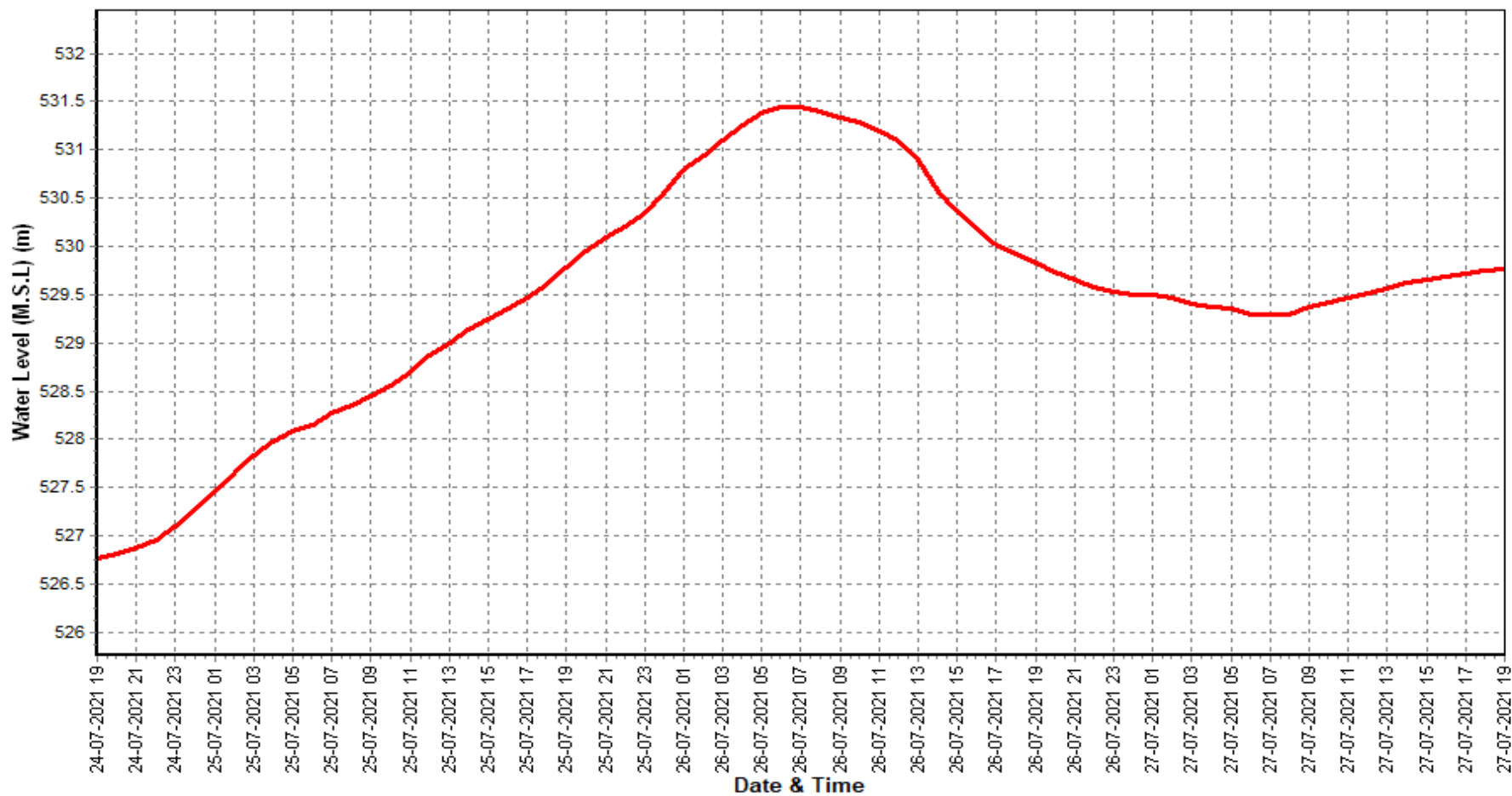
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Chalachguda (Seasonal) (AKS00H1)

Local River : Malaprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



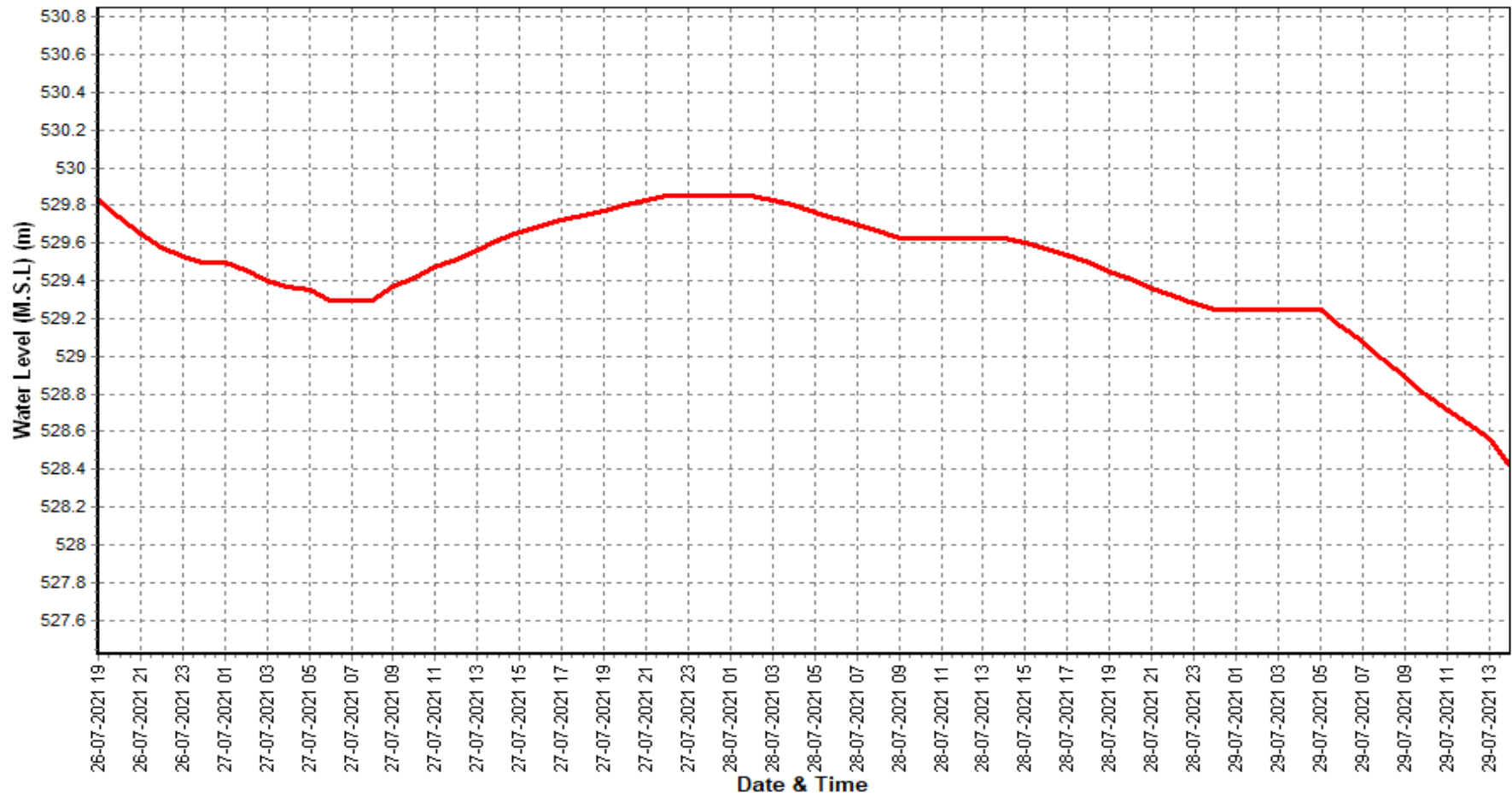
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Chalachguda (Seasonal) (AKS00H1)

Local River : Malaprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



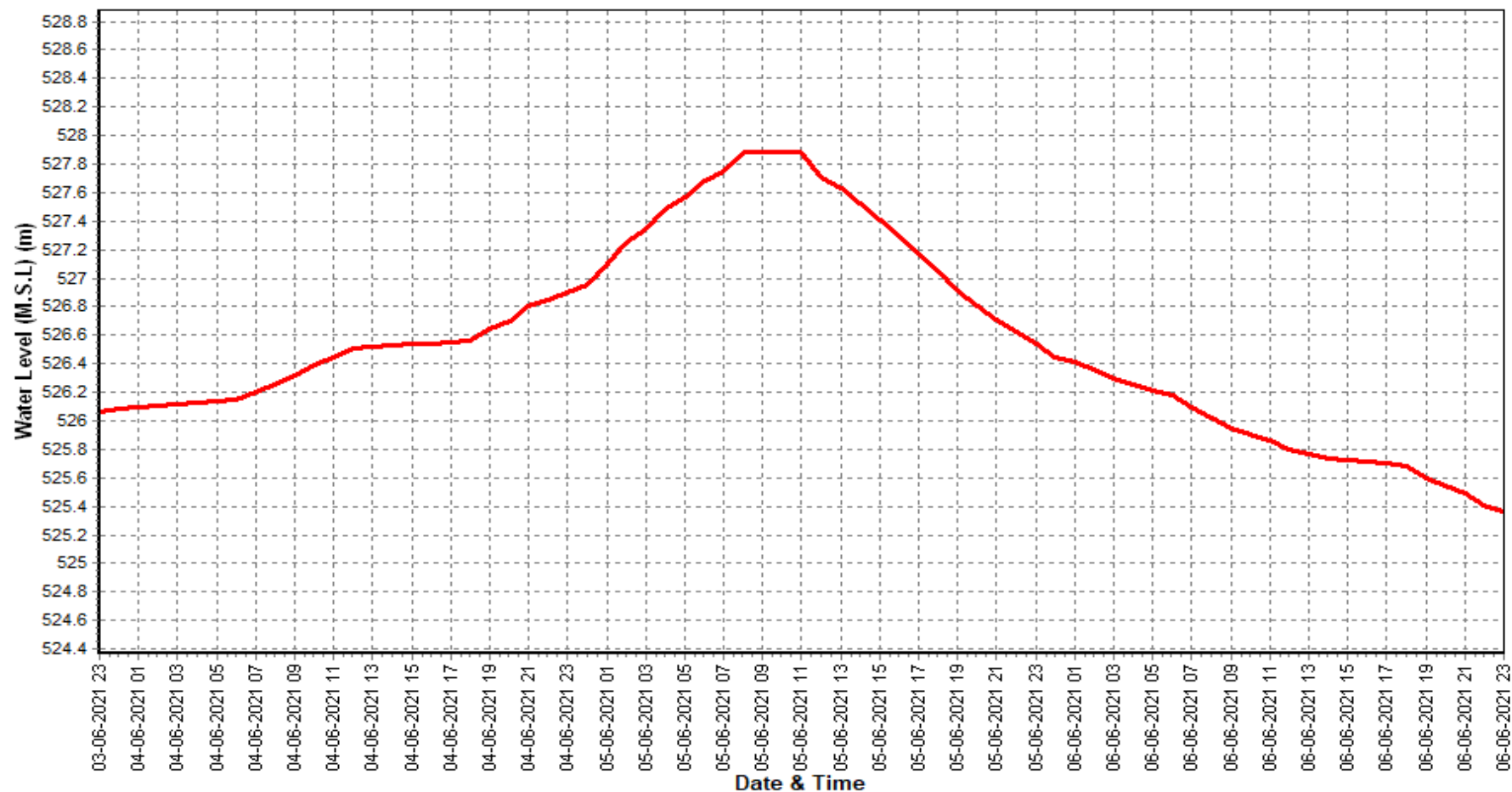
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Chalachguda (Seasonal) (AKS00H1)

Local River : Malaprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



HISTORY SHEET

Water Year : 2021-2022

Site : Talikot (Seasonal)

Code : AKQ00E2

State : Karnataka

District : Vijayapuri

Basin : Krishna

Independent River : Krishna

Tributary : Don

Sub Tributary : -

Sub-Sub Tributary : -

Local River : Don

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot

Drainage Area : 2486 Sq. Km.

Bank : Left

Latitude : 16°29'01"

Longitude : 76°17'03"

Zero of Gauge (m) : 48 (m.s.l)
496 (m.s.l)21-03-1990 - 31-05-2010
01-06-2010

Opening Date

Closing Date

Gauge : 07-06-1990

Discharge : 21-09-1995

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1996-1997	595	54.995	12-09-1996	0.000	50.095	31-03-1997
1997-1998	182	52.940	28-10-1997	0.000	50.150	30-04-1998
1998-1999	645	55.055	14-10-1998	0.000	50.365	18-07-1998
1999-2000	141	52.380	12-06-1999	0.000	50.130	23-03-2000
2000-2001	507	54.695	30-09-2000	0.000	50.130	01-03-2001
2001-2002	631.9	55.020	09-10-2001	0.000	50.050	25-01-2002
2002-2003	327	53.710	13-10-2002	0.000	50.130	25-01-2003
2003-2004	158.8	52.650	03-10-2003	0.000	50.185	22-01-2004
2004-2005	143.9	52.315	05-10-2004	0.000		10-01-2005
2005-2006	190.7	53.140	08-09-2005	0.000	50.295	22-01-2006
2006-2007	234.7	53.180	20-06-2006	0.000	50.300	28-08-2006
2007-2008	748.5	55.290	24-06-2007	0.000	50.310	17-08-2007
2008-2009	337.8	53.820	26-08-2008	0.000	50.180	23-07-2008
2009-2010	1278	56.520	01-10-2009	0.390	50.260	07-06-2009
2010-2011	532	501.215	26-08-2010	0.000	497.720	10-06-2010
2011-2012	18	498.800	21-08-2011	0.000	497.070	26-06-2011
2012-2013	28	499.000	07-10-2012	0.000	496.990	05-07-2012
2013-2014	65	499.585	20-09-2013	0.000	497.230	21-07-2013
2014-2015	234.1	500.600	28-08-2014	0.000	497.360	31-07-2014
2015-2016	530	501.200	11-09-2015	0.000	497.370	27-06-2015
2016-2017	30	499.030	31-07-2016	0.000		03-10-2016

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2017-2018	104	499.950	12-10-2017	0.000		05-08-2017
2018-2019	52.3	499.375	18-09-2018	0.000	497.320	19-08-2018
2019-2020	1006	501.860	20-10-2019	0.000	496.000	19-08-2019
2020-2021	478.1	501.640	16-10-2020	0.000	497.340	25-01-2021

Annual Runoff of Don at Talikot (Seasonal)

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1995-1996	72	0	72	3	0	3
2	1996-1997	335	2	337	12	0	12
3	1997-1998	119	11	130	4	0	5
4	1998-1999	655	40	695	23	1	25
5	1999-2000	141	2	143	5	0	5
6	2000-2001	321	5	326	11	0	12
7	2001-2002	415	0	415	15	0	15
8	2002-2003	169	0	169	6	0	6
9	2003-2004	33	3	36	1	0	1
10	2004-2005	118	10	129	4	0	5
11	2005-2006	101	19	120	4	1	4
12	2006-2007	173	Site converted as Seasonal site from June 2006 to 2020	173	6	Site converted as Seasonal site from June 2006 to 2020	6
13	2007-2008	264		264	9		9
14	2008-2009	172		172	6		6
15	2009-2010	704		704	25		25
16	2010-2011	163		163	6		6
17	2011-2012	41		41	1		1
18	2012-2013	53		53	2		2
19	2013-2014	115		115	4		4
20	2014-2015	170		170	6		6
21	2015-2016	167		167	6		6
22	2016-2017	12		12	0		0
23	2017-2018	123		123	4		4
24	2018-2019	10		10	0		0
25	2019-2020	414		414	15		15
26	2020-2021	439		439	16		7
27	2021-2022	123	15	138	4	1	5
Average		208	9	212	7	0.32	7.20

Instantaneous Flood Peak of Krishna at Talikot					
Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	1995-1996	53.340	12-10-1995	18:00:00	235 *
2	1996-1997	55.280	12-09-1996	07:00:00	725 *
3	1997-1998	54.040	28-10-1997	18:00:00	361 *
4	1998-1999	55.160	14-10-1998	06:00:00	682 *
5	1999-2000	53.730	12-06-1999	18:00:00	298 *
6	2000-2001	55.300	30-09-2000	19:00:00	732 *
7	2001-2002	56.010	09-10-2001	20:00:00	1023 *
8	2002-2003	53.760	13-10-2002	13:00:00	304 *
9	2003-2004	52.800	03-10-2003	13:00:00	176 *
10	2004-2005	52.475	05-10-2004	16:00:00	158 *
11	2005-2006	53.840	08-09-2005	15:00:00	319 *
12	2006-2007	54.070	20-06-2006	16:00:00	368 *
13	2007-2008	56.450	24-06-2007	21:00:00	1233 *
14	2008-2009	54.060	26-08-2008	13:00:00	365 *
15	2009-2010	56.660	01-10-2009	12:00:00	1341 *
16	2010-2011	501.575	26-08-2010	16:00:00	866 *
17	2011-2012	498.800	21-08-2011	08:00:00	78
18	2012-2013	500.200	07-10-2012	15:00:00	185 *
19	2013-2014	499.585	20-09-2013	08:00:00	36
20	2014-2015	501.330	28-08-2014	18:00:00	709 *
21	2015-2016	501.430	05-10-2015	23:00:00	771 *
22	2016-2017	499.200	31-07-2016	14:00:00	60 *
23	2017-2018	499.990	08-09-2017	21:00:00	123 *
24	2018-2019	499.900	18-09-2018	15:00:00	100 *
25	2019-2020	501.860	20-10-2019	08:00:00	1067 *
26	2020-2021	502.210	15-10-2020	15:00:00	1165 *
27	2021-2022	500.160	29-08-2021	02:00:00	172 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : Talikot (Seasonal) (AKQ00E2)

Division : Upper Krishna Divn, Pune

Local River : Don

Sub-Division : Middle Krishna SD 1, Bagalkot

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	497.230	0.000	497.290	0.000	497.500	3.554 *	498.035	13.71	497.610	5.291	497.430	1.518
2	497.270	0.000	497.270	0.000	497.430	1.970	497.880	12.22	497.630	5.009 *	497.430	1.503
3	497.560	4.541 *	497.270	0.000	497.420	2.669	497.730	7.316	497.730	7.247 *	497.420	1.497
4	498.770	54.68 *	497.340	1.544 *	497.460	3.014	497.680	6.256	498.065	16.32	497.420	1.629 *
5	498.720	51.39 *	497.300	1.177 *	497.520	3.826	497.630	5.009 *	497.720	6.892	497.430	1.476
6	498.480	37.13 *	497.310	1.264 *	497.490	3.339	497.685	6.339	497.610	5.189	497.460	2.359
7	498.550	41.03 *	497.310	1.264 *	497.460	3.039	498.030	13.78	498.090	17.13	497.450	2.001 *
8	497.860	11.48 *	497.370	1.853 *	497.450	2.830 *	498.580	42.18 *	497.705	7.480	497.440	1.967
9	497.490	3.402 *	497.450	2.830 *	497.540	4.259	498.155	15.47	497.680	6.560	497.440	1.976
10	497.390	2.077 *	497.910	12.97 *	497.500	3.497	498.450	35.02 *	497.700	6.533 *	497.430	1.498
11	497.350	1.643 *	497.920	13.28 *	497.510	3.644	497.970	11.76	497.650	6.580	497.440	1.970
12	497.310	1.264 *	497.640	6.061 *	497.500	3.236	497.710	6.767 *	497.620	5.642	497.430	1.526
13	497.300	1.177 *	497.590	5.083 *	497.605	5.376	497.630	6.385	497.610	5.081	497.410	1.258
14	497.290	1.094 *	497.740	8.295 *	497.555	4.593	497.570	3.860 #	497.610	5.809	497.410	1.514 *
15	497.730	8.055 *	497.630	5.858 *	497.510	3.709 *	497.550	4.462	497.570	3.860 *	497.410	1.235
16	497.550	4.367 *	497.450	2.830 *	497.605	5.218	497.600	5.083	497.500	2.793	497.460	2.262
17	497.400	2.193 *	497.390	2.077 *	497.585	4.981	497.540	4.232	497.470	2.270 *	497.430	1.751
18	497.340	1.544 *	497.440	2.696 *	497.500	3.259	497.530	3.964	497.460	2.144	497.440	2.154
19	497.310	1.264 *	497.650	6.267 *	497.490	3.335	497.650	5.424 *	497.460	2.133 *	497.430	1.749 *
20	497.290	1.094 *	497.450	2.830 *	497.500	3.554 *	497.470	2.270 #	497.450	2.056	497.460	2.518
21	497.290	1.094 *	498.890	63.01 *	497.460	3.032	497.765	8.714	497.440	1.970	497.440	1.873 *
22	497.280	0.000	497.740	7.269	497.450	2.830 *	498.350	29.96 *	497.450	1.972	497.430	1.579
23	497.280	0.000	497.605	5.371	497.560	5.069	499.350	97.79 *	497.450	1.737	497.440	2.027
24	497.280	0.000	497.530	4.761	497.770	8.787	498.500	37.70 *	497.460	2.133 *	497.430	1.583
25	497.270	0.000	497.530	4.031 *	497.745	8.486	498.200	23.08 *	497.500	3.038	497.410	1.286
26	497.280	0.000	497.530	4.432	497.670	6.802	498.110	19.38 *	497.530	3.275	497.410	1.323
27	497.460	2.967 *	497.540	4.731	497.750	8.535	497.995	13.17	497.470	2.057	497.410	1.348
28	498.300	28.05 *	497.480	3.149	497.880	13.52	497.785	9.382	497.450	1.959	497.430	1.749 *
29	497.510	3.709 *	497.510	3.723	499.970	158.8 *	497.675	6.100	497.450	1.905	497.410	1.294
30	497.400	2.193 *	497.510	3.684	497.995	13.17	497.620	5.540	497.460	2.285	497.420	1.489
31			497.500	3.694	497.995	13.14			497.440	1.873 *		
Ten-Daily Mean												
I Ten-Daily	497.932	20.57	497.382	2.290	497.477	3.200	497.986	15.73	497.754	8.365	497.435	1.742
II Ten-Daily	497.387	2.370	497.590	5.528	497.536	4.091	497.622	5.421	497.540	3.837	497.432	1.794
III Ten-Daily	497.435	3.801	497.670	9.805	497.931	22.01	498.135	25.08	497.464	2.200	497.423	1.555
Monthly												
Min.	497.230	0.000	497.270	0.000	497.420	1.970	497.470	2.270	497.440	1.737	497.410	1.235
Max.	498.770	54.68	498.890	63.01	499.970	158.8	499.350	97.79	498.090	17.13	497.460	2.518
Mean	497.585	8.915	497.551	6.001	497.657	10.16	497.914	15.41	497.582	4.717	497.430	1.697

Annual Runoff in MCM = 138 Annual Runoff in mm = 56

Peak Observed Discharge = 17.13 cumecs on 07-10-2021 Corres. Water Level :498.09 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021 Corres. Water Level :497.23 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : Talikot (Seasonal) (AKQ00E2)

Division : Upper Krishna Divn, Pune

Local River : Don

Sub-Division : Middle Krishna SD 1, Bagalkot

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	497.420	1.449	497.360	0.840 *	497.320	0.484	497.340	0.685	497.260	0.153	497.220	0.000
2	497.430	1.592	497.360	0.840 *	497.320	0.471	497.340	0.655	497.260	0.146	497.220	0.000
3	497.440	1.901	497.350	0.748 *	497.320	0.450	497.350	0.698	497.250	0.144 *	497.220	0.000
4	497.430	1.602	497.340	0.842	497.320	0.477	497.350	0.693	497.250	0.143	497.220	0.000
5	497.420	1.528 *	497.340	0.782	497.330	0.692	497.380	1.263	497.250	0.139	497.360	1.234
6	497.410	1.339	497.340	0.774	497.330	0.582 *	497.350	0.748 *	497.250	0.143	497.400	1.304
7	497.400	1.227	497.340	0.713	497.330	0.677	497.340	0.666	497.250	0.146	497.360	0.933
8	497.400	1.191	497.340	0.732	497.330	0.673	497.340	0.653	497.300	0.564	497.340	0.824 *
9	497.430	1.682	497.340	0.662 *	497.330	0.671	497.340	0.661	497.300	0.547	497.320	0.771
10	497.410	1.301	497.330	0.647	497.330	0.647	497.340	0.655	497.300	0.511 *	497.320	0.775
11	497.400	1.224	497.330	0.635	497.420	1.647	497.350	0.575	497.300	0.531	497.300	0.540
12	497.400	1.272 *	497.330	0.621	497.320	0.622	497.350	0.689	497.270	0.332	497.300	0.534
13	497.380	1.182	497.330	0.565	497.320	0.508 *	497.350	0.748 *	497.270	0.331	497.360	0.936
14	497.380	1.125	497.330	0.582 *	497.340	0.755	497.350	0.693	497.270	0.319 *	497.320	0.757
15	497.380	1.132	497.330	0.594	497.340	0.733	497.350	0.655	497.300	0.511 *	497.360	1.005 *
16	497.380	1.138	497.330	0.582 *	497.420	1.645	497.340	0.651	497.300	0.548	497.340	0.824 *
17	497.380	1.130	497.330	0.539	497.460	2.221	497.350	0.566	497.300	0.511 *	497.340	0.706
18	497.400	1.288	497.330	0.582 #	497.410	1.311	497.350	0.661	497.300	0.546	497.400	1.297
19	497.400	1.272 *	497.330	0.519	497.400	1.208	497.350	0.665	497.300	0.508	497.400	1.158
20	497.400	1.248	497.330	0.515	497.390	1.155 *	497.350	0.748 *	497.270	0.329	497.420	1.242
21	497.400	1.182	497.330	0.512	497.380	1.108	497.370	1.082	497.260	0.265 #	497.360	0.902
22	497.400	1.171	497.330	0.525	497.370	1.062	497.350	0.657	497.240	0.000	497.400	1.412 *
23	497.400	1.188	497.330	0.582 *	497.330	0.538	497.340	0.675	497.240	0.000	498.020	14.33
24	497.380	1.067	497.320	0.501	497.330	0.567	497.330	0.659	497.240	0.000	497.890	12.56
25	497.380	1.044 *	497.320	0.519	497.330	0.556	497.320	0.551	497.230	0.000	497.760	8.578
26	497.380	1.044 *	497.320	0.508 *	497.350	0.704	497.300	0.377 #	497.230	0.000	497.650	6.626
27	497.370	0.939 *	497.320	0.505	497.350	0.748 *	497.280	0.268 *	497.230	0.000	497.520	2.980
28	497.370	0.939 *	497.320	0.483	497.340	0.482	497.270	0.276	497.230	0.000	497.420	1.274
29	497.360	0.840 *	497.320	0.488			497.270	0.222 #	497.220	0.000	497.400	1.412 *
30	497.360	0.840 *	497.320	0.508 *			497.270	0.287	497.220	0.000	497.380	0.933
31	497.360	0.840 *	497.320	0.488			497.270	0.212			497.360	0.842
Ten-Daily Mean												
I Ten-Daily	497.419	1.481	497.344	0.758	497.326	0.582	497.347	0.738	497.267	0.264	497.298	0.584
II Ten-Daily	497.390	1.201	497.330	0.573	497.382	1.181	497.349	0.665	497.288	0.447	497.354	0.900
III Ten-Daily	497.378	1.009	497.323	0.511	497.348	0.721	497.306	0.479	497.234	0.027	497.560	4.714
Monthly												
Min.	497.360	0.840	497.320	0.483	497.320	0.450	497.270	0.212	497.220	0.000	497.220	0.000
Max.	497.440	1.901	497.360	0.842	497.460	2.221	497.380	1.263	497.300	0.564	498.020	14.33
Mean	497.395	1.223	497.332	0.611	497.352	0.835	497.333	0.622	497.263	0.246	497.409	2.151

Peak Computed Discharge = 158.8 cumecs on 29-08-2021

Corres. Water Level :499.97 m

Lowest Computed Discharge = 0.144 cumecs on 03-04-2022

Corres. Water Level :497.25 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

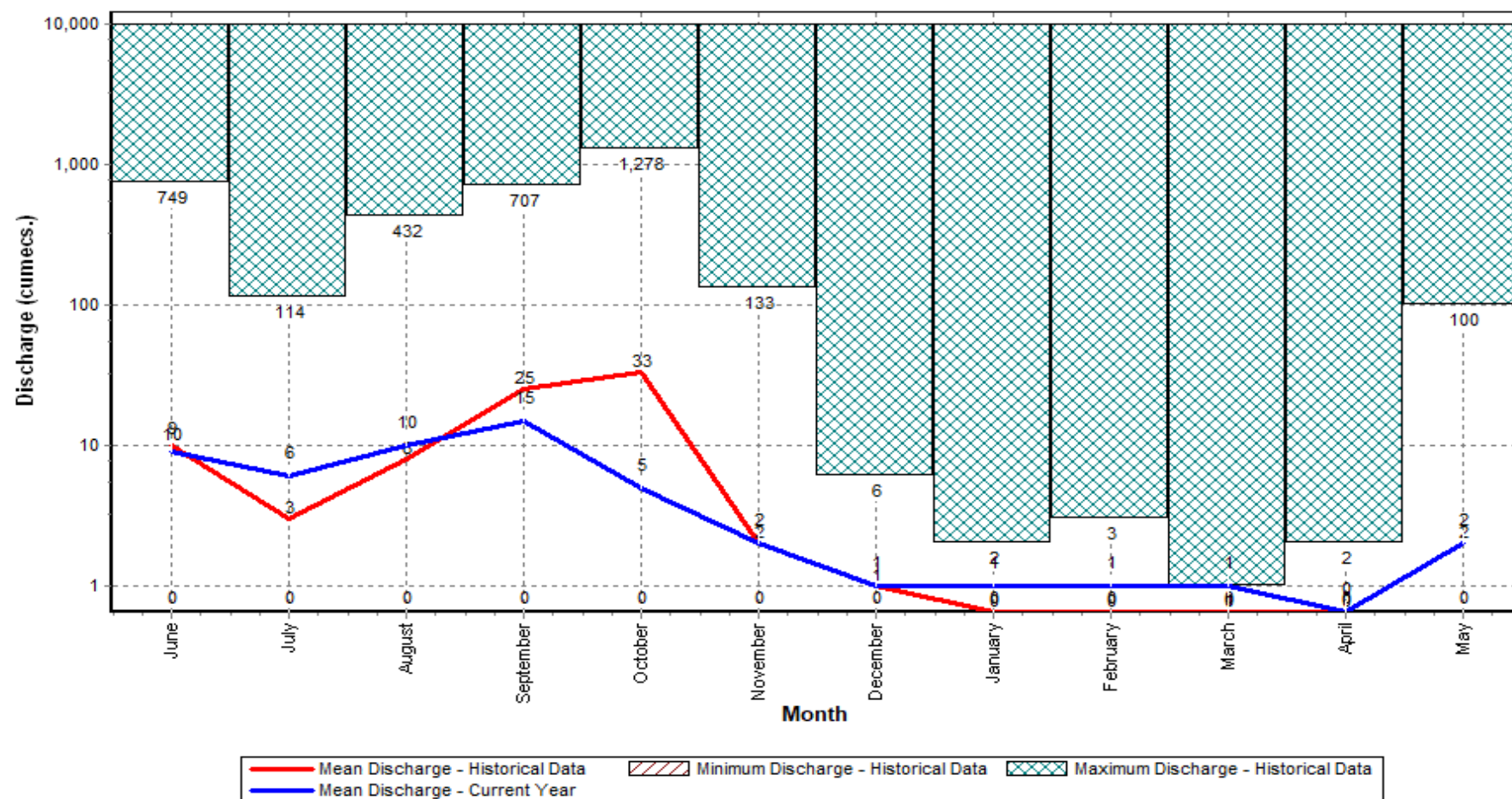
Station Name : Talikot (Seasonal) (AKQ00E2)

Data considered : 1996-2022

Division : Upper Krishna Divn, Pune

Local River : Don

Sub-Division : Middle Krishna SD 1, Bagalkot



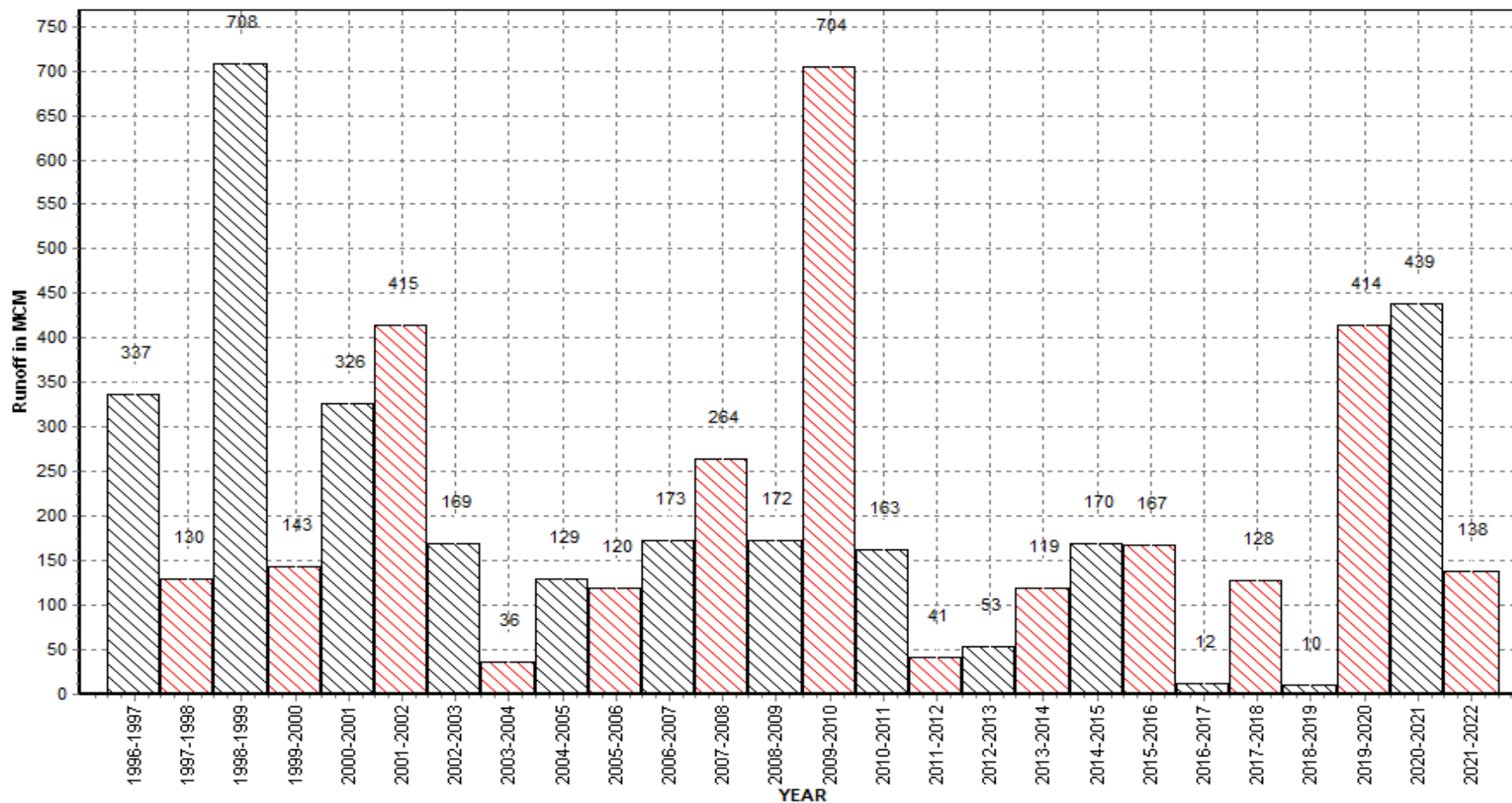
Annual Runoff Values for the period: 1996 - 2022

Station Name : Talikot (Seasonal) (AKQ00E2)

Local River : Don

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



Note: Missing values have not been considered while arriving at Annual Runoff

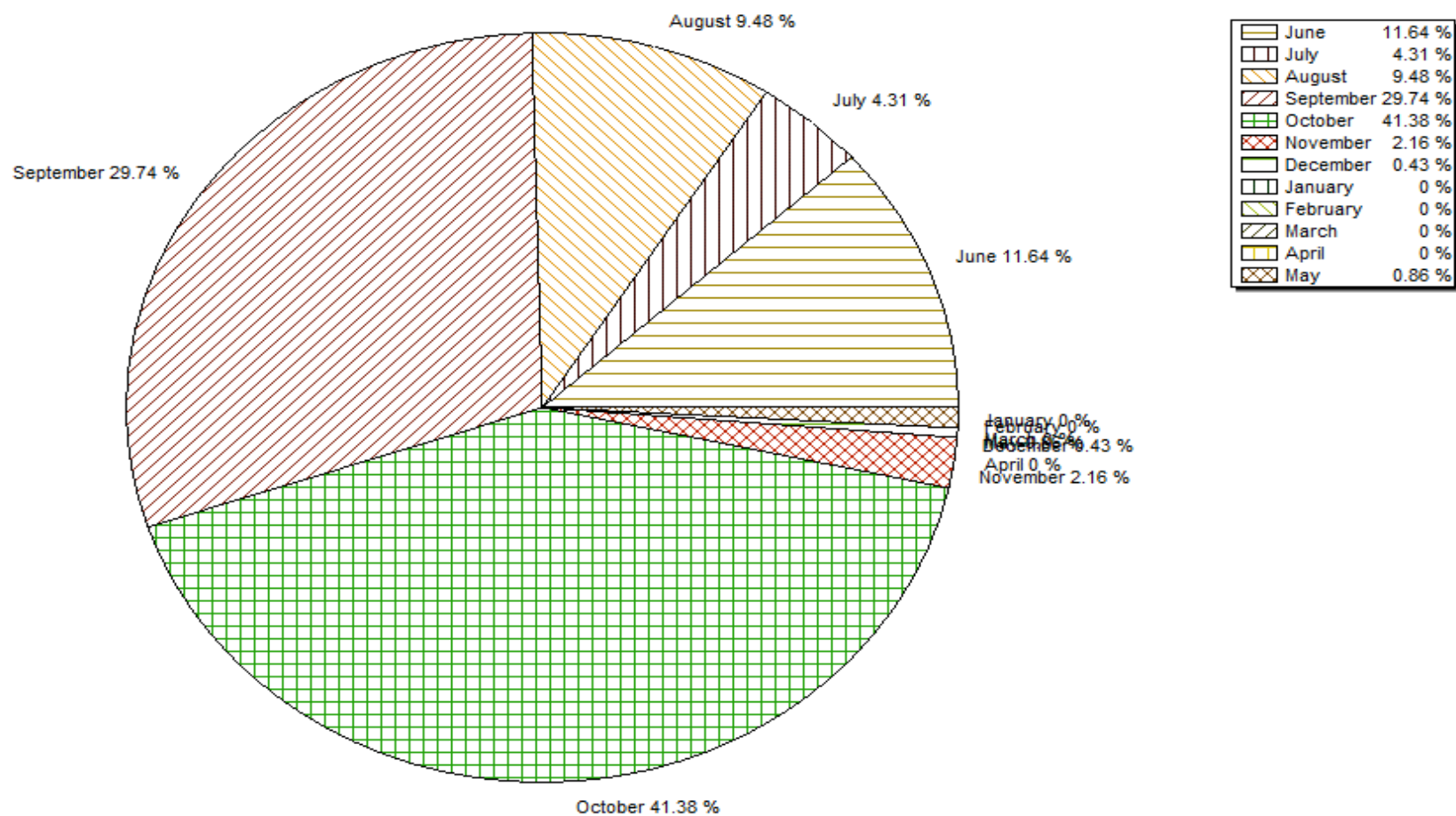
Monthly Average Runoff based on period : 1996-2021

Station Name : Talikot (Seasonal) (AKQ00E2)

Local River : Don

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



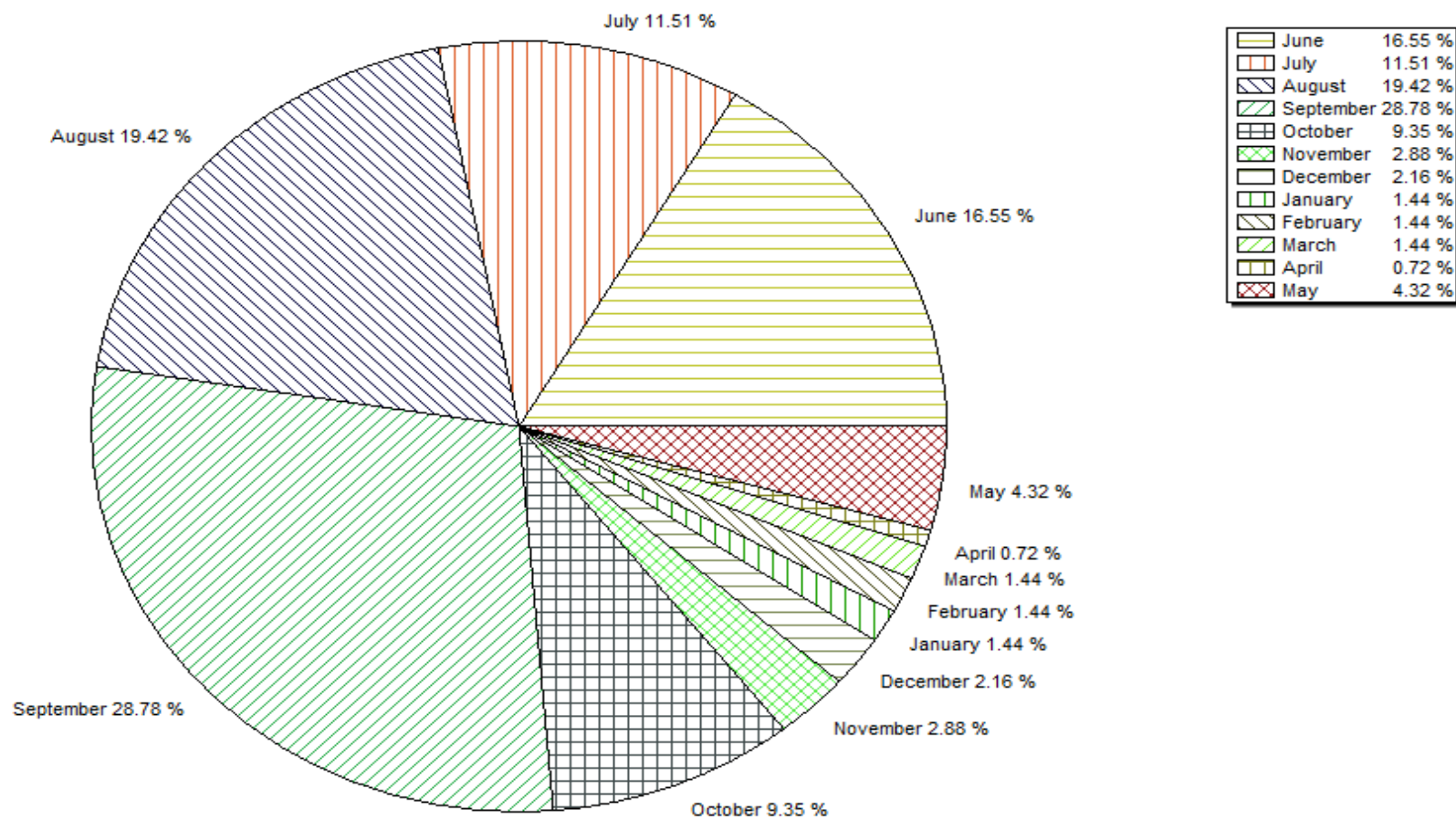
Monthly Runoff for the Year : 2021-2022

Station Name : Talikot (Seasonal) (AKQ00E2)

Local River : Don

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot

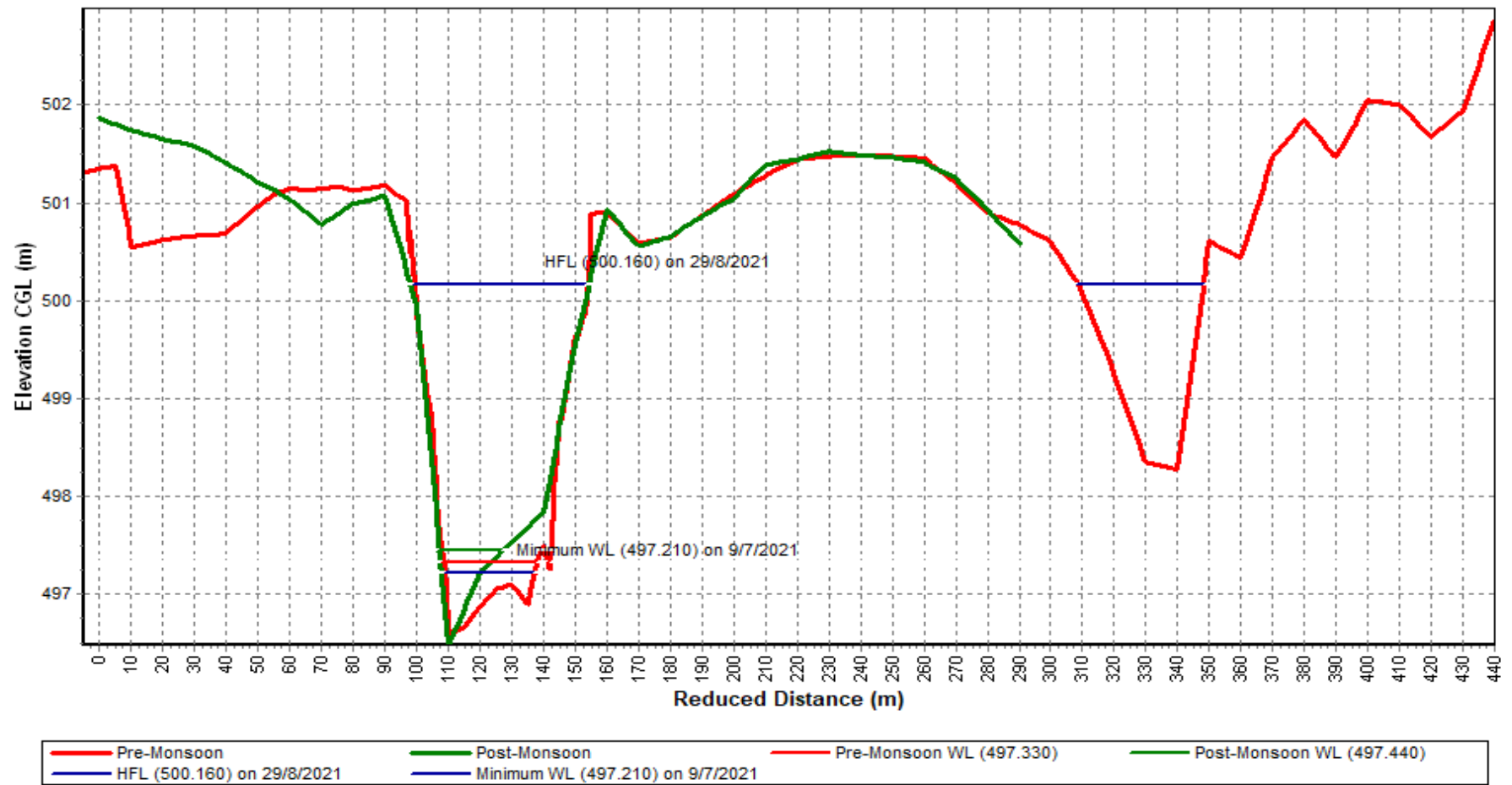


Station Name : Talikot (Seasonal) (AKQ00E2)

Local River : Don

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



Zero of Gauge : 496 (m.s.l)

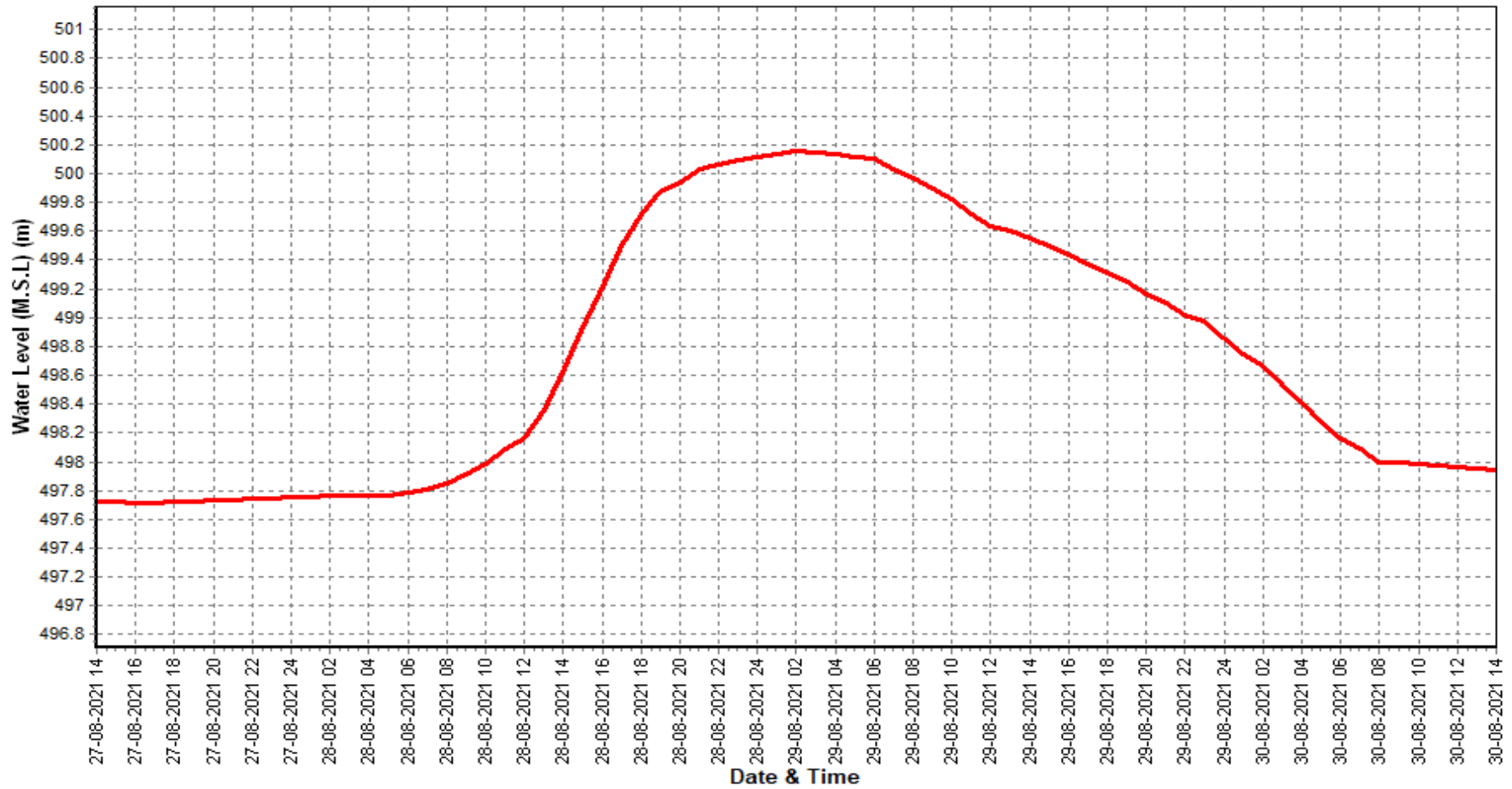
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Talikot (Seasonal) (AKQ00E2)

Local River : Don

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



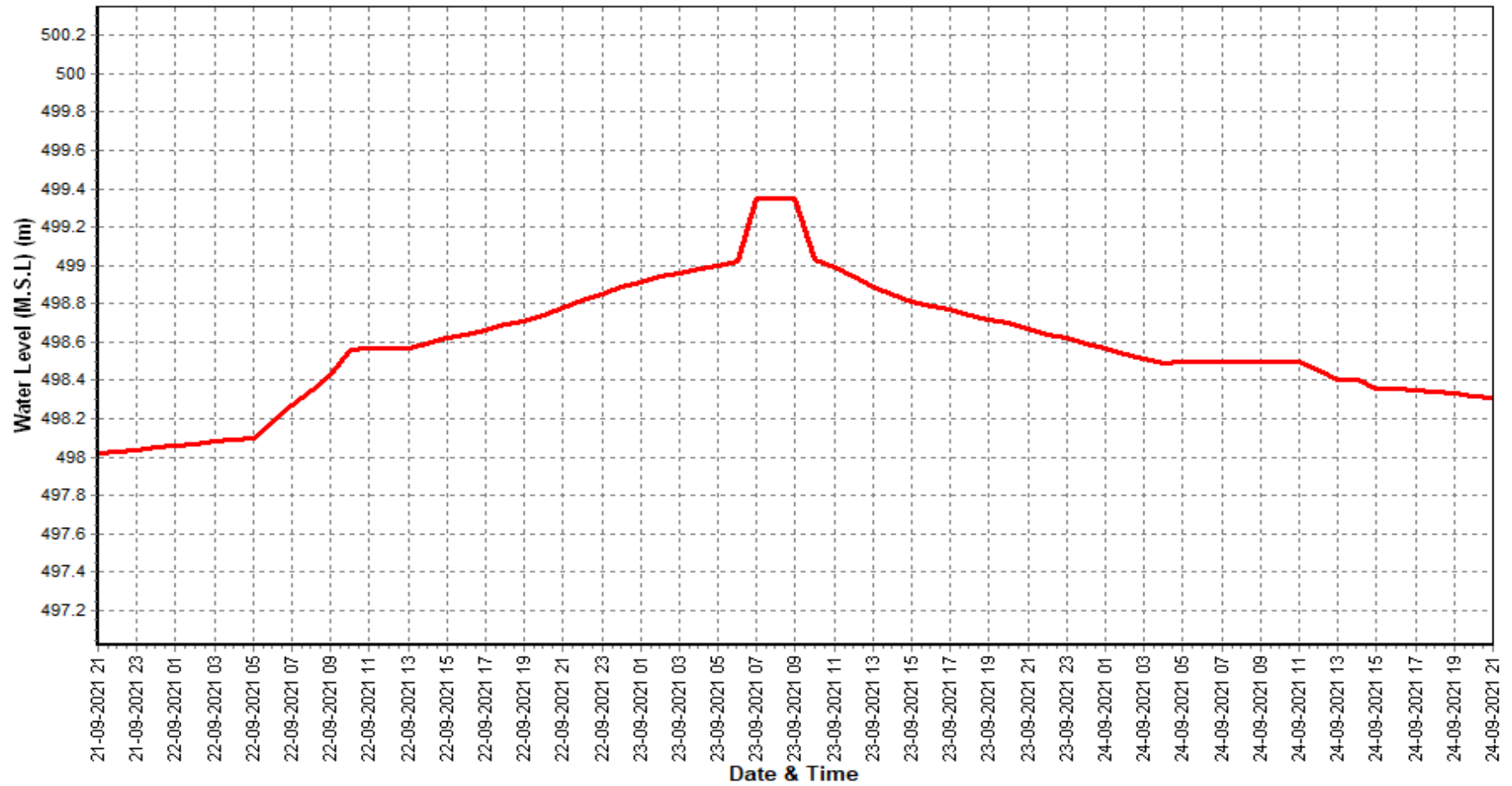
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Talikot (Seasonal) (AKQ00E2)

Local River : Don

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



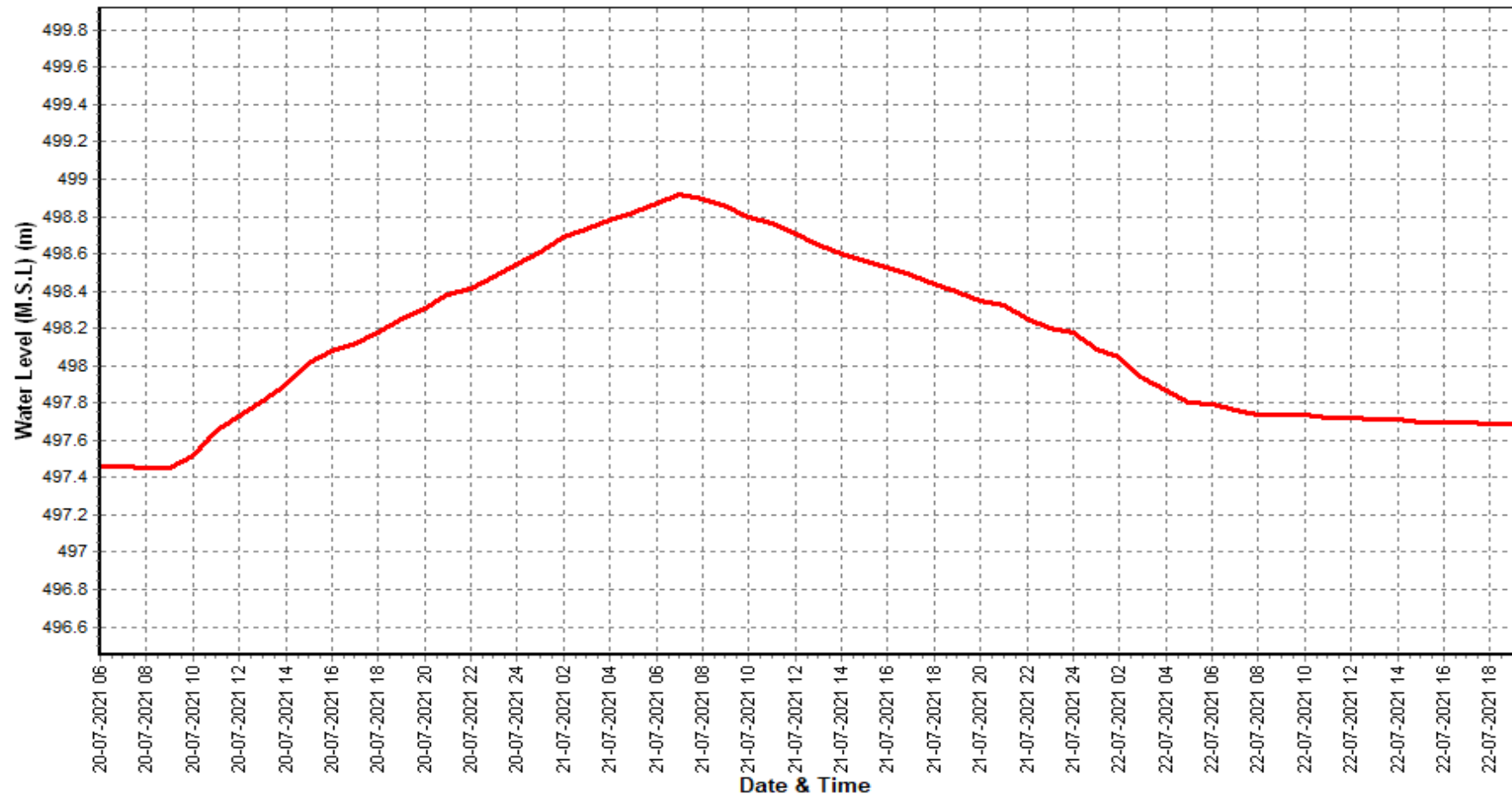
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Talikot (Seasonal) (AKQ00E2)

Local River : Don

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



HISTORY SHEET

		Water Year : 2021-2022	
Site	: Huvinhedigi	Code	: AK000N2
State	: Karnataka	District	: Raichur
Basin	: Krishna	Independent River	: Krishna
Tributary	: -	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Krishna
Division	: Lower Krishna Divn., Hyderabad	Sub-Division	: Middle Krishna SD 2 , Kurnool
Drainage Area	: 55150 Sq. Km.	Bank	: Right
Latitude	: 16°29'25"	Longitude	: 76°55'23"
Zero of Gauge (m)	: 339.008 (m.s.l) 342.24 (m.s.l)	01-02-1976 01-06-1981	- 31-05-1981
	Opening Date	Closing Date	
Gauge	: 01-02-1976	HFL During 2021-22	: 355.860 m
		Corres. Discharge	: 8972 (Observed)
Discharge	: 01-02-1976	Date & Time of occurrence	: 31-07-2021 : 08:00 Hrs
Sediment	: 01-06-1976		
Water Quality	: 01-06-1976	31-05-2006	

HFL Recorded so far in m : 358.550 dt 11-08-2019

Corresponding Discharge (cumecs) : 15654 *

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1976-1977	8742	350.758	07-08-1976	4.600	342.151	21-04-1977
1977-1978	6312	349.493	31-07-1977	6.200	342.248	06-04-1978
1978-1979	6174	349.833	21-08-1978	0.776	341.968	13-05-1979
1979-1980	8830	351.353	15-08-1979	1.500	341.993	04-06-1979
1980-1981	7912	350.651	09-07-1980	0.100	342.343	05-05-1981
1981-1982	7245	352.949	13-07-1981	6.500	345.670	01-06-1981
1982-1983	5971	352.700	19-08-1982	1.210	345.500	08-05-1983
1983-1984	7588	353.860	02-07-1983	5.900	345.620	14-06-1983
1984-1985	6293	352.940	23-07-1984	13.40	345.790	29-05-1985
1985-1986	5800	352.570	06-08-1985	8.500	345.800	10-05-1986
1986-1987	5932	352.670	16-08-1986	5.500	345.745	02-05-1987
1987-1988	5038	351.975	11-07-1987	5.000	345.740	15-06-1987
1988-1989	7846	353.790	09-08-1988	7.236	345.740	29-05-1989
1989-1990	7595	353.865	30-07-1989	8.064	345.760	01-06-1989
1990-1991	7013	353.460	23-08-1990	9.147	345.870	12-05-1991
1991-1992	7852	354.040	03-08-1991	7.884	346.030	24-05-1992
1992-1993	5069	352.055	18-08-1992	0.855	345.770	16-05-1993

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1993-1994	5918	352.660	20-10-1993	13.65	345.988	03-06-1993
1994-1995	9513	355.120	21-07-1994	3.003	345.750	11-05-1995
1995-1996	4339	351.385	25-07-1995	1.847	345.660	11-05-1996
1996-1997	6199	352.870	08-10-1996	6.111	345.760	31-05-1997
1997-1998	8240	354.290	12-08-1997	3.343	345.650	24-05-1998
1998-1999	6118	352.810	15-10-1998	8.130	345.800	09-05-1999
1999-2000	7486	353.785	28-07-1999	4.176	345.760	21-05-2000
2000-2001	5578	352.400	17-07-2000	2.091	345.680	27-05-2001
2001-2002	5013	351.970	09-10-2001	1.130	345.650	15-07-2001
2002-2003	4784	351.770	16-08-2002	2.087	345.700	09-07-2002
2003-2004	1369	348.440	02-08-2003	7.423	345.890	04-06-2003
2004-2005	6640	353.195	09-08-2004	5.675	345.910	23-07-2004
2005-2006	11564	356.350	08-08-2005	9.191	345.980	04-05-2006
2006-2007	9193	355.260	17-08-2006	5.940	345.670	10-05-2007
2007-2008	7772	353.950	10-08-2007	6.255	345.630	18-05-2008
2008-2009	8300	354.290	20-08-2008	3.201	345.550	20-07-2008
2009-2010	13909	357.840	02-10-2009	3.073	345.560	05-06-2009
2010-2011	8097	354.240	31-07-2010	10.38	345.610	15-05-2011
2011-2012	8960	354.770	08-09-2011	0.460	345.210	04-04-2012
2012-2013	4313	351.340	06-09-2012	0.276	345.320	19-03-2013
2013-2014	6962	353.360	28-07-2013	1.669	345.250	07-07-2013
2014-2015	4783	351.710	05-08-2014	0.924	345.300	27-07-2014
2015-2016	961	348.060	12-09-2015	0.000	345.230	24-03-2016
2016-2017	6691	353.230	11-08-2016	0.000	345.310	16-05-2017
2017-2018	4237	351.320	16-10-2017	0.000	345.310	11-06-2017
2018-2019	5556	352.510	24-07-2018	0.000	345.350	04-01-2019
2019-2020	15476	358.550	02-10-2019	0.000	345.110	02-06-2019
2020-2021	8461	354.150	21-08-2020	0.000	345.690	24-12-2020

Annual Runoff of Krishna at Huvinhedigi							
Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1975-1976		209	209	0	7	7
2	1976-1977	21720	462	22181	767	16	784
3	1977-1978	18932	907	19839	669	32	701
4	1978-1979	21395	392	21787	756	14	770
5	1979-1980	20765	737	21502	734	26	760
6	1980-1981	23442	362	23804	828	13	841
7	1981-1982	23055	595	23650	815	21	836
8	1982-1983	16675	724	17399	589	26	615
9	1983-1984	22211	694	22905	785	25	809
10	1984-1985	14325	397	14722	506	14	520
11	1985-1986	11097	275	11372	392	10	402
12	1986-1987	10227	216	10444	361	8	369
13	1987-1988	9185	355	9540	325	13	337
14	1988-1989	20319	386	20705	718	14	732
15	1989-1990	13439	554	13993	475	20	494
16	1990-1991	18675	503	19178	660	18	678
17	1991-1992	23993	412	24405	848	15	862
18	1992-1993	12676	685	13361	448	24	472
19	1993-1994	18579	1594	20173	657	56	713
20	1994-1995	31454	626	32080	1111	22	1134
21	1995-1996	9493	363	9855	335	13	348
22	1996-1997	13597	570	14166	480	20	501
23	1997-1998	21439	626	22065	758	22	780
24	1998-1999	15964	636	16600	564	22	587
25	1999-2000	16569	562	17131	585	20	605
26	2000-2001	7368	689	8056	260	24	285
27	2001-2002	7243	720	7963	256	25	281
28	2002-2003	3833	859	4692	135	30	166
29	2003-2004	2439	1093	3532	86	39	125
30	2004-2005	9321	958	10279	329	34	363
31	2005-2006	25654	923	26578	907	33	939
32	2006-2007	25856	939	26794	914	33	947
33	2007-2008	20848	846	21694	737	30	767
34	2008-2009	10759	806	11564	380	28	409
35	2009-2010	11348	1158	12505	401	41	442
36	2010-2011	9657	869	10526	341	31	372
37	2011-2012	13622	511	14134	481	18	499
38	2012-2013	4728	423	5151	167	15	182
39	2013-2014	11674	496	12171	413	18	430
40	2014-2015	10483	396	10880	370	14	384
41	2015-2016	982	177	1158	35	6	41
42	2016-2017	7948	195	8143	281	7	288
43	2017-2018	5907	118	6025	209	4	213
44	2018-2019	11032	167	11199	390	6	396
45	2019-2020	33820	348	34169	1195	12	1207
46	2020-2021	20527	181	20708	725	6	732
47	2021-2022	15556	501	16058	550	18	567
Average		15214	579	15469	526	20	547

Instantaneous Flood Peak of Krishna at Huvinhedgi

		Instantaneous Annual Flood Peak			
Sl. No.	Year	Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
2	1976-1977	350.758	07-08-1976	13:00:00	8742 *
3	1977-1978	349.528	30-07-1977	17:00:00	6312 *
4	1978-1979	349.888	21-08-1978	14:00:00	6174 *
5	1979-1980	351.353	14-08-1979	09:00:00	8830 *
6	1980-1981	350.678	09-07-1980	15:00:00	7912 *
7	1981-1982	352.980	13-07-1981	19:00:00	7245 *
8	1982-1983	352.740	19-08-1982	22:00:00	6025 *
9	1983-1984	353.970	19-08-1983	13:00:00	7749 *
10	1984-1985	353.230	23-07-1984	14:00:00	6692 *
11	1985-1986	352.570	06-08-1985	06:00:00	5800 *
12	1986-1987	352.690	14-08-1986	23:00:00	5959 *
13	1987-1988	351.990	11-07-1987	11:00:00	5057 *
14	1988-1989	353.840	09-08-1988	10:00:00	7559 *
15	1989-1990	354.060	30-07-1989	13:00:00	7882 *
16	1990-1991	353.520	24-08-1990	20:00:00	7099 *
17	1991-1992	354.100	03-08-1991	10:00:00	7941 *
18	1992-1993	352.210	19-08-1992	06:00:00	5334 *
19	1993-1994	353.750	20-10-1993	21:00:00	7428 *
20	1994-1995	355.120	21-07-1994	02:00:00	9514 *
21	1995-1996	351.680	26-07-1995	09:00:00	4675 *
22	1996-1997	353.160	08-10-1996	06:00:00	6595 *
23	1997-1998	354.350	12-08-1997	09:00:00	8316 *
24	1998-1999	352.810	15-10-1998	11:00:00	6119 *
25	1999-2000	353.790	28-07-1999	09:00:00	7486 *
26	2000-2001	352.420	17-07-2000	15:00:00	5604 *
27	2001-2002	352.540	08-10-2001	01:00:00	5761 *
28	2002-2003	351.900	15-08-2002	18:00:00	4945 *
29	2003-2004	348.880	02-08-2003	17:00:00	1712 *
30	2004-2005	353.220	11-08-2004	07:00:00	6678 *
31	2005-2006	356.350	08-08-2005	03:00:00	11565 *
32	2006-2007	355.320	17-08-2006	12:00:00	9836 *
33	2007-2008	353.950	10-08-2007	05:00:00	7720 *
34	2008-2009	354.290	20-08-2008	08:00:00	8225 *
35	2009-2010	358.420	02-10-2009	14:00:00	15398 *
36	2010-2011	354.270	31-07-2010	10:00:00	8195 *
37	2011-2012	354.770	08-09-2011	08:00:00	8961 *
38	2012-2013	351.380	06-09-2012	13:00:00	4316 *
39	2013-2014	353.970	30-07-2013	12:00:00	7749 *
40	2014-2015	351.720	05-08-2014	16:00:00	4724 *
41	2015-2016	348.270	11-09-2015	20:00:00	1182 *
42	2016-2017	354.130	05-08-2016	09:00:00	7986 *
43	2017-2018	352.020	16-10-2017	14:00:00	5094 *
44	2018-2019	352.570	24-07-2018	13:00:00	5800 *
45	2019-2020	358.550	11-08-2019	14:00:00	15655 *
46	2020-2021	354.230	21-08-2020	14:00:00	8135 *
47	2021-2022	355.860	31-07-2021	08:00:00	8972 *

Note :- 1982-1983 onwards Discharge Curve is Differant due to change of Zero of the gauge

Stage-Discharge Data for the period 2021 - 2022

Station Name : Huvinhedigi (AK000N2)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

Sub-Division : Middle Krishna SD 2 , Kurnool

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	346.450	155.3 *	346.190	95.53	355.490	8764	346.450	127.1	346.880	300.4	346.140	86.18
2	346.300	118.5 *	345.810	42.27	353.500	6119	346.270	89.94	346.880	290.1 *	346.170	87.64
3	346.330	125.3 *	345.820	43.16	351.760	4450	346.220	73.52	346.920	308.6 *	346.280	111.3
4	346.150	88.02 *	345.820	43.16 *	351.420	4044	346.200	76.36	346.950	350.5	346.290	99.51 *
5	345.950	57.19 *	345.670	32.85	351.910	4635	346.210	85.73 *	347.110	394.3	346.190	94.76
6	346.500	168.9 *	345.770	39.02	349.850	2420	346.480	152.2	346.950	339.7	346.140	85.00
7	347.810	776.3 *	345.670	32.85	347.935	1073	346.640	186.3	347.290	514.6	346.110	72.54 *
8	347.570	629.1 *	345.670	32.85	349.845	2814	346.640	186.5	347.050	365.6	346.040	66.70
9	347.120	396.5	345.770	39.02	349.910	2881	346.470	132.8	347.210	474.1	345.990	61.20
10	347.120	396.5	345.810	42.27	349.675	2660	348.140	1221 *	347.210	464.9 *	345.940	52.11
11	347.070	374.1	346.020	66.70 *	347.490	625.3	349.590	2161	348.130	1188	345.910	51.07
12	347.040	361.1	345.820	43.16	347.000	313.4	349.265	2656 *	348.230	1259	345.800	37.09
13	346.920	311.3	345.880	49.04	346.350	68.95	348.870	1539	347.320	445.9	345.760	35.95
14	346.610	201.4	345.965	59.11	346.550	138.2	350.220	2824	347.770	938.9	345.760	35.79 *
15	346.090	77.59	348.075	1290	346.500	149.4 *	352.000	4743	347.520	673.7 *	345.790	42.81
16	345.920	53.53	348.910	1830	346.350	75.08	352.180	4926	347.240	451.9	345.810	41.86
17	345.720	35.58	348.510	1510	346.290	61.81	348.540	1311	346.780	246.8 *	345.915	45.51
18	345.630	31.16	349.025	1960	348.050	1188	348.560	1325	346.810	282.9	346.100	71.57
19	345.580	29.69	349.575	2655	347.970	1086	348.210	1294 *	346.810	259.3 *	346.140	75.79 *
20	345.580	29.69 *	349.055	1933	347.780	882.2 *	347.120	341.4	346.320	115.6	346.180	92.26
21	345.550	29.14 *	348.700	1744 *	347.115	357.4	346.420	111.7	346.100	66.76	346.140	76.02 *
22	345.540	29.01 *	349.540	2315	346.940	318.2 *	347.490	555.2	345.990	58.52	346.270	105.6
23	345.540	29.01 *	351.670	4389	346.960	250.1	347.390	513.7	346.070	66.07	346.140	84.66
24	347.590	640.7	354.260	6731	347.130	400.1	346.800	248.1	346.070	68.52 *	346.360	137.1
25	348.570	1349	354.850	7354	347.230	427.9	346.580	154.0	346.150	81.90	346.270	112.8
26	347.630	664.4	354.210	6770	346.670	211.6	346.680	207.9 *	346.190	89.07	346.120	79.83
27	347.670	688.5 *	354.160	6387	346.340	133.9	346.840	278.2	346.180	78.53	345.950	56.09
28	347.970	883.4	354.860	7369	346.420	96.74	346.880	317.9	346.150	85.58	345.800	40.23 *
29	347.890	829.0	355.640	8659	346.450	135.7 *	347.540	692.4	346.120	84.51	345.700	32.65
30	347.260	452.5	355.760	8871	346.780	237.3	346.910	301.7	346.080	78.45	345.770	37.10
31			355.860	8972	346.630	183.7			346.080	69.46 *		
Ten-Daily Mean												
I Ten-Daily	346.730	291.2	345.800	44.30	351.130	3986	346.572	233.1	347.045	380.3	346.129	81.70
II Ten-Daily	346.216	150.5	347.683	1140	347.033	458.9	349.456	2312	347.293	586.2	345.917	52.97
III Ten-Daily	347.121	559.5	353.592	6324	346.788	250.2	346.953	338.1	346.107	75.22	346.052	76.21
Monthly												
Min.	345.540	29.01	345.670	32.85	346.290	61.81	346.200	73.52	345.990	58.52	345.700	32.65
Max.	348.570	1349	355.860	8972	355.490	8764	352.180	4926	348.230	1259	346.360	137.1
Mean	346.689	333.7	349.172	2626	348.267	1523	347.660	961.1	346.792	338.4	346.033	70.29

Annual Runoff in MCM = 16058 Annual Runoff in mm = 291

Peak Observed Discharge = 8972 cumecs on 31-07-2021 Corres. Water Level :355.86 m

Lowest Observed Discharge = 4.664 cumecs on 03-01-2022 Corres. Water Level :345.32 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : Huvinhedigi (AK000N2)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

Sub-Division : Middle Krishna SD 2 , Kurnool

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	345.720	33.22	345.370	7.446	345.960	54.62	345.980	58.83	345.870	49.08	345.390	8.628 *
2	345.710	31.90	345.350	7.014 *	345.980	62.79	346.040	72.25	345.770	46.11	345.420	8.529
3	345.700	27.52	345.320	4.664	346.000	64.13	345.990	59.46	345.820	41.82 *	345.390	8.628 *
4	345.710	31.85	345.310	5.352	346.050	67.93	345.950	61.48	345.850	48.42	345.320	6.584
5	345.730	32.48 *	345.370	11.92	346.060	71.52	345.940	56.84	345.870	51.97	345.330	7.046
6	345.660	25.21	345.490	13.87	346.080	75.95 *	345.880	48.76 *	345.930	60.54	345.330	7.163
7	345.610	20.81	345.540	16.73	346.050	67.99	345.740	31.14	346.020	74.76	345.330	7.963
8	345.580	19.17	345.820	42.34	346.040	60.66	345.640	20.99	346.060	75.19	345.410	9.530 *
9	345.580	18.82	345.900	51.19 *	346.030	63.73	345.550	17.02	346.050	75.50	345.560	18.74
10	345.600	19.43	345.940	53.83	345.940	56.22	345.490	13.78	345.980	61.57 *	345.630	16.98
11	345.660	27.03	346.010	60.91	345.770	33.80	345.400	14.49	345.930	57.63	345.550	16.59
12	345.690	28.73 *	346.050	75.90	345.750	30.90	345.440	9.438	345.840	46.92	345.510	16.25
13	345.760	34.46	346.100	80.65	345.670	26.95 *	345.400	9.071 *	345.760	39.11	345.430	11.80
14	345.800	38.36	346.040	70.01 *	345.590	16.46	345.350	7.689	345.650	25.24 *	345.360	9.000
15	345.810	40.79	346.040	71.64	345.500	12.95	345.310	6.519	345.560	18.29 *	345.340	6.649 *
16	345.820	40.48	346.020	67.13 *	345.440	10.27	345.300	5.801	345.560	18.86	345.330	6.300 *
17	345.850	45.23	345.830	49.60	345.440	10.31	345.300	5.694	345.540	16.92 *	345.330	6.245
18	345.840	46.44	345.800	43.22	345.430	9.060	345.330	6.300 *	345.670	30.74	345.370	11.53
19	345.840	44.07 *	345.770	37.09	345.400	8.857	345.390	10.14	345.690	30.90	345.730	28.00
20	345.880	51.35	345.630	30.33	345.410	9.530 *	345.630	23.58 *	345.540	18.55	345.710	33.01
21	345.910	56.05	345.560	14.78	345.410	9.752	345.660	23.99	345.440	17.70	346.190	95.62
22	345.890	52.42	345.480	12.47	345.500	14.19	345.650	30.03	345.340	13.61	346.070	74.44 *
23	345.840	44.51	345.470	12.61 *	345.630	24.58	345.770	44.32	345.320	5.717	345.910	50.27
24	345.740	32.55	345.430	8.892	345.790	41.46	345.930	52.98	345.310	5.649 *	345.820	49.30
25	345.630	23.58 *	345.420	8.073	345.880	57.89	345.920	56.79	345.360	13.02	345.950	58.28
26	345.610	21.99 *	345.370	7.790 *	345.900	50.57	345.910	53.92	345.330	10.60	345.760	37.87
27	345.540	13.81	345.430	9.229	345.940	56.26 *	345.940	56.26 *	345.420	10.67	345.670	25.48
28	345.450	10.96	345.390	6.504	345.980	57.29	345.920	56.13	345.420	11.00	345.520	15.85
29	345.420	10.43	345.570	18.72			345.900	53.23	345.390	10.47	345.500	14.36 *
30	345.420	10.40	345.750	34.44 *			345.890	48.03	345.390	9.707	345.520	15.73
31	345.390	7.891	345.880	46.50			345.880	51.58			345.420	9.347
<u>Ten-Daily Mean</u>												
I Ten-Daily	345.660	26.04	345.541	21.44	346.019	64.55	345.820	44.05	345.922	58.50	345.411	9.979
II Ten-Daily	345.795	39.69	345.929	58.65	345.540	16.91	345.385	9.872	345.674	30.31	345.466	14.54
III Ten-Daily	345.622	25.87	345.523	16.36	345.754	39.00	345.852	47.93	345.372	10.81	345.757	40.60
<u>Monthly</u>												
Min.	345.390	7.891	345.310	4.664	345.400	8.857	345.300	5.694	345.310	5.649	345.320	6.245
Max.	345.910	56.05	346.100	80.65	346.080	75.95	346.040	72.25	346.060	75.50	346.190	95.62
Mean	345.690	30.38	345.660	31.64	345.772	40.24	345.691	34.4	345.656	33.21	345.552	22.31

Peak Computed Discharge = 2656 cumecs on 12-09-2021

Corres. Water Level :349.265 m

Lowest Computed Discharge = 5.649 cumecs on 24-04-2022

Corres. Water Level :345.31 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

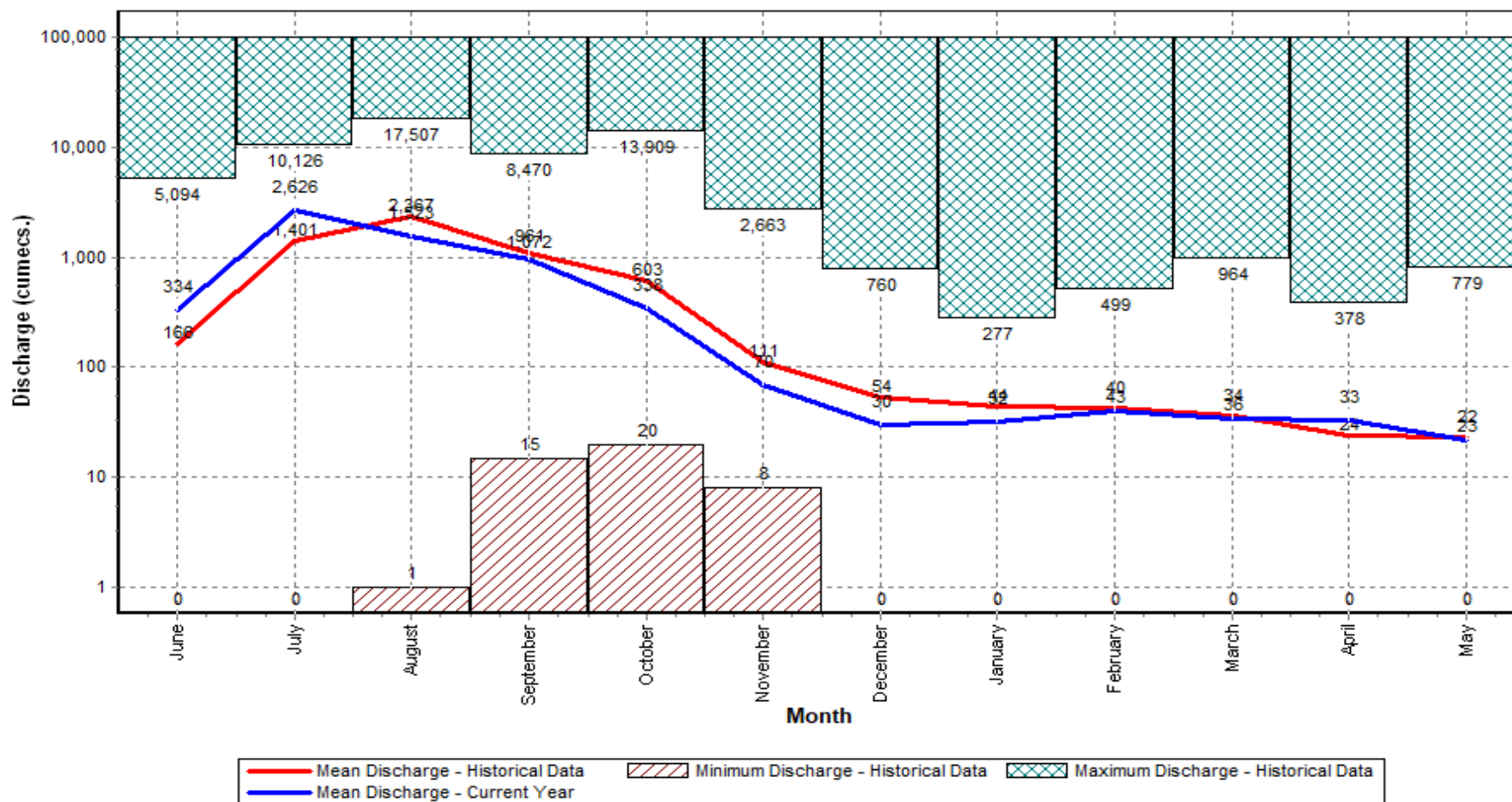
Station Name : Huvinhedigi (AK000N2)

Data considered : 1976-2022

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

Sub-Division : Middle Krishna SD 2 , Kurnool



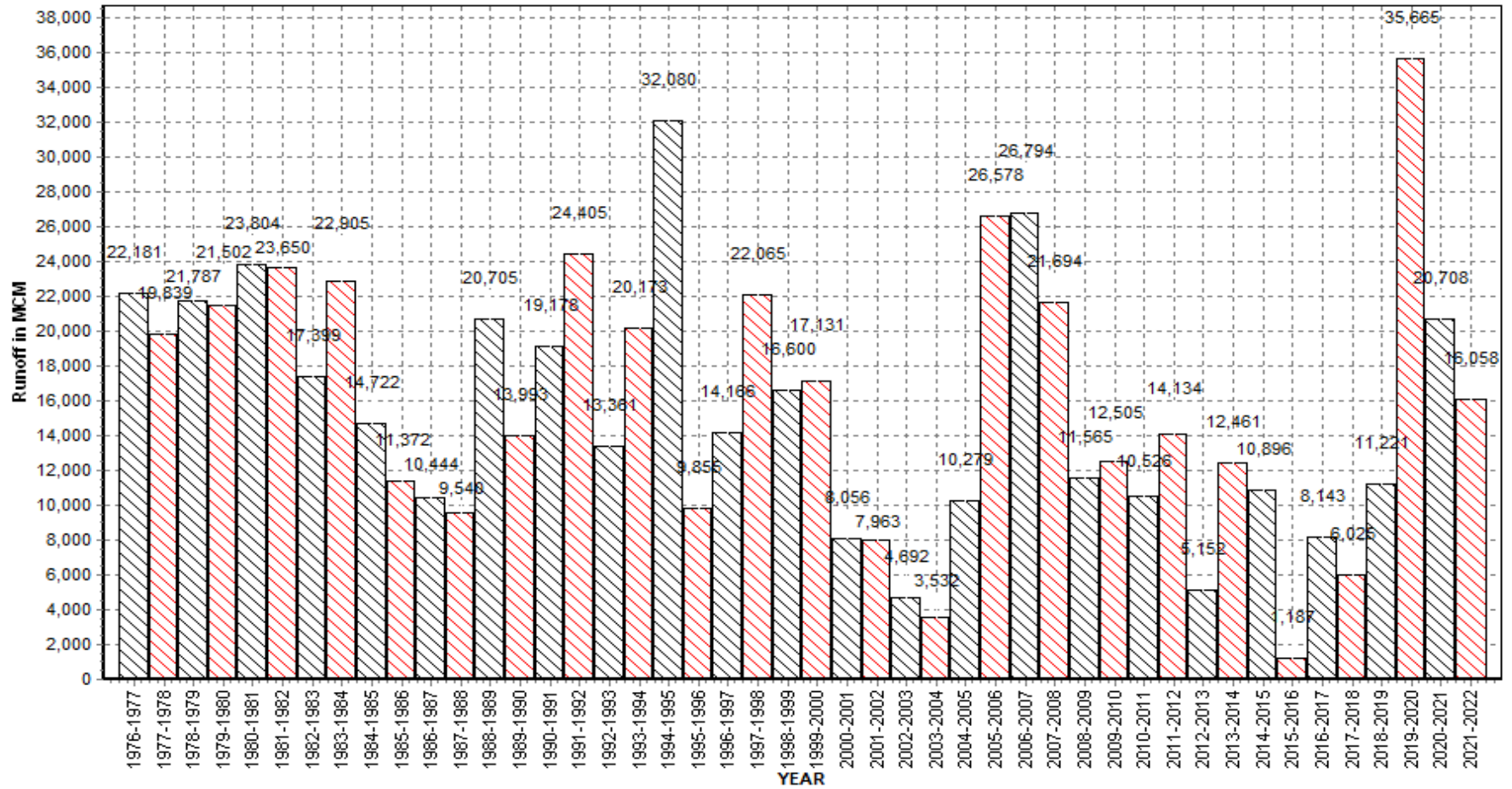
Annual Runoff Values for the period: 1976 - 2022

Station Name : Huvinhedigi (AK000N2)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



Note: Missing values have not been considered while arriving at Annual Runoff

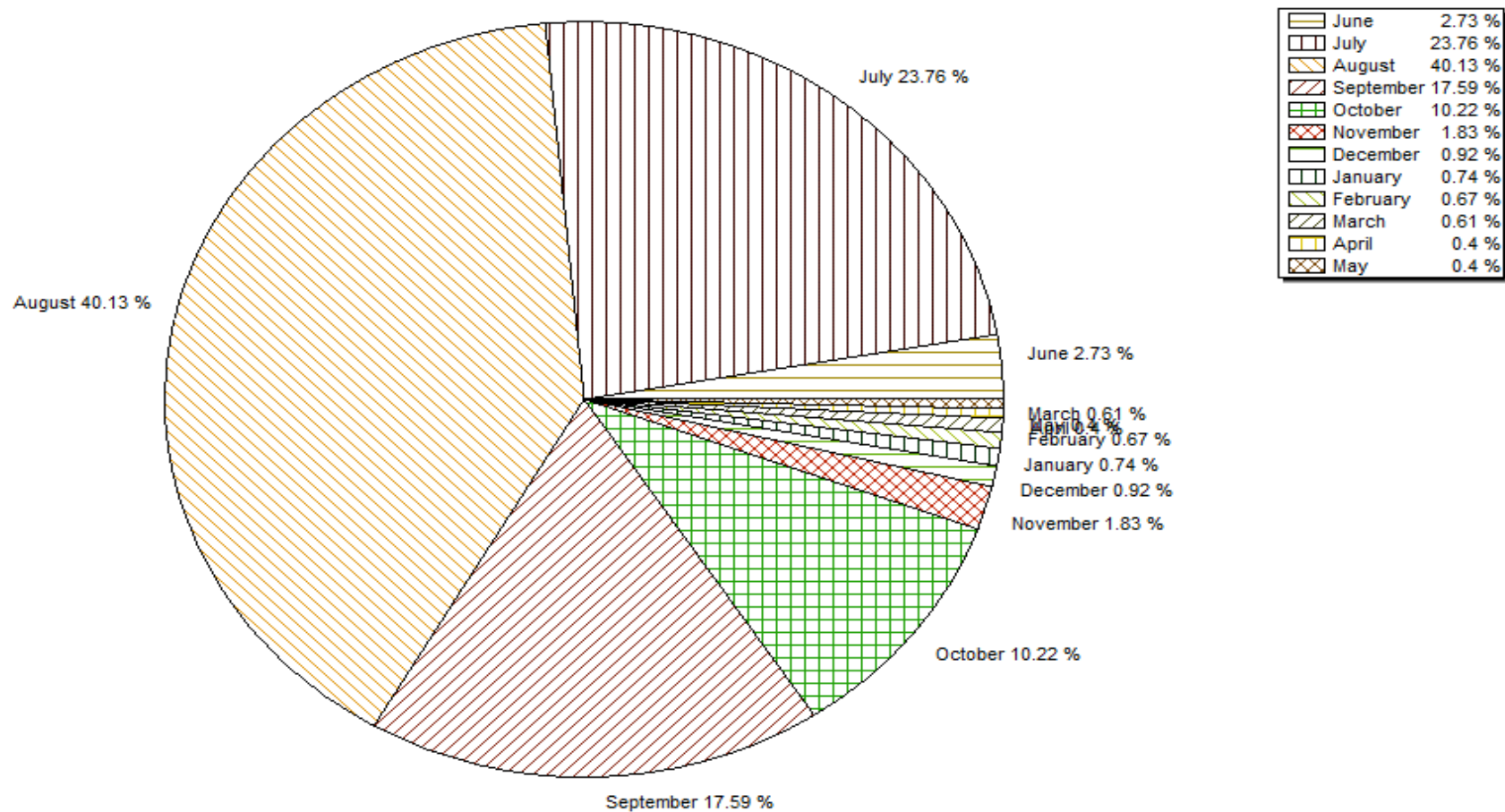
Monthly Average Runoff based on period : 1976-2021

Station Name : Huvinhedigi (AK000N2)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



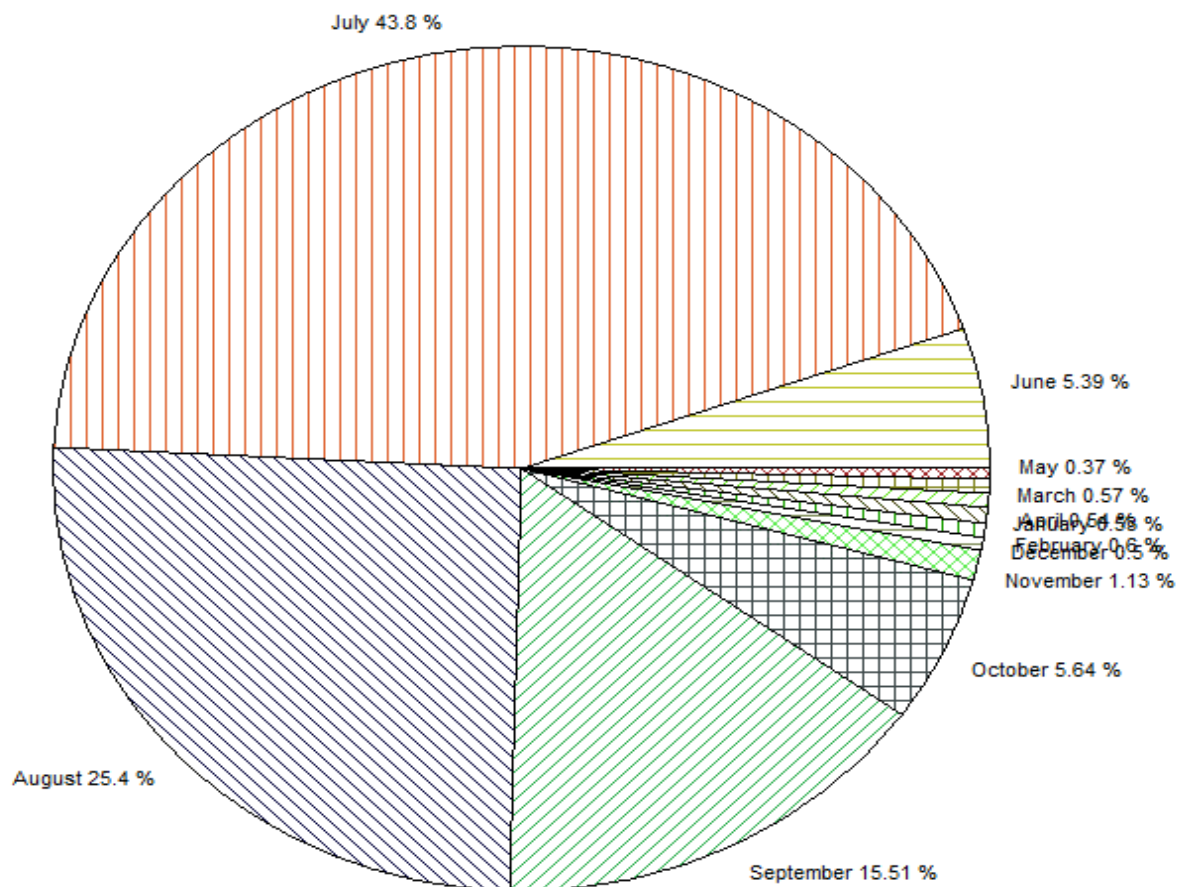
Monthly Runoff for the Year : 2021-2022

Station Name : Huvinhedigi (AK000N2)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



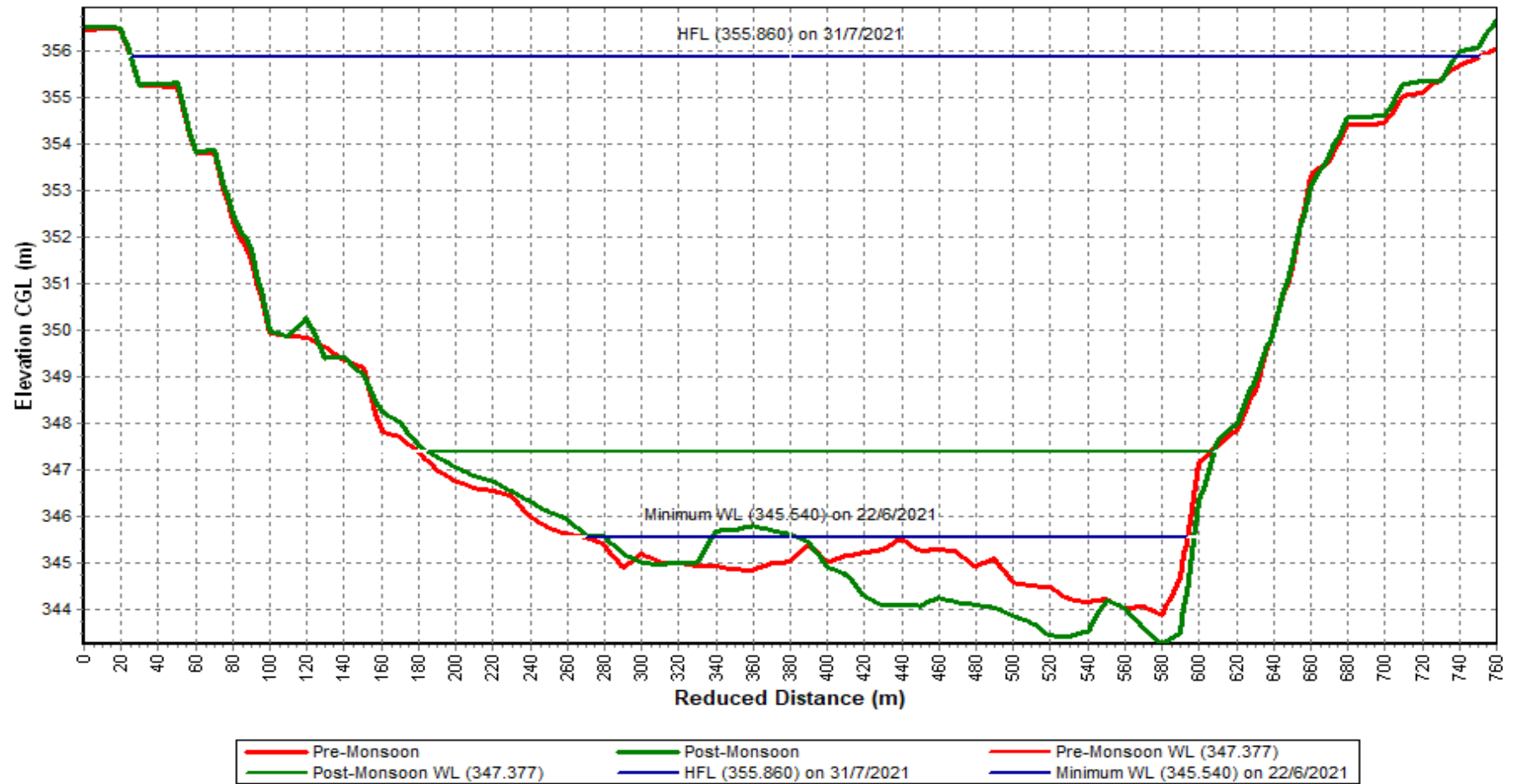
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : Huvinhedigi (AK000N2)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



Zero of Gauge : 342.24 (m.s.l)

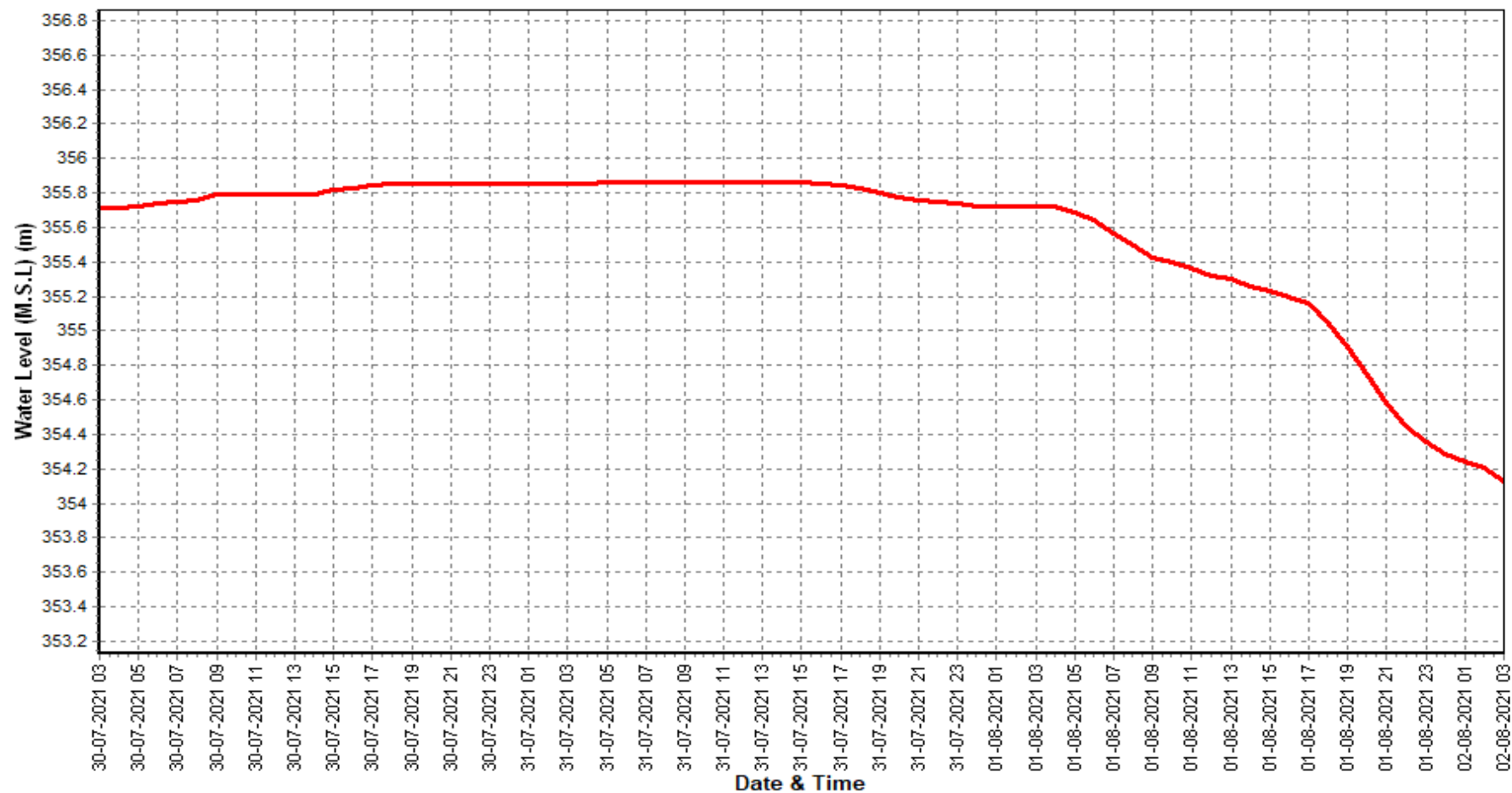
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Huvinhedigi (AK000N2)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



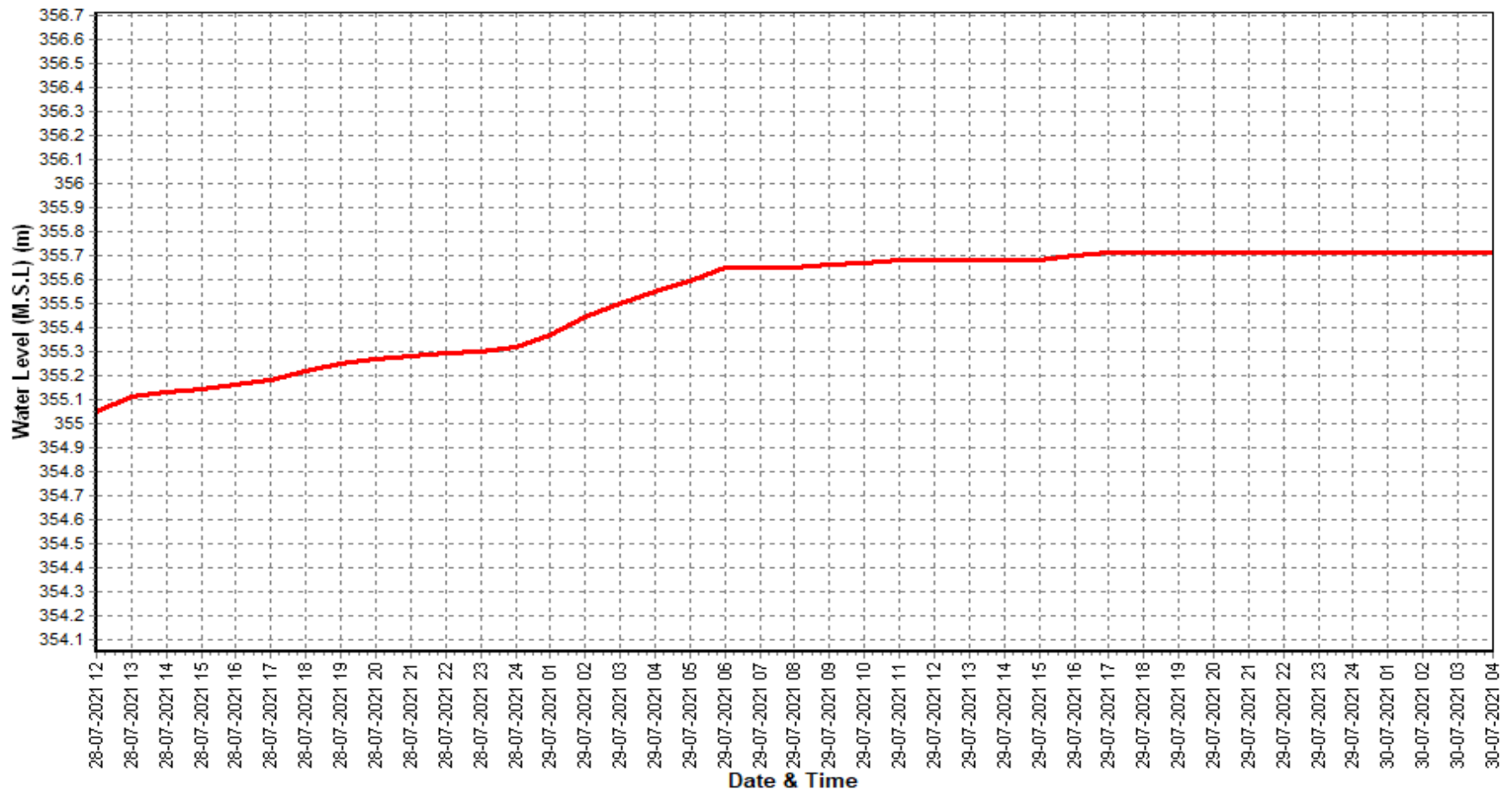
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Huvinhedigi (AK000N2)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



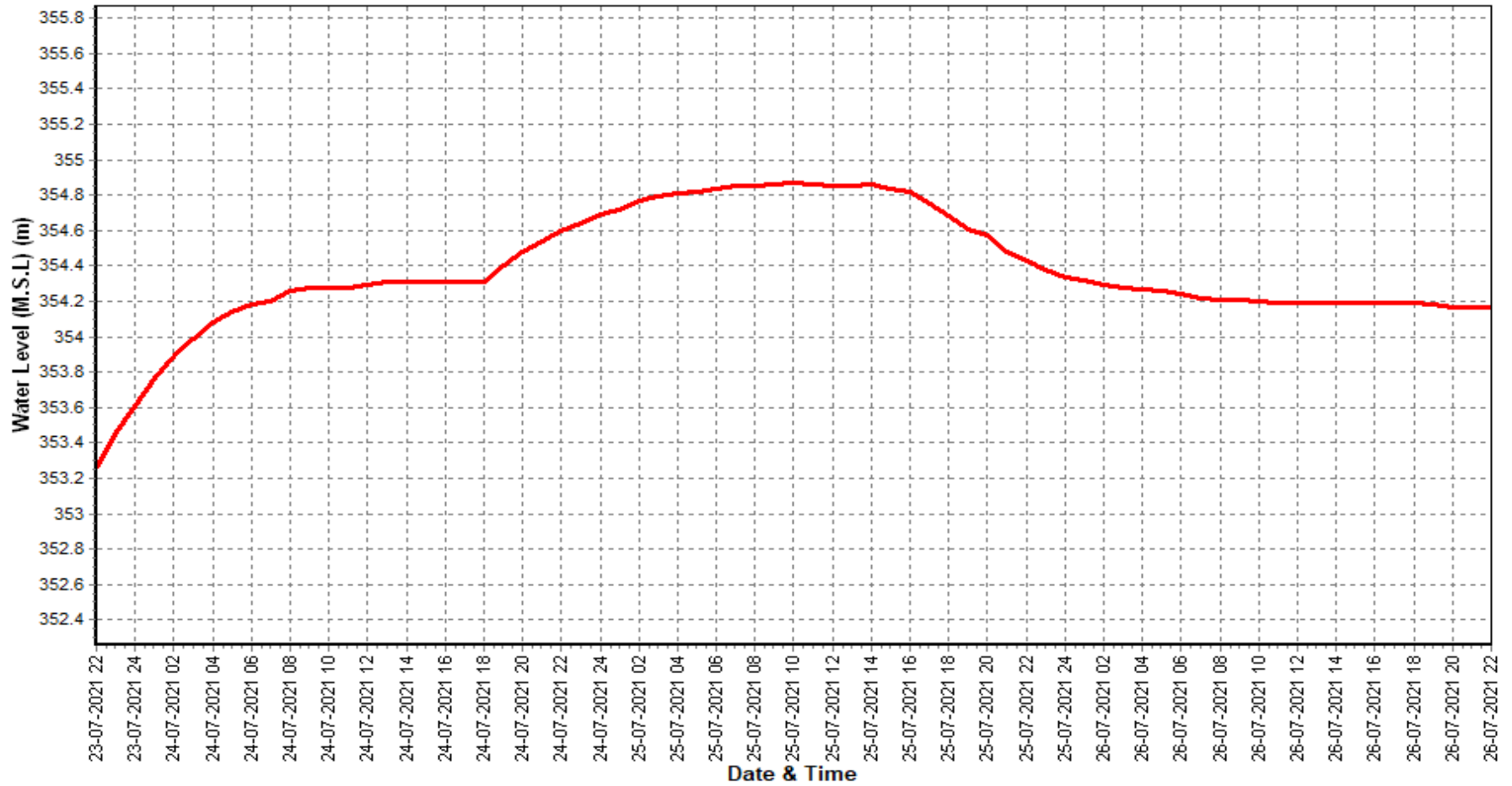
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Huvinhedigi (AK000N2)

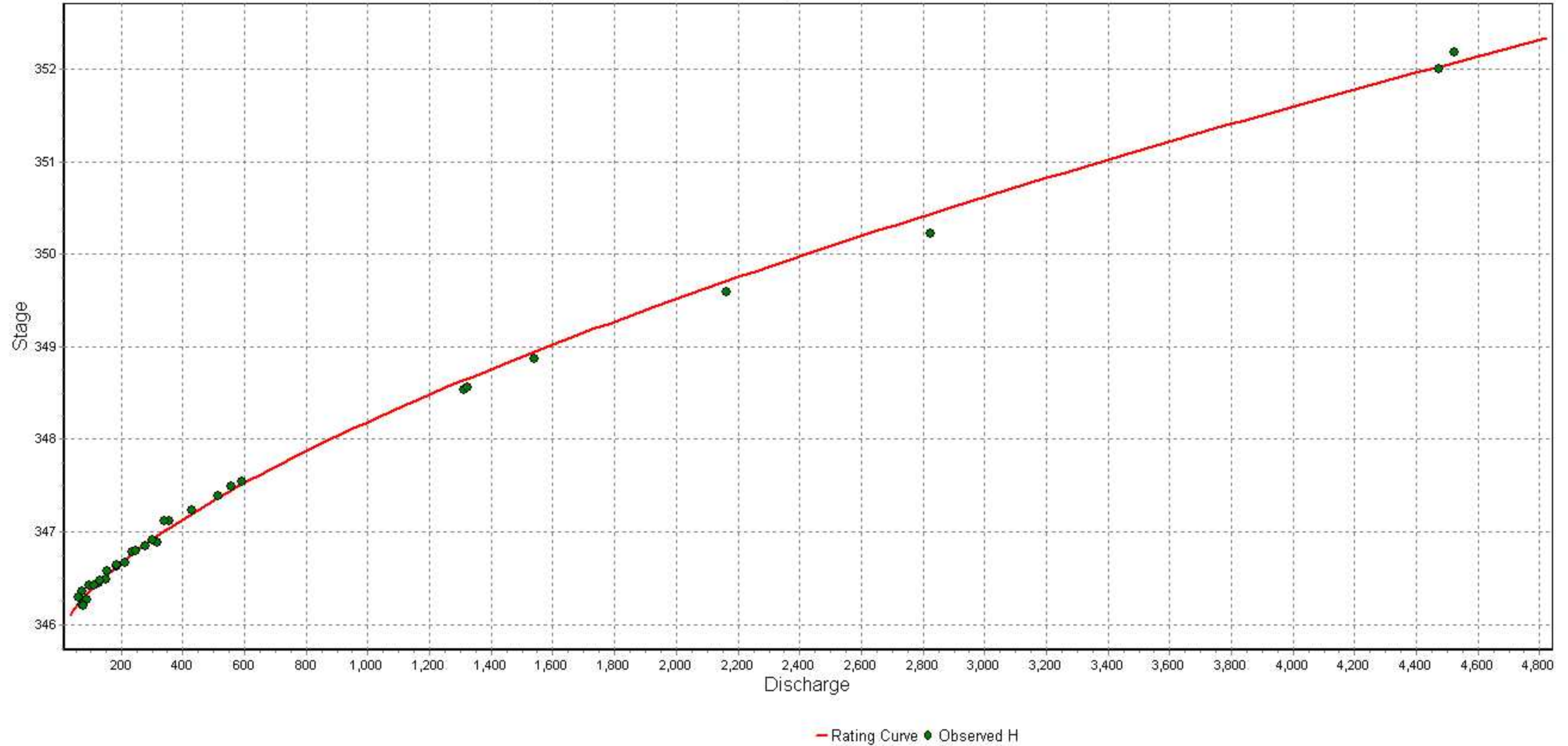
Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



Rating Curve Site Huvinhedgi 15-08-2021 to 30-09-2021



HISTORY SHEET

		Water Year	: 2021-2022
Site	: SUDDAKAL	Code	: SUDDAKALLU
State	: Andhra Pradesh	District	Mahbubnagar
Basin	: Krishna	Independent River	: Krishna
Tributary	: Dindi	Sub Tributary	:
Sub-Sub Tributary	:	Local River	:
Division	: Lower Krishna Divn., Hyderabad	Sub-Division	: Middle Krishna SD 2 , Kurnool
Drainage Area	: 2700 Sq. Km.	Bank	: Left
Latitude	: 16°34'22"	Longitude	: 78°25'24"
Zero of Gauge (m)	: 95.5 (m.s.l) 427.5 (m.s.l)	01-06-2016 01-06-2018	- 31-05-2018
	Opening Date	Closing Date	
Gauge	: 20-11-2014	HFL During 2021-22	: No Flow
Discharge	: 20-11-2014	Corres. Discharge	: Condition for
Sediment	: 20-11-2014	Date & Time of occurrence	: Full year

HFL Recorded so far in m : 430.360 dt 16-09-2020

Corresponding Discharge (cumecs) : 572 *

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2016-2017	0.000		04-10-2016	0.000		25-01-2017
2017-2018	38.17	98.400	15-10-2017	0.000		23-01-2018
2018-2019	0.000		29-04-2019	0.000		22-05-2019
2019-2020	45.5	428.895	25-09-2019	0.000		14-12-2019
2020-2021	554.8	430.130	16-09-2020	0.000		02-02-2021

Annual Runoff of Dindi at Suddakallu

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	2017-2018	33	0	33	1	0	1
2	2018-2019	0	0	0	0	0	0
3	2019-2020	12	0	12	0	0	0
4	2020-2021	143	0	143	5	0	5
5	2021-2022	0	0	0	0	0	0
Average		38	0	38	1	0	1

Instantaneous Flood Peak of Krishna at Suddakallu

		Instantaneous Annual Flood Peak			
Sl. No.	Year	Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	2017-2018	98.670	15-10-2017	18:00:00	38 *
2	2018-2019	Dry Bed			
3	2019-2020	428.725	25-09-2019	01:00:00	46 *
4	2020-2021	430.160	16-09-2020	17:00:00	572 *
5	2021-2022	Dry Bed			

Stage-Discharge Data for the period 2021 - 2022

Station Name : SUDDAKAL (SUDDAKALLU)

Division : Lower Krishna Divn., Hyderabad

Local River :

Sub-Division : Middle Krishna SD 2 , Kurnool

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	Dry Bed	0.000	Dry bed	0.000	429.580	0.000	429.670	0.000	429.650	0.000	429.600	0.000
2		0.000		0.000	429.570	0.000	429.660	0.000	429.650	0.000	429.600	0.000
3		0.000		0.000	429.570	0.000	429.670	0.000	429.650	0.000	429.580	0.000
4		0.000		0.000	429.560	0.000	429.680	0.000	429.650	0.000	429.580	0.000
5		0.000		0.000	429.560	0.000	429.750	0.000	429.650	0.000	429.580	0.000
6		0.000		0.000	429.550	0.000	429.760	0.000	429.650	0.000	429.580	0.000
7		0.000		0.000	429.540	0.000	429.740	0.000	429.650	0.000	429.570	0.000
8		0.000		0.000	429.530	0.000	429.730	0.000	429.650	0.000	429.570	0.000
9		0.000		0.000	429.520	0.000	429.720	0.000	429.700	0.000	429.570	0.000
10		0.000		0.000	429.500	0.000	429.690	0.000	429.690	0.000	429.570	0.000
11		0.000		0.000	429.480	0.000	429.690	0.000	429.690	0.000	429.570	0.000
12		0.000		0.000	429.480	0.000	429.680	0.000	429.680	0.000	429.570	0.000
13		0.000		0.000	429.460	0.000	429.680	0.000	429.670	0.000	429.570	0.000
14		0.000		0.000	429.460	0.000	429.670	0.000	429.660	0.000	429.580	0.000
15		0.000		0.000	429.460	0.000	429.660	0.000	429.660	0.000	429.590	0.000
16		0.000	429.510	0.000	429.470	0.000	429.650	0.000	429.660	0.000	429.600	0.000
17		0.000	429.600	0.000	429.480	0.000	429.640	0.000	429.660	0.000	429.620	0.000
18		0.000	429.600	0.000	429.480	0.000	429.640	0.000	429.660	0.000	429.600	0.000
19		0.000	429.600	0.000	429.480	0.000	429.640	0.000	429.650	0.000	429.590	0.000
20		0.000	429.650	0.000	429.480	0.000	429.630	0.000	429.640	0.000	429.580	0.000
21		0.000	429.640	0.000	429.490	0.000	429.630	0.000	429.630	0.000	429.580	0.000
22		0.000	429.670	0.000	429.490	0.000	429.630	0.000	429.630	0.000	429.570	0.000
23		0.000	429.690	0.000	429.500	0.000	429.640	0.000	429.630	0.000	429.570	0.000
24		0.000	429.650	0.000	429.520	0.000	429.640	0.000	429.630	0.000	429.570	0.000
25		0.000	429.620	0.000	429.520	0.000	429.640	0.000	429.630	0.000	429.570	0.000
26		0.000	429.610	0.000	429.530	0.000	429.630	0.000	429.630	0.000	429.570	0.000
27		0.000	429.610	0.000	429.530	0.000	429.630	0.000	429.620	0.000	429.570	0.000
28		0.000	429.610	0.000	429.580	0.000	429.650	0.000	429.620	0.000	429.580	0.000
29		0.000	429.600	0.000	429.620	0.000	429.660	0.000	429.620	0.000	429.580	0.000
30		0.000	429.590	0.000	429.620	0.000	429.650	0.000	429.610	0.000	429.580	0.000
31				429.590	0.000	429.640	0.000			429.610	0.000	
Ten-Daily Mean												
I Ten-Daily	Dry Bed	0.000	Drybed	0.000	429.548	0.000	429.707	0.000	429.659	0.000	429.580	0.000
II Ten-Daily		0.000	429.592	0.000	429.473	0.000	429.658	0.000	429.663	0.000	429.587	0.000
III Ten-Daily		0.000	429.625	0.000	429.549	0.000	429.640	0.000	429.624	0.000	429.574	0.000
Monthly												
Min.	Dry Bed	0.000	429.510	0.000	429.460	0.000	429.630	0.000	429.610	0.000	429.570	0.000
Max.		0.000	429.690	0.000	429.640	0.000	429.760	0.000	429.700	0.000	429.620	0.000
Mean		0	429.615	0	429.524	0	429.668	0	429.648	0	429.580	0

Annual Runoff in MCM = 0 Annual Runoff in mm = 0

Peak Observed Discharge = 0.000 cumecs on 01-06-2021

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021

Stage-Discharge Data for the period 2021 - 2022

Station Name : SUDDAKAL (SUDDAKALLU)

Division : Lower Krishna Divn., Hyderabad

Local River :

Sub-Division : Middle Krishna SD 2 , Kurnool

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	429.580	0.000	429.570	0.000	429.570	0.000	429.530	0.000	429.190	0.000	428.630	0.000
2	429.580	0.000	429.570	0.000	429.570	0.000	429.530	0.000	429.190	0.000	428.610	0.000
3	429.580	0.000	429.570	0.000	429.570	0.000	429.530	0.000	429.180	0.000	428.600	0.000
4	429.580	0.000	429.570	0.000	429.570	0.000	429.520	0.000	429.180	0.000	428.600	0.000
5	429.580	0.000	429.570	0.000	429.570	0.000	429.520	0.000	429.170	0.000	428.560	0.000
6	429.580	0.000	429.580	0.000	429.570	0.000	429.520	0.000	429.150	0.000	428.550	0.000
7	429.580	0.000	429.580	0.000	429.570	0.000	429.520	0.000	429.130	0.000	428.500	0.000
8	429.580	0.000	429.580	0.000	429.560	0.000	429.520	0.000	429.110	0.000	428.460	0.000
9	429.580	0.000	429.580	0.000	429.560	0.000	429.520	0.000	429.100	0.000	428.430	0.000
10	429.600	0.000	429.580	0.000	429.560	0.000	429.520	0.000	429.080	0.000	428.410	0.000
11	429.600	0.000	429.580	0.000	429.560	0.000	429.510	0.000	429.060	0.000	428.400	0.000
12	429.600	0.000	429.590	0.000	429.560	0.000	429.470	0.000	429.040	0.000	428.380	0.000
13	429.600	0.000	429.600	0.000	429.560	0.000	429.430	0.000	429.020	0.000	428.370	0.000
14	429.600	0.000	429.600	0.000	429.560	0.000	429.410	0.000	429.000	0.000	428.370	0.000
15	429.600	0.000	429.600	0.000	429.560	0.000	429.410	0.000	428.980	0.000	Dry Bed	0.000
16	429.600	0.000	429.600	0.000	429.560	0.000	429.410	0.000	428.950	0.000		0.000
17	429.600	0.000	429.600	0.000	429.560	0.000	429.380	0.000	428.950	0.000		0.000
18	429.560	0.000	429.600	0.000	429.560	0.000	429.350	0.000	428.940	0.000		0.000
19	429.560	0.000	429.590	0.000	429.560	0.000	429.340	0.000	428.930	0.000		0.000
20	429.560	0.000	429.590	0.000	429.560	0.000	429.310	0.000	428.910	0.000		0.000
21	429.560	0.000	429.590	0.000	429.560	0.000	429.290	0.000	428.890	0.000		0.000
22	429.560	0.000	429.590	0.000	429.550	0.000	429.280	0.000	428.860	0.000		0.000
23	429.560	0.000	429.590	0.000	429.550	0.000	429.260	0.000	428.830	0.000		0.000
24	429.560	0.000	429.590	0.000	429.550	0.000	429.250	0.000	428.810	0.000		0.000
25	429.560	0.000	429.590	0.000	429.550	0.000	429.230	0.000	428.700	0.000		0.000
26	429.560	0.000	429.590	0.000	429.550	0.000	429.230	0.000	428.690	0.000		0.000
27	429.560	0.000	429.590	0.000	429.550	0.000	429.220	0.000	428.680	0.000		0.000
28	429.560	0.000	429.570	0.000	429.550	0.000	429.210	0.000	428.670	0.000		0.000
29	429.560	0.000	429.570	0.000			429.210	0.000	428.660	0.000		0.000
30	429.560	0.000	429.570	0.000			429.200	0.000	428.650	0.000		0.000
31	429.570	0.000	429.570	0.000			429.200	0.000				0.000
Ten-Daily Mean												
I Ten-Daily	429.582	0.000	429.575	0.000	429.567	0.000	429.523	0.000	429.148	0.000	428.535	0.000
II Ten-Daily	429.588	0.000	429.595	0.000	429.560	0.000	429.402	0.000	428.978	0.000	428.380	0.000
III Ten-Daily	429.561	0.000	429.583	0.000	429.551	0.000	429.235	0.000	428.744	0.000	Drybed	0.000
Monthly												
Min.	429.560	0.000	429.570	0.000	429.550	0.000	429.200	0.000	428.650	0.000	428.370	0.000
Max.	429.600	0.000	429.600	0.000	429.570	0.000	429.530	0.000	429.190	0.000	428.630	0.000
Mean	429.576	0	429.584	0	429.560	0	429.382	0	428.957	0	428.491	0

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

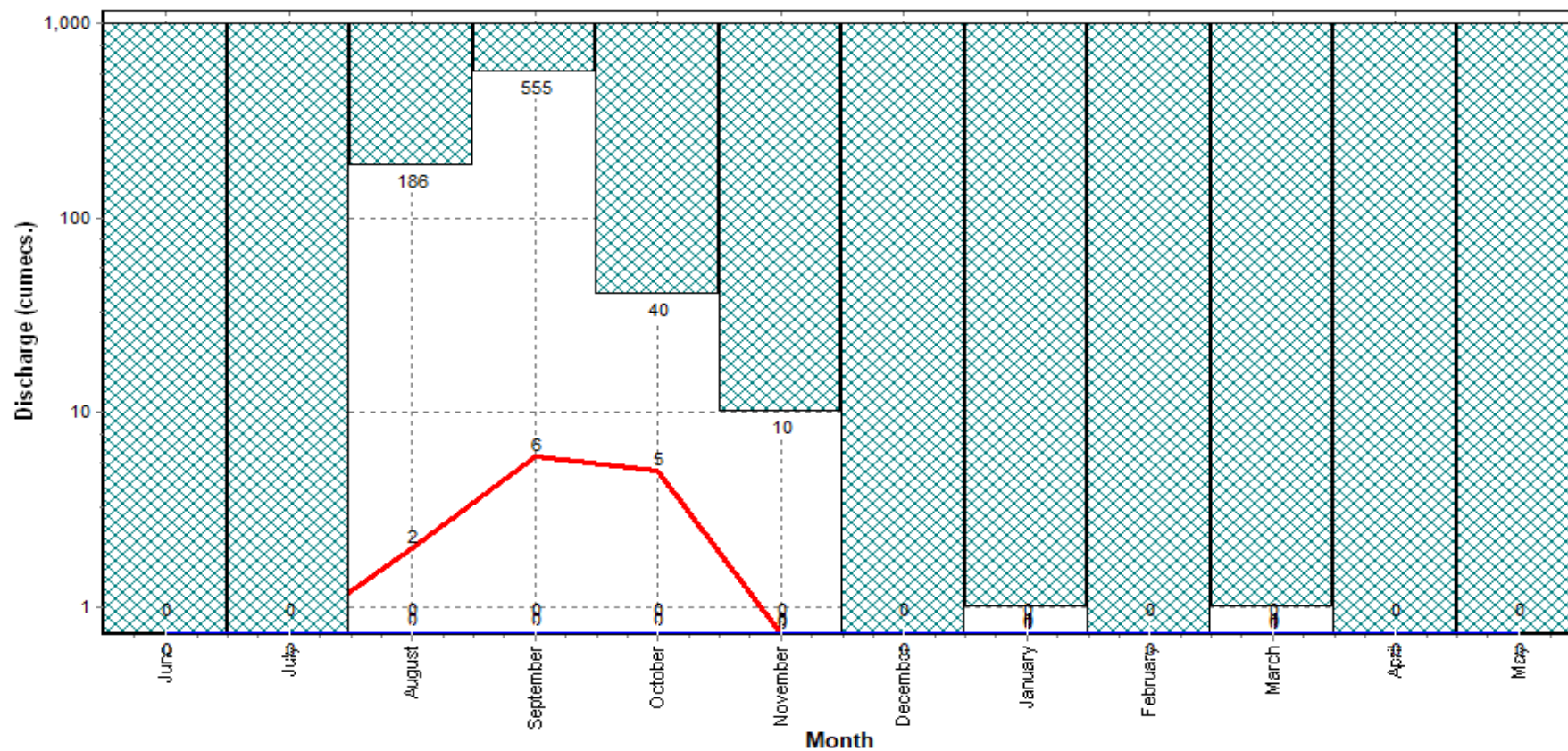
Station Name : SUDDAKAL (SUDDAKALLU)

Data considered : 2016-2022

Division : Lower Krishna Divn., Hyderabad

Local River :

Sub-Division : Middle Krishna SD 2 , Kurnool



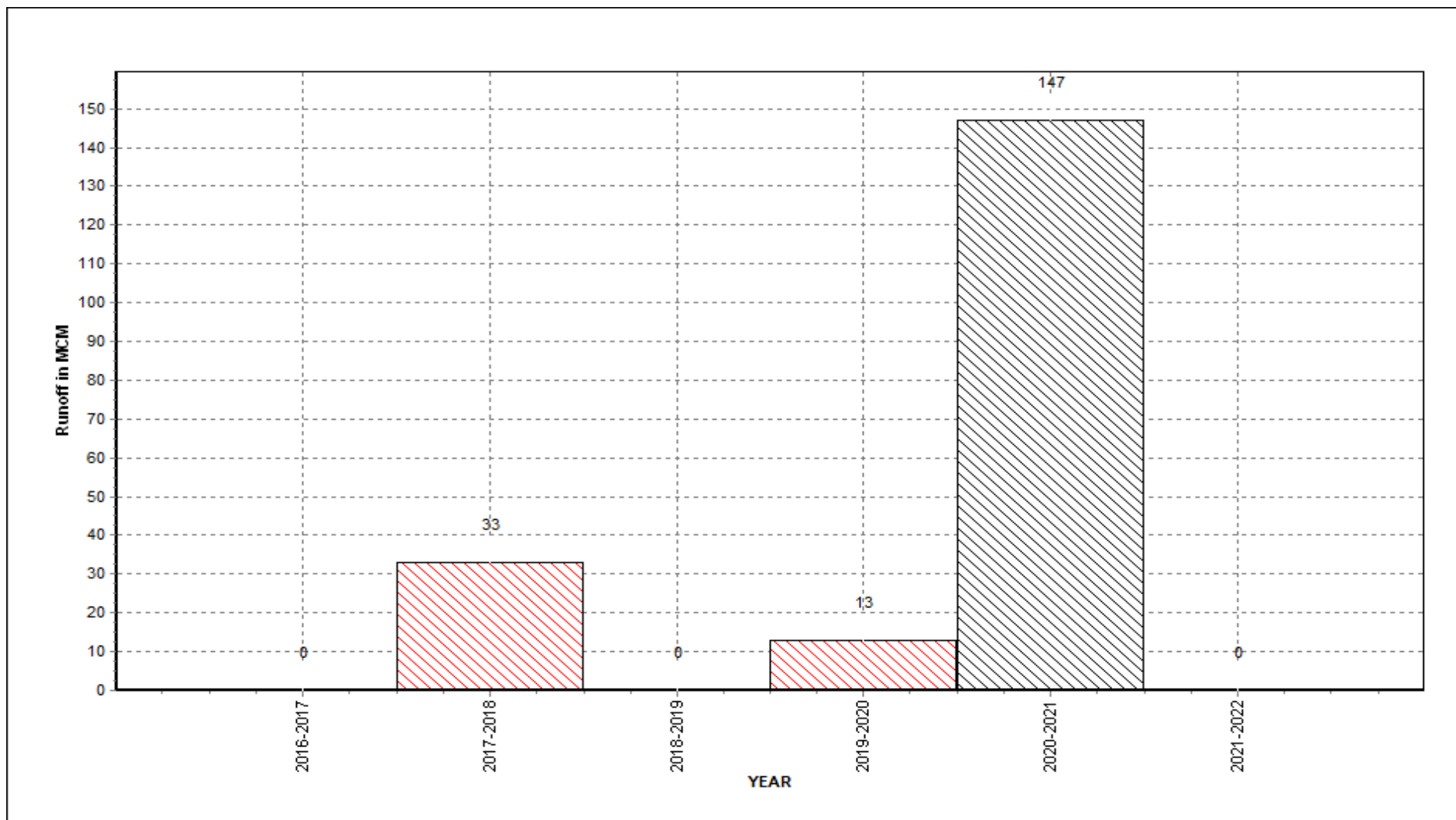
Annual Runoff Values for the period: 2016 - 2022

Station Name : SUDDAKAL (SUDDAKALLU)

Local River :

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



Note: Missing values have not been considered while arriving at Annual Runoff

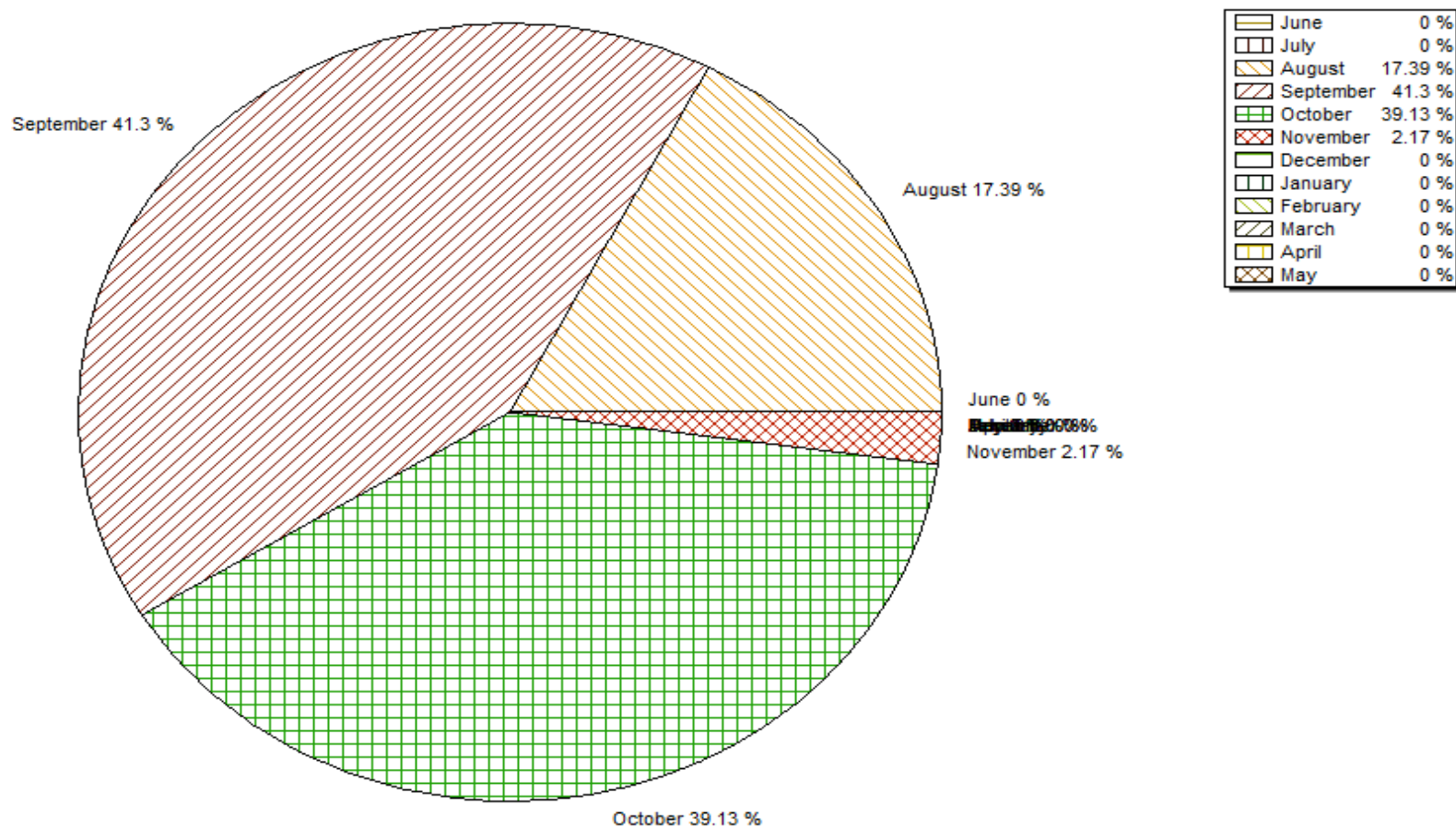
Monthly Average Runoff based on period : 2016-2021

Station Name : SUDDAKAL (SUDDAKALLU)

Local River :

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



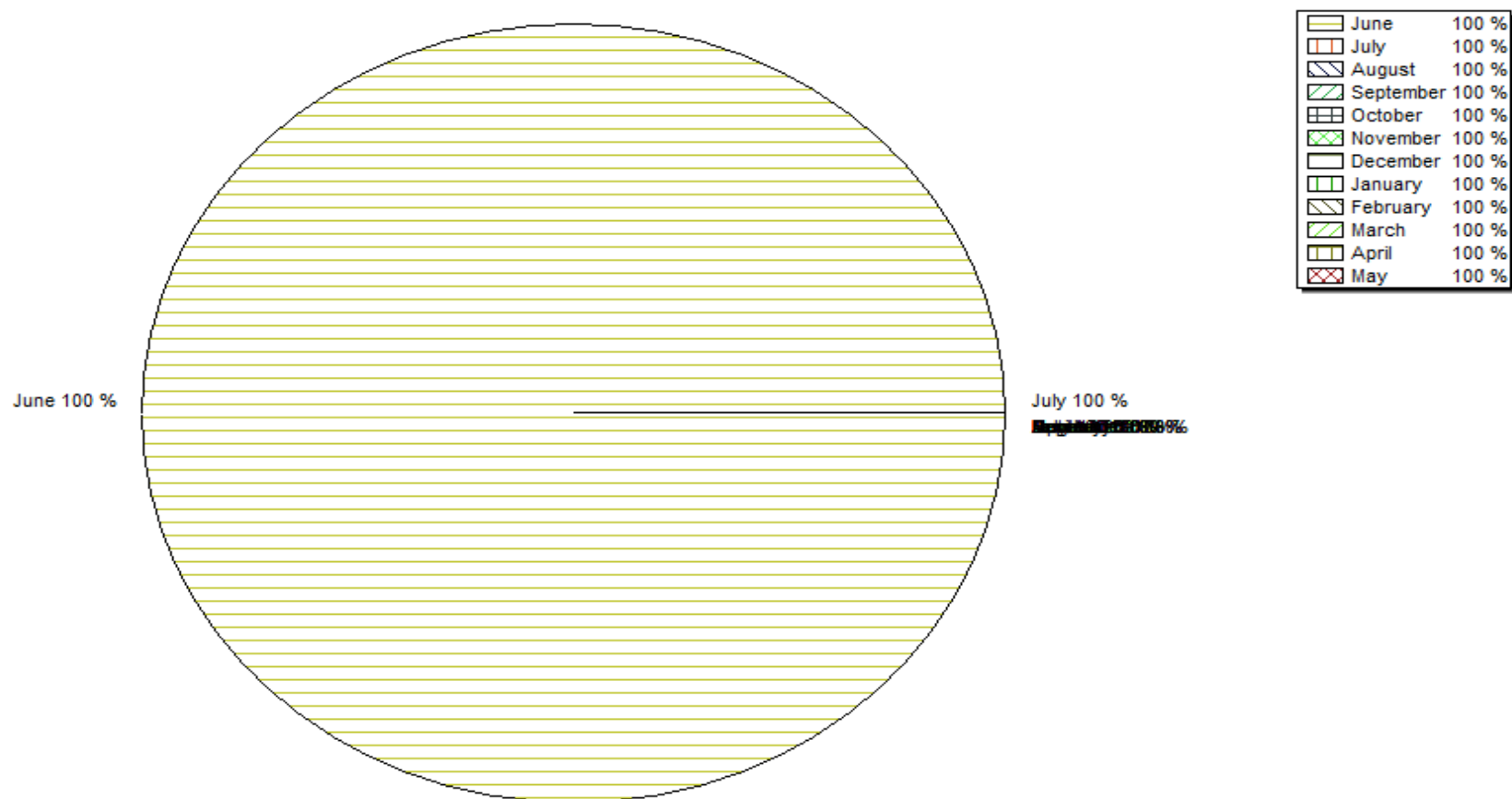
Monthly Runoff for the Year : 2021-2022

Station Name : SUDDAKAL (SUDDAKALLU)

Local River :

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



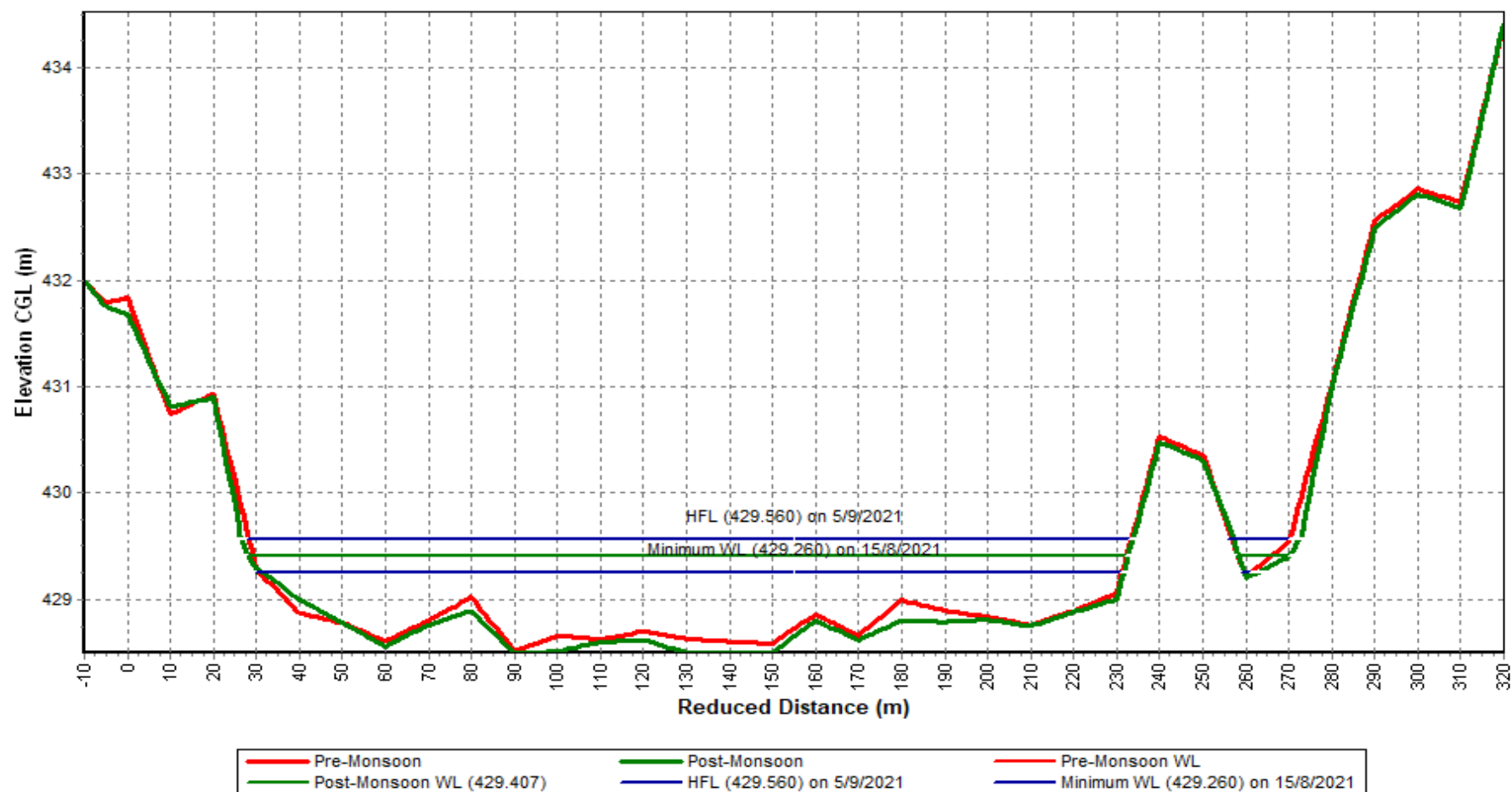
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : SUDDAKAL (SUDDAKALLU)

Local River :

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



Zero of Gauge : 427.5 (m.s.l)

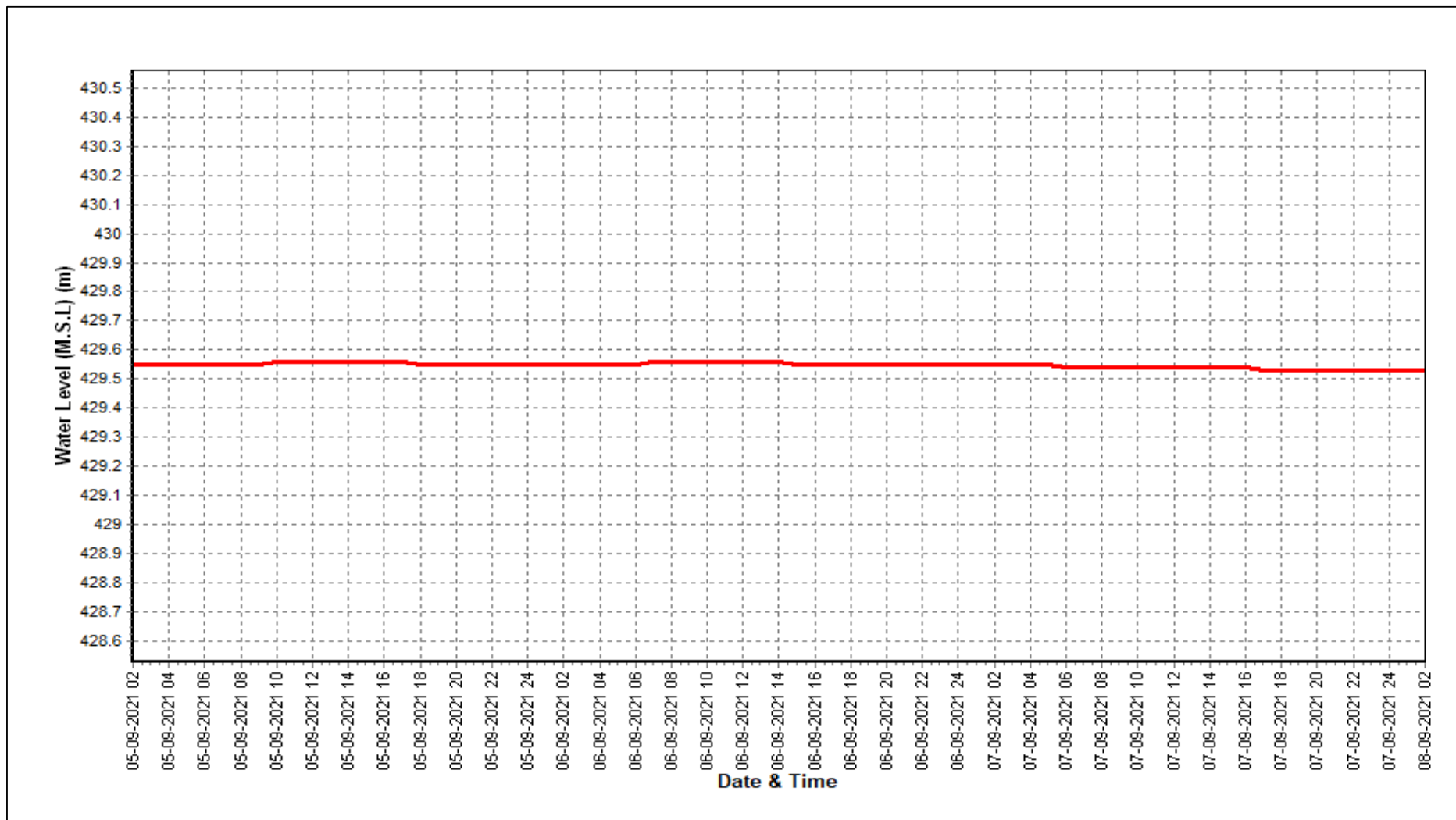
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : SUDDAKAL (SUDDAKALLU)

Local River :

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



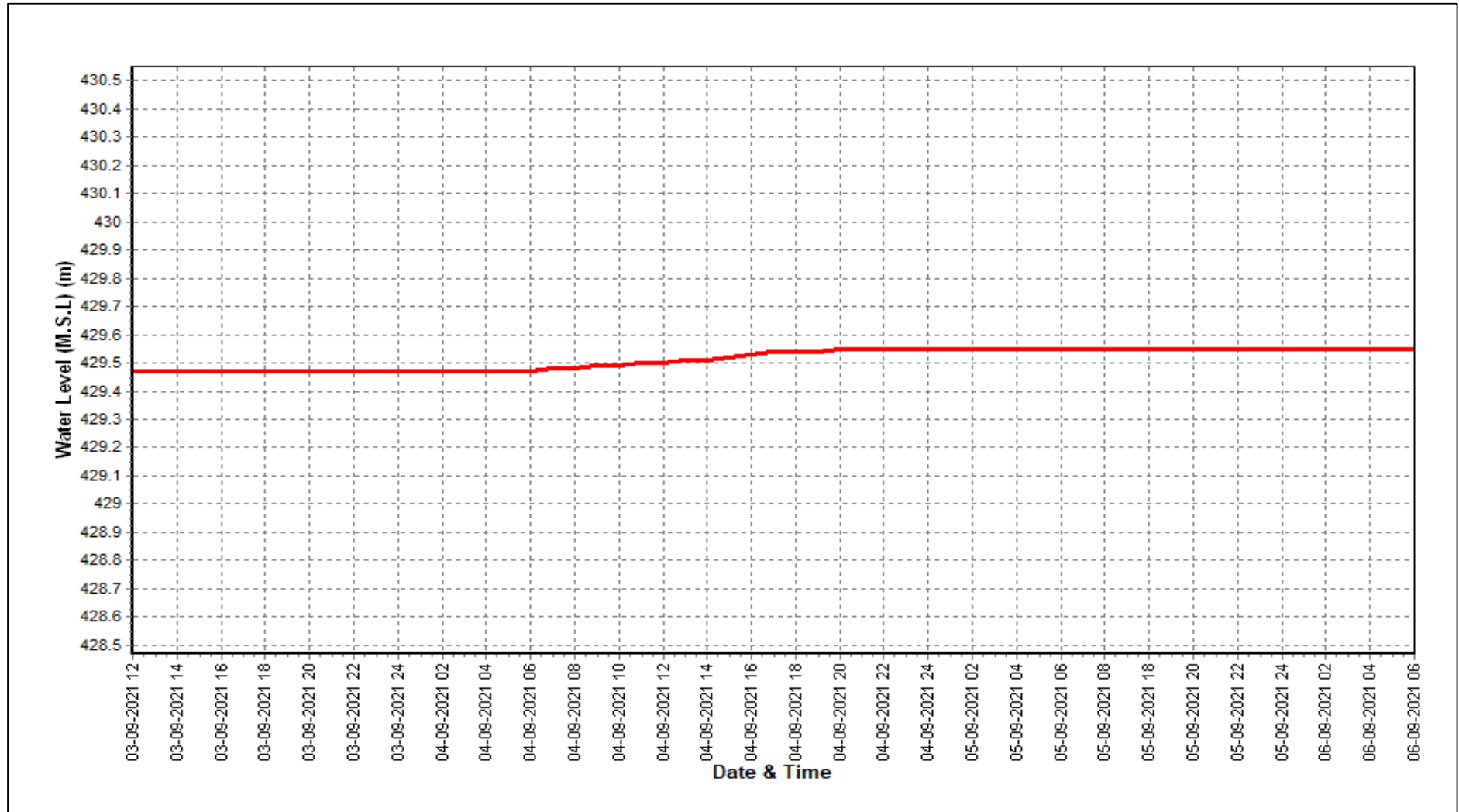
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : SUDDAKAL (SUDDAKALLU)

Local River :

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



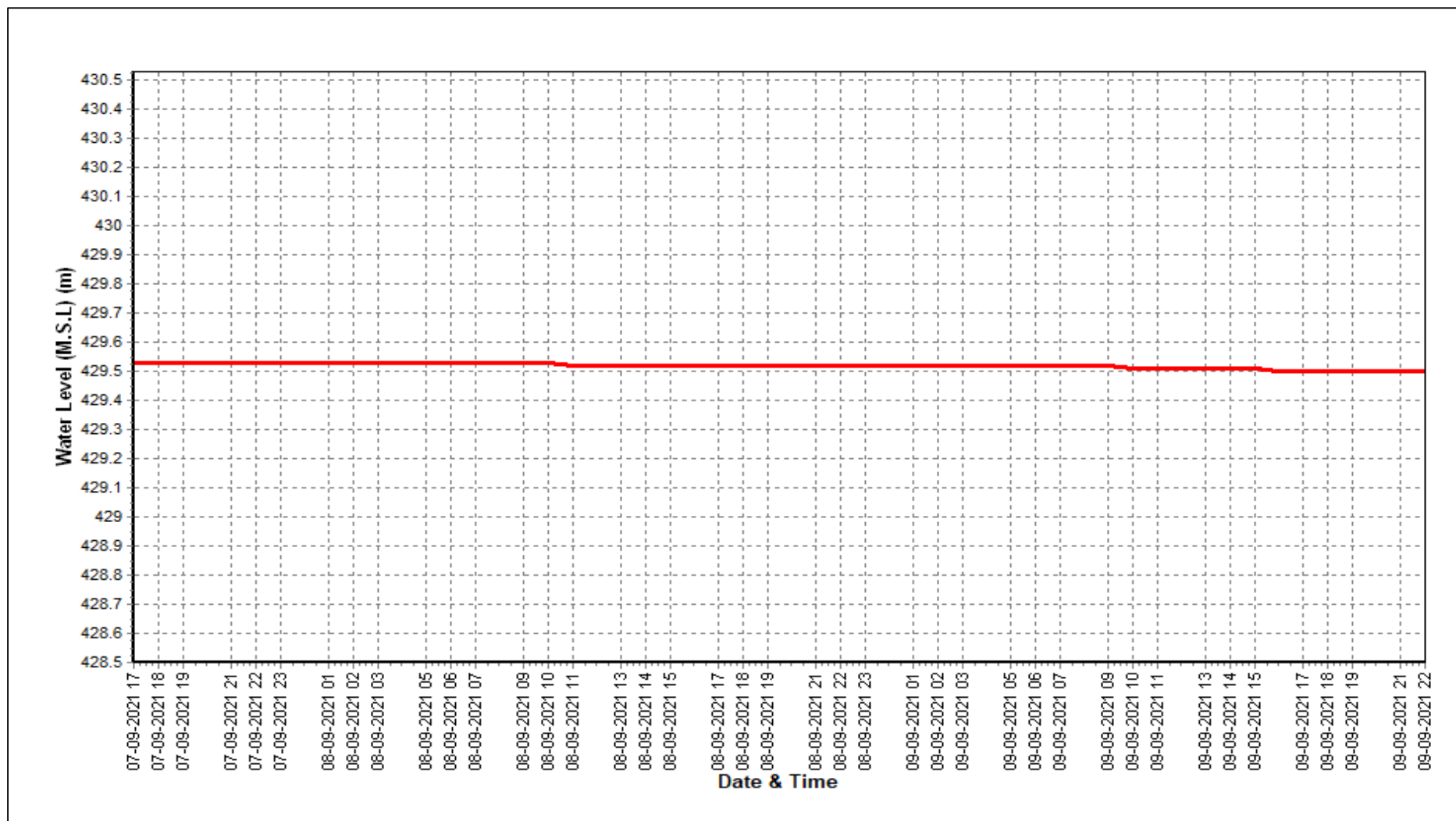
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : SUDDAKAL (SUDDAKALLU)

Local River :

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



HISTORY SHEET

		Water Year	: 2021-2022
Site	: Paragaon	Code	: AKP00V9
State	: Maharashtra	District	Pune
Basin	: Krishna	Independent River	: Krishna
Tributary	: Bhima	Sub Tributary	:
Sub-Sub Tributary	:	Local River	: Bhima
Division	: Upper Krishna Divn, Pune	Sub-Division	: Upper Bhima SD, Pune
Drainage Area	: 6307 Sq. Km.	Bank	: Right
Latitude	: 18°32'00"	Longitude	: 74°22'00"
Zero of Gauge (m)	: 85 (m.s.l) 503.5 (m.s.l)	11-12-1986 01-12-2020	- 30-11-2020
	Opening Date	Closing Date	
Gauge	: 26-06-2014	HFL During 2021-22	: 512.380 m
		Corres. Discharge	: 2098 (Estimated)
Discharge	: 02-09-2015	Date & Time of occurrence	: 24-07-2021 : 01:00 Hrs
Water Quality	: 03-07-2019		

HFL Recorded so far in m : 97.220 dt 06-08-2019

Corresponding Discharge (cumecs) : 3847 *

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2016-2017	2150	93.570	06-08-2016	0.000	89.250	04-01-2017
2017-2018	1612	92.200	23-07-2017	0.000	89.220	25-01-2018
2018-2019	1891	92.920	17-07-2018	0.000	87.870	14-04-2019
2019-2020	3650	97.080	06-08-2019	0.000	88.120	16-12-2019
2020-2021	903.9	90.960	16-08-2020	0.000	509.495	12-01-2021

Annual Runoff of Bhima at Paragaon

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	2015-2016	376	54	430	13	2	15
2	2016-2017	2815	0	2815	99	0	99
3	2017-2018	3427	0	3427	121	0	121
4	2018-2019	2610	0	2610	92	0	92
5	2019-2020	6181	0	6181	218	0	218
6	2020-2021	2617	0	2617	92	0	92
7	2021-2022	1794	0	1794	63	0	63
Average		2831	8	2839	109	0	100

Instantaneous Flood Peak of Krishna at Paragaon

Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	2015-2016	90.430	19-09-2015	15:00:00	961 *
2	2016-2017	94.100	06-08-2016	11:00:00	3368 *
3	2017-2018	92.200	23-07-2017	08:00:00	1821 *
4	2018-2019	92.920	17-07-2018	15:00:00	3420 *
5	2019-2020	97.220	06-08-2019	11:00:00	3847 *
6	2020-2021	92.950	15-10-2020	18:00:00	1903 *
7	2021-2022	512.380	24-07-2021	01:00:00	2098 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : Paragaon (AKP00V9)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Bhima SD, Pune

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	509.070	0.000	507.190	49.14 *	508.930	408.0 *	507.100	39.58	507.650	137.4	506.740	4.948 *
2	509.120	0.000	507.130	41.27 *	507.600	126.2	507.080	35.23	507.480	94.41 *	506.740	4.948 *
3	509.120	0.000	507.010	27.22 *	508.220	255.5	507.170	49.68	507.590	114.5 *	506.760	0.000
4	509.130	0.000	506.940	20.13 *	508.180	244.7	507.180	50.88	507.510	110.0	506.750	0.000
5	509.170	0.000	506.840	11.53 *	508.590	331.1	507.150	43.83	507.720	153.7	506.760	0.000
6	509.240	0.000	506.840	11.53 *	508.510	313.9	507.350	80.33	507.800	165.5	506.820	0.000
7	509.350	0.000	506.870	13.91 *	508.230	260.7	507.880	182.8	507.580	118.4	506.880	0.000
8	509.190	0.000	506.980	24.08 *	507.670	130.1 *	508.080	226.3	507.670	143.1	506.890	0.000
9	508.990	0.000	506.980	24.08 *	507.590	123.7	507.740	153.6	507.870	181.7	506.930	0.000
10	508.960	0.000	506.980	24.08 *	507.480	103.6	507.920	183.6	508.360	294.7 *	507.020	0.000
11	508.960	0.000	506.990	25.11 *	507.390	82.98	508.260	259.7	508.330	277.6	506.870	0.000
12	508.960	0.000	506.990	25.11 *	507.340	79.80	508.490	331.4	508.070	219.2	506.800	0.000
13	508.850	0.000	507.200	50.64	507.240	65.15	509.160	464.5	507.980	202.2	506.800	0.000
14	508.500	0.000	507.110	36.25	507.285	71.26	509.220	479.8	507.750	161.9	506.910	0.000
15	508.260	0.000	507.290	64.91	507.190	49.14 *	509.780	685.8	507.590	114.5 *	506.830	0.000
16	507.940	0.000	507.490	103.6	507.270	65.85	508.810	372.8	507.480	101.6	506.740	0.000
17	507.740	0.000	507.300	66.47	507.360	81.09	508.060	220.3	507.440	87.48 *	506.700	0.000
18	507.420	0.000	507.240	56.10 *	507.320	75.95	507.940	192.5	507.250	63.15	506.690	0.000
19	507.570	0.000	507.180	45.37	507.270	60.46 *	507.670	130.0	507.190	51.18	506.740	0.000
20	508.960	0.000	507.860	180.0	507.280	67.52	507.470	100.9	507.130	40.79	506.870	0.000
21	508.530	0.000	508.710	353.1	507.250	62.12	507.350	80.78	507.050	28.61	506.900	0.000
22	508.030	0.000	509.030	431.1	507.310	66.46 *	507.280	71.84	506.940	18.67	507.350	0.000
23	507.810	0.000	511.420	1587	507.570	120.0	508.510	312.6	506.870	11.37	507.950	0.000
24	507.540	0.000	511.880	1887	507.540	115.6	508.520	314.0	506.840	11.53 *	507.950	0.000
25	507.400	0.000	510.420	1058 *	507.350	80.40	507.820	168.8	506.840	9.754	507.960	0.000
26	507.250	0.000	509.590	618.5	507.220	60.45	507.530	103.3	506.810	7.970	507.980	0.000
27	507.300	0.000	509.450	574.6	507.140	42.50	507.420	93.45	506.790	6.845	508.360	0.000
28	507.480	0.000	509.070	454.6	507.070	32.34	507.470	101.2	506.800	7.627	508.660	0.000
29	507.440	0.000	508.950	419.0	507.030	29.40 *	507.430	94.81	506.790	6.627	508.680	0.000
30	507.300	0.000	508.840	385.2	507.050	30.05	507.960	200.8	506.780	5.272	508.660	0.000
31			509.050	434.3	507.060	31.82			506.780	7.318 *		
<u>Ten-Daily Mean</u>												
I Ten-Daily	509.134	0.000	506.976	24.70	508.100	229.8	507.465	102.3	507.723	151.4	506.829	0.990
II Ten-Daily	508.316	0.000	507.265	65.36	507.294	69.92	508.486	347.0	507.621	132.0	506.795	0.000
III Ten-Daily	507.608	0.000	509.674	745.7	507.235	61.01	507.729	159.8	506.845	11.05	508.045	0.000
<u>Monthly</u>												
Min.	507.250	0.000	506.840	11.53	507.030	29.40	507.080	35.23	506.780	5.272	506.690	0.000
Max.	509.350	0.000	511.880	1887	508.930	408.0	509.780	685.8	508.360	294.7	508.680	4.948
Mean	508.353	0	508.026	293.7	507.533	118.3	507.893	201.3	507.378	95.32	507.223	0.33

Annual Runoff in MCM = 1794 Annual Runoff in mm = 285

Peak Observed Discharge = 1887 cumecs on 24-07-2021 Corres. Water Level :511.88 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021 Corres. Water Level :509.07 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : Paragaon (AKP00V9)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Bhima SD, Pune

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	508.610	0.000	90.720	0.000	91.000	0.000	509.330	0.000	508.880	0.000	509.150	0.000
2	508.720	0.000	90.730	0.000	91.050	0.000	509.270	0.000	508.910	0.000	509.140	0.000
3	509.700	0.000	90.880	0.000	90.940	0.000	509.250	0.000	508.870	0.000	509.230	0.000
4	509.450	0.000	90.870	0.000	90.990	0.000	509.260	0.000	508.830	0.000	509.400	0.000
5	509.520	0.000 *	90.900	0.000	90.940	0.000	509.340	0.000	508.770	0.000	509.420	0.000
6	509.370	0.000	90.810	0.000	90.960	0.000	509.300	0.000	508.680	0.000	509.400	0.000
7	509.280	0.000	90.830	0.000	90.980	0.000	509.400	0.000	508.600	0.000	509.450	0.000
8	509.230	0.000	90.800	0.000	90.960	0.000	509.390	0.000	508.540	0.000	509.430	0.000
9	509.200	0.000	90.810	0.000	90.900	0.000	509.340	0.000	508.500	0.000	509.370	0.000
10	509.180	0.000	90.880	0.000	90.940	0.000	509.240	0.000	508.470	0.000	509.320	0.000
11	509.140	0.000	90.790	0.000	90.930	0.000	509.220	0.000	508.380	0.000	509.280	0.000
12	509.100	0.000 *	90.770	0.000	90.840	0.000	509.170	0.000	508.390	0.000	509.220	0.000
13	509.050	0.000	90.850	0.000	90.930	0.000	509.100	0.000	508.440	0.000	509.180	0.000
14	508.990	0.000	90.850	0.000	90.900	0.000	509.420	0.000	508.390	0.000	509.320	0.000
15	508.970	0.000	90.830	0.000	90.900	0.000	509.450	0.000	508.350	0.000	509.250	0.000
16	508.950	0.000	90.870	0.000	90.900	0.000	509.420	0.000	508.460	0.000	509.400	0.000
17	508.950	0.000	90.870	0.000	90.810	0.000	509.400	0.000	508.420	0.000	509.350	0.000
18	508.860	0.000	90.860	0.000	90.760	0.000	509.370	0.000	508.530	0.000	509.070	0.000
19	508.800	0.000 *	90.900	0.000	90.750	0.000	509.350	0.000	508.600	0.000	508.900	0.000
20	508.780	0.000	90.900	0.000	90.770	0.000	509.330	0.000	508.720	0.000	508.790	0.000
21	508.790	0.000	90.870	0.000	90.820	0.000	509.350	0.000	508.950	0.000	509.050	0.000
22	508.850	0.000	90.900	0.000	90.820	0.000	509.340	0.000	509.200	0.000	509.120	0.000
23	508.850	0.000	90.880	0.000	90.810	0.000	509.330	0.000	509.350	0.000	509.060	0.000
24	509.150	0.000	90.880	0.000	90.900	0.000	509.290	0.000	509.450	0.000	509.060	0.000
25	509.280	0.000 *	90.880	0.000	90.900	0.000	509.130	0.000	509.460	0.000	509.000	0.000
26	509.340	0.000	90.820	0.000	91.070	0.000	509.000	0.000	509.420	0.000	509.020	0.000
27	509.400	0.000	90.810	0.000	90.930	0.000	508.950	0.000	509.490	0.000	508.320	0.000
28	509.360	0.000	90.920	0.000	90.880	0.000	508.840	0.000	509.410	0.000	507.960	0.000
29	509.360	0.000	90.860	0.000			508.740	0.000	509.350	0.000	507.500	0.000
30	509.280	0.000	90.860	0.000			508.790	0.000	509.220	0.000	507.470	0.000
31	509.230	0.000	91.000	0.000			508.800	0.000			507.390	0.000
Ten-Daily Mean												
I Ten-Daily	509.226	0.000	90.823	0.000	90.966	0.000	509.312	0.000	508.705	0.000	509.331	0.000
II Ten-Daily	508.959	0.000	90.849	0.000	90.849	0.000	509.323	0.000	508.468	0.000	509.176	0.000
III Ten-Daily	509.172	0.000	90.880	0.000	90.891	0.000	509.051	0.000	509.330	0.000	508.450	0.000
Monthly												
Min.	508.610	0.000	90.720	0.000	90.750	0.000	508.740	0.000	508.350	0.000	507.390	0.000
Max.	509.700	0.000	91.000	0.000	91.070	0.000	509.450	0.000	509.490	0.000	509.450	0.000
Mean	509.121	0	90.852	0	90.903	0	509.223	0	508.834	0	508.968	0

Peak Computed Discharge = 1058 cumecs on 25-07-2021

Corres. Water Level :510.42 m

Lowest Computed Discharge = 0.000 cumecs on 05-12-2021

Corres. Water Level :509.52 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

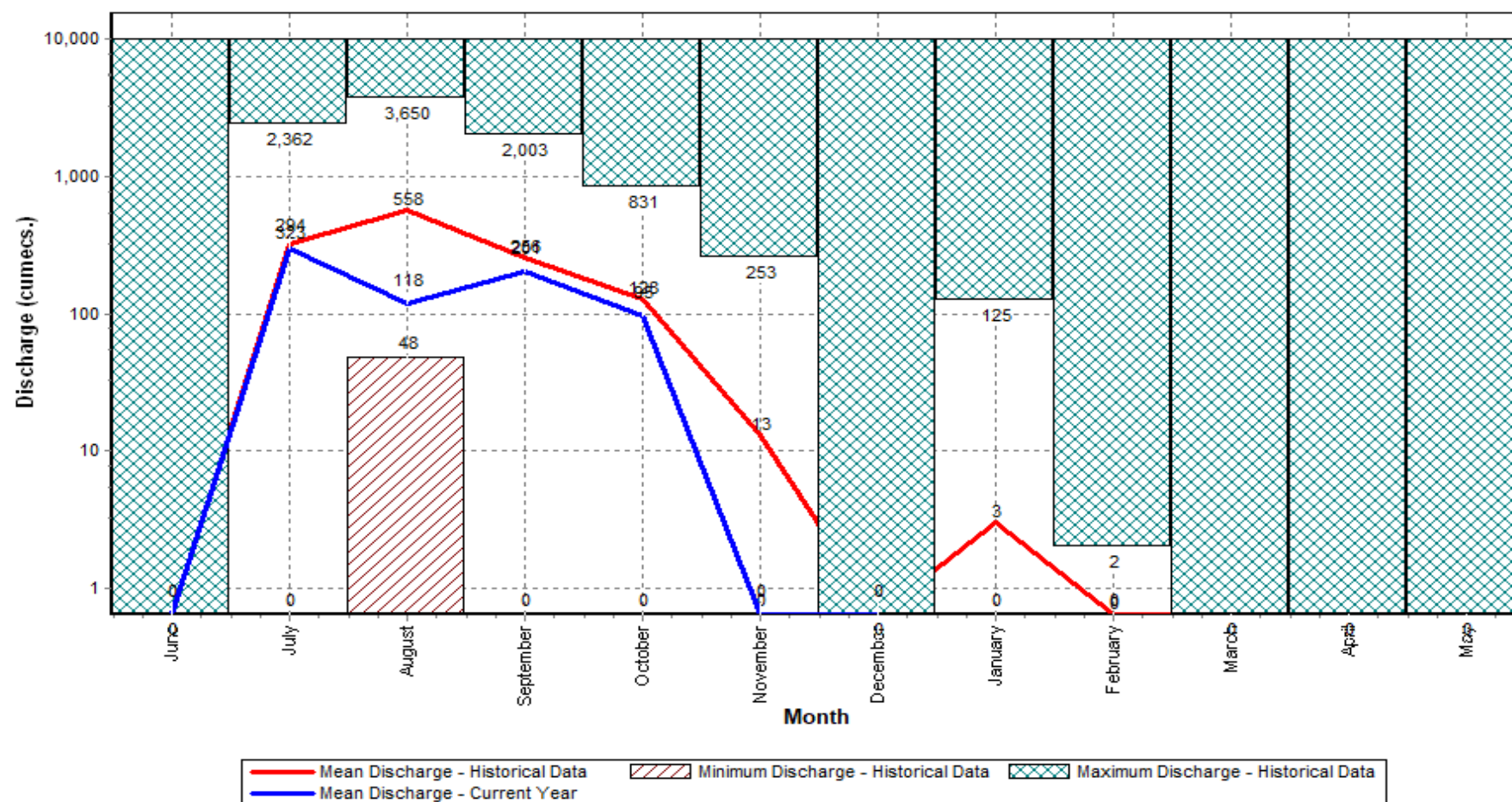
Station Name : Paragaon (AKP00V9)

Data considered : 2016-2022

Division : Upper Krishna Divn, Pune

Local River : Bhima

Sub-Division : Upper Bhima SD, Pune



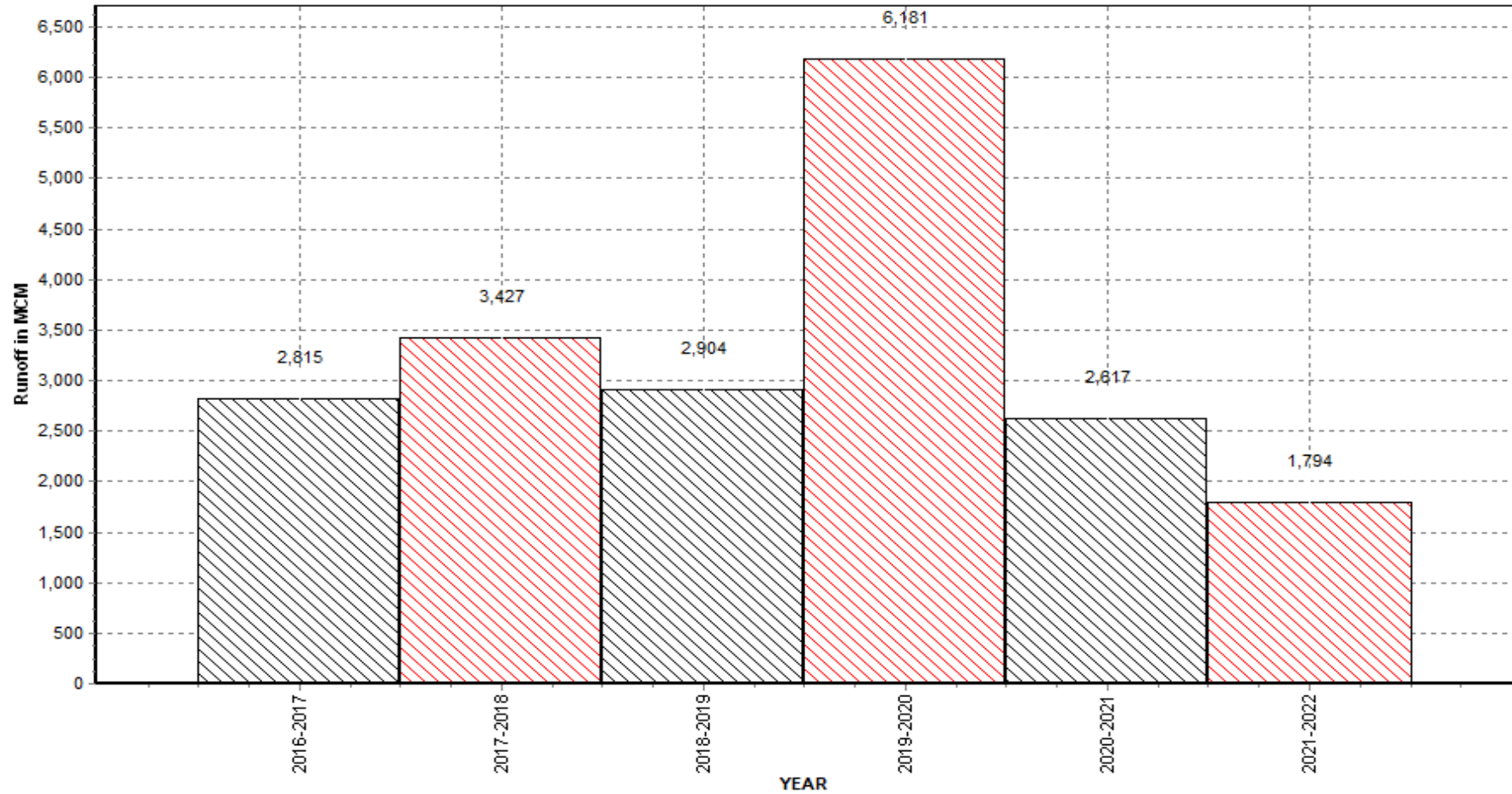
Annual Runoff Values for the period: 2016 - 2022

Station Name : Paragaon (AKP00V9)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Bhima SD, Pune



Note: Missing values have not been considered while arriving at Annual Runoff

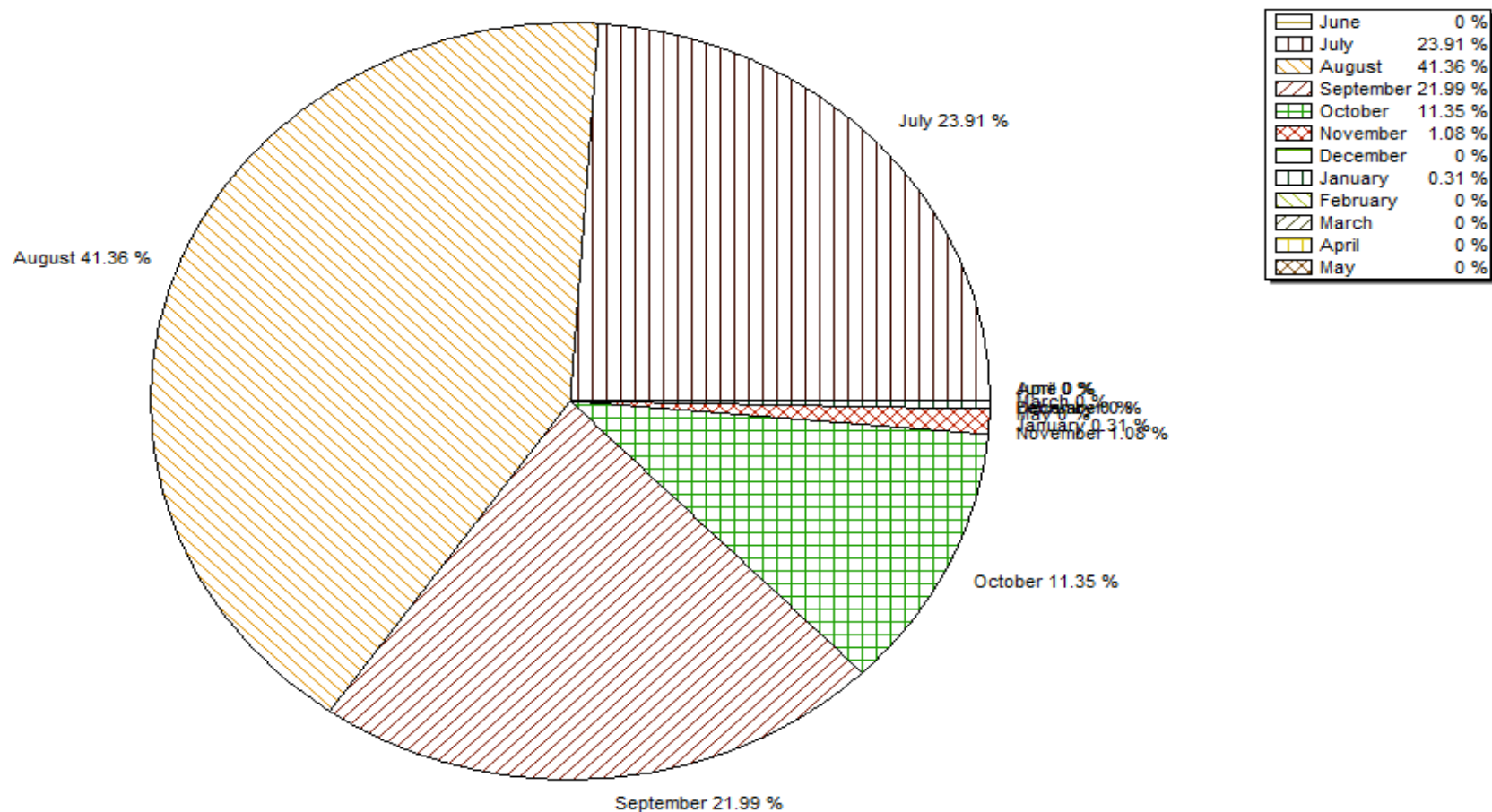
Monthly Average Runoff based on period : 2016-2021

Station Name : Paragaon (AKP00V9)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Bhima SD, Pune



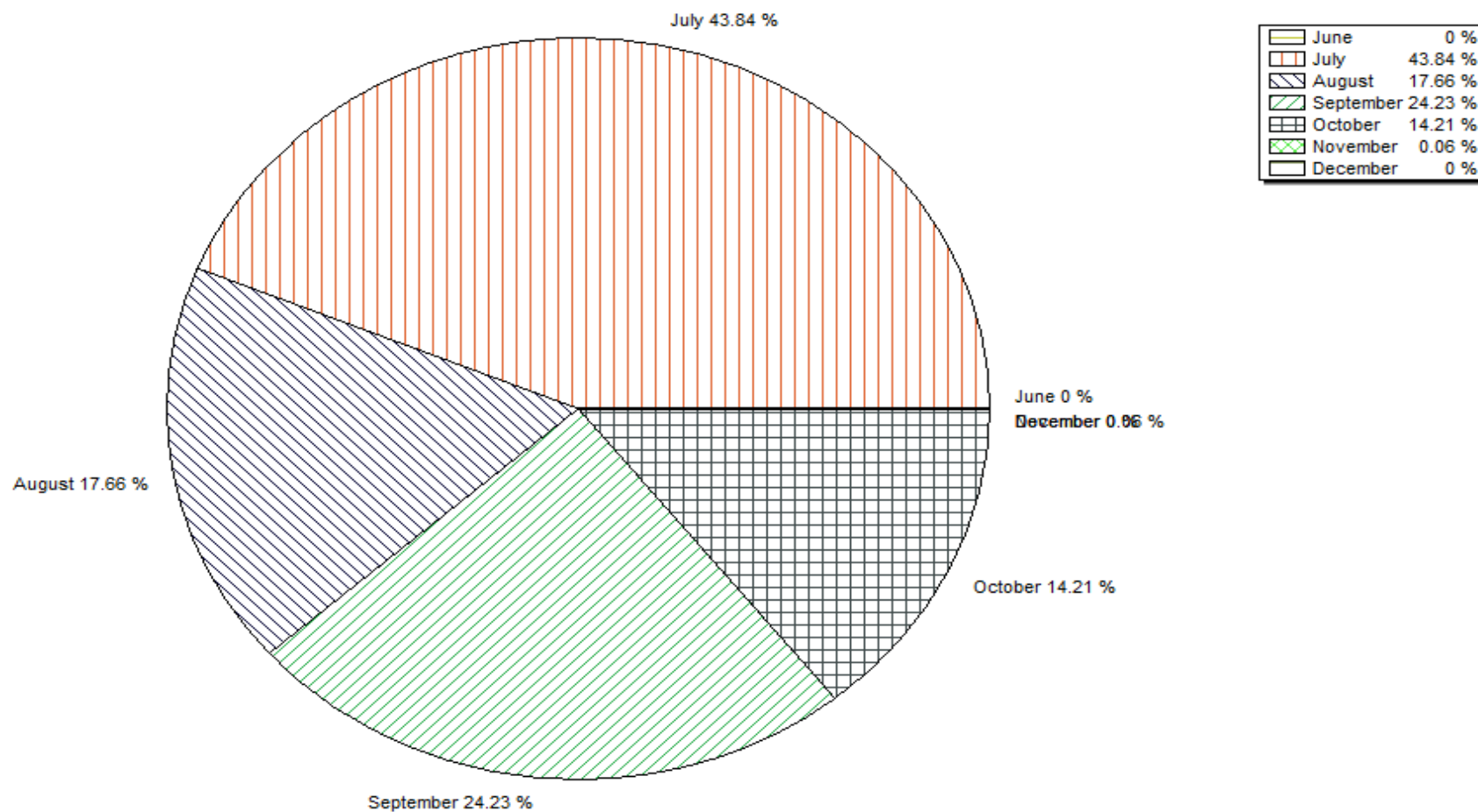
Monthly Runoff for the Year : 2021-2022

Station Name : Paragaon (AKP00V9)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Bhima SD, Pune

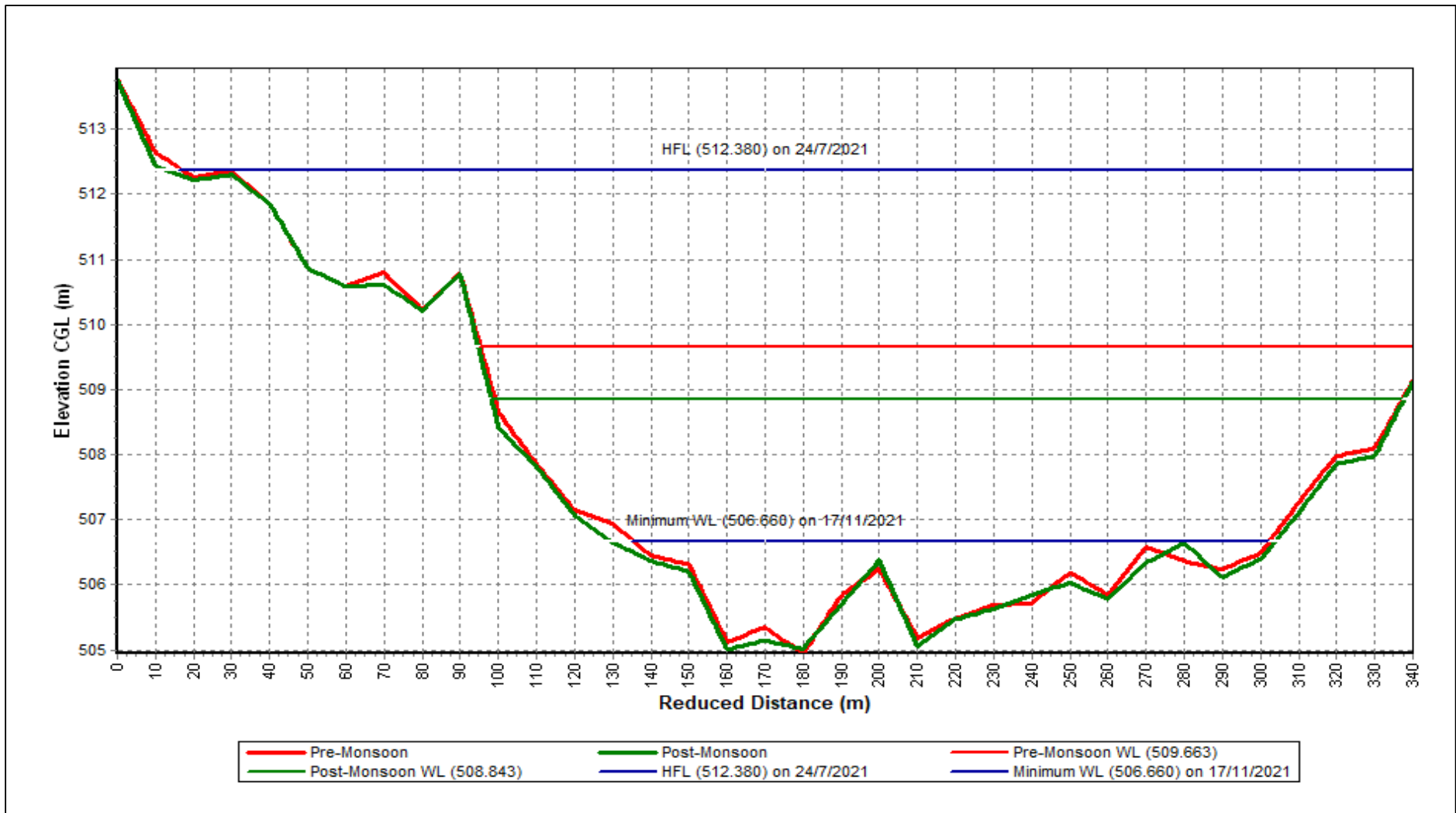


Station Name : Paragaon (AKP00V9)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Bhima SD, Pune



Zero of Gauge : 503.5 (m.s.l)

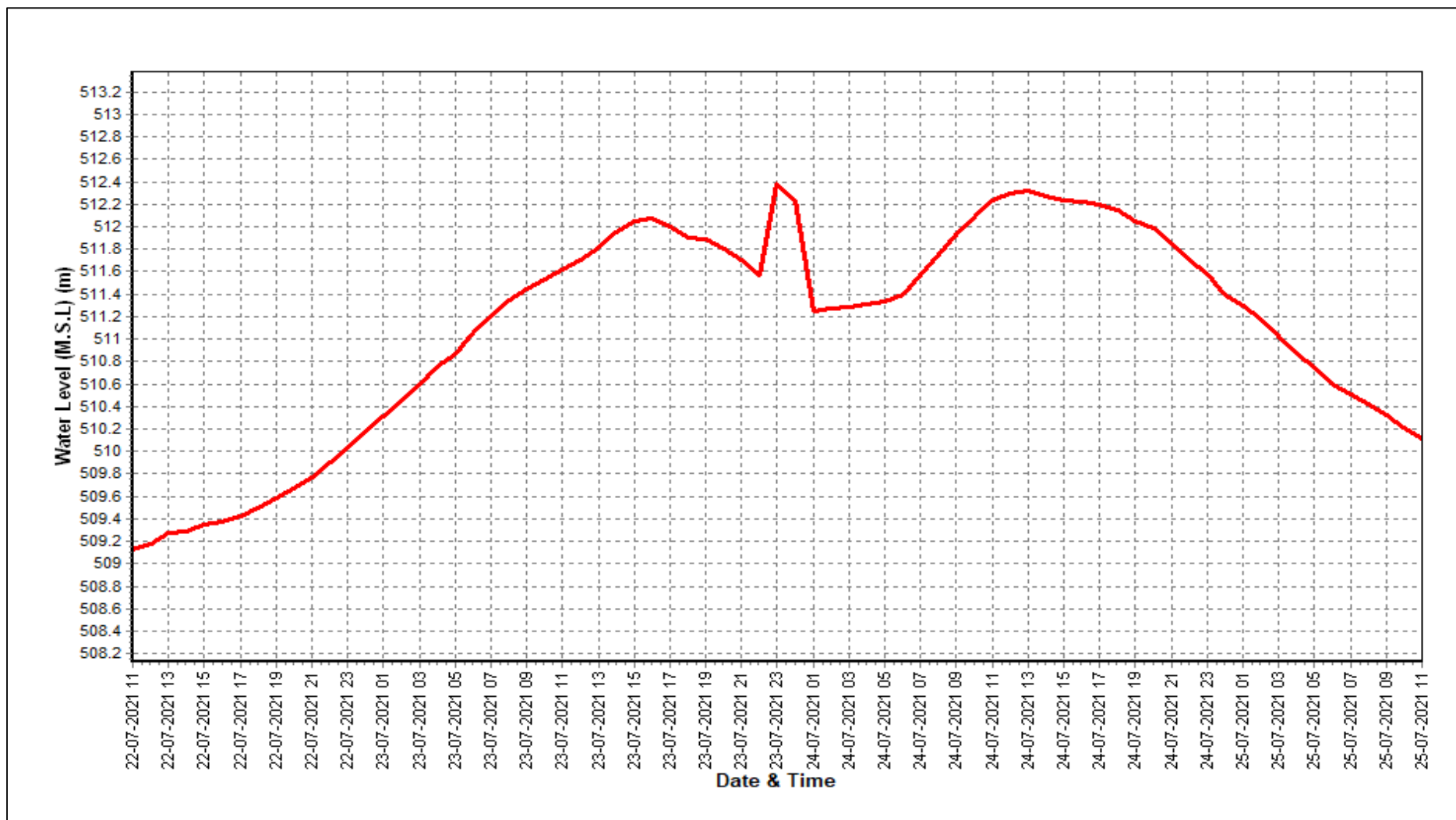
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Paragaon (AKP00V9)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Bhima SD, Pune



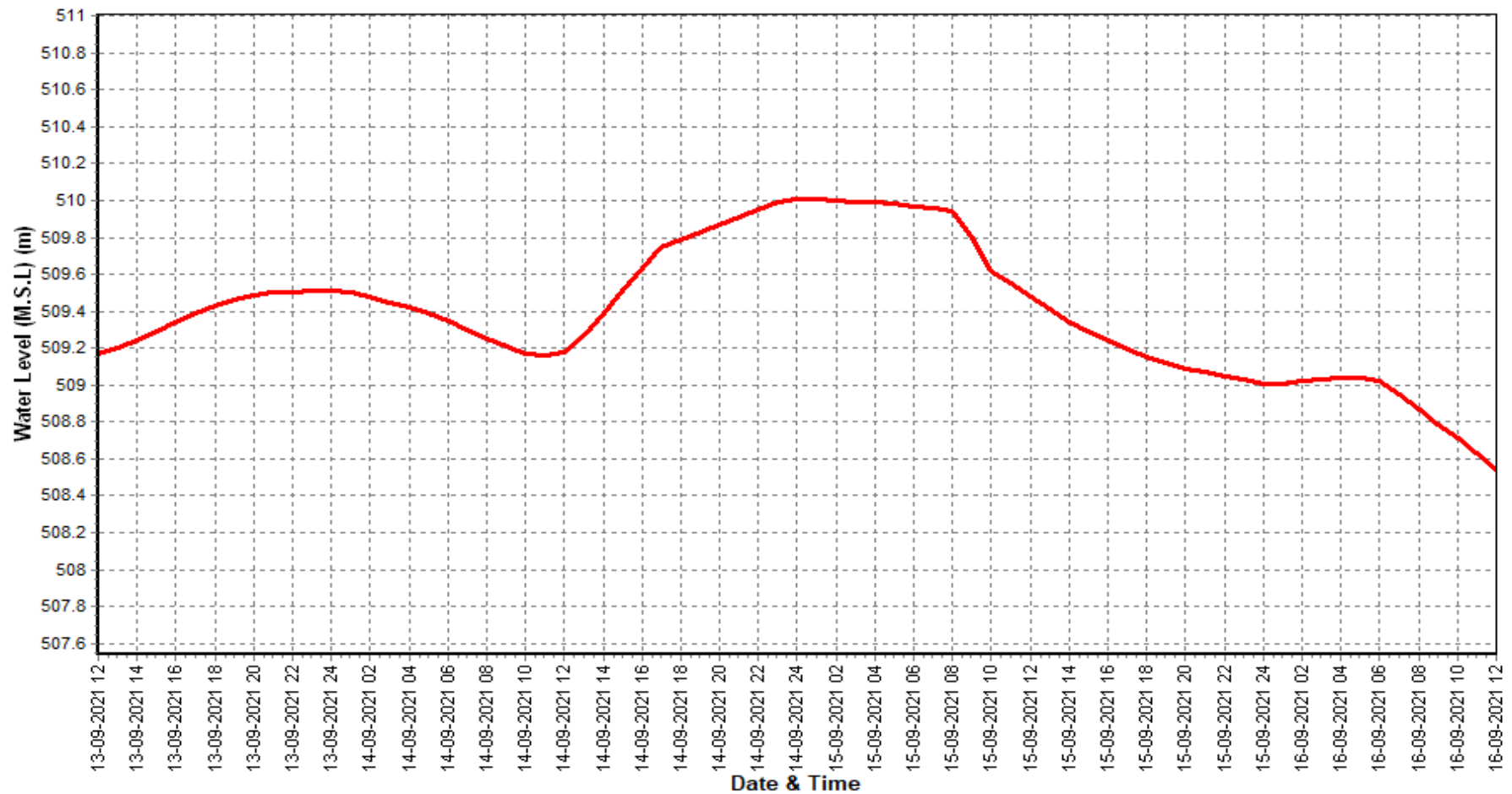
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Paragaon (AKP00V9)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Bhima SD, Pune



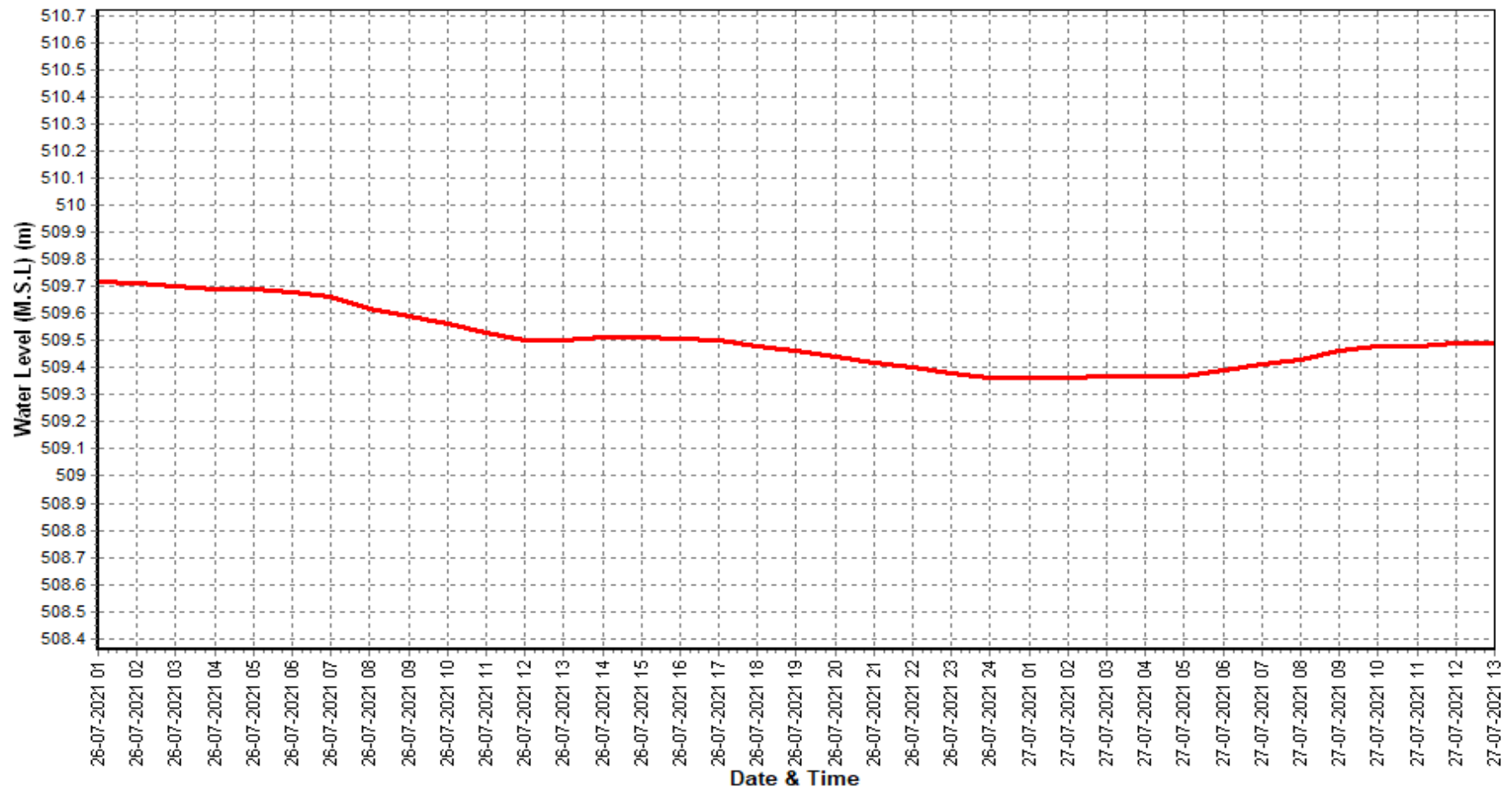
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Paragaon (AKP00V9)

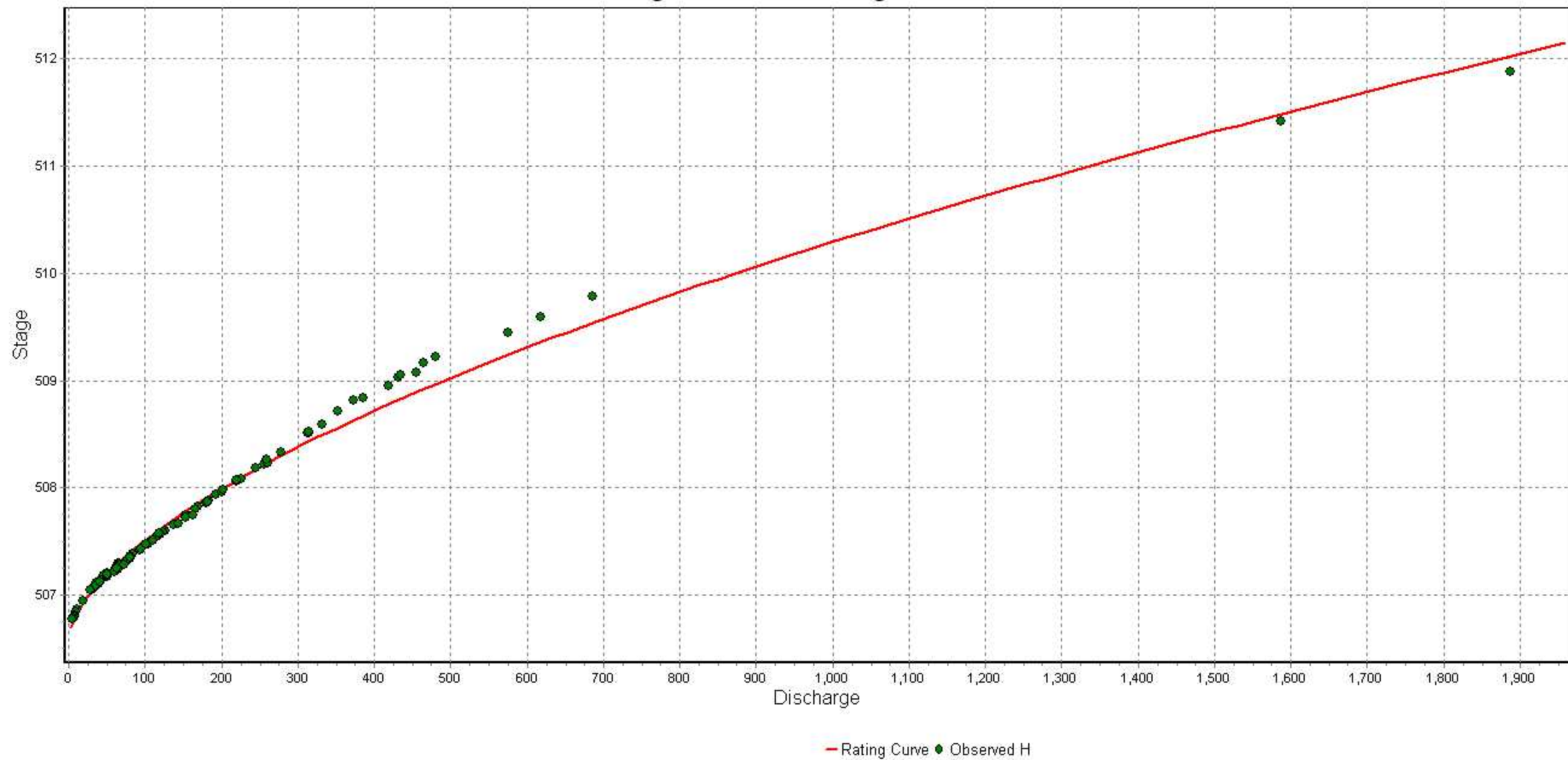
Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Bhima SD, Pune



Rating Curve of Site Paragaon 2021



Annual Runoff of Mula at Mirawadi

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	2018-2019	1358	0	1358	48	0	48
2	2019-2020	5003	0	5003	177	0	177
3	2020-2021	2001	0	2001	71	0	71
4	2021-2022	1584	0	1584	56	0	56
Average		2487	0	2487	88	0	88

Instantaneous Flood Peak of Krishna at Mirawadi

Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	2018-2019	516.950	18-08-2018	10:00:00	1626 *
2	2019-2020	521.680	06-08-2019	10:00:00	4507 *
3	2020-2021	516.300	15-10-2020	11:00:00	1188 *
4	2021-2022	518.900	23-07-2021	10:00:00	1889 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : Mirawadi (MIRAWADI)

Local River : MulaMutta

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Bhima SD, Pune

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	515.480	0.000	514.890	42.02 *	516.300	310.6 *	514.930	42.33	515.040	61.64	514.880	0.000
2	515.620	0.000	514.760	29.18 *	515.710	147.6	514.950	42.32	515.050	60.75 *	514.830	0.000
3	515.270	0.000	514.690	23.16 *	515.620	136.0	514.920	40.74	515.110	68.58 *	514.800	0.000
4	514.910	0.000	514.770	30.09 *	515.655	139.1	514.850	34.99	515.130	70.67	514.820	0.000
5	514.920	0.000	514.790	31.95 *	516.180	259.3	514.900	43.10 *	515.805	195.5	514.810	0.000
6	514.900	0.000	514.790	31.95 *	515.735	174.0	515.410	108.3	515.210	87.12	515.010	0.000
7	514.980	0.000	514.790	31.95 *	515.345	105.0	515.580	133.5	515.180	75.27	514.910	0.000
8	514.790	0.000	514.790	31.95 *	515.120	69.93 *	515.330	108.7	515.200	84.04	514.880	0.000
9	514.700	0.000	514.780	31.01 *	515.160	80.61	515.450	112.5	515.165	79.78	514.830	0.000
10	514.940	0.000	514.810	33.86 *	515.160	80.08	515.600	148.7 *	516.020	239.3 *	514.680	0.000
11	514.890	0.000	514.750	28.28 *	515.150	78.36	515.750	161.8	515.570	138.8	514.670	0.000
12	514.860	0.000	514.810	33.86 *	515.090	67.63	516.110	261.3 *	515.360	109.8	514.680	0.000
13	514.850	0.000	514.810	41.21	515.080	65.46	516.590	378.3	515.230	95.44	514.670	0.000
14	514.850	0.000	514.860	43.91	515.060	62.74	517.265	567.8	515.170	80.67	514.700	0.000
15	514.830	0.000	515.030	73.81	515.030	58.23 *	516.700	467.0	515.070	63.31 *	514.790	0.000
16	514.830	0.000	514.915	48.20	515.130	72.13	515.790	208.9	515.060	64.53	514.780	0.000
17	514.830	0.000	514.890	47.74	515.110	71.28	515.440	108.4	515.000	54.55 *	514.850	0.000
18	514.830	0.000	514.880	40.95 *	515.070	62.86	515.360	111.3	515.000	56.87	515.090	0.000
19	515.230	0.000	514.930	50.06	515.040	59.48 *	515.100	67.25 *	514.990	62.32	515.140	0.000
20	515.170	0.000	515.150	97.44	514.980	57.19	515.110	67.73	514.960	50.08	515.490	0.000
21	515.140	0.000	515.470	124.7 *	515.040	64.89	515.100	67.87	514.950	44.53	516.300	0.000
22	514.880	0.000	516.325	323.1	515.040	59.48 *	515.100	67.75	514.870	36.42	516.950	0.000
23	514.810	0.000	520.390	2769	515.080	68.95	515.925	198.0	514.800	31.08	517.060	0.000
24	514.880	0.000	520.150	2628	515.065	67.46	515.615	146.7	514.840	36.82 *	517.050	0.000
25	514.910	0.000	516.800	472.3 *	514.980	55.53	515.170	86.23	514.860	32.93	517.070	0.000
26	514.900	0.000	516.800	453.1	514.980	54.34	515.040	59.48 *	514.810	29.61	517.080	0.000
27	514.900	0.000	516.780	427.6	514.950	48.81	515.080	64.23	514.840	29.11	517.040	0.000
28	514.930	0.000	516.290	313.9	514.900	39.21	515.070	62.96	514.830	29.70	517.080	0.000
29	515.000	0.000	516.140	290.4	514.890	42.02 *	515.060	62.36	514.800	29.21	517.110	0.000
30	514.880	0.000	516.410	337.1	514.910	38.27	515.090	64.44	514.750	29.61	517.050	0.000
31			516.560	391.0	514.900	38.12			514.750	28.28 *		
<u>Ten-Daily Mean</u>												
I Ten-Daily	515.051	0.000	514.786	31.71	515.599	150.2	515.192	81.51	515.291	102.3	514.845	0.000
II Ten-Daily	514.917	0.000	514.902	50.55	515.074	65.54	515.922	240.0	515.141	77.63	514.886	0.000
III Ten-Daily	514.923	0.000	517.101	775.5	514.976	52.46	515.225	88.00	514.827	32.48	516.979	0.000
<u>Monthly</u>												
Min.	514.700	0.000	514.690	23.16	514.890	38.12	514.850	34.99	514.750	28.28	514.670	0.000
Max.	515.620	0.000	520.390	2769	516.300	310.6	517.265	567.8	516.020	239.3	517.110	0.000
Mean	514.964	0	515.645	301.7	515.208	88.21	515.446	136.5	515.078	69.56	515.570	0

Annual Runoff in MCM = 1584 Annual Runoff in mm = 600

Peak Observed Discharge = 2769 cumecs on 23-07-2021 Corres. Water Level :520.39 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021 Corres. Water Level :515.48 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : Mirawadi (MIRAWADI)

Local River : MulaMutta

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Bhima SD, Pune

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	517.030	0.000	517.170	0.000	517.140	0.000	517.000	0.000	516.840	0.000	516.960	0.000
2	517.730	0.000	517.180	0.000	517.120	0.000	517.000	0.000	516.860	0.000	516.970	0.000
3	517.570	0.000	517.170	0.000	517.100	0.000	516.990	0.000	516.860	0.000	516.990	0.000
4	517.580	0.000	517.200	0.000	517.110	0.000	517.020	0.000	516.880	0.000	516.970	0.000
5	517.420	0.000	517.190	0.000	517.100	0.000	517.050	0.000	516.960	0.000	516.860	0.000
6	517.440	0.000	517.140	0.000	517.110	0.000	517.060	0.000	516.920	0.000	516.900	0.000
7	517.370	0.000	517.140	0.000	517.120	0.000	517.040	0.000	516.900	0.000	516.990	0.000
8	517.340	0.000	517.140	0.000	517.080	0.000	517.000	0.000	516.930	0.000	517.000	0.000
9	517.300	0.000	517.130	0.000	517.060	0.000	517.000	0.000	516.910	0.000	516.970	0.000
10	517.300	0.000	517.190	0.000	517.150	0.000	517.000	0.000	516.950	0.000	516.980	0.000
11	517.260	0.000	517.180	0.000	517.070	0.000	516.990	0.000	516.950	0.000	516.970	0.000
12	517.240	0.000	517.170	0.000	517.130	0.000	517.010	0.000	516.950	0.000	516.930	0.000
13	517.220	0.000	517.170	0.000	517.120	0.000	517.000	0.000	516.960	0.000	516.920	0.000
14	517.200	0.000	517.160	0.000	517.060	0.000	516.990	0.000	516.960	0.000	516.920	0.000
15	517.200	0.000	517.170	0.000	517.030	0.000	517.100	0.000	516.980	0.000	516.940	0.000
16	517.200	0.000	517.160	0.000	517.020	0.000	517.090	0.000	516.980	0.000	516.930	0.000
17	517.180	0.000	517.190	0.000	517.050	0.000	517.090	0.000	516.960	0.000	516.970	0.000
18	517.160	0.000	517.180	0.000	517.030	0.000	517.050	0.000	516.980	0.000	516.960	0.000
19	517.160	0.000	517.180	0.000	517.060	0.000	517.040	0.000	516.960	0.000	516.940	0.000
20	517.160	0.000	517.180	0.000	517.070	0.000	517.070	0.000	516.970	0.000	516.930	0.000
21	517.100	0.000	517.160	0.000	517.120	0.000	517.050	0.000	516.960	0.000	517.010	0.000
22	517.180	0.000	517.160	0.000	517.060	0.000	517.050	0.000	516.920	0.000	516.990	0.000
23	517.150	0.000	517.150	0.000	517.050	0.000	516.990	0.000	516.960	0.000	516.970	0.000
24	517.140	0.000	517.190	0.000	517.080	0.000	516.960	0.000	516.980	0.000	516.970	0.000
25	517.170	0.000	517.170	0.000	517.030	0.000	516.970	0.000	516.990	0.000	516.830	0.000
26	517.160	0.000	517.170	0.000	517.050	0.000	516.940	0.000	516.990	0.000	516.590	0.000
27	517.170	0.000	517.160	0.000	517.070	0.000	516.960	0.000	516.970	0.000	516.300	0.000
28	517.130	0.000	517.120	0.000	517.020	0.000	517.010	0.000	516.910	0.000	516.100	0.000
29	517.130	0.000	517.140	0.000			517.050	0.000	516.910	0.000	516.010	0.000
30	517.130	0.000	517.150	0.000			517.000	0.000	516.970	0.000	516.000	0.000
31	517.140	0.000	517.150	0.000			516.940	0.000			515.650	0.000
<u>Ten-Daily Mean</u>												
I Ten-Daily	517.408	0.000	517.165	0.000	517.109	0.000	517.016	0.000	516.901	0.000	516.959	0.000
II Ten-Daily	517.198	0.000	517.174	0.000	517.064	0.000	517.043	0.000	516.965	0.000	516.941	0.000
III Ten-Daily	517.145	0.000	517.156	0.000	517.060	0.000	516.993	0.000	516.956	0.000	516.493	0.000
<u>Monthly</u>												
Min.	517.030	0.000	517.120	0.000	517.020	0.000	516.940	0.000	516.840	0.000	515.650	0.000
Max.	517.730	0.000	517.200	0.000	517.150	0.000	517.100	0.000	516.990	0.000	517.010	0.000
Mean	517.247	0	517.165	0	517.079	0	517.016	0	516.941	0	516.788	0

Peak Computed Discharge = 472.3 cumecs on 25-07-2021

Corres. Water Level :516.8 m

Lowest Computed Discharge = 23.16 cumecs on 03-07-2021

Corres. Water Level :514.69 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

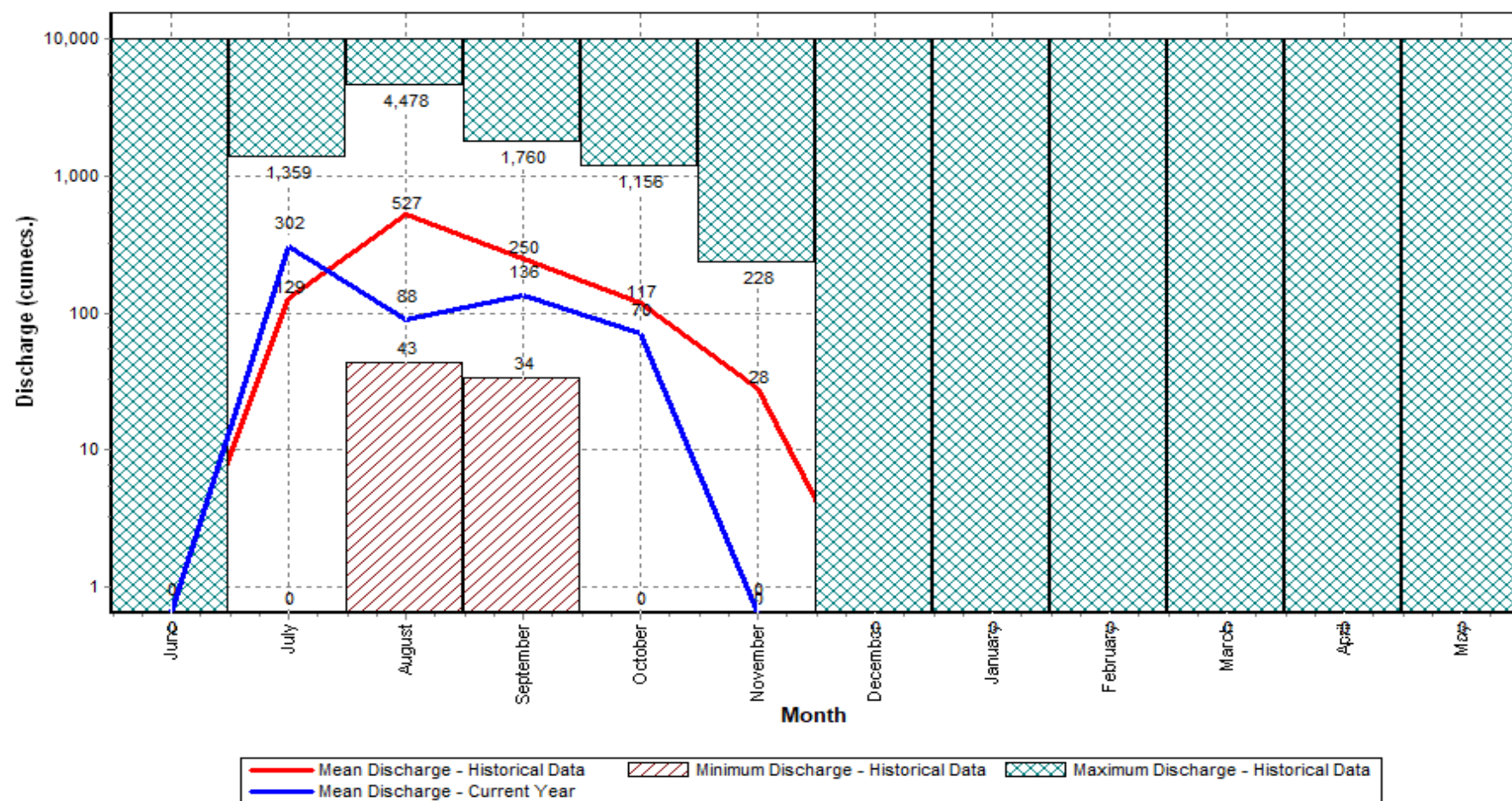
Station Name : Mirawadi (MIRAWADI)

Data considered : 2019-2022

Division : Upper Krishna Divn, Pune

Local River : MulaMutta

Sub-Division : Upper Bhima SD, Pune



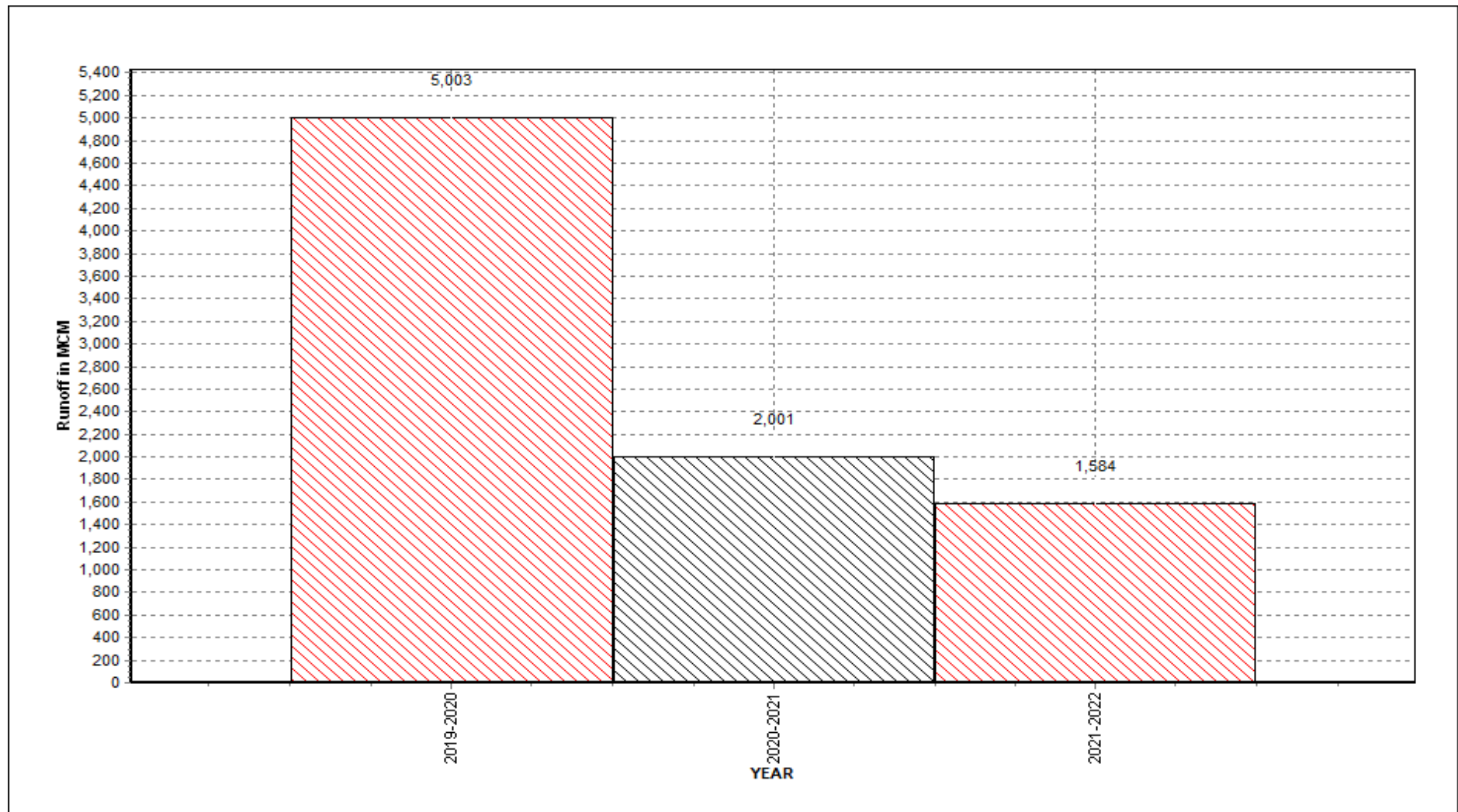
Annual Runoff Values for the period: 2019 - 2022

Station Name : Mirawadi (MIRAWADI)

Local River : MulaMutta

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Bhima SD, Pune



Note: Missing values have not been considered while arriving at Annual Runoff

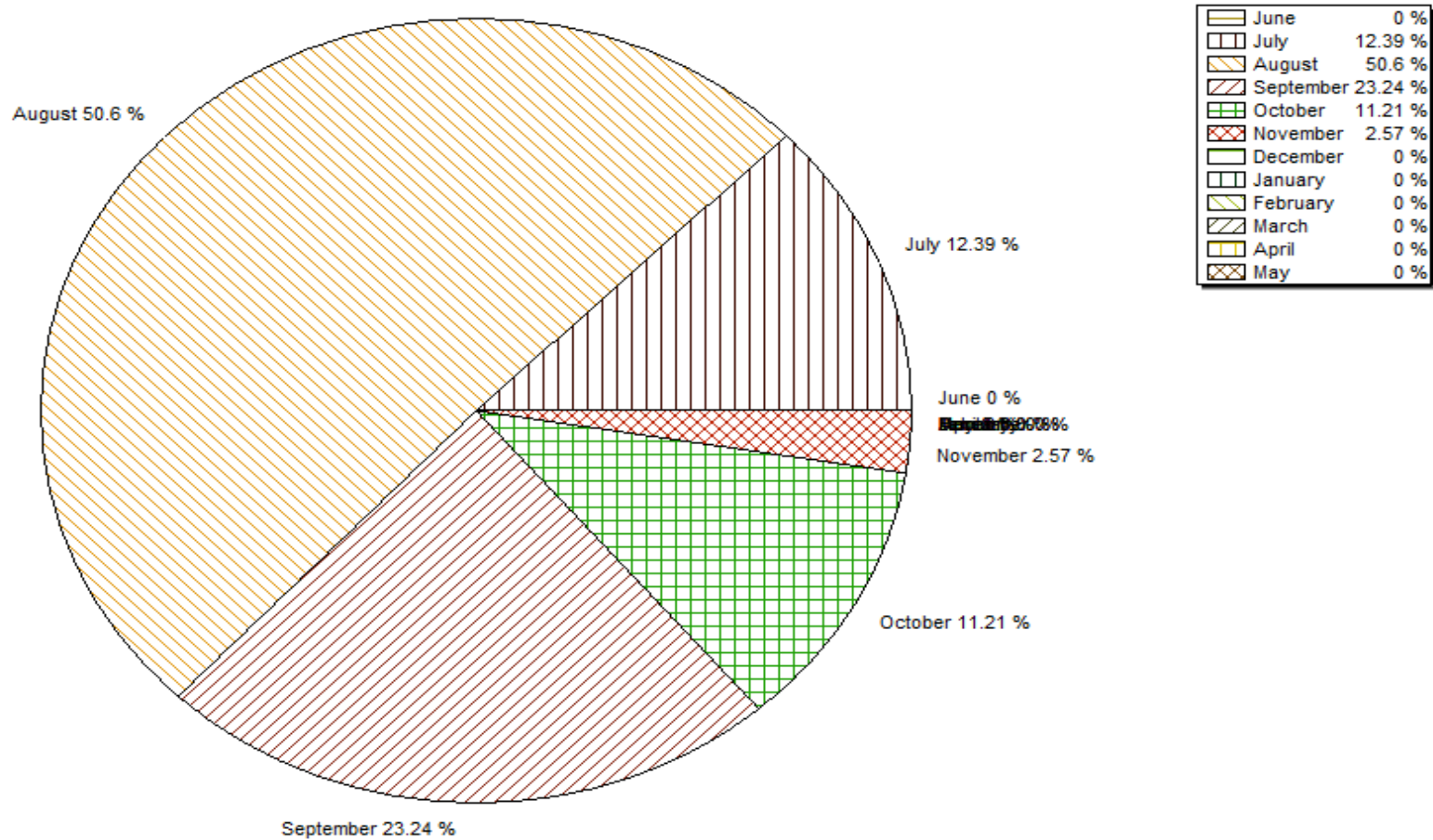
Monthly Average Runoff based on period : 2019-2021

Station Name : Mirawadi (MIRAWADI)

Local River : MulaMutta

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Bhima SD, Pune



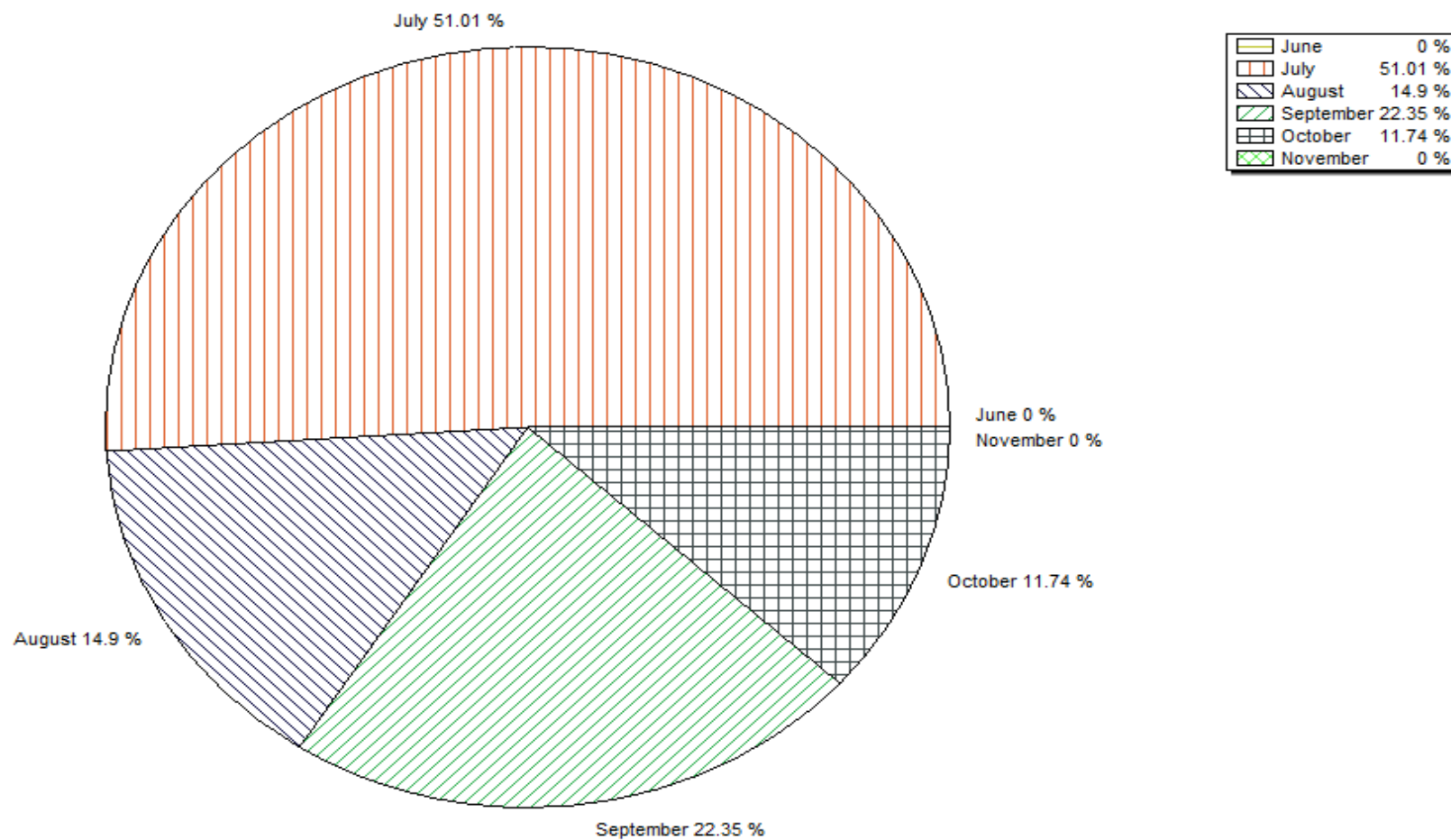
Monthly Runoff for the Year : 2021-2022

Station Name : Mirawadi (MIRAWADI)

Local River : MulaMutta

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Bhima SD, Pune

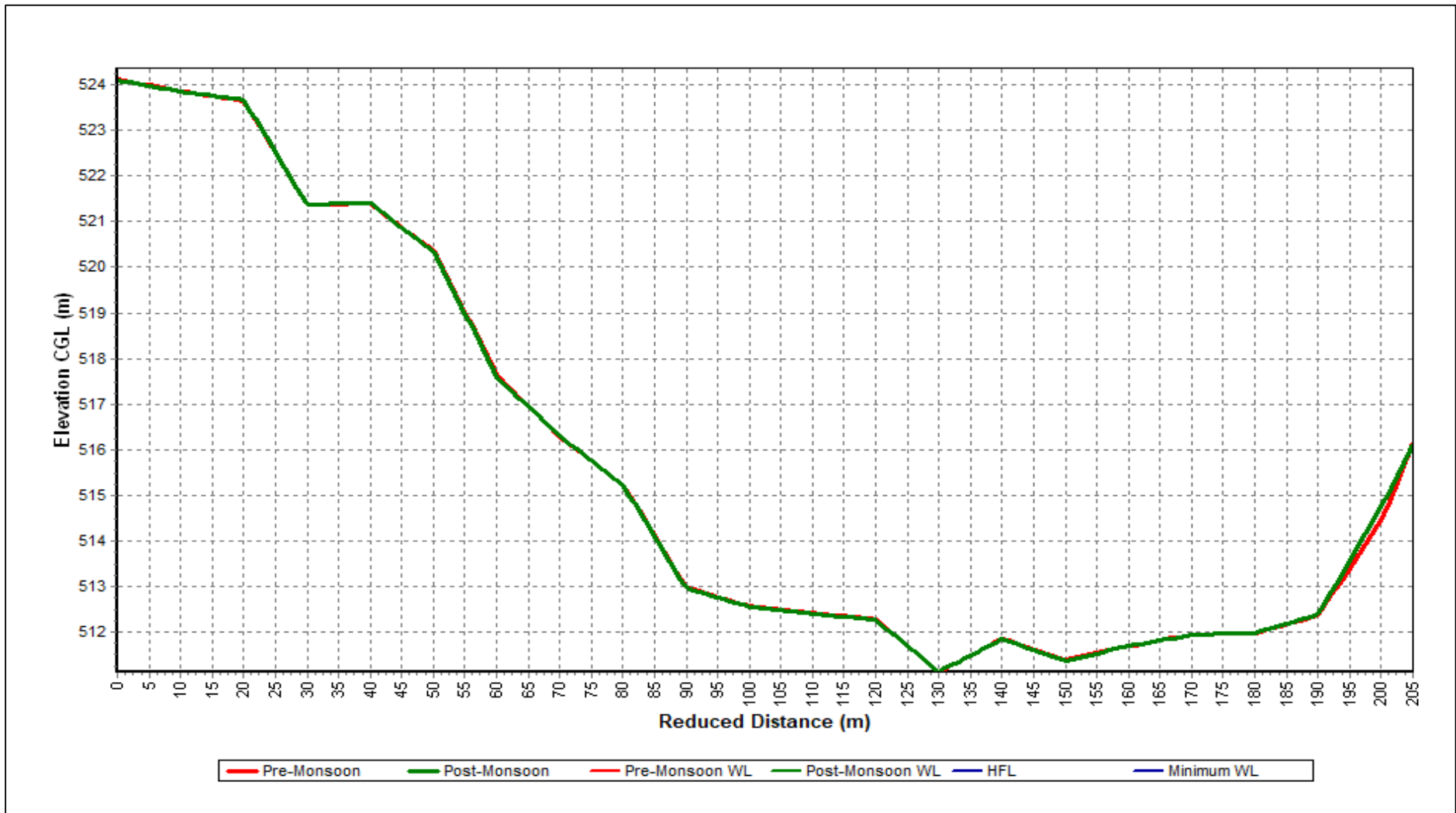


Station Name : Mirawadi (MIRAWADI)

Local River : MulaMutta

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Bhima SD, Pune



Zero of Gauge : 508.5 (m.s.l)

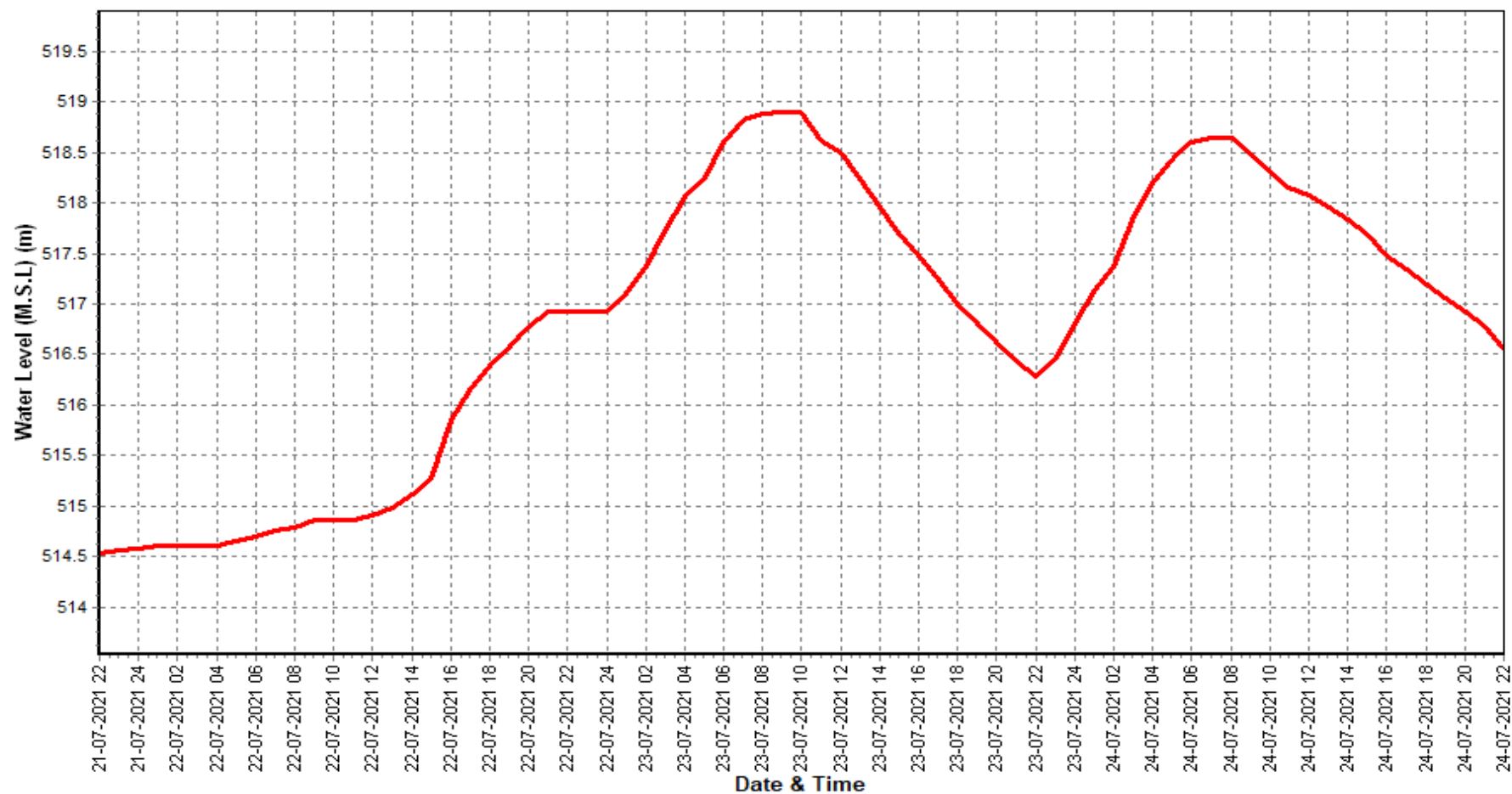
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Mirawadi (MIRAWADI)

Local River : MulaMutta

Division : Upper Krishna Divn, Pune

Sub-Division :Upper Bhima SD, Pune



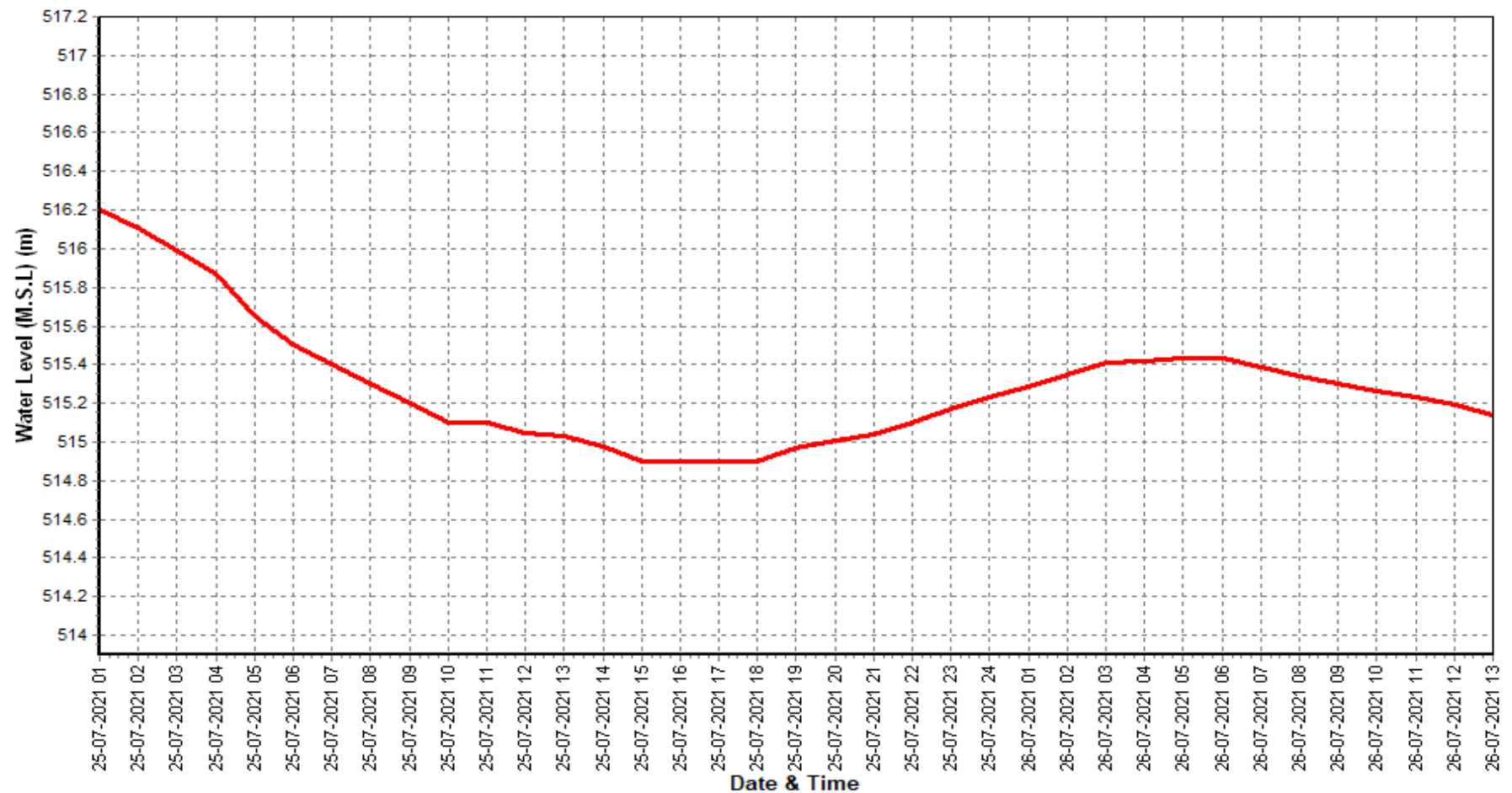
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Mirawadi (MIRAWADI)

Local River : MulaMutta

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Bhima SD, Pune



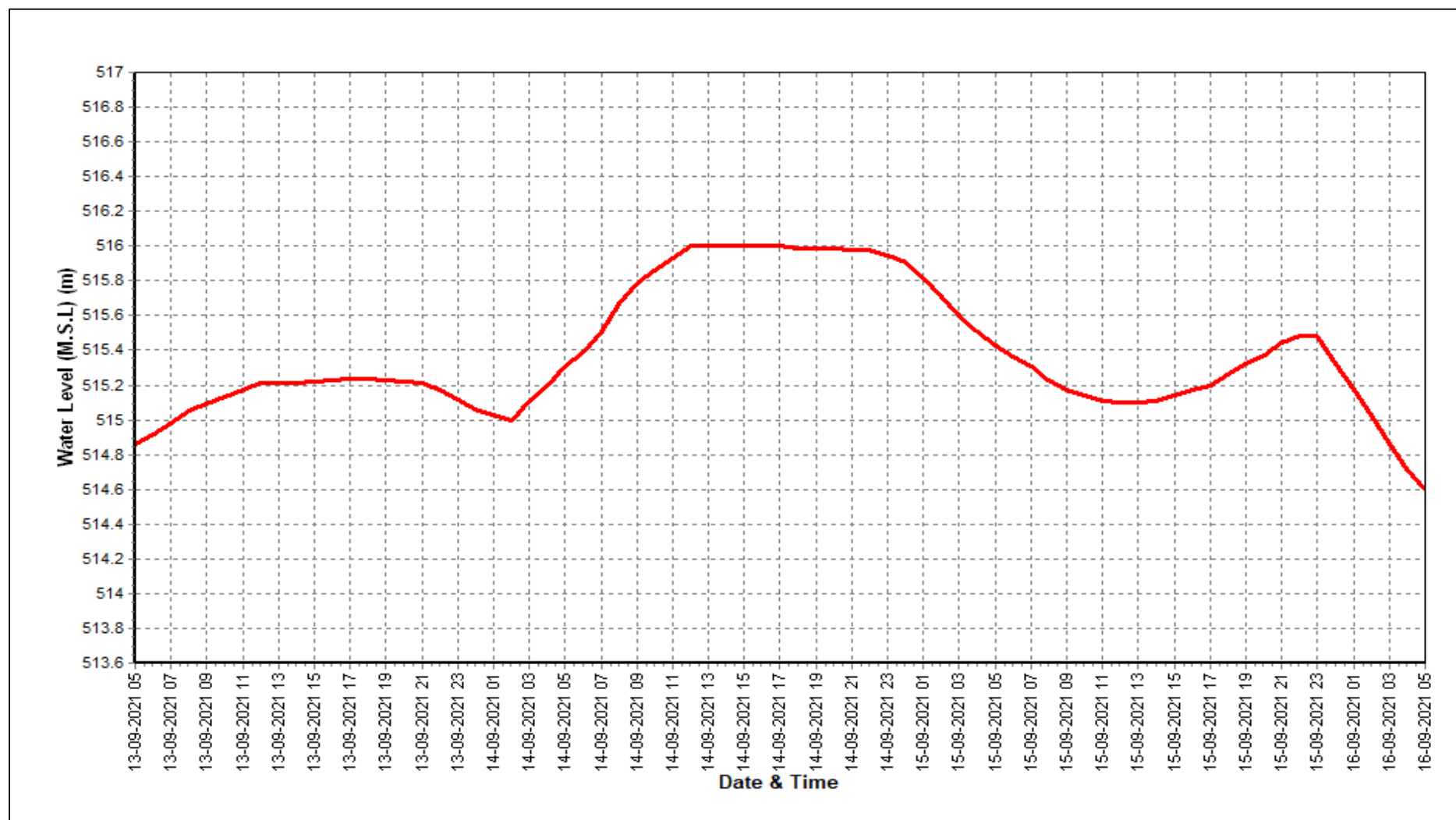
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Mirawadi (MIRAWADI)

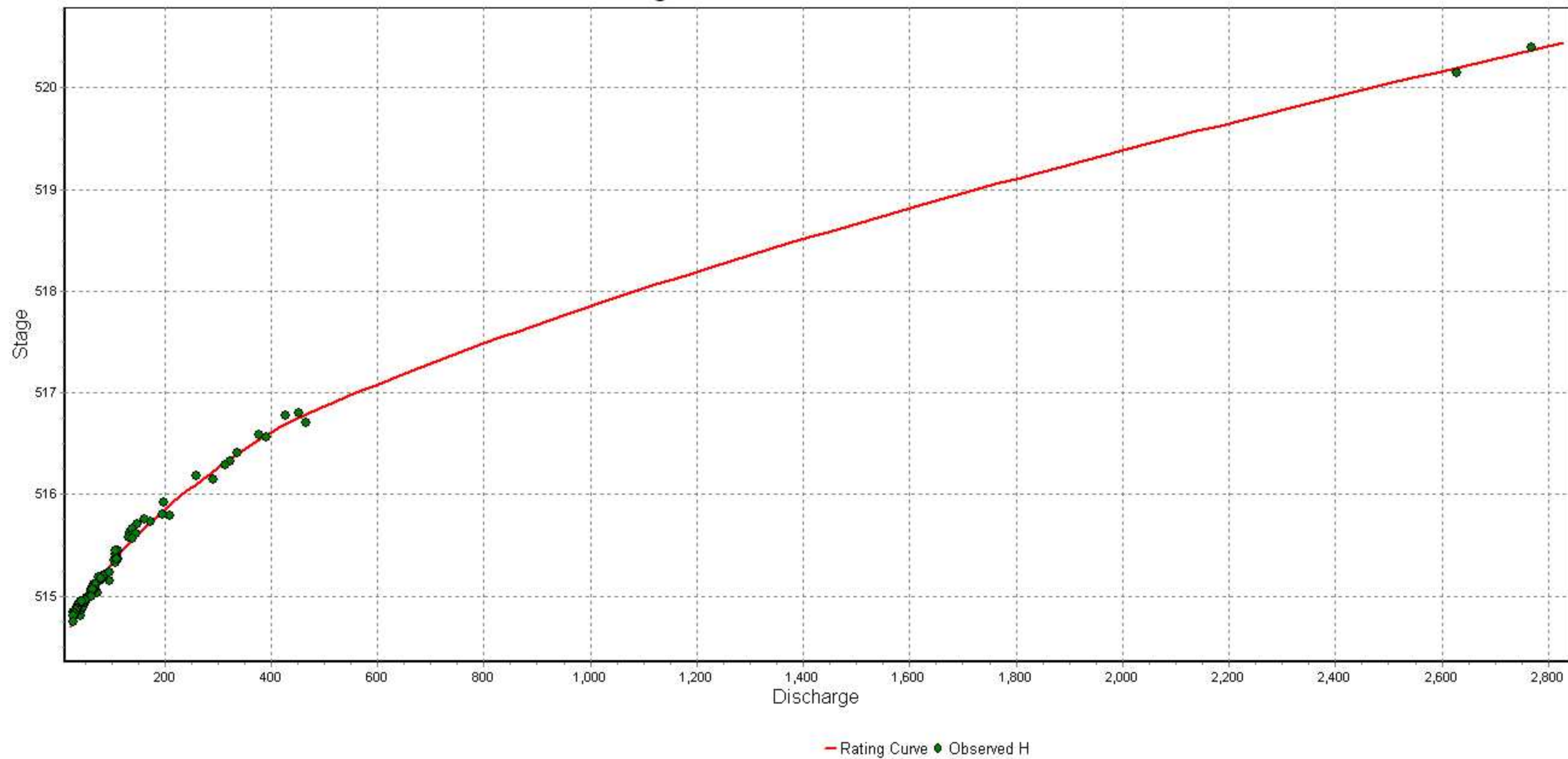
Local River : MulaMutta

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Bhima SD, Pune



Rating Curve of Site Mirawadi 2021



HISTORY SHEET

		Water Year	: 2021-2022
Site	: Phulgaon (Seasonal)	Code	: AKP00X5
State	: Maharashtra	District	Pune
Basin	: Krishna	Independent River	: Krishna
Tributary	: Bhima	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Bhima
Division	: Upper Krishna Divn, Pune	Sub-Division	: Upper Bhima SD, Pune
Drainage Area	: 2205 Sq. Km.	Bank	: Right
Latitude	: 18°40'01"	Longitude	: 74°00'08"
Zero of Gauge (m)	: 81 (m.s.l) 537 (m.s.l)	05-07-1986 01-06-2010	- 31-05-2010
	Opening Date	Closing Date	
Gauge	: 05-07-1986	HFL During 2021-22	: 544.030 m
		Corres. Discharge	: 781 (Estimated)
Discharge	: 21-07-1992	Date & Time of	: 24-07-2021
		occurrence	: 08:00 Hrs
Water Quality	: 02-08-1993		

HFL Recorded so far in m : 93.950 dt 23-08-1997 (Zero of Gauge change w.e.f 01/06/2010)
Corresponding Discharge (cumecs) : 4405*

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1992-1993	1022	86.829	14-08-1992	0.000	82.435	25-01-1993
1993-1994	710.4	85.868	13-07-1993	0.000	82.380	02-02-1994
1994-1995	2965	89.880	14-07-1994	0.000	82.370	31-01-1995
1995-1996	1390	87.600	03-09-1995	0.000	84.910	26-01-1996
1996-1997	1580	87.880	03-10-1996	0.000	85.590	25-01-1997
1997-1998	3006	90.300	23-08-1997	0.000	85.250	25-01-1998
1998-1999	402.0	85.250	09-07-1998	0.000	84.400	25-01-1999
1999-2000	465.0	85.560	17-07-1999	0.000	85.830	26-01-2000
2000-2001	519.6	85.680	14-07-2000	0.000	85.670	25-01-2001
2001-2002	387.6	84.980	17-08-2001	0.000	85.500	25-01-2002
2002-2003	724.0	86.350	27-06-2002	0.000	84.950	25-01-2003
2003-2004	2196	88.890	28-07-2003	0.000	85.520	26-01-2004
2004-2005	2297	88.180	12-08-2004	0.000	84.380	25-01-2005
2005-2006	3029	91.475	27-07-2005	0.000	85.180	25-01-2006
2006-2007	2212	90.080	09-08-2006	0.000	86.065	04-11-2006
2007-2008	1256	87.225	08-08-2007	0.000	83.220	17-09-2007
2008-2009	1725	87.950	11-08-2008	0.000	85.080	18-10-2008
2009-2010	459.9	85.285	16-07-2009	0.000	86.110	23-10-2009

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2010-2011	185	541.750	01-09-2010	0.000	539.190	07-10-2010
2011-2012	1350	545.000	30-08-2011	0.000	540.060	04-11-2011
2012-2013	300.8	542.200	05-09-2012	0.000	542.180	12-11-2012
2013-2014	771	543.450	25-07-2013	0.000	540.480	10-07-2013
2014-2015	980	543.950	05-08-2014	0.000	541.655	09-11-2014
2015-2016	250	541.950	24-06-2015	0.000	542.070	24-11-2015
2016-2017	793	543.580	04-08-2016	0.000	540.260	10-10-2016
2017-2018	913.6	543.780	22-07-2017	0.000	540.145	13-11-2017
2018-2019	607	543.015	17-07-2018	0.000	540.230	25-06-2018
2019-2020	1661	545.885	05-08-2019	0.000	539.780	02-06-2019
2020-2021	414	542.525	15-10-2020	0.000	542.350	03-05-2021

Annual Runoff of Bhima at Phulgaon

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1992-1993	1161	0	1161	41	0	41
2	1993-1994	1358	0	1358	48	0	48
3	1994-1995	2703	0	2703	96	0	96
4	1995-1996	859	0	859	30	0	30
5	1996-1997	1478	0	1478	52	0	52
6	1997-1998	1952	0	1952	69	0	69
7	1998-1999	1284	0	1284	45	0	45
8	1999-2000	957	0	957	34	0	34
9	2000-2001	539	0	539	19	0	19
10	2001-2002	610	0	610	22	0	22
11	2002-2003	964	0	964	34	0	34
12	2003-2004	674	0	674	24	0	24
13	2004-2005	1224	0	1224	43	0	43
14	2005-2006	2801	0	2801	99	0	99
15	2006-2007	2720	Site downgraded as Seasonal Site from 2006-07	2720	96	Site downgraded as Seasonal Site from 2006-07	96
16	2007-2008	964		964	34		34
17	2008-2009	1106		1106	39		39
18	2009-2010	620		620	22		22
19	2010-2011	359		359	13		13
20	2011-2012	890		890	31		31
21	2012-2013	470		470	17		17
22	2013-2014	2672		2672	94		94
23	2014-2015	1170		1170	41		41
24	2015-2016	255		255	9		9
25	2016-2017	1041		1041	37		37
26	2017-2018	1459		1459	52		52
27	2018-2019	902		902	32		32
28	2019-2020	2122		2122	75		75
29	2020-2021	628		628	22		22
30	2021-2022	651		651	23		23
Average		1220	0	1220	43	0	43

Instantaneous Flood Peak of Krishna at Phulgaon

Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	1992-1993	87.480	13-08-1992	20:00:00	1355 *
2	1993-1994	88.800	13-07-1993	19:00:00	1952 *
3	1994-1995	90.950	14-07-1994	18:00:00	2951 *
4	1995-1996	87.780	03-09-1995	10:00:00	1489 *
5	1996-1997	88.650	03-10-1996	03:00:00	1883 *
6	1997-1998	93.950	23-08-1997	17:00:00	4405 *
7	1998-1999	86.320	11-11-1998	08:00:00	841 *
8	1999-2000	86.900	25-02-1999	08:00:00	1097 *
9	2000-2001	86.270	14-07-2000	01:00:00	819 *
10	2001-2002	86.500	08-10-2001	12:00:00	920 *
11	2002-2003	86.700	07-08-2002	23:00:00	1008 *
12	2003-2004	88.890	28-07-2003	08:00:00	1993 *
13	2004-2005	88.350	03-08-2004	11:00:00	1747 *
14	2005-2006	91.755	27-07-2005	17:00:00	3335 *
15	2006-2007	90.970	06-08-2006	20:00:00	2961 *
16	2007-2008	87.300	08-08-2007	08:00:00	1274 *
17	2008-2009	90.100	11-08-2008	20:00:00	2552 *
18	2009-2010	87.400	06-10-2009	16:00:00	1319 *
19	2010-2011	542.300	20-10-2010	08:00:00	345 *
20	2011-2012	546.000	04-09-2011	00:00:00	1721 *
21	2012-2013	542.670	03-10-2012	08:00:00	413 *
22	2013-2014	543.850	17-06-2013	01:00:00	915 *
23	2014-2015	544.330	05-08-2014	13:00:00	1055 *
24	2015-2016	543.950	19-09-2015	10:00:00	935 *
25	2016-2017	543.950	04-08-2016	11:00:00	935 *
26	2017-2018	544.955	22-07-2017	22:00:00	1213 *
27	2018-2019	543.100	21-08-2018	12:00:00	621 *
28	2019-2020	547.655	04-08-2019	18:00:00	2150 *
29	2020-2021	543.330	04-06-2020	15:00:00	672 *
30	2021-2022	544.030	24-07-2021	08:00:00	781 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : Phulgaon (Seasonal) (AKP00X5)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Bhima SD, Pune

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	540.690	0.000	540.140	0.000	541.280	132.9 *	540.100	0.000	540.540	37.12	541.530	0.000
2	540.590	0.000	540.060	0.000	541.130	118.2	540.140	0.000	540.420	33.82 *	541.430	0.000
3	540.310	0.000	540.030	0.000	540.890	79.88	540.280	0.000	540.380	30.39 *	542.830	0.000
4	540.150	0.000	540.140	0.000	540.960	90.27	540.180	0.000	540.340	24.82	543.330	0.000
5	540.180	0.000	540.020	0.000	541.195	122.1	540.100	0.000	540.530	34.55	543.350	0.000
6	540.500	0.000	540.040	0.000	541.250	126.3	540.200	0.000	540.340	0.000	543.350	0.000
7	540.520	0.000	540.030	0.000	540.700	60.10	540.820	73.16	540.320	0.000	543.350	0.000
8	540.370	0.000	540.000	0.000	540.500	41.04 *	540.540	40.35	540.730	61.61	543.350	0.000
9	540.300	0.000	539.970	0.000	540.500	38.16	540.500	37.86	540.900	84.10	543.320	0.000
10	540.290	0.000	539.970	0.000	540.385	30.10	540.580	48.73 *	541.000	95.88 *	543.300	0.000
11	540.240	0.000	539.970	0.000	540.280	24.78	540.800	71.39	540.935	86.34	543.300	0.000
12	540.190	0.000	539.970	0.000	540.240	23.56	541.320	138.5 *	540.840	78.60	543.280	0.000
13	540.200	0.000	540.070	0.000	540.240	23.05	541.660	210.2	540.735	62.25	543.280	0.000
14	540.120	0.000	540.665	51.31	540.240	19.44 *	542.665	444.4	540.520	33.59	543.270	0.000
15	540.030	0.000	540.445	35.30	540.290	23.16 *	541.220	127.3	540.440	0.000	543.270	0.000
16	540.120	0.000	540.330	28.01	540.390	30.45	540.930	88.40	540.270	0.000	543.260	0.000
17	540.090	0.000	540.255	24.10	540.365	29.25	540.700	55.08	540.200	0.000	543.270	0.000
18	540.080	0.000	540.170	14.62 *	540.295	25.25	540.540	40.35	540.150	0.000	543.280	0.000
19	541.200	0.000	540.650	48.89	540.270	21.64 *	540.440	35.58 *	540.110	0.000	543.280	0.000
20	541.190	0.000	541.275	130.1	540.260	23.96	540.335	25.28	540.110	0.000	543.270	0.000
21	540.960	0.000	541.420	152.9 *	540.310	26.99	540.280	24.33	540.110	0.000	543.260	0.000
22	540.750	0.000	541.940	249.2	540.380	30.39 *	540.640	51.20	540.130	0.000	543.270	0.000
23	540.560	0.000	543.680	573.3	540.545	39.68	541.325	144.5	540.680	0.000	543.270	0.000
24	540.420	0.000	544.005	650.1	540.420	32.01	540.790	78.14	541.050	0.000	543.270	0.000
25	540.340	0.000	542.850	406.0 *	540.300	26.88	540.595	46.34	541.250	0.000	543.270	0.000
26	540.300	0.000	541.860	233.4	540.180	19.32	540.530	43.87 *	541.200	0.000	543.320	0.000
27	540.430	0.000	541.775	224.4	540.160	24.78	540.450	32.40	541.200	0.000	543.320	0.000
28	540.320	0.000	541.600	201.1	540.160	0.000	540.375	28.20	541.260	0.000	543.330	0.000
29	540.230	0.000	541.450	162.0	540.140	0.000	541.130	118.7	541.290	0.000	543.310	0.000
30	540.190	0.000	541.535	176.8	540.130	0.000	540.790	69.67	541.340	0.000	543.300	0.000
31			541.410	150.9	540.111	0.000			541.400	0.000		
Ten-Daily Mean												
I Ten-Daily	540.390	0.000	540.040	0.000	540.879	83.90	540.344	16.82	540.550	40.23	542.914	0.000
II Ten-Daily	540.346	0.000	540.380	33.23	540.287	24.45	541.061	132.8	540.431	26.08	543.276	0.000
III Ten-Daily	540.450	0.000	542.139	289.1	540.258	18.19	540.691	65.94	540.992	0.000	543.292	0.000
Monthly												
Min.	540.030	0.000	539.970	0.000	540.111	0.000	540.100	0.000	540.110	0.000	541.430	0.000
Max.	541.200	0.000	544.005	650.1	541.280	132.9	542.665	444.4	541.400	95.88	543.350	0.000
Mean	540.395	0	540.894	113.3	540.468	41.4	540.698	69.51	540.668	21.39	543.161	0

Annual Runoff in MCM = 628 Annual Runoff in mm = 285

Peak Observed Discharge = 650.1 cumecs on 24-07-2021 Corres. Water Level :544.005 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021 Corres. Water Level :540.69 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

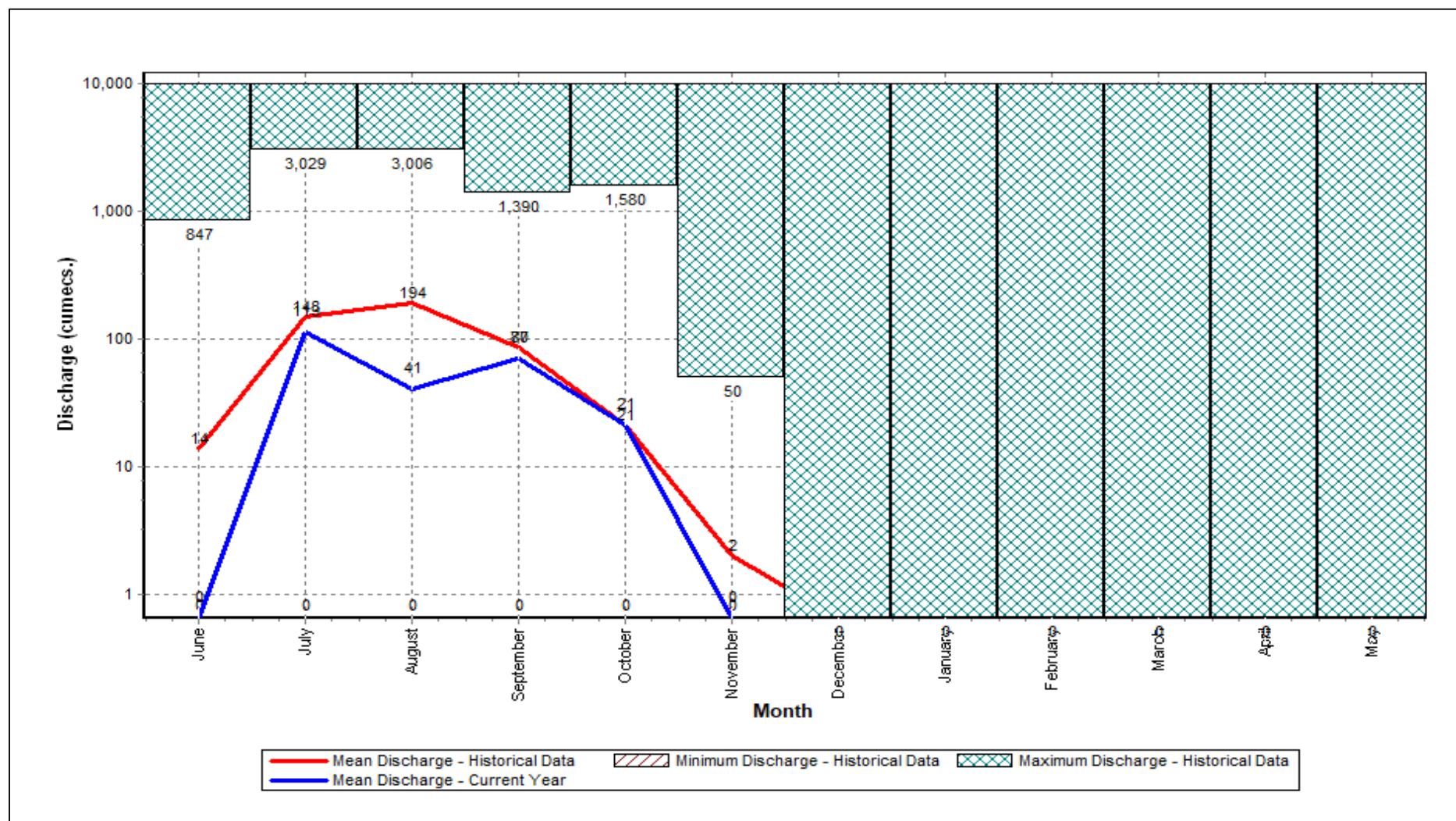
Station Name : Phulgaon (Seasonal) (AKP00X5)

Data considered : 1992-2022

Division : Upper Krishna Divn, Pune

Local River : Bhima

Sub-Division : Upper Bhima SD, Pune



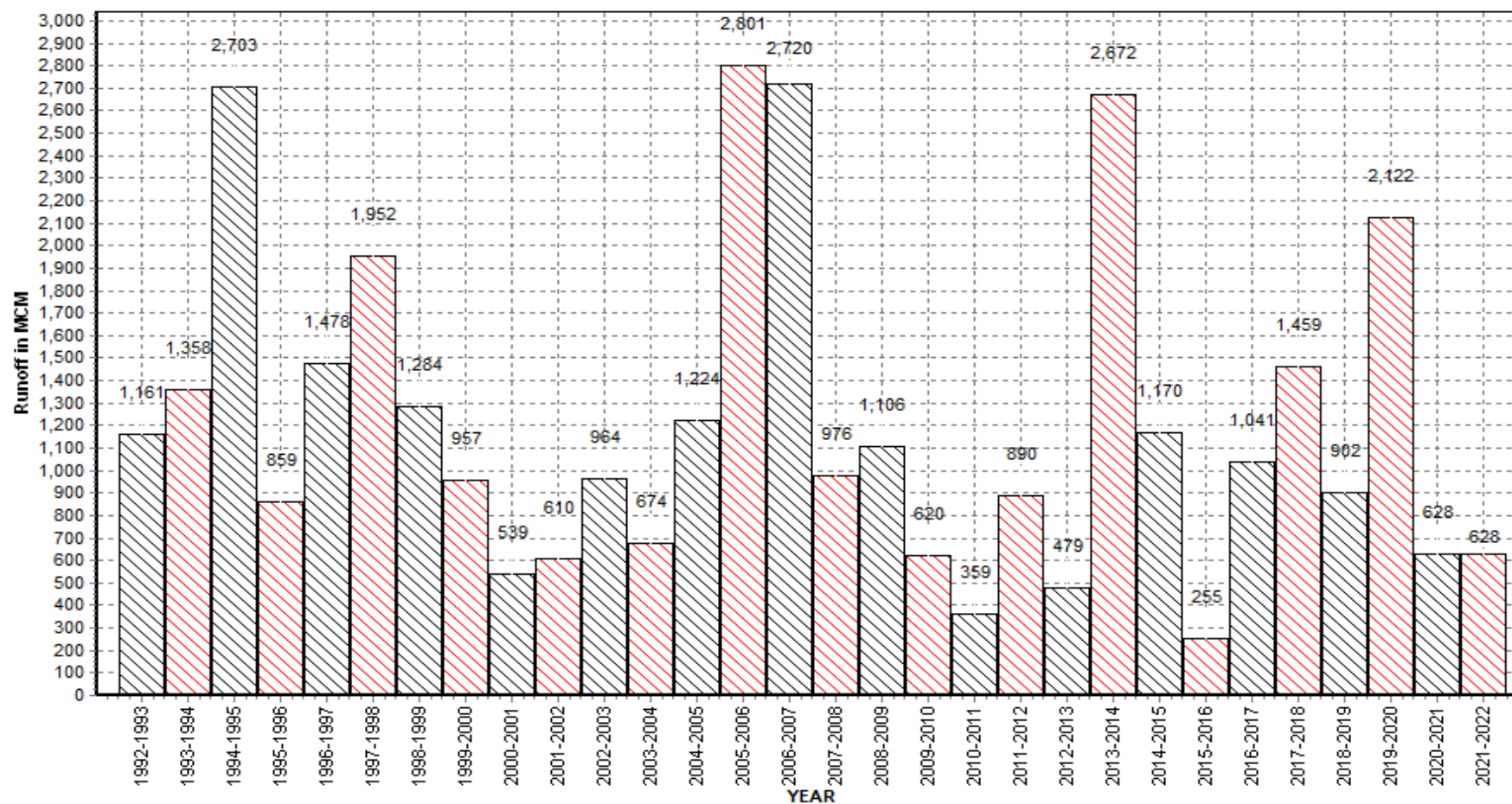
Annual Runoff Values for the period: 1992 - 2022

Station Name : Phulgaon (Seasonal) (AKP00X5)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Bhima SD, Pune



Note: Missing values have not been considered while arriving at Annual Runoff

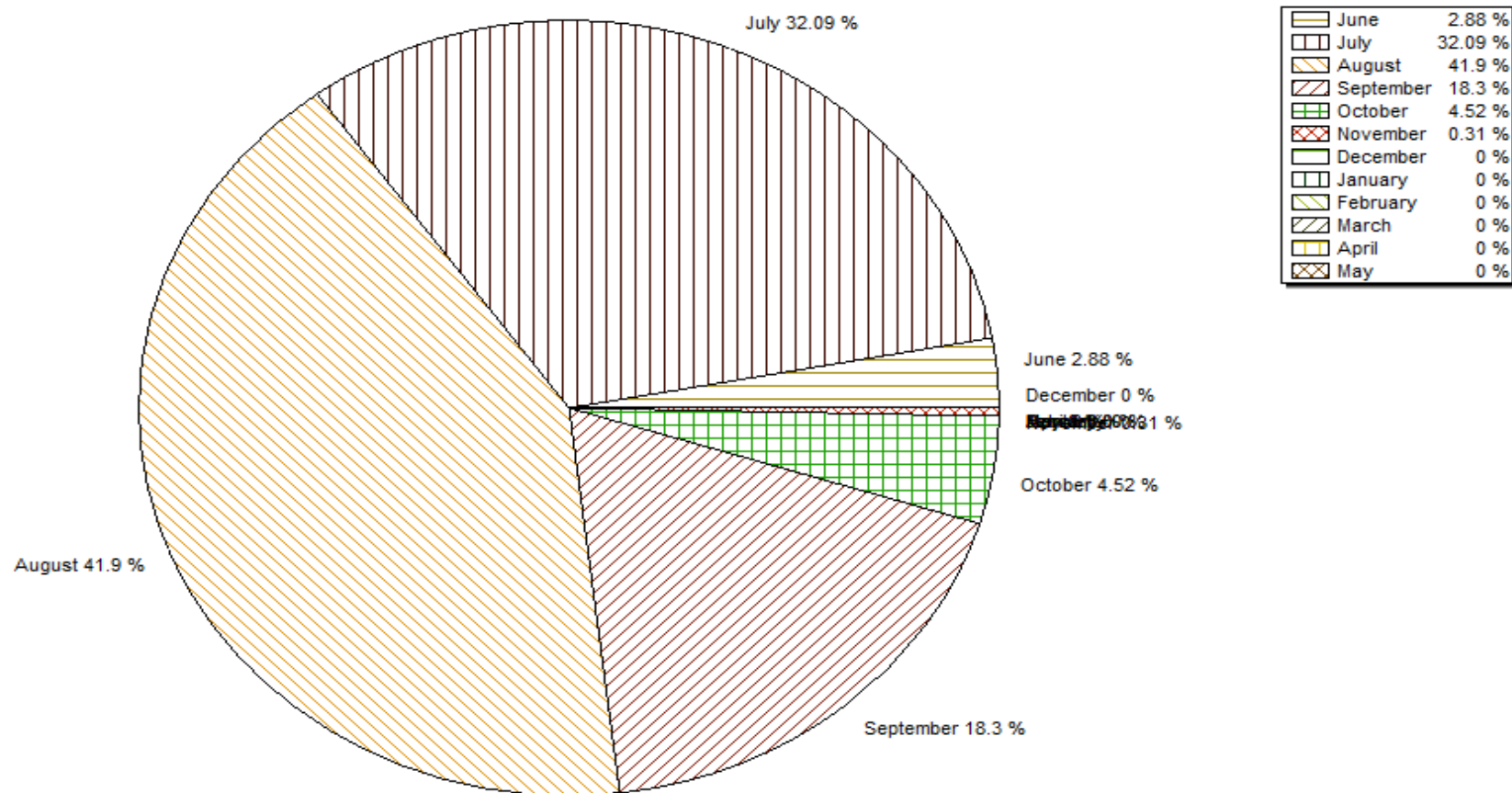
Monthly Average Runoff based on period : 1992-2021

Station Name : Phulgaon (Seasonal) (AKP00X5)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Bhima SD, Pune



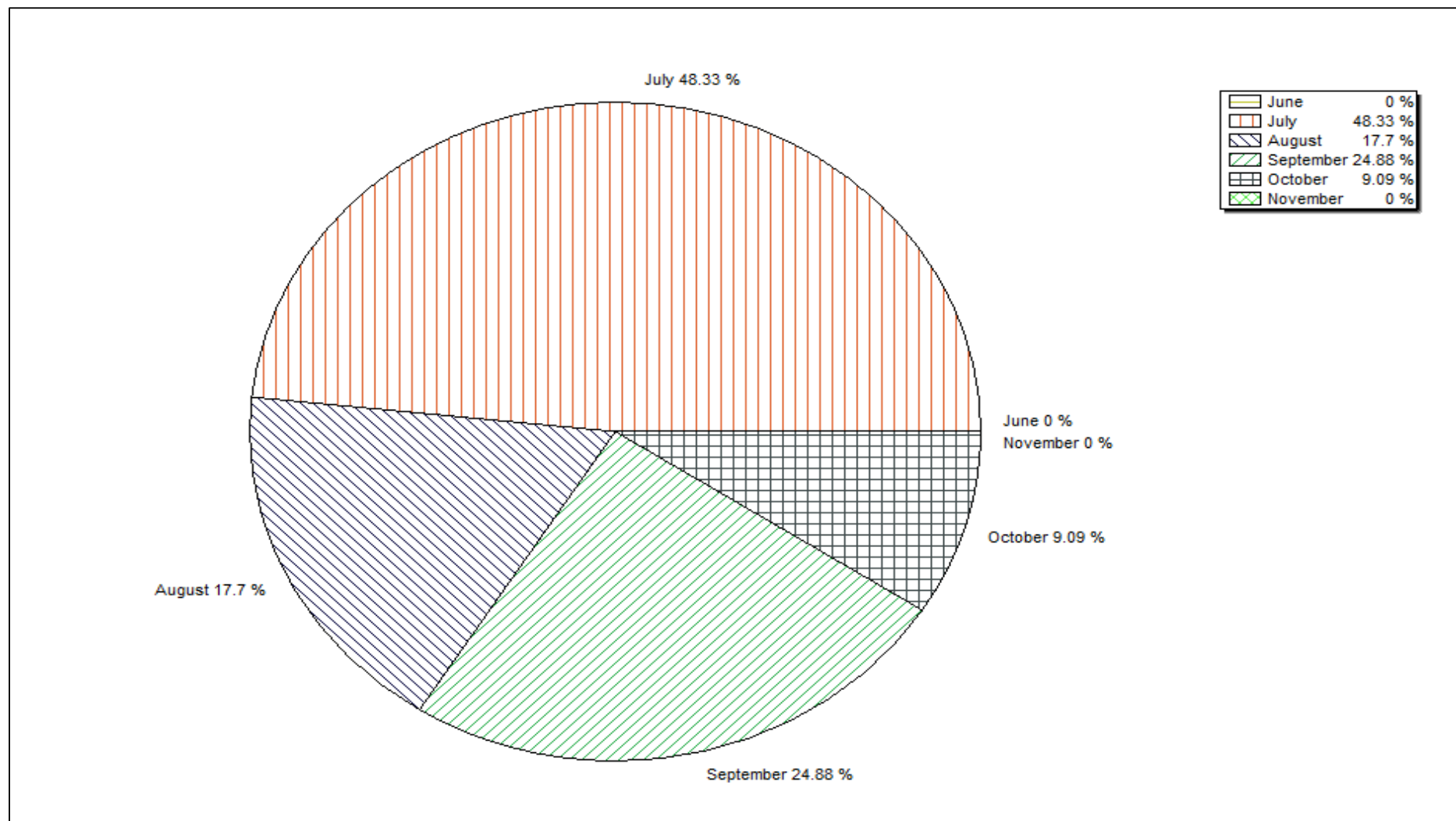
Monthly Runoff for the Year : 2021-2022

Station Name : Phulgaon (Seasonal) (AKP00X5)

Local River : Bhima

Division : Upper Krishna Divn, Pune

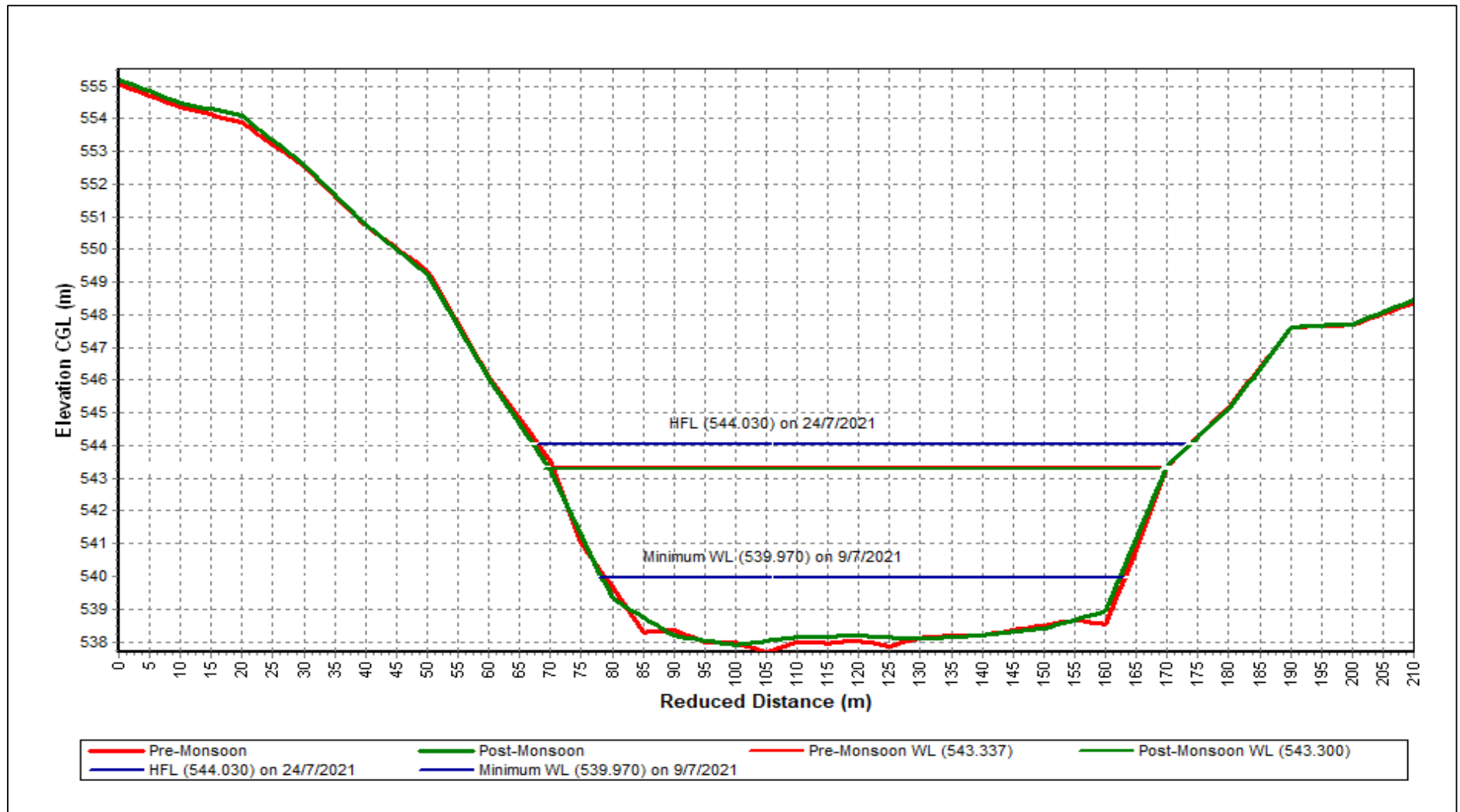
Sub-Division : Upper Bhima SD, Pune



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : Phulgaon (Seasonal) (AKP00X5)
Local River : Bhima

Division : Upper Krishna Divn, Pune
Sub-Division : Upper Bhima SD, Pune



Zero of Gauge : 537 (m.s.l)

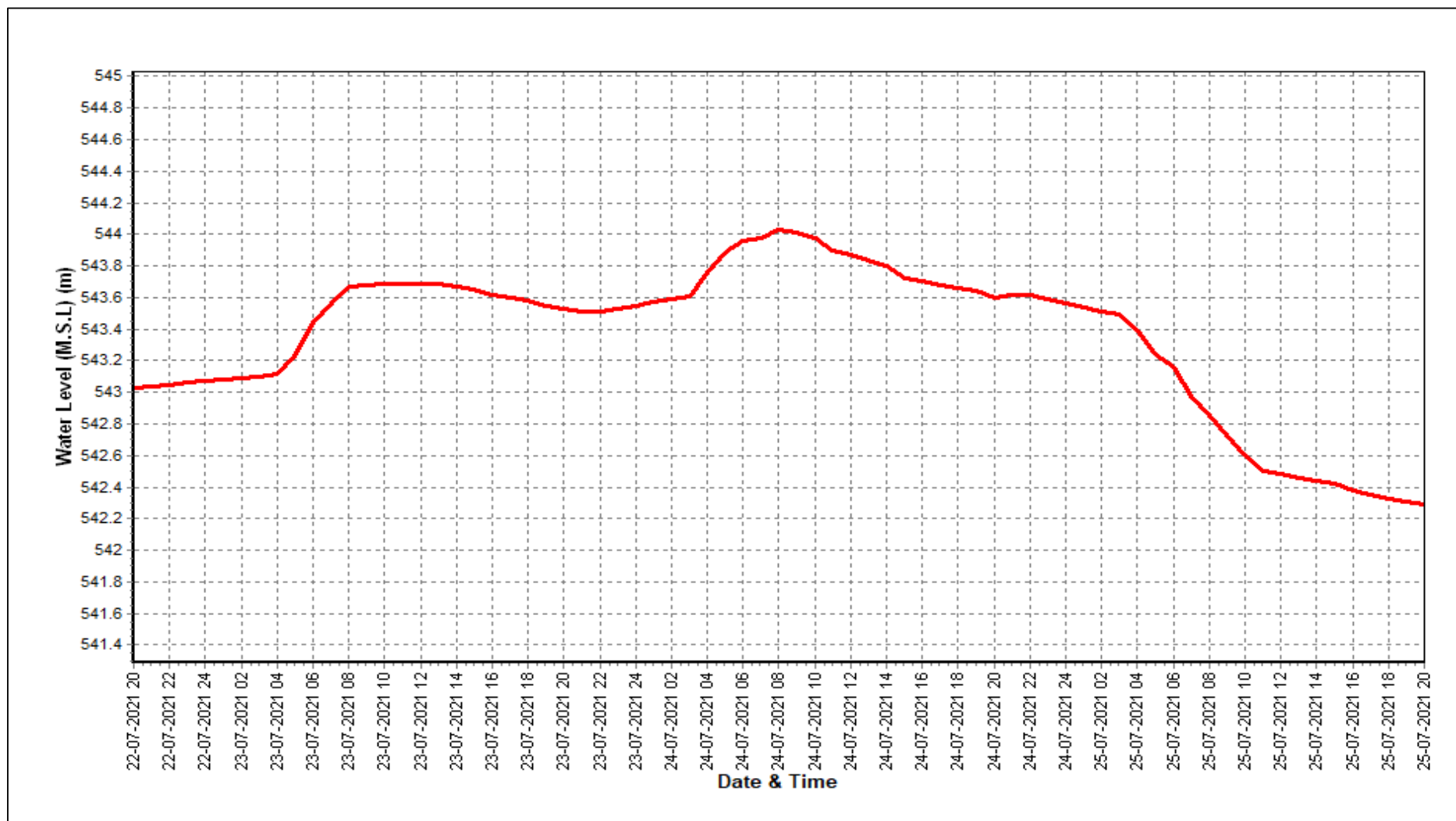
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Phulgaon (Seasonal) (AKP00X5)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Bhima SD, Pune



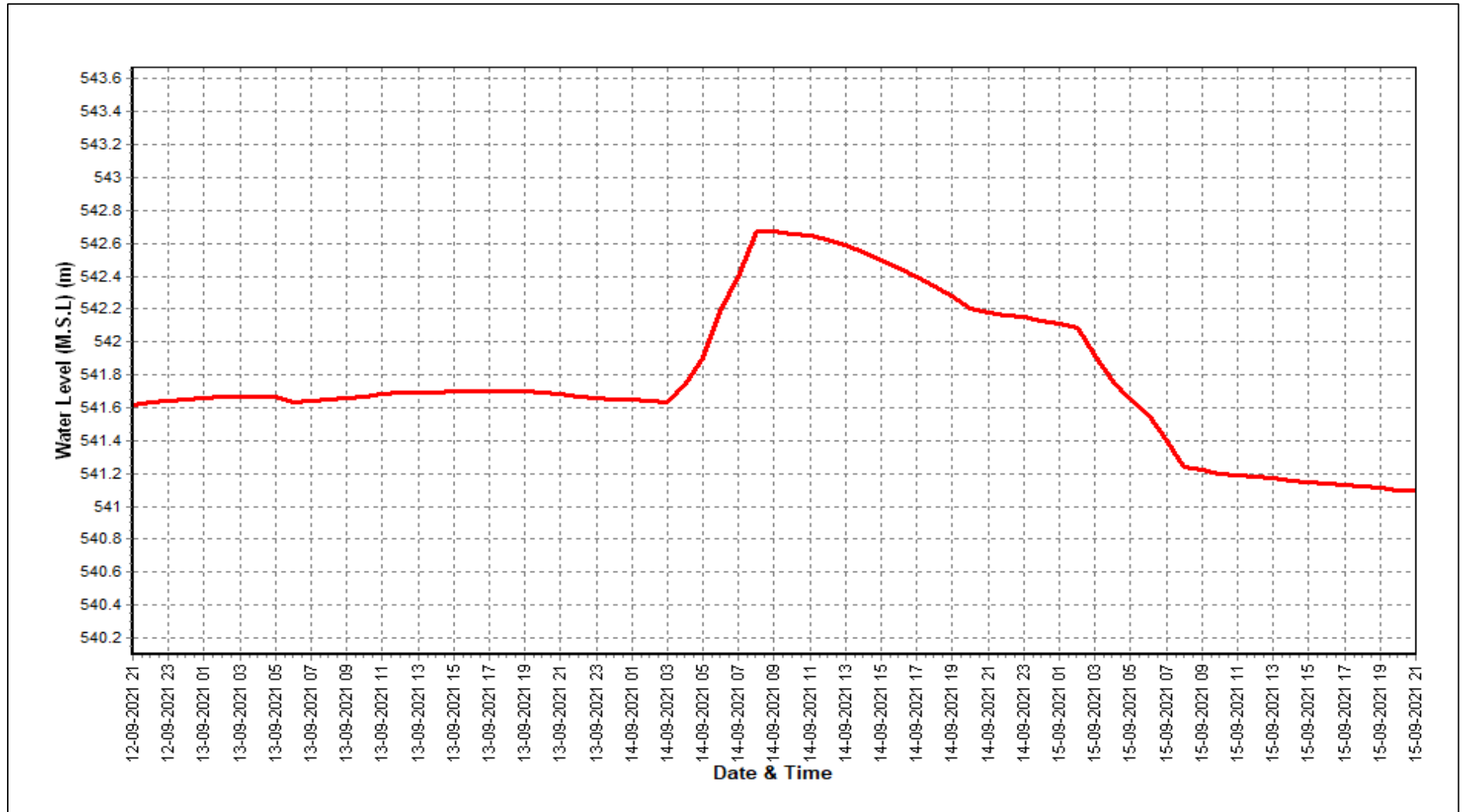
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Phulgaon (Seasonal) (AKP00X5)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Bhima SD, Pune



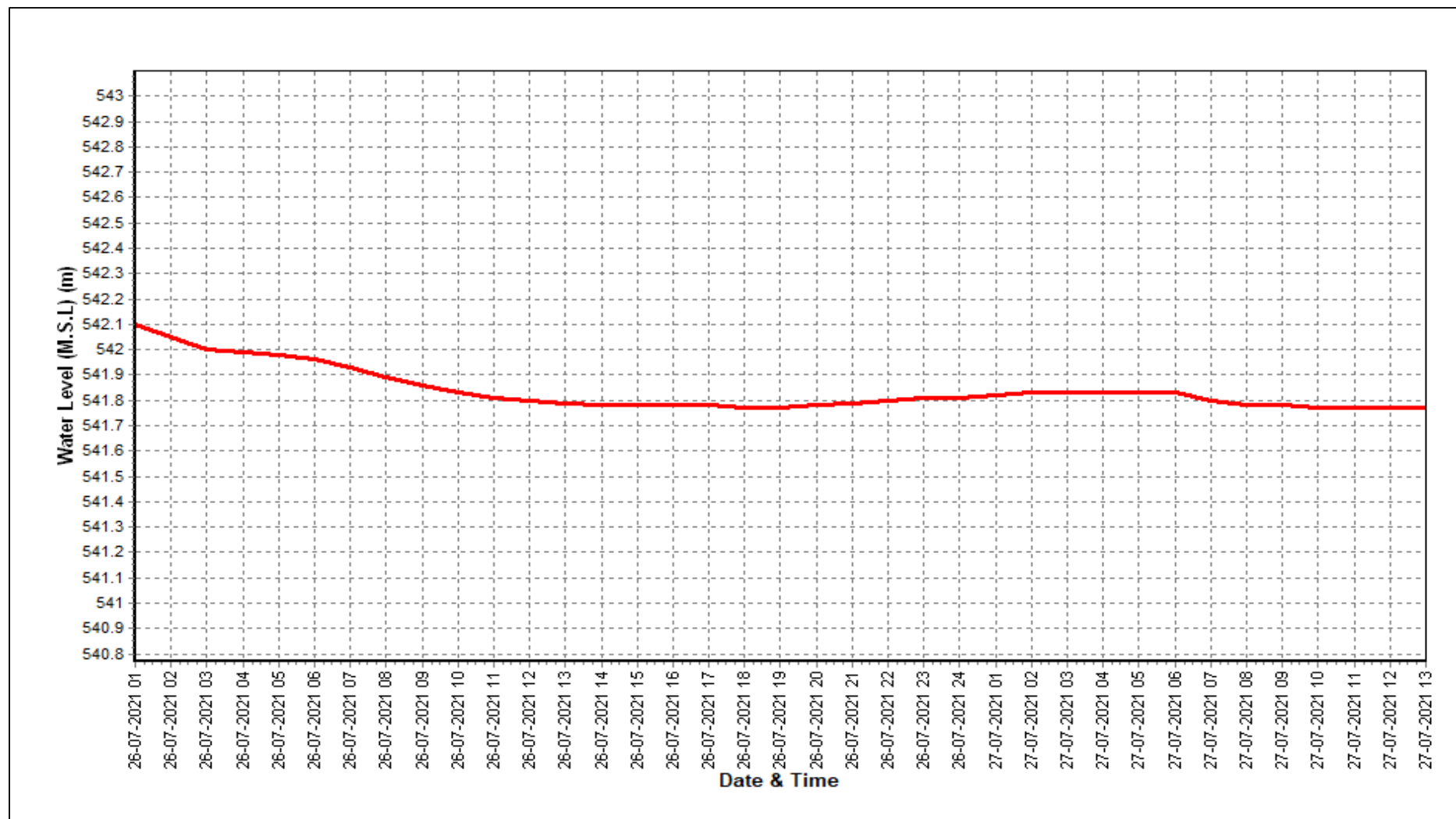
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Phulgaon (Seasonal) (AKP00X5)

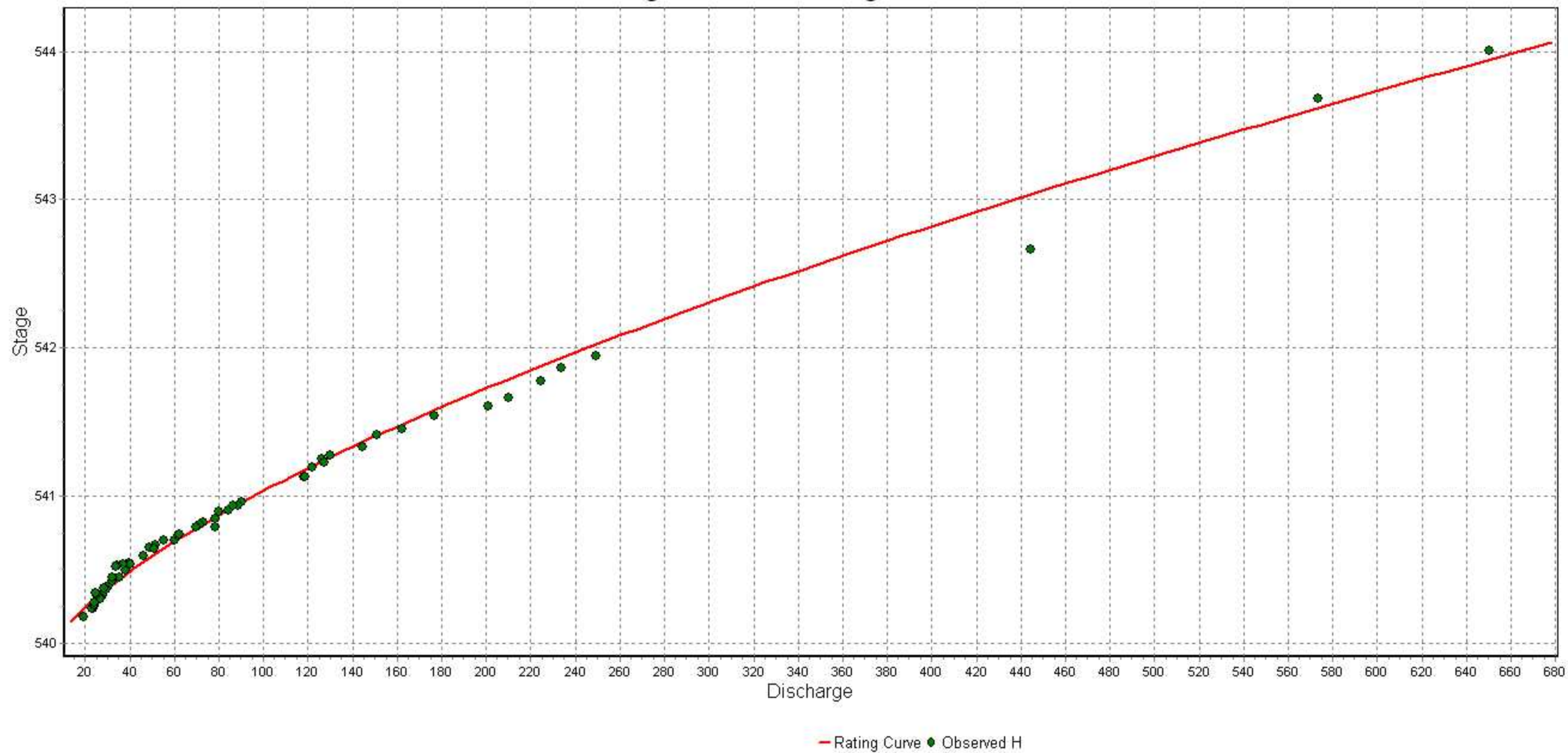
Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Bhima SD, Pune



Rating Curve of Site Phulgaon 2021



HISTORY SHEET

		Water Year : 2021-2022	
Site	: Sarati	Code	: AKPA0C2
State	: Maharashtra	District	: Pune
Basin	: Krishna	Independent River	: Krishna
Tributary	: Bhima	Sub Tributary	: Nira
Sub-Sub Tributary	: -	Local River	: Nira
Division	: Upper Krishna Divn, Pune	Sub-Division	: Lower Bhima SD, Sholapur
Drainage Area	: 7200 Sq. Km.	Bank	: Left
Latitude	: 17°54'43"	Longitude	: 75°00'27"
Zero of Gauge (m)	: 468.128 (m.s.l) 466.128 (m.s.l)	25-08-1963 01-06-2003	- 31-05-2003
	Opening Date	Closing Date	
Gauge	: 25-08-1963	HFL During 2021-22	: 471.238 m
		Corres. Discharge	: 571 (Estimated)
Discharge	: 16-08-1965	Date & Time of occurrence	: 14-09-2021 : 23:00 Hrs
Sediment	: 01-06-1966		
Water Quality	: 01-09-1972		

HFL Recorded so far in m : 477.808 dt 15-10-2020

Corresponding Discharge (cumecs) : 4341*

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1965-1966	2214	474.843	04-05-1966	0.644	468.608	30-03-1966
1966-1967	1084	472.848	14-11-1966	0.500	468.718	22-04-1967
1967-1968	2404	475.678	28-07-1967	0.925	468.753	07-06-1967
1968-1969	696.2	471.803	01-10-1968	0.000	468.333	10-05-1969
1969-1970	2254	475.008	31-08-1969	0.100	468.343	02-06-1969
1970-1971	772.7	471.968	30-08-1970	0.000	468.293	03-05-1971
1971-1972	1355	473.388	25-09-1971	0.000	468.368	18-04-1972
1972-1973	918.9	472.183	09-07-1972	0.000	468.248	10-04-1973
1973-1974	1104	472.963	09-07-1973	0.000	468.218	20-06-1973
1974-1975	1278	473.011	24-10-1974	0.100	468.308	13-04-1975
1975-1976	1426	473.174	16-08-1975	0.100	468.338	06-05-1976
1976-1977	2757	476.089	02-08-1976	0.000	468.268	16-04-1977
1977-1978	958.7	472.128	23-11-1977	0.000	468.453	25-04-1978
1978-1979	929.6	472.086	30-08-1978	0.000	468.433	25-04-1979
1979-1980	2330	475.178	26-09-1979	0.000	468.393	23-05-1980
1980-1981	1908	474.112	04-08-1980	0.000	468.388	02-05-1981
1981-1982	2120	474.338	21-09-1981	0.000	468.328	16-04-1982

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1982-1983	490.0	470.958	16-08-1982	0.000	468.283	02-04-1983
1983-1984	2410	475.276	16-08-1983	0.000	468.438	17-04-1984
1984-1985	565.3	471.128	05-07-1984	0.000	468.283	31-03-1985
1985-1986	1240	472.888	03-08-1985	0.000	468.433	25-01-1986
1986-1987	507.9	471.011	30-06-1986	0.000	468.388	28-01-1987
1987-1988	502.0	471.163	18-10-1987	0.000	468.423	06-02-1988
1988-1989	1671	473.218	03-08-1988	0.000	468.458	25-01-1989
1989-1990	976.4	471.923	26-07-1989	0.000	468.433	25-01-1990
1990-1991	1733	473.468	17-08-1990	0.000	468.508	12-03-1991
1991-1992	1008	472.663	28-07-1991	0.000	468.298	26-01-1992
1992-1993	1219	473.040	18-08-1992	0.000		25-01-1993
1993-1994	831.3	471.555	18-10-1993	0.000	468.413	15-03-1994
1994-1995	2237	474.173	30-06-1994	0.000	468.468	26-01-1995
1995-1996	251.1	470.443	24-07-1995	0.000		26-01-1996
1996-1997	2046	474.346	05-10-1996	0.000	468.718	25-01-1997
1997-1998	2165	474.628	24-08-1997	0.000	468.438	25-01-1998
1998-1999	1000	472.638	15-10-1998	0.000	468.268	25-01-1999
1999-2000	476.0	471.058	21-07-1999	0.000		26-01-2000
2000-2001	10.00	468.868	09-06-2000	0.000		25-01-2001
2001-2002	225.0	469.828	14-10-2001	0.000		25-01-2002
2002-2003	194.6	469.878	17-10-2002	0.000		25-01-2003
2003-2004	57.59	469.188	18-05-2004	0.000		16-01-2004
2004-2005	1368	472.883	13-08-2004	0.000		25-01-2005
2005-2006	2073	474.078	03-08-2005	0.000	468.138	25-01-2006
2006-2007	2103	474.078	08-08-2006	0.000	468.148	19-02-2007
2007-2008	1280	472.578	09-08-2007	0.000	468.138	26-01-2008
2008-2009	918.5	471.678	09-09-2008	0.000	468.158	25-01-2009
2009-2010	1207	472.378	04-10-2009	0.000	468.108	07-11-2009
2010-2011	613.5	470.953	01-10-2010	0.000	468.213	19-04-2011
2011-2012	1699	473.628	04-09-2011	0.000	468.218	11-02-2012
2012-2013	93.53	469.158	13-09-2012	0.000		19-06-2012
2013-2014	1208	472.348	19-09-2013	0.000	468.208	22-12-2013
2014-2015	402	470.508	07-09-2014	0.000		25-01-2015
2015-2016	0	468.898	18-09-2015	0.000		24-06-2015
2016-2017	1243	472.608	05-08-2016	0.000		08-12-2016
2017-2018	694	471.508	15-09-2017	0.000	467.613	28-01-2018
2018-2019	607	471.168	23-08-2018	0.000		25-01-2019
2019-2020	2680	475.163	06-08-2019	0.000	468.398	23-12-2019
2020-2021	2951	476.428	15-10-2020	0.000		13-04-2021

Annual Runoff of Nira at Sarati

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1965-1966	1232	293	1525	44	10	54
2	1966-1967	826	87	913	29	3	32
3	1967-1968	1445	194	1639	51	7	58
4	1968-1969	721	64	785	25	2	28
5	1969-1970	2197	80	2277	78	3	80
6	1970-1971	1074	109	1183	38	4	42
7	1971-1972	1142	54	1196	40	2	42
8	1972-1973	377	4	381	13	0	13
9	1973-1974	1529	102	1631	54	4	58
10	1974-1975	1359	102	1462	48	4	52
11	1975-1976	1752	99	1852	62	4	65
12	1976-1977	2111	53	2164	75	2	76
13	1977-1978	1466	133	1599	52	5	57
14	1978-1979	1384	55	1439	49	2	51
15	1979-1980	2192	79	2270	77	3	80
16	1980-1981	1902	43	1945	67	2	69
17	1981-1982	2245	39	2283	79	1	81
18	1982-1983	474	22	496	17	1	18
19	1983-1984	1244	33	1278	44	1	45
20	1984-1985	919	12	931	32	0	33
21	1985-1986	414	0	414	15	0	15
22	1986-1987	497	6	504	18	0	18
23	1987-1988	172	31	202	6	1	7
24	1988-1989	1725	0	1725	61	0	61
25	1989-1990	863	0	863	30	0	30
26	1990-1991	1702	10	1712	60	0	61
27	1991-1992	1656	0	1656	59	0	59
28	1992-1993	806	0	806	28	0	28
29	1993-1994	1083	115	1198	38	4	42
30	1994-1995	3603	1	3603	127	0	127
31	1995-1996	192	0	192	7	0	7
32	1996-1997	1210	0	1210	43	0	43
33	1997-1998	1259	0	1259	44	0	44
34	1998-1999	1819	0	1819	64	0	64
35	1999-2000	960	0	960	34	0	34
36	2000-2001	7	0	7	0	0	0
37	2001-2002	133	0	133	5	0	5
38	2002-2003	72	0	72	3	0	3
39	2003-2004	7	7	14	0	0	0
40	2004-2005	991	0	991	35	0	35
41	2005-2006	2600	0	2600	92	0	92
42	2006-2007	3050	18	3068	108	1	108
43	2007-2008	1865	0	1865	66	0	66
44	2008-2009	748	0	748	26	0	26
45	2009-2010	1326	68	1394	47	2	49
46	2010-2011	1026	20	1046	36	1	37
47	2011-2012	678	0	678	24	0	24

48	2012-2013	36	0	36	1	0	1
49	2013-2014	1170	0	1170	41	0	41
50	2014-2015	250	0	250	9	0	9
51	2015-2016	0	0	0	0	0	0
52	2016-2017	644	0	644	23	0	23
53	2017-2018	618	0	618	22	0	22
54	2018-2019	550	0	550	19	0	19
55	2019-2020	2878	0	2878	102	0	102
56	2020-2021	2632	0	2632	93	0	93
57	2021-2022	529	0	529	19	0	19
Average		1182	34	1216	42	1	43

Instantaneous Flood Peak of Krishna at Sarati

Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	1965-1966	473.428	04-05-1966	00:00:00	1882 *
2	1966-1967	474.843	14-11-1966	08:00:00	2645 *
3	1967-1968	475.708	28-07-1967	12:00:00	3180 *
4	1968-1969	472.798	01-10-1968	17:00:00	1587 *
5	1969-1970	475.188	31-08-1969	14:00:00	2852 *
6	1970-1971	472.238	30-08-1970	04:00:00	1349 *
7	1971-1972	473.893	25-09-1971	12:00:00	2117 *
8	1972-1973	472.218	09-07-1972	06:00:00	1341 *
9	1973-1974	473.018	09-07-1973	07:00:00	1687 *
10	1974-1975	473.323	24-10-1974	13:00:00	1831 *
11	1975-1976	473.458	16-08-1975	18:00:00	1897 *
12	1976-1977	476.788	02-08-1976	18:00:00	3921 *
13	1977-1978	472.208	23-11-1977	07:00:00	1337 *
14	1978-1979	472.113	30-08-1978	21:00:00	1298 *
15	1979-1980	476.328	26-09-1979	15:00:00	3595 *
16	1980-1981	474.658	04-08-1980	02:00:00	2537 *
17	1981-1982	474.338	21-09-1981	07:00:00	2357 *
18	1982-1983	471.768	16-08-1982	17:00:00	1165 *
19	1983-1984	475.858	16-08-1983	16:00:00	3278 *
20	1984-1985	471.788	05-07-1984	20:00:00	1173 *
21	1985-1986	472.888	03-08-1985	08:00:00	1628 *
22	1986-1987	471.708	30-06-1986	20:00:00	1143 *
23	1987-1988	471.308	18-10-1987	06:00:00	1001 *
24	1988-1989	474.298	03-08-1988	22:00:00	2334 *
25	1989-1990	472.778	26-07-1989	14:00:00	1579 *
26	1990-1991	473.628	17-08-1990	20:00:00	1981 *
27	1991-1992	473.608	28-07-1991	06:00:00	1971 *
28	1992-1993	473.428	18-08-1992	08:00:00	1882 *
29	1993-1994	472.128	18-10-1993	21:00:00	1304 *
30	1994-1995	474.353	30-06-1994	21:00:00	2365 *
31	1995-1996	471.028	24-07-1995	03:00:00	908 *
32	1996-1997	475.128	05-10-1996	02:00:00	2815 *
33	1997-1998	475.538	24-08-1997	17:00:00	3070 *
34	1998-1999	473.228	15-10-1998	18:00:00	1786 *
35	1999-2000	471.298	21-07-1999	18:00:00	997 *
36	2000-2001	468.868	09-06-2000	08:00:00	374 *
37	2001-2002	470.148	14-10-2001	15:00:00	651 *
38	2002-2003	471.368	17-10-2002	20:00:00	1021 *
39	2003-2004	469.118	18-05-2004	08:00:00	419 *
40	2004-2005	473.378	13-08-2004	02:00:00	1516 *
41	2005-2006	474.078	03-08-2005	07:00:00	1862 *
42	2006-2007	474.598	08-08-2006	18:00:00	2134 *
43	2007-2008	472.628	09-08-2007	00:00:00	1169 *
44	2008-2009	472.488	09-09-2008	14:00:00	1107 *
45	2009-2010	473.498	04-10-2009	15:00:00	1573 *
46	2010-2011	472.128	01-10-2010	21:00:00	952 *

47	2011-2012	474.328	04-09-2011	15:00:00	1991 *
48	2012-2013	469.158	13-09-2012	07:00:00	94 *
49	2013-2014	472.688	19-09-2013	01:00:00	1196 *
50	2014-2015	470.998	06-09-2014	20:00:00	503 *
51	2015-2016	469.028	24-06-2015	14:00:00	0 *
52	2016-2017	473.028	05-08-2016	04:00:00	1351 *
53	2017-2018	471.588	15-09-2017	10:00:00	730 *
54	2018-2019	471.628	23-08-2018	17:00:00	746 *
55	2019-2020	475.478	06-08-2019	22:00:00	2621 *
56	2020-2021	477.808	15-10-2020	22:00:00	4341 *
57	2021-2022	471.238	14-09-2021	23:00:00	571 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : Sarati (AKPA0C2)

Local River : Nira

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	Drybed	0.000	468.118	7.519	469.168	138.1 *	467.818	0.000	468.188	10.37	467.558	0.000
2		0.000	468.038	0.000	469.138	135.8	467.778	0.000	468.548	43.94 *	467.558	0.000
3		0.000	467.998	0.000	468.573	49.31	467.778	0.000	468.618	52.42 *	467.558	0.000
4		0.000	467.948	0.000	468.408	26.88	467.708	0.000	468.503	40.49	467.558	0.000
5	467.338	0.000	467.778	0.000	469.118	131.3	467.838	0.000	468.438	32.94	467.558	0.000
6	467.318	0.000	467.728	0.000	469.128	133.6	468.018	0.000	469.108	129.3	467.558	0.000
7	467.408	0.000	467.608	0.000	468.573	48.26	468.123	7.434	469.328	172.8	467.558	0.000
8	467.318	0.000	467.508	0.000	468.278	17.16 *	468.178	10.03	469.218	149.7	467.558	0.000
9	467.248	0.000	467.538	0.000	468.998	106.5	468.273	16.37	468.768	75.68	467.558	0.000
10	467.208	0.000	467.758	0.000	468.418	27.08	468.258	15.59 *	469.898	297.4 *	467.558	0.000
11	467.218	0.000	467.958	0.000	468.138	7.591	468.218	12.73	469.828	282.4	467.558	0.000
12	468.318	19.04	468.008	0.000	467.988	0.000	468.178	9.903 *	469.693	241.4	467.558	0.000
13	468.238	14.22	467.968	0.000	467.928	0.000	468.158	8.440	468.908	90.45	467.558	0.000
14	468.218	12.03	468.168	0.000	467.918	0.000	468.158	8.442	468.818	81.73	467.558	0.000
15	468.198	11.04	468.218	12.02	467.848	0.000	470.323	401.5	468.828	81.29 *	467.558	0.000
16	468.196	11.21	468.278	16.17	467.738	0.000	469.318	170.2	468.708	69.28	467.558	0.000
17	468.128	7.815	468.318	20.06	467.763	0.000	468.588	49.16	468.658	57.53 *	467.573	0.000
18	468.168	8.471	468.298	18.80 *	467.668	0.000	468.673	63.45	468.548	46.34	467.568	0.000
19	468.248	14.91	468.278	16.59	467.618	0.000	468.628	53.68 *	468.538	42.78 *	467.568	0.000
20	468.238	14.07 *	468.208	11.14	467.628	0.000	468.298	18.02	468.418	27.05	467.578	0.000
21	468.268	15.94	468.168	9.266 *	467.568	0.000	468.208	11.87	468.253	15.14	467.588	0.000
22	468.318	19.07	468.168	8.913	467.538	0.000	468.138	7.653	468.258	14.99	467.613	0.000
23	468.238	14.21	468.148	7.979	467.558	0.000	468.138	7.662	468.298	18.20	467.628	0.000
24	468.288	16.85	468.218	12.53	467.918	0.000	468.148	7.891	468.238	0.000	467.728	0.000
25	468.288	17.23	470.668	514.0 *	467.938	0.000	468.128	7.266	467.708	0.000	467.968	0.000
26	468.263	15.29	469.228	152.0	467.888	0.000	468.238	14.07 *	467.788	0.000	468.538	0.000
27	468.148	8.043 *	470.228	382.3	467.888	0.000	468.228	12.54	467.878	0.000	468.698	0.000
28	468.166	8.511	469.358	179.9	467.838	0.000	468.278	17.01	467.758	0.000	468.733	0.000
29	468.093	6.010	470.103	356.0	467.763	0.000	468.308	18.28	467.748	0.000	468.818	0.000
30	468.128	7.889	469.218	150.2	467.653	0.000	468.273	16.53	467.698	0.000	469.008	0.000
31			469.188	145.0	467.608	0.000			467.558	0.000		
<u>Ten-Daily Mean</u>												
I Ten-Daily	467.306	0.000	467.802	0.752	468.780	81.40	467.977	4.942	468.861	100.5	467.558	0.000
II Ten-Daily	468.217	11.28	468.170	9.477	467.823	0.759	468.654	79.55	468.894	102.0	467.564	0.000
III Ten-Daily	468.220	12.90	469.154	174.4	467.742	0.000	468.208	12.08	467.926	4.393	468.232	0.000
<u>Monthly</u>												
Min.	467.208	0.000	467.508	0.000	467.538	0.000	467.708	0.000	467.558	0.000	467.558	0.000
Max.	468.318	19.07	470.668	514.0	469.168	138.1	470.323	401.5	469.898	297.4	469.008	0.000
Mean	467.999	8.061	468.400	65.17	468.103	26.5	468.280	32.19	468.540	66.89	467.785	0

Annual Runoff in MCM = 529 Annual Runoff in mm = 73

Peak Observed Discharge = 401.5 cumecs on 15-09-2021 Corres. Water Level :470.323 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : Sarati (AKPA0C2)

Local River : Nira

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	469.088	0.000	469.178	0.000	469.098	0.000	467.958	0.000	467.438	0.000	466.128	0.000
2	469.168	0.000	469.148	0.000	469.098	0.000	467.958	0.000	467.438	0.000	466.128	0.000
3	469.138	0.000	469.128	0.000	469.098	0.000	467.958	0.000	467.418	0.000	466.128	0.000
4	469.138	0.000	469.128	0.000	469.121	0.000	467.958	0.000	467.408	0.000	466.128	0.000
5	469.128	0.000	469.128	0.000	469.078	0.000	467.958	0.000	467.378	0.000	466.128	0.000
6	469.208	0.000	469.128	0.000	469.008	0.000	467.868	0.000	467.368	0.000	466.128	0.000
7	469.428	0.000	469.128	0.000	468.938	0.000	467.788	0.000	467.368	0.000	466.128	0.000
8	469.408	0.000	469.128	0.000	468.928	0.000	467.728	0.000	467.368	0.000	466.128	0.000
9	469.398	0.000	469.128	0.000	468.888	0.000	467.668	0.000	467.368	0.000	466.128	0.000
10	469.388	0.000	469.108	0.000	468.858	0.000	467.608	0.000	467.368	0.000	466.128	0.000
11	469.368	0.000	469.048	0.000	468.808	0.000	467.578	0.000	467.368	0.000	466.128	0.000
12	469.358	0.000	468.958	0.000	468.728	0.000	467.568	0.000	467.308	0.000	466.128	0.000
13	469.348	0.000	468.838	0.000	468.698	0.000	467.568	0.000	466.128	0.000	466.128	0.000
14	469.328	0.000	468.678	0.000	468.638	0.000	467.558	0.000	466.128	0.000	466.128	0.000
15	469.318	0.000	468.548	0.000	468.568	0.000	467.558	0.000	466.128	0.000	466.128	0.000
16	469.308	0.000	468.448	0.000	468.548	0.000	467.558	0.000	466.128	0.000	466.128	0.000
17	469.298	0.000	468.378	0.000	468.498	0.000	467.558	0.000	466.128	0.000	466.128	0.000
18	469.298	0.000	468.338	0.000	468.448	0.000	467.558	0.000	466.128	0.000	466.128	0.000
19	469.288	0.000	468.498	0.000	468.368	0.000	467.558	0.000	466.128	0.000	466.128	0.000
20	469.268	0.000	469.168	0.000	468.308	0.000	467.558	0.000	466.128	0.000	466.128	0.000
21	469.238	0.000	469.168	0.000	468.228	0.000	467.558	0.000	466.128	0.000	466.128	0.000
22	469.218	0.000	469.158	0.000	468.168	0.000	467.538	0.000	466.128	0.000	466.128	0.000
23	469.198	0.000	469.158	0.000	468.128	0.000	467.508	0.000	466.128	0.000	466.128	0.000
24	469.198	0.000	469.158	0.000	468.098	0.000	467.488	0.000	466.128	0.000	466.128	0.000
25	469.198	0.000	469.158	0.000	468.028	0.000	467.488	0.000	466.128	0.000	466.128	0.000
26	469.198	0.000	469.138	0.000	467.998	0.000	467.488	0.000	466.128	0.000	466.128	0.000
27	469.198	0.000	469.138	0.000	467.958	0.000	467.488	0.000	466.128	0.000	466.128	0.000
28	469.198	0.000	469.128	0.000	467.958	0.000	467.488	0.000	466.128	0.000	466.128	0.000
29	469.198	0.000	469.128	0.000			467.458	0.000	466.128	0.000	466.128	0.000
30	469.198	0.000	469.108	0.000			467.458	0.000	466.128	0.000	466.128	0.000
31	469.198	0.000	469.098	0.000			467.458	0.000			466.128	0.000
<u>Ten-Daily Mean</u>												
I Ten-Daily	469.249	0.000	469.133	0.000	469.011	0.000	467.845	0.000	467.392	0.000	466.128	0.000
II Ten-Daily	469.318	0.000	468.690	0.000	468.561	0.000	467.562	0.000	466.370	0.000	466.128	0.000
III Ten-Daily	469.203	0.000	469.140	0.000	468.070	0.000	467.493	0.000	466.128	0.000	466.128	0.000
<u>Monthly</u>												
Min.	469.088	0.000	468.338	0.000	467.958	0.000	467.458	0.000	466.128	0.000	466.128	0.000
Max.	469.428	0.000	469.178	0.000	469.121	0.000	467.958	0.000	467.438	0.000	466.128	0.000
Mean	469.255	0	468.992	0	468.582	0	467.629	0	466.630	0	466.128	0

Peak Computed Discharge = 514.0 cumecs on 25-07-2021

Corres. Water Level :470.668 m

Lowest Computed Discharge = 8.043 cumecs on 27-06-2021

Corres. Water Level :468.148 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

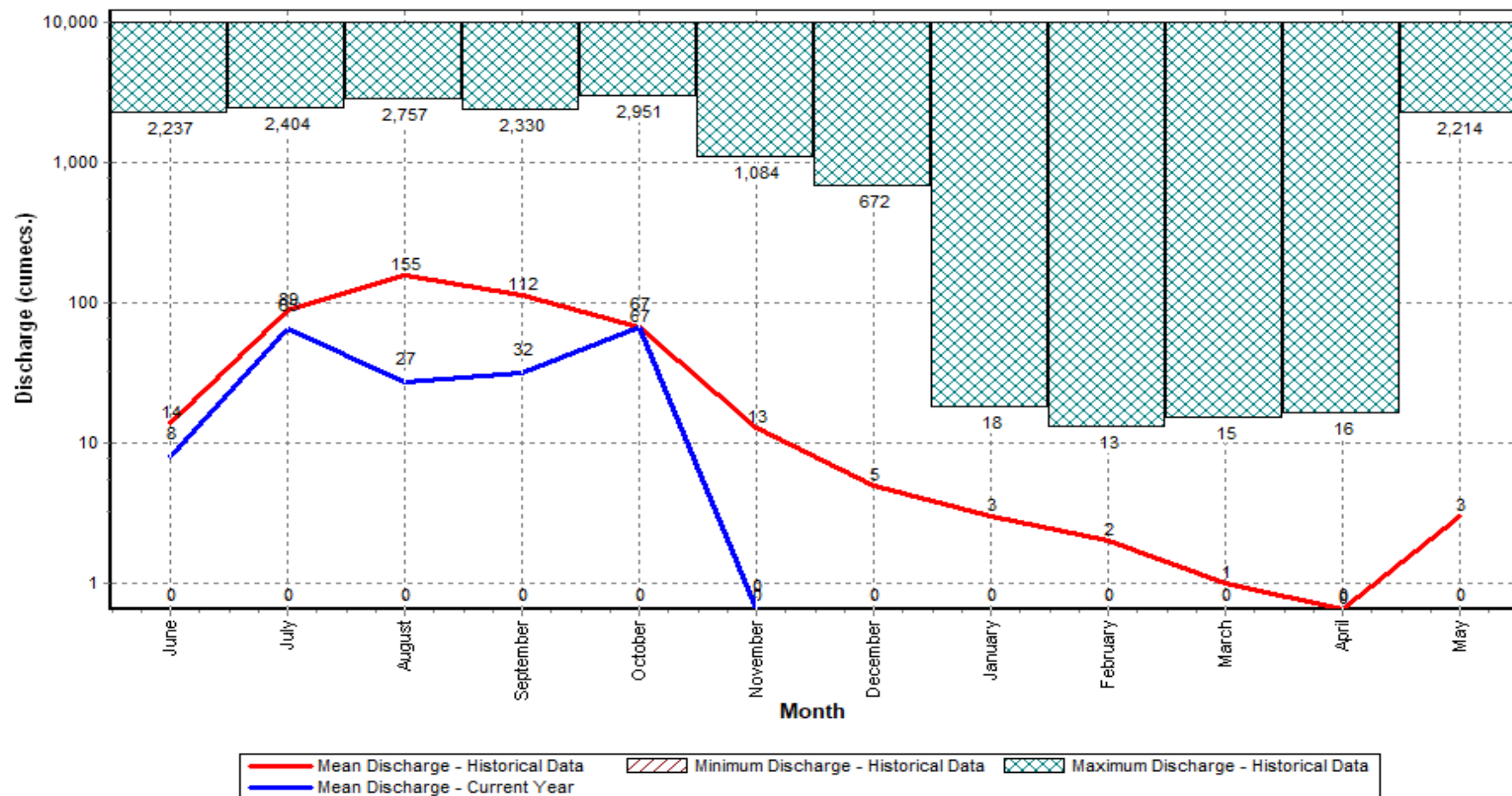
Station Name : Sarati (AKPA0C2)

Data considered : 1965-2022

Division : Upper Krishna Divn, Pune

Local River : Nira

Sub-Division : Lower Bhima SD, Sholapur



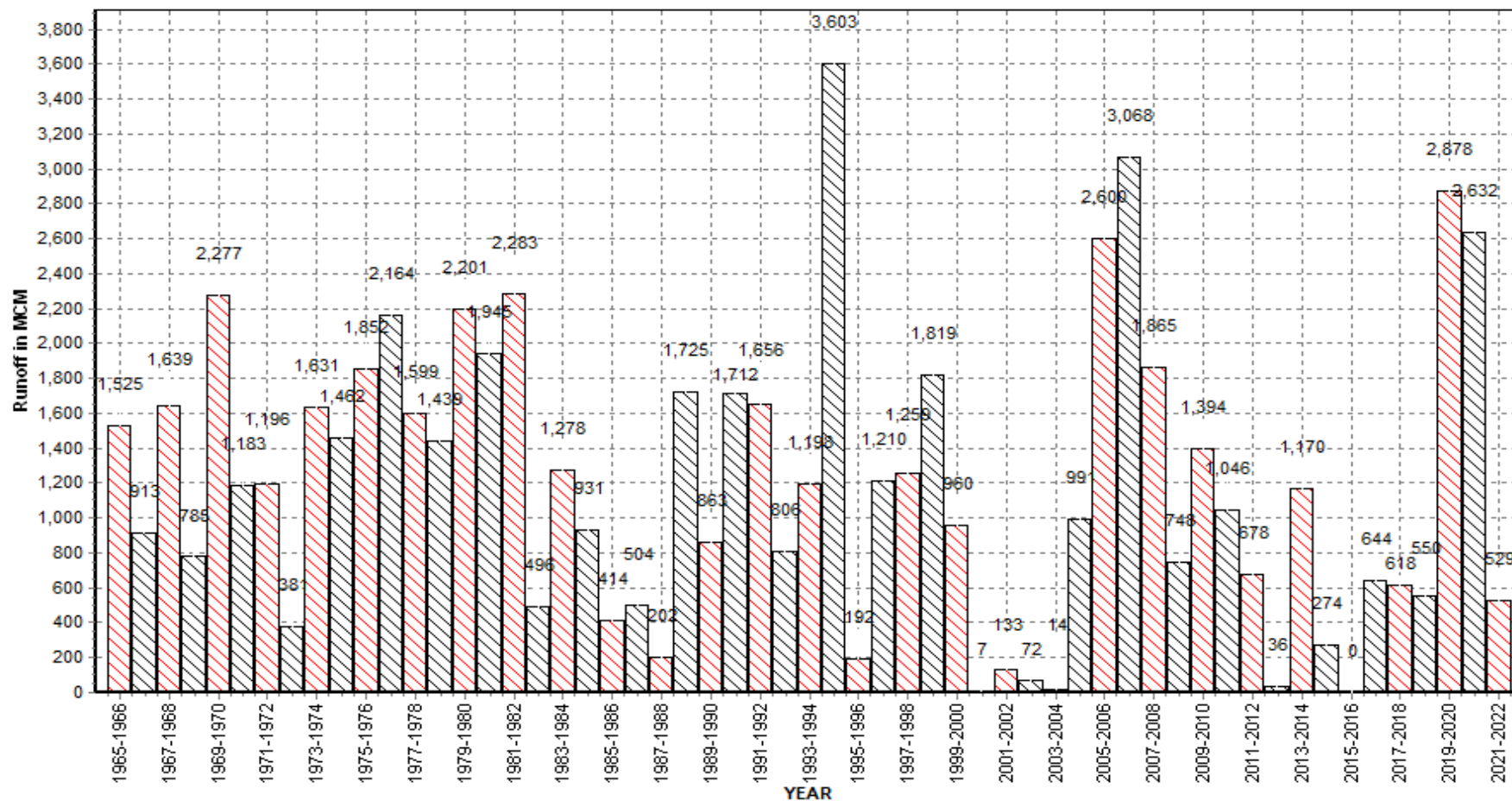
Annual Runoff Values for the period: 1965 - 2022

Station Name : Sarati (AKPA0C2)

Local River : Nira

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur



Note: Missing values have not been considered while arriving at Annual Runoff

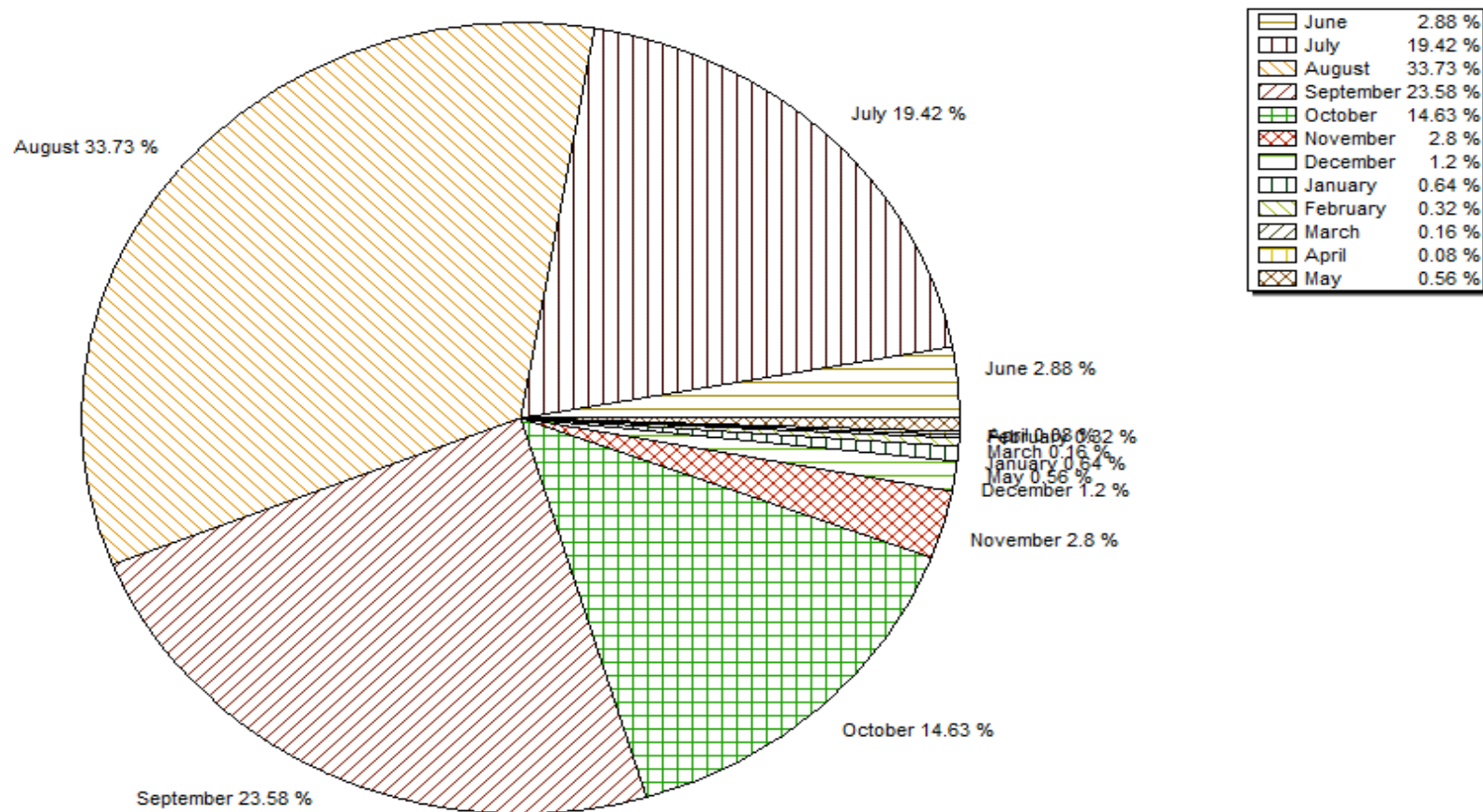
Monthly Average Runoff based on period : 1965-2021

Station Name : Sarati (AKPA0C2)

Local River : Nira

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur



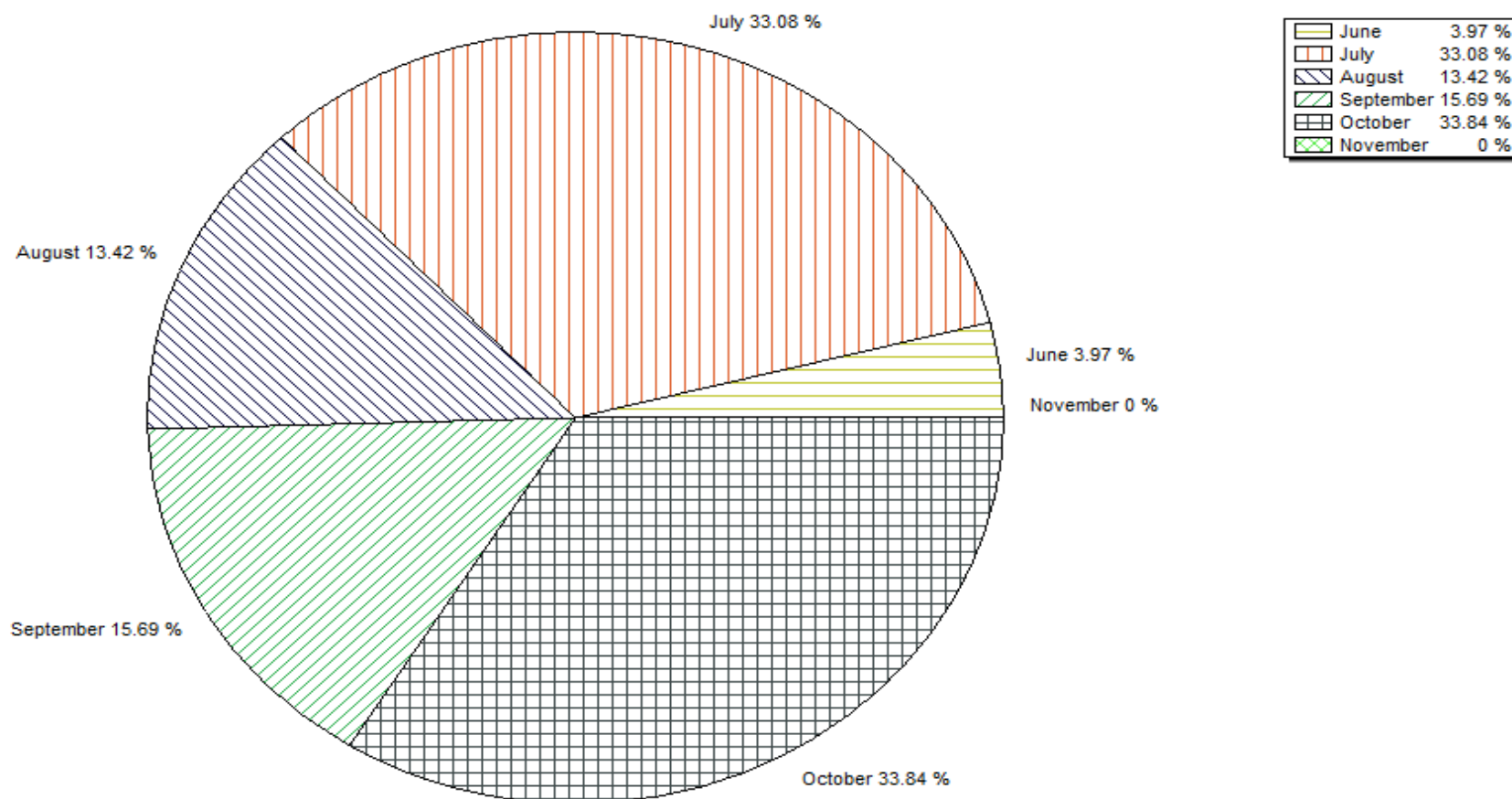
Monthly Runoff for the Year : 2021-2022

Station Name : Sarati (AKPA0C2)

Local River : Nira

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur

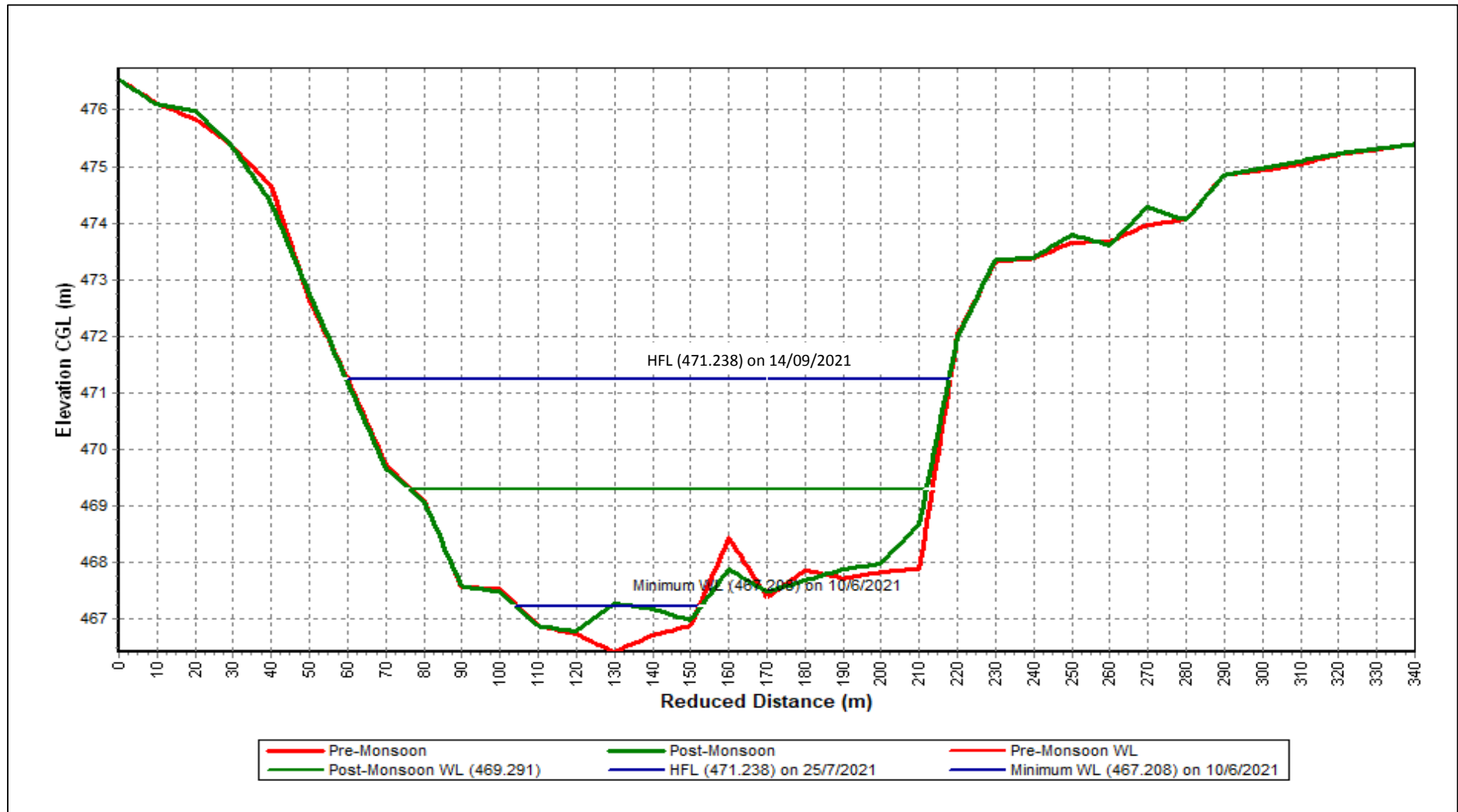


Station Name : Sarati (AKPA0C2)

Local River : Nira

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur



Zero of Gauge : 466.128 (m.s.l)

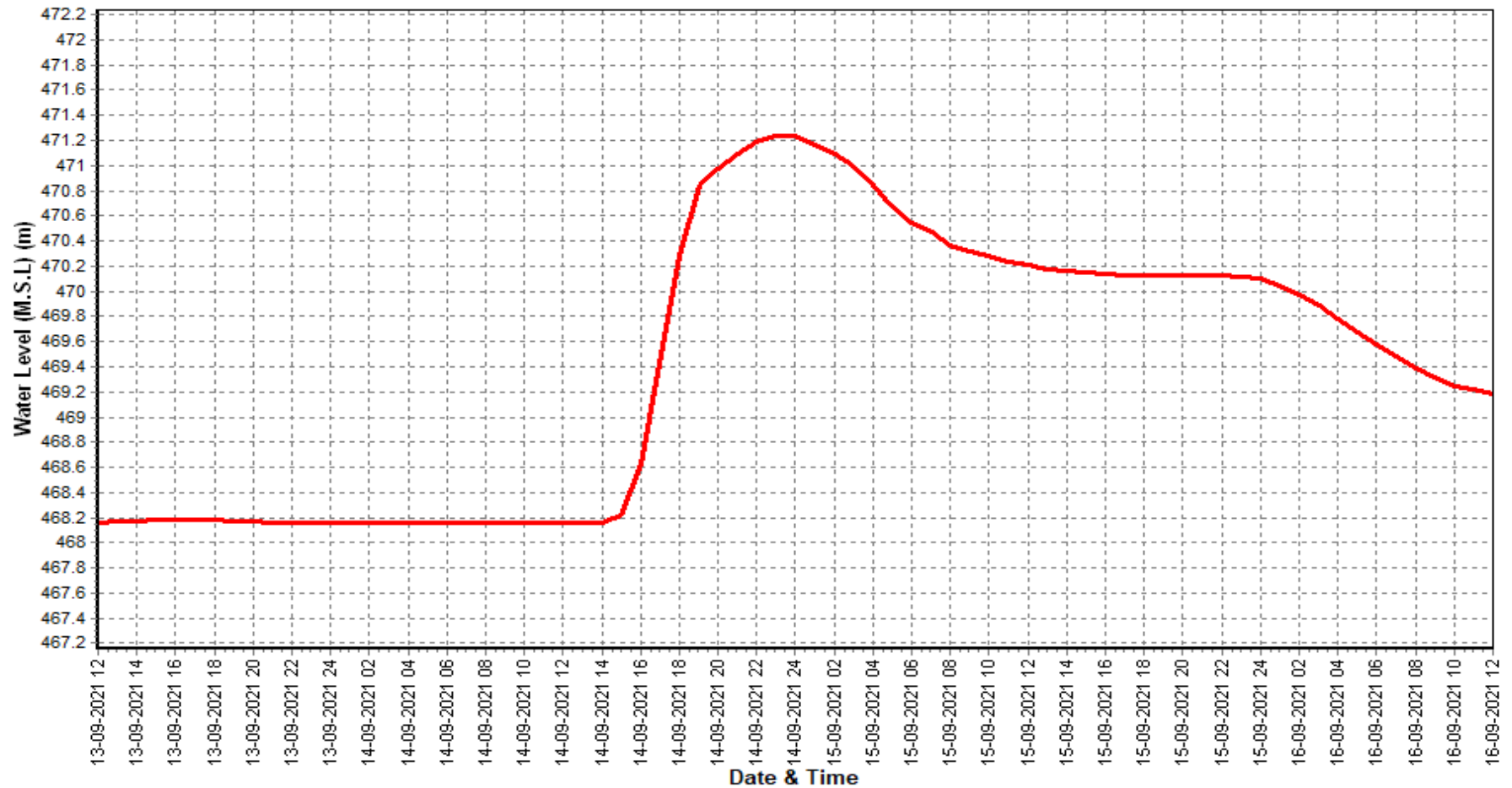
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Sarati (AKPA0C2)

Local River : Nira

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur



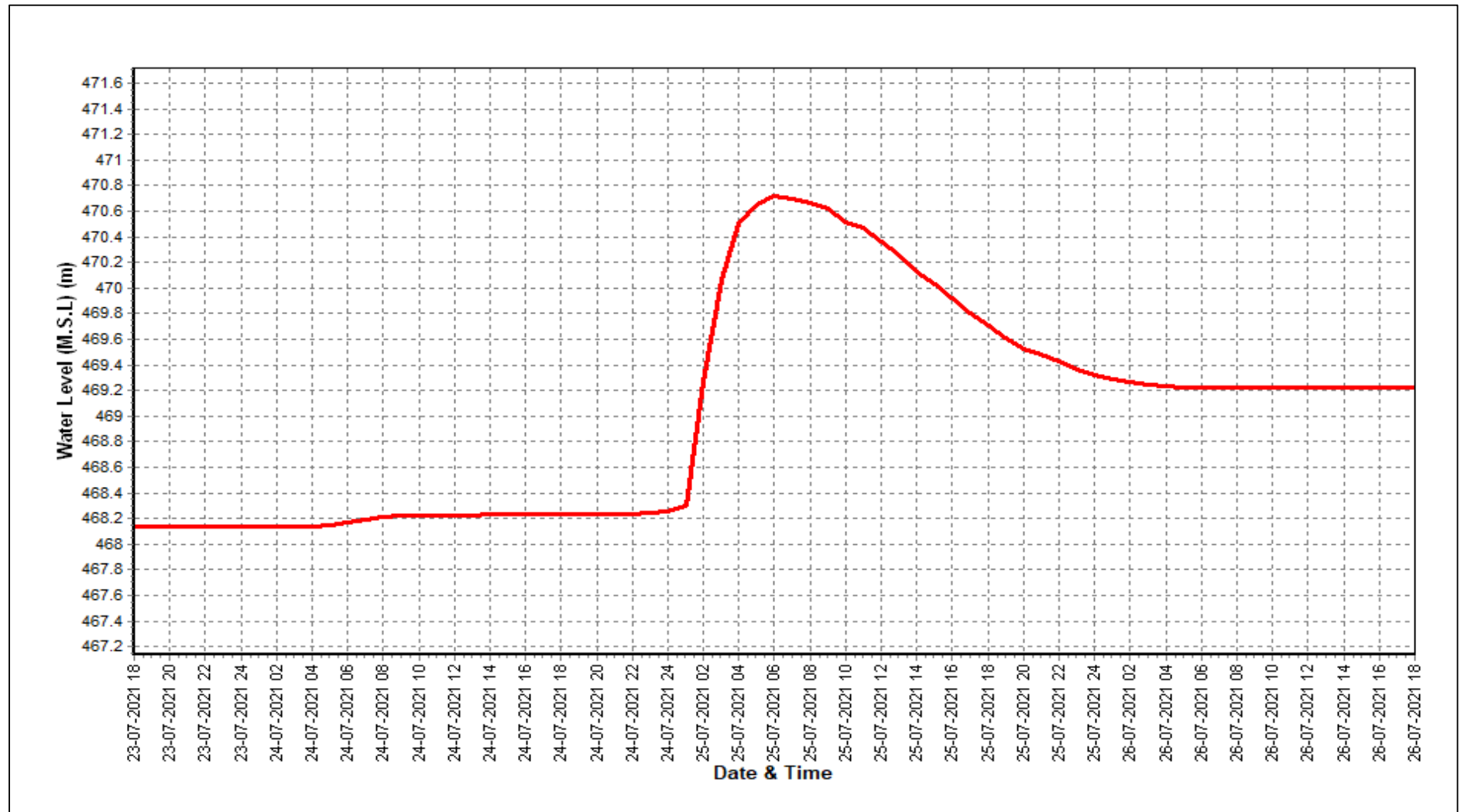
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Sarati (AKPA0C2)

Local River : Nira

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur



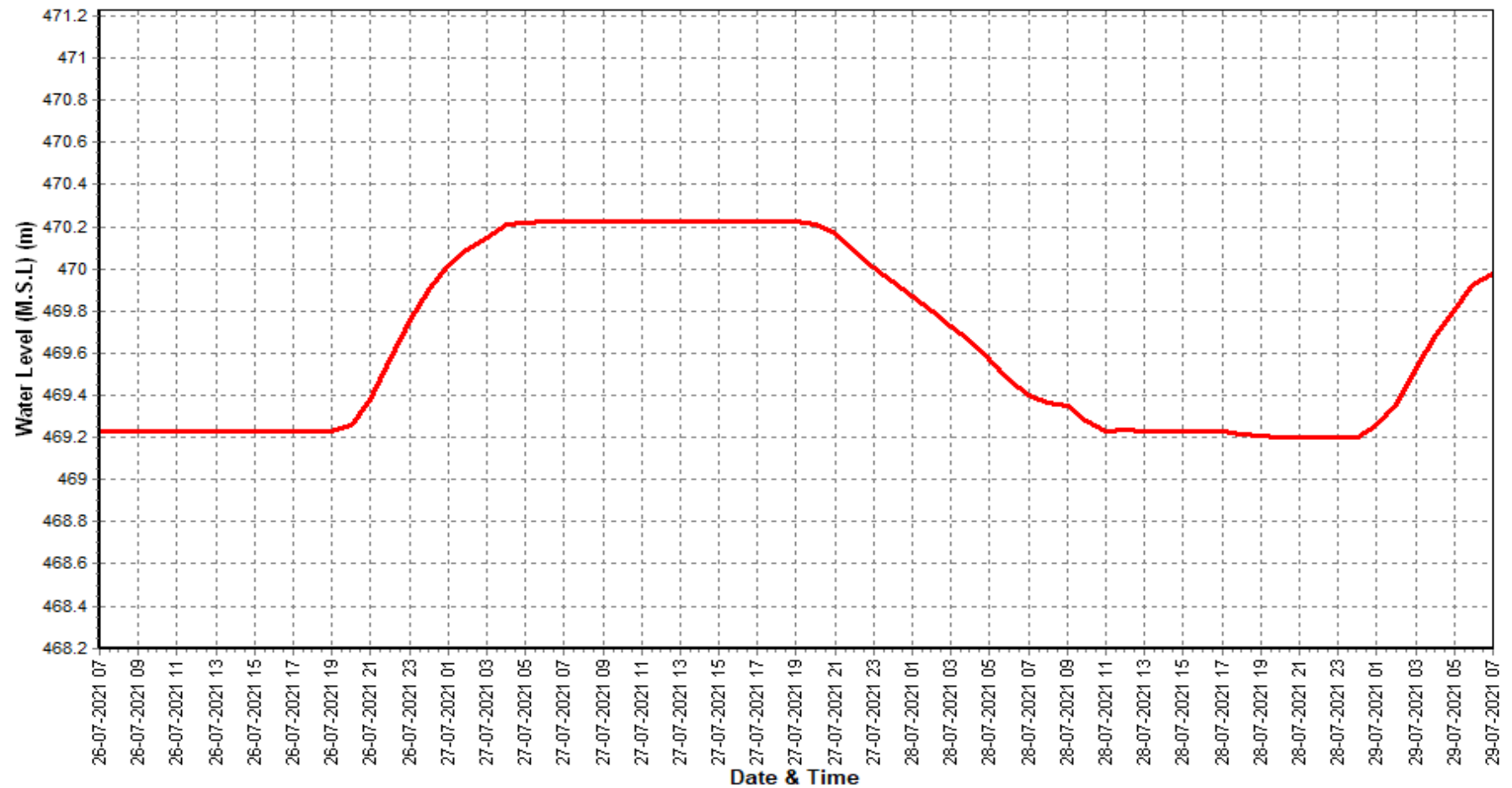
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Sarati (AKPA0C2)

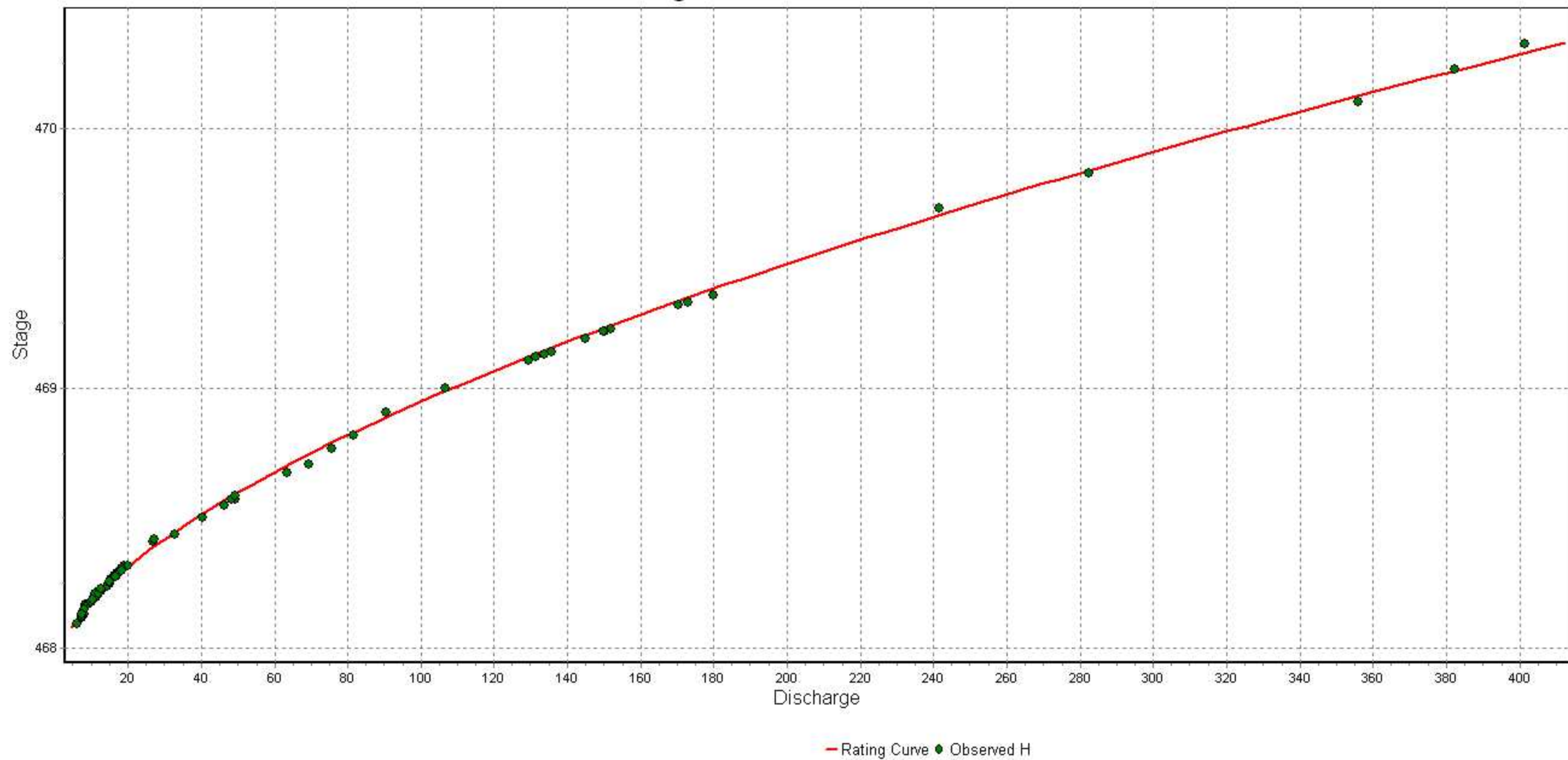
Local River : Nira

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur



Rating Curve of Site Sarati 2021



HISTORY SHEET

Water Year : 2021-2022

Site : Narasingpur

Code : AKP00Q4

State : Maharashtra

District : Sholapur

Basin : Krishna

Independent River : Krishna

Tributary : Bhima

Sub Tributary : -

Sub-Sub Tributary : -

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur

Drainage Area : 22856 Sq. Km.

Bank : Right

Latitude : 17°58'17"

Longitude : 75°08'21"

Zero of Gauge (m) : 448.243 (m.s.l)

01-06-1964

Opening Date

Closing Date

Gauge : 01-06-1964

HFL During 2020-21 : 451.763 m

Corres. Discharge : 1155 (Estimated)

Discharge : 22-02-1966

Date & Time of

occurrence : 16:00 Hrs

HFL Recorded so far in m : 462.393 dt 10-08-2006

Corresponding Discharge (cumecs) : 8010 *

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1967-1968	7150	461.498	30-07-1967	1.200	448.563	27-04-1968
1968-1969	3394	455.986	08-08-1968	0.100	448.398	09-05-1969
1969-1970	5988	459.908	02-08-1969	0.300	448.453	21-04-1970
1970-1971	2112	454.238	22-08-1970	0.200	448.333	29-04-1971
1971-1972	4570	457.731	01-09-1971	0.400	448.763	04-05-1972
1972-1973	4350	457.196	10-07-1972	0.000	448.443	16-03-1973
1973-1974	4255	457.156	10-07-1973	2.000	448.743	26-06-1973
1974-1975	1601	453.528	26-10-1974	4.100	448.503	22-06-1974
1975-1976	3967	457.244	16-08-1975	0.700	448.368	15-05-1976
1976-1977	6177	460.218	03-08-1976	0.100	448.573	07-04-1977
1977-1978	2422	454.326	30-07-1977	1.700	448.458	30-03-1978
1978-1979	2470	455.200	03-09-1978	0.000	448.213	19-04-1979
1979-1980	3693	457.108	12-08-1979	0.700	448.658	17-03-1980
1980-1981	3590	456.872	06-07-1980	1.200	448.850	01-03-1981
1981-1982	5810	459.693	11-07-1981	0.500	448.843	03-03-1982
1982-1983	2665	454.821	24-08-1982	0.600	448.583	04-03-1983
1983-1984	6180	460.181	17-08-1983	2.100	448.723	10-06-1983
1984-1985	3220	456.458	20-07-1984	2.000	449.053	27-11-1984
1985-1986	2509	455.381	03-08-1985	0.500	449.043	25-10-1985
1986-1987	2478	455.318	11-08-1986	0.000	448.738	26-02-1987

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1987-1988	726.2	451.763	18-10-1987	0.000	448.838	19-03-1988
1988-1989	3192	456.256	18-09-1988	0.000	448.878	02-03-1989
1989-1990	2998	455.941	28-07-1989	0.000	449.103	23-01-1990
1990-1991	4225	457.066	18-08-1990	0.000	448.983	19-03-1991
1991-1992	4360	457.632	29-07-1991	0.000	449.148	26-01-1992
1992-1993	1824	453.862	07-09-1992	0.000	448.988	25-01-1993
1993-1994	2392	454.510	30-07-1993	0.000		25-03-1994
1994-1995	7290	461.433	16-07-1994	0.000	449.128	25-01-1995
1995-1996	515.1	450.913	24-07-1995	0.000	448.853	26-01-1996
1996-1997	4560	457.473	05-10-1996	0.000	448.843	25-01-1997
1997-1998	7450	462.043	26-08-1997	0.000	449.393	25-01-1998
1998-1999	3446	456.593	13-10-1998	0.000	449.433	25-01-1999
1999-2000	1581	452.963	30-07-1999	0.000	449.143	28-11-1999
2000-2001	152.2	450.323	28-11-2000	0.000	448.813	30-12-2000
2001-2002	350	450.693	26-03-2002	0.000	448.533	16-01-2002
2002-2003	450	451.213	17-10-2002	0.000	448.833	07-01-2003
2003-2004	148.4	450.408	22-12-2003	0.000		15-01-2004
2004-2005	1606	453.598	13-08-2004	0.000	448.463	09-12-2004
2005-2006	7319	461.793	04-08-2005	0.000	448.933	07-01-2006
2006-2007	8002	462.383	10-08-2006	0.000	448.973	06-01-2007
2007-2008	2533	454.713	10-08-2007	0.000	449.113	20-01-2008
2008-2009	2853	455.643	21-09-2008	0.000	448.883	14-01-2009
2009-2010	1627	453.493	18-11-2009	0.000	449.423	11-12-2009
2010-2011	1321	452.903	01-10-2010	0.000	449.243	18-01-2011
2011-2012	4698	457.733	05-09-2011	0.000	449.843	25-02-2012
2012-2013	128.9	450.110	20-08-2012	0.000	449.560	28-08-2012
2013-2014	3125	456.081	20-09-2013	0.000	449.423	02-01-2014
2014-2015	1193	451.943	07-09-2014	0.000	449.303	10-07-2014
2015-2016	119.3	450.043	20-07-2015	0.000	448.658	24-11-2015
2016-2017	1432	452.323	05-08-2016	0.000	448.313	23-01-2017
2017-2018	2629	454.403	15-09-2017	0.000		16-12-2017
2018-2019	1042	451.733	28-08-2018	0.000	448.233	14-01-2019
2019-2020	7050	461.323	07-08-2019	0.000	449.563	17-02-2020
2020-2021	9017	461.693	15-10-2020	0.000	448.793	14-03-2021

Annual Runoff of Bhmia at Narsingpur

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1966-1967		110	110		4	4
2	1967-1968	6443	260	6703	228	9	237
3	1968-1969	5032	98	5131	178	3	181
4	1969-1970	10301	133	10434	364	5	369
5	1970-1971	6263	161	6424	221	6	227
6	1971-1972	7265	115	7380	257	4	261
7	1972-1973	3059	49	3108	108	2	110
8	1973-1974	8010	194	8204	283	7	290
9	1974-1975	5581	333	5914	197	12	209
10	1975-1976	7731	280	8010	273	10	283
11	1976-1977	10466	213	10679	370	8	377
12	1977-1978	5356	709	6065	189	25	214
13	1978-1979	5923	163	6087	209	6	215
14	1979-1980	6627	463	7090	234	16	251
15	1980-1981	7307	140	7446	258	5	263
16	1981-1982	7596	202	7799	268	7	276
17	1982-1983	2520	115	2635	89	4	93
18	1983-1984	6407	244	6651	226	9	235
19	1984-1985	4791	242	5034	169	9	178
20	1985-1986	2400	158	2558	85	6	90
21	1986-1987	2383	12	2395	84	0	85
22	1987-1988	289	51	340	10	2	12
23	1988-1989	5854	10	5863	207	0	207
24	1989-1990	3713	3	3716	131	0	131
25	1990-1991	8495	14	8509	300	0	301
26	1991-1992	7395	0	7395	261	0	261
27	1992-1993	1988	0	1988	70	0	70
28	1993-1994	4083	132	4215	144	5	149
29	1994-1995	11618	0	11618	411	0	411
30	1995-1996	447	0	447	16	0	16
31	1996-1997	3627	0	3627	128	0	128
32	1997-1998	4661	0	4661	165	0	165
33	1998-1999	5436	0	5436	192	0	192
34	1999-2000	3049	87	3136	108	3	111
35	2000-2001	130	243	372	5	9	13
36	2001-2002	221	125	346	8	4	12
37	2002-2003	205	196	401	7	7	14
38	2003-2004	106	204	310	4	7	11
39	2004-2005	1573	360	1933	56	13	68
40	2005-2006	10141	307	10448	358	11	369
41	2006-2007	11393	172	11565	403	6	409
42	2007-2008	4562	211	4773	161	7	169
43	2008-2009	2449	365	2814	87	13	99

44	2009-2010	1380	157	1537	49	6	54
45	2010-2011	1772	85	1857	63	3	66
46	2011-2012	2055	0	2055	73	0	73
47	2012-2013	65	0	65	2	0	2
48	2013-2014	1964	0	1964	69	0	69
49	2014-2015	993	0	993	35	0	35
50	2015-2016	10	53	63	0	2	2
51	2016-2017	957	376	1333	34	13	47
52	2017-2018	3102	167	3269	110	6	116
53	2018-2019	1017	157	1173	36	6	41
54	2019-2020	7670	0	7670	271	0	271
55	2020-2021	5817	0	5817	206	0	206
56	2021-2022	793	0	793	28	0	28
Average		4373	141	4477	155	5	157

Instantaneous Flood Peak of Krishna at Narsingpur

Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	1966-1967	457.238	04-12-1966	18:00:00	4016.14 *
2	1967-1968	461.588	30-07-1967	03:00:00	7324.48 *
3	1968-1969	456.078	08-08-1968	06:00:00	3246.09 *
4	1969-1970	459.393	02-08-1969	06:00:00	5572.08 *
5	1970-1971	454.433	22-08-1970	11:00:00	2235.06 *
6	1971-1972	457.859	31-08-1971	23:00:00	4447.64 *
7	1972-1973	457.208	10-07-1972	10:00:00	3995.63 *
8	1973-1974	457.173	10-07-1973	09:00:00	3971.74 *
9	1974-1975	454.248	26-10-1974	18:00:00	2127.29 *
10	1975-1976	457.263	16-08-1975	10:00:00	4033.25 *
11	1976-1977	461.118	03-08-1976	00:00:00	6935.02 *
12	1977-1978	454.543	30-07-1977	01:00:00	2299.70 *
13	1978-1979	455.273	03-09-1978	03:00:00	2739.46 *
14	1979-1980	457.923	12-08-1979	21:00:00	4493.04 *
15	1980-1981	457.773	06-07-1980	22:00:00	4387.21 *
16	1981-1982	459.708	11-07-1981	07:00:00	5813.17 *
17	1982-1983	455.348	24-08-1982	00:00:00	2785.69 *
18	1983-1984	460.713	17-08-1983	19:00:00	6605.64 *
19	1984-1985	456.458	20-07-1984	08:00:00	3493.15
20	1985-1986	455.663	03-08-1985	14:00:00	2982.06 *
21	1986-1987	455.318	11-08-1986	06:00:00	2767.17 *
22	1987-1988	451.768	18-10-1987	09:00:00	798.71 *
23	1988-1989	456.773	18-09-1988	02:00:00	3701.79 *
24	1989-1990	456.273	28-07-1989	02:00:00	3372.24 *
25	1990-1991	457.653	18-08-1990	23:00:00	4303.09 *
26	1991-1992	458.023	29-07-1991	13:00:00	4564.05 *
27	1992-1993	454.863	07-09-1992	06:00:00	2490.17 *
28	1993-1994	454.743	30-07-1993	21:00:00	2418.33 *
29	1994-1995	461.433	16-07-1994	19:00:00	7195.18 *
30	1995-1996	451.223	24-07-1995	22:00:00	535.67 *
31	1996-1997	458.113	05-10-1996	06:00:00	4628.25 *
32	1997-1998	462.163	26-08-1997	00:00:00	7811.47 *
33	1998-1999	457.163	13-10-1998	02:00:00	3964.91 *
34	1999-2000	453.018	30-07-1999	05:00:00	1441.38 *
35	2000-2001	450.383	28-11-2000	18:00:00	150.68 *
36	2001-2002	451.043	26-03-2002	16:00:00	451.09 *
37	2002-2003	451.213	17-10-2002	08:00:00	530.95
38	2003-2004	450.723	22-12-2003	21:00:00	303.52 *
39	2004-2005	453.603	13-08-2004	10:00:00	1760.98 *
40	2005-2006	461.923	04-08-2005	02:00:00	7606.79 *
41	2006-2007	462.393	10-08-2006	11:00:00	8009.53 *
42	2007-2008	455.093	10-08-2007	15:00:00	2629.28 *

Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
43	2008-2009	455.883	21-09-2008	00:00:00	3121.27 *
44	2009-2010	453.493	18-11-2009	08:00:00	1699.97 *
45	2010-2011	452.923	01-10-2010	09:00:00	1390.61 *
46	2011-2012	457.943	05-09-2011	14:00:00	4507.21 *
47	2012-2013	451.483	20-08-2012	08:00:00	659.86 *
48	2013-2014	456.118	20-09-2013	09:00:00	3271.86 *
49	2014-2015	451.943	07-09-2014	07:00:00	885.37 *
50	2015-2016	451.073	20-07-2015	08:00:00	465.11
51	2016-2017	452.323	05-08-2016	08:00:00	1077.28 *
52	2017-2018	454.933	15-09-2017	22:00:00	2532.32 *
53	2018-2019	451.733	28-08-2018	08:00:00	781.50 *
54	2019-2020	461.353	07-08-2019	08:00:00	7128.77 *
55	2020-2021	461.833	07-08-2020	08:00:00	7564.00 *
56	2021-2022	451.763	11-10-2021	16:00:00	1155.00 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : Narasingpur (AKP00Q4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	448.693	0.000	448.113	0.000	448.913	167.4 *	447.848	0.000	448.203	27.26	448.953	0.000
2	448.643	0.000	448.093	0.000	448.913	180.3	447.843	0.000	448.293	28.16 *	448.948	0.000
3	448.638	0.000	448.058	0.000	448.573	70.28	447.833	0.000	448.533	75.68 *	448.933	0.000
4	448.633	0.000	448.043	0.000	448.318	31.07	447.808	0.000	448.518	69.46	448.923	0.000
5	448.633	0.000	448.003	0.000	448.293	27.51	447.783	0.000	448.413	56.79	448.918	0.000
6	448.628	0.000	447.923	0.000	448.883	170.2	447.783	0.000	448.623	108.6	448.913	0.000
7	448.633	0.000	447.803	0.000	448.573	68.37	447.793	0.000	449.163	250.2	448.893	0.000
8	448.633	0.000	447.753	0.000	448.273	24.74 *	447.943	0.000	449.173	251.7	448.883	0.000
9	448.623	0.000	447.753	0.000	448.803	146.9	448.173	9.385 #	448.633	109.5	448.878	0.000
10	448.628	0.000	447.833	0.000	448.428	56.23	448.193	12.18 *	450.083	523.9 *	448.868	0.000
11	448.633	0.000	448.063	0.000	448.103	0.000	448.153	6.775 #	451.668	1179	448.853	0.000
12	448.643	0.000	448.028	0.000	447.998	0.000	448.143	5.547 *	450.873	742.4	448.838	0.000
13	448.643	0.000	447.993	0.000	447.893	0.000	448.088	3.256 #	449.823	382.2	448.823	0.000
14	448.643	0.000	448.158	0.000	447.888	0.000	448.073	2.565 #	448.963	189.5	448.808	0.000
15	448.648	0.000	448.298	28.15	447.878	0.000	450.413	566.5	448.873	157.0 *	448.793	0.000
16	448.648	0.000	448.343	34.14	447.863	0.000	449.463	295.3	448.783	155.7	448.763	0.000
17	448.703	0.000	448.353	34.52	447.863	0.000	448.533	82.98	448.993	188.7 *	448.738	0.000
18	448.718	0.000	448.348	38.08 *	447.853	0.000	448.553	83.40	449.033	222.8	448.718	0.000
19	448.728	0.000	448.308	28.31	447.848	0.000	448.693	112.3 *	448.733	121.9 *	448.693	0.000
20	448.733	0.000	448.293	27.89	447.838	0.000	448.248	20.60	448.453	58.55	448.668	0.000
21	448.523	0.000	448.223	0.000	447.828	0.000	448.113	3.200	448.408	29.65	448.638	0.000
22	448.358	0.000	448.213	0.000	447.823	0.000	448.033	3.120	448.323	20.40	448.613	0.000
23	448.348	0.000	448.193	0.000	447.818	0.000	448.033	3.012	448.453	0.000	448.613	0.000
24	448.343	0.000	448.178	0.000	447.818	0.000	448.033	3.024	448.598	0.000	448.673	0.000
25	448.338	0.000	449.543	348.3 *	447.808	0.000	448.023	10.14	448.683	0.000	448.758	0.000
26	448.333	0.000	449.023	206.5	447.863	0.000	448.123	3.278 *	448.788	0.000	448.778	0.000
27	448.333	0.000	449.793	388.6	447.863	0.000	448.133	14.52	448.863	0.000	448.783	0.000
28	448.268	0.000	449.318	269.3	447.823	0.000	448.153	18.88	448.868	0.000	448.788	0.000
29	448.248	0.000	449.253	262.0	447.818	0.000	448.223	28.03	448.903	0.000	448.788	0.000
30	448.128	0.000	448.963	190.8	447.813	0.000	448.208	27.43	448.923	0.000	448.783	0.000
31			448.913	179.1	447.843	0.000			448.938	0.000		
Ten-Daily Mean												
I Ten-Daily	448.639	0.000	447.938	0.000	448.597	94.31	447.900	2.156	448.764	150.1	448.911	0.000
II Ten-Daily	448.674	0.000	448.219	19.11	447.902	0.000	448.636	117.9	449.419	339.7	448.770	0.000
III Ten-Daily	448.322	0.000	448.874	167.7	447.829	0.000	448.108	11.46	448.704	4.550	448.722	0.000
Monthly												
Min.	448.128	0.000	447.753	0.000	447.808	0.000	447.783	0.000	448.203	0.000	448.613	0.000
Max.	448.733	0.000	449.793	388.6	448.913	180.3	450.413	566.5	451.668	1179	448.953	0.000
Mean	448.545	0	448.360	65.67	448.100	30.42	448.215	43.85	448.954	159.6	448.801	0

Annual Runoff in MCM = 799 Annual Runoff in mm = 35

Peak Observed Discharge = 1179 cumecs on 11-10-2021 Corres. Water Level :451.668 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021 Corres. Water Level :448.693 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : Narasingpur (AKP00Q4)

Division : Upper Krishna Divn, Pune

Local River : Bhima

Sub-Division : Lower Bhima SD, Sholapur

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	448.773	0.000	449.493	0.000	448.898	0.000	448.143	0.000	448.453	0.000	449.373	0.000
2	448.783	0.000	449.478	0.000	448.903	0.000	448.113	0.000	448.383	0.000	449.273	0.000
3	448.863	0.000	449.463	0.000	448.903	0.000	448.088	0.000	448.313	0.000	449.163	0.000
4	448.983	0.000	449.423	0.000	448.893	0.000	448.058	0.000	448.243	0.000	449.053	0.000
5	449.193	0.000	449.383	0.000	448.883	0.000	448.033	0.000	448.163	0.000	448.943	0.000
6	449.353	0.000	449.343	0.000	448.868	0.000	448.023	0.000	448.093	0.000	448.833	0.000
7	449.483	0.000	449.323	0.000	448.853	0.000	449.643	0.000	448.023	0.000	448.758	0.000
8	449.803	0.000	449.303	0.000	448.833	0.000	449.723	0.000	447.943	0.000	448.743	0.000
9	449.803	0.000	449.283	0.000	448.843	0.000	449.723	0.000	447.893	0.000	448.733	0.000
10	449.773	0.000	449.273	0.000	448.863	0.000	449.723	0.000	447.853	0.000	448.723	0.000
11	449.753	0.000	449.243	0.000	448.853	0.000	449.723	0.000	447.803	0.000	448.713	0.000
12	449.733	0.000	449.213	0.000	448.833	0.000	449.723	0.000	447.773	0.000	448.698	0.000
13	449.723	0.000	449.183	0.000	448.823	0.000	449.723	0.000	447.748	0.000	448.688	0.000
14	449.723	0.000	449.163	0.000	448.793	0.000	449.723	0.000	447.723	0.000	448.673	0.000
15	449.723	0.000	449.133	0.000	448.733	0.000	449.723	0.000	447.708	0.000	448.653	0.000
16	449.643	0.000	449.103	0.000	448.653	0.000	449.723	0.000	447.698	0.000	448.623	0.000
17	449.633	0.000	449.073	0.000	448.588	0.000	449.243	0.000	447.688	0.000	448.593	0.000
18	449.613	0.000	449.053	0.000	448.538	0.000	449.233	0.000	449.743	0.000	448.553	0.000
19	449.603	0.000	449.033	0.000	448.523	0.000	449.223	0.000	449.883	0.000	448.513	0.000
20	449.583	0.000	449.008	0.000	448.503	0.000	449.213	0.000	449.883	0.000	448.488	0.000
21	449.583	0.000	448.983	0.000	448.473	0.000	449.198	0.000	449.883	0.000	448.473	0.000
22	449.583	0.000	449.003	0.000	448.463	0.000	449.183	0.000	449.883	0.000	448.453	0.000
23	449.573	0.000	448.893	0.000	448.413	0.000	449.153	0.000	449.883	0.000	448.433	0.000
24	449.563	0.000	448.858	0.000	448.363	0.000	449.103	0.000	449.883	0.000	448.373	0.000
25	449.553	0.000	448.823	0.000	448.313	0.000	449.043	0.000	449.883	0.000	448.283	0.000
26	449.543	0.000	448.793	0.000	448.273	0.000	448.963	0.000	449.883	0.000	448.183	0.000
27	449.533	0.000	448.763	0.000	448.208	0.000	448.843	0.000	449.743	0.000	448.068	0.000
28	449.528	0.000	448.773	0.000	448.173	0.000	448.763	0.000	449.583	0.000	447.993	0.000
29	449.518	0.000	448.853	0.000			448.683	0.000	449.513	0.000	447.913	0.000
30	449.513	0.000	448.893	0.000			448.608	0.000	449.443	0.000	447.868	0.000
31	449.503	0.000	448.893	0.000			448.533	0.000			447.818	0.000
<u>Ten-Daily Mean</u>												
I Ten-Daily	449.281	0.000	449.377	0.000	448.874	0.000	448.727	0.000	448.136	0.000	448.960	0.000
II Ten-Daily	449.673	0.000	449.121	0.000	448.684	0.000	449.525	0.000	448.365	0.000	448.619	0.000
III Ten-Daily	449.545	0.000	448.866	0.000	448.335	0.000	448.916	0.000	449.758	0.000	448.169	0.000
<u>Monthly</u>												
Min.	448.773	0.000	448.763	0.000	448.173	0.000	448.023	0.000	447.688	0.000	447.818	0.000
Max.	449.803	0.000	449.493	0.000	448.903	0.000	449.723	0.000	449.883	0.000	449.373	0.000
Mean	449.501	0	449.113	0	448.652	0	449.051	0	448.753	0	448.569	0

Peak Computed Discharge = 523.9 cumecs on 10-10-2021

Corres. Water Level :450.083 m

Lowest Computed Discharge = 3.278 cumecs on 26-09-2021

Corres. Water Level :448.123 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

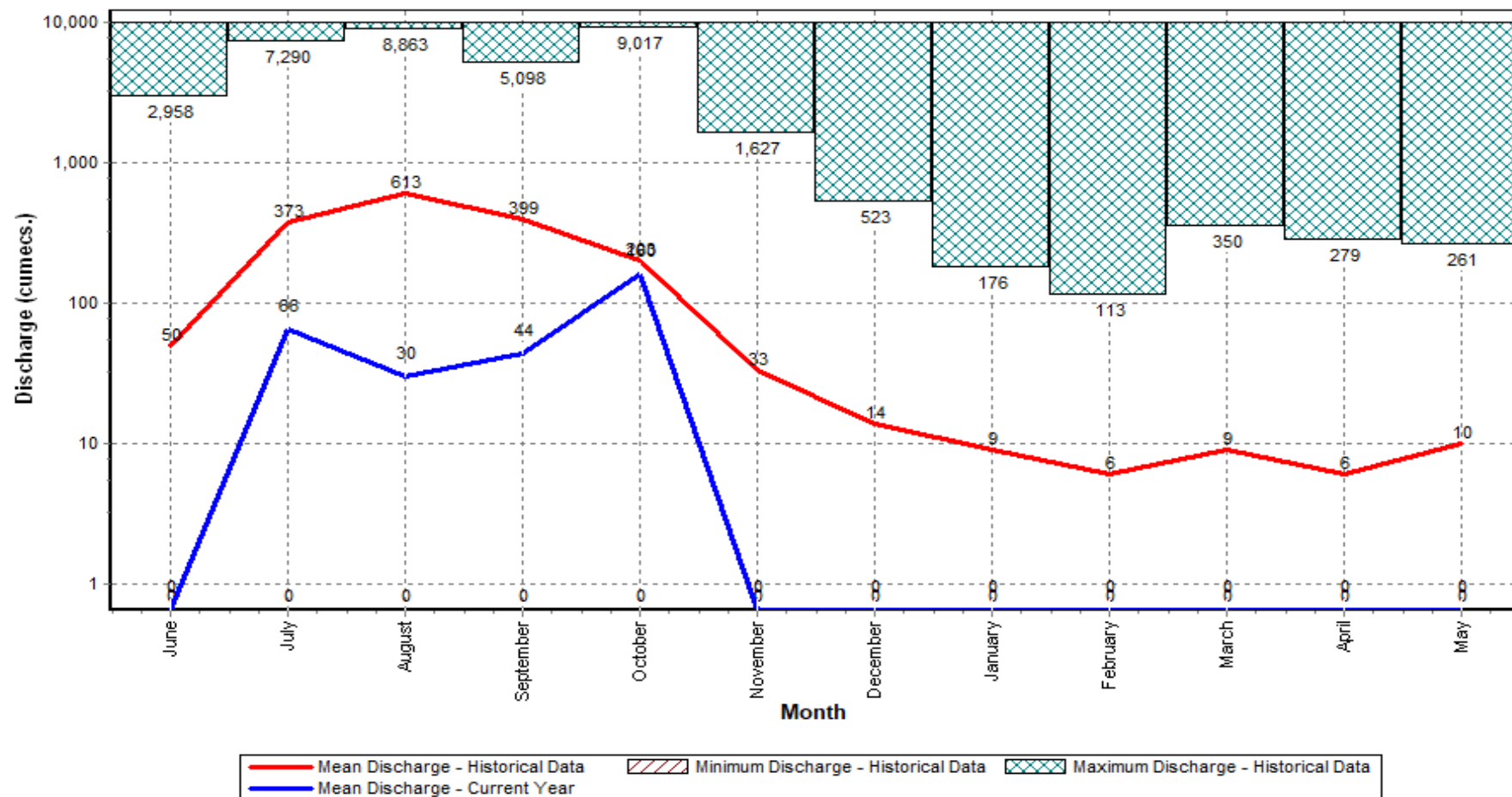
Station Name : Narasingpur (AKP00Q4)

Data considered : 1967-2022

Division : Upper Krishna Divn, Pune

Local River : Bhima

Sub-Division : Lower Bhima SD, Sholapur



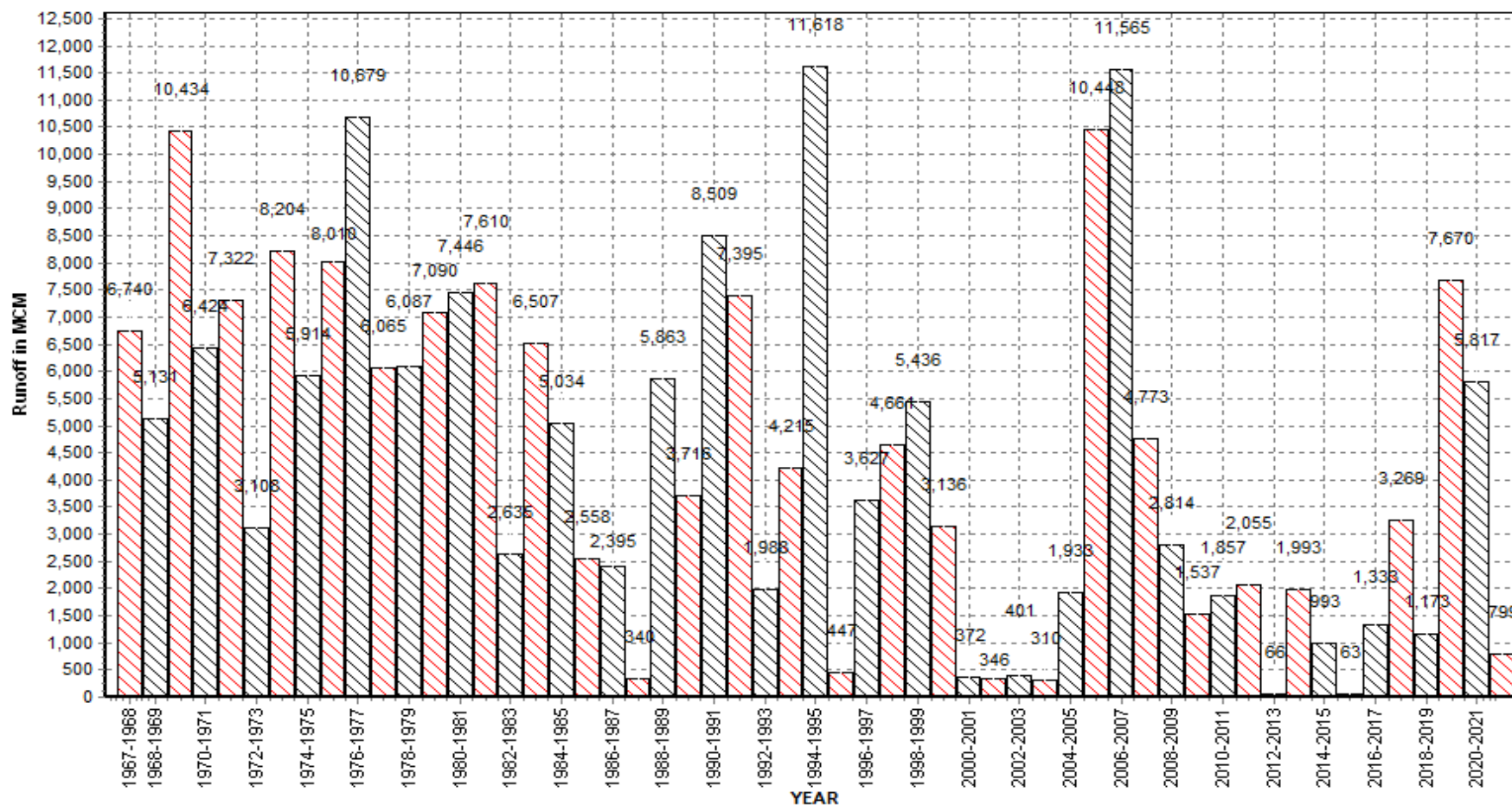
Annual Runoff Values for the period: 1967 - 2022

Station Name : Narasingpur (AKP00Q4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur



Note: Missing values have not been considered while arriving at Annual Runoff

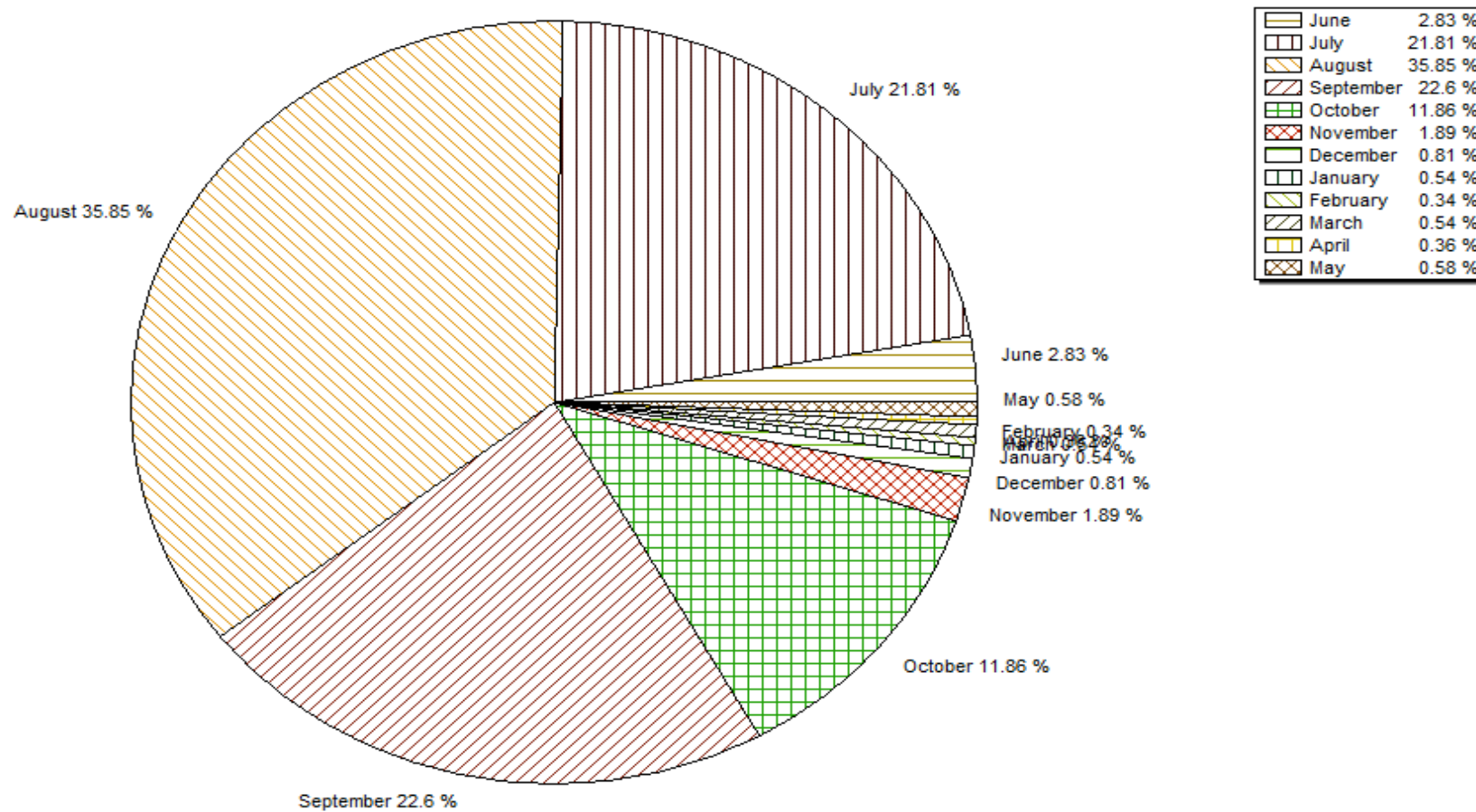
Monthly Average Runoff based on period : 1967-2021

Station Name : Narasingpur (AKP00Q4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur



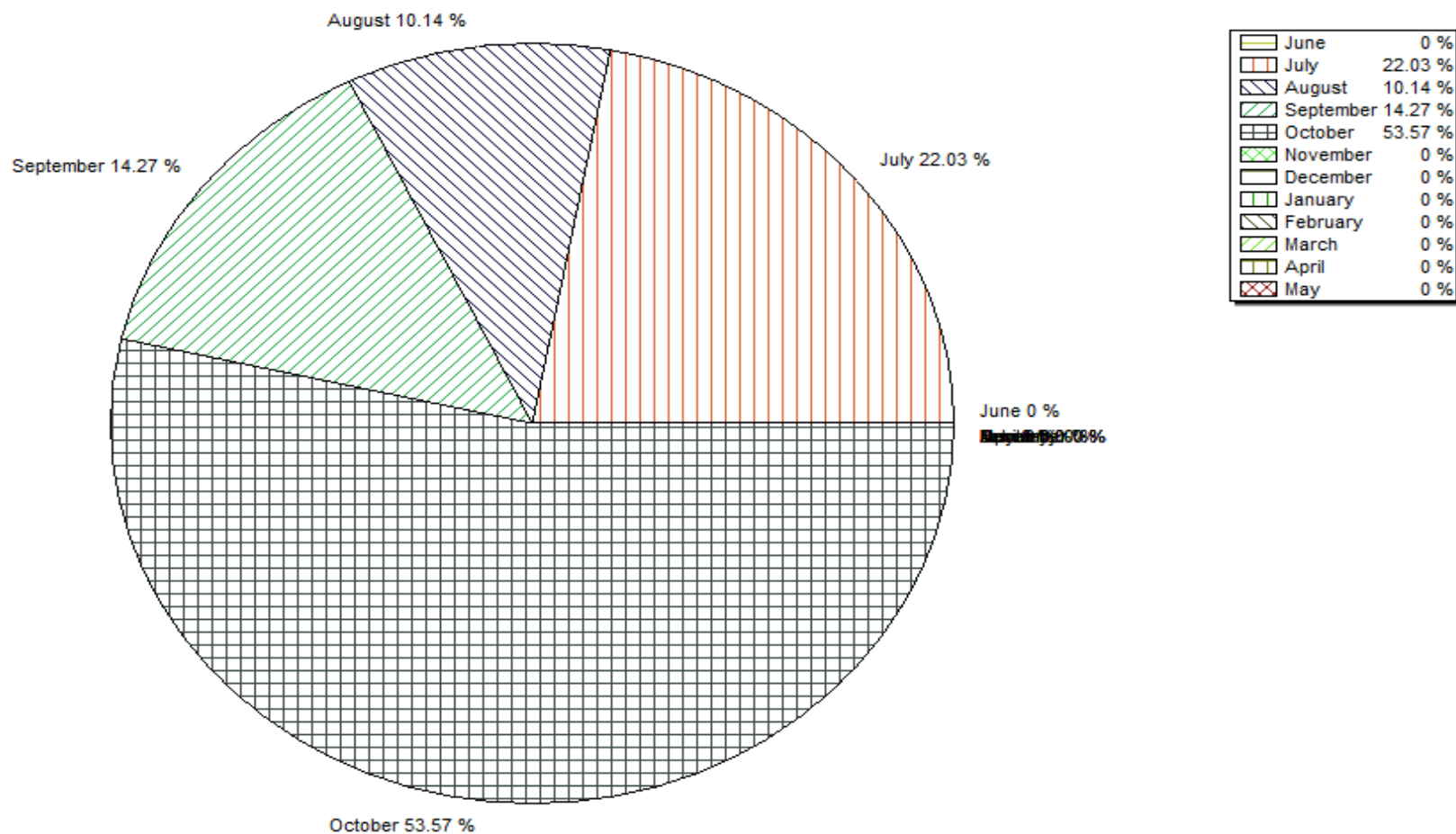
Monthly Runoff for the Year : 2021-2022

Station Name : Narasingpur (AKP00Q4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur



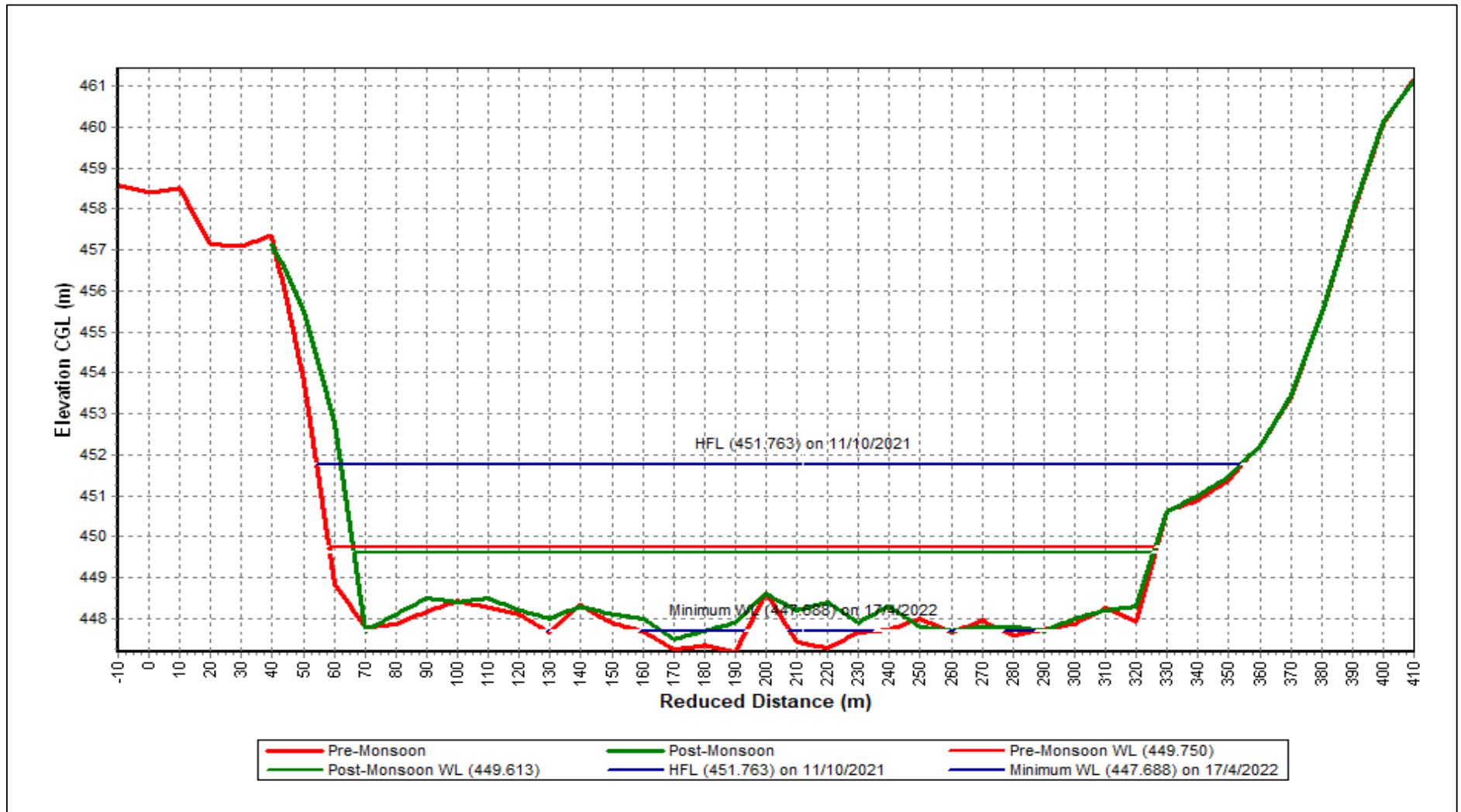
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : Narasingpur (AKP00Q4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur



Zero of Gauge : 448.243 (m.s.l)

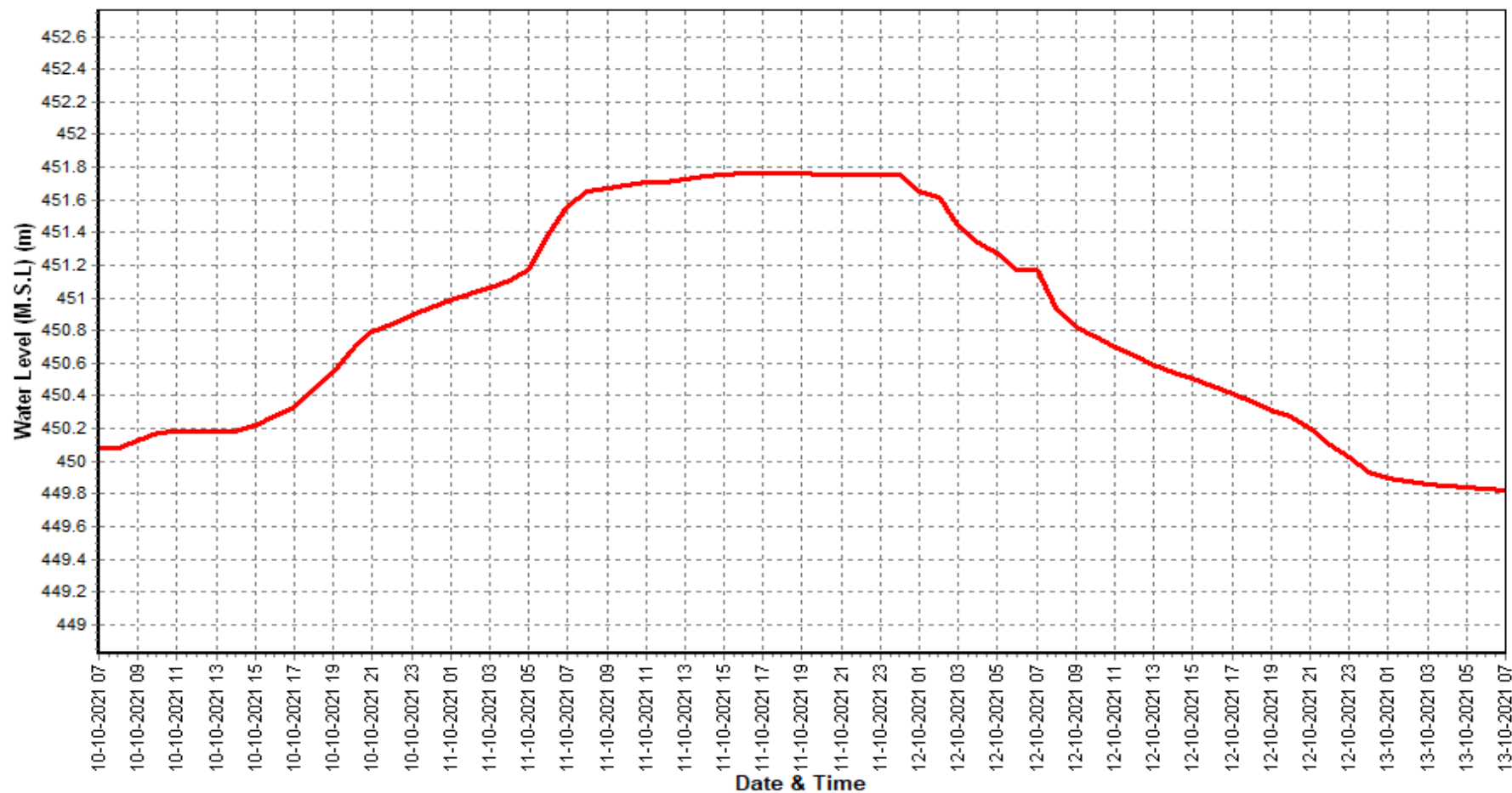
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Narasingpur (AKP00Q4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur



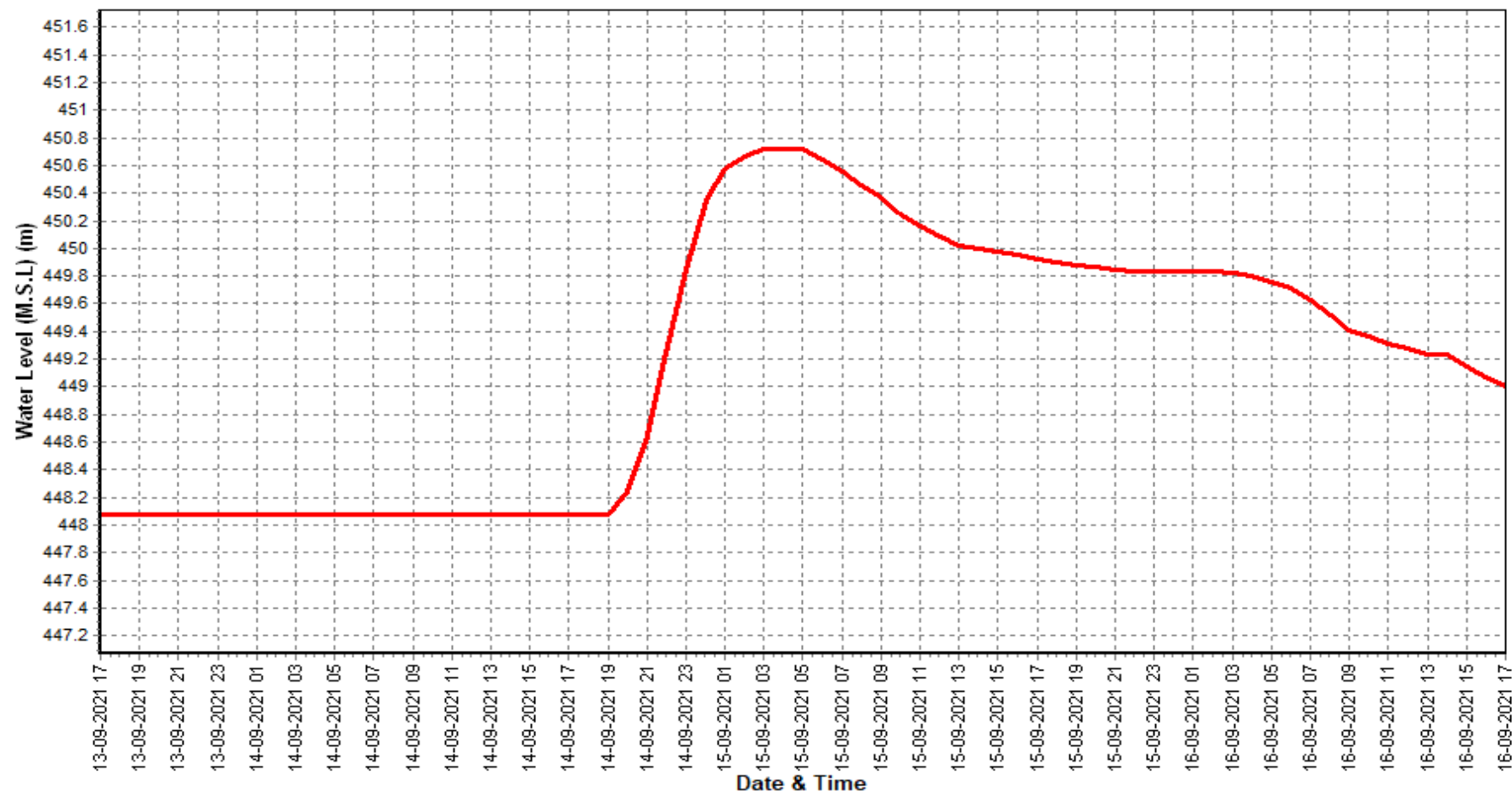
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Narasingpur (AKP00Q4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur



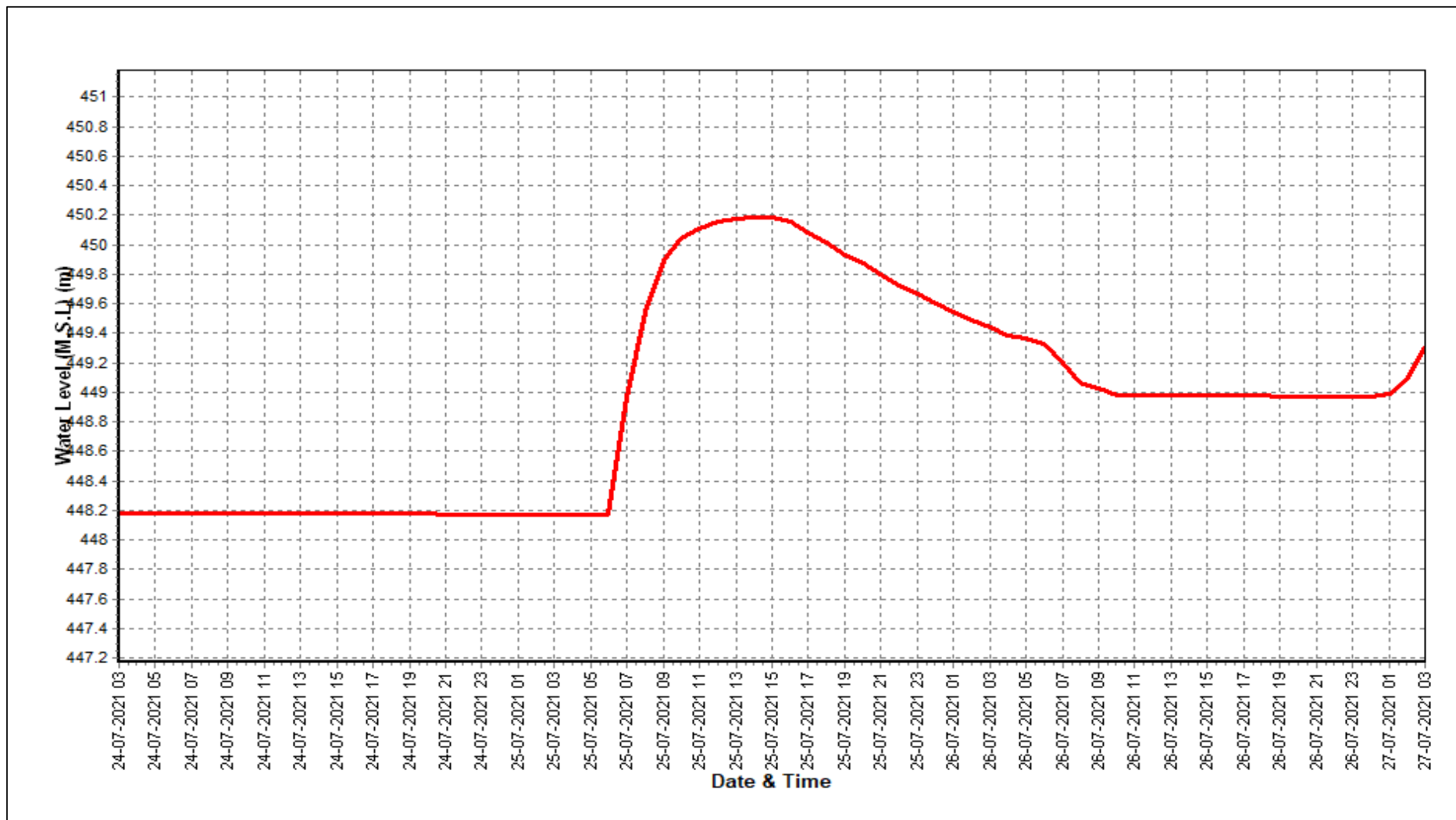
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Narasingpur (AKP00Q4)

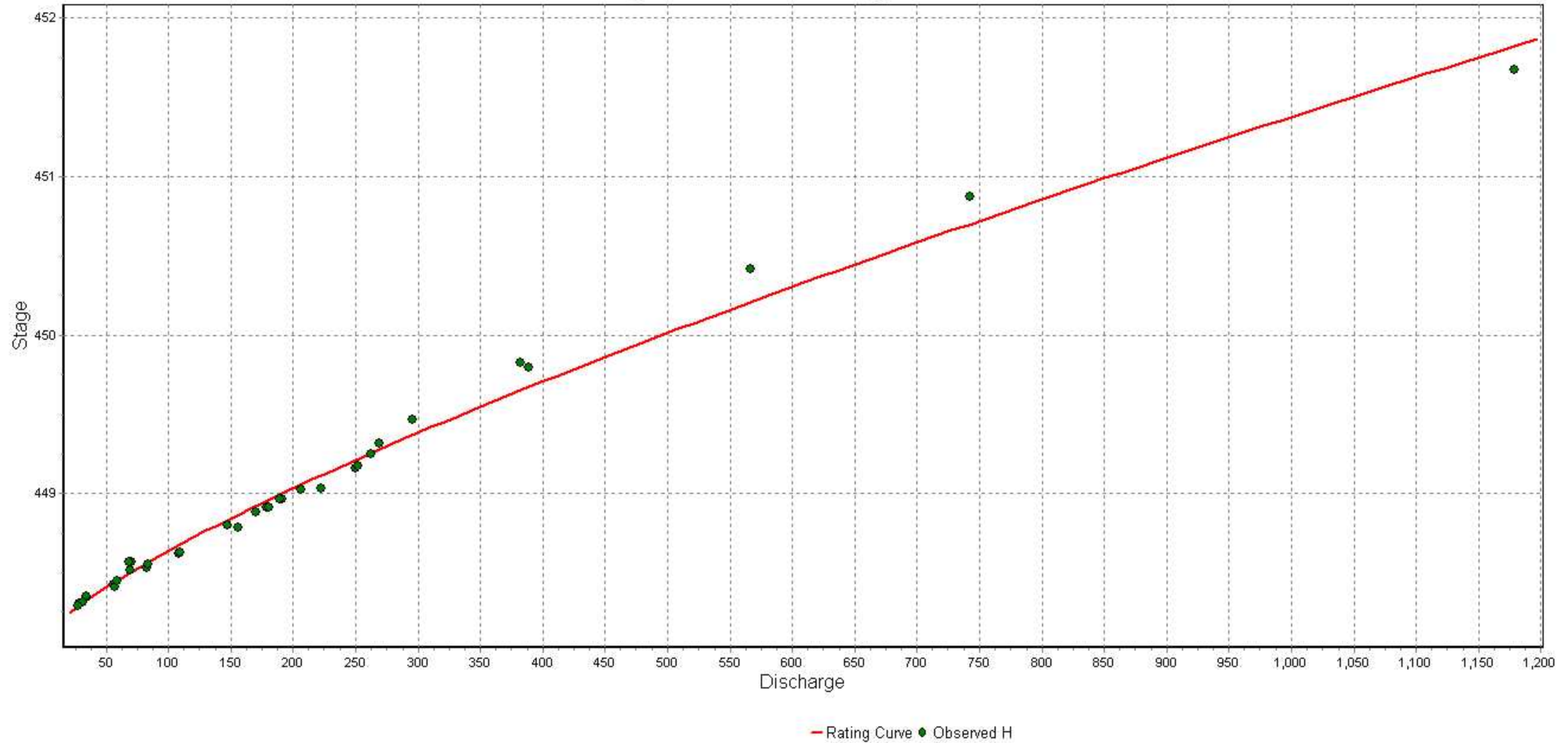
Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur



Rating Curve of Site Narsingpur 2021



HISTORY SHEET

		Water Year	: 2021-2022
Site	: Takli	Code	: AKP00K4
State	: Maharashtra	District	Sholapur
Basin	: Krishna	Independent River	: Krishna
Tributary	: Bhima	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Bhima
Division	: Upper Krishna Divn, Pune	Sub-Division	: Lower Bhima SD, Sholapur
Drainage Area	: 33916 Sq. Km.	Bank	: Left
Latitude	: 17°24'51"	Longitude	: 75°50'52"
Zero of Gauge (m)	: 410.778 (m.s.l)	20-07-1963	- 24-06-1969
	: 409.278 (m.s.l)	25-06-1969	- 31-05-2011
	: 408 (m.s.l)	01-06-2011	
	Opening Date	Closing Date	
Gauge	: 14-07-1965	HFL During 2021-22	: 415.110 m
		Corres. Discharge	: 986 (Estimated)
Discharge	: 10-08-1965	Date & Time of	: 01-06-2021
		occurrence	: 07:00 Hrs
Sediment	: 01-12-1966		
Water Quality	: 01-09-1972		

HFL Recorded so far in m : 424.500 dt 17-10-2020

Corresponding Discharge (cumecs) : 10360 *

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1965-1966	4240	420.038	02-08-1965	0.400	411.223	02-05-1966
1966-1967	3898	418.868	01-08-1966	0.600	411.048	25-04-1967
1967-1968	8333	422.753	31-07-1967	0.700	411.183	24-05-1968
1968-1969	2480	417.869	09-08-1968	0.000	411.953	21-05-1969
1969-1970	5511	421.123	04-08-1969	0.100	411.163	05-05-1970
1970-1971	2244	416.738	20-09-1970	0.000		01-05-1971
1971-1972	4357	419.588	02-09-1971	0.000		04-05-1972
1972-1973	3351	418.808	11-07-1972	0.000	410.913	27-03-1973
1973-1974	3655	418.593	11-07-1973	0.000	411.133	31-03-1974
1974-1975	3030	418.013	24-09-1974	6.000	411.053	29-04-1975
1975-1976	3715	418.773	17-08-1975	0.000	410.408	19-05-1976
1976-1977	7086	422.094	05-08-1976	0.000	412.026	18-04-1977
1977-1978	1943	416.621	31-07-1977	1.300	411.028	05-04-1978
1978-1979	2164	417.273	04-09-1978	0.000	410.108	24-04-1979
1979-1980	8000	422.843	27-09-1979	0.000	411.125	31-05-1980
1980-1981	3785	419.032	06-08-1980	0.000	411.658	07-04-1981
1981-1982	4960	420.483	12-07-1981	0.000	411.718	02-04-1982

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1982-1983	2036	416.975	25-08-1982	0.000	411.308	21-04-1983
1983-1984	6691	421.942	19-08-1983	2.200	411.113	15-06-1983
1984-1985	2910	418.323	22-07-1984	0.000	411.508	06-06-1984
1985-1986	2373	417.488	05-08-1985	0.000	411.333	26-01-1986
1986-1987	2540	417.443	12-08-1986	0.000	411.403	05-01-1987
1987-1988	821.4	414.296	19-10-1987	0.000	411.428	22-03-1988
1988-1989	5005	420.358	19-09-1988	0.000	411.978	14-03-1989
1989-1990	4887	420.318	29-09-1989	0.000	411.728	08-04-1990
1990-1991	3934	419.588	19-08-1990	0.000	411.878	01-04-1991
1991-1992	4261	419.723	30-07-1991	0.000	411.291	20-10-1991
1992-1993	1624	416.201	08-09-1992	0.000	411.308	05-02-1993
1993-1994	2744	417.617	19-10-1993	0.000	411.608	10-04-1994
1994-1995	7298	422.453	18-07-1994	0.000	411.068	25-01-1995
1995-1996	232.7	412.418	01-07-1995	0.000	411.203	26-01-1996
1996-1997	5211	420.393	06-10-1996	0.000	411.318	20-02-1997
1997-1998	8320	423.293	28-08-1997	0.000	411.643	22-03-1998
1998-1999	5458	420.738	14-10-1998	0.000	411.538	30-03-1999
1999-2000	1050	414.558	01-08-1999	0.000	410.898	03-03-2000
2000-2001	148.6	412.238	30-09-2000	0.000		22-01-2001
2001-2002	1412	415.098	08-10-2001	0.000		25-01-2002
2002-2003	188.9	412.698	19-10-2002	0.000	409.878	16-01-2003
2003-2004	23.78	411.178	12-07-2003	0.000	411.473	26-01-2004
2004-2005	1054	414.563	15-08-2004	0.000	410.938	25-01-2005
2005-2006	4004	422.558	05-08-2005	0.000	410.873	25-01-2006
2006-2007	8672	423.653	12-08-2006	0.000	414.328	25-01-2007
2007-2008	2303	417.313	21-09-2007	0.000	412.978	26-01-2008
2008-2009	2712	417.878	22-09-2008	0.000	414.038	25-01-2009
2009-2010	4269	419.693	04-10-2009	0.000	413.798	25-01-2010
2010-2011	1375	415.188	07-10-2010	0.000	413.658	25-01-2011
2011-2012	4219	419.275	06-09-2011	0.000	411.885	24-02-2012
2012-2013	0.000	413.070	05-04-2013	0.000	411.220	07-06-2012
2013-2014	3399	418.570	21-09-2013	0.000	412.870	27-12-2013
2014-2015	1084	415.160	08-09-2014	0.000	410.430	05-01-2015
2015-2016	0.000	412.845	05-06-2015	0.000	411.325	26-09-2015
2016-2017	927.6	414.975	08-08-2016	0.000	412.980	25-01-2017
2017-2018	2376	417.545	16-09-2017	0.000	410.040	25-01-2018
2018-2019	872.2	415.005	29-08-2018	0.000	414.710	25-01-2019
2019-2020	6086	421.565	09-08-2019	0.000	414.010	20-12-2019
2020-2021	10220	424.440	17-10-2020	0.000	411.940	14-05-2021

Annual Runoff of Bhima at Takli

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1965-1966	6577	471	7048	232	17	249
2	1966-1967	5009	158	5167	177	6	183
3	1967-1968	8733	404	9137	309	14	323
4	1968-1969	5225	141	5366	185	5	190
5	1969-1970	10442	182	10624	369	6	375
6	1970-1971	7040	228	7269	249	8	257
7	1971-1972	7974	145	8120	282	5	287
8	1972-1973	2719	17	2736	96	1	97
9	1973-1974	8591	237	8828	304	8	312
10	1974-1975	7258	370	7628	256	13	270
11	1975-1976	10813	341	11154	382	12	394
12	1976-1977	11016	236	11252	389	8	398
13	1977-1978	4893	719	5611	173	25	198
14	1978-1979	6029	231	6259	213	8	221
15	1979-1980	8500	539	9040	300	19	319
16	1980-1981	6598	125	6723	233	4	238
17	1981-1982	8997	217	9214	318	8	326
18	1982-1983	2552	85	2636	90	3	93
19	1983-1984	7267	229	7496	257	8	265
20	1984-1985	5189	229	5418	183	8	191
21	1985-1986	2819	6	2824	100	0	100
22	1986-1987	2830	21	2850	100	1	101
23	1987-1988	1003	115	1118	35	4	39
24	1988-1989	7118	69	7188	252	2	254
25	1989-1990	5009	93	5102	177	3	180
26	1990-1991	8773	33	8806	310	1	311
27	1991-1992	8037	92	8129	284	3	287
28	1992-1993	2042	16	2058	72	1	73
29	1993-1994	3151	140	3291	111	5	116
30	1994-1995	11421	0	11421	404	0	404
31	1995-1996	222	0	222	8	0	8
32	1996-1997	4157	23	4179	147	1	148
33	1997-1998	4844	69	4913	171	2	174
34	1998-1999	9071	55	9126	321	2	322
35	1999-2000	2303	12	2315	81	0	82
36	2000-2001	253	26	278	9	1	10
37	2001-2002	726	0	726	26	0	26
38	2002-2003	42	7	49	1	0	2
39	2003-2004	8	0	8	0	0	0
40	2004-2005	1481	0	1481	52	0	52
41	2005-2006	9277	0	9277	328	0	328
42	2006-2007	11671	0	11671	412	0	412
43	2007-2008	5348	0	5348	189	0	189
44	2008-2009	2094	0	2094	74	0	74
45	2009-2010	3490	0	3490	123	0	123
46	2010-2011	1470	0	1470	52	0	52
47	2011-2012	2056	0	2056	73	0	73

48	2012-2013	0	0	0	0	0	0
49	2013-2014	2022	0	2022	71	0	71
50	2014-2015	1733	0	1733	61	0	61
51	2015-2016	0	0	0	0	0	0
52	2016-2017	814	0	814	29	0	29
53	2017-2018	2868	0	2868	101	0	101
54	2018-2019	626	0	626	22	0	22
55	2019-2020	7385	0	7385	261	0	261
56	2020-2021	7450	0	7450	263	0	263
57	2021-2022	1141	0	1141	40	0	40
Average		4845	107	4952	171	4	175

Instantaneous Flood Peak of Bhima at Takli

		Instantaneous Annual Flood Peak			
Sl. No.	Year	Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	1965-1966	420.173	02-08-1965	02:00:00	4340 *
2	1966-1967	419.008	01-08-1966	18:00:00	3957 *
3	1967-1968	423.113	31-07-1967	08:00:00	8623 *
4	1968-1969	417.988	09-08-1968	21:00:00	2499 *
5	1969-1970	421.163	04-08-1969	18:00:00	5529 *
6	1970-1971	417.378	20-09-1970	22:00:00	2592 *
7	1971-1972	419.618	02-09-1971	13:00:00	4422 *
8	1972-1973	418.858	11-07-1972	13:00:00	3742 *
9	1973-1974	418.643	11-07-1973	14:00:00	3659 *
10	1974-1975	418.023	24-09-1974	20:00:00	3065 *
11	1975-1976	419.618	17-08-1975	22:00:00	4422 *
12	1976-1977	422.108	05-08-1976	12:00:00	8173 *
13	1977-1978	416.678	31-07-1977	02:00:00	2128 *
14	1978-1979	417.343	04-09-1978	03:00:00	2567 *
15	1979-1980	423.078	27-09-1979	15:00:00	8782 *
16	1980-1981	419.083	06-08-1980	07:00:00	3937 *
17	1981-1982	421.348	12-07-1981	00:00:00	6195 *
18	1982-1983	417.233	25-08-1982	11:00:00	2492 *
19	1983-1984	422.028	19-08-1983	18:00:00	6978 *
20	1984-1985	418.398	22-07-1984	22:00:00	3360 *
21	1985-1986	417.558	05-08-1985	01:00:00	2719 *
22	1986-1987	417.443	12-08-1986	07:00:00	2638 *
23	1987-1988	414.458	19-10-1987	17:00:00	996 *
24	1988-1989	420.593	19-09-1988	21:00:00	5382 *
25	1989-1990	420.548	29-09-1989	16:00:00	5336 *
26	1990-1991	419.618	19-08-1990	21:00:00	4422 *
27	1991-1992	419.928	30-07-1991	16:00:00	4716 *
28	1992-1993	416.423	08-09-1992	11:00:00	1972 *
29	1993-1994	417.638	19-10-1993	13:00:00	2777 *
30	1994-1995	422.548	18-07-1994	15:00:00	7609 *
31	1995-1996	412.593	01-07-1995	23:00:00	445 *
32	1996-1997	420.398	06-10-1996	10:00:00	5182 *
33	1997-1998	423.308	28-08-1997	11:00:00	8583 *
34	1998-1999	421.078	14-10-1998	03:00:00	5897 *
35	1999-2000	414.808	01-08-1999	06:00:00	1140 *
36	2000-2001	412.698	30-09-2000	05:00:00	466 *
37	2001-2002	415.998	08-10-2001	19:00:00	1726 *
38	2002-2003	413.928	19-10-2002	14:00:00	802 *
39	2003-2004	413.778	12-07-2003	19:00:00	753 *
40	2004-2005	414.728	15-08-2004	01:00:00	1106 *
41	2005-2006	423.103	30-07-2005	14:00:00	8314 *
42	2006-2007	423.718	12-08-2006	16:00:00	9133 *
43	2007-2008	417.368	21-09-2007	13:00:00	2585 *
44	2008-2009	418.328	22-09-2008	22:00:00	3304 *
45	2009-2010	420.068	04-10-2009	03:00:00	4853 *
46	2010-2011	415.268	07-10-2010	08:00:00	1349

47	2011-2012	419.560	06-09-2011	18:00:00	3665 *
48	2012-2013	415.140	07-06-2012	15:00:00	553 *
49	2013-2014	418.640	21-09-2013	14:00:00	2846 *
50	2014-2015	415.170	08-09-2014	11:00:00	567 *
51	2015-2016	414.730	26-09-2015	13:00:00	369 *
52	2016-2017	415.060	08-08-2016	15:00:00	515 *
53	2017-2018	418.040	16-09-2017	22:00:00	2360 *
54	2018-2019	415.080	29-08-2018	08:00:00	525
55	2019-2020	421.570	09-08-2019	10:00:00	5769 *
56	2021-2022	424.500	17-10-2020	12:00:00	10360 *
57	2021-2022	415.110	01-06-2021	07:00:00	986 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : Takli (AKP00K4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	415.050	0.000	414.490	0.000	413.420	190.7 *	412.820	0.000	412.860	184.1	412.870	0.000
2	414.870	0.000	414.400	0.000	413.370	164.1	412.800	0.000	412.840	176.2 *	413.100	0.000
3	414.860	0.000	414.360	0.000	413.340	156.5	412.890	0.000	412.830	172.7 *	413.020	0.000
4	414.820	0.000	414.330	0.000	413.330	153.1	412.910	0.000	412.980	226.7	412.980	0.000
5	414.860	0.000	414.350	0.000	413.180	108.9	412.970	0.000	413.040	247.7	412.900	0.000
6	414.810	0.000	414.310	0.000	413.050	80.47	413.145	102.5	412.990	232.6	412.800	0.000
7	414.780	0.000	414.300	0.000	413.060	86.25	413.150	103.7	413.220	310.8	412.680	0.000
8	414.710	0.000	414.280	0.000	413.300	149.4 *	413.180	107.2	413.420	388.4	412.560	0.000
9	414.730	0.000	414.270	0.000	413.150	102.6	413.240	124.2	413.245	321.2	412.420	0.000
10	414.650	0.000	414.260	0.000	413.010	72.26	413.190	118.2 *	413.240	318.3 *	412.510	0.000
11	414.510	0.000	414.230	0.000	413.090	88.59	413.160	98.01	413.920	557.4	412.640	0.000
12	414.480	0.000	414.200	0.000	413.090	87.87	413.120	101.7 *	414.810	875.3	412.660	0.000
13	414.270	0.000	414.180	0.000	412.970	0.000	413.090	87.86	414.410	742.7	412.590	0.000
14	414.170	0.000	414.190	0.000	412.860	0.000	413.070	0.000	413.640	465.5	412.650	0.000
15	414.110	0.000	414.340	0.000	412.810	0.000	412.690	0.000	413.370	364.6 *	413.000	0.000
16	414.020	0.000	414.460	0.000	412.760	0.000	412.750	0.000	413.210	306.2	413.080	0.000
17	413.880	0.000	414.520	0.000	412.730	0.000	413.280	336.1	413.000	233.0 *	413.040	0.000
18	413.720	0.000	414.550	0.000	412.740	0.000	413.070	260.9	412.900	197.8	412.900	0.000
19	413.720	0.000	414.630	0.000	412.740	0.000	412.770	151.4 *	413.120	275.6 *	412.870	0.000
20	413.890	0.000	414.610	0.000	412.730	0.000	412.690	123.8	413.120	275.5	412.800	0.000
21	414.080	0.000	414.600	0.000	412.700	0.000	412.850	180.1	412.890	196.9	412.710	0.000
22	414.200	0.000	414.550	0.000	412.660	0.000	412.630	102.6	412.770	0.000	412.640	0.000
23	414.200	0.000	414.560	0.000	412.700	0.000	412.640	106.2	412.980	0.000	412.580	0.000
24	414.130	0.000	414.560	0.000	412.680	0.000	412.630	103.0	413.370	0.000	412.480	0.000
25	414.120	0.000	413.850	0.000	412.650	0.000	412.700	128.7	413.420	0.000	412.720	0.000
26	414.090	0.000	413.160	0.000	412.620	0.000	412.780	155.0 *	413.410	0.000	412.920	0.000
27	414.090	0.000	413.720	318.9	412.550	0.000	413.020	240.9	413.350	0.000	413.010	0.000
28	414.160	0.000	413.530	233.5	412.610	0.000	412.940	212.8	413.200	0.000	413.030	0.000
29	414.460	0.000	413.800	347.1	412.600	0.000	412.920	188.3	413.080	0.000	413.010	0.000
30	414.460	0.000	413.490	218.9	412.700	0.000	412.890	181.1	412.960	0.000	413.050	0.000
31			413.600	262.2	412.770	0.000			412.860	0.000		
Ten-Daily Mean												
I Ten-Daily	414.814	0.000	414.335	0.000	413.221	126.4	413.029	55.58	413.066	257.9	412.784	0.000
II Ten-Daily	414.077	0.000	414.391	0.000	412.852	17.65	412.969	116.0	413.550	429.4	412.823	0.000
III Ten-Daily	414.199	0.000	413.947	125.5	412.658	0.000	412.800	159.9	413.117	17.90	412.815	0.000
Monthly												
Min.	413.720	0.000	413.160	0.000	412.550	0.000	412.630	0.000	412.770	0.000	412.420	0.000
Max.	415.050	0.000	414.630	347.1	413.420	190.7	413.280	336.1	414.810	875.3	413.100	0.000
Mean	414.363	0	414.216	44.54	412.902	46.47	412.933	110.5	413.240	228	412.807	0

Annual Runoff in MCM = 1141 Annual Runoff in mm = 34

Peak Observed Discharge = 875.3 cumecs on 12-10-2021 Corres. Water Level :414.81 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021 Corres. Water Level :415.05 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : Takli (AKP00K4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	413.330	0.000	414.750	0.000	412.680	0.000	411.280	0.000	412.890	0.000	414.800	0.000
2	413.400	0.000	414.760	0.000	412.620	0.000	411.180	0.000	412.800	0.000	414.690	0.000
3	413.300	0.000	414.730	0.000	412.560	0.000	411.130	0.000	412.680	0.000	414.500	0.000
4	413.250	0.000	414.690	0.000	412.470	0.000	411.080	0.000	412.550	0.000	414.320	0.000
5	413.230	0.000	414.600	0.000	412.330	0.000	410.980	0.000	412.430	0.000	414.200	0.000
6	413.200	0.000	414.570	0.000	412.140	0.000	410.900	0.000	412.850	0.000	414.000	0.000
7	413.140	0.000	414.400	0.000	412.020	0.000	410.750	0.000	413.130	0.000	413.840	0.000
8	413.040	0.000	414.280	0.000	412.380	0.000	410.560	0.000	413.150	0.000	413.700	0.000
9	412.920	0.000	414.180	0.000	412.660	0.000	410.370	0.000	413.100	0.000	413.560	0.000
10	412.810	0.000	414.070	0.000	412.740	0.000	410.210	0.000	413.250	0.000	413.420	0.000
11	412.740	0.000	413.900	0.000	412.690	0.000	410.090	0.000	413.350	0.000	413.250	0.000
12	413.600	0.000	413.780	0.000	412.590	0.000	410.000	0.000	413.370	0.000	413.520	0.000
13	414.800	0.000	413.620	0.000	412.460	0.000	409.940	0.000	413.300	0.000	413.630	0.000
14	414.720	0.000	413.500	0.000	412.350	0.000	409.890	0.000	413.200	0.000	413.640	0.000
15	414.500	0.000	413.400	0.000	412.400	0.000	411.100	0.000	413.080	0.000	413.450	0.000
16	414.350	0.000	413.270	0.000	412.450	0.000	415.100	0.000	412.950	0.000	413.450	0.000
17	414.500	0.000	413.150	0.000	412.620	0.000	415.590	0.000	412.850	0.000	413.340	0.000
18	414.780	0.000	413.000	0.000	412.690	0.000	414.250	0.000	412.760	0.000	413.150	0.000
19	414.680	0.000	412.850	0.000	412.690	0.000	414.120	0.000	412.600	0.000	412.950	0.000
20	414.750	0.000	412.780	0.000	412.600	0.000	414.050	0.000	412.350	0.000	413.590	0.000
21	414.800	0.000	412.720	0.000	412.460	0.000	413.750	0.000	412.250	0.000	413.890	0.000
22	414.850	0.000	412.960	0.000	412.300	0.000	413.550	0.000	412.100	0.000	413.970	0.000
23	414.840	0.000	412.880	0.000	412.200	0.000	413.450	0.000	411.980	0.000	413.950	0.000
24	414.830	0.000	412.840	0.000	412.100	0.000	413.300	0.000	411.850	0.000	413.870	0.000
25	414.810	0.000	412.650	0.000	411.980	0.000	413.100	0.000	413.200	0.000	413.750	0.000
26	414.800	0.000	412.510	0.000	411.750	0.000	412.940	0.000	415.050	0.000	413.600	0.000
27	414.750	0.000	412.400	0.000	411.750	0.000	413.050	0.000	415.500	0.000	413.430	0.000
28	414.650	0.000	412.300	0.000	411.400	0.000	413.100	0.000	414.900	0.000	413.290	0.000
29	414.780	0.000	412.400	0.000			413.010	0.000	414.780	0.000	413.110	0.000
30	414.790	0.000	412.350	0.000			412.700	0.000	414.810	0.000	413.150	0.000
31	414.720	0.000	412.600	0.000			412.900	0.000			413.400	0.000
<u>Ten-Daily Mean</u>												
I Ten-Daily	413.162	0.000	414.503	0.000	412.460	0.000	410.844	0.000	412.883	0.000	414.103	0.000
II Ten-Daily	414.342	0.000	413.325	0.000	412.554	0.000	412.413	0.000	412.981	0.000	413.397	0.000
III Ten-Daily	414.784	0.000	412.601	0.000	411.992	0.000	413.168	0.000	413.642	0.000	413.583	0.000
<u>Monthly</u>												
Min.	412.740	0.000	412.300	0.000	411.400	0.000	409.890	0.000	411.850	0.000	412.950	0.000
Max.	414.850	0.000	414.760	0.000	412.740	0.000	415.590	0.000	415.500	0.000	414.800	0.000
Mean	414.118	0	413.448	0	412.360	0	412.175	0	413.169	0	413.691	0

Peak Computed Discharge = 364.6 cumecs on 15-10-2021

Corres. Water Level :413.37 m

Lowest Computed Discharge = 101.7 cumecs on 12-09-2021

Corres. Water Level :413.12 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

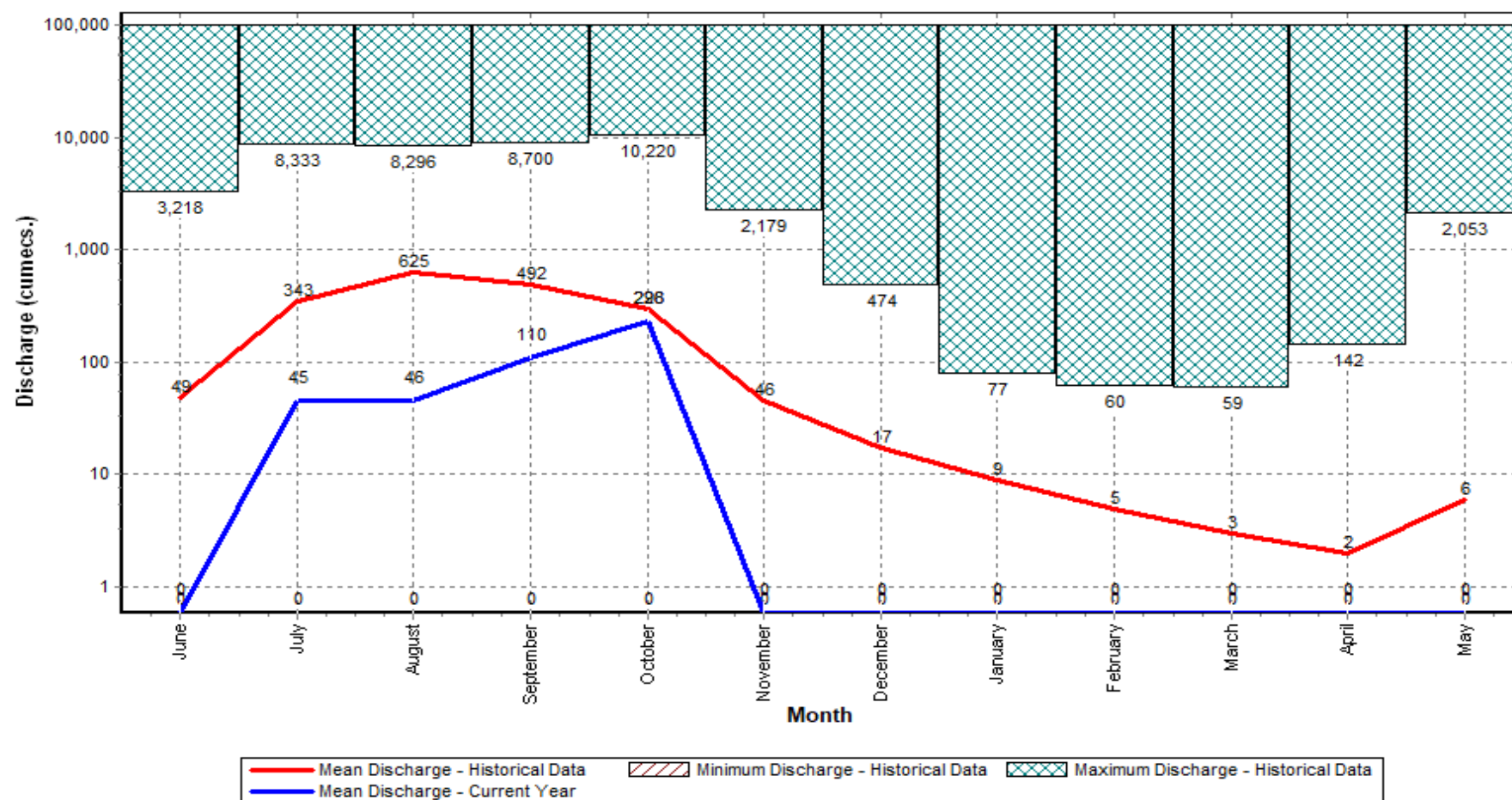
Station Name : Takli (AKP00K4)

Data considered : 1965-2022

Division : Upper Krishna Divn, Pune

Local River : Bhima

Sub-Division : Lower Bhima SD, Sholapur



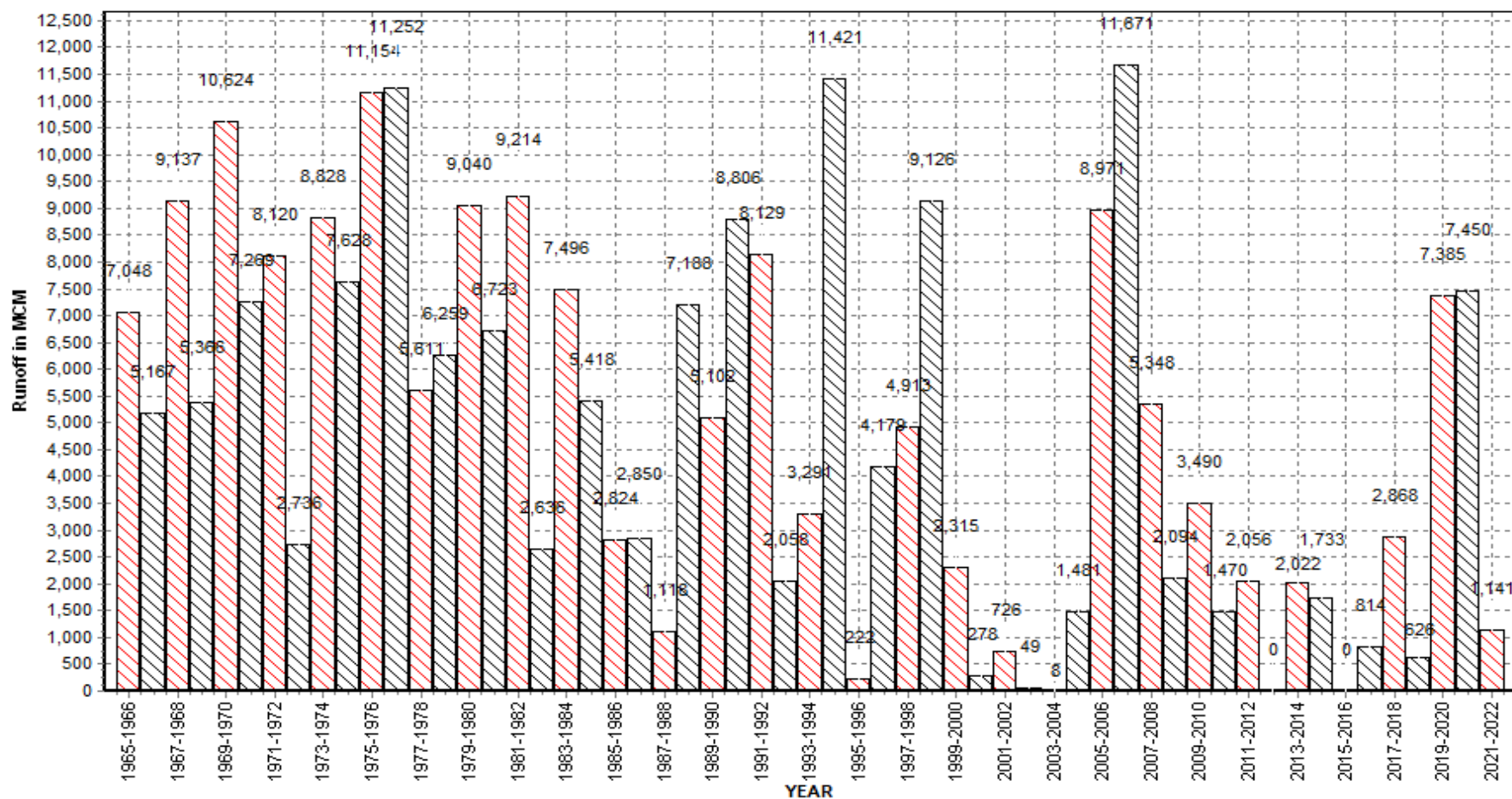
Annual Runoff Values for the period: 1965 - 2022

Station Name : Takli (AKP00K4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur



Note: Missing values have not been considered while arriving at Annual Runoff

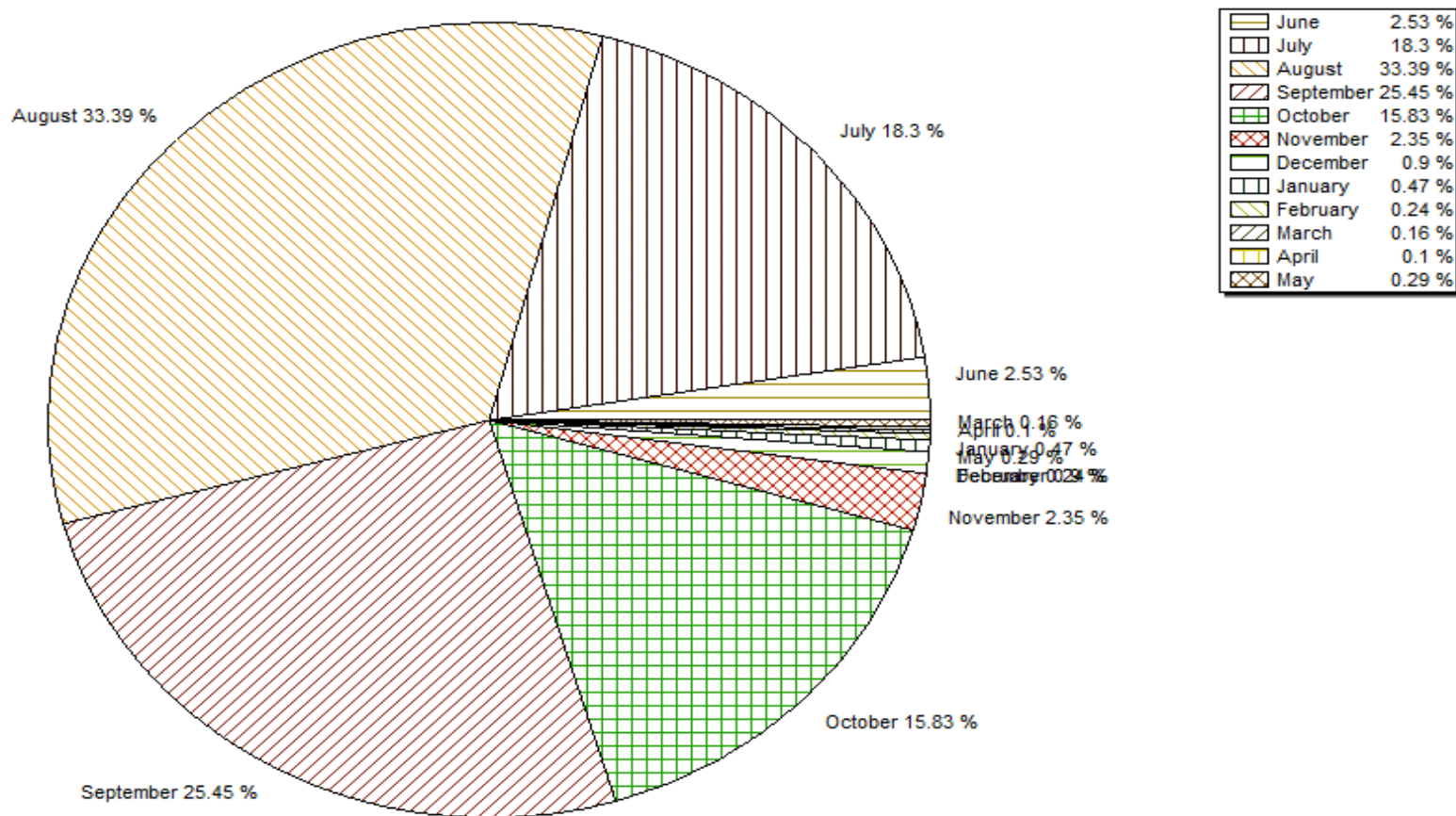
Monthly Average Runoff based on period : 1965-2021

Station Name : Takli (AKP00K4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur



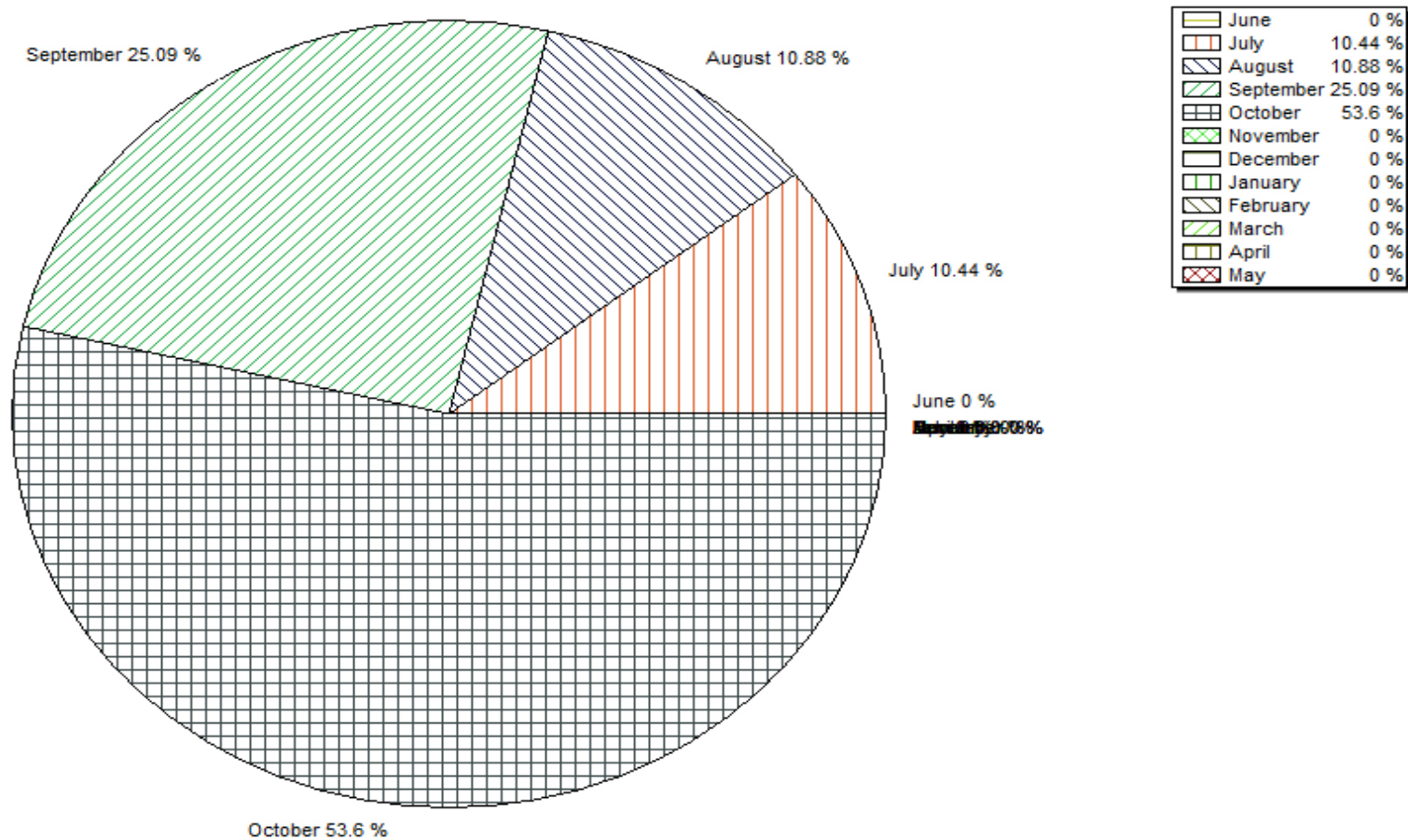
Monthly Runoff for the Year : 2021-2022

Station Name : Takli (AKP00K4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur



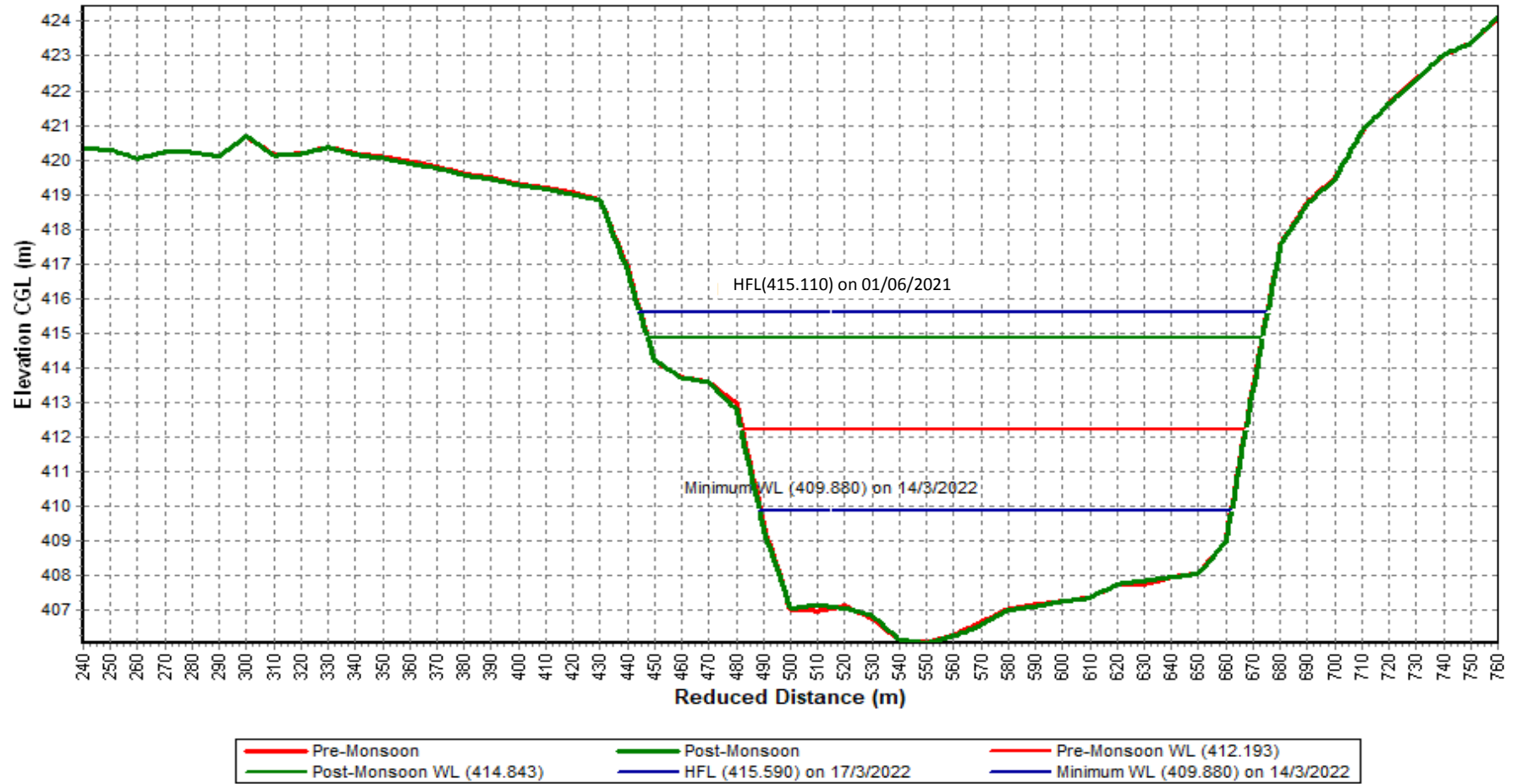
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : Takli (AKP00K4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur



Zero of Gauge : 408 (m.s.l)

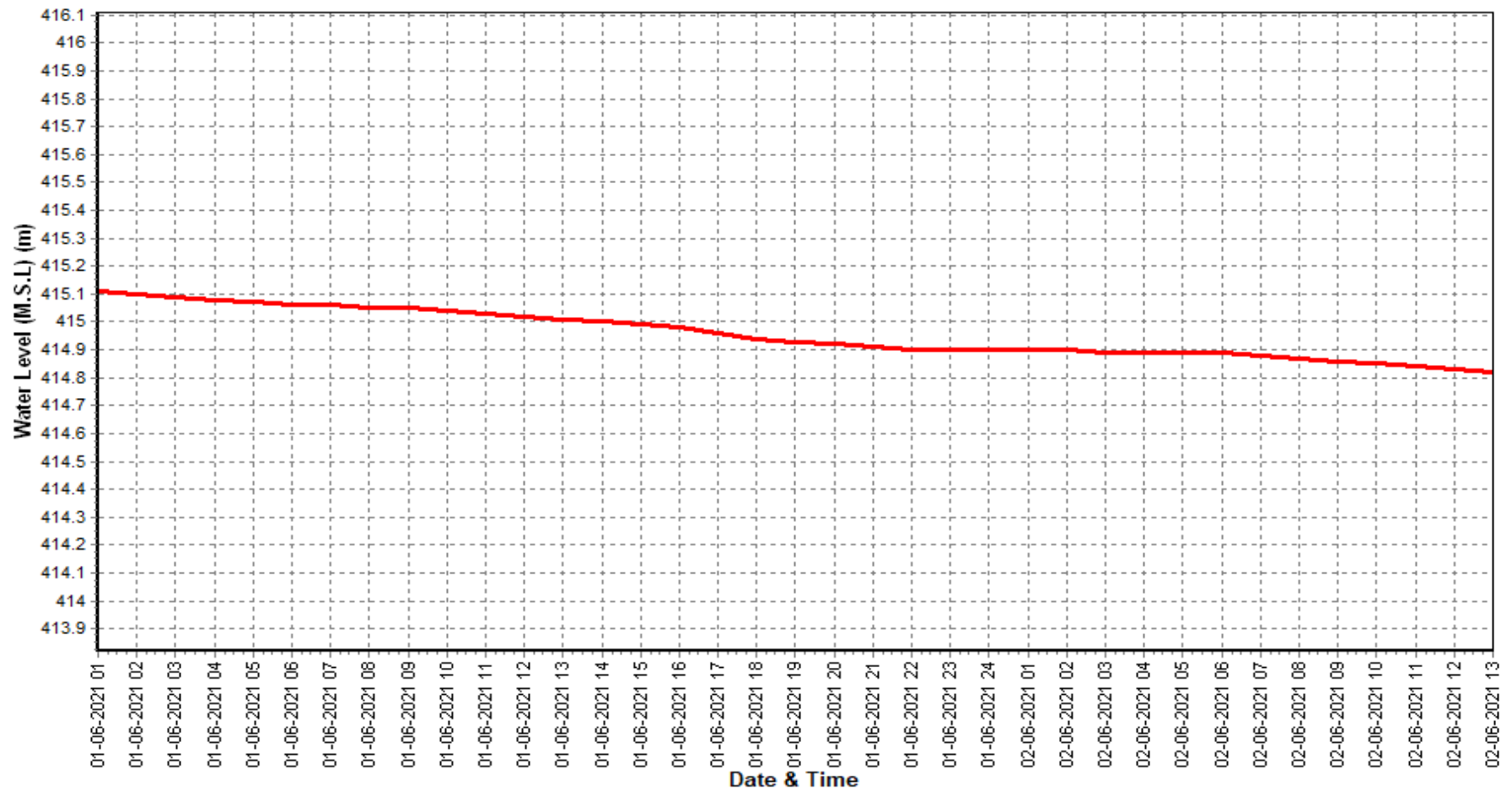
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Takli (AKP00K4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur



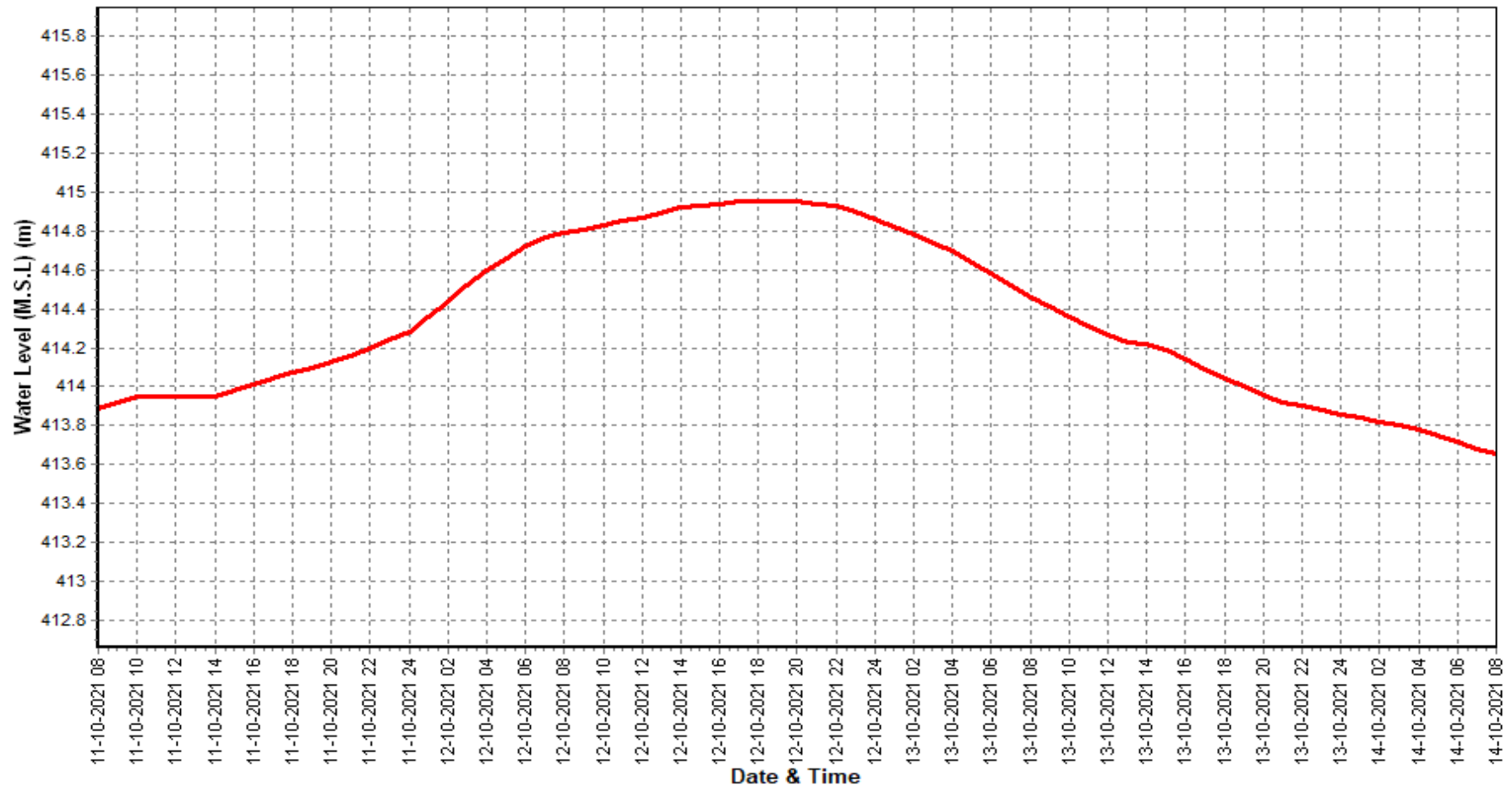
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Takli (AKP00K4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur



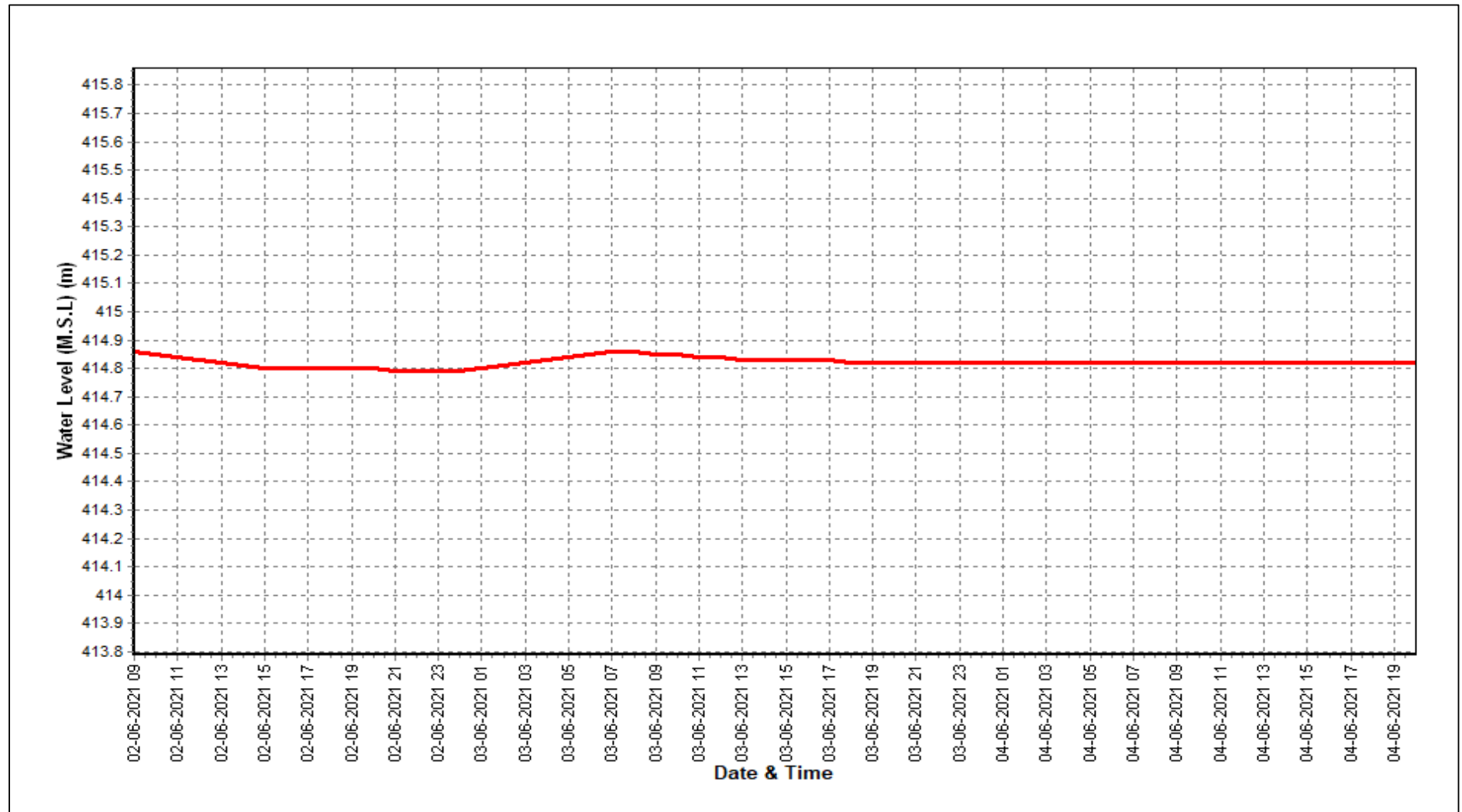
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Takli (AKP00K4)

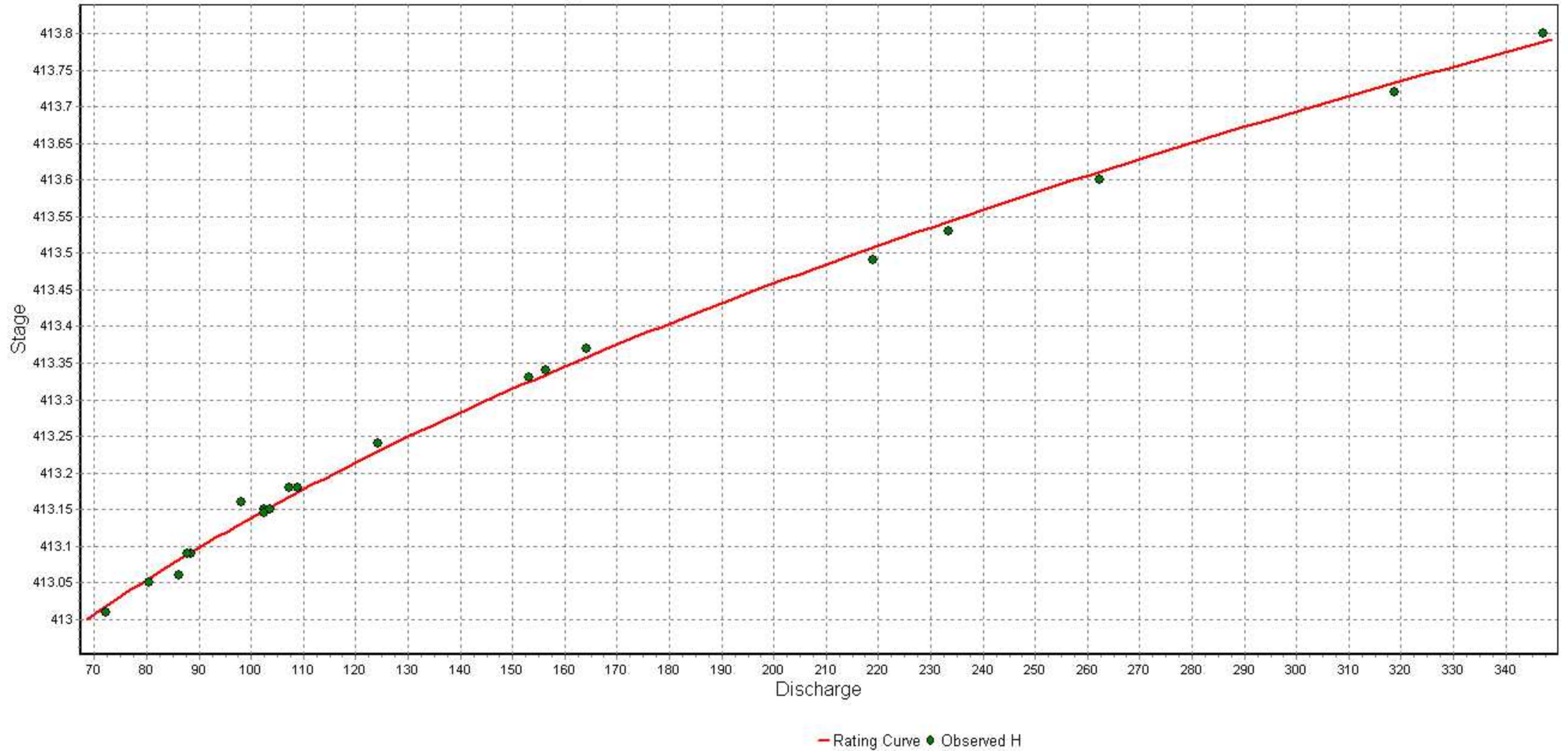
Local River : Bhima

Division : Upper Krishna Divn, Pune

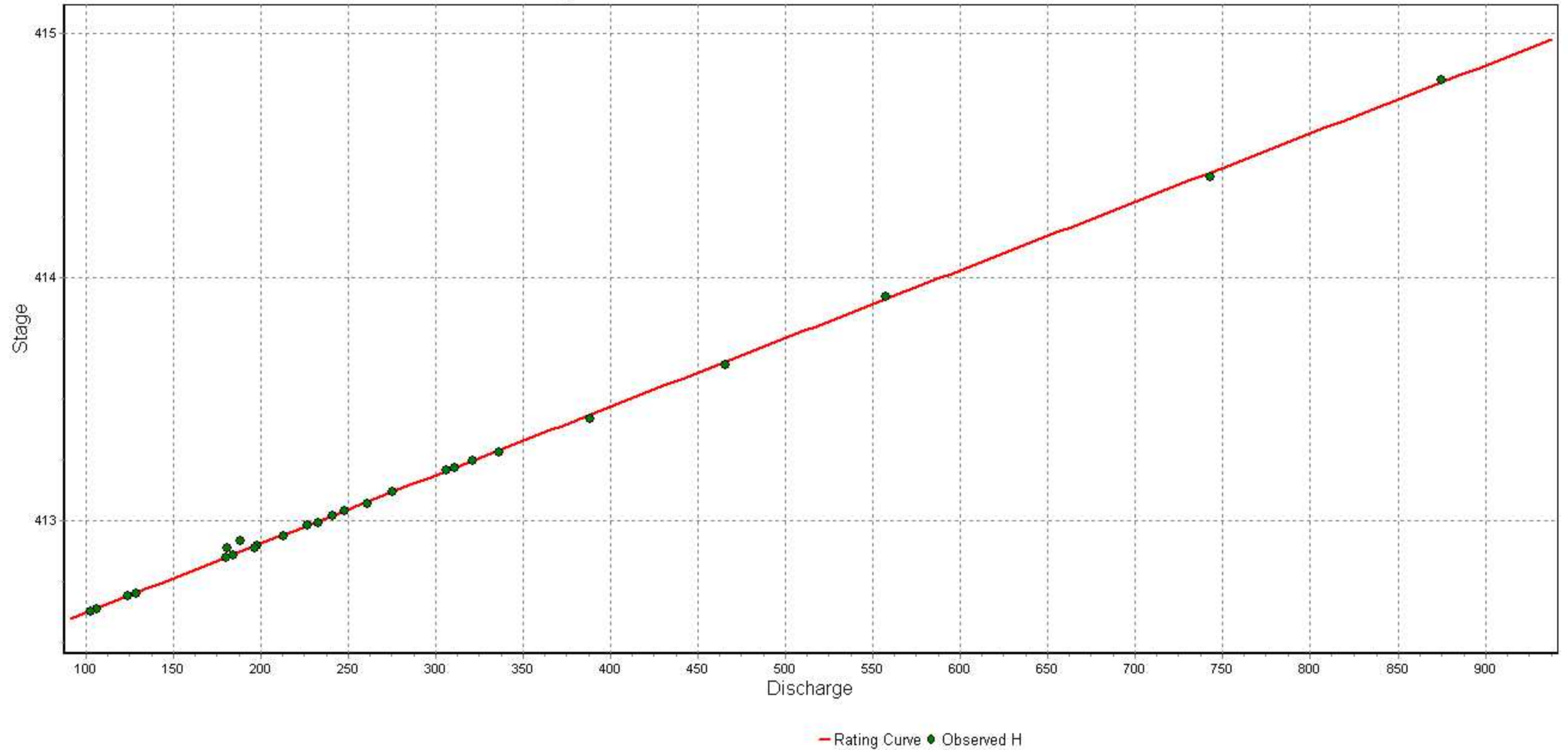
Sub-Division : Lower Bhima SD, Sholapur



Rating Curve of Site Takli 01/06/2021 to 14/09/2021



Rating Curve of Site Takli 15-09-2021 to 30-11-2021



		Water Year	: 2021-2022
Site	: Wadakbal	Code	: AKP60C4
State	: Maharashtra	District	: Sholapur
Basin	: Krishna	Independent River	: Krishna
Tributary	: Bhima	Sub Tributary	: Sina
Sub-Sub Tributary	: -	Local River	: Sina
Division	: Upper Krishna Divn, Pune	Sub-Division	: Lower Bhima SD, Sholapur
Drainage Area	: 12092 Sq. Km.	Bank	: Right
Latitude	: 17°32'03"	Longitude	: 75°53'06"
Zero of Gauge (m)	: 418.883 (m.s.l)	19-07-1963	- 31-10-1966
	: 418.383 (m.s.l)	01-11-1966	- 31-05-1969
	: 416.883 (m.s.l)	01-06-1969	- 31-05-2011
	: 417 (m.s.l)	01-06-2011	
	Opening Date	Closing Date	
Gauge	: 19-07-1963	HFL During 2021-22	: 425.310 m
		Corres. Discharge	: 1026 (Estimated)
Discharge	: 06-08-1964	Date & Time of occurrence	: 06-09-2021 : 21:00 Hrs
Sediment	: 01-06-1965	31-05-2006	
Water Quality	: 01-09-1972	31-05-2006	

HFL Recorded so far in m : 429.33 dt 16-10-2020

Corresponding Discharge (cumecs) : 3327 *

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1965-1966	1480	425.303	05-05-1966	0.040	418.898	27-03-1966
1966-1967	2025	426.693	15-11-1966	0.030	418.933	19-05-1967
1967-1968	1733	425.793	28-09-1967	0.000	418.848	13-06-1967
1968-1969	762.3	423.603	02-10-1968	0.000		30-04-1969
1969-1970	2050	426.543	24-08-1969	0.000	418.508	02-06-1969
1970-1971	2240	427.753	19-09-1970	0.100	418.728	03-05-1971
1971-1972	1335	425.603	26-09-1971	0.000	418.803	13-05-1972
1972-1973	201.2	421.263	08-09-1972	0.000		03-02-1973
1973-1974	734	424.141	20-09-1973	0.000	418.888	08-05-1974
1974-1975	531	423.573	23-10-1974	0.000	418.873	06-05-1975
1975-1976	1230	425.343	10-10-1975	0.000	418.763	15-05-1976
1976-1977	259	422.176	26-08-1976	0.000	418.633	27-03-1977
1977-1978	882.1	424.435	24-11-1977	0.000	418.618	20-04-1978
1978-1979	1156	425.128	12-06-1978	0.000	418.473	30-04-1979
1979-1980	1671	426.388	27-09-1979	0.000	418.543	01-07-1979

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1980-1981	1051	424.938	22-08-1980	0.000	418.553	05-04-1981
1981-1982	912.9	424.718	22-09-1981	0.000	418.453	09-03-1982
1982-1983	209.7	421.720	23-09-1982	0.000	418.733	25-01-1983
1983-1984	2239	427.709	24-09-1983	0.000	418.673	15-04-1984
1984-1985	1369	425.977	10-10-1984	0.000	418.583	05-02-1985
1985-1986	562	423.611	06-10-1985	0.000		10-01-1986
1986-1987	539.2	423.298	23-09-1986	0.000	418.753	10-01-1987
1987-1988	591.5	423.791	19-10-1987	0.000	418.583	03-03-1988
1988-1989	1871	427.148	17-09-1988	0.000	418.663	28-01-1989
1989-1990	2746	428.538	29-09-1989	0.000	418.633	29-01-1990
1990-1991	1021	424.946	17-08-1990	0.000		03-03-1991
1991-1992	570.6	423.210	09-06-1991	0.000	418.383	26-01-1992
1992-1993	142.1	421.007	03-09-1992	0.000		25-01-1993
1993-1994	558.8	423.854	15-10-1993	0.000	419.383	29-01-1994
1994-1995	20	419.963	16-10-1994	0.000	419.763	25-01-1995
1995-1996	321.8	422.508	14-09-1995	0.000	418.513	26-01-1996
1996-1997	831	424.653	13-09-1996	0.000	419.883	25-01-1997
1997-1998	325.2	422.508	28-10-1997	0.000	419.463	25-01-1998
1998-1999	2302	428.033	29-09-1998	0.000	419.083	15-02-1999
1999-2000	156.9	421.483	17-06-1999	0.000		24-11-1999
2000-2001	1530	426.278	28-08-2000	0.000	418.643	23-01-2001
2001-2002	822	424.533	09-10-2001	0.000		25-01-2002
2002-2003	73.17	420.498	03-08-2002	0.000	418.723	24-01-2003
2003-2004	8	419.218	28-12-2003	0.000		27-01-2004
2004-2005	200.4	421.978	06-06-2004	0.000		25-01-2005
2005-2006	510	423.488	10-09-2005	0.000	419.313	22-01-2006
2006-2007	520	423.683	24-09-2006	0.000	418.763	21-01-2007
2007-2008	565.6	423.668	21-09-2007	0.000	418.783	16-01-2008
2008-2009	1720	426.543	15-09-2008	0.000		07-01-2009
2009-2010	381.3	422.933	05-10-2009	0.000		15-04-2010
2010-2011	1523	426.423	29-08-2010	0.000	419.763	01-05-2011
2011-2012	64.69	420.155	22-08-2011	0.000		19-01-2012
2012-2013	60.76	420.280	07-10-2012	0.000		14-06-2012
2013-2014	421.5	422.760	21-09-2013	0.000		01-02-2014
2014-2015	120.9	420.740	31-08-2014	0.000		03-07-2014
2015-2016	21.03	419.345	11-09-2015	0.000		13-11-2015
2016-2017	970.6	425.565	04-10-2016	0.000	418.540	23-01-2017
2017-2018	820.2	424.660	24-09-2017	0.000	418.830	15-11-2017
2018-2019	26.35	419.620	18-08-2018	0.000		20-05-2019
2019-2020	480	423.365	22-10-2019	0.000		07-08-2019
2020-2021	3327	429.330	16-10-2020	0.000		04-05-2021

Annual Runoff of Sina at Wadakbal

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1965-1966	760	192	952	27	7	34
2	1966-1967	801	43	844	28	2	30
3	1967-1968	1347	126	1473	48	4	52
4	1968-1969	658	18	676	23	1	24
5	1969-1970	2378	55	2432	84	2	86
6	1970-1971	1844	54	1897	65	2	67
7	1971-1972	1333	26	1359	47	1	48
8	1972-1973	110	0	110	4	0	4
9	1973-1974	1411	43	1454	50	2	51
10	1974-1975	1255	51	1306	44	2	46
11	1975-1976	2060	99	2159	73	4	76
12	1976-1977	266	3	269	9	0	10
13	1977-1978	460	191	651	16	7	23
14	1978-1979	905	25	930	32	1	33
15	1979-1980	1179	168	1347	42	6	48
16	1980-1981	878	28	906	31	1	32
17	1981-1982	575	7	582	20	0	21
18	1982-1983	142	0	142	5	0	5
19	1983-1984	2646	34	2680	94	1	95
20	1984-1985	555	4	558	20	0	20
21	1985-1986	206	3	209	7	0	7
22	1986-1987	240	5	245	8	0	9
23	1987-1988	486	19	505	17	1	18
24	1988-1989	2416	2	2418	85	0	85
25	1989-1990	1936	46	1982	68	2	70
26	1990-1991	1826	7	1833	65	0	65
27	1991-1992	415	0	415	15	0	15
28	1992-1993	58	0	58	2	0	2
29	1993-1994	417	14	431	15	0	15
30	1994-1995	42	0	42	1	0	1
31	1995-1996	169	0	169	6	0	6
32	1996-1997	565	0	565	20	0	20
33	1997-1998	123	0	123	4	0	4
34	1998-1999	3691	5	3696	130	0	131
35	1999-2000	199	16	215	7	1	8
36	2000-2001	743	6	749	26	0	26
37	2001-2002	188	0	188	7	0	7
38	2002-2003	15	3	18	1	0	1
39	2003-2004	1	2	3	0	0	0
40	2004-2005	193	0	193	7	0	7
41	2005-2006	311	5	316	11	0	11
42	2006-2007	868	4	872	31	0	31
43	2007-2008	550	18	568	19	1	20
44	2008-2009	686	95	781	24	3	28

45	2009-2010	344	189	534	12	7	19
46	2010-2011	2035	101	2136	72	4	75
47	2011-2012	112	2	115	4	0	4
48	2012-2013	17	1	18	1	0	1
49	2013-2014	222	3	225	8	0	8
50	2014-2015	100	7	108	4	0	4
51	2015-2016	3	0	3	0	0	0
52	2016-2017	440	5	445	16	0	16
53	2017-2018	985	4	989	35	0	35
54	2018-2019	16	4	21	1	0	1
55	2019-2020	218	5	223	8	0	8
56	2020-2021	1005	0	1005	36	0	36
57	2021-2022	329	0	329	12	0	12
Average		767	30	798	27	1	28

Instantaneous Flood Peak of Krishna at Wadakbal

Sl. No.	Year	Instantaneous Annual Flood Peak		Time	Discharge * (Cumecs)
		Peak WL (m) Recorded	Date		
1	1965-1966	426.533	21-08-1965	22:00:00	1480 *
2	1966-1967	427.413	15-11-1966	13:00:00	2025 *
3	1967-1968	425.783	28-09-1967	08:00:00	1733 *
4	1968-1969	424.463	02-10-1968	01:00:00	762 *
5	1969-1970	427.353	05-09-1969	21:00:00	2108 *
6	1970-1971	427.913	19-09-1970	12:00:00	2424 *
7	1971-1972	427.003	27-09-1971	00:00:00	1922 *
8	1972-1973	421.548	08-09-1972	06:00:00	190 *
9	1973-1974	424.233	20-09-1973	14:00:00	769 *
10	1974-1975	424.958	03-08-1974	21:00:00	1016 *
11	1975-1976	425.828	11-10-1975	01:00:00	1364 *
12	1976-1977	422.933	25-06-1976	01:00:00	422 *
13	1977-1978	425.043	24-11-1977	18:00:00	1048 *
14	1978-1979	425.638	13-06-1978	00:00:00	1283 *
15	1979-1980	426.598	27-09-1979	16:00:00	1718 *
16	1980-1981	425.108	22-08-1980	16:00:00	1072 *
17	1981-1982	424.803	22-09-1981	14:00:00	960 *
18	1982-1983	421.783	23-09-1982	06:00:00	219 *
19	1983-1984	427.828	24-09-1983	13:00:00	2375 *
20	1984-1985	426.463	10-10-1984	16:00:00	1653 *
21	1985-1986	423.663	06-10-1985	15:00:00	602 *
22	1986-1987	423.373	23-09-1986	10:00:00	526 *
23	1987-1988	424.403	19-10-1987	20:00:00	823 *
24	1988-1989	427.838	19-09-1988	00:00:00	2381 *
25	1989-1990	428.563	29-09-1989	08:00:00	2820
26	1990-1991	425.283	11-08-1990	01:00:00	1140 *
27	1991-1992	424.363	09-06-1991	15:00:00	810 *
28	1992-1993	421.593	03-09-1992	15:00:00	195 *
29	1993-1994	425.133	16-10-1993	03:00:00	1082 *
30	1994-1995	420.483	12-01-1994	13:00:00	107 *
31	1995-1996	423.583	15-10-1995	23:00:00	580 *
32	1996-1997	424.983	13-09-1996	18:00:00	1025 *
33	1997-1998	422.533	28-10-1997	08:00:00	341 *
34	1998-1999	428.043	29-09-1998	09:00:00	2501 *
35	1999-2000	421.723	17-06-1999	05:00:00	211 *
36	2000-2001	426.383	28-08-2000	12:00:00	1615 *
37	2001-2002	425.683	09-10-2001	00:00:00	1302 *
38	2002-2003	421.853	03-08-2002	03:00:00	229 *
39	2003-2004	419.693	20-01-2003	08:00:00	100
40	2004-2005	421.978	06-06-2004	08:00:00	247 *
41	2005-2006	423.508	10-09-2005	10:00:00	560 *
42	2006-2007	423.698	24-09-2006	06:00:00	611 *
43	2007-2008	423.748	21-09-2007	11:00:00	625 *
44	2008-2009	426.903	14-09-2008	23:00:00	1871 *
45	2009-2010	423.173	04-10-2009	22:00:00	477 *

46	2010-2011	426.793	14-08-2010	18:00:00	1815 *
47	2011-2012	420.520	21-08-2011	23:00:00	109 *
48	2012-2013	421.260	07-10-2012	18:00:00	159 *
49	2013-2014	423.100	21-09-2013	02:00:00	460 *
50	2014-2015	422.350	30-08-2014	12:00:00	307 *
51	2015-2016	420.110	14-02-2015	08:00:00	98 *
52	2016-2017	425.850	04-10-2016	18:00:00	1374 *
53	2017-2018	424.750	24-09-2017	03:00:00	941 *
54	2018-2019	419.970	26-01-2018	13:00:00	97 *
55	2019-2020	423.800	22-10-2019	03:00:00	640 *
56	2020-2021	429.330	16-10-2020	08:00:00	3327 *
57	2021-2022	425.310	06-09-2021	21:00:00	1026 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : Wadakbal (AKP60C4)

Local River : Sina

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	Dry Bed	0.000	418.740	0.000	419.070	0.000	419.675	28.01	422.870	0.000	418.990	0.000
2		0.000	418.660	0.000	419.060	5.772	419.665	27.84	422.140	0.000	418.970	0.000
3		0.000	418.630	0.000	419.030	5.122	419.580	23.88	423.360	0.000	418.950	0.000
4		0.000	418.600	0.000	419.000	4.521	419.590	24.14	423.390	0.000	418.950	0.000
5		0.000	418.580	0.000	418.970	3.216	419.620	25.75 *	423.590	0.000	418.940	0.000
6		0.000	418.570	0.000	418.820	0.000	424.610	0.000	424.550	0.000	418.940	0.000
7		0.000	418.680	0.000	418.800	0.000	424.480	0.000	424.350	0.000	418.920	0.000
8		0.000	418.720	0.000	418.780	0.000	422.450	0.000	422.650	0.000	418.910	0.000
9		0.000	418.840	0.000	418.710	0.000	421.465	185.8	422.400	0.000	418.890	0.000
10		0.000	419.020	0.000	418.640	0.000	421.000	135.7 *	423.500	0.000	418.870	0.000
11		0.000	419.010	0.000	418.590	0.000	420.440	80.83	423.940	0.000	418.860	0.000
12		0.000	418.930	0.000	418.580	0.000	420.310	69.74 *	423.670	0.000	418.850	0.000
13		0.000	419.990	45.26	DryBed	0.000	420.260	62.15	422.530	0.000	418.860	0.000
14	418.600	0.000	419.690	28.11		0.000	421.085	154.6	421.545	205.6	418.870	0.000
15	418.720	0.000	419.450	18.50		0.000	420.805	118.6	421.390	182.4 *	418.860	0.000
16	418.640	0.000	419.420	18.17		0.000	420.160	58.14	420.740	110.1	418.850	0.000
17	418.670	0.000	419.600	25.36		0.000	419.990	44.31	421.040	140.1 *	418.840	0.000
18	418.640	0.000	419.830	36.57 *		0.000	419.920	39.92	420.860	123.1	418.850	0.000
19	418.690	0.000	419.730	30.13	418.600	0.000	419.860	38.33 *	420.650	99.55 *	418.870	0.000
20	418.700	0.000	419.860	36.96	418.630	0.000	419.810	34.16	420.540	94.15	418.890	0.000
21	418.650	0.000	419.540	22.28	418.640	0.000	419.940	42.03	420.840	121.5	419.000	0.000
22	418.630	0.000	419.510	21.70	418.650	0.000	420.590	104.2	420.325	69.19	419.240	0.000
23	418.610	0.000	419.570	23.62	418.720	0.000	420.050	51.79	419.920	42.43	419.370	0.000
24	418.600	0.000	419.980	44.35	418.820	0.000	420.260	61.74	420.190	60.46 *	419.240	0.000
25	418.590	0.000	419.730	30.98 *	419.230	10.69	421.500	194.9	420.295	63.02	419.170	0.000
26		0.000	419.470	20.37	419.540	22.05	421.810	240.3 *	419.610	23.44	419.160	0.000
27		0.000	419.360	16.39	419.555	22.61	424.630	0.000	419.515	22.03	419.170	0.000
28	419.050	0.000	419.260	11.11	419.250	11.22	424.250	0.000	419.200	9.059	419.170	0.000
29	418.890	0.000	419.200	10.28	419.120	7.292 *	424.190	0.000	419.160	0.000	419.100	0.000
30	418.830	0.000	419.160	8.016	419.345	13.56	424.770	0.000	419.140	0.000	419.010	0.000
31			419.100	7.251	419.795	33.85			419.090	0.000		
Ten-Daily Mean												
I Ten-Daily		0.000	418.704	0.000	418.888	1.863	421.213	45.11	423.280	0.000	418.933	0.000
II Ten-Daily	418.666	0.000	419.551	23.91	418.600	0.000	420.264	70.07	421.691	95.50	418.860	0.000
III Ten-Daily	418.731	0.000	419.444	19.67	419.151	11.02	422.199	69.49	419.753	37.37	419.163	0.000
Monthly												
Min.	418.590	0.000	418.570	0.000	418.580	0.000	419.580	0.000	419.090	0.000	418.840	0.000
Max.	419.050	0.000	419.990	45.26	419.795	33.85	424.770	240.3	424.550	205.6	419.370	0.000
Mean	418.701	0	419.240	14.69	418.958	4.513	421.225	61.56	421.516	44.07	418.985	0

Annual Runoff in MCM = 329 Annual Runoff in mm = 27

Peak Observed Discharge = 205.6 cumecs on 14-10-2021 Corres. Water Level :421.545 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : Wadakbal (AKP60C4)

Local River : Sina

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	419.000	0.000	419.210	0.000	418.900	0.000	419.940	0.000	418.870	0.000	419.100	0.000
2	418.990	0.000	419.150	0.000	418.870	0.000	419.950	0.000	418.840	0.000	419.100	0.000
3	418.980	0.000	419.100	0.000	418.850	0.000	419.930	0.000	418.820	0.000	419.110	0.000
4	418.990	0.000	419.070	0.000	418.840	0.000	419.800	0.000	418.400	0.000	419.080	0.000
5	419.020	0.000	419.040	0.000	418.830	0.000	419.650	0.000	418.760	0.000	418.940	0.000
6	419.030	0.000	419.010	0.000	418.830	0.000	420.030	0.000	418.740	0.000	418.850	0.000
7	420.030	0.000	419.000	0.000	418.820	0.000	419.850	0.000	418.710	0.000	418.790	0.000
8	420.420	0.000	418.990	0.000	418.820	0.000	419.720	0.000	418.690	0.000	418.750	0.000
9	420.470	0.000	418.980	0.000	418.810	0.000	419.550	0.000	418.660	0.000	418.730	0.000
10	420.430	0.000	418.960	0.000	418.800	0.000	419.440	0.000	418.630	0.000	418.700	0.000
11	420.440	0.000	418.930	0.000	418.790	0.000	419.350	0.000	418.620	0.000	419.210	0.000
12	420.370	0.000	418.910	0.000	418.790	0.000	419.290	0.000	418.600	0.000	419.780	0.000
13	420.100	0.000	418.910	0.000	418.780	0.000	419.230	0.000	418.600	0.000	419.690	0.000
14	419.900	0.000	418.900	0.000	418.770	0.000	419.170	0.000	418.600	0.000	419.690	0.000
15	419.550	0.000	418.890	0.000	418.760	0.000	419.130	0.000	418.590	0.000	419.550	0.000
16	419.000	0.000	418.880	0.000	418.760	0.000	419.110	0.000	418.590	0.000	419.450	0.000
17	418.950	0.000	418.880	0.000	418.760	0.000	419.080	0.000	418.590	0.000	419.300	0.000
18	419.300	0.000	418.870	0.000	418.760	0.000	419.020	0.000	418.580	0.000	419.150	0.000
19	420.190	0.000	418.860	0.000	418.750	0.000	419.190	0.000	418.580	0.000	419.050	0.000
20	420.040	0.000	418.860	0.000	418.750	0.000	419.240	0.000	418.580	0.000	418.940	0.000
21	420.000	0.000	418.870	0.000	418.740	0.000	419.260	0.000	418.570	0.000	418.900	0.000
22	419.960	0.000	418.890	0.000	418.740	0.000	419.200	0.000	418.570	0.000	419.270	0.000
23	419.910	0.000	418.950	0.000	418.730	0.000	419.160	0.000	418.570	0.000	419.630	0.000
24	419.880	0.000	419.030	0.000	418.730	0.000	419.000	0.000	418.560	0.000	419.800	0.000
25	419.850	0.000	419.050	0.000	418.850	0.000	419.000	0.000	418.560	0.000	419.750	0.000
26	419.840	0.000	419.080	0.000	419.400	0.000	418.980	0.000	418.620	0.000	419.740	0.000
27	419.810	0.000	419.090	0.000	419.987	0.000	418.940	0.000	418.730	0.000	419.730	0.000
28	419.590	0.000	419.050	0.000	419.970	0.000	418.930	0.000	418.900	0.000	419.650	0.000
29	419.400	0.000	419.010	0.000			418.920	0.000	419.040	0.000	419.530	0.000
30	419.260	0.000	418.950	0.000			418.910	0.000	419.080	0.000	419.450	0.000
31	419.240	0.000	418.930	0.000			418.890	0.000			419.300	0.000
<u>Ten-Daily Mean</u>												
I Ten-Daily	419.536	0.000	419.051	0.000	418.837	0.000	419.786	0.000	418.712	0.000	418.915	0.000
II Ten-Daily	419.784	0.000	418.889	0.000	418.767	0.000	419.181	0.000	418.593	0.000	419.381	0.000
III Ten-Daily	419.704	0.000	418.991	0.000	419.143	0.000	419.017	0.000	418.720	0.000	419.523	0.000
<u>Monthly</u>												
Min.	418.950	0.000	418.860	0.000	418.730	0.000	418.890	0.000	418.400	0.000	418.700	0.000
Max.	420.470	0.000	419.210	0.000	419.987	0.000	420.030	0.000	419.080	0.000	419.800	0.000
Mean	419.675	0	418.977	0	418.900	0	419.318	0	418.675	0	419.281	0

Peak Computed Discharge = 240.3 cumecs on 26-09-2021

Corres. Water Level :421.81 m

Lowest Computed Discharge = 7.292 cumecs on 29-08-2021

Corres. Water Level :419.12 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

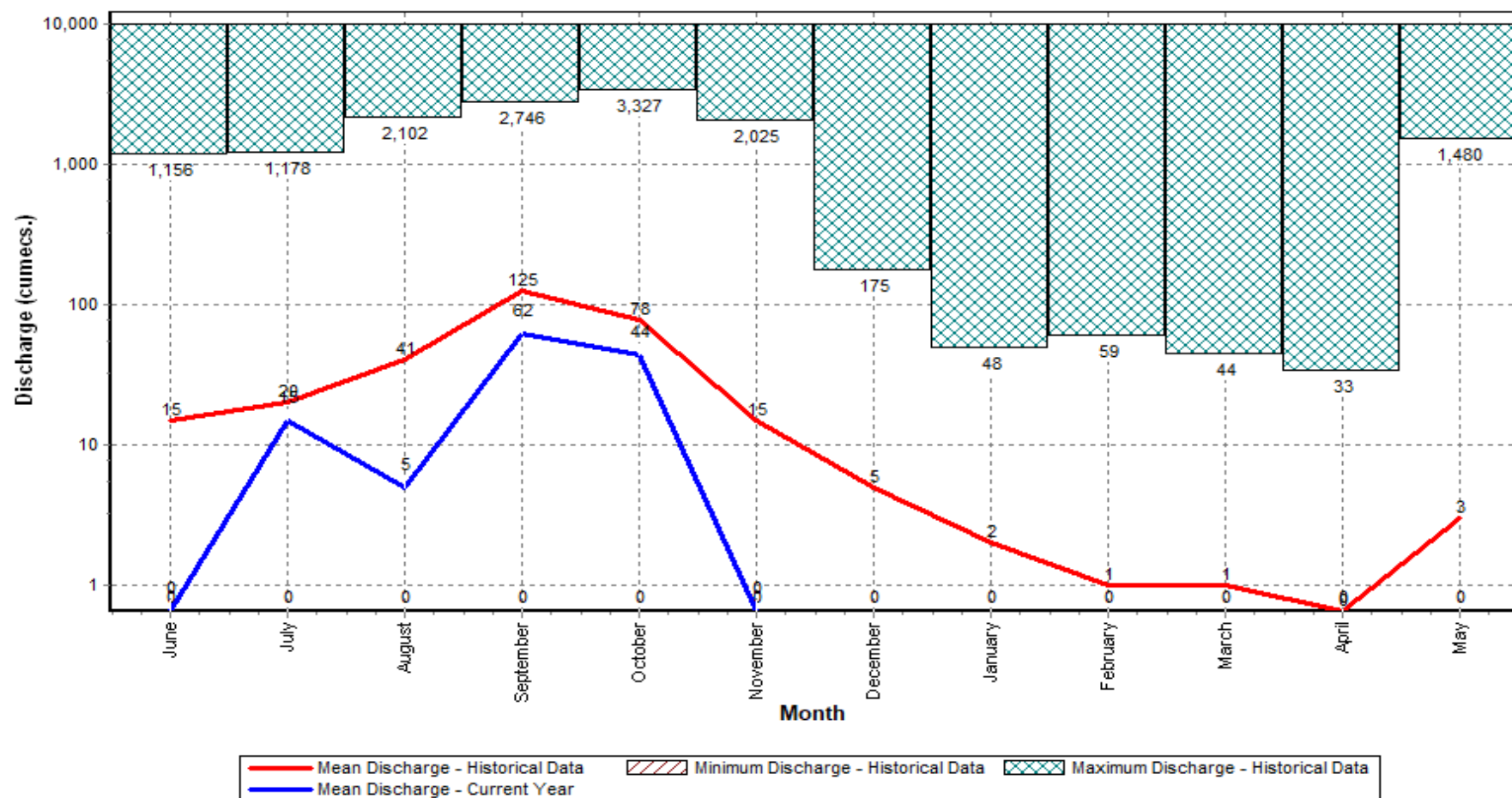
Station Name : Wadakbal (AKP60C4)

Data considered : 1965-2022

Division : Upper Krishna Divn, Pune

Local River : Sina

Sub-Division : Lower Bhima SD, Sholapur



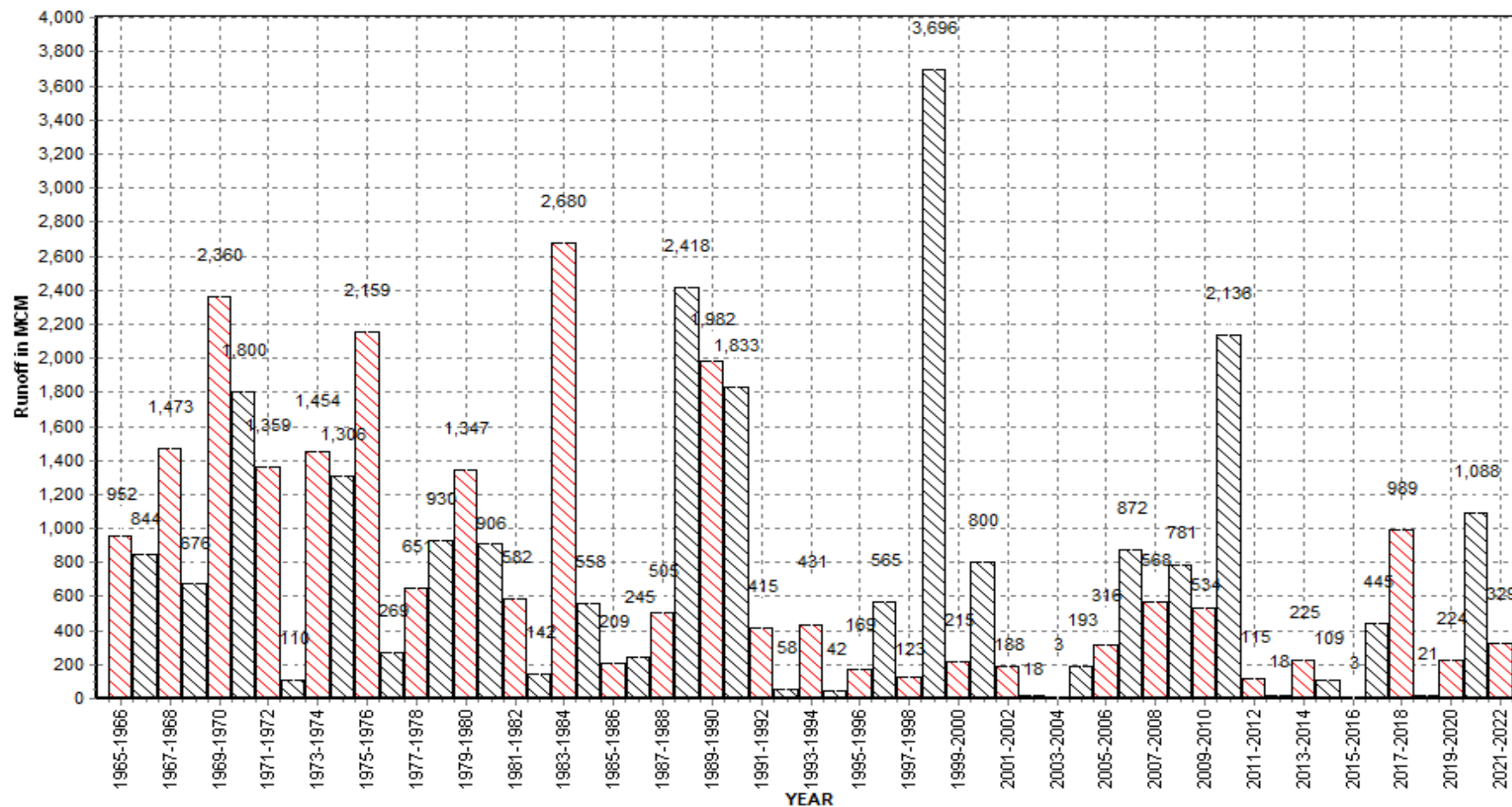
Annual Runoff Values for the period: 1965 - 2022

Station Name : Wadakbal (AKP60C4)

Local River : Sina

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur



Note: Missing values have not been considered while arriving at Annual Runoff

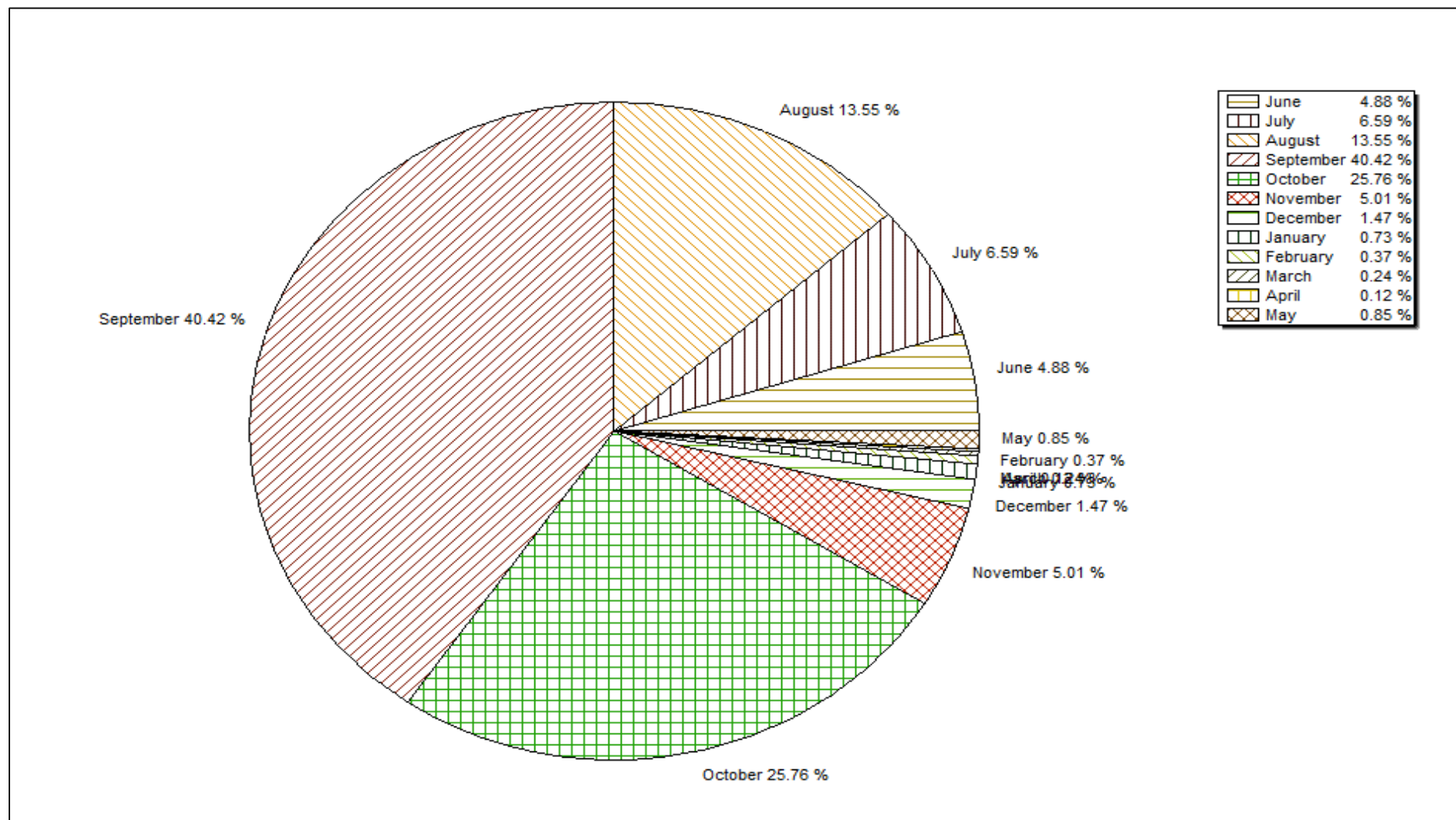
Monthly Average Runoff based on period : 1965-2021

Station Name : Wadakbal (AKP60C4)

Local River : Sina

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur



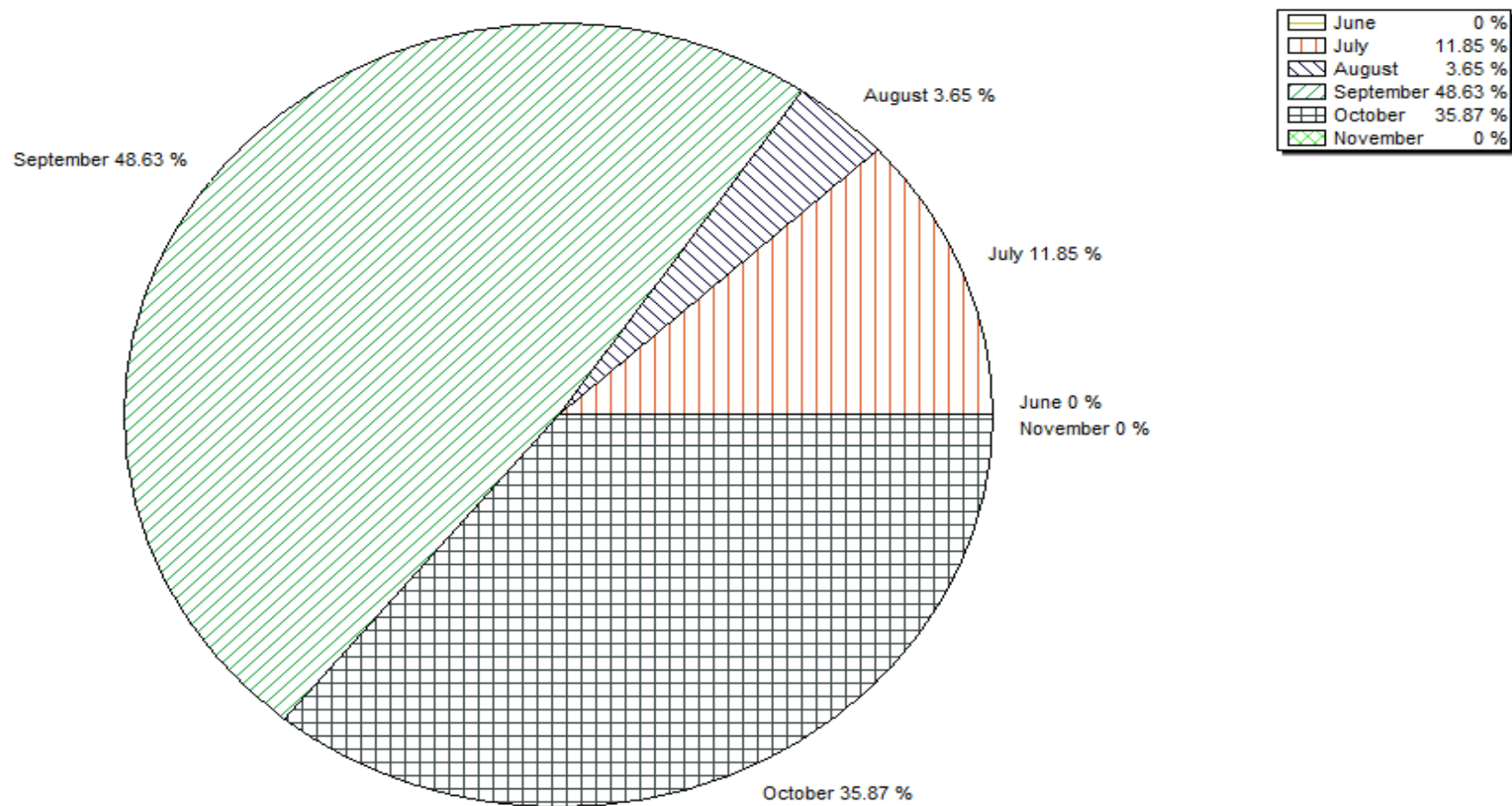
Monthly Runoff for the Year : 2021-2022

Station Name : Wadakbal (AKP60C4)

Local River : Sina

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur



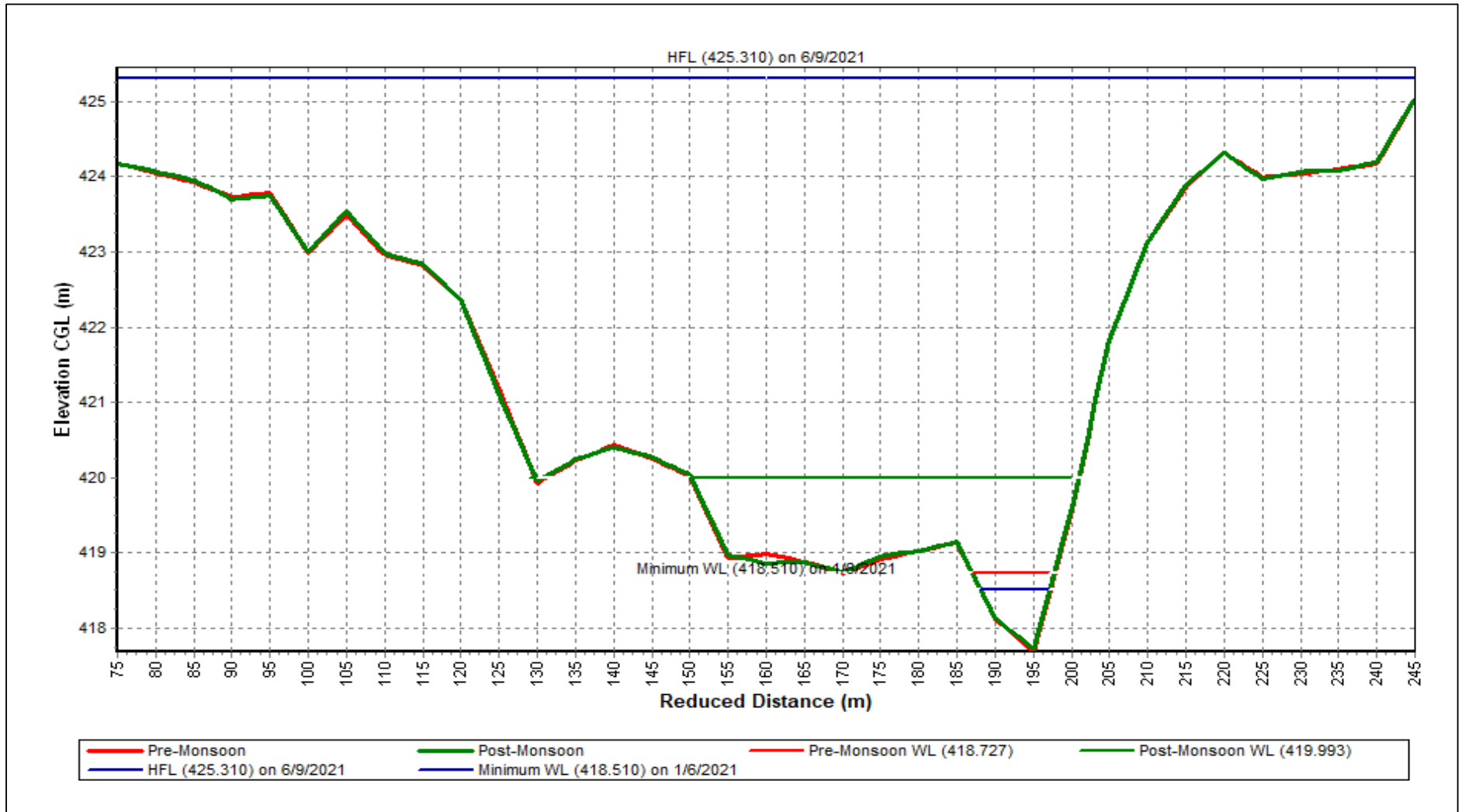
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : Wadakbal (AKP60C4)

Local River : Sina

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur



Zero of Gauge : 417 (m.s.l)

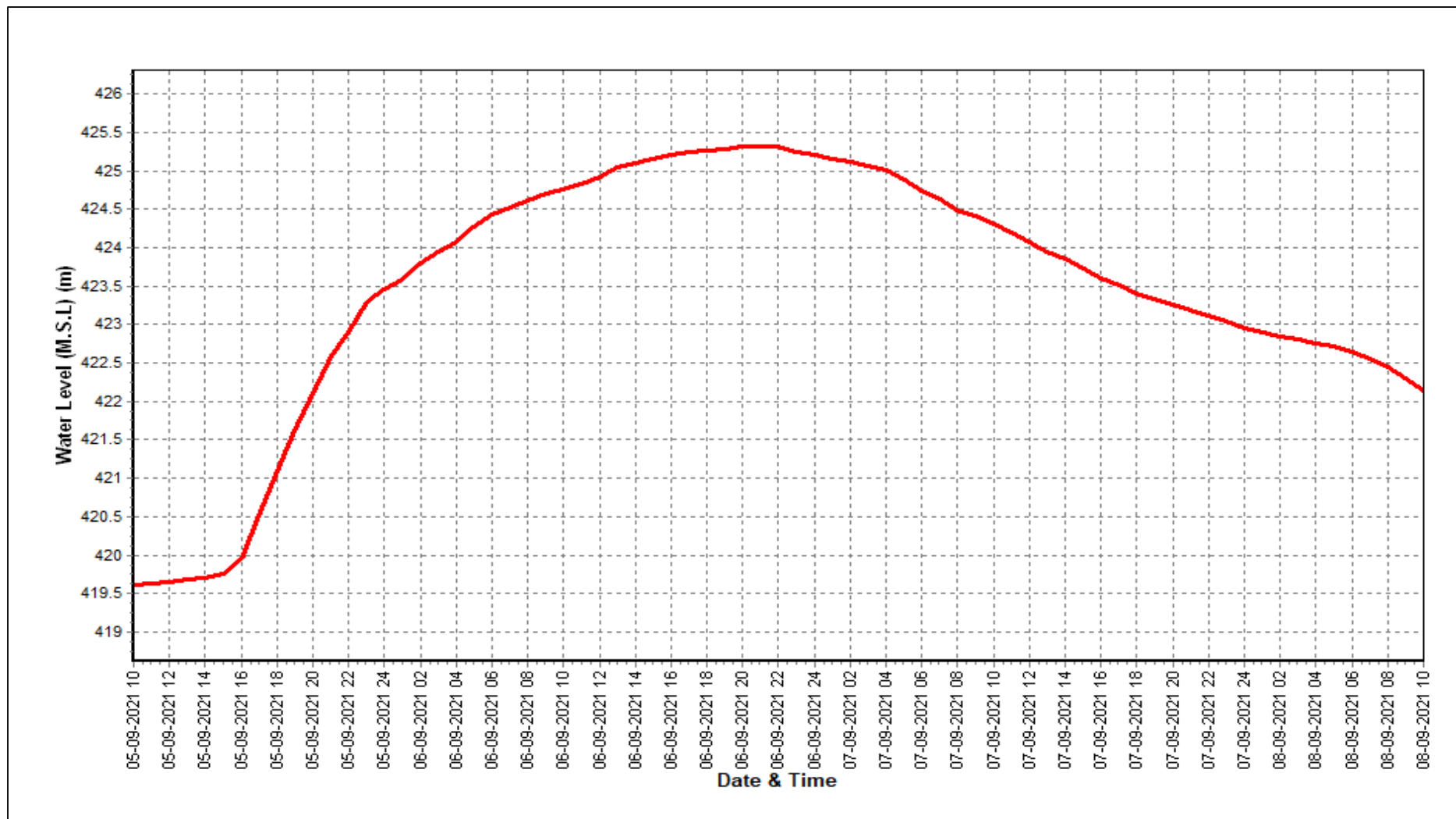
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Wadakbal (AKP60C4)

Local River : Sina

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur



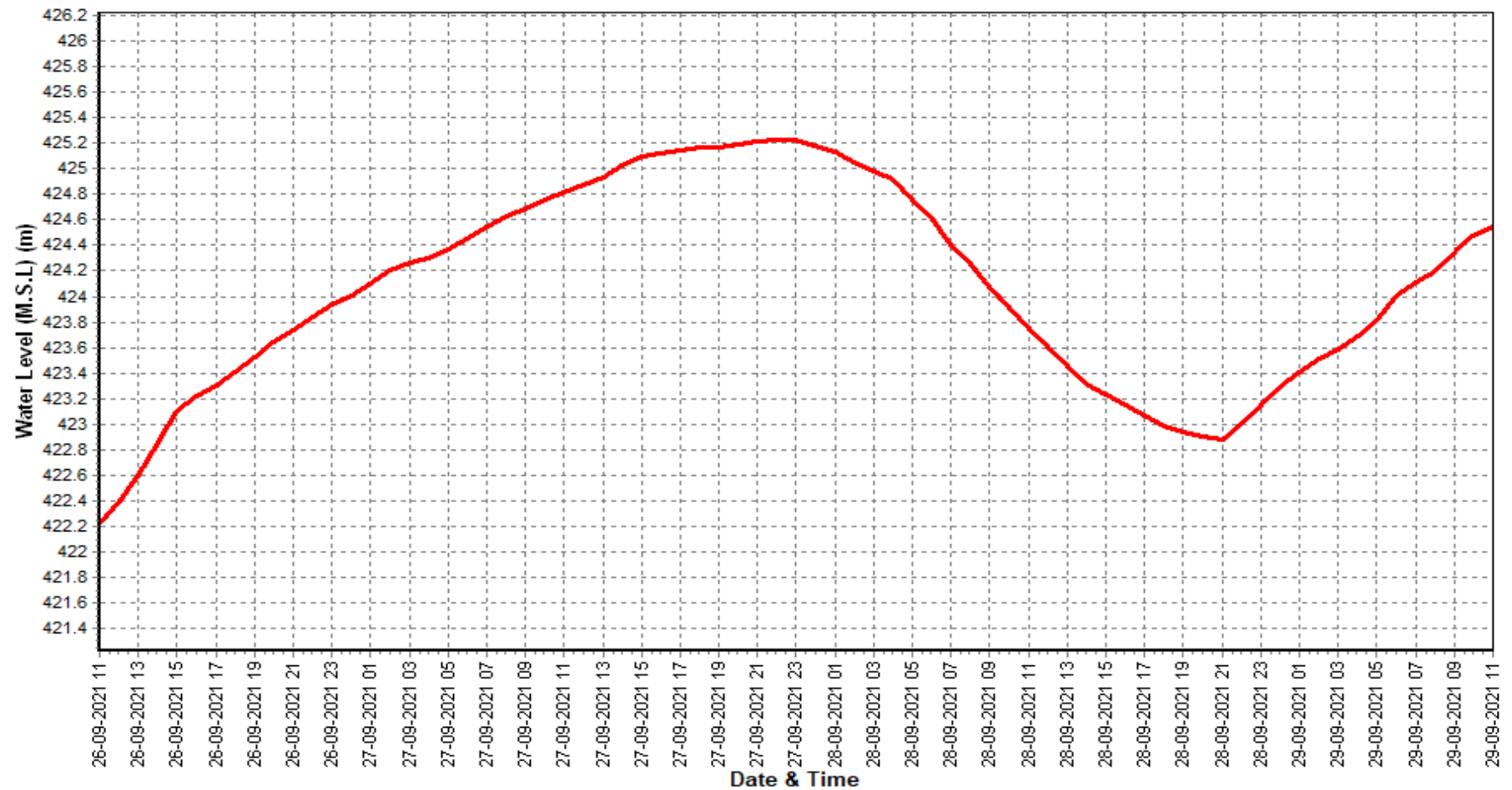
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Wadakbal (AKP60C4)

Local River : Sina

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur



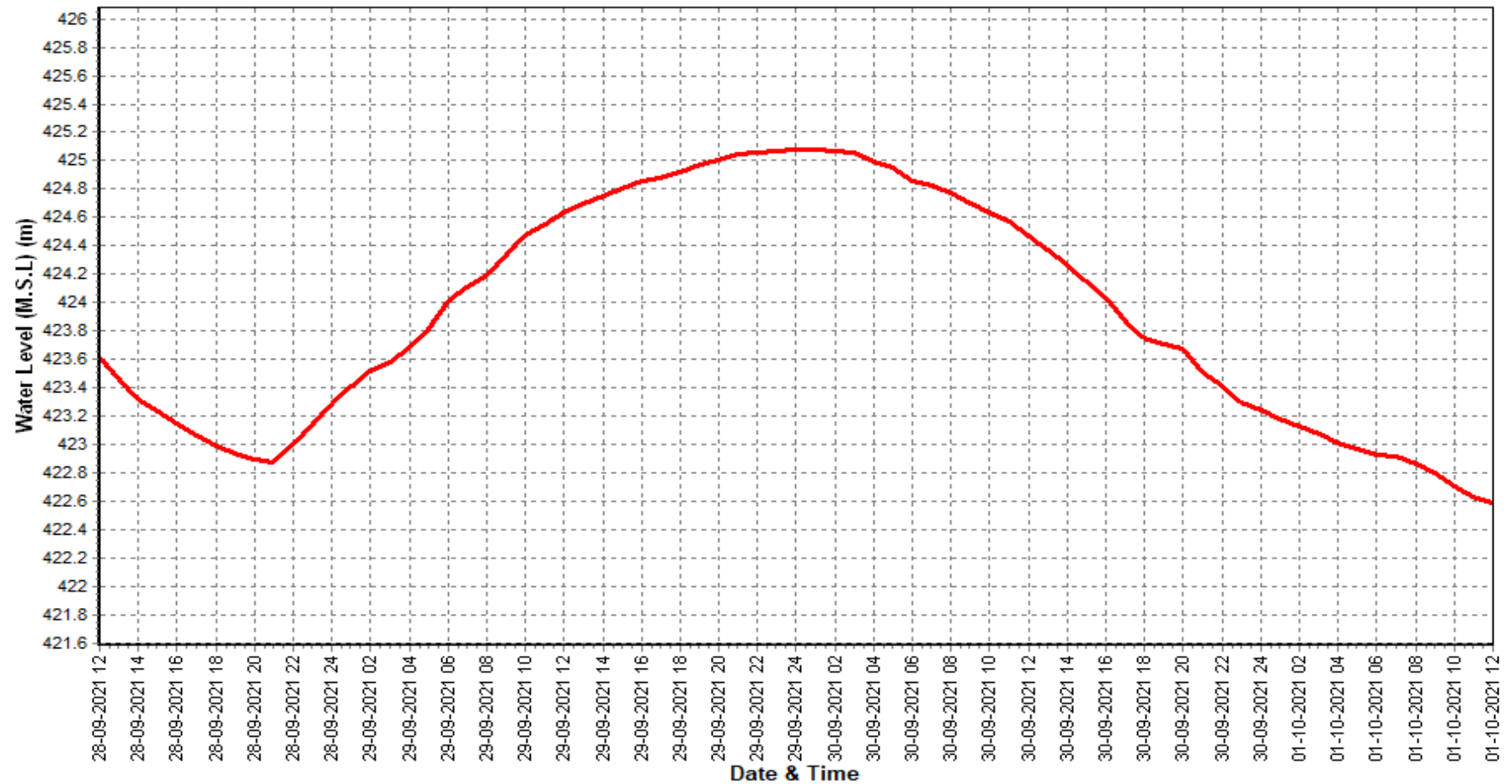
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Wadakbal (AKP60C4)

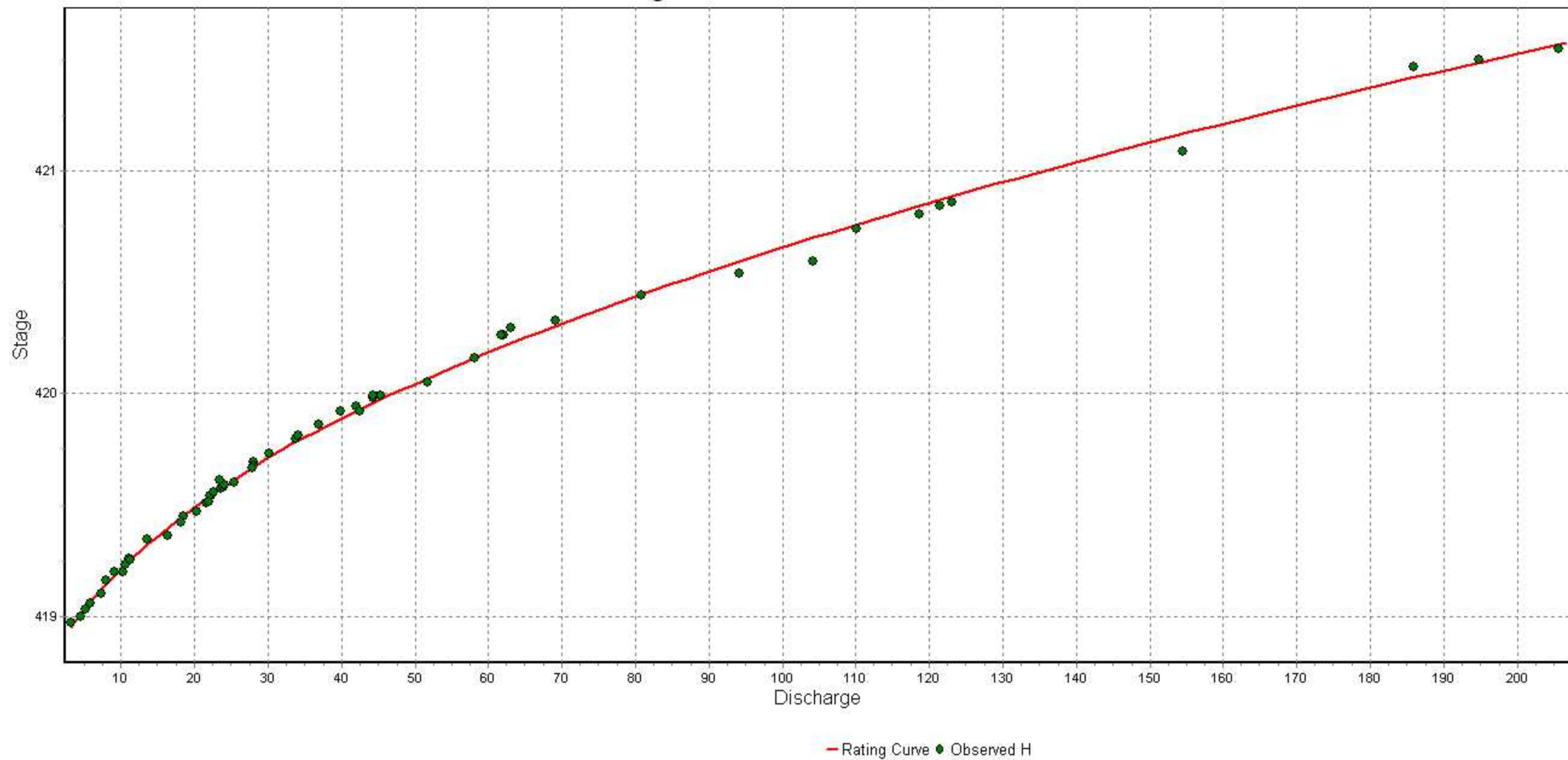
Local River : Sina

Division : Upper Krishna Divn, Pune

Sub-Division : Lower Bhima SD, Sholapur



Rating Curve of Site Wadakbal 2021



HISTORY SHEET

		Water Year	: 2021-2022
Site	: Malkhed	Code	: AKP10E1
State	: Karnataka	District	Gulbarga
Basin	: Krishna	Independent River	: Krishna
Tributary	: Bhima	Sub Tributary	: Kagna
Sub-Sub Tributary	: -	Local River	: Kagna
Division	: Lower Krishna Divn., Hyderabad	Sub-Division	: Middle Krishna SD 2 , Kurnool
Drainage Area	: 7650 Sq. Km.	Bank	: Left
Latitude	: 17°12'12"	Longitude	: 77°09'23"
Zero of Gauge (m)	: 390 (m.s.l)	15-08-1990	- 31-12-1998
	: 390 (m.s.l)	01-01-1999	- 31-12-2005
	: 390 (m.s.l)	01-01-2006	
	Opening Date	Closing Date	
Gauge	: 30-09-1989	HFL During 2021-22	: 399.750 m
		Corres. Discharge	: 2479 (Estimated)
Discharge	: 15-08-1990	Date & Time of	: 05-09-2021
		occurrence	: 17:00 Hrs
Sediment	: 08-09-1992		
Water Quality	: 01-06-1992		

HFL Recorded so far in m : 403.190 dt 15-10-2020

Corresponding Discharge (cumecs) : 4395 *

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1991-1992	870	396.154	09-07-1991	0.050	392.450	17-04-1992
1992-1993	810	396.118	02-09-1992	0.000		01-05-1993
1993-1994	511	395.019	22-09-1993	0.000		21-05-1994
1994-1995	274.7	393.990	06-10-1994	0.000		21-04-1995
1995-1996	928	396.530	17-10-1995	0.000		18-06-1995
1996-1997	959.3	396.285	17-09-1996	0.109	392.150	01-06-1996
1997-1998	148.2	393.600	27-09-1997	0.000		18-05-1998
1998-1999	1550	397.455	22-09-1998	0.000		11-06-1998
1999-2000	414.3	394.600	03-08-1999	0.063	392.140	24-05-2000
2000-2001	1100	396.975	24-08-2000	0.157	391.995	31-05-2001
2001-2002	928	396.460	01-10-2001	0.152	391.990	04-06-2001
2002-2003	438.9	394.660	16-10-2002	0.000		07-05-2003
2003-2004	711.3	395.440	23-08-2003	0.000		18-03-2004
2004-2005	152.9	393.750	06-10-2004	0.000	392.430	03-03-2005
2005-2006	843.5	396.290	10-09-2005	0.000	392.520	06-07-2005
2006-2007	232	393.980	28-09-2006	0.000	392.740	15-05-2007
2007-2008	922.7	396.450	20-09-2007	0.000	392.820	02-06-2007

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2008-2009	1215	397.450	10-08-2008	0.000	392.700	15-07-2008
2009-2010	1254	397.500	03-09-2009	0.000	392.790	04-07-2009
2010-2011	1269	397.580	26-08-2010	0.536	392.800	13-06-2010
2011-2012	1150	397.200	31-07-2011	0.732	392.680	18-03-2012
2012-2013	750	395.600	04-09-2012	0.781	392.710	03-06-2012
2013-2014	1188	397.400	20-09-2013	0.457	392.740	04-03-2014
2014-2015	1320	397.720	01-09-2014	0.070	392.720	06-07-2014
2015-2016	220.7	393.850	15-09-2015	0.488	392.700	01-11-2015
2016-2017	2611	400.650	24-09-2016	0.373	392.550	17-06-2016
2017-2018	911.6	396.500	10-10-2017	0.000	392.690	02-06-2017
2018-2019	139.2	393.810	12-08-2018	0.000	392.680	01-03-2019
2019-2020	228.6	393.920	15-10-2019	0.000	392.500	22-07-2019
2020-2021	4228	402.950	15-10-2020	0.000	392.790	10-05-2021

Annual Runoff of Kagna at Malkhed

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1990-1991	1610	76	1685	57	3	60
2	1991-1992	579	12	591	20	0	21
3	1992-1993	331	14	345	12	0	12
4	1993-1994	416	26	442	15	1	16
5	1994-1995	98	4	102	3	0	4
6	1995-1996	987	50	1037	35	2	37
7	1996-1997	1046	63	1109	37	2	39
8	1997-1998	125	17	142	4	1	5
9	1998-1999	3031	71	3102	107	3	110
10	1999-2000	449	24	472	16	1	17
11	2000-2001	1013	34	1047	36	1	37
12	2001-2002	542	42	584	19	1	21
13	2002-2003	208	21	228	7	1	8
14	2003-2004	218	35	253	8	1	9
15	2004-2005	149	28	177	5	1	6
16	2005-2006	1058	33	1092	37	1	39
17	2006-2007	69	27	95	2	1	3
18	2007-2008	729	192	921	26	7	33
19	2008-2009	818	101	919	29	4	32
20	2009-2010	1207	100	1307	43	4	46
21	2010-2011	2182	114	2297	77	4	81
22	2011-2012	653	31	684	23	1	24
23	2012-2013	564	43	607	20	2	21
24	2013-2014	980	101	1081	35	4	38
25	2014-2015	740	66	806	26	2	28
26	2015-2016	94	57	151	3	2	5
27	2016-2017	2335	50	2386	83	2	84
28	2017-2018	950	30	979	34	1	35
29	2018-2019	154	5	160	5	0	6
30	2019-2020	379	11	390	13	0	14
31	2020-2021	2875	1	2876	102	0	102
32	2021-2022	2618	278	2896	93	10	102
Average		913	55	968	32	2	34

Instantaneous Flood Peak of Kagna at Malkhed

		Instantaneous Annual Flood Peak			
Sl. No.	Year	Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	1990-1991	400.910	16-08-1990	02:00:00	3590 *
2	1991-1992	397.060	09-07-1991	10:00:00	1315 *
3	1992-1993	399.910	01-09-1992	21:00:00	2840 *
4	1993-1994	396.680	22-09-1993	10:00:00	1149 *
5	1994-1995	394.120	06-10-1994	12:00:00	275 *
6	1995-1996	396.530	17-10-1995	14:00:00	1101 *
7	1996-1997	396.940	16-09-1996	23:00:00	1262 *
8	1997-1998	394.310	27-09-1997	21:00:00	306 *
9	1998-1999	399.810	21-09-1998	23:00:00	2778 *
10	1999-2000	395.450	02-08-1999	22:00:00	670 *
11	2000-2001	398.080	24-08-2000	07:00:00	1805 *
12	2001-2002	397.010	01-10-2001	14:00:00	1293 *
13	2002-2003	394.690	16-10-2002	10:00:00	439 *
14	2003-2004	397.440	23-08-2003	16:00:00	1491 *
15	2004-2005	394.110	06-10-2004	13:00:00	251 *
16	2005-2006	396.360	08-09-2005	13:00:00	1016 *
17	2006-2007	394.000	28-09-2006	06:00:00	221 *
18	2007-2008	396.500	20-09-2007	06:00:00	1073 *
19	2008-2009	397.710	10-08-2008	11:00:00	1620 *
20	2009-2010	398.980	03-10-2009	15:00:00	2289 *
21	2010-2011	398.700	25-08-2010	23:00:00	2133 *
22	2011-2012	397.480	31-07-2011	11:00:00	1510 *
23	2012-2013	395.640	04-09-2012	07:00:00	738 *
24	2013-2014	398.190	20-09-2013	11:00:00	1862 *
25	2014-2015	398.420	31-08-2014	23:00:00	1935 *
26	2015-2016	393.910	28-09-2015	18:00:00	180 *
27	2016-2017	401.010	24-09-2016	04:00:00	4209 *
28	2017-2018	396.850	10-10-2017	15:00:00	1098 *
29	2018-2019	393.920	12-08-2018	16:00:00	139 *
30	2019-2020	393.94	15-10-2019	00:00:00	130 *
31	2020-2021	403.19	15-10-2020	01:00:00	4395 *
32	2021-2022	399.750	05-09-2021	17:00:00	2479 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : Malkhed (AKP10E1)

Division : Lower Krishna Divn., Hyderabad

Local River : Kagna

Sub-Division : Middle Krishna SD 2 , Kurnool

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	392.820	12.44	392.930	18.22 #	393.520	67.83 *	396.110	723.7	394.910	316.6	393.210	37.86
2	392.870	14.93 *	392.890	15.99 #	393.820	103.7	395.180	374.8	394.740	269.2 *	393.210	37.86
3	392.950	19.39 *	392.930	18.22 #	393.770	97.04	394.430	181.9	395.830	561.2 *	393.210	37.86
4	393.890	114.6	392.870	14.93 *	393.570	76.51	394.330	167.6	394.910	316.6	393.200	37.04 *
5	393.460	60.00	392.860	14.41	393.470	61.01	397.150	1056 *	394.210	153.2	393.190	36.22
6	393.780	99.61 *	392.850	13.91	393.500	70.34	397.950	1375	394.360	172.0	393.190	36.22
7	393.360	51.25	392.850	13.91	393.430	57.82	396.670	928.5	394.080	136.8	393.210	37.86 *
8	393.350	50.70	393.020	23.76	393.300	45.67 *	396.580	915.5	393.900	113.6	393.350	50.32
9	393.300	47.05	393.170	40.11	393.210	43.31	395.530	451.6	394.330	167.6	393.350	50.32
10	393.000	22.47	393.190	36.03	393.170	41.40	395.080	349.0 *	396.330	730.4 *	393.350	50.32
11	393.380	53.95	393.570	73.47 *	393.210	43.31	394.660	267.5	395.330	407.4	393.350	50.32
12	392.930	18.22	393.390	53.98	393.200	42.68	394.350	190.4 *	394.780	290.9	393.170	34.62
13	392.950	19.39 *	393.820	103.7	393.130	31.53 #	394.210	153.2	394.530	240.6	393.130	31.53 #
14	393.670	87.06	394.780	291.8	393.110	30.03 #	394.430	181.9	394.040	131.4	393.190	36.22 *
15	393.170	40.39	394.660	267.5	393.100	29.30 *	394.470	188.0	393.870	112.0 *	393.350	50.32
16	393.020	23.76 #	395.080	352.6	393.070	27.16 #	394.210	153.2	393.820	103.7	393.190	36.22
17	393.020	23.76 #	395.500	446.9	393.090	28.58	394.180	149.7	393.380	53.22 *	393.170	34.62
18	393.340	49.98	394.640	247.7 *	393.610	80.83	394.030	130.1	394.210	153.2	393.170	34.62
19	393.130	35.29	395.530	451.6	394.210	153.2	393.780	99.61 *	393.780	99.16	393.170	34.62 *
20	392.940	18.80 *	395.330	407.4	394.040	137.4 *	393.820	103.7	393.640	83.85	393.190	36.22
21	393.320	48.32	394.550	229.2 *	393.800	101.4	393.820	103.7	393.670	86.69	393.250	41.24 *
22	393.090	36.16	395.060	349.5	393.780	99.61 *	394.330	167.6	393.670	86.69	393.190	36.22
23	393.050	25.77 #	395.060	349.5	393.640	83.56	395.250	390.9	393.710	91.61	393.210	37.86
24	393.050	25.77 #	395.330	407.4	393.780	99.16	395.330	407.6	393.860	110.6 *	393.350	50.32
25	393.240	43.83	395.250	392.7 *	393.570	76.52	395.340	409.8	393.430	57.62	393.360	51.28
26	393.090	36.16 #	394.330	167.1	393.770	98.49	395.940	596.6 *	394.030	130.8	393.360	51.28
27	393.210	37.86 *	394.330	167.6	394.080	136.8	396.110	722.9	393.670	86.69	393.360	51.28
28	393.050	25.77 #	393.670	86.69	393.820	103.7	396.760	958.3	393.400	55.02	393.360	51.28 *
29	392.930	18.22 #	393.700	90.89	394.220	167.2 *	397.950	1375	393.360	52.17	393.390	54.21
30	392.890	15.99	393.750	96.20	395.250	390.9	395.610	466.6	393.350	51.35	393.330	48.44
31			393.570	73.72	396.050	706.8			393.340	49.38 *		
Ten-Daily Mean												
I Ten-Daily	393.278	49.24	392.956	20.95	393.476	66.46	395.901	652.3	394.760	293.7	393.247	41.19
II Ten-Daily	393.155	37.06	394.630	269.7	393.377	60.40	394.214	161.7	394.138	167.5	393.208	37.93
III Ten-Daily	393.092	31.38	394.418	219.1	394.160	187.6	395.644	559.9	393.590	78.05	393.316	47.34
Monthly												
Min.	392.820	12.44	392.850	13.91	393.070	27.16	393.780	99.61	393.340	49.38	393.130	31.53
Max.	393.890	114.6	395.530	451.6	396.050	706.8	397.950	1375	396.330	730.4	393.390	54.21
Mean	393.175	39.23	394.015	171.5	393.687	107.5	395.253	458	394.144	176.5	393.257	42.15

Annual Runoff in MCM = 2896 Annual Runoff in mm = 379

Peak Observed Discharge = 1375 cumecs on 06-09-2021 Corres. Water Level :397.95 m

Lowest Observed Discharge = 10.17 cumecs on 07-05-2022 Corres. Water Level :392.77 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : Malkhed (AKP10E1)

Division : Lower Krishna Divn., Hyderabad

Local River : Kagna

Sub-Division : Middle Krishna SD 2 , Kurnool

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	393.330	48.44	392.870	14.93	392.880	15.46	392.870	14.93	392.820	12.44	392.810	11.97 *
2	393.330	48.44	392.870	14.93 *	392.880	15.46	392.880	15.46	392.820	12.44	392.810	11.97
3	393.330	48.44	392.870	14.93	392.880	15.46	392.880	15.46	392.820	12.44 *	392.810	11.97 *
4	393.330	48.44	392.870	14.93	392.910	17.09	392.880	15.46	392.820	12.44	392.810	11.97
5	393.300	45.67 *	392.980	21.21	392.910	17.09	392.880	15.46	392.800	11.50	392.780	10.61
6	393.250	41.24	392.880	15.46	392.910	17.09 *	392.880	15.46 *	392.800	11.50	392.780	10.61
7	393.230	39.53	392.880	15.46	392.910	17.09	392.880	15.46	392.800	11.50	392.770	10.17
8	393.230	39.53	392.850	13.91	392.910	17.09	392.870	14.93	392.800	11.50	392.770	10.17 *
9	393.090	28.58	392.850	13.91 *	392.910	17.09	392.870	14.93	392.800	11.50	392.770	10.17
10	393.000	22.47	392.860	14.41	392.910	17.09	392.870	14.93	392.800	11.50 *	392.770	10.17
11	392.980	21.21	392.860	14.41	392.910	17.09	392.870	14.93	392.800	11.50	392.770	10.17
12	392.980	21.21 *	393.730	93.02	392.910	17.09	392.850	13.91	392.800	11.50	392.770	10.17
13	392.990	21.83	393.220	38.69	392.910	17.09 *	392.850	13.91 *	392.800	11.50	392.770	10.17
14	392.990	21.83	393.020	23.76 *	392.890	15.99	392.850	13.91	392.800	11.50 *	392.770	10.17
15	393.000	22.47	392.860	14.41	392.890	15.99	392.850	13.91	392.800	11.50 *	392.780	10.61 *
16	393.000	22.47	392.860	14.41 *	392.890	15.99	392.850	13.91	392.800	11.50	392.780	10.61 *
17	392.820	12.44	392.860	14.41	392.890	15.99	392.850	13.91	392.800	11.50 *	392.790	11.05
18	392.820	12.44	392.850	13.91	392.890	15.99	392.850	13.91 *	392.800	11.50	392.790	11.05
19	392.850	13.91 *	392.850	13.91	392.890	15.99	392.850	13.91	392.800	11.50	392.790	11.05
20	392.870	14.93	392.980	21.21	392.890	15.99 *	392.850	13.91 *	392.800	11.50	392.790	11.05
21	392.870	14.93	392.940	18.80	392.890	15.99	392.820	12.44	392.790	11.05	392.810	11.97
22	392.870	14.93	392.940	18.80	392.890	15.99	392.820	12.44	392.790	11.05	393.390	54.21 *
23	392.870	14.93	392.940	18.80 *	392.870	14.93	392.820	12.44	392.790	11.05	393.310	46.58
24	392.870	14.93	392.940	18.80	392.870	14.93	392.820	12.44	392.790	11.05 *	393.190	36.22
25	392.890	15.99 *	392.940	18.80	392.870	14.93	392.820	12.44	392.790	11.05	392.910	17.09
26	392.970	20.59 *	392.940	18.80 *	392.870	14.93	392.820	12.44	392.810	11.97	393.260	42.11
27	392.990	21.83	392.940	18.80	392.870	14.93 *	392.820	12.44 *	392.810	11.97	393.080	27.86
28	392.980	21.21	392.880	15.46	392.870	14.93	392.820	12.44	392.810	11.97	392.910	17.09
29	392.980	21.21	392.880	15.46			392.820	12.44	392.810	11.97	393.520	67.83 *
30	392.980	21.21	392.880	15.46 *			392.820	12.44	392.810	11.97	393.190	36.22
31	392.870	14.93	392.880	15.46			392.820	12.44			392.810	11.97
<u>Ten-Daily Mean</u>												
I Ten-Daily	393.242	41.08	392.878	15.41	392.901	16.60	392.876	15.25	392.808	11.88	392.788	10.98
II Ten-Daily	392.930	18.47	393.009	26.22	392.896	16.32	392.852	14.01	392.800	11.50	392.780	10.61
III Ten-Daily	392.922	17.88	392.918	17.58	392.875	15.20	392.820	12.44	392.800	11.51	393.125	33.56
<u>Monthly</u>												
Min.	392.820	12.44	392.850	13.91	392.870	14.93	392.820	12.44	392.790	11.05	392.770	10.17
Max.	393.330	48.44	393.730	93.02	392.910	17.09	392.880	15.46	392.820	12.44	393.520	67.83
Mean	393.028	25.55	392.934	19.67	392.892	16.1	392.848	13.85	392.803	11.63	392.905	18.87

Peak Computed Discharge = 1056 cumecs on 05-09-2021

Corres. Water Level :397.15 m

Lowest Computed Discharge = 10.17 cumecs on 08-05-2022

Corres. Water Level :392.77 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

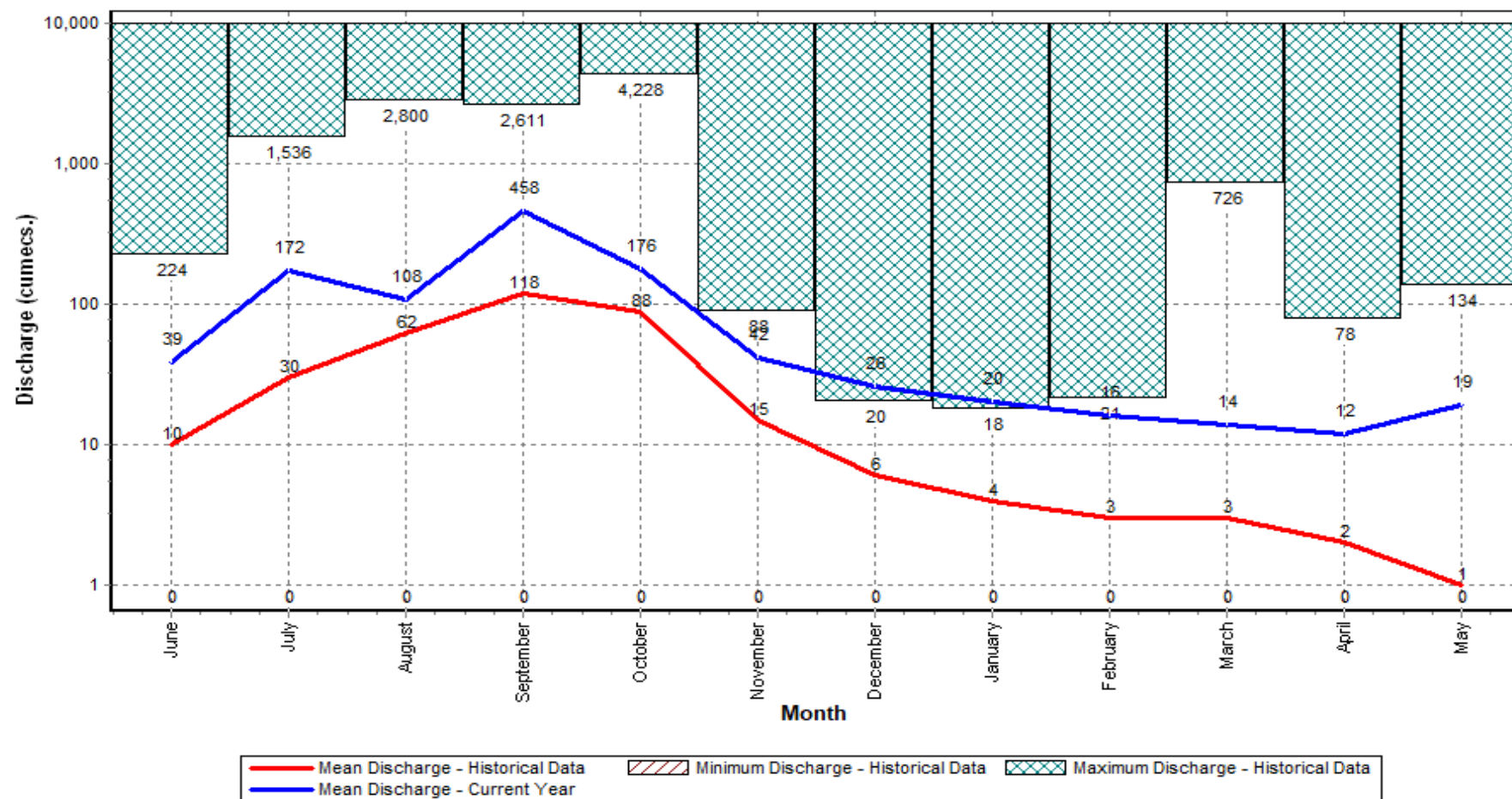
Station Name : Malkhed (AKP10E1)

Data considered : 1991-2022

Division : Lower Krishna Divn., Hyderabad

Local River : Kagna

Sub-Division : Middle Krishna SD 2 , Kurnool



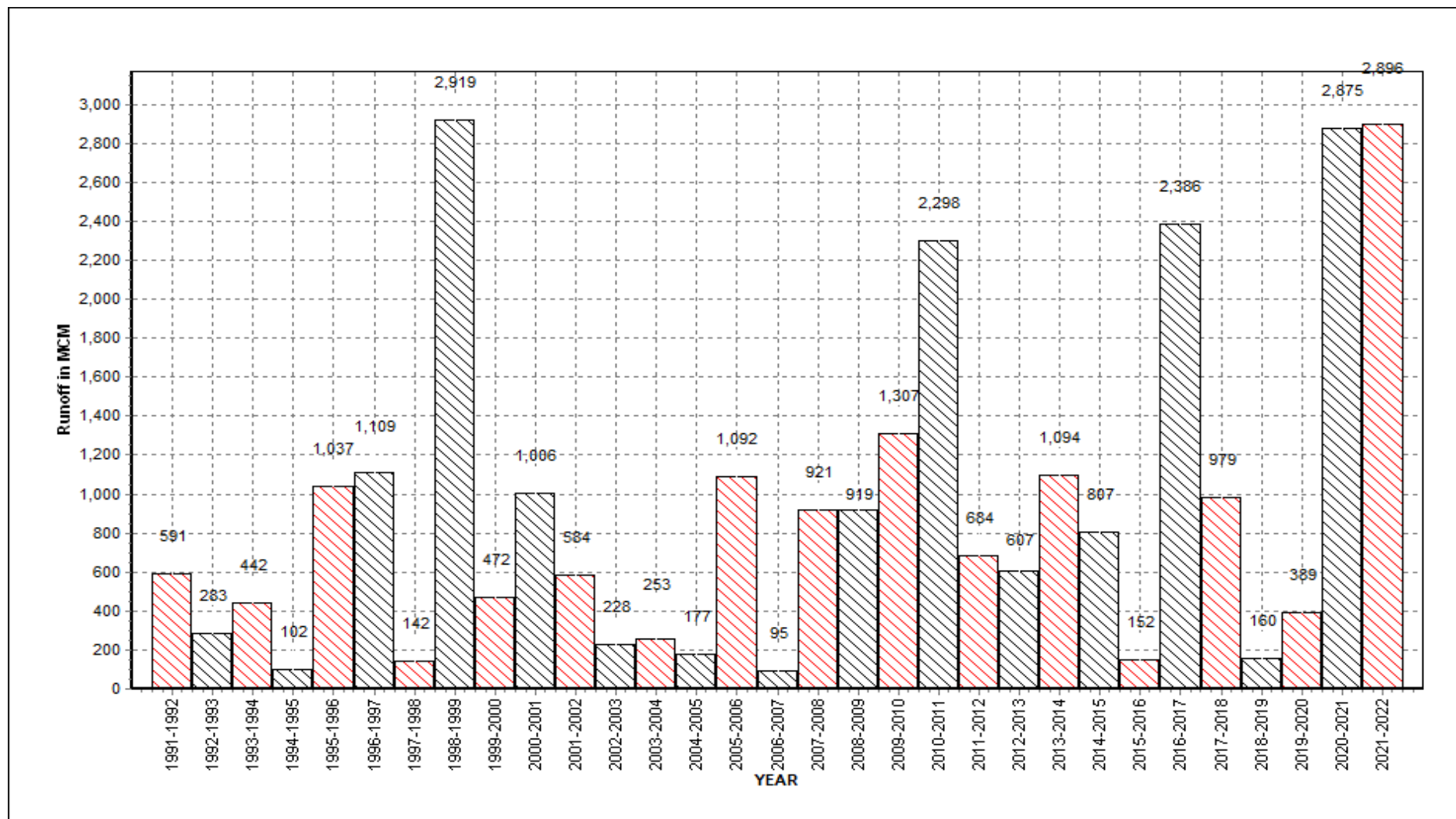
Annual Runoff Values for the period: 1991 - 2022

Station Name : Malkhed (AKP10E1)

Local River : Kagna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



Note: Missing values have not been considered while arriving at Annual Runoff

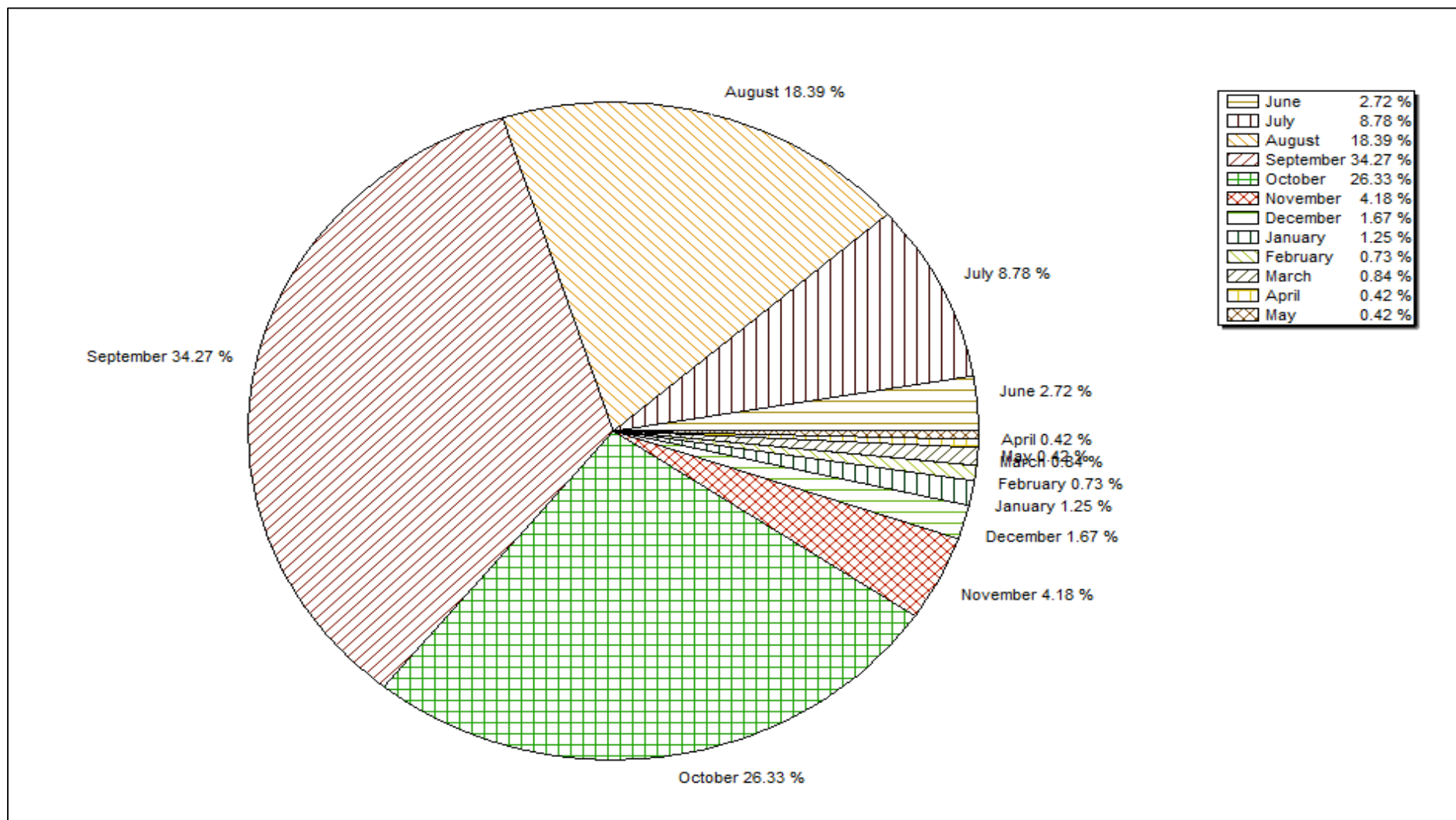
Monthly Average Runoff based on period : 1991-2021

Station Name : Malkhed (AKP10E1)

Local River : Kagna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



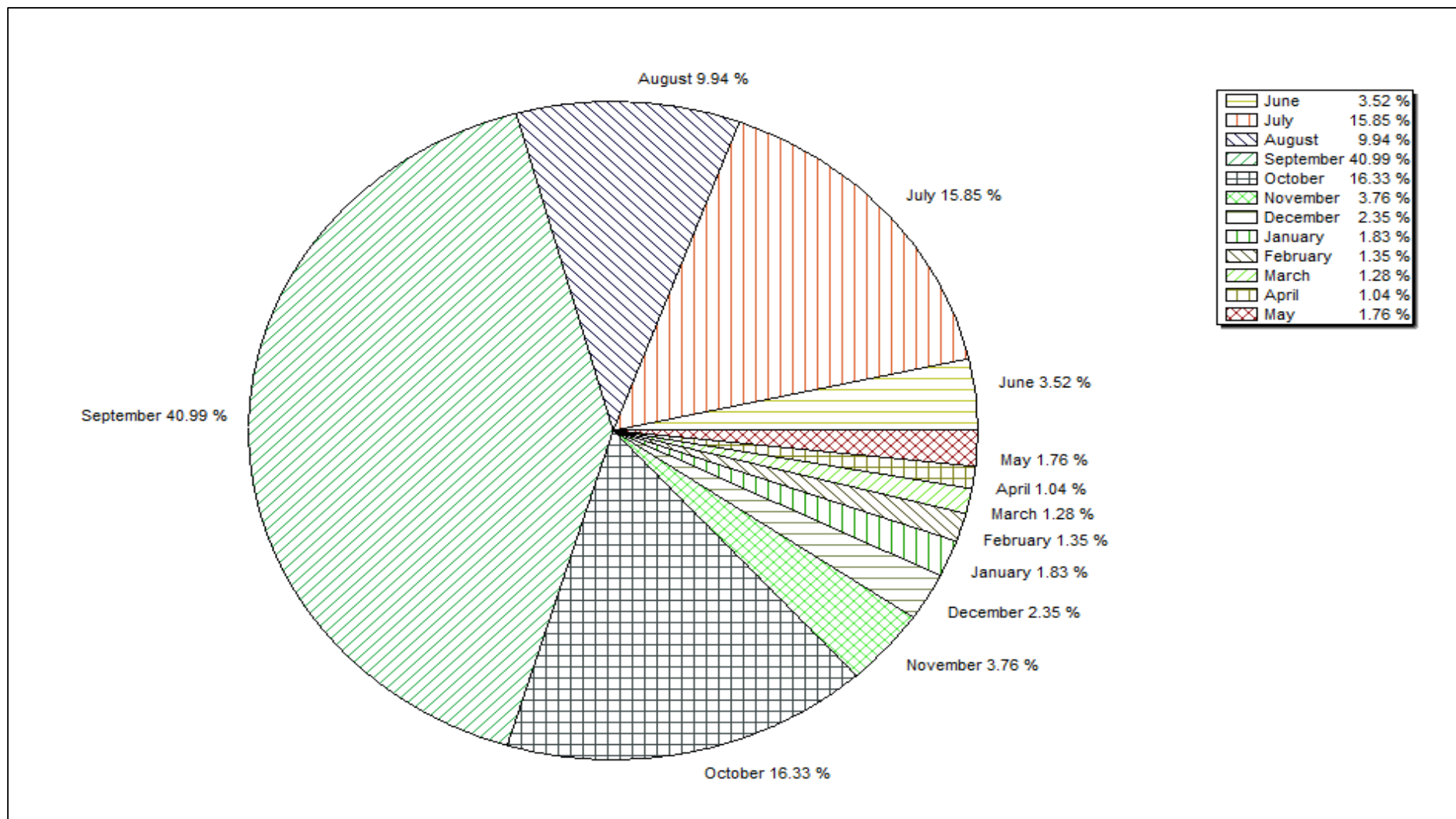
Monthly Runoff for the Year : 2021-2022

Station Name : Malkhed (AKP10E1)

Local River : Kagna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



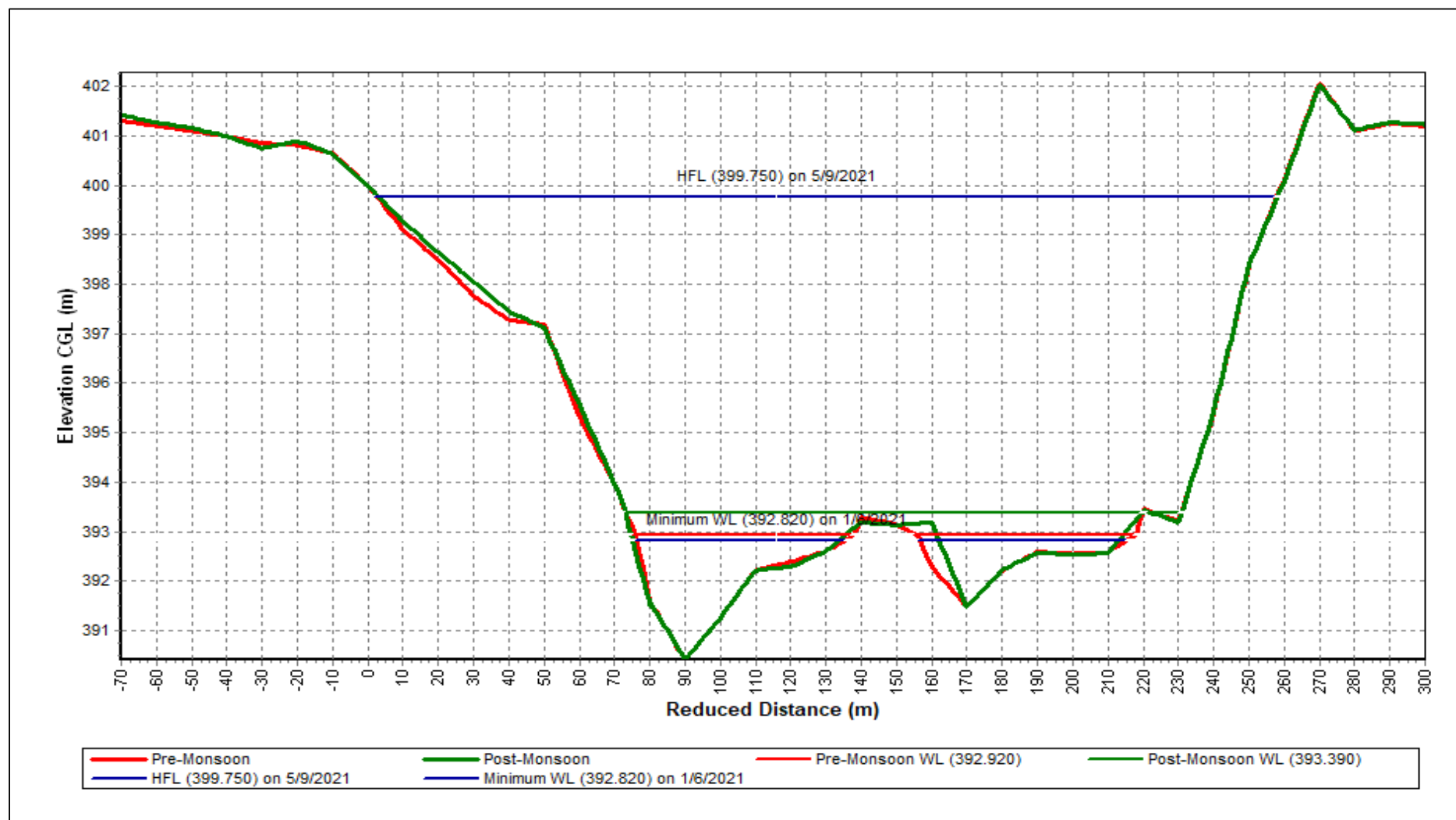
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : Malkhed (AKP10E1)

Local River : Kagna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



Zero of Gauge : 390 (m.s.l)

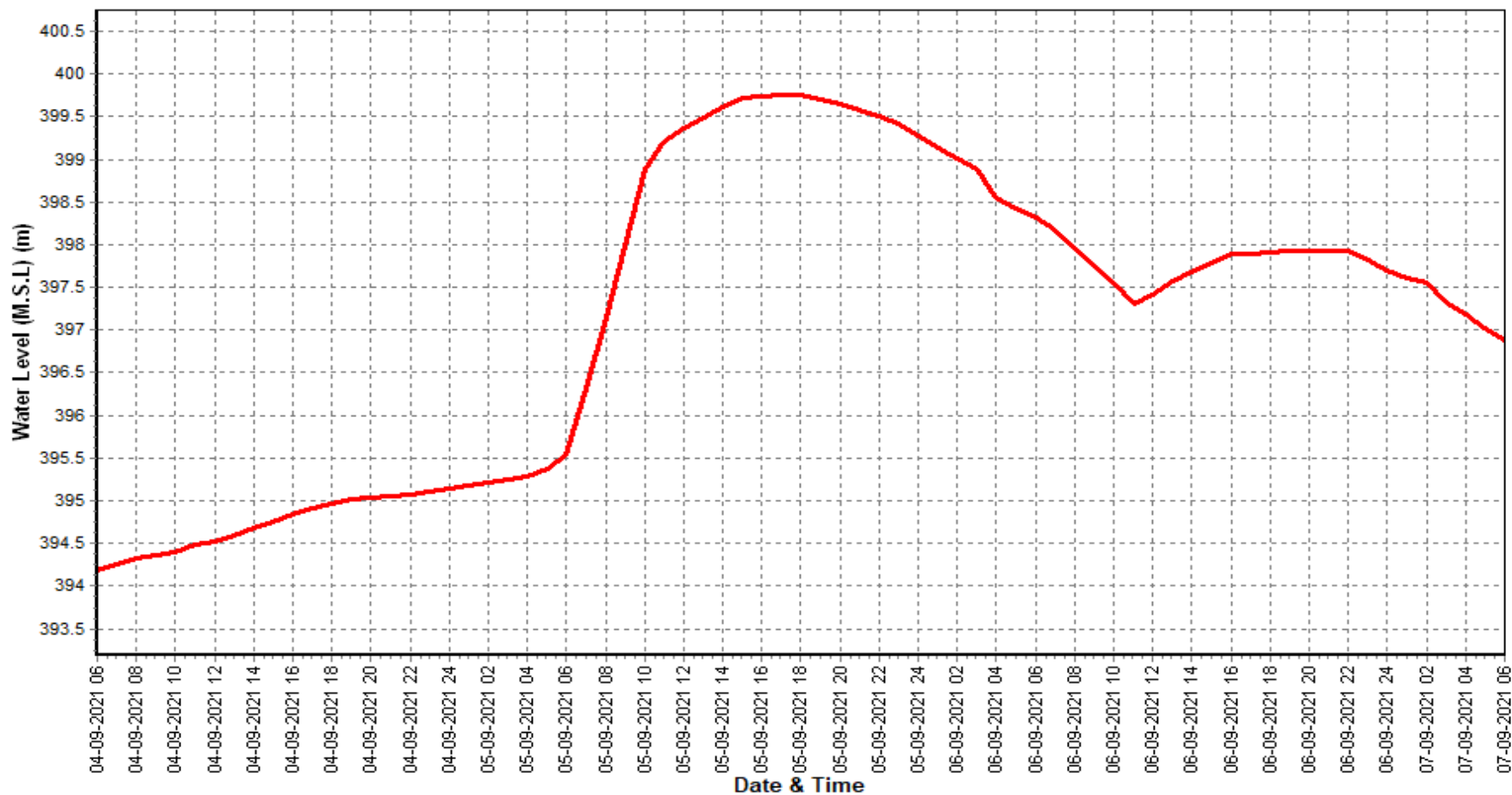
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Malkhed (AKP10E1)

Local River : Kagna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



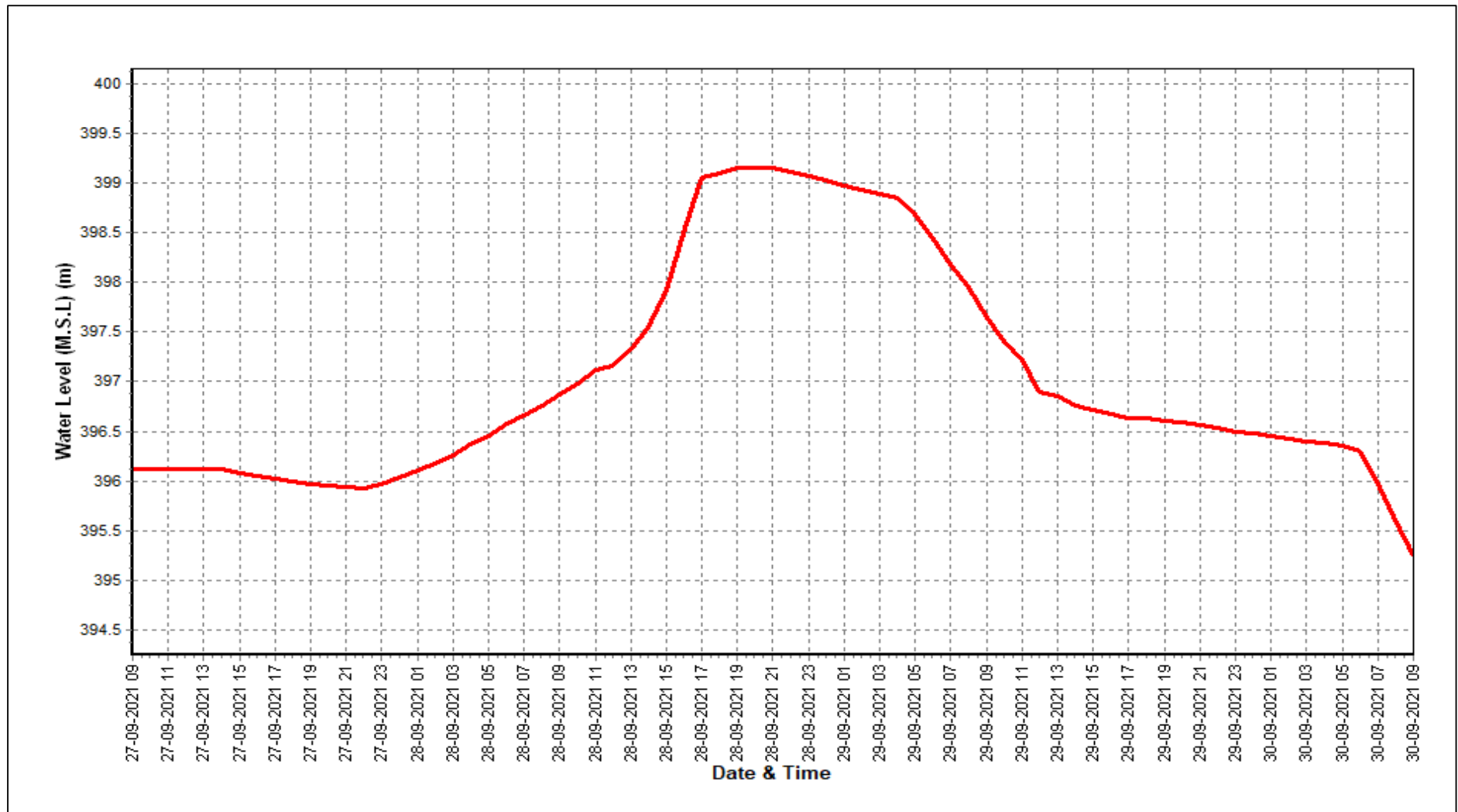
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Malkhed (AKP10E1)

Local River : Kagna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



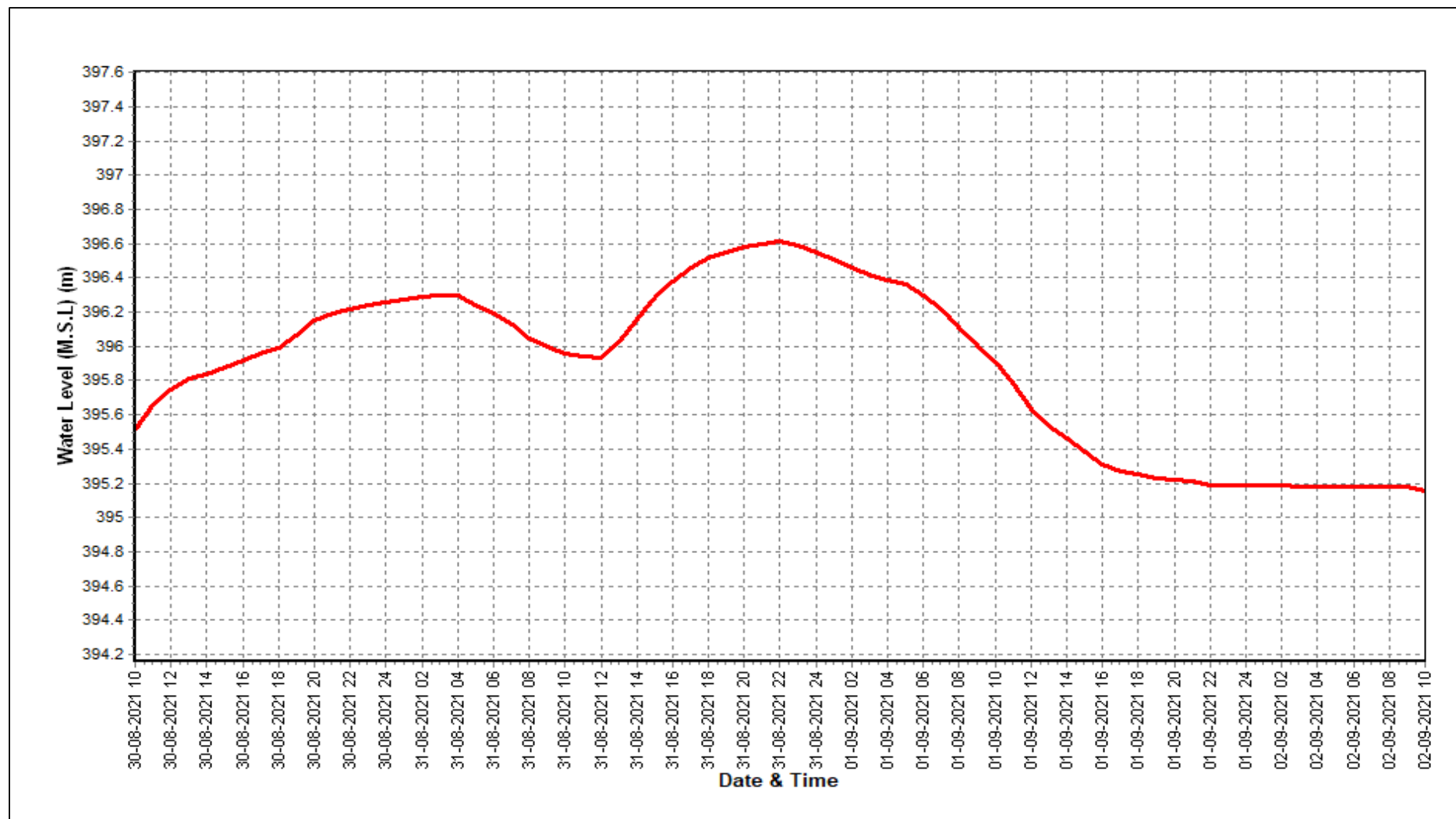
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Malkhed (AKP10E1)

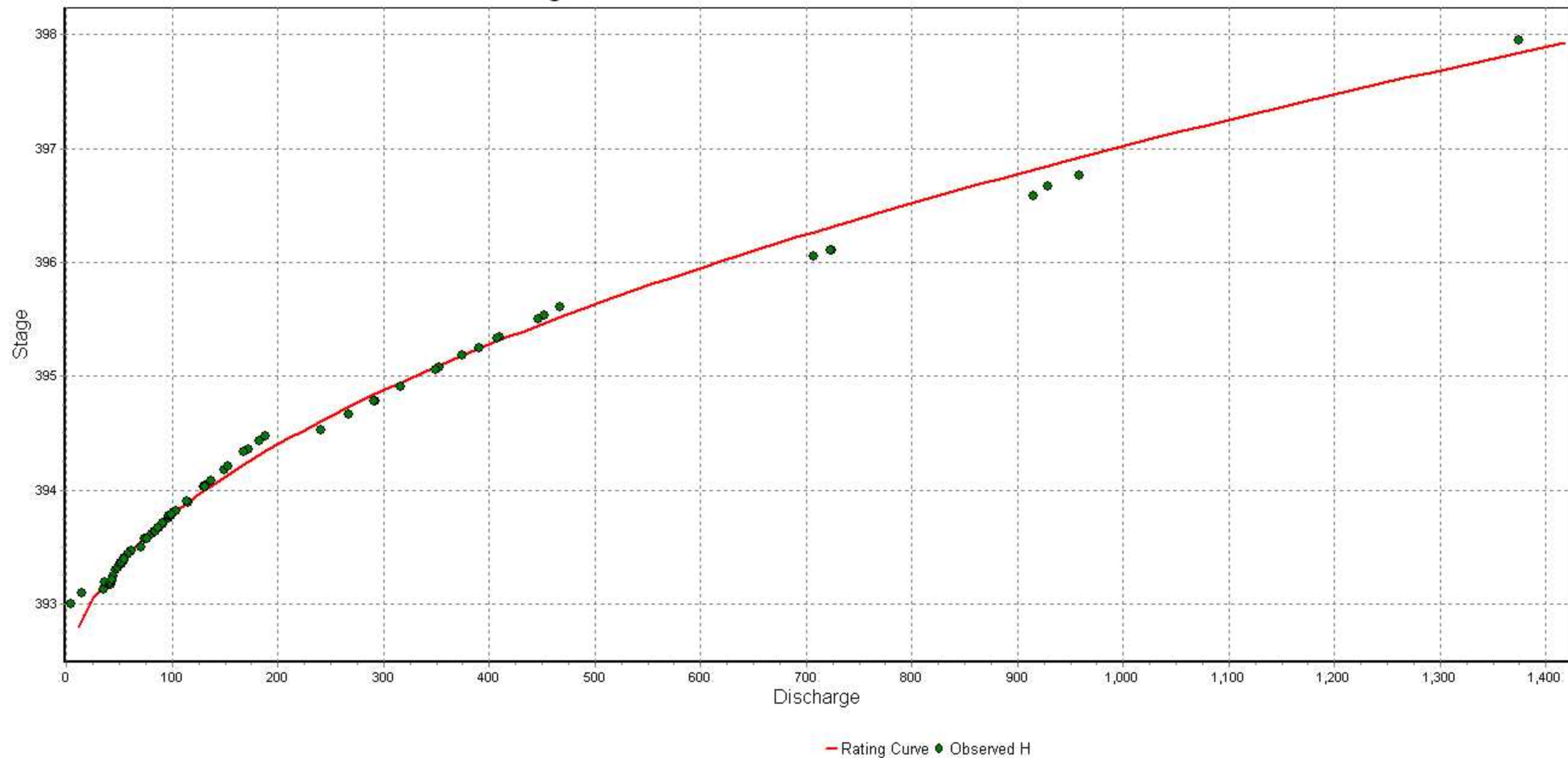
Local River : Kagna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



Rating Curve of Site Malkhed 01/06/2021 to 30/11/2021



HISTORY SHEET

		Water Year : 2021-2022	
Site	: Yadgir	Code	: AKP00B6
State	: Karnataka	District	Gulbarga
Basin	: Krishna	Independent River	: Krishna
Tributary	: Bhima	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Bhima
Division	: Lower Krishna Divn., Hyderabad	Sub-Division	: Middle Krishna SD 2 , Kurnool
Drainage Area	: 69863 Sq. Km.	Bank	: Left
Latitude	: 16°44'15"	Longitude	: 77°07'31"
Zero of Gauge (m)	: 350.503 (m.s.l)	01-01-1960	10-11-1964
	: 350.503 (m.s.l)	11-11-1964	- 31-12-1998
	: 350.503 (m.s.l)	01-01-1999	- 31-12-2005
	: 350.503 (m.s.l)	01-01-2006	
Opening Date		Closing Date	
Gauge	: 05-09-1963	HFL During 2021-22	: 357.723 m
		Corres. Discharge	: 4515 (Estimated)
Discharge	: 11-11-1964	Date & Time of occurrence	: 29-09-2021
			: 11:00 Hrs
Sediment	: 01-06-1965		
Water Quality	: 01-01-1972		

HFL Recorded so far in m : 362.023 dt 16-10-2020

Corresponding Discharge (cumecs) : 12779*

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1965-1966	4909	357.798	21-09-1965	0.456	350.703	23-04-1966
1966-1967	3607	356.745	03-08-1966	0.665	350.713	02-05-1967
1967-1968	7780	359.763	03-08-1967	0.000	350.678	03-06-1967
1968-1969	3405	356.785	02-10-1968	0.400	350.668	11-05-1969
1969-1970	11255	361.873	07-09-1969	0.530	350.623	16-05-1970
1970-1971	5903	359.033	21-09-1970	0.940	350.693	15-05-1971
1971-1972	4349	357.480	28-09-1971	0.000	350.513	03-05-1972
1972-1973	2796	356.513	13-07-1972	0.000	350.048	21-04-1973
1973-1974	4719	357.528	29-10-1973	0.000		08-06-1973
1974-1975	4408	357.813	24-10-1974	5.400	350.918	13-05-1975
1975-1976	5769	359.203	11-10-1975	0.600	350.663	31-05-1976
1976-1977	6098	359.031	07-08-1976	0.500	350.528	27-04-1977
1977-1978	2149	355.393	13-08-1977	1.800	350.748	07-06-1977
1978-1979	5033	357.828	22-08-1978	1.000	350.668	13-05-1979
1979-1980	8679	360.333	29-09-1979	0.600	350.728	28-05-1980
1980-1981	2600	356.453	09-07-1980	0.200	350.473	12-05-1981

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1981-1982	6940	359.708	24-09-1981	4.100	350.813	01-05-1982
1982-1983	2006	355.253	23-08-1982	0.000	350.423	26-05-1983
1983-1984	6986	359.633	25-09-1983	0.000	350.393	01-06-1983
1984-1985	4213	357.583	12-10-1984	3.500	350.863	02-06-1984
1985-1986	2247	355.523	07-08-1985	0.000	350.513	23-04-1986
1986-1987	2297	355.698	14-08-1986	0.000		23-04-1987
1987-1988	1619	354.878	16-08-1987	0.000		15-06-1987
1988-1989	6579	359.293	21-09-1988	0.113	350.568	01-06-1988
1989-1990	8087	359.968	29-09-1989	0.000		29-04-1990
1990-1991	6041	358.888	17-08-1990	1.000	350.753	12-05-1991
1991-1992	3691	356.899	01-08-1991	0.000		14-04-1992
1992-1993	2519	356.005	02-09-1992	0.000		15-05-1993
1993-1994	2133	355.885	21-10-1993	0.000		12-05-1994
1994-1995	5178	358.523	20-07-1994	0.000		24-04-1995
1995-1996	1301	354.633	18-10-1995	0.000		24-04-1996
1996-1997	4112	357.518	08-10-1996	0.000		29-05-1997
1997-1998	6164	359.083	30-08-1997	0.000	350.803	06-04-1998
1998-1999	10557	361.543	16-10-1998	0.000	350.773	13-05-1999
1999-2000	1645	354.818	03-08-1999	0.000	350.593	06-05-2000
2000-2001	1538	354.743	31-08-2000	0.000	351.833	28-03-2001
2001-2002	2468	355.708	11-10-2001	0.000	352.193	15-03-2002
2002-2003	681.6	353.538	17-10-2002	0.000	351.333	09-01-2003
2003-2004	1370	354.403	24-08-2003	0.000	350.793	06-05-2004
2004-2005	869.6	353.953	05-10-2004	0.000	352.103	14-02-2005
2005-2006	7899	359.703	09-08-2005	0.000	352.353	12-02-2006
2006-2007	8508	360.343	16-08-2006	0.000	352.053	25-01-2007
2007-2008	3177	356.613	23-09-2007	0.000	352.193	25-01-2008
2008-2009	3189	356.563	13-09-2008	0.000	351.443	25-01-2009
2009-2010	7980	359.733	04-10-2009	0.000	352.023	01-04-2010
2010-2011	3013	356.403	26-08-2010	0.000	352.173	27-02-2011
2011-2012	4039	357.253	08-09-2011	0.000	351.333	27-04-2012
2012-2013	415.5	352.803	05-09-2012	0.000	350.393	24-03-2013
2013-2014	4050	357.483	22-09-2013	0.000	351.173	25-02-2014
2014-2015	2084	355.293	02-09-2014	0.000	352.043	29-12-2014
2015-2016	297	352.383	18-09-2015	0.000	350.123	10-04-2016
2016-2017	4100	357.523	25-09-2016	0.000	350.713	25-01-2017
2017-2018	3414	356.803	19-09-2017	0.000	352.013	26-02-2018
2018-2019	1140	354.308	31-08-2018	0.000	351.103	17-12-2018
2019-2020	5900	358.123	10-08-2019	0.000	351.343	24-04-2020
2020-2021	12353	362.003	16-10-2020	0.000	350.803	17-06-2020

Annual Runoff of Bhima at Yadgir

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1965-1966	9509	653	10162	336	23	359
2	1966-1967	7762	272	8034	274	10	284
3	1967-1968	14211	694	14905	502	25	527
4	1968-1969	8198	229	8426	290	8	298
5	1969-1970	15058	351	15409	532	12	544
6	1970-1971	11301	261	11562	399	9	409
7	1971-1972	10840	253	11094	383	9	392
8	1972-1973	3290	17	3307	116	1	117
9	1973-1974	13988	411	14399	494	15	509
10	1974-1975	11173	634	11807	395	22	417
11	1975-1976	19829	831	20660	701	29	730
12	1976-1977	12771	304	13075	451	11	462
13	1977-1978	7450	1314	8764	263	46	310
14	1978-1979	11529	481	12011	407	17	424
15	1979-1980	11867	1111	12979	419	39	459
16	1980-1981	8329	234	8564	294	8	303
17	1981-1982	12795	525	13320	452	19	471
18	1982-1983	4223	131	4354	149	5	154
19	1983-1984	14827	342	15169	524	12	536
20	1984-1985	7437	248	7685	263	9	272
21	1985-1986	3881	67	3947	137	2	139
22	1986-1987	3678	52	3731	130	2	132
23	1987-1988	3286	303	3588	116	11	127
24	1988-1989	13834	230	14064	489	8	497
25	1989-1990	10238	312	10550	362	11	373
26	1990-1991	14777	313	15089	522	11	533
27	1991-1992	9201	64	9265	325	2	327
28	1992-1993	2669	44	2714	94	2	96
29	1993-1994	4845	357	5203	171	13	184
30	1994-1995	10491	86	10577	371	3	374
31	1995-1996	2761	99	2860	98	4	101
32	1996-1997	8206	158	8364	290	6	296
33	1997-1998	5068	136	5203	179	5	184
34	1998-1999	20729	337	21066	732	12	744
35	1999-2000	3381	122	3503	119	4	124
36	2000-2001	3634	228	3862	128	8	136
37	2001-2002	2421	60	2481	86	2	88
38	2002-2003	724	43	766	26	2	27
39	2003-2004	896	723	1619	32	26	57
40	2004-2005	2473	82	2555	87	3	90
41	2005-2006	13485	55	13541	477	2	478
42	2006-2007	14191	0	14191	501	0	501
43	2007-2008	7322	303	7626	259	11	269
44	2008-2009	4736	0	4736	167	0	167
45	2009-2010	7290	262	7553	258	9	267
46	2010-2011	7835	218	8053	277	8	285
47	2011-2012	3892	64	3956	138	2	140

48	2012-2013	995	48	1043	35	2	37
49	2013-2014	4237	91	4328	150	3	153
50	2014-2015	2195	0	2195	78	0	78
51	2015-2016	401	0	401	14	0	14
52	2016-2017	4143	0	4143	146	0	146
53	2017-2018	6713	0	6713	237	0	237
54	2018-2019	1052	0	1052	37	0	37
55	2019-2020	10476	0	10476	370	0	370
56	2020-2021	18971	146	19117	670	5	676
57	2021-2022	6890	0	6890	243	0	243
Average		8042	251	8293	284	9	293

Instantaneous Flood Peak of Bhima at Yadgir

Sl. No.	Year	Instantaneous Annual Flood Peak		Time	Discharge * (Cumecs)
		Peak WL (m) Recorded	Date		
1	1965-1966	357.823	21-09-1965	08:00:00	4909 *
2	1966-1967	356.753	03-08-1966	09:00:00	3607 *
3	1967-1968	359.808	03-08-1967	13:00:00	7780 *
4	1968-1969	356.863	02-10-1968	06:00:00	3501 *
5	1969-1970	361.913	07-09-1969	11:00:00	10609 *
6	1970-1971	359.053	21-09-1970	10:00:00	6338 *
7	1971-1972	357.508	28-09-1971	06:00:00	4349 *
8	1972-1973	356.583	13-07-1972	09:00:00	3194 *
9	1973-1974	357.548	29-10-1973	09:00:00	4719 *
10	1974-1975	357.843	24-10-1974	07:00:00	4674 *
11	1975-1976	359.213	11-10-1975	08:00:00	5769 *
12	1976-1977	359.053	07-08-1976	14:00:00	6338 *
13	1977-1978	355.443	18-06-1977	08:00:00	2149
14	1978-1979	357.838	22-08-1978	06:00:00	5033 *
15	1979-1980	360.583	30-09-1979	00:00:00	8479 *
16	1980-1981	356.573	10-08-1980	18:00:00	3183 *
17	1981-1982	359.733	24-09-1981	03:00:00	7378 *
18	1982-1983	355.313	27-08-1982	12:00:00	2006 *
19	1983-1984	359.633	25-09-1983	09:00:00	6986 *
20	1984-1985	357.603	12-10-1984	12:00:00	4372 *
21	1985-1986	355.583	06-08-1985	22:00:00	2247 *
22	1986-1987	355.713	14-08-1986	03:00:00	2322 *
23	1987-1988	354.983	16-08-1987	14:00:00	1686 *
24	1988-1989	359.288	21-09-1988	13:00:00	6579 *
25	1989-1990	360.403	28-09-1989	23:00:00	8487 *
26	1990-1991	358.943	16-08-1990	21:00:00	6177 *
27	1991-1992	356.943	01-08-1991	11:00:00	3691 *
28	1992-1993	357.263	02-09-1992	18:00:00	3961 *
29	1993-1994	355.983	21-10-1993	08:00:00	2580
30	1994-1995	358.583	20-07-1994	15:00:00	5664 *
31	1995-1996	354.663	18-10-1995	06:00:00	1434 *
32	1996-1997	357.543	08-10-1996	06:00:00	4298 *
33	1997-1998	359.253	30-08-1997	21:00:00	6636 *
34	1998-1999	361.643	16-10-1998	18:00:00	10699 *
35	1999-2000	355.083	03-08-1999	15:00:00	1768 *
36	2000-2001	355.253	24-08-2000	22:00:00	1911 *
37	2001-2002	356.103	10-10-2001	19:00:00	2698 *
38	2002-2003	353.543	17-10-2002	08:00:00	684 *
39	2003-2004	354.543	24-08-2003	12:00:00	1370 *
40	2004-2005	354.013	17-08-2004	14:00:00	974 *
41	2005-2006	359.723	09-08-2005	09:00:00	7899 *
42	2006-2007	360.383	15-08-2006	18:00:00	8250 *
43	2007-2008	356.623	23-09-2007	02:00:00	3237 *
44	2008-2009	356.623	13-09-2008	15:00:00	3237 *
45	2009-2010	360.003	03-10-2009	19:00:00	7980 *
46	2010-2011	356.463	26-08-2010	14:00:00	3066 *

47	2011-2012	357.403	08-09-2011	15:00:00	4939 *
48	2012-2013	352.803	05-09-2012	08:00:00	416 *
49	2013-2014	357.753	21-09-2013	21:00:00	4560 *
50	2014-2015	355.733	02-09-2014	00:00:00	2380 *
51	2015-2016	352.743	18-09-2015	06:00:00	380 *
52	2016-2017	357.683	25-09-2016	05:00:00	4368 *
53	2017-2018	356.943	19-09-2017	04:00:00	3607 *
54	2018-2019	354.443	31-08-2018	17:00:00	1205 *
55	2019-2020	358.983	12-08-2019	04:00:00	6150 *
56	2020-2021	362.023	16-10-2020	03:00:00	12779 *
57	2021-2022	357.723	29-09-2021	11:00:00	4515 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : Yadgir (AKP00B6)

Division : Lower Krishna Divn., Hyderabad

Local River : Bhima

Sub-Division : Middle Krishna SD 2 , Kurnool

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	351.103	0.000	351.083	27.40	352.463	329.2 *	353.903	908.0	355.113	1773	351.563	101.7
2	350.953	0.000	350.863	7.147	352.503	348.2	353.303	625.2	354.853	1637 *	351.533	95.45
3	350.913	0.000	350.833	5.247	352.493	344.7	352.863	461.1	355.253	1953 *	351.553	99.74
4	350.883	0.000	350.803	6.558 *	352.153	239.0	352.053	212.3	354.103	1027	351.553	92.48 *
5	350.863	0.000	351.283	54.35	351.983	198.4	352.803	454.7 *	354.263	1132	351.553	99.74
6	351.583	97.97 *	351.203	42.61	352.243	269.0	356.403	3050	354.103	1027	351.553	99.74
7	352.153	232.3 *	351.263	51.40	351.903	178.6	356.063	2670	354.463	1271	351.553	92.48 *
8	352.653	369.7	351.043	23.04	351.743	129.9 *	355.753	2357	354.443	1255	351.553	99.74
9	352.913	467.8	350.863	7.147	351.743	141.1	355.013	1690	354.583	1356	351.263	0.000
10	351.353	59.88	350.803	3.950	351.683	128.0	353.633	845.7 *	354.973	1729 *	351.243	0.000
11	351.053	34.47	350.753	4.362 *	351.583	107.2	353.143	563.5	354.463	1271	350.653	0.000
12	351.153	43.90	351.603	111.2	351.513	93.67	352.653	396.9 *	355.033	1705	350.753	0.000
13	351.353	59.88 *	351.453	82.70	351.503	91.87	352.903	474.3	355.193	1843	350.903	0.000
14	351.623	124.0	351.813	156.9	351.533	97.52	352.773	430.3	355.113	1773	351.153	0.000
15	352.553	350.0	352.553	356.9	351.453	75.30 *	352.583	366.4	354.683	1512 *	351.403	0.000
16	352.283	263.5	351.983	198.4	351.453	82.77	352.843	454.1	353.853	877.1	350.963	0.000
17	352.003	207.7	352.853	466.7	351.483	88.01	352.903	475.4	352.513	346.4 *	350.703	0.000
18	352.203	255.9	353.303	675.9 *	351.233	47.03	352.773	430.3	352.503	343.7	350.703	0.000
19	351.453	83.63	353.553	744.5	350.963	15.07	353.093	577.7 *	352.963	520.8 *	350.753	0.000
20	351.903	166.4 *	354.053	1018	352.653	396.9 *	352.763	426.4	352.763	425.9	350.723	0.000
21	351.853	167.2	352.803	454.7 *	352.043	213.9	352.863	460.0	352.803	440.4	351.083	0.000
22	352.173	240.0	352.883	476.4	352.053	204.6 *	353.213	591.7	352.853	456.5	351.413	0.000
23	351.053	25.18	353.363	663.9	351.913	181.0	353.273	613.4	352.823	447.2	351.403	0.000
24	350.953	12.57	353.163	582.5	351.803	154.8	354.073	1010	352.503	342.9 *	351.853	0.000
25	350.853	6.505	353.273	661.4 *	351.733	138.9	354.663	1416	351.973	192.7	351.733	0.000
26	351.283	53.89	352.503	340.6	351.593	109.3	354.483	1370 *	351.663	121.7	350.763	0.000
27	351.653	111.4 *	352.503	340.6	351.683	128.0	355.263	1901	351.803	151.8	350.733	0.000
28	352.003	207.7	352.293	283.5	351.813	153.3	354.663	1416	351.653	119.7	350.763	0.000
29	351.603	109.5	352.053	216.6	351.873	159.2 *	357.303	4255	351.563	101.7	350.803	0.000
30	351.453	83.63	352.503	340.6	352.043	202.0 #	356.063	2670	351.333	61.74	350.803	0.000
31			352.503	340.6	352.873	474.0			351.483	80.27 *		
Ten-Daily Mean												
I Ten-Daily	351.537	122.8	351.004	22.89	352.091	230.6	354.179	1327	354.615	1416	351.492	78.11
II Ten-Daily	351.758	158.9	352.392	381.5	351.537	109.5	352.843	459.5	353.908	1062	350.871	0.000
III Ten-Daily	351.488	101.8	352.713	427.4	351.948	192.6	354.586	1570	352.041	228.8	351.135	0.000
Monthly												
Min.	350.853	0.000	350.753	3.950	350.963	15.07	352.053	212.3	351.333	61.74	350.653	0.000
Max.	352.913	467.8	354.053	1018	352.873	474.0	357.303	4255	355.253	1953	351.853	101.7
Mean	351.594	127.8	352.058	282.1	351.861	178.1	353.869	1119	353.474	880.5	351.166	26.04

Annual Runoff in MCM = 6890 Annual Runoff in mm = 99

Peak Observed Discharge = 4255 cumecs on 29-09-2021 Corres. Water Level :357.303 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021 Corres. Water Level :351.103 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : Yadgir (AKP00B6)

Division : Lower Krishna Divn., Hyderabad

Local River : Bhima

Sub-Division : Middle Krishna SD 2 , Kurnool

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	350.803	0.000	350.953	0.000	351.753	0.000	351.413	0.000	351.883	0.000	351.203	0.000
2	350.903	0.000	350.953	0.000	351.553	0.000	351.353	0.000	351.783	0.000	351.173	0.000
3	351.443	0.000	350.953	0.000	351.523	0.000	351.293	0.000	351.583	0.000	351.143	0.000
4	350.923	0.000	351.223	0.000	352.023	0.000	351.883	0.000	351.443	0.000	351.113	0.000
5	350.953	0.000	351.363	0.000	352.053	0.000	352.063	0.000	351.373	0.000	351.103	0.000
6	351.443	0.000	351.413	0.000	351.983	0.000	351.993	0.000	351.853	0.000	351.123	0.000
7	350.803	0.000	351.273	0.000	351.853	0.000	352.023	0.000	352.253	0.000	351.163	0.000
8	350.803	0.000	351.463	0.000	352.003	0.000	351.943	0.000	352.413	0.000	351.193	0.000
9	350.803	0.000	351.733	0.000	352.023	0.000	351.423	0.000	352.223	0.000	351.183	0.000
10	350.803	0.000	351.973	0.000	351.903	0.000	351.303	0.000	352.153	0.000	351.143	0.000
11	351.403	0.000	351.973	0.000	351.873	0.000	351.203	0.000	352.113	0.000	351.153	0.000
12	351.453	0.000	351.783	0.000	351.853	0.000	351.153	0.000	352.073	0.000	351.203	0.000
13	351.383	0.000	351.813	0.000	351.923	0.000	350.993	0.000	351.993	0.000	351.213	0.000
14	351.353	0.000	351.773	0.000	351.883	0.000	350.853	0.000	351.963	0.000	351.193	0.000
15	351.323	0.000	351.703	0.000	351.763	0.000	350.853	0.000	351.943	0.000	351.173	0.000
16	351.053	0.000	351.653	0.000	351.533	0.000	350.853	0.000	351.843	0.000	351.143	0.000
17	351.353	0.000	351.373	0.000	351.483	0.000	350.803	0.000	351.863	0.000	351.103	0.000
18	351.563	0.000	351.203	0.000	351.653	0.000	350.793	0.000	351.863	0.000	351.103	0.000
19	351.153	0.000	350.983	0.000	351.913	0.000	350.763	0.000	351.743	0.000	351.103	0.000
20	351.053	0.000	350.773	0.000	351.973	0.000	350.723	0.000	351.653	0.000	351.083	0.000
21	351.203	0.000	350.713	0.000	351.943	0.000	350.663	0.000	351.583	0.000	351.053	0.000
22	351.443	0.000	350.713	0.000	351.723	0.000	352.203	0.000	351.523	0.000	351.033	0.000
23	351.053	0.000	350.713	0.000	351.643	0.000	352.043	0.000	351.443	0.000	351.003	0.000
24	351.463	0.000	350.713	0.000	351.813	0.000	351.893	0.000	351.373	0.000	351.033	0.000
25	351.703	0.000	351.043	0.000	351.803	0.000	351.613	0.000	351.293	0.000	351.023	0.000
26	351.693	0.000	351.263	0.000	351.753	0.000	351.463	0.000	351.273	0.000	351.003	0.000
27	351.603	0.000	351.723	0.000	351.673	0.000	351.373	0.000	351.313	0.000	350.993	0.000
28	351.243	0.000	351.953	0.000	351.533	0.000	351.323	0.000	351.293	0.000	351.033	0.000
29	350.533	0.000	351.983	0.000			352.013	0.000	351.273	0.000	351.053	0.000
30	350.533	0.000	351.923	0.000			352.093	0.000	351.243	0.000	351.073	0.000
31	350.913	0.000	351.993	0.000			351.983	0.000			351.063	0.000
<u>Ten-Daily Mean</u>												
I Ten-Daily	350.968	0.000	351.330	0.000	351.867	0.000	351.669	0.000	351.896	0.000	351.154	0.000
II Ten-Daily	351.309	0.000	351.503	0.000	351.785	0.000	350.899	0.000	351.905	0.000	351.147	0.000
III Ten-Daily	351.217	0.000	351.339	0.000	351.736	0.000	351.697	0.000	351.361	0.000	351.033	0.000
<u>Monthly</u>												
Min.	350.533	0.000	350.713	0.000	351.483	0.000	350.663	0.000	351.243	0.000	350.993	0.000
Max.	351.703	0.000	351.993	0.000	352.053	0.000	352.203	0.000	352.413	0.000	351.213	0.000
Mean	351.166	0	351.389	0	351.800	0	351.430	0	351.721	0	351.109	0

Peak Computed Discharge = 1953 cumecs on 03-10-2021

Corres. Water Level :355.253 m

Lowest Computed Discharge = 4.362 cumecs on 11-07-2021

Corres. Water Level :350.753 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

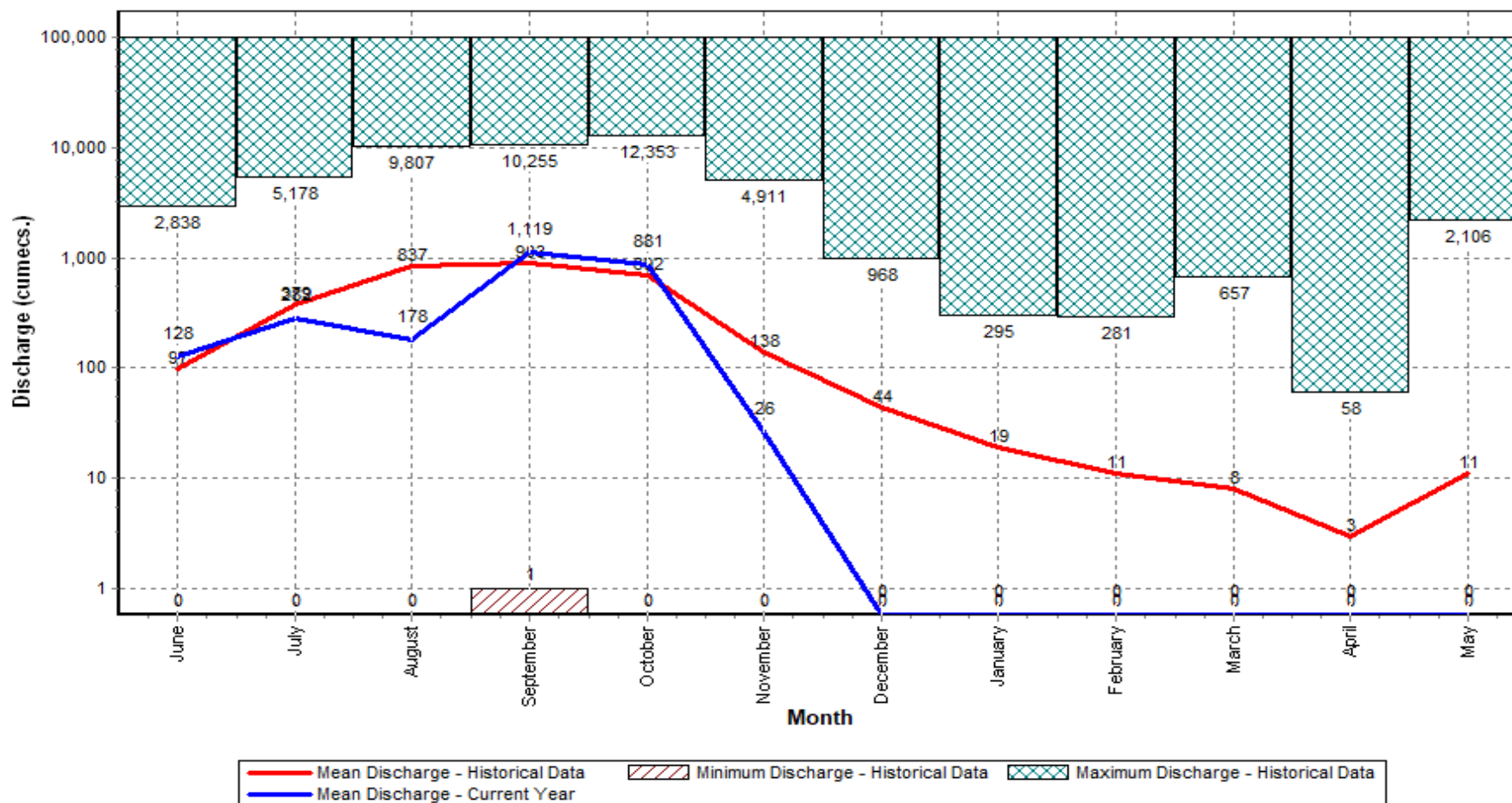
Station Name : Yadgir (AKP00B6)

Data considered : 1965-2022

Division : Lower Krishna Divn., Hyderabad

Local River : Bhima

Sub-Division : Middle Krishna SD 2 , Kurnool



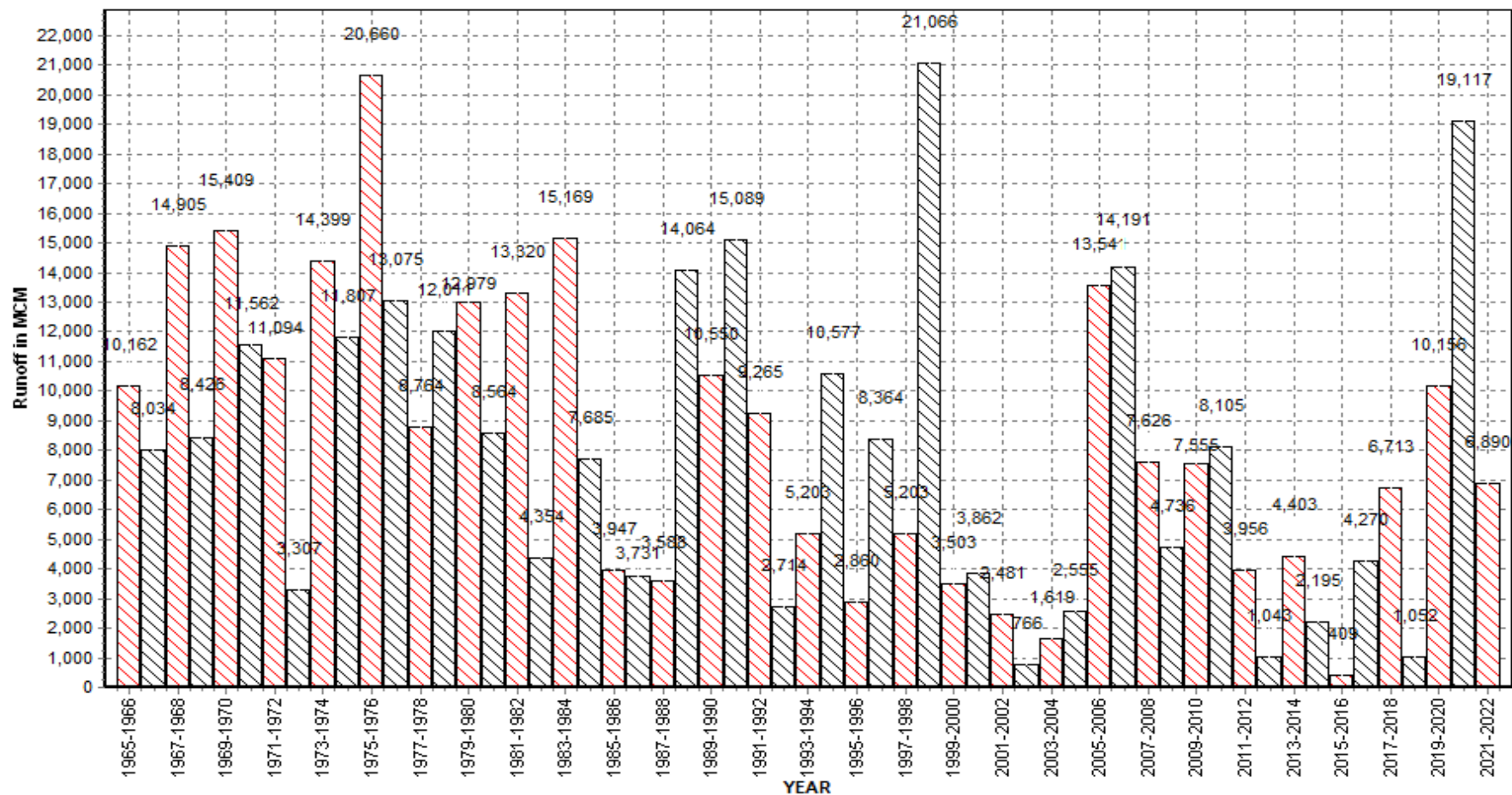
Annual Runoff Values for the period: 1965 - 2022

Station Name : Yadgir (AKP00B6)

Local River : Bhima

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



Note: Missing values have not been considered while arriving at Annual Runoff

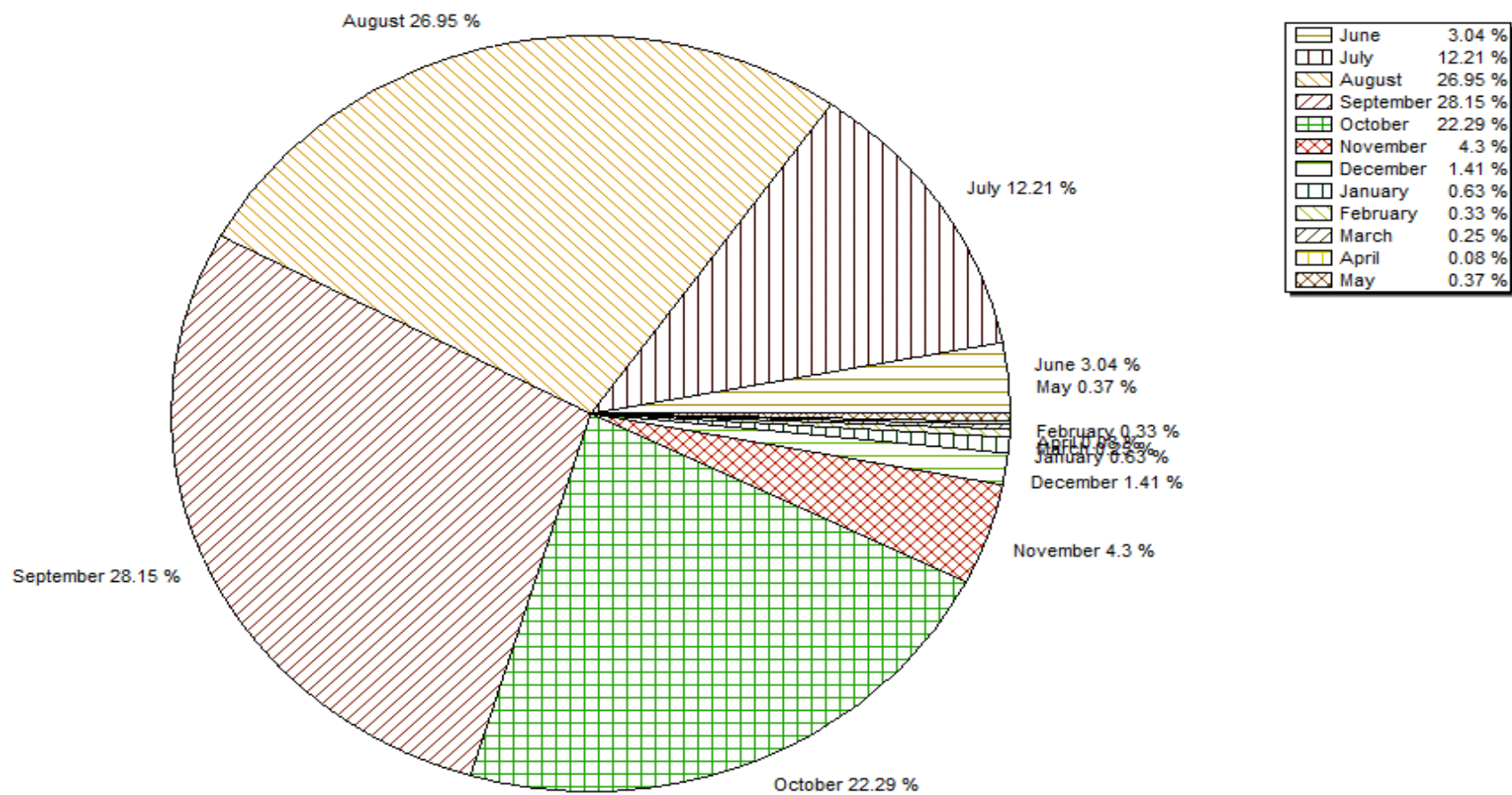
Monthly Average Runoff based on period : 1965-2021

Station Name : Yadgir (AKP00B6)

Local River : Bhima

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



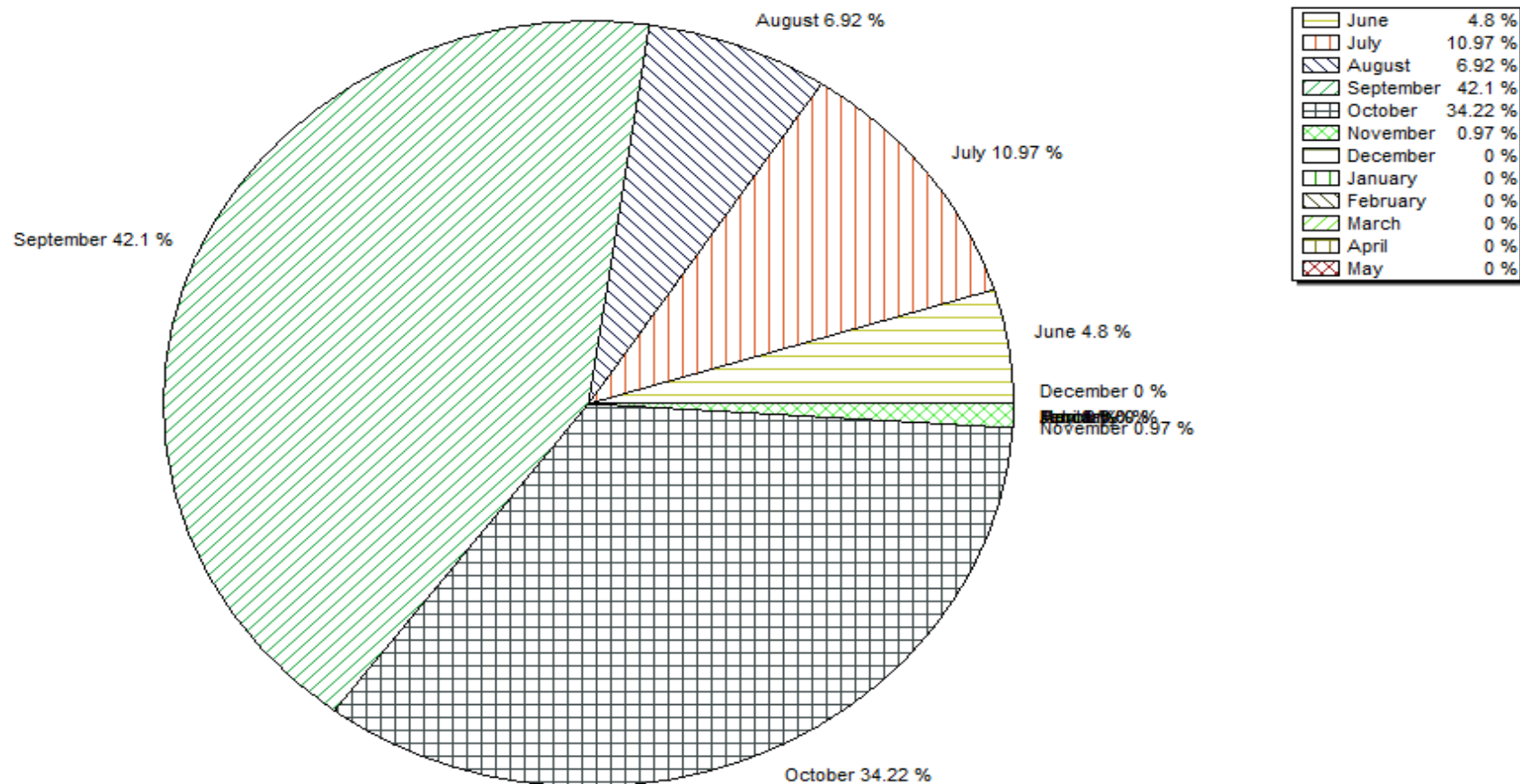
Monthly Runoff for the Year : 2021-2022

Station Name : Yadgir (AKP00B6)

Local River : Bhima

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



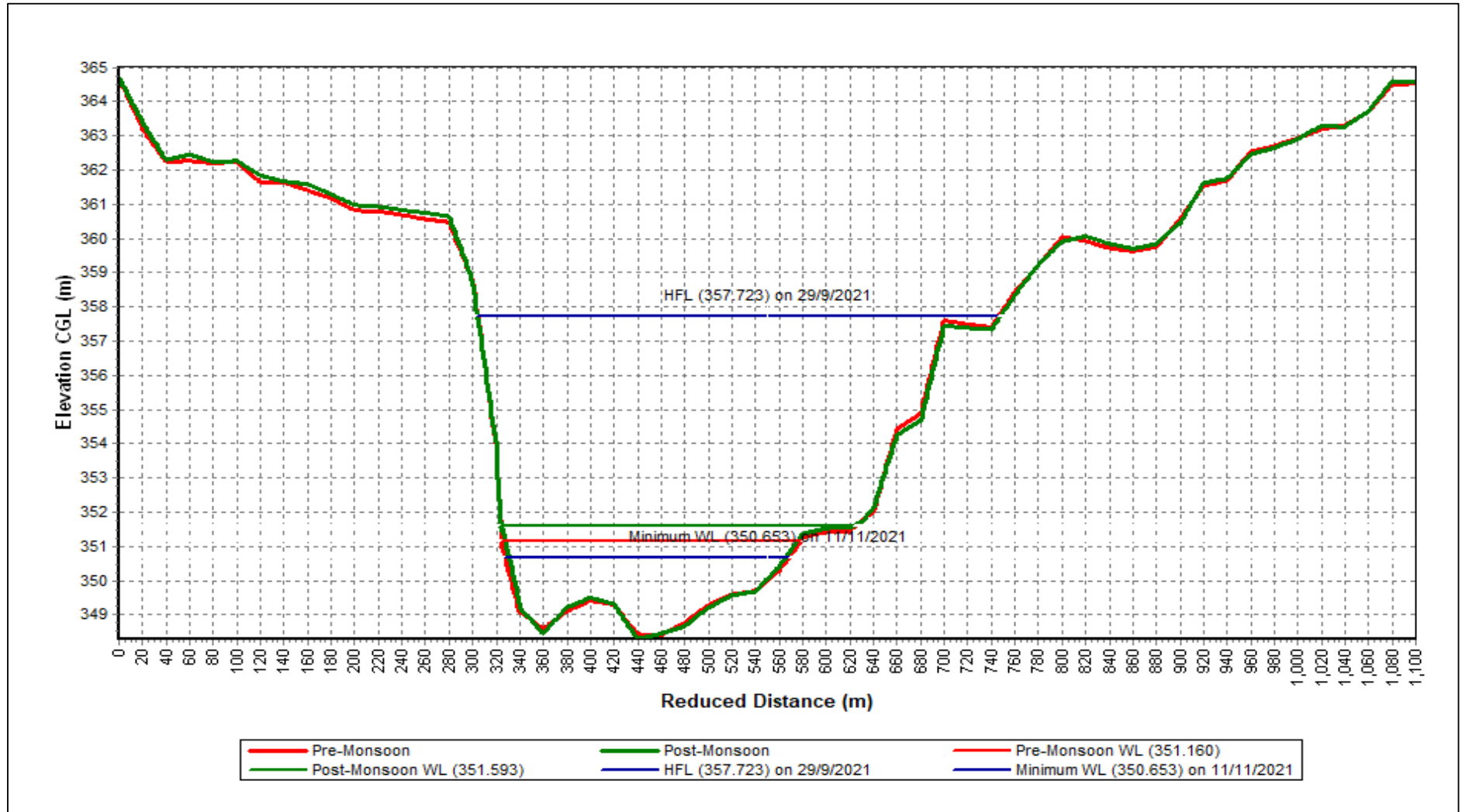
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : Yadgir (AKP00B6)

Local River : Bhima

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



Zero of Gauge : 350.503 (m.s.l)

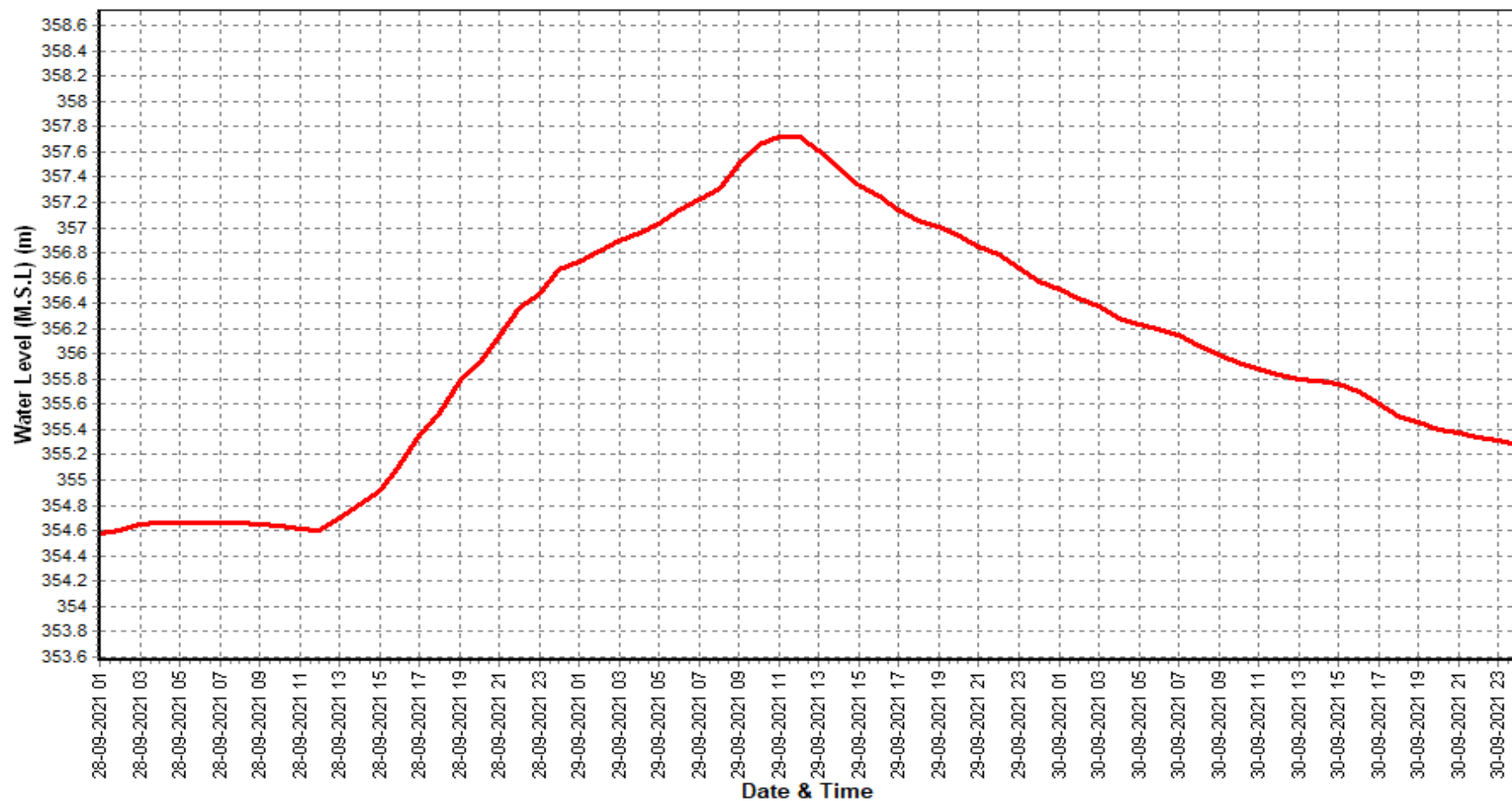
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Yadgir (AKP00B6)

Local River : Bhima

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



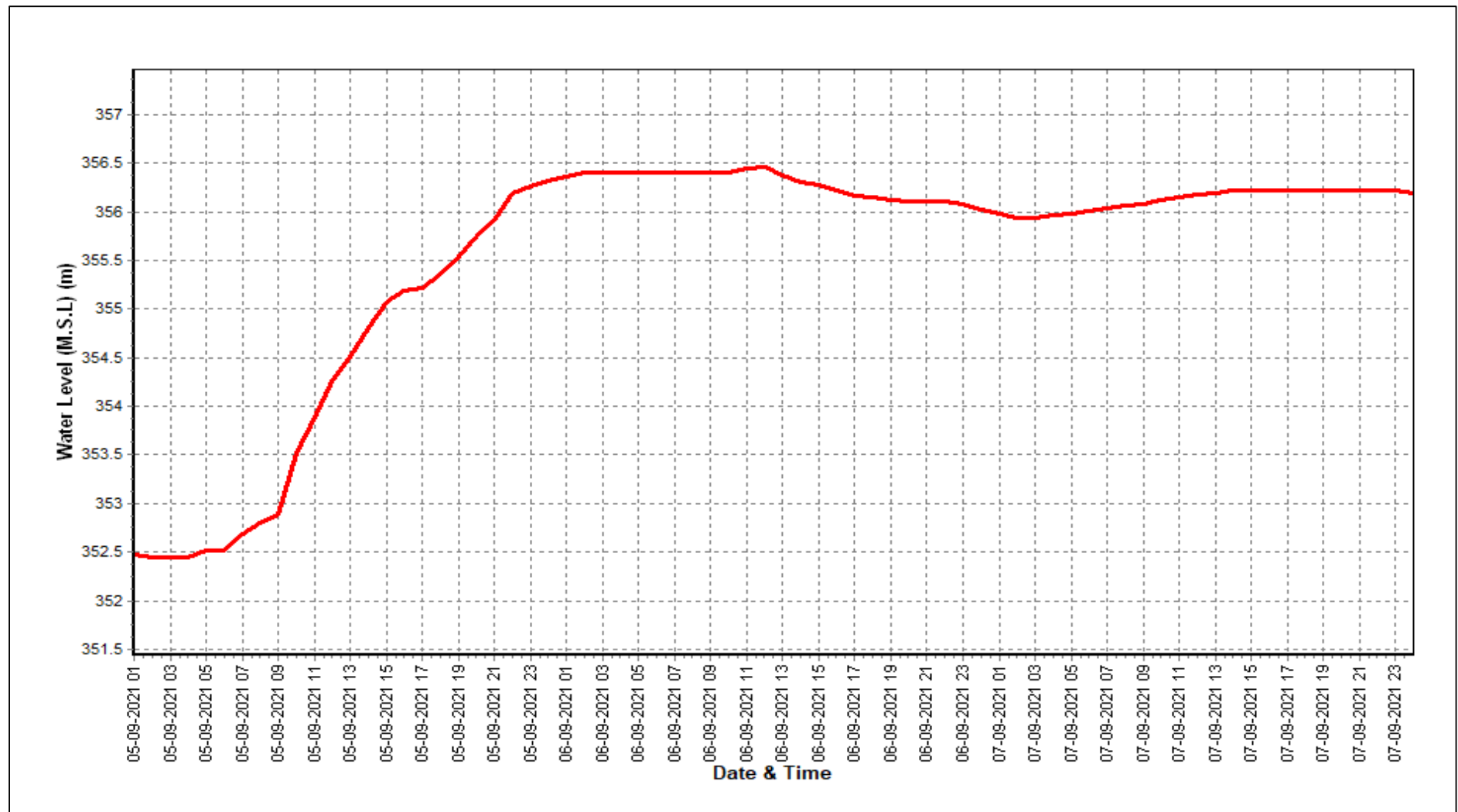
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Yadgir (AKP00B6)

Local River : Bhima

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



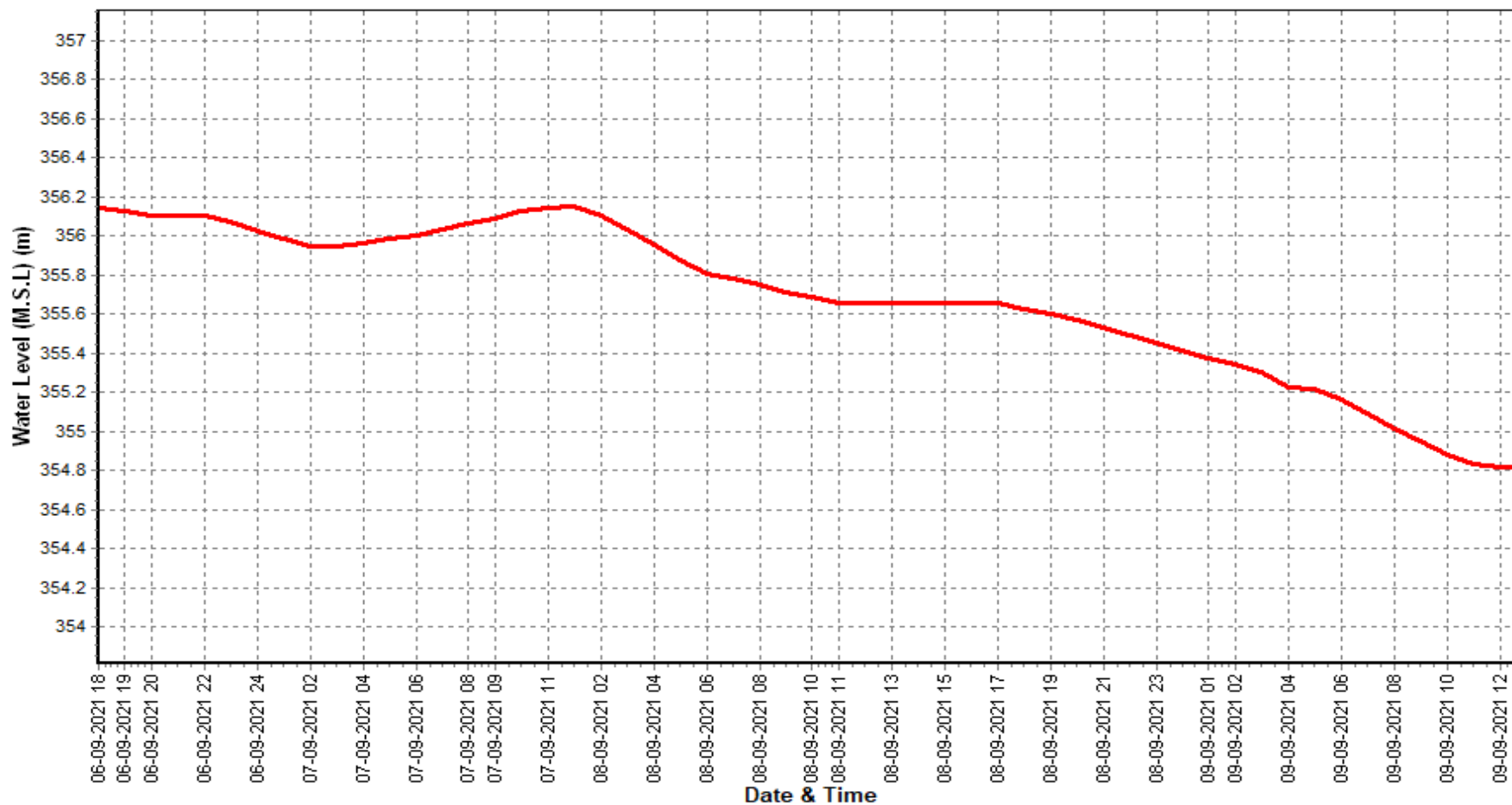
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Yadgir (AKP00B6)

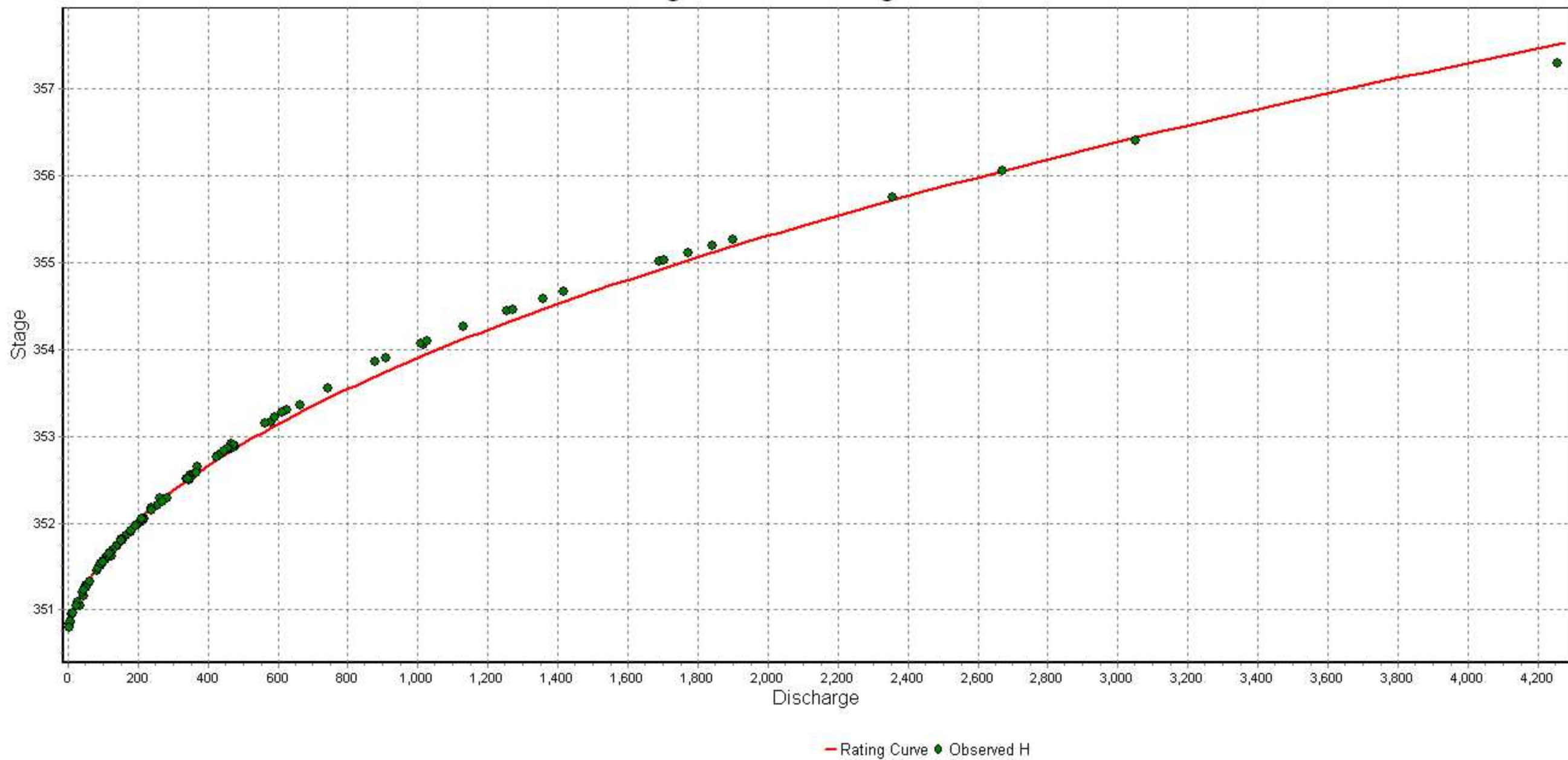
Local River : Bhima

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



Rating Curve of Site Yadgir 2021



HISTORY SHEET

Water Year : 2021-2022

Site : HOLEHONNUR

Code : AKLE0A4

State : Karnataka

District : Shimoga

Basin : Krishna

Independent River : Krishna

Tributary : Tungabhadra

Sub Tributary : Bhadra

Sub-Sub Tributary : -

Local River : Bhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Davanagere

Drainage Area : 2990 Sq. Km.

Bank : Right

Latitude : 13°58'34"

Longitude : 75°41'07"

Zero of Gauge (m) : 88.5(m.s.l)
552.725 (m.s.l)26-11-1997 - 31-05-2010
01-06-2010

Opening Date

Closing Date

Gauge : 26-11-1997

Discharge : 01-07-2003

Water Quality : 01-07-2003

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2004-2005	19.05	89.810	03-01-2005	0.000	90.060	23-10-2004
2005-2006	623.5	94.580	17-08-2005	1.620	89.450	09-01-2006
2006-2007	722.7	94.260	18-08-2006	1.205	89.268	06-01-2007
2007-2008	1176	95.760	07-08-2007	5.273	89.650	19-06-2007
2008-2009	1758	96.390	14-08-2008	0.000	90.130	20-04-2009
2009-2010	1114	94.850	06-09-2009	0.846	89.380	16-01-2010
2010-2011	629.7	559.570	05-10-2010	4.707	555.635	20-12-2010
2011-2012	939.0	560.870	02-09-2011	3.811	555.495	08-01-2012
2012-2013	462.0	559.215	08-08-2012	1.223	555.545	19-05-2013
2013-2014	1242	561.985	03-08-2013	8.715	555.705	13-12-2013
2014-2015	963.1	561.040	06-08-2014	6.642	555.625	30-06-2014
2015-2016	383.7	558.405	20-07-2015	9.460	555.735	05-01-2016
2016-2017	105.7	556.695	29-03-2017	10.98	555.785	06-03-2017
2017-2018	174.5	557.085	25-03-2018	9.252	555.755	04-11-2017
2018-2019	1479	562.640	15-08-2018	3.559	555.560	19-12-2018
2019-2020	901.2	560.605	10-08-2019	11.29	555.675	04-01-2020
2020-2021	743.6	560.220	21-09-2020	9.890	555.710	04-01-2021

Annual Runoff of Krishna at Holehonnur

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	2003-2004	2	5	6	0	0	0
2	2004-2005	29	56	85	1	2	3
3	2005-2006	1002	453	1456	35	16	51
4	2006-2007	979	492	1471	35	17	52
5	2007-2008	2271	636	2907	80	22	103
6	2008-2009	1423	840	2262	50	30	80
7	2009-2010	1737	780	2517	61	28	89
8	2010-2011	1163	1192	2355	41	42	83
9	2011-2012	1424	818	2242	50	29	79
10	2012-2013	676	783	1460	24	28	52
11	2013-2014	2074	820	2895	73	29	102
12	2014-2015	1630	571	2201	58	20	78
13	2015-2016	795	665	1460	28	24	52
14	2016-2017	398	585	983	14	21	35
15	2017-2018	254	590	844	9	21	30
16	2018-2019	2127	623	2750	75	22	97
17	2019-2020	1992	858	2850	70	30	101
18	2020-2021	1134	695	1829	40	25	65
19	2021-2022	1621	1021	2642	57	36	93
Average		1196	657	1853	42	23	65

Instantaneous Flood Peak of Krishna at Holehonnuru					
Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	2003-2004	93.410	04-10-2003	13:00:00	460 *
2	2004-2005	93.560	05-08-2004	08:00:00	505 *
3	2005-2006	94.680	17-08-2005	18:00:00	912 *
4	2006-2007	95.480	17-08-2006	21:00:00	1277 *
5	2007-2008	95.850	06-08-2007	16:00:00	1467 *
6	2008-2009	96.390	14-08-2008	08:00:00	1768 *
7	2009-2010	94.850	06-09-2009	08:00:00	984
8	2010-2011	559.725	05-10-2010	18:00:00	629 *
9	2011-2012	560.895	02-09-2011	10:00:00	925 *
10	2012-2013	559.215	08-08-2012	07:00:00	516 *
11	2013-2014	562.215	02-08-2013	10:00:00	1320 *
12	2014-2015	561.525	06-08-2014	21:00:00	1106 *
13	2015-2016	558.665	20-07-2015	18:00:00	405 *
14	2016-2017	556.635	04-03-2016	13:00:00	93 *
15	2017-2018	556.735	13-02-2017	08:00:00	105
16	2018-2019	562.820	15-08-2018	13:00:00	1523 *
17	2019-2020	561.065	10-08-2019	01:00:00	972 *
18	2020-2021	560.435	21-09-2020	14:00:00	802 *
19	2021-2022	560.955	08-08-2021	10:00:00	1026 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : HOLEHONNUR (AKLE0A4)

Division : Cauvery Division, Bangalore

Local River : Bhadra

Sub-Division : Upper Tunga Subdn, Davanagere

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	555.765	11.46	555.705	9.167	556.395	62.08 *	556.055	33.19	556.045	32.16	556.285	48.51
2	555.755	11.27	555.735	11.06	556.435	64.48	556.055	32.90	556.145	39.53 *	556.315	50.19
3	555.755	11.57	555.755	11.95	556.445	64.48	556.045	31.45	556.525	75.32 *	556.335	50.20
4	555.755	11.38	555.685	9.428 *	556.335	50.50	556.045	31.84	556.495	78.30	556.325	55.36 *
5	555.775	12.12	555.665	8.555	556.825	109.5	556.045	31.65 *	556.605	89.48	556.325	50.19
6	555.785	14.56 *	555.655	8.546	557.435	186.5	556.055	32.66	556.795	109.4	556.815	109.5
7	555.715	9.826	555.655	8.734	559.655	639.4	556.035	31.53	558.785	449.7	556.615	85.06 *
8	555.665	7.919	555.625	8.192	560.925	976.2 *	556.035	32.15	558.445	360.5	556.505	78.11
9	555.675	8.202	555.645	8.641	559.415	589.4	556.045	32.14	556.905	119.6	556.555	85.20
10	555.655	7.820	555.665	9.111	557.735	216.6	556.475	70.10 *	556.545	77.44 *	556.475	77.91
11	555.635	7.374	555.665	8.507 *	557.535	209.2	556.595	89.41	556.275	50.29	556.375	63.11
12	555.645	7.698	555.675	9.421	557.235	160.7	556.605	83.95 *	556.535	78.70	556.285	48.51
13	555.645	7.627 *	555.695	9.090	556.715	98.50	556.615	89.47	556.955	120.5	556.285	48.51
14	555.675	8.257	555.765	12.37	556.705	99.12	558.315	339.6	558.665	426.5	556.275	50.76 *
15	555.705	9.768	555.955	29.06	556.685	92.96 *	558.445	360.3	558.785	440.4 *	557.315	164.1
16	555.765	12.97	555.975	29.70	556.685	98.02	557.645	214.6	558.755	448.4	557.395	188.1
17	555.920	21.76	555.975	30.04	556.675	97.99	556.875	120.6	556.965	127.2 *	556.915	108.5
18	556.045	33.53	556.375	60.13 *	556.675	97.99	556.695	97.99	556.415	64.42	557.435	188.6
19	556.055	33.39	558.675	430.0	556.695	98.01	556.685	92.96 *	556.505	73.22 *	557.855	262.0 *
20	556.045	31.65 *	557.285	175.0	556.695	94.11 *	556.655	96.50	556.605	85.61	558.515	381.5
21	556.045	32.97	556.805	107.1 *	556.705	81.74	556.045	32.40	556.575	85.31	557.855	262.0 *
22	556.035	32.50	557.015	132.0	556.705	95.27 *	556.055	33.14	556.615	85.52	556.635	85.59
23	556.046	33.04	558.975	490.6	556.555	87.44	556.055	32.97	557.375	180.3	556.705	98.08
24	555.995	31.36	559.825	640.1	556.415	64.59	556.055	32.51	557.625	223.6 *	556.795	108.7
25	555.965	27.64	558.825	448.8 *	556.425	64.51	556.045	32.55	558.205	323.4	556.895	108.3
26	555.975	27.29	556.735	98.51	556.315	52.29	556.045	31.65 *	556.815	109.5	556.945	119.5
27	555.955	25.16 *	556.675	97.99	555.965	29.43	556.045	31.92	556.705	98.09	556.995	132.1
28	555.905	21.20	556.575	88.51	556.005	31.36	556.055	32.98	556.455	65.00	556.815	108.3 *
29	555.825	13.57	556.515	78.49	556.015	29.42 *	556.055	32.86	556.355	53.19	556.685	98.12
30	555.735	11.63	556.395	51.50	556.025	32.11	556.055	33.37	556.305	50.01	556.635	85.59
31			556.395	51.50	556.045	32.70			556.285	51.66 *		
Ten-Daily Mean												
I Ten-Daily	555.730	10.61	555.679	9.339	557.760	295.9	556.089	35.96	556.929	143.1	556.455	69.02
II Ten-Daily	555.814	17.40	556.304	79.34	556.830	114.7	557.113	158.5	557.246	191.5	557.065	150.4
III Ten-Daily	555.948	25.64	557.340	207.7	556.289	54.62	556.051	32.64	556.847	120.5	556.896	120.6
Monthly												
Min.	555.635	7.374	555.625	8.192	555.965	29.42	556.035	31.45	556.045	32.16	556.275	48.51
Max.	556.055	33.53	559.825	640.1	560.925	976.2	558.445	360.3	558.785	449.7	558.515	381.5
Mean	555.831	17.88	556.470	102.3	556.938	151.8	556.418	75.71	557.002	150.7	556.805	113.3

Annual Runoff in MCM = 2642 Annual Runoff in mm = 883

Peak Observed Discharge = 640.1 cumecs on 24-07-2021 Corres. Water Level :559.825 m

Lowest Observed Discharge = 7.374 cumecs on 11-06-2021 Corres. Water Level :555.635 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : HOLEHONNUR (AKLE0A4)

Division : Cauvery Division, Bangalore

Local River : Bhadra

Sub-Division : Upper Tunga Subdn, Davanagere

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	556.625	85.48	556.025	31.53	556.515	76.30	556.025	37.12 *	556.165	53.80	556.175	48.82 *
2	556.625	85.48	556.045	38.61 *	556.435	63.50	556.045	37.98	556.165	53.80	556.185	55.39
3	556.635	85.59	556.045	33.09	556.445	63.77	556.045	37.79	556.175	48.82 *	556.185	49.64 *
4	556.655	97.51	556.055	35.59	556.385	62.51	556.055	38.45	556.195	56.08	556.175	57.75
5	556.675	95.34 *	556.035	32.71	556.055	38.62	556.055	38.00	556.215	57.59	556.215	57.61
6	556.615	85.40	556.045	32.47	556.055	39.36 *	556.035	37.86 *	556.195	56.08	556.255	60.56
7	556.645	85.59	556.055	33.40	556.045	38.26	556.035	37.42	556.175	54.56	556.275	62.21
8	556.815	108.8	556.055	33.10	556.045	38.48	556.035	40.53	556.035	36.94	556.815	107.7 *
9	556.695	98.10	556.235	53.81 *	556.055	38.98	556.025	36.98	556.035	36.99	556.875	112.0
10	556.735	108.0	556.275	52.31	556.045	38.04	556.025	36.67	556.035	37.86 *	556.935	117.2
11	556.595	85.30	556.365	62.52	556.345	67.67	556.045	37.94	556.055	37.77	556.875	112.0
12	556.655	93.28 *	556.405	63.31	556.055	38.62	556.055	38.02	556.285	62.95	556.955	119.5
13	556.605	85.30	556.495	75.60	556.055	39.36 *	556.055	39.36 *	556.295	63.72	556.465	77.51
14	556.535	78.20	556.495	77.35 *	556.565	85.80	556.025	36.77	556.265	56.37 *	556.265	61.47
15	556.595	85.30	556.535	78.20	556.565	85.80	556.025	36.60	556.265	56.37 *	556.205	49.99 *
16	556.635	85.59	556.525	80.26 *	556.615	89.90	556.035	36.93	556.205	54.22	556.115	42.80 *
17	556.635	85.59	556.525	69.32	556.665	94.25	556.035	37.09	556.465	74.48 *	556.905	114.6
18	556.535	78.20	556.505	75.10	556.585	87.44	556.055	37.76	556.585	87.44	556.605	89.11
19	556.505	78.31 *	556.585	85.50	556.495	80.11	556.055	37.99	556.435	74.75	557.015	125.0
20	556.515	77.09	556.495	75.58	556.255	55.51 *	556.055	39.36 *	556.315	65.25	558.465	320.4
21	556.575	85.20	556.495	75.58	556.265	61.44	556.055	37.98	556.255	60.56	556.985	122.2
22	556.585	85.31	556.475	74.82	556.225	58.35	556.055	38.27	556.195	56.13	556.515	77.47 *
23	556.585	85.31	556.475	75.43 *	556.055	38.23	556.495	80.11	556.195	56.13	556.455	76.78
24	556.695	98.10	556.515	76.28	556.055	38.64	556.555	84.99	556.205	51.29 *	556.325	66.06
25	556.575	85.18 *	556.585	85.50	556.035	36.93	556.475	78.50	556.345	67.52	556.185	55.39
26	556.575	85.18 *	556.565	84.19 *	556.035	37.52	556.475	78.50	556.265	61.47	556.045	37.06
27	556.575	85.20	556.565	85.09	556.035	37.86 *	556.405	68.86 *	556.175	54.48	556.025	33.20
28	556.535	78.20	556.545	79.50	556.025	36.60	556.235	59.12	556.175	54.48	556.025	33.06
29	556.525	78.10	556.465	74.49			556.175	54.56	556.205	56.87	556.005	34.55 *
30	556.475	77.91	556.465	74.48 *			556.255	60.65	556.205	56.87	555.985	30.53
31	556.395	63.30	556.515	76.30			556.205	56.84			555.925	27.89
<u>Ten-Daily Mean</u>												
I Ten-Daily	556.672	93.53	556.087	37.66	556.208	49.78	556.038	37.88	556.139	49.25	556.409	72.89
II Ten-Daily	556.581	83.22	556.493	74.27	556.420	72.44	556.044	37.78	556.317	63.33	556.787	111.2
III Ten-Daily	556.554	82.45	556.515	78.33	556.091	43.19	556.308	63.49	556.222	57.58	556.225	54.02
<u>Monthly</u>												
Min.	556.395	63.30	556.025	31.53	556.025	36.60	556.025	36.60	556.035	36.94	555.925	27.89
Max.	556.815	108.8	556.585	85.50	556.665	94.25	556.555	84.99	556.585	87.44	558.465	320.4
Mean	556.601	86.27	556.370	63.9	556.250	55.99	556.136	46.94	556.226	56.72	556.466	78.56

Peak Computed Discharge = 976.2 cumecs on 08-08-2021

Corres. Water Level :560.925 m

Lowest Computed Discharge = 7.627 cumecs on 13-06-2021

Corres. Water Level :555.645 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

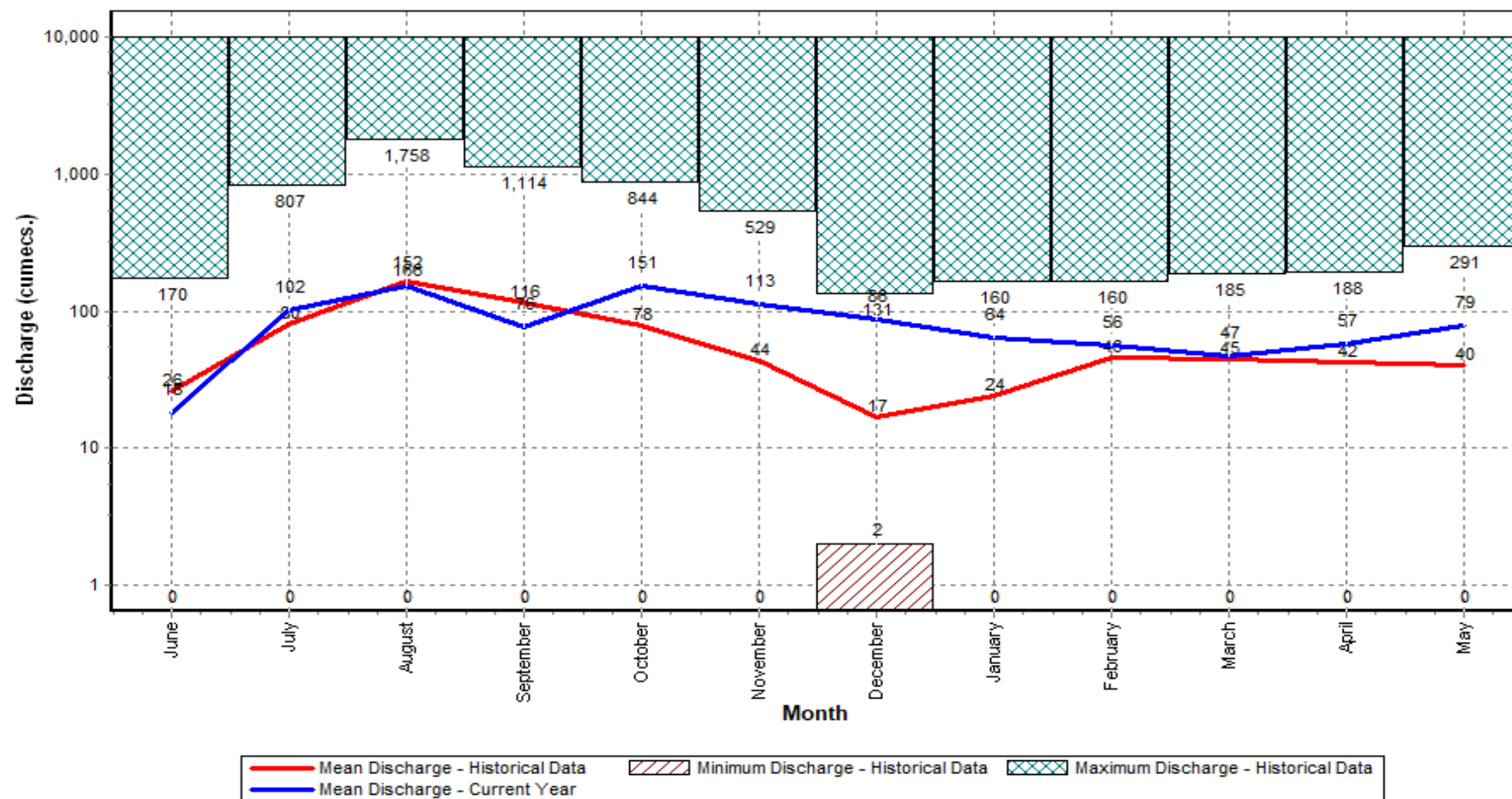
Station Name : HOLEHONNUR (AKLE0A4)

Data considered : 2004-2022

Division : Cauvery Division, Bangalore

Local River : Bhadra

Sub-Division : Upper Tunga Subdn, Davanagere



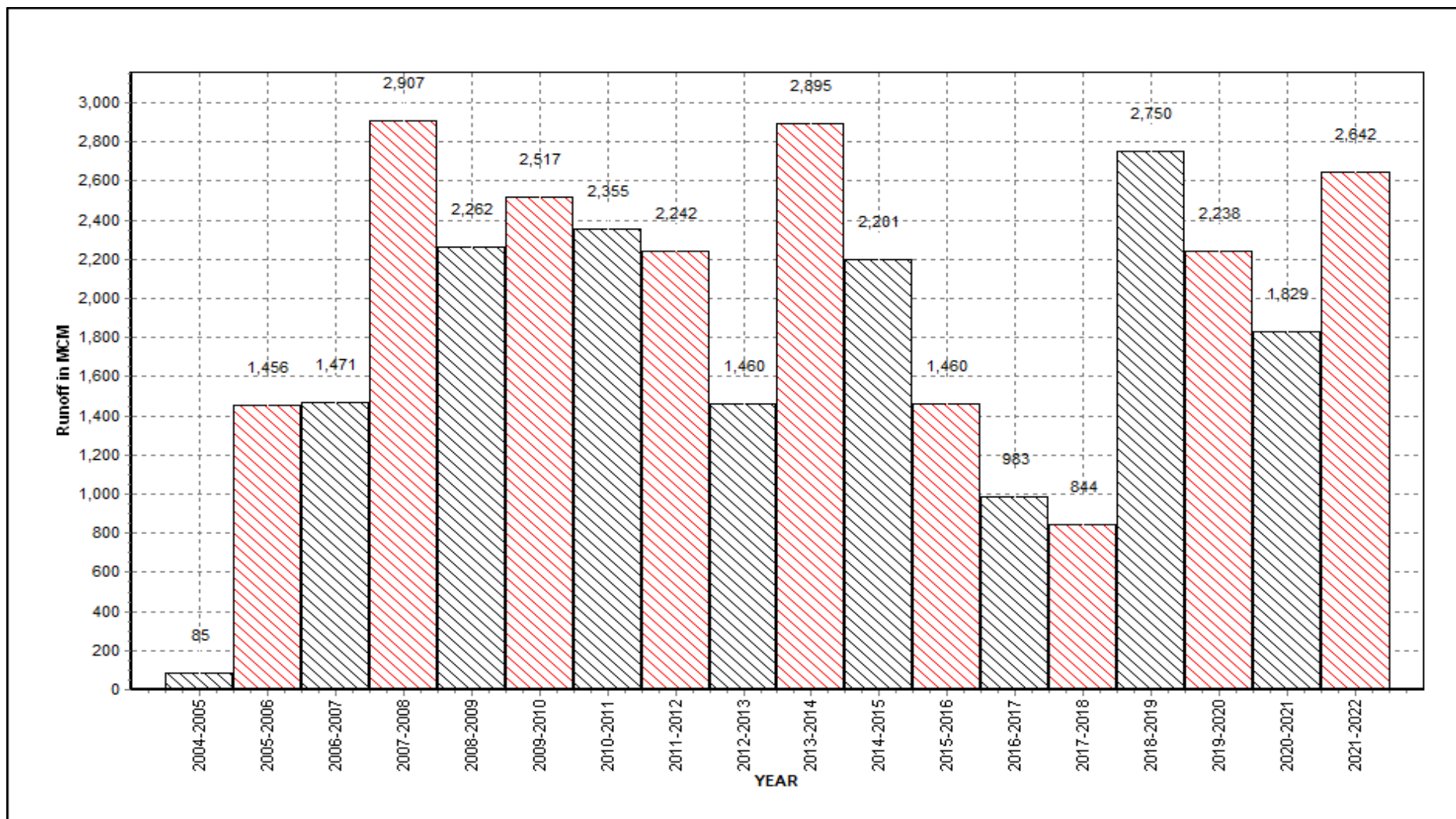
Annual Runoff Values for the period: 2004 - 2022

Station Name : HOLEHONNUR (AKLE0A4)

Local River : Bhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Davanagere



Note: Missing values have not been considered while arriving at Annual Runoff

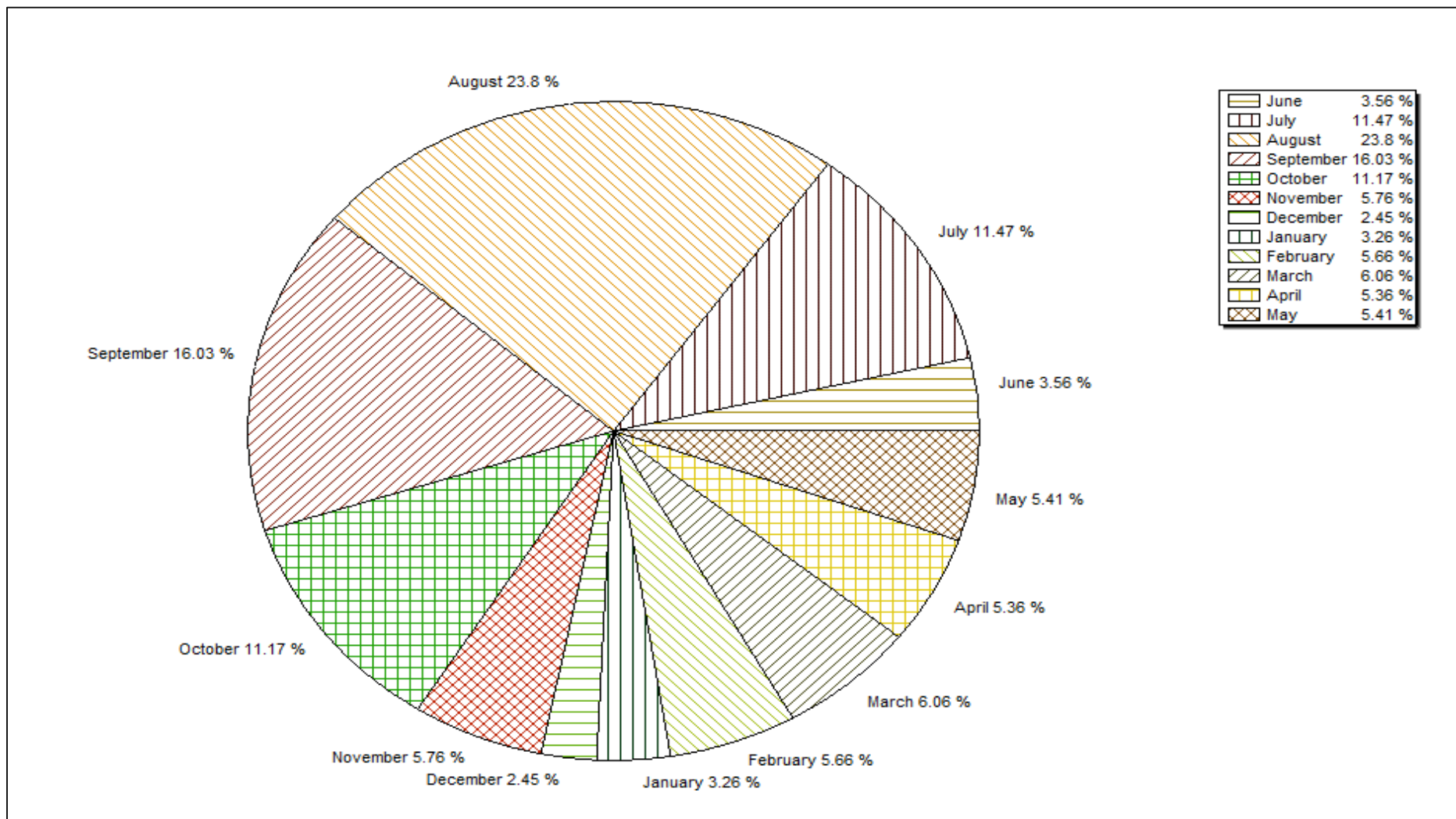
Monthly Average Runoff based on period : 2004-2021

Station Name : HOLEHONNUR (AKLE0A4)

Local River : Bhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Davanagere



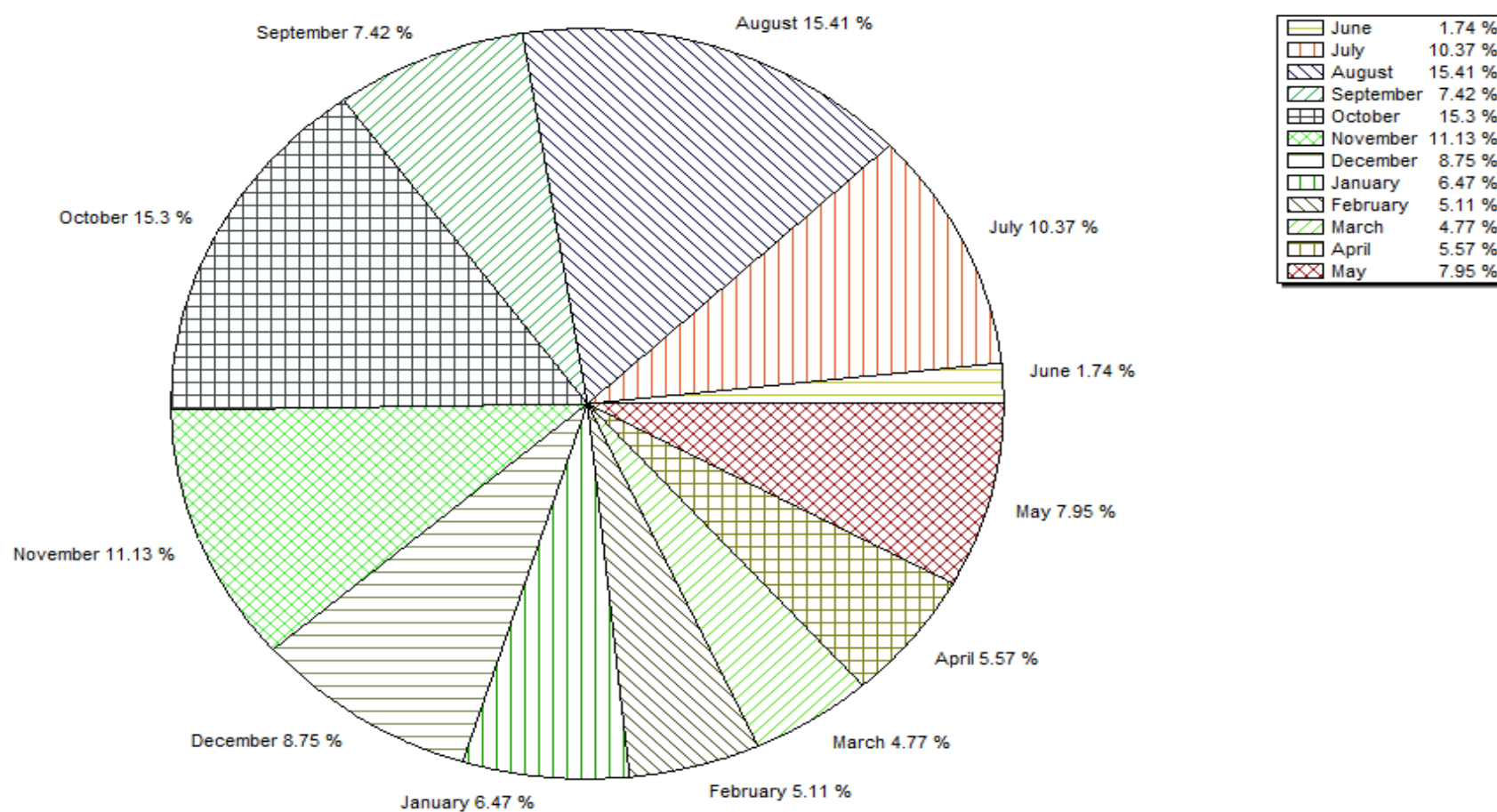
Monthly Runoff for the Year : 2021-2022

Station Name : HOLEHONNUR (AKLE0A4)

Local River : Bhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Davanagere

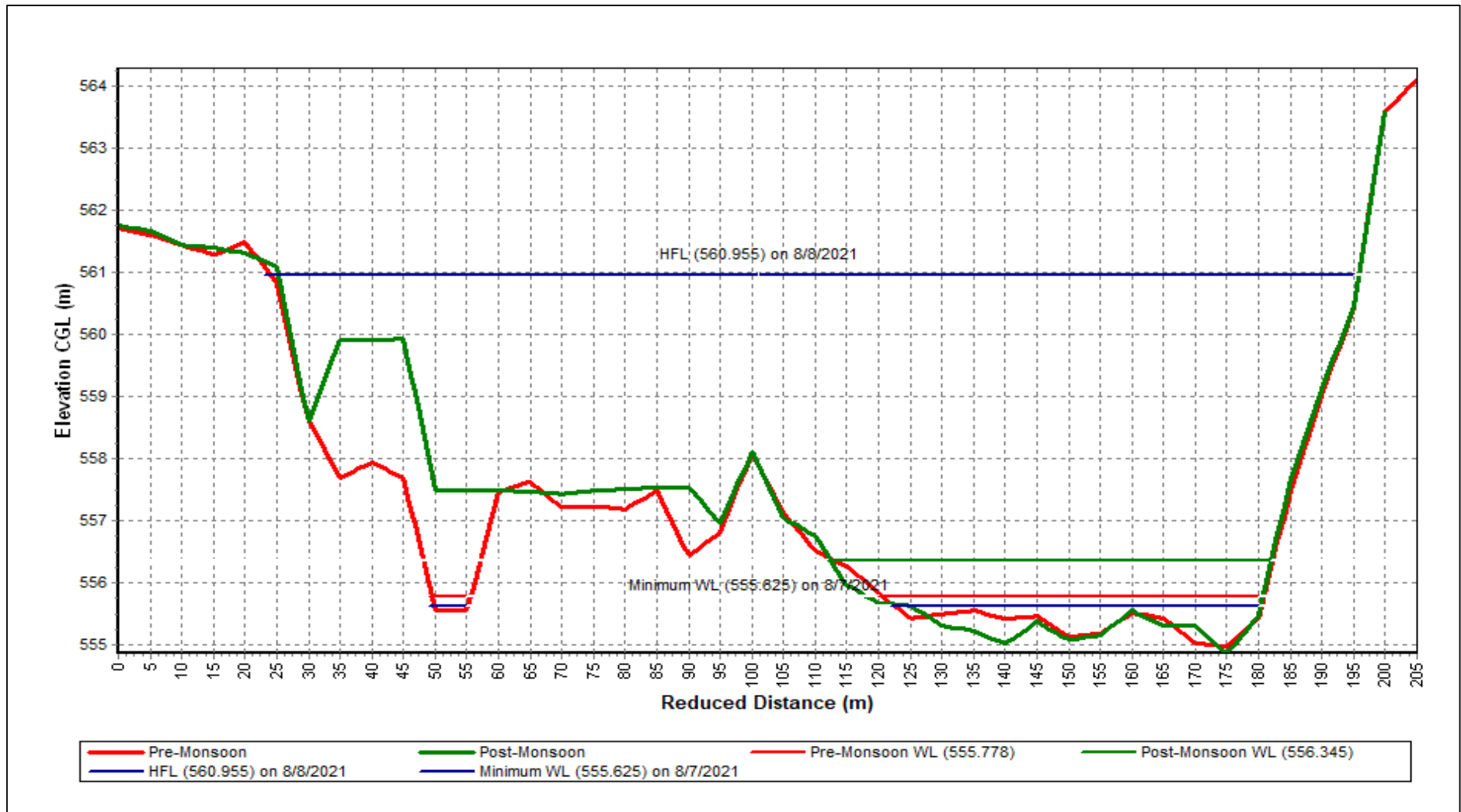


Station Name : HOLEHONNUR (AKLE0A4)

Local River : Bhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Davanagere



Zero of Gauge : 552.725 (m.s.l)

Note: Change of X-Section due to High Flood

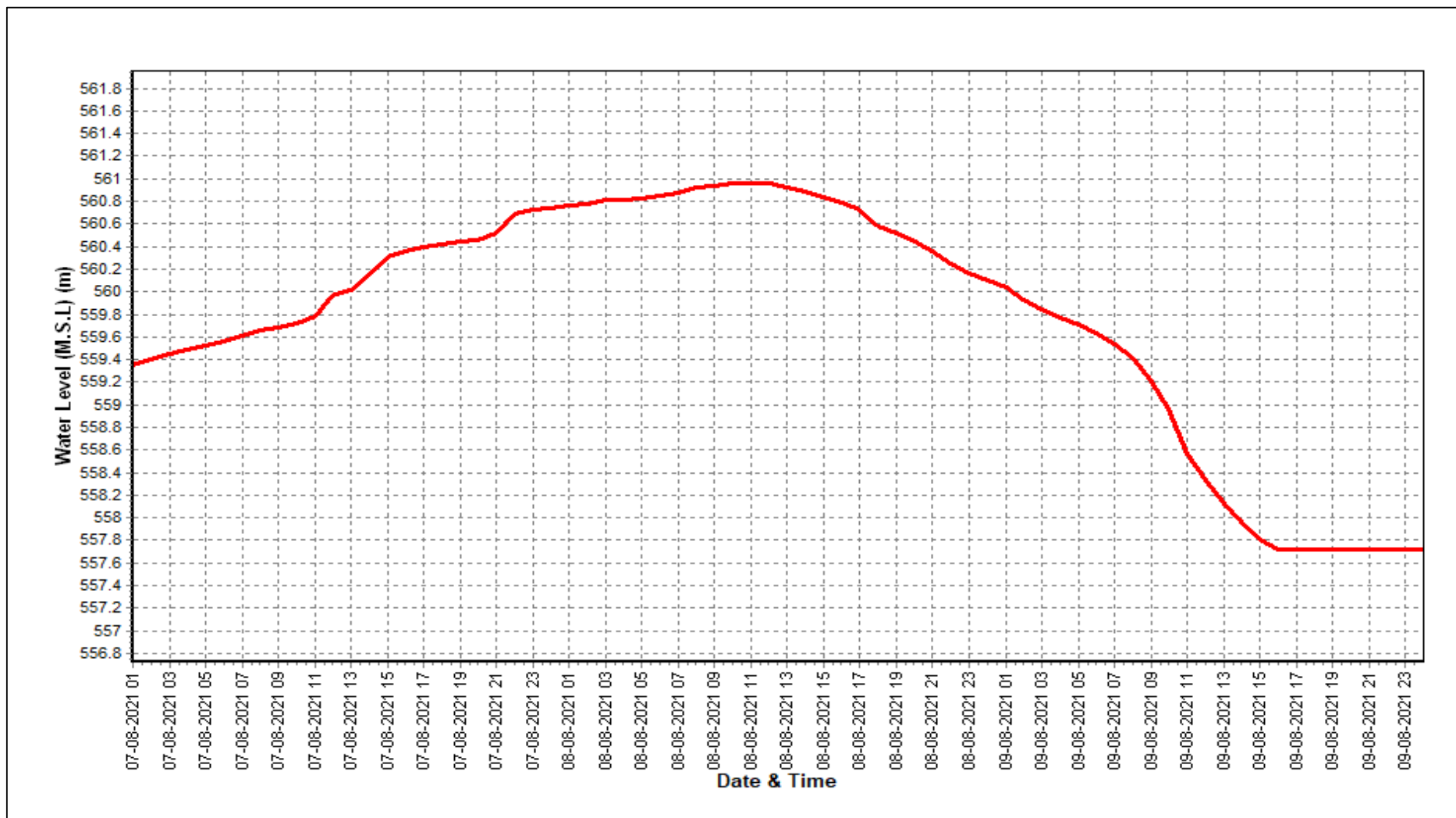
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : HOLEHONNUR (AKLE0A4)

Local River : Bhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Davanagere



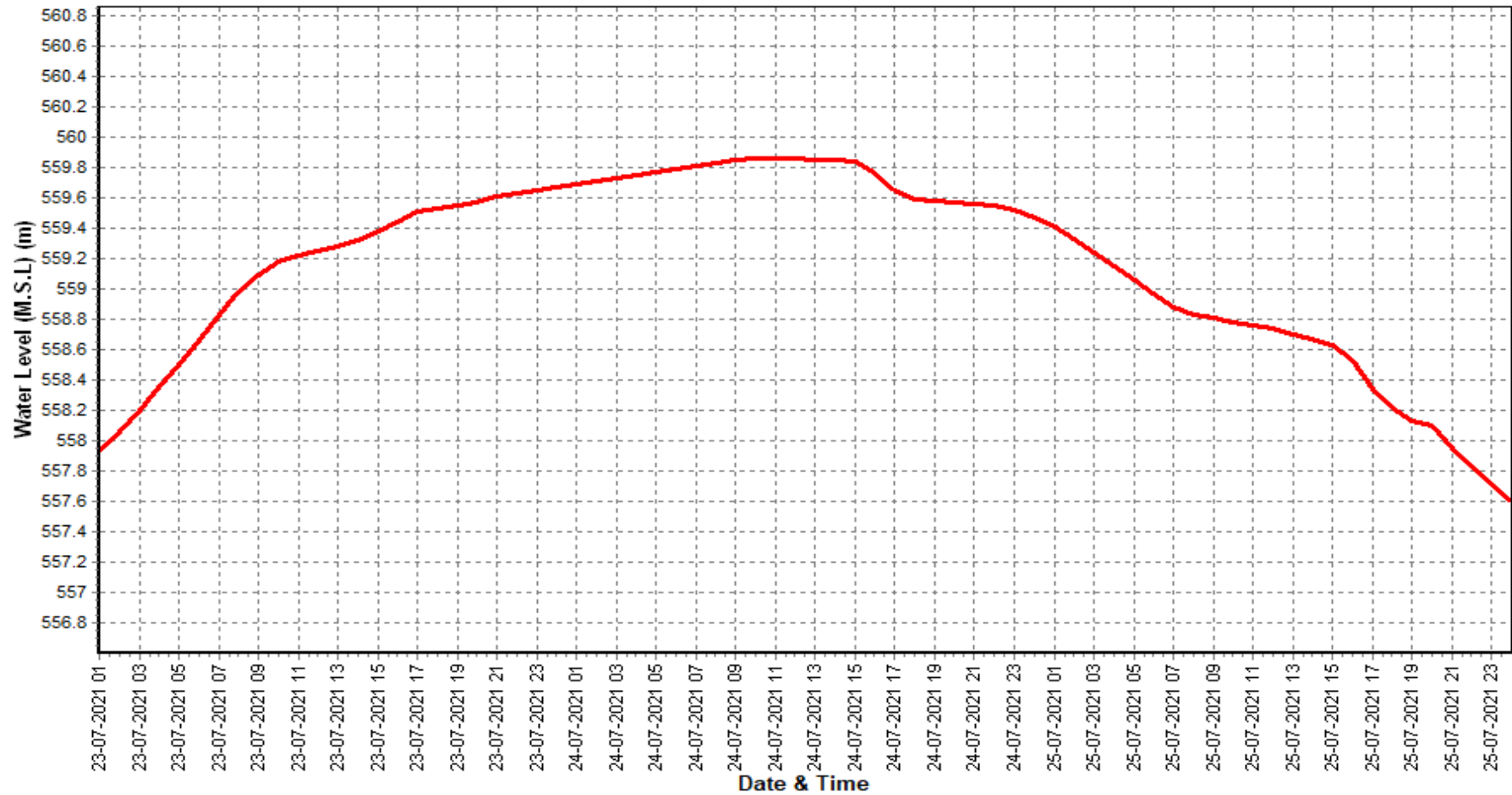
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : HOLEHONNUR (AKLE0A4)

Local River : Bhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Davanagere



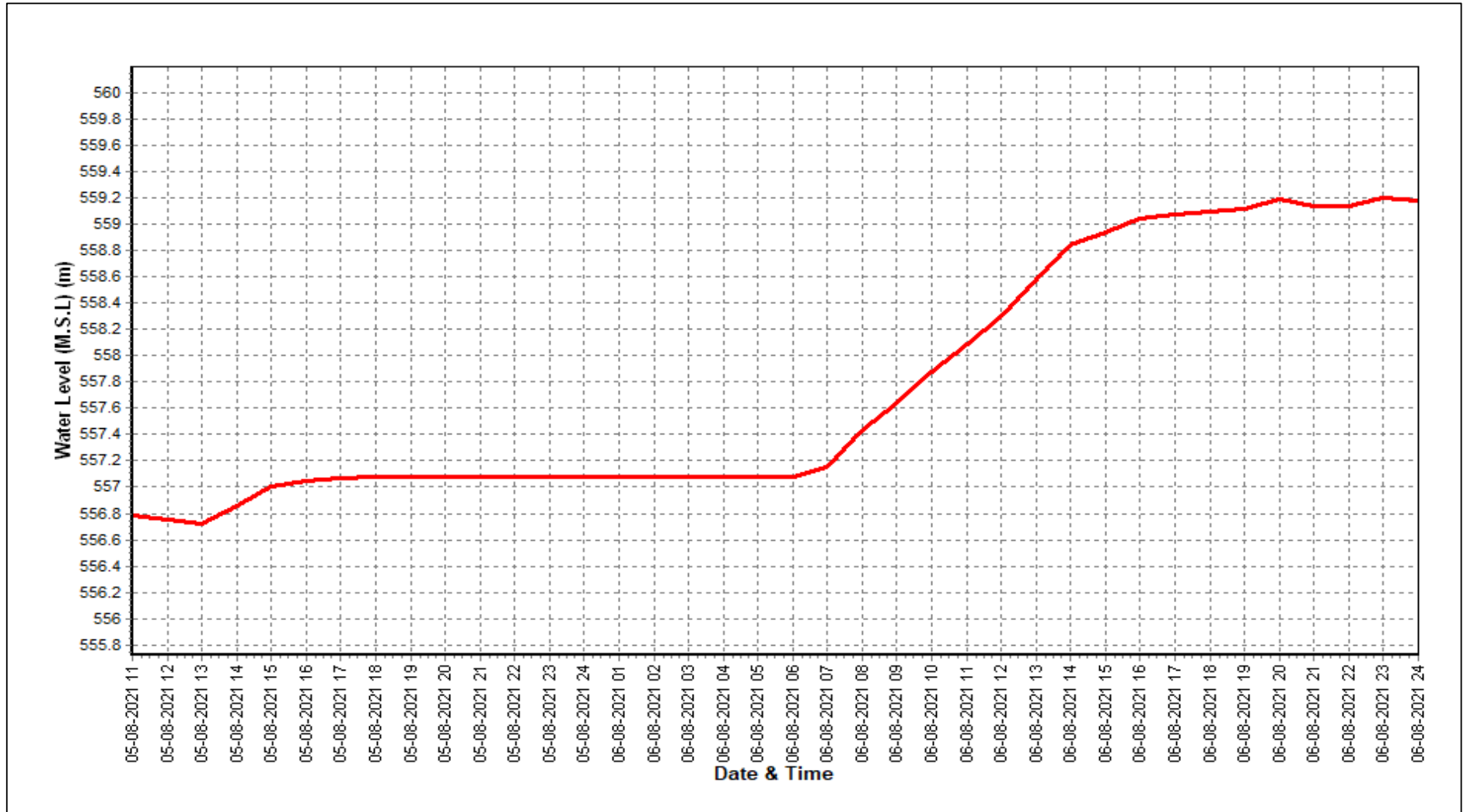
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : HOLEHONNUR (AKLE0A4)

Local River : Bhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Davanagere



HISTORY SHEET

Water Year : 2021-2022

Site : LAKKAVALLI

Code : LAKKAVALLI

State : Karnataka

District : Shimoga

Basin : Krishna

Independent River : Krishna

Tributary : Tungabhadra

Sub Tributary :

Sub-Sub Tributary :

Local River : Bhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere

Drainage Area : 1975 Sq. Km.

Bank : Right

Latitude : 13°42'22"

Longitude : 75°38'42"

Zero of Gauge (m) : 85(ms.l)
603 (m.s.l)11-07-2016 - 28-02-2020
01-03-2020

Opening Date

Closing Date

Gauge : 11-07-2016

Discharge : 13-12-2018

Water Quality : 01-05-2019

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2019-2020	592.7	91.020	07-09-2019	3.326	86.810	29-06-2019
2020-2021	699.4	610.780	21-09-2020	0.000	604.020	20-05-2021

Annual Runoff of Krishna at Ikkavalli

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	2018-2019		44	44	0	2	2
2	2019-2020	1047	332	1379	37	12	49
3	2020-2021	285	139	424	10	5	15
4	2021-2022	571	254	826	20	9	29
Average		634	192	668	17	7	24

Instantaneous Flood Peak of Krishna at Lakkavalli					
Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	2018-2019	87.990	24-01-2018	13:00:00	159 *
2	2019-2020	92.080	05-09-2019	15:00:00	834 *
3	2020-2021	612.870	21-09-2020	03:00:00	1056 *
4	2021-2022	609.620	07-08-2021	19:00:00	740 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : LAKKAVALLI (LAKKAVALLI)

Local River : Bhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	604.020	0.000	604.030	0.000	605.230	2.331 *	605.290	3.467	605.300	3.540	605.300	5.369
2	604.020	0.000	604.030	0.000	605.230	2.583	605.290	3.469	605.300	3.679 *	605.300	5.359
3	604.020	0.000	604.030	0.000	605.230	2.595	605.290	3.466	605.300	3.679 *	605.300	5.373
4	604.020	0.000	604.030	0.000	605.320	4.032	605.290	3.472	605.300	3.546	605.300	5.190 *
5	604.020	0.000	604.030	0.000	606.000	34.00	605.290	3.467 *	605.300	3.541	605.300	5.382
6	604.020	0.000	604.030	0.000	607.560	214.1	605.290	3.477	607.120	174.4	605.300	5.116
7	604.020	0.000	605.130	1.310	608.850	508.9	605.290	3.472	607.340	192.1	605.300	5.190 *
8	604.020	0.000	605.130	1.999 #	609.600	729.5 *	605.290	3.470	606.000	34.02	605.300	5.208
9	604.020	0.000	605.130	2.015	607.460	202.6	605.290	3.475	605.300	3.679 #	605.300	5.120
10	604.020	0.000	605.130	1.974	607.120	174.4	606.000	34.79 *	605.300	3.679 *	605.300	5.120
11	604.020	0.000	605.130	1.999 *	606.860	133.8	606.000	34.02	605.300	3.679 #	605.300	5.119
12	604.020	0.000	605.130	1.991	606.100	39.51	606.000	34.79 *	607.340	192.1	605.300	5.118
13	604.020	0.000	605.130	2.002	606.100	39.51	606.340	61.34	607.340	192.1	605.300	5.122
14	604.020	0.000	605.170	2.232	606.100	39.51	606.460	79.20	607.340	192.1	605.300	5.190 *
15	604.030	0.000	605.230	2.517	606.100	41.91 *	607.480	205.8	607.340	187.1 *	606.000	34.02
16	604.030	0.000	605.130	2.011	606.100	39.51	606.520	87.75	606.000	34.02	606.000	34.02
17	604.030	0.000	605.130	1.999 #	606.100	39.51	606.000	34.02	606.000	34.79 *	606.000	34.02
18	604.030	0.000	605.150	2.101 *	606.100	39.51	606.000	34.02	606.000	34.02	607.120	174.4
19	604.030	0.000	605.150	2.078	606.100	39.51	605.290	3.467 *	606.000	34.79 *	607.340	191.1 *
20	604.030	0.000	605.190	2.332	606.100	41.91 *	605.290	3.480	606.000	34.02	607.340	192.1
21	604.030	0.000	605.260	2.871 *	606.100	39.51	605.290	3.475	606.000	34.02	607.120	155.4 *
22	604.030	0.000	605.280	3.124	605.290	3.467 *	605.290	3.473	607.340	192.1	605.300	5.120
23	604.030	0.000	605.320	3.852	605.290	3.487	605.300	3.575	607.340	192.1	605.300	5.110
24	604.030	0.000	605.230	2.631	605.290	3.482	605.300	3.537	607.890	285.7 *	605.300	5.122
25	604.030	0.000	605.230	2.331 *	605.290	3.486	605.300	3.543	607.340	192.1	606.000	34.02
26	604.030	0.000	605.230	2.582	605.290	3.480	605.300	3.679 *	606.040	37.01	606.000	34.02
27	604.030	0.000	605.230	2.605	605.290	3.476	605.300	3.557	606.000	34.02	606.000	34.02
28	604.030	0.000	605.230	2.572	605.290	3.472	605.300	3.544	605.300	5.694	606.000	35.07 *
29	604.030	0.000	605.230	2.601	605.290	3.467 *	605.300	3.540	605.300	5.040	605.300	5.124
30	604.030	0.000	605.230	2.590	605.290	3.473	605.300	3.547	605.300	5.343	606.000	34.02
31			605.230	2.570	605.290	3.475			605.300	5.190 *		
Ten-Daily Mean												
I Ten-Daily	604.020	0.000	604.470	0.730	606.760	187.5	605.361	6.602	605.756	42.58	605.300	5.243
II Ten-Daily	604.026	0.000	605.154	2.126	606.176	49.43	606.138	57.78	606.466	93.86	606.100	68.01
III Ten-Daily	604.030	0.000	605.245	2.757	605.364	6.752	605.298	3.547	606.286	89.83	605.832	34.70
Monthly												
Min.	604.020	0.000	604.030	0.000	605.230	2.331	605.290	3.466	605.300	3.540	605.300	5.110
Max.	604.030	0.000	605.320	3.852	609.600	729.5	607.480	205.8	607.890	285.7	607.340	192.1
Mean	604.025	0	604.966	1.9	606.076	78.82	605.599	22.64	606.173	75.89	605.744	35.99

Annual Runoff in MCM = 826 Annual Runoff in mm = 418

Peak Observed Discharge = 508.9 cumecs on 07-08-2021 Corres. Water Level :608.85 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021 Corres. Water Level :604.02 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : LAKKAVALLI (LAKKAVALLI)

Local River : Bhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	606.000	34.02	605.300	5.345	605.510	8.311	605.510	8.304 *	605.390	6.998	605.390	6.962 *
2	606.000	34.02	605.300	5.285 *	605.510	8.308	605.510	8.303	605.390	6.995	605.390	6.962 *
3	606.000	34.02	605.300	5.338	605.510	8.303	605.510	8.306	605.390	6.962 *	605.390	6.989
4	606.000	34.02	605.300	5.319	605.510	8.310	605.510	8.308	605.390	6.996	605.390	6.983
5	606.000	34.31 *	605.300	5.350	605.510	8.301	605.510	8.303	605.390	6.991	605.390	6.998
6	606.000	34.02	605.300	5.335	605.510	8.304 *	605.510	8.304 *	605.390	6.997	605.390	6.991
7	606.000	34.02	605.300	5.349	605.510	8.310	605.510	8.308	605.390	6.992	606.460	79.18
8	607.120	174.4	605.300	5.333	605.510	8.297	605.510	8.299	605.390	6.996	606.460	79.58 *
9	606.000	34.02	605.510	8.304 *	605.510	8.300	605.510	8.311	605.390	6.998	606.780	122.0
10	606.000	34.02	605.510	8.301	605.510	8.306	605.510	8.307	605.390	6.962 *	606.860	134.0
11	606.000	34.02	605.510	8.303	605.510	8.311	605.510	8.304	605.390	6.998	606.860	134.0
12	606.000	34.31 *	605.510	8.302	605.510	8.301	605.510	8.316	605.390	6.890	605.540	11.73 #
13	606.000	34.02	605.510	8.305	605.930	24.15 *	605.510	8.304 *	605.390	6.996	605.380	6.560
14	606.000	34.02	605.510	8.304 *	606.090	32.74	605.510	8.309	605.390	6.962 *	605.380	6.609
15	606.000	34.02	605.510	8.307	606.090	32.74	605.510	8.315	605.390	6.962 *	605.380	6.695 *
16	606.000	34.02	605.510	8.304 *	606.090	32.74	605.510	8.306	605.390	7.011	605.380	6.695 *
17	606.000	34.02	605.510	8.315	606.090	32.74	605.510	8.309	605.390	6.962 *	605.390	7.258
18	606.000	34.02	605.510	8.311	606.090	32.74	605.510	8.308	605.390	7.007	605.400	11.01 #
19	606.000	34.31 *	605.510	8.300	605.520	8.370	605.510	8.318	605.390	6.994	605.520	8.499
20	606.000	34.02	605.510	8.307	605.520	8.575 *	605.510	8.304 *	605.390	7.000	605.400	7.270
21	606.000	34.02	605.510	8.302	605.510	8.305	605.510	8.316	605.390	6.991	605.380	6.548
22	606.000	34.02	605.510	8.311	605.510	8.308	605.510	8.308	605.390	6.993	605.380	6.950 *
23	606.000	34.02	605.510	8.304 *	605.510	8.303	605.510	8.309	605.390	7.000	605.380	6.597
24	606.000	34.02	605.510	8.316	605.510	8.311	605.510	8.314	605.390	6.962 *	605.380	6.571
25	606.000	34.31 *	605.510	8.309	605.510	8.305	605.510	8.317	605.390	6.987	605.380	6.566
26	606.000	34.31 *	605.510	8.304 *	605.510	8.304	605.510	8.303	605.390	7.000	605.380	6.578
27	606.000	34.02	605.510	8.299	605.510	8.304 *	605.510	8.304 *	605.390	6.990	605.380	6.579
28	606.000	34.02	605.510	8.302	605.510	8.310	605.510	8.310	605.390	6.991	605.380	6.580
29	606.000	34.02	605.510	8.310			605.380	6.827	605.390	6.988	605.380	6.695 *
30	605.300	5.359	605.510	8.304 *			605.390	6.993	605.390	7.002	605.380	6.576
31	605.300	5.308	605.510	8.300			605.390	6.999			605.380	6.582
Ten-Daily Mean												
I Ten-Daily	606.112	48.08	605.342	5.926	605.510	8.305	605.510	8.305	605.390	6.989	605.890	45.66
II Ten-Daily	606.000	34.08	605.510	8.306	605.844	22.14	605.510	8.309	605.390	6.978	605.563	20.63
III Ten-Daily	605.873	28.86	605.510	8.305	605.510	8.306	605.476	7.936	605.390	6.990	605.380	6.620
Monthly												
Min.	605.300	5.308	605.300	5.285	605.510	8.297	605.380	6.827	605.390	6.890	605.380	6.548
Max.	607.120	174.4	605.510	8.316	606.090	32.74	605.510	8.318	605.390	7.011	606.860	134.0
Mean	605.991	36.74	605.456	7.538	605.629	13.25	605.498	8.176	605.390	6.986	605.604	23.73

Peak Computed Discharge = 729.5 cumecs on 08-08-2021

Corres. Water Level :609.6 m

Lowest Computed Discharge = 1.999 cumecs on 11-07-2021

Corres. Water Level :605.13 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

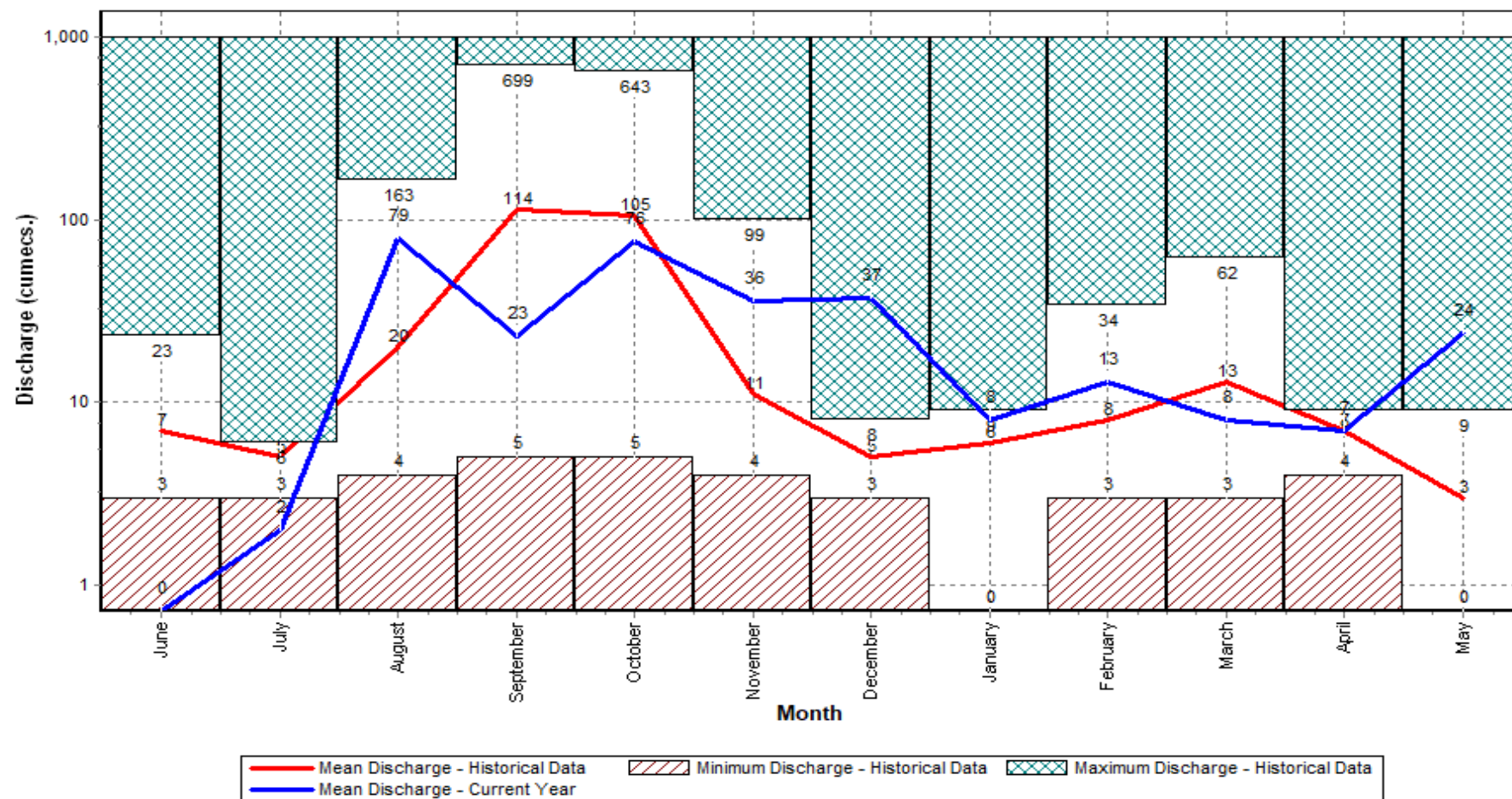
Station Name : LAKKAVALLI (LAKKAVALLI)

Data considered : 2019-2022

Division : Cauvery Division, Bangalore

Local River : Bhadra

Sub-Division : Upper Tunga SD, Devangere



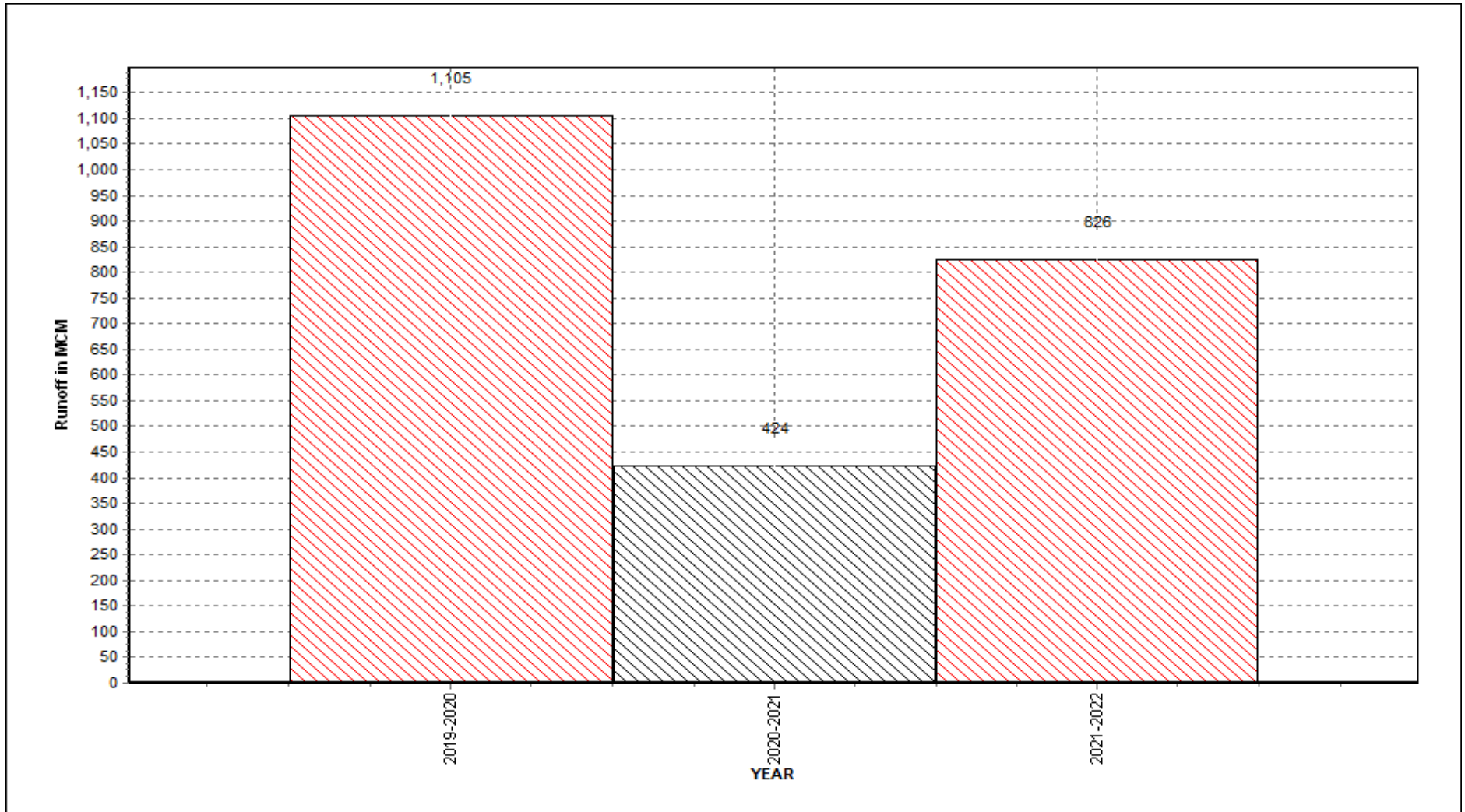
Annual Runoff Values for the period: 2019 - 2022

Station Name : LAKKAVALLI (LAKKAVALLI)

Local River : Bhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



Note: Missing values have not been considered while arriving at Annual Runoff

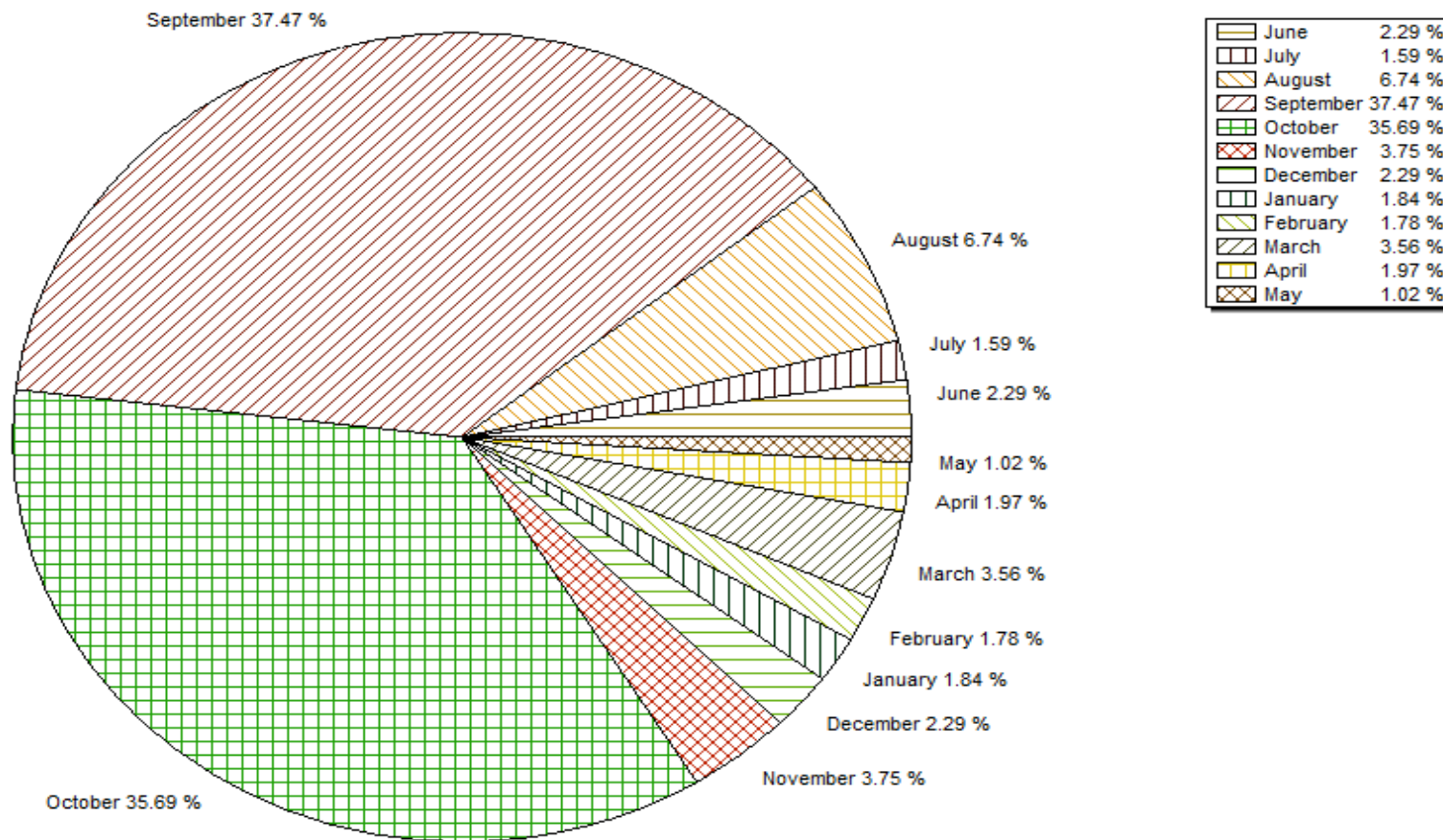
Monthly Average Runoff based on period : 2019-2021

Station Name : LAKKAVALLI (LAKKAVALLI)

Local River : Bhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



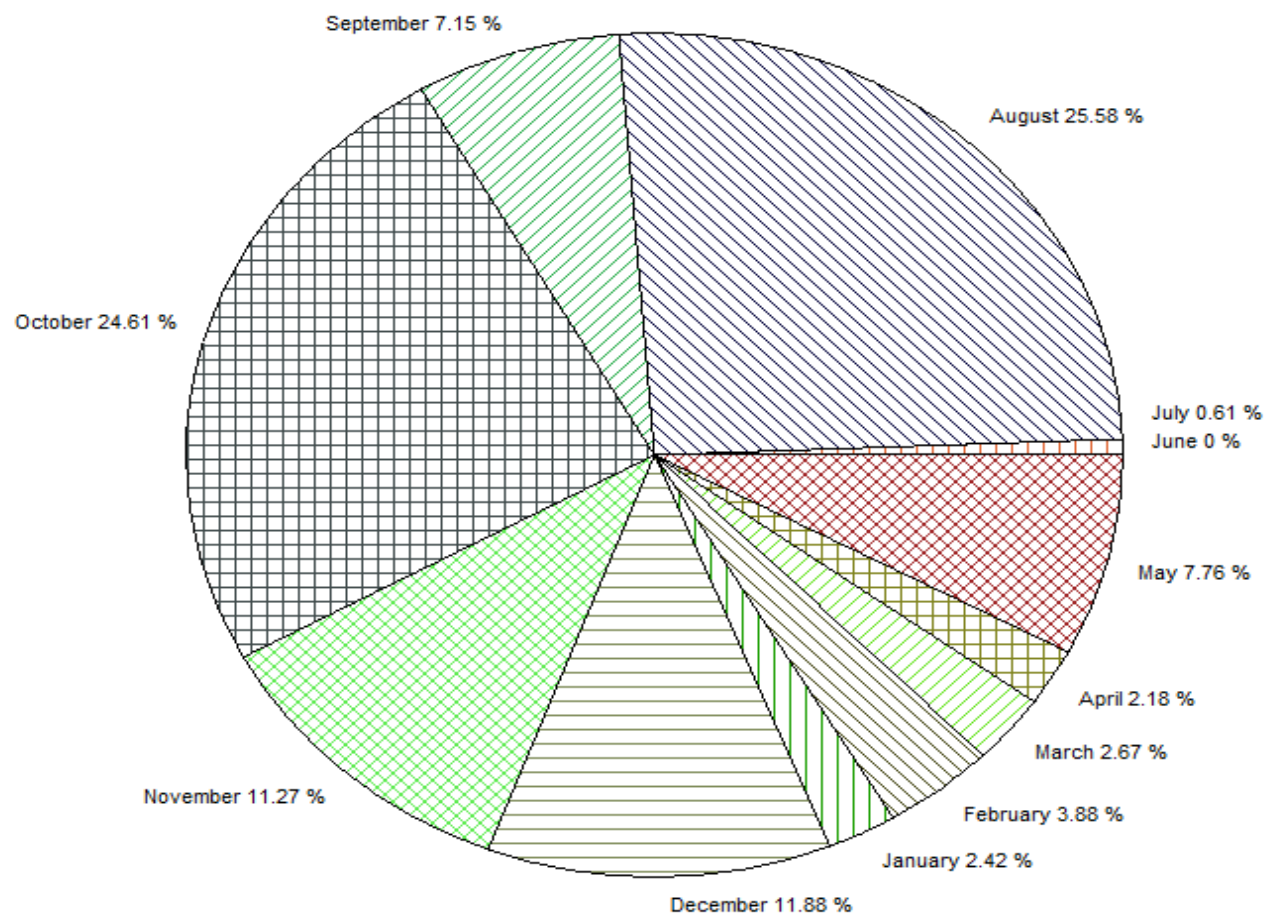
Monthly Runoff for the Year : 2021-2022

Station Name : LAKKAVALLI (LAKKAVALLI)

Local River : Bhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



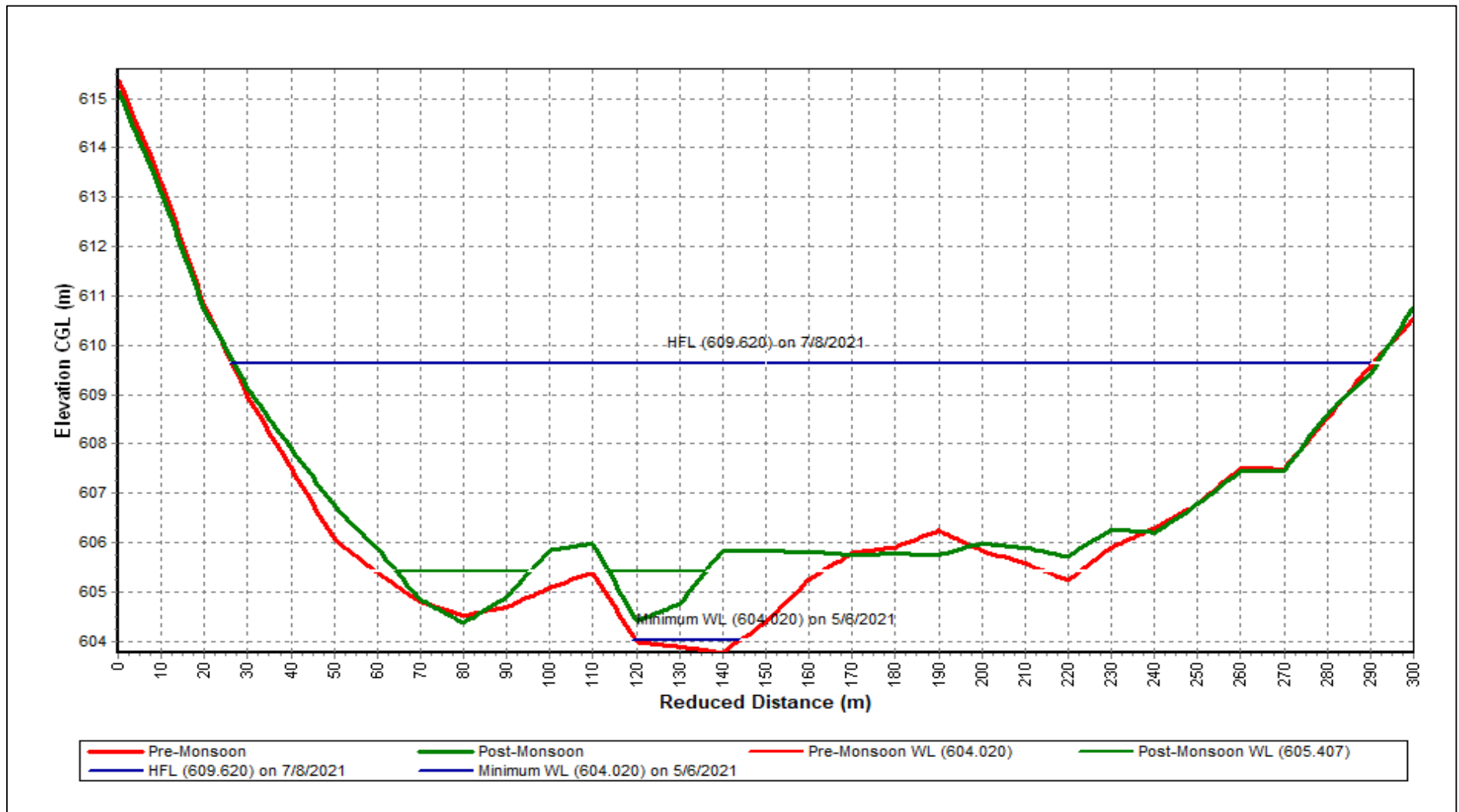
June	0 %
July	0.61 %
August	25.58 %
September	7.15 %
October	24.61 %
November	11.27 %
December	11.88 %
January	2.42 %
February	3.88 %
March	2.67 %
April	2.18 %
May	7.76 %

Station Name : LAKKAVALLI (LAKKAVALLI)

Local River : Bhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



Zero of Gauge : 603 (m.s.l)

Note : Change of X-Section due to High Flood

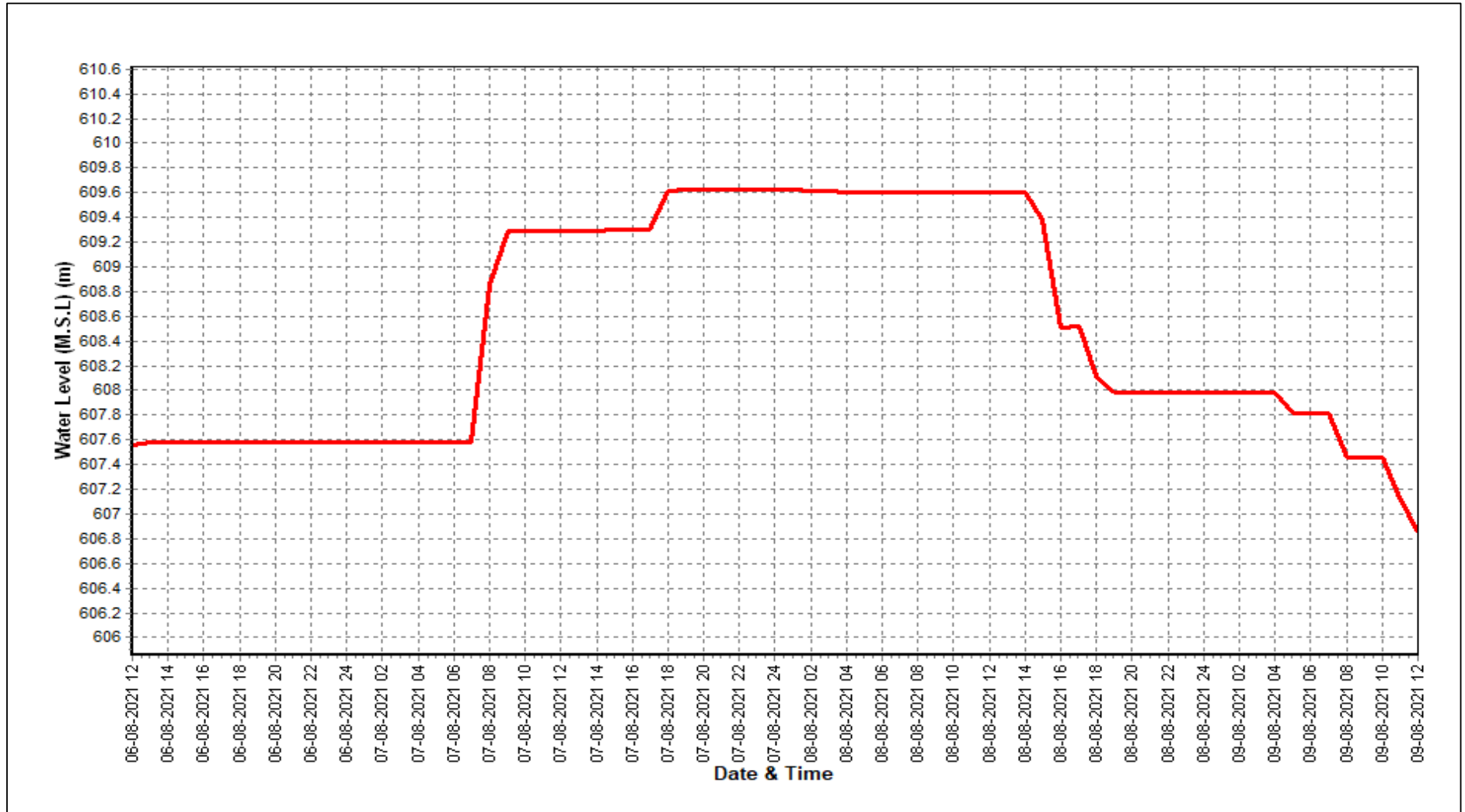
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : LAKKAVALLI (LAKKAVALLI)

Local River : Bhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



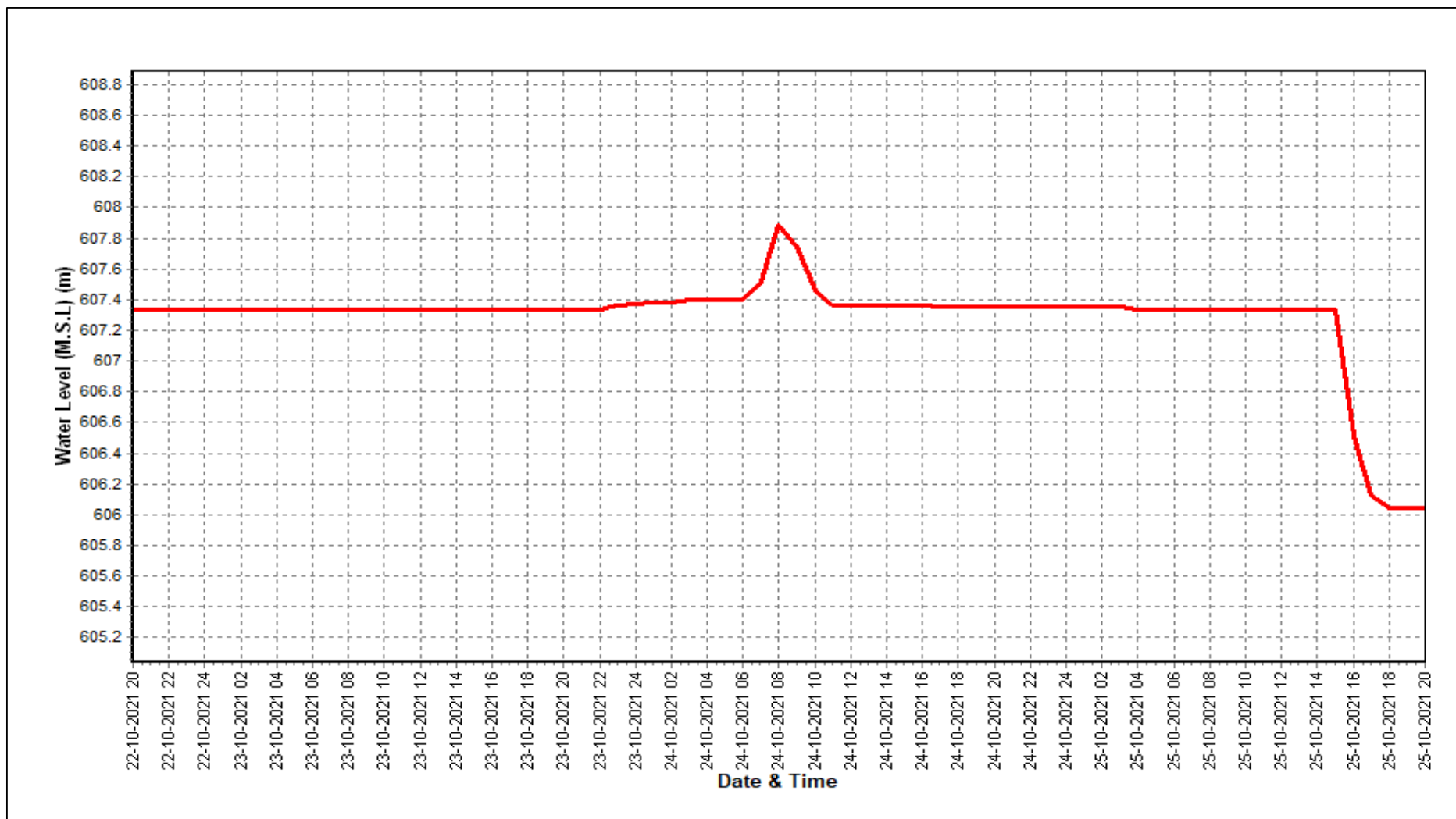
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : LAKKAVALLI (LAKKAVALLI)

Local River : Bhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



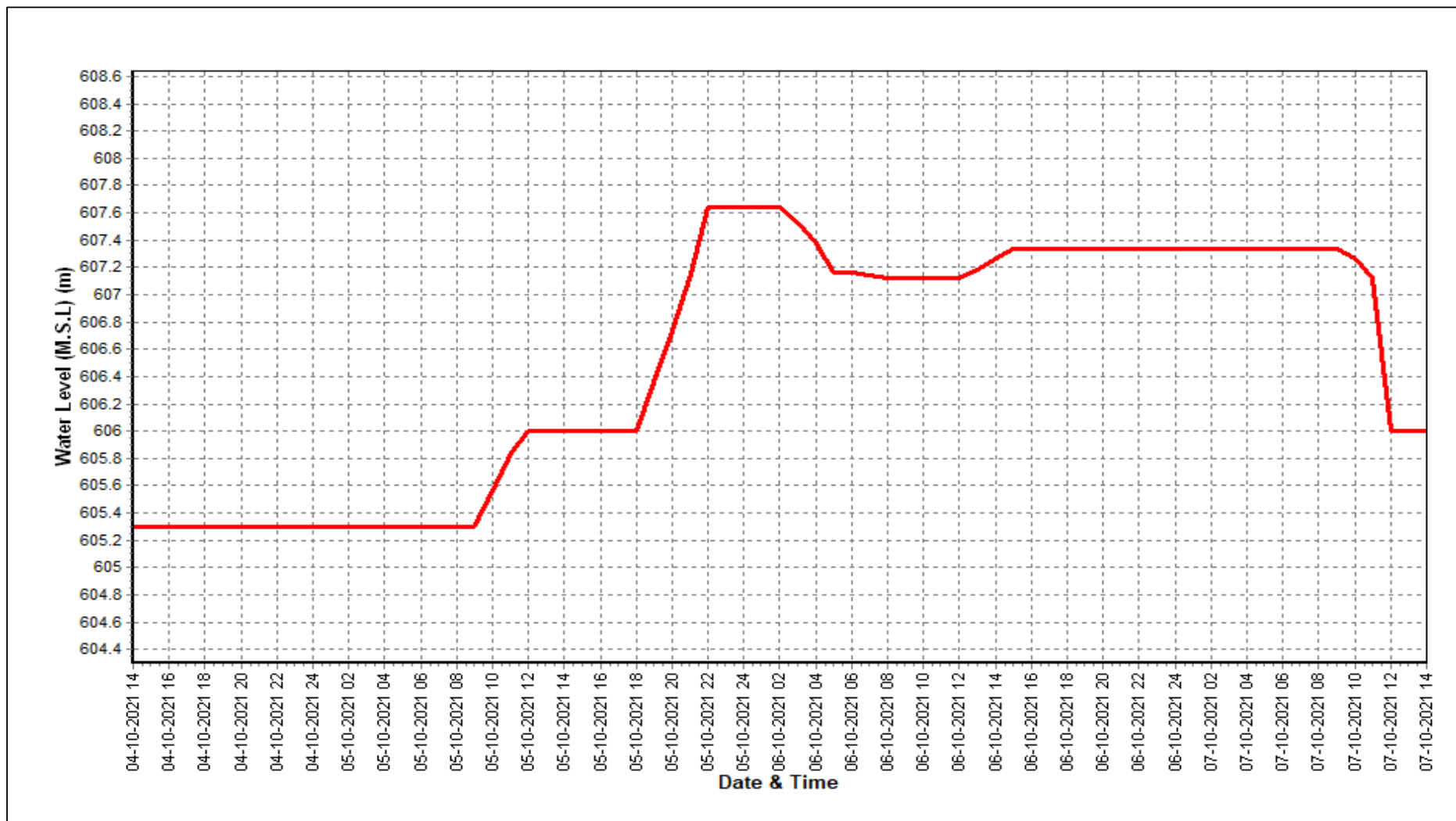
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : LAKKAVALLI (LAKKAVALLI)

Local River : Bhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



HISTORY SHEET

Water Year : 2021-2022

Site : HARIHARAPURA

Code : HARIHARAPURA

State : Karnataka

District : Chikmagalur

Basin : Krishna

Independent River : Krishna

Tributary : Tungabhadra

Sub Tributary :

Sub-Sub Tributary :

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere

Drainage Area : 663 Sq. Km.

Bank : Left

Latitude : 13°31'20"

Longitude : 75°18'12"

Zero of Gauge (m) : 837 (m.s.l)
609.5 (m.s.l)29-10-2014 - 31-08-2019
01-09-2019

Opening Date

Closing Date

Gauge : 29-10-2014

Discharge : 14-12-2018

Water Quality : 01-05-2019

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2019-2020	1338	846.680	10-08-2019	6.844	611.920	19-04-2020
2020-2021	934.2	619.530	07-08-2020	7.79	611.710	10-04-2021

Annual Runoff of Krishna at Hariharapura

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	2018-2019		249	249	0	9	9
2	2019-2020	1633	394	2027	58	14	72
3	2020-2021	1721	313	2033	61	11	72
4	2021-2022	2151	404	2556	76	14	90
Average		1835	340	1716	49	12	61

Instantaneous Flood Peak of Krishna at Hariharapura					
Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	2018-2019	840.610	12-11-2018	08:00:00	128 *
2	2019-2020	847.200	10-08-2019	18:00:00	1439 *
3	2020-2021	619.820	07-08-2020	15:00:00	988 *
4	2021-2022	617.950	23-07-2021	15:00:00	836 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : HARIHARAPURA (HARIHARAPURA)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	611.890	13.49	612.600	49.51	614.470	232.4 *	613.430	114.3	612.980	84.26	612.570	55.68
2	611.900	13.84	612.715	61.98	614.100	195.8	613.560	125.5	613.360	112.7 *	612.550	54.86
3	611.900	13.79	612.570	47.94	613.965	180.4	613.320	104.8	613.200	98.61 *	612.530	53.50
4	611.910	14.39	612.530	48.79 *	615.700	431.6	613.305	102.6	613.100	92.71	612.530	48.79 *
5	612.200	28.21	612.500	44.68	614.910	281.9	613.360	112.7 *	613.190	101.7	613.300	104.2
6	612.210	30.53 *	612.480	45.21	615.420	359.2	613.495	119.3	613.710	155.6	613.200	100.1
7	612.210	29.15	612.470	45.08 *	615.780	458.1	613.890	175.3	613.205	100.9	613.700	145.4 *
8	612.200	28.38	612.460	43.75	615.220	333.8 *	614.010	188.2	612.980	84.32	612.970	83.13
9	612.180	26.75	612.460	44.07	614.620	252.4	614.580	246.6	613.510	125.9	612.970	83.00
10	612.180	26.70	612.760	64.95	614.090	200.4	614.020	179.4 *	613.140	93.54 *	612.720	65.36
11	612.190	27.40	613.140	93.54 *	613.865	172.0	613.730	157.1	613.250	104.7	612.700	65.08
12	612.200	28.29	613.625	124.6	614.250	211.1	614.640	254.0 *	613.250	102.0	612.620	58.67
13	614.160	195.2 *	613.580	125.7	613.765	161.3	614.765	269.1	614.830	277.5	612.620	58.45
14	613.800	129.7	614.855	261.5	613.670	149.8	614.900	295.6	613.520	127.8	612.600	53.28 *
15	613.990	141.8	616.130	520.8	614.040	181.6 *	614.330	227.0	613.260	103.8 *	613.130	94.38
16	614.500	184.5	615.230	320.9	613.905	175.5	613.940	179.0	613.120	92.85	613.400	116.8
17	615.470	340.4	614.615	233.7	613.680	150.4	613.690	152.6	612.990	81.37 *	612.920	80.29
18	615.330	328.7	614.660	256.5 *	613.520	122.6	613.530	125.2	613.010	86.21	612.920	80.46
19	614.620	232.6	614.950	257.3	613.880	170.6	613.400	116.4 *	612.920	75.95 *	612.660	57.26 *
20	614.530	239.9 *	614.520	233.9	613.610	136.4 *	613.220	102.0	612.820	72.27	612.660	63.07
21	614.480	184.4	614.750	268.4 *	613.510	122.3	613.155	94.70	612.970	83.68	612.660	57.26 *
22	613.680	125.0	615.540	395.2	613.380	114.5 *	613.120	92.65	613.100	91.69	612.710	64.83
23	613.330	99.19	617.000	636.2 *	613.345	104.6	613.130	93.36	613.130	94.02	612.710	64.95
24	613.030	81.10	616.000	455.2	613.230	100.8	613.020	88.62	612.900	74.43 *	612.660	61.86
25	612.920	75.81	615.920	442.6 *	613.170	98.77	613.040	88.90	613.440	118.6	612.530	53.58
26	612.730	61.77	615.290	328.8	613.090	91.30	612.950	78.26 *	612.950	82.35	612.530	53.64
27	612.850	70.69 *	614.900	275.2	613.030	87.80	612.915	79.55	612.830	73.13	612.500	52.16
28	612.730	63.89	614.540	237.0	613.700	153.2	613.300	102.4	612.735	66.29	612.480	45.69 *
29	612.640	52.39	614.370	221.3	614.080	183.1 *	613.530	125.9	612.690	64.62	612.430	45.75
30	612.610	50.70	614.390	224.8	613.840	169.4	613.135	94.17	612.590	56.97	612.430	45.36
31			614.310	217.5	613.820	168.6			612.570	51.33 *		
Ten-Daily Mean												
I Ten-Daily	612.078	22.52	612.555	49.60	614.827	292.6	613.697	146.9	613.238	105.0	612.904	79.40
II Ten-Daily	614.079	184.9	614.531	242.9	613.818	163.1	614.015	187.8	613.297	112.5	612.823	72.78
III Ten-Daily	613.100	86.49	615.183	336.6	613.472	126.8	613.130	93.85	612.900	77.92	612.564	54.51
Monthly												
Min.	611.890	13.49	612.460	43.75	613.030	87.80	612.915	78.26	612.570	51.33	612.430	45.36
Max.	615.470	340.4	617.000	636.2	615.780	458.1	614.900	295.6	614.830	277.5	613.700	145.4
Mean	613.086	97.96	614.125	213.8	614.021	192	613.614	142.8	613.137	97.8	612.764	68.89

Annual Runoff in MCM = 2556 Annual Runoff in mm = 3855

Peak Observed Discharge = 520.8 cumecs on 15-07-2021 Corres. Water Level :616.13 m

Lowest Observed Discharge = 7.277 cumecs on 19-03-2022 Corres. Water Level :611.59 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : HARIHARAPURA (HARIHARAPURA)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	612.430	44.83	612.350	38.64	611.770	17.39	611.650	10.12 *	611.690	12.13	611.700	12.76 *
2	612.430	45.61	612.350	37.15 *	611.760	16.50	611.650	10.45	611.690	12.10	611.700	12.76 *
3	612.470	48.24	612.350	38.48	611.760	15.52	611.650	10.42	611.770	16.32 *	611.690	12.20
4	612.470	48.21	612.350	38.54	611.750	15.05	611.640	10.00	611.720	13.85	611.690	12.26
5	612.460	48.83 *	612.340	37.33	611.740	14.70	611.630	9.547	611.700	12.59	611.680	11.88
6	612.460	47.43	612.340	37.31	611.740	14.58 *	611.620	8.729 *	611.700	12.57	611.680	11.94
7	612.450	46.23	612.330	35.96	611.740	14.55	611.620	8.953	611.690	12.20	611.670	11.35
8	612.450	46.73	612.330	35.96	611.740	14.50	611.610	8.499	611.690	12.23	611.670	11.39 *
9	612.450	46.93	612.330	35.20 *	611.740	14.45	611.600	7.898	611.710	13.55	611.660	10.90
10	612.460	47.47	612.330	35.85	611.740	14.46	611.600	7.853	611.710	13.24 *	611.660	10.86
11	612.460	47.37	612.320	33.43	611.730	13.90	611.600	7.799	611.710	13.54	611.660	10.83
12	612.420	44.40 *	612.320	33.92	611.730	13.85	611.600	7.778	611.710	13.59	611.680	12.04
13	612.420	44.55	612.320	33.34	611.730	13.89 *	611.600	7.871 *	611.700	12.60	611.700	12.86
14	612.420	44.43	612.320	34.24 *	611.730	13.80	611.600	7.748	611.700	12.76 *	611.700	12.83
15	612.420	44.61	612.320	33.22	611.730	13.77	611.600	7.722	611.700	12.76 *	611.710	13.24 *
16	612.420	44.53	612.320	34.24 *	611.730	13.76	611.600	7.702	611.700	12.50	611.700	12.76 *
17	612.390	41.97	612.300	30.93	611.720	13.20	611.600	7.678	611.750	15.25 *	611.730	14.50
18	612.370	40.74	612.300	30.57	611.720	13.16	611.590	7.305	611.770	16.45	611.760	16.11
19	612.370	39.15 *	612.300	30.52	611.710	12.80	611.590	7.277	611.710	13.70	612.500	65.17
20	612.370	40.50	612.300	30.46	611.710	12.55 *	611.730	14.41 *	611.740	14.70	613.100	114.6
21	612.370	40.50	612.300	30.40	611.710	12.75	611.690	12.02	611.700	12.60	612.700	79.79
22	612.360	39.62	612.290	30.17	611.690	11.96	611.640	9.880	611.700	12.57	612.360	53.94 *
23	612.360	39.67	612.290	31.45 *	611.690	11.91	611.640	9.854	611.720	13.91	612.280	48.30 #
24	612.360	39.59	612.270	83.19 #	611.690	11.86	611.790	16.95	611.850	21.02 *	612.240	45.56 #
25	612.350	37.15 *	612.270	83.19 #	611.690	11.83	611.780	16.55	611.830	19.78	611.830	20.20
26	612.350	37.15 *	612.270	83.19 *	611.660	10.89	611.770	16.20	611.850	21.01	611.810	19.84
27	612.350	39.02	612.270	83.19 #	611.660	10.60 *	611.740	14.73 *	611.780	16.65	611.780	18.50
28	612.360	39.65	612.270	83.19 #	611.660	10.87	611.720	13.76	611.720	14.05	611.770	17.93
29	612.360	39.29	612.280	85.14 #			611.720	13.72	611.700	12.75	611.750	16.79 *
30	612.360	39.29	612.280	85.14 *			611.740	14.70	611.700	12.73	611.740	16.32
31	612.360	38.98	612.280	85.14 #			611.690	12.16			611.740	16.30
Ten-Daily Mean												
I Ten-Daily	612.453	47.05	612.340	37.04	611.748	15.17	611.627	9.247	611.707	13.08	611.680	11.83
II Ten-Daily	612.406	43.23	612.312	32.49	611.724	13.47	611.611	8.329	611.719	13.78	611.924	28.49
III Ten-Daily	612.358	39.08	612.279	69.40	611.681	11.58	611.720	13.68	611.755	15.71	612.000	32.13
Monthly												
Min.	612.350	37.15	612.270	30.17	611.660	10.60	611.590	7.277	611.690	12.10	611.660	10.83
Max.	612.470	48.83	612.350	85.14	611.770	17.39	611.790	16.95	611.850	21.02	613.100	114.6
Mean	612.404	42.99	612.309	47.05	611.720	13.54	611.655	10.53	611.727	14.19	611.872	24.41

Peak Computed Discharge = 636.2 cumecs on 23-07-2021

Corres. Water Level :617 m

Lowest Computed Discharge = 7.871 cumecs on 13-03-2022

Corres. Water Level :611.6 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

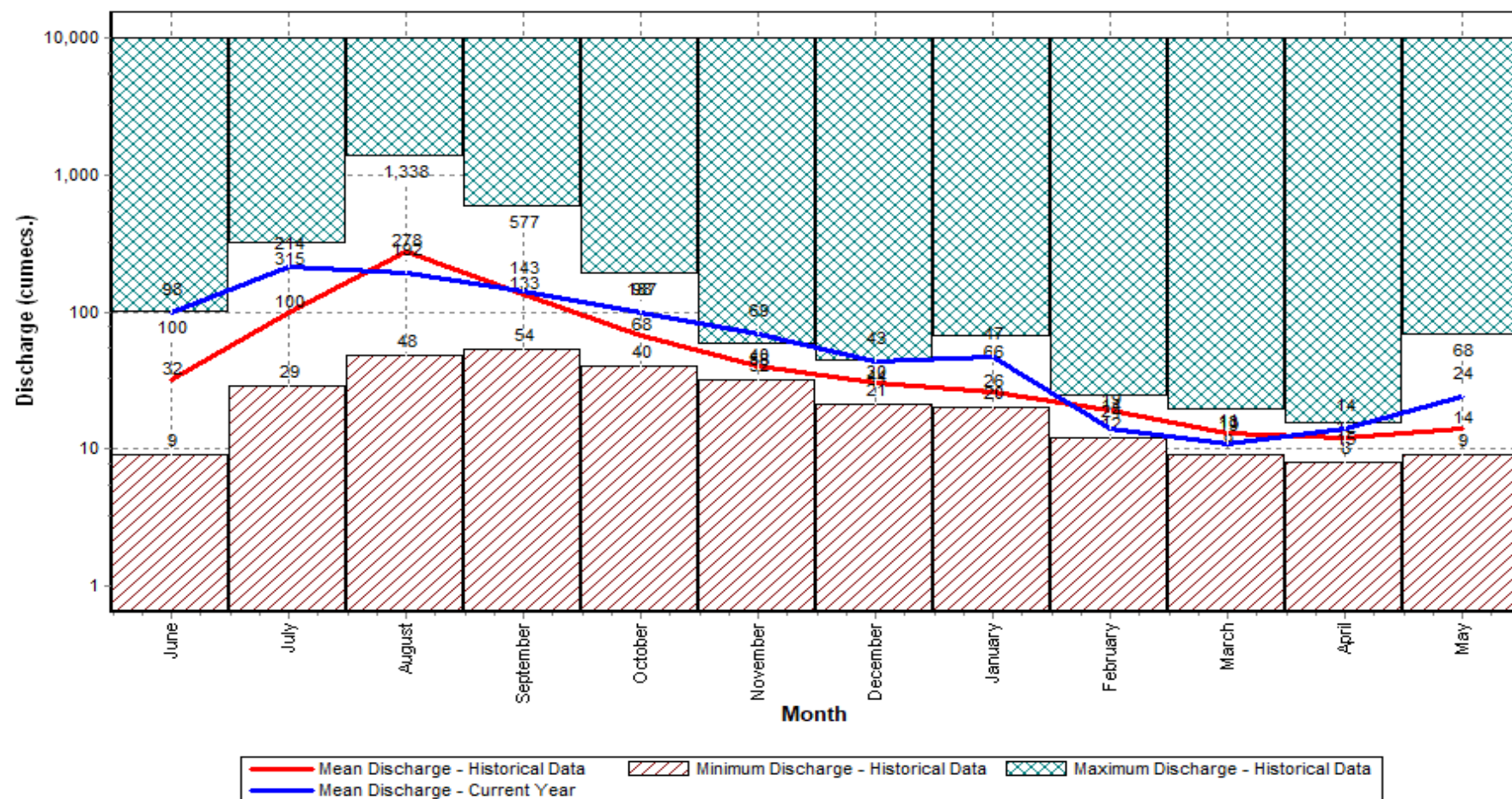
Station Name : HARIHARAPURA (HARIHARAPURA)

Data considered : 2019-2022

Division : Cauvery Division, Bangalore

Local River : Tunga

Sub-Division : Upper Tunga SD, Devangere



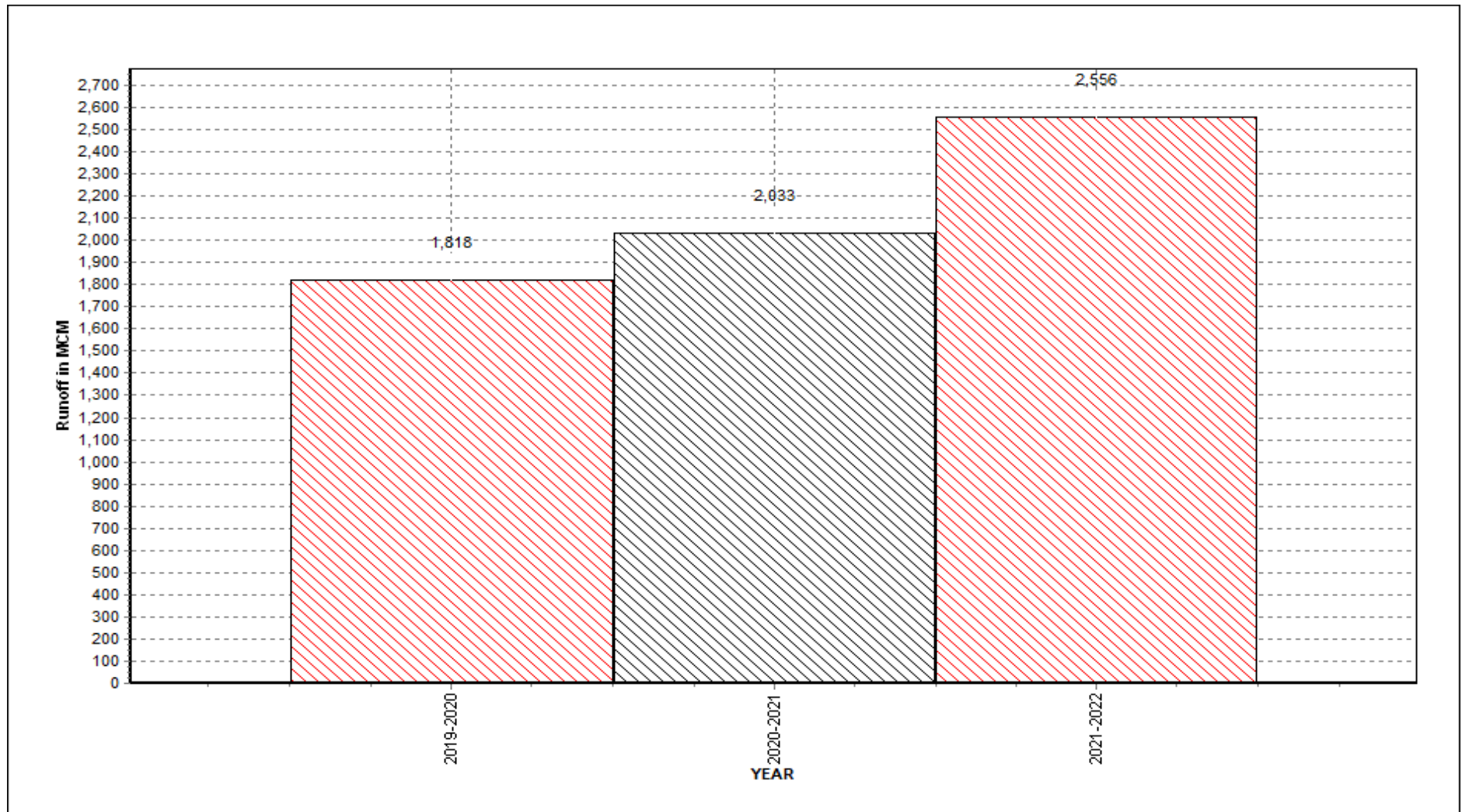
Annual Runoff Values for the period: 2019 - 2022

Station Name : HARIHARAPURA (HARIHARAPURA)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



Note: Missing values have not been considered while arriving at Annual Runoff

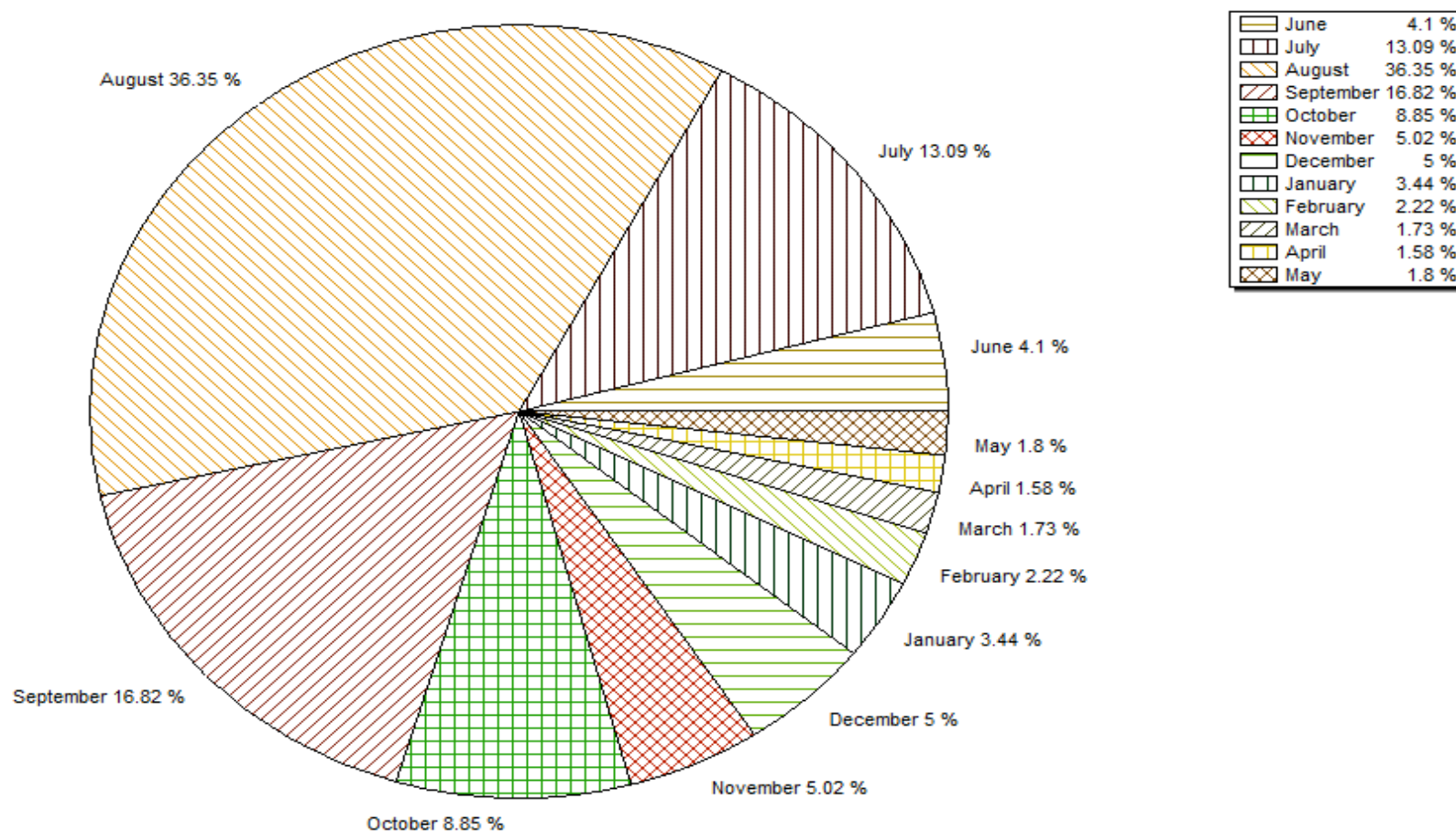
Monthly Average Runoff based on period : 2019-2021

Station Name : HARIHARAPURA (HARIHARAPURA)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



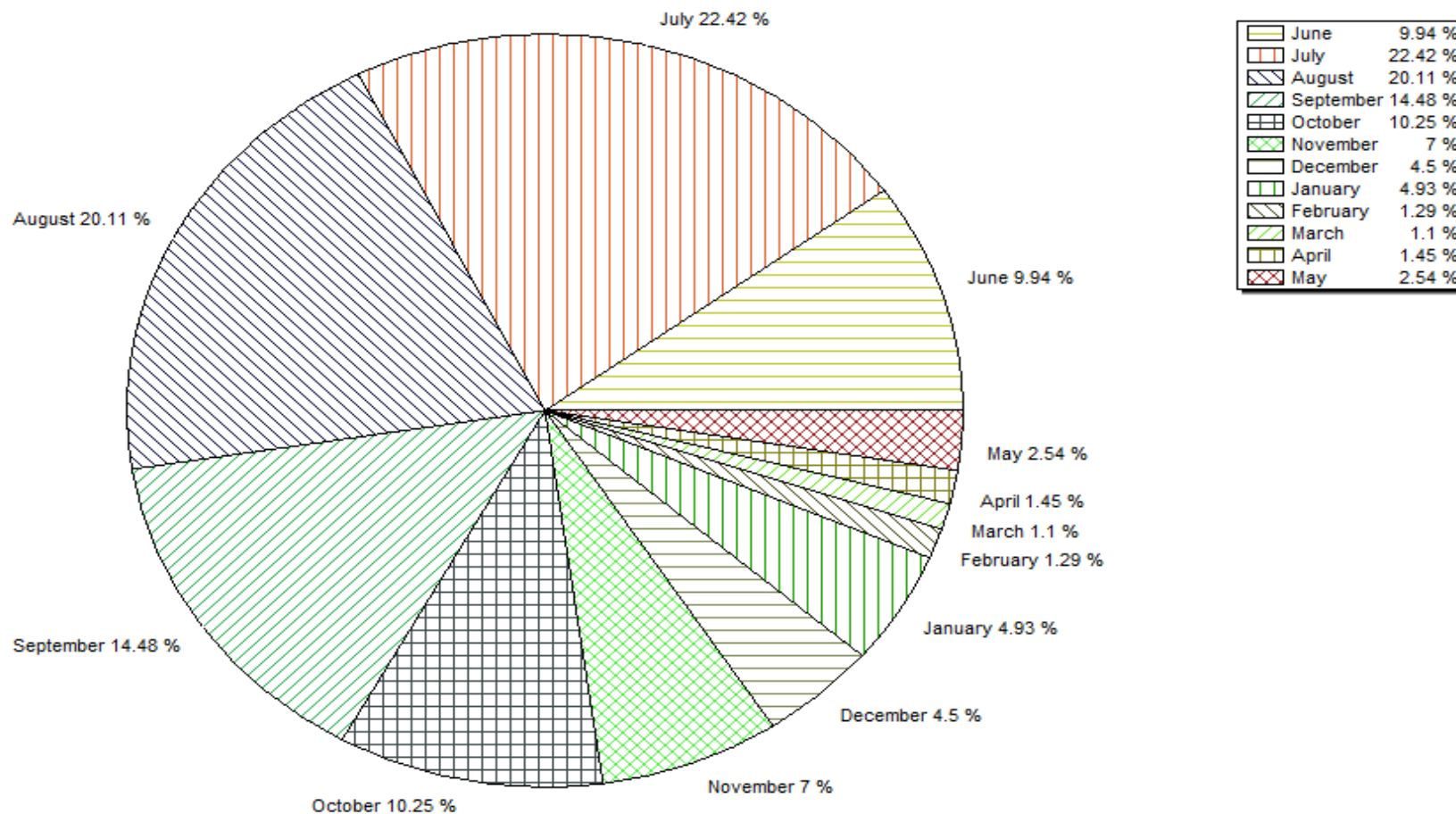
Monthly Runoff for the Year : 2021-2022

Station Name : HARIHARAPURA (HARIHARAPURA)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



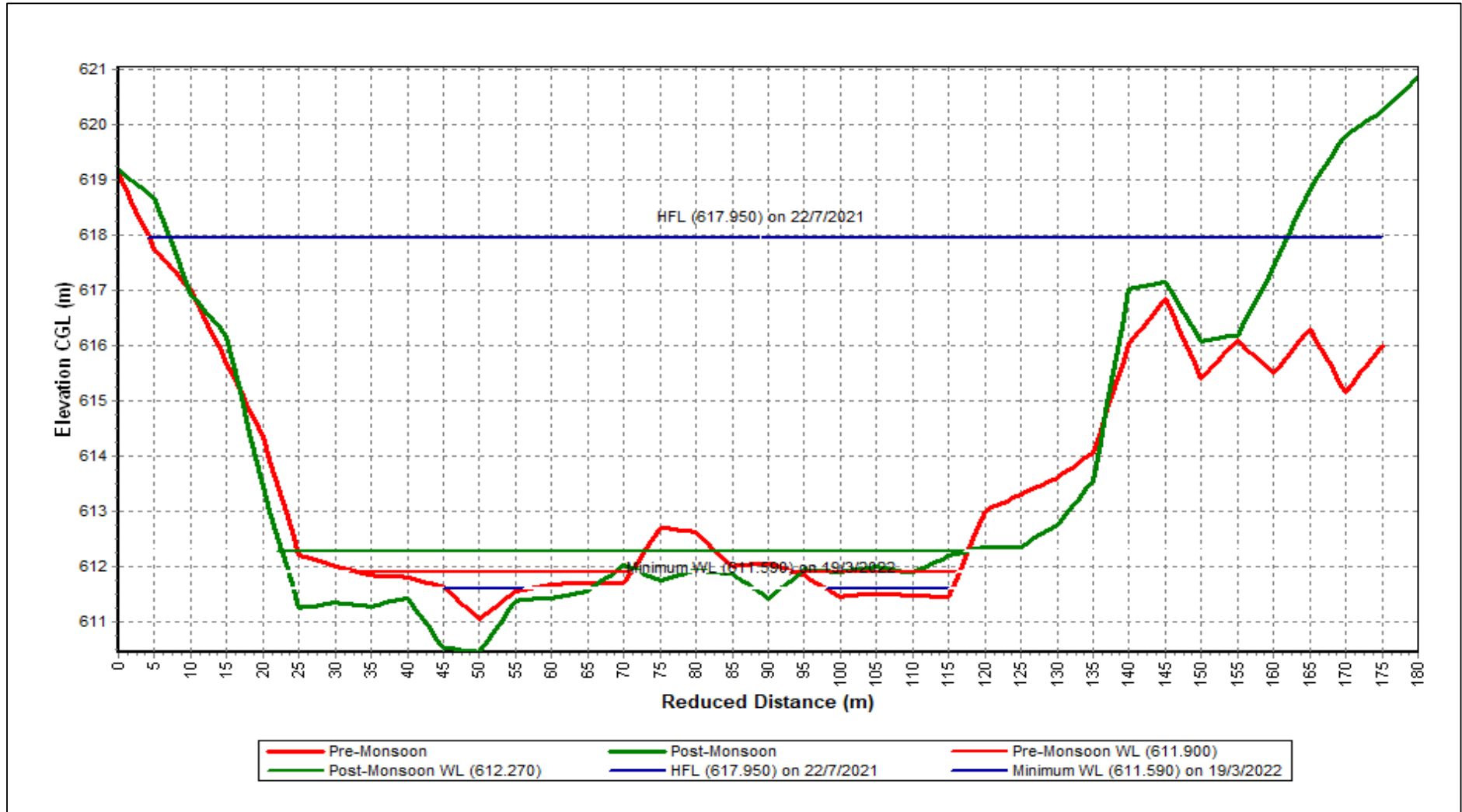
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : HARIHARAPURA (HARIHARAPURA)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



Zero of Gauge : 609.5 (m.s.l)

Note :X-Section Distrubed due to High Flood

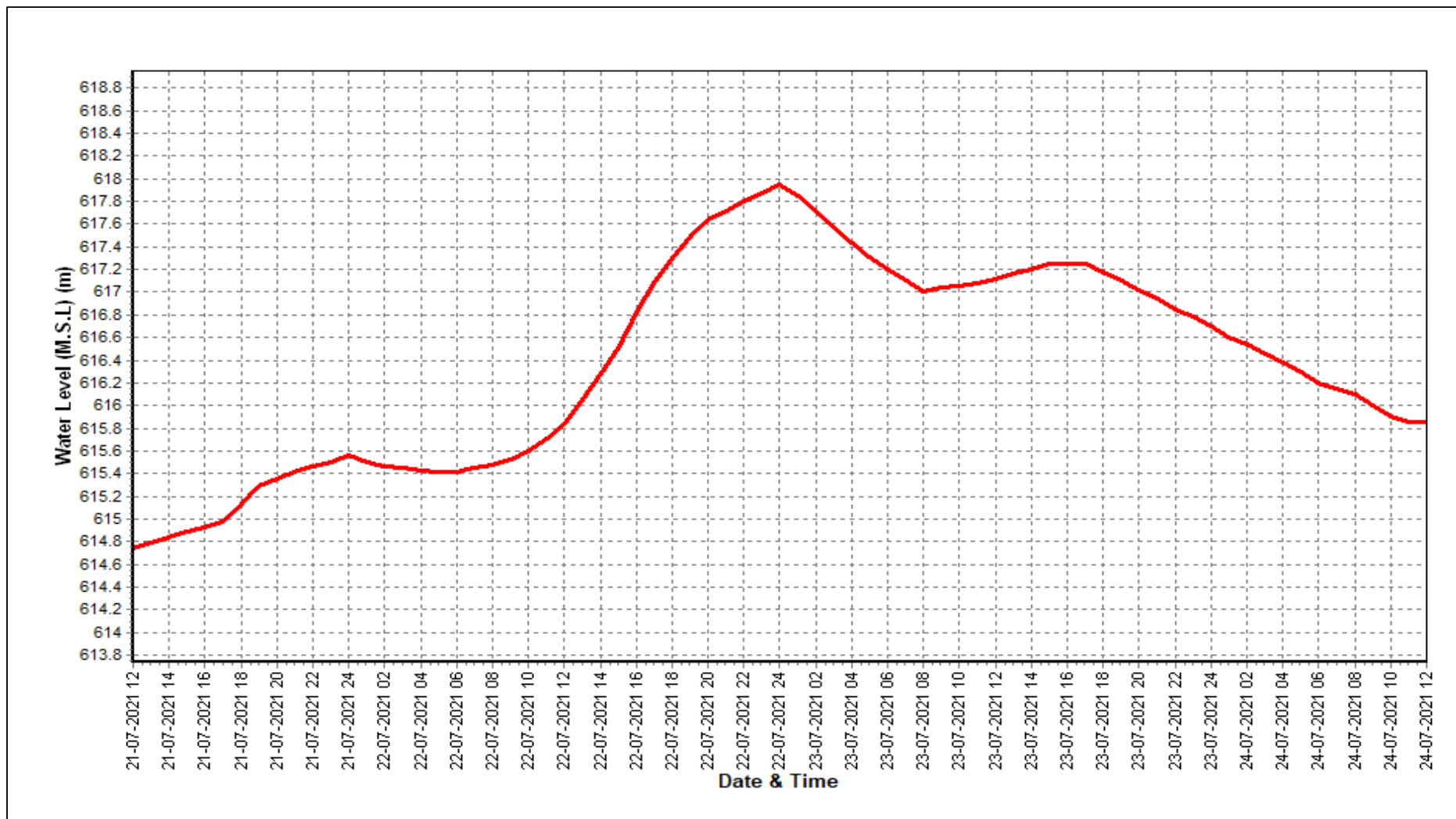
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : HARIHARAPURA (HARIHARAPURA)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



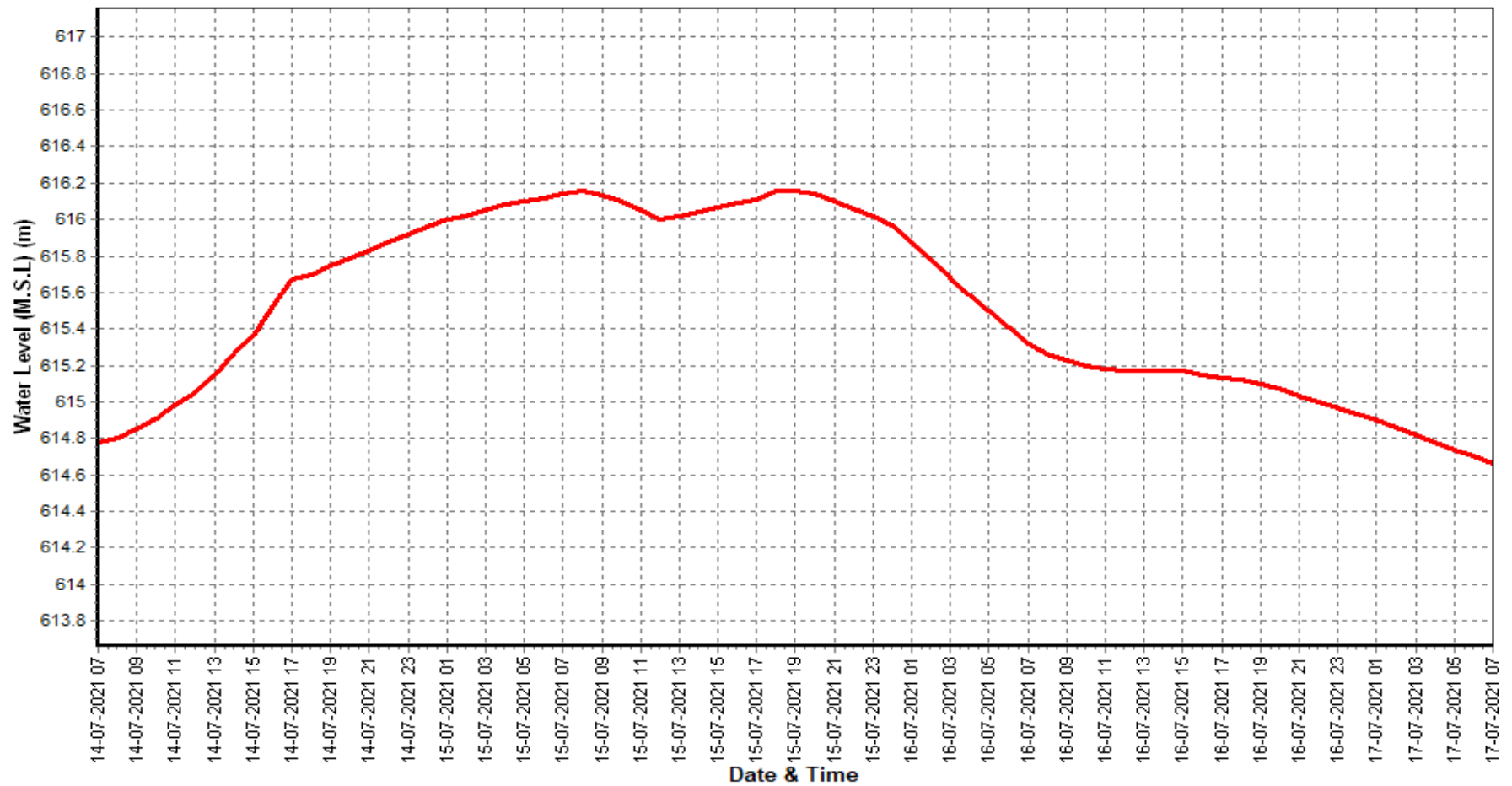
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : HARIHARAPURA (HARIHARAPURA)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



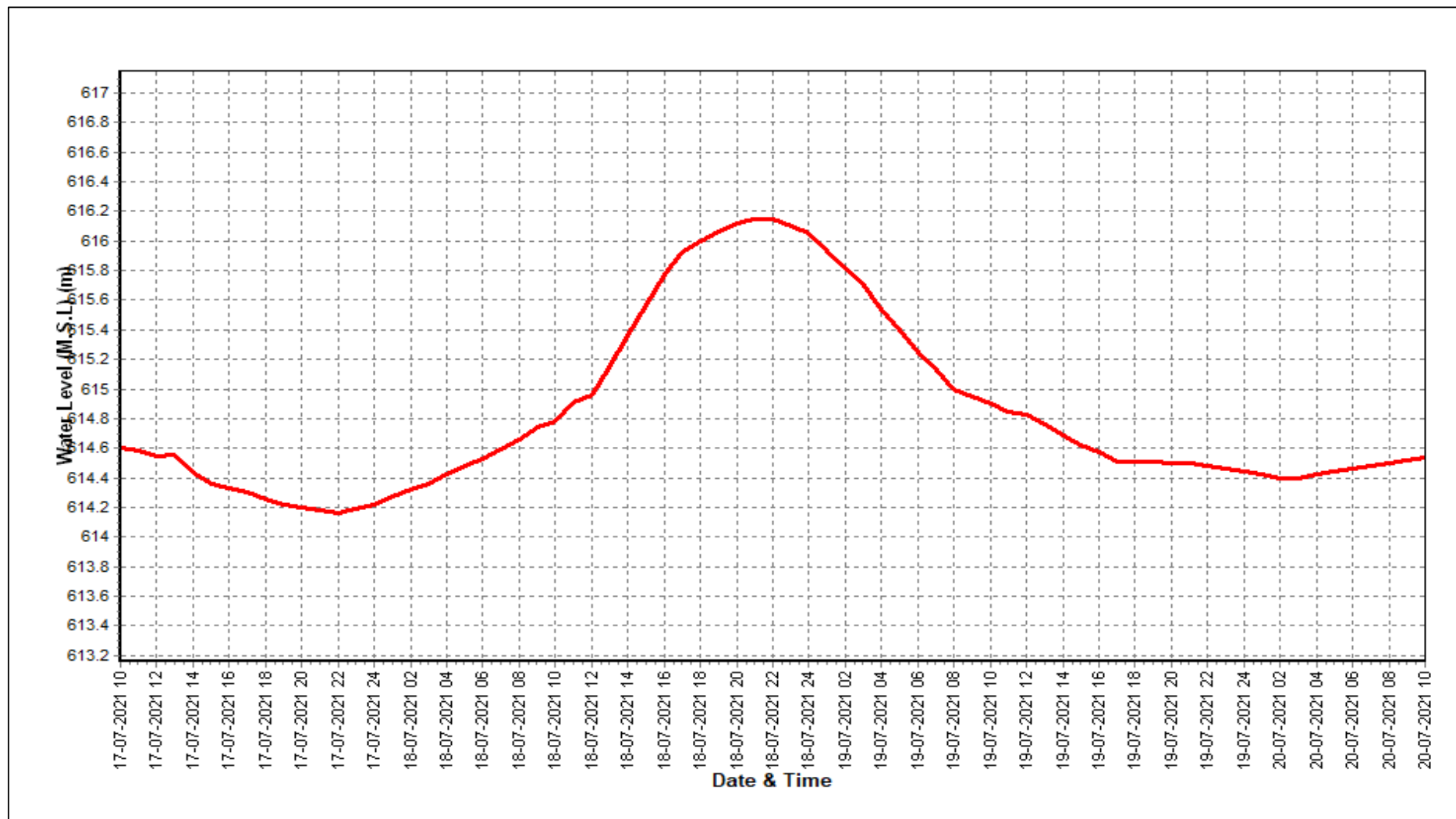
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : HARIHARAPURA (HARIHARAPURA)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



HISTORY SHEET

Water Year : 2021-2022

Site : AIRANI

Code : AIRANI

State : Karnataka

District : Haveri

Basin : Krishna

Independent River : Krishna

Tributary : Tungabhadra

Sub Tributary : -

Sub-Sub Tributary : -

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere

Drainage Area : 7075 Sq. Km.

Bank : Left

Latitude : 14°36'21"

Longitude : 75°48'15"

Zero of Gauge (m) : 83 (m.s.l)
514 (m.s.l)24-10-2016 - 29-02-2020
01-03-2020

Opening Date

Closing Date

Gauge : 24-10-2016

Discharge : 28-12-2018

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2019-2020	5488	96.030	11-08-2019	0.333	86.130	14-06-2019
2020-2021	2966	524.280	22-09-2020	5.830	517.410	02-06-2020

Annual Runoff of Krishna at Airani

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	2018-2019		174	174	0	6	6
2	2019-2020	8622	1491	10113	305	53	357
3	2020-2021	5283	516	5799	187	18	205
4	2021-2022	6359	1150	7509	225	41	265
Average		6755	833	5899	179	29	208

Instantaneous Flood Peak of Krishna at Airani					
Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	2018-2019	87.450	19-11-2018	18:00:00	262*
2	2019-2020	96.03	10-08-2019	12:00:00	5488*
3	2020-2021	524.380	22-09-2020	00:00:00	3025*
4	2021-2022	525.520	24-07-2021	22:00:00	3502*

Stage-Discharge Data for the period 2021 - 2022

Station Name : AIRANI (AIRANI)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	517.330	28.48	517.860	71.77	519.960	560.2 *	519.100	330.3	518.600	220.4	518.300	159.8
2	517.260	23.90	517.860	71.77	519.840	505.1	519.100	330.3	518.800	249.7 *	518.300	159.8
3	517.180	16.39	517.700	47.02	519.680	479.8	518.800	265.3	520.500	743.0 *	518.250	150.0
4	517.320	28.05	517.700	64.71 *	519.390	399.3	518.750	255.0	519.600	449.7	518.250	143.3 *
5	517.450	41.14	518.120	110.0	520.750	785.5	518.800	249.7 *	519.800	500.4	518.250	150.0
6	517.500	43.32 *	517.850	71.14	520.860	819.3	518.750	255.0	519.800	500.4	518.270	156.0
7	517.400	35.55	517.760	51.02	521.320	994.2	518.850	277.9	519.900	529.6	519.000	295.0 *
8	517.330	27.69	517.760	51.02	521.960	1354 *	518.880	285.1	521.100	904.6	518.900	289.9
9	517.260	23.92	517.680	62.39 #	522.150	1395	519.200	354.9	519.800	500.4	518.700	245.3
10	517.180	16.40	517.610	54.59 #	520.300	640.6	519.900	541.3 *	519.200	343.8 *	518.650	231.4
11	517.140	14.11	517.680	62.39 *	519.900	529.2	519.600	449.7	518.950	299.5	518.330	164.7
12	517.100	9.840	517.680	62.39 #	519.600	449.7	519.250	356.5 *	519.950	546.3	518.330	164.7
13	517.120	13.89 *	518.120	110.0	519.500	430.3	519.500	429.7	520.150	598.4	518.250	150.0
14	517.210	20.02	518.500	201.5	519.500	429.7	520.450	690.2	519.900	529.6	518.230	140.0 *
15	517.210	20.00	519.400	400.3	519.100	319.0 *	520.950	861.6	520.900	893.7 *	518.230	145.0
16	518.940	294.3	521.400	1033	519.100	330.3	520.400	673.3	519.800	503.0	520.500	698.7
17	519.100	330.0	520.860	819.3	519.280	375.2	519.650	466.2	519.150	331.3 *	520.100	590.4
18	520.450	691.7	520.150	621.8 *	519.430	408.3	519.400	400.3	518.800	264.2	520.150	599.5
19	520.940	858.3	520.540	722.1	519.160	342.1	518.950	283.4 *	518.500	188.3 *	520.400	707.4 *
20	520.360	693.3 *	521.400	1033	519.300	369.5 *	518.850	277.9	518.550	209.9	521.600	1114
21	519.830	500.9	520.300	672.5 *	519.250	368.3	518.700	245.3	518.500	199.7	521.300	1057 *
22	519.650	464.8	520.880	836.1	519.100	319.0 *	518.650	231.8	518.300	159.8	520.230	619.4
23	519.300	380.4	522.050	1340	518.950	300.3	518.500	200.9	519.200	354.8	519.500	429.8
24	518.670	235.5	524.650	2908	518.750	255.0	518.450	190.2	519.800	510.6 *	519.200	354.8
25	518.500	201.5	525.300	3363 *	518.750	255.0	518.500	201.8	520.000	558.5	519.130	334.9
26	518.230	145.2	522.550	1608	518.600	220.9	518.450	178.9 *	519.600	450.5	519.000	310.0
27	517.700	64.71 *	520.940	858.3	518.500	201.5	518.450	190.2	519.300	380.2	519.000	310.0
28	517.450	41.17	520.150	600.5	518.500	201.5	518.300	160.2	519.000	309.0	519.000	295.0 *
29	518.250	150.2	520.120	591.2	518.950	283.4 *	518.250	150.2	518.700	245.3	518.850	280.0
30	517.950	90.09	519.780	494.6	519.320	382.5	518.300	160.2	518.500	199.7	518.650	231.4
31			519.990	559.5	519.320	382.5			518.350	160.6 *		
Ten-Daily Mean												
I Ten-Daily	517.321	28.48	517.790	65.54	520.621	793.3	519.013	314.5	519.710	494.2	518.487	198.0
II Ten-Daily	518.557	294.6	519.573	506.6	519.387	398.3	519.700	488.9	519.465	436.4	519.412	447.5
III Ten-Daily	518.553	227.4	521.519	1257	518.908	288.2	518.455	191.0	519.023	320.8	519.386	422.2
Monthly												
Min.	517.100	9.840	517.610	47.02	518.500	201.5	518.250	150.2	518.300	159.8	518.230	140.0
Max.	520.940	858.3	525.300	3363	522.150	1395	520.950	861.6	521.100	904.6	521.600	1114
Mean	518.144	183.5	519.688	630.8	519.615	486.6	519.056	331.4	519.387	414	519.095	355.9

Annual Runoff in MCM = 7509 Annual Runoff in mm = 1061

Peak Observed Discharge = 2908 cumecs on 24-07-2021 Corres. Water Level :524.65 m

Lowest Observed Discharge = 9.840 cumecs on 12-06-2021 Corres. Water Level :517.1 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : AIRANI (AIRANI)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	518.450	190.0	517.650	39.96	517.550	19.99	517.330	30.20 *	517.450	40.57	517.550	21.45 *
2	518.450	190.0	517.550	21.39 *	517.600	29.98	517.300	27.74	517.450	40.59	517.550	21.45 *
3	518.250	150.0	517.550	19.97	517.570	25.00	517.320	30.10	517.450	40.23 *	517.500	14.90
4	518.330	164.7	517.550	19.97	517.550	19.99	517.300	27.77	517.400	35.62	517.500	14.90
5	518.450	192.3 *	517.550	19.97	517.550	19.99	517.300	27.74	517.400	35.58	517.500	14.90
6	518.330	164.7	517.500	14.99	517.500	15.06 *	517.300	27.56 *	517.400	35.64	517.550	19.94
7	518.270	156.0	517.500	14.99	517.500	14.96	517.250	23.10	517.450	40.57	517.750	49.93
8	518.230	145.0	517.500	14.99	517.400	35.63	517.250	23.08	517.420	37.23	517.850	67.14 *
9	518.270	156.0	517.500	15.06 *	517.400	35.61	517.250	23.05	517.400	35.60	517.800	60.02
10	518.400	179.9	517.550	19.97	517.360	34.68	517.280	25.67	517.380	34.55 *	517.950	89.90
11	518.150	130.0	517.600	29.94	517.400	35.62	517.280	25.66	517.330	30.84	518.050	110.6
12	518.100	119.3 *	517.570	24.98	517.400	35.64	517.250	23.07	517.360	34.70	518.200	139.7
13	518.100	119.9	517.600	29.94	517.400	36.88 *	517.250	23.47 *	517.330	30.90	518.300	159.6
14	518.050	110.0	517.650	36.11 *	517.360	34.67	517.280	25.70	517.450	40.23 *	518.200	139.7
15	518.000	100.0	517.630	35.00	517.360	34.68	517.300	27.77	517.550	49.10 *	517.900	76.98 *
16	518.000	100.0	517.630	32.96 *	517.550	53.84 #	517.250	23.08	517.650	58.85 #	517.600	27.44 *
17	517.950	90.03	517.630	34.96	517.600	60.31 #	517.260	24.22	517.750	69.47 *	517.650	40.05
18	517.950	90.03	517.650	39.96	517.600	60.31 #	517.280	25.70	517.900	79.98	517.900	79.98
19	517.950	93.39 *	517.700	45.01	517.600	60.31 #	517.280	25.69	518.000	100.0	518.600	220.3
20	517.900	80.04	517.700	45.01	517.600	60.31 *	517.280	25.88 *	518.100	120.7	522.400	1529
21	517.850	69.99	517.650	39.96	517.500	47.78 #	517.280	25.70	518.050	110.6	521.850	1239
22	517.850	69.99	517.650	39.96	517.330	30.87	517.260	24.20	517.950	89.81	519.800	517.7 *
23	517.800	60.00	517.650	36.11 *	517.300	27.77	517.300	27.75	518.000	100.0	518.900	290.9
24	517.750	49.94	517.630	35.00	517.330	30.86	517.380	35.21	518.000	99.86 *	518.450	189.7
25	517.850	72.34 *	517.600	29.94	517.330	30.87	517.450	40.55	517.850	70.00	518.250	150.9
26	517.850	72.34 *	517.550	21.39 *	517.330	30.84	517.500	44.56 #	517.800	60.02	517.900	79.98
27	517.850	69.99	517.500	14.99	517.330	30.20 *	517.500	44.56 *	517.750	49.93	517.750	49.93
28	517.800	59.77	517.500	14.99	517.300	27.75	517.550	49.10 #	517.650	40.05	517.650	40.05
29	517.700	45.01	517.500	14.99			517.500	44.56 #	517.600	30.14	517.550	21.45 *
30	517.700	45.01	517.500	15.06 *			517.500	44.56 #	517.550	19.95	517.550	19.94
31	517.700	45.01	517.550	19.97			517.450	40.59			517.550	19.94
Ten-Daily Mean												
I Ten-Daily	518.343	168.9	517.540	20.13	517.498	25.09	517.288	26.60	517.420	37.62	517.650	37.45
II Ten-Daily	518.015	103.3	517.636	35.39	517.487	47.26	517.271	25.02	517.642	61.48	518.480	252.3
III Ten-Daily	517.791	59.94	517.571	25.67	517.344	32.12	517.425	38.30	517.820	67.04	518.473	238.1
Monthly												
Min.	517.700	45.01	517.500	14.99	517.300	14.96	517.250	23.05	517.330	19.95	517.500	14.90
Max.	518.450	192.3	517.700	45.01	517.600	60.31	517.550	49.10	518.100	120.7	522.400	1529
Mean	518.041	109.1	517.582	27.02	517.450	35.01	517.331	30.24	517.627	55.38	518.210	178

Peak Computed Discharge = 3363 cumecs on 25-07-2021

Corres. Water Level :525.3 m

Lowest Computed Discharge = 13.89 cumecs on 13-06-2021

Corres. Water Level :517.12 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

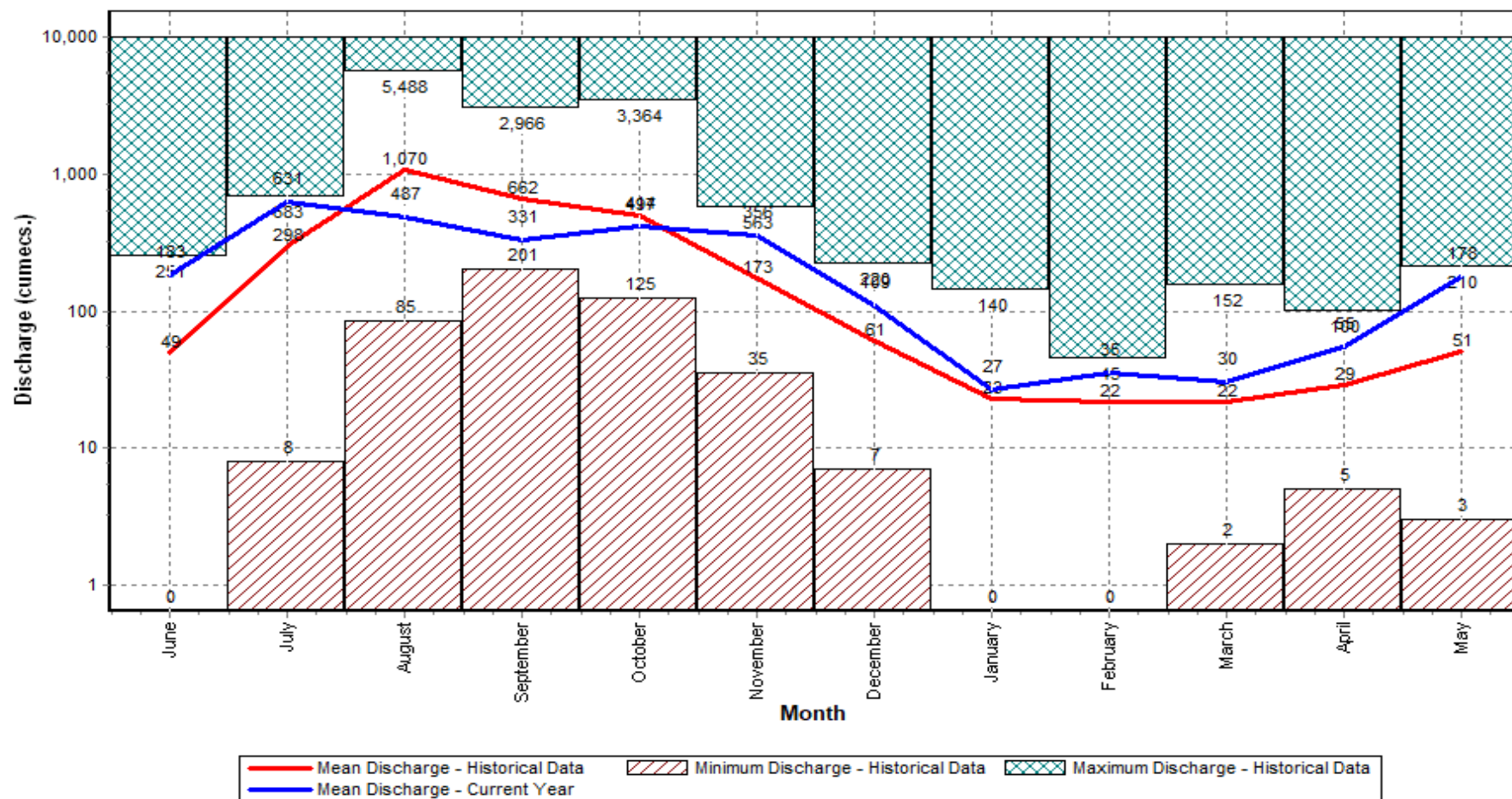
Station Name : AIRANI (AIRANI)

Data considered : 2019-2022

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

Sub-Division : Upper Tunga SD, Devangere



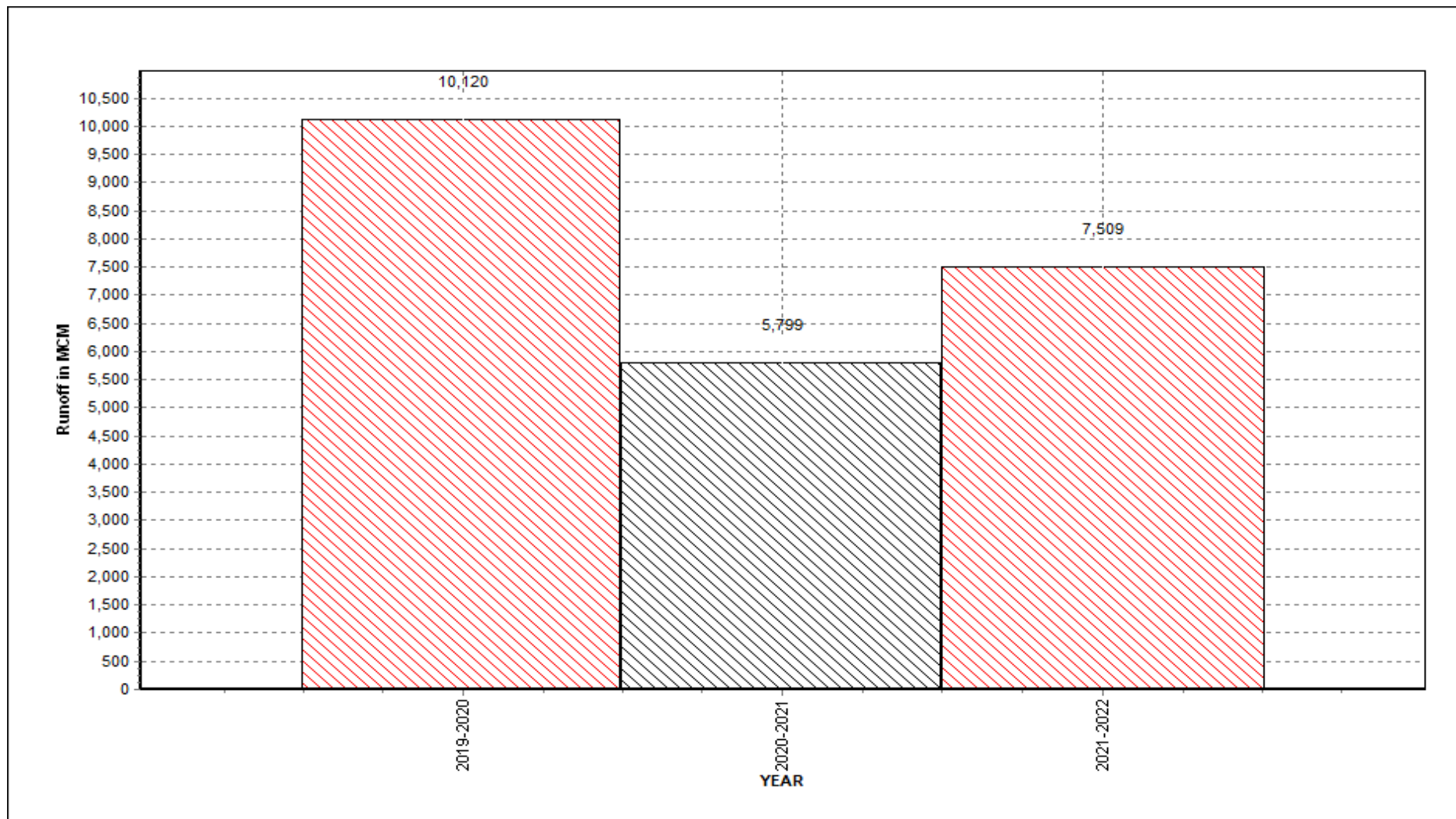
Annual Runoff Values for the period: 2019 - 2022

Station Name : AIRANI (AIRANI)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



Note: Missing values have not been considered while arriving at Annual Runoff

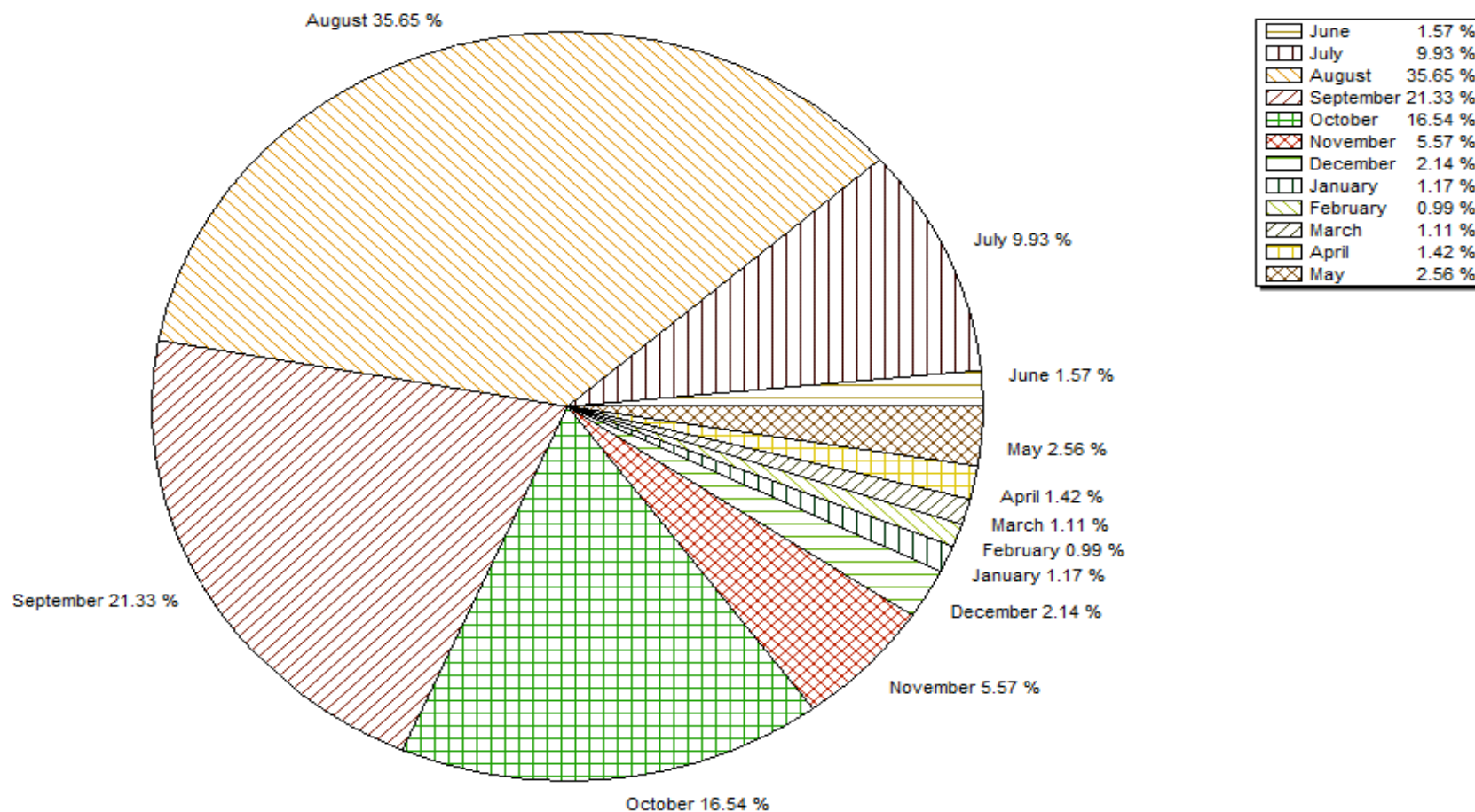
Monthly Average Runoff based on period : 2019-2021

Station Name : AIRANI (AIRANI)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



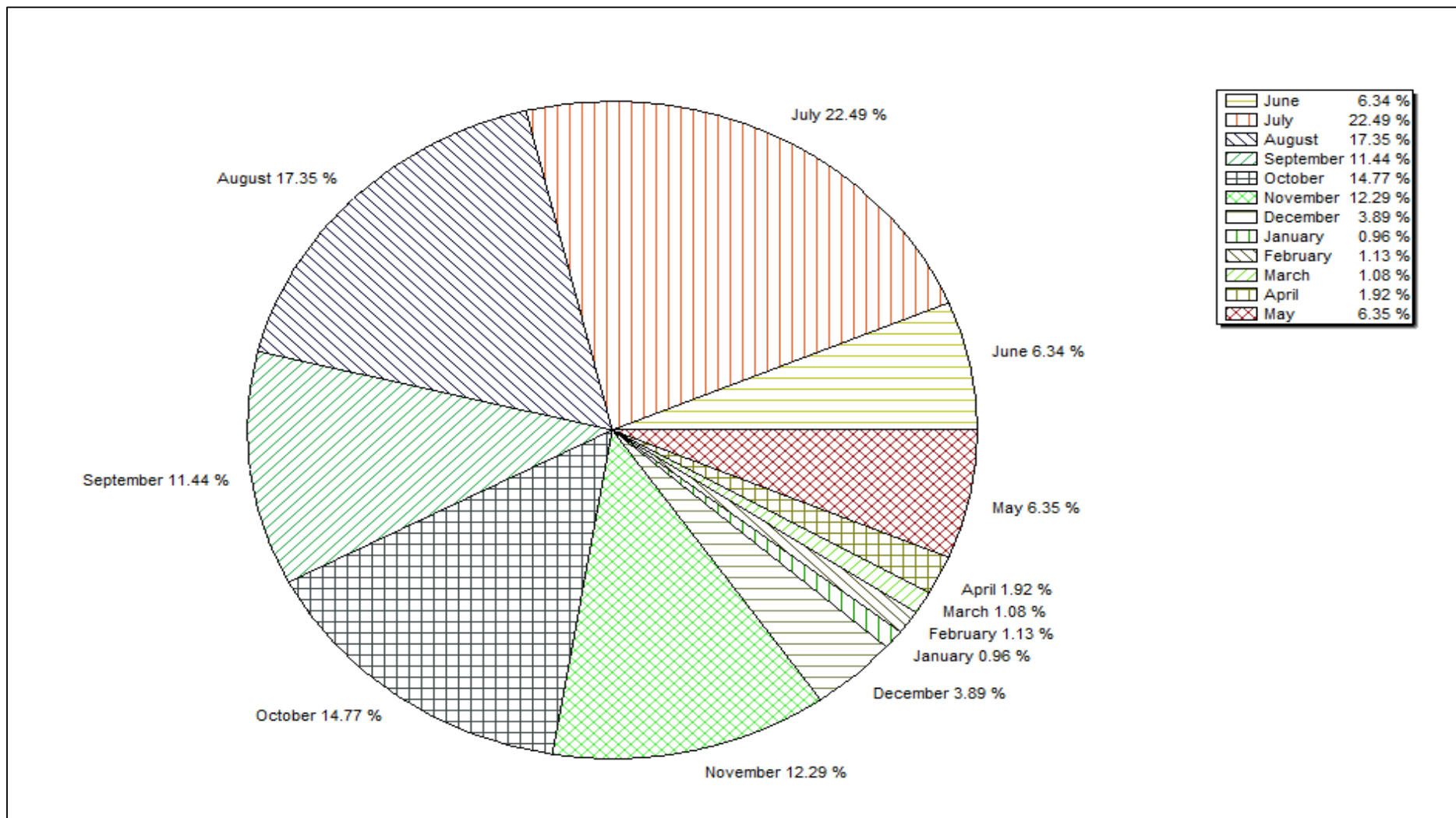
Monthly Runoff for the Year : 2021-2022

Station Name : AIRANI (AIRANI)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere

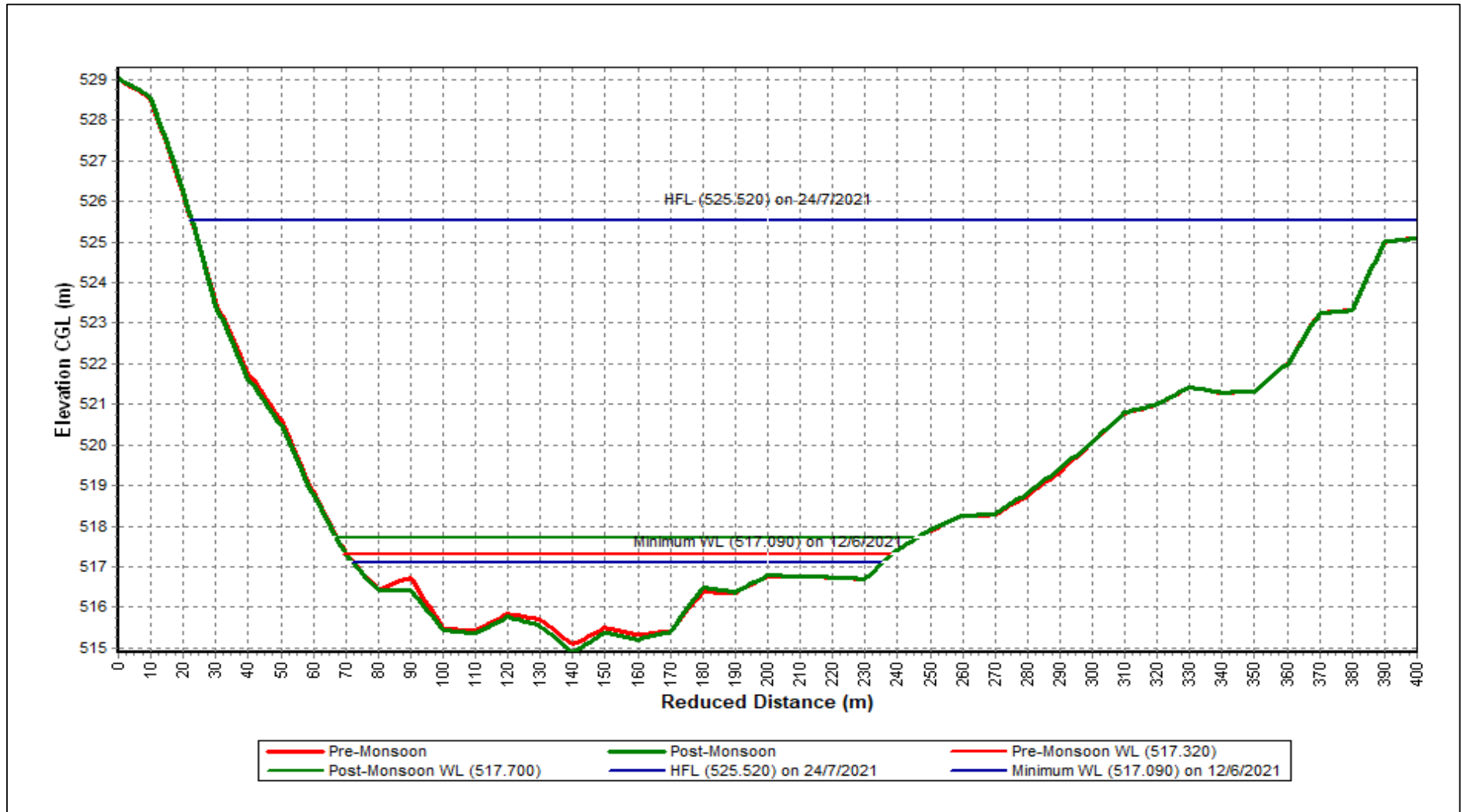


Station Name : AIRANI (AIRANI)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



Zero of Gauge : 514 (m.s.l)

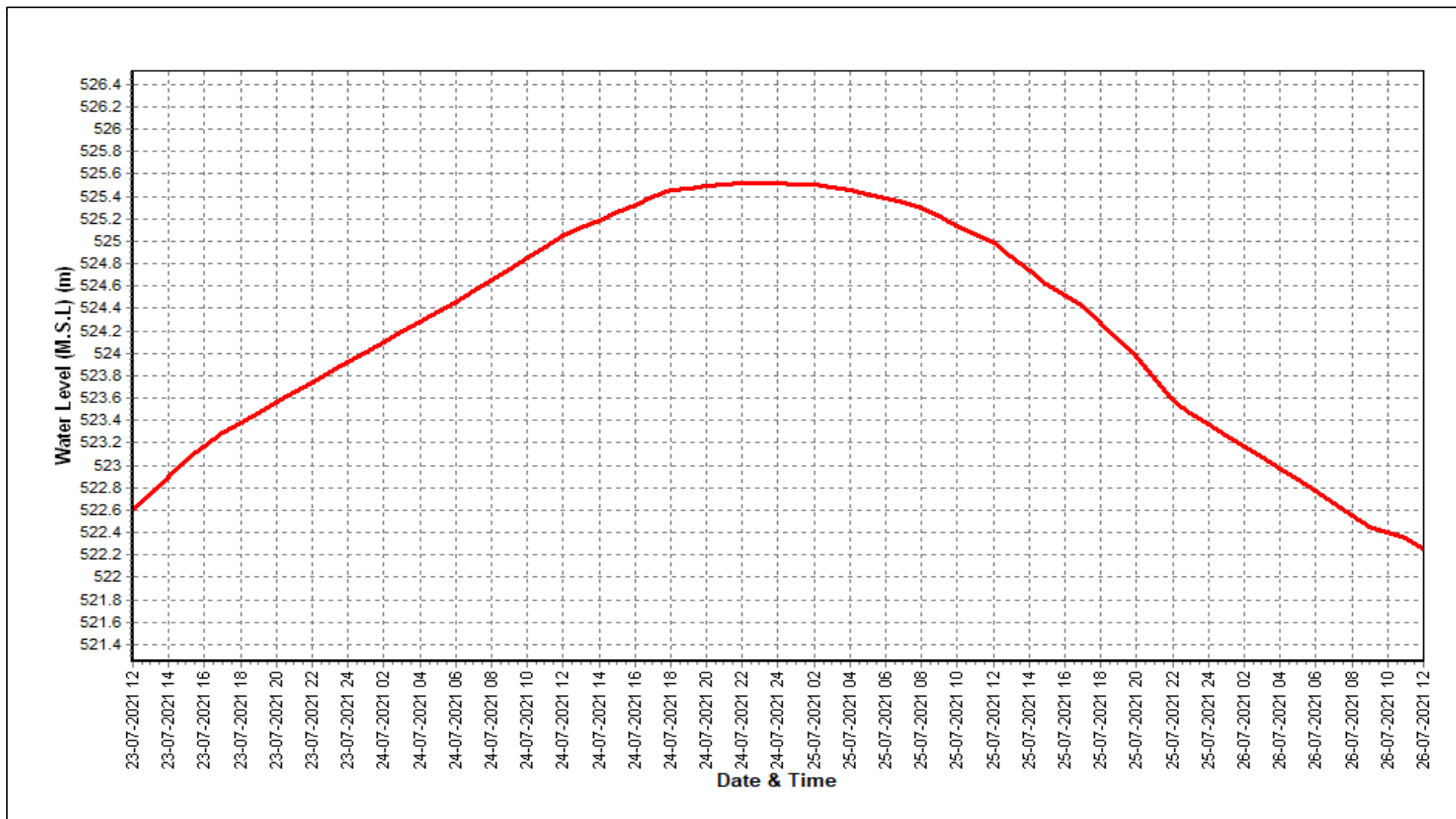
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : AIRANI (AIRANI)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



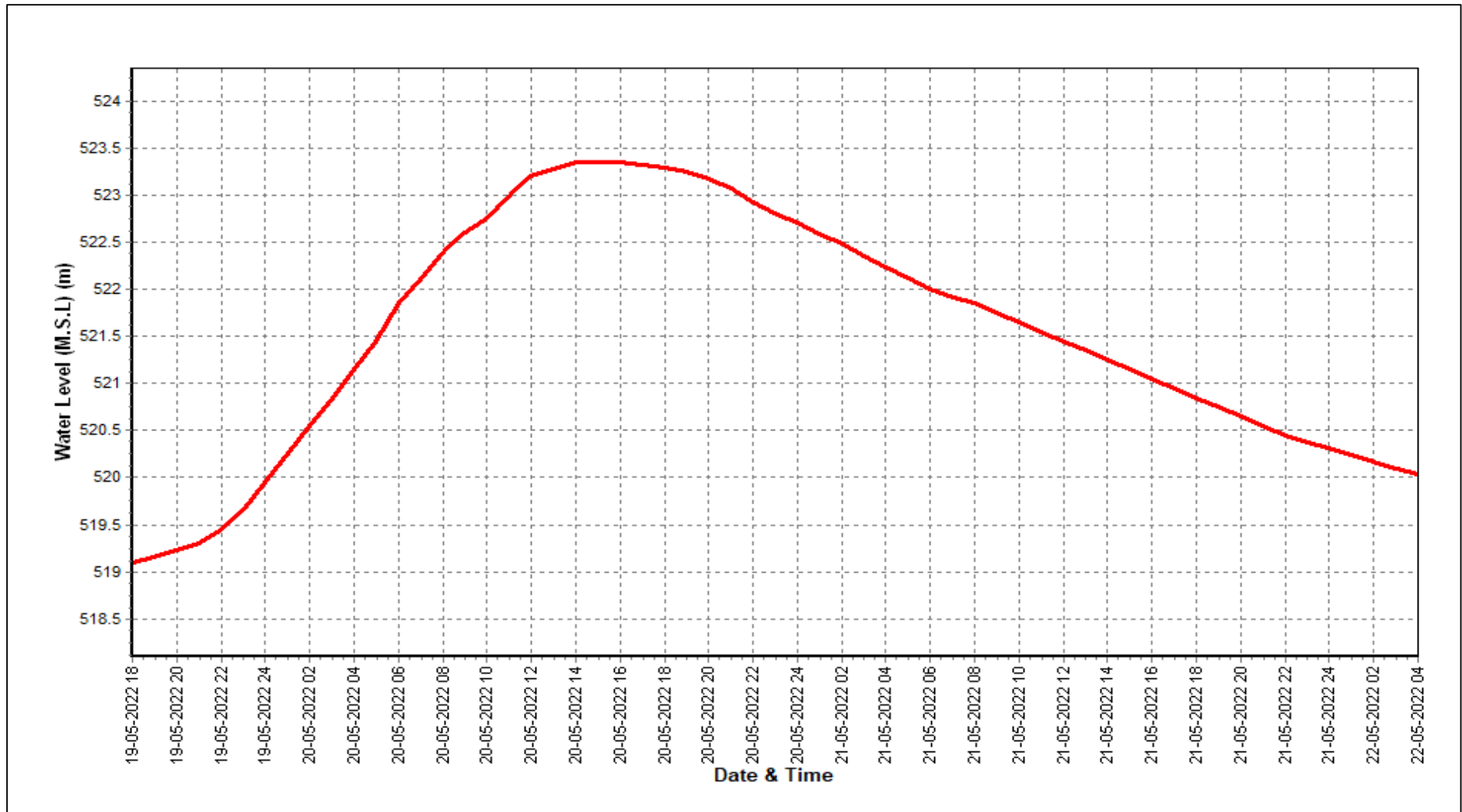
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : AIRANI (AIRANI)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



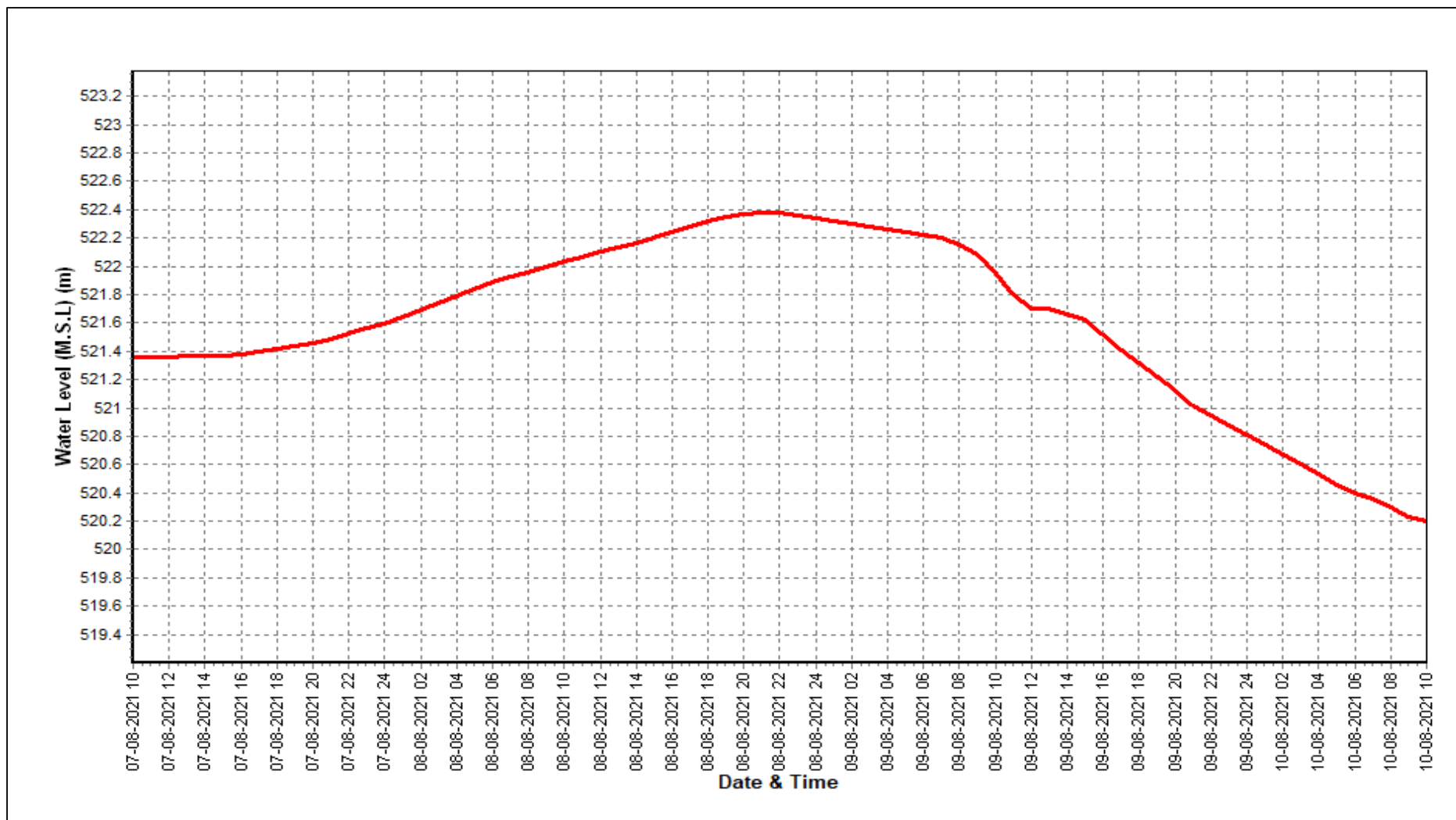
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : AIRANI (AIRANI)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



HISTORY SHEET

Water Year : 2021-2022

Site : MAHISHI

Code : MAHISHI

State : Karnataka

District : Shimoga

Basin : Krishna

Independent River : Krishna

Tributary : Tungabhadra

Sub Tributary :

Sub-Sub Tributary :

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere

Drainage Area : 1406 Sq. Km.

Bank : Left

Latitude : 13°41'50"

Longitude : 75°20'08"

Zero of Gauge (m) : 807(m.s.l)
585 (m.s.l)29-10-2014 - 31-08-2019
01-09-2019

Opening Date

Closing Date

Gauge : 29-10-2014

Discharge : 21-12-2018

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2019-2020	3195	818.980	10-08-2019	0.000		10-06-2019
2020-2021	1900	595.200	07-08-2020	0.000	587.220	22-04-2021

Annual Runoff of Krishna at Mahishi

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	2018-2019		66	66	0	2	2
2	2019-2020	5136	753	5889	181	27	208
3	2020-2021	4439	491	4930	157	17	174
4	2021-2022	4597	490	5087	162	17	180
Average		4724	450	3993	125	16	141

Instantaneous Flood Peak of Krishna at mahishi					
Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	2018-2019	810.580	12-11-2018	08:00:00	195*
2	2019-2020	818.980	10-08-2019	08:00:00	3195*
3	2020-2021	595.600	08-08-2020	21:00:00	1956*
4	2021-2022	596.650	24-07-2021	01:00:00	2360*

Stage-Discharge Data for the period 2021 - 2022

Station Name : MAHISHI (MAHISHI)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	587.220	0.000	588.480	110.0	590.880	503.5 *	589.720	289.2	589.080	194.8	588.560	121.5
2	587.250	0.000	588.610	125.0	590.390	410.1	589.740	281.5	589.190	206.4 *	588.520	111.2
3	587.250	0.000	588.960	170.0	590.210	370.1	589.600	291.0	589.280	219.2 *	588.500	106.6
4	587.260	0.000	588.600	131.2 *	591.000	515.0	589.390	238.9	589.350	250.4	588.490	118.9 *
5	587.250	0.000	588.540	115.0	591.980	725.0	589.620	270.7 *	589.520	269.4	588.900	195.3
6	587.250	0.000	588.440	105.1	592.400	810.2	589.540	275.7	589.680	277.2	588.700	155.2
7	587.360	0.000	588.440	105.1	592.370	818.1	589.680	336.1	589.600	291.0	589.400	236.8 *
8	587.320	0.000	588.390	100.0	592.300	841.6 *	589.770	290.2	589.250	215.4	588.880	171.7
9	587.300	0.000	588.390	100.0	590.690	460.2	590.460	421.9	589.360	253.8	589.300	223.2
10	587.390	0.000	588.490	110.0	589.880	307.9	590.560	438.3 *	589.360	236.8	588.800	149.6
11	587.450	0.000	588.950	174.0 *	589.650	261.6	590.160	385.8	589.350	250.4	588.720	160.9
12	587.540	0.000	589.270	215.1	589.850	278.3	590.220	373.5 *	589.250	215.4	588.650	140.3
13	587.810	0.000	589.440	245.1	589.520	269.4	590.600	474.6	589.610	250.6	588.600	131.1
14	590.600	440.0	590.700	455.1	589.410	220.5	590.980	525.3	589.700	283.2	588.850	161.2 *
15	590.510	425.0	592.850	950.3	589.550	259.7 *	590.500	441.4	589.480	248.9 *	589.300	223.2
16	590.930	505.0	592.220	800.0	589.410	259.7	590.320	388.7	589.300	223.0	589.680	277.2
17	592.530	865.1	590.780	475.1	589.360	253.8	590.020	345.2	589.240	213.5 *	588.940	192.8
18	592.880	974.9	590.150	360.7 *	589.310	224.0	589.610	250.6	589.310	225.8	588.990	206.8
19	591.020	520.0	592.110	740.1	589.410	254.6	589.340	227.9 *	589.220	210.6 *	588.800	155.0 *
20	590.800	486.8 *	590.880	495.1	589.360	230.9 *	589.160	212.3	589.150	209.4	588.870	170.6
21	590.510	425.0	591.820	718.6 *	589.210	217.0	589.110	198.0	589.110	198.0	588.850	161.2 *
22	590.300	390.0	592.560	890.0	589.130	198.0 *	589.070	191.9	589.310	225.8	588.670	132.7
23	590.120	355.1	594.590	1550	589.080	194.8	589.080	194.8	589.410	254.6	588.640	140.6
24	590.010	331.3	595.980	2068 *	589.110	198.0	589.020	221.0	589.240	213.5 *	588.650	140.3
25	588.970	170.1	593.390	1153 *	589.020	221.0	589.110	198.0	589.650	261.6	588.560	120.4
26	588.820	150.1	591.570	640.2	588.920	167.9	589.020	183.2 *	589.350	250.4	588.520	111.2
27	588.880	165.0 *	590.430	415.1	588.880	171.7	588.880	171.7	589.130	203.6	588.500	106.6
28	588.720	140.0	590.770	470.1	589.460	248.4	588.850	162.6	589.080	194.8	588.600	131.2 *
29	588.600	120.1	590.390	410.1	590.050	342.8 *	589.300	223.2	588.880	171.7	588.520	111.2
30	588.530	115.0	590.890	495.0	590.250	352.5	589.150	209.4	588.620	134.0	588.500	106.6
31			590.830	485.0	589.840	299.0			588.600	131.2 *		
Ten-Daily Mean												
I Ten-Daily	587.285	0.000	588.534	117.2	591.210	576.2	589.808	313.4	589.367	241.4	588.805	159.0
II Ten-Daily	590.207	421.7	590.735	491.0	589.483	251.3	590.091	362.5	589.361	233.1	588.940	181.9
III Ten-Daily	589.346	236.2	592.111	845.0	589.359	237.4	589.059	195.4	589.125	203.6	588.601	126.2
Monthly												
Min.	587.220	0.000	588.390	100.0	588.880	167.9	588.850	162.6	588.600	131.2	588.490	106.6
Max.	592.880	974.9	595.980	2068	592.400	841.6	590.980	525.3	589.700	291.0	589.680	277.2
Mean	588.946	219.3	590.513	496	589.996	351.1	589.653	290.4	589.279	225.3	588.782	155.7

Annual Runoff in MCM = 5087 Annual Runoff in mm = 3618

Peak Observed Discharge = 1550 cumecs on 23-07-2021 Corres. Water Level :594.59 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021 Corres. Water Level :587.22 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : MAHISHI (MAHISHI)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	588.500	130.1 #	587.900	57.82	587.820	14.29	587.600	7.001 *	587.580	9.106	587.830	24.02 *
2	588.520	132.8 #	587.900	60.15 *	587.810	14.06	587.560	5.893	587.550	8.867	587.830	24.02 *
3	588.480	121.5	587.900	57.82	587.810	13.94	587.520	5.221	587.530	7.743 *	587.830	24.57
4	588.480	121.5	587.910	59.32	587.800	13.51	587.500	4.768	587.500	7.599	587.820	24.27
5	588.450	123.3 *	587.910	59.32	587.780	12.19	587.490	4.531	587.570	8.906	587.820	24.02
6	588.420	120.2	587.900	57.82	587.770	12.20 *	587.490	4.462 *	587.550	8.867	587.810	23.63
7	588.420	120.2	587.990	71.01	587.760	11.70	587.480	4.370	587.550	8.769	587.810	23.63
8	588.400	120.9	587.970	67.06	587.760	11.66	587.470	4.178	587.560	8.803	587.800	21.97 *
9	588.310	105.3 #	587.970	67.05 *	587.750	11.39	587.440	3.552	587.570	9.038	587.800	23.52
10	588.250	98.02 #	587.960	65.12	587.750	11.26	587.420	3.270	587.570	9.381 *	587.710	16.42
11	588.150	82.61	587.960	44.16	587.740	10.80	587.410	3.204	587.540	8.800	587.640	11.58
12	588.150	86.36 *	587.960	44.16	587.740	10.72	587.390	2.989	587.540	8.824	587.610	10.56
13	588.000	75.62	587.940	41.84 #	587.740	11.16 *	587.390	3.272 *	587.580	9.160	587.640	11.58
14	588.000	75.62	587.940	41.84 *	587.730	10.56	587.380	2.949	587.620	11.66 *	587.630	11.31
15	587.990	73.57	587.930	40.71 #	587.730	10.52	587.370	2.805	587.600	10.71 *	587.620	11.66 *
16	587.990	73.57	587.930	40.71 *	587.730	10.45	587.370	2.783	587.600	9.711	587.600	10.71 *
17	587.980	71.55	587.920	39.60 #	587.720	10.25	587.360	2.777	587.650	13.15 *	587.720	16.77
18	587.980	71.55	587.910	38.27	587.720	10.20	587.340	2.647	587.640	11.58	587.770	21.19
19	587.970	67.05 *	587.900	37.63	587.720	10.17	587.320	1.762 #	587.660	12.61	587.980	33.84
20	587.960	67.79	587.890	18.73	587.720	10.50 *	587.320	1.762 *	587.780	21.93	588.950	169.0
21	587.960	67.79	587.890	18.59	587.710	9.182	587.300	1.418 #	587.740	17.22	588.500	106.2
22	587.930	62.37	587.870	17.86	587.710	9.148	587.430	4.056	587.730	17.13	588.280	66.09 *
23	587.930	62.37	587.860	15.60 *	587.710	9.116	587.420	3.959	587.740	17.22	588.120	43.86
24	587.920	60.83	587.850	17.02	587.700	9.100	587.470	5.809	587.750	18.77 *	588.010	35.71
25	587.920	62.09 *	587.850	16.79	587.690	8.790	587.700	14.85	587.870	31.10	587.940	31.19
26	587.920	62.09 *	587.840	14.80 *	587.660	7.922	587.730	17.18	587.880	32.84	587.880	27.36
27	587.910	59.32	587.850	16.79	587.630	7.805 *	587.700	15.83 *	587.870	31.10	587.830	24.57
28	587.910	59.32	587.840	15.64	587.610	7.028	587.660	12.39	587.850	25.59	587.770	21.19
29	587.920	60.83	587.830	14.98			587.640	11.47	587.840	25.14	587.730	17.56 *
30	587.920	60.83	587.830	14.41 *			587.610	9.943	587.840	25.01	587.700	16.07
31	587.910	59.32	587.820	14.14			587.600	9.666			587.680	15.65
Ten-Daily Mean												
I Ten-Daily	588.423	119.4	587.931	62.25	587.781	12.62	587.497	4.725	587.553	8.708	587.806	23.01
II Ten-Daily	588.017	74.53	587.928	38.76	587.729	10.53	587.365	2.695	587.621	11.81	587.816	30.82
III Ten-Daily	587.923	61.56	587.848	16.06	587.677	8.511	587.569	9.688	587.811	24.11	587.949	36.86
Monthly												
Min.	587.910	59.32	587.820	14.14	587.610	7.028	587.300	1.418	587.500	7.599	587.600	10.56
Max.	588.520	132.8	587.990	71.01	587.820	14.29	587.730	17.18	587.880	32.84	588.950	169.0
Mean	588.115	84.39	587.901	38.28	587.733	10.7	587.480	5.831	587.662	14.88	587.860	30.44

Peak Computed Discharge = 2068 cumecs on 24-07-2021

Corres. Water Level :595.98 m

Lowest Computed Discharge = 1.762 cumecs on 20-03-2022

Corres. Water Level :587.32 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

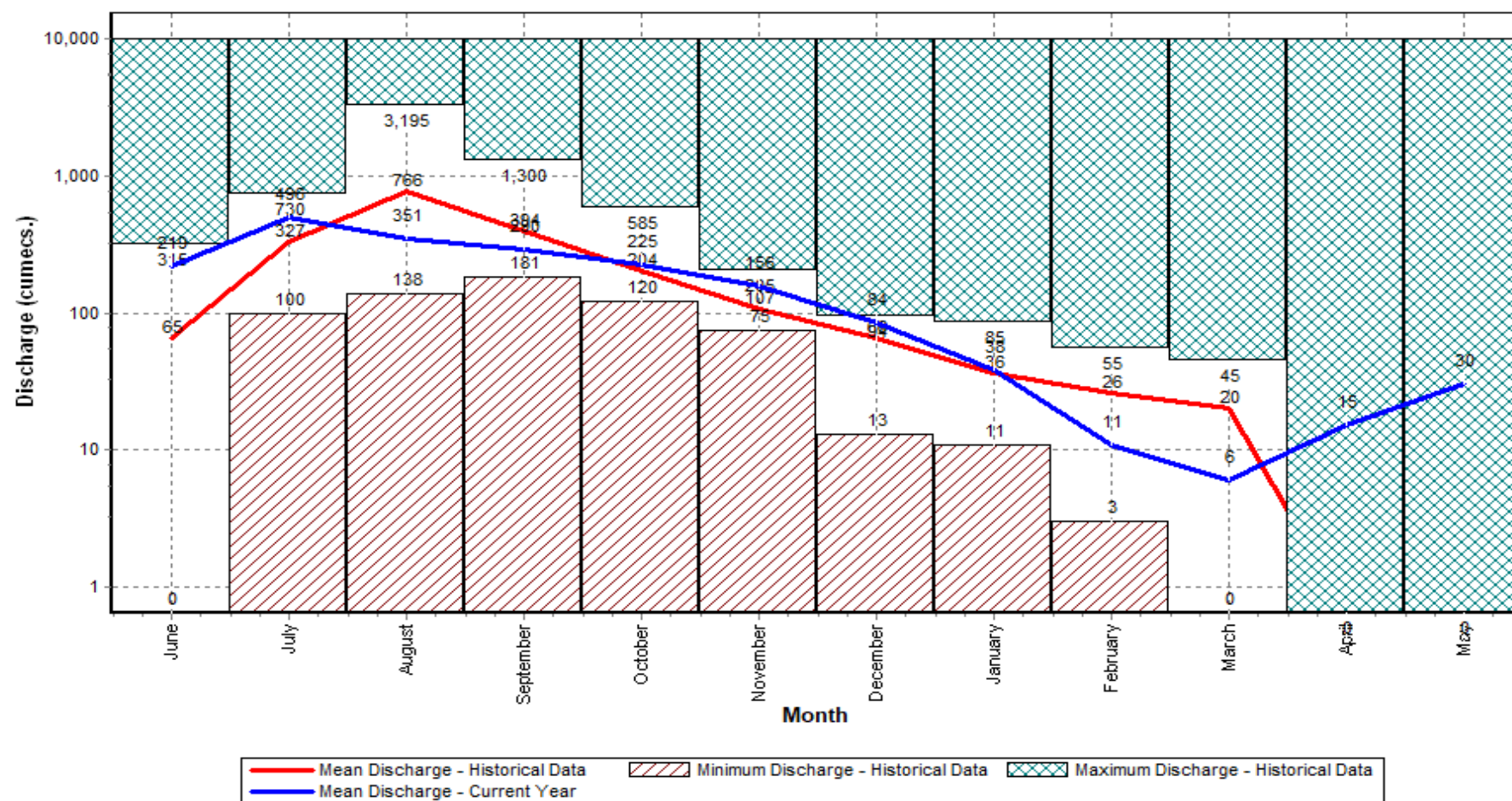
Station Name : MAHISHI (MAHISHI)

Data considered : 2019-2022

Division : Cauvery Division, Bangalore

Local River : Tunga

Sub-Division : Upper Tunga SD, Devangere



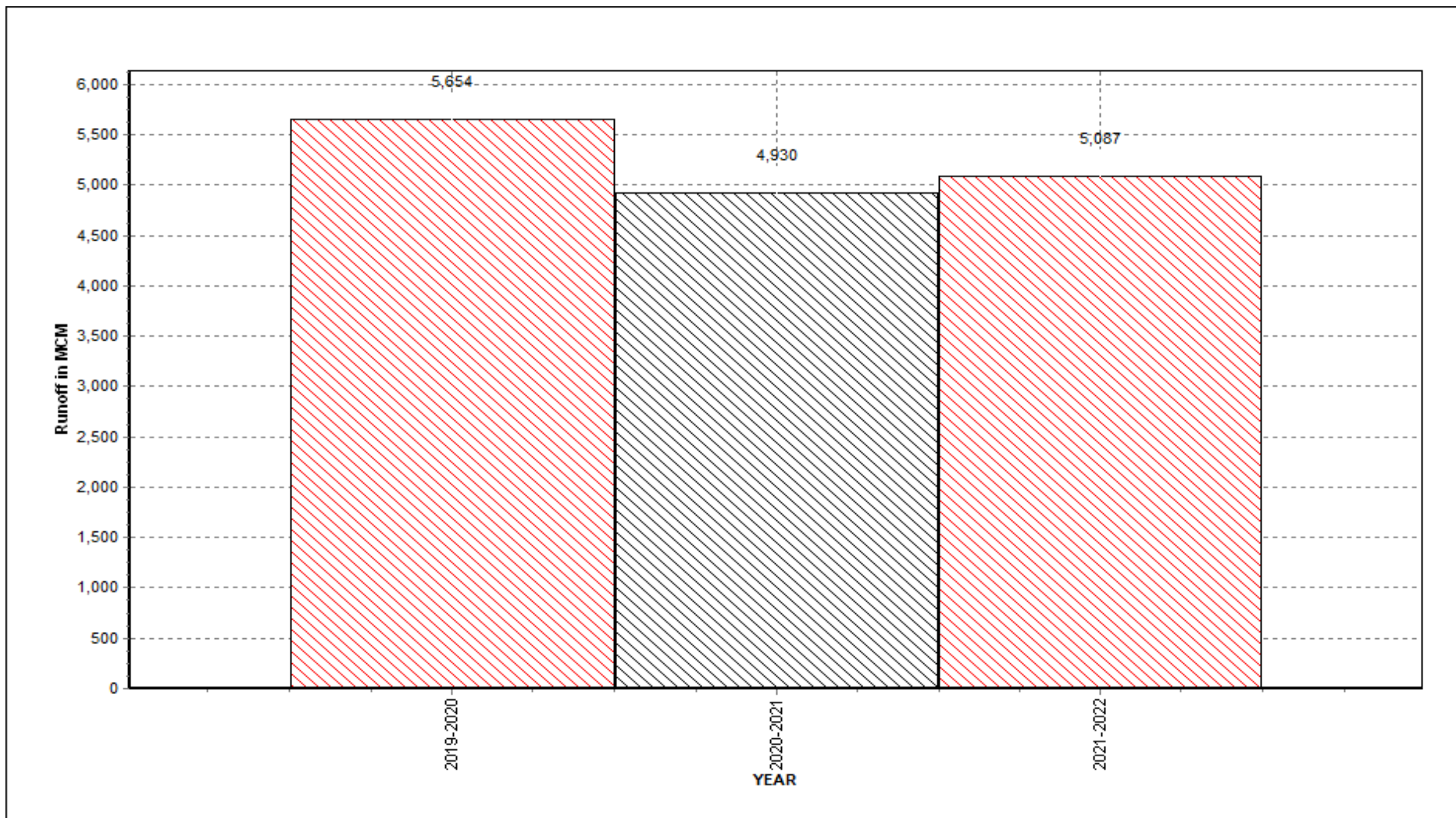
Annual Runoff Values for the period: 2019 - 2022

Station Name : MAHISHI (MAHISHI)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



Note: Missing values have not been considered while arriving at Annual Runoff

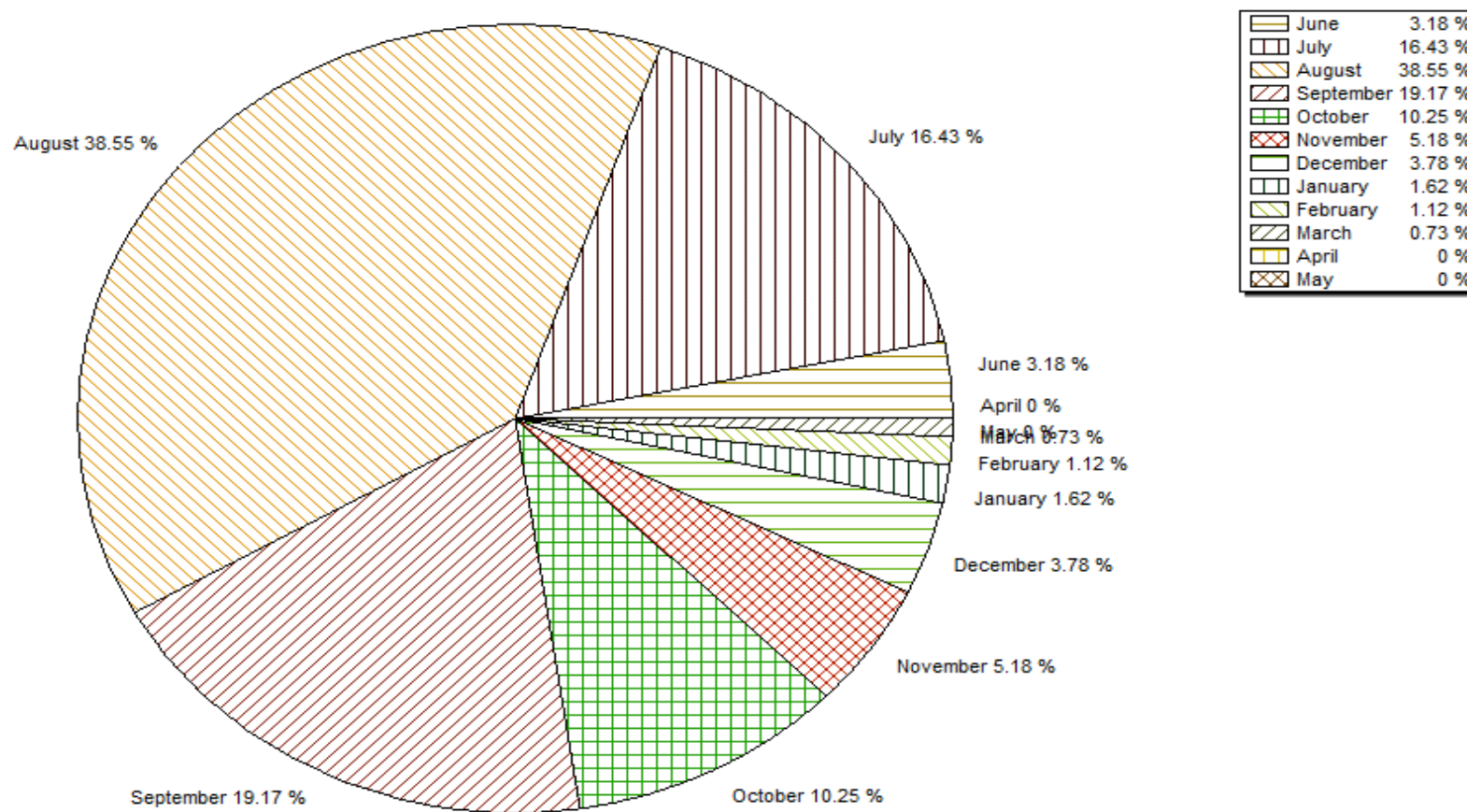
Monthly Average Runoff based on period : 2019-2021

Station Name : MAHISHI (MAHISHI)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



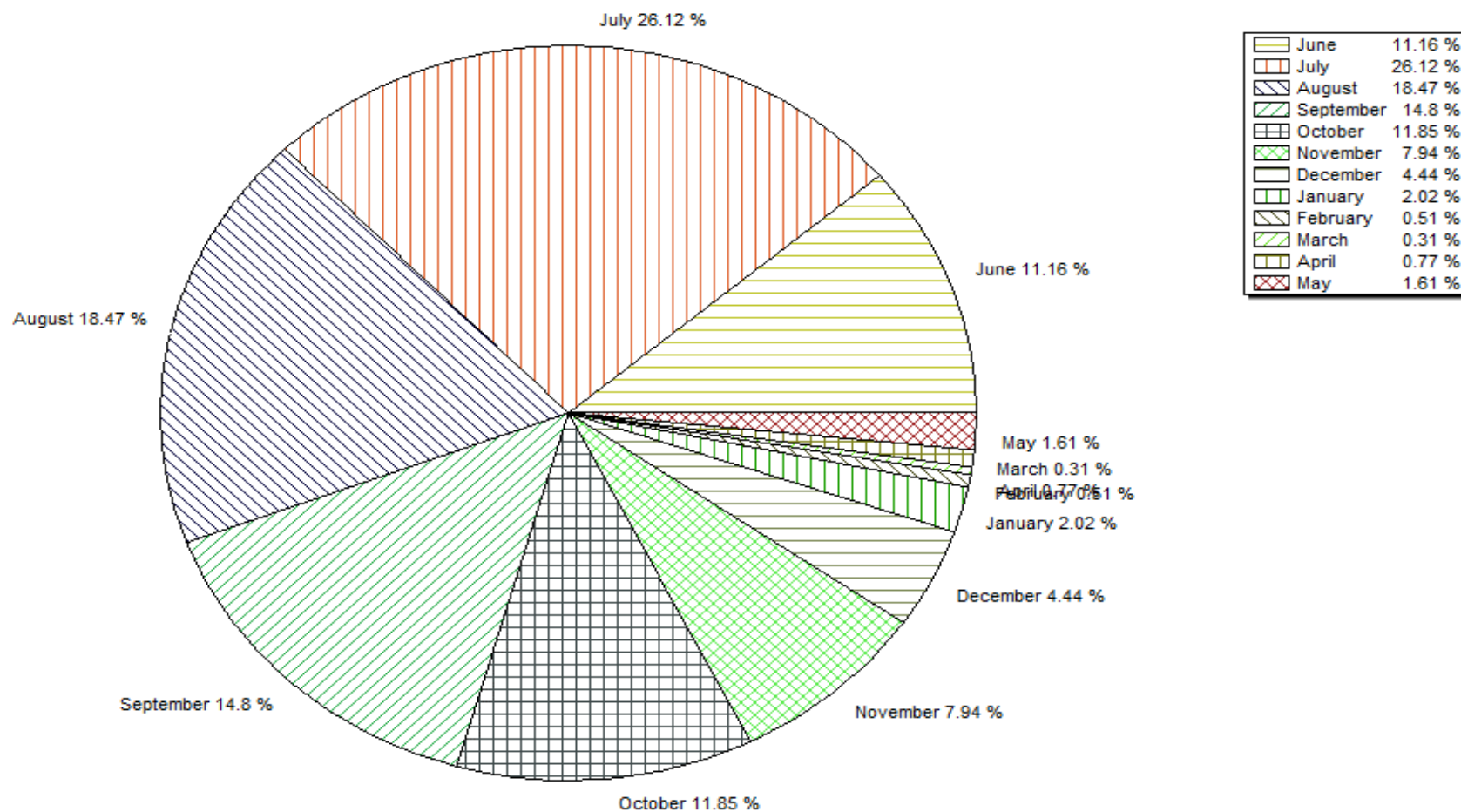
Monthly Runoff for the Year : 2021-2022

Station Name : MAHISHI (MAHISHI)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere

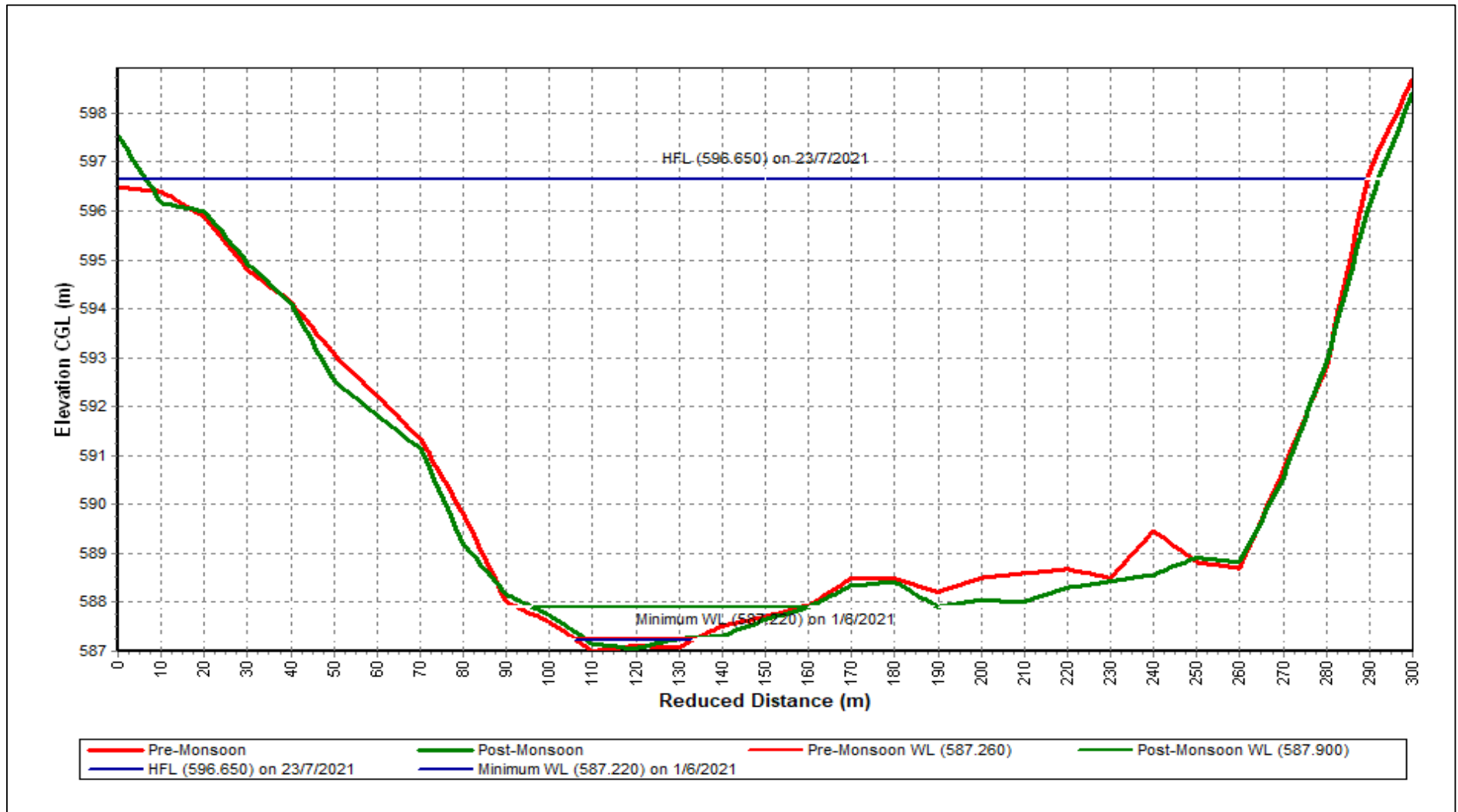


Station Name : MAHISHI (MAHISHI)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



Zero of Gauge : 585 (m.s.l)

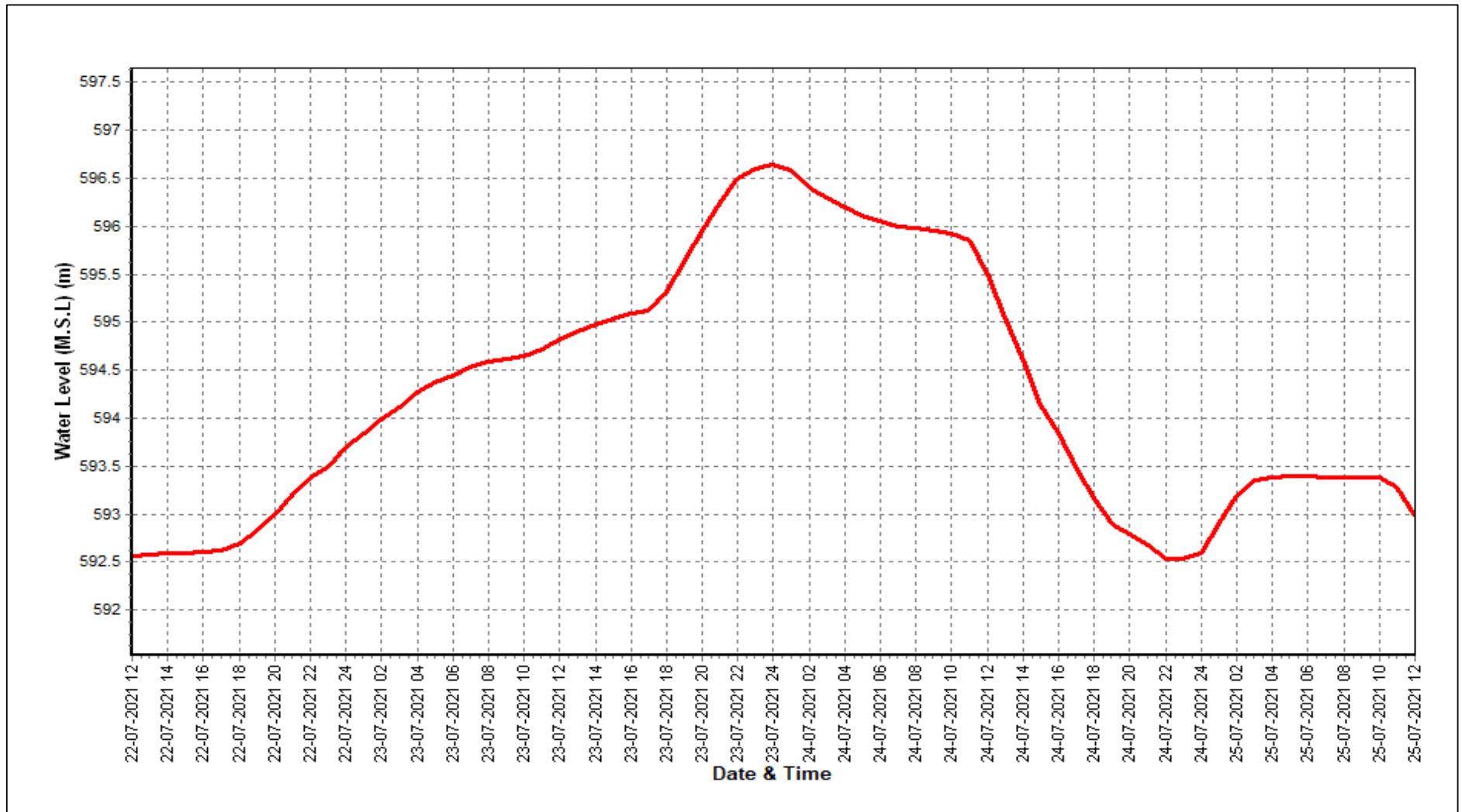
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : MAHISHI (MAHISHI)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



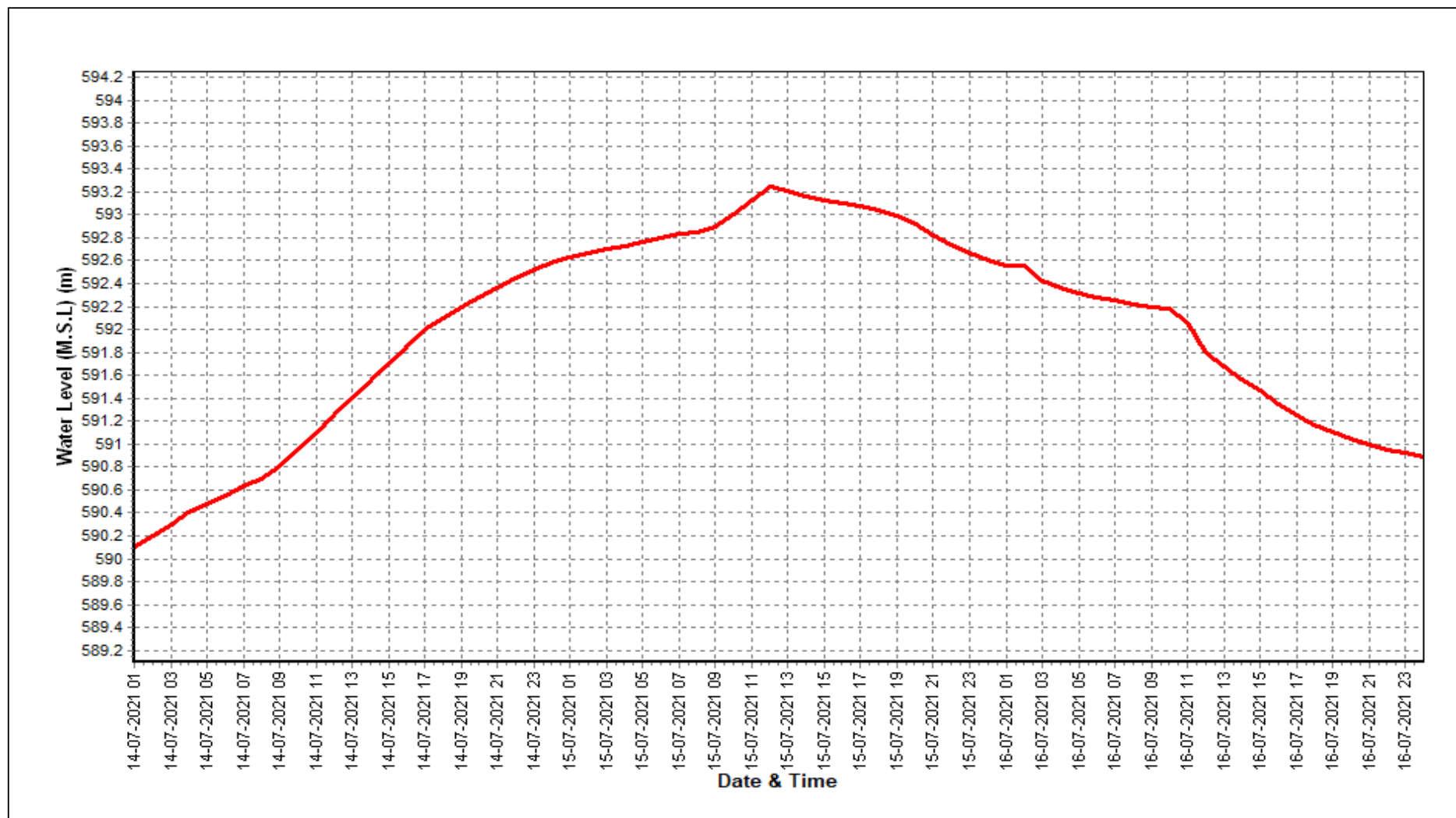
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : MAHISHI (MAHISHI)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



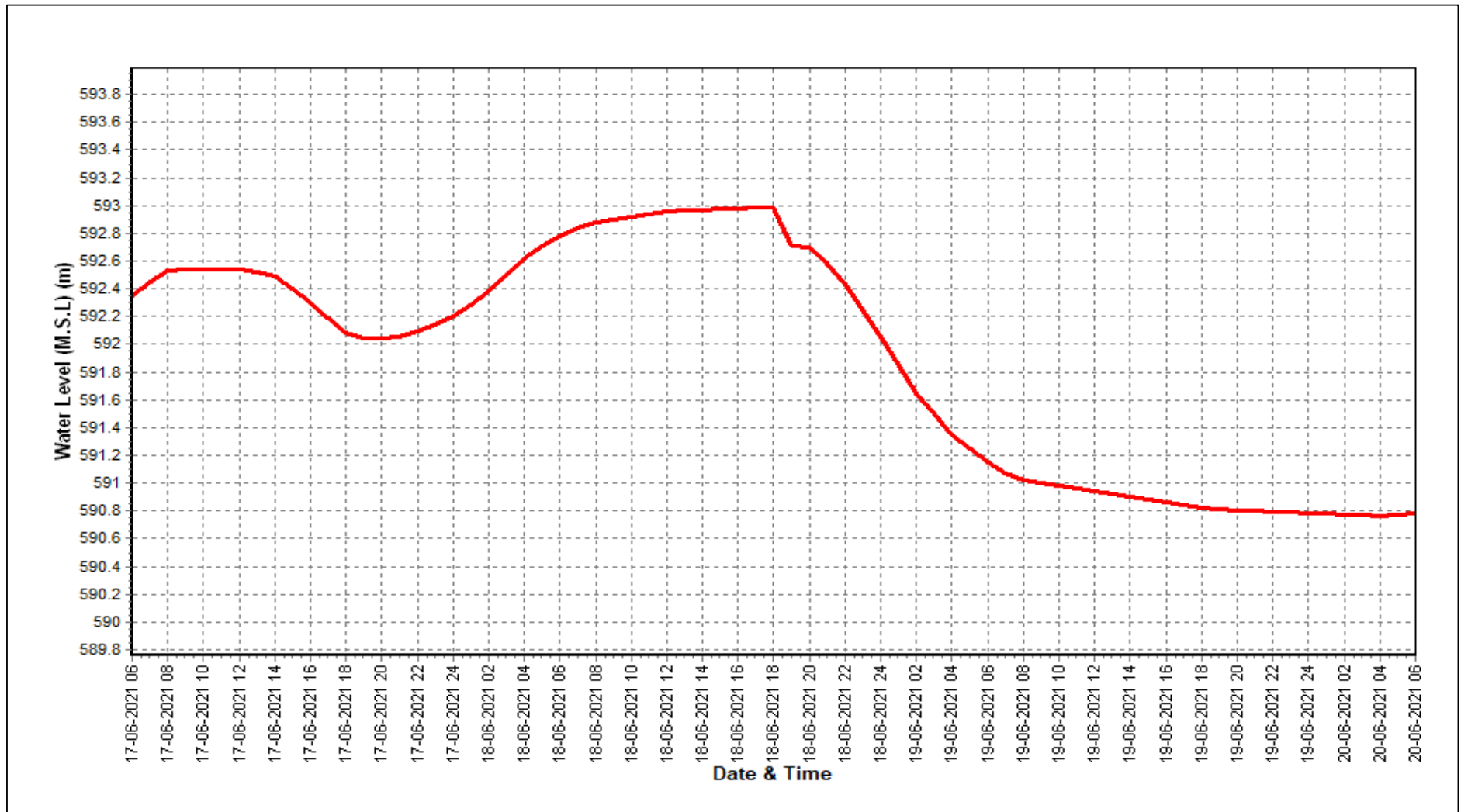
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : MAHISHI (MAHISHI)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



HISTORY SHEET

Water Year : 2021-2022

Site : SHIMOGA

Code : AKLD0C6

State : Karnataka

District : Shimoga

Basin : Krishna

Independent River : Krishna

Tributary : Tungabhadra

Sub Tributary :

Sub-Sub Tributary :

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere

Drainage Area : 2831 Sq. Km.

Bank : Right

Latitude : 13°55'37"

Longitude : 75°35'06"

Zero of Gauge (m) : 558.33 (m.s.l)

21-06-1971

Opening Date

Closing Date

Gauge : 21-06-1971

Discharge : 22-01-1972

Sediment : 14-09-1972

Water Quality : 01-01-1973

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1972-1973	1822	562.165	08-07-1972	1.700	557.170	09-04-1973
1973-1974	2623	562.895	09-07-1973	1.900	557.230	17-04-1974
1974-1975	2512	562.865	26-07-1974	1.800	557.250	26-05-1975
1975-1976	2587	563.290	11-07-1975	1.700	557.250	31-05-1976
1976-1977	1752	562.263	23-07-1976	1.900	557.270	01-06-1976
1977-1978	1829	561.730	25-07-1977	0.400	557.210	31-05-1978
1978-1979	3130	563.455	26-07-1978	0.100	557.160	04-06-1978
1979-1980	2196	562.680	03-08-1979	0.400	557.155	10-03-1980
1980-1981	2610	563.411	03-07-1980	0.400	557.120	25-04-1981
1981-1982	2326	562.874	19-08-1981	0.300	557.110	18-04-1982
1982-1983	4124	564.760	03-08-1982	0.000	557.000	03-05-1983
1983-1984	2588	563.170	23-07-1983	0.000	557.040	10-06-1983
1984-1985	2907	563.420	19-07-1984	0.800	557.180	06-05-1985
1985-1986	2034	562.590	27-06-1985	0.600	557.170	29-05-1986
1986-1987	2452	562.910	10-08-1986	0.000	557.120	04-05-1987
1987-1988	1146	561.070	09-07-1987	0.370	557.140	02-03-1988
1988-1989	2513	563.080	19-07-1988	0.230	557.080	31-05-1989
1989-1990	2687	563.265	25-07-1989	0.000	557.100	14-04-1990
1990-1991	2141	562.570	18-08-1990	0.069	557.090	18-03-1991
1991-1992	2715	563.258	28-07-1991	0.027	557.083	03-04-1992
1992-1993	2238	562.658	27-07-1992	0.947	557.232	02-06-1992
1993-1994	1622	561.749	16-08-1993	0.167	557.187	13-03-1994

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1994-1995	3080	563.950	16-07-1994	0.194	557.150	07-04-1995
1995-1996	1820	562.075	01-09-1995	0.000	557.030	08-05-1996
1996-1997	1546	561.650	24-07-1996	0.000	557.060	11-06-1996
1997-1998	2890	563.400	08-08-1997	0.000	557.180	04-05-1998
1998-1999	1890	562.240	04-07-1998	0.451	557.240	22-04-1999
1999-2000	3215	563.460	19-07-1999	0.286	557.240	04-04-2000
2000-2001	3020	563.340	14-07-2000	0.000	557.150	03-04-2001
2001-2002	1367	561.435	09-07-2001	0.000	557.150	06-04-2002
2002-2003	1539	561.430	18-08-2002	0.000	557.170	14-04-2003
2003-2004	1314	561.140	24-06-2003	0.000	557.160	08-04-2004
2004-2005	2753	563.530	05-08-2004	0.000	557.210	23-04-2005
2005-2006	2695	563.370	03-08-2005	0.010	557.120	04-04-2006
2006-2007	2650	563.460	12-08-2006	0.000	557.060	31-01-2007
2007-2008	3300	564.110	07-08-2007	0.000	557.185	19-06-2007
2008-2009	3200	564.120	12-08-2008	0.000	558.030	12-04-2009
2009-2010	3688	564.260	17-07-2009	0.000	557.630	05-02-2010
2010-2011	2017	566.110	29-07-2010	0.000	561.510	12-06-2010
2011-2012	2321	566.755	18-07-2011	0.000	561.370	01-06-2011
2012-2013	3153	567.635	08-08-2012	0.210	561.130	02-05-2013
2013-2014	2450	566.885	05-07-2013	0.078	561.470	30-11-2013
2014-2015	2834	567.910	02-08-2014	0.058	561.590	02-07-2014
2015-2016	2023	566.620	20-07-2015	0.708	561.080	18-04-2016
2016-2017	1394	565.520	05-07-2016	0.000	561.630	15-04-2017
2017-2018	1625	565.750	20-07-2017	0.000	561.470	21-03-2018
2018-2019	3607	568.180	15-08-2018	0.000	561.530	13-02-2019
2019-2020	4195	570.140	10-08-2019	0.000	561.400	15-03-2020
2020-2021	2551	567.370	09-08-2020	0.000	561.640	05-05-2021

Annual Runoff of Krishna at Shimoga

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1971-1972		53	53	0	2	2
2	1972-1973	3552	222	3774	126	8	133
3	1973-1974	5164	187	5352	182	7	189
4	1974-1975	4766	196	4962	168	7	175
5	1975-1976	6349	352	6701	224	12	237
6	1976-1977	3261	220	3481	115	8	123
7	1977-1978	4851	325	5175	171	11	183
8	1978-1979	7561	338	7899	267	12	279
9	1979-1980	4000	283	4283	141	10	151
10	1980-1981	7136	315	7451	252	11	263
11	1981-1982	5620	242	5862	199	9	207
12	1982-1983	5172	186	5358	183	7	189
13	1983-1984	4771	382	5153	169	13	182
14	1984-1985	5007	210	5217	177	7	184
15	1985-1986	4021	199	4220	142	7	149
16	1986-1987	3950	240	4190	140	8	148
17	1987-1988	2350	258	2609	83	9	92
18	1988-1989	3912	130	4042	138	5	143
19	1989-1990	4424	167	4592	156	6	162
20	1990-1991	5730	263	5993	202	9	212
21	1991-1992	5504	201	5705	195	7	202
22	1992-1993	5954	735	6690	210	26	236
23	1993-1994	4982	355	5337	176	13	189
24	1994-1995	8166	308	8475	289	11	299
25	1995-1996	3987	154	4142	141	5	146
26	1996-1997	3958	187	4145	140	7	146
27	1997-1998	5960	391	6351	211	14	224
28	1998-1999	5102	430	5531	180	15	195
29	1999-2000	5910	275	6185	209	10	219
30	2000-2001	5381	196	5577	190	7	197
31	2001-2002	4138	155	4294	146	5	152
32	2002-2003	3430	186	3615	121	7	128
33	2003-2004	3376	106	3482	119	4	123
34	2004-2005	4137	137	4274	146	5	151
35	2005-2006	5896	324	6220	208	11	220
36	2006-2007	6105	261	6366	216	9	225
37	2007-2008	6770	533	7303	239	19	258
38	2008-2009	5625	265	5890	199	9	208
39	2009-2010	5838	248	6086	206	9	215
40	2010-2011	4678	385	5062	165	14	179
41	2011-2012	5747	273	6020	203	10	213
42	2012-2013	4320	252	4572	153	9	162
43	2013-2014	7403	309	7712	262	11	273
44	2014-2015	6369	304	6673	225	11	236
45	2015-2016	3389	281	3670	120	10	130
46	2016-2017	3372	161	3532	119	6	125
47	2017-2018	3550	198	3748	125	7	132
48	2018-2019	8090	167	8257	286	6	292
49	2019-2020	7090	555	7645	251	20	270
50	2020-2021	5823	259	6082	206	9	215
52	2021-2022	6267	200	6467	221	7	229
Average		5158	266	5323	179	9	188

Instantaneous Flood Peak of Krishna at Shimoga					
Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	1972-1973	564.000	08-07-1972	09:00:00	3247 *
2	1973-1974	565.030	09-07-1973	00:00:00	4069 *
3	1974-1975	564.880	26-07-1974	18:00:00	3945 *
4	1975-1976	565.120	11-07-1975	16:00:00	4144 *
5	1976-1977	564.155	23-07-1976	14:00:00	3366 *
6	1977-1978	563.595	25-07-1977	05:00:00	2942 *
7	1978-1979	565.405	26-07-1978	05:00:00	4386 *
8	1979-1980	564.520	03-08-1979	07:00:00	3653 *
9	1980-1981	565.400	03-07-1980	20:00:00	4382 *
10	1981-1982	564.840	19-08-1981	18:00:00	3912 *
11	1982-1983	566.870	03-08-1982	06:00:00	5713 *
12	1983-1984	565.180	23-07-1983	15:00:00	4195 *
13	1984-1985	565.280	19-07-1984	07:00:00	4279 *
14	1985-1986	564.500	27-06-1985	13:00:00	3637 *
15	1986-1987	564.750	10-08-1986	11:00:00	3839 *
16	1987-1988	563.060	09-07-1987	15:00:00	2557 *
17	1988-1989	564.930	19-07-1988	03:00:00	3986 *
18	1989-1990	563.300	25-07-1989	05:00:00	2728 *
19	1990-1991	562.595	18-08-1990	12:00:00	2238 *
20	1991-1992	563.700	28-07-1991	00:00:00	3020 *
21	1992-1993	563.010	27-07-1992	17:00:00	2522 *
22	1993-1994	561.870	16-08-1993	08:00:00	1768
23	1994-1995	564.450	16-07-1994	19:00:00	3597 *
24	1995-1996	562.180	01-09-1995	20:00:00	1965 *
25	1996-1997	561.770	24-07-1996	00:00:00	1706 *
26	1997-1998	563.560	08-08-1997	15:00:00	2917 *
27	1998-1999	562.370	04-07-1998	15:00:00	2088 *
28	1999-2000	563.640	19-07-1999	21:00:00	2976 *
29	2000-2001	563.340	14-07-2000	08:00:00	2756 *
30	2001-2002	561.660	09-07-2001	22:00:00	1639 *
31	2002-2003	561.690	18-08-2002	23:00:00	1657 *
32	2003-2004	561.200	24-06-2003	21:00:00	1365 *
33	2004-2005	563.530	05-08-2004	07:00:00	2895 *
34	2005-2006	563.440	03-08-2005	21:00:00	2829 *
35	2006-2007	563.760	12-08-2006	15:00:00	3065 *
36	2007-2008	564.180	07-08-2007	23:00:00	3385 *
37	2008-2009	564.160	12-08-2008	13:00:00	3370 *
38	2009-2010	564.280	17-07-2009	10:00:00	3463 *
39	2010-2011	566.430	29-07-2010	10:00:00	2167 *
40	2011-2012	566.930	18-07-2011	15:00:00	2516 *
41	2012-2013	567.840	08-08-2012	12:00:00	3152 *
42	2013-2014	567.890	05-07-2013	13:00:00	3187 *
43	2014-2015	567.950	02-08-2014	04:00:00	3229 *
44	2015-2016	567.330	20-07-2015	13:00:00	2796 *
45	2016-2017	566.090	05-07-2016	17:00:00	1930 *
46	2017-2018	565.780	20-07-2017	21:00:00	1714 *
47	2018-2019	568.430	15-08-2018	12:00:00	3564 *
48	2019-2020	570.180	10-08-2019	06:00:00	4785 *
49	2020-2021	567.150	07-08-2020	14:00:00	2670 *
50	2021-2022	568.900	24-07-2021	07:00:00	3476

Note:- Discharge Effected from 2010 due to K.T Weir from 1 Km above to SG Line

Stage-Discharge Data for the period 2021 - 2022

Station Name : SHIMOGA (AKLD0C6)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	561.650	0.000	562.600	88.52	564.230	767.1 *	563.250	344.4	562.820	134.7	562.650	100.4
2	562.130	32.61	562.690	103.4	563.950	660.4	563.060	266.8	563.730	505.7 *	562.660	101.1
3	562.140	36.59 #	562.960	248.9	563.770	573.6	563.060	266.8	563.090	252.0 *	562.650	100.4
4	562.070	31.59	562.690	119.3 *	564.960	1003	563.060	266.8	563.110	276.3	562.650	129.3 *
5	561.630	0.000	562.670	101.8	565.090	1066	563.050	239.1 *	562.950	247.1	562.990	254.4
6	561.460	0.000	562.710	129.7	565.160	1099	563.180	328.7	563.130	280.0	563.100	273.3
7	561.450	0.000	562.630	88.89	564.770	939.5	563.480	384.5	563.620	429.6	562.990	220.5 *
8	562.030	30.31	562.570	77.62	565.580	1755 *	563.490	398.6	563.090	272.5	562.990	254.4
9	562.080	31.90	562.630	88.89	564.300	782.5	564.350	800.8	562.910	189.9	562.780	130.9
10	561.680	9.366	562.630	88.89	563.850	627.5	563.930	603.6 *	562.990	220.5 *	562.790	174.6
11	562.080	31.90	562.750	135.1 *	563.470	394.1	563.450	389.3	562.940	245.3	562.760	128.8
12	562.070	31.60	562.980	252.6	563.680	546.5	563.890	583.3 *	562.980	252.6	562.670	101.8
13	562.350	56.37 *	563.210	335.3	563.470	394.6	564.510	856.6	563.050	265.0	562.670	101.8
14	563.140	321.6	563.810	586.1	563.150	284.0	564.480	850.9	563.550	412.6	562.790	163.8 *
15	563.500	399.4	565.610	1327	563.070	245.5 *	564.190	743.4	563.080	248.8 *	564.380	811.7
16	563.910	637.1	565.350	1194	563.240	342.1	563.660	449.5	563.050	265.0	563.160	326.8
17	565.060	1047	564.440	834.5	563.470	394.0	563.820	586.2	562.900	193.9 *	563.360	368.9
18	565.500	1269	564.060	616.2 *	563.100	275.0	563.240	342.1	562.880	185.4	563.180	331.2
19	565.180	1108	565.410	1222	563.250	344.4	563.070	245.5 *	562.840	177.2 *	563.020	229.7 *
20	564.330	742.4 *	564.230	759.1	563.250	307.0 *	563.080	268.1	562.720	130.6	562.910	189.9
21	564.150	729.5	564.890	1029 *	563.250	344.4	562.950	247.1	562.790	174.6	562.840	177.2 *
22	563.770	571.9	565.710	1380	563.090	252.0 *	562.950	247.1	563.090	272.5	562.850	181.7
23	563.100	273.7	567.100	2198	563.130	280.0	562.940	245.3	563.100	273.4	562.980	252.6
24	563.090	271.9	568.900	3476	562.950	247.1	562.930	192.5	562.920	199.7 *	562.950	247.1
25	562.010	0.952 #	566.370	1928 *	562.960	248.9	562.900	188.2	562.890	187.1	562.780	130.9
26	561.570	0.000	564.970	1008	562.920	191.3	562.870	185.5 *	563.080	268.1	562.730	131.6
27	563.040	220.1 *	564.240	760.7	562.980	252.6	562.800	132.8	563.020	260.0	562.730	131.6
28	562.790	131.9	564.390	815.4	563.035	261.8	562.800	132.8	562.790	174.6	562.730	148.5 *
29	562.750	130.6	564.050	694.2	563.540	421.0 *	563.030	261.8	562.690	103.3	562.670	101.8
30	562.780	130.9	564.310	786.1	563.770	573.9	563.060	266.8	562.660	101.1	562.730	131.6
31			564.330	793.9	563.200	333.3			562.680	136.4 *		
Ten-Daily Mean												
I Ten-Daily	561.832	17.24	562.678	113.6	564.566	927.3	563.391	390.0	563.144	280.8	562.825	173.9
II Ten-Daily	563.712	564.4	564.185	726.2	563.315	352.7	563.739	531.5	562.999	237.6	563.090	275.4
III Ten-Daily	562.905	246.1	565.387	1352	563.166	309.7	562.923	210.0	562.883	195.5	562.799	163.4
Monthly												
Min.	561.450	0.000	562.570	77.62	562.920	191.3	562.800	132.8	562.660	101.1	562.650	100.4
Max.	565.500	1269	568.900	3476	565.580	1755	564.510	856.6	563.730	505.7	564.380	811.7
Mean	562.816	275.9	564.125	750.6	563.666	522.8	563.351	377.2	563.005	236.6	562.905	204.3

Annual Runoff in MCM = 6467 Annual Runoff in mm = 2284

Peak Observed Discharge = 3476 cumecs on 24-07-2021 Corres. Water Level :568.9 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021 Corres. Water Level :561.65 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : SHIMOGA (AKLD0C6)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	562.630	88.83	562.360	0.000	562.020	0.000	561.550	0.000	561.610	0.000	562.000	0.000
2	562.670	101.8	562.350	0.000	561.670	0.000	561.560	0.000	561.580	0.000	561.810	0.000
3	562.670	101.8	562.350	0.000	561.590	0.000	561.530	0.000	561.610	0.000	561.790	0.000
4	562.670	101.8	562.270	0.000	561.580	0.000	561.530	0.000	561.640	0.000	561.670	0.000
5	562.630	89.92 *	562.190	0.000	561.570	0.000	561.510	0.000	561.590	0.000	562.430	0.000
6	562.630	88.83	562.100	0.000	561.610	0.000	561.500	0.000	561.580	0.000	562.400	0.000
7	562.630	88.83	562.070	0.000	561.600	0.000	561.480	0.000	561.550	0.000	562.150	0.000
8	562.630	88.83	562.080	0.000	561.620	0.000	561.480	0.000	561.520	0.000	562.110	0.000
9	562.620	88.18	562.070	0.000	561.640	0.000	561.480	0.000	561.570	0.000	562.190	0.000
10	562.570	0.000	562.070	0.000	561.620	0.000	561.490	0.000	561.560	0.000	562.240	0.000
11	562.570	0.000	562.070	0.000	561.600	0.000	561.490	0.000	561.550	0.000	562.340	0.000
12	562.570	0.000	562.080	0.000	561.570	0.000	561.520	0.000	561.550	0.000	561.790	0.000
13	562.560	0.000	562.080	0.000	561.500	0.000	561.500	0.000	561.530	0.000	561.580	0.000
14	562.550	0.000	562.080	0.000	561.470	0.000	561.490	0.000	561.550	0.000	561.490	0.000
15	562.560	0.000	562.030	0.000	561.450	0.000	561.510	0.000	561.580	0.000	561.540	0.000
16	562.520	0.000	562.080	0.000	561.460	0.000	561.500	0.000	561.540	0.000	561.540	0.000
17	562.520	0.000	562.080	0.000	561.480	0.000	561.530	0.000	561.540	0.000	561.920	0.000
18	562.510	0.000	562.080	0.000	561.520	0.000	561.510	0.000	561.580	0.000	562.410	0.000
19	562.460	0.000	562.060	0.000	561.530	0.000	561.530	0.000	561.530	0.000	562.790	136.7
20	562.330	0.000	562.060	0.000	561.560	0.000	561.550	0.000	561.530	0.000	564.150	673.8
21	562.240	0.000	562.060	0.000	561.570	0.000	561.560	0.000	561.560	0.000	562.960	221.2
22	562.230	0.000	562.060	0.000	561.570	0.000	561.590	0.000	561.480	0.000	562.810	140.0 *
23	562.570	77.29	561.860	0.000	561.560	0.000	561.520	0.000	561.460	0.000	562.730	93.84
24	562.570	77.29	561.560	0.000	561.560	0.000	561.540	0.000	561.430	0.000	562.180	0.000
25	562.510	60.98 *	561.530	0.000	561.550	0.000	561.580	0.000	561.420	0.000	561.660	0.000
26	562.360	0.000	561.550	0.000	561.520	0.000	561.560	0.000	561.430	0.000	561.560	0.000
27	562.280	0.000	561.540	0.000	561.520	0.000	561.530	0.000	561.770	0.000	562.010	0.000
28	562.310	0.000	561.910	0.000	561.550	0.000	561.570	0.000	561.860	0.000	562.080	0.000
29	562.310	0.000	562.010	0.000			561.610	0.000	562.040	0.000	562.080	0.000
30	562.300	0.000	562.020	0.000			561.630	0.000	562.090	0.000	562.100	0.000
31	562.300	0.000	562.020	0.000			561.630	0.000			561.630	0.000
Ten-Daily Mean												
I Ten-Daily	562.635	83.89	562.191	0.000	561.652	0.000	561.511	0.000	561.581	0.000	562.079	0.000
II Ten-Daily	562.515	0.000	562.070	0.000	561.514	0.000	561.513	0.000	561.548	0.000	562.155	81.05
III Ten-Daily	562.362	19.60	561.829	0.000	561.550	0.000	561.575	0.000	561.654	0.000	562.164	41.37
Monthly												
Min.	562.230	0.000	561.530	0.000	561.450	0.000	561.480	0.000	561.420	0.000	561.490	0.000
Max.	562.670	101.8	562.360	0.000	562.020	0.000	561.630	0.000	562.090	0.000	564.150	673.8
Mean	562.499	34.01	562.024	0	561.574	0	561.534	0	561.594	0	562.134	40.83

Peak Computed Discharge = 1928 cumecs on 25-07-2021

Corres. Water Level :566.37 m

Lowest Computed Discharge = 56.37 cumecs on 13-06-2021

Corres. Water Level :562.35 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

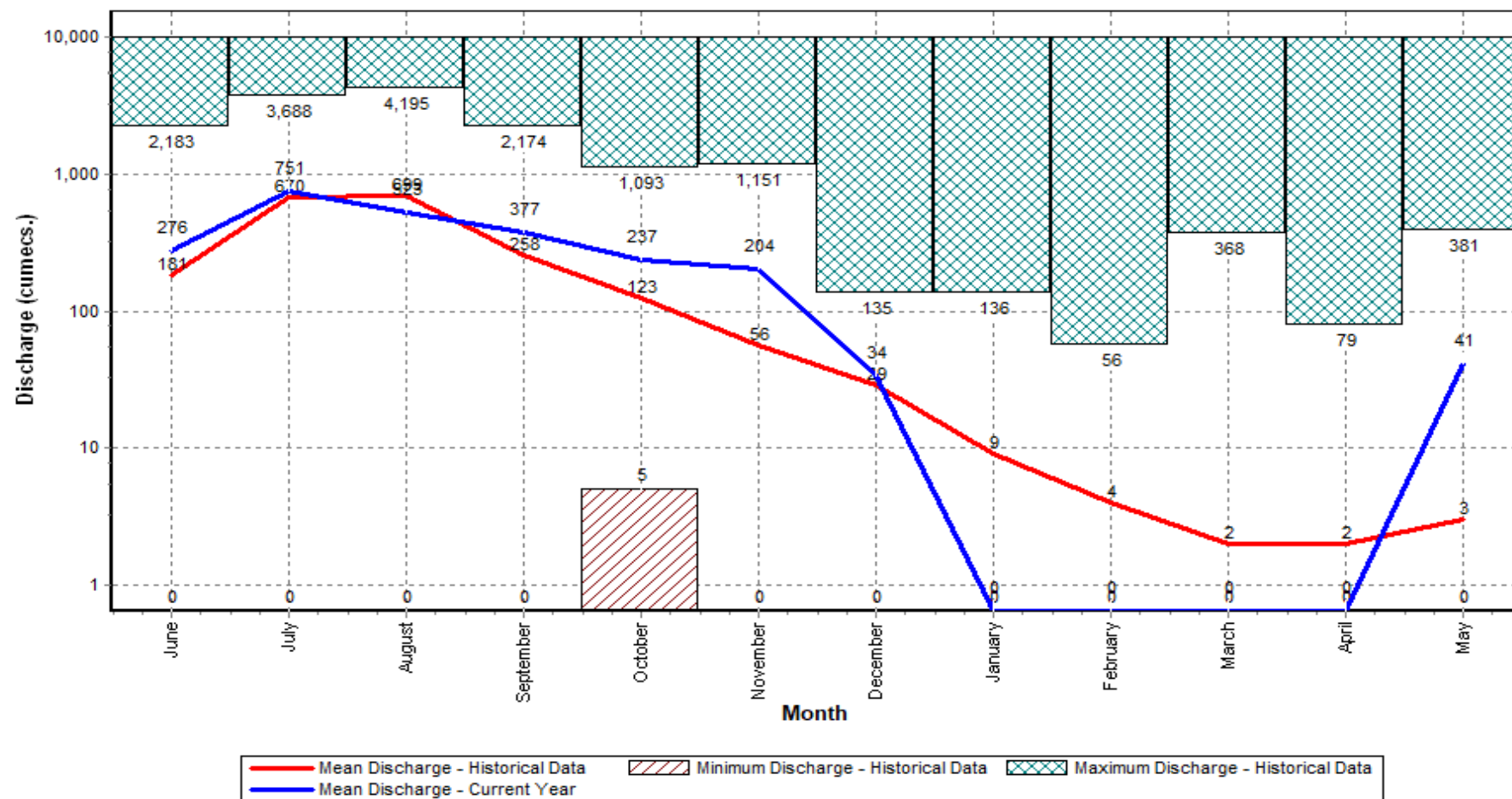
Station Name : SHIMOGA (AKLD0C6)

Data considered : 1972-2022

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere

Local River : Tunga



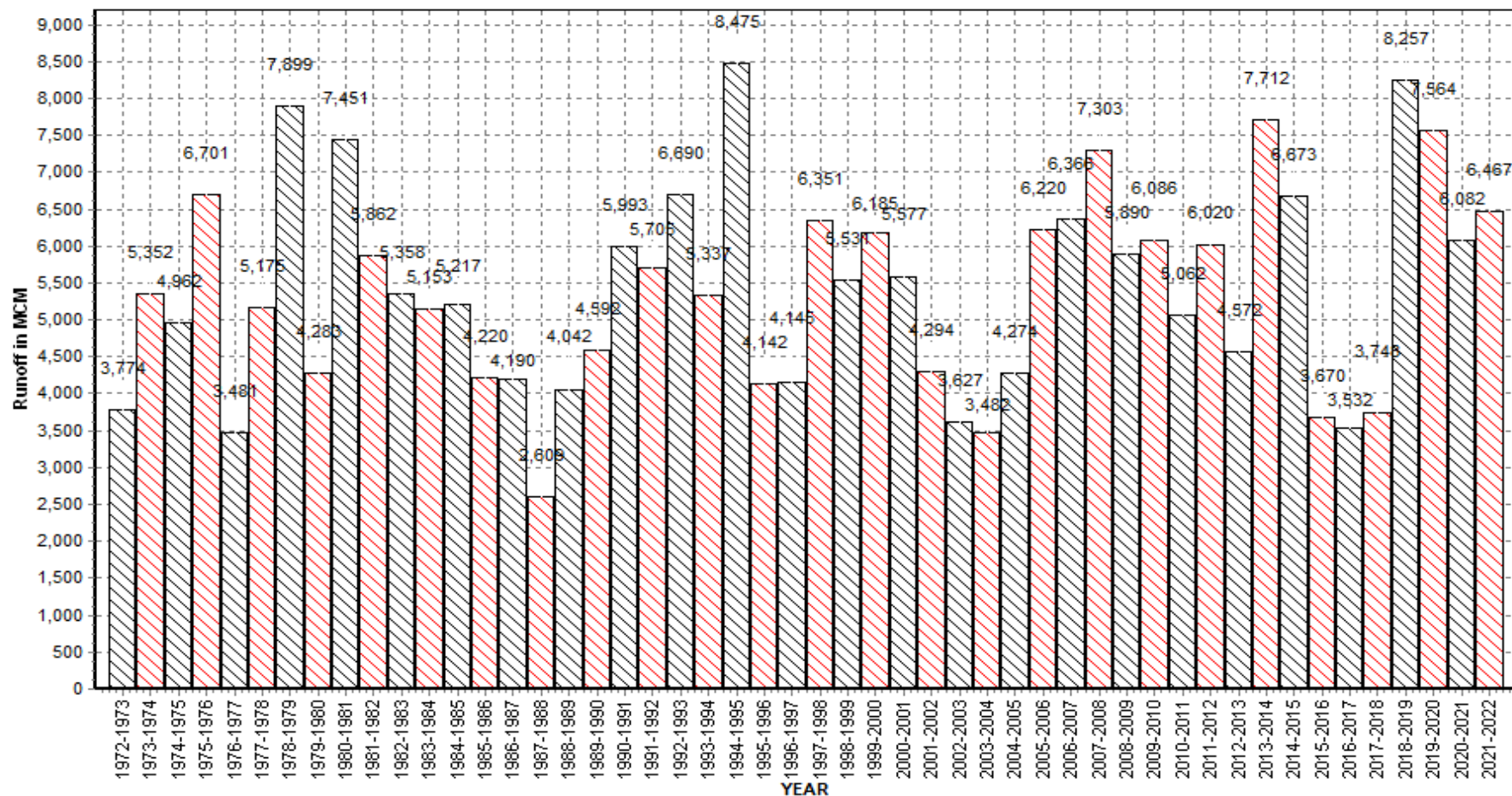
Annual Runoff Values for the period: 1972 - 2022

Station Name : SHIMOGA (AKLD0C6)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



Note: Missing values have not been considered while arriving at Annual Runoff

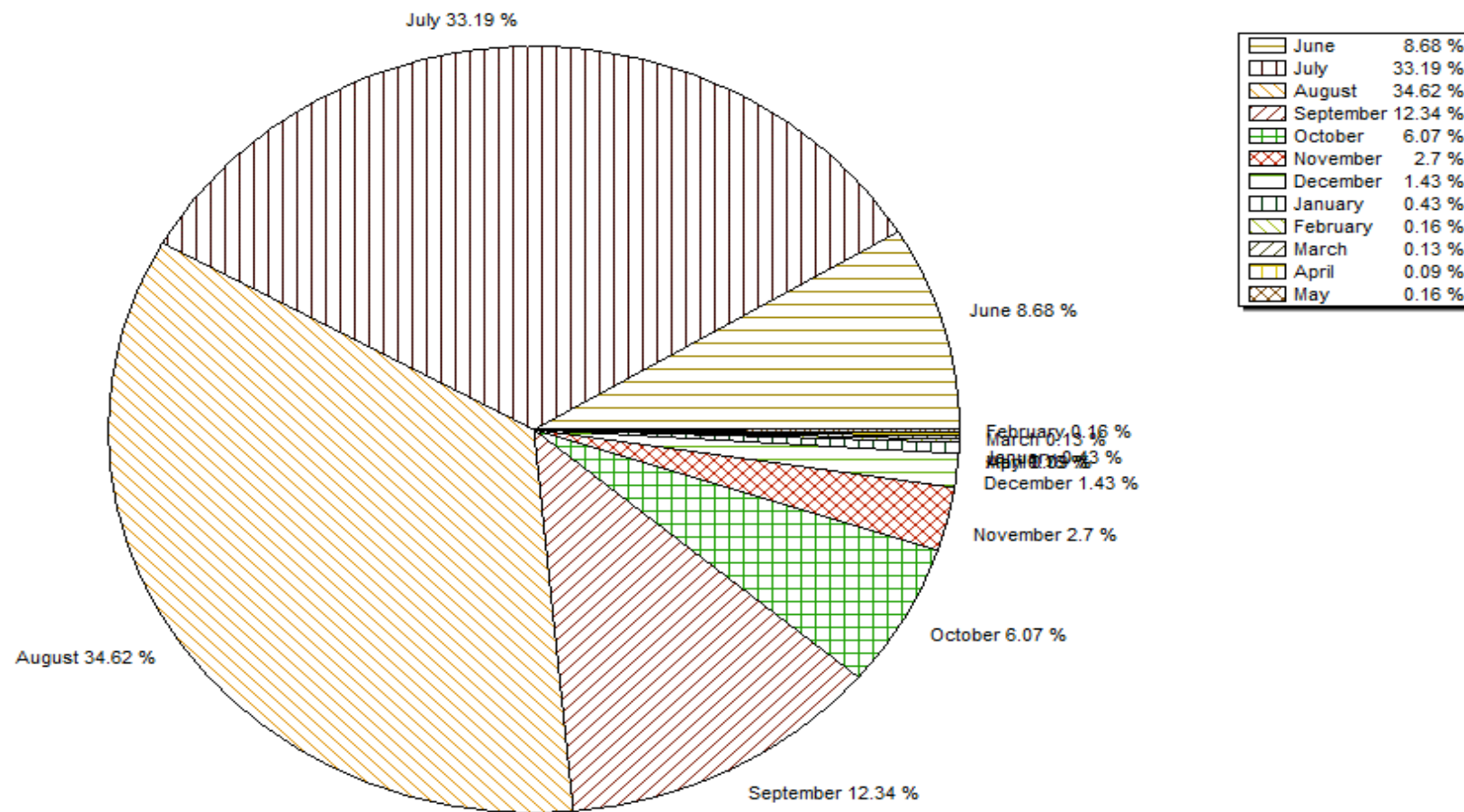
Monthly Average Runoff based on period : 1972-2021

Station Name : SHIMOGA (AKLD0C6)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



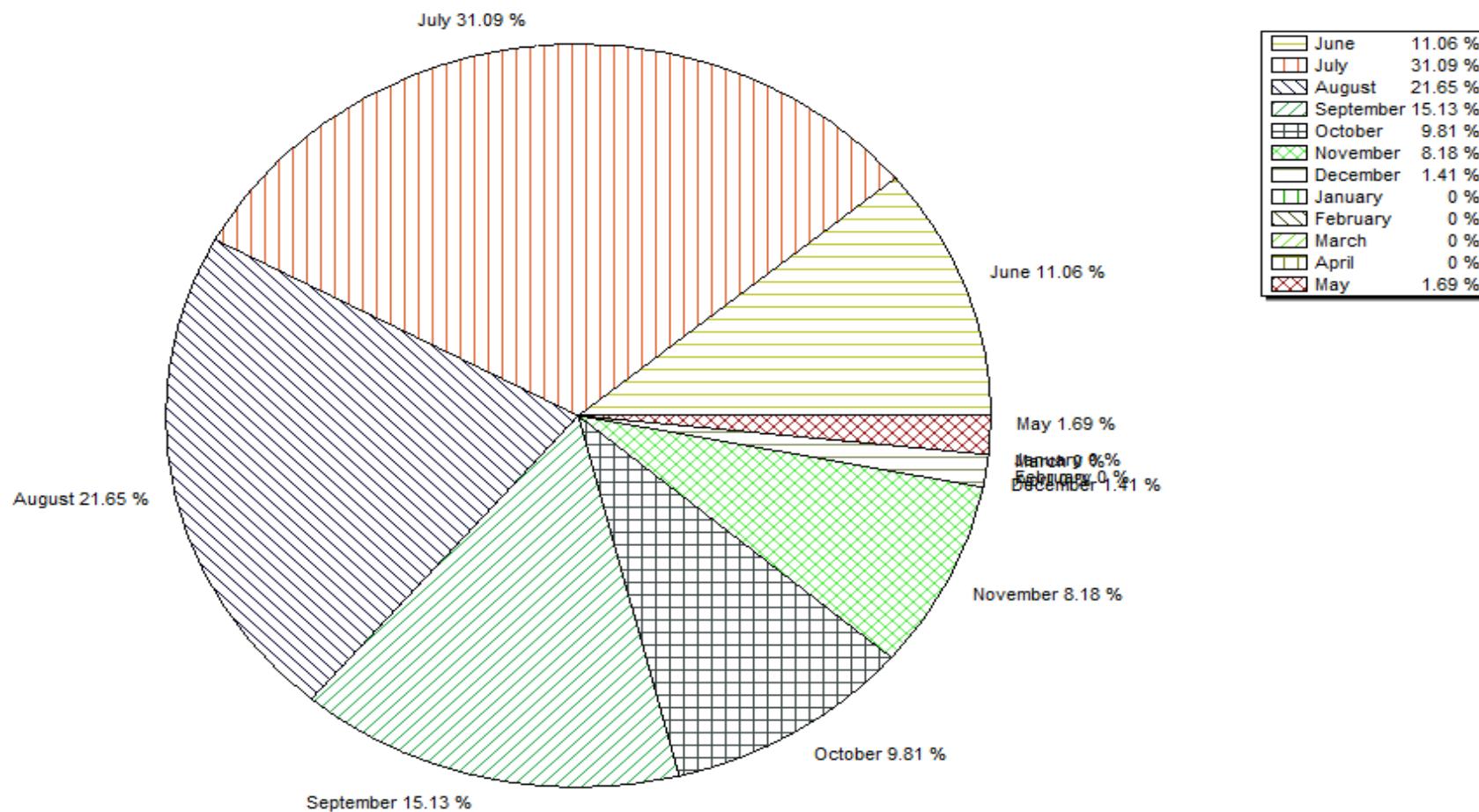
Monthly Runoff for the Year : 2021-2022

Station Name : SHIMOGA (AKLD0C6)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere

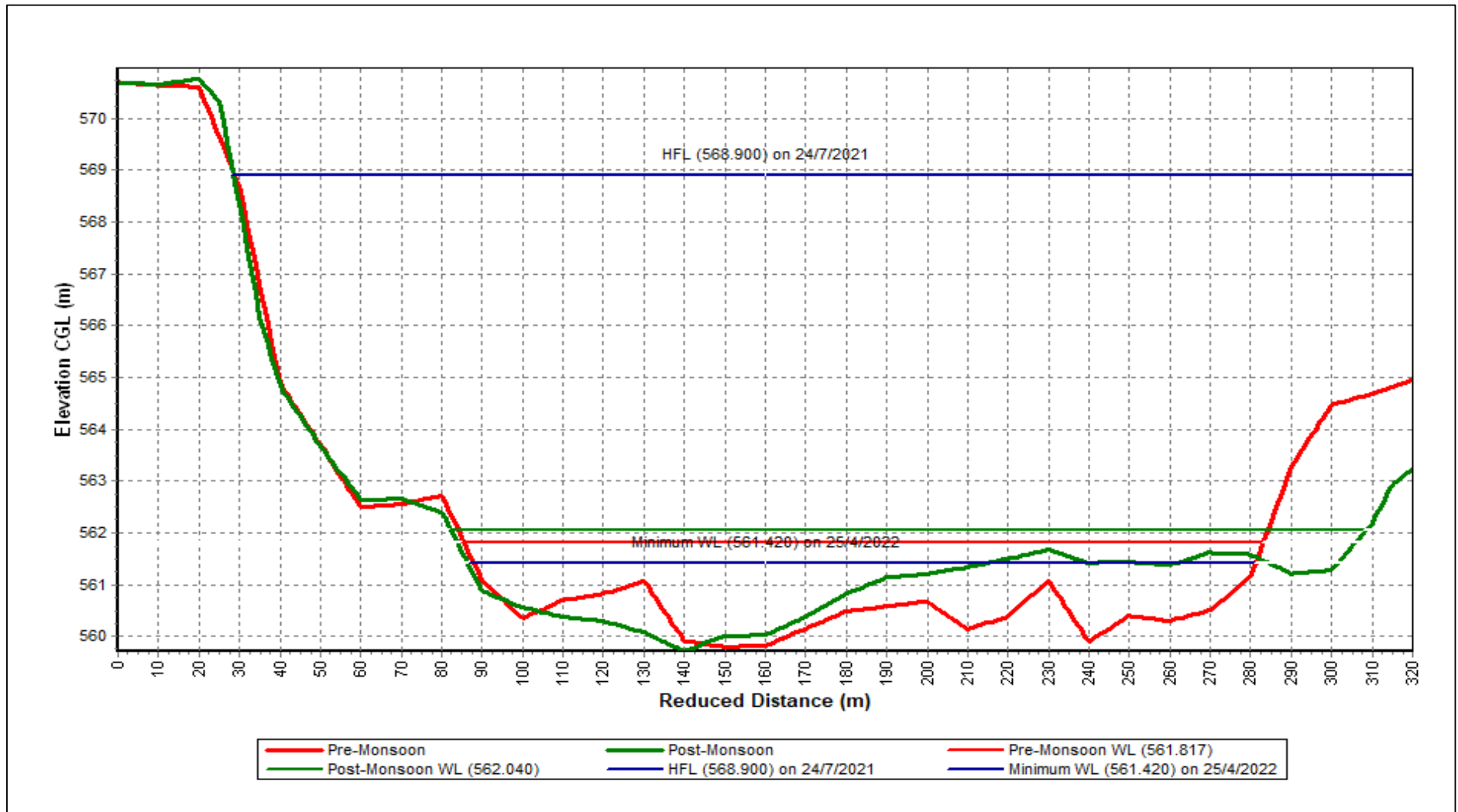


Station Name : SHIMOGA (AKLD0C6)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



Zero of Gauge : 558.33 (m.s.l)

Note: Change in X-Section due to High Flood

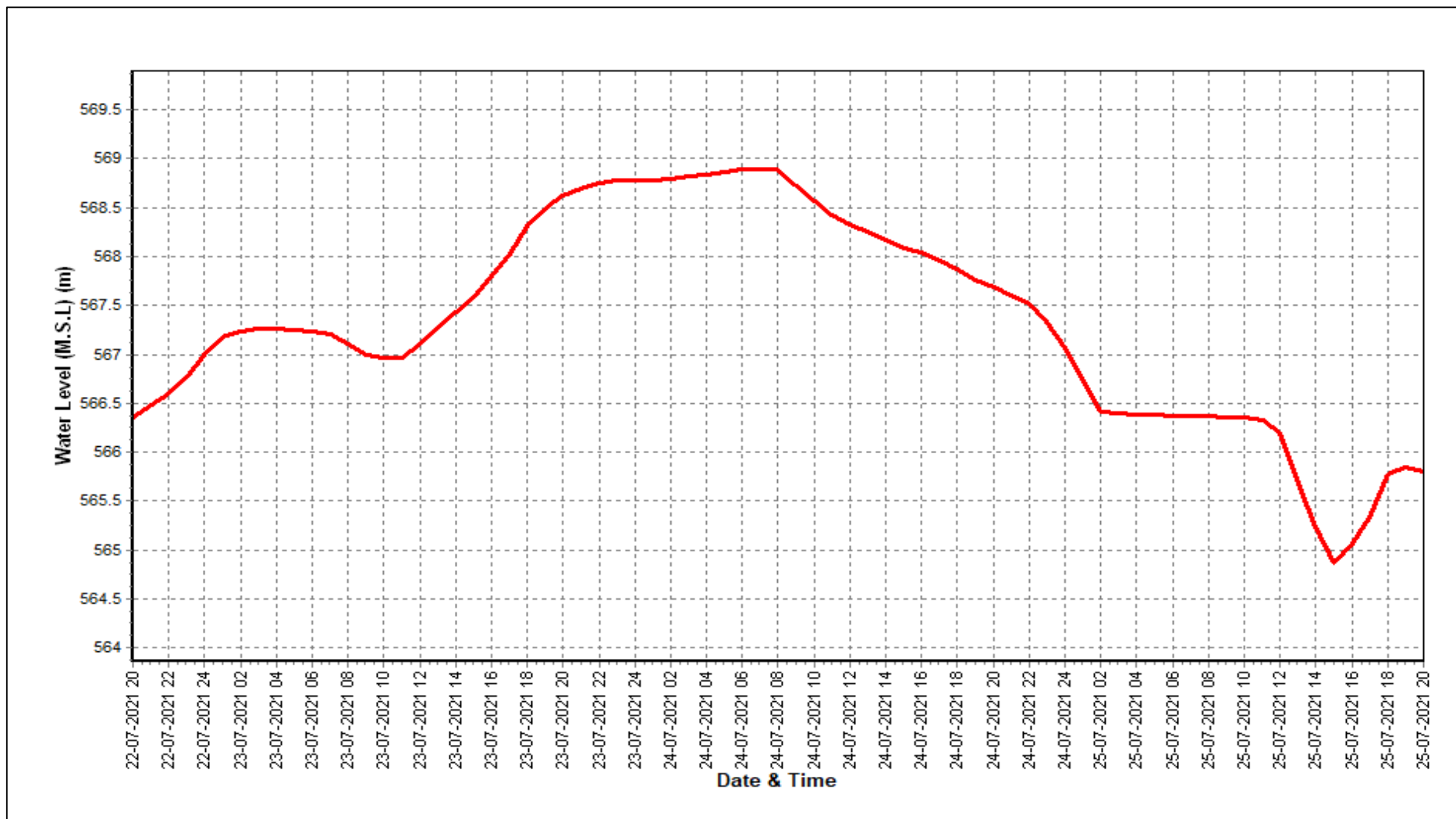
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : SHIMOGA (AKLD0C6)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



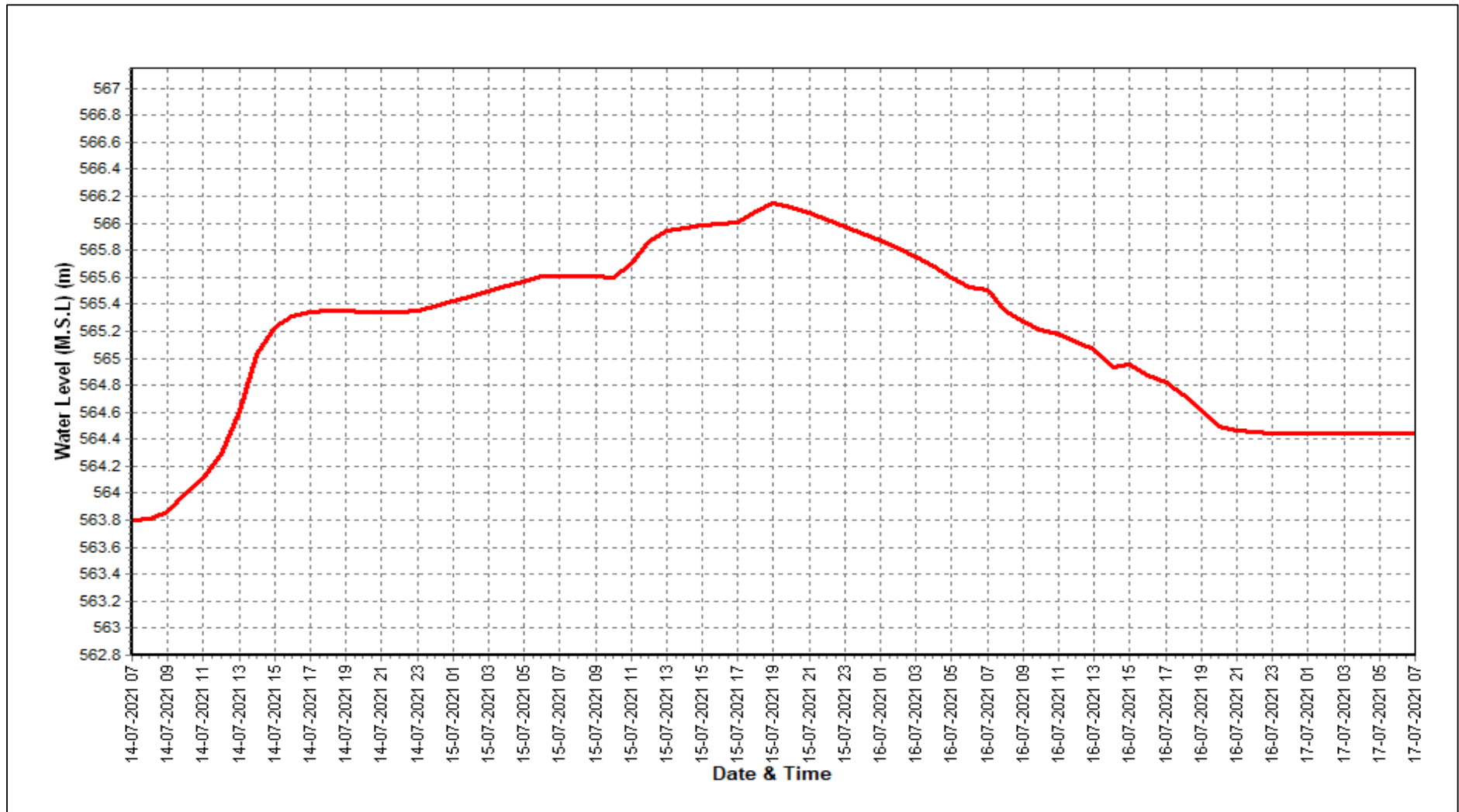
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : SHIMOGA (AKLD0C6)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



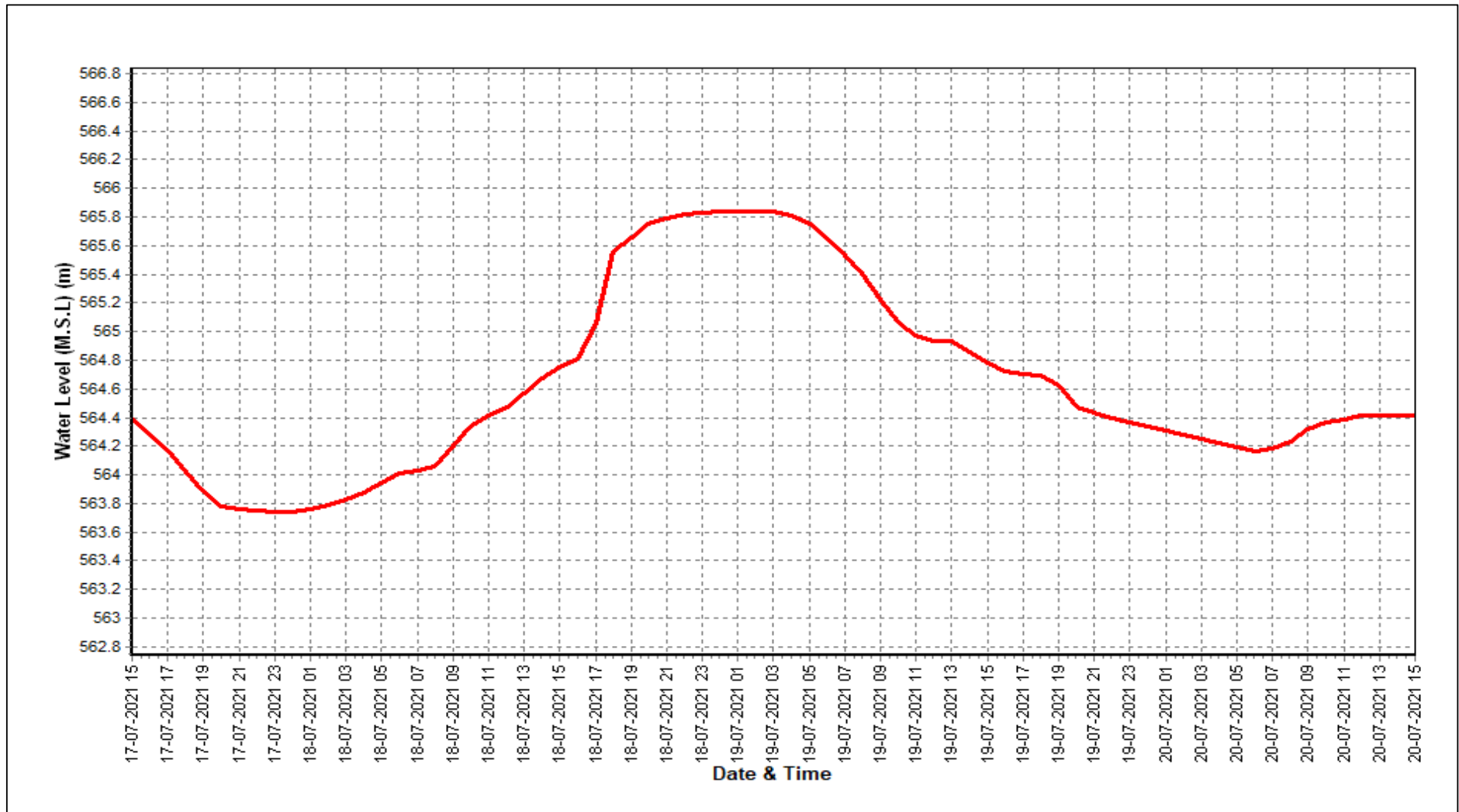
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : SHIMOGA (AKLD0C6)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



HISTORY SHEET

Water Year : 2021-2022

Site : HONNALI

Code : AKL00X6

State : Karnataka

District : Davanagere

Basin : Krishna

Independent River : Krishna

Tributary : Tungabhadra

Sub Tributary :

Sub-Sub Tributary :

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere

Drainage Area : 7075 Sq. Km.

Bank : Left

Latitude : 14°14'14"

Longitude : 75°39'45"

Zero of Gauge (m) : 533.9 (m.s.l)

21-06-1978

Opening Date

Closing Date

Gauge : 01-06-1980

Discharge : 21-06-1980

Sediment : 15-09-1995

Water Quality : 02-06-1986

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1980-1981	3050	93.640	04-07-1980	16.80	87.690	20-04-1981
1981-1982	2337	93.330	19-08-1981	17.20	87.680	05-04-1982
1982-1983	4555	94.910	03-08-1982	12.80	87.620	21-04-1983
1983-1984	2234	93.000	23-07-1983	12.50	87.590	10-06-1983
1984-1985	3003	93.440	19-07-1984	11.20	87.590	10-05-1985
1985-1986	1973	92.450	27-06-1985	3.900	87.380	29-03-1986
1986-1987	2670	543.440	10-08-1986	7.500	537.870	12-06-1986
1987-1988	1223	541.890	27-08-1987	1.730	537.710	05-04-1988
1988-1989	2833	543.790	19-07-1988	2.880	537.730	15-04-1989
1989-1990	2970	543.750	24-07-1989	4.620	537.850	02-06-1989
1990-1991	2075	543.090	16-08-1990	6.290	537.880	02-06-1990
1991-1992	3385	544.030	29-07-1991	7.010	537.970	23-03-1992
1992-1993	3758	544.670	28-07-1992	4.680	538.040	01-05-1993
1993-1994	1510	542.560	16-08-1993	4.530	538.240	13-06-1993
1994-1995	6950	546.400	16-07-1994	11.72	538.040	24-03-1995
1995-1996	1851	542.900	02-09-1995	8.760	538.050	12-06-1995
1996-1997	1531	542.520	24-07-1996	11.91	537.990	21-04-1997
1997-1998	3708	544.250	23-08-1997	7.720	538.080	02-05-1998
1998-1999	2035	543.040	14-09-1998	6.950	537.960	12-06-1998
1999-2000	3561	544.110	19-07-1999	11.80	538.050	31-05-2000
2000-2001	2527	543.770	13-07-2000	9.900	538.010	07-06-2000
2001-2002	1266	542.360	09-07-2001	4.460	537.830	23-03-2002

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2002-2003	1519	542.450	18-08-2002	0.010	537.410	24-05-2003
2003-2004	1146	541.930	24-08-2003	0.000	537.440	23-03-2004
2004-2005	3704	544.220	27-08-2004	5.880	537.880	18-02-2005
2005-2006	3685	544.090	17-08-2005	5.270	537.880	11-01-2006
2006-2007	4042	544.600	13-08-2006	3.020	537.820	13-01-2007
2007-2008	5361	546.300	07-08-2007	3.440	537.860	14-01-2008
2008-2009	6732	545.920	14-08-2008	0.580	537.650	08-01-2009
2009-2010	3651	544.710	17-07-2009	10.87	538.000	29-12-2009
2010-2011	1909	542.930	29-07-2010	15.69	538.100	19-03-2011
2011-2012	2639	543.780	02-09-2011	4.630	537.890	10-01-2012
2012-2013	3126	544.050	08-08-2012	3.060	537.790	17-06-2012
2013-2014	4528	544.980	03-08-2013	11.29	537.920	08-01-2014
2014-2015	4995	545.110	07-08-2014	11.48	537.930	20-06-2014
2015-2016	1870	543.090	20-07-2015	12.30	537.880	15-02-2016
2016-2017	1261	542.220	30-06-2016	5.300	537.480	06-05-2017
2017-2018	1361	542.340	21-07-2017	13.55	537.840	07-06-2017
2018-2019	5170	546.250	15-08-2018	18.40	537.950	31-05-2019
2019-2020	5870	545.730	10-08-2019	4.650	537.580	07-06-2019
2020-2021	3444	544.600	21-09-2020	13.76	537.950	03-02-2021

Annual Runoff of Krishna at Honnali

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1980-1981	10378	1069	11447	367	38	404
2	1981-1982	6374	873	7247	225	31	256
3	1982-1983	6581	741	7322	233	26	259
4	1983-1984	6374	934	7308	225	33	258
5	1984-1985	6504	697	7200	230	25	254
6	1985-1986	4879	454	5333	172	16	188
7	1986-1987	4558	596	5154	161	21	182
8	1987-1988	2671	431	3102	94	15	110
9	1988-1989	4468	481	4949	158	17	175
10	1989-1990	4944	452	5396	175	16	191
11	1990-1991	6277	649	6927	222	23	245
12	1991-1992	6728	642	7370	238	23	260
13	1992-1993	7783	1644	9428	275	58	333
14	1993-1994	5709	750	6459	202	27	228
15	1994-1995	10387	745	11132	367	26	393
16	1995-1996	4319	610	4928	153	22	174
17	1996-1997	4341	525	4866	153	19	172
18	1997-1998	6873	873	7746	243	31	274
19	1998-1999	5958	1040	6998	211	37	247
20	1999-2000	6825	917	7742	241	32	274
21	2000-2001	5981	913	6895	211	32	244
22	2001-2002	4024	517	4540	142	18	160
23	2002-2003	3545	432	3977	125	15	141
24	2003-2004	3374	394	3768	119	14	133
25	2004-2005	7985	686	8670	282	24	306
26	2005-2006	4145	841	4987	146	30	176
27	2006-2007	7536	835	8371	266	29	296
28	2007-2008	9995	1092	11087	353	39	392
29	2008-2009	6949	655	7604	246	23	269
30	2009-2010	6881	893	7775	243	32	275
31	2010-2011	5327	1401	6727	188	49	238
32	2011-2012	6486	734	7219	229	26	255
33	2012-2013	4334	617	4951	153	22	175
34	2013-2014	8791	803	9594	311	28	339
35	2014-2015	7064	880	7944	250	31	281
36	2015-2016	4049	887	4936	143	31	174
37	2016-2017	3296	603	3900	116	21	138
38	2017-2018	3139	712	3851	111	25	136
39	2018-2019	8965	715	9680	317	25	342
40	2019-2020	7920	1259	9178	280	44	324
41	2020-2021	6198	628	6825	219	22	241
42	2021-2022	7378	1431	8809	261	51	311
Average		6102	787	6889	216	28	243

Instantaneous Flood Peak of Krishna at Honnali					
Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	1980-1981	93.635	04-07-1980	16:00:00	3050 *
2	1981-1982	93.33	19-08-1981	08:00:00	2337
3	1982-1983	94.91	03-08-1982	11:00:00	4555 *
4	1983-1984	93	23-07-1983	23:00:00	2234 *
5	1984-1985	93.44	19-07-1984	15:00:00	3003 *
6	1985-1986	92.45	27-06-1985	23:00:00	1973 *
7	1986-1987	543.540	10-08-1986	17:00:00	2317 *
8	1987-1988	541.980	27-08-1987	22:00:00	658 *
9	1988-1989	543.810	19-07-1988	08:00:00	2646
10	1989-1990	543.850	24-07-1989	17:00:00	2696 *
11	1990-1991	543.200	16-08-1990	22:00:00	1920 *
12	1991-1992	544.200	29-07-1991	06:00:00	3143 *
13	1992-1993	545.080	28-07-1992	06:00:00	4360 *
14	1993-1994	542.620	16-08-1993	18:00:00	1289 *
15	1994-1995	546.470	16-07-1994	11:00:00	6550 *
16	1995-1996	542.900	02-09-1995	08:00:00	1586 *
17	1996-1997	542.550	24-07-1996	12:00:00	1216 *
18	1997-1998	544.400	23-08-1997	11:00:00	3408 *
19	1998-1999	543.790	14-09-1998	15:00:00	2621 *
20	1999-2000	544.150	19-07-1999	06:00:00	3078 *
21	2000-2001	543.970	13-07-2000	16:00:00	2847 *
22	2001-2002	542.360	09-07-2001	08:00:00	1024
23	2002-2003	542.450	18-08-2002	05:00:00	1114 *
24	2003-2004	541.940	24-08-2003	21:00:00	621 *
25	2004-2005	544.280	27-08-2004	11:00:00	3248 *
26	2005-2006	544.120	17-08-2005	11:00:00	3039 *
27	2006-2007	544.610	13-08-2006	02:00:00	3694 *
28	2007-2008	546.300	07-08-2007	08:00:00	6265
29	2008-2009	545.920	14-08-2008	05:00:00	5644 *
30	2009-2010	544.750	17-07-2009	10:00:00	3888 *
31	2010-2011	543.010	29-07-2010	21:00:00	1707 *
32	2011-2012	544.130	02-09-2011	16:00:00	3052 *
33	2012-2013	544.050	08-08-2012	07:00:00	2949 *
34	2013-2014	545.110	03-08-2013	17:00:00	4404 *
35	2014-2015	545.240	07-08-2014	04:00:00	4595 *
36	2015-2016	543.670	20-07-2015	21:00:00	2474 *
37	2016-2017	542.580	30-06-2016	23:00:00	1247 *
38	2017-2018	542.360	21-07-2017	15:00:00	1024 *
39	2018-2019	546.320	15-08-2018	12:00:00	6298 *
40	2019-2020	546.250	10-08-2019	17:00:00	6182 *
41	2020-2021	545.010	21-09-2020	15:00:00	4258 *
42	2021-2022	545.270	24-07-2021	09:00:00	4562 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : HONNALI (AKL00X6)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	538.020	24.14	538.840	112.6	540.930	661.4 *	540.140	402.7	539.710	292.8	539.110	163.4
2	538.015	23.73	538.800	105.0	540.900	639.7	539.860	325.9	539.540	250.6 *	539.080	158.4
3	537.800	12.64	538.760	99.59	540.420	480.8	539.780	311.8	541.020	696.1 *	539.060	154.3
4	538.130	25.86	539.180	170.3 *	540.580	520.1	539.800	320.4	539.950	352.8	539.060	159.2 *
5	538.160	27.98	538.980	135.1	542.160	1258	539.820	315.2 *	540.040	369.4	539.020	146.4
6	538.130	29.10 *	538.820	108.8	541.950	1133	539.790	319.6	539.900	342.1	539.020	146.4
7	538.030	23.25	538.850	114.7	542.300	1334	539.820	327.3	541.660	959.9	539.870	327.7 *
8	538.030	22.94	538.850	114.7	543.030	1758 *	540.240	430.8	540.760	566.3	539.640	278.7
9	537.950	19.20	538.650	84.00	542.100	1238	540.400	472.9	539.950	352.8	539.680	286.7
10	537.900	15.55	538.580	75.47	540.760	585.0	540.800	613.1 *	539.650	275.0 *	539.340	211.5
11	538.200	32.06	538.580	77.56 *	540.920	650.5	540.520	506.6	539.780	315.3	539.240	194.0
12	538.020	22.58	538.850	114.7	540.560	513.0	540.190	414.3 *	539.730	297.4	539.220	190.0
13	538.000	21.12 *	539.400	224.3	540.820	609.4	541.240	791.2	540.110	393.5	539.100	161.7
14	538.130	26.24	539.920	343.6	540.260	438.8	541.830	1067	542.010	1128	539.060	159.2 *
15	539.950	352.8	541.950	1133	540.320	452.9 *	542.150	1249	541.200	768.7 *	539.120	165.1
16	539.900	342.1	542.590	1485	540.290	449.1	541.200	758.2	540.420	465.1	541.260	765.2
17	540.960	664.7	541.360	843.6	540.280	445.6	540.580	520.1	539.860	325.2 *	540.750	562.6
18	542.040	1155	540.870	653.6 *	540.080	383.3	540.180	408.1	539.450	229.7	541.080	688.8
19	542.080	1226	542.750	1622	540.140	402.7	539.900	335.3 *	539.500	242.0 *	541.000	688.3 *
20	541.080	720.9 *	541.480	901.3	540.160	405.7 *	539.760	306.1	539.480	236.6	541.350	812.9
21	541.060	701.6	541.300	832.1 *	540.120	396.5	539.720	295.1	539.340	210.4	541.100	727.8 *
22	540.960	666.7	541.940	1128	540.080	383.2 *	539.540	253.5	539.720	295.1	540.460	475.6
23	540.110	390.1	543.590	2361	539.680	285.2	539.510	244.2	540.650	525.4	539.840	334.4
24	539.680	285.2	545.240	4632	539.890	333.7	539.510	244.2	540.580	536.2 *	539.500	242.6
25	539.540	253.5	543.650	2203 *	539.570	263.0	539.500	241.6	540.720	553.7	539.620	273.8
26	538.800	105.0	542.280	1321	539.600	269.4	539.490	239.9 *	540.310	456.0	539.800	321.9
27	538.660	87.69 *	541.440	873.1	539.490	244.5	539.440	227.3	539.960	356.6	539.740	299.8
28	539.500	246.5	541.050	696.9	539.670	282.9	539.240	192.8	539.590	267.3	539.920	340.5 *
29	539.080	158.3	540.780	591.4	539.800	310.3 *	539.240	192.8	539.350	212.6	539.640	278.8
30	538.840	112.6	540.620	536.0	540.280	445.6	539.640	277.7	539.180	175.4	539.550	256.2
31			540.920	650.5	540.400	472.9			539.180	179.8 *		
<u>Ten-Daily Mean</u>												
I Ten-Daily	538.016	22.44	538.831	112.0	541.513	960.8	540.045	384.0	540.218	445.8	539.288	203.3
II Ten-Daily	539.836	456.3	540.775	740.0	540.383	475.1	540.755	635.6	540.154	440.2	540.118	438.8
III Ten-Daily	539.623	300.7	542.074	1439	539.871	335.2	539.483	240.9	539.871	342.6	539.917	355.1
<u>Monthly</u>												
Min.	537.800	12.64	538.580	75.47	539.490	244.5	539.240	192.8	539.180	175.4	539.020	146.4
Max.	542.080	1226	545.240	4632	543.030	1758	542.150	1249	542.010	1128	541.350	812.9
Mean	539.159	259.8	540.609	785.3	540.566	582.1	540.094	420.1	540.074	407.3	539.774	332.4

Annual Runoff in MCM = 8809 Annual Runoff in mm = 1245

Peak Observed Discharge = 4632 cumecs on 24-07-2021 Corres. Water Level :545.24 m

Lowest Observed Discharge = 12.64 cumecs on 03-06-2021 Corres. Water Level :537.8 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : HONNALI (AKL00X6)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	539.320	208.7	538.600	79.93	538.540	69.75	538.400	51.91 *	538.320	42.11	538.500	63.35 *
2	539.260	198.7	538.540	68.38 *	538.580	75.66	538.400	51.99	538.300	40.32	538.500	63.35 *
3	539.050	152.4	538.540	69.71	538.520	66.96	538.380	49.97	538.300	40.97 *	538.500	63.61
4	539.230	192.5	538.520	66.82	538.470	59.97	538.380	49.97	538.300	40.32	538.440	56.46
5	539.300	198.0 *	538.500	63.47	538.470	59.97	538.380	49.97	538.300	40.32	538.410	52.40
6	539.190	178.3	538.500	63.47	538.470	59.70 *	538.350	46.31 *	538.300	40.32	538.470	59.97
7	539.160	170.0	538.480	61.08	538.430	55.02	538.340	44.41	538.280	37.98	538.740	90.76
8	539.090	160.5	538.430	54.99 *	538.420	53.72	538.320	42.11	538.280	37.98	538.770	100.8 *
9	539.550	256.2	538.430	54.99 *	538.420	53.72	538.300	40.32	538.280	38.99 *	538.930	124.1
10	539.140	167.6	538.490	62.12 *	538.420	53.72	538.300	40.32	538.280	38.99 *	539.050	148.3 *
11	539.070	156.9	538.520	66.82	538.410	52.40	538.280	37.98	538.280	37.98	539.050	133.9
12	539.040	146.4 *	538.550	71.78	538.410	52.40	538.280	38.99 *	538.280	37.98	539.100	157.7 *
13	539.040	150.6	538.580	75.52	538.410	52.71 *	538.280	38.99 *	538.280	37.98	539.050	133.9
14	539.040	150.6	538.560	70.96 *	538.410	52.40	538.260	36.13	538.280	38.99 *	539.000	139.2 *
15	539.020	146.4	538.590	77.52	538.400	51.99	538.260	36.13	538.500	63.35 *	538.930	126.9 *
16	539.000	142.1	538.590	74.93 *	538.580	75.66	538.260	36.13	538.620	83.31	538.700	90.31 *
17	538.960	130.3	538.570	74.08	538.620	83.31	538.240	34.10	538.405	52.15 *	538.500	63.61
18	538.960	130.3	538.570	74.08	538.650	85.82	538.240	34.10	538.775	101.8	539.220	171.5
19	538.930	126.9 *	538.570	74.08	538.630	84.03	538.240	34.10	538.705	95.72	539.200	169.4
20	538.900	119.8	538.540	69.71	538.600	76.26 *	538.240	35.16 *	538.635	84.65	542.460	1397
21	538.880	115.6	538.540	69.71	538.500	63.61	538.250	35.22	538.610	83.07	541.060	708.0
22	538.880	115.6	538.540	69.71	538.450	57.60	538.250	35.22	538.550	72.17	539.960	361.5 *
23	538.850	109.8	538.540	68.38 *	538.440	56.46	538.250	35.22	538.550	72.17	539.440	193.2
24	538.940	126.1	538.520	66.82	538.430	55.02	538.470	59.97	538.550	69.66 *	539.190	168.4
25	538.980	135.6 *	538.480	61.27	538.410	52.40	538.500	63.61	538.470	59.97	538.720	96.22
26	538.980	135.6 *	538.450	57.32 *	538.400	51.99	538.500	63.61	538.500	63.61	538.550	72.17
27	538.870	113.0	538.450	57.60	538.400	51.59 *	538.500	63.35 *	538.440	56.15 *	538.370	49.84
28	538.800	105.3	538.430	55.23	538.400	51.99	538.470	59.97	538.410	52.40	538.300	40.32
29	538.720	92.75	538.430	55.23			538.410	52.40	538.380	49.97	538.300	40.97 *
30	538.700	90.08	538.450	57.32 *			538.380	49.97	538.470	59.97	538.300	40.32
31	538.680	86.50	538.500	63.61			538.350	45.19			538.300	40.32
Ten-Daily Mean												
I Ten-Daily	539.229	188.3	538.503	64.50	538.474	60.82	538.355	46.73	538.294	39.83	538.631	82.31
II Ten-Daily	538.996	140.0	538.564	72.95	538.512	66.70	538.258	36.18	538.476	63.39	539.321	258.4
III Ten-Daily	538.844	111.4	538.485	62.02	538.429	55.08	538.394	51.25	538.493	63.91	538.954	164.7
Monthly												
Min.	538.680	86.50	538.430	54.99	538.400	51.59	538.240	34.10	538.280	37.98	538.300	40.32
Max.	539.550	256.2	538.600	79.93	538.650	85.82	538.500	63.61	538.775	101.8	542.460	1397
Mean	539.017	145.5	538.516	66.34	538.475	61.28	538.337	44.93	538.421	55.71	538.968	168.3

Peak Computed Discharge = 2203 cumecs on 25-07-2021

Corres. Water Level :543.65 m

Lowest Computed Discharge = 21.12 cumecs on 13-06-2021

Corres. Water Level :538 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

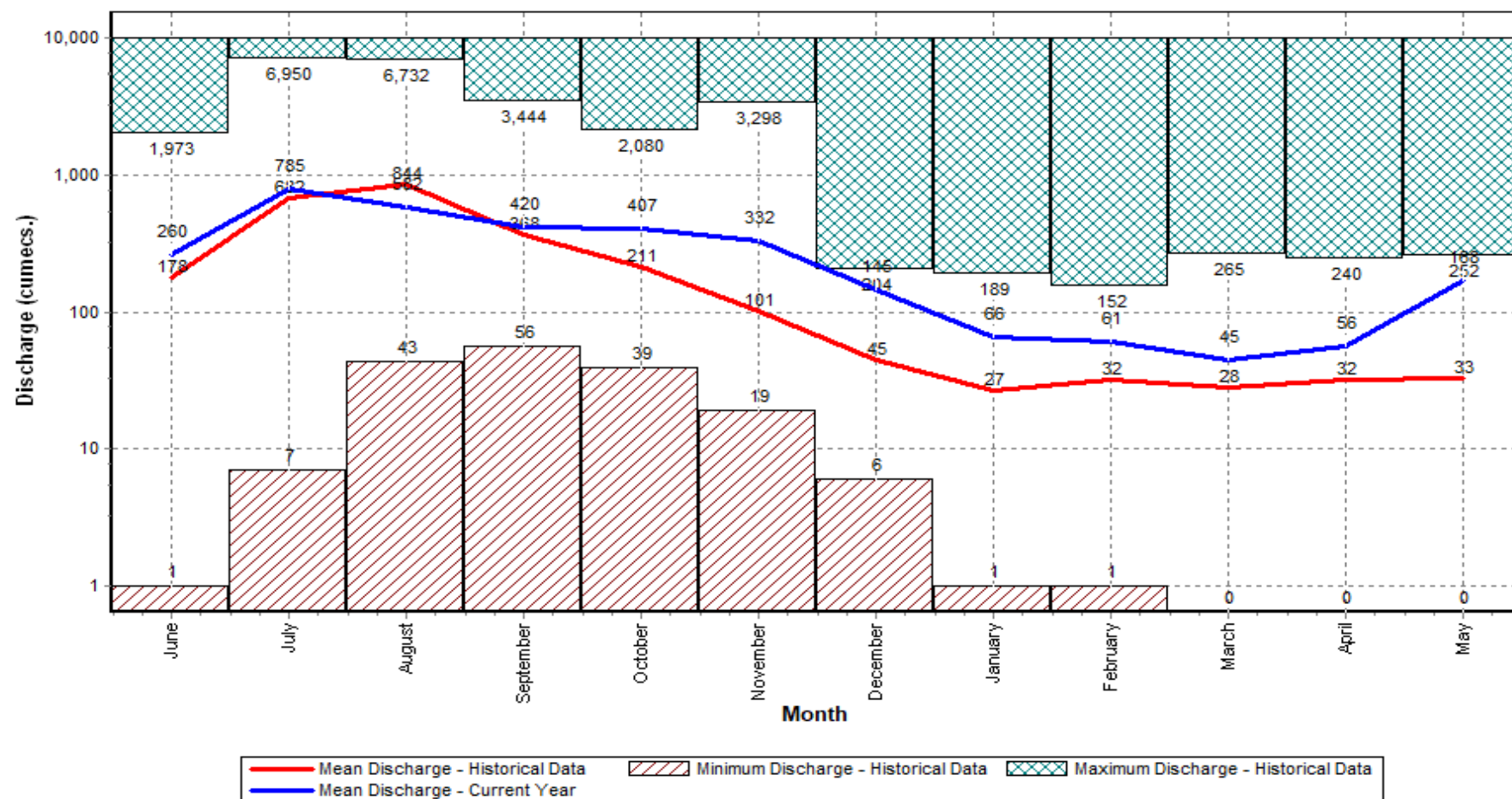
Station Name : HONNALI (AKL00X6)

Data considered : 1980-2022

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

Sub-Division : Upper Tunga Subdn, Devangere



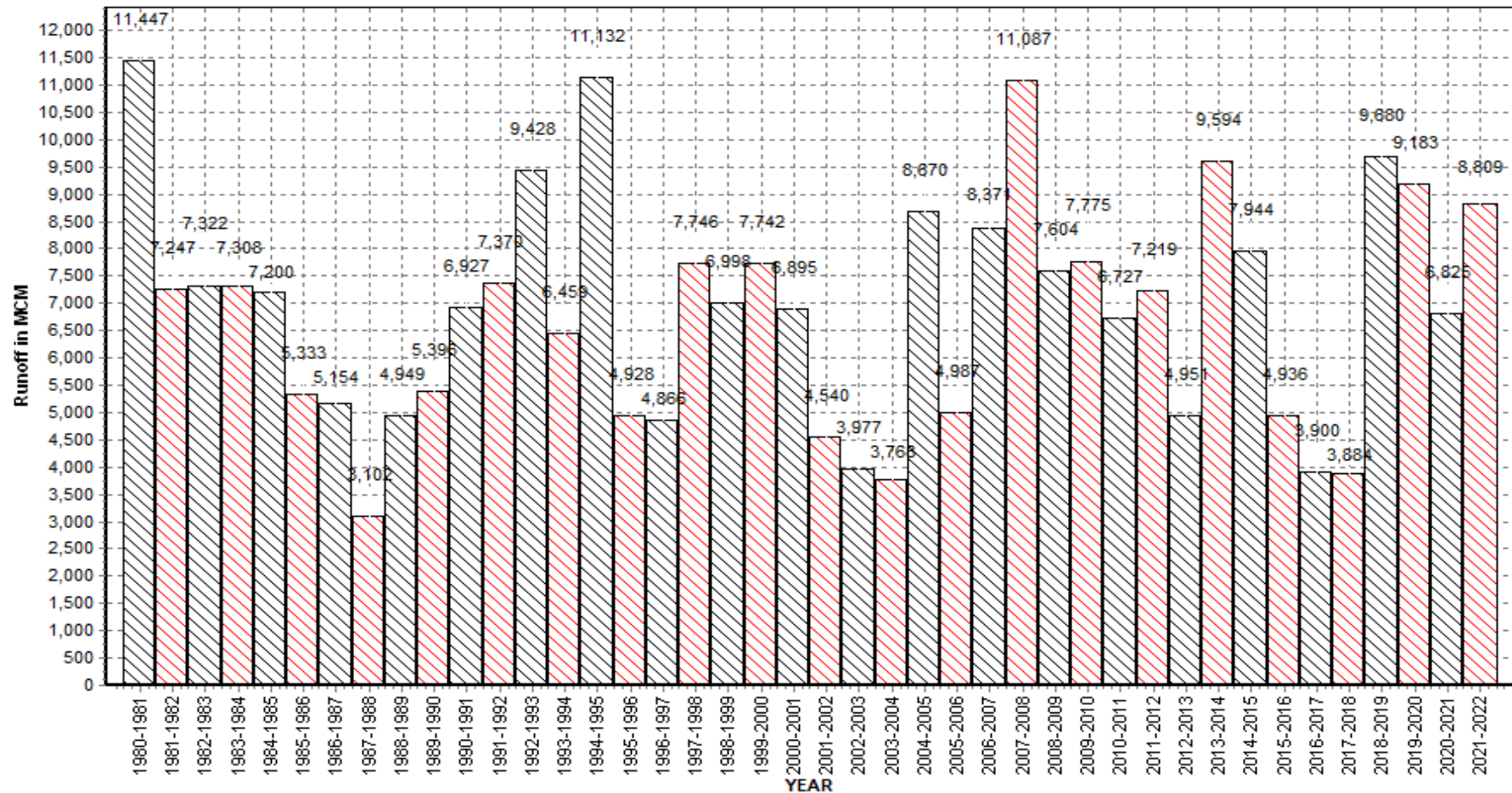
Annual Runoff Values for the period: 1980 - 2022

Station Name : HONNALI (AKL00X6)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



Note: Missing values have not been considered while arriving at Annual Runoff

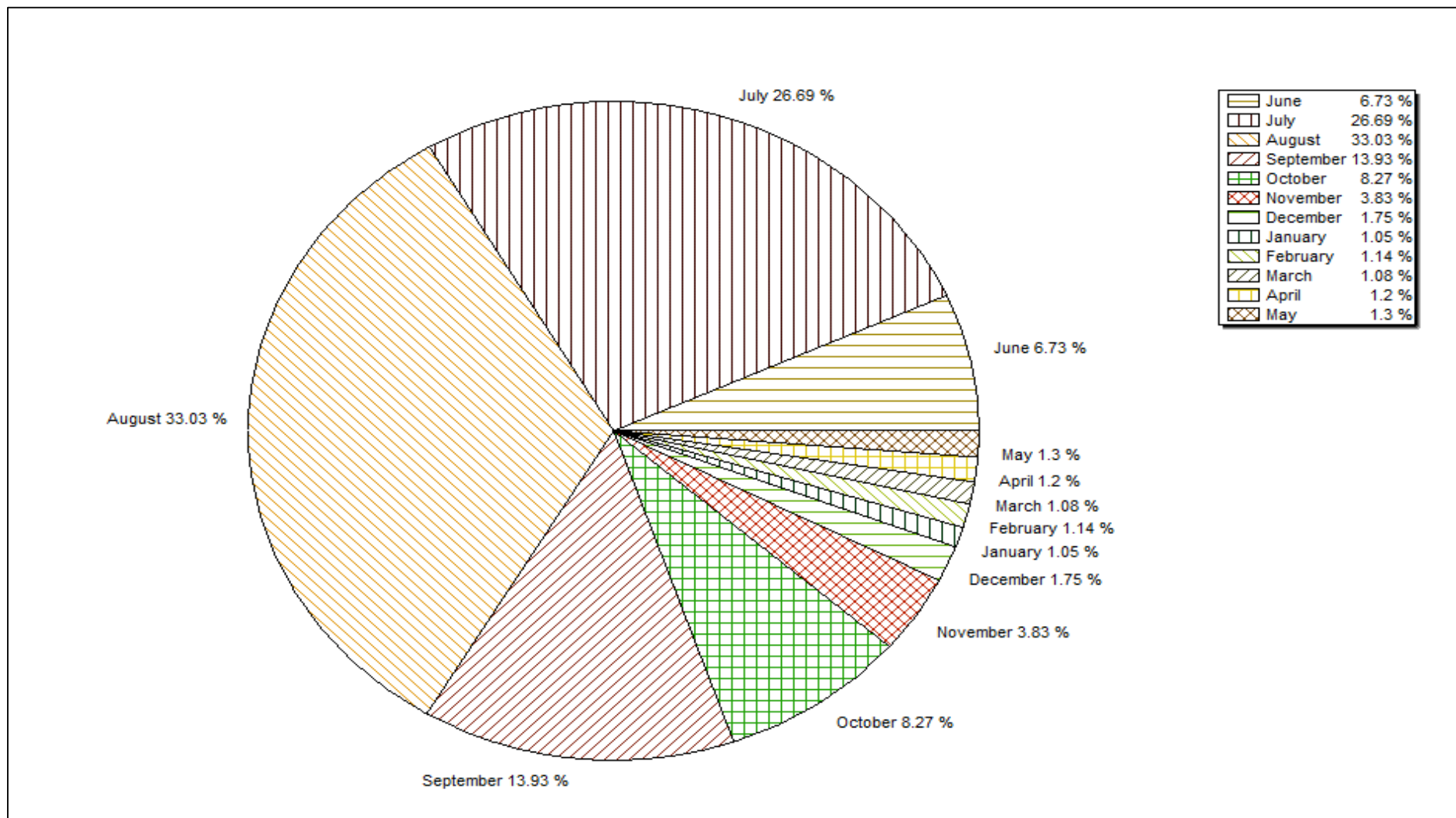
Monthly Average Runoff based on period : 1980-2021

Station Name : HONNALI (AKL00X6)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



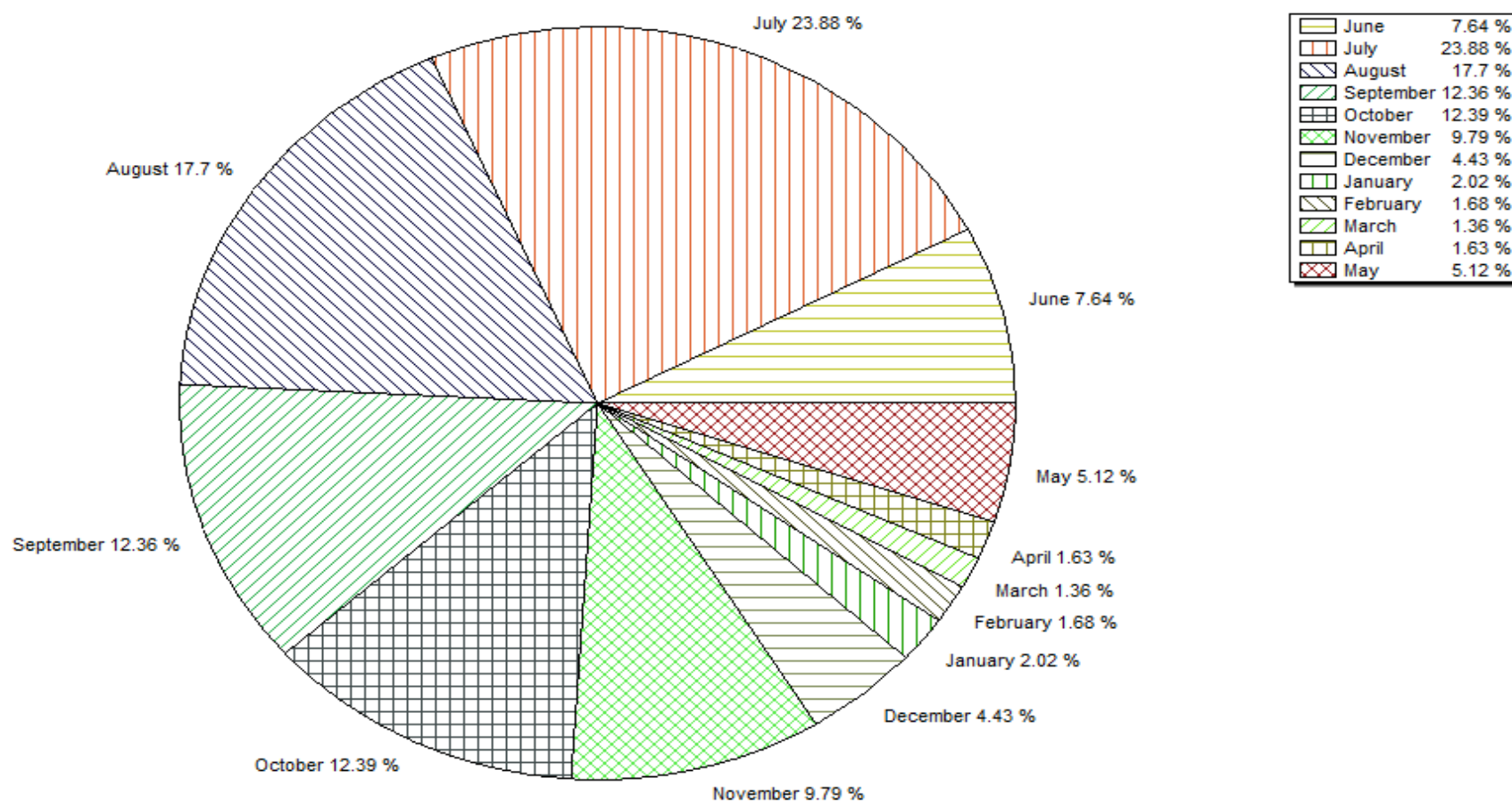
Monthly Runoff for the Year : 2021-2022

Station Name : HONNALI (AKL00X6)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere

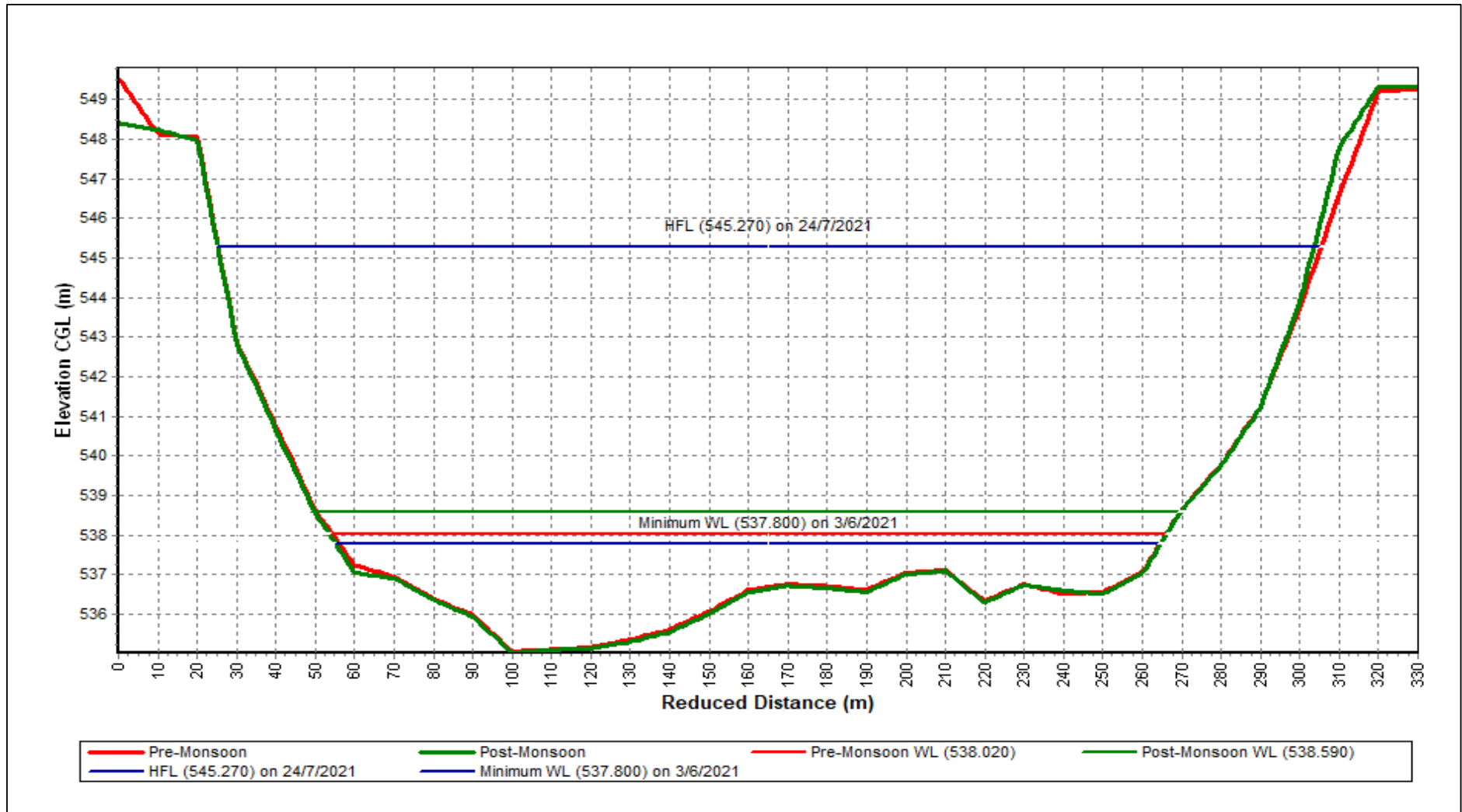


Station Name : HONNALI (AKL00X6)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



Zero of Gauge : 533.9 (m.s.l)

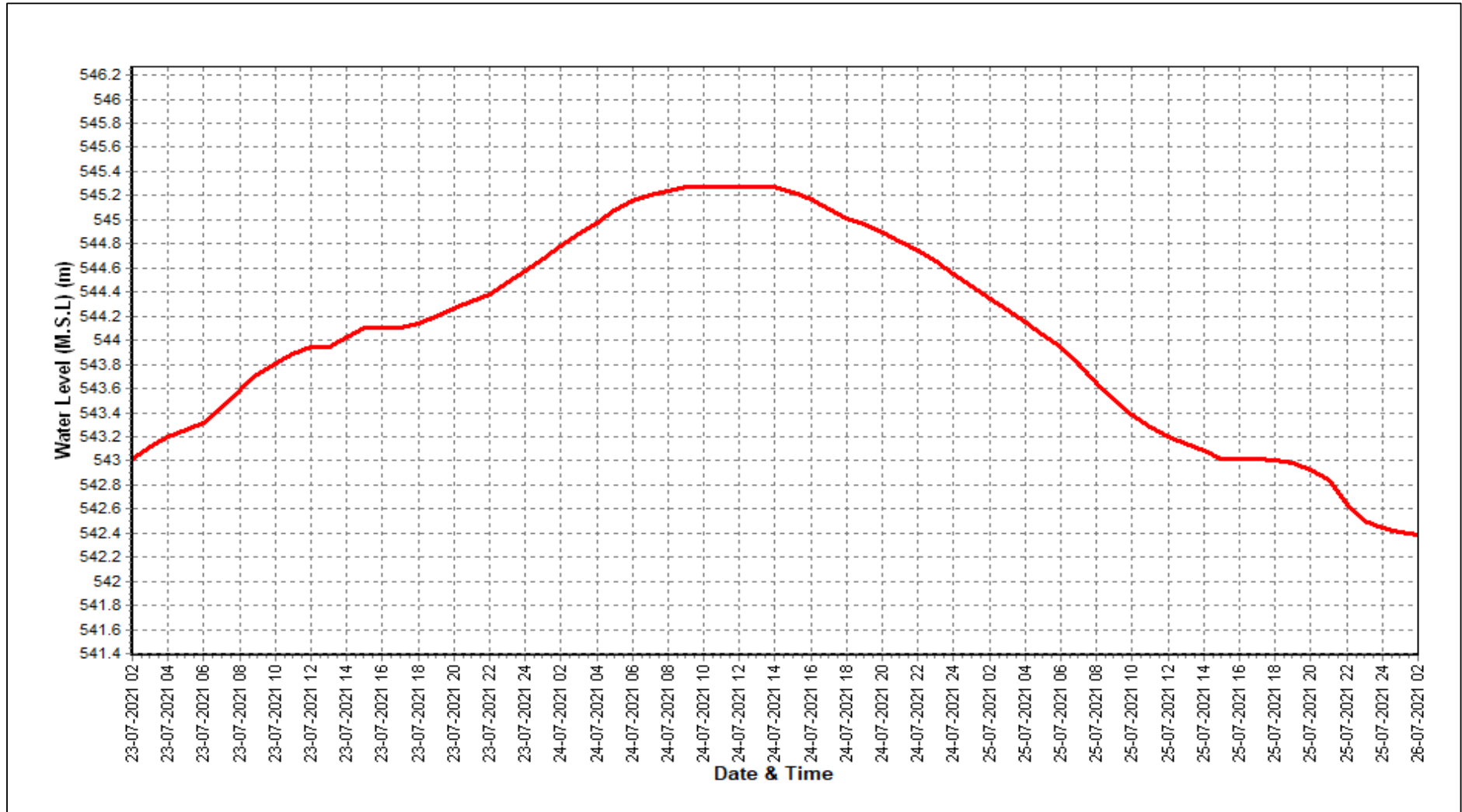
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : HONNALI (AKL00X6)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



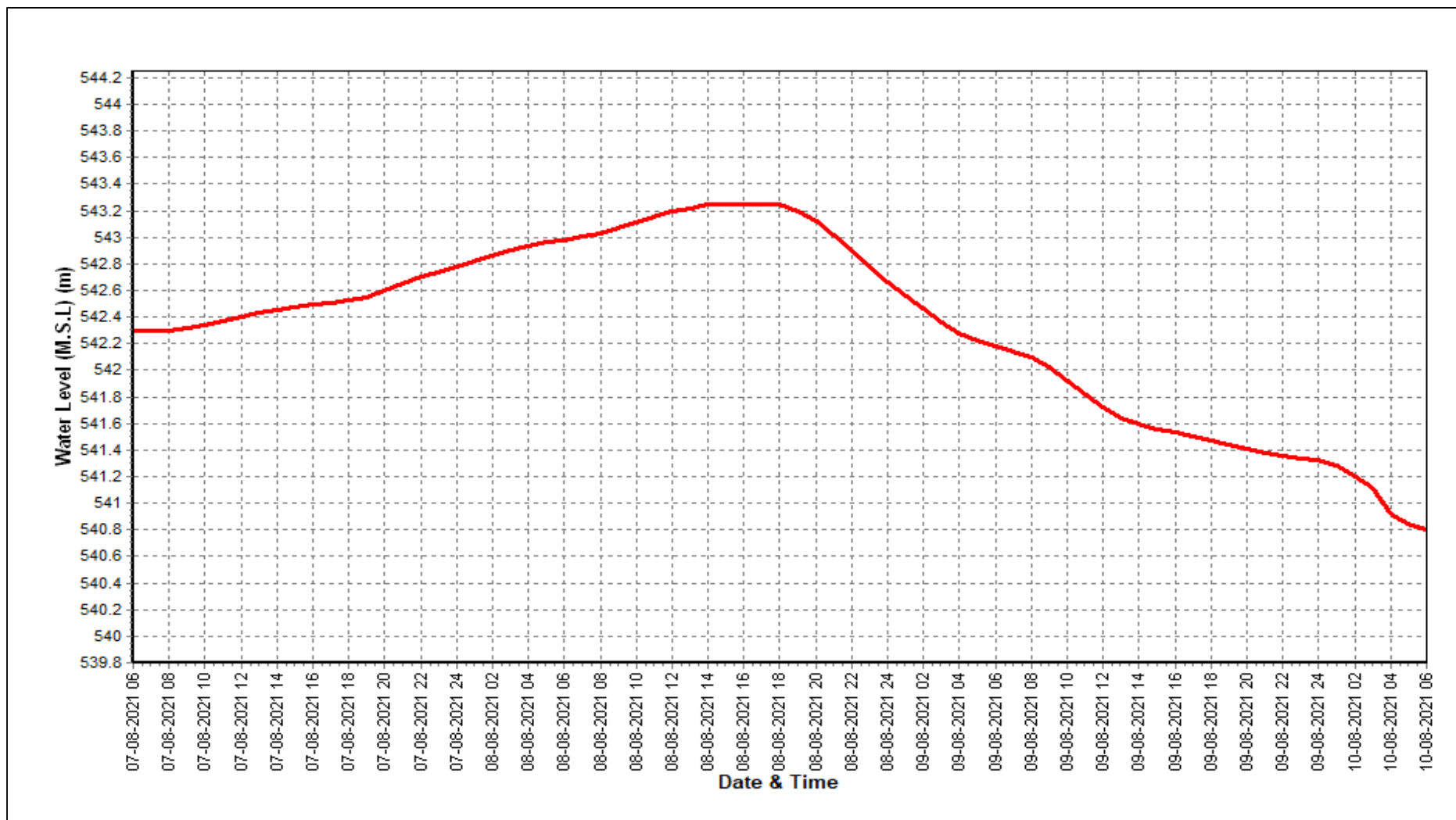
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : HONNALI (AKL00X6)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



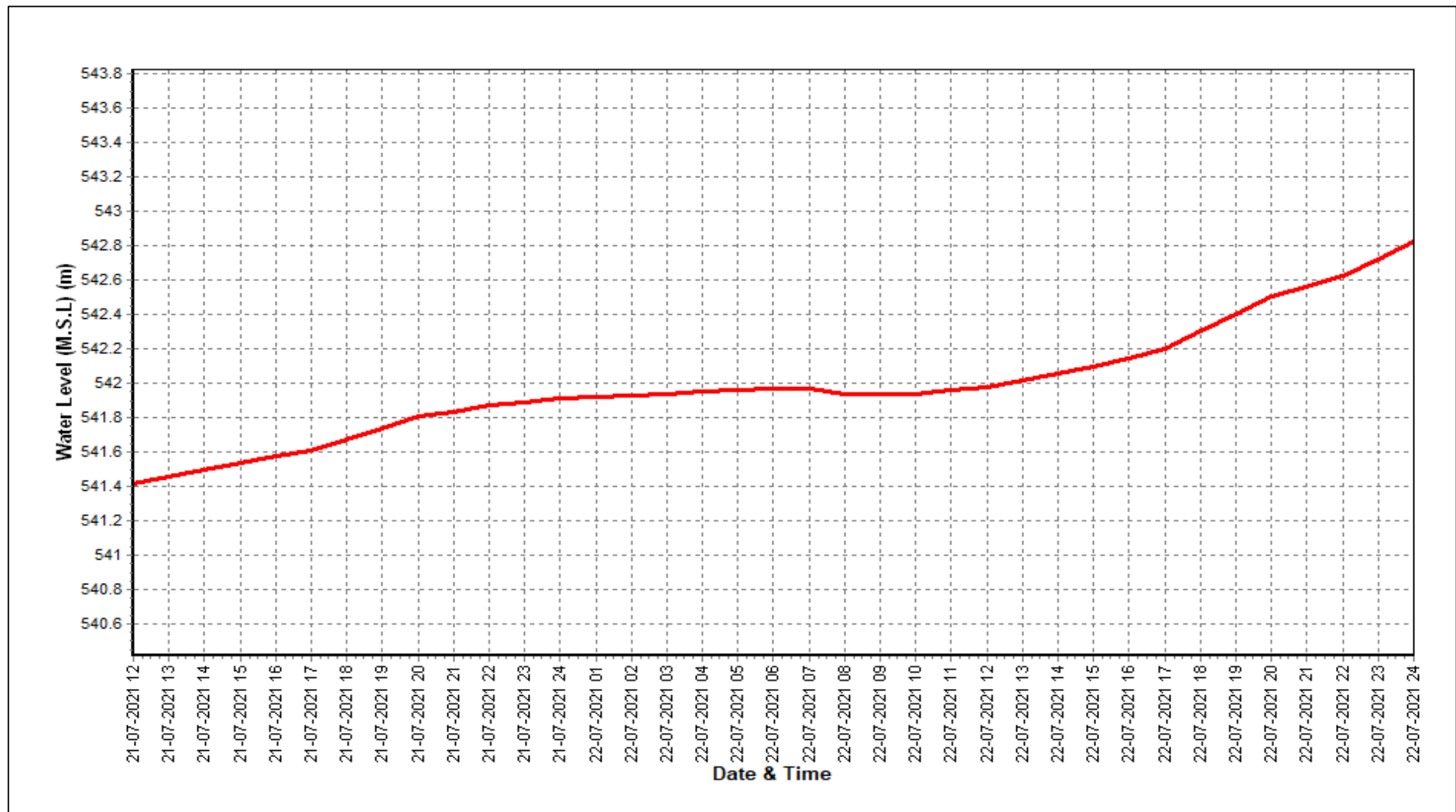
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : HONNALI (AKL00X6)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



HISTORY SHEET

Water Year : 2021-2022

Site : KUPPELUR

Code : AKLC088

State : Karnataka

District : Haveri

Basin : Krishna

Independent River : Krishna

Tributary : Tungabhadra

Sub Tributary :

Sub-Sub Tributary :

Local River : Kumudavathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere

Drainage Area : 1850 Sq. Km.

Bank : Left

Latitude : 14°30'00"

Longitude : 75°38'02"

Zero of Gauge (m) : 93 (m.s.l)
531.67 (m.s.l)01-06-1990 - 31-05-1995
01-06-1995

Opening Date

Closing Date

Gauge : 01-06-1990

Discharge : 24-07-1990

Sediment : 23-07-2014

Water Quality : 01-07-1994

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1991-1992	206.9	98.566	29-07-1991	0.000		18-02-1992
1992-1993	538.3	100.919	18-11-1992	0.000	94.157	02-05-1993
1993-1994	145.2	97.698	17-10-1993	0.000	94.950	08-02-1994
1994-1995	430.0	100.590	17-07-1994	0.000	93.575	11-03-1995
1995-1996	91.85	536.770	05-09-1995	0.000		23-02-1996
1996-1997	48.13	536.530	31-07-1996	0.000		07-03-1997
1997-1998	412.6	539.650	08-08-1997	0.000		06-03-1998
1998-1999	149.4	538.060	13-10-1998	0.000	534.965	25-02-1999
1999-2000	293.2	539.410	24-07-1999	0.000		17-02-2000
2000-2001	215.7	538.830	15-07-2000	0.000		12-02-2001
2001-2002	29.82	536.210	30-09-2001	0.000		25-01-2002
2002-2003	30.26	536.380	15-10-2002	0.000	535.350	01-12-2002
2003-2004	173.3	538.040	04-10-2003	0.000		18-06-2003
2004-2005	312.4	538.945	07-08-2004	0.000		23-02-2005
2005-2006	301.7	539.670	04-08-2005	0.000	534.500	30-01-2006
2006-2007	283.3	538.600	13-08-2006	0.000		30-01-2007
2007-2008	776.3	541.840	08-08-2007	0.000	534.840	15-01-2008
2008-2009	509.7	540.500	14-08-2008	0.000	535.100	30-03-2009
2009-2010	394.1	540.050	18-07-2009	0.000	535.190	30-01-2010
2010-2011	798.2	539.970	04-10-2010	0.000	534.640	24-06-2010
2011-2012	133.3	536.940	05-09-2011	0.000	535.170	31-12-2011

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2012-2013	64.26	536.090	03-11-2012	0.000	534.740	25-01-2013
2013-2014	594.4	539.370	03-08-2013	0.000	535.200	07-01-2014
2014-2015	421.5	539.670	02-08-2014	0.000	535.110	14-12-2014
2015-2016	34.12	535.665	21-07-2015	0.000		10-05-2016
2016-2017	8.782	535.490	15-09-2016	0.000	534.680	06-07-2016
2017-2018	0.000	536.090	29-09-2017	0.000	534.090	20-12-2017
2018-2019	300.0	538.010	16-08-2018	0.000	534.490	25-01-2019
2019-2020	647.8	540.330	12-08-2019	0.000		06-03-2020
2020-2021	211.4	537.420	08-08-2020	0.000	534.830	25-01-2021

Annual Runoff of Krishna at Kuppelur

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1990-1991	150	15	165	5	1	6
2	1991-1992	457	19	476	16	1	17
3	1992-1993	413	245	658	15	9	23
4	1993-1994	262	44	306	9	2	11
5	1994-1995	635	41	676	22	1	24
6	1995-1996	164	14	178	6	1	6
7	1996-1997	121	16	138	4	1	5
8	1997-1998	408	29	438	14	1	15
9	1998-1999	359	44	403	13	2	14
10	1999-2000	310	21	331	11	1	12
11	2000-2001	391	18	408	14	1	14
12	2001-2002	45	0	45	2	0	2
13	2002-2003	37	13	50	1	0	2
14	2003-2004	70	4	74	2	0	3
15	2004-2005	236	3	240	8	0	8
16	2005-2006	460	15	475	16	1	17
17	2006-2007	280	21	301	10	1	11
18	2007-2008	751	30	782	27	1	28
19	2008-2009	389	17	406	14	1	14
20	2009-2010	565	23	588	20	1	21
21	2010-2011	805	152	957	28	5	34
22	2011-2012	317	72	389	11	3	14
23	2012-2013	70	18	88	2	1	3
24	2013-2014	607	8	615	21	0	22
25	2014-2015	582	27	609	21	1	22
26	2015-2016	96	0	96	3	0	3
27	2016-2017	23	0	23	1	0	1
28	2017-2018	0	0	0	0	0	0
29	2018-2019	234	1	235	8	0	8
30	2019-2020	741	79	820	26	3	29
31	2020-2021	489	0	489	17	0	17
32	2021-2022	972	135	1107	34	5	39
Average		358	35	393	13	1	14

Instantaneous Flood Peak of Krishna at Kuppeluru					
Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	1990-1991	97.09	19-08-1990	13:00:00	90 *
2	1991-1992	98.890	29-07-1991	19:00:00	244 *
3	1992-1993	101.030	18-11-1992	21:00:00	557 *
4	1993-1994	97.810	17-10-1993	07:00:00	140 *
5	1994-1995	101.210	17-07-1994	18:00:00	589 *
6	1995-1996	536.780	05-09-1995	07:00:00	96 *
7	1996-1997	536.900	26-09-1996	00:00:00	105 *
8	1997-1998	539.840	08-08-1997	14:00:00	434 *
9	1998-1999	538.110	13-10-1998	12:00:00	214 *
10	1999-2000	539.430	24-07-1999	10:00:00	375 *
11	2000-2001	538.840	16-07-2000	08:00:00	297 *
12	2001-2002	536.210	01-10-2001	08:00:00	60 *
13	2002-2003	536.540	15-10-2002	13:00:00	80 *
14	2003-2004	538.130	04-10-2003	08:00:00	216 *
15	2004-2005	539.040	06-08-2004	20:00:00	323 *
16	2005-2006	539.740	04-08-2005	05:00:00	419 *
17	2006-2007	539.120	13-08-2006	17:00:00	333 *
18	2007-2008	541.900	08-08-2007	00:00:00	798 *
19	2008-2009	540.760	14-08-2008	18:00:00	583 *
20	2009-2010	540.180	17-07-2009	20:00:00	487 *
21	2010-2011	540.090	04-10-2010	11:00:00	473 *
22	2011-2012	536.950	05-09-2011	13:00:00	109 *
23	2012-2013	536.090	03-11-2012	08:00:00	53
24	2013-2014	539.390	03-08-2013	06:00:00	369 *
25	2014-2015	539.670	02-08-2014	04:00:00	409 *
26	2015-2016	535.970	05-11-2015	08:00:00	47 *
27	2016-2017	535.580	06-08-2016	08:00:00	30 *
28	2017-2018	536.290	29-09-2017	14:00:00	65 *
29	2018-2019	538.020	16-08-2018	08:00:00	204 *
30	2019-2020	540.470	11-08-2019	20:00:00	534 *
31	2020-2021	537.480	09-08-2020	05:00:00	152 *
32	2021-2022	540.890	24-07-2021	22:00:00	952 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : KUPPELUR (AKLC0B8)

Local River : Kumudavathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	534.680	0.000	534.530	0.000	536.010	67.46 *	535.450	37.48	535.350	28.18	535.620	42.60
2	534.670	0.000	534.510	0.000	535.970	62.98	535.420	36.59	535.420	33.16 *	535.560	40.19
3	534.660	0.000	534.510	0.000	535.910	60.68	535.420	36.27	535.470	35.54 *	535.520	38.50
4	534.650	0.000	534.500	0.000	535.850	54.72	535.400	31.00	535.790	53.47	535.490	36.51 *
5	534.650	0.000	534.500	0.000	535.810	53.83	535.390	31.78 *	535.750	52.23	535.470	34.17
6	534.660	0.000	534.480	0.000	535.790	53.27	535.370	29.60	536.210	78.89	535.470	36.38
7	534.630	0.000	534.470	0.000	535.830	54.39	535.370	29.55	536.500	105.6	535.450	34.57 *
8	534.620	0.000	534.470	0.000	535.880	58.70 *	535.420	36.35	538.150	322.3 *	535.410	34.37
9	534.610	0.000	534.450	0.000	535.950	62.23	535.440	36.91	537.000	171.5	535.380	31.38
10	534.600	0.000	534.440	0.000	536.000	64.60	535.420	33.16 *	536.820	138.5 *	535.360	30.08
11	534.590	0.000	534.440	0.000	535.850	54.53	535.390	31.03	536.600	120.3	535.340	29.07
12	534.580	0.000	534.440	0.000	535.800	53.54	535.390	31.78 *	536.250	84.59	535.450	35.58
13	534.570	0.000	534.430	0.000	535.770	52.76	535.360	28.78	536.130	71.42	535.450	35.79
14	534.560	0.000	534.470	0.000	535.770	52.52	535.340	27.41	536.020	65.08	535.490	36.51 *
15	534.550	0.000	534.530	0.000	535.750	50.63 *	535.460	38.26	536.010	67.46 *	535.550	39.65
16	534.550	0.000	534.970	15.87 #	535.720	51.45	535.790	53.51	535.970	63.10	535.530	38.64
17	534.560	0.000	535.710	51.81	535.720	51.76	535.770	52.39	535.930	61.99 *	538.380	363.3 *
18	534.580	0.000	535.820	54.89 *	535.830	54.43	535.720	51.06	535.850	54.49	536.150	74.42
19	534.600	0.000	535.920	61.16	535.950	62.87	535.690	47.14 *	535.840	56.15 *	536.280	87.92 *
20	534.610	0.000	535.970	63.28	535.880	58.70 *	535.620	42.82	535.770	52.92	539.450	591.8 *
21	534.620	0.000	536.010	67.46 *	535.800	53.42	535.590	41.34	535.640	43.02	538.350	357.8 *
22	534.610	0.000	536.020	65.41	535.730	49.45 *	535.500	39.14	535.570	40.84	536.970	160.6
23	534.590	0.000	537.040	160.2	535.670	45.30	535.420	36.55	535.540	39.12	536.450	112.4
24	534.590	0.000	540.460	868.0 *	535.640	43.27	535.370	29.78	535.630	43.79 *	536.330	94.04
25	534.580	0.000	540.470	871.0 *	535.610	42.40	535.340	28.18	536.110	73.04	536.200	76.93
26	534.560	0.000	538.830	451.6 *	535.590	41.29	535.350	29.99 *	536.050	68.14	536.130	73.43
27	534.550	0.000	538.250	339.8 *	535.550	40.85	535.350	28.76	536.000	64.65	536.040	67.34
28	534.550	0.000	537.070	174.9	535.550	40.72	535.370	29.52	535.920	61.41	535.970	64.69 *
29	534.540	0.000	536.190	76.92	535.520	38.01 *	535.370	29.45	535.800	53.44	535.950	62.12
30	534.530	0.000	536.120	71.06	535.520	40.05	535.350	28.28	535.700	50.89	535.860	56.44
31			536.040	66.55	535.470	38.15			535.640	44.34 *		
Ten-Daily Mean												
I Ten-Daily	534.643	0.000	534.486	0.000	535.900	59.29	535.410	33.87	536.246	101.9	535.473	35.88
II Ten-Daily	534.575	0.000	535.070	24.70	535.804	54.32	535.553	40.42	536.037	69.75	536.307	133.3
III Ten-Daily	534.572	0.000	537.500	292.1	535.604	42.99	535.401	32.10	535.782	52.97	536.425	112.6
Monthly												
Min.	534.530	0.000	534.430	0.000	535.470	38.01	535.340	27.41	535.350	28.18	535.340	29.07
Max.	534.680	0.000	540.470	871.0	536.010	67.46	535.790	53.51	538.150	322.3	539.450	591.8
Mean	534.597	0	535.744	111.6	535.764	51.9	535.455	35.46	536.014	74.18	536.068	93.91

Annual Runoff in MCM = 1107 Annual Runoff in mm = 598

Peak Observed Discharge = 174.9 cumecs on 28-07-2021 Corres. Water Level :537.07 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021 Corres. Water Level :534.68 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : KUPPELUR (AKLC0B8)

Local River : Kumudavathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	535.770	52.15	535.050	7.760	535.070	0.000	534.610	0.000	534.410	0.000	534.720	0.000
2	535.750	51.17	535.040	8.574 *	535.070	0.000	534.600	0.000	534.400	0.000	534.700	0.000
3	535.750	51.11	535.030	7.341	535.060	0.000	534.590	0.000	534.390	0.000	534.660	0.000
4	535.690	48.89	535.030	7.252	535.050	0.000	534.590	0.000	534.380	0.000	534.650	0.000
5	535.650	45.29 *	534.980	6.862	535.050	0.000	534.580	0.000	534.370	0.000	534.720	0.000
6	535.640	43.93	534.820	2.445 #	535.050	0.000	534.580	0.000	534.370	0.000	534.750	0.000
7	535.620	42.02	534.650	0.000	535.030	0.000	534.570	0.000	534.350	0.000	534.760	0.000
8	535.550	39.90	534.610	0.000	535.010	0.000	534.570	0.000	534.330	0.000	534.730	0.000
9	535.550	39.66	534.600	0.000	534.960	0.000	534.560	0.000	534.320	0.000	534.710	0.000
10	535.520	38.21	534.590	0.000	534.920	0.000	534.560	0.000	534.310	0.000	534.710	0.000
11	535.500	37.34	534.610	0.000	534.890	0.000	534.550	0.000	534.300	0.000	534.700	0.000
12	535.490	36.44 *	534.750	0.000	534.850	0.000	534.540	0.000	534.290	0.000	534.690	0.000
13	535.470	36.13	535.020	0.000	534.820	0.000	534.540	0.000	534.290	0.000	534.690	0.000
14	535.450	35.06	535.020	0.000	534.770	0.000	534.530	0.000	534.280	0.000	534.660	0.000
15	535.420	33.58	535.020	0.000	534.750	0.000	534.520	0.000	534.420	0.000	534.650	0.000
16	535.390	31.79	535.010	0.000	534.740	0.000	534.520	0.000	534.410	0.000	534.640	0.000
17	535.350	29.38	535.010	0.000	534.720	0.000	534.510	0.000	534.910	0.000	534.770	0.000
18	535.340	28.89	535.010	0.000	534.710	0.000	534.500	0.000	535.020	0.000	534.810	2.250 *
19	535.390	31.26 *	535.000	0.000	534.690	0.000	534.490	0.000	535.120	0.000	534.870	3.535 *
20	535.410	31.18	535.000	0.000	534.690	0.000	534.490	0.000	535.150	0.000	535.980	66.22
21	535.410	32.01	535.150	0.000	534.680	0.000	534.480	0.000	535.150	0.000	536.320	92.02
22	535.370	30.25	535.140	0.000	534.660	0.000	534.480	0.000	535.160	0.000	536.200	92.95 *
23	535.360	28.77	535.140	0.000	534.650	0.000	534.470	0.000	535.020	0.000	535.960	62.90
24	535.340	28.69	535.120	0.000	534.640	0.000	534.470	0.000	534.920	0.000	535.770	51.85
25	535.290	19.59 *	535.110	0.000	534.640	0.000	534.460	0.000	534.850	0.000	535.470	35.79
26	535.250	17.55 *	535.100	0.000	534.630	0.000	534.450	0.000	534.830	0.000	535.420	32.89
27	535.220	15.67	535.100	0.000	534.620	0.000	534.450	0.000	534.770	0.000	535.350	29.14
28	535.200	15.02	535.090	0.000	534.610	0.000	534.430	0.000	534.730	0.000	535.150	13.07
29	535.150	13.27	535.090	0.000			534.430	0.000	534.720	0.000	535.130	12.06 *
30	535.120	12.24	535.080	0.000			534.420	0.000	534.720	0.000	535.120	11.89
31	535.080	9.194	535.080	0.000			534.420	0.000			535.100	11.17
<u>Ten-Daily Mean</u>												
I Ten-Daily	535.649	45.23	534.840	4.023	535.027	0.000	534.581	0.000	534.363	0.000	534.711	0.000
II Ten-Daily	535.421	33.11	534.945	0.000	534.763	0.000	534.519	0.000	534.619	0.000	534.846	7.201
III Ten-Daily	535.254	20.20	535.109	0.000	534.641	0.000	534.451	0.000	534.887	0.000	535.544	40.52
<u>Monthly</u>												
Min.	535.080	9.194	534.590	0.000	534.610	0.000	534.420	0.000	534.280	0.000	534.640	0.000
Max.	535.770	52.15	535.150	8.574	535.070	0.000	534.610	0.000	535.160	0.000	536.320	92.95
Mean	535.435	32.44	534.969	1.298	534.823	0	534.515	0	534.623	0	535.050	16.7

Peak Computed Discharge = 871.0 cumecs on 25-07-2021

Corres. Water Level :540.47 m

Lowest Computed Discharge = 2.250 cumecs on 18-05-2022

Corres. Water Level :534.81 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

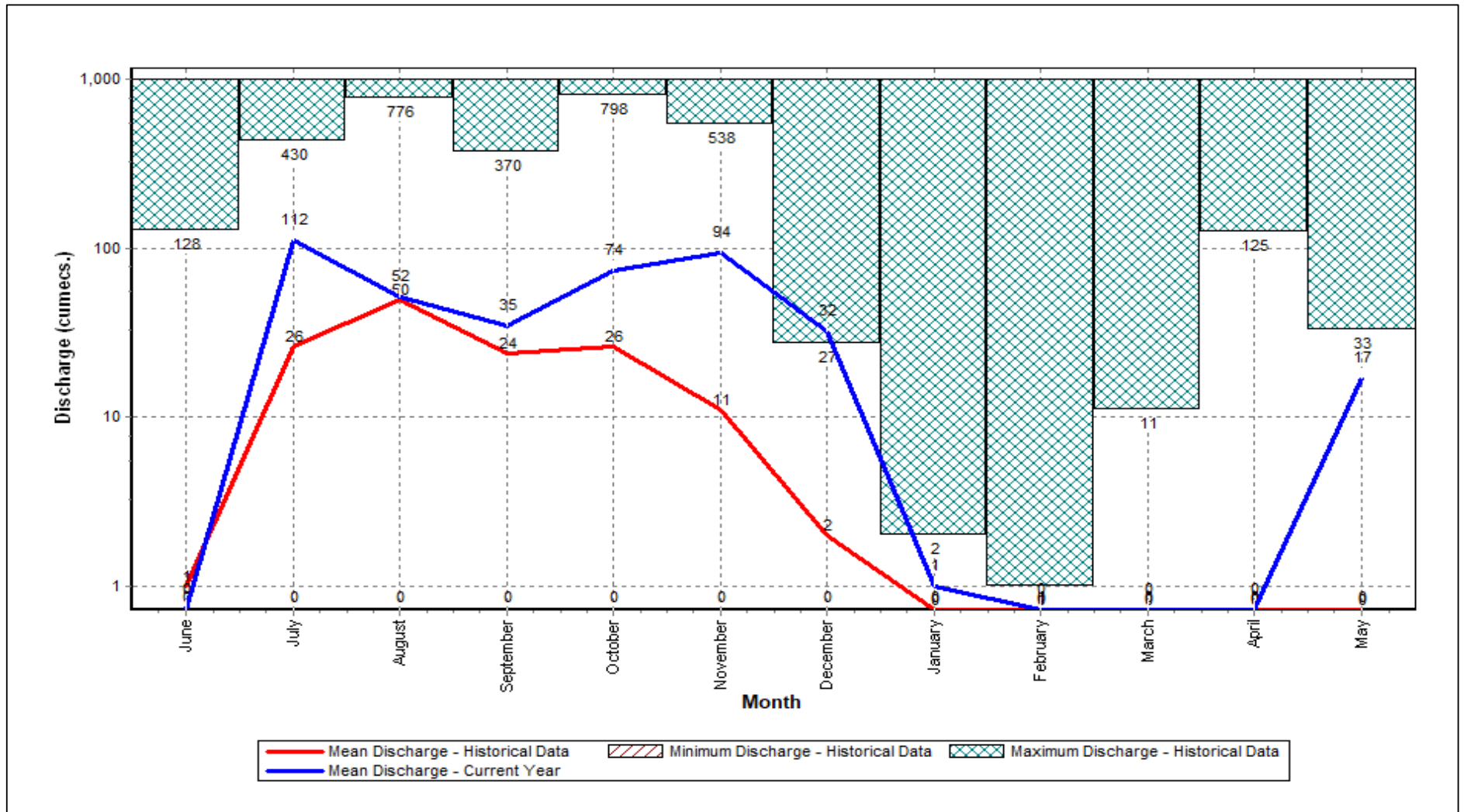
Station Name : KUPPELUR (AKLC0B8)

Data considered : 1991-2022

Division : Cauvery Division, Bangalore

Local River : Kumudavathi

Sub-Division : Upper Tunga SD, Devangere



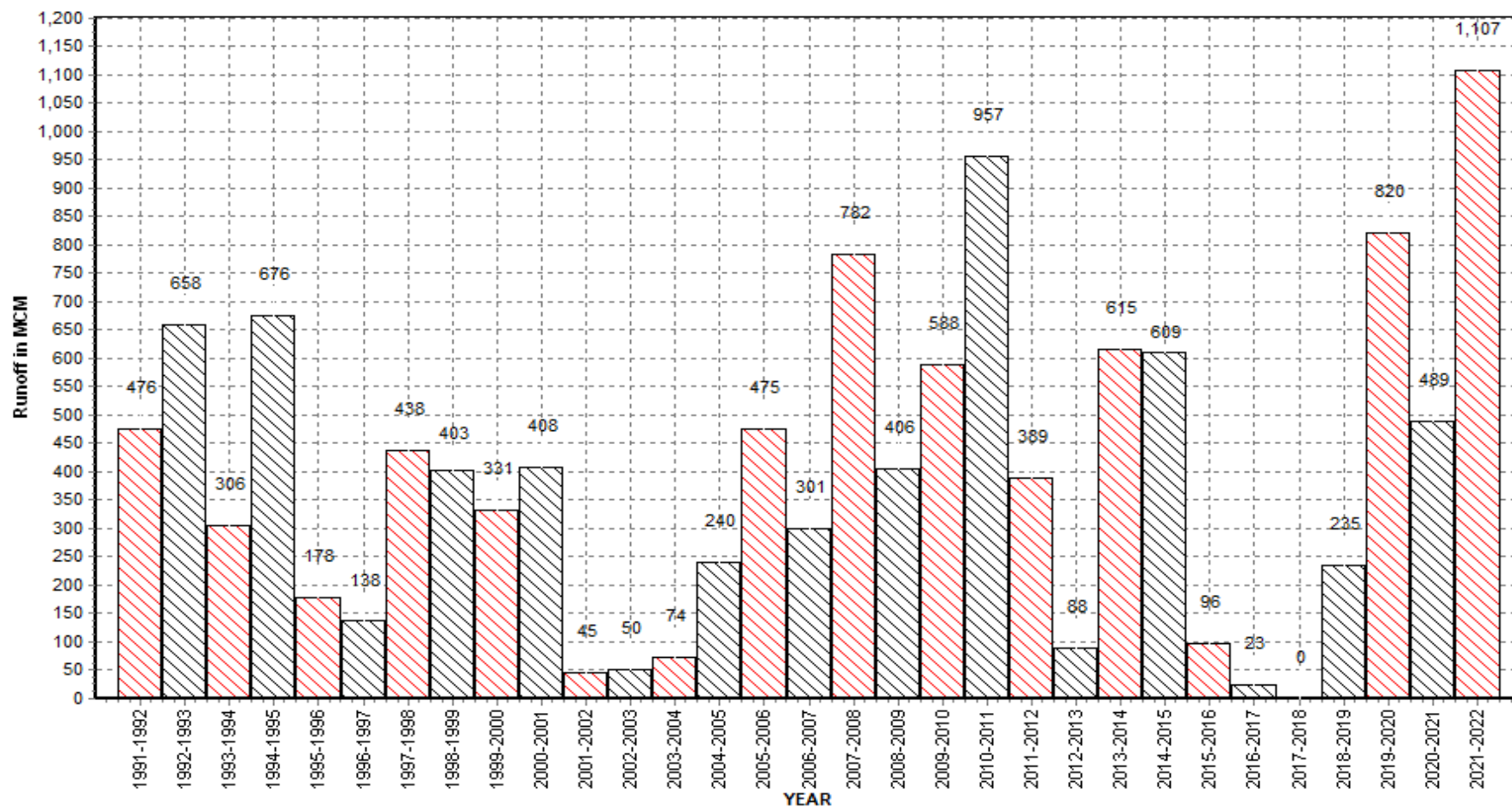
Annual Runoff Values for the period: 1991 - 2022

Station Name : KUPPELUR (AKLC08)

Local River : Kumudavathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



Note: Missing values have not been considered while arriving at Annual Runoff

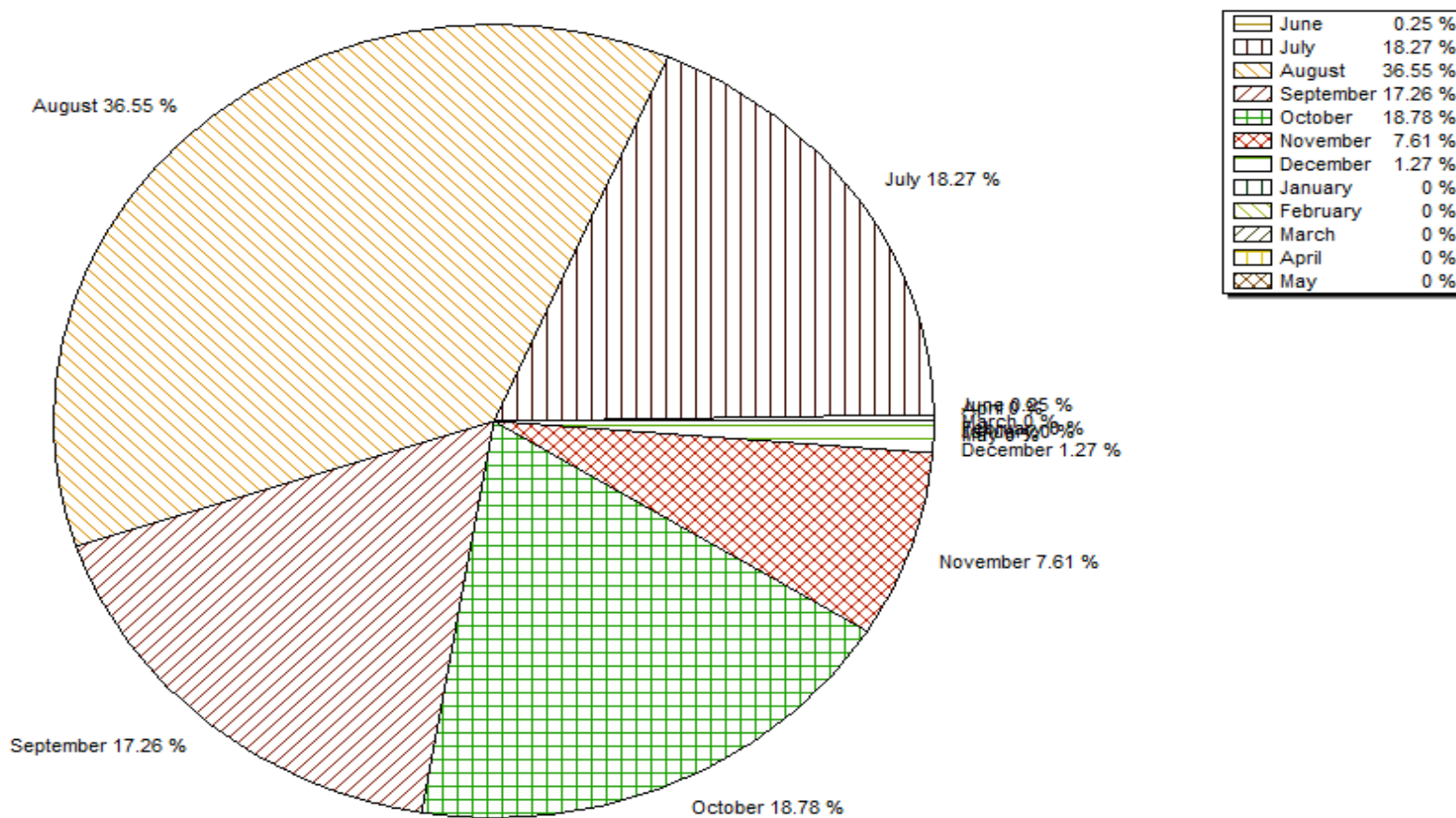
Monthly Average Runoff based on period : 1991-2021

Station Name : KUPPELUR (AKLC088)

Local River : Kumudavathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



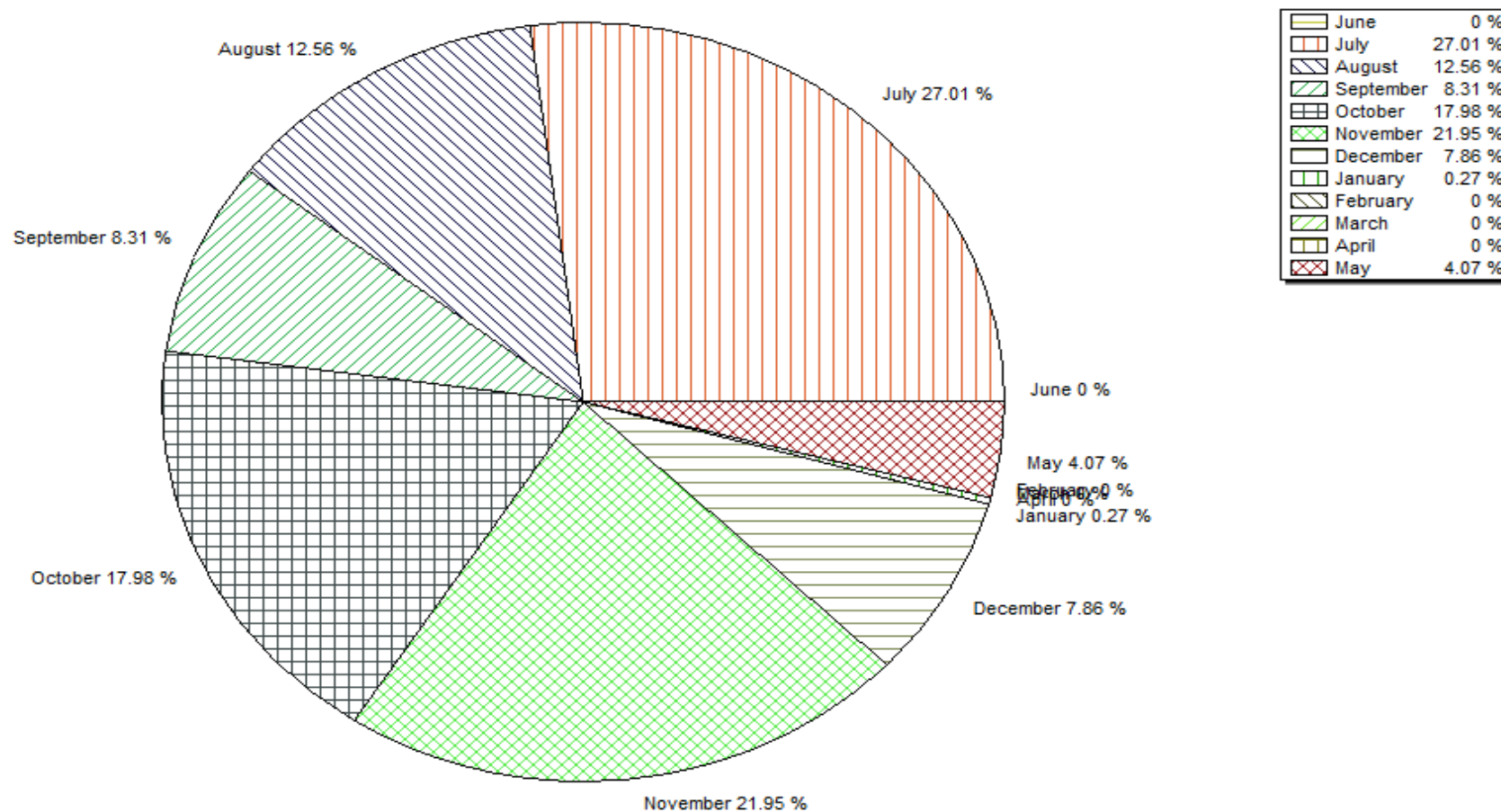
Monthly Runoff for the Year : 2021-2022

Station Name : KUPPELUR (AKLC0B8)

Local River : Kumudavathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



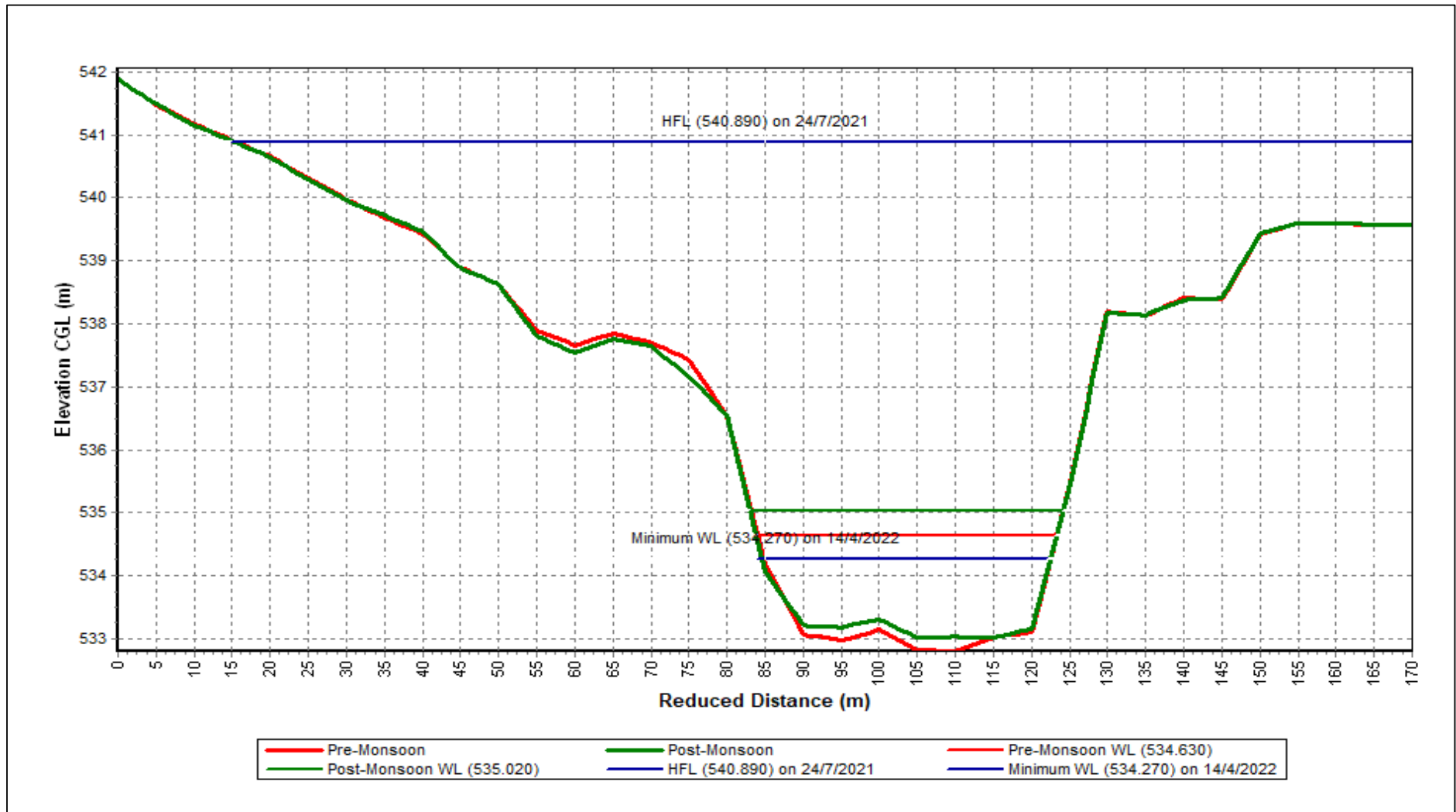
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : KUPPELUR (AKLC0B8)

Local River : Kumudavathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



Zero of Gauge : 531.67 (m.s.l)

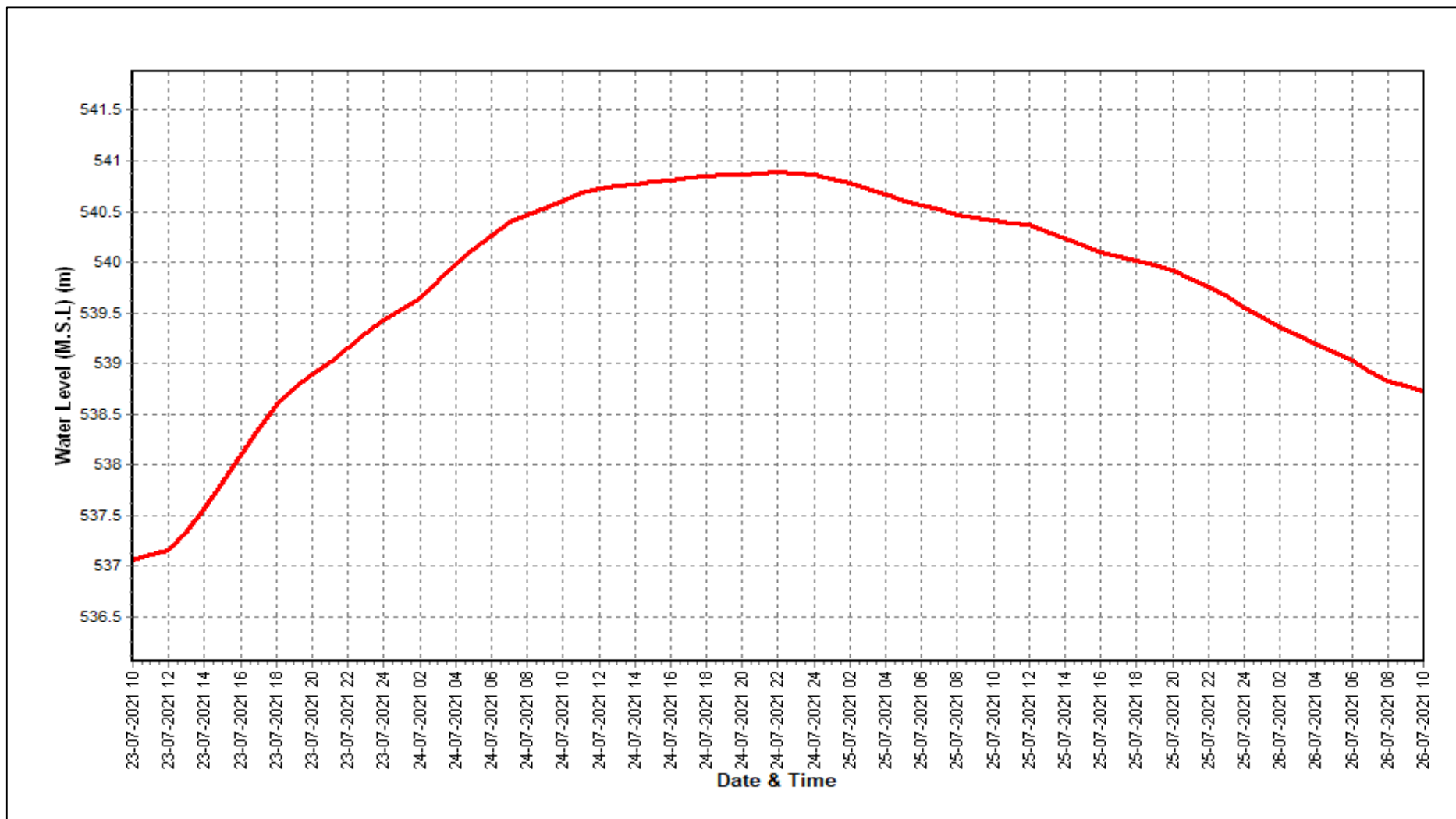
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : KUPPELUR (AKLC088)

Local River : Kumudavathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



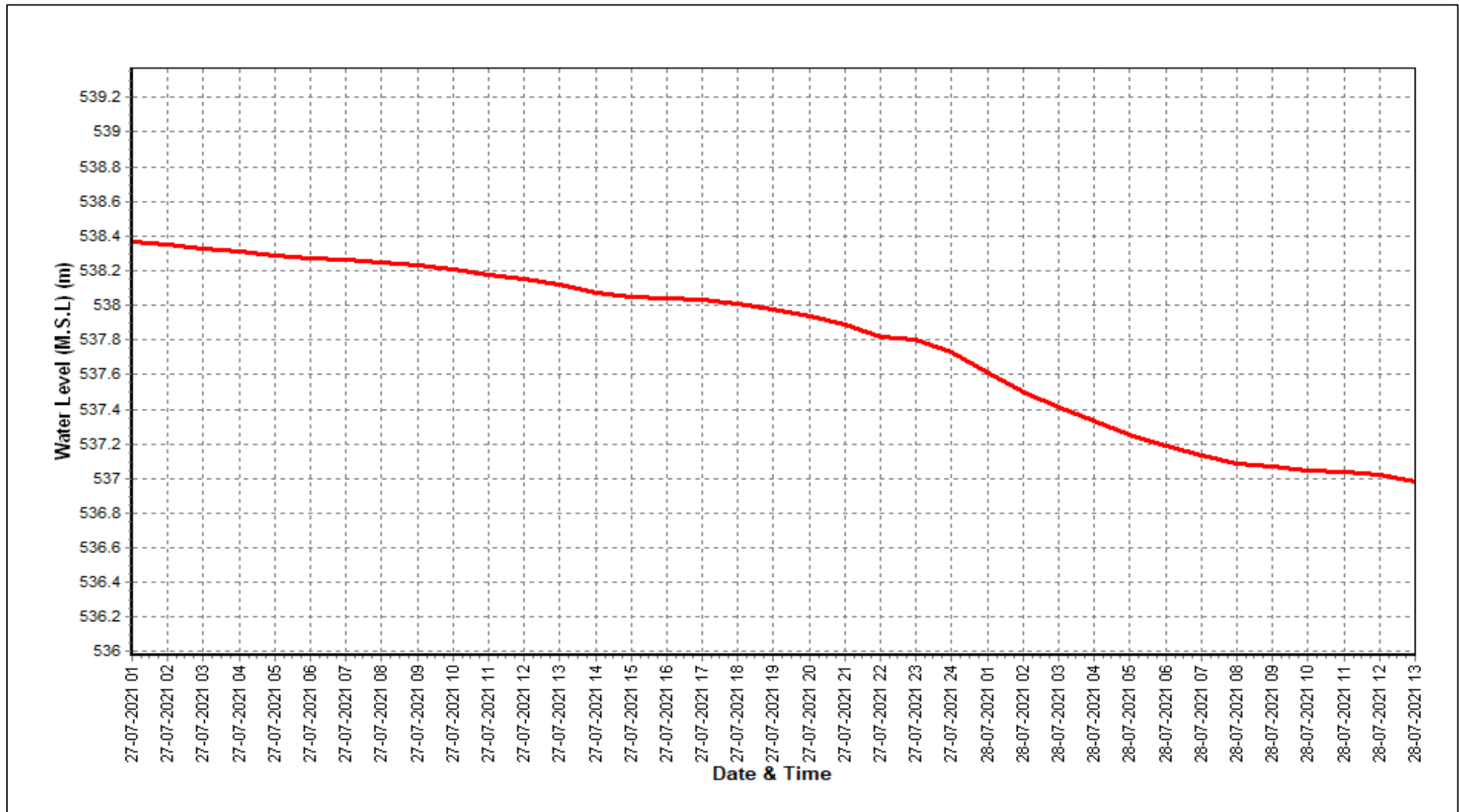
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : KUPPELUR (AKLC0B8)

Local River : Kumudavathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



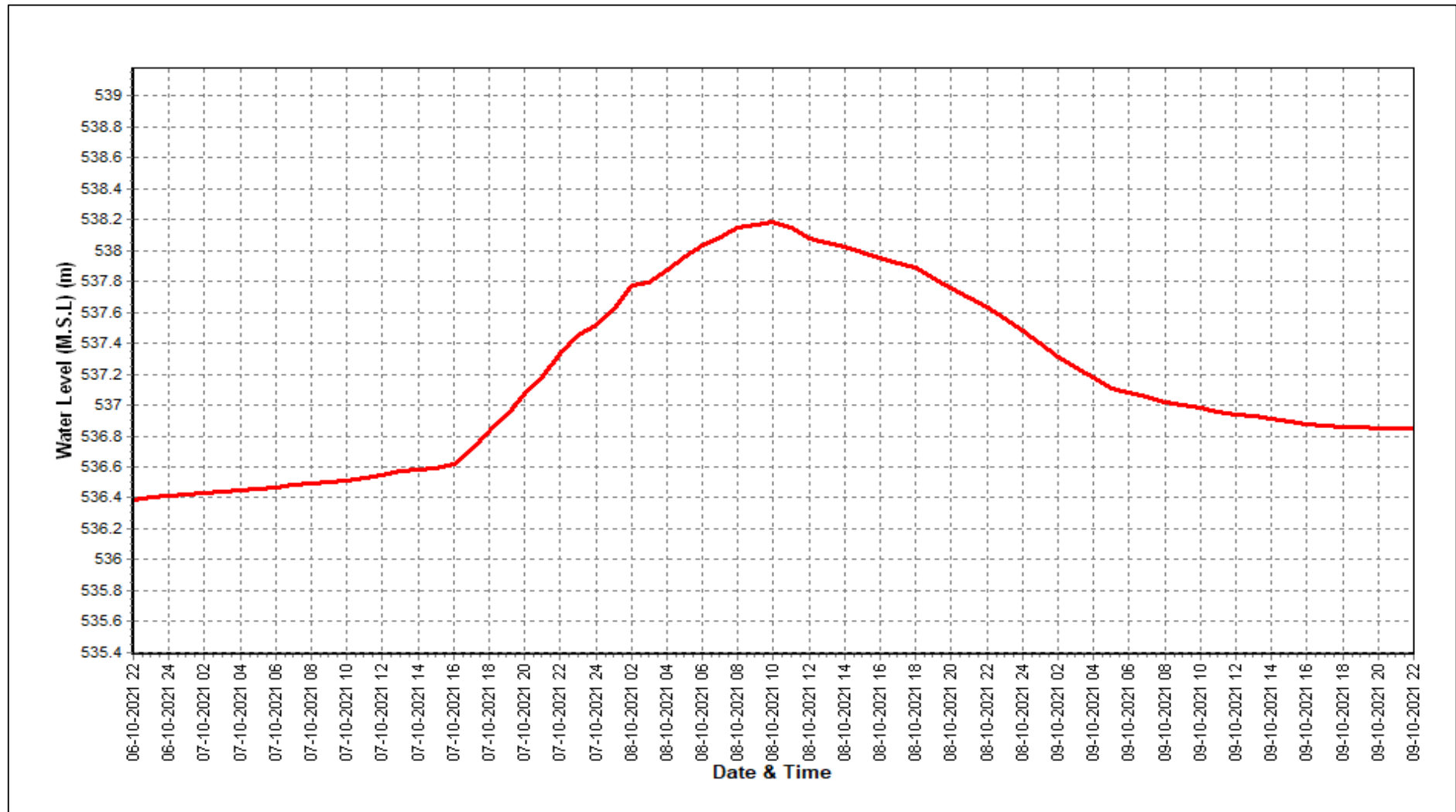
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : KUPPELUR (AKLC088)

Local River : Kumudavathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



HISTORY SHEET

Water Year : 2021-2022

Site : BYLADAHALLI

Code : AKLB0D3

State : Karnataka

District : Davanagere

Basin : Krishna

Independent River : Krishna

Tributary : Tungabhadra

Sub Tributary :

Sub-Sub Tributary :

Local River : Haridra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere

Drainage Area : 2300 Sq. Km.

Bank : Right

Latitude : 14°26'02"

Longitude : 75°46'47"

Zero of Gauge (m) : 528.4 (m.s.l)

21-03-1985

Opening Date

Closing Date

Gauge : 21-03-1985

Discharge : 11-06-1985

Sediment : 10-12-1997

Water Quality : 02-06-1986

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1986-1987	145.1	533.425	07-11-1986	0.5	531.16	08-06-1986
1987-1988	154.5	533.46	02-10-1987	0.5	530.8	07-06-1987
1988-1989	120.1	532.985	29-08-1988	0.2	531.06	05-03-1989
1989-1990	82.29	532.535	09-10-1989	0.169	531.08	06-07-1989
1990-1991	88	532.68	11-08-1990	0.511	531.18	12-06-1990
1991-1992	121.1	532.965	02-08-1991	0	530.878	25-02-1992
1992-1993	928.1	537.433	17-11-1992	0.668	530.945	02-06-1992
1993-1994	229.5	533.42	16-10-1993	0.317	530.72	03-07-1993
1994-1995	166.6	532.94	26-10-1994	0.325	530.75	21-12-1994
1995-1996	102	532.52	17-09-1995	0	530.75	09-05-1996
1996-1997	241.1	533.71	21-10-1996	0	530.8	08-07-1996
1997-1998	157.5	532.96	26-10-1997	0	530.7	12-05-1998
1998-1999	236.5	533.46	11-10-1998	0	530.7	12-12-1998
1999-2000	224.8	533.7	05-10-1999	0	530.7	07-02-2000
2000-2001	251	534.02	10-10-2000	0	530.62	30-01-2001
2001-2002	112.8	532.685	02-08-2001	0	530.46	04-02-2002
2002-2003	116.1	533.045	16-10-2002	0	530.48	06-01-2003
2003-2004	138.8	532.92	06-10-2003	0	530.58	24-01-2004
2004-2005	49.21	531.9	07-09-2004	0		27-02-2005
2005-2006	190.1	533.46	27-07-2005	0		21-02-2006
2006-2007	179.9	533.74	04-11-2006	0	530.41	31-01-2007
2007-2008	99.3	532.58	19-09-2007	0		10-01-2008

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2008-2009	104.3	532.57	06-10-2008	0		08-02-2009
2009-2010	167.8	533.47	02-10-2009	0		12-03-2010
2010-2011	257.3	534.04	09-11-2010	0	530.03	18-03-2011
2011-2012	90.51	532.2	15-10-2011	0	530.1	28-03-2012
2012-2013	339.9	534.65	02-11-2012	0		12-02-2013
2013-2014	92.3	532.37	18-09-2013	0	530.12	02-01-2014
2014-2015	243	534	28-10-2014	0	530.07	20-02-2015
2015-2016	117.3	532.68	09-09-2015	0	530.02	31-01-2016
2016-2017	23.65	531.38	26-09-2016	0	530.09	02-07-2016
2017-2018	178.2	533.32	04-10-2017	0		02-01-2018
2018-2019	69.61	532.19	21-11-2018	0	529.95	19-03-2019
2019-2020	372.4	534.82	22-10-2019	0	530.08	23-04-2020
2020-2021	170.4	533.180	09-09-2020	0	530.100	28-03-2021

Annual Runoff of Krishna at Byaladahalli

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1985-1986	202	67	268	7	2	9
2	1986-1987	153	137	290	5	5	10
3	1987-1988	208	88	296	7	3	10
4	1988-1989	169	92	262	6	3	9
5	1989-1990	178	151	329	6	5	12
6	1990-1991	247	261	508	9	9	18
7	1991-1992	357	34	391	13	1	14
8	1992-1993	355	310	666	13	11	24
9	1993-1994	411	148	559	15	5	20
10	1994-1995	439	125	564	16	4	20
11	1995-1996	203	87	290	7	3	10
12	1996-1997	372	118	490	13	4	17
13	1997-1998	264	133	397	9	5	14
14	1998-1999	379	142	521	13	5	18
15	1999-2000	283	62	345	10	2	12
16	2000-2001	435	141	576	15	5	20
17	2001-2002	212	32	244	7	1	9
18	2002-2003	92	39	131	3	1	5
19	2003-2004	43	4	47	2	0	2
20	2004-2005	87	13	100	3	0	4
21	2005-2006	309	86	395	11	3	14
22	2006-2007	127	103	230	4	4	8
23	2007-2008	126	39	166	4	1	6
24	2008-2009	220	63	283	8	2	10
25	2009-2010	283	47	330	10	2	12
26	2010-2011	395	258	652	14	9	23
27	2011-2012	244	76	321	9	3	11
28	2012-2013	124	89	213	4	3	8
29	2013-2014	327	26	353	12	1	12
30	2014-2015	274	84	358	10	3	13
31	2015-2016	198	51	249	7	2	9
32	2016-2017	46	19	65	2	1	2
33	2017-2018	98	0	98	3	0	3
34	2018-2019	146	67	212	5	2	8
35	2019-2020	175	80	255	6	3	9
36	2020-2021	282	34	316	10	1	11
37	2021-2022	287	151	438	10	5	15
Average		237	93	330	8	3	12

Instantaneous Flood Peak of Krishna at Byladahalli					
Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	1985-1986	533.505	30-09-1985	22:00:00	148 *
2	1986-1987	533.640	06-11-1986	23:00:00	203 *
3	1987-1988	533.460	02-10-1987	08:00:00	155 *
4	1988-1989	532.990	29-08-1988	09:00:00	136 *
5	1989-1990	532.670	08-10-1989	18:00:00	109 *
6	1990-1991	532.700	11-08-1990	10:00:00	112 *
7	1991-1992	533.090	02-08-1991	14:00:00	145 *
8	1992-1993	538.450	17-11-1992	12:00:00	1215 *
9	1993-1994	533.500	16-10-1993	05:00:00	230 *
10	1994-1995	533.090	04-10-1994	18:00:00	167 *
11	1995-1996	532.690	17-09-1995	18:00:00	111 *
12	1996-1997	533.740	21-10-1996	12:00:00	241 *
13	1997-1998	532.960	26-10-1997	08:00:00	158 *
14	1998-1999	533.600	11-10-1998	17:00:00	237 *
15	1999-2000	533.700	05-10-1999	08:00:00	225 *
16	2000-2001	534.550	09-10-2000	18:00:00	325 *
17	2001-2002	533.940	15-04-2001	18:00:00	240 *
18	2002-2003	533.270	15-10-2002	18:00:00	163 *
19	2003-2004	533.340	06-10-2003	08:00:00	170 *
20	2004-2005	531.920	07-09-2004	15:00:00	62 *
21	2005-2006	534.000	17-07-2005	23:00:00	247 *
22	2006-2007	533.900	03-11-2006	21:00:00	234 *
23	2007-2008	532.580	19-09-2007	08:00:00	99 *
24	2008-2009	532.580	06-10-2008	08:00:00	104 *
25	2009-2010	533.470	02-10-2009	07:00:00	168 *
26	2010-2011	534.040	09-11-2010	08:00:00	257 *
27	2011-2012	532.210	15-10-2011	10:00:00	91 *
28	2012-2013	534.930	02-11-2012	18:00:00	385 *
29	2013-2014	532.390	18-09-2013	17:00:00	92 *
30	2014-2015	534.310	28-10-2014	18:00:00	307 *
31	2015-2016	532.680	09-09-2015	08:00:00	115
32	2016-2017	531.390	26-09-2016	16:00:00	52 *
33	2017-2018	533.390	04-10-2017	17:00:00	176 *
34	2018-2019	532.290	19-10-2018	16:00:00	90 *
35	2019-2020	534.850	22-10-2019	11:00:00	365 *
35	2020-2021	533.750	09-09-2020	23:00:00	221 *
36	2021-2022	531.610	21-11-2021	08:00:00	42 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : BYLADAHALLI (AKLB0D3)

Local River : Haridra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	530.130	0.000	530.140	0.000	531.170	20.06 *	531.280	23.94	530.860	11.46	531.180	20.32
2	530.120	0.000	530.130	0.000	531.130	18.69	531.300	24.94	530.860	10.01 *	531.140	18.84
3	530.130	0.000	530.130	0.000	531.100	18.02	531.380	28.15	531.130	18.53 *	531.130	18.52
4	530.130	0.000	530.130	0.000	531.100	18.09	531.380	28.09	531.200	20.99	531.130	18.53 *
5	530.140	0.000	530.130	0.000	531.130	18.68	531.370	28.82 *	531.300	25.27	531.200	21.06
6	530.120	0.000	530.130	0.000	531.230	22.50	531.370	27.60	531.440	31.91	531.230	22.79
7	530.120	0.000	530.130	0.000	531.280	24.05	531.380	28.12	531.530	38.15	531.280	24.64 *
8	530.110	0.000	530.130	0.000	531.300	25.54 *	531.430	31.08	531.550	39.43	531.280	24.34
9	530.120	0.000	530.140	0.000	531.360	27.02	531.470	33.94	531.550	39.48	531.280	24.37
10	530.130	0.000	530.140	0.000	531.280	23.94	531.480	34.46 *	531.540	37.79 *	531.230	22.59
11	530.110	0.000	530.180	0.453 *	531.230	22.51	531.440	31.72	531.530	38.04	531.220	22.22
12	530.110	0.000	530.300	1.251	531.200	21.21	531.380	29.31 *	531.530	38.09	531.200	21.03
13	530.100	0.000	530.310	1.271	531.130	18.70	531.360	27.04	531.580	41.46	531.200	21.10
14	530.110	0.000	530.320	1.305	531.110	18.15	531.360	26.99	531.580	41.26	531.230	22.49 *
15	530.110	0.000	530.330	1.330	531.090	17.07 *	531.300	25.22	531.550	38.36 *	531.260	23.32
16	530.110	0.000	530.330	1.343	531.040	16.46	531.280	24.23	531.550	39.44	531.260	23.35
17	530.130	0.000	530.320	1.310	531.040	16.46	531.220	22.02	531.540	37.79 *	531.300	25.35
18	530.130	0.000	530.320	1.266 *	531.100	17.85	531.200	20.95	531.530	38.08	531.360	27.39
19	530.140	0.000	530.380	1.619	531.200	21.29	531.180	20.45 *	531.510	36.10 *	531.380	29.31 *
20	530.140	0.000	530.420	1.823	531.260	23.77 *	531.180	20.25	531.440	31.98	531.550	39.34
21	530.140	0.000	530.440	2.382 *	531.300	25.06	531.130	18.76	531.360	26.94	531.610	41.91 *
22	530.130	0.000	530.410	1.776	531.320	26.45 *	531.110	17.99	531.300	25.10	531.580	41.35
23	530.130	0.000	530.450	2.141	531.280	24.01	531.060	17.06	531.280	24.13	531.580	41.42
24	530.130	0.000	531.420	29.94	531.230	22.58	530.870	11.44	531.250	23.34 *	531.550	39.45
25	530.130	0.000	531.460	33.39 *	531.200	21.30	530.870	11.43	531.280	24.17	531.530	37.87
26	530.130	0.000	531.430	30.31	531.140	19.07	530.890	10.81 *	531.300	25.05	531.510	36.24
27	530.140	0.000	531.420	30.13	531.140	19.05	530.910	12.51	531.340	25.94	531.510	36.33
28	530.140	0.000	531.380	27.92	531.110	18.13	530.870	11.49	531.300	25.01	531.510	36.10 *
29	530.140	0.000	531.280	23.91	531.110	17.79 *	530.870	11.36	531.230	22.56	531.470	33.83
30	530.140	0.000	531.220	21.87	531.200	21.13	530.860	11.17	531.230	22.54	531.440	31.71
31			531.200	21.15	531.230	22.51			531.230	22.49 *		
<u>Ten-Daily Mean</u>												
I Ten-Daily	530.125	0.000	530.133	0.000	531.208	21.66	531.384	28.91	531.296	27.30	531.208	21.60
II Ten-Daily	530.119	0.000	530.321	1.297	531.140	19.35	531.290	24.82	531.534	38.06	531.296	25.49
III Ten-Daily	530.135	0.000	531.101	20.45	531.205	21.55	530.944	13.40	531.282	24.30	531.529	37.62
<u>Monthly</u>												
Min.	530.100	0.000	530.130	0.000	531.040	16.46	530.860	10.81	530.860	10.01	531.130	18.52
Max.	530.140	0.000	531.460	33.39	531.360	27.02	531.480	34.46	531.580	41.46	531.610	41.91
Mean	530.126	0	530.537	7.674	531.185	20.88	531.206	22.38	531.368	29.71	531.344	28.24

Annual Runoff in MCM = 438 Annual Runoff in mm = 191

Peak Observed Discharge = 44.59 cumecs on 23-05-2022 Corres. Water Level :531.73 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021 Corres. Water Level :530.13 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : BYLADAHALLI (AKLB0D3)

Division : Cauvery Division, Bangalore

Local River : Haridra

Sub-Division : Upper Tunga SD, Devangere

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	531.440	31.77	530.650	6.538	530.630	6.316	530.460	2.571 *	530.230	0.000	530.420	1.959 *
2	531.430	31.01	530.620	5.600 *	530.610	5.877	530.460	2.173	530.210	0.000	530.410	1.693
3	531.380	28.06	530.620	6.035	530.610	5.915	530.470	2.229	530.210	0.000	530.410	1.817 *
4	531.430	30.93	530.610	5.893	530.600	5.765	530.470	2.237	530.200	0.000	530.400	1.645
5	531.440	32.49 *	530.610	5.862	530.590	5.554	530.480	2.301	530.200	0.000	530.410	1.697
6	531.440	31.67	530.480	2.313	530.590	4.966 *	530.480	2.899 *	530.200	0.000	530.430	1.812
7	531.470	33.87	530.460	2.182	530.580	5.447	530.470	2.222	530.200	0.000	530.430	1.807
8	531.510	36.45	530.470	2.261	530.580	5.438	530.460	2.162	530.200	0.000	530.500	3.243 *
9	531.510	36.33	530.470	2.732 *	530.570	5.340	530.460	2.155	530.190	0.000	530.600	5.743
10	531.470	33.81	530.600	5.703	530.570	5.335	530.460	2.154	530.190	0.000	530.630	6.271
11	531.430	31.01	530.580	5.429	530.580	5.452	530.450	2.081	530.190	0.000	530.630	6.283
12	531.360	29.15 *	530.580	5.424	530.580	5.440	530.450	2.077	530.180	0.000	530.640	6.514
13	531.360	27.04	530.580	5.403	530.580	4.760 *	530.440	2.257 *	530.180	0.000	530.640	6.518
14	531.300	25.18	530.600	5.173 *	530.590	5.565	530.420	1.902	530.190	0.000	530.630	6.311
15	531.280	24.28	530.610	5.875	530.590	5.575	530.400	1.759	530.200	0.000	530.630	5.818 *
16	531.280	24.20	530.610	5.385 *	530.570	5.331	530.380	1.589	530.200	0.000	530.620	5.600 *
17	531.260	23.04	530.620	6.016	530.570	5.312	530.250	0.000	530.210	0.000	530.640	6.510
18	531.260	23.08	530.620	6.030	530.570	5.325	530.200	0.000	530.220	0.000	530.650	6.674
19	531.260	25.18 *	530.610	5.889	530.570	5.354	530.190	0.000	530.220	0.000	530.860	11.28
20	531.230	22.09	530.630	6.286	530.570	4.588 *	530.190	0.000	530.240	0.000	531.030	16.19
21	531.200	20.80	530.630	6.292	530.580	5.467	530.190	0.000	530.240	0.000	534.700	263.5 *
22	531.160	19.31	530.630	6.293	530.580	5.487	530.200	0.000	530.240	0.000	532.990	121.2 *
23	531.130	18.38	530.630	5.818 *	530.570	5.349	530.200	0.000	530.250	0.000	531.730	44.59
24	531.130	18.41	530.620	6.004	530.570	5.336	530.200	0.000	530.300	0.000	531.480	34.26
25	531.100	19.31 *	530.610	5.911	530.490	2.463	530.210	0.000	530.380	1.567	530.970	14.07
26	531.100	19.31 *	530.610	5.385 *	530.480	2.303	530.210	0.000	530.410	1.696	530.920	12.53
27	531.060	16.36	530.600	5.836	530.470	2.178 *	530.210	0.000	530.420	1.743	530.800	9.451
28	531.040	15.76	530.600	5.830	530.460	2.178	530.220	0.000	530.420	1.749	530.710	7.493
29	531.040	15.64	530.620	6.012			530.230	0.000	530.430	1.803	530.650	6.265 *
30	530.910	12.42	530.630	5.818 *			530.230	0.000	530.420	1.753	530.580	5.489
31	530.860	11.12	530.630	6.306			530.230	0.000			530.550	5.028
Ten-Daily Mean												
I Ten-Daily	531.452	32.64	530.559	4.512	530.593	5.595	530.467	2.310	530.203	0.000	530.464	2.769
II Ten-Daily	531.302	25.43	530.604	5.691	530.577	5.270	530.337	1.167	530.203	0.000	530.697	7.770
III Ten-Daily	531.066	16.98	530.619	5.955	530.525	3.845	530.212	0.000	530.351	1.031	531.462	47.63
Monthly												
Min.	530.860	11.12	530.460	2.182	530.460	2.178	530.190	0.000	530.180	0.000	530.400	1.645
Max.	531.510	36.45	530.650	6.538	530.630	6.316	530.480	2.899	530.430	1.803	534.700	263.5
Mean	531.267	24.76	530.595	5.404	530.568	4.979	530.335	1.122	530.252	0.344	530.893	20.3

Peak Computed Discharge = 263.5 cumecs on 21-05-2022

Corres. Water Level :534.7 m

Lowest Computed Discharge = 0.453 cumecs on 11-07-2021

Corres. Water Level :530.18 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

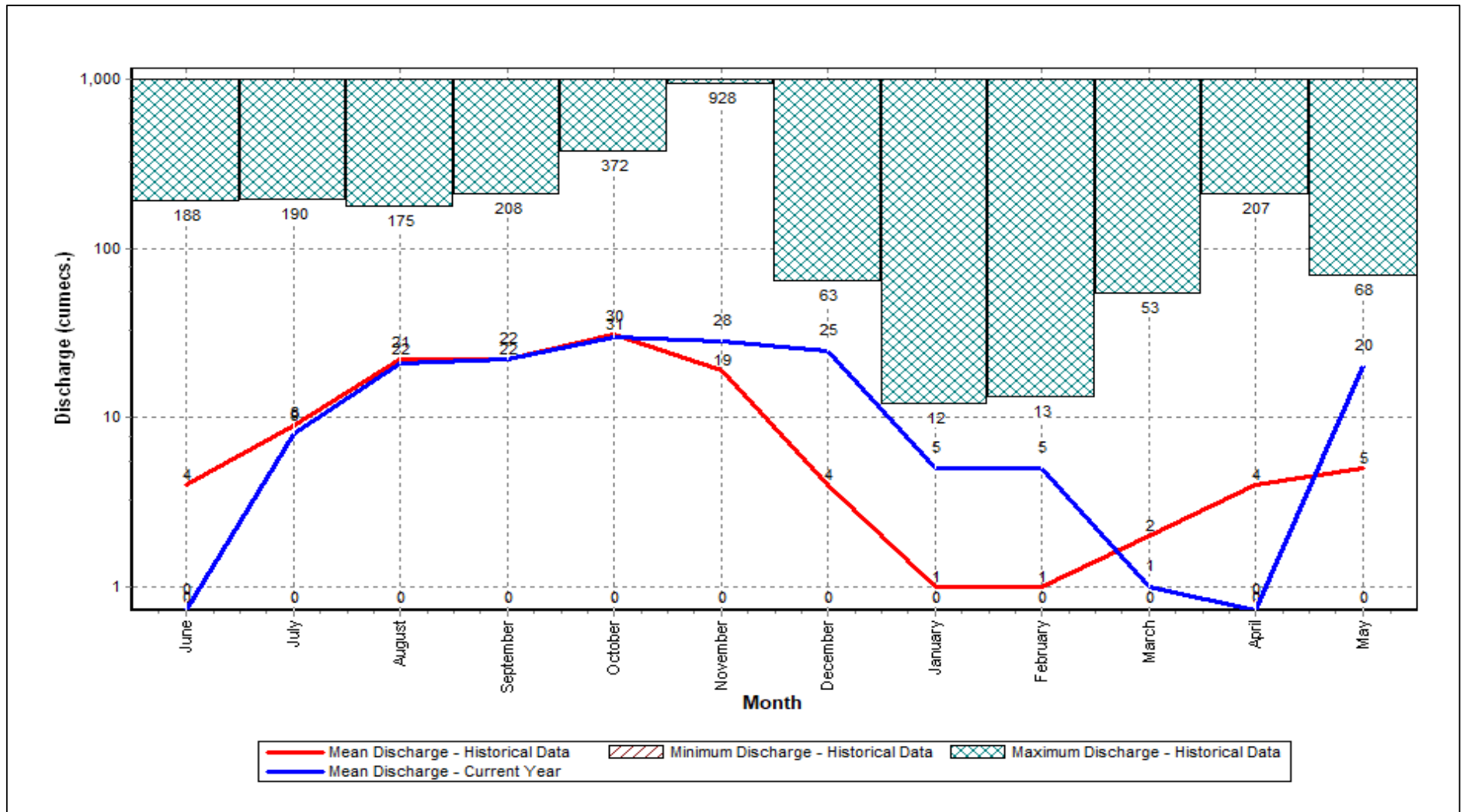
Station Name : BYLADAHALLI (AKLB0D3)

Data considered : 1987-2022

Division : Cauvery Division, Bangalore

Local River : Haridra

Sub-Division : Upper Tunga SD, Devangere



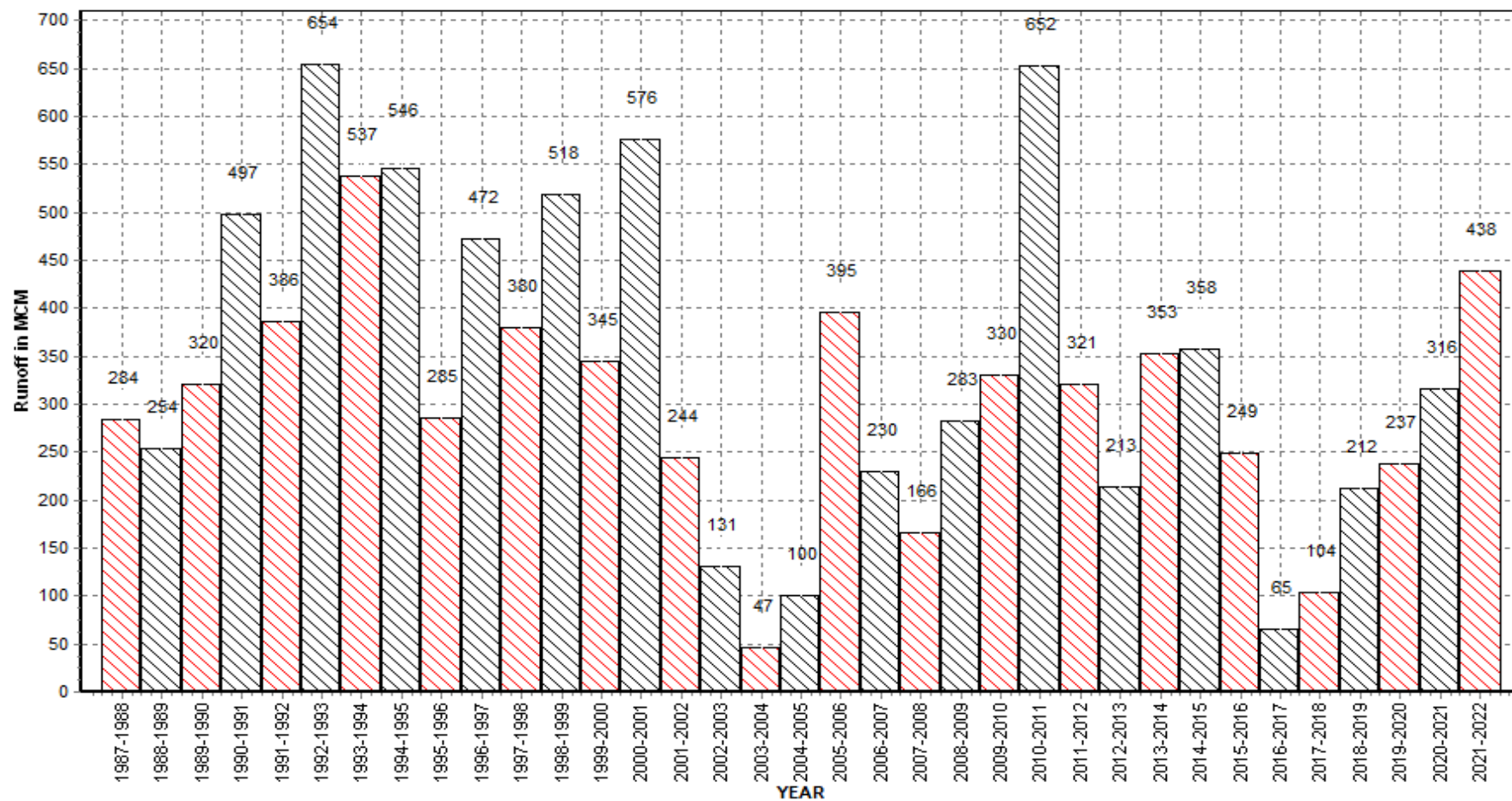
Annual Runoff Values for the period: 1987 - 2022

Station Name : BYLADAHALLI (AKLB0D3)

Local River : Haridra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



Note: Missing values have not been considered while arriving at Annual Runoff

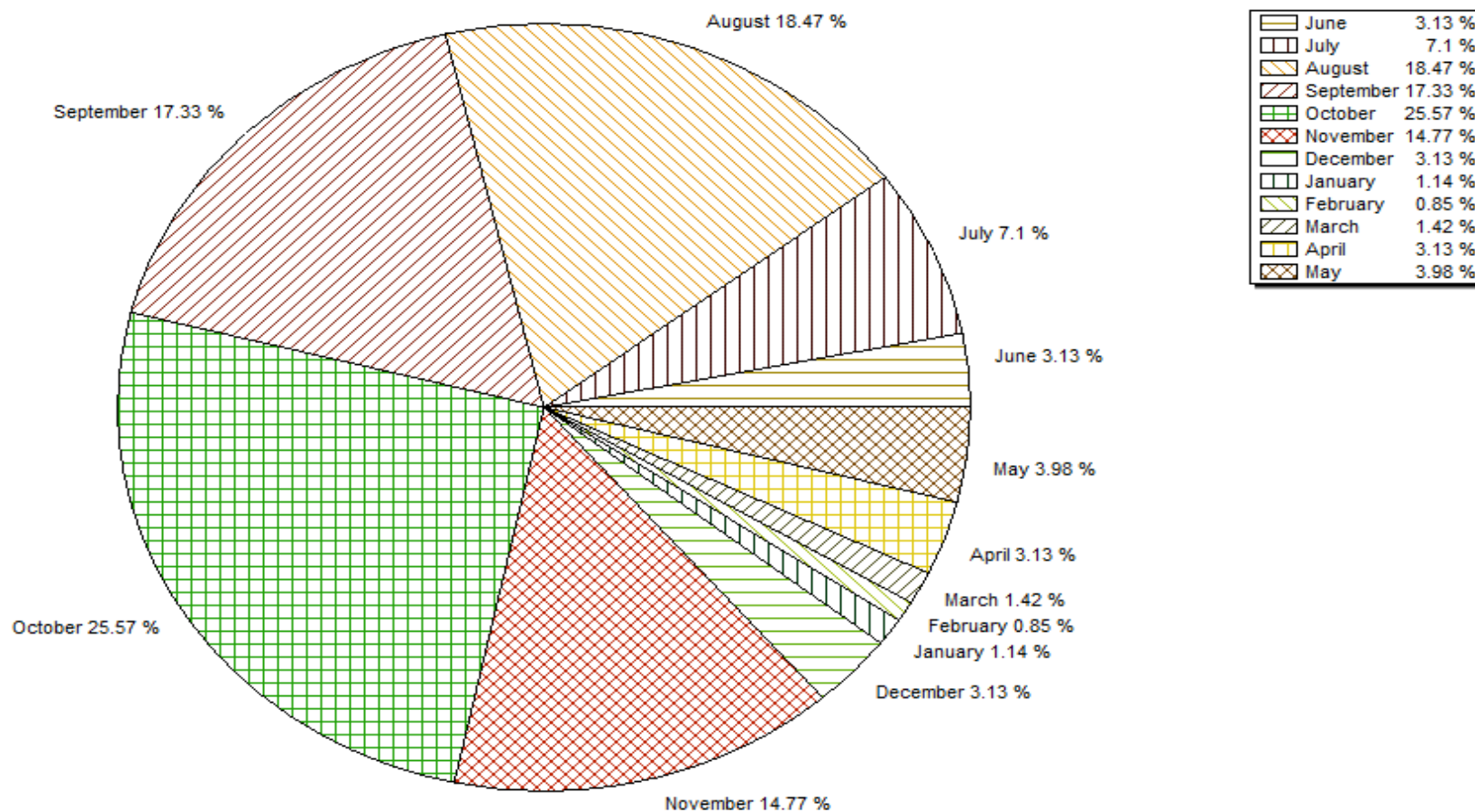
Monthly Average Runoff based on period : 1987-2021

Station Name : BYLADAHALLI (AKLB0D3)

Local River : Haridra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



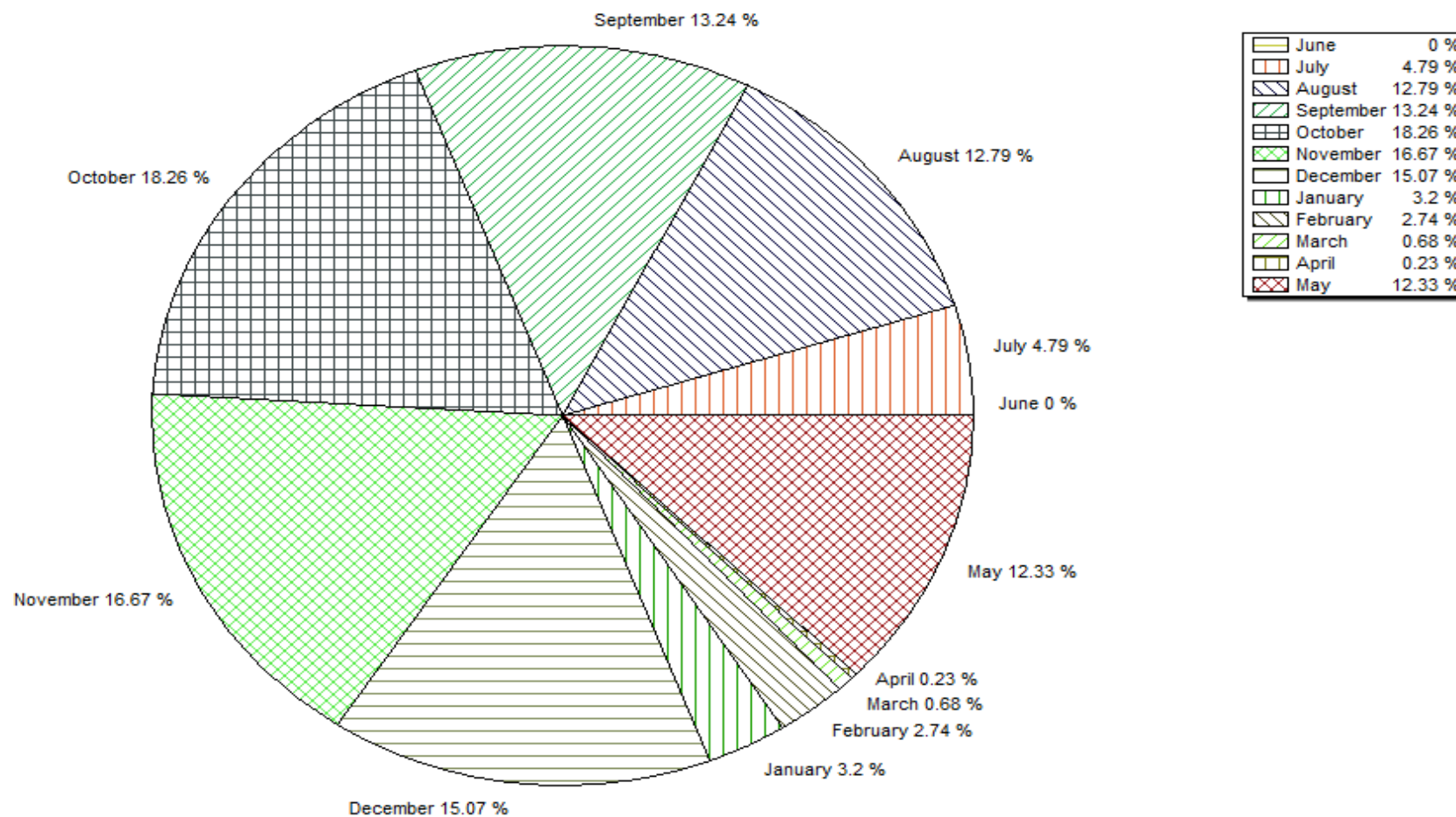
Monthly Runoff for the Year : 2021-2022

Station Name : BYLADAHALLI (AKLB0D3)

Local River : Haridra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere

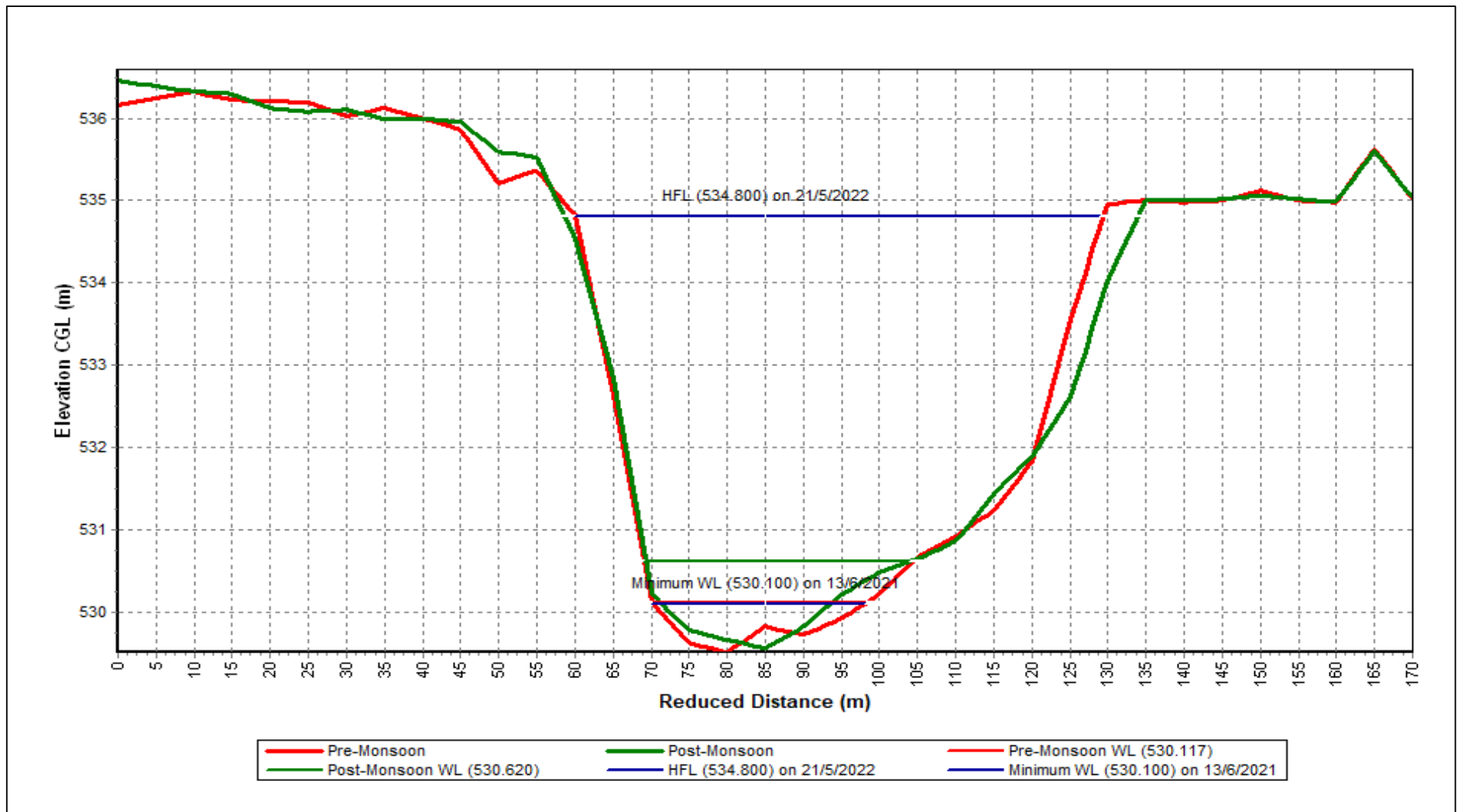


Station Name : BYLADAHALLI (AKLB0D3)

Local River : Haridra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



Zero of Gauge : 528.4 (m.s.l)

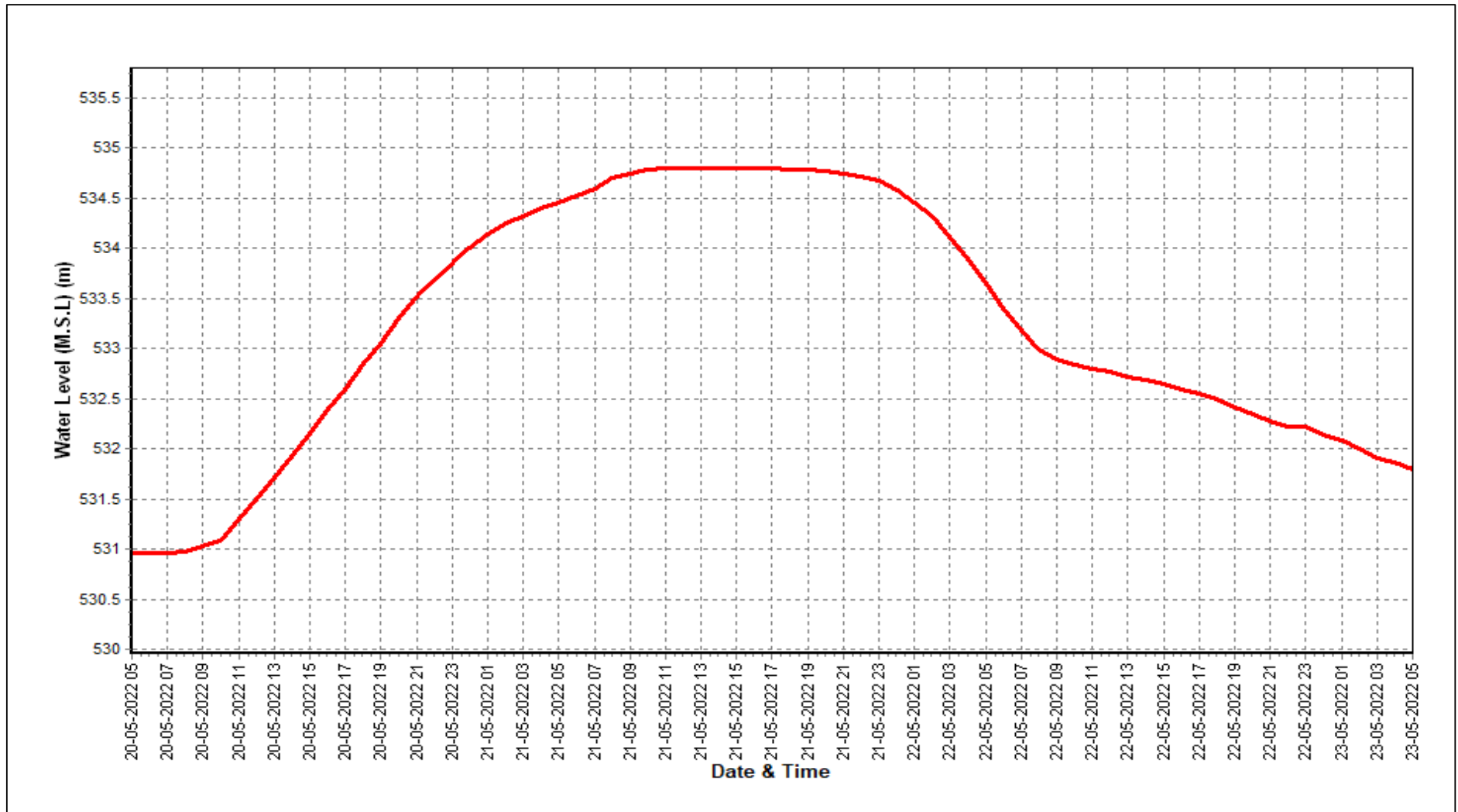
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : BYLADAHALLI (AKLB0D3)

Local River : Haridra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



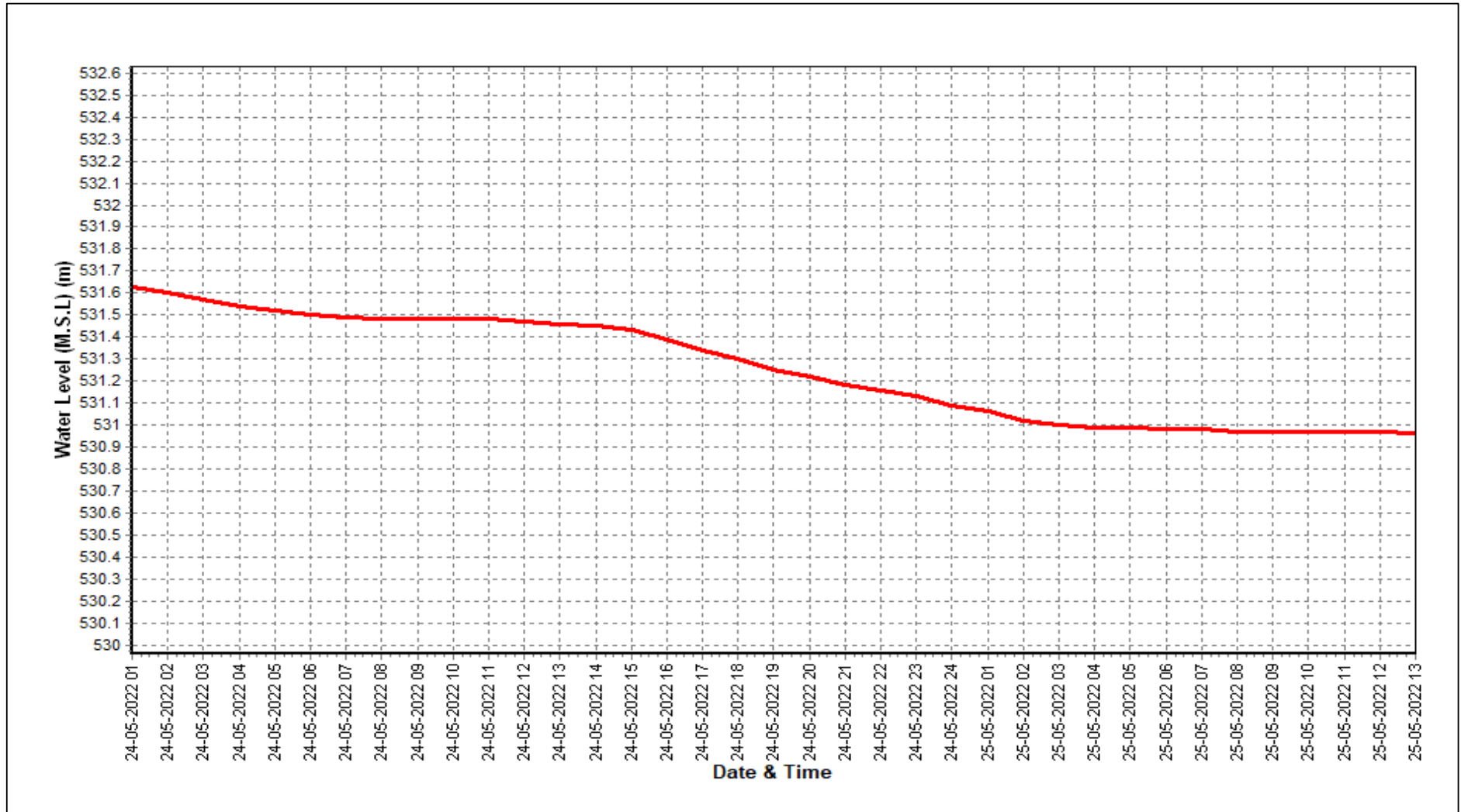
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : BYLADAHALLI (AKLB0D3)

Local River : Haridra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



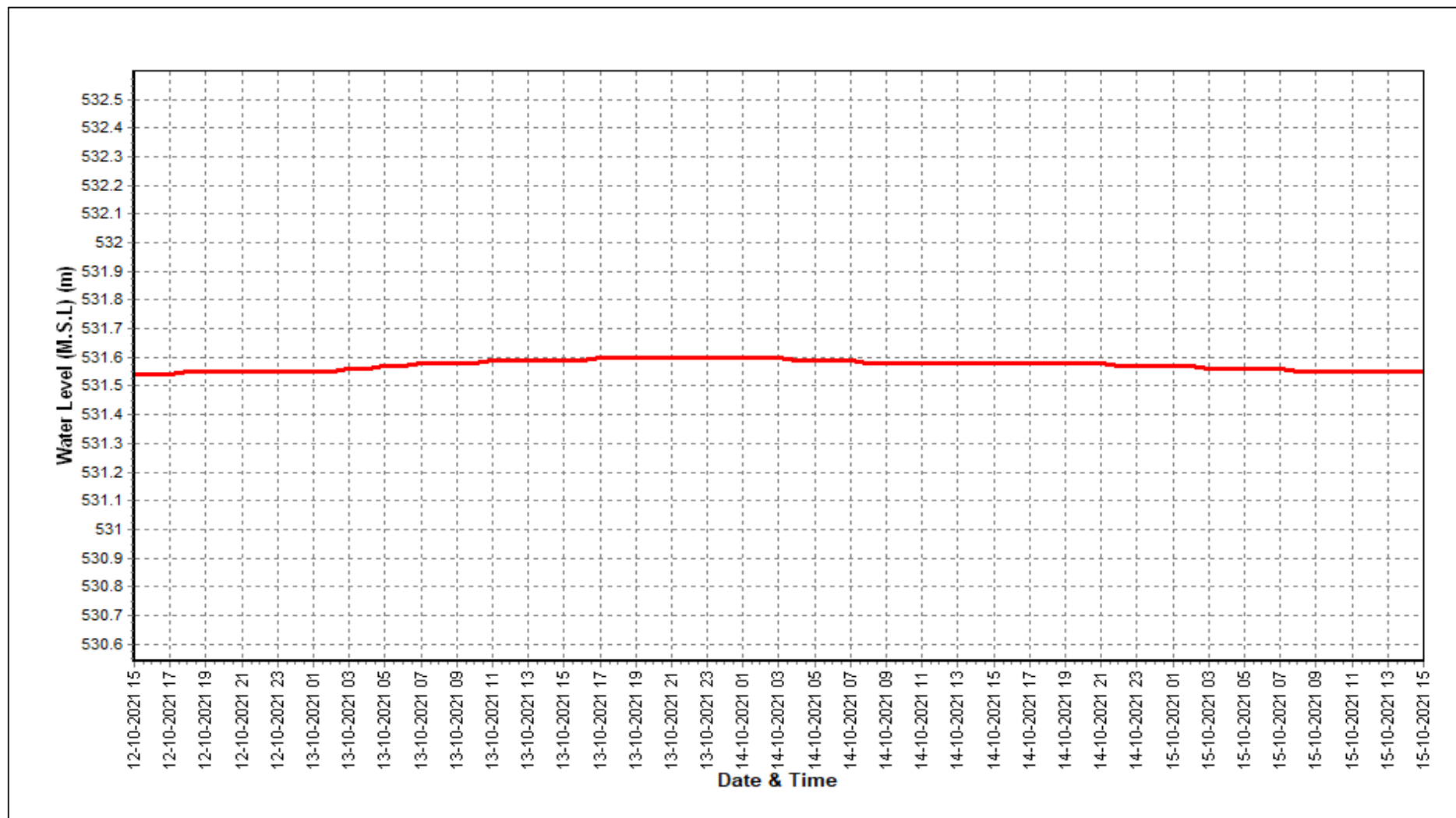
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : BYLADAHALLI (AKLB0D3)

Local River : Haridra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



HISTORY SHEET

Water Year : 2021-2022

Site : KALMANE

Code : KALMANE

State : Karnataka

District : Shimoga

Basin : Krishna

Independent River : Krishna

Tributary : Tungabhadra

Sub Tributary :

Sub-Sub Tributary :

Local River : Malathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere

Drainage Area : 256 Sq. Km.

Bank : Left

Latitude : 13°39'07"

Longitude : 75°10'45"

Zero of Gauge (m) : 710(m.s.l)
603 (m.s.l)25-08-2016 - 31-08-2019
01-09-2019

Opening Date

Closing Date

Gauge : 25-08-2016

Discharge : 17-12-2018

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2019-2020	412.6	719.400	06-08-2019	0.000	713.560	11-06-2019
2020-2021	516.7	612.300	08-08-2020	0.000	605.130	27-04-2021

Annual Runoff of Krishna at Kalmane

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	2018-2019		21	21	0	1	1
2	2019-2020	573	71	644	20	3	23
3	2020-2021	876	93	970	31	3	34
4	2021-2022	1233	99	1332	44	3	47
Average		894	71	742	24	3	26

Instantaneous Flood Peak of Krishna at Kalmane					
Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	2018-2019	714.210	23-11-2018	08:00:00	28 *
2	2019-2020	719.940	06-08-2019	18:00:00	449 *
3	2020-2021	612.700	07-08-2020	17:00:00	573 *
4	2021-2022	611.640	23-07-2021	16:00:00	661 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : KALMANE (KALMANE)

Local River : Malathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	605.130	0.000	606.420	28.65	609.050	202.1 *	607.130	76.98	606.500	37.06	606.110	22.75
2	605.140	0.000	606.450	28.46	608.980	176.7	607.150	77.32	606.660	45.80 *	606.080	20.98
3	605.150	0.000	606.830	41.50	608.150	134.2	606.950	67.14	606.590	42.41 *	606.060	20.57
4	605.160	0.000	606.640	33.75	608.150	140.8	607.100	72.84	606.550	38.79	606.060	20.74 *
5	605.170	0.000	606.430	26.89	609.520	237.0	607.470	94.07 *	606.640	43.29	606.250	31.11
6	605.190	0.000	606.310	20.55	609.170	203.9	607.110	79.78	607.100	73.05	606.100	21.12
7	605.190	0.000	606.330	20.99	609.470	228.6	607.420	91.44	606.890	62.45	606.700	47.80 *
8	605.180	0.000	606.330	21.60	608.700	167.5 *	607.580	98.59	606.570	41.82	606.180	25.59
9	605.170	0.000	606.310	21.64	608.070	114.6	608.540	181.7	606.670	50.02	606.600	39.80
10	605.190	0.000	606.550	30.38	607.290	76.90	607.870	123.9 *	606.610	43.36 *	606.300	28.94
11	605.240	0.000	606.810	44.98	607.140	70.10	608.050	151.2	606.630	48.41	606.210	28.97
12	605.260	0.000	607.170	59.44	607.380	85.49	607.900	126.2 *	606.600	41.08	606.200	27.25
13	605.350	0.000	607.070	57.01	607.320	83.16	609.240	224.4	606.800	54.54	606.130	22.02
14	605.370	0.000	608.020	128.5	607.260	75.68	608.820	193.2	606.700	49.33	606.200	25.75 *
15	606.550	30.77 #	609.820	272.4	607.300	82.60 *	608.220	152.5	606.600	42.88 *	606.500	40.02
16	607.360	84.08	609.540	238.8	607.200	72.90	607.600	98.60	606.550	38.47	606.800	54.53
17	609.200	218.1 #	608.010	124.9	607.160	70.68	607.290	82.44	606.500	38.21 *	606.460	35.74
18	610.900	502.9	608.940	209.0	607.060	66.57	607.030	72.24	606.480	30.92	606.250	29.74
19	609.060	203.1 #	608.640	172.8	607.240	78.38	606.950	61.21 *	606.470	36.86 *	606.200	25.75 *
20	608.580	122.3	608.650	185.9	607.230	78.08 *	606.920	66.66	606.390	30.62	606.250	29.74
21	608.100	99.73	609.170	221.5	607.140	72.63	606.870	61.40	606.450	30.81	606.180	25.00 *
22	607.730	79.73	610.200	341.5	606.980	62.35	606.810	53.51 *	606.550	41.99	606.240	28.83
23	607.650	80.52	611.270	582.2	606.890	55.45	606.740	54.12	606.440	34.89	606.200	27.25
24	607.200	59.75	611.050	536.0	606.840	54.59	606.680	47.15	606.440	35.54 *	606.180	25.38
25	606.980	50.81	610.100	311.5	606.690	45.10	606.670	46.68	606.610	45.27	606.130	22.02
26	606.720	43.64	609.020	214.8	606.640	44.83	606.550	40.52 *	606.430	34.76	606.060	20.57
27	606.470	29.94	608.860	181.2	606.610	44.21	606.490	35.43	606.390	31.61	606.080	20.76
28	606.380	26.55	608.530	118.3	607.330	87.51	606.660	40.42	606.330	30.60	606.010	19.07 *
29	606.400	24.09	607.850	94.89	607.550	99.72 *	606.760	55.53	606.230	27.98	606.000	17.32
30	606.400	26.84	608.460	123.9	607.610	103.5	606.610	46.69	606.180	24.01	605.980	16.87
31			608.730	148.8	607.290	82.87			606.140	23.54 *		
<u>Ten-Daily Mean</u>												
I Ten-Daily	605.167	0.000	606.460	27.44	608.655	168.2	607.432	96.38	606.678	47.81	606.244	27.94
II Ten-Daily	607.287	116.1	608.267	149.4	607.229	76.36	607.802	122.9	606.572	41.13	606.320	31.95
III Ten-Daily	607.003	52.16	609.385	261.3	607.052	68.43	606.684	48.15	606.381	32.82	606.106	22.31
<u>Monthly</u>												
Min.	605.130	0.000	606.310	20.55	606.610	44.21	606.490	35.43	606.140	23.54	605.980	16.87
Max.	610.900	502.9	611.270	582.2	609.520	237.0	609.240	224.4	607.100	73.05	606.800	54.53
Mean	606.486	56.1	608.081	149.8	607.626	103.2	607.306	89.13	606.538	40.34	606.223	27.4

Annual Runoff in MCM = 1332 Annual Runoff in mm = 5202

Peak Observed Discharge = 582.2 cumecs on 23-07-2021 Corres. Water Level :611.27 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021 Corres. Water Level :605.13 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : KALMANE (KALMANE)

Local River : Malathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	605.980	16.87	605.860	9.106	605.700	6.595	605.560	4.250 *	605.540	3.476	605.540	3.130 *
2	605.980	16.85	605.860	9.223 *	605.700	6.585	605.550	3.939	605.530	3.217	605.540	3.130 *
3	606.000	17.17	605.850	8.905	605.700	6.608	605.540	3.846	605.580	3.808 *	605.520	2.624
4	605.960	13.85	605.850	8.885	605.690	6.499	605.530	3.733	605.580	4.306	605.500	2.115
5	605.950	13.14 *	605.840	8.790	605.690	6.348	605.510	3.678	605.580	4.288	605.490	2.055
6	605.930	11.88	605.830	8.621	605.690	6.240 *	605.510	3.559 *	605.570	4.027	605.490	2.067
7	605.930	11.81	605.820	8.474	605.690	6.325	605.500	3.546	605.540	3.368	605.480	1.986
8	605.970	14.12	605.810	8.287	605.680	6.179	605.490	3.483	605.540	3.357	605.480	2.229 *
9	605.960	13.08	605.800	8.124 *	605.680	6.143	605.480	3.374	605.530	3.147	605.470	1.945
10	605.980	16.19	605.790	7.978	605.670	6.007	605.480	3.346	605.530	2.971 *	605.470	1.954
11	605.970	14.33	605.790	8.044	605.670	5.983	605.480	3.346	605.510	2.928	605.460	1.895
12	605.970	14.81 *	605.780	7.895	605.660	5.805	605.470	3.136	605.500	2.687	605.490	2.199
13	605.980	16.85	605.780	7.889	605.660	5.757 *	605.460	2.912 *	605.520	2.946	605.500	2.339
14	605.970	14.12	605.770	7.593 *	605.650	5.598	605.460	2.989	605.560	3.462 *	605.500	2.325
15	605.970	14.14	605.770	7.658	605.640	5.378	605.460	2.985	605.540	3.130 *	605.510	2.663 *
16	605.950	12.48	605.760	7.419 *	605.630	5.195	605.460	2.976	605.540	2.986	605.500	2.514 *
17	605.940	12.15	605.760	7.572	605.630	5.184	605.450	2.698	605.570	3.633 *	605.520	2.804
18	605.930	11.84	605.750	7.343	605.620	5.075	605.450	2.688	605.550	3.297	605.600	5.047
19	605.930	11.58 *	605.750	7.337	605.620	5.059	605.440	2.576	605.550	3.236	605.730	7.310
20	605.920	11.10	605.740	7.198	605.610	4.984 *	605.440	2.666 *	605.570	3.916	606.200	21.60
21	605.900	9.960	605.740	7.198	605.600	4.691	605.420	2.459	605.570	3.899	606.030	14.82
22	605.890	9.893	605.740	7.198	605.600	4.675	605.460	3.006	605.560	3.577	605.890	11.01 *
23	605.890	9.795	605.730	6.905 *	605.600	4.659	605.450	2.665	605.560	3.518	605.820	8.514
24	605.880	9.149	605.730	7.093	605.590	4.545	605.510	3.679	605.550	3.294 *	605.780	7.707
25	605.880	9.601 *	605.720	6.956	605.580	4.410	605.500	3.549	605.570	3.975	605.760	6.905
26	605.880	9.601 *	605.720	6.736 *	605.580	4.386	605.660	5.749	605.570	3.947	605.740	6.414
27	605.880	9.340	605.720	6.938	605.570	4.394 *	605.620	5.135 *	605.560	3.587	605.730	6.306
28	605.870	9.293	605.720	6.929	605.570	4.189	605.580	4.409	605.550	3.248	605.700	5.869
29	605.870	9.447	605.710	6.795			605.580	4.369	605.550	3.218	605.670	5.548 *
30	605.870	9.226	605.710	6.570 *			605.570	4.066	605.540	2.986	605.620	4.868
31	605.870	9.273	605.710	6.785			605.560	3.782			605.620	4.835
<u>Ten-Daily Mean</u>												
I Ten-Daily	605.964	14.50	605.831	8.639	605.689	6.353	605.515	3.675	605.552	3.596	605.498	2.323
II Ten-Daily	605.953	13.34	605.765	7.595	605.639	5.402	605.457	2.897	605.541	3.222	605.601	5.070
III Ten-Daily	605.880	9.507	605.723	6.918	605.586	4.493	605.537	3.897	605.558	3.525	605.760	7.527
<u>Monthly</u>												
Min.	605.870	9.149	605.710	6.570	605.570	4.189	605.420	2.459	605.500	2.687	605.460	1.895
Max.	606.000	17.17	605.860	9.223	605.700	6.608	605.660	5.749	605.580	4.306	606.200	21.60
Mean	605.931	12.35	605.771	7.692	605.642	5.482	605.504	3.503	605.550	3.448	605.624	5.056

Peak Computed Discharge = 202.1 cumecs on 01-08-2021

Corres. Water Level :609.05 m

Lowest Computed Discharge = 2.229 cumecs on 08-05-2022

Corres. Water Level :605.48 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

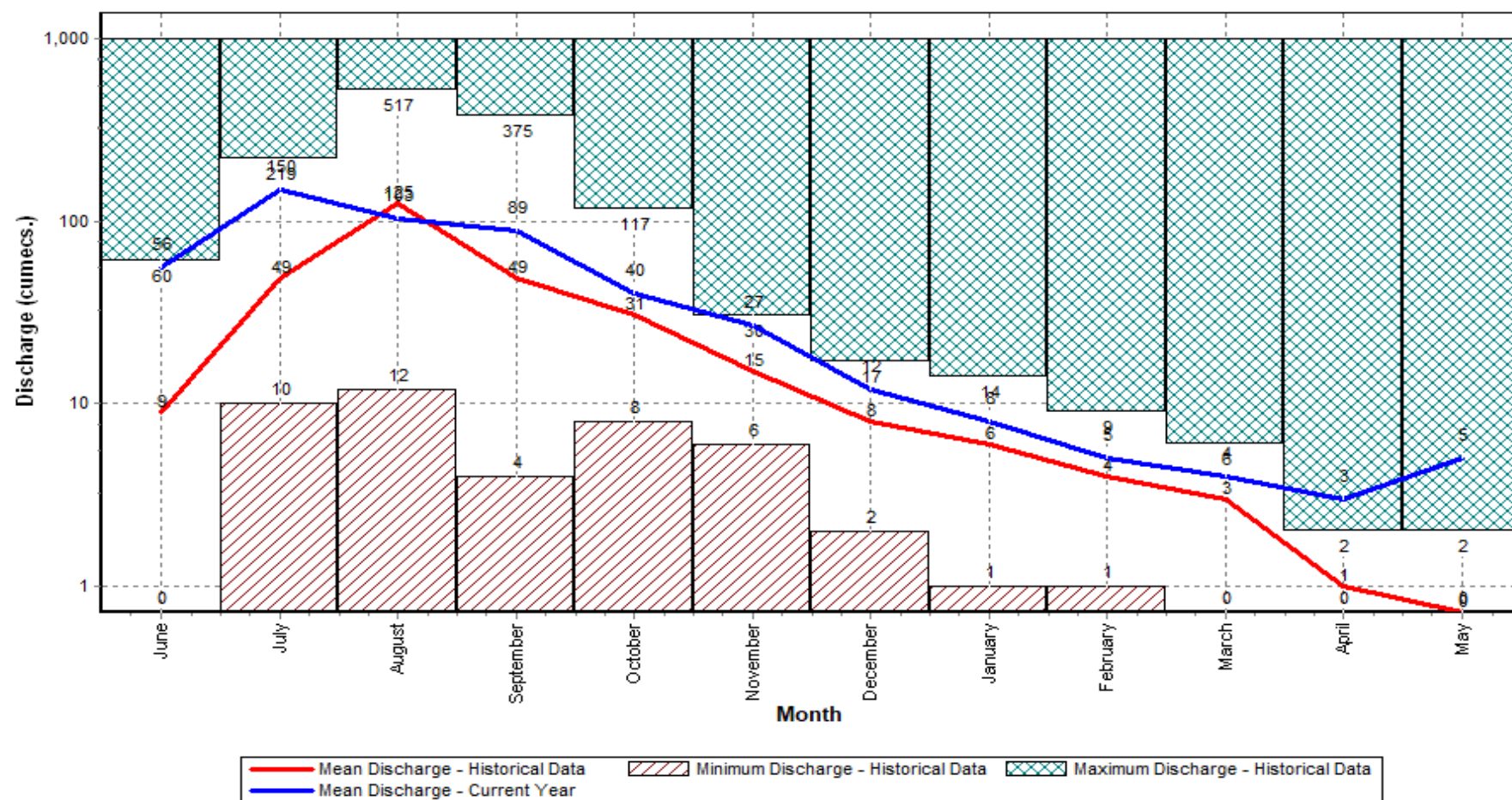
Station Name : KALMANE (KALMANE)

Data considered : 2019-2022

Division : Cauvery Division, Bangalore

Local River : Malathi

Sub-Division : Upper Tunga SD, Devangere



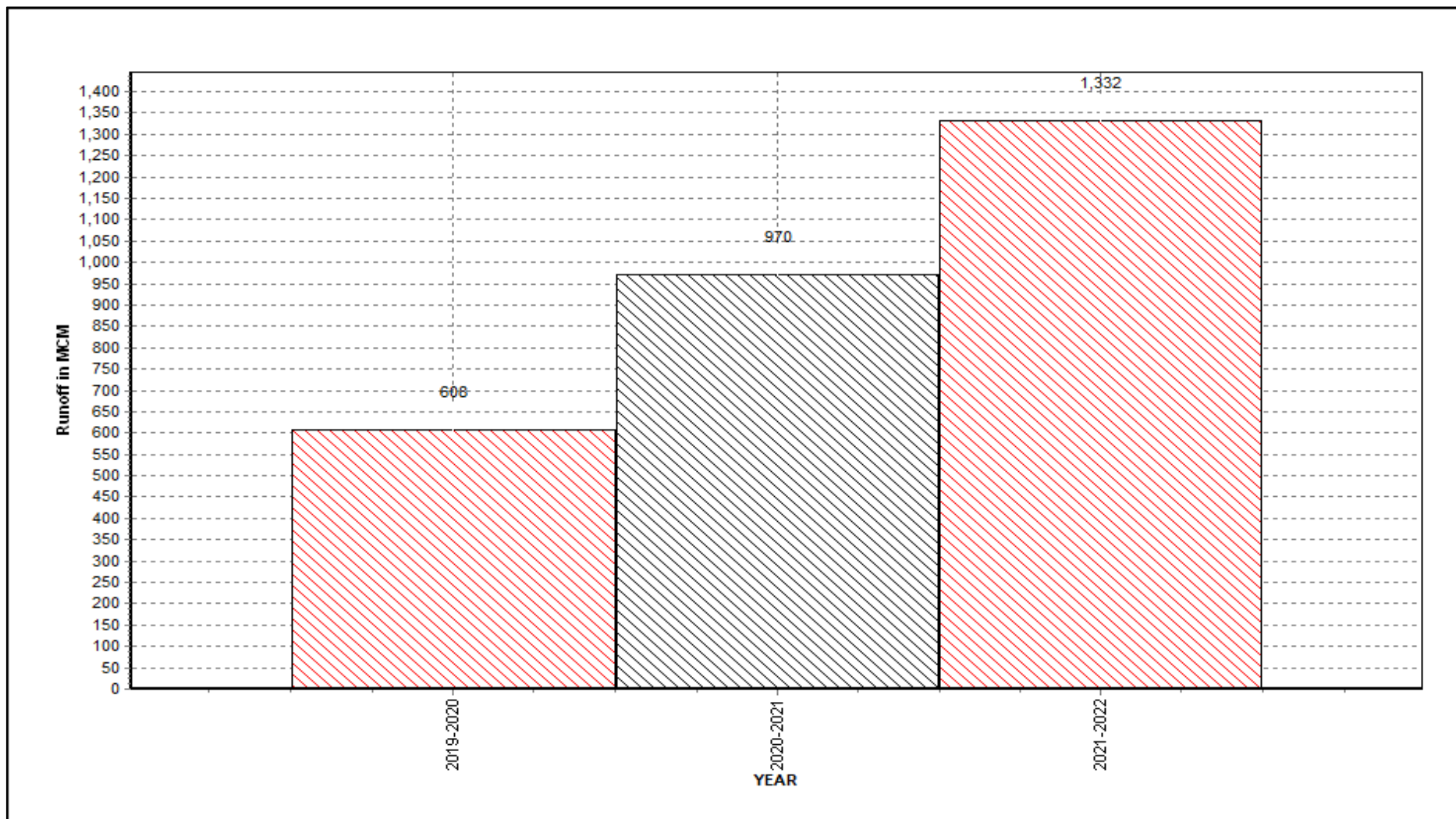
Annual Runoff Values for the period: 2019 - 2022

Station Name : KALMANE (KALMANE)

Local River : Malathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



Note: Missing values have not been considered while arriving at Annual Runoff

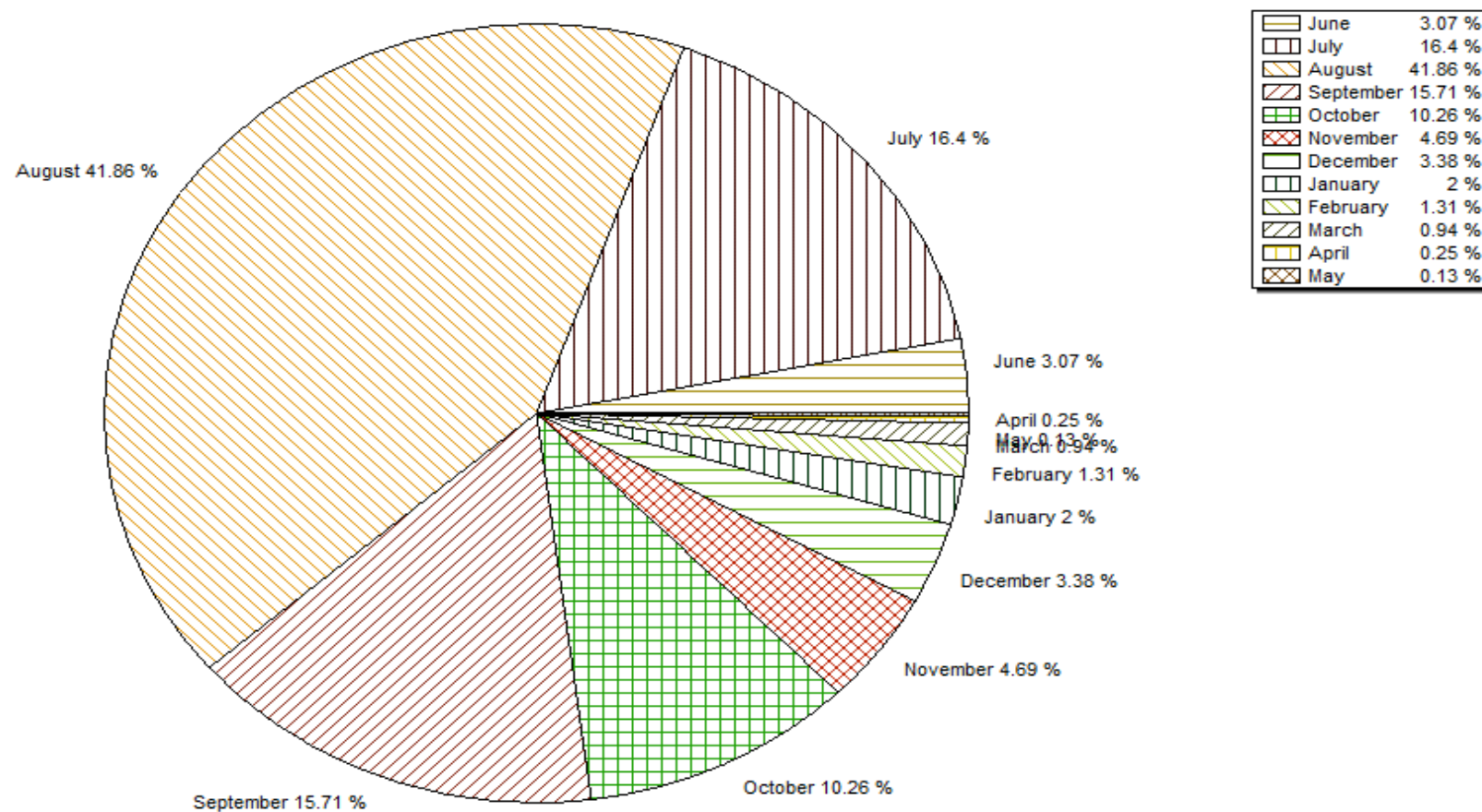
Monthly Average Runoff based on period : 2019-2021

Station Name : KALMANE (KALMANE)

Local River : Malathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



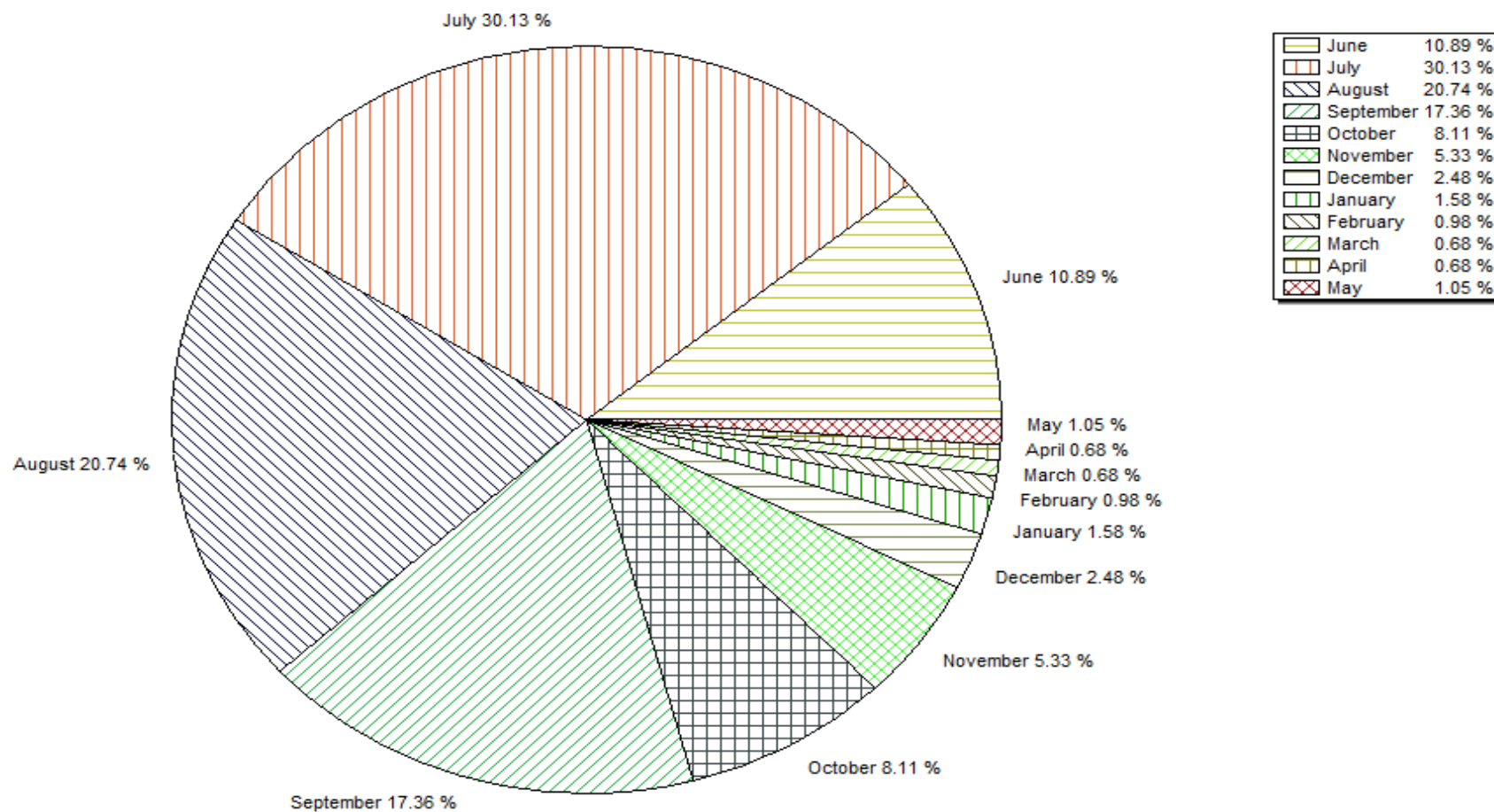
Monthly Runoff for the Year : 2021-2022

Station Name : KALMANE (KALMANE)

Local River : Malathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere

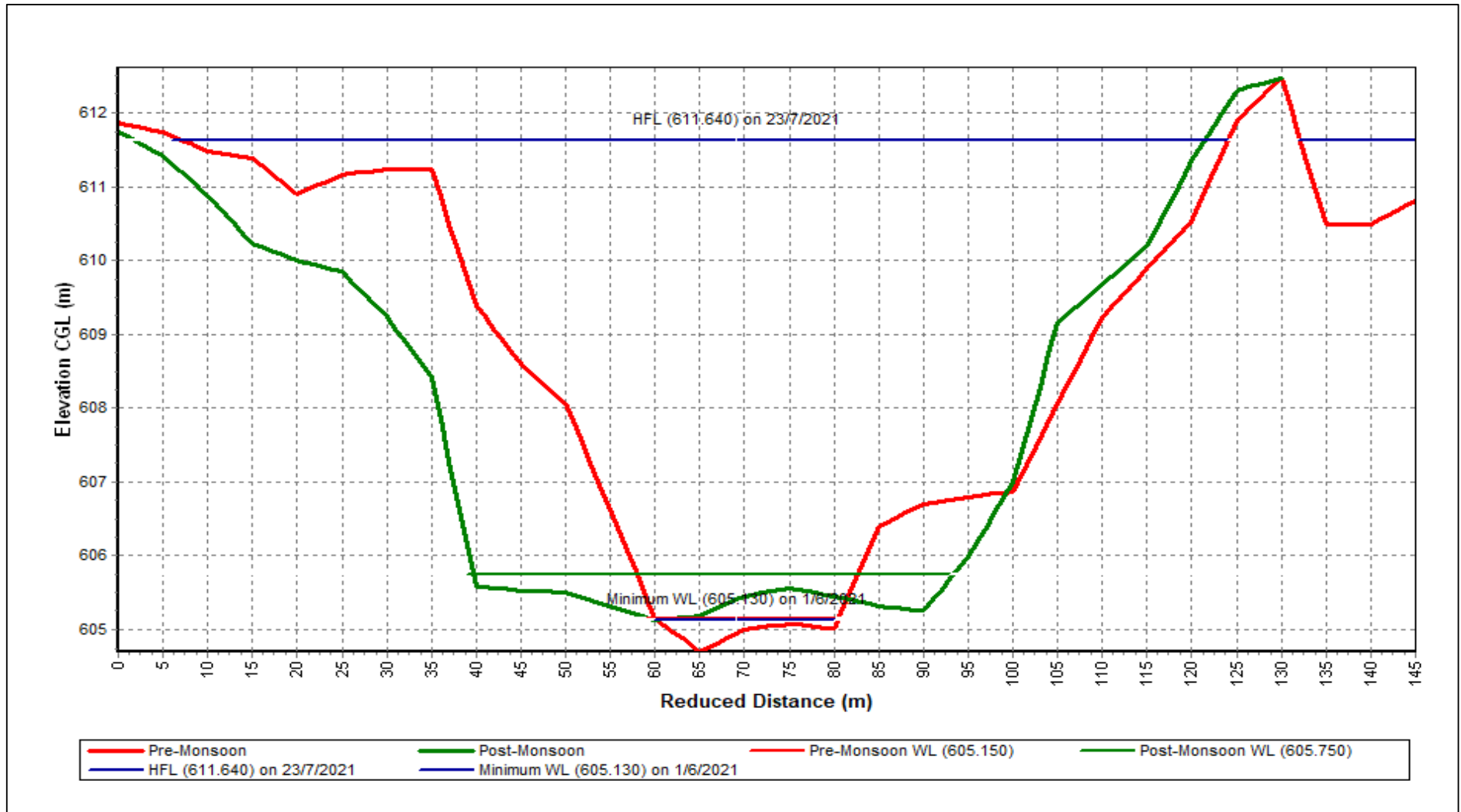


Station Name : KALMANE (KALMANE)

Local River : Malathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



Note:- X- Section Distrubed due to Removal of Sand

Zero of Gauge : 603 (m.s.l)

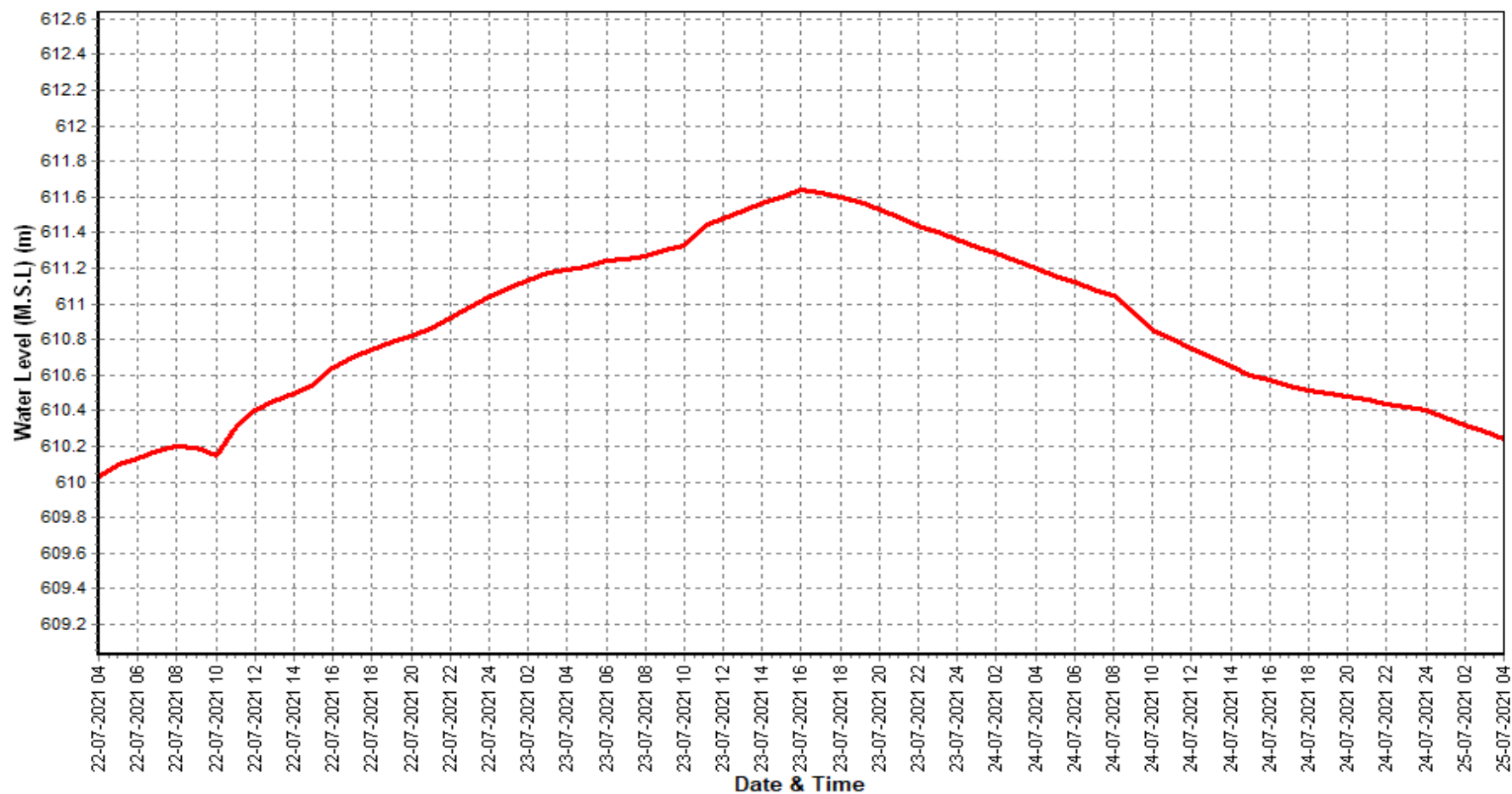
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : KALMANE (KALMANE)

Local River : Malathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



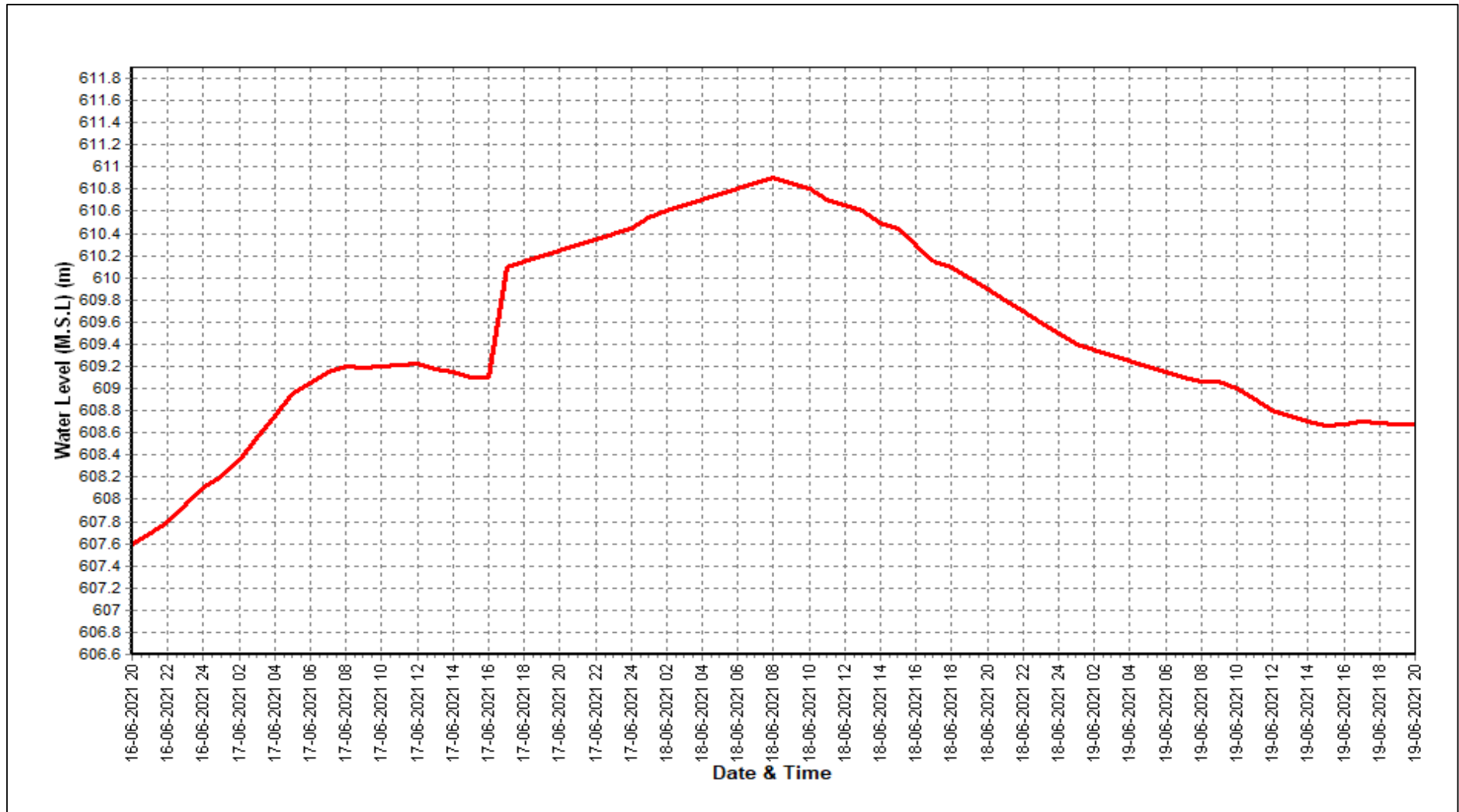
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : KALMANE (KALMANE)

Local River : Malathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



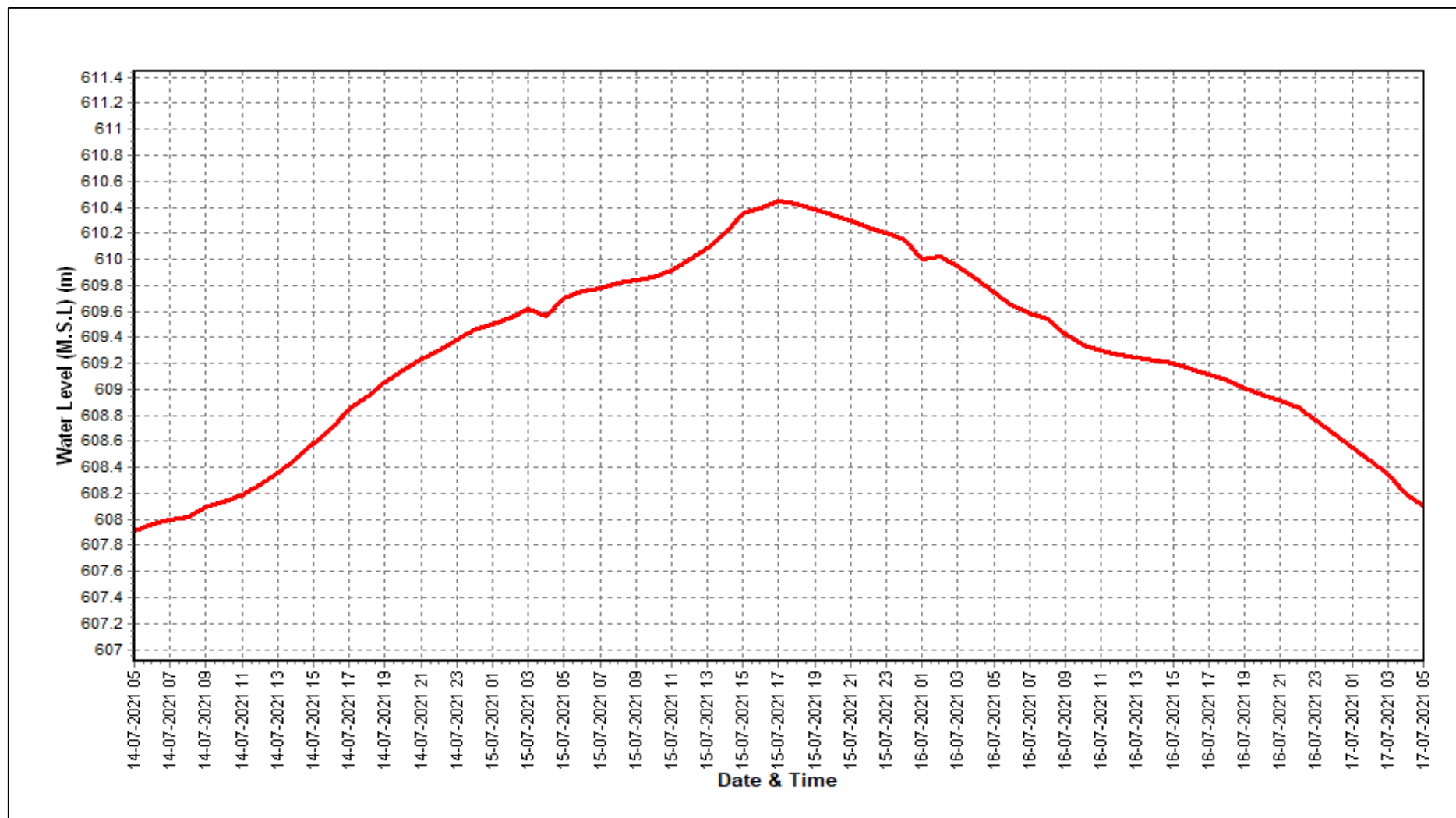
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : KALMANE (KALMANE)

Local River : Malathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



HISTORY SHEET

Water Year : 2021-2022

Site : HARALAHALLI

Code : AKL00S8

State : Karnataka

District : Haveri

Basin : Krishna

Independent River : Krishna

Tributary : Tungabhadra

Sub Tributary :

Sub-Sub Tributary :

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere

Drainage Area : 14582 Sq. Km.

Bank : Left

Latitude : 14°49'50"

Longitude : 75°40'28"

Zero of Gauge (m) : 507.436 (m.s.l)

28-03-1964

Opening Date

Closing Date

Gauge : 11-08-1965

Discharge : 13-12-1966

Sediment : 01-11-1972

Water Quality : 01-11-1972

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1967-1968	2550	514.700	29-07-1967	15.40	507.910	09-06-1967
1968-1969	1809	513.610	21-07-1968	21.40	507.980	19-06-1968
1969-1970	3788	515.070	24-07-1969	25.30	508.090	18-02-1970
1970-1971	2745	514.240	24-08-1970	31.70	508.150	01-04-1971
1971-1972	2550	514.180	22-07-1971	26.60	508.130	30-04-1972
1972-1973	2226	513.750	09-07-1972	5.400	507.820	13-04-1973
1973-1974	2419	514.140	10-07-1973	15.30	507.970	27-02-1974
1974-1975	2189	513.600	27-07-1974	15.00	508.070	23-06-1974
1975-1976	2902	514.550	12-07-1975	22.60	508.120	10-05-1976
1976-1977	1758	513.000	24-07-1976	3.100	507.750	22-04-1977
1977-1978	1741	513.010	26-07-1977	10.90	507.920	13-06-1977
1978-1979	2805	514.650	19-08-1978	16.10	507.950	06-04-1979
1979-1980	2033	514.010	04-08-1979	15.30	507.960	17-01-1980
1980-1981	3066	515.450	04-07-1980	14.10	507.970	23-04-1981
1981-1982	2578	514.450	20-08-1981	11.70	507.900	16-03-1982
1982-1983	4559	516.430	04-08-1982	8.500	507.820	11-04-1983
1983-1984	2617	514.540	24-07-1983	9.700	507.890	07-03-1984
1984-1985	2595	514.660	20-07-1984	7.600	507.860	11-05-1985
1985-1986	1902	513.510	28-06-1985	0.400	507.660	03-04-1986
1986-1987	2498	514.430	11-08-1986	2.300	507.660	20-04-1987
1987-1988	1076	511.950	28-08-1987	0.000	507.470	13-04-1988
1988-1989	2743	514.500	20-07-1988	0.000	507.470	16-04-1989

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1989-1990	2974	514.620	26-07-1989	2.000	507.720	15-04-1990
1990-1991	2314	513.940	19-08-1990	7.000	507.840	31-03-1991
1991-1992	3414	515.050	30-07-1991	0.000		26-03-1992
1992-1993	7357	518.110	18-11-1992	3.470	507.800	06-04-1993
1993-1994	1684	513.110	17-08-1993	7.230	507.820	03-06-1993
1994-1995	5840	517.570	17-07-1994	3.500	507.640	13-04-1995
1995-1996	1788	513.310	03-09-1995	2.000	507.590	10-05-1996
1996-1997	1538	512.760	25-07-1996	6.450	507.760	21-04-1997
1997-1998	3388	515.240	09-08-1997	2.500	507.670	22-04-1998
1998-1999	2286	513.890	15-09-1998	3.200	507.590	18-06-1998
1999-2000	2975	514.740	20-07-1999	7.210	507.770	24-03-2000
2000-2001	3036	514.850	15-07-2000	5.110	507.600	31-03-2001
2001-2002	1417	512.400	10-07-2001	0.000	507.080	07-04-2002
2002-2003	1452	512.480	19-08-2002	0.000		15-03-2003
2003-2004	1375	512.280	06-10-2003	0.000	507.190	17-02-2004
2004-2005	2993	514.740	06-08-2004	0.000		09-03-2005
2005-2006	3030	514.810	04-08-2005	0.000		21-01-2006
2006-2007	3516	515.150	14-08-2006	0.000		24-03-2007
2007-2008	5239	517.280	08-08-2007	0.000		10-02-2008
2008-2009	4550	516.680	15-08-2008	0.000	507.290	06-04-2009
2009-2010	3629	515.490	18-07-2009	0.000	507.280	12-04-2010
2010-2011	1741	513.020	31-07-2010	0.000	507.220	22-03-2011
2011-2012	2593	514.050	03-09-2011	0.000	507.350	30-03-2012
2012-2013	2544	513.950	09-08-2012	0.000		17-02-2013
2013-2014	3728	515.520	04-08-2013	0.000	507.300	03-02-2014
2014-2015	3986	515.380	08-08-2014	0.000	507.340	23-03-2015
2015-2016	1712	512.950	21-07-2015	0.000		10-02-2016
2016-2017	911.6	511.410	06-07-2016	0.000		24-01-2017
2017-2018	1002	511.640	21-07-2017	0.000	0.000	15-01-2018
2018-2019	3990	516.240	16-08-2018	0.000	506.140	21-01-2019
2019-2020	4360	516.800	11-08-2019	0.000	506.970	25-02-2020
2020-2021	2771	514.190	22-09-2020	0.000	506.910	08-02-2021

Annual Runoff of Krishna at Harlahalli

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1966-1967		506	506	0	18	18
2	1967-1968	5990	887	6877	212	31	243
3	1968-1969	5623	1232	6855	199	44	242
4	1969-1970	7211	1323	8534	255	47	302
5	1970-1971	8131	1396	9527	287	49	337
6	1971-1972	5948	1336	7283	210	47	257
7	1972-1973	4703	886	5589	166	31	197
8	1973-1974	6379	901	7280	225	32	257
9	1974-1975	5582	897	6479	197	32	229
10	1975-1976	9038	1481	10519	319	52	372
11	1976-1977	3921	852	4773	139	30	169
12	1977-1978	5685	1039	6723	201	37	238
13	1978-1979	10854	1281	12135	384	45	429
14	1979-1980	4869	1257	6126	172	44	216
15	1980-1981	9233	1069	10302	326	38	364
16	1981-1982	6702	899	7601	237	32	269
17	1982-1983	6213	782	6996	220	28	247
18	1983-1984	6041	1031	7072	213	36	250
19	1984-1985	6362	715	7077	225	25	250
20	1985-1986	5085	472	5557	180	17	196
21	1986-1987	4628	805	5434	164	28	192
22	1987-1988	3287	638	3926	116	23	139
23	1988-1989	4761	536	5297	168	19	187
24	1989-1990	5246	604	5850	185	21	207
25	1990-1991	6811	900	7711	241	32	272
26	1991-1992	7885	663	8548	279	23	302
27	1992-1993	8754	2912	11666	309	103	412
28	1993-1994	6418	833	7251	227	29	256
29	1994-1995	11378	803	12180	402	28	430
30	1995-1996	4433	571	5004	157	20	177
31	1996-1997	4667	606	5273	165	21	186
32	1997-1998	6922	933	7855	245	33	278
33	1998-1999	6674	973	7647	236	34	270
34	1999-2000	7568	910	8478	267	32	300
35	2000-2001	6828	944	7772	241	33	275
36	2001-2002	4541	536	5077	160	19	179
37	2002-2003	3307	396	3703	117	14	131
38	2003-2004	3138	231	3369	111	8	119
39	2004-2005	4692	280	4972	166	10	176
40	2005-2006	6904	656	7560	244	23	267
41	2006-2007	6496	683	7179	230	24	254
42	2007-2008	9341	891	10232	330	31	362
43	2008-2009	6112	556	6668	216	20	236
44	2009-2010	6921	902	7824	245	32	276
45	2010-2011	5559	1535	7094	196	54	251
46	2011-2012	5851	633	6484	207	22	229
47	2012-2013	3651	502	4153	129	18	147

48	2013-2014	7998	472	8470	283	17	299
49	2014-2015	6779	490	7269	240	17	257
50	2015-2016	2771	293	3063	98	10	108
51	2016-2017	2105	109	2213	74	4	78
52	2017-2018	2287	147	2433	81	5	86
53	2018-2019	7190	154	7345	254	5	260
54	2019-2020	6814	605	7419	241	21	262
55	2020-2021	4574	254	4827	162	9	171
56	2021-2022	5944	860	6804	210	30	240
Average		6051	805	6747	210	28	238

Instantaneous Flood Peak of Krishna at Harlahalli					
Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	1966-1967	513.696	01-08-1966	02:00:00	1518 *
2	1967-1968	514.706	29-07-1967	09:00:00	2314 *
3	1968-1969	513.741	21-07-1968	04:00:00	1550 *
4	1969-1970	515.066	24-07-1969	09:00:00	2637 *
5	1970-1971	514.476	24-08-1970	08:00:00	2118 *
6	1971-1972	514.326	23-07-1971	00:00:00	1995 *
7	1972-1973	513.901	10-07-1972	00:00:00	1666 *
8	1973-1974	514.151	10-07-1973	11:00:00	1856 *
9	1974-1975	514.016	28-07-1974	00:00:00	1752 *
10	1975-1976	514.736	12-07-1975	19:00:00	2340 *
11	1976-1977	513.251	24-07-1976	18:00:00	1219 *
12	1977-1978	513.016	26-07-1977	06:00:00	1074 *
13	1978-1979	514.856	27-07-1978	22:00:00	2446 *
14	1979-1980	514.016	04-08-1979	09:00:00	1752 *
15	1980-1981	515.506	04-07-1980	21:00:00	3060 *
16	1981-1982	514.561	19-08-1981	22:00:00	2189 *
17	1982-1983	516.471	04-08-1982	12:00:00	4098 *
18	1983-1984	514.701	24-07-1983	16:00:00	2309 *
19	1984-1985	514.686	20-07-1984	12:00:00	2296 *
20	1985-1986	513.636	28-06-1985	15:00:00	1476 *
21	1986-1987	514.456	11-08-1986	14:00:00	2101 *
22	1987-1988	512.096	10-07-1987	19:00:00	592 *
23	1988-1989	514.506	20-07-1988	08:00:00	2143 *
24	1989-1990	514.636	26-07-1989	04:00:00	2253 *
25	1990-1991	513.956	19-08-1990	12:00:00	1707 *
26	1991-1992	515.220	30-07-1991	06:00:00	2782 *
27	1992-1993	518.109	10-11-1992	17:00:00	6188 *
28	1993-1994	513.140	17-08-1993	15:00:00	1150 *
29	1994-1995	517.666	17-07-1994	12:00:00	5590 *
30	1995-1996	513.436	03-09-1995	00:00:00	1339 *
31	1996-1997	512.776	25-07-1996	08:00:00	935 *
32	1997-1998	515.326	09-08-1997	15:00:00	2883 *
33	1998-1999	513.956	15-09-1998	12:00:00	1707 *
34	1999-2000	514.736	20-07-1999	08:00:00	2340 *
35	2000-2001	514.866	15-07-2000	10:00:00	2455 *
36	2001-2002	512.396	10-07-2001	08:00:00	735 *
37	2002-2003	512.496	19-08-2002	05:00:00	785 *
38	2003-2004	512.276	06-10-2003	07:00:00	676 *
39	2004-2005	514.736	06-08-2004	08:00:00	2340 *
40	2005-2006	514.896	04-08-2005	21:00:00	2482 *
41	2006-2007	515.186	14-08-2006	06:00:00	2749 *
42	2007-2008	517.436	08-08-2007	16:00:00	5285 *

Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
43	2008-2009	516.696	15-08-2008	05:00:00	4361 *
44	2009-2010	515.496	18-07-2009	10:00:00	3050 *
45	2010-2011	513.016	30-07-2010	23:00:00	1074 *
46	2011-2012	514.086	03-09-2011	11:00:00	1806 *
47	2012-2013	513.956	09-08-2012	02:00:00	1707 *
48	2013-2014	515.596	03-08-2013	23:00:00	3151 *
49	2014-2015	515.496	08-08-2014	00:00:00	3050 *
50	2015-2016	513.016	21-07-2015	12:00:00	1074 *
51	2016-2017	511.766	06-07-2016	18:00:00	453 *
52	2017-2018	511.676	21-07-2017	18:00:00	418 *
53	2018-2019	516.240	16-08-2018	08:00:00	3836 *
54	2019-2020	516.895	11-08-2019	12:00:00	4602 *
55	2020-2021	514.186	22-09-2020	08:00:00	2771 *
56	2021-2022	515.706	25-07-2021	09:00:00	4391 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : HARALAHALLI (AKL00S8)

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

Sub-Division : Upper Tunga Subdn, Devangere

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	507.826	42.05	507.916	51.78	510.276	505.9 *	509.616	320.2	508.576	121.6	508.516	112.7
2	507.816	40.93	507.766	36.92	510.146	476.8	509.406	271.1	508.916	174.2 *	508.476	108.6
3	507.796	39.40	507.746	36.41	510.136	473.5	509.146	218.5	509.766	357.2 *	508.516	112.7
4	507.766	36.94	507.766	38.60 *	509.726	347.3	508.986	184.2	510.336	530.1	508.496	111.0 *
5	507.836	43.46	507.806	40.67	509.846	385.0	508.996	188.2 *	509.816	372.9	508.486	109.5
6	507.856	45.18 *	508.286	89.38	511.496	961.1	509.036	195.1	510.006	432.3	508.476	108.6
7	507.866	46.62	507.976	57.90	511.476	953.3	509.036	195.1	510.276	513.4	509.006	190.0 *
8	507.586	21.38	507.876	47.87	511.946	1225 *	509.096	207.9	511.756	1077	509.256	237.6
9	507.376	0.000	507.846	44.61	512.666	1558	509.376	264.5	510.626	624.5	509.106	207.8
10	507.326	0.000	507.746	36.27	511.076	792.3	509.816	370.4 *	509.626	321.7 *	508.876	166.3
11	507.296	0.000	507.746	37.22 *	510.166	483.5	510.016	437.9	509.286	247.2	508.856	163.1
12	507.276	0.000	507.786	39.15	510.096	459.3	509.616	319.2 *	509.336	258.3	508.586	122.3
13	507.256	0.000	507.856	45.93	509.776	364.4	509.366	261.6	510.326	525.1	508.576	120.9
14	507.246	0.000	508.376	98.07	509.956	418.3	510.436	562.1	510.126	469.2	508.536	116.3 *
15	507.226	0.000	508.916	173.5	509.496	290.6 *	511.146	823.6	511.496	993.8 *	508.516	112.3
16	507.246	0.000	511.376	915.0	509.556	304.3	510.946	737.9	510.446	567.1	508.506	111.0
17	509.006	188.6	511.616	1012	509.546	302.4	510.266	510.9	509.526	297.6 *	510.526	590.2
18	510.056	451.4	510.556	600.9 *	509.616	320.2	509.746	354.1	509.186	228.5	510.216	496.1
19	511.086	797.4	510.516	587.0	509.426	275.7	509.386	265.8 *	509.016	191.8 *	510.736	667.2 *
20	511.056	795.3 *	512.016	1199	509.486	288.3 *	509.136	215.7	508.796	157.8	511.306	888.3
21	510.146	475.9	510.906	733.6 *	509.556	304.3	508.986	184.2	508.756	149.9	512.086	1302 *
22	510.106	463.4	510.846	699.6	509.416	272.4 *	508.906	171.1	508.746	148.1	511.036	776.8
23	509.756	358.6	511.716	1055	509.286	247.2	508.756	149.9	509.226	237.1	509.956	418.4
24	509.296	249.9	514.256	2896	509.146	218.5	508.676	137.4	509.856	381.2 *	509.416	276.0
25	508.726	148.5	515.706	4391 *	509.066	201.1	508.656	133.9	510.116	464.6	509.256	237.6
26	508.566	123.5	514.276	2921	508.886	169.4	508.716	142.0 *	510.016	437.9	509.186	223.5
27	508.356	93.60 *	512.276	1333	508.776	154.5	508.626	129.4	509.666	332.7	509.186	223.5
28	508.016	62.27	511.356	901.7	508.726	148.5	508.616	127.4	509.256	237.6	509.226	232.0 *
29	507.856	45.96	510.946	737.9	508.966	182.9 *	508.586	123.0	509.076	201.9	509.136	212.5
30	508.186	79.28	510.376	541.7	509.376	264.5	508.486	109.8	508.886	167.7	508.986	183.0
31			510.066	452.1	509.726	347.3			508.666	134.6 *		
Ten-Daily Mean												
I Ten-Daily	507.705	31.60	507.873	48.04	510.879	767.8	509.251	241.5	509.970	452.5	508.721	146.5
II Ten-Daily	508.475	223.3	509.676	470.7	509.712	350.7	510.006	448.9	509.754	393.6	509.436	338.8
III Ten-Daily	508.901	210.1	512.066	1515	509.175	228.2	508.701	140.8	509.297	263.0	509.747	408.5
Monthly												
Min.	507.226	0.000	507.746	36.27	508.726	148.5	508.486	109.8	508.576	121.6	508.476	108.6
Max.	511.086	797.4	515.706	4391	512.666	1558	511.146	823.6	511.756	1077	512.086	1302
Mean	508.360	155	509.942	704.8	509.898	441.8	509.319	277.1	509.661	366.3	509.301	297.9

Annual Runoff in MCM = 6804 Annual Runoff in mm = 467

Peak Observed Discharge = 2921 cumecs on 26-07-2021 Corres. Water Level :514.276 m

Lowest Observed Discharge = 0.000 cumecs on 09-06-2021 Corres. Water Level :507.376 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : HARALAHALLI (AKL00S8)

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

Sub-Division : Upper Tunga Subdn, Devangere

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	508.756	148.0	507.856	45.31	507.536	16.19	507.246	0.000	507.466	15.20 #	507.716	31.28 *
2	508.686	138.0	507.856	42.81 *	507.556	18.27	507.246	0.000	507.466	15.20 #	507.686	31.45
3	508.636	129.8	507.746	36.12	507.636	27.17	507.266	0.000	507.386	11.27 *	507.656	28.51
4	508.516	112.7	507.606	23.85	507.596	22.34	507.226	0.000	507.376	0.000	507.616	25.04
5	508.506	120.2 *	507.586	21.83	507.576	20.37	507.206	0.000	507.366	0.000	507.686	31.45
6	508.686	138.0	507.566	19.22	507.536	19.12 *	507.186	0.000	507.406	0.000	507.656	28.51
7	508.566	119.2	507.576	20.37	507.516	14.10	507.196	0.000	507.396	0.000	507.816	41.84
8	508.486	117.3 *	507.566	19.22	507.466	15.20 #	507.176	0.000	507.416	0.000	508.016	58.22 *
9	508.436	104.2	507.566	20.94 *	507.466	15.20 #	507.166	0.000	507.396	0.000	508.056	66.44
10	508.686	138.0	507.616	25.04	507.386	0.000	507.136	0.000	507.386	0.000	508.086	69.68
11	508.436	104.2	507.636	27.17	507.386	0.000	507.116	0.000	507.366	0.000	508.196	80.91
12	508.286	89.63 *	507.636	27.17	507.376	0.000	507.116	0.000	507.356	0.000	508.266	87.98
13	508.296	89.91	507.656	28.51	507.406	0.000	507.086	0.000	507.306	0.000	508.456	107.5
14	508.276	87.72	507.606	23.50 *	507.366	0.000	507.076	0.000	507.256	0.000	508.486	110.6
15	508.236	83.85	507.736	35.49	507.346	0.000	507.106	0.000	507.276	0.000	508.186	77.21 *
16	508.216	81.84	507.716	31.28 *	507.296	0.000	507.136	0.000	507.356	0.000	507.886	45.52 *
17	508.176	77.77	507.726	34.69	507.556	18.27	507.136	0.000	507.816	39.34 *	507.736	35.23
18	508.146	74.67	507.726	34.69	507.616	25.04	507.146	0.000	508.046	64.81	507.886	49.32
19	508.106	67.94 *	507.696	32.40	507.656	28.51	507.116	0.000	508.186	78.88	508.586	123.2
20	508.086	68.68	507.656	28.51	507.636	25.51 *	507.176	0.000	508.276	88.11	510.636	622.4
21	508.076	67.41	507.736	35.49	507.616	25.04	507.186	0.000	508.326	93.38	512.796	1640
22	508.066	66.51	507.726	34.69	507.576	20.37	507.176	0.000	508.236	83.99	510.786	705.0 *
23	508.066	66.51	507.666	27.60 *	507.366	0.000	507.166	0.000	508.146	74.59	509.256	239.9
24	507.996	59.43	507.686	31.45	507.306	0.000	507.186	0.000	508.246	84.55 *	508.896	170.0
25	507.996	56.17 *	507.656	28.51	507.296	0.000	507.296	0.000	508.146	74.59	508.696	140.6
26	508.086	65.71 *	507.636	25.51 *	507.326	0.000	507.416	0.000	507.966	56.75	508.316	92.97
27	508.106	70.70	507.596	22.34	507.306	0.000	507.486	16.28 *	507.966	56.75	508.076	68.89
28	508.086	68.68	507.536	16.19	507.286	0.000	507.596	22.34	507.906	50.65	507.886	49.32
29	507.996	59.43	507.516	14.10			507.596	22.34	507.856	45.44	507.836	41.06 *
30	507.866	46.51	507.516	17.96 *			507.576	20.37	507.776	38.15	507.716	33.90
31	507.866	46.51	507.516	14.10			507.496	12.10			507.706	33.17
<u>Ten-Daily Mean</u>												
I Ten-Daily	508.596	126.5	507.654	27.47	507.527	16.79	507.205	0.000	507.406	4.167	507.799	41.24
II Ten-Daily	508.226	82.62	507.679	30.34	507.464	9.733	507.121	0.000	507.624	27.11	508.432	134.0
III Ten-Daily	508.019	61.23	507.617	24.36	507.385	5.676	507.380	8.493	508.057	65.88	508.906	292.2
<u>Monthly</u>												
Min.	507.866	46.51	507.516	14.10	507.286	0.000	507.076	0.000	507.256	0.000	507.616	25.04
Max.	508.756	148.0	507.856	45.31	507.656	28.51	507.596	22.34	508.326	93.38	512.796	1640
Mean	508.272	89.2	507.649	27.29	507.464	11.1	507.240	3.013	507.696	32.39	508.396	160.2

Peak Computed Discharge = 4391 cumecs on 25-07-2021

Corres. Water Level :515.706 m

Lowest Computed Discharge = 11.27 cumecs on 03-04-2022

Corres. Water Level :507.386 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

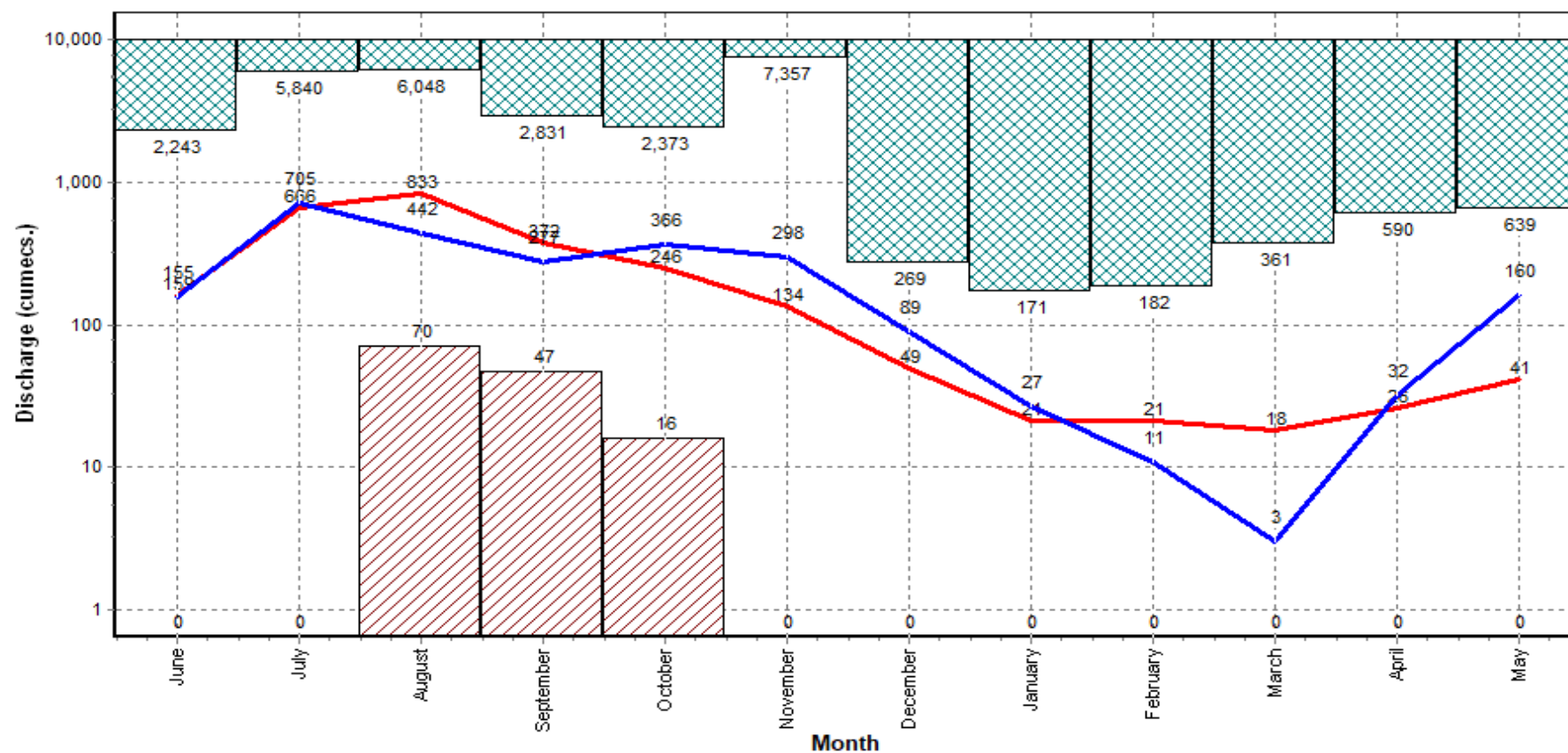
Station Name : HARALAHALLI (AKL00S8)

Data considered : 1967-2022

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

Sub-Division : Upper Tunga Subdn, Devangere



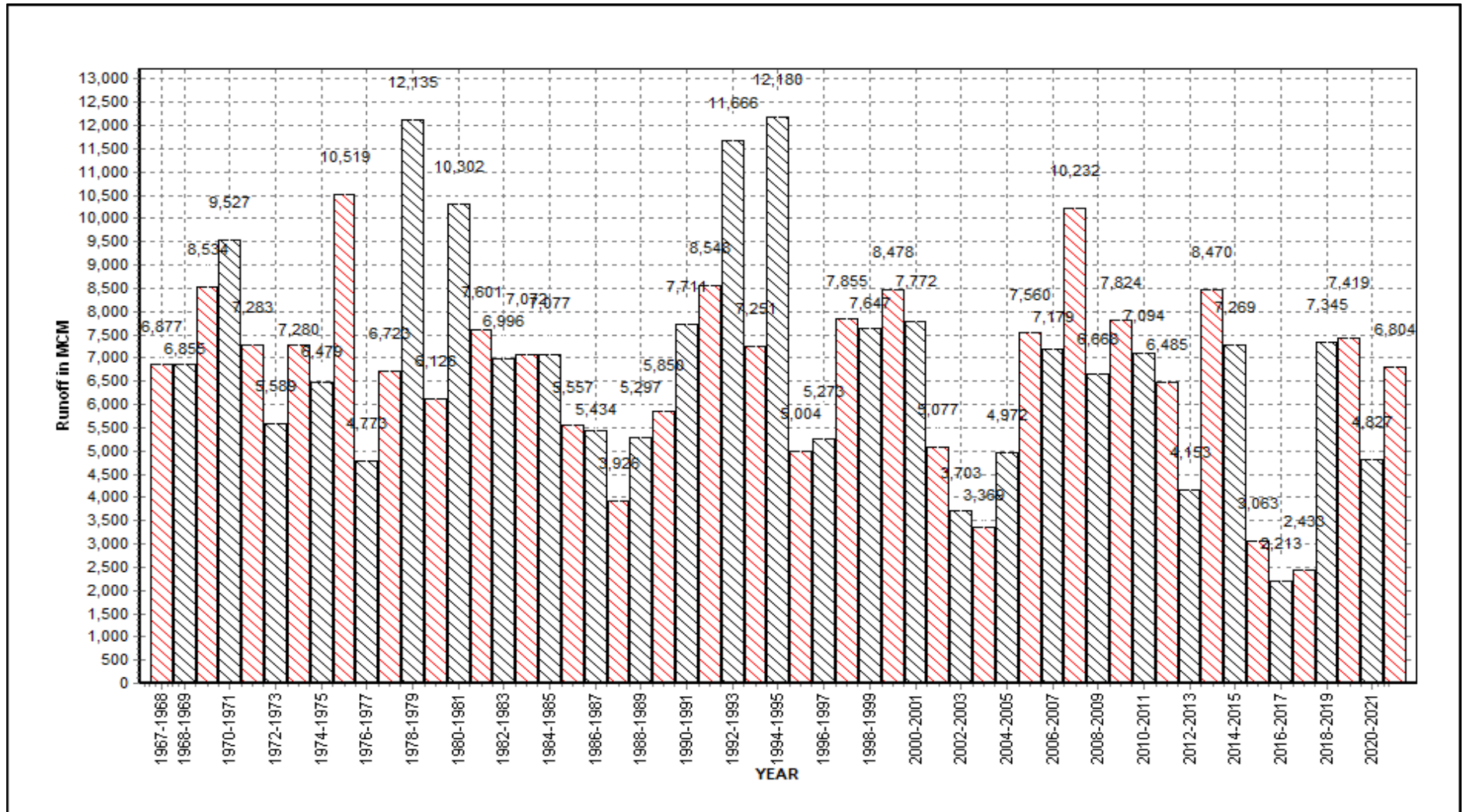
Annual Runoff Values for the period: 1967 - 2022

Station Name : HARALAHALLI (AKL00S8)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



Note: Missing values have not been considered while arriving at Annual Runoff

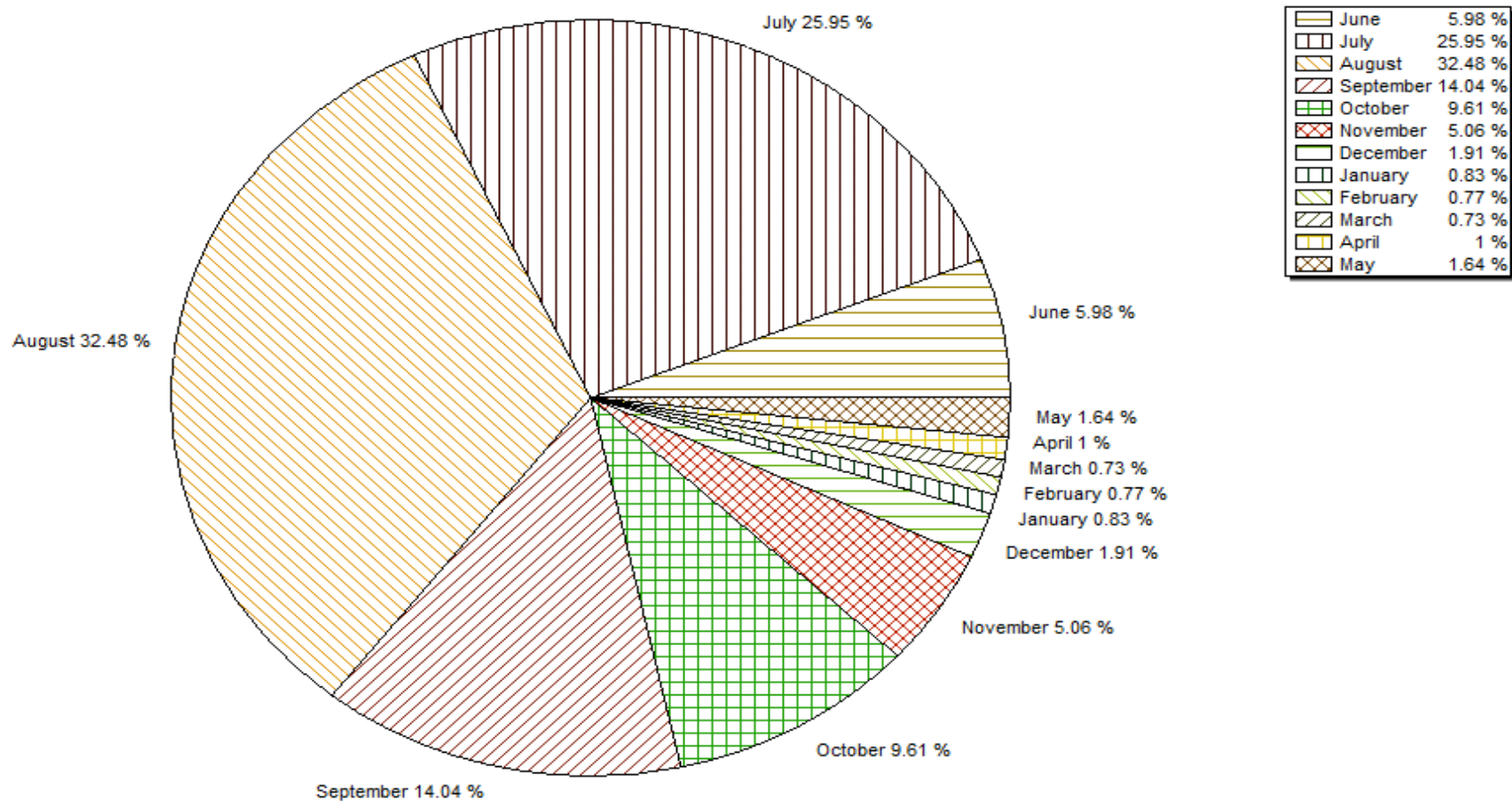
Monthly Average Runoff based on period : 1967-2021

Station Name : HARALAHALLI (AKL00S8)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



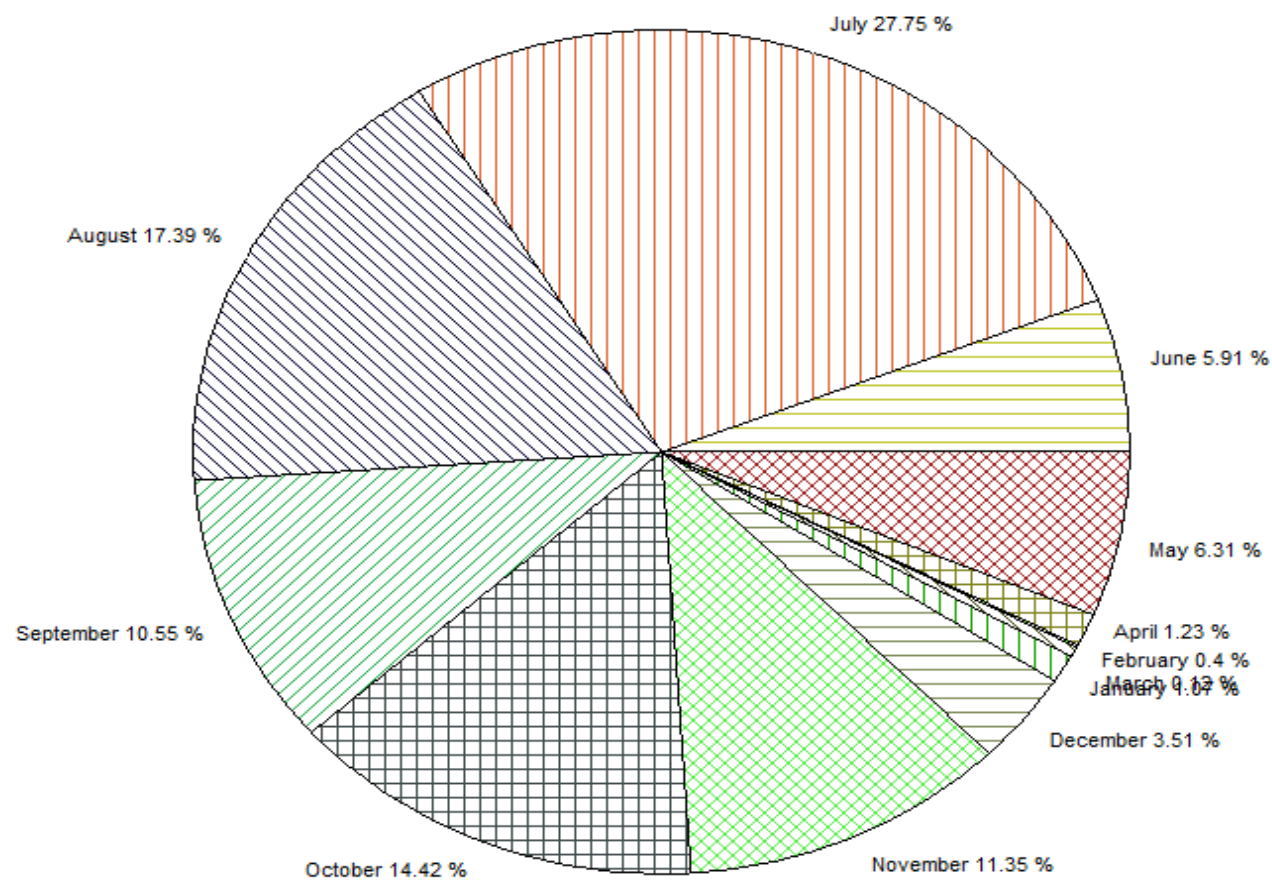
Monthly Runoff for the Year : 2021-2022

Station Name : HARALAHALLI (AKL00S8)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



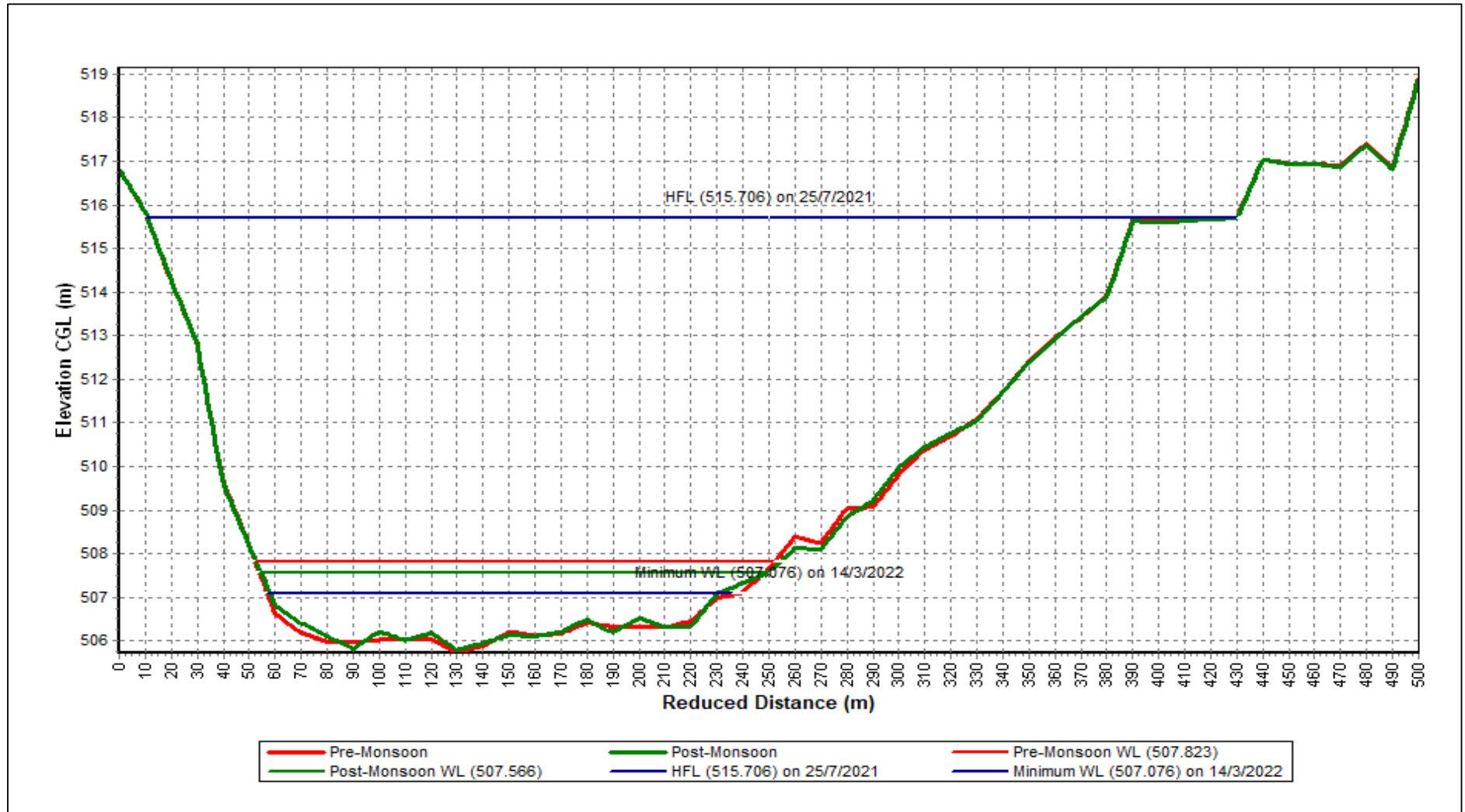
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : HARALAHALLI (AKL00S8)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



Zero of Gauge : 507.436 (m.s.l)

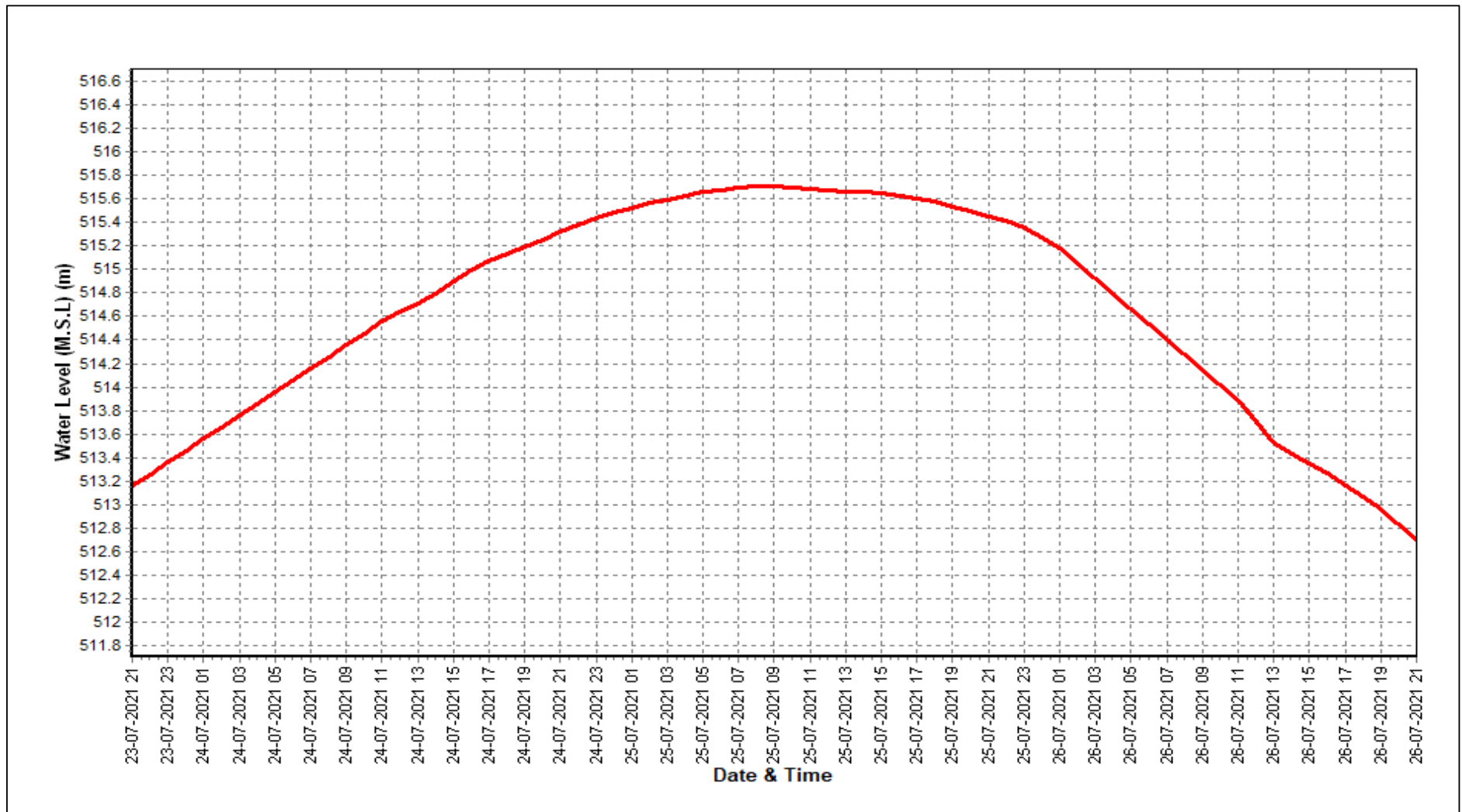
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : HARALAHALLI (AKL00S8)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



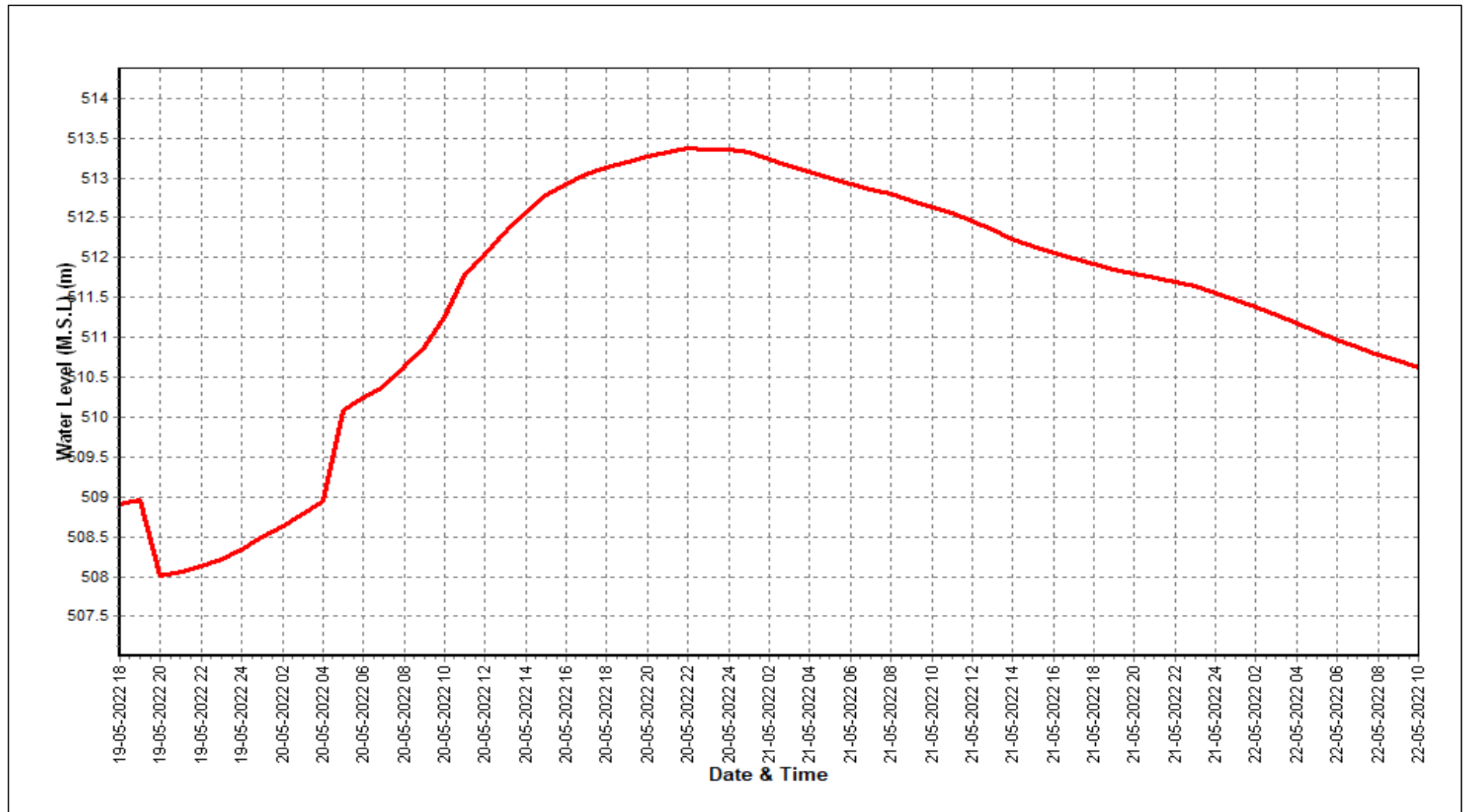
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : HARALAHALLI (AKL00S8)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



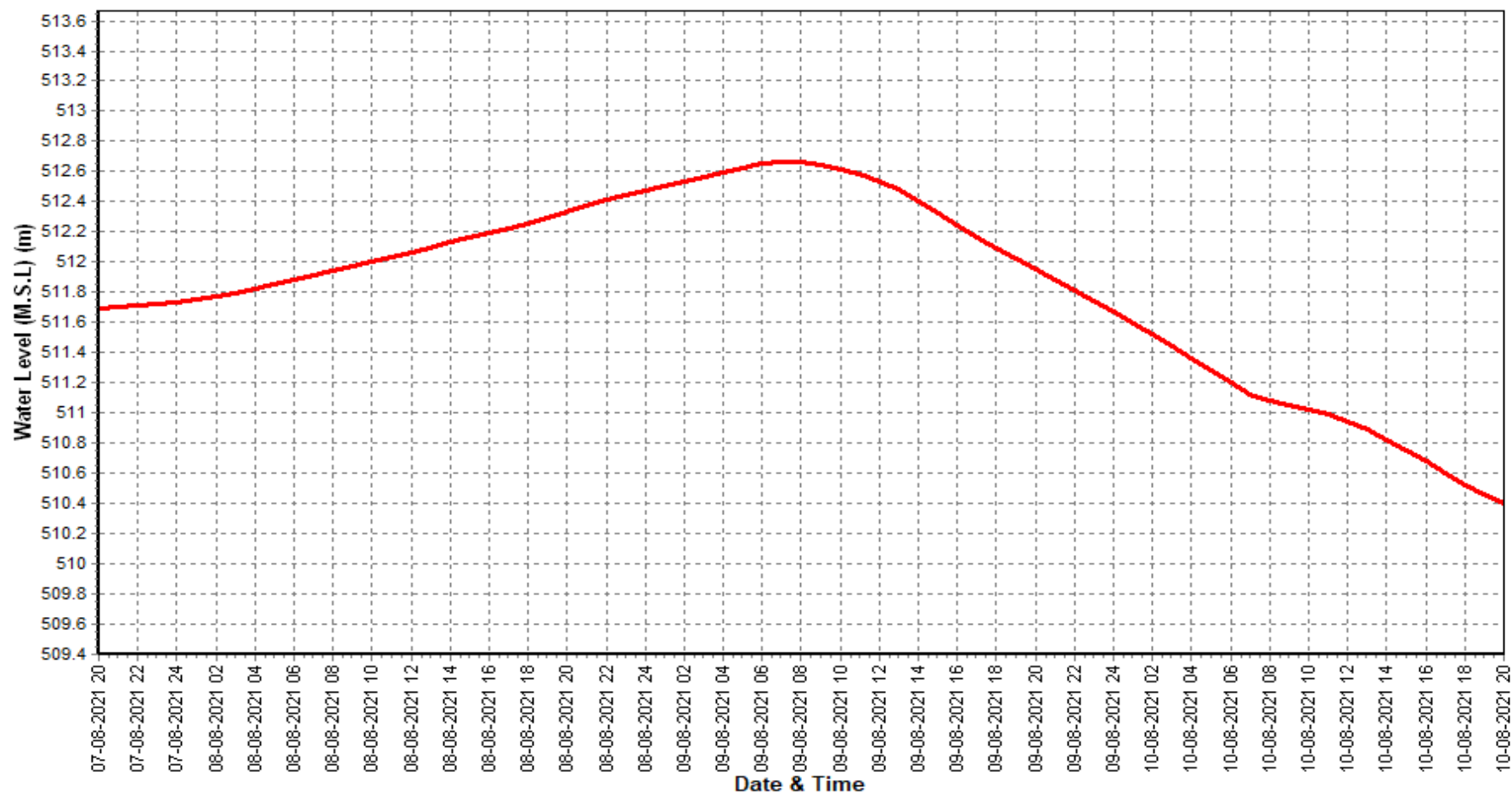
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : HARALAHALLI (AKL00S8)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



HISTORY SHEET

Water Year : 2021-2022

Site : MAROL

Code : AKLA0C4

State : Karnataka

District : Haveri

Basin : Krishna

Independent River : Krishna

Tributary : Tungabhadra

Sub Tributary :

Sub-Sub Tributary :

Local River : Varada

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere

Drainage Area : 4901 Sq. Km.

Bank : Right

Latitude : 14°56'20"

Longitude : 75°37'05"

Zero of Gauge (m) : 507.551 (m.s.l)

05-02-1965 :

Opening Date

Closing Date

Gauge : 05-02-1965

Discharge : 01-02-1966

Sediment : 16-09-1972

Water Quality : 01-02-1973

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1966-1967	185.0	511.100	03-12-1966	0.100	508.320	14-05-1967
1967-1968	1000	515.670	05-08-1967	0.110	508.320	04-04-1968
1968-1969	499.0	512.720	22-07-1968	0.000		06-05-1969
1969-1970	895.6	514.380	26-07-1969	0.000	508.310	22-04-1970
1970-1971	1008	514.820	23-08-1970	0.000		10-04-1971
1971-1972	440.0	512.820	07-06-1971	0.000		10-04-1972
1972-1973	869.8	514.840	11-07-1972	0.000		29-03-1973
1973-1974	588.0	513.650	11-07-1973	0.000		28-02-1974
1974-1975	462.0	512.750	08-07-1974	0.000		27-03-1975
1975-1976	1017	514.760	12-07-1975	0.000	508.050	25-05-1976
1976-1977	304.1	511.960	03-08-1976	0.000	507.710	25-03-1977
1977-1978	482.9	512.710	26-07-1977	0.000		14-03-1978
1978-1979	601.6	513.580	27-09-1978	0.000		24-04-1979
1979-1980	799.7	514.380	12-08-1979	0.000		30-03-1980
1980-1981	1525	516.750	05-07-1980	0.000		29-03-1981
1981-1982	588.5	513.290	21-08-1981	0.000		02-03-1982
1982-1983	1430	516.880	06-08-1982	0.000	507.850	10-04-1983
1983-1984	1010	514.870	14-08-1983	0.000		17-04-1984
1984-1985	752.5	513.970	03-07-1984	0.000	508.230	27-02-1985
1985-1986	576.9	513.160	05-08-1985	0.000	508.300	06-02-1986
1986-1987	751.7	513.930	14-08-1986	0.000	508.050	10-02-1987
1987-1988	305.5	511.530	11-07-1987	0.000	509.550	02-02-1988

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1988-1989	1180	515.510	22-07-1988	0.000		24-01-1989
1989-1990	644.9	513.800	27-07-1989	0.000	509.160	25-01-1990
1990-1991	485.0	512.850	20-08-1990	0.000		25-01-1991
1991-1992	790	514.310	19-07-1991	0.000		28-01-1992
1992-1993	1525	517.460	18-11-1992	0.000	508.110	17-02-1993
1993-1994	640.5	513.410	18-10-1993	0.000		21-02-1994
1994-1995	1320	516.860	17-07-1994	0.000	510.050	01-02-1995
1995-1996	476.0	512.580	23-07-1995	0.000	509.000	26-01-1996
1996-1997	377.8	512.160	30-07-1996	0.000	509.990	25-01-1997
1997-1998	1191	515.860	09-08-1997	0.000	508.620	10-02-1998
1998-1999	475.0	512.970	06-07-1998	0.000	509.410	01-02-1999
1999-2000	1107	516.520	25-07-1999	0.000		29-01-2000
2000-2001	807.5	514.820	16-07-2000	0.000	510.260	25-01-2001
2001-2002	249.1	511.490	11-07-2001	0.000		25-01-2002
2002-2003	380.9	512.310	13-08-2002	0.000		25-01-2003
2003-2004	315.1	511.840	06-10-2003	0.000		26-01-2004
2004-2005	605.0	513.520	07-08-2004	0.000		25-01-2005
2005-2006	919.6	515.360	29-07-2005	0.000		25-01-2006
2006-2007	780.4	514.490	14-08-2006	0.000	508.900	25-01-2007
2007-2008	1540	517.450	09-08-2007	0.000	508.200	01-02-2008
2008-2009	1317	516.470	15-08-2008	0.000	509.050	25-01-2009
2009-2010	1076	515.590	19-07-2009	0.000	510.010	25-01-2010
2010-2011	677.5	513.950	05-10-2010	0.000		18-02-2011
2011-2012	700.4	514.030	05-09-2011	0.000		11-02-2012
2012-2013	571.6	513.320	10-08-2012	0.000	509.770	02-12-2012
2013-2014	915.6	515.140	05-08-2013	0.000		25-01-2014
2014-2015	1121	515.870	04-08-2014	0.000	510.060	25-01-2015
2015-2016	260.2	511.300	27-06-2015	0.000		26-01-2016
2016-2017	241.8	511.150	07-07-2016	0.000		28-01-2017
2017-2018	381.2	511.680	23-07-2017	0.000	507.550	25-01-2018
2018-2019	1025	514.700	16-08-2018	0.000		25-01-2019
2019-2020	1659	518.070	11-08-2019	0.000	508.180	02-01-2020
2020-2021	716.0	514.060	10-08-2020	0.000	509.600	17-05-2021

Annual Runoff of Krishna at Marol

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1966-1967	34	202	236	1	7	8
2	1967-1968	1742	65	1807	62	2	64
3	1968-1969	1364	43	1407	48	2	50
4	1969-1970	2150	137	2287	76	5	81
5	1970-1971	2752	86	2838	97	3	100
6	1971-1972	1366	58	1425	48	2	50
7	1972-1973	1228	40	1268	43	1	45
8	1973-1974	1565	39	1604	55	1	57
9	1974-1975	1574	59	1633	56	2	58
10	1975-1976	2274	270	2544	80	10	90
11	1976-1977	789	127	916	28	4	32
12	1977-1978	1289	94	1383	46	3	49
13	1978-1979	2344	174	2518	83	6	89
14	1979-1980	1349	149	1497	48	5	53
15	1980-1981	3300	70	3370	117	2	119
16	1981-1982	1773	80	1853	63	3	65
17	1982-1983	2780	95	2876	98	3	102
18	1983-1984	2320	89	2409	82	3	85
19	1984-1985	2126	44	2169	75	2	77
20	1985-1986	1308	14	1322	46	0	47
21	1986-1987	1371	130	1502	48	5	53
22	1987-1988	777	42	820	27	1	29
23	1988-1989	1897	12	1908	67	0	67
24	1989-1990	1249	1	1251	44	0	44
25	1990-1991	1784	38	1822	63	1	64
26	1991-1992	3222	33	3255	114	1	115
27	1992-1993	2664	830	3494	94	29	123
28	1993-1994	1795	206	2000	63	7	71
29	1994-1995	3360	72	3432	119	3	121
30	1995-1996	1207	18	1225	43	1	43
31	1996-1997	1022	22	1045	36	1	37
32	1997-1998	2433	132	2565	86	5	91
33	1998-1999	1745	92	1837	62	3	65
34	1999-2000	2068	52	2120	73	2	75
35	2000-2001	1986	31	2017	70	1	71
36	2001-2002	803	0	803	28	0	28
37	2002-2003	805	0	805	28	0	28
38	2003-2004	839	8	847	30	0	30
39	2004-2005	1394	0	1394	49	0	49
40	2005-2006	2290	35	2325	81	1	82
41	2006-2007	2526	15	2541	89	1	90
42	2007-2008	3220	200	3420	114	7	121
43	2008-2009	1901	0	1901	67	0	67
44	2009-2010	2325	0	2325	82	0	82
45	2010-2011	1801	265	2065	64	9	73
46	2011-2012	2434	134	2568	86	5	91
47	2012-2013	1274	70	1344	45	2	47

48	2013-2014	2526	96	2622	89	3	93
49	2014-2015	2634	93	2727	93	3	96
50	2015-2016	528	0	528	19	0	19
51	2016-2017	360	0	360	13	0	13
52	2017-2018	688	0	688	24	0	24
53	2018-2019	1585	0	1585	56	0	56
54	2019-2020	3133	101	3234	111	4	114
55	2020-2021	1720	0	1720	61	0	61
56	2021-2022	1998	344	2342	71	12	83
Average		1800	89	1889	64	3	67

Instantaneous Flood Peak of Krishna at Marol					
Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	1966-1967	514.516	31-07-1966	18:00:00	763 *
2	1967-1968	515.721	05-08-1967	12:00:00	1033 *
3	1968-1969	512.726	22-07-1968	19:00:00	417 *
4	1969-1970	514.381	26-07-1969	09:00:00	735 *
5	1970-1971	514.856	23-08-1970	00:00:00	836 *
6	1971-1972	512.901	22-07-1971	23:00:00	448 *
7	1972-1973	514.891	10-07-1972	22:00:00	844 *
8	1973-1974	513.651	11-07-1973	07:00:00	588 *
9	1974-1975	512.786	08-07-1974	00:00:00	428 *
10	1975-1976	514.816	12-07-1975	20:00:00	828 *
11	1976-1977	512.006	03-08-1976	11:00:00	297 *
12	1977-1978	512.716	26-07-1977	19:00:00	416 *
13	1978-1979	514.011	15-07-1978	23:00:00	659 *
14	1979-1980	514.381	12-08-1979	07:00:00	735 *
15	1980-1981	516.796	04-07-1980	21:00:00	1298 *
16	1981-1982	513.356	20-08-1981	12:00:00	532 *
17	1982-1983	516.911	06-08-1982	00:00:00	1328 *
18	1983-1984	514.946	14-08-1983	20:00:00	856 *
19	1984-1985	513.971	03-07-1984	08:00:00	651 *
20	1985-1986	513.161	04-08-1985	23:00:00	495 *
21	1986-1987	513.931	14-08-1986	08:00:00	643 *
22	1987-1988	511.661	10-07-1987	21:00:00	242 *
23	1988-1989	515.561	22-07-1988	00:00:00	995 *
24	1989-1990	513.831	27-07-1989	15:00:00	623 *
25	1990-1991	512.854	13-08-1990	03:00:00	440 *
26	1991-1992	514.336	19-07-1991	10:00:00	725 *
27	1992-1993	517.601	18-11-1992	16:00:00	1512 *
28	1993-1994	513.771	18-10-1993	10:00:00	611 *
29	1994-1995	516.921	17-07-1994	14:00:00	1331 *
30	1995-1996	512.671	22-07-1995	21:00:00	408 *
31	1996-1997	512.276	25-07-1996	15:00:00	341 *
32	1997-1998	515.931	09-08-1997	15:00:00	1083 *
33	1998-1999	512.981	06-07-1998	15:00:00	463 *
34	1999-2000	516.521	25-07-1999	07:00:00	1228 *
35	2000-2001	514.821	16-07-2000	08:00:00	829 *
36	2001-2002	511.486	11-07-2001	08:00:00	216 *
37	2002-2003	512.371	12-08-2002	08:00:00	356
38	2003-2004	511.971	06-10-2003	18:00:00	291 *
39	2004-2005	513.521	07-08-2004	05:00:00	563 *
40	2005-2006	515.391	29-07-2005	01:00:00	956 *
41	2006-2007	514.541	14-08-2006	12:00:00	768 *
42	2007-2008	517.451	09-08-2007	04:00:00	1472 *

Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
43	2008-2009	516.481	15-08-2008	09:00:00	1218 *
44	2009-2010	515.591	19-07-2009	08:00:00	1002 *
45	2010-2011	513.981	05-10-2010	12:00:00	653 *
46	2011-2012	514.031	05-09-2011	06:00:00	663 *
47	2012-2013	513.401	09-08-2012	15:00:00	540 *
48	2013-2014	515.211	04-08-2013	16:00:00	915 *
49	2014-2015	515.911	03-08-2014	18:00:00	1078 *
50	2015-2016	511.301	26-06-2015	18:00:00	189 *
51	2016-2017	511.161	07-07-2016	09:00:00	168 *
52	2017-2018	511.821	22-07-2017	10:00:00	267 *
53	2018-2019	514.721	16-08-2018	10:00:00	807 *
54	2019-2020	518.171	10-08-2019	20:00:00	1672 *
55	2020-2021	514.171	09-08-2020	10:00:00	735 *
56	2021-2022	516.921	26-07-2021	09:00:00	1340 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : MAROL (AKLA0C4)

Local River : Varada

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	508.061	0.000	509.071	30.10	511.801	328.4 *	509.561	69.12	509.221	43.01	509.061	29.50
2	508.251	0.000	509.011	26.03	511.461	282.4	509.391	55.42	509.231	42.15 *	508.971	24.04
3	508.331	0.000	508.931	21.54	511.171	241.1	509.361	53.91	509.391	53.90 *	508.921	21.21
4	510.051	0.000	508.871	19.75 *	510.951	211.0	509.551	68.21	509.951	101.8	508.881	20.29 *
5	508.751	0.000	508.851	18.02	510.901	205.2	509.551	66.64 *	509.911	97.87	508.841	17.53
6	508.891	0.000	509.011	26.03	511.601	302.2	509.481	62.94	509.911	97.87	508.871	19.27
7	508.791	0.000	508.881	19.29	511.641	307.2	509.681	78.93	510.001	107.0	508.951	24.20 *
8	508.761	0.000	508.861	18.41	511.491	284.4 *	509.991	105.6	512.181	383.2	509.131	34.86
9	508.721	0.000	508.801	16.15	511.651	308.6	510.151	121.7	512.351	410.1	508.981	24.56
10	508.711	0.000	508.761	14.35	511.261	254.0	510.381	146.7 *	511.031	223.5 *	508.891	20.14
11	508.641	0.000	508.741	13.22 *	510.791	191.1	510.471	154.1	510.141	120.8	508.731	13.36
12	508.521	0.000	508.711	12.56	510.461	152.8	510.211	128.5 *	509.801	89.00	508.611	8.188
13	508.481	0.000	508.701	12.27	510.261	132.6	510.041	110.7	510.131	119.7	508.551	5.764
14	508.411	0.000	508.781	15.34	510.181	124.9	510.211	128.0	509.791	87.92	508.251	0.000
15	508.361	0.000	509.081	31.15	510.111	118.2 *	510.751	187.3	510.201	127.5 *	508.051	0.000
16	508.381	0.000	510.751	187.3	509.851	93.15	510.911	206.4	509.991	105.6	508.051	0.000
17	509.451	60.07	511.731	321.1	509.691	80.08	510.661	175.5	509.701	79.43 *	508.051	0.000
18	510.141	120.8	511.771	324.0 *	509.741	84.18	510.301	136.9	509.431	58.83	509.901	97.00
19	510.781	191.1	511.691	314.2	509.751	85.38	509.911	98.63 *	509.281	45.71 *	509.971	104.4 *
20	511.741	319.7 *	511.731	321.1	509.701	79.43 *	509.661	77.80	509.171	37.91	512.001	357.6
21	511.861	339.0	511.551	292.8 *	509.651	76.80	509.481	62.83	509.141	35.41	513.451	597.3 *
22	511.521	290.5	511.451	281.1	509.601	70.82 *	509.371	53.95	509.051	28.81	513.241	556.2
23	511.221	248.4	512.121	376.4	509.481	62.83	509.341	51.26	509.121	33.80	511.501	286.8
24	510.831	196.8	514.551	814.7	509.361	53.82	509.251	44.87	509.711	80.31 *	510.221	128.9
25	510.391	146.1	516.101	1136 *	509.281	47.25	509.221	43.01	510.621	170.7	509.791	87.80
26	509.811	90.09	516.911	1324 *	509.211	41.74	509.291	46.44 *	510.811	193.3	509.571	70.10
27	509.471	60.15 *	516.841	1307 *	509.251	44.87	509.171	37.91	510.871	200.5	509.391	55.76
28	509.341	51.26	516.321	1186 *	509.191	39.96	509.051	28.81	510.231	130.1	509.311	47.90 *
29	509.261	45.18	515.151	934.0	509.231	42.15 *	509.021	26.79	509.641	75.50	509.151	36.41
30	509.161	37.04	513.041	514.1	509.571	70.04	509.081	31.15	509.331	50.73	509.131	34.86
31			512.151	380.2	509.641	75.55			509.171	38.01 *		
Ten-Daily Mean												
I Ten-Daily	508.732	0.000	508.905	20.97	511.393	272.5	509.710	82.92	510.318	156.0	508.950	23.56
II Ten-Daily	509.291	69.16	510.169	155.2	510.054	114.2	510.313	140.4	509.764	87.23	509.017	58.64
III Ten-Daily	510.287	150.4	514.199	776.9	509.406	56.89	509.228	42.70	509.791	94.29	510.476	190.2
Monthly												
Min.	508.061	0.000	508.701	12.27	509.191	39.96	509.021	26.79	509.051	28.81	508.051	0.000
Max.	511.861	339.0	516.911	1324	511.801	328.4	510.911	206.4	512.351	410.1	513.451	597.3
Mean	509.437	73.2	511.191	332.5	510.256	144.9	509.750	88.67	509.952	111.9	509.481	90.8

Annual Runoff in MCM = 2342 Annual Runoff in mm = 478

Peak Observed Discharge = 934.0 cumecs on 29-07-2021 Corres. Water Level :515.151 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021 Corres. Water Level :508.061 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : MAROL (AKLA0C4)

Local River : Varada

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	509.051	28.59	510.031	0.000	509.851	0.000	508.921	0.000	Dry Bed	0.000	Dry Bed	0.000
2	509.011	26.01	510.031	0.000	509.831	0.000	508.871	0.000		0.000		0.000
3	509.251	44.65	510.021	0.000	509.801	0.000	508.811	0.000		0.000		0.000
4	509.321	50.10	510.011	0.000	509.761	0.000	508.761	0.000		0.000		0.000
5	509.241	42.59 *	510.001	0.000	509.741	0.000	508.711	0.000		0.000		0.000
6	509.221	42.06	510.001	0.000	509.711	0.000	508.651	0.000		0.000		0.000
7	509.101	32.32	510.081	0.000	509.701	0.000	508.571	0.000		0.000		0.000
8	508.981	25.88 *	510.111	0.000	509.661	0.000	508.511	0.000		0.000		0.000
9	508.891	20.14	510.111	0.000	509.601	0.000	508.451	0.000		0.000		0.000
10	508.851	18.41	510.151	0.000	509.561	0.000	508.401	0.000		0.000		0.000
11	508.781	15.37	510.161	0.000	509.531	0.000	508.351	0.000		0.000		0.000
12	508.651	9.387 *	510.161	0.000	509.491	0.000	508.311	0.000		0.000		0.000
13	508.411	0.000	510.131	0.000	509.461	0.000	508.251	0.000		0.000		0.000
14	508.301	0.000	510.101	0.000	509.421	0.000	508.221	0.000		0.000		0.000
15	508.151	0.000	510.061	0.000	509.391	0.000	508.191	0.000		0.000		0.000
16	508.101	0.000	510.041	0.000	509.381	0.000	508.151	0.000		0.000		0.000
17	508.151	0.000	510.041	0.000	509.361	0.000	508.101	0.000		0.000		0.000
18	508.951	0.000	510.041	0.000	509.341	0.000	508.041	0.000		0.000		0.000
19	508.991	0.000	510.051	0.000	509.301	0.000	507.991	0.000		0.000		0.000
20	509.291	0.000	510.041	0.000	509.261	0.000	507.851	0.000		0.000	509.551	68.89
21	509.771	0.000	510.031	0.000	509.231	0.000	507.651	0.000		0.000	512.351	408.9
22	510.101	0.000	510.011	0.000	509.191	0.000	Dry Bed	0.000		0.000	510.851	199.6 *
23	510.101	0.000	510.001	0.000	509.151	0.000		0.000		0.000	509.991	106.3
24	510.101	0.000	509.991	0.000	509.121	0.000		0.000		0.000	509.241	43.97
25	510.091	0.000	509.981	0.000	509.071	0.000		0.000		0.000	509.071	29.74
26	510.091	0.000	509.971	0.000	509.031	0.000		0.000		0.000	508.591	7.113
27	510.081	0.000	509.961	0.000	508.981	0.000		0.000		0.000	508.561	6.085
28	510.071	0.000	509.971	0.000	508.961	0.000		0.000		0.000	508.581	6.969
29	510.051	0.000	509.961	0.000				0.000		0.000	508.621	8.196 *
30	510.051	0.000	509.931	0.000				0.000		0.000	508.551	5.575
31	510.041	0.000	509.891	0.000				0.000			508.561	6.085
Ten-Daily Mean												
I Ten-Daily	509.092	33.07	510.055	0.000	509.722	0.000	508.666	0.000	Drybed	0.000	Drybed	0.000
II Ten-Daily	508.578	2.475	510.083	0.000	509.394	0.000	508.146	0.000		0.000	509.551	6.889
III Ten-Daily	510.050	0.000	509.973	0.000	509.092	0.000	507.651	0.000		0.000	509.361	75.32
Monthly												
Min.	508.101	0.000	509.891	0.000	508.961	0.000	507.651	0.000	Drybed	0.000	508.551	0.000
Max.	510.101	50.10	510.161	0.000	509.851	0.000	508.921	0.000		0.000	512.351	408.9
Mean	509.266	11.47	510.035	0	509.425	0	508.370	0		0	509.377	28.95

Peak Computed Discharge = 1324 cumecs on 26-07-2021

Corres. Water Level :516.911 m

Lowest Computed Discharge = 8.196 cumecs on 29-05-2022

Corres. Water Level :508.621 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

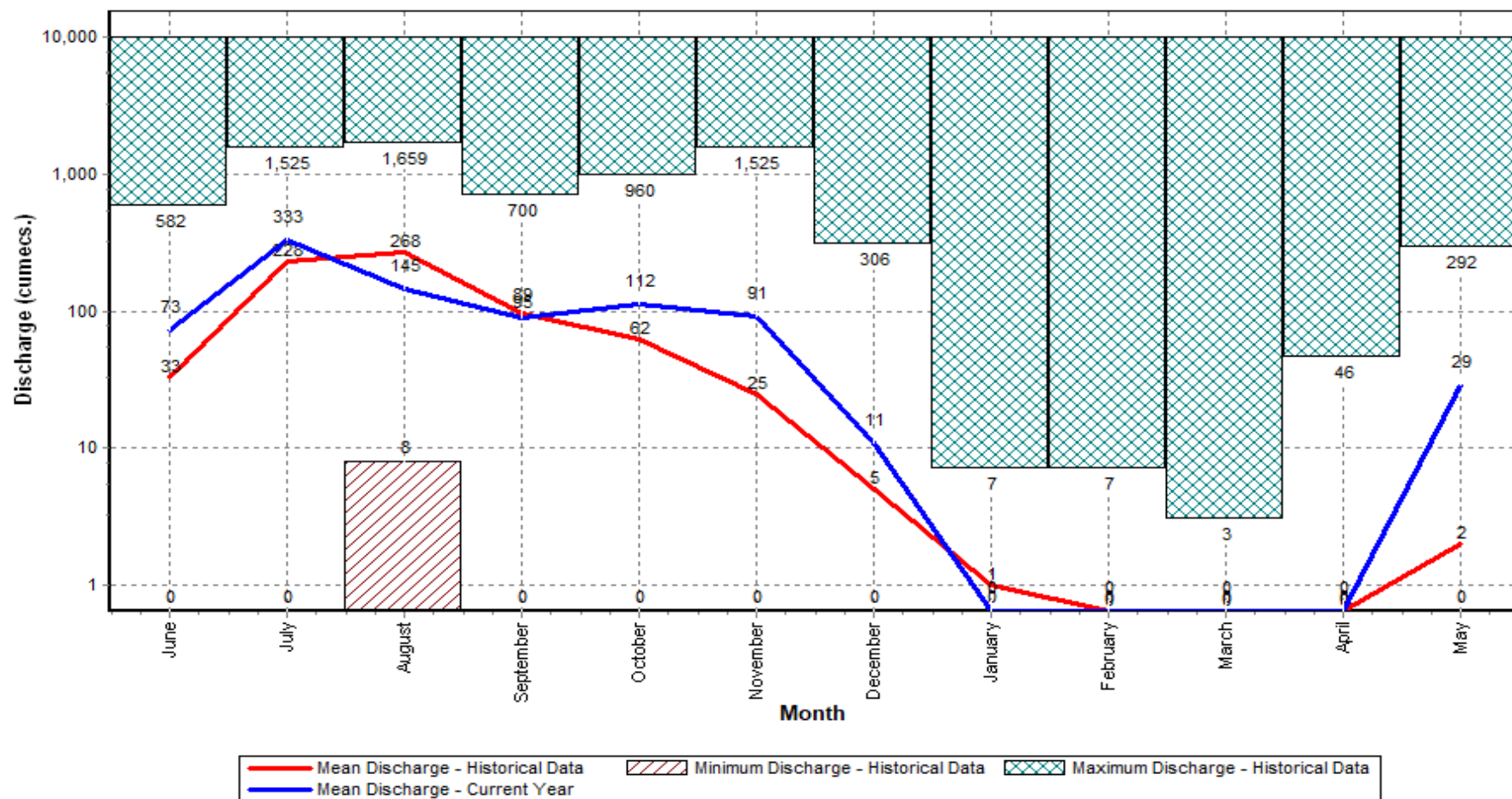
Station Name : MAROL (AKLA0C4)

Data considered : 1966-2022

Division : Cauvery Division, Bangalore

Local River : Varada

Sub-Division : Upper Tunga Subdn, Devangere



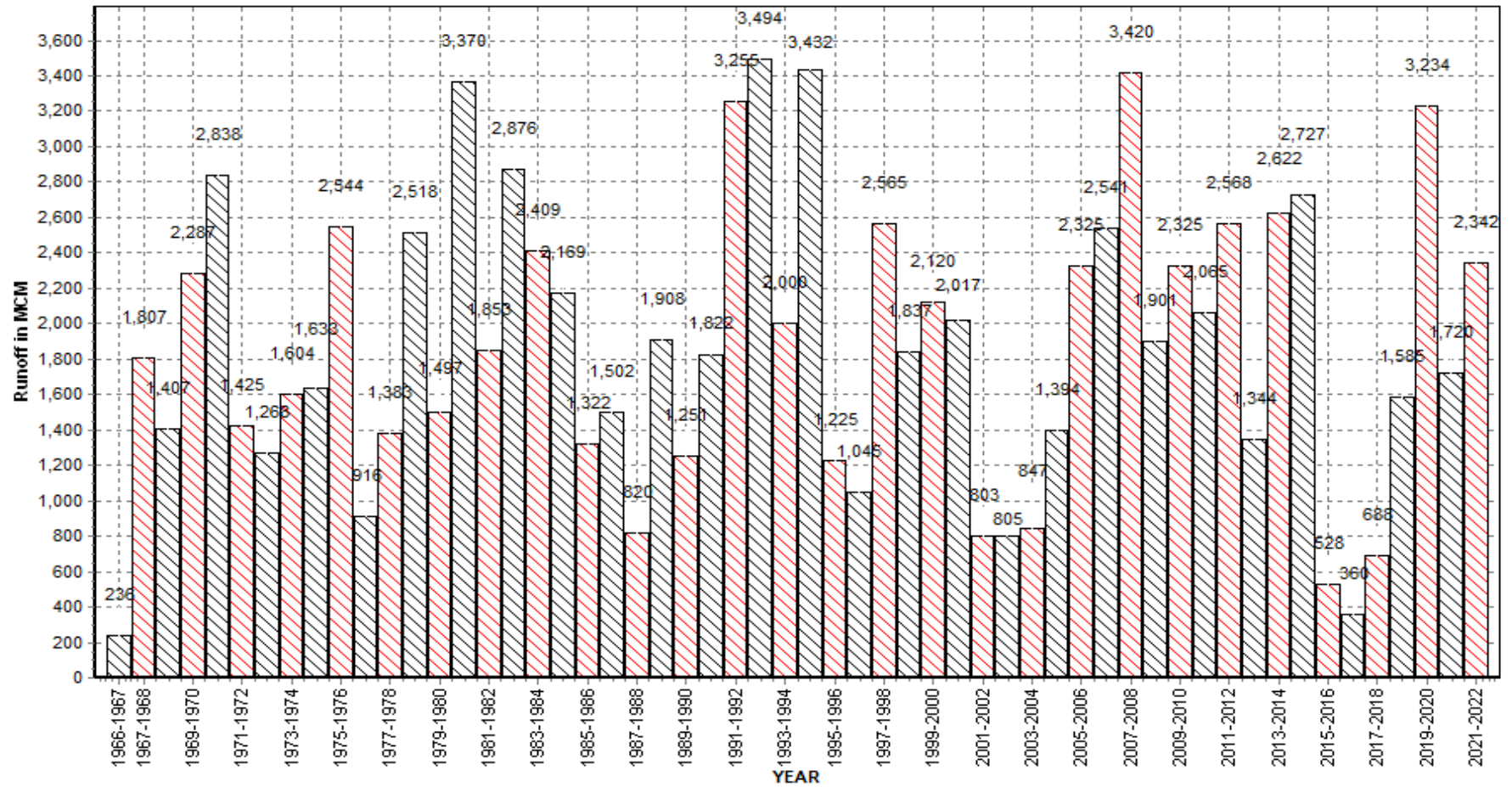
Annual Runoff Values for the period: 1966 - 2022

Station Name : MAROL (AKLA0C4)

Local River : Varada

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



Note: Missing values have not been considered while arriving at Annual Runoff

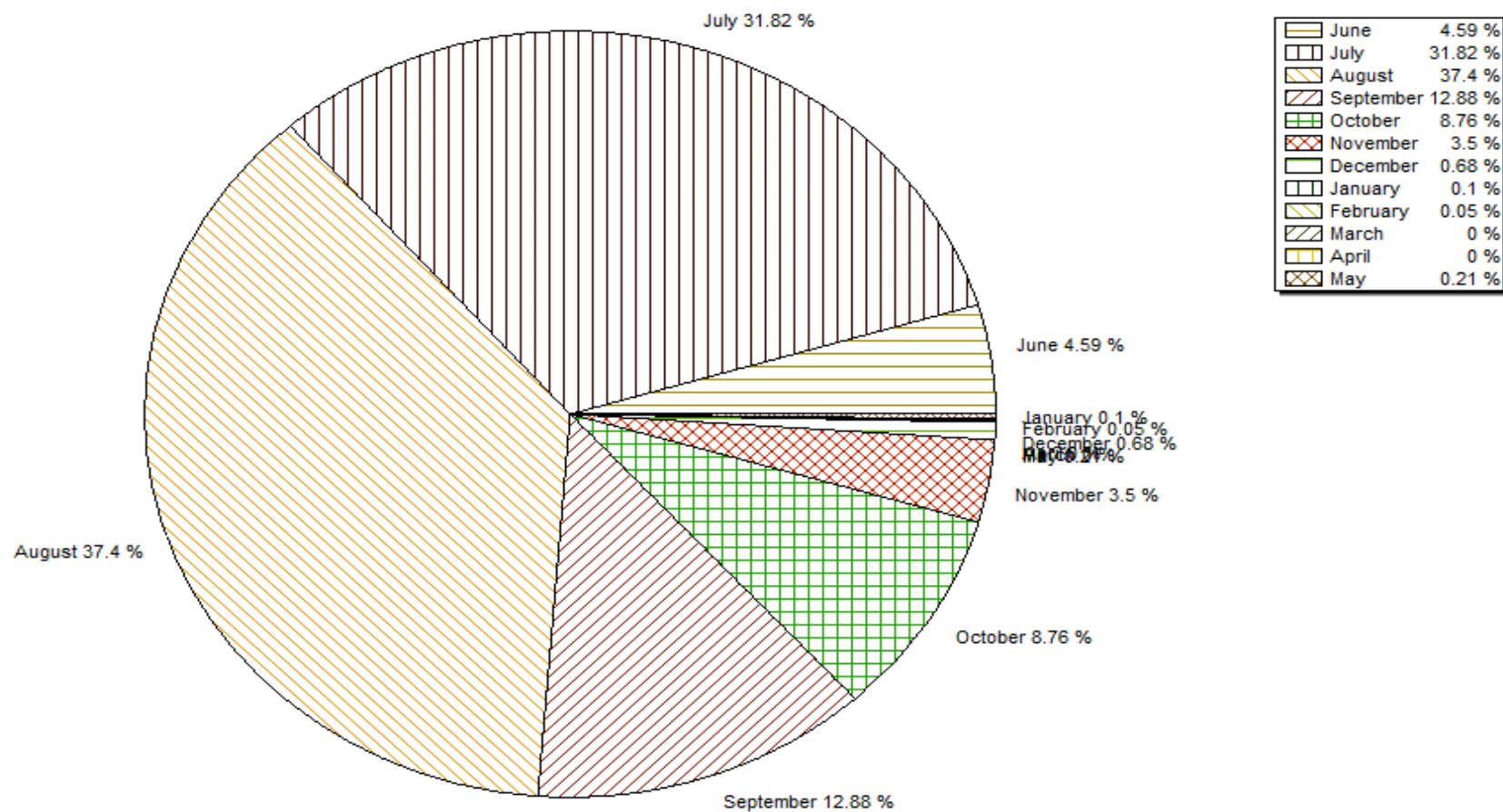
Monthly Average Runoff based on period : 1966-2021

Station Name : MAROL (AKLA0C4)

Local River : Varada

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



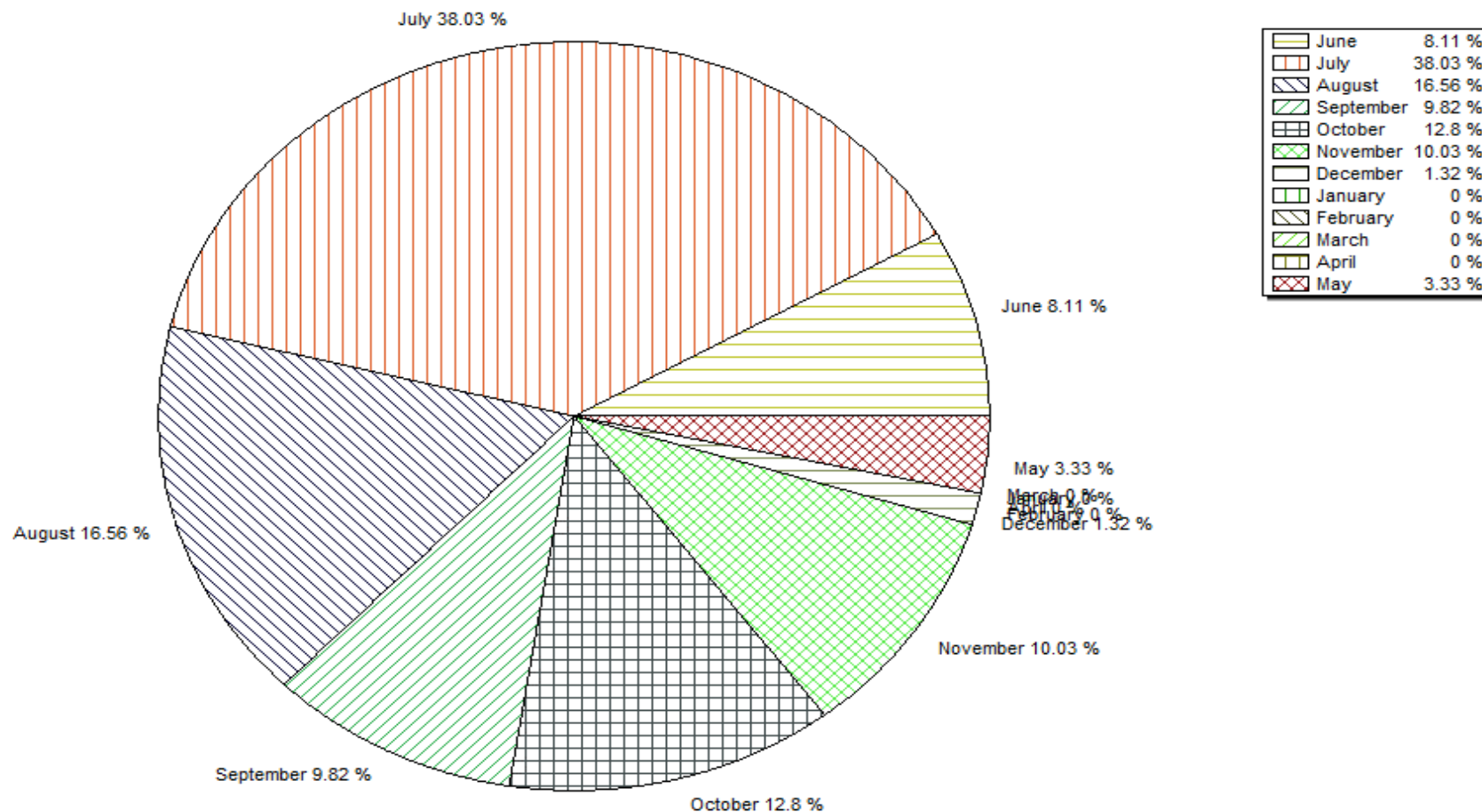
Monthly Runoff for the Year : 2021-2022

Station Name : MAROL (AKLA0C4)

Local River : Varada

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere

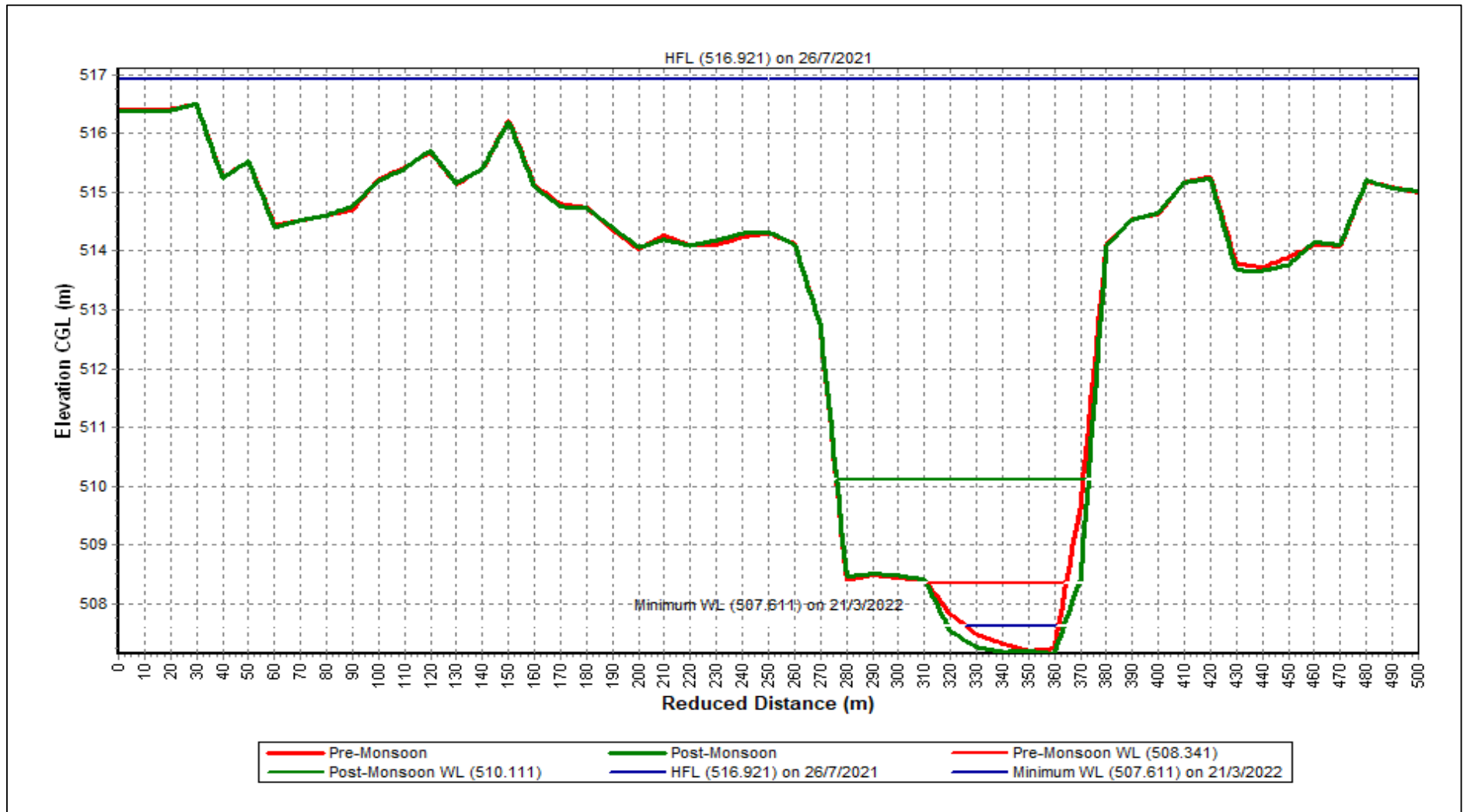


Station Name : MAROL (AKLA0C4)

Local River : Varada

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



Zero of Gauge : 507.551 (m.s.l)

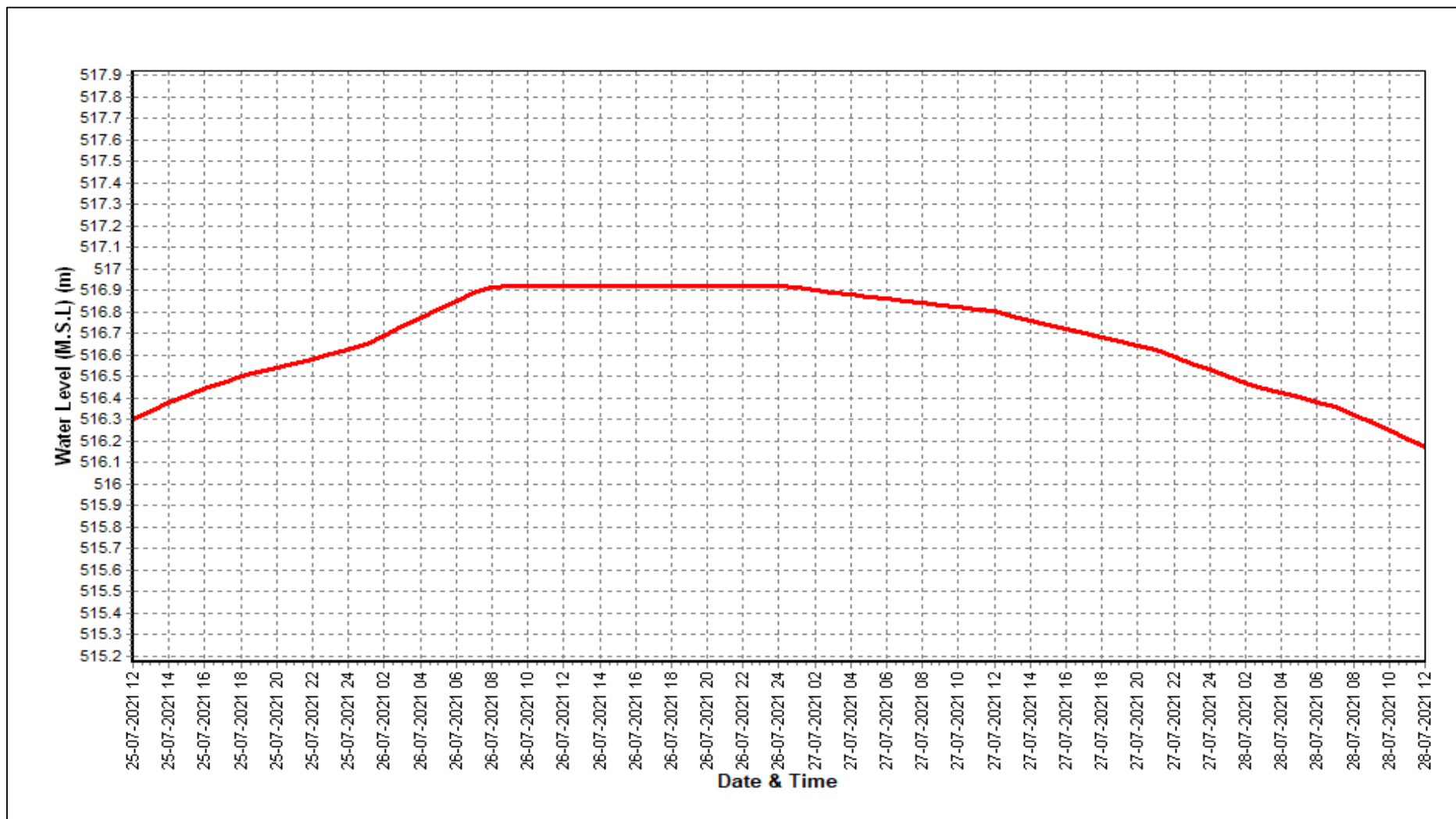
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : MAROL (AKLA0C4)

Local River : Varada

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



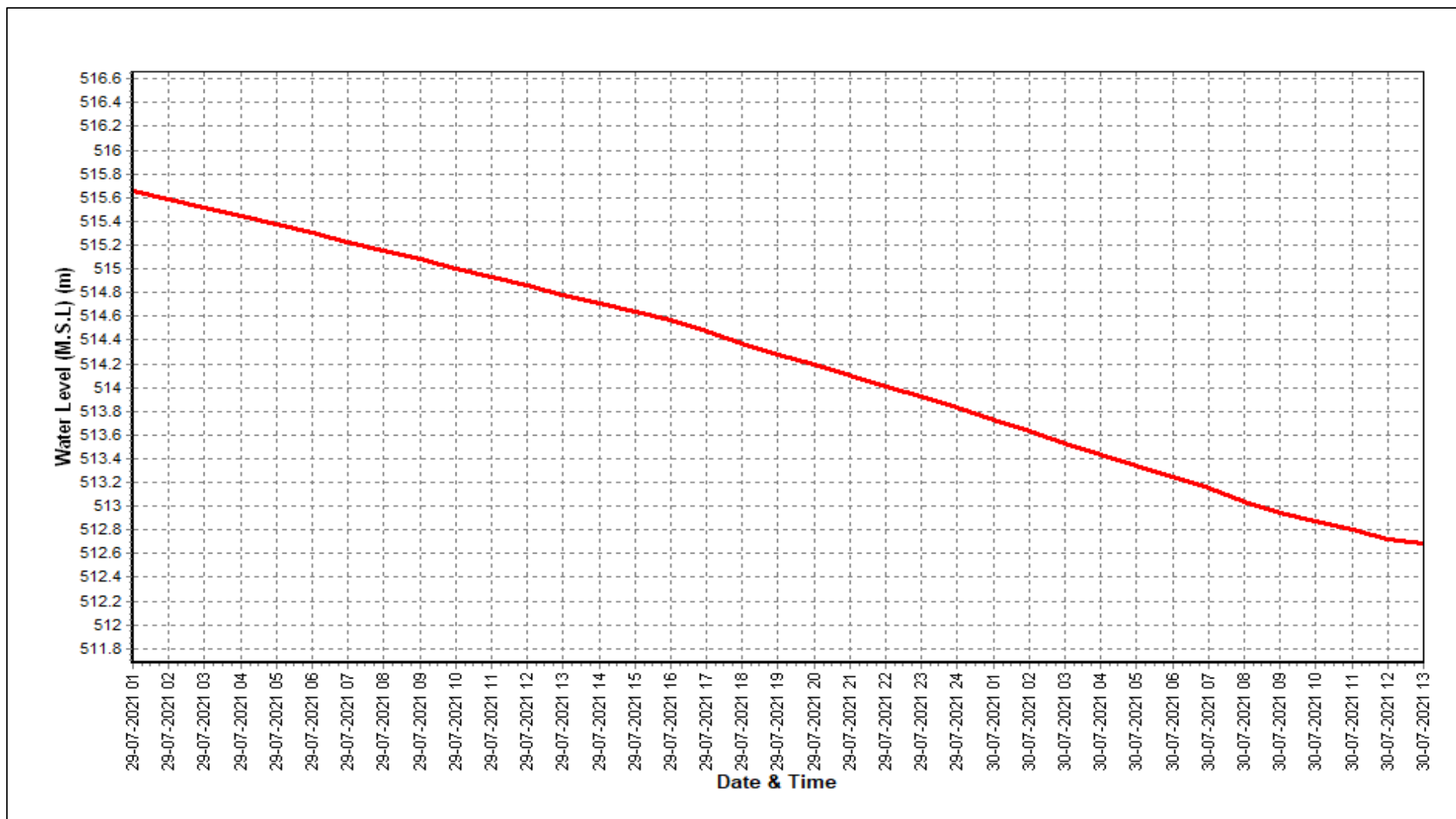
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : MAROL (AKLA0C4)

Local River : Varada

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



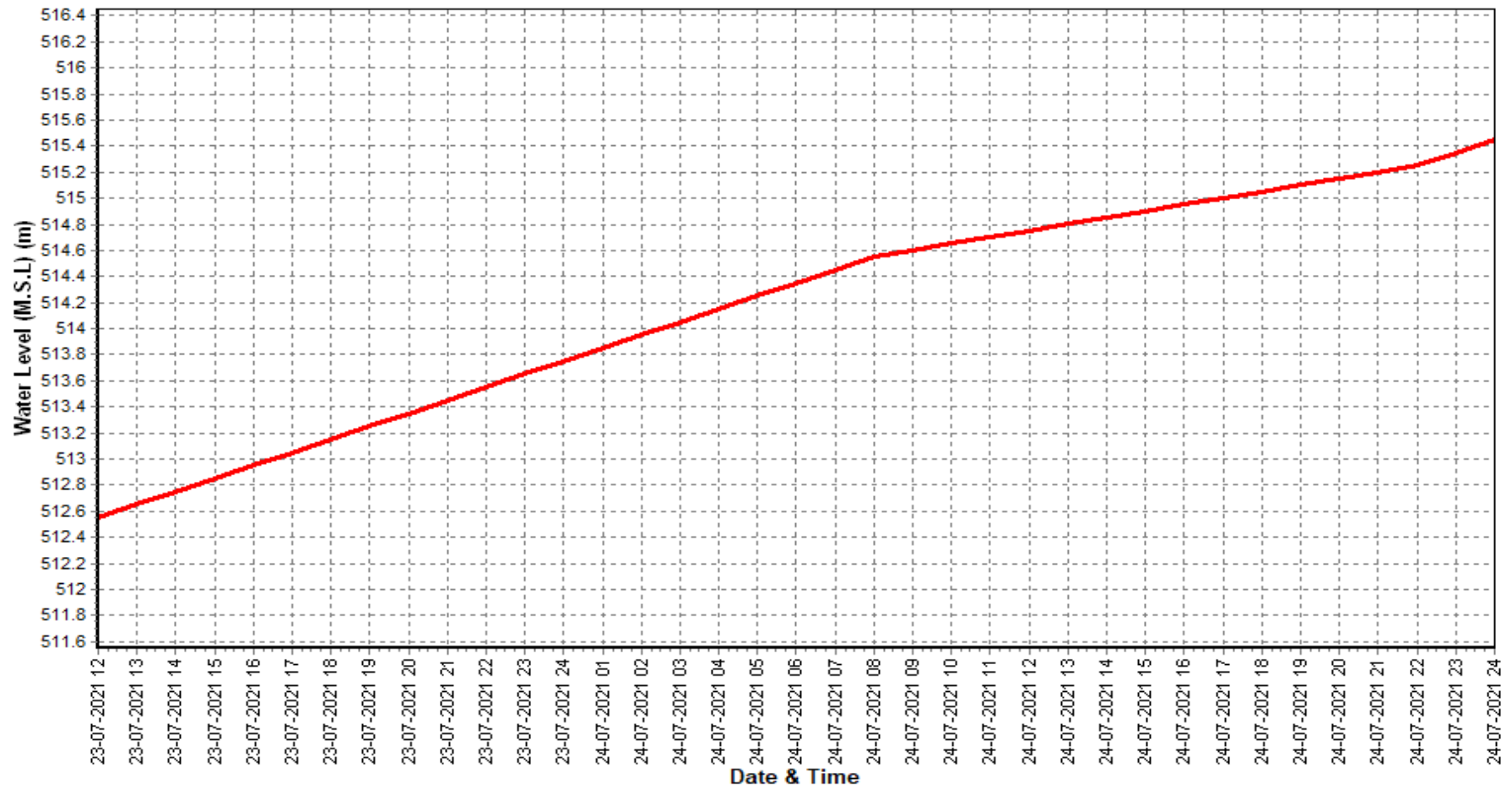
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : MAROL (AKLA0C4)

Local River : Varada

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



HISTORY SHEET

Water Year : 2021-2022

Site : HOOVINAHOLE

Code : HOOVINAHOLE

State : Karnataka

District : Chitradurga

Basin : Krishna

Independent River : Krishna

Tributary :

Sub Tributary :

Sub-Sub Tributary :

Local River : Suvarnamukhi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere

Drainage Area : 2585 Sq. Km.

Bank : Right

Latitude : 13°58'57"

Longitude : 76°44'57"

Zero of Gauge (m) : 93.5 (m.s.l)

28-11-1997

Opening Date

Closing Date

Gauge : 28-11-1997

Discharge : 02-10-2001

Water Quality : 01-06-2008

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2002-2003	29	95.100	30-10-2002	0.000	94.240	07-12-2002
2003-2004	0.000		05-10-2003	0.000		26-01-2004
2004-2005	0.000		04-10-2004	0.000		25-01-2005
2005-2006	56	95.500	03-11-2005	0.000		06-04-2006
2006-2007	10.1	94.860	20-06-2006	0.000		03-01-2007
2007-2008	8.33	94.840	10-09-2007	0.000		26-01-2008
2008-2009	75.85	95.820	06-09-2008	0.000		17-03-2009
2009-2010	67.38	95.580	24-09-2009	0.000	94.450	27-12-2009
2010-2011	75.13	95.755	03-11-2010	0.000	94.230	23-01-2011
2011-2012	0.000		21-02-2012	0.000		18-05-2012
2012-2013	0.000		12-07-2012	0.000		09-12-2012
2013-2014	43.01	95.355	13-09-2013	0.000		01-10-2013
2014-2015	0.000		17-11-2014	0.000		25-01-2015
2015-2016	0.00	94.080	27-11-2015	0.000		30-05-2016
2016-2017	0.000		06-05-2017	0.000		27-08-2016
2017-2018	16.50	94.950	15-10-2017	0.000	0.000	07-02-2018
2019-2020	0.000		27-09-2019	0.000		18-01-2020
2020-2021	0.000		04-10-2020	0.000		25-01-2021

Annual Runoff of Krishna at Hoovinhole

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	2001-2002	0	0	0	0	0	0
2	2002-2003	9	2	11	0	0	0
3	2003-2004	0	0	0	0	0	0
4	2004-2005	0	0	0	0	0	0
5	2005-2006	7	11	18	0	0	1
6	2006-2007	1	1	2	0	0	0
7	2007-2008	3	1	4	0	0	0
8	2008-2009	44	14	58	2	0	2
9	2009-2010	38	5	43	1	0	2
10	2010-2011	14	55	69	1	2	2
11	2011-2012	0	0	0	0	0	0
12	2012-2013	0	0	0	0	0	0
13	2013-2014	4	0	4	0	0	0
14	2014-2015	0	0	0	0	0	0
15	2015-2016	0	5	5	0	0	0
16	2016-2017	0	0	0	0	0	0
17	2017-2018	8	0	8	0	0	0
18	2018-2019	0	0	0	0	0	0
19	2019-2020	0	0	0	0	0	0
20	2020-2021	0	0	0	0	0	0
Average		6	5	11	0	0	0

Instantaneous Flood Peak of Krishna at Huvinhole					
Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	2001-2002	95.920	02-10-2001	14:00:00	102*
2	2002-2003	95.130	30-10-2002	18:00:00	16*
3	2003-2004	Dry Bed			
4	2004-2005				
5	2005-2006	95.600	03-11-2005	13:00:00	70*
6	2006-2007	94.860	20-06-2006	08:00:00	24
7	2007-2008	94.910	10-09-2007	06:00:00	26*
8	2008-2009	96.140	06-09-2008	13:00:00	127*
9	2009-2010	95.580	24-09-2009	06:00:00	69*
10	2010-2011	95.760	03-11-2010	07:00:00	85*
11	2011-2012	Dry Bed			
12	2012-2013				
13	2013-2014	95.360	13-09-2013	09:00:00	51*
14	2014-2015	Dry Bed			
15	2015-2016	94.080	27-11-2015	08:00:00	7*
16	2016-2017	Dry Bed			
17	2017-2018	94.980	15-10-2017	09:00:00	30*
18	2019-2020	Dry Bed			
19	2020-2021				
20	2021-2022	95.160	21-11-2021	13:00:00	41*

Stage-Discharge Data for the period 2021 - 2022

Station Name : HOOVINAHOLE (HOOVINAHOLE)

Division : Cauvery Division, Bangalore

Local River : Suvarnamukhi

Sub-Division : Upper Tunga SD, Devangere

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1												0.000
2												0.000
3												0.000
4												0.000
5												0.000
6												0.000
7												0.000
8												0.000
9												0.000
10												0.000
11											Dry Bed	0.000
12												0.000
13												0.000
14												0.000
15												0.000
16												0.000
17												0.000
18												0.000
19												0.000
20												0.000
21												0.000
22											94.850	12.38
23											94.740	9.330
24											94.650	7.035
25											94.250	3.453
26											94.200	2.991
27											94.160	2.595
28											94.130	2.291
29											94.110	2.147
30											94.070	1.838
31												
Ten-Daily Mean												
I Ten-Daily		0.000		0.000		0.000		0.000		0.000		0.000
II Ten-Daily	Dry bed	0.000	Dry bed	0.000	Dry bed	0.000	Dry bed	0.000	Dry bed	0.000	Dry bed	0.000
III Ten-Daily		0.000		0.000		0.000		0.000		0.000	94.351	4.406
Monthly												
Min.		0.000		0.000		0.000		0.000		0.000	94.070	0.000
Max.	Dry bed	0.000	Dry bed	0.000	Dry bed	0.000	Dry bed	0.000	Dry bed	0.000	94.850	12.38
Mean		0		0		0		0		0	94.351	1.469

Annual Runoff in MCM = 9 Annual Runoff in mm = 3

Peak Observed Discharge = 12.38 cumecs on 22-11-2021 Corres. Water Level :94.85 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : HOOVINAHOLE (HOOVINAHOLE)

Local River : Suvarnamukhi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere

Day	Dec		Jan		Feb		Mar		Apr		May		
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q	
1	94.050	1.713	93.630	0.471	93.390	0.000	Dry bed						
2	94.040	1.640	93.630	0.749 *		0.000							
3	94.040	1.640	93.730	1.058		0.000							
4	94.030	1.571	93.720	0.928		0.000							
5	94.000	1.447 *	93.667	0.601 #		0.000							
6	94.030	1.571	93.643	0.470 #		0.000							
7	94.100	2.065	93.627	0.386 #		0.000							
8	94.100	2.065	93.610	0.258		0.000							
9	94.060	1.784	93.590	0.232 *		0.000							
10	94.030	1.571	93.590	0.215		0.000							
11	93.940	3.098	93.590	0.214		0.000							
12	93.900	2.975 *	93.570	0.162		0.000							
13	93.930	2.964	93.590	0.214		0.000							
14	93.920	2.843	93.600	0.270 *		0.000							
15	93.890	2.698	93.590	0.214	Dry Bed	0.000							
16	93.880	2.569	93.580	0.196 *		0.000							
17	93.860	2.451	93.570	0.162		0.000							
18	93.850	2.328	93.540	0.085 #		0.000							
19	93.810	1.775 *	93.530	0.065 #		0.000							
20	93.810	1.840	93.520	0.047 #		0.000							
21	93.800	1.727	93.510	0.032 *		0.000							
22	93.790	1.658	93.490	0.000		0.000							
23	93.760	1.352	93.480	0.000		0.000							
24	93.730	0.995	93.470	0.000		0.000							
25	93.700	0.749 *	93.460	0.000		0.000							
26	93.670	0.621 *	93.450	0.000		0.000							
27	93.660	0.562 #	93.440	0.000		0.000							
28	93.650	0.505 #	93.430	0.000		0.000							
29	93.640	0.521	93.420	0.000									
30	93.630	0.469	93.410	0.000									
31	93.630	0.471	93.400	0.000									
Ten-Daily Mean													
I Ten-Daily	94.048	1.706	93.644	0.537	93.390	0.000	Dry bed	0.000	Dry bed	0.000	Dry bed	0.000	
II Ten-Daily	93.879	2.554	93.568	0.163		0.000		0.000		0.000			
III Ten-Daily	93.696	0.875	93.451	0.003	Dry bed	0.000				0.000			0.000
Monthly													
Min.	93.630	0.469	93.400	0.000	93.390	0.000	Dry bed	0.000	Dry bed	0.000	Dry bed	0.000	
Max.	94.100	3.098	93.730	1.058	93.390	0.000		0.000		0.000			0.000
Mean	93.869	1.685	93.551	0.227	93.390	0				0			0

Peak Computed Discharge = 2.975 cumecs on 12-12-2021

Corres. Water Level :93.9 m

Lowest Computed Discharge = 0.032 cumecs on 21-01-2022

Corres. Water Level :93.51 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

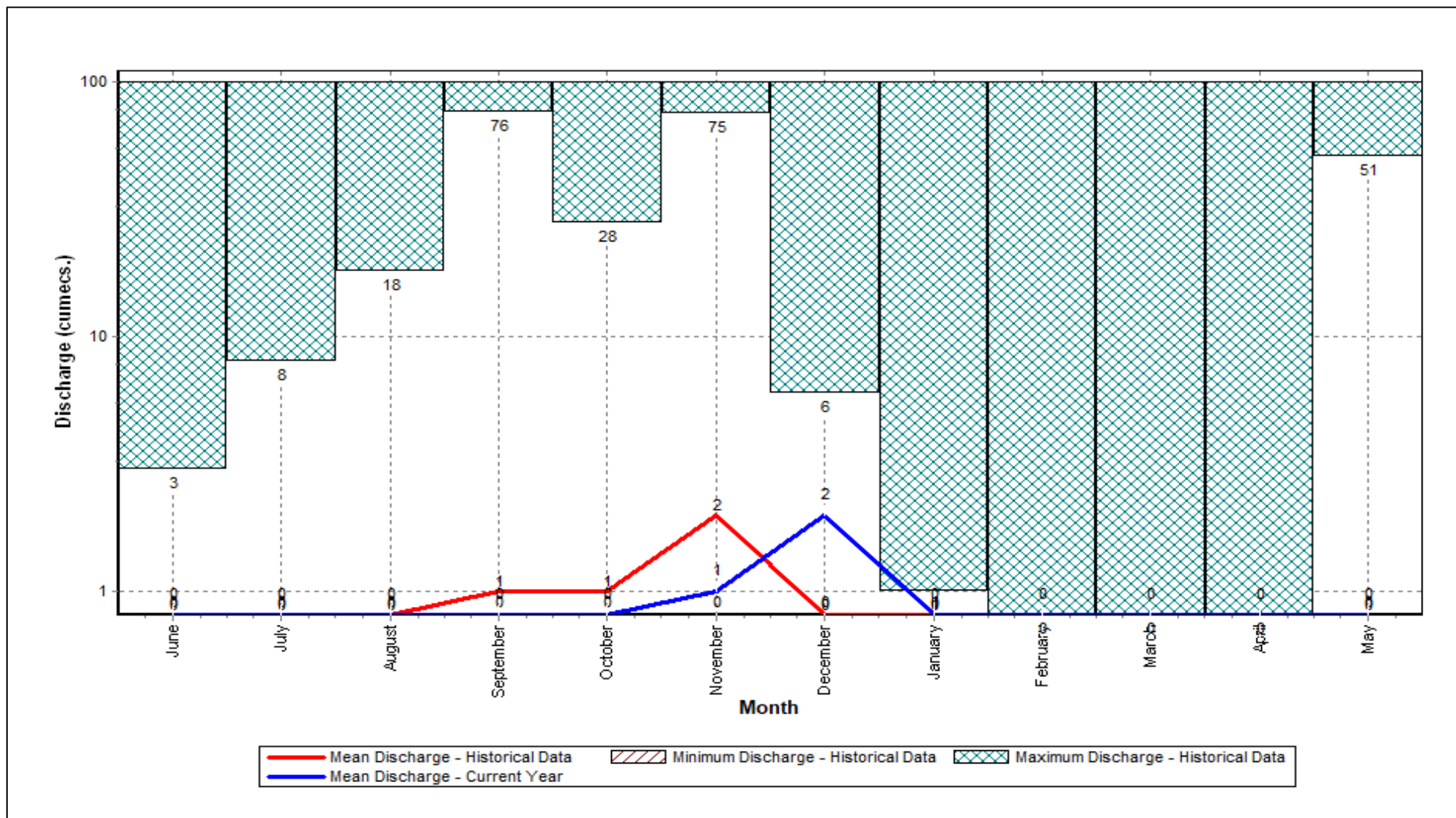
Station Name : HOOVINAHOLE (HOOVINAHOLE)

Data considered : 2002-2022

Division : Cauvery Division, Bangalore

Local River : Suvarnamukhi

Sub-Division : Upper Tunga SD, Devangere



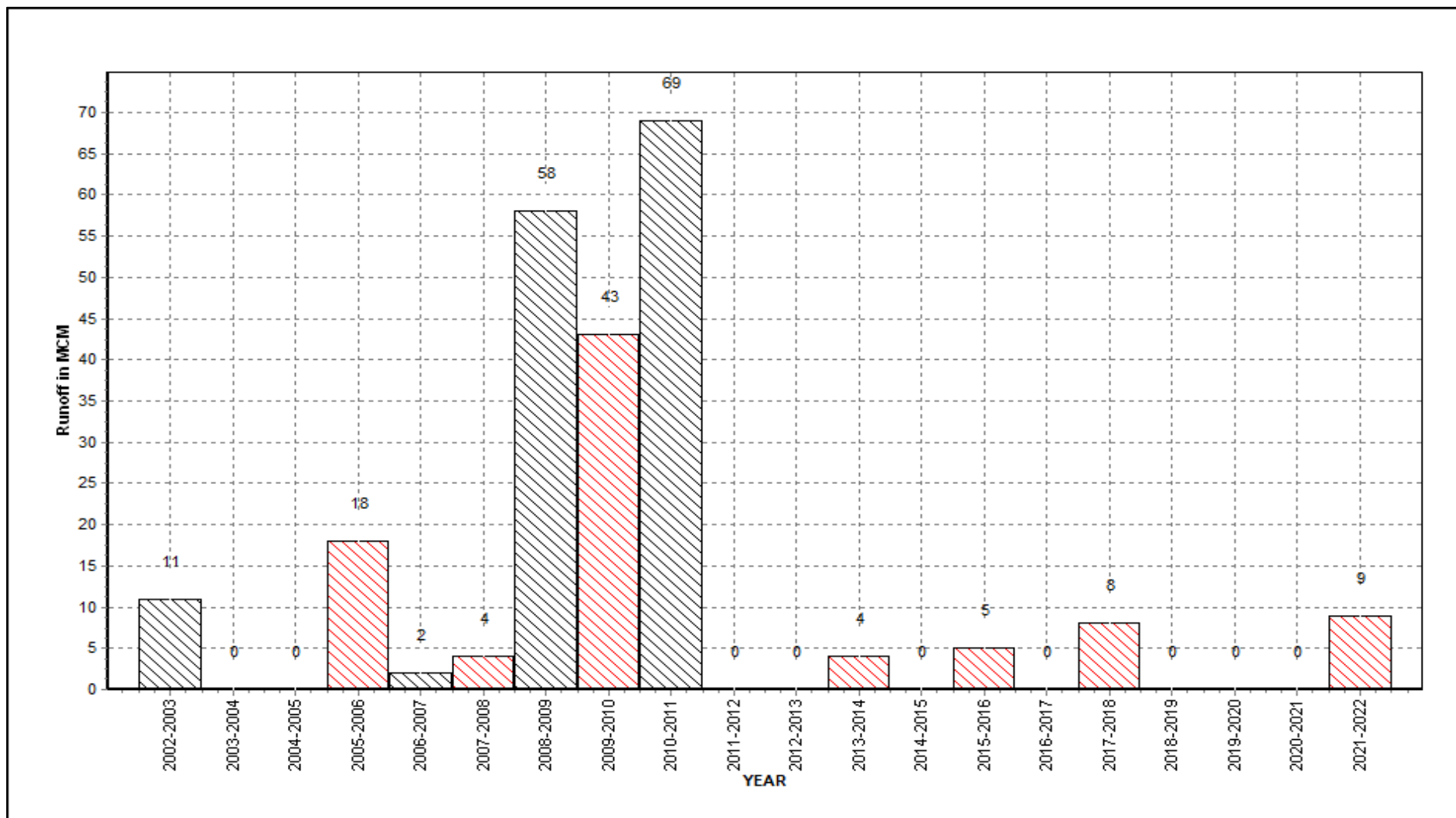
Annual Runoff Values for the period: 2002 - 2022

Station Name : HOOVINAHOLE (HOOVINAHOLE)

Local River : Suvarnamukhi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



Note: Missing values have not been considered while arriving at Annual Runoff

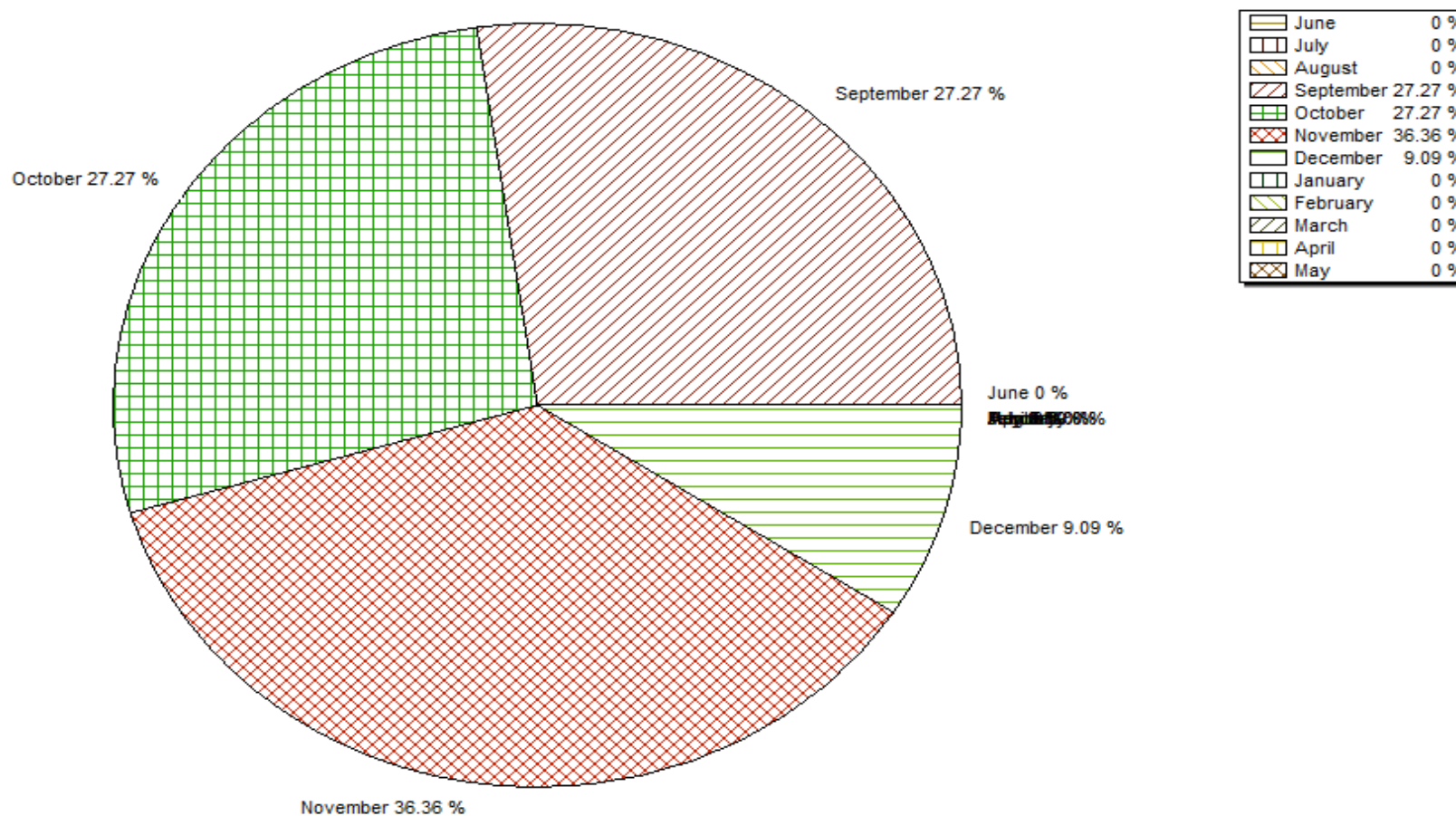
Monthly Average Runoff based on period : 2002-2021

Station Name : HOOVINAHOLE (HOOVINAHOLE)

Local River : Suvarnamukhi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



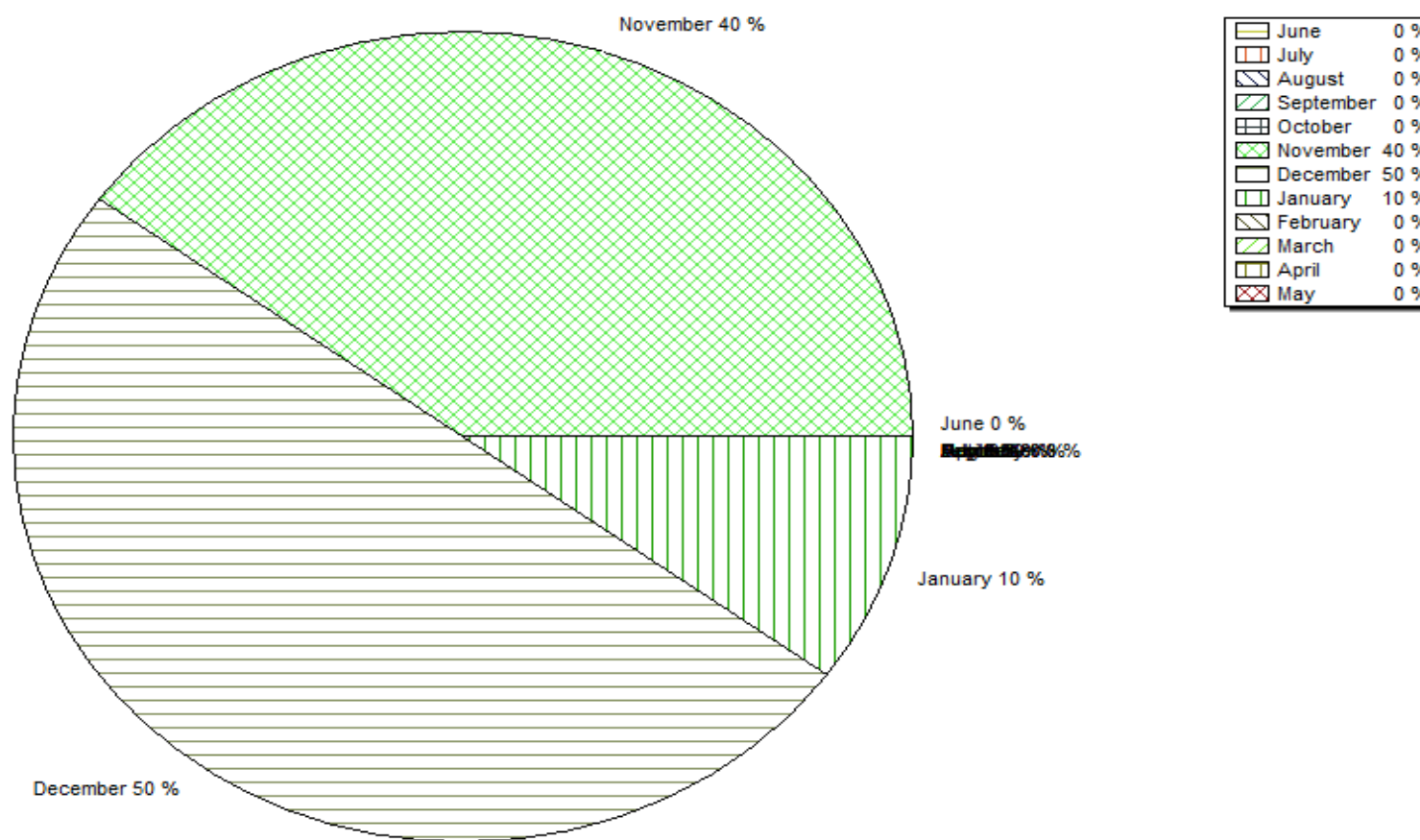
Monthly Runoff for the Year : 2021-2022

Station Name : HOOVINAHOLE (HOOVINAHOLE)

Local River : Suvarnamukhi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere

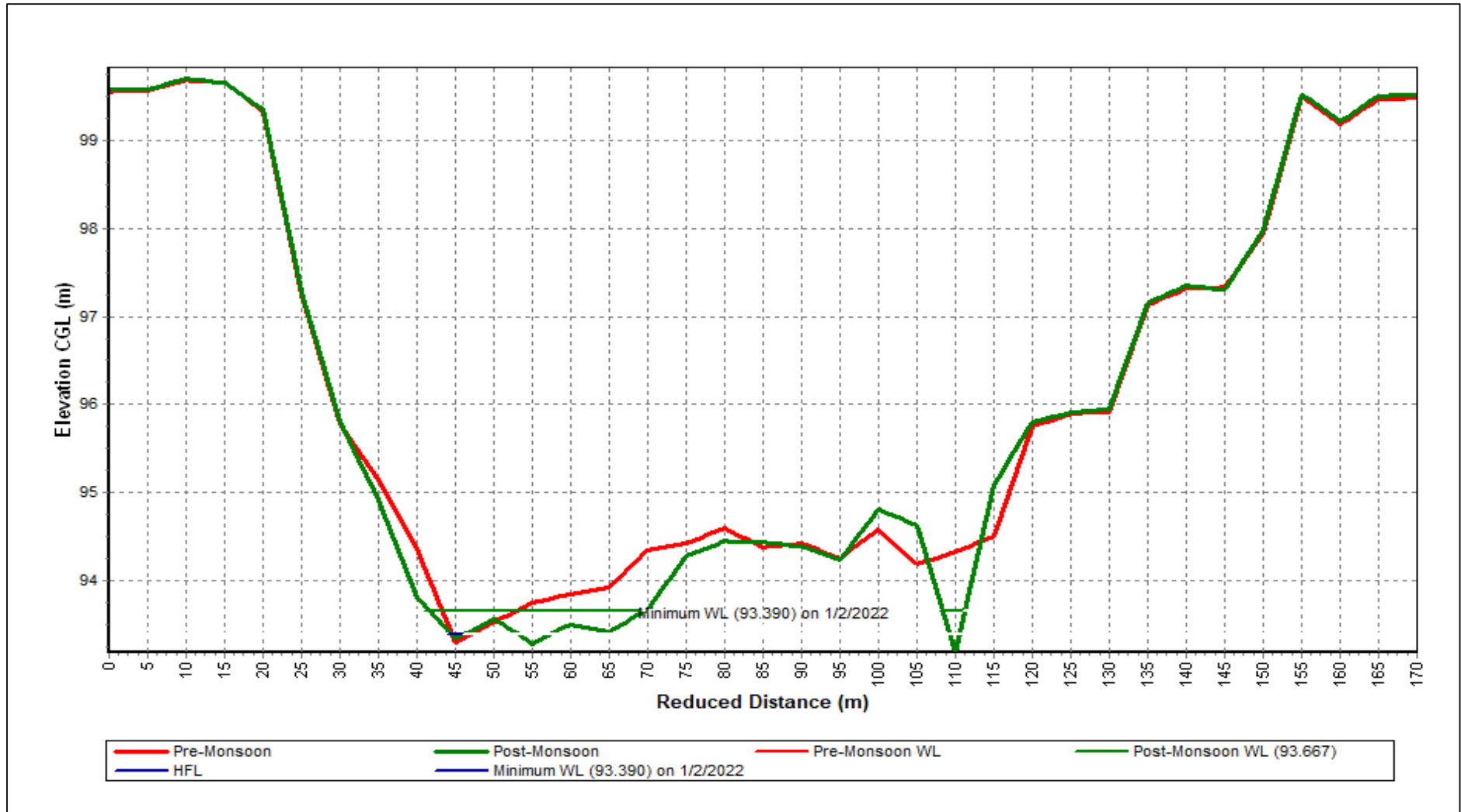


Station Name : HOOVINAHOLE (HOOVINAHOLE)

Local River : Suvarnamukhi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



Zero of Gauge : 93.5 (m.s.l)

HISTORY SHEET

Water Year : 2021-2022

Site : KELLODU

Code : AKL50T9

State : Karnataka

District : Chitradurga

Basin : Krishna

Independent River : Krishna

Tributary : Tungabhadra

Sub Tributary :

Sub-Sub Tributary :

Local River : Vedavathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere

Drainage Area : 4320 Sq. Km.

Bank : Left

Latitude : 13°45'15"

Longitude : 76°19'11"

Zero of Gauge (m) : 97.75(m.s.l)
644.75 (m.s.l)01-03-1990 - 31-05-2010
01-06-2010

Opening Date

Closing Date

Gauge : 01-06-1990

Discharge : 11-07-1990

Water Quality : 01-07-1994

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1991-1992	29.82	99.970	17-09-1991	0.000		01-04-1992
1992-1993	576.6	102.880	17-11-1992	0.250	98.920	15-04-1993
1993-1994	253.0	101.870	22-10-1993	0.000	98.920	27-03-1994
1994-1995	201.5	101.340	27-10-1994	0.000	99.010	22-06-1994
1995-1996	78.37	99.920	23-10-1995	0.000		27-02-1996
1996-1997	76.67	100.340	29-09-1996	0.000		31-03-1997
1997-1998	161.8	101.250	28-11-1997	0.000		12-04-1998
1998-1999	42.50	99.940	24-08-1998	0.000		23-03-1999
1999-2000	241.0	101.820	26-10-1999	0.000		12-07-1999
2000-2001	399.2	102.600	23-10-2000	0.000	98.610	27-01-2001
2001-2002	52.49	99.250	19-09-2001	0.000		11-04-2002
2002-2003	34.74	99.580	30-10-2002	0.000		25-01-2003
2003-2004	30.69	99.380	04-10-2003	0.000		21-01-2004
2004-2005	0.000		04-10-2004	0.000		25-01-2005
2005-2006	53.52	99.540	17-07-2005	0.000	97.540	06-03-2006
2006-2007	2.310	649.220	03-11-2006	0.000		25-12-2006
2007-2008	1.570	647.610	24-03-2008	0.000		20-01-2008
2008-2009	28.18	647.910	03-09-2008	0.000		24-01-2009
2009-2010	117.2	648.910	23-09-2009	0.000		15-03-2010
2010-2011	300.8	650.250	13-11-2010	0.000	646.720	26-03-2011
2011-2012	48.55	647.830	15-10-2011	0.000		26-01-2012

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2012-2013	11.56	647.060	01-10-2012	0.000		25-01-2013
2013-2014	4.720	647.290	17-09-2013	0.000		25-01-2014
2014-2015	128.9	649.540	27-10-2014	0.000	646.100	09-12-2014
2015-2016	77.90	648.390	03-11-2015	0.000	646.310	11-01-2016
2016-2017	0.000		04-10-2016	0.000		25-01-2017
2017-2018	299.0	650.570	01-07-2017	0.000	0.000	25-01-2018
2018-2019	6.060	647.100	20-08-2018	0.000		25-01-2019
2019-2020	1118	653.060	22-10-2019	0.000		16-04-2020
2020-2021	84.28	649.090	07-05-2021	0.000	646.390	13-03-2021

Annual Runoff of Krishna at Kellodu

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1990-1991	10	5	15	0	0	1
2	1991-1992	36	13	49	1	0	2
3	1992-1993	131	157	288	5	6	10
4	1993-1994	199	32	231	7	1	8
5	1994-1995	144	48	192	5	2	7
6	1995-1996	26	7	33	1	0	1
7	1996-1997	42	3	46	1	0	2
8	1997-1998	27	39	66	1	1	2
9	1998-1999	51	15	67	2	1	2
10	1999-2000	233	32	265	8	1	9
11	2000-2001	367	78	444	13	3	16
12	2001-2002	21	5	26	1	0	1
13	2002-2003	8	2	10	0	0	0
14	2003-2004	10	0	10	0	0	0
15	2004-2005	0	0	0	0	0	0
16	2005-2006	45	5	50	2	0	2
17	2006-2007	1	1	1	0	0	0
18	2007-2008	1	0	1	0	0	0
19	2008-2009	15	7	21	1	0	1
20	2009-2010	64	7	71	2	0	2
21	2010-2011	94	210	305	3	7	11
22	2011-2012	6	1	7	0	0	0
23	2012-2013	1	0	1	0	0	0
24	2013-2014	2	0	2	0	0	0
25	2014-2015	62	7	69	2	0	2
26	2015-2016	38	31	69	1	1	2
27	2016-2017	0	0	0	0	0	0
28	2017-2018	30	0	30	1	0	1
29	2018-2019	2	0	2	0	0	0
30	2019-2020	288	206	494	10	7	17
31	2020-2021	132	160	292	5	6	10
Average		67	35	102	2	1	4

Instantaneous Flood Peak of Krishna at Kllodu					
Sl. No.	Year	Instantaneous Annual Flood Peak			
		Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	1990-1991	100.450	28-10-1990	08:00:00	77 *
2	1991-1992	101.250	17-09-1991	03:00:00	162 *
3	1992-1993	103.150	17-11-1992	10:00:00	551 *
4	1993-1994	102.550	22-10-1993	19:00:00	400 *
5	1994-1995	101.880	27-10-1994	18:00:00	261 *
6	1995-1996	100.430	23-10-1995	11:00:00	76 *
7	1996-1997	100.740	29-09-1996	00:00:00	103 *
8	1997-1998	101.480	28-11-1997	07:00:00	195 *
9	1998-1999	100.070	24-08-1998	01:00:00	54 *
10	1999-2000	102.930	26-10-1999	14:00:00	493 *
11	2000-2001	102.600	23-10-2000	08:00:00	411
12	2001-2002	99.330	19-09-2001	13:00:00	39 *
13	2002-2003	99.600	30-10-2002	13:00:00	40 *
14	2003-2004	99.380	04-10-2003	08:00:00	40
15	2004-2005	Dry Bed			
16	2005-2006	99.54	17-07-2005	13:00:00	54 *
17	2006-2007	649.220	03-11-2006	08:00:00	160 *
18	2007-2008	648.840	24-03-2008	08:00:00	116 *
19	2008-2009	647.910	03-09-2008	08:00:00	48
20	2009-2010	649.110	23-09-2009	16:00:00	146 *
21	2010-2011	650.400	13-11-2010	18:30:00	356 *
22	2011-2012	647.770	15-10-2011	13:00:00	43 *
23	2012-2013	647.070	01-10-2012	08:00:00	35 *
24	2013-2014	647.310	17-09-2013	00:00:00	34 *
25	2014-2015	650.490	27-10-2014	13:00:00	375 *
26	2015-2016	648.980	03-11-2015	06:00:00	131 *
27	2016-2017	Dry Bed			
28	2017-2018	647.260	01-07-2017	04:00:00	34 *
29	2018-2019	647.410	20-08-2018	19:00:00	35 *
30	2019-2020	653.210	22-10-2019	14:00:00	1187 *
31	2020-2021	648.200	09-09-2020	20:00:00	63 *
32	2021-2022	650.570	20-11-2021	18:00:00	122 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : KELLODU (AKL50T9)

Local River : Vedavathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere

Day	Jun			Jul		Aug		Sep		Oct		Nov	
	W.L	Q		W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	647.070	11.18 #		646.420	0.000	648.230	34.97 *	647.560	12.80	647.280	7.186	647.760	19.29
2	646.810	4.339 #		646.420	0.000	648.220	34.51	647.560	12.80	647.280	7.174 *	647.760	19.29
3	646.730	3.005		646.420	0.000	648.220	34.51	647.560	12.80	647.280	7.174 *	647.760	19.29
4	646.800	4.142 #		646.420	0.000	648.220	34.51	647.560	12.80	647.280	7.186	647.830	21.15 *
5	646.690	2.447		646.420	0.000	648.220	34.51	647.560	13.52 *	647.280	7.186	647.820	21.59
6	646.680	2.152 *		646.420	0.000	648.190	33.66	647.520	11.96	647.280	7.186	648.020	25.87
7	646.590	1.015		646.440	0.000	648.190	33.66	647.440	10.30	647.530	12.72	648.020	26.48 *
8	646.540	0.577		646.440	0.000	648.190	33.46 *	647.390	9.246	647.600	13.51	648.030	26.24
9	646.490	0.367		646.440	0.000	648.200	34.04	647.300	7.556	647.660	15.68	647.910	22.37
10	646.480	0.327		646.440	0.000	648.200	34.04	647.290	7.370 *	647.660	16.18 *	648.030	26.24
11	646.450	0.000		647.220	6.037 *	648.190	33.66	647.280	7.178	647.700	17.25	648.010	25.54
12	646.450	0.000		647.500	12.48	648.190	33.66	647.280	7.174 *	647.750	18.96	648.010	25.54
13	646.420	0.000		647.520	13.02	648.190	33.66	647.280	7.178	647.820	21.59	648.190	32.25
14	646.420	0.000		647.660	15.68	648.190	33.66	647.280	7.178	647.820	21.59	648.310	35.64 *
15	646.420	0.000		647.970	25.17	648.190	33.46 *	647.280	7.178	647.820	20.84 *	648.310	39.86
16	646.420	0.000		648.020	27.08	648.190	33.66	647.280	7.178	647.820	21.59	648.810	56.61
17	646.420	0.000		648.010	25.54	648.190	33.66	647.280	7.178	647.820	20.84 *	648.910	60.33
18	646.420	0.000		648.010	27.01 *	648.150	32.08	647.280	7.178	647.820	21.59	649.040	64.10
19	646.420	0.000		648.160	31.89	648.090	30.59	647.280	7.174 *	647.820	20.84 *	649.260	71.43 *
20	646.420	0.000		648.300	37.64	648.020	27.35 *	647.280	7.178	647.820	21.59	650.160	108.2
21	646.420	0.000		648.300	37.68 *	647.960	25.57	647.280	7.178	647.820	21.59	649.870	98.45 *
22	646.420	0.000		648.300	36.19	647.880	22.72 *	647.280	7.178	647.820	21.59	649.690	89.34
23	646.420	0.000		648.300	36.19	647.820	22.53	647.280	7.178	647.820	21.59	649.690	89.34
24	646.420	0.000		648.300	36.19	647.770	20.54	647.280	7.178	647.980	25.99 *	649.690	89.34
25	646.420	0.000		648.300	37.68 *	647.760	20.18	647.280	7.178	648.310	36.51	649.690	89.34
26	646.420	0.000		648.280	37.11	647.760	20.18	647.280	7.174 *	648.190	31.85	649.690	89.34
27	646.420	0.000		648.230	34.71	647.750	19.83	647.280	7.178	648.090	29.27	649.690	89.34
28	646.420	0.000		648.190	33.18	647.700	18.02	647.280	7.178	648.020	25.87	649.690	90.18 *
29	646.420	0.000		648.190	33.23	647.650	15.90 *	647.280	7.178	647.820	21.59	649.690	89.34
30	646.420	0.000		648.210	34.08	647.580	13.57	647.280	7.178	647.770	19.66	649.690	89.34
31				648.230	34.93	647.560	12.78			647.760	19.03 *		
Ten-Daily Mean													
I Ten-Daily	646.688	2.955		646.428	0.000	648.208	34.19	647.474	11.11	647.413	10.12	647.894	22.78
II Ten-Daily	646.426	0.000		647.837	22.15	648.159	32.55	647.280	7.177	647.801	20.67	648.701	51.95
III Ten-Daily	646.420	0.000		648.257	35.56	647.745	19.26	647.280	7.178	647.945	24.96	649.708	90.33
Monthly													
Min.	646.420	0.000		646.420	0.000	647.560	12.78	647.280	7.174	647.280	7.174	647.760	19.29
Max.	647.070	11.18		648.300	37.68	648.230	34.97	647.560	13.52	648.310	36.51	650.160	108.2
Mean	646.511	0.985		647.532	19.77	648.028	28.36	647.345	8.49	647.727	18.79	648.768	55.02

Annual Runoff in MCM = 428 Annual Runoff in mm = 99

Peak Observed Discharge = 108.2 cumecs on 20-11-2021 Corres. Water Level :650.16 m

Lowest Observed Discharge = 0.000 cumecs on 11-06-2021 Corres. Water Level :646.45 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : KELLODU (AKL50T9)

Local River : Vedavathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	648.910	60.33	650.520	0.000	650.590	0.000	650.020	0.000	649.740	0.000	649.200	0.000
2	648.790	55.33	650.580	0.000	650.580	0.000	650.020	0.000	649.740	0.000	649.170	0.000
3	648.960	63.51	650.620	0.000	650.580	0.000	650.020	0.000	649.720	0.000	649.140	0.000
4	649.300	75.70	650.620	0.000	650.580	0.000	649.990	0.000	649.720	0.000	649.100	0.000
5	649.110	68.76 *	650.620	0.000	650.570	0.000	649.960	0.000	649.720	0.000	649.060	0.000
6	648.790	55.33	650.620	0.000	650.570	0.000	649.920	0.000	649.690	0.000	649.060	0.000
7	648.420	41.92	650.620	0.000	650.570	0.000	649.880	0.000	649.690	0.000	649.060	0.000
8	648.300	36.19	650.620	0.000	650.570	0.000	649.840	0.000	649.660	0.000	649.060	0.000
9	648.300	36.19	650.620	0.000	650.560	0.000	649.800	0.000	649.640	0.000	649.060	0.000
10	648.300	36.19	650.620	0.000	650.560	0.000	649.800	0.000	649.630	0.000	649.020	0.000
11	648.300	36.19	650.620	0.000	650.560	0.000	649.800	0.000	649.630	0.000	649.020	0.000
12	648.300	36.35 *	650.620	0.000	650.550	0.000	649.800	0.000	649.630	0.000	649.020	0.000
13	648.030	26.24	650.620	0.000	650.550	0.000	649.790	0.000	649.630	0.000	649.160	0.000
14	647.910	22.37	650.610	0.000	650.550	0.000	649.790	0.000	649.630	0.000	649.180	0.000
15	647.800	20.91	650.610	0.000	650.530	0.000	649.790	0.000	649.630	0.000	649.180	0.000
16	647.800	20.91	650.610	0.000	650.530	0.000	649.790	0.000	649.600	0.000	649.180	0.000
17	647.800	20.91	650.610	0.000	650.530	0.000	649.790	0.000	649.570	0.000	649.180	0.000
18	647.800	20.91	650.610	0.000	650.530	0.000	649.790	0.000	649.600	0.000	649.180	0.000
19	647.800	20.69 *	650.600	0.000	650.500	0.000	649.790	0.000	649.600	0.000	649.220	0.000
20	647.790	20.56	650.600	0.000	650.430	0.000	649.780	0.000	649.600	0.000	649.220	0.000
21	647.790	20.56	650.600	0.000	650.390	0.000	649.780	0.000	649.590	0.000	649.250	0.000
22	647.790	20.56	650.600	0.000	650.320	0.000	649.780	0.000	649.550	0.000	649.300	0.000
23	647.790	20.56	650.600	0.000	650.240	0.000	649.760	0.000	649.520	0.000	649.300	0.000
24	647.790	20.56	650.600	0.000	650.210	0.000	649.760	0.000	649.490	0.000	649.300	0.000
25	648.150	31.29 *	650.600	0.000	650.180	0.000	649.760	0.000	649.450	0.000	649.280	0.000
26	648.790	54.97 *	650.590	0.000	650.140	0.000	649.760	0.000	649.420	0.000	649.300	0.000
27	649.460	0.000	650.590	0.000	650.090	0.000	649.760	0.000	649.380	0.000	649.300	0.000
28	649.740	0.000	650.590	0.000	650.050	0.000	649.760	0.000	649.310	0.000	649.300	0.000
29	649.880	0.000	650.590	0.000			649.760	0.000	649.270	0.000	649.290	0.000
30	650.120	0.000	650.590	0.000			649.740	0.000	649.240	0.000	649.290	0.000
31	650.300	0.000	650.590	0.000			649.740	0.000			649.290	0.000
Ten-Daily Mean												
I Ten-Daily	648.718	52.95	650.606	0.000	650.573	0.000	649.925	0.000	649.695	0.000	649.093	0.000
II Ten-Daily	647.933	24.60	650.611	0.000	650.526	0.000	649.791	0.000	649.612	0.000	649.154	0.000
III Ten-Daily	648.873	15.32	650.594	0.000	650.202	0.000	649.760	0.000	649.422	0.000	649.291	0.000
Monthly												
Min.	647.790	0.000	650.520	0.000	650.050	0.000	649.740	0.000	649.240	0.000	649.020	0.000
Max.	650.300	75.70	650.620	0.000	650.590	0.000	650.020	0.000	649.740	0.000	649.300	0.000
Mean	648.520	30.45	650.604	0	650.450	0	649.823	0	649.576	0	649.183	0

Peak Computed Discharge = 98.45 cumecs on 21-11-2021

Corres. Water Level :649.87 m

Lowest Computed Discharge = 2.152 cumecs on 06-06-2021

Corres. Water Level :646.68 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

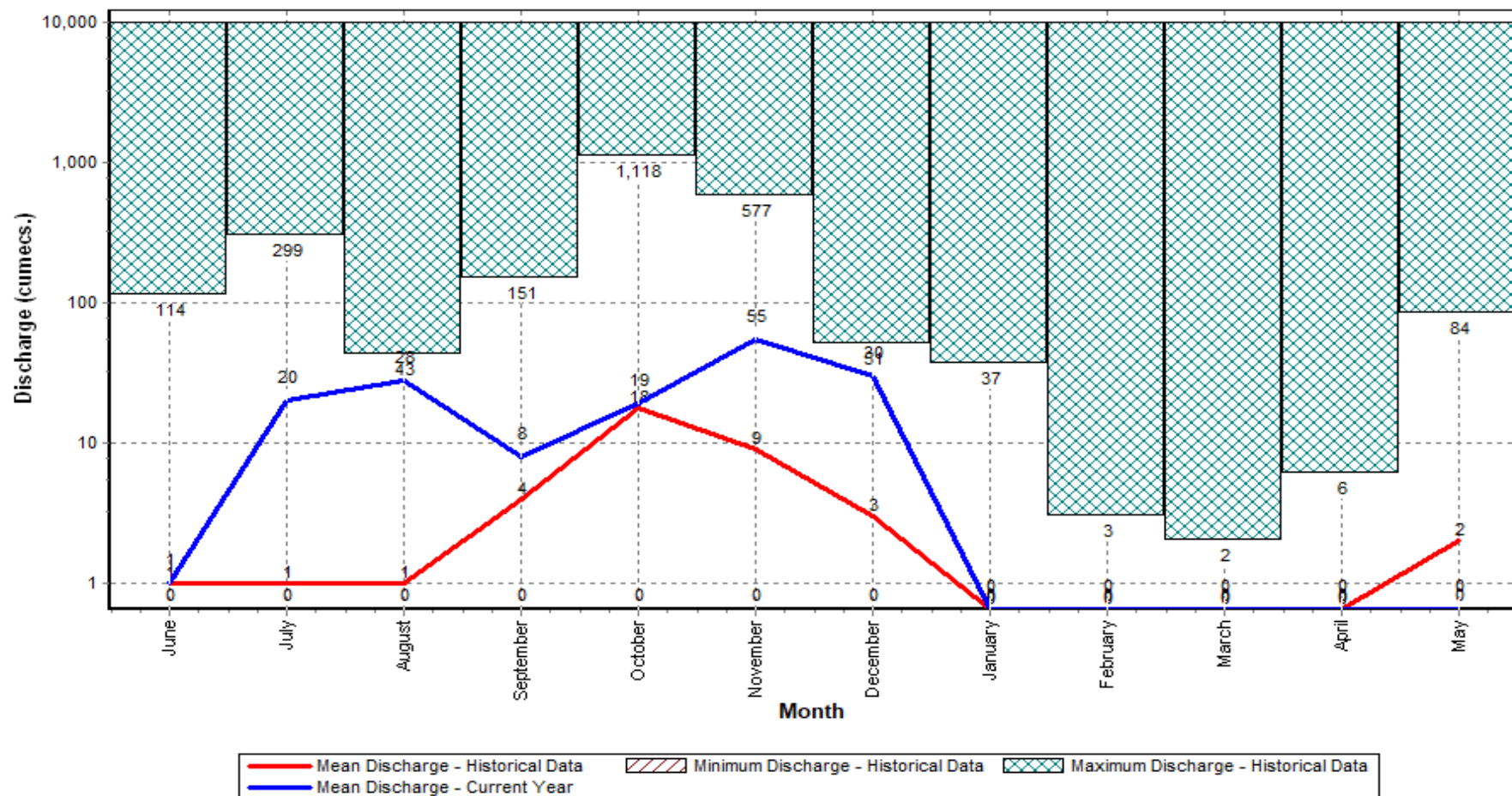
Station Name : KELLODU (AKL50T9)

Data considered : 1991-2022

Division : Cauvery Division, Bangalore

Local River : Vedavathi

Sub-Division : Upper Tunga Subdn, Devangere



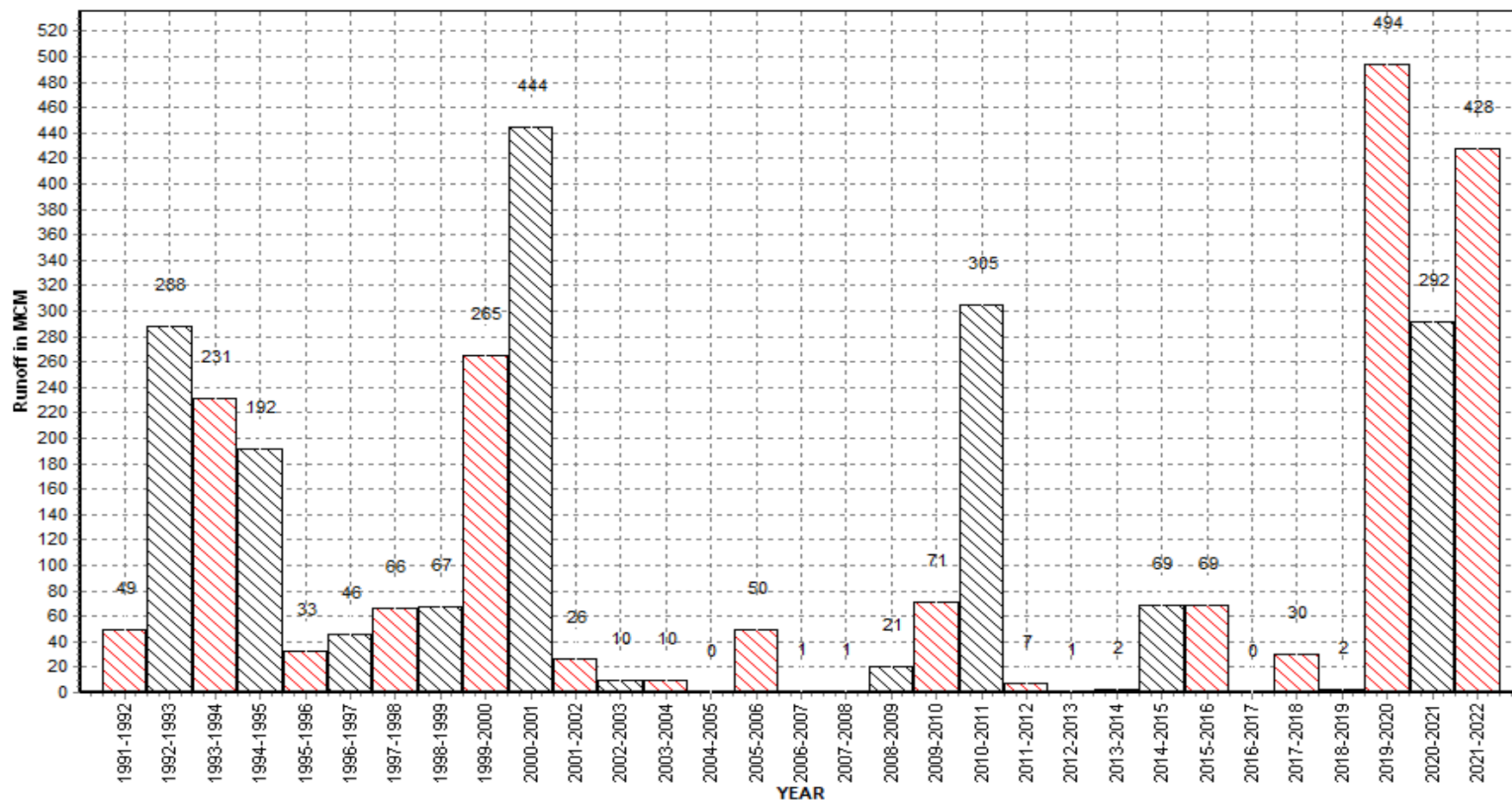
Annual Runoff Values for the period: 1991 - 2022

Station Name : KELLODU (AKL50T9)

Local River : Vedavathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



Note: Missing values have not been considered while arriving at Annual Runoff

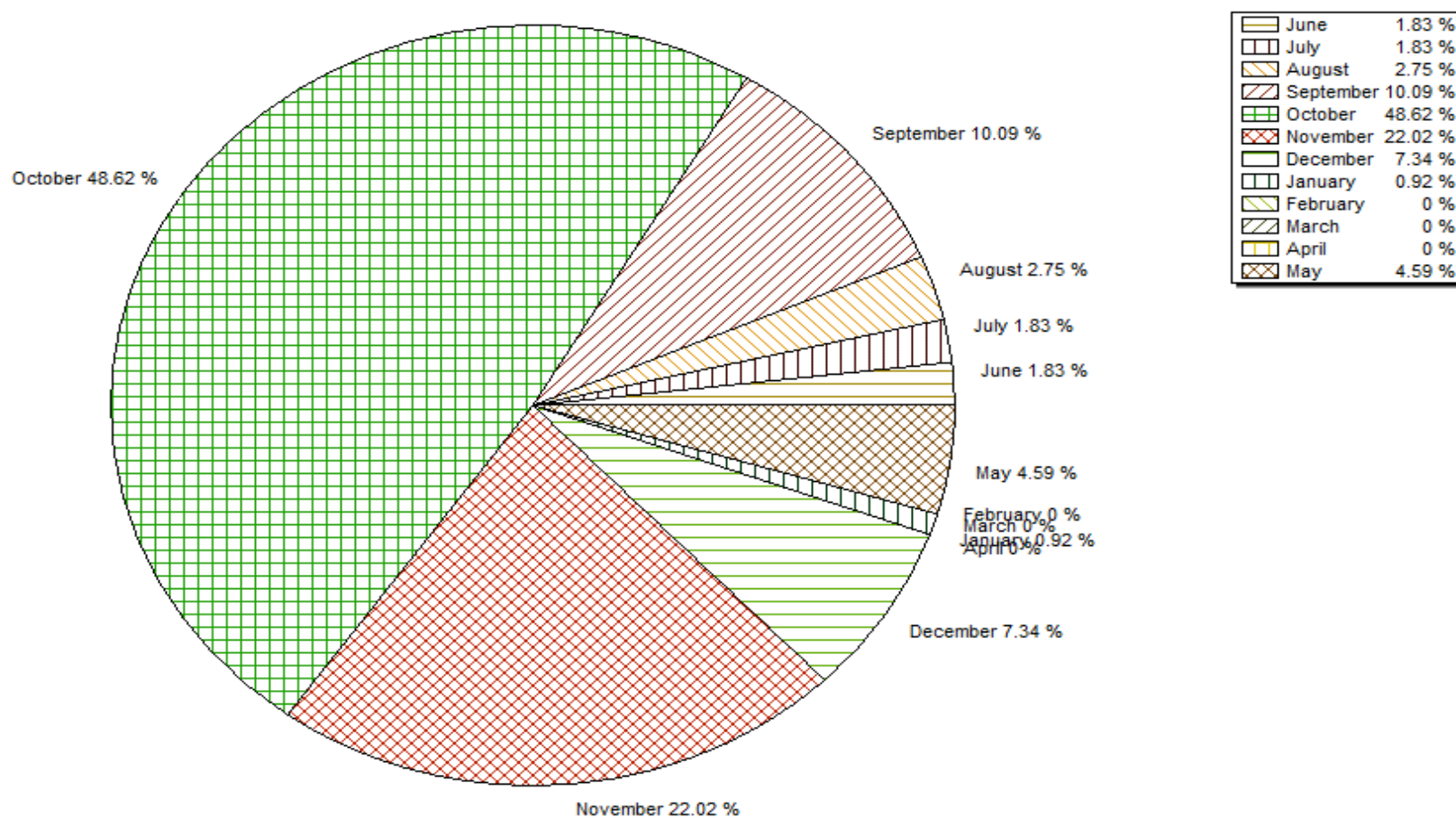
Monthly Average Runoff based on period : 1991-2021

Station Name : KELLODU (AKL50T9)

Local River : Vedavathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



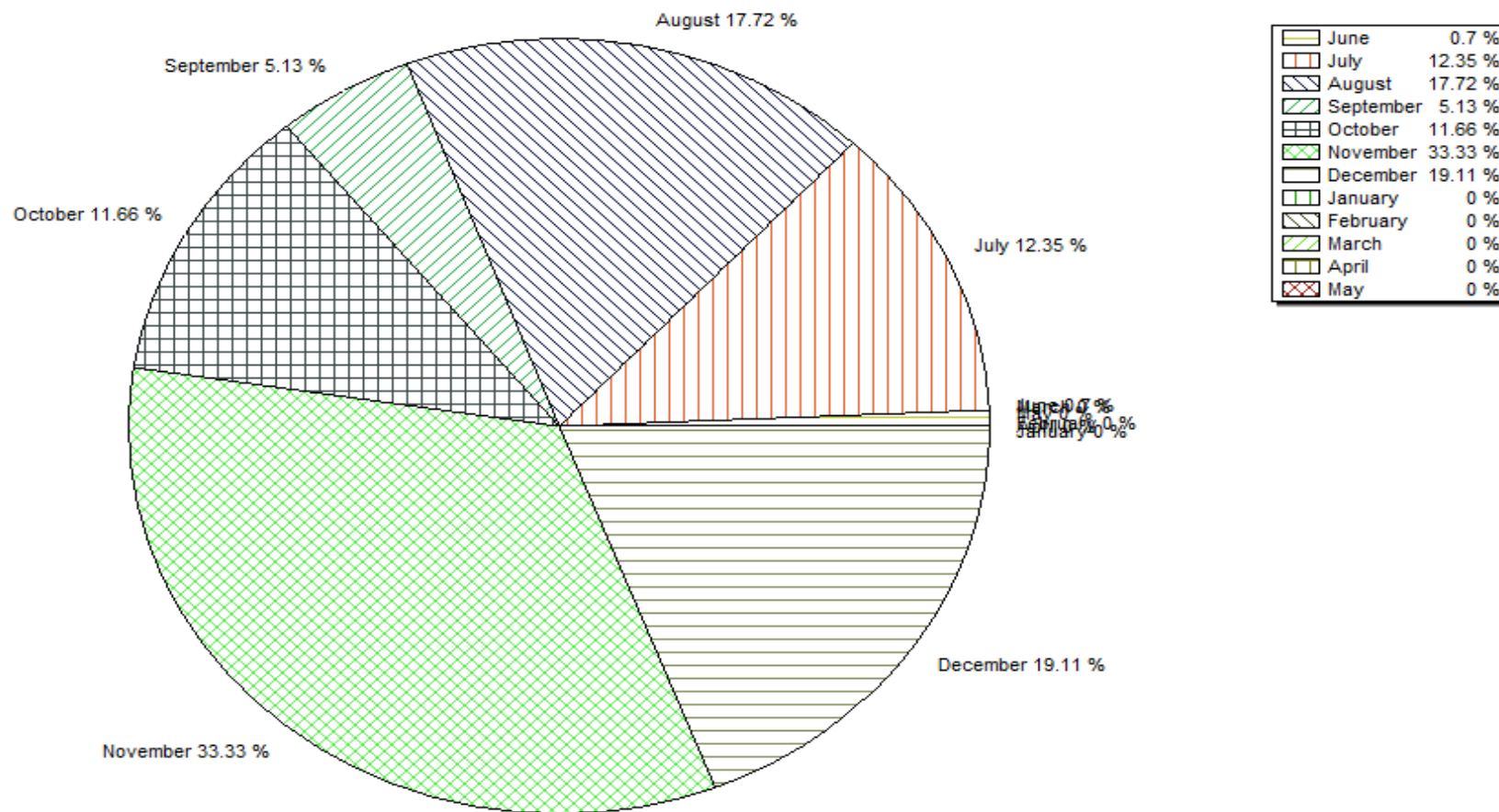
Monthly Runoff for the Year : 2021-2022

Station Name : KELLODU (AKL50T9)

Local River : Vedavathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere

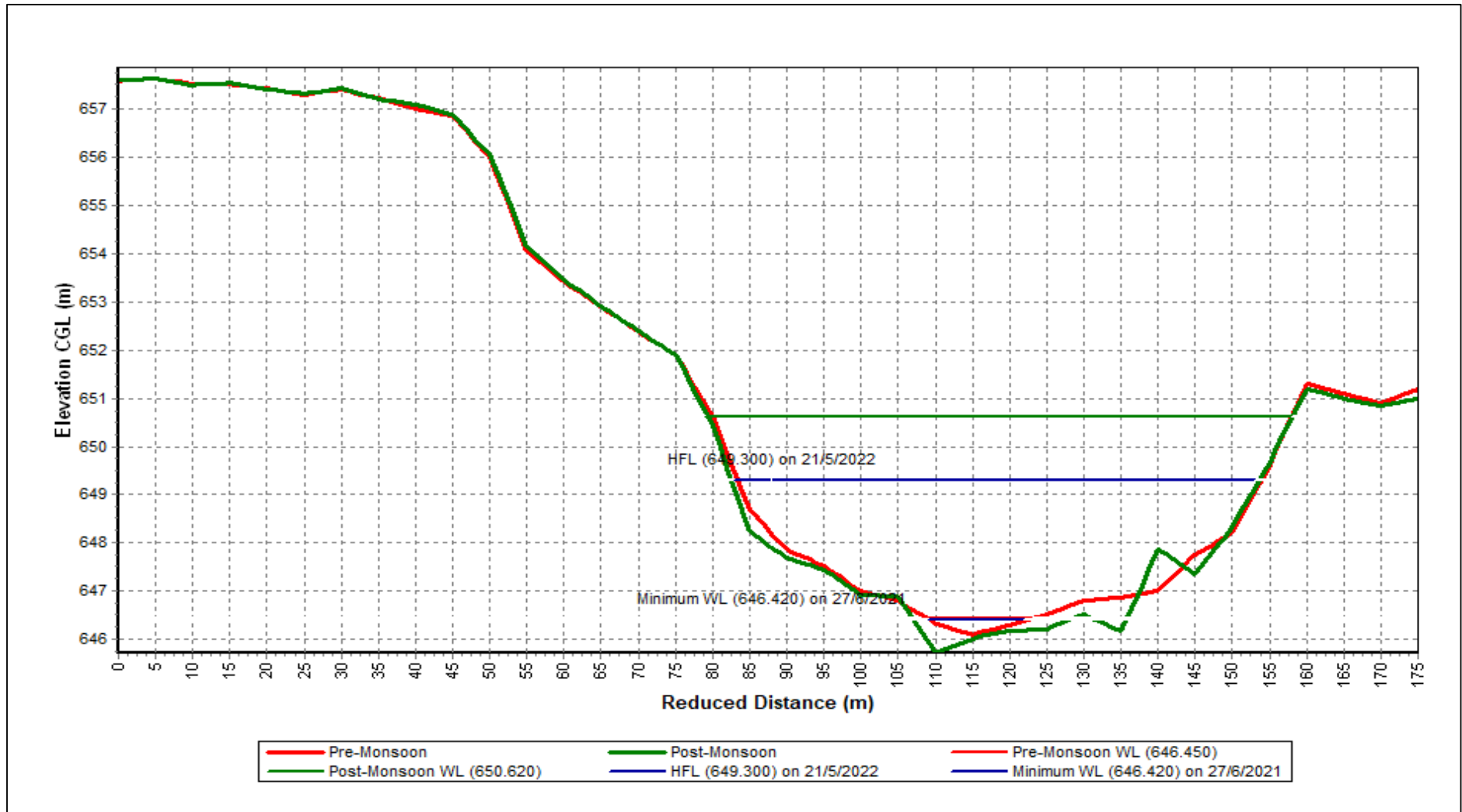


Station Name : KELLODU (AKL50T9)

Local River : Vedavathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



Zero of Gauge : 644.75 (m.s.l)

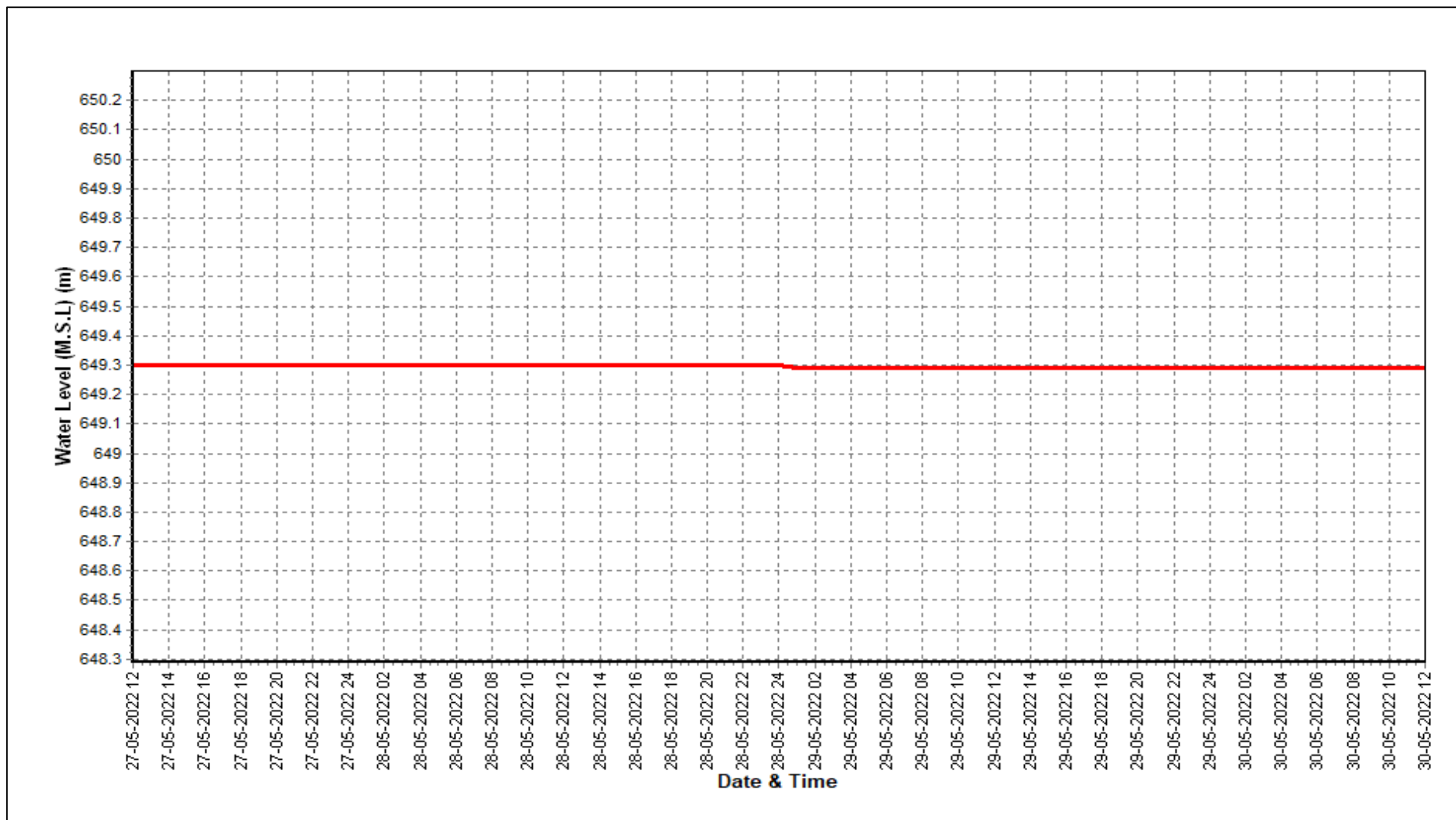
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : KELLODU (AKL50T9)

Local River : Vedavathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



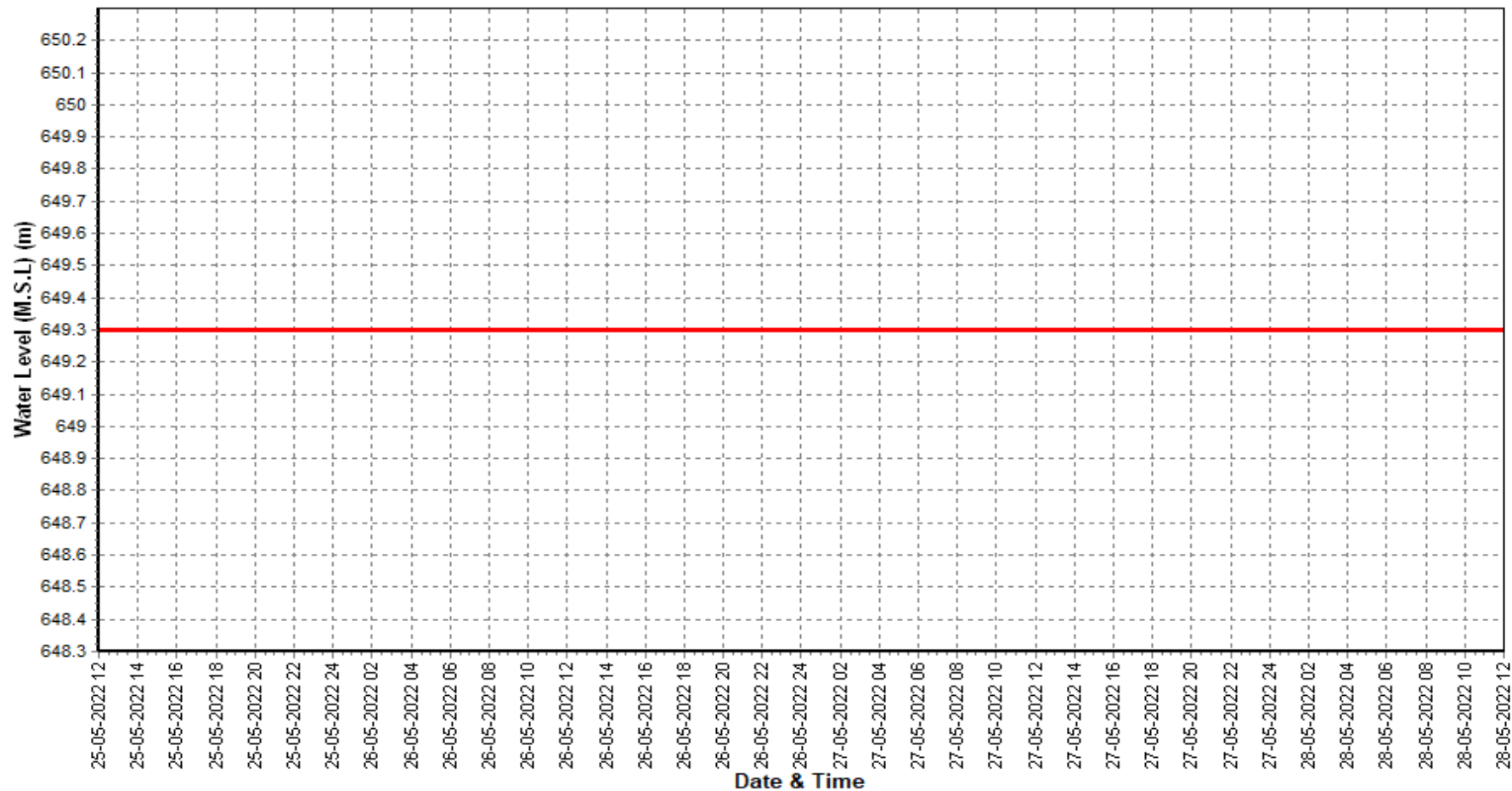
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : KELLODU (AKL50T9)

Local River : Vedavathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



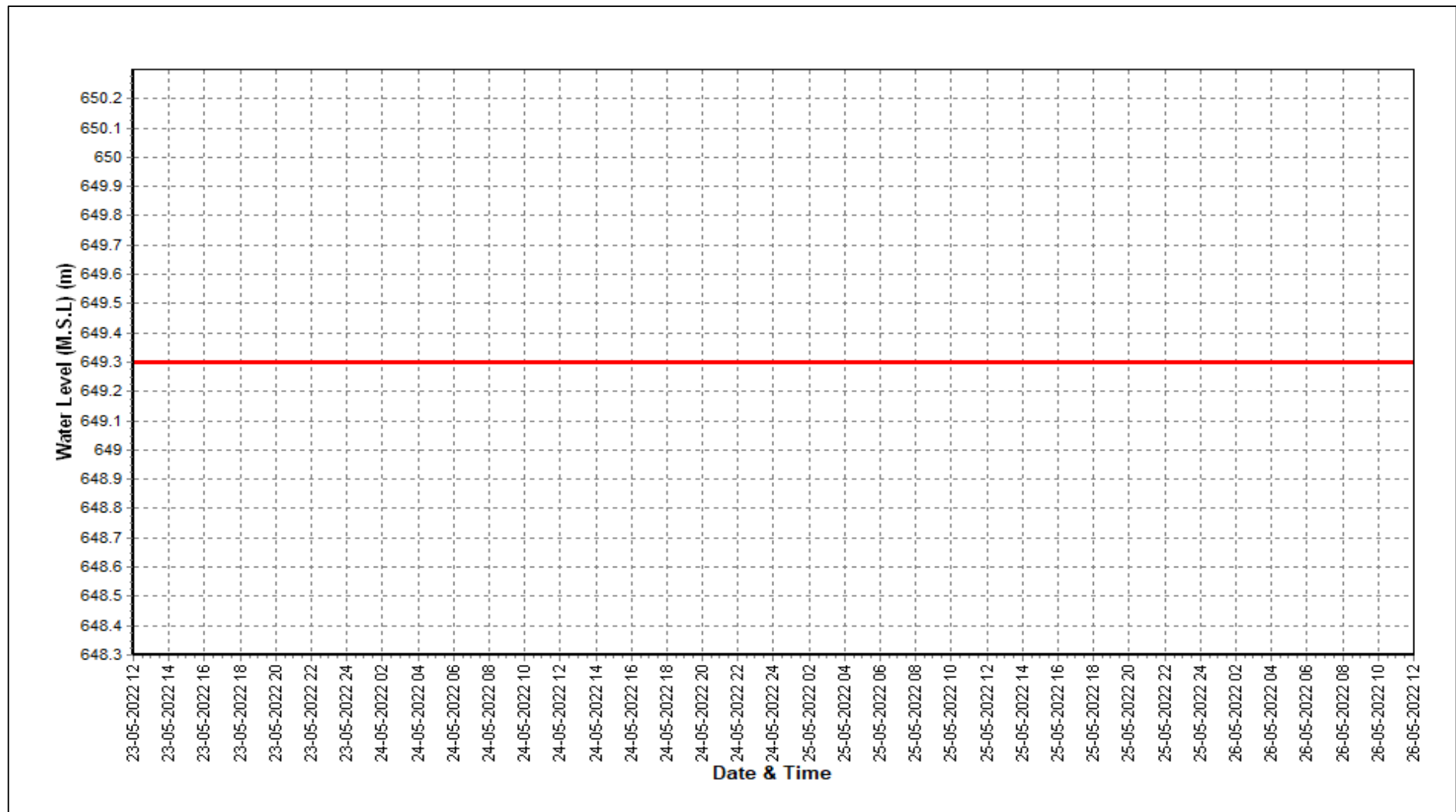
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : KELLODU (AKL50T9)

Local River : Vedavathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



Time Span: 72 Hrs

HISTORY SHEET

		Water Year	: 2021-2022
Site	: T Ramapuram (Seasonal)	Code	: AKL50A6
State	: Karnataka	District	Bellary
Basin	: Krishna	Independent River	: Krishna
Tributary	: Tungabhadra	Sub Tributary	: Hagari
Sub-Sub Tributary	: -	Local River	: Hagari
Division	: Lower Krishna Divn., Hyderabad	Sub-Division	: Lower Tungabhadra SD, Kurnool
Drainage Area	: 23500 Sq. Km.	Bank	: Right
Latitude	: 15°39'40"	Longitude	: 76°57'56"
Zero of Gauge (m)	: 349.368 (m.s.l) 349.368 (m.s.l)	13-07-1963 01-05-2019	- 30-04-2019
	Opening Date	Closing Date	
Gauge	: 13-07-1963	HFL During 2021-22	: 352.878 m
		Corres. Discharge	: 1441 (Observed)
Discharge	: 23-08-1964	Date & Time of occurrence	: 22-11-2021 : 08:00 Hrs
Water Quality	: 01-01-1980		

HFL Recorded so far in m : 356.478 dt 02-10-2009

Corresponding Discharge (cumecs) : 3720*

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1966-1967	635	352.283	24-09-1966	0.200	350.253	02-06-1966
1967-1968	1022	352.966	04-10-1967	0.500	350.388	12-05-1968
1968-1969	939.6	353.098	09-10-1968	0.831	350.338	02-05-1969
1969-1970	506.6	352.018	21-10-1969	1.155	350.413	03-04-1970
1970-1971	1052	353.088	20-09-1970	0.617	350.268	15-05-1971
1971-1972	1623	353.858	14-10-1971	0.510	350.268	26-04-1972
1972-1973	740	352.508	18-09-1972	0.090	350.283	12-05-1973
1973-1974	1400	353.518	19-09-1973	0.000	350.228	02-06-1973
1974-1975	604.2	352.298	05-10-1974	0.100	350.193	27-05-1975
1975-1976	1084	353.118	05-11-1975	0.600	350.093	29-05-1976
1976-1977	156	351.388	22-08-1976	0.300	350.028	10-06-1976
1977-1978	407.8	351.928	11-10-1977	1.000	350.153	28-04-1978
1978-1979	1451	353.483	30-09-1978	0.200	350.153	29-05-1979
1979-1980	413.8	351.933	24-09-1979	0.200	350.113	27-05-1980
1980-1981	357.2	351.778	30-09-1980	0.100	350.118	16-04-1981
1981-1982	1046	353.158	12-09-1981	1.100	350.058	24-05-1982
1982-1983	1070	353.148	07-11-1982	0.200	350.028	08-05-1983

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1983-1984	930	352.868	04-10-1983	0.100	350.018	02-06-1983
1984-1985	308	351.648	15-07-1984	0.100	349.918	27-06-1984
1985-1986	144.9	351.228	29-09-1985	0.000	350.018	19-04-1986
1986-1987	905	352.823	19-09-1986	0.000	349.828	28-04-1987
1987-1988	840.5	352.898	23-10-1987	0.000		06-05-1988
1988-1989	918.1	353.043	30-08-1988	0.000		04-04-1989
1989-1990	1112	353.018	24-09-1989	0.000		24-04-1990
1990-1991	142	351.358	14-10-1990	0.235	349.903	15-04-1991
1991-1992	660.5	352.451	06-06-1991	0.000		09-04-1992
1992-1993	955.4	352.958	19-11-1992	0.536	349.818	15-05-1993
1993-1994	299.1	351.828	10-10-1993	0.000		21-07-1993
1994-1995	573.5	352.398	04-10-1994	0.000		22-05-1995
1995-1996	591.2	352.438	30-08-1995	0.000		25-04-1996
1996-1997	1573	353.748	21-10-1996	0.000		25-05-1997
1997-1998	209.7	351.548	13-11-1997	0.000		09-06-1997
1998-1999	794.5	352.758	12-10-1998	0.000		04-05-1999
1999-2000	593.1	352.413	27-09-1999	0.000		30-04-2000
2000-2001	1032	353.118	10-10-2000	0.000		01-05-2001
2001-2002	904.7	352.963	29-09-2001	0.000		04-03-2002
2002-2003	290.3	351.768	15-10-2002	0.000		16-04-2003
2003-2004	230.2	351.563	07-10-2003	0.000		20-02-2004
2004-2005	262.6	351.483	06-09-2004	0.000		14-04-2005
2005-2006	878.6	352.818	06-09-2005	0.000		12-07-2005
2006-2007	901.5	352.898	04-11-2006	0.000		27-07-2006
2007-2008	1909	354.318	19-09-2007	0.000		24-07-2007
2008-2009	1433	353.458	29-08-2008	0.000	349.648	27-06-2008
2009-2010	3293	355.948	02-10-2009	0.000		19-07-2009
2010-2011	858	352.788	24-08-2010	0.000		31-07-2010
2011-2012	76	350.563	31-10-2011	0.000		12-08-2011
2012-2013	125	350.963	27-08-2012	0.000		16-07-2012
2013-2014	488.5	351.848	04-09-2013	0.000		26-07-2013
2014-2015	647.5	352.158	26-10-2014	0.000	349.508	19-07-2014
2015-2016	1317	353.458	07-09-2015	0.000		07-07-2015
2016-2017	95	350.858	03-06-2016	0.000		27-08-2016
2017-2018	912	352.783	13-10-2017	0.000		27-04-2018
2018-2019	105	350.878	20-10-2018	0.000		02-04-2019
2019-2020	1025	353.008	25-09-2019	0.000		08-07-2019
2020-2021	516.3	351.638	26-07-2020	0.000		02-05-2021
2021-2022	1441	352.878	22-11-2021	0.000		07-07-2021

Annual Runoff of Hagari at T Ramapuram

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1965-1966		76	76		3	3
2	1966-1967	723	259	983	26	9	35
3	1967-1968	375	90	464	13	3	16
4	1968-1969	940	172	1112	33	6	39
5	1969-1970	543	234	777	19	8	27
6	1970-1971	923	152	1075	33	5	38
7	1971-1972	792	273	1065	28	10	38
8	1972-1973	535	80	614	19	3	22
9	1973-1974	928	150	1078	33	5	38
10	1974-1975	942	160	1102	33	6	39
11	1975-1976	2226	259	2485	79	9	88
12	1976-1977	298	137	435	11	5	15
13	1977-1978	790	148	938	28	5	33
14	1978-1979	939	177	1116	33	6	39
15	1979-1980	645	144	789	23	5	28
16	1980-1981	399	153	552	14	5	20
17	1981-1982	1381	163	1544	49	6	55
18	1982-1983	712	163	876	25	6	31
19	1983-1984	662	116	778	23	4	27
20	1984-1985	355	91	446	13	3	16
21	1985-1986	249	75	324	9	3	11
22	1986-1987	666	88	754	24	3	27
23	1987-1988	653	79	732	23	3	26
24	1988-1989	748	11	759	26	0	27
25	1989-1990	839	86	925	30	3	33
26	1990-1991	338	84	422	12	3	15
27	1991-1992	450	66	516	16	2	18
28	1992-1993	644	149	793	23	5	28
29	1993-1994	444	230	674	16	8	24
30	1994-1995	360	148	508	13	5	18
31	1995-1996	545	58	603	19	2	21
32	1996-1997	1270	121	1390	45	4	49
33	1997-1998	283	109	392	10	4	14
34	1998-1999	1016	94	1110	36	3	39
35	1999-2000	734	84	818	26	3	29
36	2000-2001	901	85	987	32	3	35
37	2001-2002	1263	77	1340	45	3	47
38	2002-2003	235	29	263	8	1	9
39	2003-2004	181	57	238	6	2	8
40	2004-2005	310	45	354	11	2	13
41	2005-2006	957	124	1081	34	4	38
42	2006-2007	461	Site downgraded as Seasonal Site from 2006-07 and again upgraded in 2014 - 15	461	16	Site downgraded as Seasonal Site from 2006-07 and again upgraded in 2014 - 15	16
43	2007-2008	914		914	32		32
44	2008-2009	1017		1017	36		36
45	2009-2010	1766		1766	62		62
46	2010-2011	772		772	27		27
47	2011-2012	289		289	10		10
48	2012-2013	384		384	14		14
49	2013-2014	456		456	16		16

50	2014-2015	425	96	521	15	3	18
51	2015-2016	713	68	781	25	2	28
52	2016-2017	102	0	102	4	0	4
53	2017-2018	716	82	798	25	3	28
54	2018-2019	194	21	216	7	1	8
55	2019-2020	995	136	1131	35	5	40
56	2020-2021	962	176	1138	34	6	40
57	2021-2022	1014	229	1242	36	8	44
Average		703	118	794	24	4	28

Instantaneous Flood Peak of Hagari at T Ramapuram

		Instantaneous Annual Flood Peak			
Sl. No.	Year	Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	1965-1966	352.583	21-09-1965	21:00:00	790 *
2	1966-1967	353.578	30-11-1966	23:00:00	1374 *
3	1967-1968	353.288	04-10-1967	07:00:00	1186 *
4	1968-1969	353.163	09-10-1968	07:00:00	1108 *
5	1969-1970	352.118	21-10-1969	11:00:00	536 *
6	1970-1971	353.468	20-09-1970	15:00:00	1301 *
7	1971-1972	354.328	14-10-1971	18:00:00	1923 *
8	1972-1973	352.868	17-05-1972	18:00:00	933 *
9	1973-1974	353.548	19-09-1973	09:00:00	1400 *
10	1974-1975	354.108	27-09-1974	22:00:00	1745 *
11	1975-1976	353.268	05-11-1975	13:00:00	1173 *
12	1976-1977	351.548	21-08-1976	23:00:00	282 *
13	1977-1978	352.283	16-06-1977	02:00:00	617 *
14	1978-1979	353.618	30-09-1978	07:00:00	1451 *
15	1979-1980	352.148	28-09-1979	04:00:00	551 *
16	1980-1981	352.378	30-09-1980	00:00:00	666 *
17	1981-1982	354.008	09-10-1981	18:00:00	1672 *
18	1982-1983	353.148	07-11-1982	08:00:00	1070 *
19	1983-1984	353.308	04-10-1983	16:00:00	1199 *
20	1984-1985	351.748	14-07-1984	17:00:00	367 *
21	1985-1986	351.238	29-09-1985	15:00:00	161 *
22	1986-1987	353.068	19-09-1986	20:00:00	1116 *
23	1987-1988	352.938	23-10-1987	08:00:00	973 *
24	1988-1989	353.208	30-08-1988	04:00:00	1136 *
25	1989-1990	353.418	24-09-1989	13:00:00	1269 *
26	1990-1991	351.668	27-05-1990	18:00:00	332 *
27	1991-1992	353.768	06-06-1991	18:00:00	1503 *
28	1992-1993	353.118	19-11-1992	06:00:00	1081 *
29	1993-1994	352.908	10-10-1993	10:00:00	956 *
30	1994-1995	352.538	04-10-1994	10:00:00	749 *
31	1995-1996	352.468	30-08-1995	12:00:00	712 *
32	1996-1997	354.103	03-09-1996	00:00:00	1741 *
33	1997-1998	351.618	11-11-1997	18:00:00	311 *
34	1998-1999	352.818	12-10-1998	11:00:00	904 *
35	1999-2000	352.978	27-09-1999	16:00:00	997 *
36	2000-2001	353.518	09-10-2000	15:00:00	1334 *
37	2001-2002	353.258	17-09-2001	13:00:00	1167 *
38	2002-2003	351.948	14-10-2002	20:00:00	456 *
39	2003-2004	351.578	07-10-2003	14:00:00	295 *
40	2004-2005	351.658	06-09-2004	06:00:00	328 *
41	2005-2006	353.108	05-09-2005	22:00:00	1075 *
42	2006-2007	352.928	04-11-2006	13:00:00	968 *
43	2007-2008	354.408	19-09-2007	11:00:00	1970 *
44	2008-2009	353.458	29-08-2008	08:00:00	1295 *
45	2009-2010	356.478	02-10-2009	01:00:00	3720 *

46	2010-2011	353.988	24-08-2010	19:00:00	1658 *
47	2011-2012	351.038	02-06-2011	13:00:00	193 *
48	2012-2013	351.168	04-09-2012	11:00:00	326 *
49	2013-2014	351.878	04-09-2013	10:00:00	489 *
50	2014-2015	352.158	26-10-2014	08:00:00	648 *
51	2015-2016	353.728	07-09-2015	12:00:00	1498 *
52	2016-2017	350.948	03-06-2016	10:00:00	306 *
53	2017-2018	353.168	13-10-2017	04:00:00	2125 *
54	2018-2019	350.988	20-10-2018	02:00:00	212 *
55	2019-2020	353.168	25-09-2019	11:00:00	2125 *
56	2020-2021	351.748	26-07-2020	06:00:00	487 *
57	2021-2022	352.878	22-11-2021	08:00:00	1441

Stage-Discharge Data for the period 2021 - 2022

Station Name : T Ramapuram (Seasonal) (AKL50A6)

Division : Lower Krishna Divn., Hyderabad

Local River : Hagari

Sub-Division : Lower Tungabhadra SD, Kurnool

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	Dry Bed	0.000	Dry Bed	0.000	349.558	11.56 *	350.003	51.51	349.758	22.28	350.478	123.8
2		0.000		0.000	349.413	3.670	350.148	58.41	349.858	37.05 *	350.448	113.8
3		0.000		0.000	349.528	9.353	349.998	50.64	349.968	46.29 *	350.368	98.25
4		0.000		0.000	349.528	9.614	349.923	44.42	349.988	49.41	350.408	114.8 *
5		0.000		0.000	349.478	7.241	350.478	130.4 *	349.958	45.24	350.518	133.3
6		0.000		0.000	349.483	7.658	350.518	120.5	350.478	123.2	350.488	124.8
7	349.918	41.24 *		0.000	349.528	9.778	350.768	197.7	350.848	225.7	350.328	98.62 *
8	349.718	21.64		0.000	349.528	9.886 *	350.418	114.6	350.528	135.7	350.268	87.35
9	349.598	11.48	349.668	22.92	349.518	8.911	350.288	86.68	350.278	78.46	350.218	82.40
10	349.568	10.37	349.758	29.60	349.518	8.281	350.148	68.23 *	350.308	94.82 *	350.168	72.23
11	349.508	7.670	349.698	21.01 *	349.528	8.903	349.993	47.89	350.328	79.84	350.148	69.64
12	349.418	4.838 *	349.658	18.04 #	349.283	1.333	349.968	46.29 *	350.373	93.21	350.168	72.23
13	349.418	4.838 *	349.588	13.85	349.323	1.585	349.968	46.18	350.273	64.94	350.218	82.40
14	349.418	4.838	349.488	7.852	349.548	10.99	349.918	41.13	350.258	63.10	350.418	117.0 *
15	349.408	4.464	349.488	7.852	349.568	12.14 *	349.863	32.30	350.258	64.21 *	350.518	133.3
16	349.408	4.464	349.548	11.67	349.538	9.420	349.848	31.51	350.158	52.83	350.438	111.2
17	349.418	4.838	349.608	15.04	349.458	6.150	349.813	23.77	350.148	51.25 *	350.458	117.1
18	349.418	4.838	349.598	13.98 *	349.818	30.33	349.763	21.59	350.093	51.14	350.528	136.8
19	349.408	4.464	349.693	25.42	349.798	29.40 #	349.818	34.47 *	350.068	50.21 *	350.568	152.3 *
20	349.418	4.838 *	349.728	26.29	349.748	25.04 *	349.738	18.10	350.003	32.42	351.528	494.5
21	Dry Bed	0.000	349.618	15.28 *	349.728	23.39	349.648	11.25	349.963	34.16	352.418	1071 *
22		0.000	349.588	13.81	349.768	26.74 *	349.748	18.27	349.958	35.26	352.878	1441
23		0.000	349.548	11.67	350.228	89.75	349.853	31.55	350.228	76.29	351.678	571.2
24		0.000	349.448	6.044 #	350.128	58.29	349.808	23.16	350.298	92.96 *	350.868	246.5
25		0.000	349.388	3.761 *	350.153	56.85	349.828	25.19	350.628	172.6	350.568	151.5
26		0.000	Dry Bed	0.000	350.008	52.09	349.838	35.71 *	350.678	186.9	350.528	136.8
27		0.000	349.418	4.838	349.913	45.80	349.758	22.80	350.298	98.34	350.398	107.6
28		0.000	349.408	3.842	349.958	47.42	349.873	38.02	350.308	83.82	350.328	98.62 *
29		0.000	349.278	2.246	349.918	41.24 *	349.773	23.66	350.268	70.35	350.238	84.76
30		0.000	349.458	6.193	350.078	53.31	349.803	24.23	350.228	77.64	350.238	84.76
31			349.548	12.19	350.108	58.39			350.278	89.33 *		
<u>Ten-Daily Mean</u>												
I Ten-Daily	349.701	8.473	349.713	5.252	349.508	8.595	350.269	92.31	350.197	85.82	350.369	105.0
II Ten-Daily	349.424	5.009	349.609	16.10	349.561	13.53	349.869	34.32	350.196	60.31	350.499	148.6
III Ten-Daily	Dry Bed	0.000	349.470	7.262	349.999	50.30	349.793	25.38	350.285	92.52	351.014	399.4
<u>Monthly</u>												
Min.	349.408	0.000	349.278	0.000	349.283	1.333	349.648	11.25	349.758	22.28	350.148	69.64
Max.	349.918	41.24	349.758	29.60	350.228	89.75	350.768	197.7	350.848	225.7	352.878	1441
Mean	349.503	4.494	349.556	9.464	349.699	24.98	349.977	50.67	350.228	79.97	350.627	217.7

Annual Runoff in MCM = 1284 Annual Runoff in mm = 55

Peak Observed Discharge = 1441 cumecs on 22-11-2021 Corres. Water Level :352.878 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : T Ramapuram (Seasonal) (AKL50A6)

Division : Lower Krishna Divn., Hyderabad

Local River : Hagari

Sub-Division : Lower Tungabhadra SD, Kurnool

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	350.218	82.20	349.838	26.74	349.648	18.28	349.538	9.669	349.278	2.027	349.258	2.120 *
2	350.168	72.23	349.808	24.21 *	349.668	19.69	349.538	9.851	349.298	2.319	349.218	1.696
3	350.158	70.43	349.828	25.56	349.673	20.05	349.558	10.20	349.258	2.450 *	349.248	2.110 *
4	350.168	71.77	349.838	27.54	349.708	22.72	349.528	8.655	349.238	1.743	349.198	1.247
5	350.168	70.25 *	349.808	23.03	349.718	23.52	349.533	8.728	349.298	2.316	349.208	1.433
6	350.128	46.16	349.788	23.89	349.688	21.17 *	349.528	8.450 *	349.388	3.006	349.198	1.260
7	350.128	45.47	349.788	23.65	349.648	21.95	349.508	7.905	349.388	3.314	349.138	0.891
8	350.128	46.48	349.758	23.37	349.663	22.54	349.513	7.240	349.408	3.841	349.168	1.520 *
9	350.113	44.31	349.728	16.83 *	349.618	17.26	349.488	6.125	349.383	3.356	349.198	1.301
10	350.108	43.63	349.698	15.56	349.623	17.51	349.478	5.336	349.428	4.210 *	349.173	1.238
11	350.118	51.88	349.668	11.98	349.598	13.70	349.473	5.158	349.418	3.754	349.138	0.966
12	350.078	50.24 *	349.648	11.11	349.578	12.50	349.468	5.042	349.408	3.482	349.138	0.955
13	350.068	39.67	349.618	10.51	349.578	12.12 *	349.428	5.010 *	349.388	3.257	349.268	2.698
14	350.038	36.70	349.648	10.56 *	349.573	12.39	349.418	3.966	349.428	4.250 *	349.248	2.393
15	350.008	30.39	349.668	13.28	349.583	13.04	349.398	3.649	349.388	4.250 *	349.268	2.700 *
16	349.998	29.55	349.658	11.28 *	349.558	11.02	349.378	2.852	349.378	2.886	349.248	2.710 *
17	349.998	28.72	349.618	14.84	349.558	10.72	349.378	2.923	349.378	2.850 *	349.188	1.192
18	349.998	28.31	349.688	13.56	349.608	15.79	349.408	3.450 *	349.358	2.700	349.188	1.149
19	350.018	28.54 *	349.688	13.56	349.618	16.05	349.358	2.656	349.318	2.563	349.138	0.958
20	349.978	26.08	349.678	12.78	349.608	15.25 *	349.388	2.950 *	349.298	2.310	350.768	208.3
21	349.978	26.56	349.673	12.40	349.628	18.21	349.318	2.451	349.268	2.145	350.168	78.58
22	349.968	28.34	349.683	13.17	349.643	21.30	349.238	1.425	349.248	2.071	349.968	52.21 *
23	349.968	28.34	349.718	15.99 *	349.638	20.16	349.208	1.270	349.238	1.835	350.088	61.18
24	349.948	23.86	349.708	15.16	349.608	14.25	349.178	1.149	349.258	2.120 *	350.048	55.20
25	349.968	28.45 *	349.688	13.56	349.578	12.58	349.148	0.938	349.288	2.290	350.018	48.64
26	349.958	25.25 *	349.688	13.56 *	349.563	10.54	349.298	2.394	349.258	2.083	349.948	44.57
27	349.958	27.80	349.698	14.35	349.578	11.25 *	349.258	2.120 *	349.238	1.867	349.888	40.55
28	349.968	28.34	349.643	10.20	349.553	10.04	349.268	2.034	349.268	2.185	349.833	36.52
29	349.958	27.80	349.628	9.163			349.288	2.267	349.218	1.657	349.768	25.25 *
30	349.928	21.41	349.658	11.28 *			349.248	1.821	349.248	1.887	349.718	26.86
31	349.928	20.90	349.638	9.852			349.308	2.400			349.638	17.07
Ten-Daily Mean												
I Ten-Daily	350.148	59.29	349.788	23.04	349.665	20.47	349.521	8.216	349.336	2.858	349.201	1.482
II Ten-Daily	350.030	35.01	349.658	12.35	349.586	13.26	349.409	3.766	349.376	3.230	349.359	22.40
III Ten-Daily	349.957	26.09	349.675	12.61	349.599	14.79	349.251	1.843	349.253	2.014	349.917	44.24
Monthly												
Min.	349.928	20.90	349.618	9.163	349.553	10.04	349.148	0.938	349.218	1.657	349.138	0.891
Max.	350.218	82.20	349.838	27.54	349.718	23.52	349.558	10.20	349.428	4.250	350.768	208.3
Mean	350.042	39.68	349.706	15.89	349.618	16.27	349.389	4.519	349.322	2.701	349.506	23.4

Peak Computed Discharge = 1071 cumecs on 21-11-2021

Corres. Water Level :352.418 m

Lowest Computed Discharge = 1.520 cumecs on 08-05-2022

Corres. Water Level :349.168 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

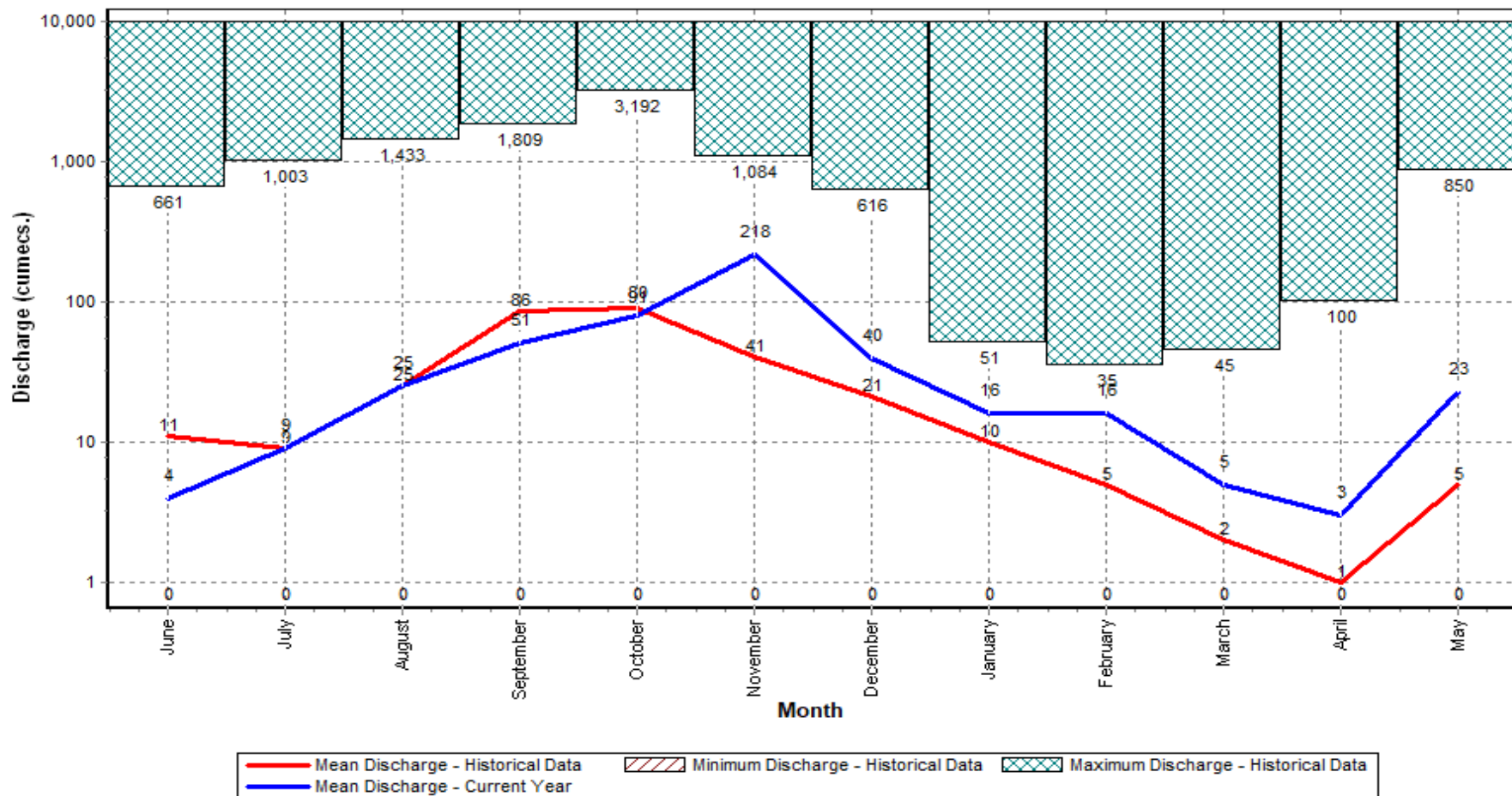
Station Name : T Ramapuram (Seasonal) (AKL50A6)

Data considered : 1966-2022

Division : Lower Krishna Divn., Hyderabad

Local River : Hagari

Sub-Division : Lower Tungabhadra SD, Kurnool



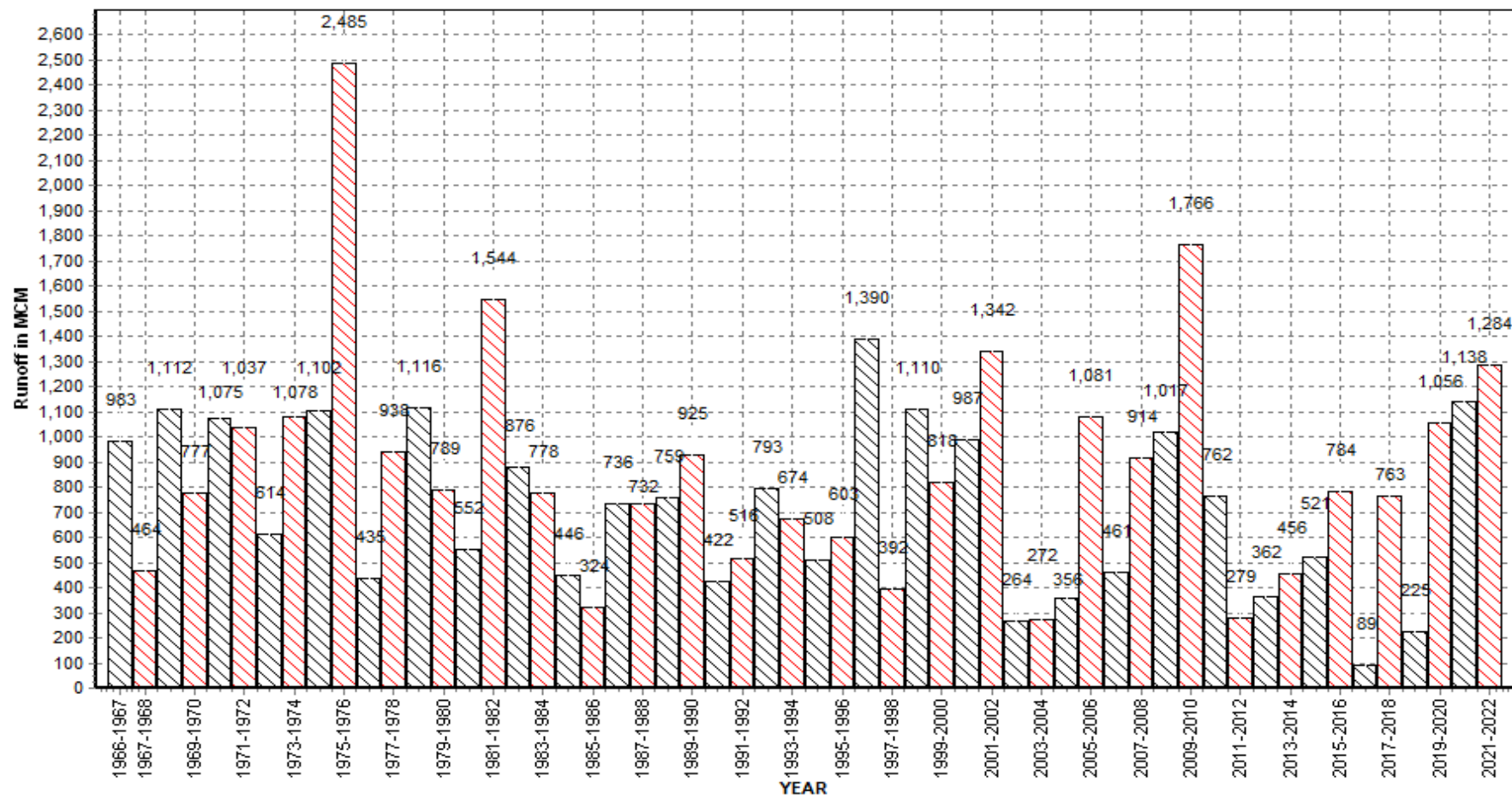
Annual Runoff Values for the period: 1966 - 2022

Station Name : T Ramapuram (Seasonal) (AKL50A6)

Local River : Hagari

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



Note: Missing values have not been considered while arriving at Annual Runoff

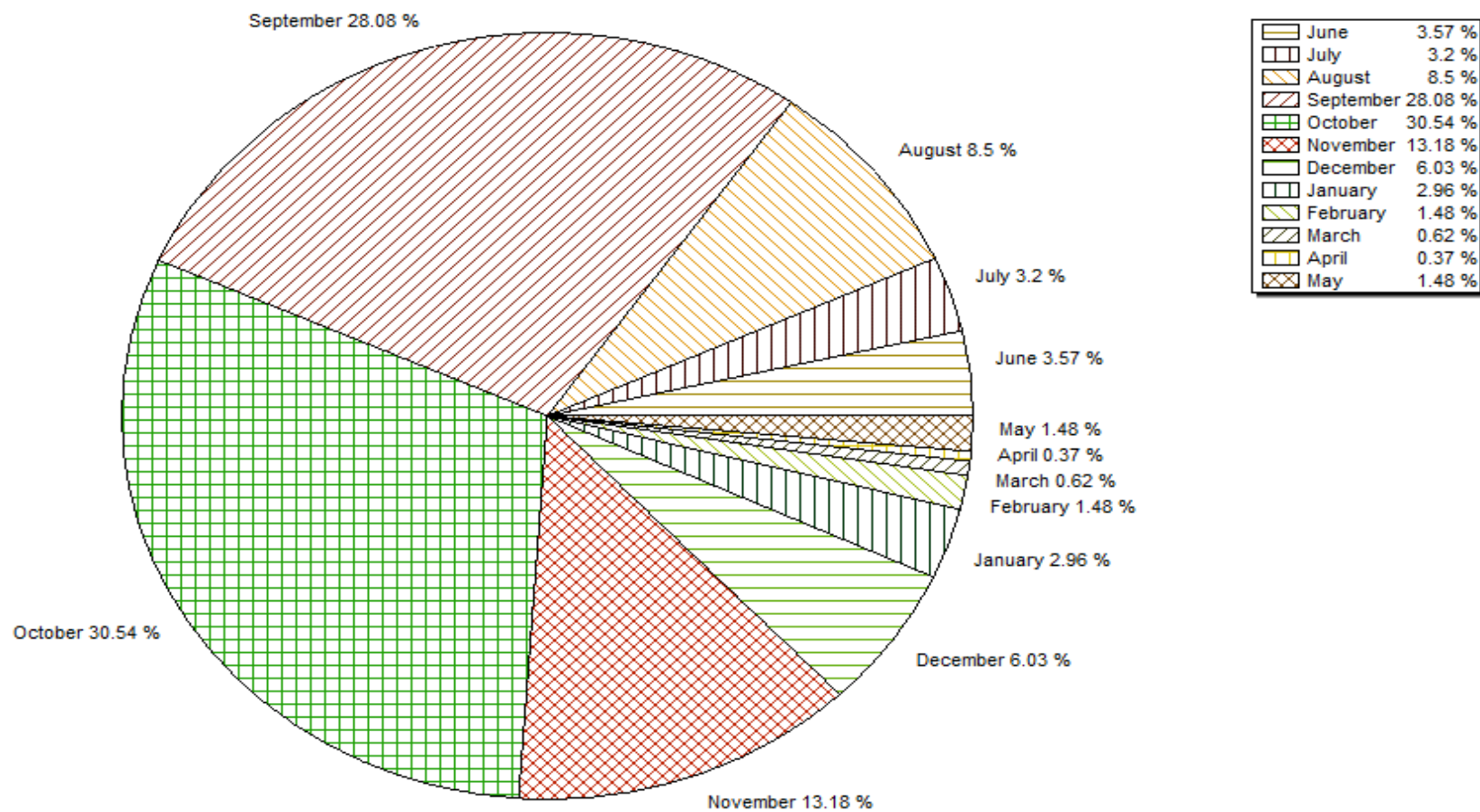
Monthly Average Runoff based on period : 1966-2021

Station Name : T Ramapuram (Seasonal) (AKL50A6)

Local River : Hagari

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



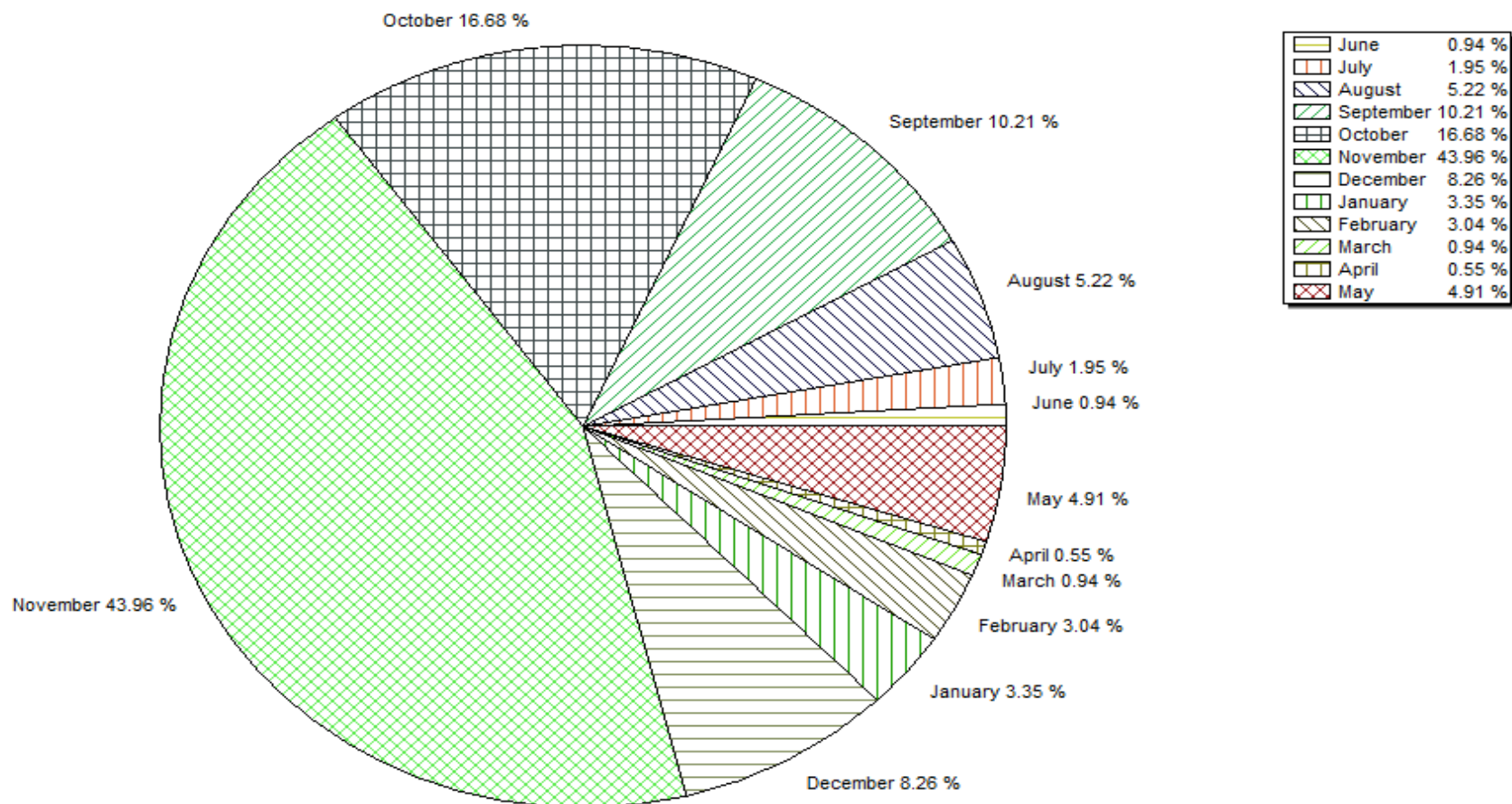
Monthly Runoff for the Year : 2021-2022

Station Name : T Ramapuram (Seasonal) (AKL50A6)

Local River : Hagari

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



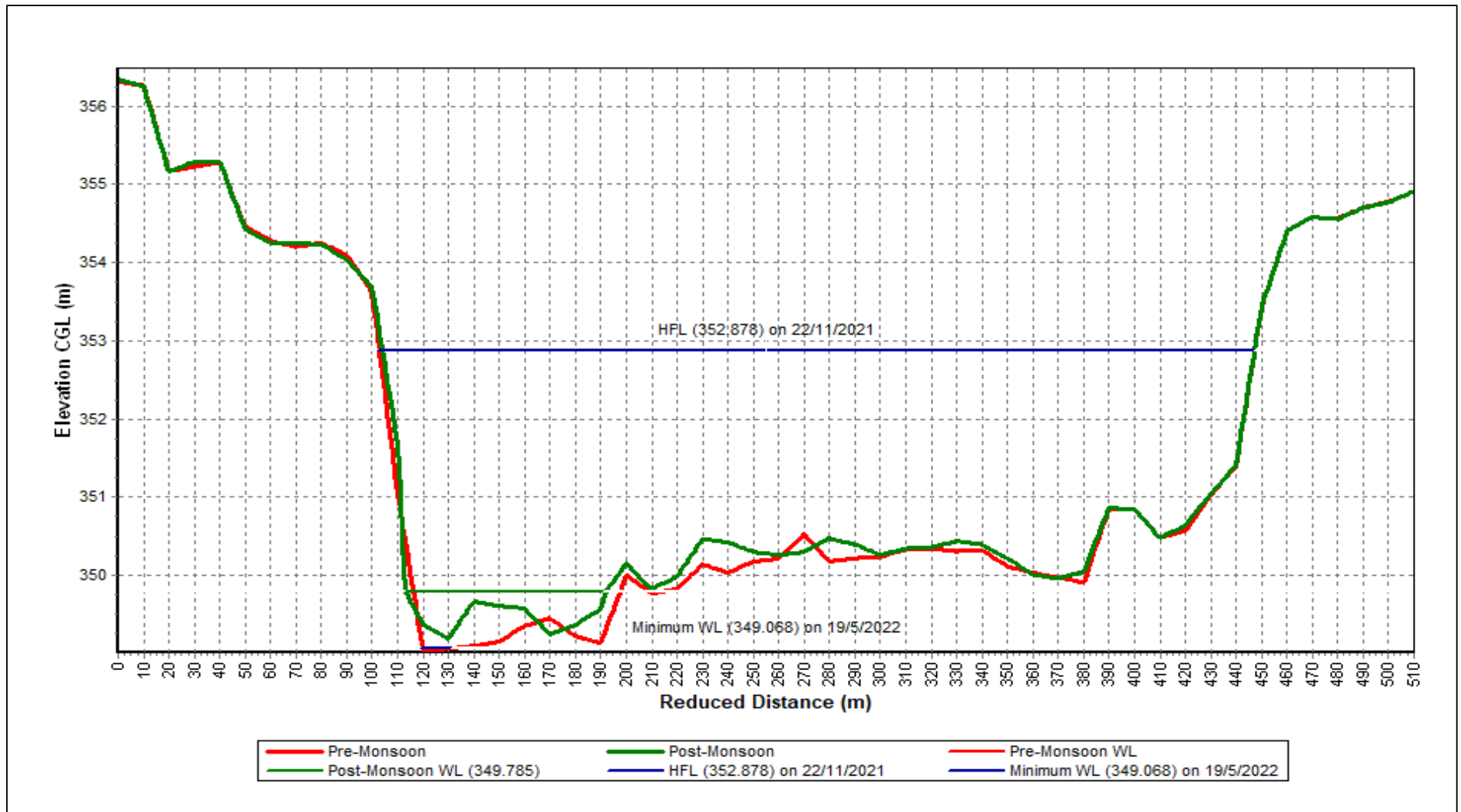
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : T Ramapuram (Seasonal) (AKL50A6)

Local River : Hagari

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



Zero of Gauge : 349.368 (m.s.l)

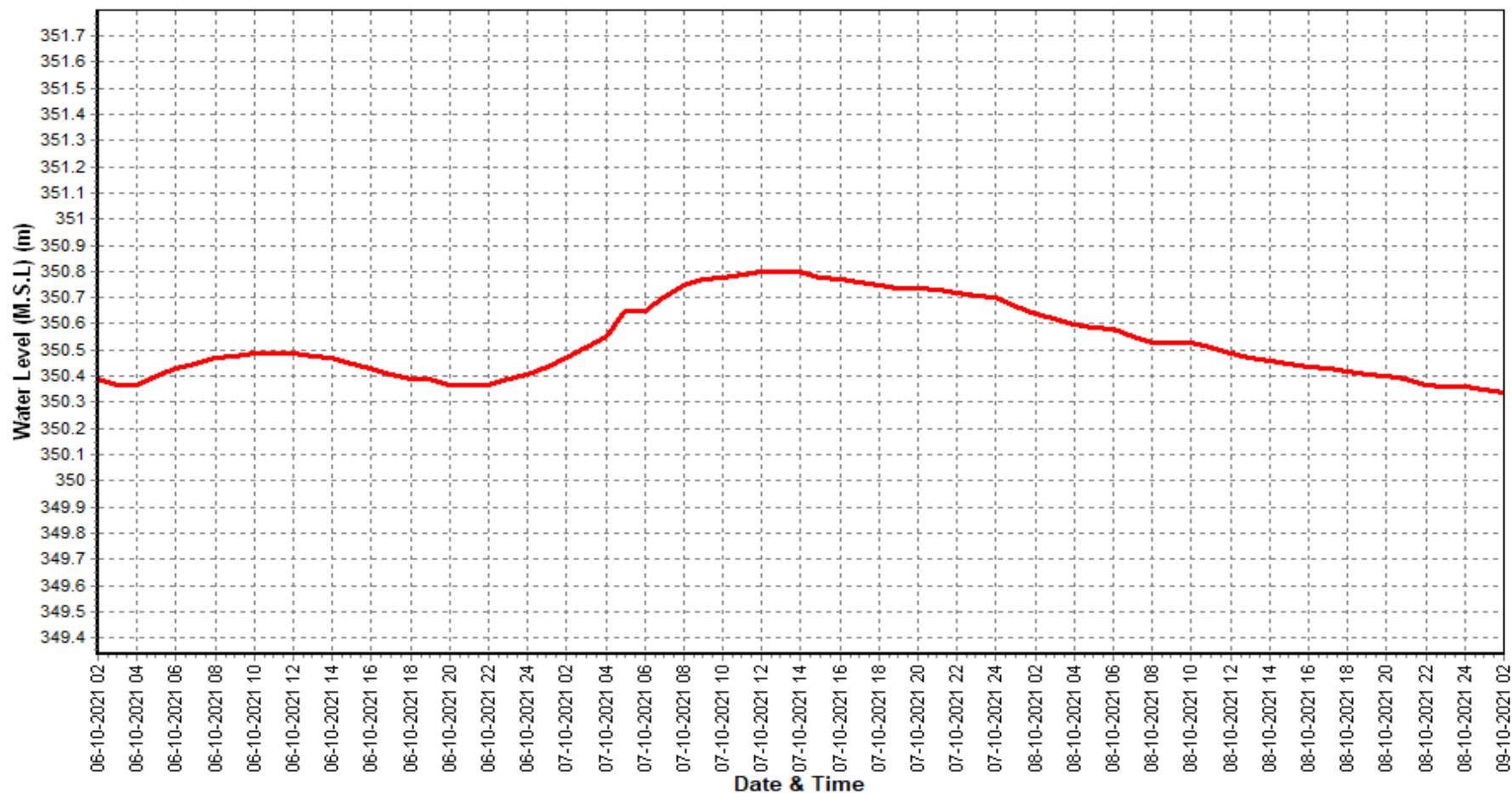
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : T Ramapuram (Seasonal) (AKL50A6)

Local River : Hagari

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



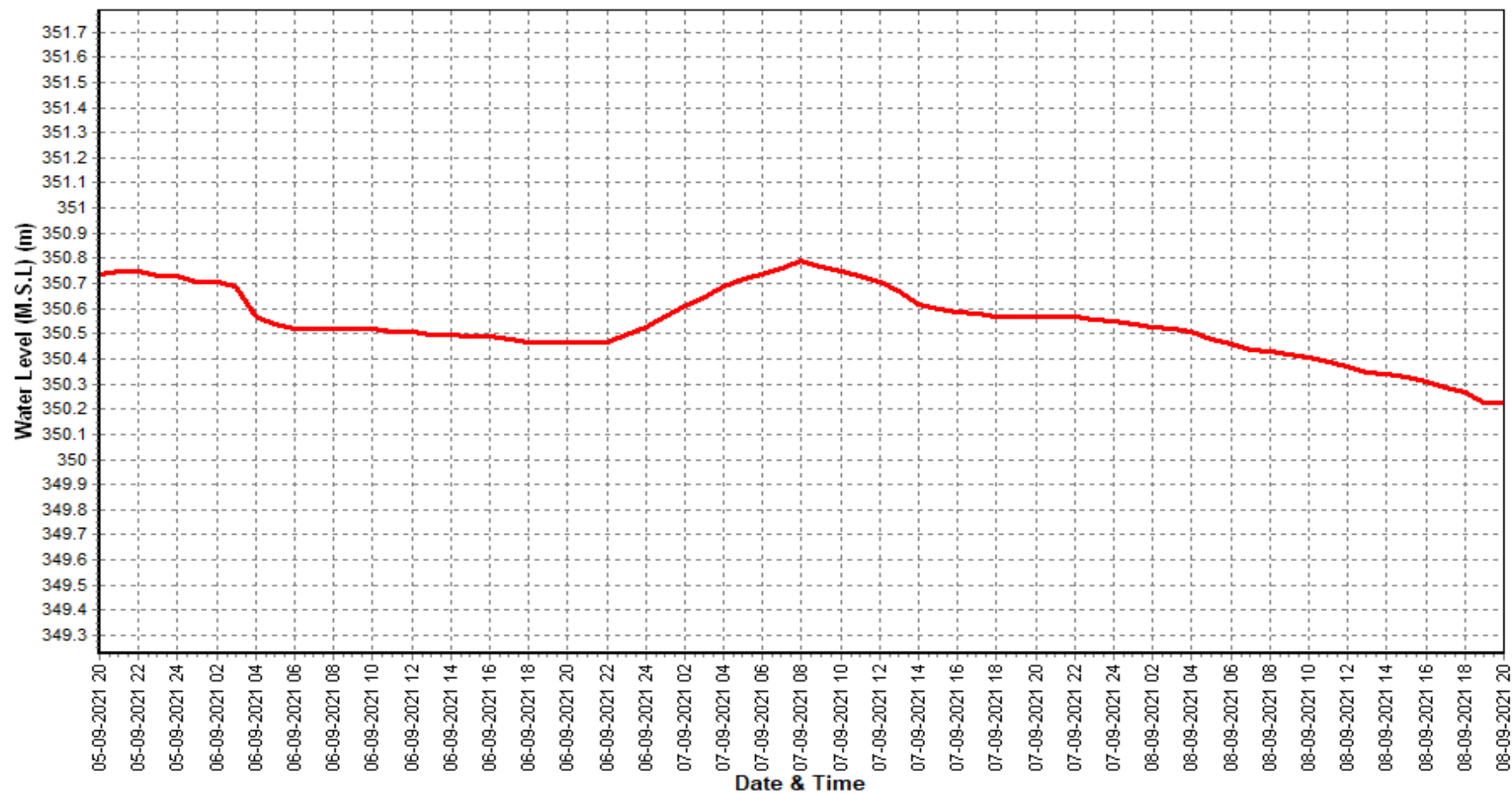
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : T Ramapuram (Seasonal) (AKL50A6)

Local River : Hagari

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



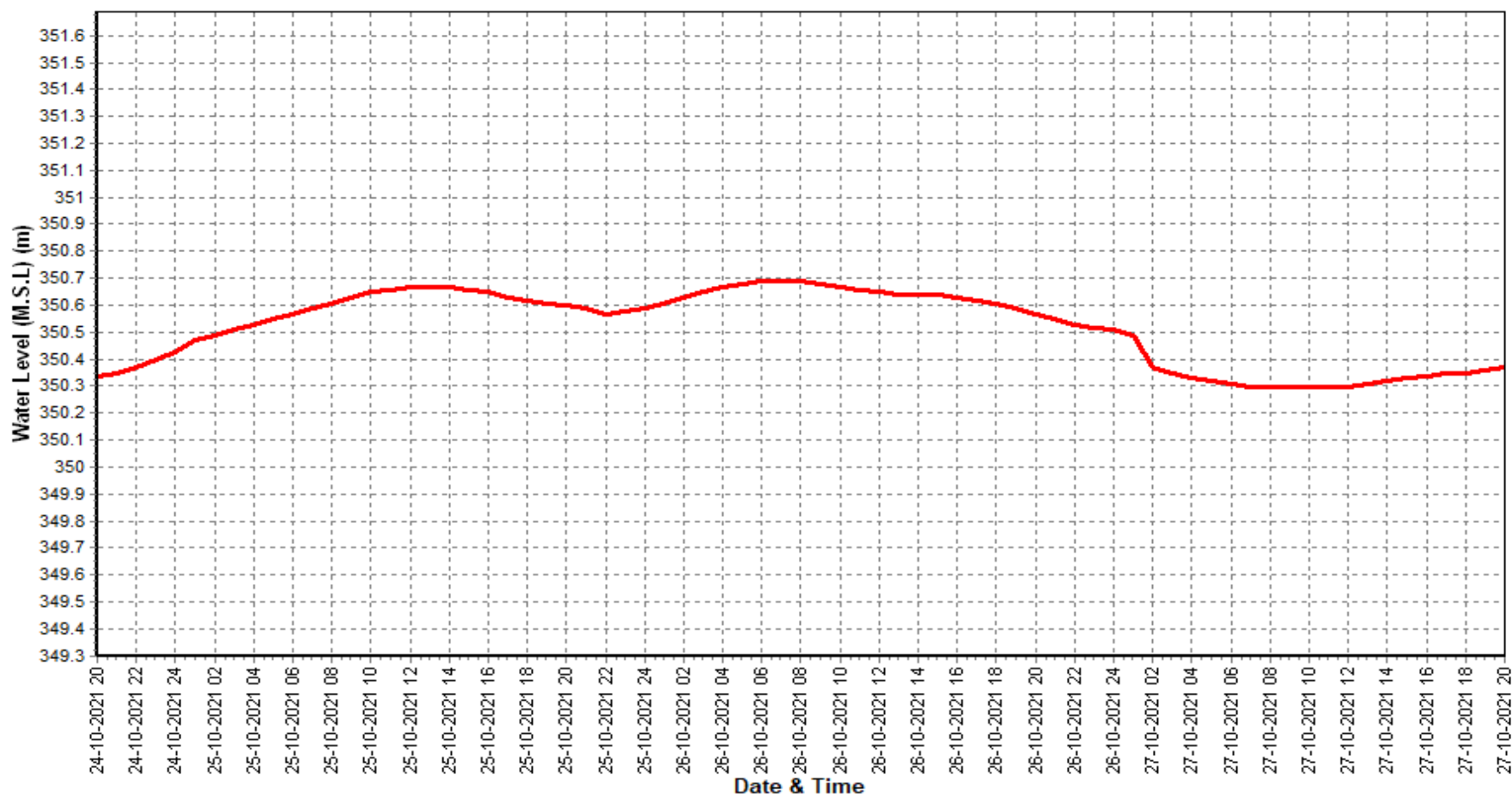
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : T Ramapuram (Seasonal) (AKL50A6)

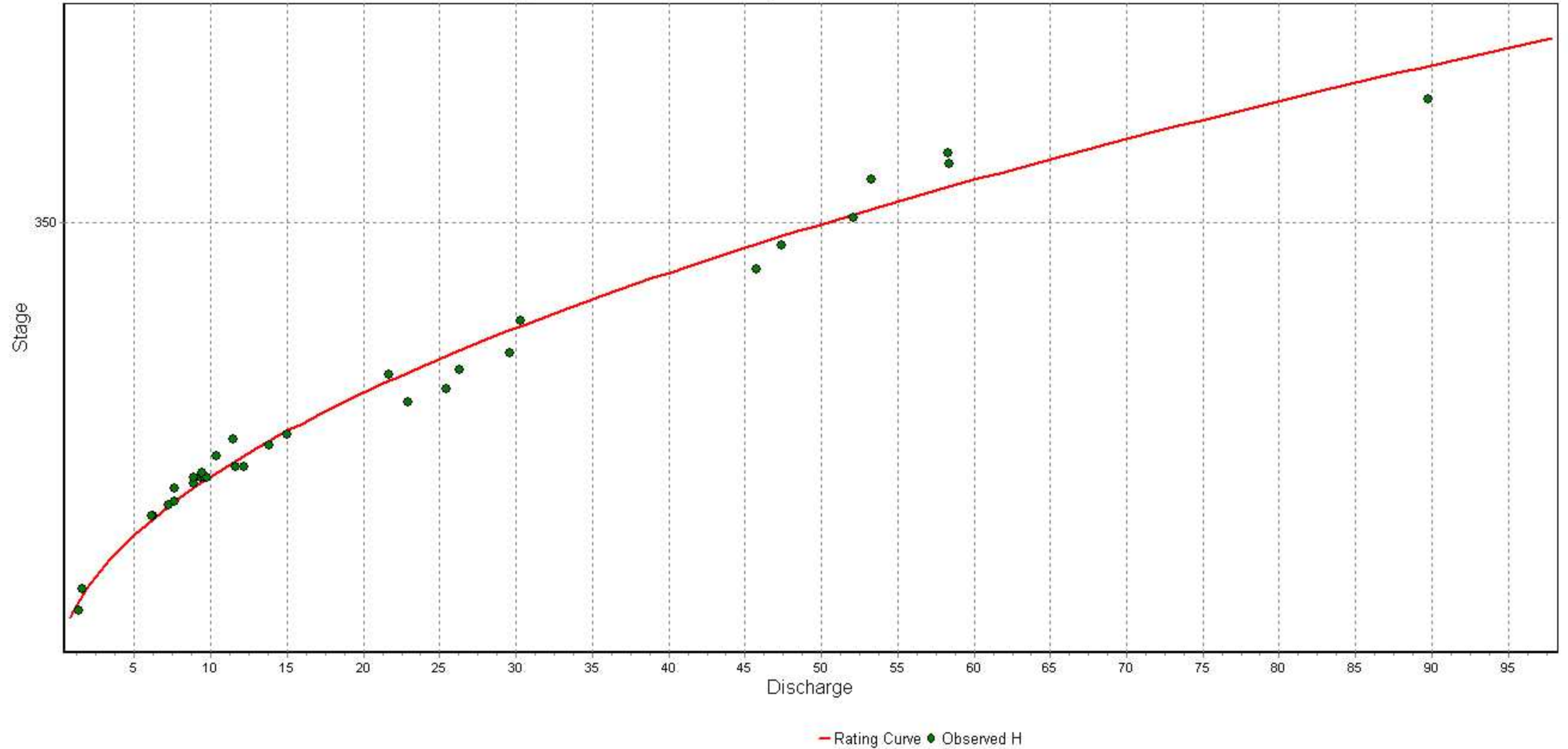
Local River : Hagari

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



Rating Curve of Site T Ramapuram 01/6/2021 to 31/08/2021.



HISTORY SHEET

		Water Year	: 2021-2022
Site	: MELAGANUR	Code	: 030-LKDHYD
State	: Andhra Pradesh	District	Kurnool
Basin	: Krishna	Independent River	: Krishna
Tributary	: Tungabhadra	Sub Tributary	: -
Sub-Sub Tributary	:	Local River	: Tungabhadra
Division	: Lower Krishna Divn., Hyderabad	Sub-Division	: Lower Tungabhadra SD, Kurnool
Drainage Area	: 593.75 Sq. Km.	Bank	: Right
Latitude	: 15°50'44"	Longitude	: 77°01'31"
Zero of Gauge (m)	: 93.5 (m.s.l) 332.5 (m.s.l)	24-10-2016 02-07-2018	- 01-07-2018
	Opening Date	Closing Date	
Gauge	: 24-10-2016	HFL During 2021-22	: 341.540 m
		Corres. Discharge	: 4793 (Estimated)
Discharge	: 24-10-2016	Date & Time of occurrence	: 21-11-2021 : 18:00 Hrs

HFL Recorded so far in m : 342.840 dt 12-08-2019

Corresponding Discharge (cumecs) : 6585 *

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2018-2019	5543	342.220	17-08-2018	0.000		27-03-2019
2019-2020	5657	342.750	12-08-2019	0.000	335.710	08-05-2020
2020-2021	2665	340.050	22-09-2020	0.000	335.580	17-07-2020

Annual Runoff of Tungabhadra at Melaganur

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	2017-2018	1377	21	1589	49	1	56
2	2018-2019	5711	205	5917	202	7	209
3	2019-2020	6987	429	7416	247	15	262
4	2020-2021	5892	485	6378	208	17	225
5	2021-2022	6774	1476	8249	239	52	291
Average		5348	523	5910	189	18	209

Instantaneous Flood Peak of Krishna at Melaganuru

Sl. No.	Year	Instantaneous Annual Flood Peak		Time	Discharge * (Cumecs)
		Peak WL (m) Recorded	Date		
1	2017-2018	100.6	15-09-2017	20:00:00	1478 *
2	2018-2019	342.380	17-08-2018	14:00:00	5576 *
3	2019-2020	342.840	12-08-2019	12:00:00	6585 *
4	2020-2021	340.430	22-09-2020	01:00:00	3270 *
5	2021-2022	341.540	21-11-2021	18:00:00	4793 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : MELAGANUR (030-LKDHYD)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

Sub-Division : Lower Tungabhadra SD, Kurnool

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	336.000	13.91	336.020	17.26	339.170	1579 *	336.690	105.7	336.620	87.68	337.180	242.0
2	335.970	8.812	336.000	13.74	338.370	753.8	336.710	108.5	336.580	79.08 *	337.280	281.5
3	335.960	7.911	335.970	11.27	338.260	780.6	337.005	184.5	336.680	97.82 *	337.160	240.1
4	336.080	21.64	335.950	8.520 *	337.495	336.6	336.880	147.7	336.925	171.4	337.000	178.9 *
5	336.080	22.36	336.050	20.44	337.390	314.8	337.220	253.3 *	336.720	107.1	337.130	236.0
6	336.090	22.42 *	336.030	17.28	338.425	809.7	337.800	538.1	339.010	1534	337.220	257.3
7	336.280	44.29	336.080	23.62	339.310	1840	338.610	1081	338.300	858.8	337.030	195.3 *
8	336.300	50.17	336.280	47.37	339.070	1482 *	338.000	591.4	338.690	1146	336.790	137.7
9	336.180	31.16	336.130	26.37	339.110	1653	337.370	308.7	339.310	1871	336.700	120.1
10	336.130	26.74	336.410	65.02	339.710	2153	336.950	164.1 *	338.820	1253 *	336.660	108.0
11	336.100	26.10	336.280	70.25 *	338.405	804.8	337.430	345.6	338.915	1337	336.620	98.92
12	336.060	20.60	336.160	30.09	337.395	308.3	337.680	458.2 *	337.920	567.4	336.640	102.2
13	336.050	19.25 *	336.080	24.64	336.765	140.0	338.025	618.3	337.400	339.0	336.820	143.0
14	336.020	17.62	336.040	18.09	337.740	501.3	337.610	416.9	338.335	889.2	336.710	104.0 *
15	335.990	12.71	336.140	29.86	337.330	296.3 *	337.370	304.6	338.100	703.3 *	337.170	251.6
16	335.970	10.24	336.140	29.70	337.240	259.5	338.700	1155	338.630	931.5	337.140	241.2
17	335.960	9.419	336.130	27.81	337.230	253.7	338.490	861.4	338.450	950.0 *	337.120	236.8
18	335.960	9.124	336.100	38.85 *	337.570	383.0	338.030	612.3	337.950	591.8	337.230	265.1
19	335.950	8.714	336.180	33.02	337.425	341.4	337.680	458.2 *	337.310	288.2 *	337.320	299.2
20	335.940	8.620 *	336.585	117.1	337.360	308.6 *	337.065	215.6	336.910	179.3	339.675	2113
21	335.930	5.590	336.450	59.43 *	337.210	253.3	337.100	227.9	336.900	180.7	340.220	2788 *
22	335.910	4.916	336.540	108.9	337.190	242.3 *	337.350	308.1	336.570	86.99	340.780	3552
23	335.890	3.780	336.420	78.22	337.695	436.4	337.610	398.0	336.720	124.7	339.780	2234
24	335.880	3.552	336.220	38.87	337.480	354.0	337.350	301.8	336.740	110.6 *	338.700	989.2
25	335.860	2.903	336.080	32.61 *	337.380	308.9	337.130	241.8	337.090	241.1	338.470	837.0
26	335.850	2.639	336.010	18.60	337.230	257.2	337.090	207.5 *	338.370	780.6	338.370	804.9
27	335.910	4.920 *	340.900	3731	337.140	233.5	337.160	254.3	338.430	834.6	338.100	664.0
28	336.720	141.8	339.550	1974	337.120	229.6	336.800	124.1	337.870	567.6	337.710	473.8 *
29	336.240	41.87	339.070	1620	337.100	210.8 *	336.710	102.0	337.780	541.0	338.060	637.5
30	336.100	25.86	339.510	1930	336.910	152.5	336.650	95.83	337.410	343.0	337.585	425.5
31			338.535	896.1	336.850	136.7			337.220	253.3 *		
<u>Ten-Daily Mean</u>												
I Ten-Daily	336.107	24.94	336.092	25.09	338.631	1170	337.324	348.3	337.766	720.6	337.015	199.7
II Ten-Daily	336.000	14.24	336.184	41.94	337.446	359.7	337.808	544.6	337.992	677.7	337.245	385.5
III Ten-Daily	336.029	23.78	337.753	953.5	337.210	255.9	337.095	226.1	337.373	369.5	338.777	1341
<u>Monthly</u>												
Min.	335.850	2.639	335.950	8.520	336.765	136.7	336.650	95.83	336.570	79.08	336.620	98.92
Max.	336.720	141.8	340.900	3731	339.710	2153	338.700	1155	339.310	1871	340.780	3552
Mean	336.045	20.99	336.711	359.9	337.744	584.3	337.409	373	337.699	582.2	337.679	641.9

Annual Runoff in MCM = 8249 Annual Runoff in mm = 13894

Peak Observed Discharge = 3731 cumecs on 27-07-2021 Corres. Water Level :340.9 m

Lowest Observed Discharge = 2.639 cumecs on 26-06-2021 Corres. Water Level :335.85 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : MELAGANUR (030-LKDHYD)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

Sub-Division : Lower Tungabhadra SD, Kurnool

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	338.080	678.1	336.250	59.09	336.520	108.2	336.290	68.66	336.520	111.4 #	336.100	38.49 *
2	337.360	317.6	336.240	53.80 *	336.500	104.7	336.280	67.27	336.420	94.24	336.120	45.37
3	337.380	333.0	336.250	58.34	336.480	98.85	336.250	63.54	336.270	65.06 *	336.100	38.49 *
4	337.260	282.6	336.250	59.06	336.480	99.14	336.230	60.47	336.200	59.49	336.090	40.17
5	337.250	291.0 *	336.230	55.22	336.460	96.80	336.320	73.76	336.190	58.56	336.080	39.79
6	337.320	301.4	336.230	55.55	336.460	86.50 *	336.600	112.8 *	336.350	78.96	336.040	29.46
7	337.220	275.4	336.210	52.41	336.350	75.01	336.620	130.2	336.400	93.38	336.030	29.41
8	337.130	245.0	336.200	49.68	336.300	70.50	336.630	134.5	336.400	92.62	336.030	32.44 *
9	337.100	232.6	336.150	43.47 *	336.220	57.42	336.600	128.6	336.410	94.01	336.030	28.89
10	336.860	156.6	336.100	24.50	336.200	56.63	336.500	108.8	336.410	93.58 *	336.000	27.02
11	336.670	115.7	336.080	24.00	336.190	56.44	336.410	89.27	336.390	92.67	335.970	25.29
12	336.600	112.8 *	336.090	24.37	336.180	54.55	336.550	119.8	336.350	79.84	335.970	25.27
13	336.920	183.7	336.100	24.77	336.180	46.72 *	336.500	93.58 *	336.380	90.63	335.970	25.69
14	336.880	160.9	336.100	38.49 *	336.180	54.95	336.450	99.40	336.400	84.79 *	335.970	25.91
15	336.690	121.7	336.100	24.98	336.450	97.06	336.350	76.48	336.300	68.83 *	335.960	27.46 *
16	336.450	86.34	336.150	43.47 *	336.490	102.9	336.320	74.05	336.200	59.64	335.960	27.46 *
17	336.380	79.36	336.350	76.78	336.540	111.7	336.210	57.27	336.160	50.16 *	335.920	18.75
18	336.360	76.45	336.460	88.27	336.590	122.3	336.200	48.99 *	336.160	53.73	335.920	19.64
19	336.350	68.83 *	336.480	91.86	336.650	134.7	336.300	70.97	336.150	52.37	335.980	21.50
20	336.330	69.89	336.560	99.65	336.700	134.2 *	336.420	79.77 *	336.170	57.41	338.000	627.5
21	336.340	72.25	336.530	97.40	336.720	149.4	336.430	96.77	336.190	60.32	337.370	335.3
22	336.350	72.43	336.510	92.94	336.700	141.5	336.350	76.51	336.190	59.32	336.730	141.1 *
23	336.340	71.95	336.480	90.00 *	336.700	142.0	336.300	71.11	336.180	58.19	336.550	128.5
24	336.320	68.77	336.440	85.72	336.650	136.1	336.240	61.60	336.160	53.80 *	336.520	119.9
25	336.320	64.47 *	336.400	83.48	336.580	122.2	336.340	78.25	336.140	50.80	336.420	99.67
26	336.320	64.47 *	336.410	78.14 *	336.500	105.6	336.545	122.2	336.120	44.76 #	336.380	83.93
27	336.280	64.72	336.430	87.50	336.420	79.77 *	336.580	108.8 *	336.110	43.95 #	336.370	84.07
28	336.280	63.66	336.480	90.22	336.340	75.77	336.640	137.4	336.100	41.87 #	336.340	78.84
29	336.280	64.50	336.600	129.2			336.570	123.4	336.100	42.11 #	336.320	64.47 *
30	336.250	59.35	336.620	116.9 *			336.430	96.68	336.090	41.21 #	336.320	76.58
31	336.250	59.68	336.570	115.9			336.400	92.45			336.310	73.52
Ten-Daily Mean												
I Ten-Daily	337.296	311.3	336.211	51.11	336.397	85.38	336.432	94.87	336.357	84.13	336.062	34.96
II Ten-Daily	336.563	107.6	336.247	53.67	336.415	91.56	336.371	80.96	336.266	69.01	336.162	84.45
III Ten-Daily	336.303	66.02	336.497	97.04	336.576	119.0	336.439	96.82	336.138	49.63	336.512	116.9
Monthly												
Min.	336.250	59.35	336.080	24.00	336.180	46.72	336.200	48.99	336.090	41.21	335.920	18.75
Max.	338.080	678.1	336.620	129.2	336.720	149.4	336.640	137.4	336.520	111.4	338.000	627.5
Mean	336.707	158.6	336.324	68.23	336.455	97.2	336.415	91.08	336.254	67.59	336.254	79.99

Peak Computed Discharge = 2788 cumecs on 21-11-2021

Corres. Water Level :340.22 m

Lowest Computed Discharge = 4.920 cumecs on 27-06-2021

Corres. Water Level :335.91 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

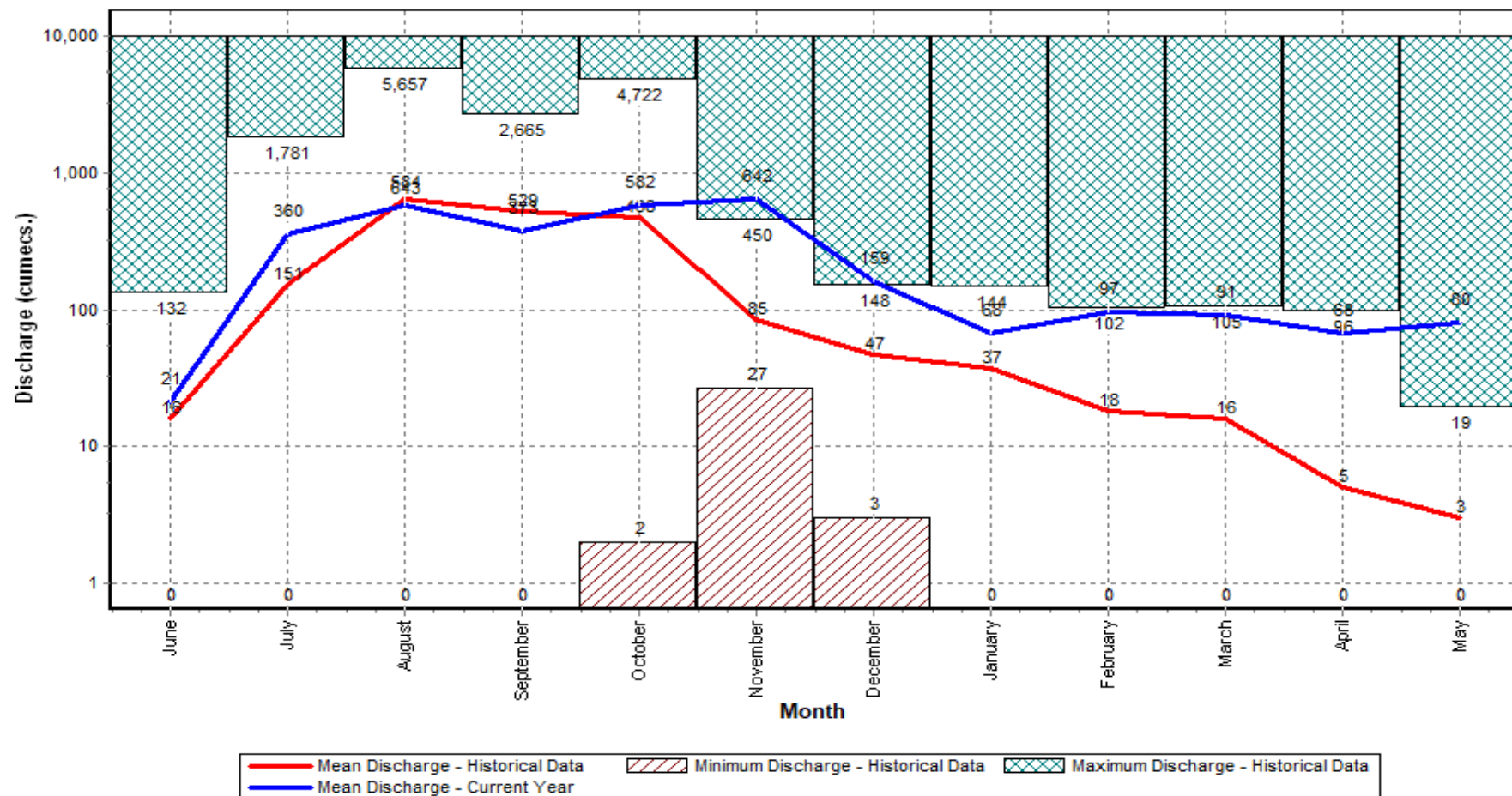
Station Name : MELAGANUR (030-LKDHYD)

Data considered : 2018-2022

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

Sub-Division : Lower Tungabhadra SD, Kurnool



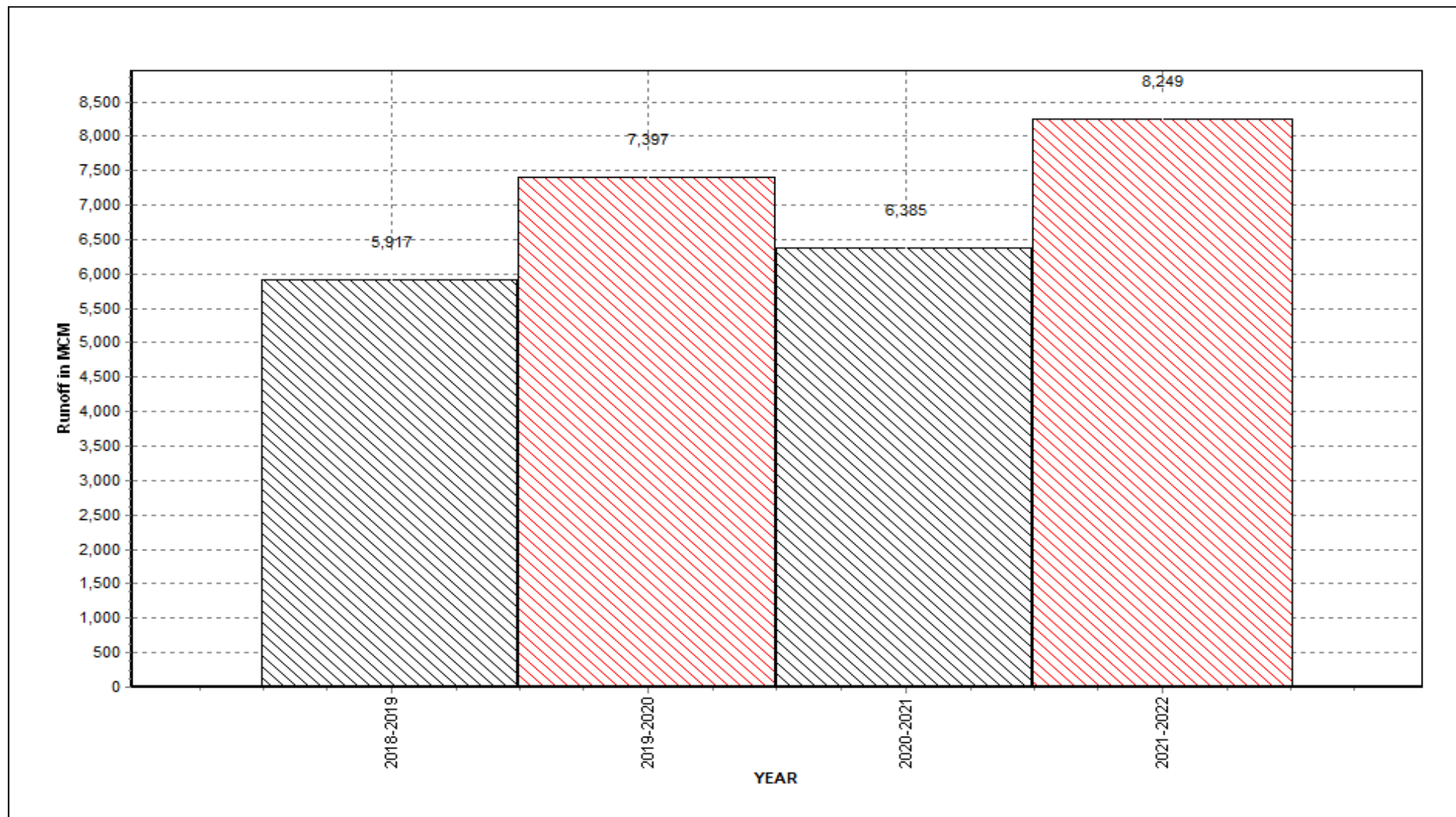
Annual Runoff Values for the period: 2018 - 2022

Station Name : MELAGANUR (030-LKDHYD)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



Note: Missing values have not been considered while arriving at Annual Runoff

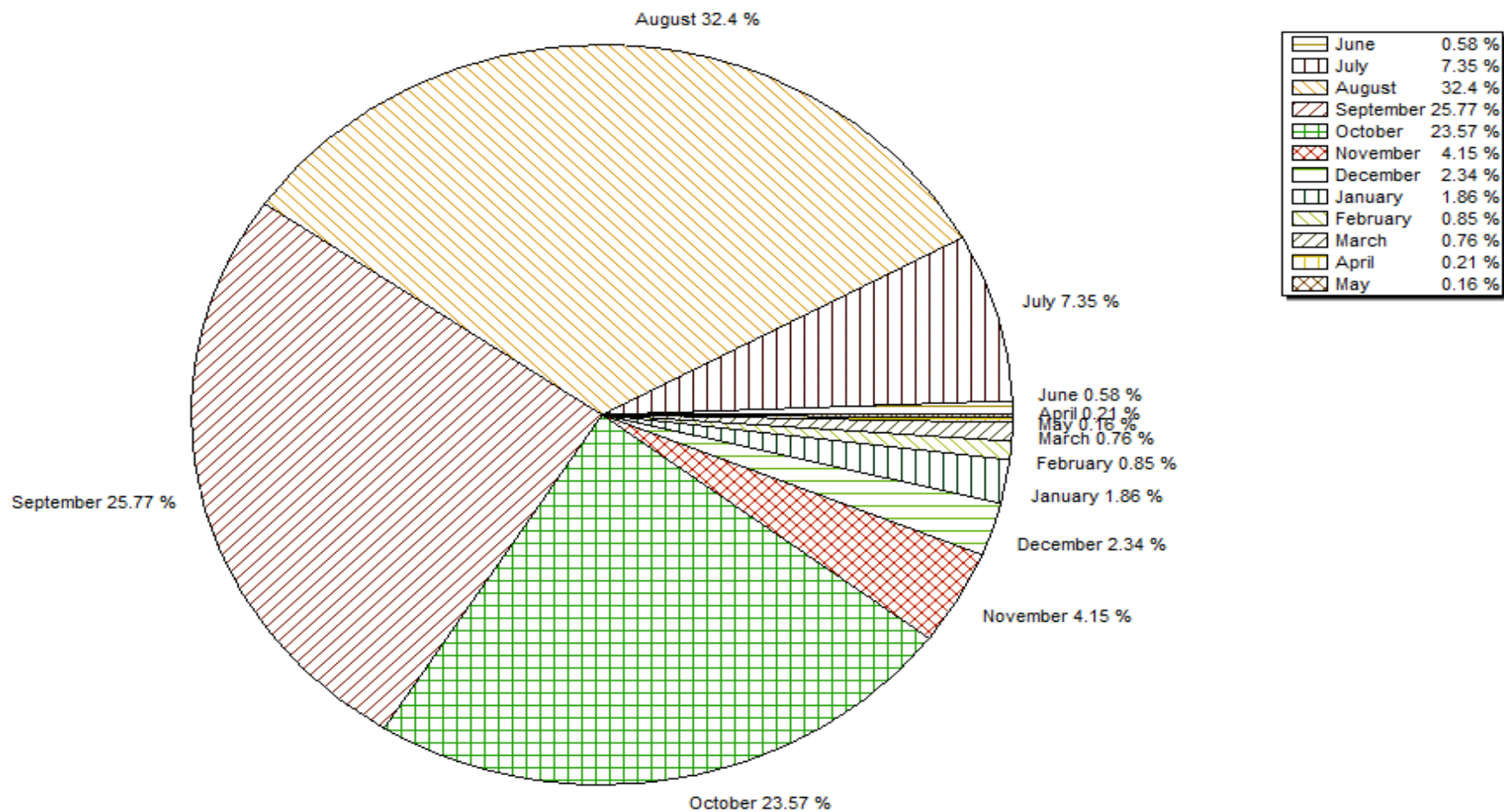
Monthly Average Runoff based on period : 2018-2021

Station Name : MELAGANUR (030-LKDHYD)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



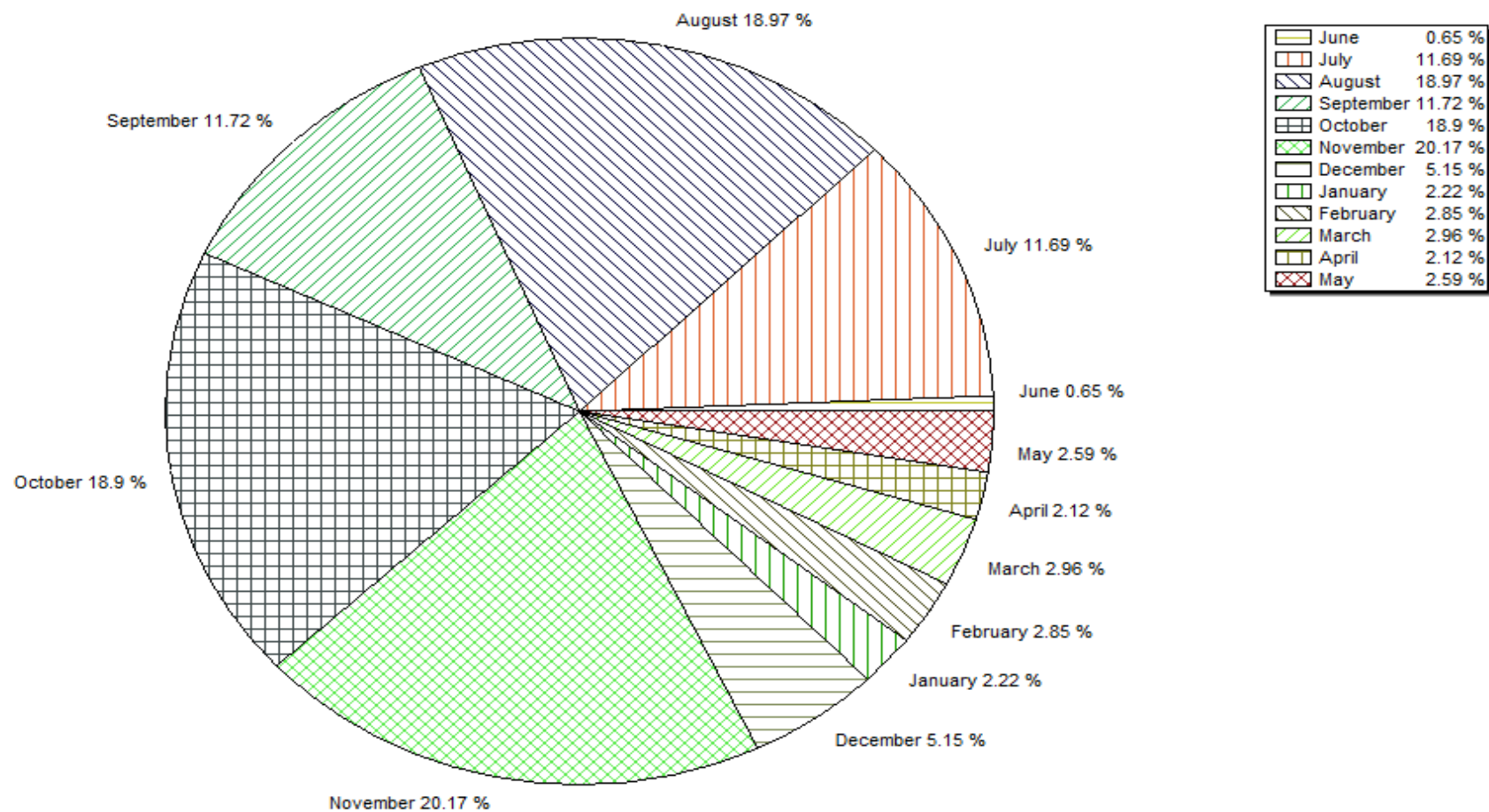
Monthly Runoff for the Year : 2021-2022

Station Name : MELAGANUR (030-LKDHYD)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool

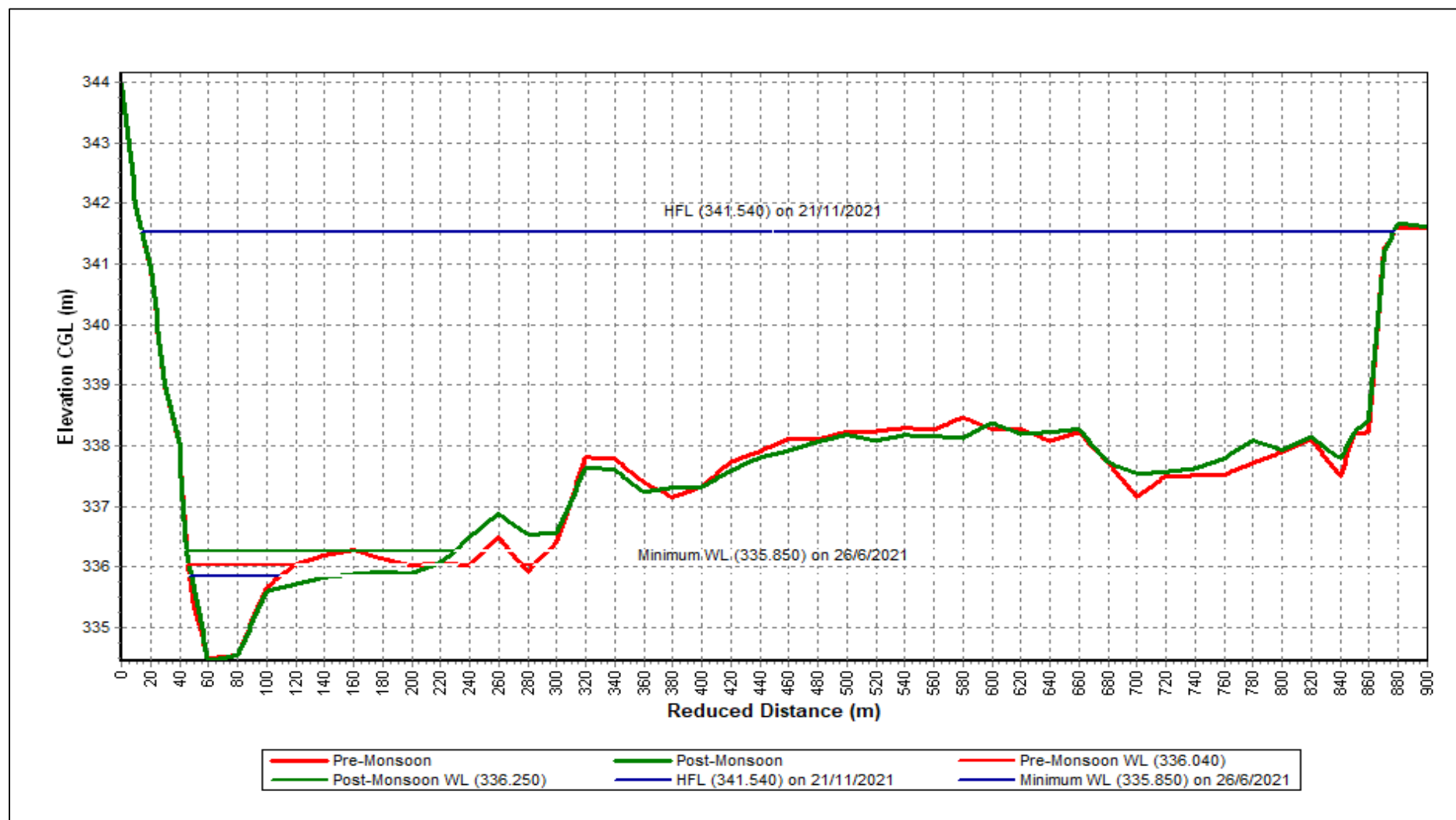


Station Name : MELAGANUR (030-LKDHYD)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



Zero of Gauge : 332.5 (m.s.l)

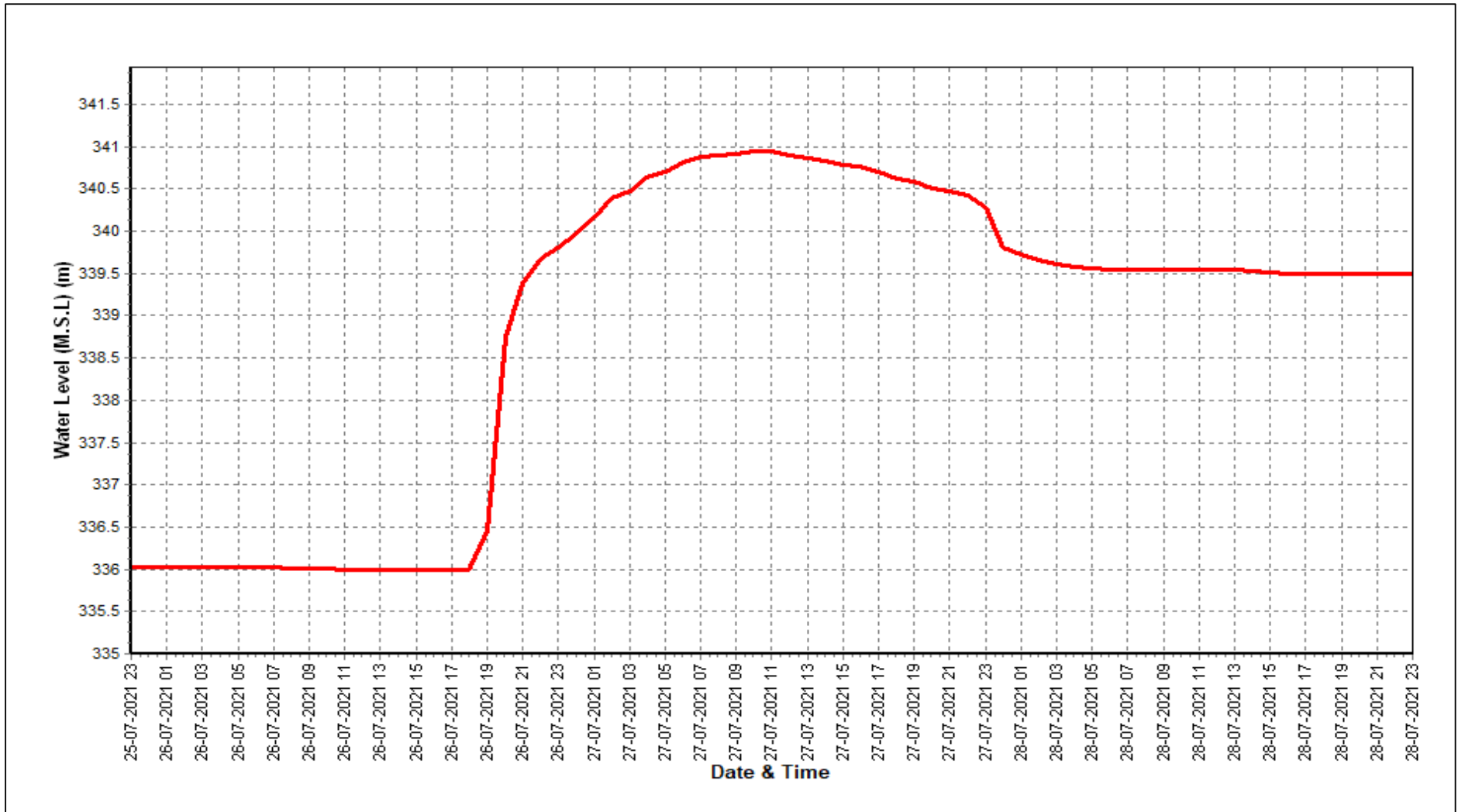
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : MELAGANUR (030-LKDHYD)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



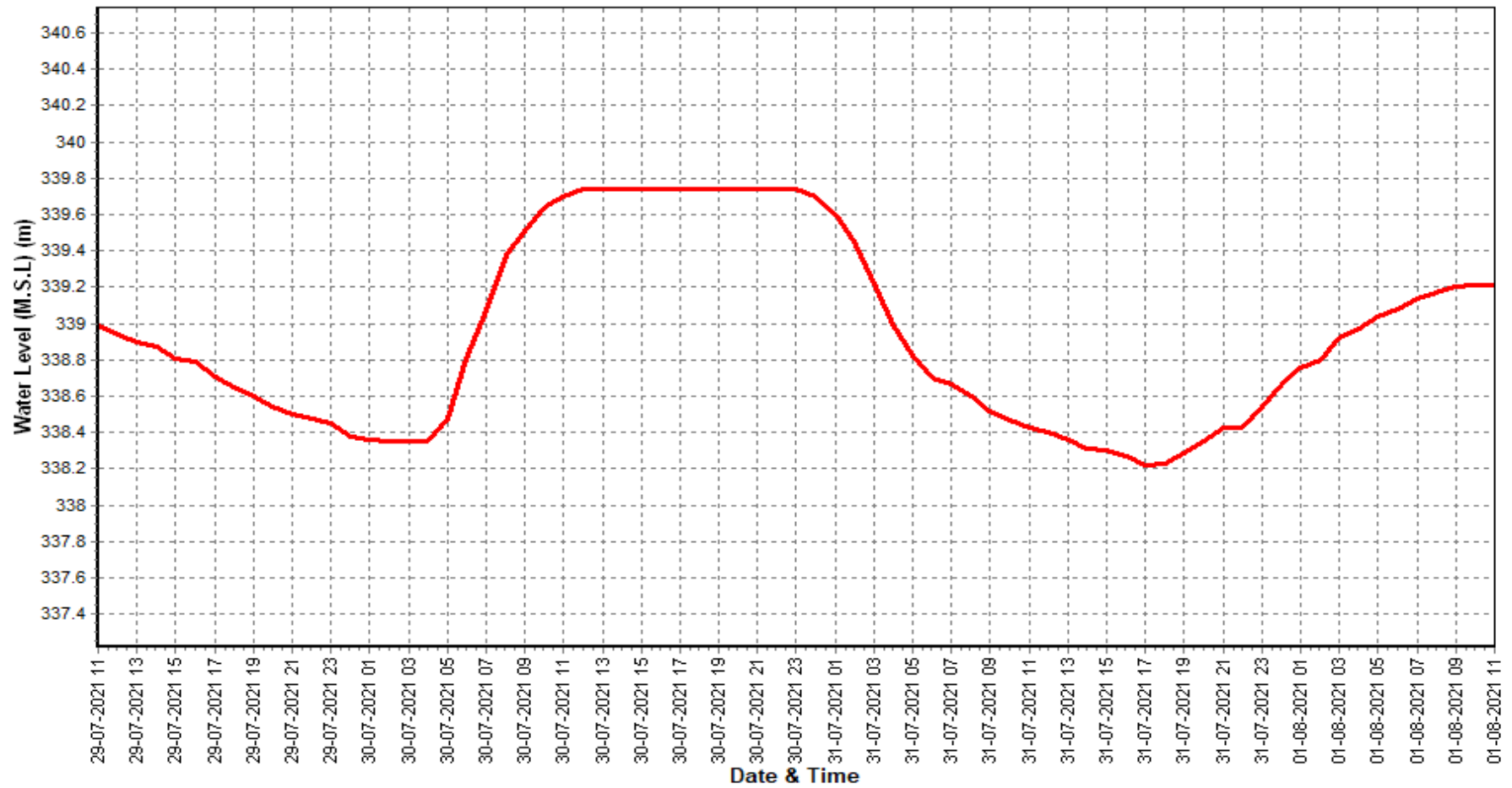
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : MELAGANUR (030-LKDHYD)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



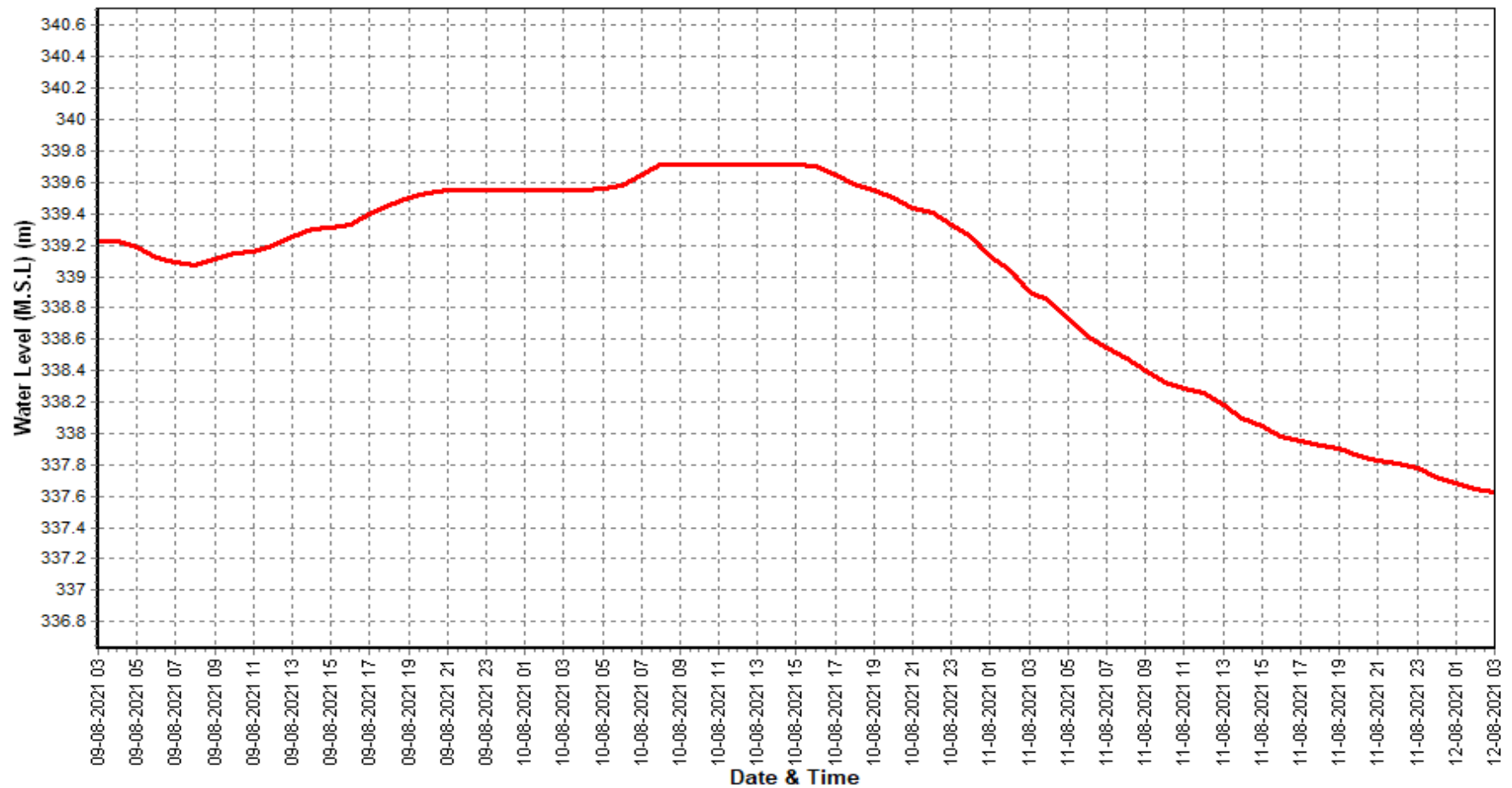
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : MELAGANUR (030-LKDHYD)

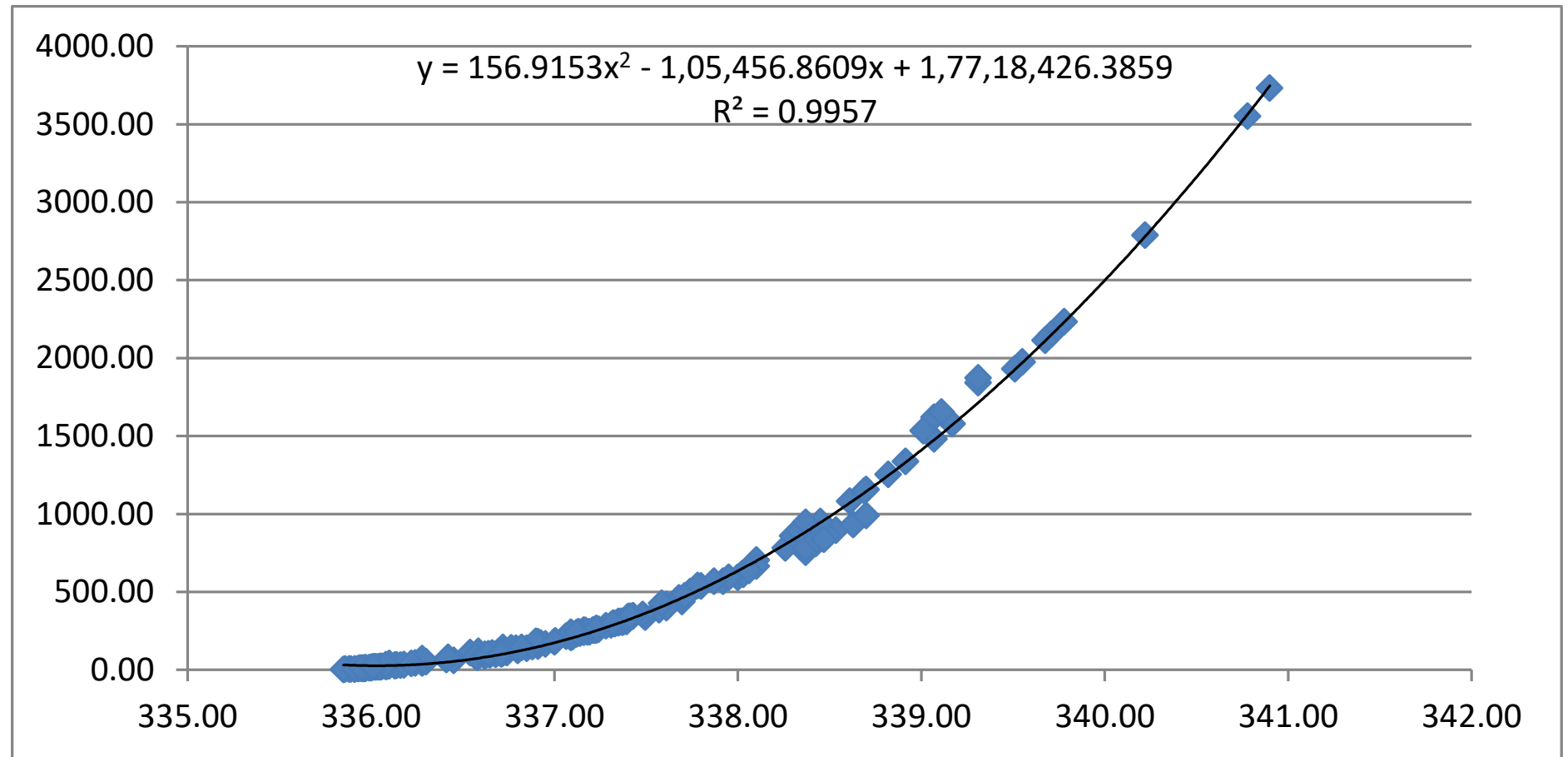
Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



Melaganuru 2021-22



HISTORY SHEET

		Water Year : 2021-2022	
Site	: Mantralayam	Code	: AKL00F2
State	: Andhra Pradesh	District	Kurnool
Basin	: Krishna	Independent River	: Krishna
Tributary	: Tungabhadra	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Tungabhadra
Division	: Lower Krishna Divn., Hyderabad	Sub-Division	: Lower Tungabhadra SD, Kurnool
Drainage Area	: 60630 Sq. Km.	Bank	: Right
Latitude	: 15°56'00"	Longitude	: 77°25'00"
Zero of Gauge (m)	: 308.34 (m.s.l)	10-03-1972	- 30-11-1973
	307.645 (m.s.l)	01-12-1973	- 31-05-1975
	307.5 (m.s.l)	01-06-1975	- 31-05-1982
	306 (m.s.l)	01-06-1982	- 09-02-1996
	306 (m.s.l)	10-02-1996	
	Opening Date	Closing Date	
Gauge	: 10-03-1972	HFL During 2021-22	: 311.750 m
		Corres. Discharge	: 4312 (Observed)
Discharge	: 01-06-1972	Date & Time of	: 22-11-2021
		occurrence	: 08:00 Hrs
Sediment	: 26-07-1977		
Water Quality	: 01-08-1977	31-05-2006	

HFL Recorded so far in m : 318.770 dt 02-10-2009

Corresponding Discharge (cumecs) : 18882 *

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1972-1973	908.6	310.650	19-09-1972	15.20	308.710	27-05-1973
1973-1974	2259	312.197	25-10-1973	11.00	308.085	11-05-1974
1974-1975	5465	313.015	28-09-1974	7.700	307.975	31-05-1975
1975-1976	4489	313.260	19-10-1975	7.300	308.375	03-06-1975
1976-1977	568.2	309.920	22-08-1976	13.99	308.400	01-06-1976
1977-1978	2508	311.950	12-10-1977	19.70	308.465	06-07-1977
1978-1979	8504	314.775	30-09-1978	8.200	308.280	31-05-1979
1979-1980	3477	312.430	13-08-1979	4.800	308.215	31-05-1980
1980-1981	5258	313.630	08-07-1980	4.507	308.230	31-05-1981
1981-1982	5346	313.500	19-09-1981	4.600	308.220	02-06-1981
1982-1983	3161	311.045	06-08-1982	3.798	306.765	31-05-1983
1983-1984	2437	310.560	18-08-1983	2.400	306.755	07-06-1983
1984-1985	2943	310.778	10-10-1984	3.229	306.790	09-06-1984
1985-1986	1254	309.375	19-08-1985	2.752	306.720	31-05-1986
1986-1987	2904	310.695	15-08-1986	1.000	306.685	11-05-1987

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1987-1988	1817	309.860	28-06-1987	0.736	306.645	17-06-1987
1988-1989	2644	310.365	16-09-1988	0.001	306.470	31-05-1989
1989-1990	2310	310.285	25-09-1989	0.000	306.435	02-06-1989
1990-1991	3451	310.965	18-08-1990	2.552	306.890	25-05-1991
1991-1992	3919	311.453	31-07-1991	10.50	307.030	27-05-1992
1992-1993	12040	315.710	19-11-1992	7.040	307.024	09-07-1992
1993-1994	4208	311.382	19-10-1993	1.610	306.530	06-07-1993
1994-1995	6203	312.910	19-07-1994	0.981	306.300	11-05-1995
1995-1996	1198	309.200	31-08-1995	0.000	306.270	23-05-1996
1996-1997	5592	312.235	03-10-1996	0.000	306.280	01-06-1996
1997-1998	5186	311.810	10-08-1997	0.000	306.260	28-07-1997
1998-1999	4421	311.535	15-10-1998	0.000	306.230	18-06-1998
1999-2000	3522	310.980	30-07-1999	1.501	306.340	04-07-1999
2000-2001	2826	310.585	10-10-2000	0.270	306.290	26-07-2000
2001-2002	3796	311.330	08-10-2001	0.000		29-05-2002
2002-2003	1090	309.105	13-10-2002	0.000	305.810	16-05-2003
2003-2004	663.8	308.535	24-10-2003	0.000	305.850	26-04-2004
2004-2005	2008	309.900	17-08-2004	0.000	305.970	18-05-2005
2005-2006	5188	311.725	15-10-2005	0.000	305.980	13-06-2005
2006-2007	5307	312.040	15-08-2006	0.000	306.000	25-03-2007
2007-2008	7446	313.820	19-09-2007	0.929	306.130	25-05-2008
2008-2009	5831	312.410	16-08-2008	0.052	306.010	15-04-2009
2009-2010	18843	318.770	02-10-2009	0.063	305.920	22-07-2009
2010-2011	5646	312.690	25-08-2010	0.000	306.190	11-04-2011
2011-2012	3186	311.030	05-09-2011	0.000	306.060	18-03-2012
2012-2013	1766	309.705	05-09-2012	0.000	305.820	12-03-2013
2013-2014	4092	311.390	06-08-2013	0.000	306.010	11-07-2013
2014-2015	4810	312.015	05-08-2014	0.000	305.910	04-07-2014
2015-2016	1867	310.090	08-09-2015	0.000		05-05-2016
2016-2017	614.1	308.440	17-09-2016	0.000	305.930	25-02-2017
2017-2018	1940	310.095	16-09-2017	0.000	305.500	06-04-2018
2018-2019	5401	312.390	18-08-2018	0.000	305.720	21-02-2019
2019-2020	5934	312.630	13-08-2019	0.000	305.170	06-06-2019
2020-2021	2930	310.855	22-09-2020	0.000	306.090	08-05-2021

Annual Runoff of Tungabhadra at Mantralayam

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1972-1973	2713	835	3548	96	30	125
2	1973-1974	6113	1226	7339	216	43	259
3	1974-1975	5864	1127	6992	207	40	247
4	1975-1976	16080	1582	17662	568	56	624
5	1976-1977	1640	786	2425	58	28	86
6	1977-1978	4095	1019	5113	145	36	181
7	1978-1979	13064	1088	14152	462	38	500
8	1979-1980	4799	1000	5799	170	35	205
9	1980-1981	10803	926	11730	382	33	414
10	1981-1982	8540	900	9441	302	32	334
11	1982-1983	6082	861	6943	215	30	245
12	1983-1984	5316	825	6141	188	29	217
13	1984-1985	4806	639	5445	170	23	192
14	1985-1986	1865	601	2465	66	21	87
15	1986-1987	3142	476	3618	111	17	128
16	1987-1988	2742	502	3244	97	18	115
17	1988-1989	4887	501	5388	173	18	190
18	1989-1990	3032	690	3722	107	24	132
19	1990-1991	5682	748	6429	201	26	227
20	1991-1992	7576	900	8476	268	32	300
21	1992-1993	10667	949	11617	377	34	410
22	1993-1994	6109	795	6904	216	28	244
23	1994-1995	11024	586	11611	390	21	410
24	1995-1996	2025	498	2523	72	18	89
25	1996-1997	5407	606	6013	191	21	212
26	1997-1998	5095	618	5713	180	22	202
27	1998-1999	8066	553	8620	285	20	305
28	1999-2000	6291	405	6696	222	14	237
29	2000-2001	5883	391	6275	208	14	222
30	2001-2002	3617	412	4029	128	15	142
31	2002-2003	915	285	1200	32	10	42
32	2003-2004	846	364	1210	30	13	43
33	2004-2005	2195	318	2513	78	11	89
34	2005-2006	7157	468	7625	253	17	269
35	2006-2007	5122	319	5441	181	11	192
36	2007-2008	11641	1171	12812	411	41	453
37	2008-2009	5816	368	6185	206	13	219
38	2009-2010	11503	781	12284	406	28	434
39	2010-2011	7130	544	7674	252	19	271
40	2011-2012	4255	294	4548	150	10	161
41	2012-2013	1786	167	1953	63	6	69
42	2013-2014	7804	272	8077	276	10	285
43	2014-2015	6999	481	7481	247	17	264
44	2015-2016	1530	194	1723	54	7	61
45	2016-2017	518	1	519	18	0	18
46	2017-2018	1642	133	1776	58	5	63
47	2018-2019	5480	150	5630	194	5	199
48	2019-2020	7602	326	7928	269	12	281
49	2020-2021	5887	346	6234	208	12	220
50	2021-2022	6358	1017	7375	225	36	261
Average		5704	621	6325	202	22	224

Instantaneous Flood Peak of Krishna at Mantralayam

		Instantaneous Annual Flood Peak			
Sl. No.	Year	Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	1972-1973	311.010	18-09-1972	22:00:00	3303 *
2	1973-1974	312.290	25-10-1973	12:00:00	5018 *
3	1974-1975	313.345	28-09-1974	03:00:00	6432 *
4	1975-1976	313.880	19-10-1975	05:00:00	7149 *
5	1976-1977	310.000	25-08-1976	18:00:00	2526 *
6	1977-1978	312.120	12-10-1977	12:00:00	5383 *
7	1978-1979	314.950	30-09-1978	13:00:00	10311 *
8	1979-1980	312.520	13-08-1979	12:00:00	6002 *
9	1980-1981	313.630	08-07-1980	05:00:00	7854 *
10	1981-1982	313.700	19-09-1981	12:00:00	7977 *
11	1982-1983	311.720	06-08-1982	22:00:00	4789 *
12	1983-1984	310.900	17-08-1983	23:00:00	3651 *
13	1984-1985	310.830	10-10-1984	12:00:00	3559 *
14	1985-1986	309.375	19-08-1985	08:00:00	1820 *
15	1986-1987	310.700	15-08-1986	18:00:00	3390 *
16	1987-1988	310.040	28-06-1987	18:00:00	2573 *
17	1988-1989	310.800	31-08-1988	06:00:00	3520 *
18	1989-1990	310.470	25-09-1989	00:00:00	3097 *
19	1990-1991	311.050	17-08-1990	18:00:00	3851 *
20	1991-1992	311.570	31-07-1991	18:00:00	4573 *
21	1992-1993	315.800	19-11-1992	00:00:00	12040 *
22	1993-1994	313.600	10-10-1993	17:00:00	7801 *
23	1994-1995	313.120	19-07-1994	02:00:00	6979 *
24	1995-1996	309.220	31-08-1995	06:00:00	1654 *
25	1996-1997	312.460	03-10-1996	03:00:00	5908 *
26	1997-1998	311.810	10-08-1997	01:00:00	4920 *
27	1998-1999	311.600	15-10-1998	04:00:00	4616 *
28	1999-2000	311.090	30-07-1999	13:00:00	3905 *
29	2000-2001	310.860	10-10-2000	21:00:00	3598 *
30	2001-2002	311.440	08-10-2001	05:00:00	4388 *
31	2002-2003	309.330	12-10-2002	20:00:00	1771 *
32	2003-2004	308.690	23-10-2003	23:00:00	1117 *
33	2004-2005	309.900	17-08-2004	04:00:00	2408 *
34	2005-2006	312.230	15-10-2005	11:00:00	5551 *
35	2006-2007	312.060	15-08-2006	12:00:00	5292 *
36	2007-2008	314.200	19-09-2007	15:00:00	8881 *
37	2008-2009	312.590	15-08-2008	22:00:00	6113 *
38	2009-2010	318.770	02-10-2009	00:00:00	18882 *
39	2010-2011	312.690	25-08-2010	08:00:00	6273 *
40	2011-2012	311.250	04-09-2011	20:00:00	4124 *
41	2012-2013	309.770	05-09-2012	05:00:00	2259 *
42	2013-2014	311.390	05-08-2013	23:00:00	4318 *
43	2014-2015	312.070	05-08-2014	02:00:00	5307 *
44	2015-2016	310.090	08-09-2015	07:00:00	2632 *
45	2016-2017	308.580	16-09-2016	23:00:00	1012 *
46	2017-2018	310.510	16-09-2017	01:00:00	3148 *
47	2018-2019	312.480	17-08-2018	21:00:00	5939 *
48	2019-2020	312.900	12-08-2019	17:00:00	6614 *
49	2020-2021	310.870	22-09-2020	06:00:00	3008 *
50	2021-2022	311.750	22-11-2022	08:00:00	4312 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : Mantralayam (AKL00F2)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

Sub-Division : Lower Tungabhadra SD, Kurnool

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	306.240	11.03	306.850	71.79	309.010	864.2 *	307.370	171.1	307.130	141.2	307.585	247.1
2	306.240	11.01	306.710	41.98	309.120	998.9	307.300	152.2	307.200	134.5 *	307.650	260.9
3	306.240	11.17	306.640	37.08	308.430	456.4	307.230	134.7	307.460	215.7 *	307.600	227.7
4	306.270	14.34	306.580	35.94 *	308.275	489.6	307.500	209.7	307.520	229.4	307.500	229.1 *
5	306.265	13.45	306.500	28.65	307.580	275.7	307.430	205.8 *	307.350	177.3	307.450	181.9
6	306.230	11.03 *	306.450	26.11	309.160	992.9	308.050	443.3	309.240	978.7 #	307.440	206.9
7	306.330	18.49	306.410	22.35	309.150	1000	308.665	728.1	308.630	694.1	307.440	209.1 *
8	306.700	47.60	306.330	17.21	309.150	933.4 *	308.910	893.6	309.040	861.1	307.285	152.2
9	306.760	51.17	306.290	14.31	309.595	1271	308.160	492.5	309.530	1128 *	307.185	132.0
10	306.700	47.60	306.710	64.32	310.110	1435	307.690	295.7 *	309.880	1317 *	307.100	114.9
11	306.640	41.63	306.750	50.63 *	309.585	1236	307.670	288.4 *	309.630	1242	307.040	102.4
12	306.580	35.94 *	306.810	78.25	308.160	394.2	307.970	401.8 *	308.650	714.7	307.020	98.12
13	306.540	33.63 *	306.730	66.27	307.705	307.5	308.330	562.4	308.040	451.0	307.100	106.3 *
14	306.500	28.65	306.670	61.84	307.570	253.1 *	308.300	527.7	307.800	337.4	307.250	149.2 *
15	306.420	24.62	306.565	47.10	308.100	454.1 *	307.930	388.4	308.730	730.4 *	307.360	163.0
16	306.365	19.33	306.535	36.40	307.800	341.7	309.010	966.1	308.920	809.2	307.510	212.5
17	306.310	15.81	306.585	52.70	307.740	304.2	308.820	817.3	309.150	933.4 *	307.545	215.1
18	306.280	13.95	306.590	36.58 *	307.680	297.0	308.605	720.6	308.200	491.1	307.570	233.9
19	306.250	10.95	306.540	36.16	307.980	412.7	308.100	454.1 *	307.980	405.8 *	307.600	263.5 *
20	306.230	10.25 *	306.540	37.14	307.860	359.1 *	307.640	253.1	307.735	296.3	308.900	917.5
21	306.200	6.742	306.900	70.14 *	307.720	305.5	307.430	188.3	307.540	236.4	310.020	1394 *
22	306.190	6.120 *	307.140	134.7	307.720	306.6 *	307.750	296.8	307.290	178.2	311.760	2466
23	306.130	0.000	307.150	135.4	307.680	292.2	307.970	399.3	306.960	94.08	310.600	1484
24	306.110	0.000	307.040	111.7	308.080	382.7	308.100	447.5	307.000	80.00 *	309.600	1217
25	306.090	0.000	306.950	78.02 *	307.950	390.3	307.745	309.1	307.140	140.5	308.590	714.6
26	306.080	0.000	306.800	73.46	307.820	351.0	307.530	239.3 *	307.615	266.5	308.740	809.5
27	308.100	485.8	310.670	2579	307.725	296.4	308.190	491.6	308.480	601.8	308.600	720.8
28	308.000	434.0	310.520	2293	307.680	285.5	307.445	204.1	308.550	620.0	308.200	495.5 *
29	307.350	202.9	309.885	1742	307.550	246.1 *	307.260	142.1	308.140	466.8	307.970	388.9
30	307.000	109.2	308.725	753.7	307.740	313.7	307.195	126.5	307.980	421.6	307.960	383.2
31			309.550	1441	307.480	237.9			307.800	336.3 *		
Ten-Daily Mean												
I Ten-Daily	306.397	23.69	306.547	35.97	308.958	871.7	307.831	372.7	308.298	587.7	307.423	196.2
II Ten-Daily	306.411	23.47	306.632	50.31	308.018	436.0	308.237	538.0	308.483	641.1	307.490	246.2
III Ten-Daily	306.725	124.5	308.303	855.7	307.740	309.8	307.662	284.4	307.681	312.9	309.204	1007
Monthly												
Min.	306.080	0.000	306.290	14.31	307.480	237.9	307.195	126.5	306.960	80.00	307.020	98.12
Max.	308.100	485.8	310.670	2579	310.110	1435	309.010	966.1	309.880	1317	311.760	2466
Mean	306.511	57.21	307.197	331.5	308.223	531.8	307.910	398.4	308.139	507.4	308.039	483.2

Annual Runoff in MCM = 7121 Annual Runoff in mm = 117

Peak Observed Discharge = 2579 cumecs on 27-07-2021 Corres. Water Level :310.67 m

Lowest Observed Discharge = 0.000 cumecs on 23-06-2021 Corres. Water Level :306.13 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : Mantralayam (AKL00F2)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

Sub-Division : Lower Tungabhadra SD, Kurnool

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	308.260	455.3	306.520	34.28	306.980	80.57	306.440	27.92	307.040	99.14	306.340	23.75 *
2	308.100	392.0	306.520	34.26 *	306.910	74.43	306.440	27.36	306.940	80.44	306.320	16.34
3	307.540	210.9	306.510	32.78	306.910	74.09	306.360	21.91	306.800	68.75 *	306.320	22.61 *
4	307.790	282.5	306.510	31.87	306.940	78.21	306.350	20.84	306.600	43.91	306.320	16.14
5	307.550	219.8 *	306.510	32.68	306.915	71.03	306.350	20.60	306.590	42.75	306.320	15.90
6	307.500	193.2	306.500	32.38	306.840	74.37 *	306.350	24.34 *	306.550	32.91	306.300	12.61
7	307.580	213.8	306.460	29.06	306.770	65.15	306.940	86.70	306.510	31.10	306.300	12.66
8	307.560	205.5	306.450	31.21 *	306.710	59.62	306.960	94.58	306.440	27.47	306.290	12.15 *
9	307.500	193.7	306.450	31.21 *	306.610	44.28	306.920	83.01	306.460	32.00 *	306.280	11.62
10	307.480	179.4	306.370	23.45	306.540	34.36	306.830	78.04	306.600	44.73 *	306.280	11.47
11	307.400	181.9 *	306.360	23.21	306.440	26.77	306.700	59.02	306.700	58.49	306.270	10.60
12	307.100	117.6 *	306.350	21.31	306.400	27.56 *	306.630	47.90 *	306.750	65.68	306.270	11.35
13	306.950	103.6	306.350	20.38	306.360	24.95 *	306.740	60.82 *	306.790	74.85	306.260	10.18
14	307.330	152.7	306.300	21.55 *	306.350	21.23	306.630	46.36	306.830	72.94 *	306.250	10.11 *
15	307.150	132.8	306.260	14.38	306.350	20.19	306.600	43.50	306.860	77.28 *	306.240	10.10 *
16	306.910	79.11	306.260	14.23 *	306.350	20.41	306.550	33.70	306.740	63.07	306.240	10.10 *
17	306.810	68.30	306.260	13.97	306.750	69.83	306.540	31.72	306.680	53.52 *	306.230	8.688
18	306.750	62.43	306.260	13.27	306.800	75.40	306.530	37.94 *	306.620	46.33	306.210	7.824
19	306.730	59.56 *	306.525	35.78	306.905	84.32	306.520	30.50	306.560	34.50	306.210	7.611
20	306.710	56.46	306.780	73.35	307.000	99.60 *	306.510	36.16 *	306.500	32.07	306.390	20.26
21	306.700	54.26	306.810	76.58	307.080	104.4	306.620	44.27	306.440	27.98	308.180	432.6
22	306.660	49.69	306.810	78.02	307.100	109.0	306.620	45.13	306.420	24.85	307.950	339.6 *
23	306.650	44.59	306.790	67.38 *	307.100	105.6	306.600	44.77	306.400	21.55	307.400	166.1
24	306.650	44.83	306.750	68.36	307.075	99.50	306.580	41.57	306.400	27.56 *	306.860	77.27
25	306.640	48.99 *	306.740	65.46	307.060	97.68	306.380	21.43	306.400	20.83	306.820	75.76
26	306.630	47.90 *	306.740	60.82 *	306.960	87.70	306.360	20.00	306.380	19.49	306.650	49.06
27	306.620	41.40	306.715	61.64	306.800	68.75 *	306.900	83.32 *	306.360	18.78	306.630	46.00
28	306.600	38.66	307.000	96.66	306.540	34.66	307.000	92.60	306.360	19.61	306.600	42.86
29	306.580	34.48	307.030	97.92			307.100	108.8	306.360	19.02	306.550	39.80 *
30	306.550	30.62	307.030	104.8 *			306.995	87.35	306.360	19.85	306.520	29.13
31	306.530	28.39	307.030	90.22			306.970	82.88			306.510	28.54
Ten-Daily Mean												
I Ten-Daily	307.686	254.6	306.480	31.32	306.813	65.61	306.594	48.53	306.653	50.32	306.307	15.52
II Ten-Daily	306.984	101.4	306.370	25.14	306.570	47.03	306.595	42.76	306.703	57.87	306.257	10.68
III Ten-Daily	306.619	42.17	306.859	78.90	306.964	88.41	306.739	61.10	306.388	21.95	306.970	120.6
Monthly												
Min.	306.530	28.39	306.260	13.27	306.350	20.19	306.350	20.00	306.360	18.78	306.210	7.611
Max.	308.260	455.3	307.030	104.8	307.100	109.0	307.100	108.8	307.040	99.14	308.180	432.6
Mean	307.081	129.8	306.579	46.21	306.769	65.49	306.646	51.13	306.581	43.38	306.526	51.25

Peak Computed Discharge = 1394 cumecs on 21-11-2021

Corres. Water Level :310.02 m

Lowest Computed Discharge = 6.120 cumecs on 22-06-2021

Corres. Water Level :306.19 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

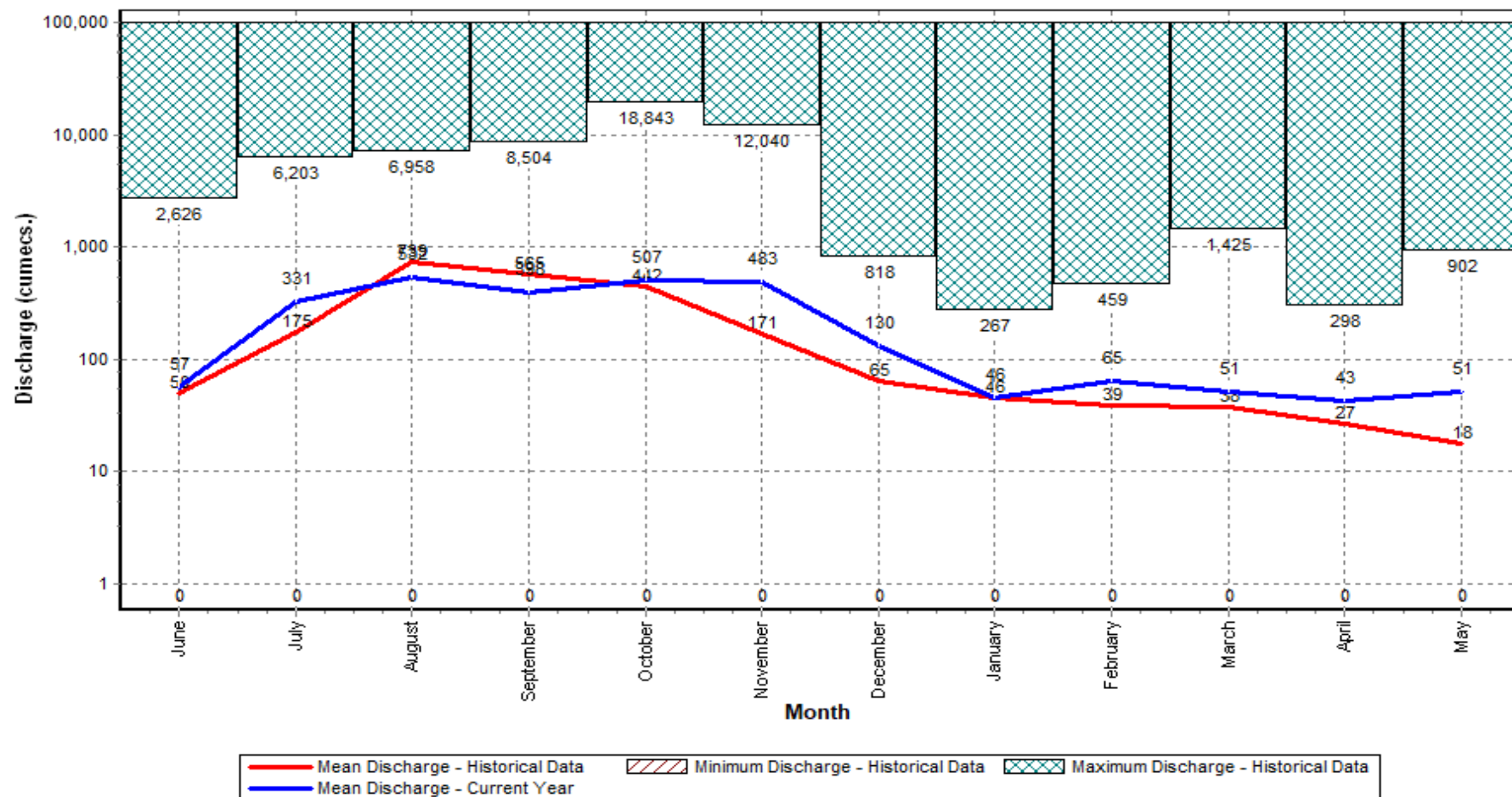
Station Name : Mantralayam (AKL00F2)

Data considered : 1972-2022

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

Sub-Division : Lower Tungabhadra SD, Kurnool



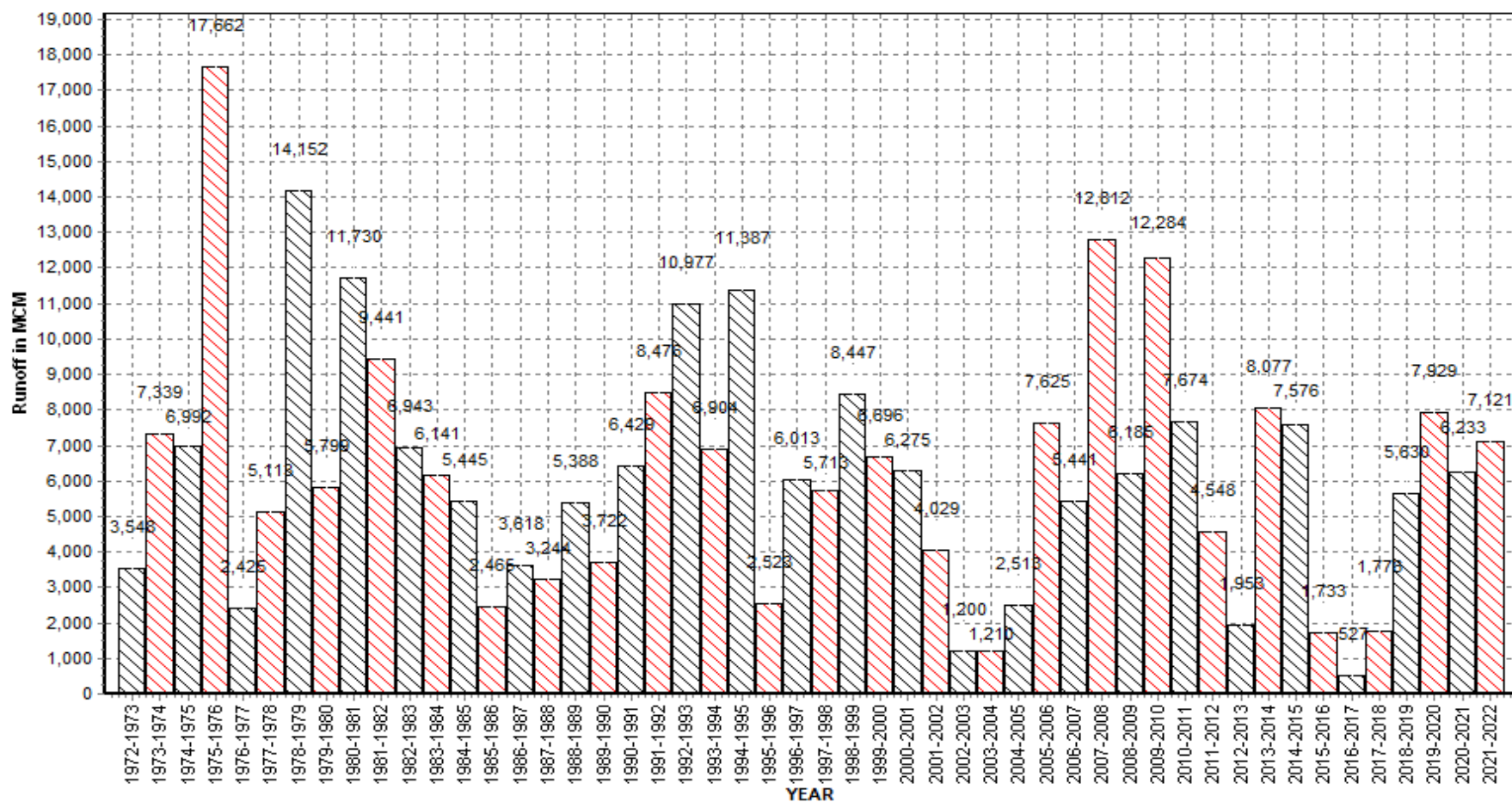
Annual Runoff Values for the period: 1972 - 2022

Station Name : Mantralayam (AKL00F2)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



Note: Missing values have not been considered while arriving at Annual Runoff

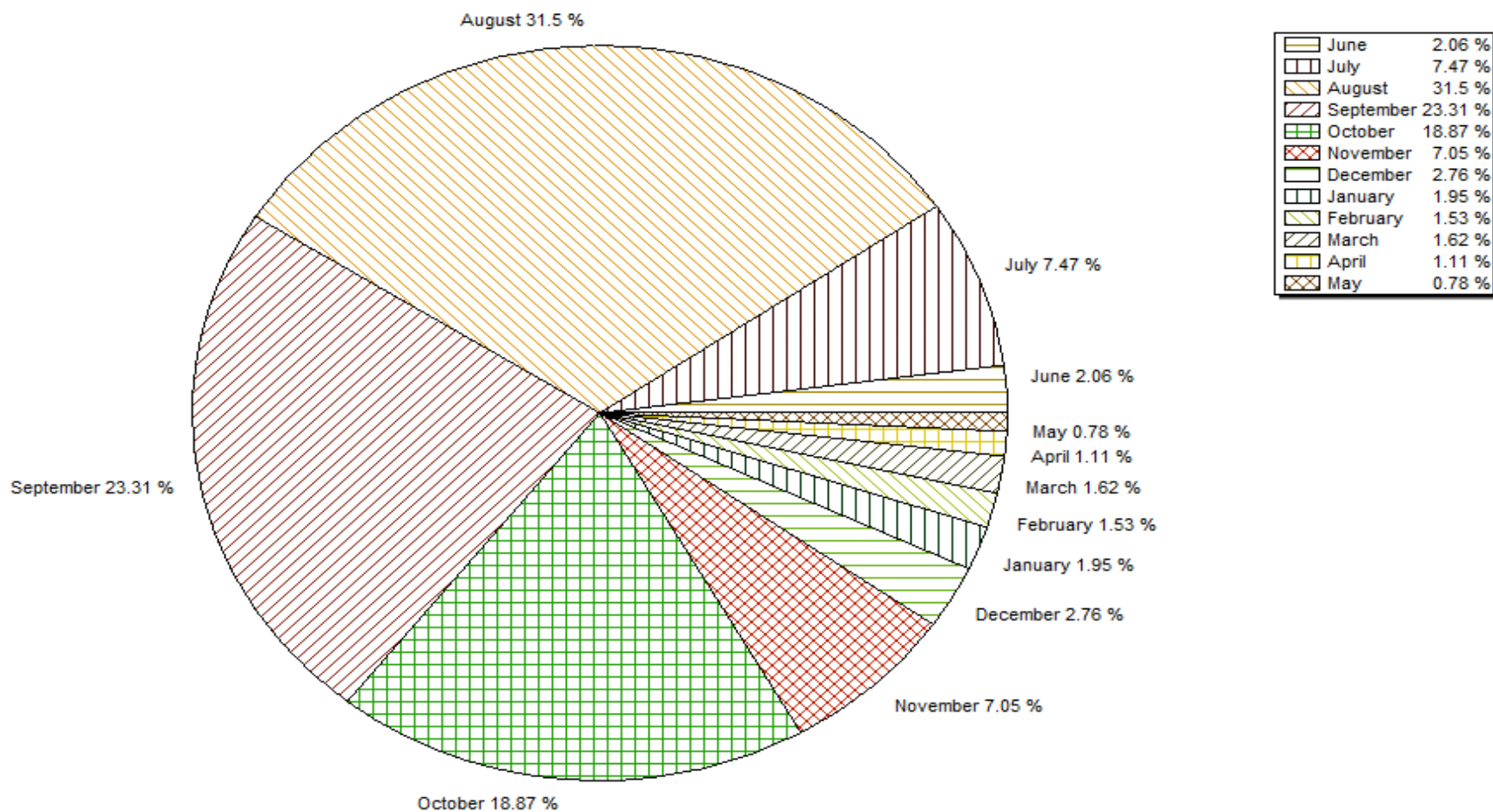
Monthly Average Runoff based on period : 1972-2021

Station Name : Mantralayam (AKL00F2)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



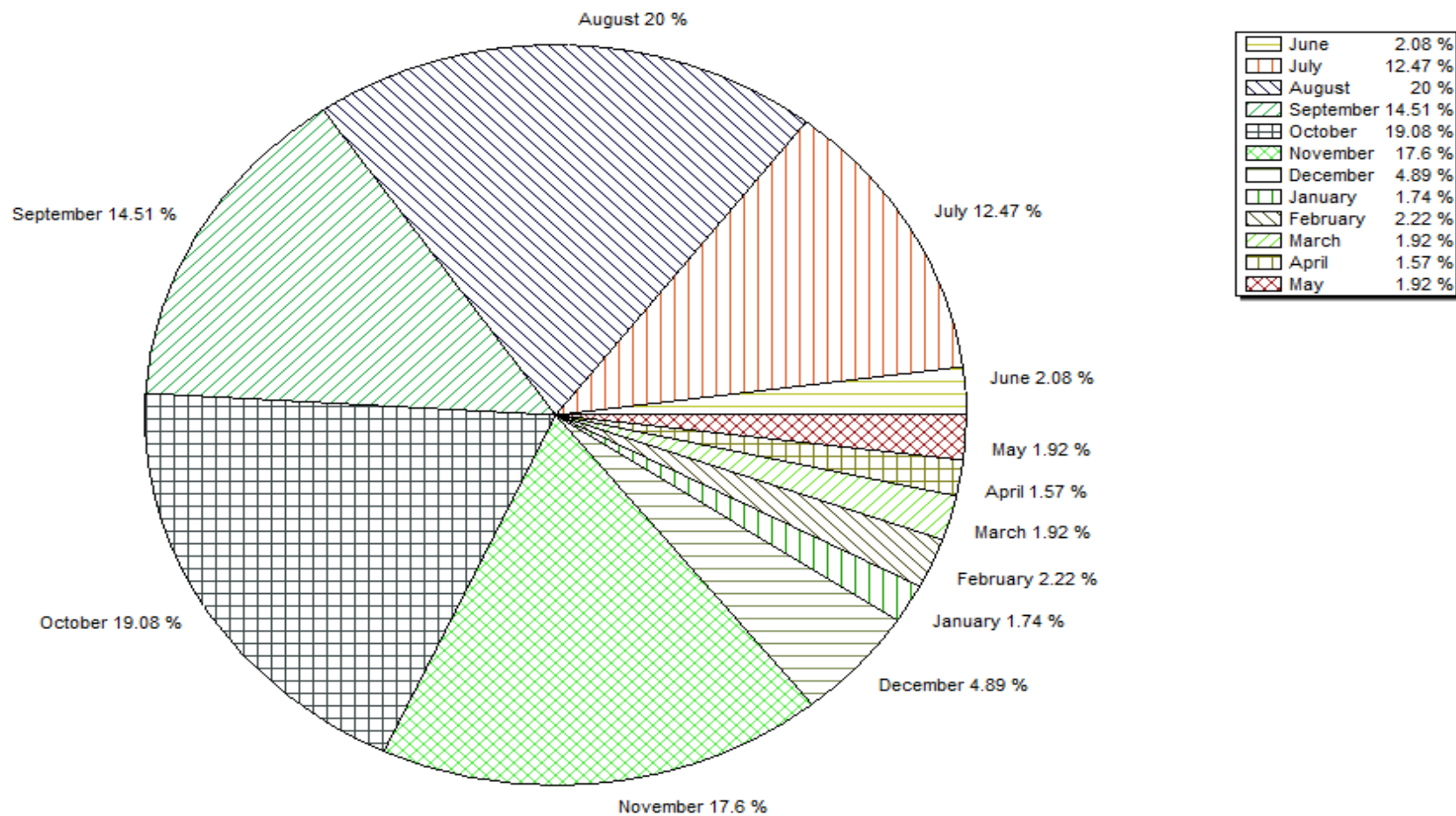
Monthly Runoff for the Year : 2021-2022

Station Name : Mantralayam (AKL00F2)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool

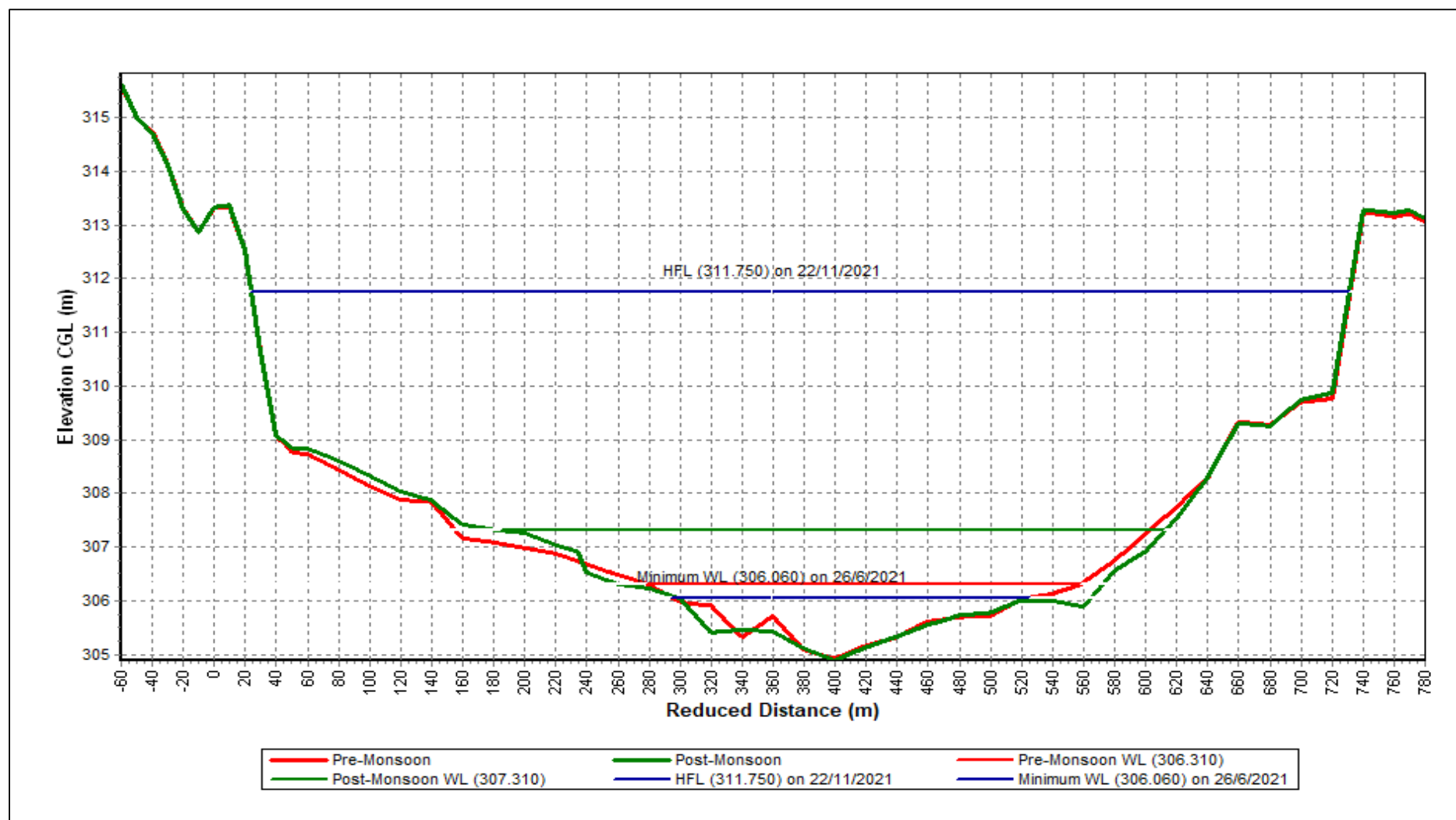


Station Name : Mantralayam (AKL00F2)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



Zero of Gauge : 306 (m.s.l)

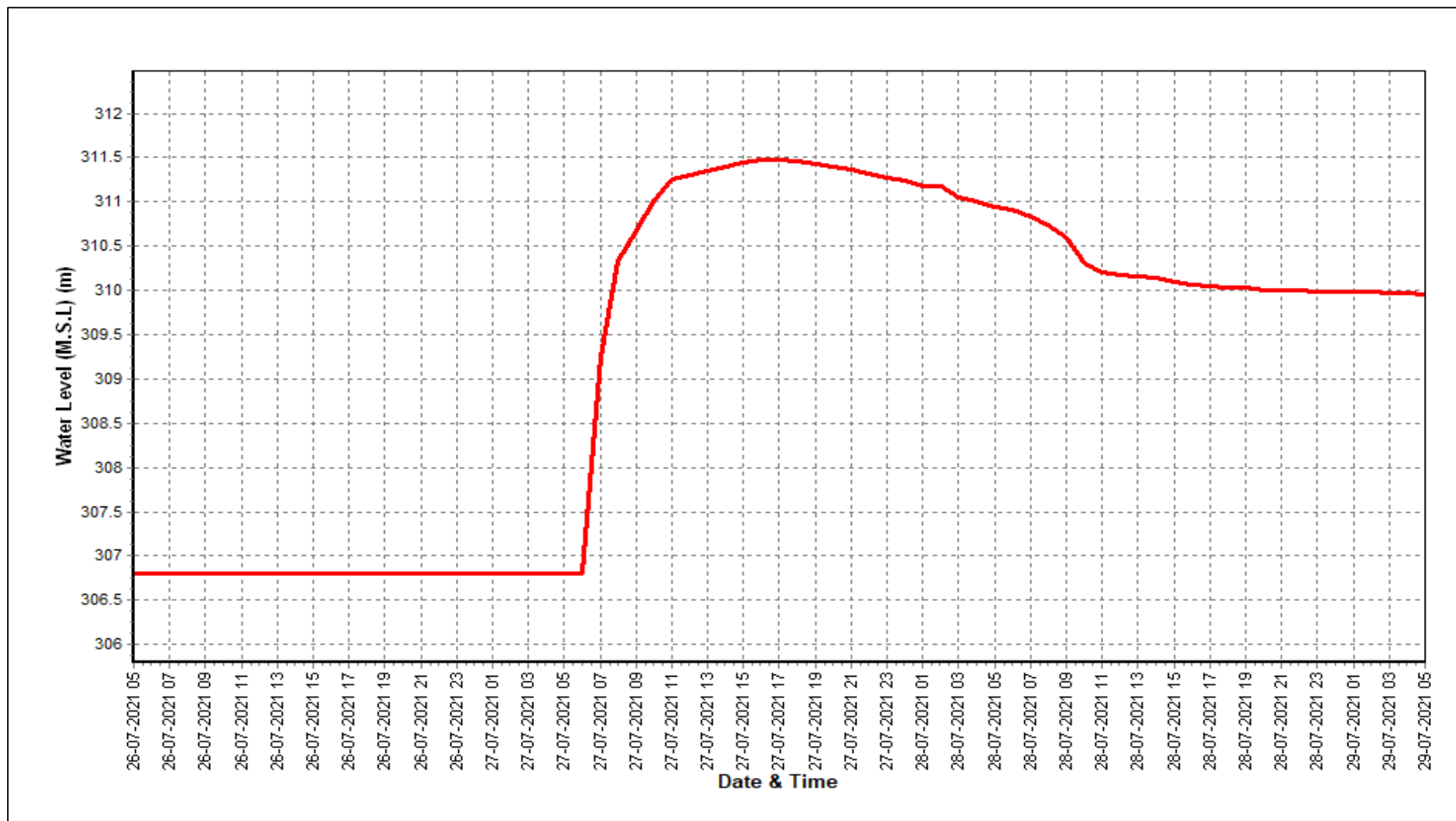
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Mantralayam (AKL00F2)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



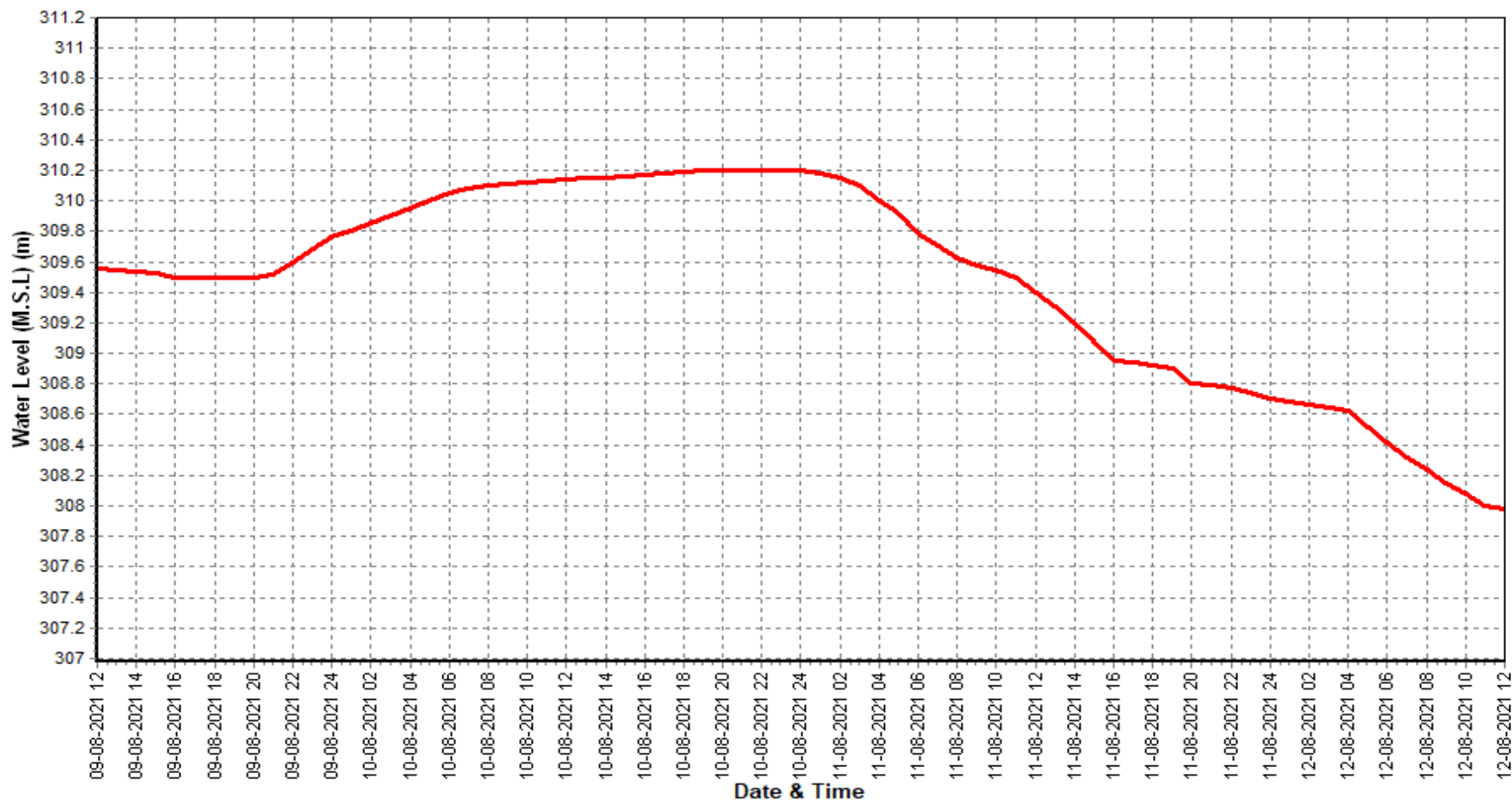
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Mantralayam (AKL00F2)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



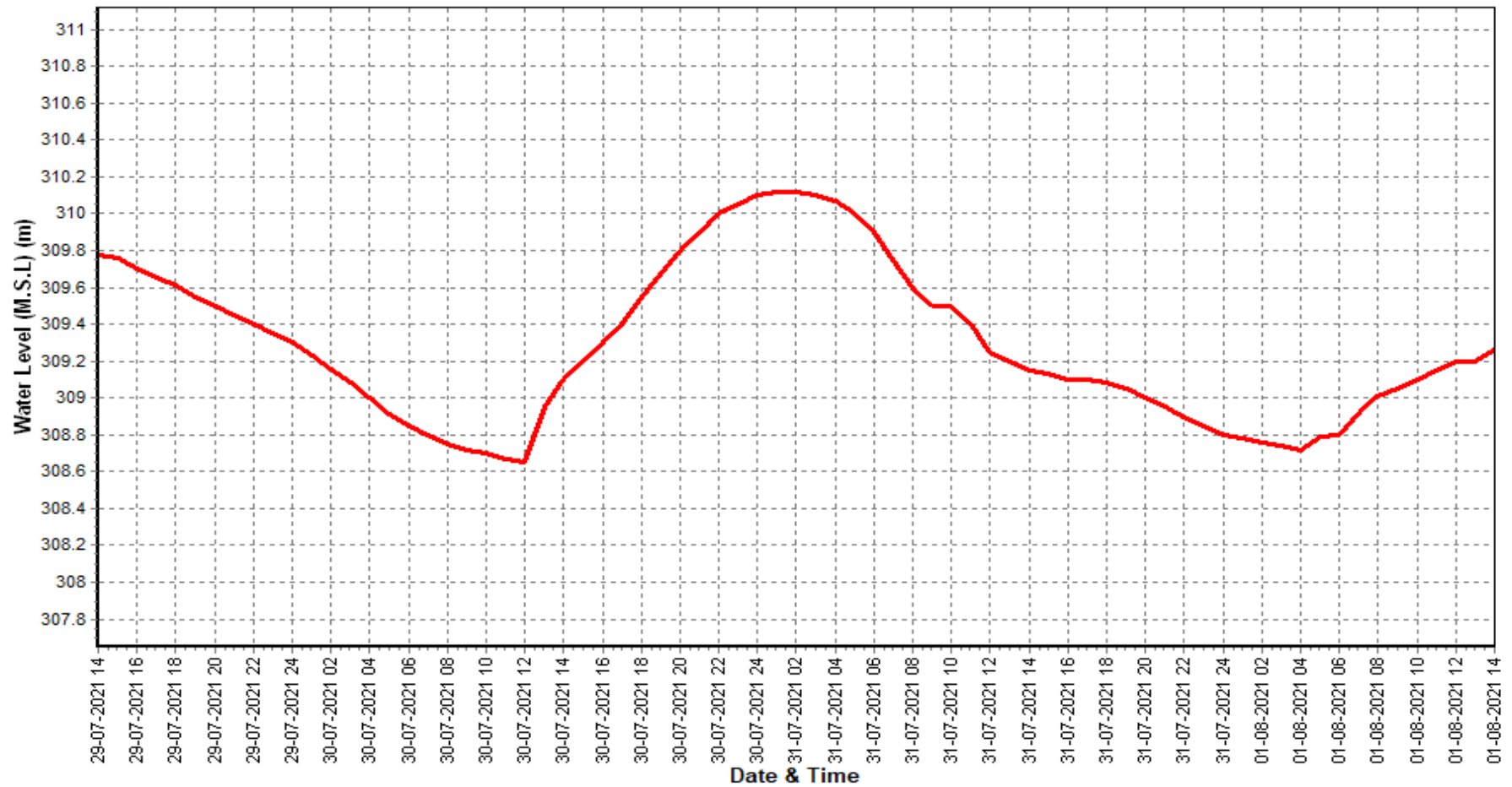
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Mantralayam (AKL00F2)

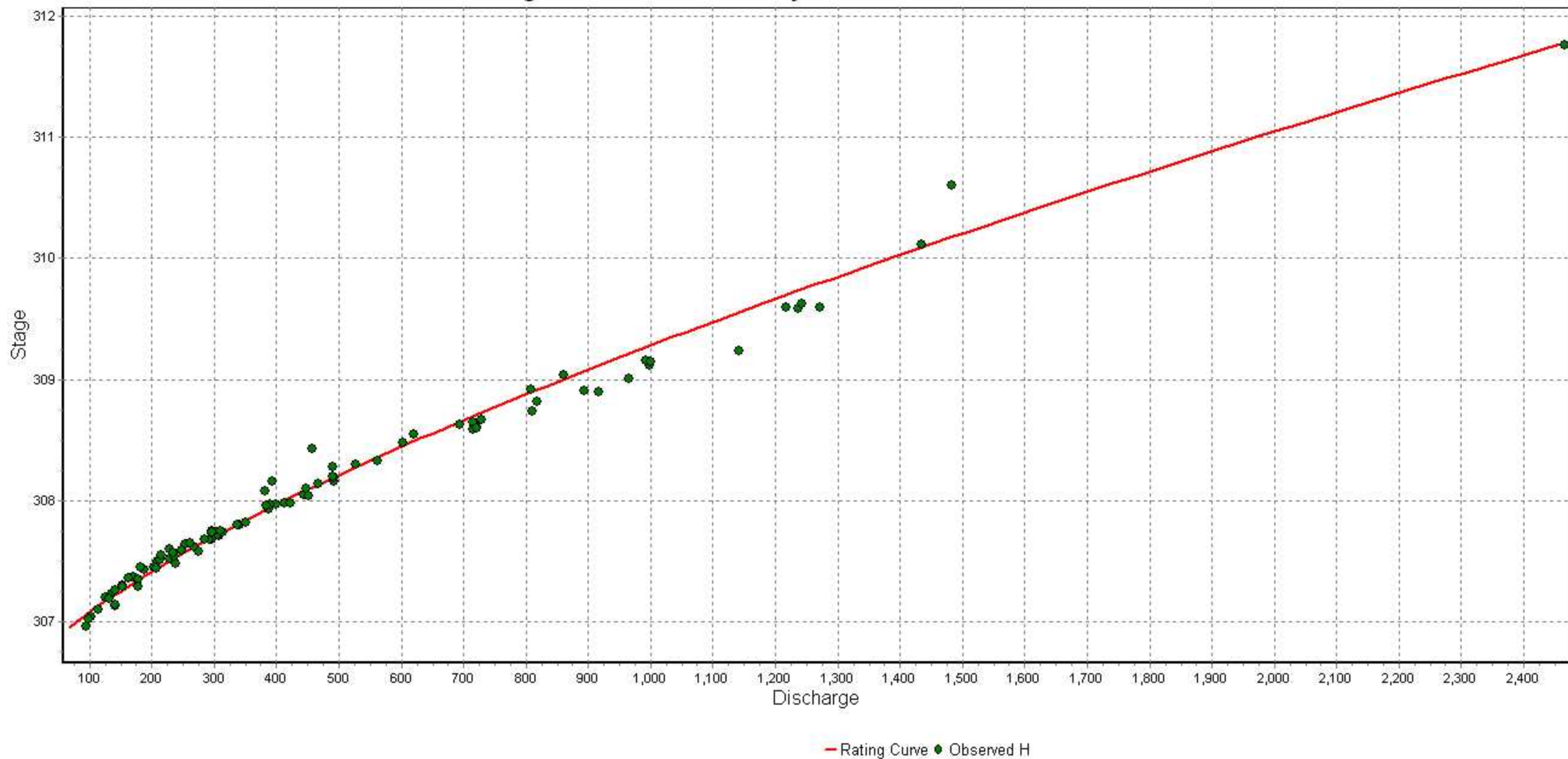
Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



Rating Curve of Site Mantralayam 01/08/2021 to 30/11/2021



HISTORY SHEET

		Water Year : 2021-2022	
Site	: Bawapuram	Code	: AKL00B8
State	: Andhra Pradesh	District	Kurnool
Basin	: Krishna	Independent River	: Krishna
Tributary	: Tungabhadra	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Tungabhadra
Division	: Lower Krishna Divn., Hyderabad	Sub-Division	: Lower Tungabhadra SD, Kurnool
Drainage Area	: 67180 Sq. Km.	Bank	: Right
Latitude	: 15°52'57"	Longitude	: 77°57'26"
Zero of Gauge (m)	: 271.825 (m.s.l)	14-03-1964	- 31-05-1969
	: 270.485 (m.s.l)	01-06-1969	- 31-12-1972
	: 270.245 (m.s.l)	01-01-1973	- 30-04-2019
	: 270.245 (m.s.l)	01-05-2019	
	Opening Date	Closing Date	
Gauge	: 14-03-1964	HFL During 2021-22	: 275.745 m
		Corres. Discharge	: 3002 (Observed)
Discharge	: 01-04-1964	Date & Time of occurrence	: 22-11-2021 : 08:00 Hrs
Sediment	: 01-06-1965		
Water Quality	: 01-01-1972		

HFL Recorded so far in m : 285.225 dt 02-10-2009

Corresponding Discharge (cumecs) : 30527*

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1965-1966	3250	277.755	25-07-1965	1.000	272.560	23-03-1966
1966-1967	2700	277.295	25-09-1966	1.258	272.600	07-07-1966
1967-1968	3735	278.080	06-08-1967	1.049	272.550	11-07-1967
1968-1969	4987	278.337	09-10-1968	2.288	272.585	15-07-1968
1969-1970	3523	276.420	06-08-1969	2.500	271.410	15-05-1970
1970-1971	6214	277.883	21-09-1970	4.856	271.445	05-04-1971
1971-1972	3448	276.420	15-10-1971	4.140	271.455	09-05-1972
1972-1973	2152	274.660	19-09-1972	1.500	271.050	20-05-1973
1973-1974	1867	275.205	19-08-1973	1.700	271.305	11-05-1974
1974-1975	5520	277.285	28-09-1974	3.000	271.190	04-05-1975
1975-1976	6214	277.835	19-10-1975	3.300	271.145	03-07-1975
1976-1977	1265.8	273.198	26-08-1976	3.000	271.105	13-10-1976
1977-1978	1864	274.945	13-10-1977	1.800	271.045	11-07-1977
1978-1979	6723	278.160	30-09-1978	2.100	271.055	01-07-1978
1979-1980	2149	275.445	25-09-1979	1.500	270.915	19-07-1979
1980-1981	4779	277.075	16-08-1980	0.800	270.990	03-05-1981

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1981-1982	4345	276.885	20-09-1981	2.400	271.055	25-07-1981
1982-1983	3998	276.590	07-08-1982	1.600	271.015	04-05-1983
1983-1984	2772	275.905	18-08-1983	0.700	270.915	13-07-1983
1984-1985	2944	275.815	06-08-1984	0.400	270.905	28-04-1985
1985-1986	1352	274.165	19-08-1985	0.100	270.885	19-04-1986
1986-1987	2458	275.585	16-08-1986	0.000	270.865	31-03-1987
1987-1988	1423	274.390	29-06-1987	0.170	270.835	09-06-1987
1988-1989	3455	275.975	31-08-1988	0.000		15-05-1989
1989-1990	2787	275.640	25-09-1989	0.000		02-06-1989
1990-1991	2989	275.945	18-08-1990	0.090	270.925	05-08-1990
1991-1992	3748	276.325	01-08-1991	0.023	270.915	21-04-1992
1992-1993	15004	280.445	19-11-1992	0.386	270.840	06-05-1993
1993-1994	4879	276.864	11-10-1993	1.418	270.815	09-07-1993
1994-1995	6971	278.015	19-07-1994	0.230	270.700	01-05-1995
1995-1996	1209	273.895	31-08-1995	0.000	270.655	28-06-1995
1996-1997	6509	277.525	03-10-1996	0.000	270.695	02-06-1996
1997-1998	5069	276.645	10-08-1997	0.945	270.775	24-07-1997
1998-1999	4936	276.975	15-10-1998	0.000	270.775	22-06-1998
1999-2000	2667	275.370	01-08-1999	0.542	270.665	01-02-2000
2000-2001	2629	275.515	11-10-2000	1.525	270.755	12-03-2001
2001-2002	3213	275.935	08-10-2001	0.000		22-05-2002
2002-2003	1268	274.295	13-10-2002	0.000	270.545	02-03-2003
2003-2004	1134	273.185	24-10-2003	0.000	270.495	17-02-2004
2004-2005	1481	274.340	07-09-2004	0.000		03-05-2005
2005-2006	4651	276.345	06-08-2005	0.000		07-07-2005
2006-2007	4667	276.945	15-08-2006	0.000	270.395	02-04-2007
2007-2008	8101	278.395	20-09-2007	0.666	270.395	02-03-2008
2008-2009	6397	277.305	16-08-2008	0.000	270.275	15-05-2009
2009-2010	19986	285.225	03-10-2009	0.632	270.515	22-03-2010
2010-2011	5494	276.675	25-08-2010	0.585	270.505	10-08-2010
2011-2012	3374	275.590	05-09-2011	0.017	270.295	16-04-2012
2012-2013	1898	274.120	03-11-2012	0.000	270.125	23-04-2013
2013-2014	2755	275.755	06-08-2013	0.000	270.335	01-03-2014
2014-2015	3900	276.105	05-08-2014	0.000	270.285	08-04-2015
2015-2016	2081	273.955	08-09-2015	0.000	269.655	18-05-2016
2016-2017	1234	273.105	17-09-2016	0.000	269.995	25-01-2017
2017-2018	2257	274.495	16-09-2017	0.000	270.025	19-03-2018
2018-2019	4780	276.415	18-08-2018	0.000	270.115	10-02-2019
2019-2020	4813	276.825	13-08-2019	0.000	270.035	07-08-2019
2020-2021	2667	274.225	20-08-2020	0.000	270.185	25-03-2021

Annual Runoff of Tungabhadra at Bawapuram

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1965-1966	4936	736	5672	174	26	200
2	1966-1967	2750	844	3594	97	30	127
3	1967-1968	4695	307	5002	166	11	177
4	1968-1969	5721	791	6511	202	28	230
5	1969-1970	6261	693	6954	221	25	246
6	1970-1971	9624	536	10160	340	19	359
7	1971-1972	4034	689	4723	143	24	167
8	1972-1973	2091	155	2246	74	5	79
9	1973-1974	5584	374	5958	197	13	211
10	1974-1975	5725	295	6020	202	10	213
11	1975-1976	14441	462	14903	510	16	527
12	1976-1977	686	292	978	24	10	35
13	1977-1978	3403	205	3608	120	7	127
14	1978-1979	11649	218	11867	412	8	419
15	1979-1980	3590	254	3843	127	9	136
16	1980-1981	8910	151	9061	315	5	320
17	1981-1982	6789	110	6900	240	4	244
18	1982-1983	4951	87	5038	175	3	178
19	1983-1984	4737	93	4830	167	3	171
20	1984-1985	3896	68	3964	138	2	140
21	1985-1986	1200	83	1283	42	3	45
22	1986-1987	2118	44	2161	75	2	76
23	1987-1988	2336	138	2475	83	5	87
24	1988-1989	4358	89	4447	154	3	157
25	1989-1990	2557	255	2812	90	9	99
26	1990-1991	4448	44	4492	157	2	159
27	1991-1992	6201	82	6284	219	3	222
28	1992-1993	9654	177	9831	341	6	347
29	1993-1994	5235	692	5927	185	24	209
30	1994-1995	10128	76	10204	358	3	361
31	1995-1996	1766	68	1834	62	2	65
32	1996-1997	5346	169	5515	189	6	195
33	1997-1998	4477	264	4741	158	9	168
34	1998-1999	8100	175	8275	286	6	292
35	1999-2000	5119	142	5261	181	5	186
36	2000-2001	5422	156	5578	192	6	197
37	2001-2002	3277	128	3405	116	5	120
38	2002-2003	786	53	839	28	2	30
39	2003-2004	495	177	672	17	6	24
40	2004-2005	1528	167	1695	54	6	60
41	2005-2006	5931	198	6129	210	7	217
42	2006-2007	4472	86	4558	158	3	161
43	2007-2008	10818	708	11526	382	25	407
44	2008-2009	5341	160	5501	189	6	194
45	2009-2010	9946	467	10414	351	17	368
46	2010-2011	5479	234	5713	194	8	202
47	2011-2012	3566	56	3622	126	2	128

48	2012-2013	1334	16	1351	47	1	48
49	2013-2014	7873	12	7885	278	0	279
50	2014-2015	7180	33	7213	254	1	255
51	2015-2016	1150	9	1159	41	0	41
52	2016-2017	356	0	356	13	0	13
53	2017-2018	1667	16	1683	59	1	59
54	2018-2019	5079	2	5081	179	0	180
55	2019-2020	7686	164	7850	272	6	277
56	2021-2021	6471	125	6596	229	4	233
57	2020-2022	6036	709	6745	213	25	238
Average		5077	237	5315	179	8	188

Instantaneous Flood Peak of Krishna at Bawapuram

Sl. No.	Year	Instantaneous Annual Flood Peak		Time	Discharge * (Cumecs)
		Peak WL (m) Recorded	Date		
1	1965-1966	277.965	20-09-1965	17:00:00	7201 *
2	1966-1967	278.045	25-09-1966	00:00:00	7401 *
3	1967-1968	278.090	05-08-1967	19:00:00	7515 *
4	1968-1969	278.575	09-10-1968	16:00:00	8808 *
5	1969-1970	276.450	06-08-1969	02:00:00	4009 *
6	1970-1971	277.985	21-09-1970	03:00:00	7250 *
7	1971-1972	276.420	15-10-1971	08:00:00	3957 *
8	1972-1973	274.660	19-09-1972	08:00:00	1708 *
9	1973-1974	275.555	25-10-1973	21:00:00	2659 *
10	1974-1975	277.355	28-09-1974	10:00:00	5778 *
11	1975-1976	277.835	19-10-1975	08:00:00	6882 *
12	1976-1977	273.225	26-08-1976	10:00:00	1014 *
13	1977-1978	275.645	12-10-1977	22:00:00	2777 *
14	1978-1979	278.595	30-09-1978	22:00:00	8864 *
15	1979-1980	276.125	13-08-1979	20:00:00	3473 *
16	1980-1981	277.245	08-07-1980	14:00:00	5541 *
17	1981-1982	277.345	19-09-1981	21:00:00	5756 *
18	1982-1983	276.755	07-08-1982	07:00:00	4560 *
19	1983-1984	275.905	18-08-1983	07:00:00	3139 *
20	1984-1985	275.815	06-08-1984	07:00:00	3010 *
21	1985-1986	274.345	05-10-1985	16:00:00	1468 *
22	1986-1987	275.685	16-08-1986	06:00:00	2830 *
23	1987-1988	274.855	29-06-1987	06:00:00	1881 *
24	1988-1989	276.165	31-08-1988	12:00:00	3536 *
25	1989-1990	275.675	25-09-1989	11:00:00	2817 *
26	1990-1991	275.945	18-08-1990	08:00:00	3198 *
27	1991-1992	276.535	01-08-1991	06:00:00	4158 *
28	1992-1993	280.495	19-11-1992	18:00:00	15075 *
29	1993-1994	279.145	11-10-1993	00:00:00	10478 *
30	1994-1995	278.015	19-07-1994	07:00:00	7326 *
31	1995-1996	273.985	31-08-1995	13:00:00	1254 *
32	1996-1997	277.525	03-10-1996	10:00:00	6156 *
33	1997-1998	276.665	10-08-1997	10:00:00	4392 *
34	1998-1999	276.985	15-10-1998	09:00:00	5006 *
35	1999-2000	275.885	30-07-1999	19:00:00	3110 *
36	2000-2001	275.635	11-10-2000	02:00:00	2764 *
37	2001-2002	276.135	08-10-2001	14:00:00	3488 *
38	2002-2003	274.305	13-10-2002	14:00:00	1441 *
39	2003-2004	273.565	25-10-2003	02:00:00	1086 *
40	2004-2005	274.755	17-08-2004	19:00:00	1790 *
41	2005-2006	277.085	15-10-2005	19:00:00	5208 *
42	2006-2007	276.945	15-08-2006	08:00:00	4926 *
43	2007-2008	278.945	19-09-2007	23:00:00	9873 *
44	2008-2009	277.335	16-08-2008	04:00:00	5735 *
45	2009-2010	285.225	02-10-2009	18:00:00	30527 *

46	2010-2011	277.025	25-08-2010	15:00:00	5086 *
47	2011-2012	275.645	05-09-2011	07:00:00	2777 *
48	2012-2013	274.395	05-09-2012	10:00:00	1503 *
49	2013-2014	275.775	06-08-2013	17:00:00	2954 *
50	2014-2015	276.105	05-08-2014	08:00:00	3441 *
51	2015-2016	274.915	08-09-2015	13:00:00	1938 *
52	2016-2017	273.445	17-09-2016	12:00:00	1054 *
53	2017-2018	274.525	16-09-2017	06:00:00	1599 *
54	2018-2019	276.415	18-08-2018	06:00:00	3948 *
55	2019-2020	276.825	13-08-2019	06:00:00	4693 *
56	2020-2021	274.815	20-08-2020	14:00:00	1844 *
57	2021-2022	275.745	22-11-2021	08:00:00	3002

Stage-Discharge Data for the period 2021 - 2022

Station Name : Bawapuram (AKL00B8)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

Sub-Division : Lower Tungabhadra SD, Kurnool

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	270.285	1.218	270.575	13.45	272.475	770.8 *	271.400	268.6	271.185	114.0	271.525	187.9
2	270.505	8.245	271.085	190.0	273.200	1353	271.465	240.5 #	270.655	5.942 *	271.605	250.5
3	270.575	11.41	271.155	199.8	272.425	739.9 #	271.025	84.36 #	270.905	52.39 *	271.585	247.9
4	270.505	8.234	270.545	9.451 *	272.590	843.6 #	270.805	30.09 #	271.185	131.3	271.255	114.3 *
5	270.575	12.20	270.545	9.111	271.820	402.7 #	271.445	232.2 *	271.400	214.0 #	271.575	233.6
6	270.425	2.790 *	271.385	212.1	271.445	232.2 #	271.385	212.0	271.085	91.84	270.645	13.19
7	270.345	2.584	270.575	13.40	272.225	620.6 #	272.125	497.1	272.440	714.8	271.255	114.3 *
8	270.575	11.89	270.475	5.570	273.545	1531 *	273.015	1028	272.315	600.3	271.495	194.1
9	270.385	3.715	271.185	188.7	273.065	1202	272.045	472.8	272.875	1034 *	271.190	111.2
10	270.755	36.05	270.575	13.47	273.340	1405	271.785	385.4 *	273.345	1375 *	270.780	39.86
11	270.485	6.569	270.425	3.250 *	273.925	1842 #	271.465	240.5 *	273.145	1226 #	271.165	110.8
12	270.755	35.43	270.545	8.855	272.420	840.8	271.505	257.3 *	272.410	662.8	270.685	17.55
13	270.655	20.43 *	270.845	49.36	271.820	574.4	271.775	376.5	272.090	527.9	270.825	46.56 *
14	270.755	35.49	270.545	9.111	271.785	383.9	272.155	580.7 #	271.765	396.0	271.165	79.81 *
15	270.515	7.389	271.425	234.1	270.655	5.942 *	271.865	423.4	272.205	609.1 *	271.205	118.0
16	270.365	2.230	270.575	12.18	271.720	350.1	271.825	412.4	272.245	632.2 #	271.310	135.8
17	270.345	2.212	270.475	6.341	271.385	258.2	272.815	935.8	272.645	879.3 *	271.465	174.7
18	270.575	11.98	270.655	20.43 *	271.545	331.3	272.845	945.9	272.285	655.6 #	271.535	194.7
19	270.395	3.682	270.545	9.062	271.525	317.4	272.045	519.7 *	271.975	482.2 *	271.565	247.8 *
20	270.655	20.43 *	270.425	4.434	271.585	292.0 *	271.885	435.4 #	271.530	305.9	272.145	512.8
21	270.445	5.185	270.405	2.219 *	271.545	331.7	271.475	244.6 #	271.475	248.5	273.755	1844 *
22	270.345	1.992	270.445	5.500	271.585	292.0 *	271.845	419.4	271.095	90.43	275.745	4289
23	270.285	1.355	271.545	286.8	271.605	365.4	271.680	319.6	271.195	91.28	274.685	2880
24	270.265	0.969	270.655	24.76	271.720	409.5	271.865	370.6	270.645	4.840 *	273.355	1396
25	270.265	0.846	270.575	11.98 *	271.870	427.8 #	271.670	339.4	270.575	9.894	272.285	746.0
26	270.265	0.964	270.625	19.53	271.625	347.3	271.585	292.0 *	271.175	116.1	272.480	800.1
27	270.265	1.025 *	271.495	279.0	271.610	311.6	271.335	227.1	272.310	670.4 #	272.085	572.9
28	272.475	790.7	274.725	2940	271.545	294.1	271.590	318.9	272.410	730.7 #	272.255	627.2 *
29	270.695	27.55	273.565	1715	271.645	319.1 *	271.110	95.09	271.955	453.8	271.985	459.7
30	271.705	268.1	273.015	1319	271.805	367.3	271.175	109.5	271.785	366.5	271.925	415.2
31			274.045	2438	271.745	343.4			271.765	375.7 *		
Ten-Daily Mean												
I Ten-Daily	270.493	9.832	270.810	85.50	272.613	910.1	271.649	345.1	271.739	433.4	271.291	150.7
II Ten-Daily	270.550	14.58	270.646	35.71	271.836	519.6	272.018	512.7	272.230	637.7	271.306	163.8
III Ten-Daily	270.701	109.9	271.918	822.1	271.664	346.3	271.533	273.6	271.490	287.1	273.055	1403
Monthly												
Min.	270.265	0.846	270.405	2.219	270.655	5.942	270.805	30.09	270.575	4.840	270.645	13.19
Max.	272.475	790.7	274.725	2940	273.925	1842	273.015	1028	273.345	1375	275.745	4289
Mean	270.581	44.76	271.150	330.8	272.026	584.1	271.733	377.1	271.809	447.4	271.884	572.5

Annual Runoff in MCM = 6935 Annual Runoff in mm = 103

Peak Observed Discharge = 4289 cumecs on 22-11-2021 Corres. Water Level :275.745 m

Lowest Observed Discharge = 0.846 cumecs on 25-06-2021 Corres. Water Level :270.265 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : Bawapuram (AKL00B8)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

Sub-Division : Lower Tungabhadra SD, Kurnool

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	271.905	481.1	270.495	10.75	270.995	126.6	270.485	6.411	270.595	11.44	270.475	9.257 *
2	272.305	712.6	270.515	10.61 *	270.565	15.23	270.485	5.863	270.645	13.91	270.575	10.33
3	271.585	321.4	270.515	11.45	270.575	14.88	270.475	8.519	270.695	15.25 *	270.825	65.41 *
4	271.445	305.8	270.515	11.10	270.685	25.80	270.475	8.519	270.605	11.69	270.515	7.849
5	271.745	420.0 *	270.515	11.57	270.645	21.31	270.435	7.565	270.485	6.508	270.405	4.258
6	271.475	306.9	270.505	10.16	270.575	15.88 *	270.405	7.597 *	270.435	4.664	270.385	3.519
7	271.445	301.5	270.505	10.13	270.605	14.22	270.385	7.973	270.425	4.145	270.365	2.888
8	271.415	277.8	270.505	9.981 *	270.515	9.581	270.365	8.634	270.425	3.923	270.545	9.563 *
9	271.540	309.8	270.505	9.981 *	270.495	6.956	270.355	9.072	270.425	3.965 *	270.575	10.39
10	271.105	154.1	270.495	9.376	270.485	6.750	270.355	9.072	270.435	4.010 *	270.605	11.44
11	271.345	253.1 *	270.515	9.028	270.485	6.938	270.355	9.072	270.415	3.711	270.545	10.11
12	270.805	72.64 *	270.515	9.655	270.485	8.935 *	270.365	8.634 *	270.405	3.800	270.435	4.290
13	271.065	140.5	270.515	9.448	270.485	8.935 *	270.365	8.634 *	270.575	10.63	270.405	4.051
14	270.565	16.22	270.505	9.981 *	270.465	5.728	270.395	3.528	270.475	8.256 *	270.405	4.100 *
15	271.315	229.2	270.495	8.463	270.465	5.350	270.385	3.001	270.415	7.956 *	270.395	4.065 *
16	271.020	98.47	270.495	9.423 *	270.435	7.565	270.365	2.069	270.695	14.47	270.365	3.958 *
17	270.745	39.55	270.495	8.056	270.435	7.565	270.365	2.042	270.605	12.26 *	270.435	4.578
18	270.545	12.11	270.495	8.183	270.365	8.634	270.365	2.040 *	270.475	5.059	270.435	4.365
19	270.505	10.25 *	270.505	8.892	270.365	8.634	270.365	2.007	270.405	3.693	270.435	4.290
20	270.495	10.59	270.495	7.423	270.365	8.634 *	270.355	2.010 *	270.405	3.580	270.605	11.21
21	270.505	11.64	270.485	6.270	270.405	4.435	270.345	1.510	270.385	3.208	270.645	13.24
22	270.505	11.79	270.465	5.646	270.415	5.227	270.345	1.564	270.365	2.143	271.165	187.2 *
23	270.515	13.25	270.485	8.935 *	270.415	5.134	270.325	1.204	270.395	3.594	271.925	492.7
24	270.515	13.05	270.495	7.953	270.695	25.05	270.315	1.100	270.995	124.5 *	271.315	237.2
25	270.515	10.61 *	270.485	6.661	270.605	13.79	270.315	1.118	270.575	11.16	271.245	229.8
26	270.545	12.93 *	270.485	8.935 *	271.205	195.4	270.325	1.291	270.695	14.00	271.045	163.4
27	270.535	11.61	270.485	6.272	270.605	18.92 *	270.325	1.310 *	270.595	11.03	271.045	150.1
28	270.535	11.93	270.485	6.338	270.505	9.107	270.335	1.591	270.575	10.83	271.045	147.3
29	270.515	11.26	270.485	6.404			270.345	1.910	270.545	10.07	270.605	18.92 *
30	270.515	11.28	270.515	10.61 *			270.645	14.52	270.585	11.01	270.435	4.314
31	270.515	11.37	271.135	187.2			271.045	193.9			270.385	3.290
Ten-Daily Mean												
I Ten-Daily	271.596	359.1	270.507	10.51	270.614	25.72	270.422	7.923	270.517	7.951	270.527	13.49
II Ten-Daily	270.841	88.26	270.503	8.855	270.435	7.692	270.368	4.304	270.487	7.342	270.446	5.502
III Ten-Daily	270.520	11.88	270.546	23.75	270.606	34.64	270.424	20.10	270.571	20.15	270.987	149.8
Monthly												
Min.	270.495	10.25	270.465	5.646	270.365	4.435	270.315	1.100	270.365	2.143	270.365	2.888
Max.	272.305	712.6	271.135	187.2	271.205	195.4	271.045	193.9	270.995	124.5	271.925	492.7
Mean	270.971	148.5	270.520	14.67	270.548	21.83	270.405	11.07	270.525	11.81	270.664	59.27

Peak Computed Discharge = 1844 cumecs on 21-11-2021

Corres. Water Level :273.755 m

Lowest Computed Discharge = 1.025 cumecs on 27-06-2021

Corres. Water Level :270.265 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

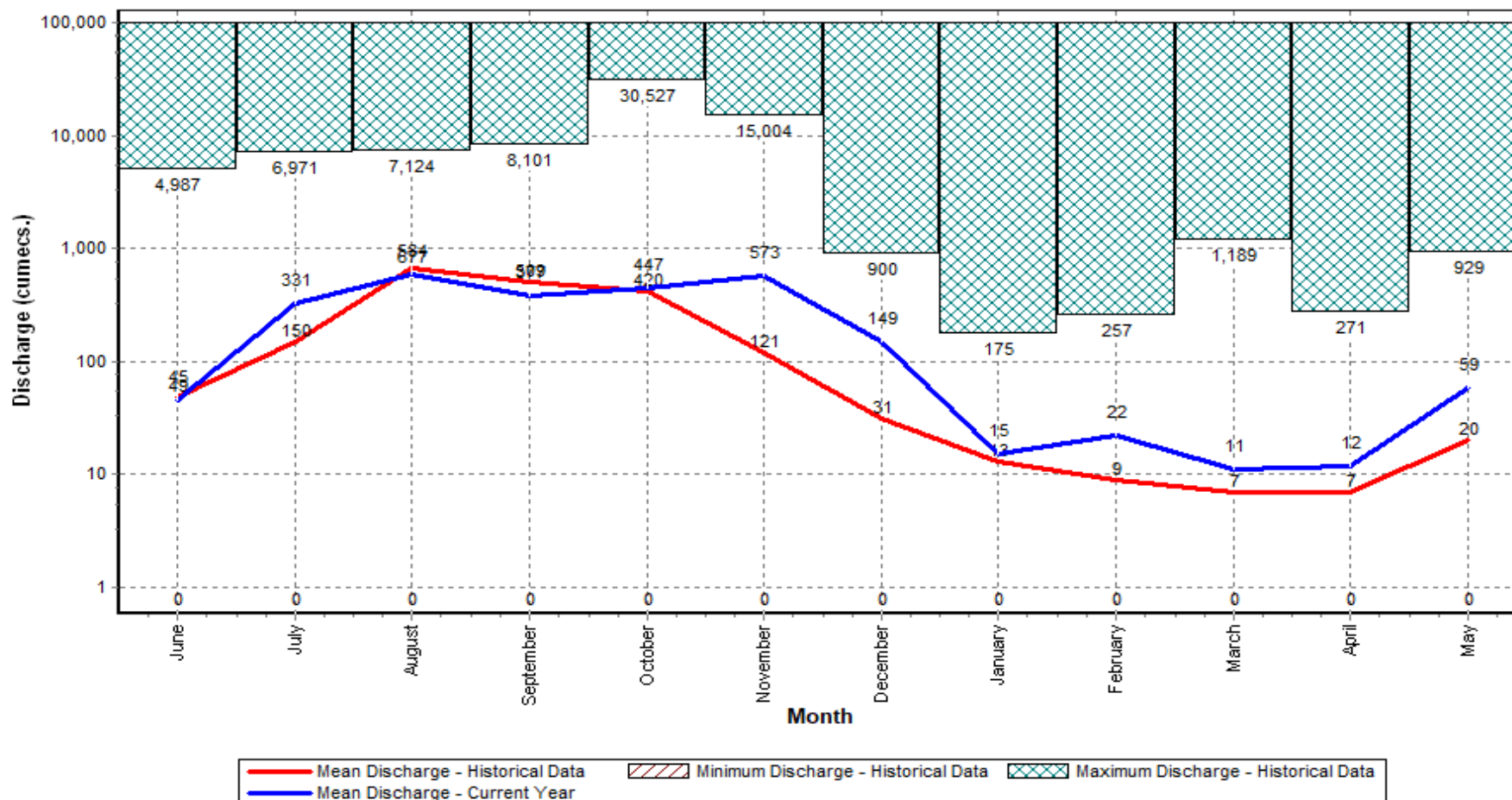
Station Name : Bawapuram (AKL00B8)

Data considered : 1965-2022

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

Sub-Division : Lower Tungabhadra SD, Kurnool



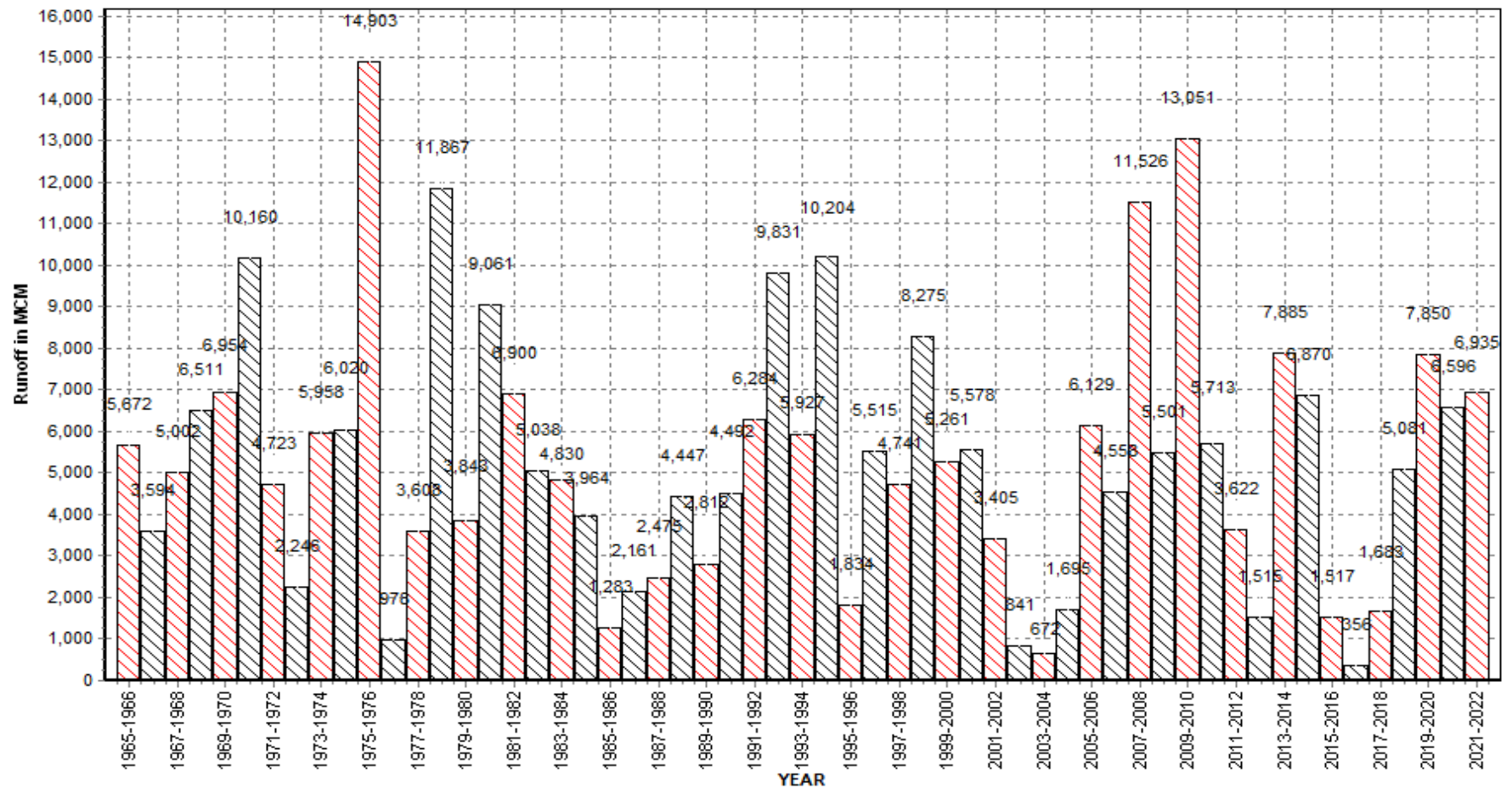
Annual Runoff Values for the period: 1965 - 2022

Station Name : Bawapuram (AKL00B8)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



Note: Missing values have not been considered while arriving at Annual Runoff

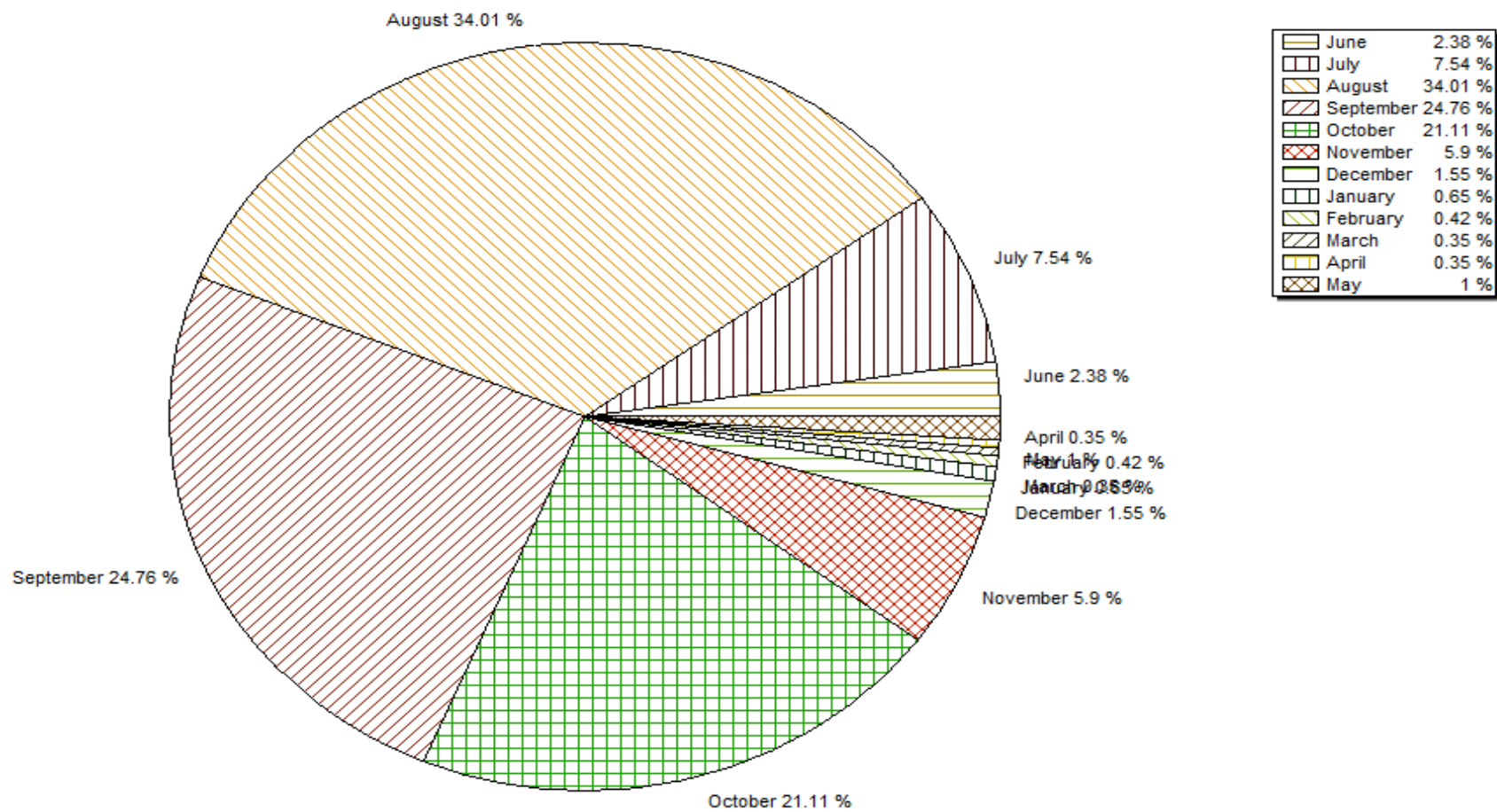
Monthly Average Runoff based on period : 1965-2021

Station Name : Bawapuram (AKL00B8)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



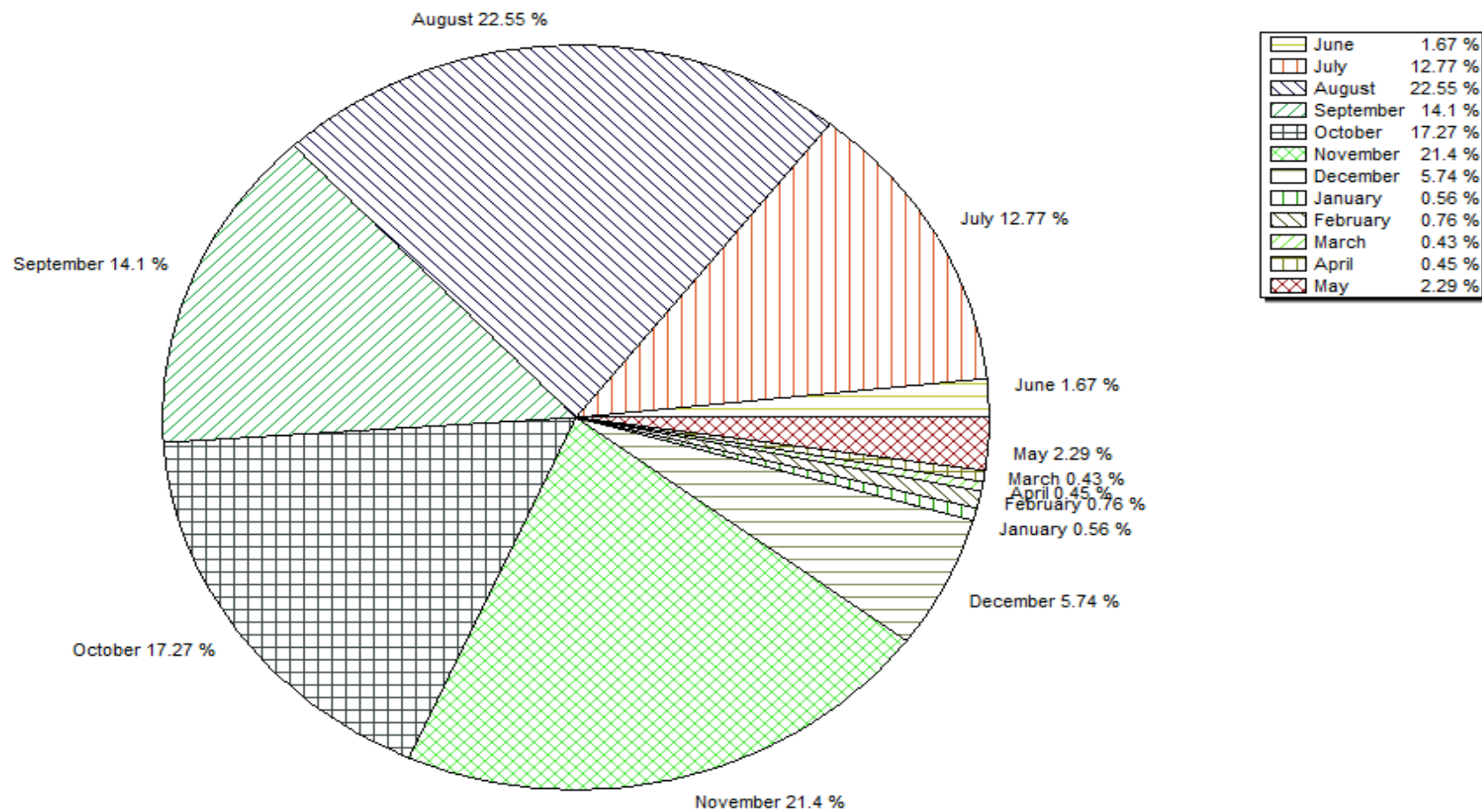
Monthly Runoff for the Year : 2021-2022

Station Name : Bawapuram (AKL00B8)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool

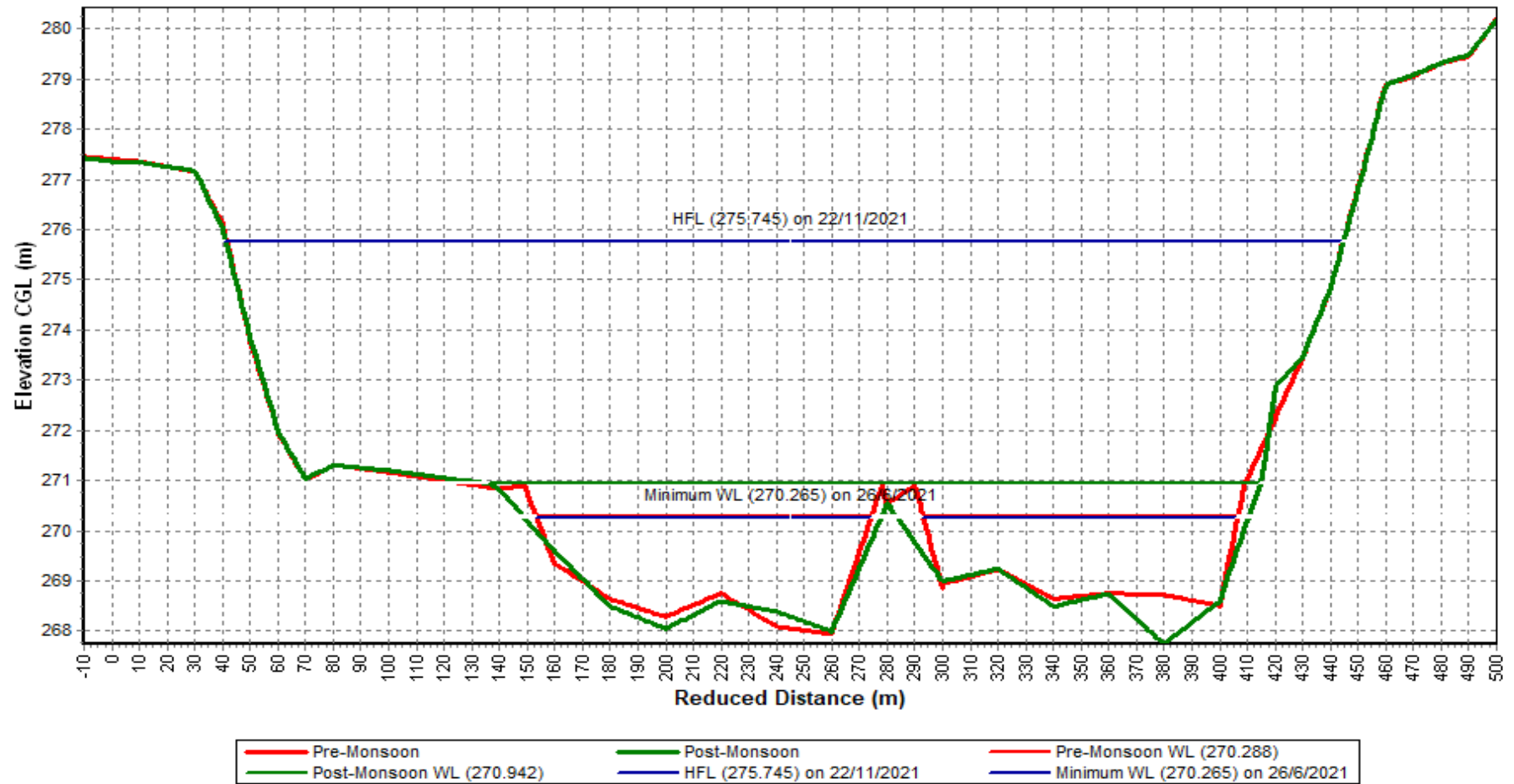


Station Name : Bawapuram (AKL00B8)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



Zero of Gauge : 270.245 (m.s.l)

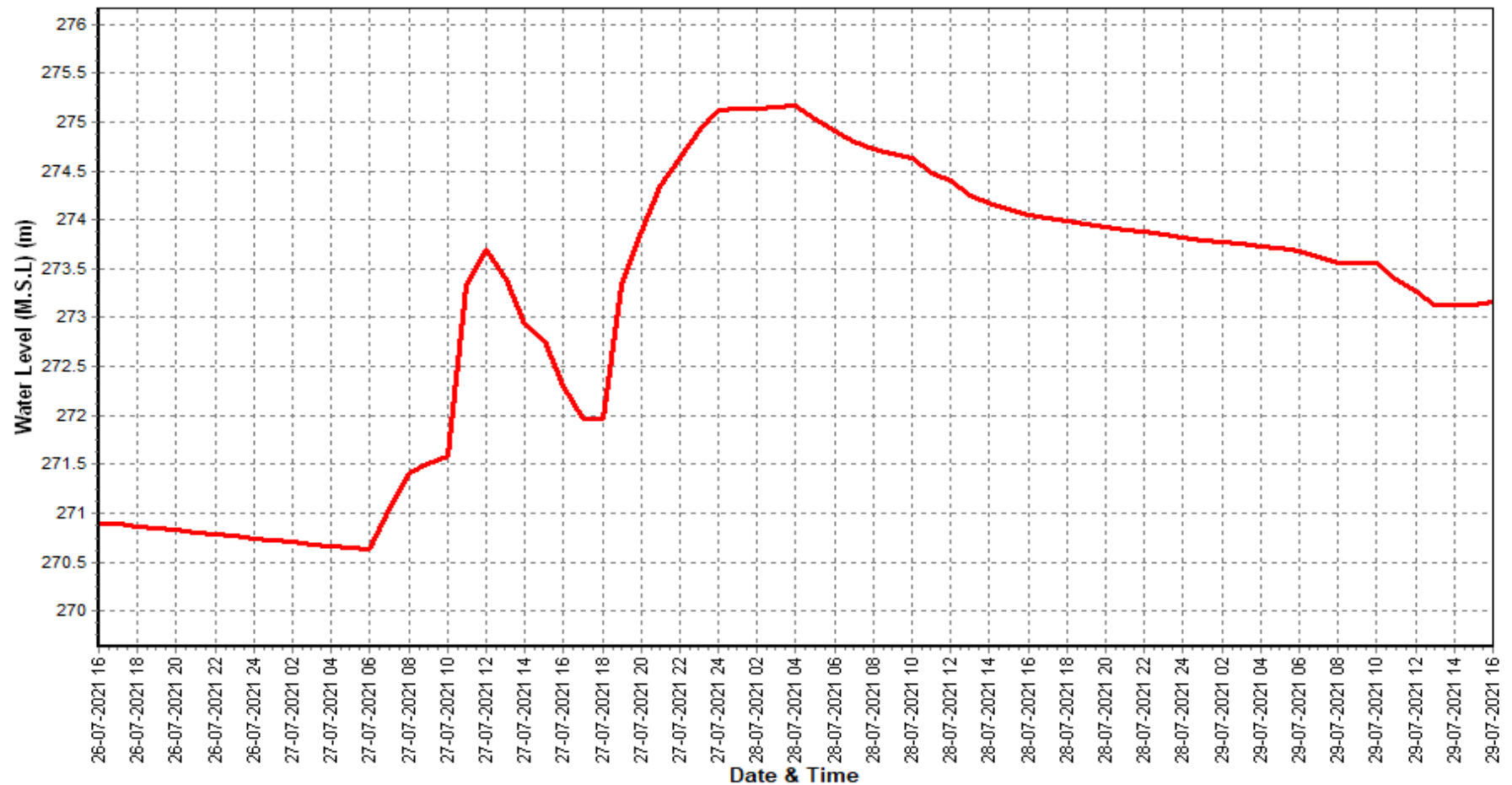
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Bawapuram (AKL00B8)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



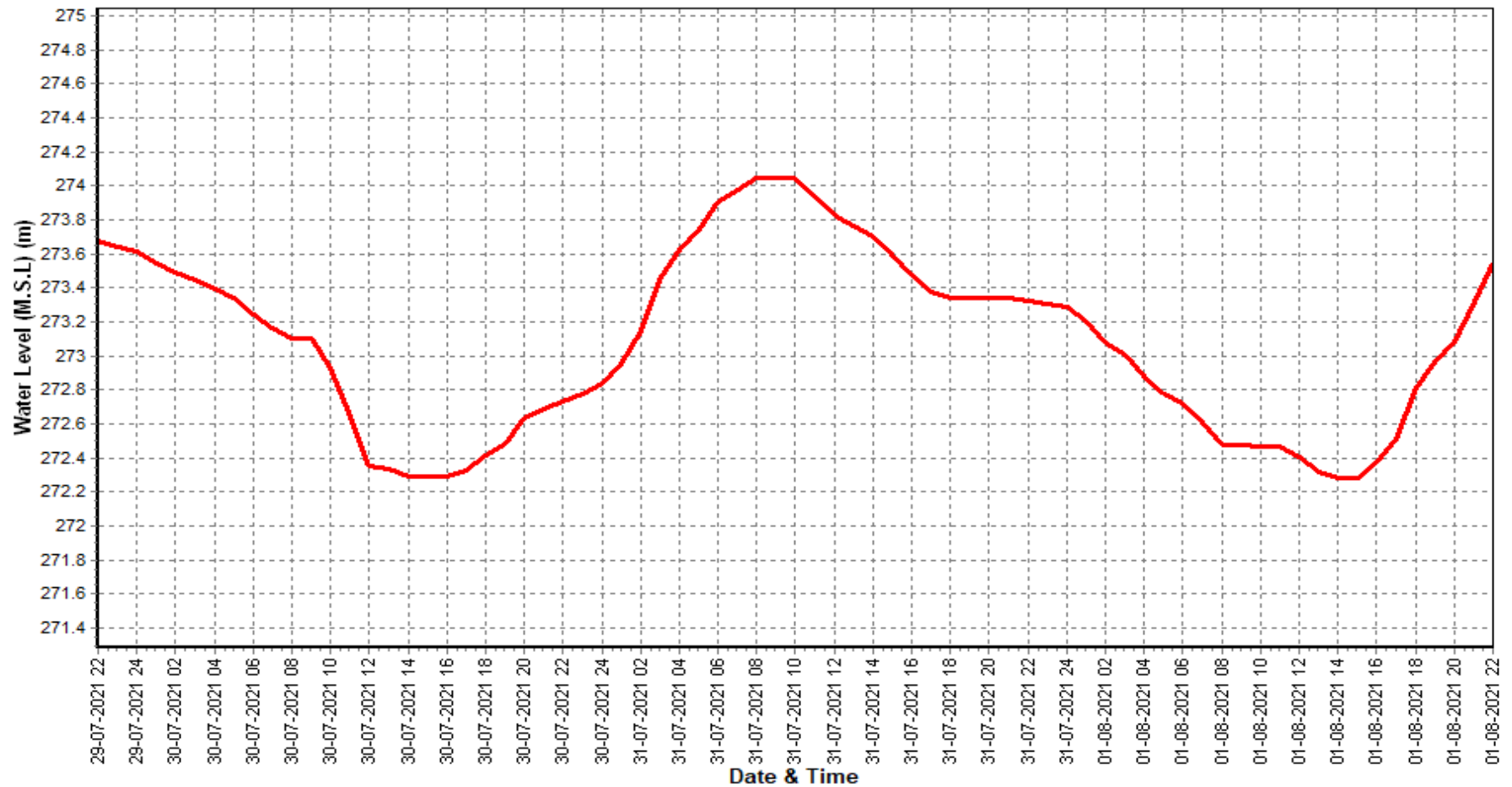
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Bawapuram (AKL00B8)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



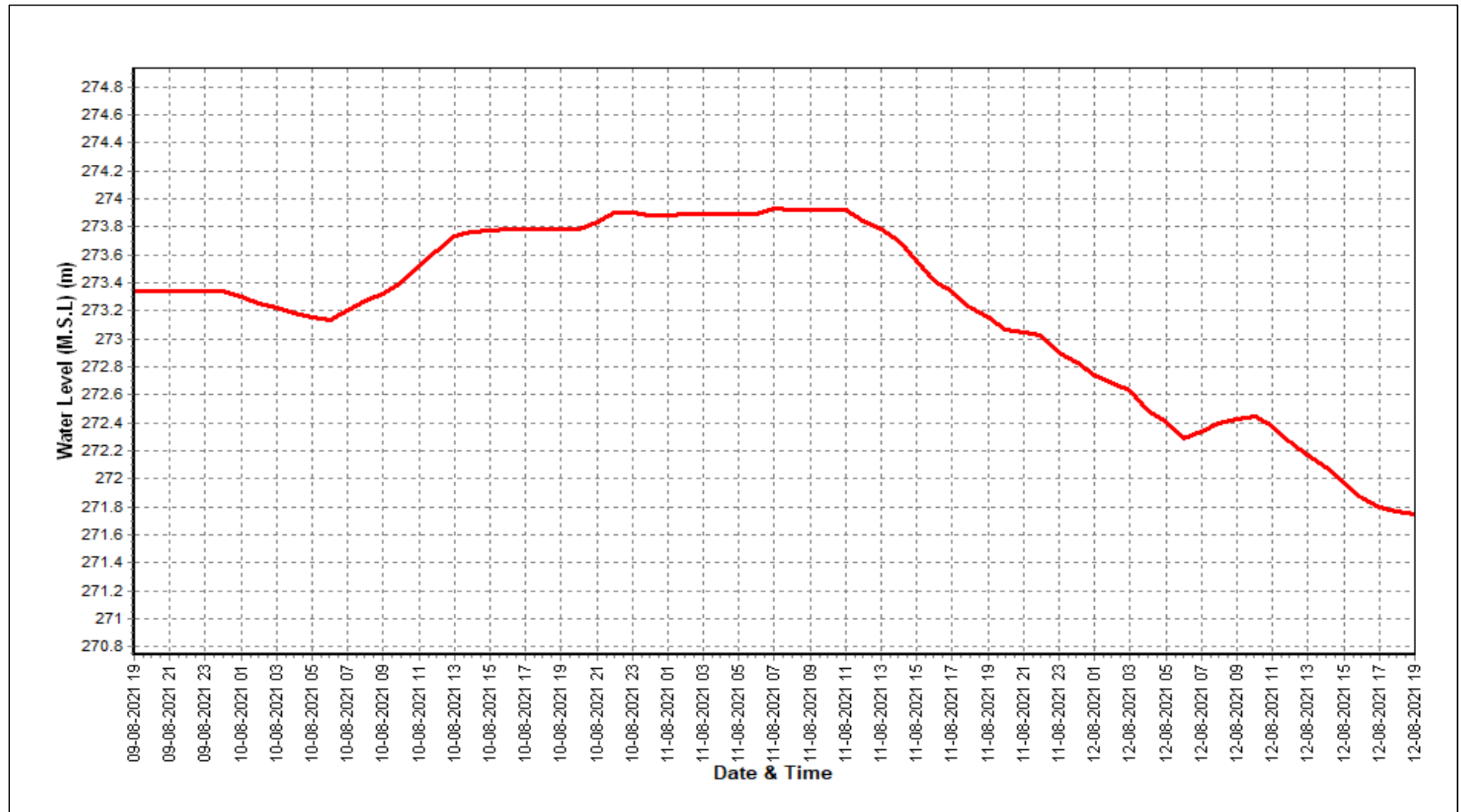
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Bawapuram (AKL00B8)

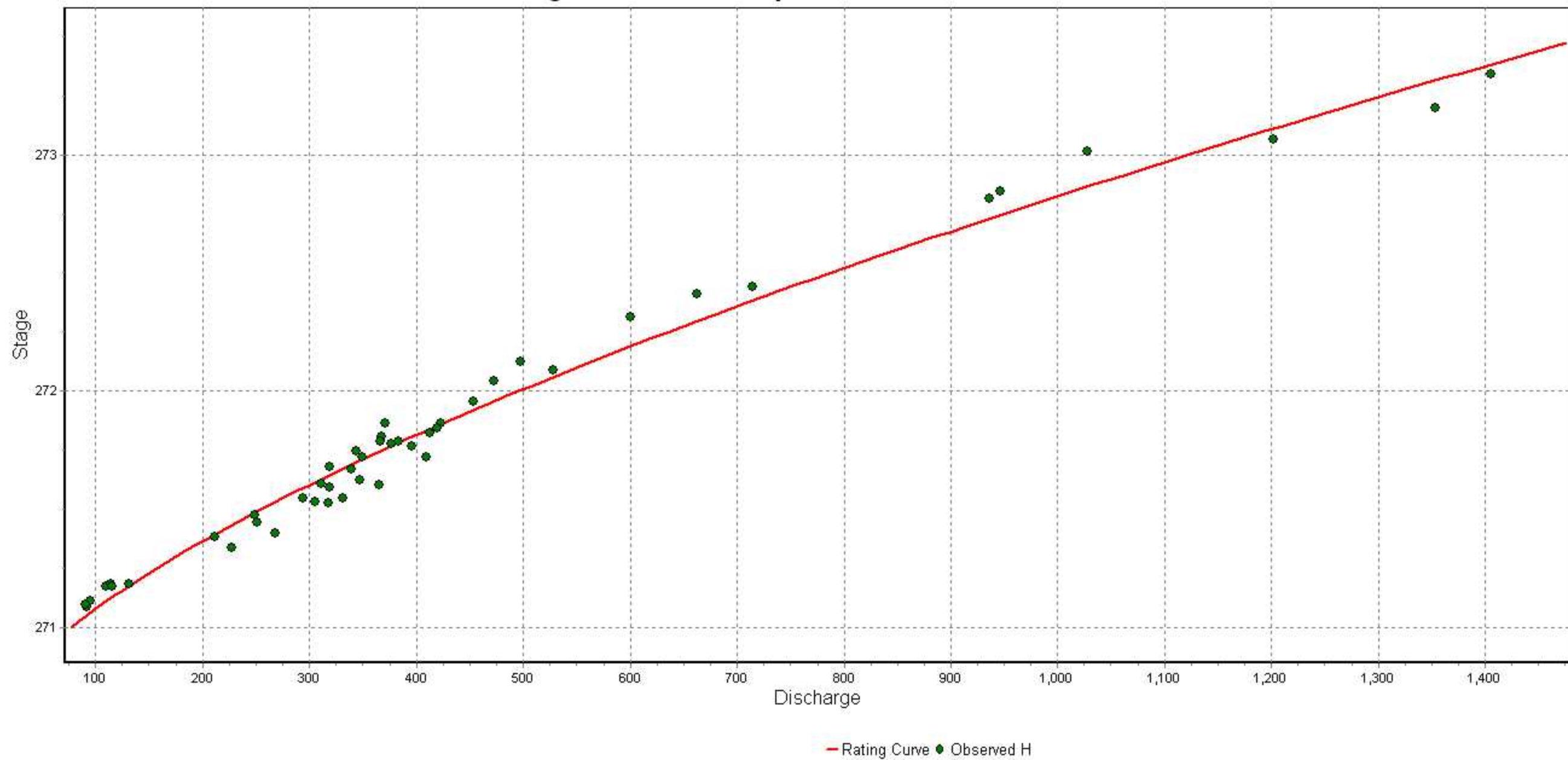
Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



Rating CurveOf site Bawapuram 1/8/2021 to30/10/2021



HISTORY SHEET

		Water Year	: 2021-2022
Site	: DODDIPADU.	Code	: AKL00B1
State	: Andhra Pradesh	District	Kurnool
Basin	: Krishna	Independent River	: Krishna
Tributary	: Tungabhadra	Sub Tributary	: HUNDRI
Sub-Sub Tributary	: PAL HANDRI	Local River	: HUNDRI
Division	: Lower Krishna Divn., Hyderabad	Sub-Division	: Lower Tungabhadra SD, Kurnool
Drainage Area	: 2600 Sq. Km.	Bank	: Left
Latitude	: 15°44'24"	Longitude	: 77°59'89"
Zero of Gauge (m)	: 286.383 (m.s.l) 285.803 (m.s.l)	18-11-2014 01-05-2019	- 30-04-2019
	Opening Date	Closing Date	
Gauge	: 18-11-2014	HFL During 2020-21	: 290.353 m
		Corres. Discharge	: 1298.7 (Estimated)
Discharge	: 18-11-2014	Date & Time of occurrence	: 01-10-2020 : 22:00 Hrs

HFL Recorded so far in m :290.063 dt 13-10-2017

Corresponding Discharge (cumecs) : 1584*

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2015-2016	114.1	288.693	11-09-2015	0.000		24-08-2015
2016-2017	54.34	287.723	16-09-2016	0.000		18-04-2017
2017-2018	1012	289.443	13-10-2017	0.000		27-03-2018
2018-2019	38.64	287.623	18-10-2018	0.000	286.593	30-03-2019
2019-2020	60.37	287.813	24-09-2019	0.000		14-06-2019
2020-2021	622.3	289.073	26-07-2020	0.000	287.043	05-06-2020

Annual Runoff of Hundri at Doddipadu

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	2014-2015	2	6	7	0	0	0
2	2015-2016	108	0	108	4	0	4
3	2016-2017	37	10	47	1	0	2
4	2017-2018	208	36	244	7	1	9
5	2018-2019	55	3	58	2	0	2
6	2019-2020	72	27	99	3	1	3
7	2020-2021	571	102	673	20	4	24
8	2021-2022	146	31	177	5	1	6
Average		150	27	177	5	1	6

Instantaneous Flood Peak of Krishna at Doddipadu

		Instantaneous Annual Flood Peak			
Sl. No.	Year	Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	2014-2015	288.173	18-11-2014	08:00:00	215 *
2	2015-2016	288.853	11-09-2015	14:00:00	574 *
3	2016-2017	288.753	15-09-2016	15:00:00	512 *
4	2017-2018	290.063	13-10-2017	07:00:00	1584 *
5	2018-2019	288.453	18-10-2018	12:00:00	345 *
6	2019-2020	288.593	28-09-2019	00:00:00	219 *
7	2020-2021	290.353	01-10-2020	22:00:00	1299 *
8	2021-2022	289.093	05-07-2021	16:00:00	285 *

Note:- Zero of the gauge change from 01-05-2019

Stage-Discharge Data for the period 2021 - 2022

Station Name : DODDIPADU. (AKL00B1)

Division : Lower Krishna Divn., Hyderabad

Local River : HUNDRI

Sub-Division : Lower Tungabhadra SD, Kurnool

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	Dry Bed	0.000	287.333	5.032	287.303	4.359 *	287.433	11.21	287.373	8.425	287.453	12.73
2		0.000	287.393	9.136	287.333	4.955	287.473	14.03	287.393	10.77 *	287.393	9.062
3	287.423	9.682	287.323	4.566	287.328	4.900	287.433	11.14	287.403	11.43 *	287.433	12.28
4	287.743	39.36	287.303	4.250 *	287.328	4.883	287.553	20.54	287.373	8.387	287.413	12.11 *
5	287.393	7.158	287.333	5.113	287.333	5.002	287.563	23.72 *	287.383	8.914	287.393	9.868
6	287.343	6.120 *	287.723	37.20	287.333	4.984	287.543	20.17	287.363	7.543	287.383	8.541
7	287.353	5.595	287.463	12.54	287.303	3.277	287.573	22.62	287.363	7.483	287.413	12.11 *
8	287.323	4.305	287.393	8.968	287.343	5.809	287.493	15.26	287.363	7.627	287.383	8.661
9	287.303	3.021	287.463	12.44	287.343	5.702	287.413	10.21	287.413	10.68	287.393	9.059
10	287.293	2.025	287.358	6.672	287.313	3.827	287.363	8.852 *	287.523	20.35 *	287.403	10.12
11	287.278	1.669	287.343	6.050 *	287.293	2.639	287.333	5.047	287.538	20.36	287.373	6.988
12	287.263	1.194	287.323	4.540	287.298	2.976	287.333	5.120 *	287.493	15.08	287.393	9.944
13	287.253	1.150 *	287.303	2.956	287.308	3.727	287.323	4.529	287.483	14.52	287.333	5.269
14	287.253	0.792	287.303	2.923	287.313	3.906	287.323	4.529	287.463	13.33	287.393	10.77 *
15	287.243	0.437	287.373	7.025	287.313	3.910 *	287.313	3.838	287.443	14.21 *	287.463	14.71
16	287.223	0.276	287.423	10.47	287.328	5.007	287.323	4.487	287.413	10.61	287.423	11.41
17	287.223	0.266	287.363	6.186	287.313	3.977	287.353	6.321	287.363	8.852 *	287.433	12.17
18	287.213	0.148	287.333	6.050 *	287.333	5.070	287.398	9.270	287.323	4.651	287.413	10.73
19	287.213	0.138	287.493	15.09	287.348	6.289	287.423	10.25 *	287.353	8.239 *	287.423	12.79 *
20	287.183	0.000	287.373	6.989	287.333	7.050 *	287.363	6.573	287.373	8.212	287.443	12.66
21	287.173	0.000	287.323	5.474 *	287.313	3.987	287.433	11.38	287.373	8.711	287.443	14.21 *
22	Dry Bed	0.000	287.393	8.950	287.333	7.050 *	287.393	9.313	287.333	5.683	287.453	13.83
23		0.000	287.543	18.74	287.418	11.71	287.393	9.469	287.393	9.466	287.583	24.78
24		0.000	287.433	10.77	287.648	30.38	287.423	10.84	287.363	8.852 *	287.483	14.32
25		0.000	287.353	7.239 *	287.573	22.90	287.388	8.902	287.423	11.33	287.663	31.90
26		0.000	287.333	4.927	287.483	14.38	287.413	12.11 *	287.398	9.365	287.443	12.40
27		0.000	287.313	3.795	287.443	11.42	287.393	9.246	287.408	10.61	287.603	24.70
28	287.703	34.81	287.293	2.508	287.493	17.13	287.413	10.38	287.393	9.439	287.443	14.21 *
29	287.443	11.36	287.293	2.527	287.443	12.21 *	287.373	8.199	287.408	10.56	287.393	10.03
30	287.373	7.200	287.328	4.858	287.548	20.21	287.418	10.63	287.363	7.311	287.703	36.05
31			287.338	5.165	287.438	11.26			287.373	9.478 *		
<u>Ten-Daily Mean</u>												
I Ten-Daily	287.397	7.727	287.409	10.59	287.326	4.770	287.484	15.77	287.395	10.16	287.406	10.45
II Ten-Daily	287.235	0.607	287.363	6.828	287.318	4.455	287.349	5.996	287.424	11.81	287.409	10.74
III Ten-Daily	287.423	5.337	287.358	6.814	287.467	14.78	287.404	10.05	287.384	9.164	287.521	19.64
<u>Monthly</u>												
Min.	287.173	0.000	287.293	2.508	287.293	2.639	287.313	3.838	287.323	4.651	287.333	5.269
Max.	287.743	39.36	287.723	37.20	287.648	30.38	287.573	23.72	287.538	20.36	287.703	36.05
Mean	287.328	4.557	287.376	8.037	287.373	8.222	287.412	10.61	287.401	10.34	287.445	13.61

Annual Runoff in MCM = 177 Annual Runoff in mm = 68

Peak Observed Discharge = 46.80 cumecs on 09-12-2021 Corres. Water Level :287.683 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : DODDIPADU. (AKL00B1)

Division : Lower Krishna Divn., Hyderabad

Local River : HUNDRI

Sub-Division : Lower Tungabhadra SD, Kurnool

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	287.503	16.89	287.313	3.507	287.263	1.785	287.273	2.006	287.153	0.000	Dry Bed	0.000
2	287.513	17.64	287.303	3.501 *	287.273	2.374	287.273	2.078		0.000		0.000
3	287.423	11.43	287.283	2.375	287.303	3.150	287.283	2.318		0.000		0.000
4	287.383	8.687	287.293	2.809	287.303	3.284	287.263	1.931		0.000		0.000
5	287.403	9.934 *	287.283	2.435	287.313	3.533	287.253	1.468		0.000		0.000
6	287.323	4.223	287.303	3.179	287.333	3.950 *	287.223	1.325 *		0.000		0.000
7	287.323	4.377	287.313	3.526	287.323	3.829	287.163	0.000	287.163	0.000		0.000
8	287.333	5.404	287.303	3.266	287.293	2.853	287.153	0.000	287.153	0.000		0.000 *
9	287.683	46.80	287.303	3.265 *	287.323	3.934	287.143	0.000	287.163	0.000		0.000
10	287.613	32.70	287.313	3.486	287.303	3.022	Dry Bed	0.000	287.173	0.000		0.000
11	287.423	11.29	287.293	2.807	287.263	1.561		0.000	287.173	0.000	0.000	
12	287.383	7.520 *	287.303	3.337	287.263	1.797		0.000	287.243	0.858	0.000	
13	287.313	3.903	287.313	3.586	287.273	1.926 *		0.000 *	287.233	0.739	0.000	
14	287.303	3.163	287.313	3.622 *	287.263	1.862		0.000	287.243	0.850 *	0.000	
15	287.303	3.231	287.283	2.621	287.163	0.000		0.000	287.173	0.000	0.000 *	
16	287.283	2.367	287.303	3.235 *	287.153	0.000		0.000	Dry Bed	0.000	Dry Bed	0.000
17	287.283	2.076	287.303	3.241	287.153	0.000		0.000		0.000		0.000
18	287.273	1.797	287.293	2.797	Dry Bed	0.000		0.000		0.000		0.000
19	287.283	2.103 *	287.293	2.806		0.000		0.000		0.000		0.000
20	287.273	1.871	287.273	2.142		0.000	0.000 *	0.000		0.000		
21	287.263	1.527	287.263	1.941		0.000	0.000	0.000		0.000		
22	287.273	1.822	287.273	2.068		0.000	0.000	Dry Bed		0.000		0.000 *
23	287.273	1.850	287.263	1.925 *		0.000	0.000			0.000		0.000
24	287.283	2.170	287.243	1.265		0.000	0.000			0.000 *		0.000
25	287.293	2.256 *	287.173	0.000		0.000	0.000			0.000		0.000
26	287.303	2.533 *	287.163	0.000		Dry Bed	0.000	287.253	1.388	0.000	0.000	
27	287.303	3.149	287.163	0.000			0.000	287.243	1.303 *	0.000	0.000	
28	287.308	2.995	287.163	0.000	287.263		1.911	287.253	1.309	0.000	0.000	
29	287.303	2.590	287.153	0.000				287.253	1.295	0.000	0.000 *	
30	287.313	3.547	287.153	0.000			287.243	1.112	0.000	0.000		
31	287.303	2.799	287.183	0.000			287.243	1.120			0.000	
Ten-Daily Mean												
I Ten-Daily	287.450	15.81	287.301	3.135	287.303	3.171	287.225	1.113	287.161	0.000	Drybed	0.000
II Ten-Daily	287.312	3.932	287.297	3.019	287.219	0.715	Drybed	0.000	287.213	0.245		0.000
III Ten-Daily	287.293	2.476	287.199	0.655	287.263	0.239	287.248	0.684	Drybed	0.000		0.000
Monthly												
Min.	287.263	1.527	287.153	0.000	287.153	0.000	287.143	0.000	287.153	0.000	Drybed	0.000
Max.	287.683	46.80	287.313	3.622	287.333	3.950	287.283	2.318	287.243	0.858		0.000
Mean	287.350	7.246	287.264	2.218	287.268	1.456	287.234	0.602	287.187	0.082		0

Peak Computed Discharge = 23.72 cumecs on 05-09-2021

Corres. Water Level :287.563 m

Lowest Computed Discharge = 0.000 cumecs on 13-03-2022

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

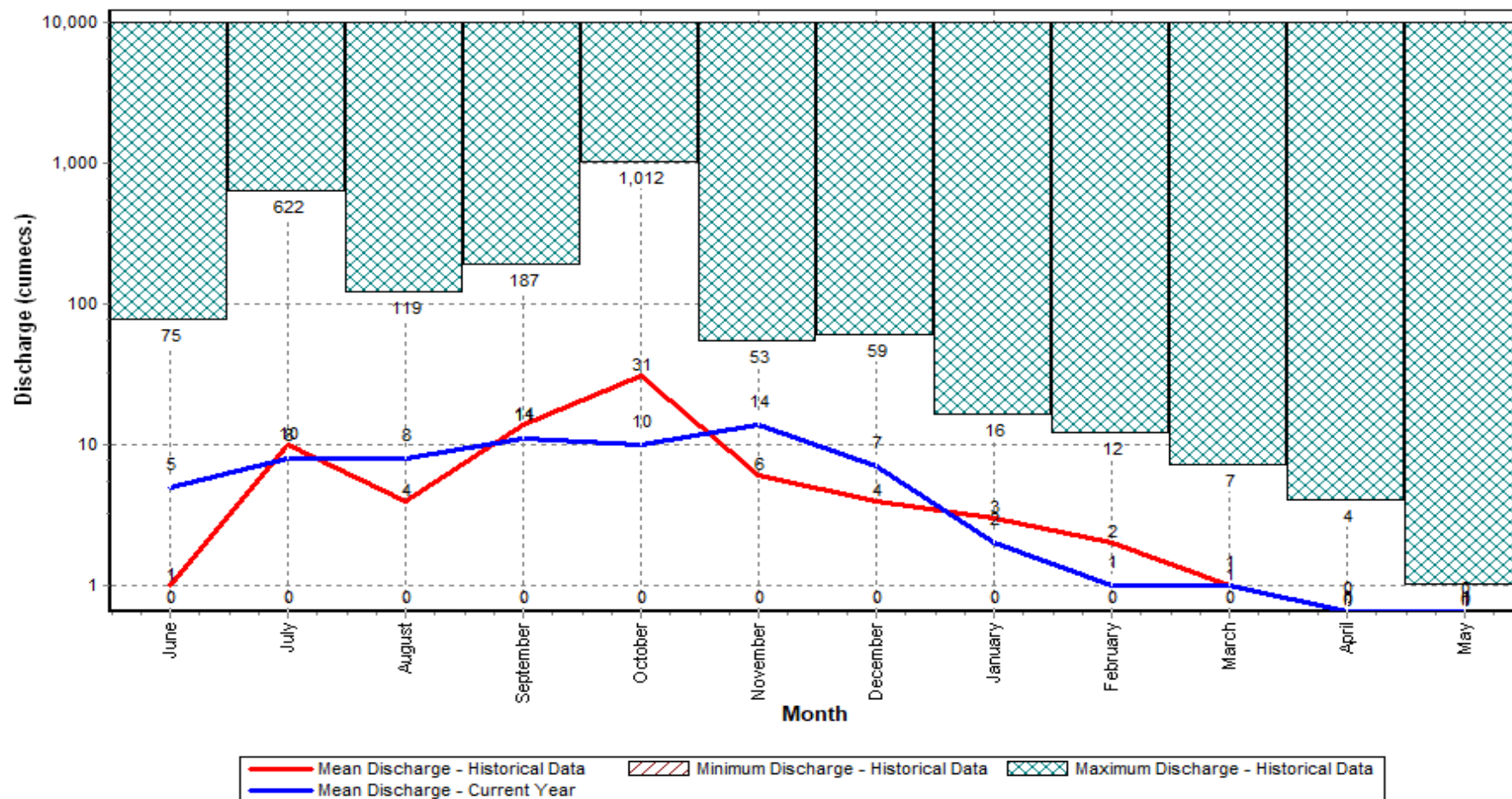
Station Name : DODDIPADU. (AKL00B1)

Data considered : 2015-2022

Division : Lower Krishna Divn., Hyderabad

Local River : HUNDRI

Sub-Division : Lower Tungabhadra SD, Kurnool



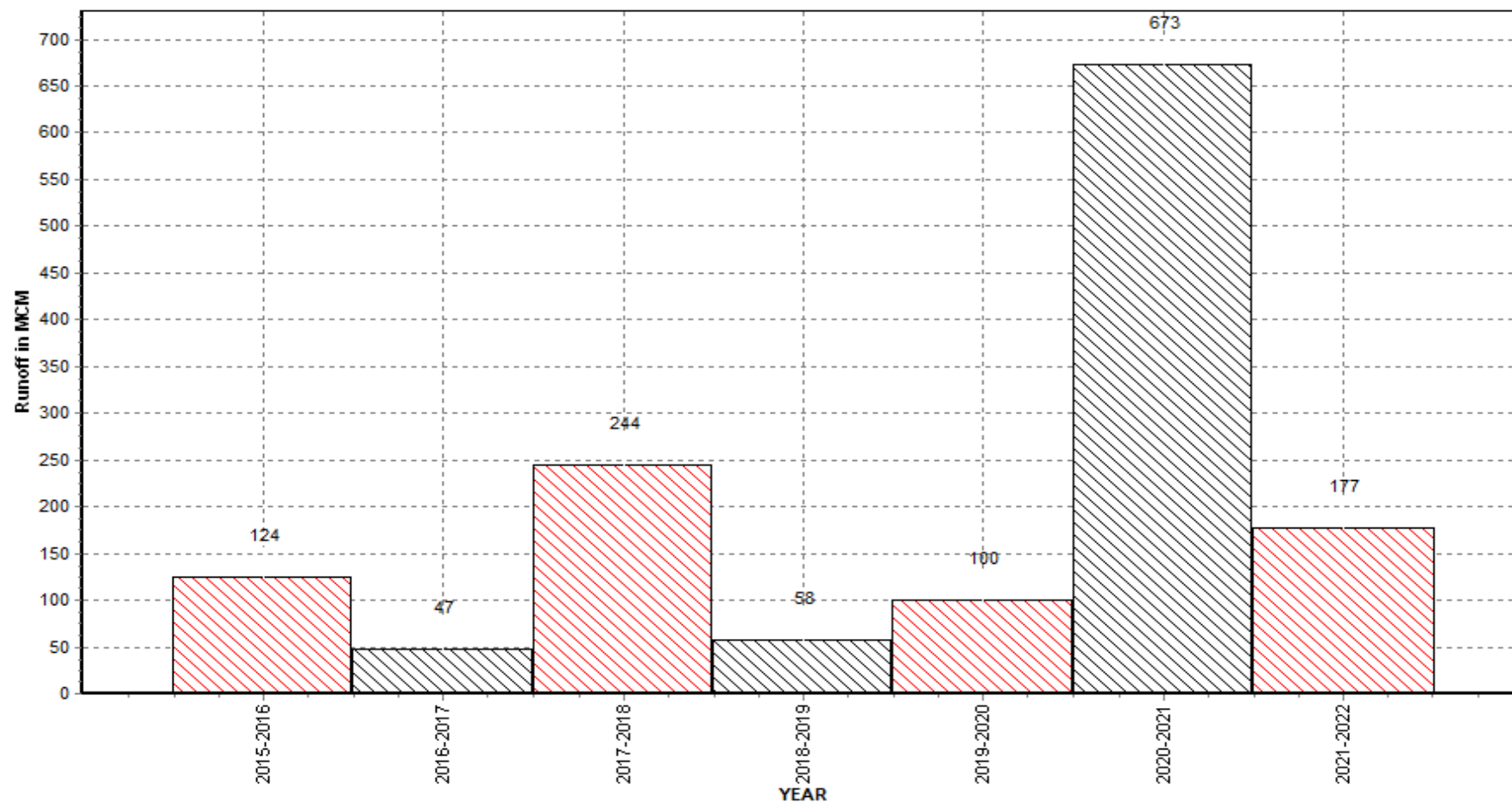
Annual Runoff Values for the period: 2015 - 2022

Station Name : DODDIPADU. (AKL00B1)

Local River : HUNDRI

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



Note: Missing values have not been considered while arriving at Annual Runoff

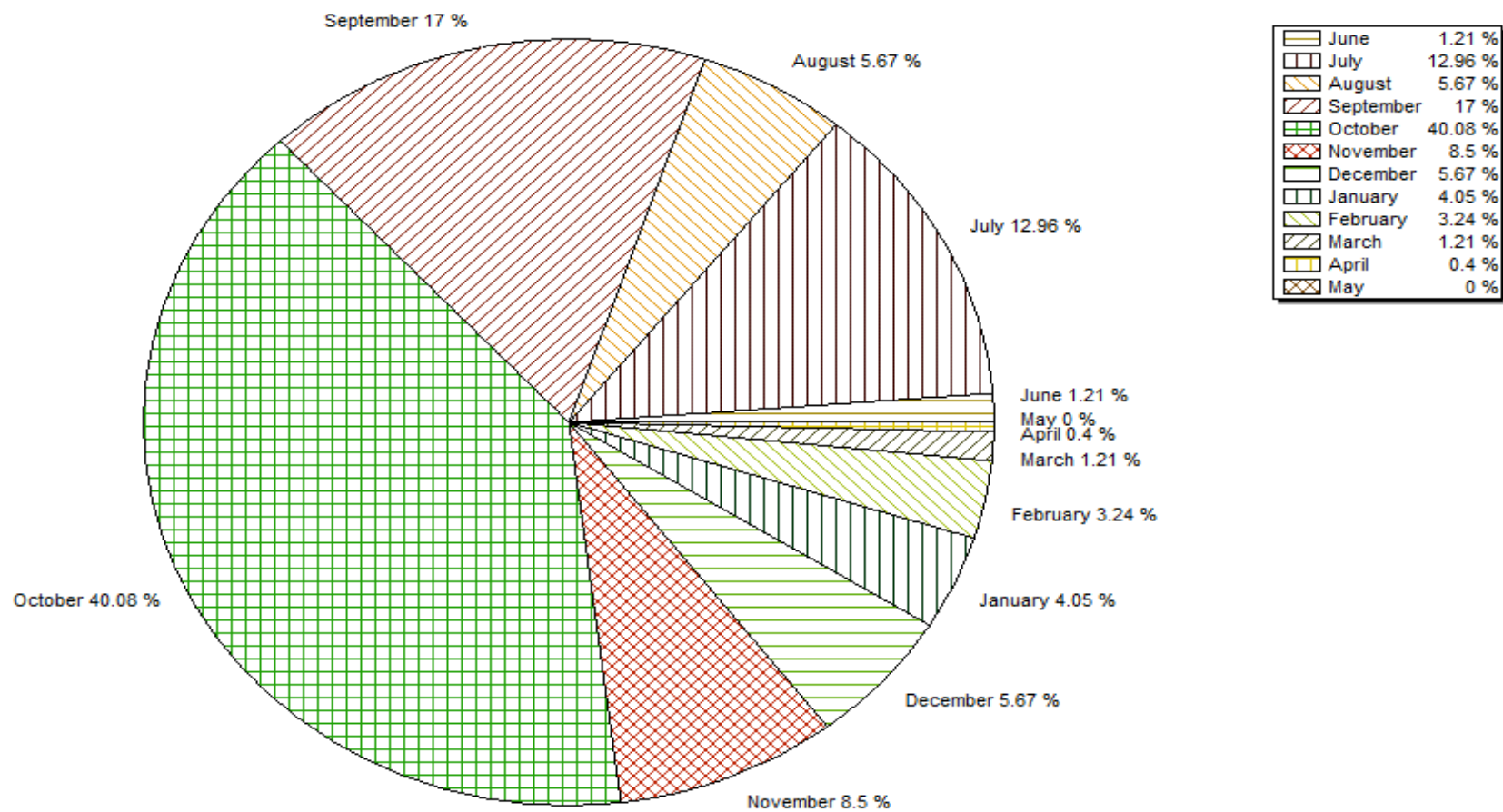
Monthly Average Runoff based on period : 2015-2021

Station Name : DODDIPADU. (AKL00B1)

Local River : HUNDRI

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



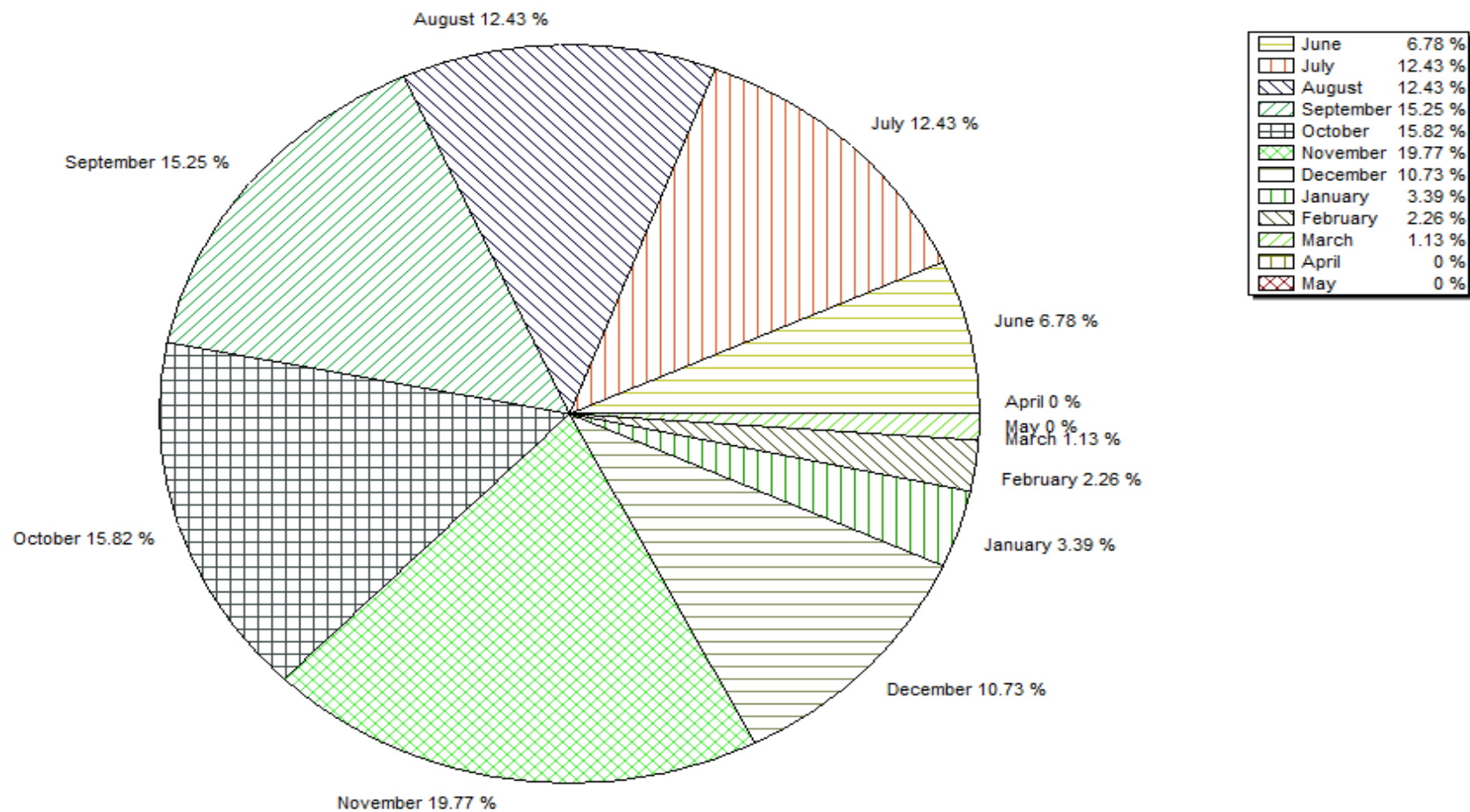
Monthly Runoff for the Year : 2021-2022

Station Name : DODDIPADU. (AKL00B1)

Local River : HUNDRI

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



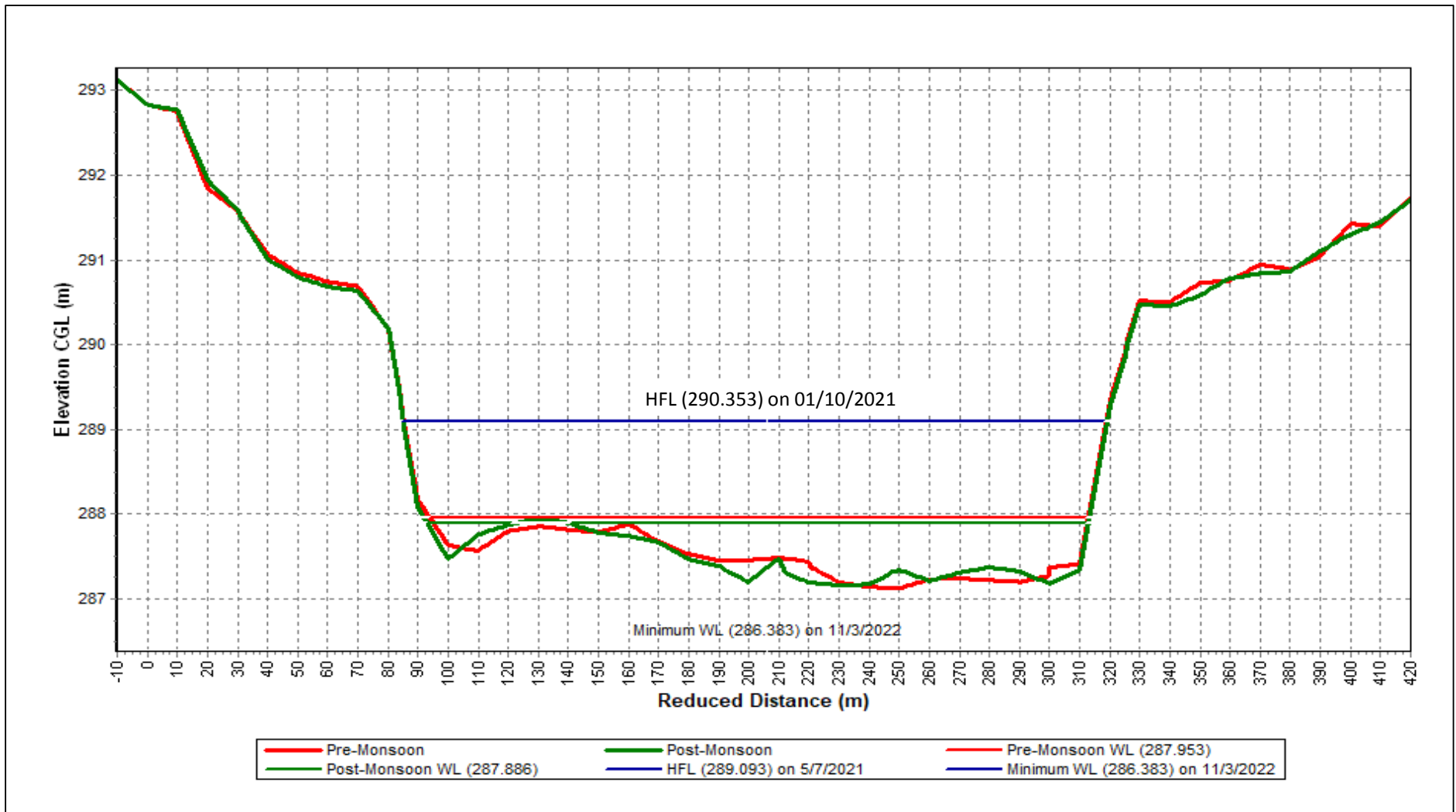
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : DODDIPADU. (AKL00B1)

Local River : HUNDRI

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



Zero of Gauge : 285.803 (m.s.l)

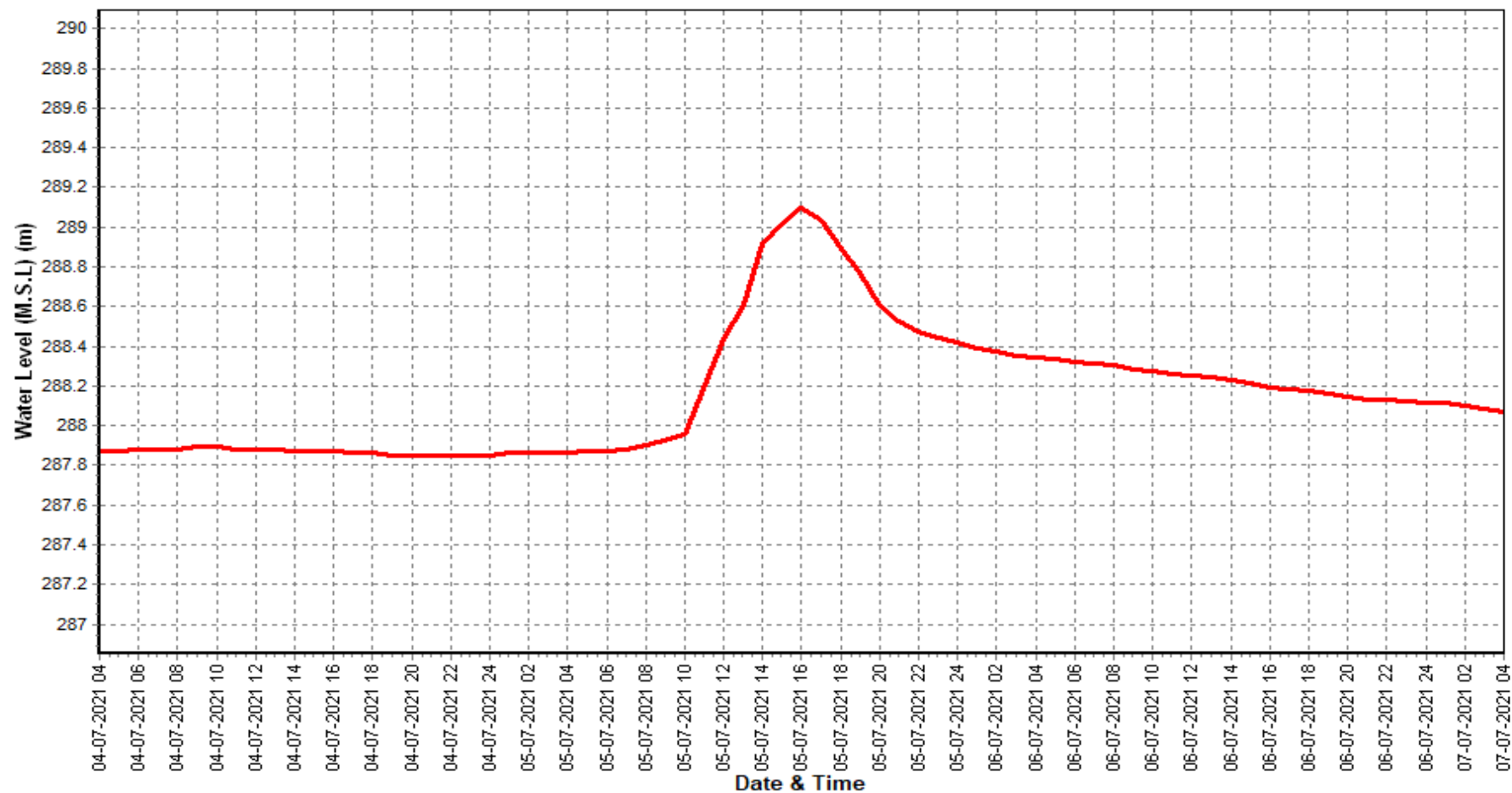
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : DODDIPADU. (AKL00B1)

Local River : HUNDRI

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



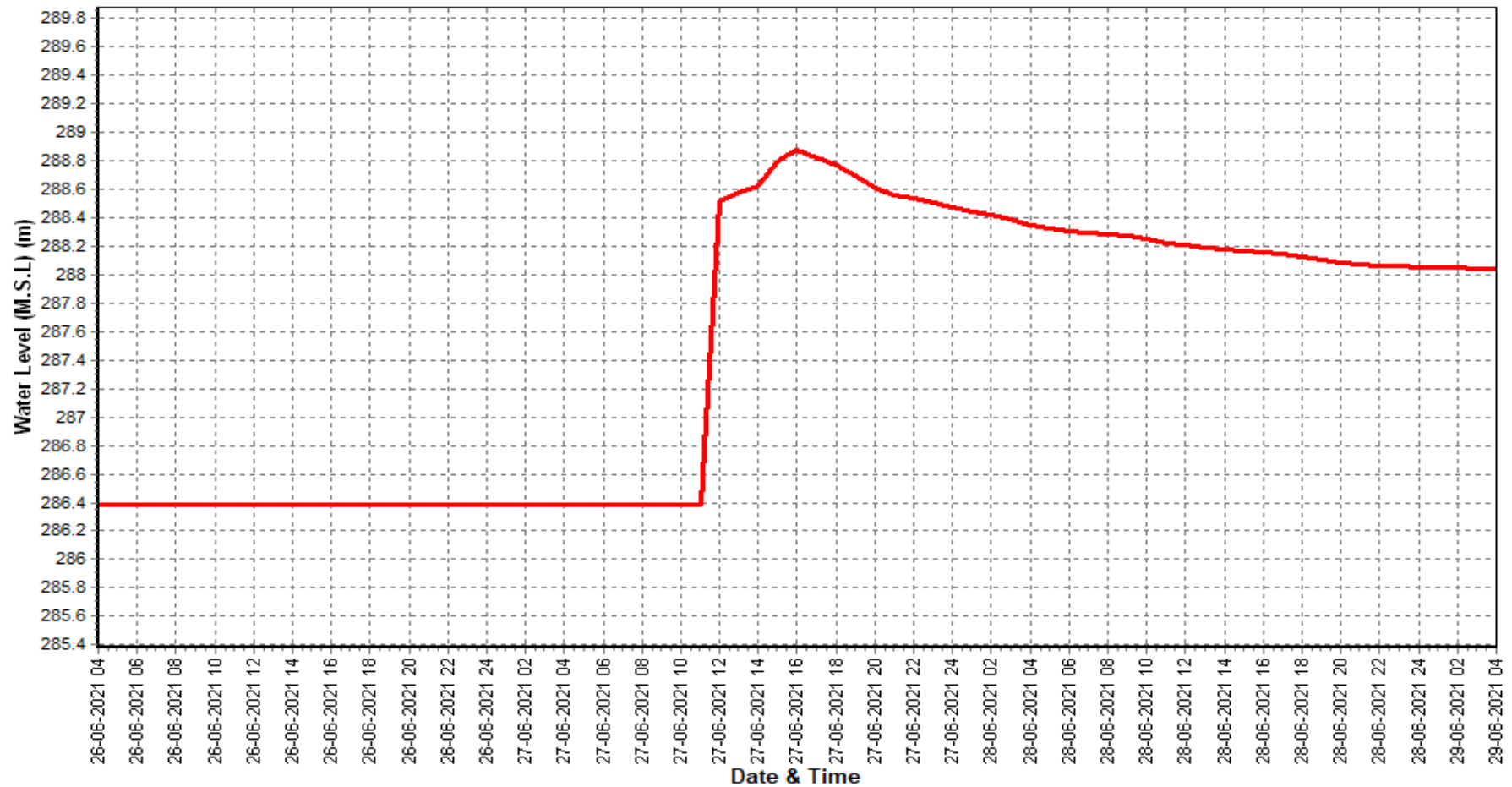
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : DODDIPADU. (AKL00B1)

Local River : HUNDRI

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



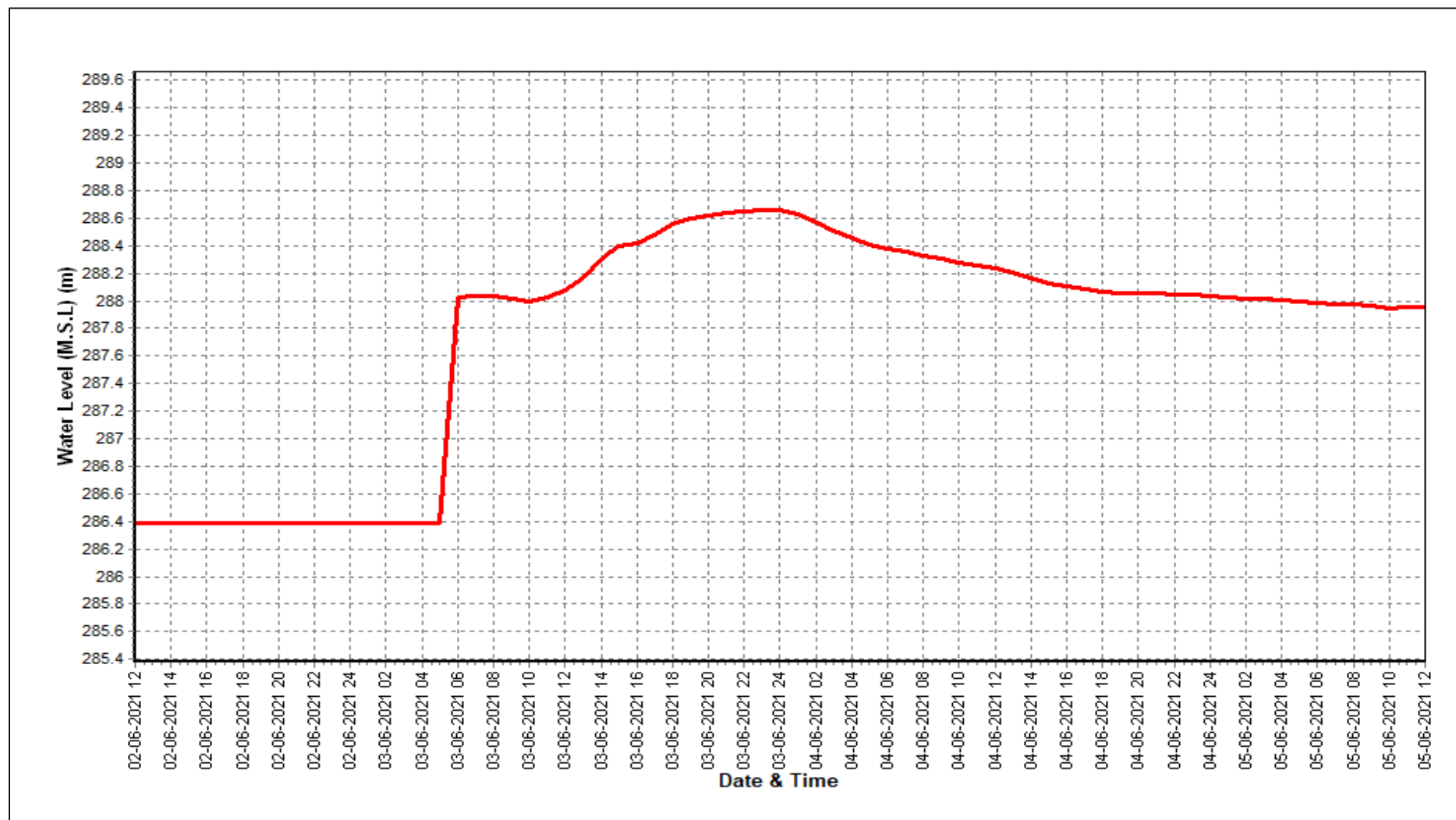
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : DODDIPADU. (AKL00B1)

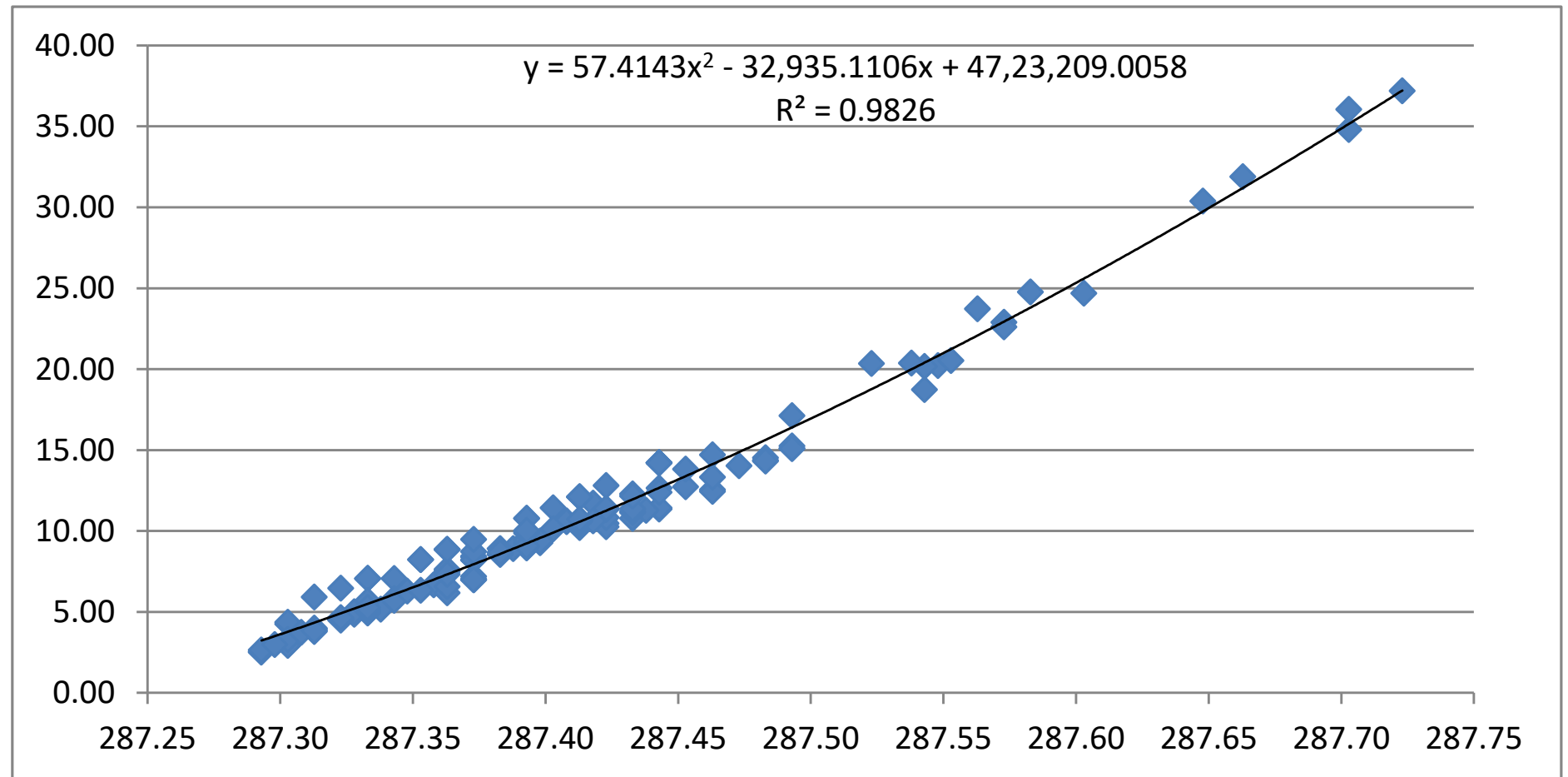
Local River : HUNDRI

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



Doddipadu 2021-22



HISTORY SHEET

		Water Year : 2021-2022	
Site	: HALIA	Code	: AKH00G2
State	: Telangana	District	: Nalgonda
Basin	: Krishna	Independent River	: Krishna
Tributary	: Musi	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Musi
Division	: Lower Krishna Divn., Hyderabad	Sub-Division	: Lower Krishna SD 1, N.S.Dam
Drainage Area	: 3100 Sq. Km.	Bank	:
Latitude	: 16°46'00"	Longitude	: 79°21'00"
Zero of Gauge (m)	: 129 (m.s.l)	15-02-1984	- 15-05-1984
	: 127.9 (m.s.l)	16-05-2002	- 31-05-2002
	: 127.9 (m.s.l)	01-06-2002	
	Opening Date	Closing Date	
Gauge	: 01-06-1984	HFL During 2020-21	: 130.90 m
		Corres. Discharge	: 382 (Estimated)
Discharge	: 11-07-1984	Date & Time of occurrence	: 03-09-2021 : 21:00 Hrs
Water Quality	: 01-06-1992		

HFL Recorded so far in m : 134.405 dt 23-09-1991

Corresponding Discharge (cumecs) : 4233*

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1985-1986	65.00	130.445	19-06-1985	0.000	129.200	15-04-1986
1986-1987	26.00	130.260	07-11-1986	0.000	129.175	13-05-1987
1987-1988	552.4	131.530	04-11-1987	0.000	129.120	10-06-1987
1988-1989	161.4	130.770	20-09-1988	0.010	129.210	02-06-1988
1989-1990	297.7	131.120	17-07-1989	0.040	129.265	27-04-1990
1990-1991	169.0	130.690	26-10-1990	0.000	129.080	07-05-1991
1991-1992	2647	133.507	22-09-1991	0.000	129.340	29-05-1992
1992-1993	19.16	130.000	27-05-1993	0.000	129.230	10-05-1993
1993-1994	107.7	130.550	09-10-1993	0.040	129.260	26-06-1993
1994-1995	825.3	131.915	06-10-1994	0.023	129.253	29-06-1994
1995-1996	130.5	130.750	19-10-1995	0.012	129.305	18-05-1996
1996-1997	43.16	130.410	06-09-1996	0.003	129.290	03-06-1996
1997-1998	45.78	130.360	24-09-1997	0.000	129.200	15-05-1998
1998-1999	419.2	131.415	15-10-1998	0.000	129.220	09-07-1998
1999-2000	31.20	130.405	07-09-1999	0.002	129.160	31-05-2000
2000-2001	551.3	131.580	23-08-2000	0.002	129.070	29-05-2001
2001-2002	600.0	131.650	01-10-2001	0.000	129.100	13-07-2001
2002-2003	2.049	128.340	12-08-2002	0.000		23-04-2003

Corresponding Discharge (cumecs) : 4233*

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2003-2004	144.3	129.600	24-10-2003	0.000	127.970	20-01-2004
2004-2005	130	129.600	05-10-2004	0.000		19-07-2004
2005-2006	3283	133.000	29-10-2005	0.000		02-07-2005
2006-2007	49.94	129.300	01-11-2006	0.000	128.000	13-07-2006
2007-2008	224.3	130.300	18-09-2007	0.280	128.320	03-06-2007
2008-2009	535.1	130.830	30-11-2008	0.000		09-07-2008
2009-2010	203.9	129.990	01-10-2009	0.000		18-07-2009
2010-2011	118.8	129.980	15-09-2010	0.099	128.100	20-06-2010
2011-2012	30.93	129.380	25-08-2011	0.000	128.630	30-07-2011
2012-2013	27.81	129.210	03-10-2012	0.000	128.200	24-03-2013
2013-2014	2030	132.325	25-10-2013	0.000	128.340	08-07-2013
2014-2015	71.7	129.490	27-10-2014	0.000		04-07-2014
2015-2016	31.36	129.160	15-09-2015	0.000		07-03-2016
2016-2017	520	130.870	23-09-2016	0.000	128.260	17-04-2017
2017-2018	22.72	129.080	05-10-2017	0.000	128.300	22-01-2018
2018-2019	29.65	129.150	19-09-2018	0.000	128.320	14-06-2018
2019-2020	252.9	130.200	18-09-2019	0.000	128.190	15-07-2019
2020-2021	522.1	131.960	14-10-2020	0.000	128.790	24-01-2021

Annual Runoff of Halia at Halia

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1984-1985	29	7	35	1	0	1
2	1985-1986	51	3	55	2	0	2
3	1986-1987	21	5	26	1	0	1
4	1987-1988	128	8	136	5	0	5
5	1988-1989	158	10	167	6	0	6
6	1989-1990	133	20	153	5	1	5
7	1990-1991	53	9	62	2	0	2
8	1991-1992	484	8	492	17	0	17
9	1992-1993	12	11	23	0	0	1
10	1993-1994	60	9	70	2	0	2
11	1994-1995	124	10	134	4	0	5
12	1995-1996	125	4	129	4	0	5
13	1996-1997	55	13	67	2	0	2
14	1997-1998	21	4	24	1	0	1
15	1998-1999	118	9	126	4	0	4
16	1999-2000	15	4	19	1	0	1
17	2000-2001	106	8	114	4	0	4
18	2001-2002	214	6	220	8	0	8
19	2002-2003	2	0	2	0	0	0
20	2003-2004	17	0	18	1	0	1
21	2004-2005	107	8	115	4	0	4
22	2005-2006	853	51	904	30	2	32
23	2006-2007	124	47	171	4	2	6
24	2007-2008	480	59	539	17	2	19
25	2008-2009	351	115	465	12	4	16
26	2009-2010	137	99	237	5	4	8
27	2010-2011	282	141	423	10	5	15
28	2011-2012	130	39	170	5	1	6
29	2012-2013	18	9	27	1	0	1
30	2013-2014	439	62	501	16	2	18
31	2014-2015	120	43	163	4	2	6
32	2015-2016	62	5	67	2	0	2
33	2016-2017	169	11	180	6	0	6
34	2017-2018	36	19	55	1	1	2
35	2018-2019	41	27	68	1	1	2
36	2019-2020	239	75	314	8	3	11
37	2020-2021	457	0	457	16	0	16
38	2021-2022	527	88	614	19	3	22
Average		171	28	198	6	1	7

Instantaneous Flood Peak of Krishna at Halia

Sl. No.	Year	Instantaneous Annual Flood Peak		Time	Discharge * (Cumecs)
		Peak WL (m) Recorded	Date		
1	1984-1985	130.530	12-10-1984	00:00:00	161 *
2	1985-1986	130.755	27-07-1985	11:00:00	225 *
3	1986-1987	130.260	07-11-1986	08:00:00	112
4	1987-1988	131.540	04-11-1987	13:00:00	615 *
5	1988-1989	131.050	20-09-1988	01:00:00	341 *
6	1989-1990	132.040	24-07-1989	01:00:00	999 *
7	1990-1991	130.800	11-05-1990	18:00:00	240 *
8	1991-1992	134.405	23-09-1991	01:00:00	4233 *
9	1992-1993	129.960	02-07-1992	00:00:00	93 *
10	1993-1994	130.900	08-10-1993	18:00:00	278 *
11	1994-1995	131.960	06-10-1994	11:00:00	930 *
12	1995-1996	131.360	18-06-1995	00:00:00	503 *
13	1996-1997	131.200	18-07-1996	02:00:00	414 *
14	1997-1998	130.800	24-09-1997	01:00:00	240 *
15	1998-1999	131.450	15-10-1998	16:00:00	557 *
16	1999-2000	130.450	07-09-1999	13:00:00	143 *
17	2000-2001	131.580	23-08-2000	08:00:00	642 *
18	2001-2002	129.560	19-02-2001	08:00:00	127 *
19	2002-2003	129.950	08-01-2002	18:00:00	93 *
20	2003-2004	129.800	23-10-2003	18:00:00	144 *
21	2004-2005	129.650	09-10-2004	08:00:00	280
22	2005-2006	133.000	29-10-2005	08:00:00	3383 *
23	2006-2007	129.350	06-11-2006	18:00:00	50 *
24	2007-2008	130.600	17-09-2007	13:00:00	524 *
25	2008-2009	130.880	29-11-2008	18:00:00	535 *
26	2009-2010	130.060	30-09-2009	18:00:00	204 *
27	2010-2011	130.150	14-09-2010	18:00:00	119 *
28	2011-2012	129.400	25-08-2011	13:00:00	31 *
29	2012-2013	129.210	03-10-2012	08:00:00	28 *
30	2013-2014	133.570	26-10-2013	00:00:00	1126 *
31	2014-2015	129.550	26-10-2014	16:00:00	72 *
32	2015-2016	129.280	15-09-2015	18:00:00	31 *
33	2016-2017	131.100	23-09-2016	13:00:00	291 *
34	2017-2018	129.080	05-10-2017	08:00:00	23 *
35	2018-2019	129.260	20-09-2018	21:00:00	30 *
36	2019-2020	130.440	18-09-2019	14:00:00	253 *
37	2020-2021	132.130	14-10-2020	06:00:00	570 *
38	2021-2022	130.900	03-09-2021	21:00:00	382 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : HALIA (AKH00G2)

Division : Lower Krishna Divn., Hyderabad

Local River : Musi

Sub-Division : Lower Krishna SD 1, N.S.Dam

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	128.530	0.000	128.780	6.823	128.520	0.000	129.905	150.9	129.350	58.32	129.180	32.28
2	128.540	0.000	128.720	4.858	128.480	0.000	129.565	88.98	129.450	72.81 *	129.480	82.97
3	128.550	0.000	128.690	4.477	128.430	0.000	129.735	130.0	129.300	51.91 *	129.420	68.42
4	128.640	3.288	128.680	4.420 *	128.420	0.000	130.355	253.1	129.200	31.84	129.270	47.98 *
5	128.680	4.974	128.660	2.935	128.420	0.000	130.200	208.8 *	129.130	28.39	129.170	30.99
6	128.660	4.950 *	128.640	2.543	128.635	2.588	130.050	164.1	129.110	27.21	129.100	23.63
7	128.620	2.874	128.630	0.798	128.555	1.207	129.910	146.6	129.090	24.36	129.060	22.83 *
8	128.600	0.849	128.640	2.626	128.480	1.120 *	129.660	115.6	129.050	20.91	129.040	23.63
9	128.590	1.402	128.650	2.753	128.590	2.748	129.465	87.97	129.050	21.92	129.030	19.50
10	128.580	1.180	128.630	2.082	128.660	4.056	129.330	55.92 *	129.150	33.11 *	129.030	20.37
11	128.590	1.608	128.630	2.120 *	128.630	3.578	129.230	40.04	129.560	87.50	129.010	18.26
12	128.600	1.827	128.695	4.670	128.610	3.183	129.160	34.29 *	129.405	64.93	128.990	16.47
13	128.610	2.010 *	128.710	4.616	128.805	11.44	129.090	23.89	129.295	55.55	128.980	15.95
14	128.665	3.403	128.740	5.892	129.375	64.49	129.080	21.78	129.240	38.71	128.980	14.33 *
15	128.710	5.618	129.065	21.24	129.250	45.41 *	129.030	20.09	129.170	35.49 *	128.990	16.42
16	128.710	5.505	129.380	56.55 #	129.125	25.79	129.010	16.01	129.140	31.58	128.990	16.04
17	128.660	3.683	129.085	19.92	129.125	27.62	128.980	15.46	129.130	30.76 *	128.960	15.56
18	128.630	2.329	128.920	13.25 *	129.295	58.08	128.970	14.91	129.215	34.19	128.990	17.07
19	128.610	2.273	129.325	41.60	129.200	34.27	128.940	10.31 *	129.210	40.37 *	128.990	15.36 *
20	128.600	2.210 *	129.135	23.26	129.030	19.57 *	128.940	13.57	129.180	30.08	129.040	21.60
21	128.570	1.086	129.000	16.40 *	128.960	18.16	129.155	28.95	129.170	29.07	129.040	20.65 *
22	128.580	1.160	128.870	10.84	128.930	9.323 *	129.500	82.61	129.140	28.76	129.390	63.23
23	128.570	0.370	129.660	97.60	128.930	16.32	129.450	73.67	129.110	26.86	129.260	47.42
24	128.590	1.788	129.300	42.28	128.920	16.25	129.275	55.28	129.060	22.83 *	129.200	30.95
25	128.580	0.745	129.070	23.94 *	128.880	14.46	129.220	36.02	129.040	21.51	129.120	27.54
26	128.570	1.314	128.870	11.99	128.970	19.00	129.550	87.90 *	129.010	18.70	129.100	25.81
27	128.660	3.650 *	128.790	7.496	129.450	86.35	129.890	149.9	128.980	16.83	129.050	21.92
28	129.155	19.64	128.690	3.776	129.650	105.1	129.730	128.9	128.990	17.63	129.030	19.57 *
29	128.925	15.91	128.620	1.191	129.450	92.25 *	129.690	119.6	128.990	17.13	129.020	19.22
30	128.870	10.91	128.570	1.044	130.655	310.3	129.480	80.82	128.990	17.56	129.020	19.34
31			128.530	0.000	130.170	200.7			129.070	23.94 *		
Ten-Daily Mean												
I Ten-Daily	128.599	1.952	128.672	3.431	128.519	1.172	129.817	140.2	129.188	37.08	129.178	37.26
II Ten-Daily	128.639	3.047	128.969	19.31	129.044	29.34	129.043	21.04	129.254	44.92	128.992	16.71
III Ten-Daily	128.707	5.657	128.906	19.69	129.360	80.74	129.494	84.36	129.050	21.89	129.123	29.57
Monthly												
Min.	128.530	0.000	128.530	0.000	128.420	0.000	128.940	10.31	128.980	16.83	128.960	14.33
Max.	129.155	19.64	129.660	97.60	130.655	310.3	130.355	253.1	129.560	87.50	129.480	82.97
Mean	128.648	3.552	128.851	14.32	128.987	38.49	129.451	81.87	129.160	34.22	129.098	27.84

Annual Runoff in MCM = 614 Annual Runoff in mm = 198

Peak Observed Discharge = 310.3 cumecs on 30-08-2021 Corres. Water Level :130.655 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021 Corres. Water Level :128.53 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : HALIA (AKH00G2)

Division : Lower Krishna Divn., Hyderabad

Local River : Musi

Sub-Division : Lower Krishna SD 1, N.S.Dam

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	129.010	17.12	128.790	6.148	128.790	6.138	128.720	3.081	128.740	4.566	128.620	1.420 *
2	129.000	17.40	128.800	6.695 *	128.800	6.331	128.700	2.179	128.750	4.917	128.630	1.669
3	128.980	15.59	128.780	6.006	128.820	6.792	128.690	1.500	128.750	4.412 *	128.630	1.680 *
4	128.970	14.93	128.780	5.896	128.830	7.107	128.710	2.583	128.740	4.228	128.680	2.601
5	128.960	14.00 *	128.780	6.063	128.840	7.650	128.700	2.459	128.740	4.341	128.710	3.102
6	128.960	14.37	128.780	6.190	129.750	50.06 *	128.690	1.673 *	128.730	3.982	128.710	3.157
7	128.950	13.97	128.790	6.203	128.860	8.509	128.700	2.651	128.760	5.282	128.750	5.062
8	128.970	15.14	128.770	5.126	128.860	8.383	128.700	2.558	128.750	4.913	128.750	5.050
9	128.940	13.39	128.750	4.412 *	128.840	7.589	128.680	2.368	128.750	4.892	128.730	3.501
10	128.940	12.20	128.740	4.517	128.830	6.722	128.710	2.825	128.760	4.869 *	128.690	2.167
11	128.920	11.91	128.710	3.977	128.820	6.295	128.710	2.792	128.740	4.349	128.680	1.917
12	128.890	10.80 *	128.690	2.941	128.810	5.865	128.710	2.738	128.740	4.386	128.680	1.790
13	128.870	8.453	128.810	6.687	128.810	5.850 *	128.730	3.499 *	128.750	4.953	128.680	1.672
14	128.850	7.536	128.890	10.80 *	128.790	5.588	128.740	3.950	128.760	4.869 *	128.670	1.577
15	128.840	7.353	128.930	12.33	128.780	5.196	128.730	3.527	128.760	4.869 *	128.670	1.593 *
16	128.830	6.920	128.930	12.63 *	128.760	4.485	128.730	3.545	128.750	5.043	128.660	1.563 *
17	128.800	6.599	129.150	22.67	128.760	4.517	128.740	4.318	128.720	3.043 *	128.660	1.588
18	128.790	5.914	129.080	21.19	128.770	5.008	128.740	3.956 *	128.740	4.293	128.660	1.521
19	128.780	5.782 *	129.050	18.93	128.780	5.188	128.750	4.690	128.730	3.900	128.660	1.550
20	128.800	6.204	128.980	16.02	128.780	5.782 *	128.700	2.130 *	128.720	3.457	128.660	1.592
21	128.780	5.732	128.970	14.93	128.780	5.165	128.680	2.808	128.710	2.996	128.670	1.684
22	128.770	5.283	128.950	13.10	128.780	5.120	128.690	2.826	128.700	2.814	128.670	1.683 *
23	128.770	5.173	128.930	12.63 *	128.770	4.935	128.680	2.398	128.690	2.512	128.650	1.370
24	128.760	4.731	128.910	11.85	128.760	4.390	128.660	1.263	128.680	1.217 *	128.630	1.104
25	128.750	4.412 *	128.880	9.960	128.780	5.332	128.660	1.667	128.670	1.829	128.610	0.000
26	128.730	3.499 *	128.860	9.434 *	128.770	4.649	128.650	1.757	128.670	1.722	128.610	0.000
27	128.730	3.944	128.810	6.676	128.750	4.412 *	128.680	1.217 *	128.660	2.043	128.620	0.000
28	128.740	4.267	128.790	6.167	128.740	3.862	128.700	2.997	128.650	1.955	128.620	0.000
29	128.760	4.995	128.770	4.886			128.630	1.495	128.630	1.614	128.620	0.000
30	128.770	5.170	128.760	4.869 *			128.670	2.101	128.620	1.427	128.680	2.153
31	128.780	5.613	128.770	4.802			128.710	3.307			128.670	1.938
<u>Ten-Daily Mean</u>												
I Ten-Daily	128.968	14.81	128.776	5.726	128.922	11.53	128.700	2.388	128.747	4.640	128.690	2.707
II Ten-Daily	128.837	7.748	128.922	12.82	128.786	5.378	128.728	3.514	128.741	4.316	128.668	1.636
III Ten-Daily	128.758	4.802	128.855	9.028	128.766	4.733	128.674	2.167	128.668	2.013	128.641	0.903
<u>Monthly</u>												
Min.	128.730	3.499	128.690	2.941	128.740	3.862	128.630	1.217	128.620	1.217	128.610	0.000
Max.	129.010	17.40	129.150	22.67	129.750	50.06	128.750	4.690	128.760	5.282	128.750	5.062
Mean	128.851	8.981	128.851	9.185	128.829	7.39	128.700	2.673	128.719	3.656	128.665	1.688

Peak Computed Discharge = 208.8 cumecs on 05-09-2021

Corres. Water Level :130.2 m

Lowest Computed Discharge = 1.120 cumecs on 08-08-2021

Corres. Water Level :128.48 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

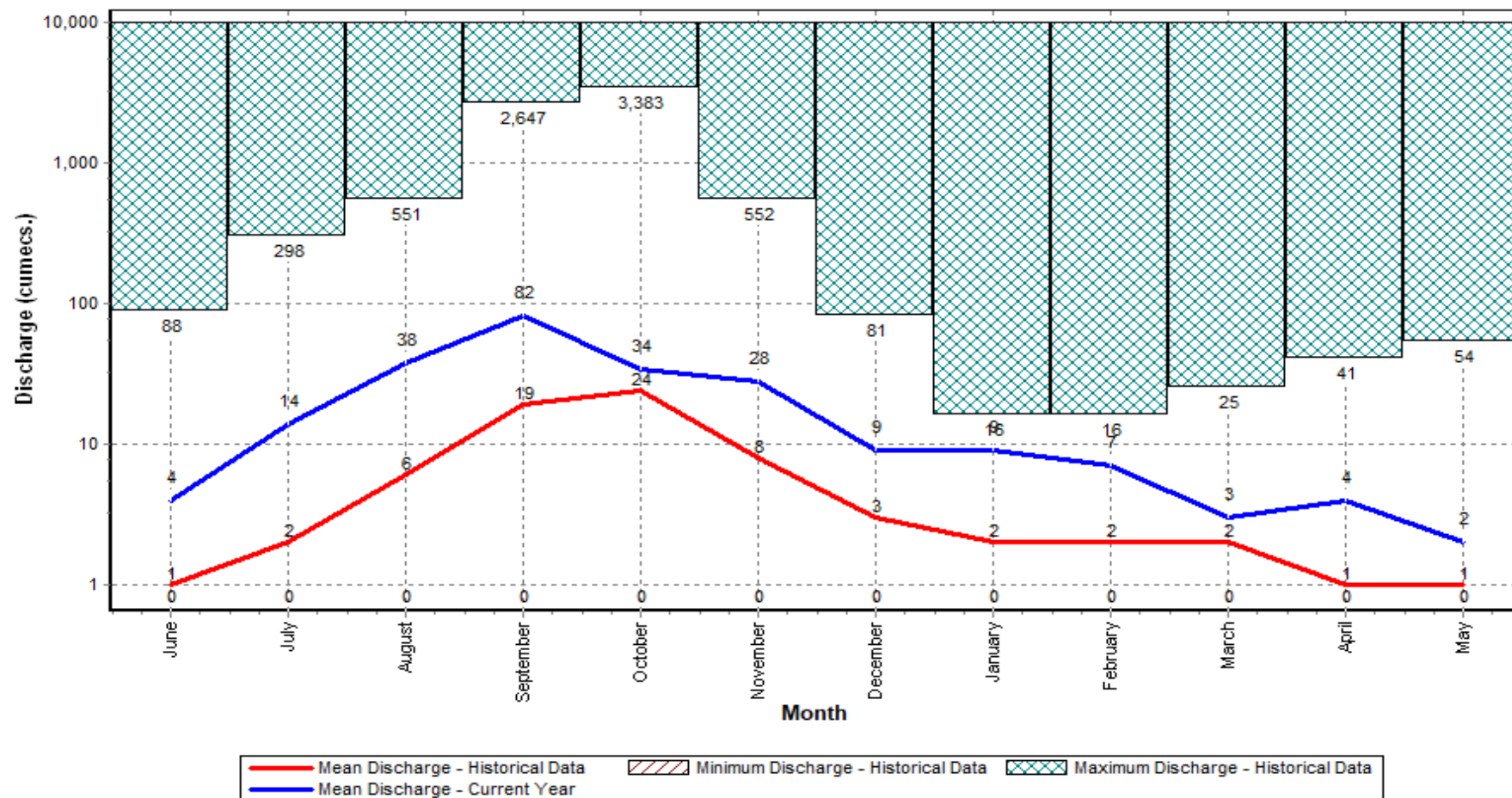
Station Name : HALIA (AKH00G2)

Data considered : 1985-2022

Division : Lower Krishna Divn., Hyderabad

Local River : Musi

Sub-Division : Lower Krishna SD 1, N.S.Dam



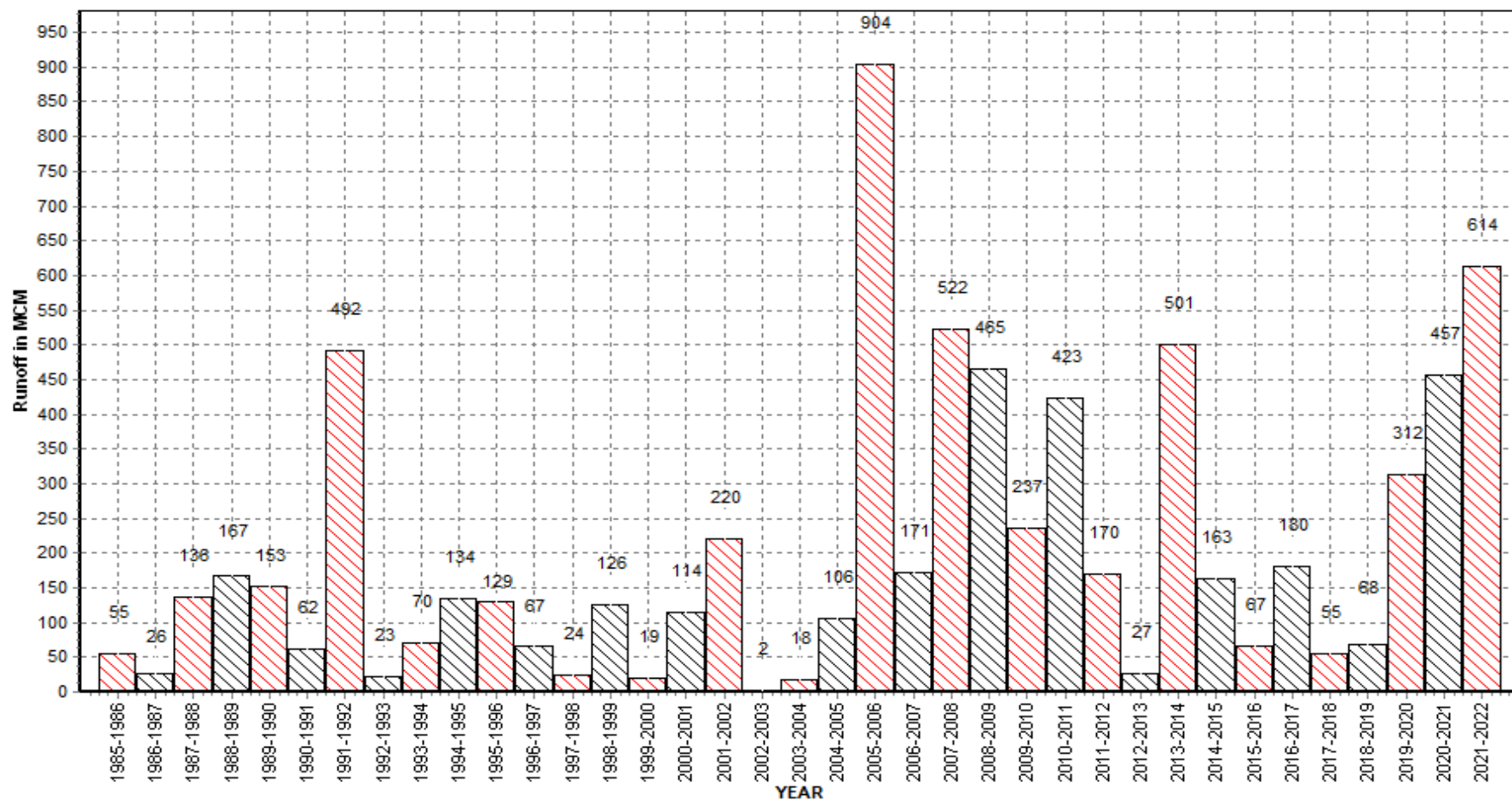
Annual Runoff Values for the period: 1985 - 2022

Station Name : HALIA (AKH00G2)

Local River : Musi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



Note: Missing values have not been considered while arriving at Annual Runoff

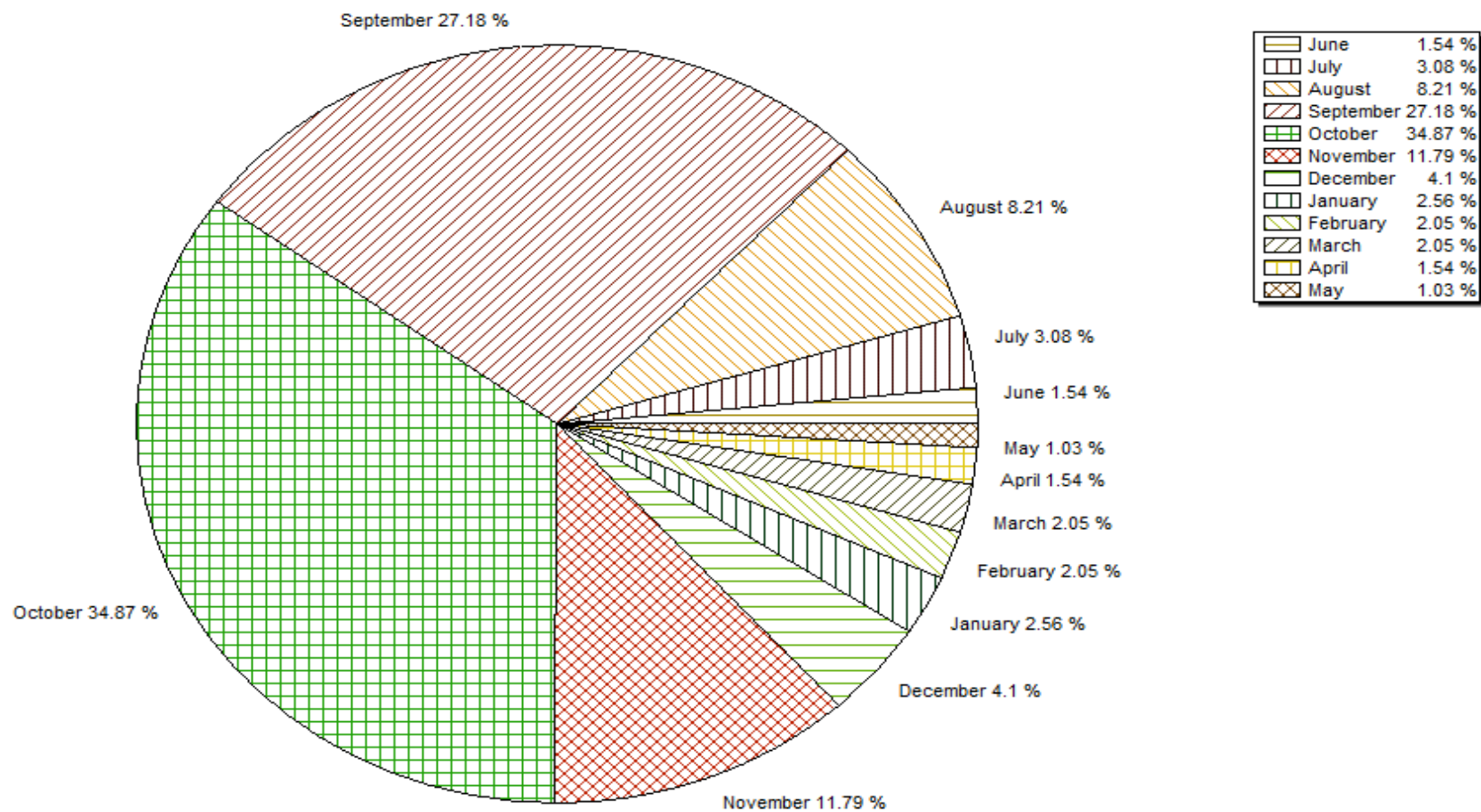
Monthly Average Runoff based on period : 1985-2021

Station Name : HALIA (AKH00G2)

Local River : Musi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



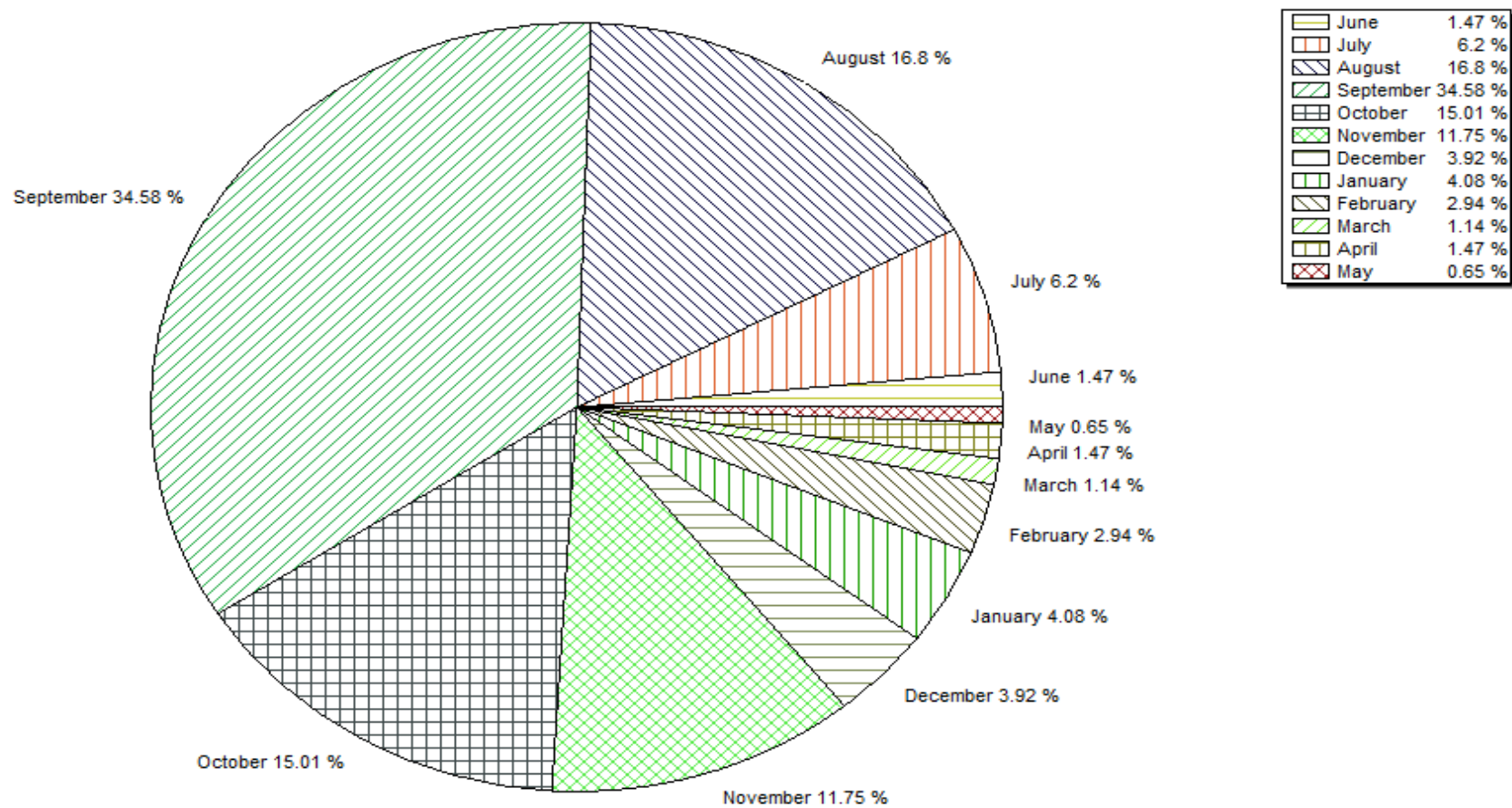
Monthly Runoff for the Year : 2021-2022

Station Name : HALIA (AKH00G2)

Local River : Musi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam

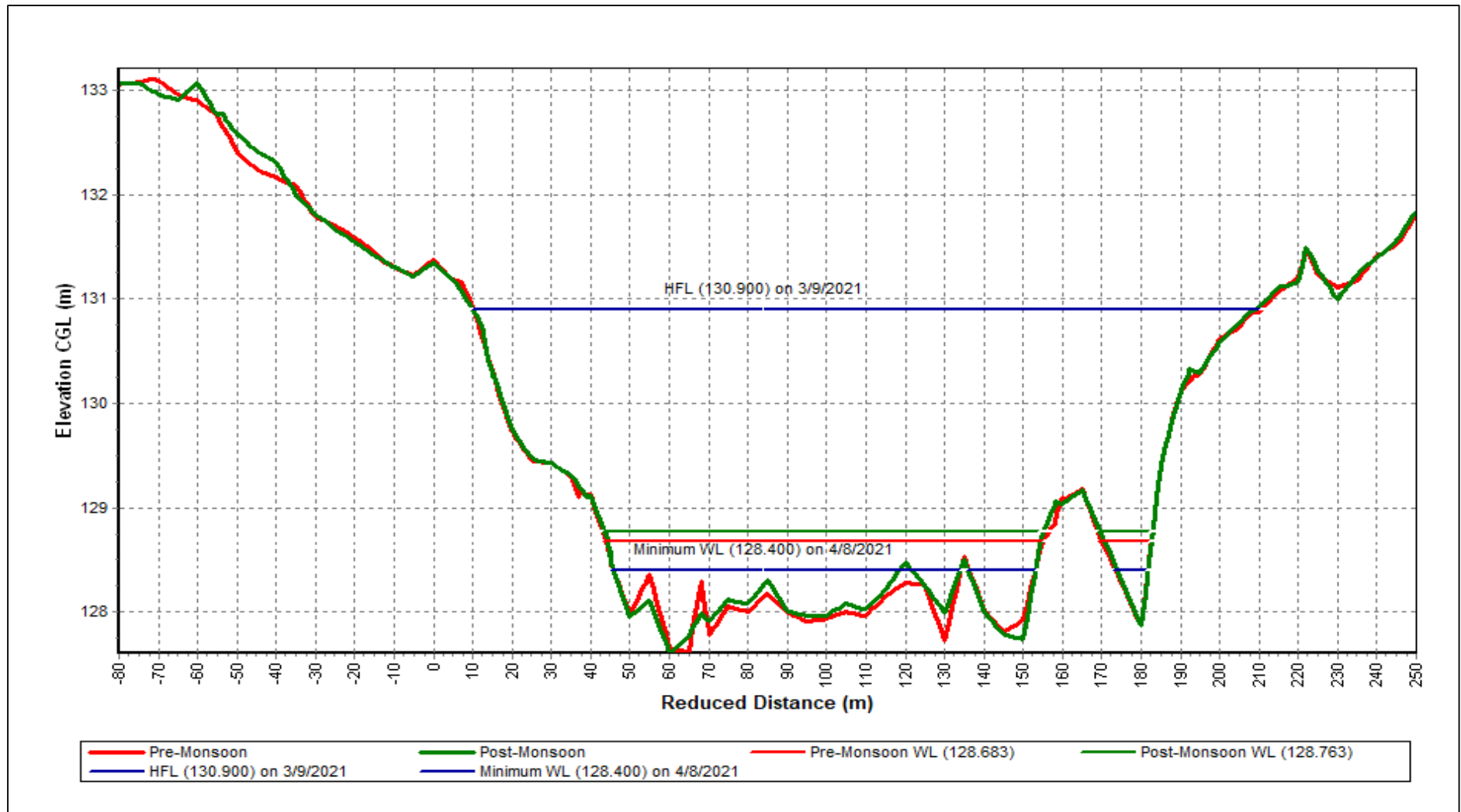


Station Name : HALIA (AKH00G2)

Local River : Musi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



Zero of Gauge : 127.9 (m.s.l)

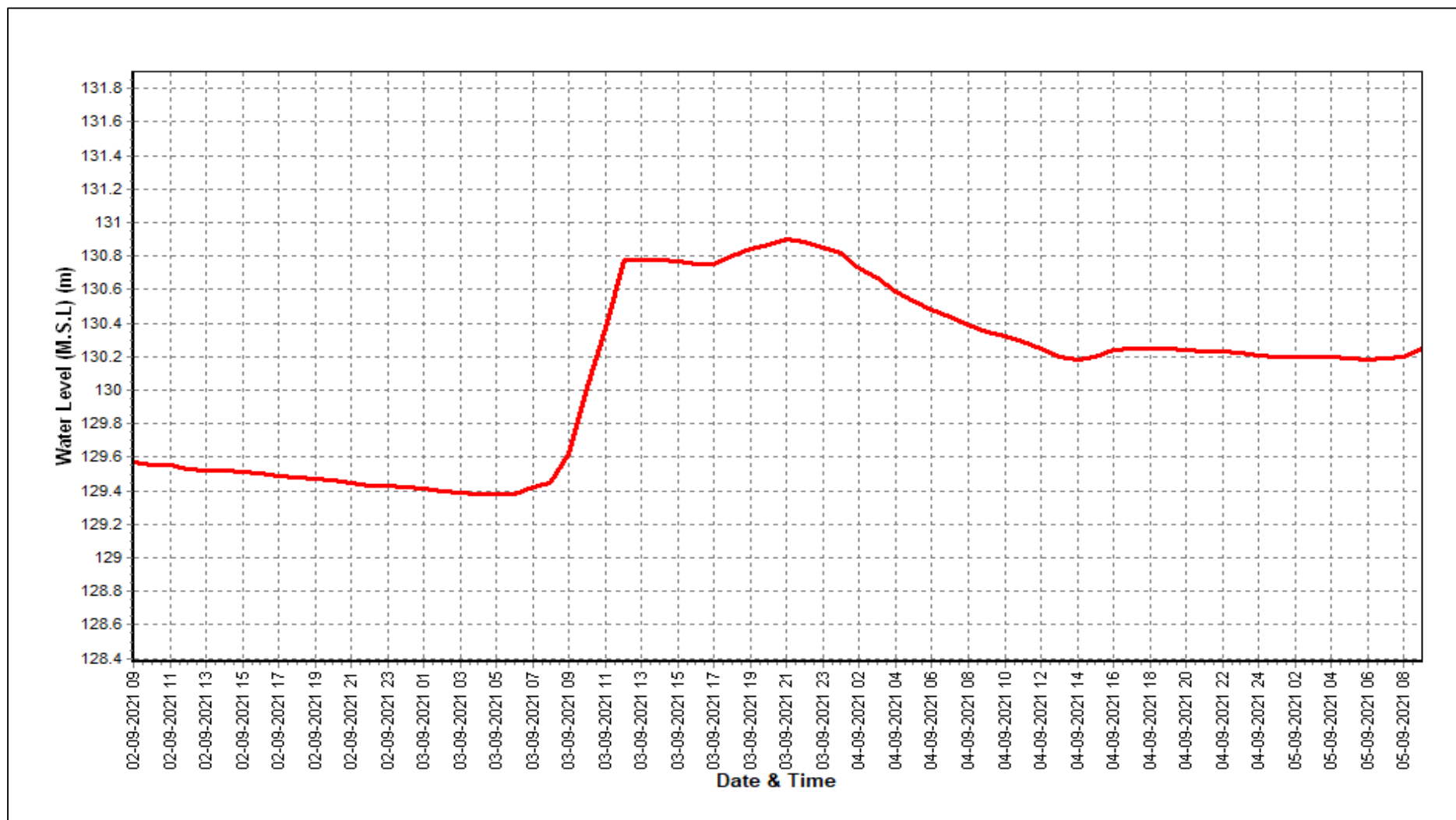
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : HALIA (AKH00G2)

Local River : Musi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



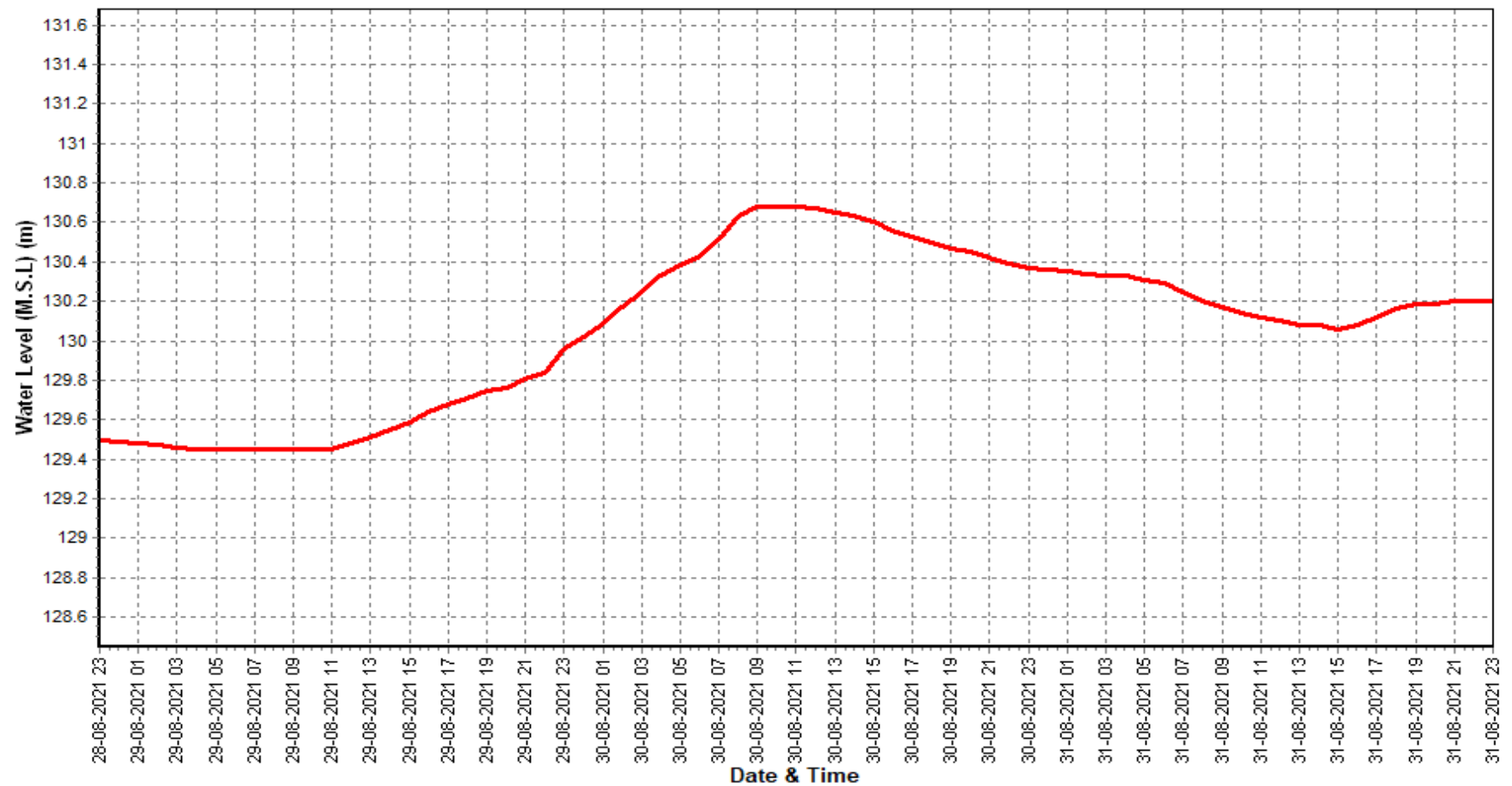
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : HALIA (AKH00G2)

Local River : Musi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



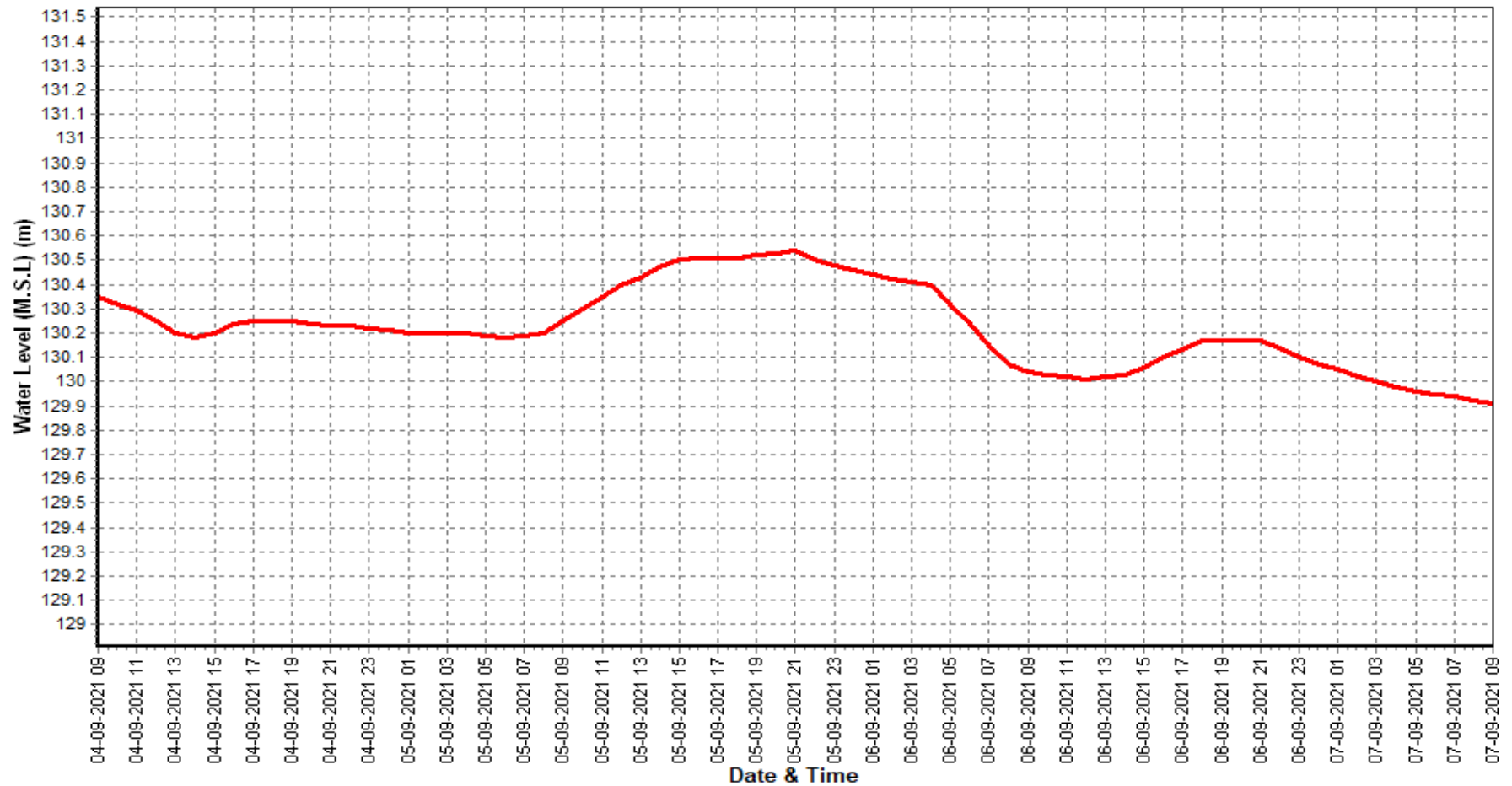
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : HALIA (AKH00G2)

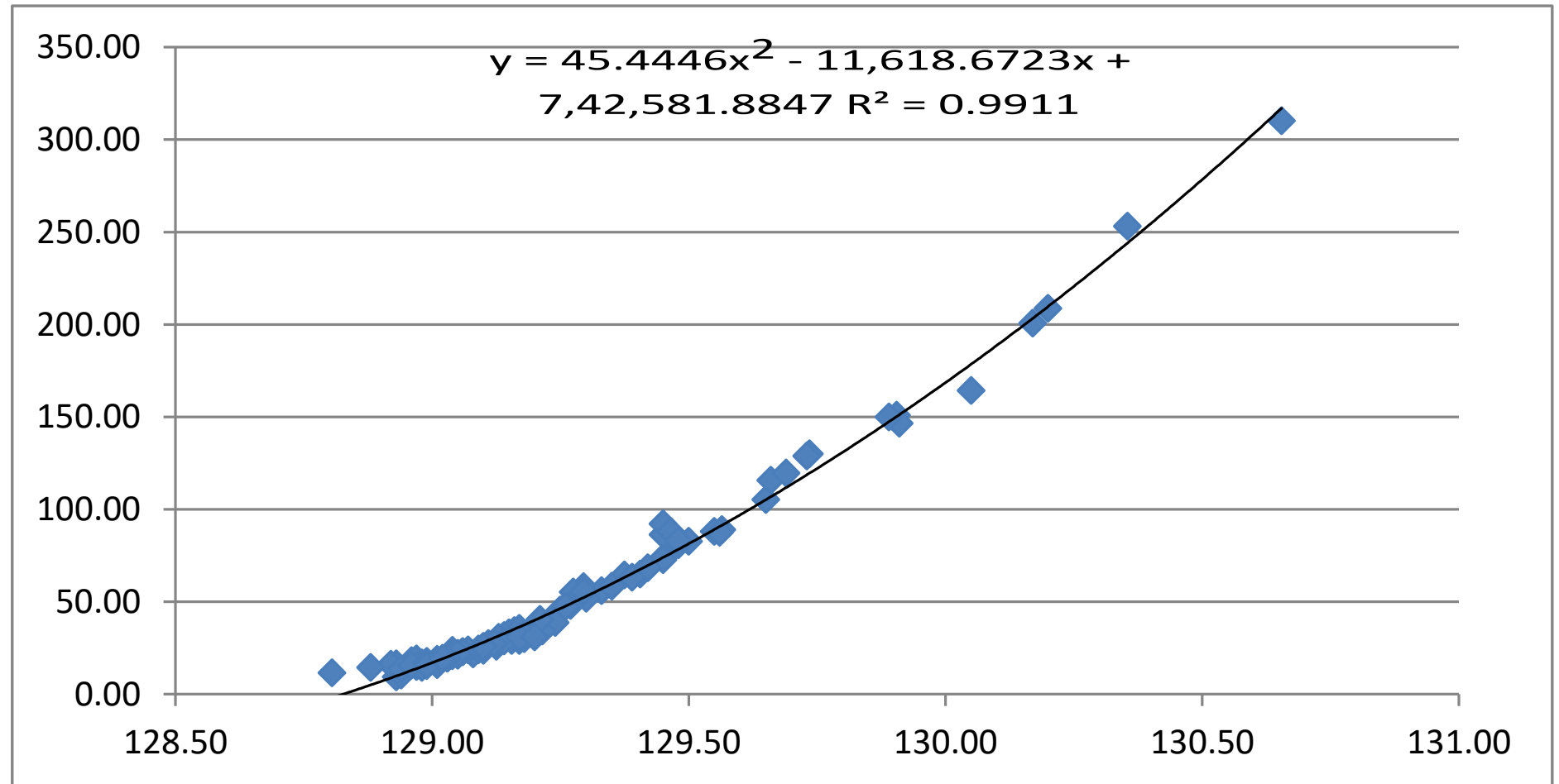
Local River : Musi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



Halia 2021-22



HISTORY SHEET

		Water Year	: 2021-2022
Site	: Veerlapalem	Code	: 032-LKDHYD
State	: Telangana	District	Nalgonda
Basin	: Krishna	Independent River	: Krishna
Tributary	: -	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Krishna
Division	: Lower Krishna Divn., Hyderabad	Sub-Division	: Lower Krishna SD 1, N.S.Dam
Drainage Area	: 624.5 Sq. Km.	Bank	: Left
Latitude	: 16°41'15"	Longitude	: 79°32'46"
Zero of Gauge (m)	: 44.5 (m.s.l)	01-03-2017	- 25-02-2019
	63 (m.s.l)	26-02-2019	- 09-01-2019
	63 (m.s.l)	10-01-2019	
	Opening Date	Closing Date	
Gauge	: 21-10-2016	HFL During 2021-22	: 66.400 m
		Corres. Discharge	: 120 (Estimated)
Discharge	: 21-10-2016	Date & Time of occurrence	: 30-08-2021 : 14:00 Hrs

HFL Recorded so far in m :67.100 m dt 14-10-2020

Corresponding Discharge (cumecs) : 151 *

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2018-2019	38.99	47.830	20-08-2018	0.000		09-06-2018
2019-2020	108.1	66.490	18-09-2019	0.000	64.300	17-08-2019
2020-2021	85.9	64.100	14-10-2020	0.000	64.350	09-08-2020

Annual Runoff of Tungapadu at Veeralapalem

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	2017-2018	14	41	55	1	1	2
2	2018-2019	49	24	73	2	1	3
3	2019-2020	124	68	192	4	2	7
4	2020-2021	169	95	264	6	3	9
5	2021-2022	136	106	242	5	4	9
Average		98	67	146	3	2	6

Instantaneous Flood Peak of Krishna at Veerlapalem

		Instantaneous Annual Flood Peak			
Sl. No.	Year	Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	2017-2018	47.93	13-10-2017	12:00:00	35 *
2	2018-2019	48.000	20-08-2018	11:00:00	39 *
3	2019-2020	66.570	18-09-2019	20:00:00	108 *
4	2020-2021	67.100	14-10-2020	20:00:00	151 *
5	2021-2022	66.400	30-08-2021	14:00:00	120 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : Veerlapalem (032-LKDHYD)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

Sub-Division : Lower Krishna SD 1, N.S.Dam

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	64.640	1.588	64.620	1.359	64.500	0.753 *	66.130	43.76	64.900	5.490	66.150	43.65
2	64.630	1.375	64.640	1.522	64.480	0.687	65.610	25.89	64.790	4.313 *	65.825	32.47
3	64.620	1.281	64.680	1.916	64.460	0.574	65.130	12.96	64.900	6.436 *	65.250	16.29
4	64.700	2.301	64.670	2.222 *	64.470	0.667	65.150	12.85	64.905	5.790	65.200	13.22 *
5	64.660	1.882	64.650	1.628	64.480	0.718	65.170	12.48 *	64.970	6.935	65.050	9.446
6	64.650	1.896 *	64.630	1.515	64.490	0.830	65.150	12.80	65.000	7.956	65.000	7.791
7	64.640	1.594	64.630	1.452	64.590	1.194	65.360	18.04	65.260	16.32	64.980	8.103 *
8	64.630	1.410	64.640	1.640	64.480	0.850 *	65.200	14.08	65.270	16.76	64.950	6.067
9	64.640	1.560	64.760	3.257	64.470	0.707	64.990	7.909	65.250	16.25	64.900	5.461
10	64.620	1.288	64.700	2.234	64.500	0.868	64.880	6.035 *	65.220	13.73 *	64.880	5.350
11	64.620	1.285	64.650	1.896 *	64.500	0.885	64.800	4.310	65.180	14.56	64.980	6.995
12	64.600	1.168	64.620	1.407	64.680	2.257	64.880	6.035 *	65.060	9.442	65.100	11.27
13	64.620	1.420 *	64.650	1.725	65.065	9.815	64.890	5.792	65.080	10.12	65.160	13.83
14	64.650	1.763	64.650	1.711	65.170	13.41	64.985	7.418	65.100	10.65	65.250	14.50 *
15	64.660	1.883	64.660	1.943	64.920	6.843 *	65.000	8.042	65.070	10.10 *	64.980	7.321
16	64.640	1.479	64.700	2.404	65.100	9.470	64.980	6.381	65.105	10.72	65.000	7.708
17	64.630	1.409	65.060	10.79	65.750	28.07	64.950	6.042	65.170	12.48 *	65.030	8.599
18	64.620	1.335	65.300	15.81 *	65.580	25.39	64.920	5.841	65.140	12.89	64.980	7.687
19	64.610	1.264	65.040	8.561	65.090	10.04	64.880	6.035 *	65.050	9.646 *	65.000	8.536 *
20	64.600	1.110 *	64.980	6.853	64.950	7.465 *	64.860	5.287	64.960	6.188	65.050	8.937
21	64.600	1.160	64.960	7.676 *	65.060	9.804	65.230	15.11	65.000	7.932	65.150	11.99 *
22	64.610	1.231	65.135	13.16	65.080	10.33 *	65.510	22.65	65.080	9.992	65.100	11.35
23	64.620	1.330	65.550	23.77	65.110	9.351	65.560	22.75	65.040	8.775	65.000	7.810
24	64.630	1.504	65.320	17.13	64.940	6.496	65.240	15.30	65.020	8.975 *	64.980	7.147
25	64.620	1.279	65.240	14.24 *	64.860	5.193	64.930	5.966	65.060	9.273	64.920	5.793
26	64.610	1.243	65.180	14.13	65.470	19.93	65.200	13.22 *	65.080	10.58	64.880	5.209
27	64.600	1.110 *	65.120	12.18	65.470	19.31	65.540	23.37	65.080	10.88	64.820	4.690
28	64.700	2.240	65.030	8.151	65.400	19.12	65.650	26.89	65.060	9.545	64.780	4.130 *
29	64.650	1.768	64.720	2.190	65.340	16.89 *	65.250	15.33	65.000	7.860	64.820	4.350
30	64.630	1.437	64.620	1.450	66.340	50.19	64.950	5.707	65.090	10.30	64.840	4.879
31			64.570	0.940	65.990	37.40			65.330	16.62 *		
<u>Ten-Daily Mean</u>												
I Ten-Daily	64.643	1.618	64.662	1.875	64.492	0.785	65.277	16.68	65.046	9.998	65.218	14.78
II Ten-Daily	64.625	1.412	64.831	5.310	65.080	11.36	64.914	6.118	65.092	10.68	65.053	9.537
III Ten-Daily	64.627	1.430	65.040	10.46	65.369	18.55	65.306	16.63	65.076	10.07	64.929	6.735
<u>Monthly</u>												
Min.	64.600	1.110	64.570	0.940	64.460	0.574	64.800	4.310	64.790	4.313	64.780	4.130
Max.	64.700	2.301	65.550	23.77	66.340	50.19	66.130	43.76	65.330	16.76	66.150	43.65
Mean	64.632	1.486	64.851	6.028	64.993	10.5	65.166	13.14	65.072	10.24	65.067	10.35

Annual Runoff in MCM = 242 Annual Runoff in mm = 388

Peak Observed Discharge = 69.72 cumecs on 13-01-2022 Corres. Water Level :65.96 m

Lowest Observed Discharge = 0.574 cumecs on 03-08-2021 Corres. Water Level :64.46 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : Veerlapalem (032-LKDHYD)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

Sub-Division : Lower Krishna SD 1, N.S.Dam

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	64.860	5.121	64.860	5.067	64.900	5.523	65.020	8.461	65.050	9.863	65.350	7.405 *
2	64.830	4.726	64.950	6.489 *	64.980	6.738	65.000	7.452	64.980	7.249	65.250	6.260
3	64.700	2.311	64.960	6.523	65.000	7.719	65.100	11.32	64.950	6.489 *	65.150	4.352 *
4	64.750	3.067	64.930	6.225	65.020	8.337	65.050	9.497	64.960	6.759	65.000	2.631
5	64.730	2.679 *	65.000	7.777	65.040	9.490	65.040	9.304	64.940	6.296	65.400	8.437
6	64.700	2.203	65.000	7.698	65.000	7.848 *	65.020	8.443 *	64.900	5.805	65.280	6.818
7	64.700	2.308	65.000	7.826	65.040	8.989	65.060	9.856	64.850	5.516	65.150	4.842
8	64.730	2.687	64.940	6.299	65.020	8.210	65.020	8.350	64.820	4.913	65.100	3.584 *
9	64.720	2.546	64.920	5.761 *	64.980	6.719	65.000	7.797	64.800	4.461	65.070	3.570
10	64.700	2.281	64.950	6.498	65.000	7.350	65.060	9.984	64.780	3.234 *	65.000	2.560
11	64.680	2.111	64.940	6.288	64.980	6.754	65.040	9.392	64.800	4.397	65.000	2.736
12	64.670	2.255 *	64.920	6.020	64.970	6.562	65.060	9.905	64.820	4.974	65.150	5.014
13	64.660	1.876	65.960	69.72	64.980	7.282 *	65.050	9.391 *	64.780	3.689	65.060	2.429
14	64.660	1.910	66.200	95.34 *	64.900	5.598	65.080	10.44	64.800	3.507 *	65.040	2.185
15	64.670	2.003	65.200	16.20	64.780	3.642	65.100	11.46	64.820	3.810 *	65.020	2.349 *
16	64.680	2.113	65.000	7.848 *	64.800	4.274	65.080	10.03	64.780	3.844	65.000	2.039 *
17	64.680	2.214	65.120	11.40	64.820	4.428	65.060	9.897	64.750	3.580 *	65.000	2.066
18	64.660	1.815	65.140	12.44	64.920	5.773	65.070	10.06 *	64.840	5.486	64.980	1.516
19	64.680	2.307 *	65.000	7.467	64.940	6.264	65.100	11.28	64.820	4.451	65.020	2.067
20	64.670	2.108	64.980	7.123	65.000	7.848 *	65.100	11.12 *	64.800	4.226	65.040	2.256
21	64.680	2.263	64.950	6.288	65.060	9.884	65.100	11.49	64.750	3.035	65.000	2.054
22	64.670	2.091	64.940	6.143	65.080	10.53	65.060	9.787	64.730	2.870	65.000	2.039 *
23	64.750	3.027	64.920	5.761 *	65.100	11.35	65.080	10.17	64.720	2.658	64.960	1.401
24	64.850	5.079	64.980	6.902	65.080	10.67	65.050	9.568	64.700	2.434 *	64.950	1.371
25	64.880	4.893 *	64.970	6.707	65.060	9.544	65.040	9.450	65.000	2.411	64.940	1.269
26	64.900	5.312 *	64.950	6.489 *	65.030	9.345	65.055	10.82	65.020	2.882	64.930	1.180
27	64.920	5.986	64.945	5.669	65.020	8.443 *	65.100	11.12 *	65.150	4.574	64.930	0.938
28	64.940	6.330	64.900	5.611	65.040	9.274	65.050	9.985	65.340	6.865	64.920	0.913
29	64.900	5.609	64.880	5.261			65.040	9.817	65.400	8.121	64.920	0.797 *
30	64.880	5.476	64.870	4.694 *			65.000	7.787	65.370	8.101	64.910	1.267
31	64.870	5.166	64.900	5.782			65.000	7.849			64.920	1.369
<u>Ten-Daily Mean</u>												
I Ten-Daily	64.742	2.993	64.951	6.616	64.998	7.692	65.037	9.047	64.903	6.059	65.175	5.046
II Ten-Daily	64.671	2.071	65.246	23.98	64.909	5.843	65.074	10.30	64.801	4.196	65.031	2.466
III Ten-Daily	64.840	4.657	64.928	5.937	65.059	9.881	65.052	9.804	65.018	4.395	64.944	1.327
<u>Monthly</u>												
Min.	64.660	1.815	64.860	4.694	64.780	3.642	65.000	7.452	64.700	2.411	64.910	0.797
Max.	64.940	6.330	66.200	95.34	65.100	11.35	65.100	11.49	65.400	9.863	65.400	8.437
Mean	64.754	3.286	65.038	11.98	64.984	7.657	65.054	9.719	64.907	4.883	65.046	2.894

Peak Computed Discharge = 95.34 cumecs on 14-01-2022

Corres. Water Level :66.2 m

Lowest Computed Discharge = 0.753 cumecs on 01-08-2021

Corres. Water Level :64.5 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

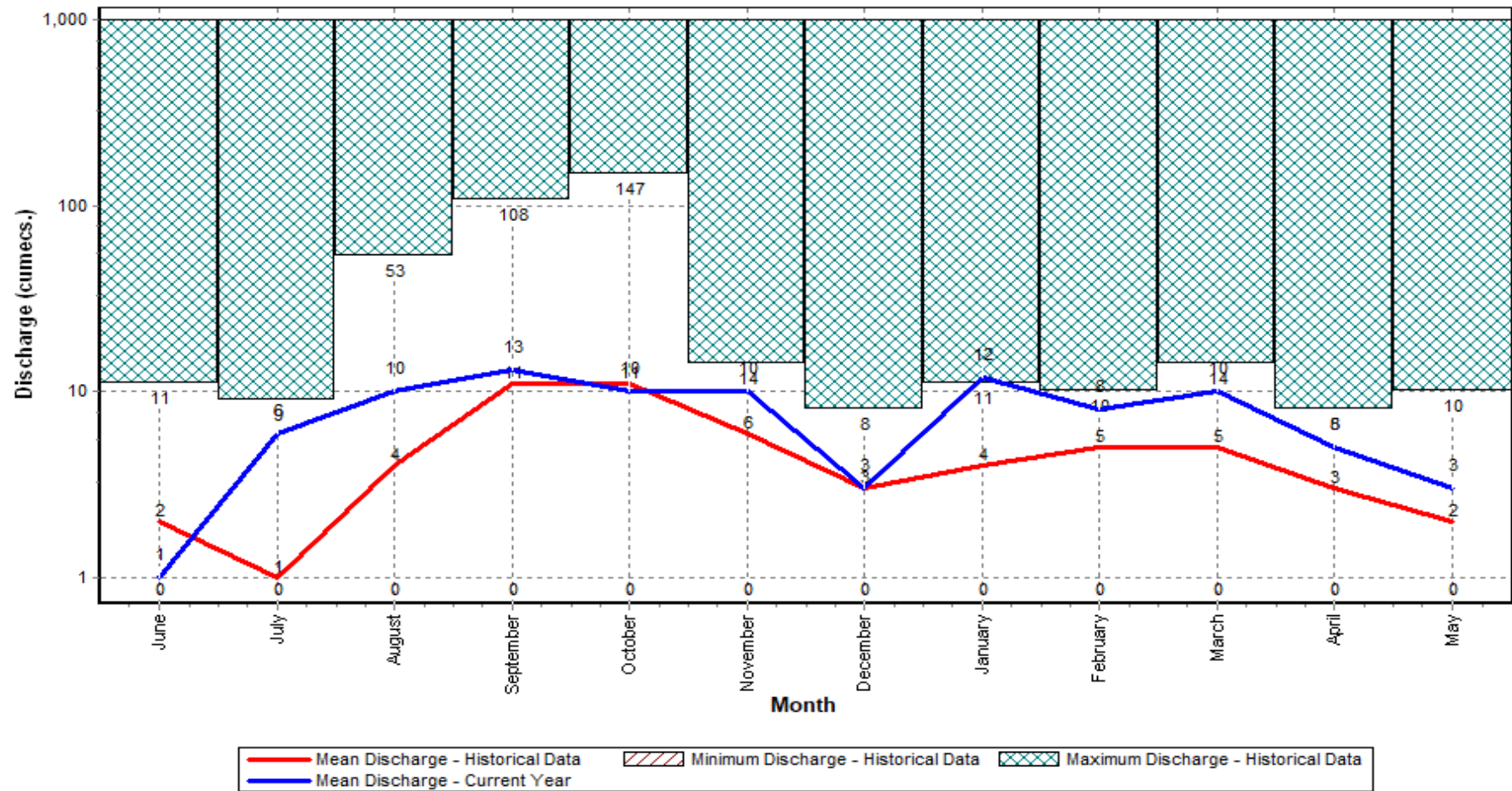
Station Name : Veerlapalem (032-LKDHYD)

Data considered : 2018-2022

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

Sub-Division : Lower Krishna SD 1, N.S.Dam



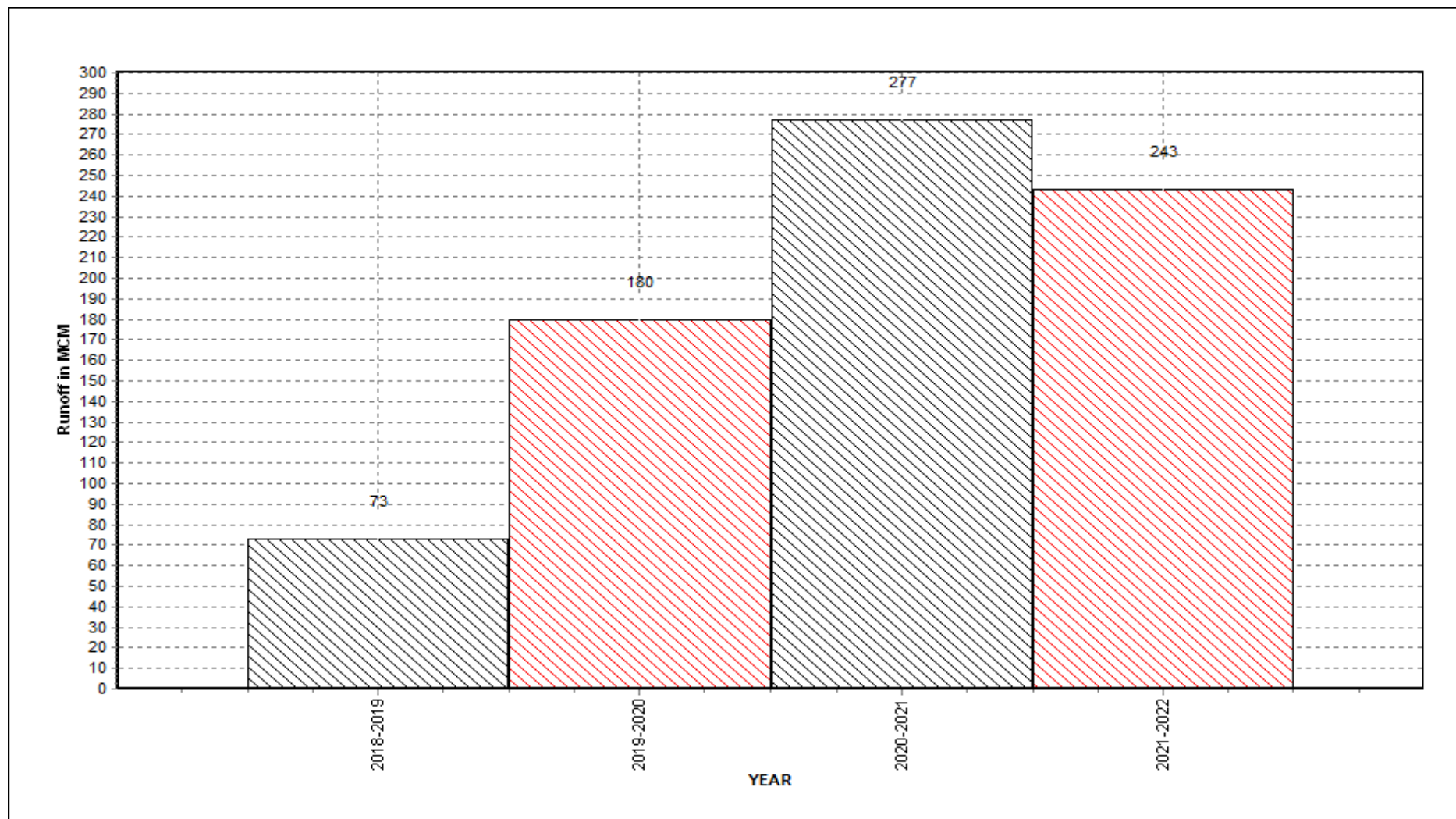
Annual Runoff Values for the period: 2018 - 2022

Station Name : Veerlapalem (032-LKDHYD)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



Note: Missing values have not been considered while arriving at Annual Runoff

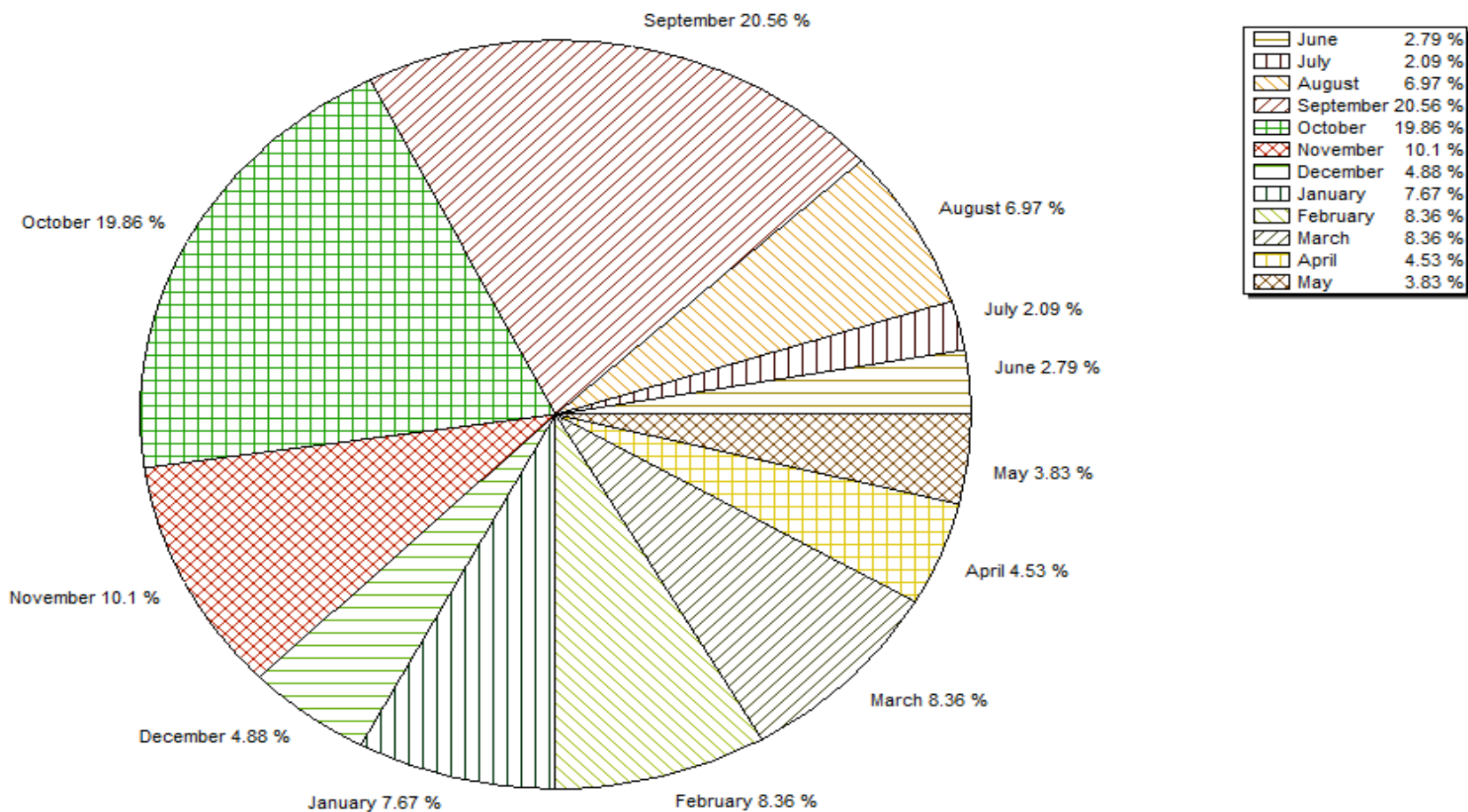
Monthly Average Runoff based on period : 2018-2021

Station Name : Veerlapalem (032-LKDHYD)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



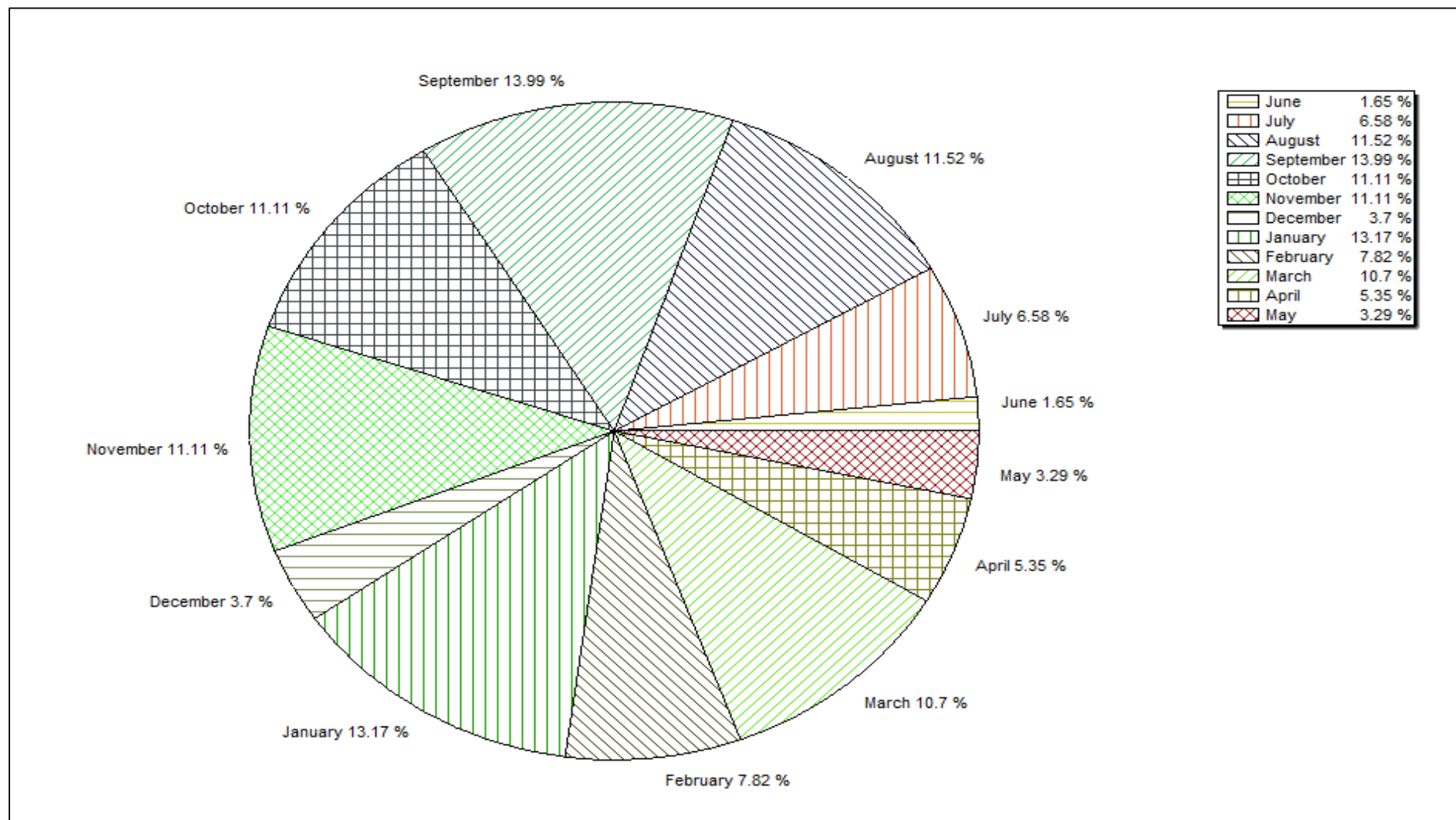
Monthly Runoff for the Year : 2021-2022

Station Name : Veerlapalem (032-LKDHYD)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



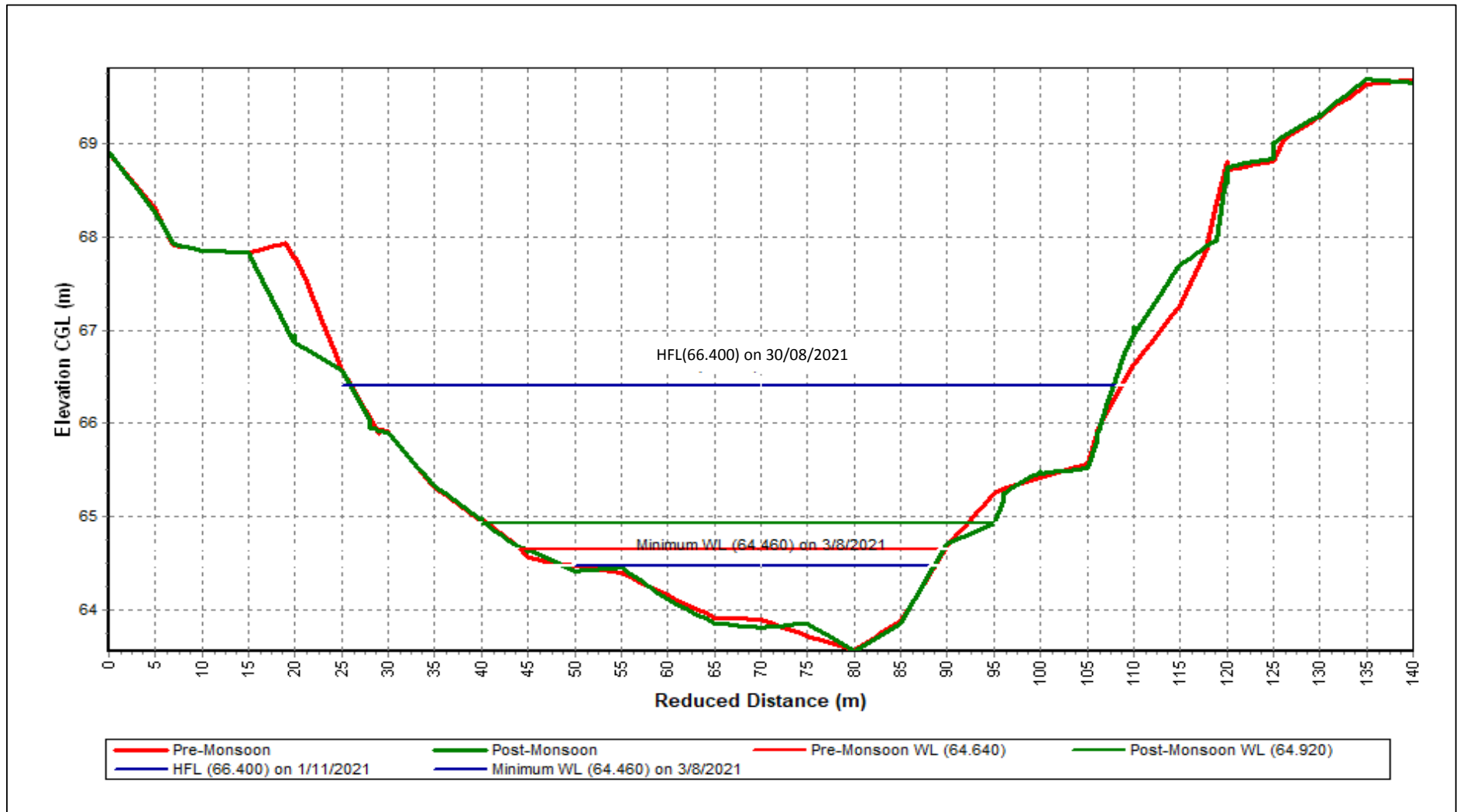
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : Veerlapalem (032-LKDHYD)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



Zero of Gauge : 63 (m.s.l)

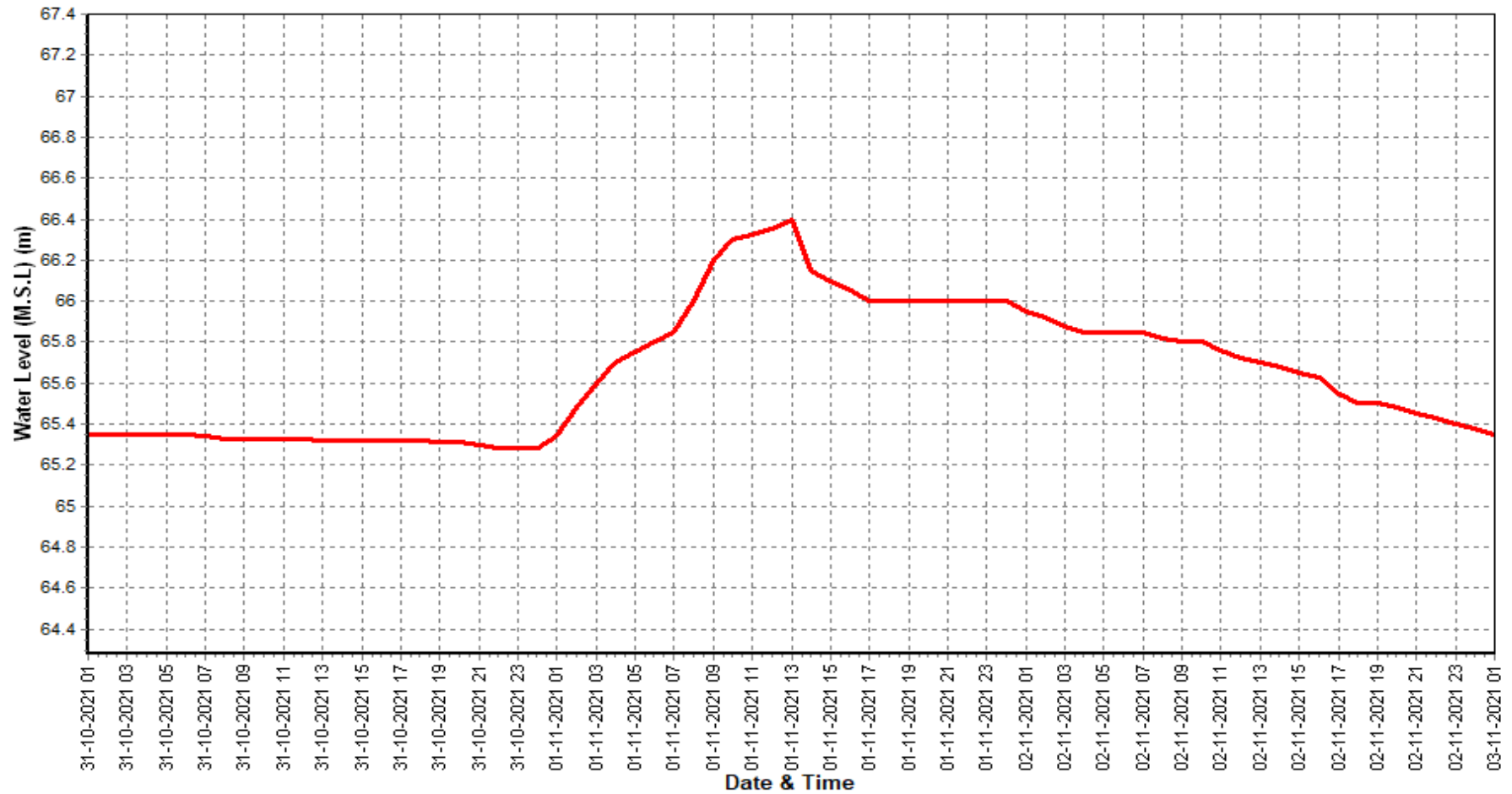
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Veerlapalem (032-LKDHYD)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



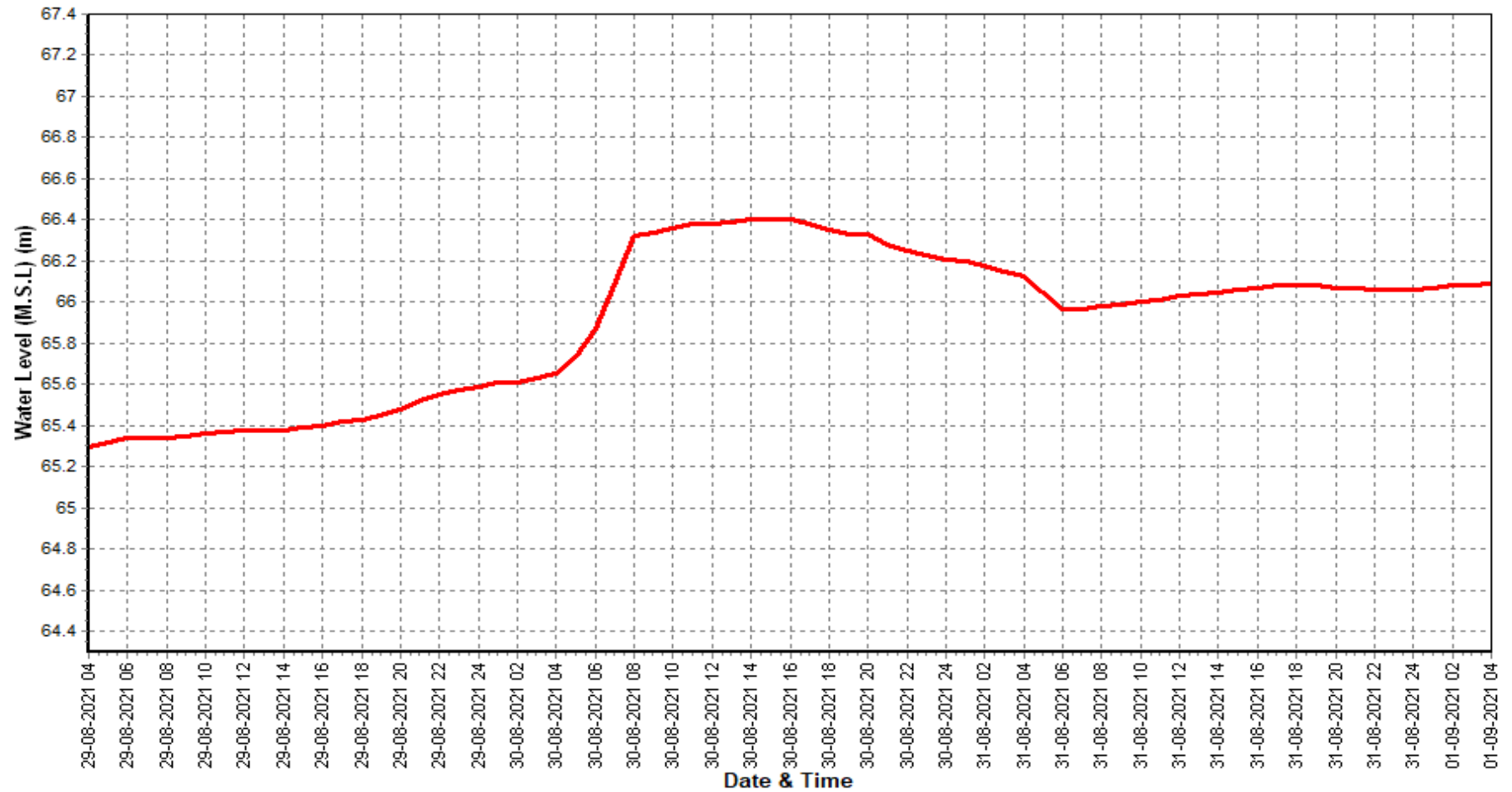
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Veerlapalem (032-LKDHYD)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



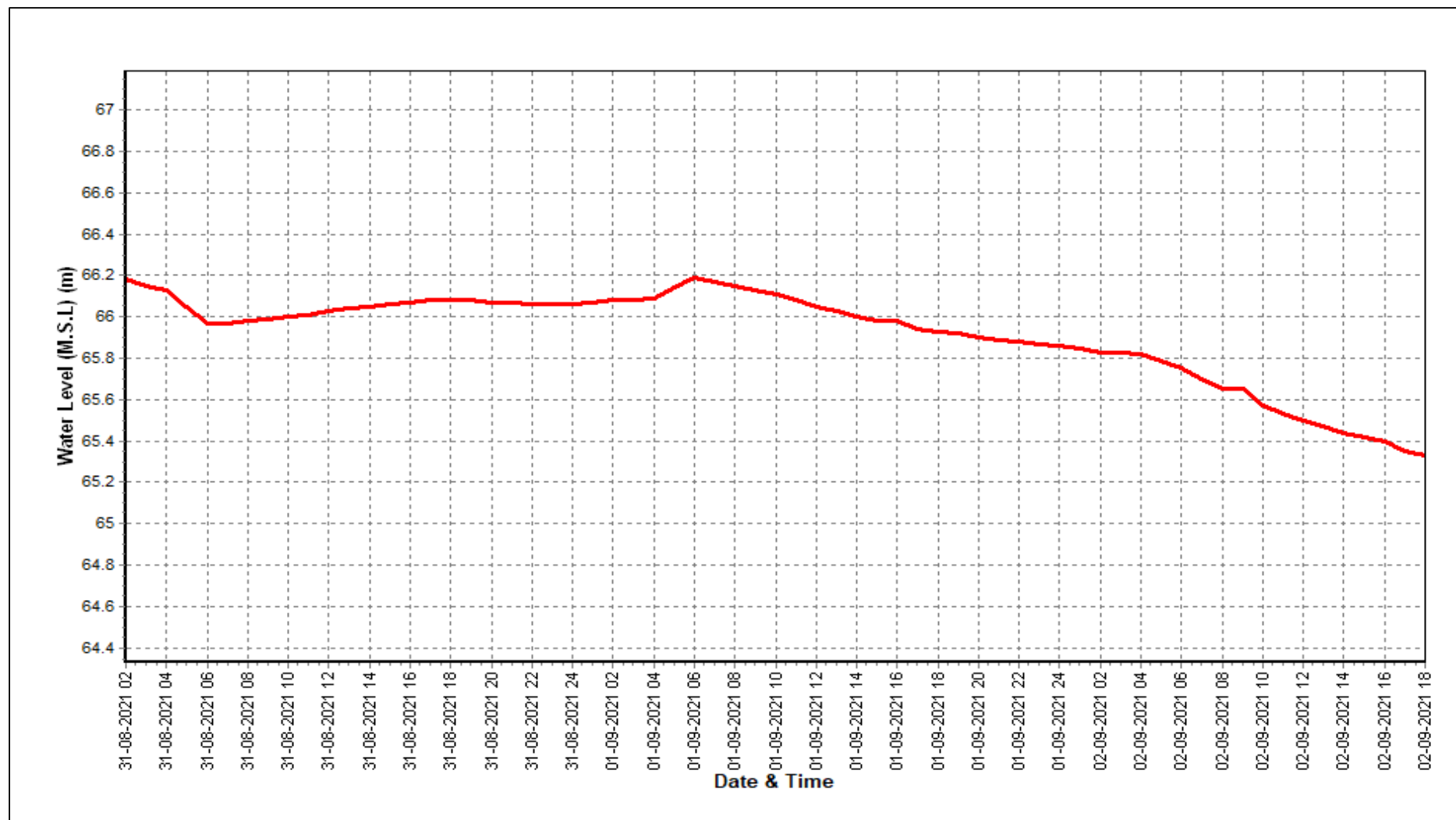
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Veerlapalem (032-LKDHYD)

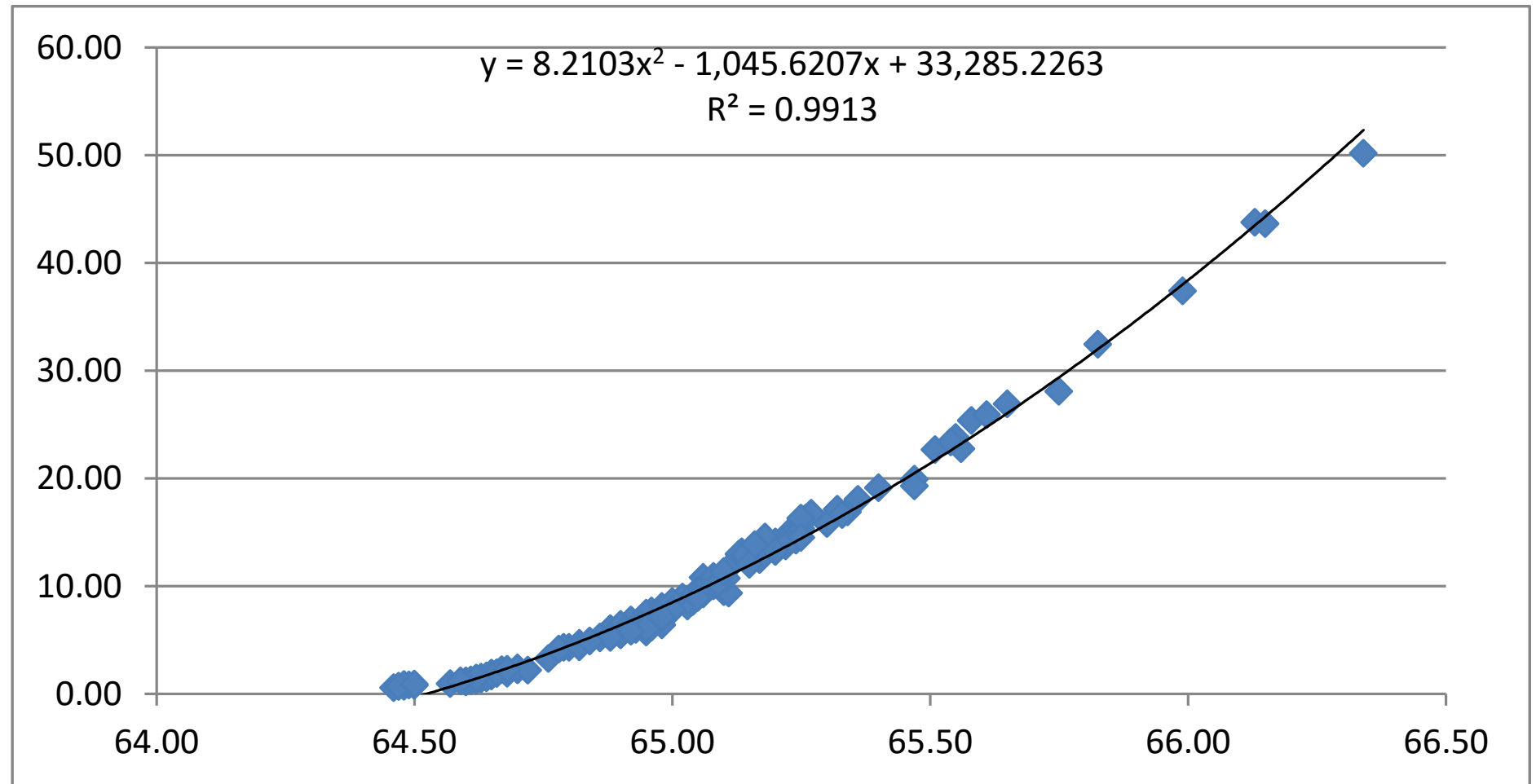
Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



Veerlapalem 2021-22



HISTORY SHEET

		Water Year	: 2021-2022
Site	: Anantharam	Code	: 034-LKDHYD
State	: Telangana	District	Nalgonda
Basin	: Krishna	Independent River	: Krishna
Tributary	: Lower Krishna	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Lower Krishna
Division	: Lower Krishna Divn., Hyderabad	Sub-Division	: Lower Krishna SD 1, N.S.Dam
Drainage Area	: 2448.4 Sq. Km.	Bank	:
Latitude	: 17°26'05"	Longitude	: 79°24'43"
Zero of Gauge (m)	: 96 (m.s.l)	01-03-2017	- 11-04-2019
	: 96 (m.s.l)	01-06-2017	- 11-04-2019
	: 226.5 (m.s.l)	12-04-2019	
	Opening Date	Closing Date	
Gauge	: 26-10-2016	HFL During 2020-21	: 229.180m
Discharge	: 26-10-2016	Corres. Discharge	: 80 (Observed)
		Date & Time of	: 31-08-2021
		occurrence	: 08:00 Hrs

HFL Recorded so far in m :230.210 dt 14-10-2020

Corresponding Discharge (cumecs) : 820 *

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2018-2019	0.000		09-02-2019	0.000		27-06-2018
2019-2020	0.000		09-11-2019	0.000		25-01-2020
2020-2021	808.1	230.155	14-10-2020	0.000		07-05-2021

Annual Runoff of Aleru at Anantharam

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	2020-2021	344	0	344	12	0	12
2	2021-2022	166	0	166	6	0	6
	Average	255	0	255	9	0	9

Instantaneous Flood Peak of Aleru at Anantharam

		Instantaneous Annual Flood Peak			
Sl. No.	Year	Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	2020-2021	230.210	14-10-2020	12:00:00	820 *
2	2021-2022	229.180	31-08-2021	08:00:00	80

Stage-Discharge Data for the period 2021 - 2022

Station Name : Anantharam (034-LKDHYD)

Division : Lower Krishna Divn., Hyderabad

Local River : Lower Krishna

Sub-Division : Lower Krishna SD 1, N.S.Dam

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1		0.000		0.000	227.850	0.000	228.700	48.65	228.280	24.46		0.000
2		0.000		0.000	227.810	0.000	228.450	35.18	228.220	19.82	*	0.000
3		0.000		0.000	227.800	0.000	228.330	28.41	228.200	18.73	*	0.000
4		0.000		0.000	227.800	0.000	228.490	38.24	228.160	18.34		0.000
5		0.000		0.000	227.800	0.000	228.350	27.01	228.140	16.07		0.000
6		0.000		0.000		0.000	228.700	48.65	228.210	22.57		0.000
7		0.000		0.000		0.000	228.700	48.65	228.280	24.34	Dry Bed	0.000
8		0.000		0.000		0.000	228.980	65.73	228.210	22.55		0.000
9		0.000		0.000		0.000	228.660	45.89	228.145	17.04		0.000
10		0.000		0.000		0.000	228.450	32.68	228.540	37.89	*	0.000
11		0.000		0.000	Dry Bed	0.000	228.350	31.49	228.400	33.91		0.000
12		0.000		0.000		0.000	228.260	22.01	228.300	26.25		0.000
13		0.000		0.000		0.000	228.230	24.53	228.230	22.06		0.000
14		0.000		0.000		0.000	228.175	20.52	228.180	19.20	227.800	0.000
15		0.000		0.000		0.000	228.120	15.91	228.140	15.50	*	227.800
16	Dry Bed	0.000		0.000		0.000	228.090	15.28	228.080	14.53	227.810	1.748
17		0.000	227.810	3.102	228.245	25.29	228.040	8.391	228.240	20.91	*	227.810
18		0.000	228.300	24.22	228.110	14.07	228.000	8.106	228.230	23.14	227.820	1.940
19		0.000	228.090	12.16	228.030	7.999	227.950	5.541	228.220	19.82	*	227.830
20		0.000	228.030	8.788	228.000	8.119	228.205	22.37	228.140	18.41	227.840	2.261
21		0.000	227.950	5.541	227.945	6.488	228.330	29.51	228.110	16.13	227.850	2.265
22		0.000	228.080	12.33	227.830	1.968	228.340	30.87	228.030	12.62	227.860	2.887
23		0.000	228.970	65.00	227.810	1.787	228.230	23.74	227.970	10.46	227.860	2.887
24		0.000	228.770	54.61	227.810	0.741	228.180	21.32	227.910	3.500	*	227.850
25		0.000	228.250	21.46	227.850	1.968	228.335	30.26	227.880	4.318	227.850	2.481
26		0.000	228.270	26.29	227.830	1.787	228.250	21.46	227.860	4.620	227.840	2.250
27		0.000	228.210	21.57	227.830	0.741	228.290	28.02	227.850	4.412	227.840	2.186
28		0.000	228.100	11.34	227.950	6.631	228.440	33.18	227.830	0.000	227.830	1.926
29		0.000	228.040	8.381	228.140	15.50	228.500	37.15	227.810	0.000	227.820	1.884
30		0.000	227.980	8.220	228.793	56.74	228.360	28.38	227.810	0.000	227.820	1.960
31			227.900	7.066	229.180	80.39			227.810	0.000		
<u>Ten-Daily Mean</u>												
I Ten-Daily		0.000	Drybed	0.000	227.812	0.000	228.581	41.91	228.238	22.18	Drybed	0.000
II Ten-Daily	Dry Bed	0.000	228.057	4.827	228.096	5.548	228.142	17.41	228.216	21.37	227.816	0.963
III Ten-Daily		0.000	228.229	21.98	228.088	15.89	228.326	28.39	227.897	5.097	227.842	2.320
<u>Monthly</u>												
Min.		0.000	227.810	0.000	227.800	0.000	227.950	5.541	227.810	0.000	227.800	0.000
Max.	Dry Bed	0.000	228.970	65.00	229.180	80.39	228.980	65.73	228.540	37.89	227.860	2.887
Mean		0	228.183	9.358	228.021	7.426	228.350	29.24	228.110	15.86	227.831	1.094

Annual Runoff in MCM = 166 Annual Runoff in mm = 68

Peak Observed Discharge = 80.39 cumecs on 31-08-2021 Corres. Water Level :229.18 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : Anantharam (034-LKDHYD)

Division : Lower Krishna Divn., Hyderabad

Local River : Lower Krishna

Sub-Division : Lower Krishna SD 1, N.S.Dam

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	227.800	0.000	Dry Bed									
2	227.800	0.000										
3	227.800	0.000										
4	227.800	0.000										
5	227.800	0.000										
6	227.800	0.000										
7	227.800	0.000										
8	227.800	0.000										
9	227.800	0.000										
10	227.800	0.000										
11	227.800	0.000										
12	227.800	0.000										
13	227.800	0.000										
14	Dry Bed	0.000										
15		0.000										
16		0.000										
17		0.000										
18		0.000										
19		0.000										
20		0.000										
21		0.000										
22		0.000										
23		0.000										
24		0.000										
25		0.000										
26		0.000										
27		0.000										
28		0.000										
29		0.000										
30		0.000										
31		0.000										
Ten-Daily Mean												
I Ten-Daily	227.800	0.000	Drybed	0.000	Drybed	0.000	Drybed	0.000	Drybed	0.000	Drybed	0.000
II Ten-Daily	227.800	0.000		0.000		0.000		0.000		0.000		
III Ten-Daily	Drybed	0.000		0.000		0.000		0.000		0.000		
Monthly												
Min.	227.800	0.000	Drybed	0.000	Drybed	0.000	Drybed	0.000	Drybed	0.000	Drybed	0.000
Max.	227.800	0.000		0.000		0.000		0.000		0.000		
Mean	227.800	0		0		0		0		0		

Peak Computed Discharge = 37.89 cumecs on 10-10-2021 Corres. Water Level :228.54 m

Lowest Computed Discharge = 0.000 cumecs on 21-04-2022

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

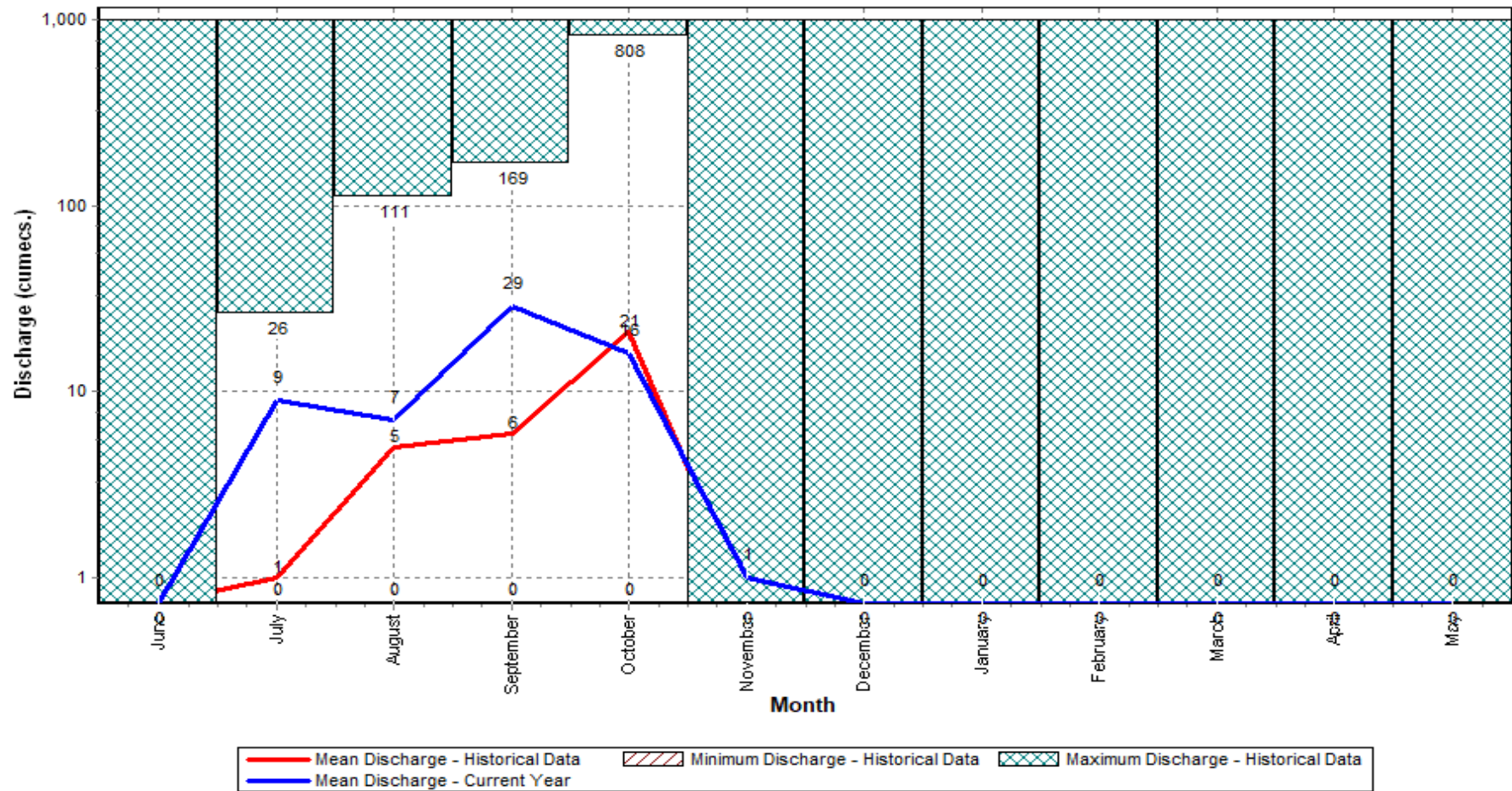
Station Name : Anantharam (034-LKDHYD)

Data considered : 2018-2022

Division : Lower Krishna Divn., Hyderabad

Local River : Lower Krishna

Sub-Division : Lower Krishna SD 1, N.S.Dam



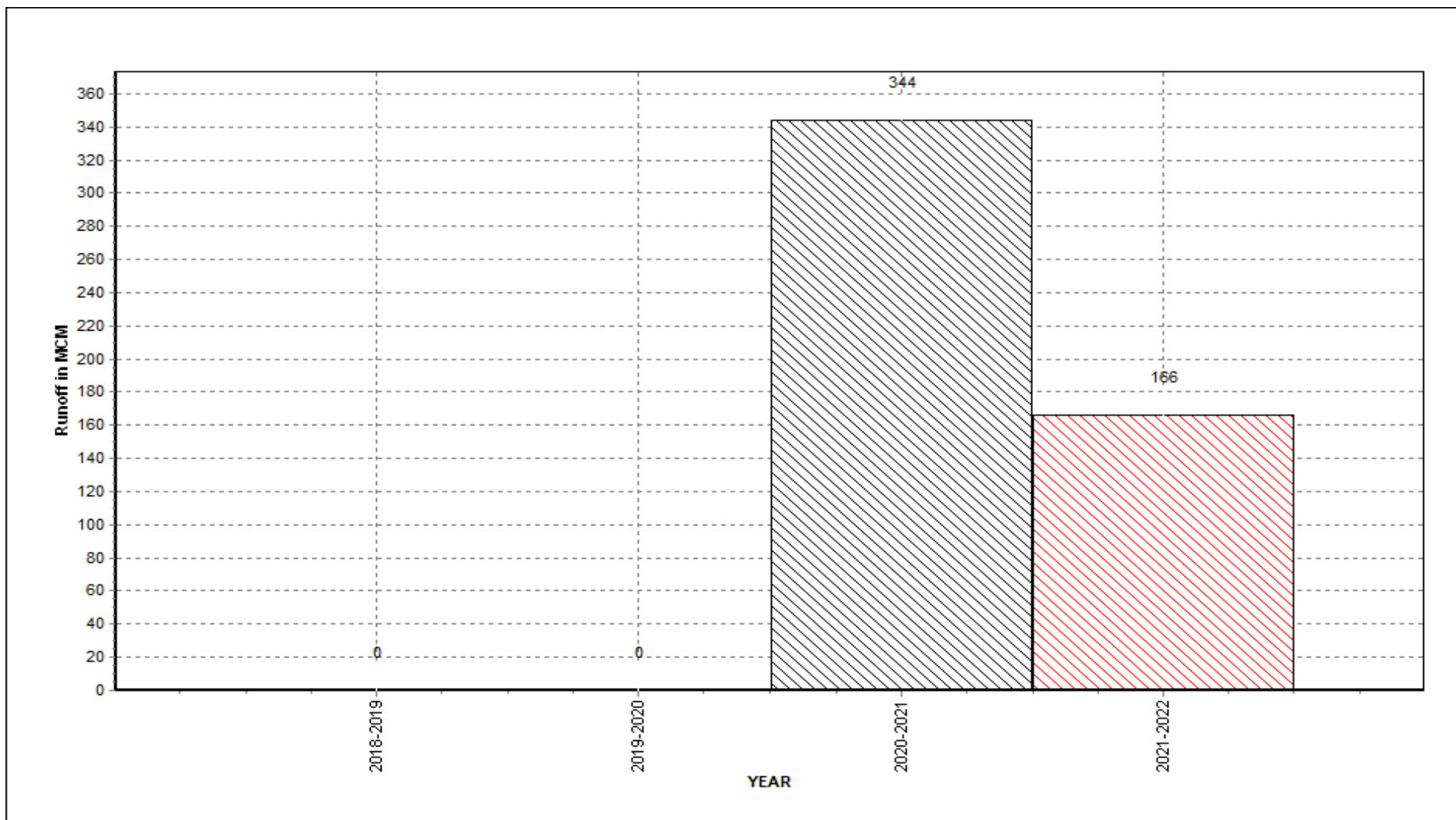
Annual Runoff Values for the period: 2018 - 2022

Station Name : Anantharam (034-LKDHYD)

Local River : Lower Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



Note: Missing values have not been considered while arriving at Annual Runoff

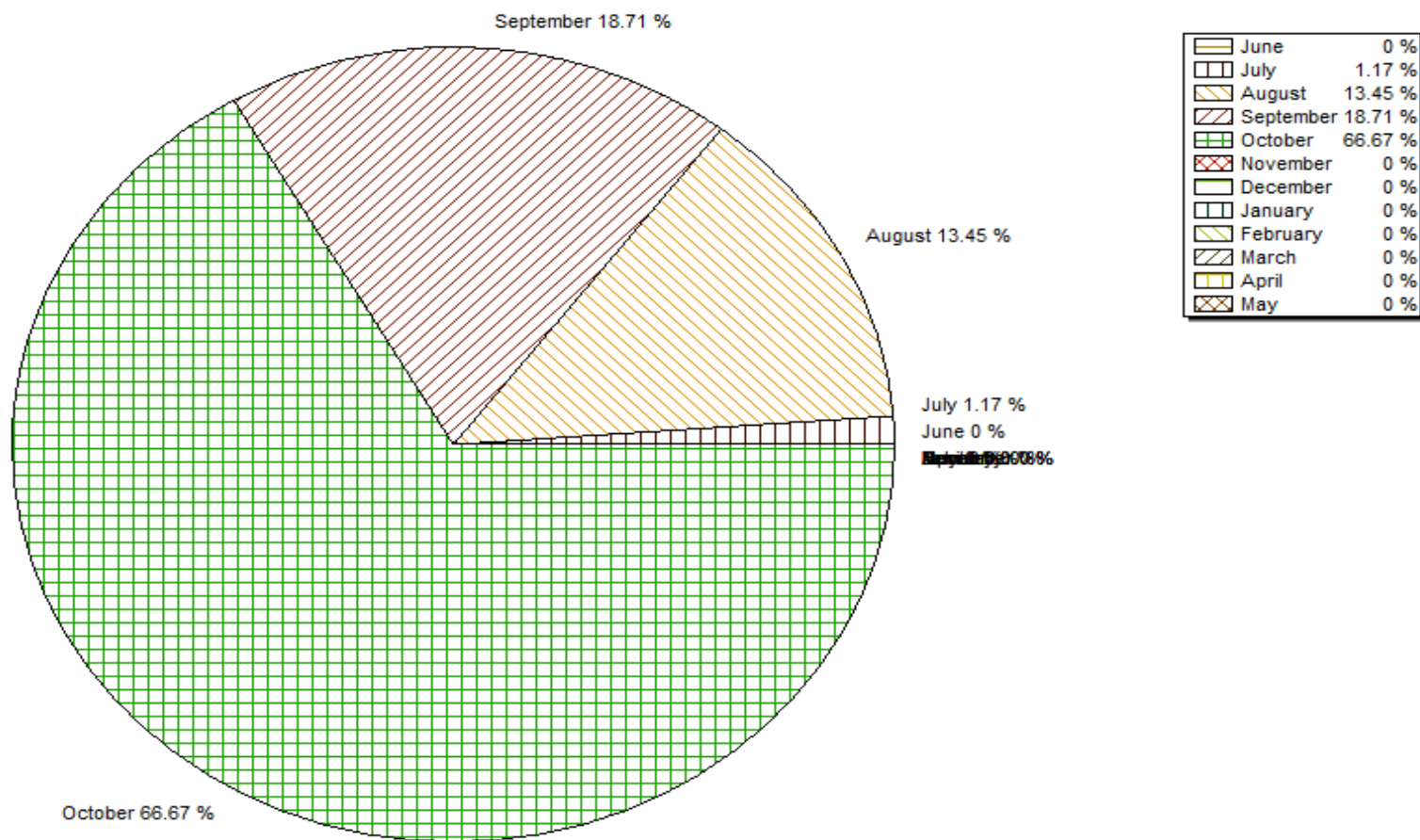
Monthly Average Runoff based on period : 2018-2021

Station Name : Anantharam (034-LKDHYD)

Local River : Lower Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



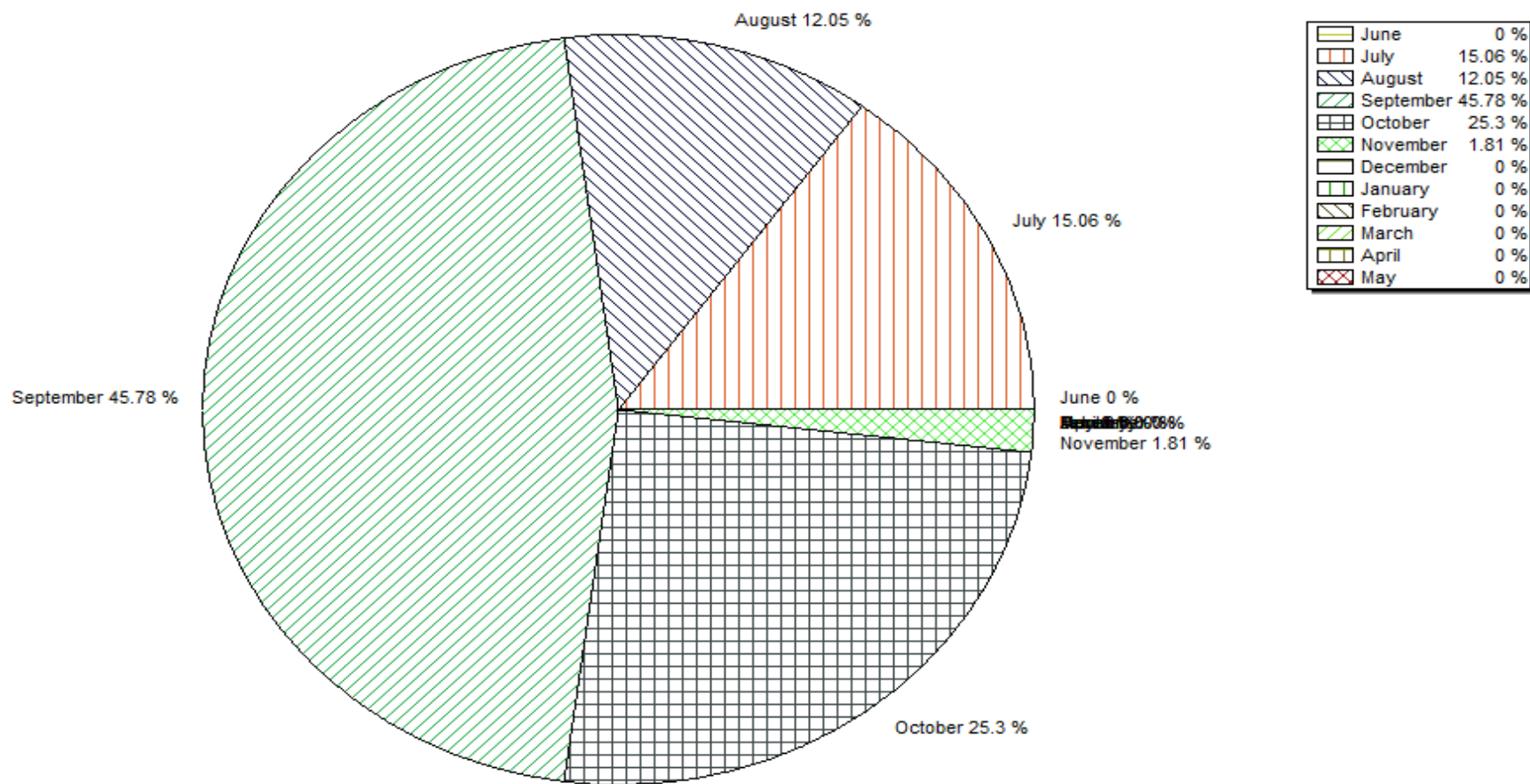
Monthly Runoff for the Year : 2021-2022

Station Name : Anantharam (034-LKDHYD)

Local River : Lower Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam

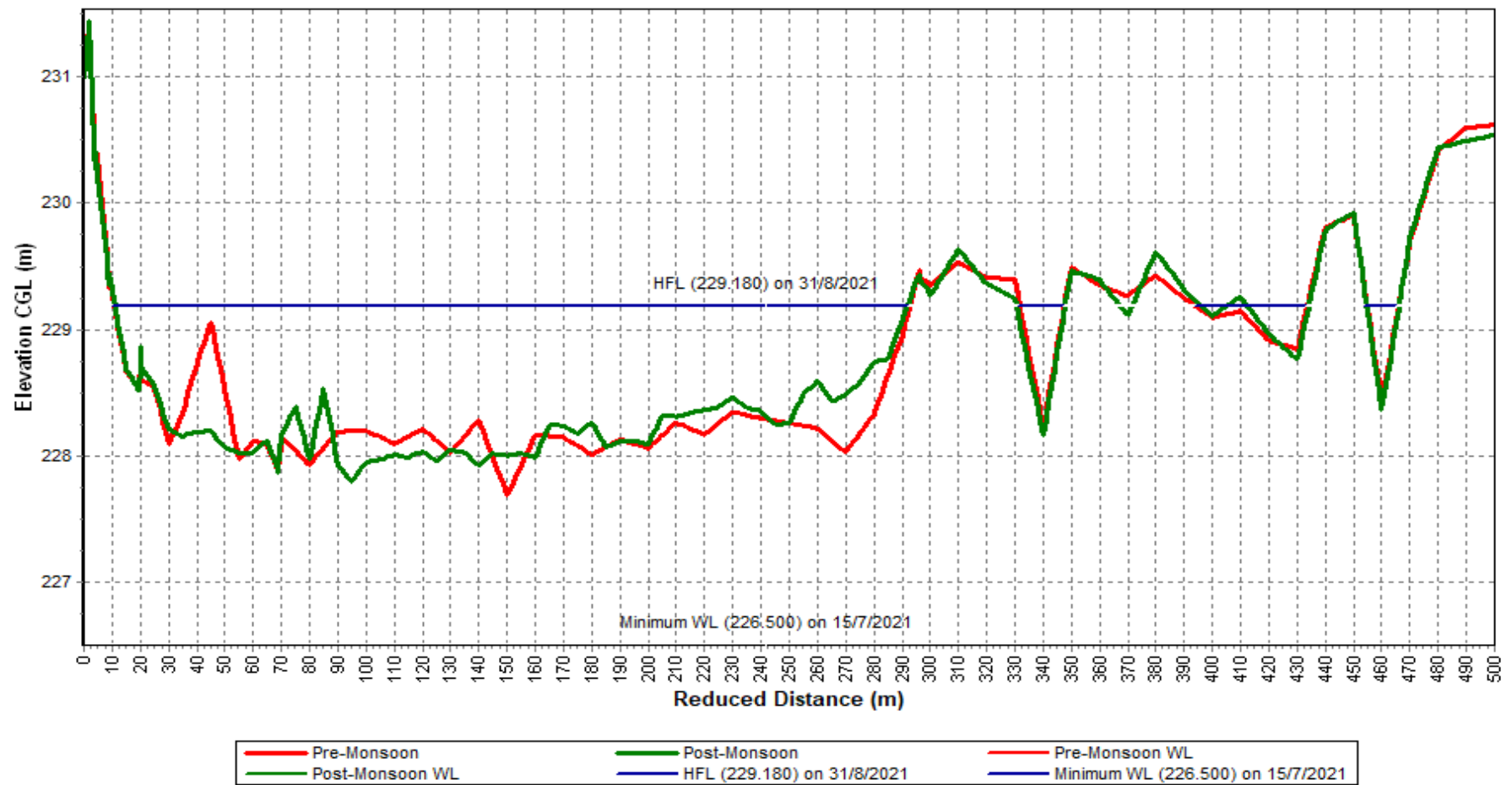


Station Name : Anantharam (034-LKDHYD)

Local River : Lower Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



Zero of Gauge : 226.5 (m.s.l)

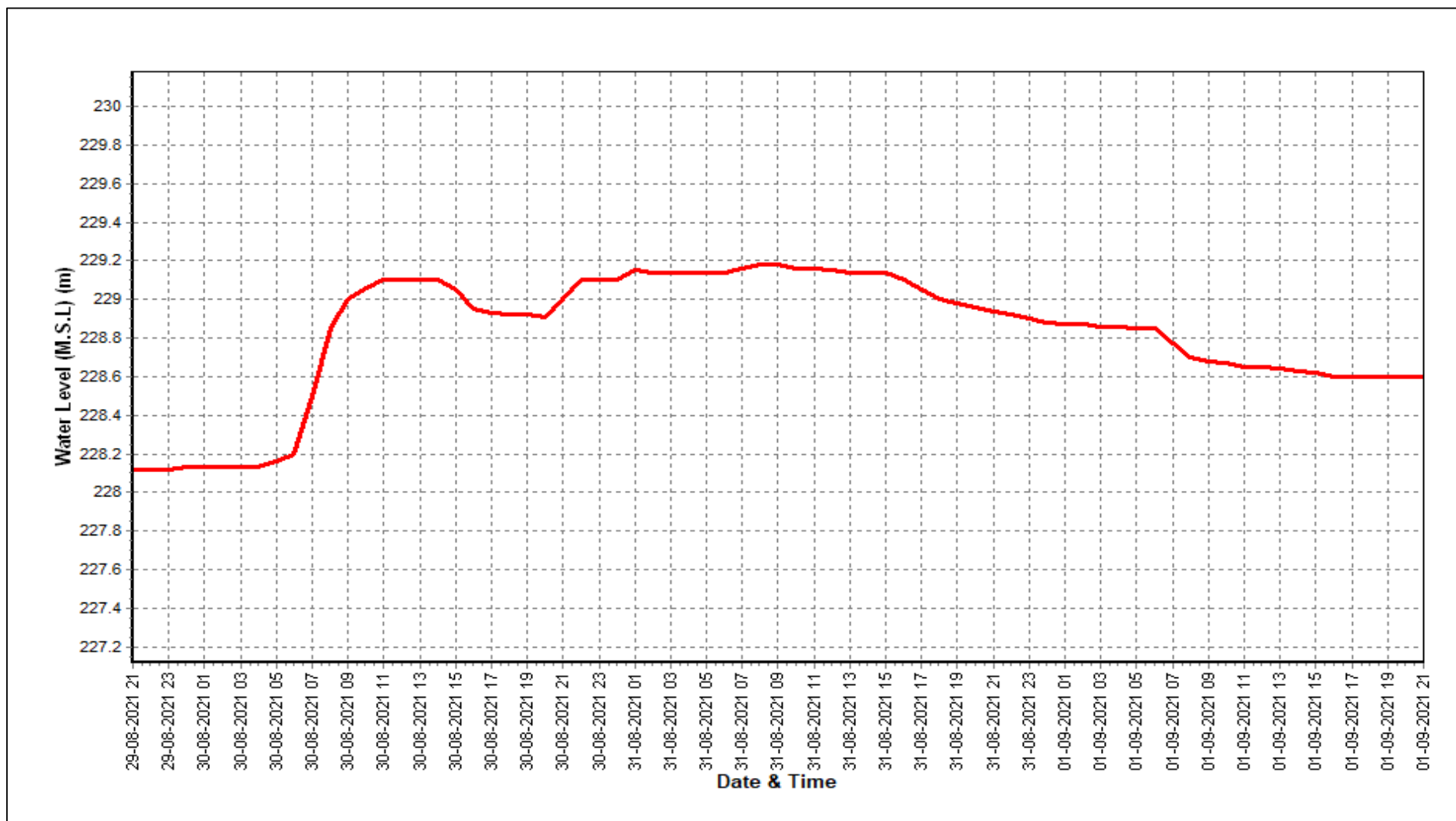
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Anantharam (034-LKDHYD)

Local River : Lower Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



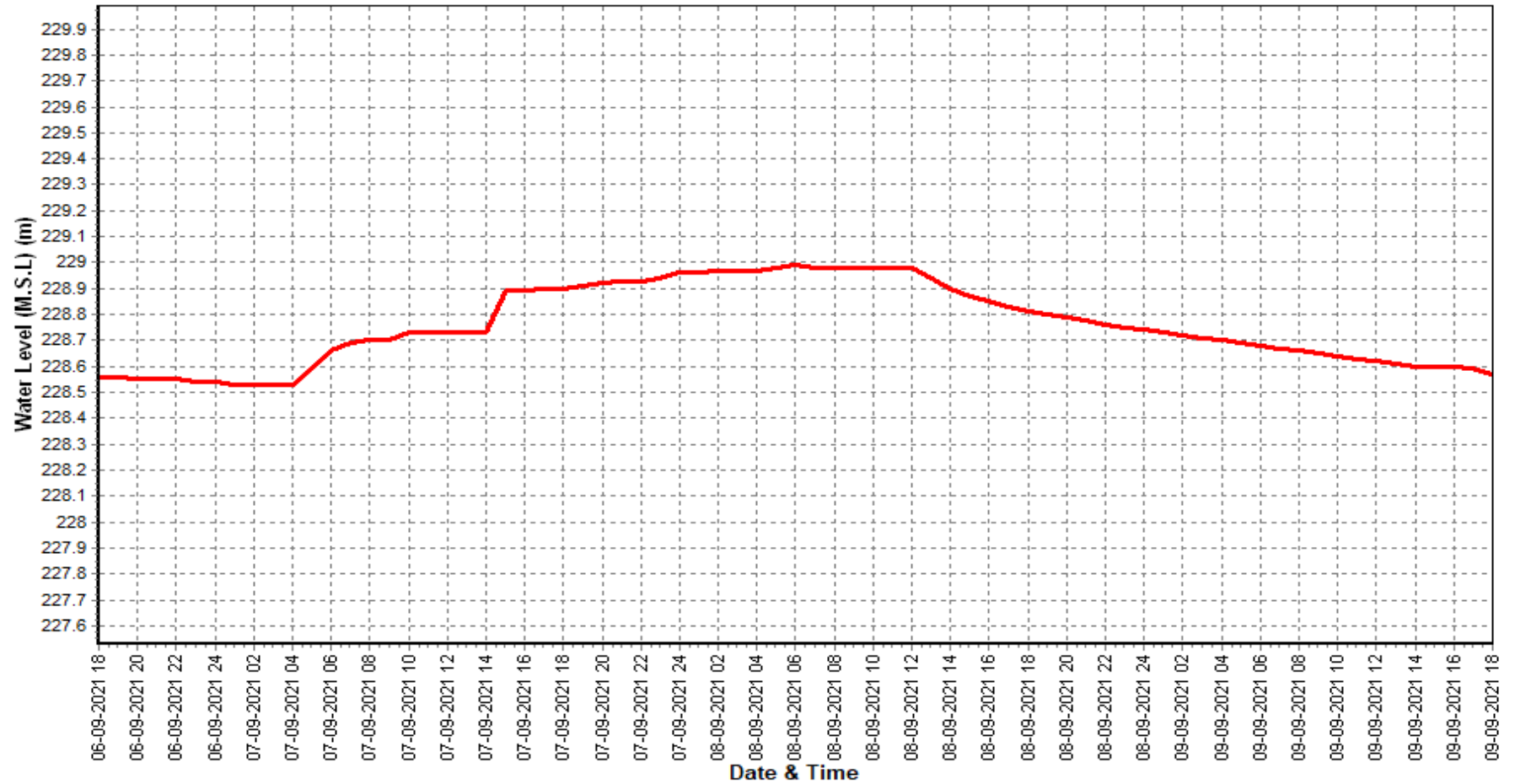
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Anantharam (034-LKDHYD)

Local River : Lower Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



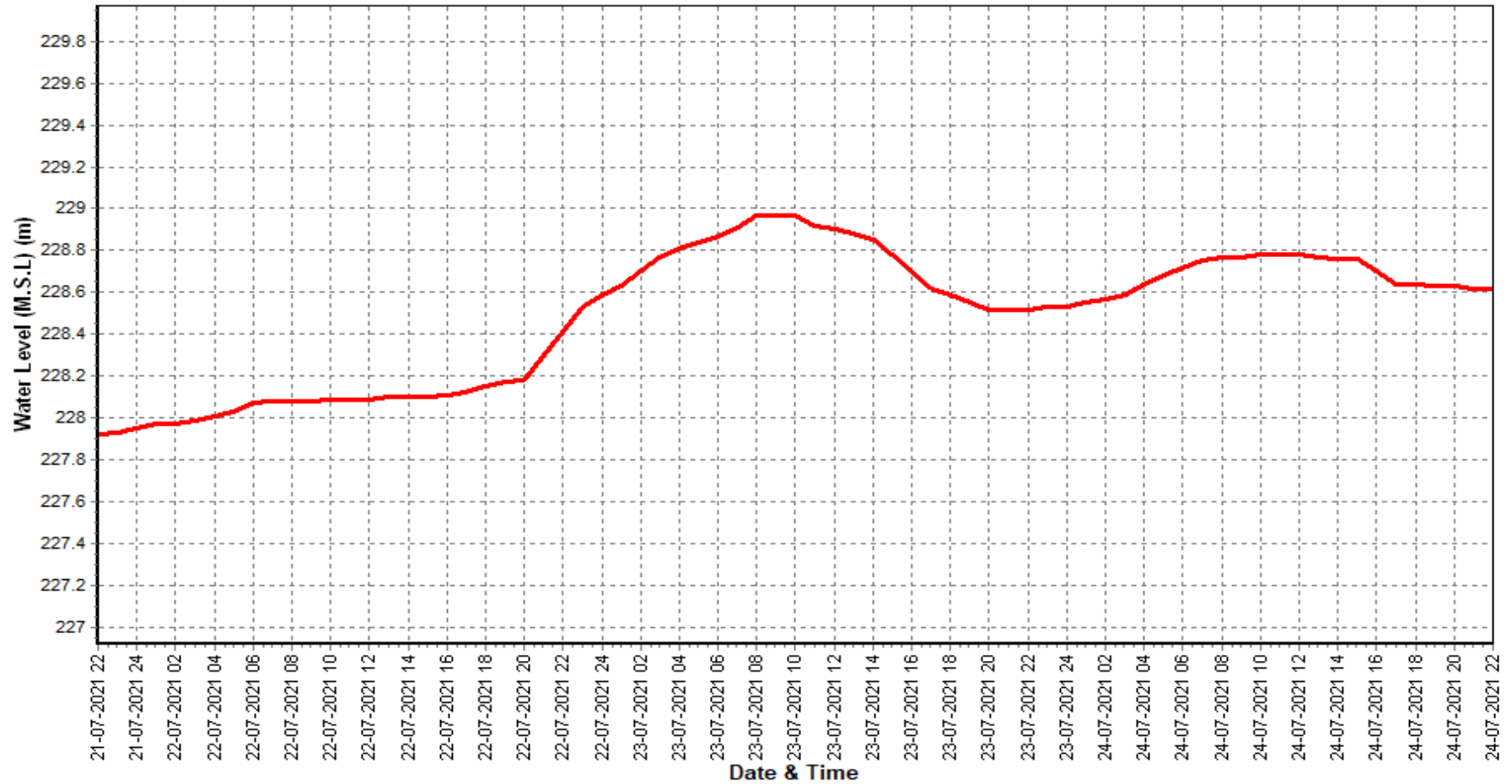
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Anantharam (034-LKDHYD)

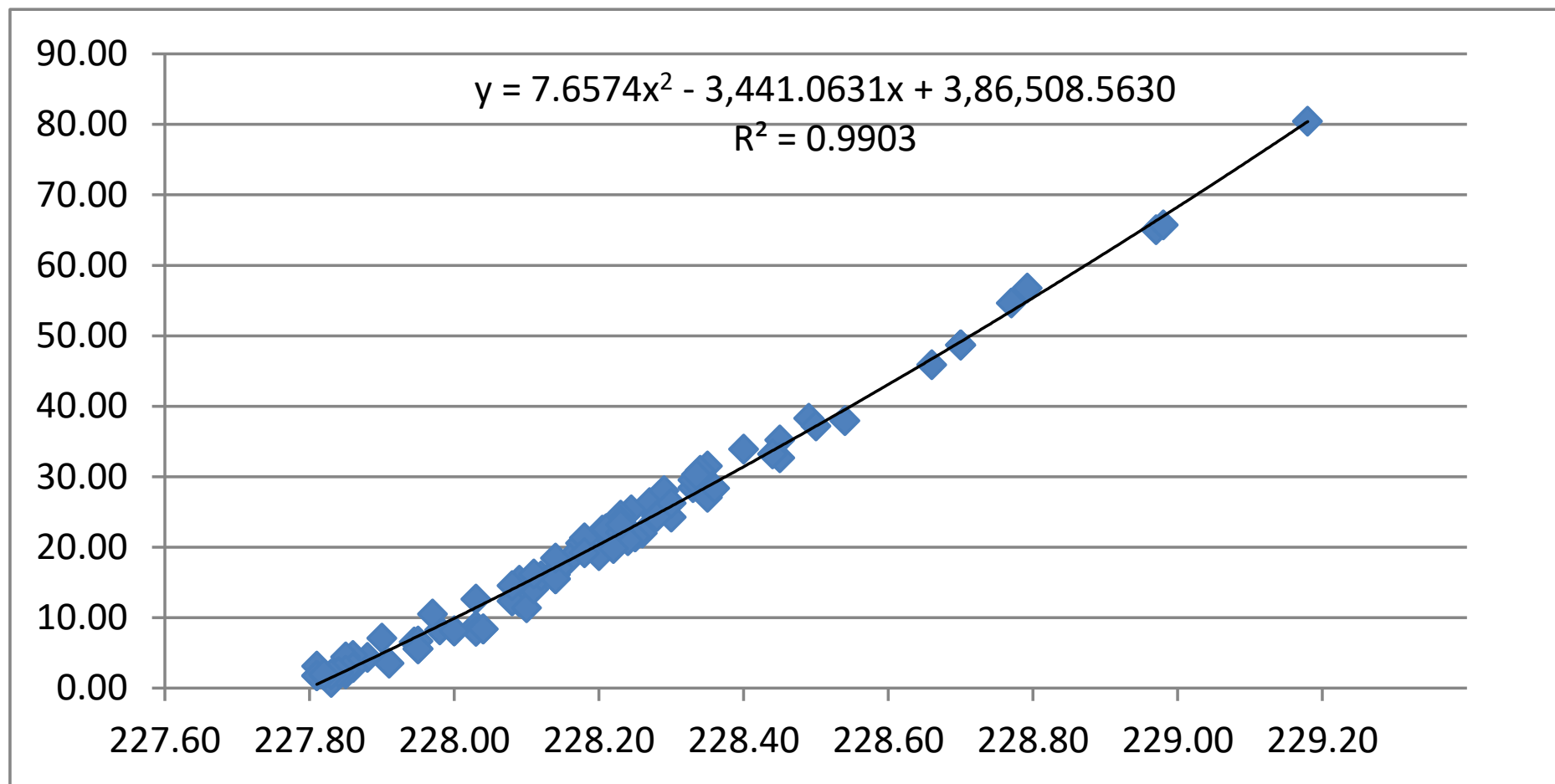
Local River : Lower Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



Anantharam 2021-22



HISTORY SHEET

		Water Year : 2021-2022	
Site	: DAMERCHERLA	Code	: AKF00A7
State	: Telangana	District	: Nalgonda
Basin	: Krishna	Independent River	: Krishna
Tributary	: Musi	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Musi
Division	: Lower Krishna Divn., Hyderabad	Sub-Division	: Lower Krishna SD 1, N.S.Dam
Drainage Area	: 11501 Sq. Km.	Bank	:
Latitude	: 16°44'21"	Longitude	: 79°40'11"
Zero of Gauge (m)	: 56 (m.s.l)	01-06-1968	- 31-05-1972
	: 55 (m.s.l)	01-06-1972	- 31-05-2010
	: 53 (m.s.l)	01-06-2010	
	Opening Date	Closing Date	
Gauge	: 21-07-1968	HFL During 2021-22	: 59.360 m
		Corres. Discharge	: 1940 (Estimated)
Discharge	: 27-07-1968	Date & Time of occurrence	: 03-09-2021 : 20:00 Hrs
Sediment	: 01-09-2013		
Water Quality	: 01-01-1980		

HFL Recorded so far in m : 62.500 dt 05-10-2009

Corresponding Discharge (cumecs) : 4283 *

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1969-1970	615.0	57.575	06-09-1969	1.000	56.080	31-05-1970
1970-1971	1550	59.180	23-09-1970	0.689	56.050	20-06-1970
1971-1972	473.0	57.590	03-10-1971	0.280	55.910	31-05-1972
1972-1973	275.5	57.195	06-10-1972	0.200	55.900	12-06-1972
1973-1974	617	57.300	13-08-1973	0.200	55.740	18-06-1973
1974-1975	164.0	56.715	24-10-1974	0.500	55.690	16-05-1975
1975-1976	1389	58.570	08-10-1975	1.100	55.685	11-06-1975
1976-1977	921.7	57.785	05-09-1976	0.800	55.410	09-06-1976
1977-1978	155.9	56.320	23-08-1977	0.900	55.335	13-06-1977
1978-1979	1420	58.790	16-08-1978	0.700	55.300	05-06-1978
1979-1980	662.5	57.300	28-09-1979	0.500	55.250	22-06-1979
1980-1981	143.0	56.400	18-09-1980	0.200	55.130	20-04-1981
1981-1982	380.8	56.900	10-10-1981	0.100	55.230	13-04-1982
1982-1983	684.2	57.513	20-10-1982	0.100	55.225	11-06-1982
1983-1984	2994	61.065	06-10-1983	0.000	55.100	20-06-1983
1984-1985	132.1	56.250	02-08-1984	0.600	55.245	13-07-1984
1985-1986	283.2	57.100	13-08-1985	0.400	55.130	25-05-1986

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1986-1987	194.5	56.730	13-08-1986	0.300	55.130	02-06-1986
1987-1988	247.3	56.750	04-11-1987	0.097	55.090	09-06-1987
1988-1989	1356	58.450	20-09-1988	0.153	55.030	06-06-1988
1989-1990	2656	61.335	24-07-1989	0.545	55.110	04-07-1989
1990-1991	395.0	57.140	31-08-1990	0.538	55.100	29-06-1990
1991-1992	1077	58.751	22-09-1991	2.142	55.129	05-06-1991
1992-1993	121.6	56.291	11-09-1992	0.310	55.060	11-07-1992
1993-1994	171.9	56.500	10-10-1993	0.407	55.089	27-06-1993
1994-1995	744.4	57.500	06-10-1994	0.543	55.090	29-07-1994
1995-1996	915.9	57.710	20-10-1995	0.718	55.040	30-05-1996
1996-1997	538.5	57.170	08-09-1996	0.447	55.010	14-06-1996
1997-1998	196.5	56.450	23-09-1997	0.000	55.080	25-07-1997
1998-1999	2200	60.520	16-10-1998	0.000		17-07-1998
1999-2000	225.9	56.570	07-09-1999	0.700	55.000	21-05-2000
2000-2001	1270	58.450	23-08-2000	0.708	55.000	24-07-2000
2001-2002	922.1	57.775	30-09-2001	0.008	54.750	23-07-2001
2002-2003	4.286	55.140	16-12-2002	0.000		19-04-2003
2003-2004	42.52	55.590	24-08-2003	0.000	54.700	02-12-2003
2004-2005	272.3	56.400	06-10-2004	0.000	54.960	09-08-2004
2005-2006	699.0	58.800	30-10-2005	0.000	55.140	12-07-2005
2006-2007	446.1	56.345	28-10-2006	0.000	54.800	08-07-2006
2007-2008	353.8	56.620	25-03-2008	0.000	54.900	09-07-2007
2008-2009	1327	58.600	10-08-2008	0.827	55.000	22-06-2008
2009-2010	4300	62.500	05-10-2009	0.000	54.500	15-08-2009
2010-2011	461.5	57.150	28-08-2010	0.989	54.920	20-06-2010
2011-2012	282.0	56.910	20-08-2011	0.000	54.780	27-05-2012
2012-2013	107.6	55.920	03-10-2012	0.000	54.750	06-02-2013
2013-2014	2510	60.500	26-10-2013	0.000	54.980	05-06-2013
2014-2015	381.0	56.690	27-10-2014	0.000		19-08-2014
2015-2016	100.9	55.665	21-08-2015	0.000		31-03-2016
2016-2017	1563	58.050	23-09-2016	0.000	54.460	10-08-2016
2017-2018	583.5	57.200	04-10-2017	0.000	54.640	15-06-2017
2018-2019	343.9	56.350	21-08-2018	0.000	54.710	23-06-2018
2019-2020	602.4	57.200	07-10-2019	0.000	54.710	30-06-2019
2020-2021	3494	61.650	14-10-2020	0.000	54.630	09-08-2020

Annual Runoff of Musi at Dameracherla

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1968-1969	729	756	1485	26	27	52
2	1969-1970	937	670	1606	33	24	57
3	1970-1971	1262	331	1593	45	12	56
4	1971-1972	568	206	774	20	7	27
5	1972-1973	311	170	481	11	6	17
6	1973-1974	527	270	798	19	10	28
7	1974-1975	548	344	892	19	12	32
8	1975-1976	3009	390	3398	106	14	120
9	1976-1977	983	149	1132	35	5	40
10	1977-1978	375	190	565	13	7	20
11	1978-1979	1430	255	1685	51	9	60
12	1979-1980	481	278	758	17	10	27
13	1980-1981	521	40	561	18	1	20
14	1981-1982	706	37	744	25	1	26
15	1982-1983	481	90	571	17	3	20
16	1983-1984	1814	265	2079	64	9	73
17	1984-1985	379	281	660	13	10	23
18	1985-1986	559	91	651	20	3	23
19	1986-1987	485	119	604	17	4	21
20	1987-1988	422	126	548	15	4	19
21	1988-1989	1504	206	1710	53	7	60
22	1989-1990	1375	327	1702	49	12	60
23	1990-1991	736	278	1015	26	10	36
24	1991-1992	739	225	964	26	8	34
25	1992-1993	410	345	756	14	12	27
26	1993-1994	423	272	695	15	10	25
27	1994-1995	584	325	908	21	11	32
28	1995-1996	684	128	812	24	5	29
29	1996-1997	707	352	1059	25	12	37
30	1997-1998	383	117	500	14	4	18
31	1998-1999	1146	339	1484	40	12	52
32	1999-2000	473	171	644	17	6	23
33	2000-2001	765	266	1031	27	9	36
34	2001-2002	387	151	538	14	5	19
35	2002-2003	8	7	15	0	0	1
36	2003-2004	40	0	40	1	0	1
37	2004-2005	247	244	491	9	9	17
38	2005-2006	1146	399	1545	41	14	55
39	2006-2007	978	510	1488	35	18	53
40	2007-2008	1218	636	1854	43	22	66
41	2008-2009	1512	586	2098	53	21	74
42	2009-2010	1212	494	1706	43	17	60
43	2010-2011	1047	597	1644	37	21	58
44	2011-2012	624	119	743	22	4	26
45	2012-2013	89	48	137	3	2	5
46	2013-2014	1924	244	2168	68	9	77
47	2014-2015	447	257	704	16	9	25

48	2015-2016	145	4	149	5	0	5
49	2016-2017	1028	64	1093	36	2	39
50	2017-2018	665	207	872	24	7	31
51	2018-2019	281	66	347	10	2	12
52	2019-2020	707	253	960	25	9	34
53	2020-2021	2628	292	2919	93	10	103
54	2021-2022	2578	410	2988	91	14	106
Average		840	259	1099	27	9	36

Instantaneous Flood Peak of Krishna at Damarcherla

Sl. No.	Year	Instantaneous Annual Flood Peak		Time	Discharge * (Cumecs)
		Peak WL (m) Recorded	Date		
1	1968-1969	57.990	08-09-1968	08:00:00	917 *
2	1969-1970	57.575	06-09-1969	08:00:00	709 *
3	1970-1971	59.260	23-09-1970	14:00:00	1662 *
4	1971-1972	58.300	03-10-1971	01:00:00	1084 *
5	1972-1973	57.195	06-10-1972	14:00:00	532 *
6	1973-1974	57.300	13-08-1973	05:00:00	580 *
7	1974-1975	56.780	24-10-1974	18:00:00	356 *
8	1975-1976	58.960	08-10-1975	19:00:00	1472 *
9	1976-1977	57.785	05-09-1976	08:00:00	812 *
10	1977-1978	56.325	23-08-1977	13:00:00	183 *
11	1978-1979	59.530	16-08-1978	02:00:00	1841 *
12	1979-1980	57.380	28-09-1979	05:00:00	616 *
13	1980-1981	56.400	18-09-1980	05:00:00	210 *
14	1981-1982	61.000	10-10-1981	08:00:00	2941 *
15	1982-1983	57.575	20-10-1982	07:00:00	709 *
16	1983-1984	61.570	06-10-1983	05:00:00	3424 *
17	1984-1985	56.600	02-08-1984	23:00:00	285 *
18	1985-1986	57.250	13-08-1985	12:00:00	557 *
19	1986-1987	56.730	13-08-1986	05:00:00	336 *
20	1987-1988	57.150	04-11-1987	18:00:00	512 *
21	1988-1989	58.500	20-09-1988	10:00:00	1197 *
22	1989-1990	62.040	24-07-1989	03:00:00	3848 *
23	1990-1991	57.530	31-08-1990	11:00:00	687 *
24	1991-1992	59.200	22-09-1991	06:00:00	1623 *
25	1992-1993	57.100	11-09-1992	17:00:00	491 *
26	1993-1994	56.950	10-10-1993	17:00:00	426 *
27	1994-1995	57.500	06-10-1994	08:00:00	673 *
28	1995-1996	57.750	20-10-1995	11:00:00	795 *
29	1996-1997	57.350	08-09-1996	22:00:00	603 *
30	1997-1998	56.700	23-09-1997	19:00:00	324 *
31	1998-1999	60.950	16-10-1998	02:00:00	2900 *
32	1999-2000	56.800	07-09-1999	16:00:00	364 *
33	2000-2001	59.160	23-08-2000	00:00:00	1598 *
34	2001-2002	58.300	30-09-2001	18:00:00	1084 *
35	2002-2003	55.380	16-12-2002	08:00:00	25 *
36	2003-2004	55.600	24-08-2003	18:00:00	35 *
37	2004-2005	56.400	06-10-2004	01:00:00	210 *
38	2005-2006	61.200	30-10-2005	20:00:00	3107 *
39	2006-2007	56.500	28-10-2006	19:00:00	247 *
40	2007-2008	56.700	25-03-2008	11:00:00	324 *
41	2008-2009	58.900	10-08-2008	12:00:00	1435 *
42	2009-2010	62.500	05-10-2009	00:00:00	4283 *
43	2010-2011	57.450	28-08-2010	05:00:00	649 *
44	2011-2012	56.940	20-08-2011	10:00:00	422 *
45	2012-2013	55.920	03-10-2012	07:00:00	45 *
46	2013-2014	61.450	26-10-2013	11:00:00	3320 *
47	2014-2015	56.860	27-10-2014	19:00:00	389 *
48	2015-2016	55.680	21-08-2015	10:00:00	40 *
49	2016-2017	58.570	24-09-2016	15:00:00	1238 *
50	2017-2018	57.200	04-10-2017	08:00:00	535 *
51	2018-2019	56.490	21-08-2018	22:00:00	243 *
52	2019-2020	60.090	07-10-2019	08:00:00	2234 *
53	2020-2021	61.650	14-10-2020	15:00:00	3494 *
54	2021-2022	59.360	03-09-2021	20:00:00	1940 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : DAMERCHERLA (AKF00A7)

Division : Lower Krishna Divn., Hyderabad

Local River : Musi

Sub-Division : Lower Krishna SD 1, N.S.Dam

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	55.090	1.867	55.470	5.007	56.730	11.25 *	58.600	905.4	57.870	191.0	57.950	190.3
2	55.050	1.820	55.525	7.848	57.330	15.25 *	58.320	569.0	57.590	35.09 *	57.960	243.2
3	55.040	1.810	55.730	10.90	57.310	12.25 *	58.260	473.3	57.570	28.08 *	57.810	131.8
4	55.480	16.85	55.870	7.250 *	57.240	6.034	58.285	502.0	57.830	122.2	57.760	109.9 *
5	55.310	8.080	55.850	7.227	57.240	4.537	58.120	357.5 *	57.780	124.5	57.740	101.1
6	55.260	6.250 *	56.310	5.249	57.180	4.601	58.700	960.3	57.895	184.1	57.760	125.6
7	55.200	5.502	56.370	8.219	57.065	3.496	58.720	1022	57.800	135.5	57.720	89.84 *
8	55.160	4.915	56.340	8.507	57.010	5.650 *	58.560	801.7	57.740	95.25	57.740	116.9
9	55.110	4.179	56.320	7.195	57.110	3.542	58.370	595.3	57.800	132.1	57.680	92.61
10	55.100	4.059	56.280	6.965	57.275	5.982	58.200	429.1 *	57.950	225.5 *	57.690	91.75
11	55.130	3.787	56.260	6.950 *	57.150	4.535	58.000	218.8	58.650	910.3	57.690	92.16
12	55.210	3.996	56.250	6.834	57.160	5.331	57.980	246.8 *	58.110	380.2	57.690	89.17
13	55.250	4.560 *	56.270	7.108	57.580	19.47	57.670	39.92	58.060	346.8	57.690	95.91
14	55.325	6.494	56.290	7.418	57.580	16.52	57.670	46.02	57.840	145.0	57.700	80.39 *
15	55.280	5.385	56.610	15.82	57.640	40.12 *	57.800	134.3	57.740	99.67 *	57.680	86.92
16	55.680	4.190	58.910	1561	57.650	40.27	57.790	95.50	57.670	38.47	57.750	132.4
17	55.660	3.897	58.035	372.7	57.840	157.3	57.760	91.23	57.750	104.7 *	57.700	99.53
18	55.430	3.644	57.990	352.3 *	57.820	125.2	57.680	32.85	58.040	277.1	57.680	84.24
19	55.410	3.522	57.770	164.5	57.770	99.43	57.610	42.49 *	58.120	357.5 *	57.690	75.80 *
20	55.380	4.250 *	57.750	161.9	57.700	80.39 *	57.550	29.09	57.870	188.6	57.690	89.41
21	55.400	3.191	57.730	151.7 *	57.630	29.21	57.590	32.76	57.910	215.4	57.710	85.07 *
22	55.410	3.343	57.795	215.3	57.620	46.32 *	57.820	146.6	57.810	130.1	57.750	139.3
23	55.380	2.914	58.330	513.3	57.690	45.91	58.120	368.4	57.730	98.88	57.675	83.32
24	55.470	4.334	58.280	527.2	57.680	39.36	58.140	444.7	57.690	75.80 *	57.750	141.2
25	55.400	3.206	58.230	512.5 *	57.630	29.50	58.070	304.8	57.710	89.09	57.680	87.46
26	55.360	2.424	57.930	189.2	57.620	27.60	58.000	261.5 *	57.760	120.9	57.750	145.3
27	55.370	2.460 *	57.675	106.3	57.690	40.23	58.040	241.4	57.720	97.50	57.655	47.71
28	55.700	9.164	57.670	116.0	57.770	101.3	58.690	972.8	57.710	92.10	57.620	46.32 *
29	55.650	6.385	57.230	32.52	57.840	154.4 *	59.080	1628	57.700	88.53	57.620	46.92
30	55.520	5.197	56.930	16.99	58.180	478.5	58.665	922.5	57.810	144.9	57.620	49.59
31			56.765	13.23	58.970	1486			57.830	148.5 *		
Ten-Daily Mean												
I Ten-Daily	55.180	5.534	56.007	7.437	57.149	7.259	58.414	661.6	57.783	127.3	57.781	129.3
II Ten-Daily	55.375	4.373	57.214	265.6	57.589	58.86	57.751	97.70	57.985	284.8	57.696	92.60
III Ten-Daily	55.466	4.262	57.688	217.7	57.847	225.3	58.221	532.3	57.762	118.3	57.683	87.22
Monthly												
Min.	55.040	1.810	55.470	5.007	56.730	3.496	57.550	29.09	57.570	28.08	57.620	46.32
Max.	55.700	16.85	58.910	1561	58.970	1486	59.080	1628	58.650	910.3	57.960	243.2
Mean	55.340	4.723	56.992	165.3	57.539	101.3	58.129	430.5	57.840	175	57.720	103

Annual Runoff in MCM = 2988 Annual Runoff in mm = 260

Peak Observed Discharge = 1628 cumecs on 29-09-2021 Corres. Water Level :59.08 m

Lowest Observed Discharge = 1.810 cumecs on 03-06-2021 Corres. Water Level :55.04 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : DAMERCHERLA (AKF00A7)

Division : Lower Krishna Divn., Hyderabad

Local River : Musi

Sub-Division : Lower Krishna SD 1, N.S.Dam

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	57.620	41.34	57.380	19.24	57.330	17.55	57.500	28.93	57.450	23.49	57.050	5.947 *
2	57.620	40.40	57.400	21.11 *	57.370	19.80	57.490	27.91	57.440	23.05	57.060	6.415
3	57.410	21.93	57.410	20.19	57.360	19.76	57.510	29.35	57.430	23.22 *	57.070	6.343 *
4	57.500	28.73	57.430	21.67	57.390	22.17	57.510	29.68	57.430	22.04	57.060	6.465
5	57.620	39.59 *	57.440	22.71	57.380	21.07	57.500	29.04	57.410	21.62	57.080	6.961
6	57.610	39.51	57.440	22.63	57.380	19.77 *	57.510	29.48 *	57.400	20.47	57.090	7.320
7	57.540	31.75	57.440	22.85	57.410	22.40	57.530	31.20	57.390	20.05	57.110	8.149
8	57.380	18.92	57.440	22.83	57.420	22.87	57.530	31.44	57.380	19.80	57.080	6.562 *
9	57.610	39.56	57.420	21.25 *	57.460	26.50	57.510	29.49	57.370	19.42	57.080	6.735
10	57.530	30.39	57.360	18.25	57.490	27.54	57.500	28.31	57.360	18.49 *	57.050	5.969
11	57.530	30.81	57.350	17.57	57.480	27.15	57.490	27.38	57.300	15.36	57.030	5.563
12	57.520	30.33 *	57.340	17.45	57.490	27.95	57.520	29.86	57.280	14.78	57.050	6.070
13	57.510	29.04	57.480	27.73	57.490	27.83 *	57.510	29.48 *	57.280	14.80	57.060	6.010
14	57.510	29.51	57.860	177.6 *	57.490	27.26	57.530	31.50	57.270	13.44 *	57.080	6.651
15	57.340	17.44	57.690	91.71	57.480	26.80	57.520	29.75	57.270	13.44 *	57.050	5.947 *
16	57.200	11.02	57.610	38.60 *	57.470	24.91	57.530	31.25	57.260	12.05	57.060	6.138 *
17	57.090	7.713	58.140	474.5	57.470	25.05	57.520	29.43	57.260	12.95 *	57.050	5.902
18	57.570	37.16	57.920	248.4	57.440	23.13	57.530	31.19 *	57.230	10.95	57.030	4.912
19	57.490	27.83 *	57.760	126.6	57.440	22.27	57.530	31.88	57.220	10.95	57.020	5.133
20	57.370	18.40 *	57.700	98.47	57.400	21.11 *	57.520	30.33 *	57.230	11.24	57.030	5.332
21	57.290	14.76	57.700	84.47	57.410	21.33	57.500	27.94	57.200	10.22	57.020	5.268
22	57.210	10.87	57.650	52.19	57.380	19.48	57.490	26.81	57.150	8.765	56.970	4.935 *
23	57.210	11.39	57.550	32.96 *	57.410	20.87	57.450	23.74	57.120	7.621	56.990	4.564
24	57.280	14.18	57.500	29.74	57.410	22.15	57.450	23.95	57.080	6.562 *	56.970	3.970
25	57.310	15.54 *	57.490	28.17	57.450	25.09	57.460	25.75	57.060	6.340	56.980	4.014
26	57.300	14.99 *	57.470	26.24 *	57.440	23.28	57.470	25.46	57.010	5.136	56.970	3.990
27	57.330	17.52	57.440	23.73	57.450	24.70 *	57.460	25.46 *	57.060	6.367	56.980	4.393
28	57.360	19.39	57.400	21.58	57.470	26.28	57.470	25.06	57.050	6.348	56.960	3.769
29	57.370	19.01	57.370	19.58			57.460	24.87	57.030	5.615	56.970	4.935 *
30	57.380	20.03	57.300	14.99 *			57.450	23.35	57.060	6.265	56.980	4.384
31	57.380	19.59	57.320	16.79			57.450	23.26			56.990	4.923
<u>Ten-Daily Mean</u>												
I Ten-Daily	57.544	33.21	57.416	21.27	57.399	21.94	57.509	29.48	57.406	21.17	57.073	6.687
II Ten-Daily	57.413	23.93	57.685	131.9	57.465	25.35	57.520	30.21	57.260	13.00	57.046	5.766
III Ten-Daily	57.311	16.12	57.472	31.86	57.428	22.90	57.465	25.06	57.082	6.923	56.980	4.467
<u>Monthly</u>												
Min.	57.090	7.713	57.300	14.99	57.330	17.55	57.450	23.26	57.010	5.136	56.960	3.769
Max.	57.620	41.34	58.140	474.5	57.490	27.95	57.530	31.88	57.450	23.49	57.110	8.149
Mean	57.419	24.15	57.523	60.7	57.431	23.43	57.497	28.15	57.249	13.69	57.031	5.602

Peak Computed Discharge = 512.5 cumecs on 25-07-2021

Corres. Water Level :58.23 m

Lowest Computed Discharge = 2.460 cumecs on 27-06-2021

Corres. Water Level :55.37 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

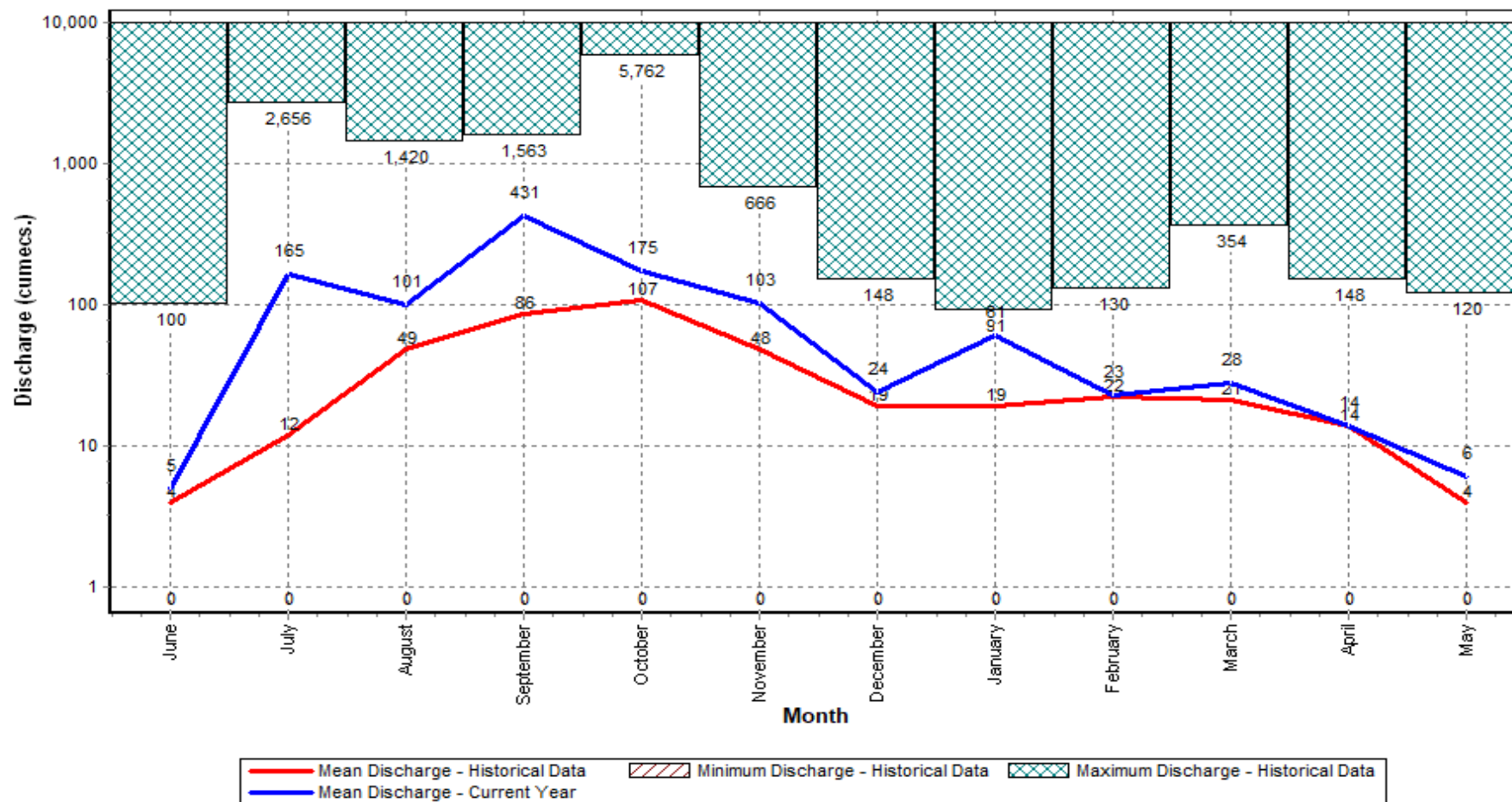
Station Name : DAMERCHERLA (AKF00A7)

Data considered : 1969-2022

Division : Lower Krishna Divn., Hyderabad

Local River : Musi

Sub-Division : Lower Krishna SD 1, N.S.Dam



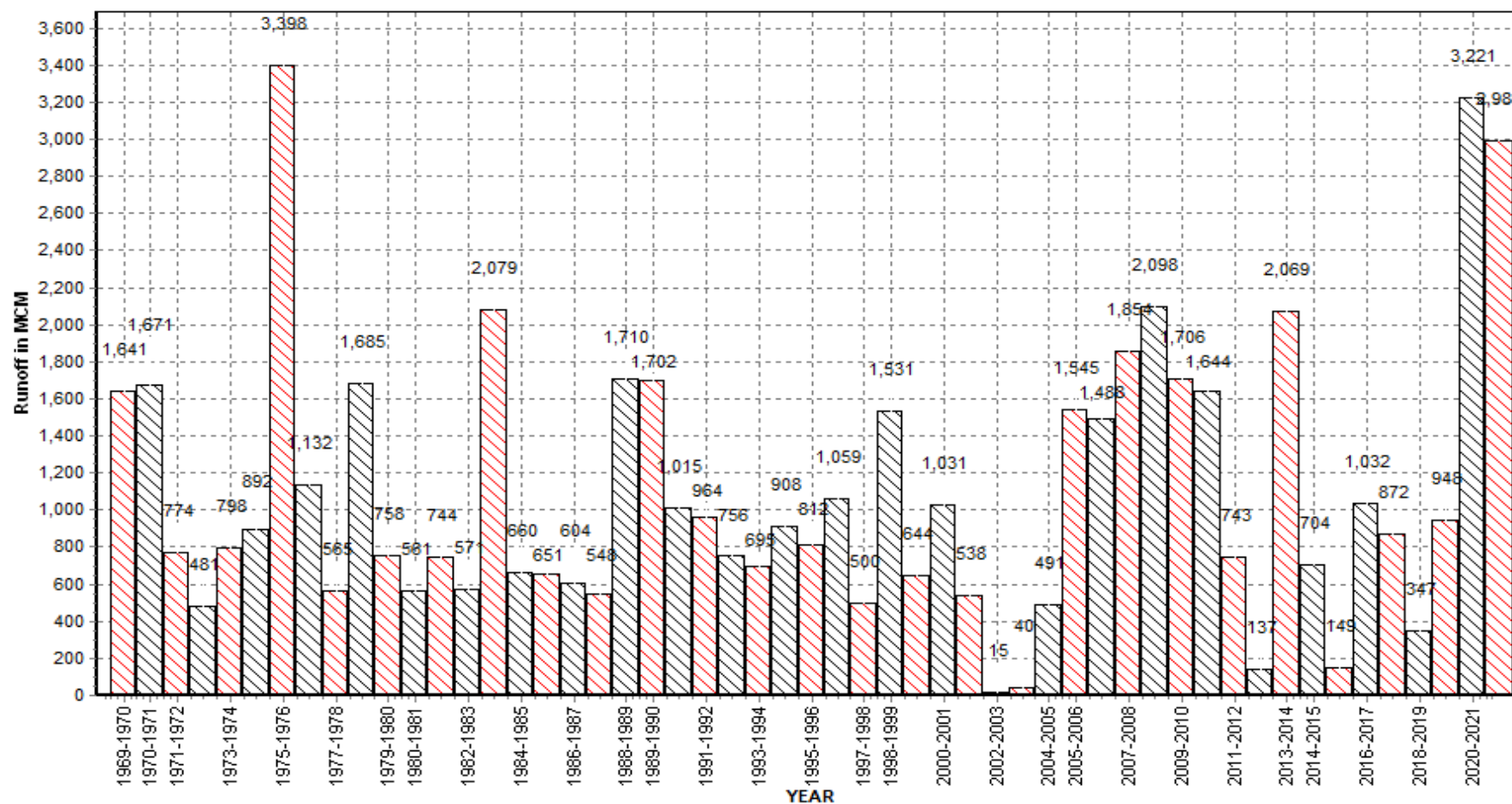
Annual Runoff Values for the period: 1969 - 2022

Station Name : DAMERCHERLA (AKF00A7)

Local River : Musi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



Note: Missing values have not been considered while arriving at Annual Runoff

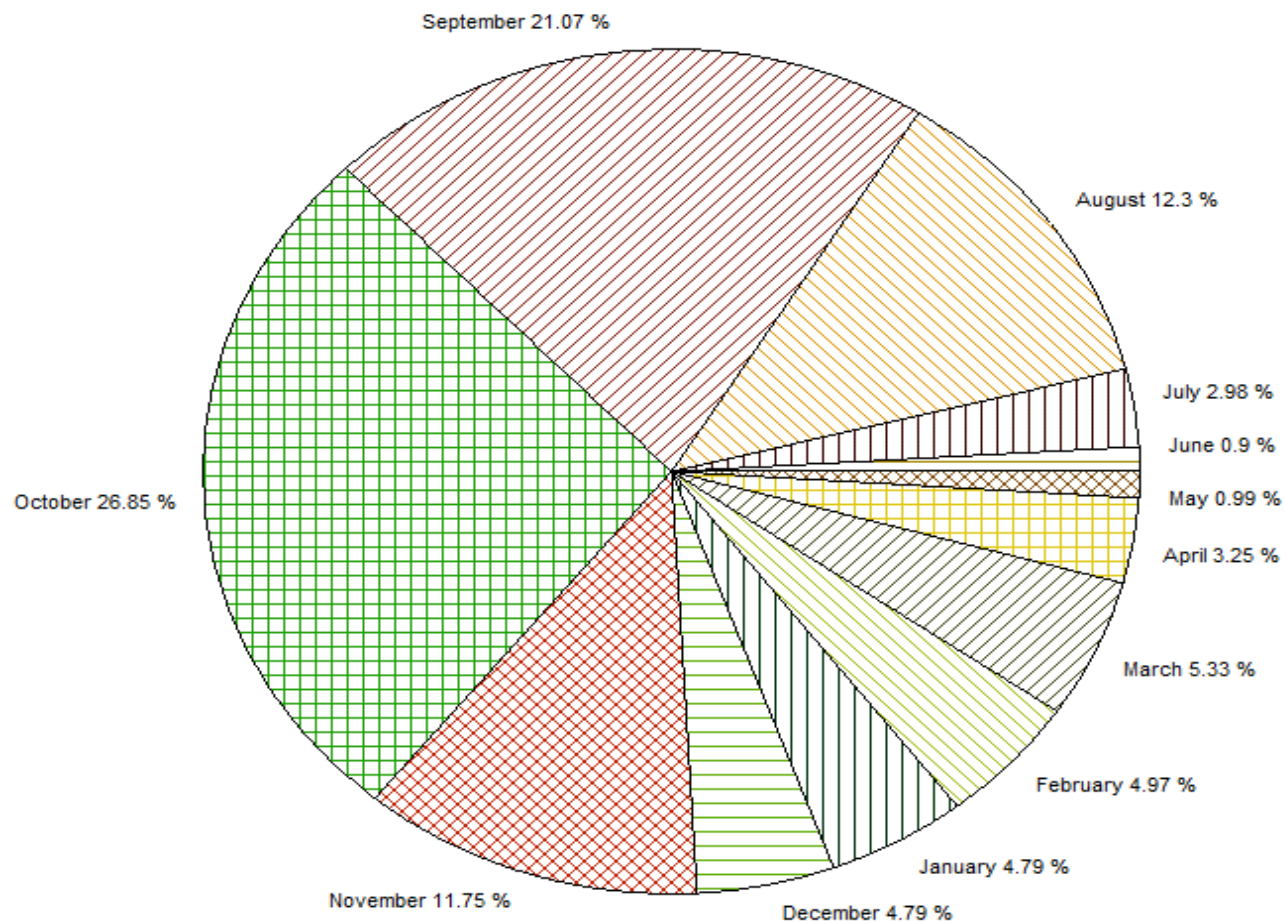
Monthly Average Runoff based on period : 1969-2021

Station Name : DAMERCHERLA (AKF00A7)

Local River : Musi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



June	0.9 %
July	2.98 %
August	12.3 %
September	21.07 %
October	26.85 %
November	11.75 %
December	4.79 %
January	4.79 %
February	4.97 %
March	5.33 %
April	3.25 %
May	0.99 %

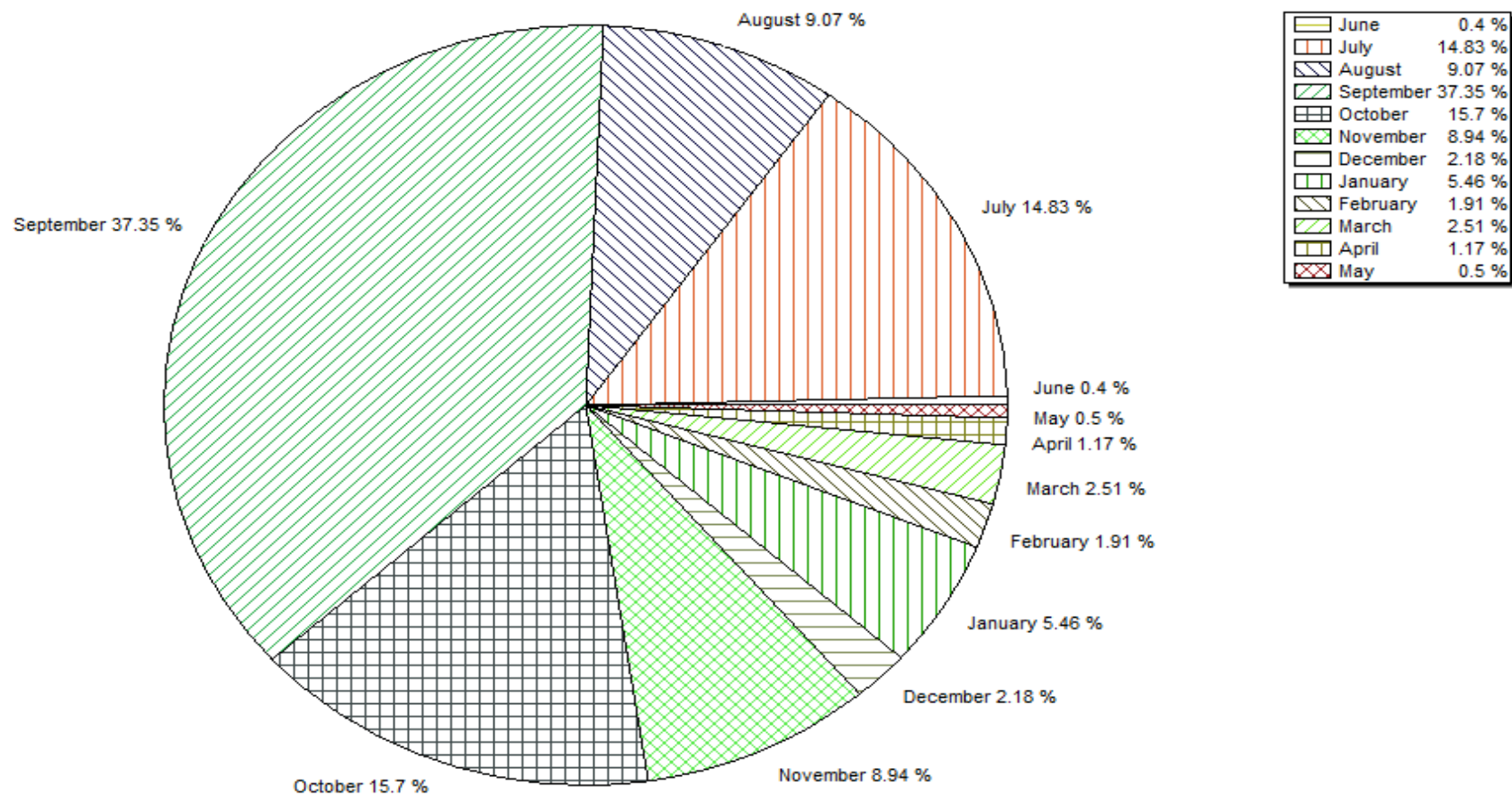
Monthly Runoff for the Year : 2021-2022

Station Name : DAMERCHERLA (AKF00A7)

Local River : Musi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



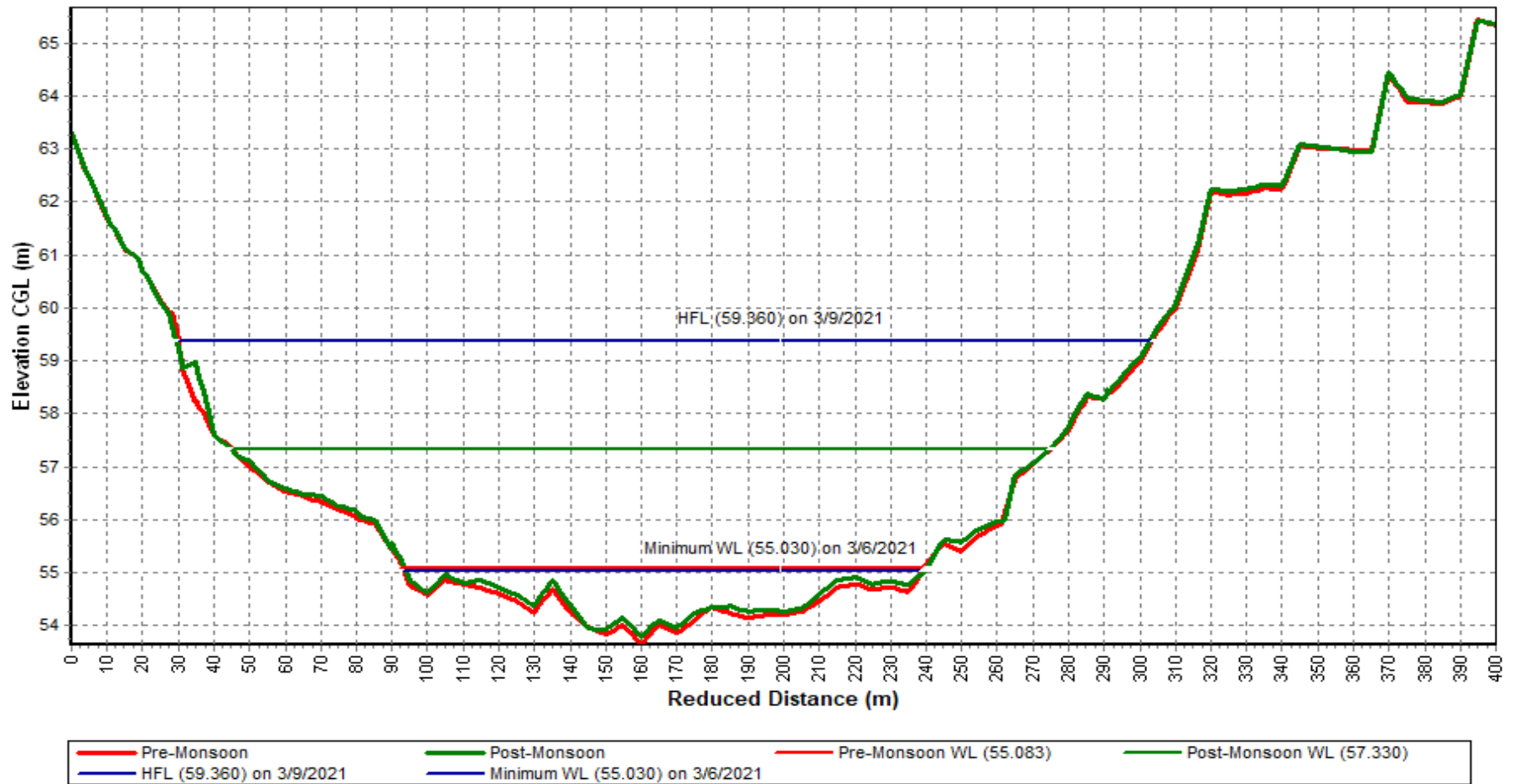
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : DAMERCHERLA (AKF00A7)

Local River : Musi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



Zero of Gauge : 53 (m.s.l)

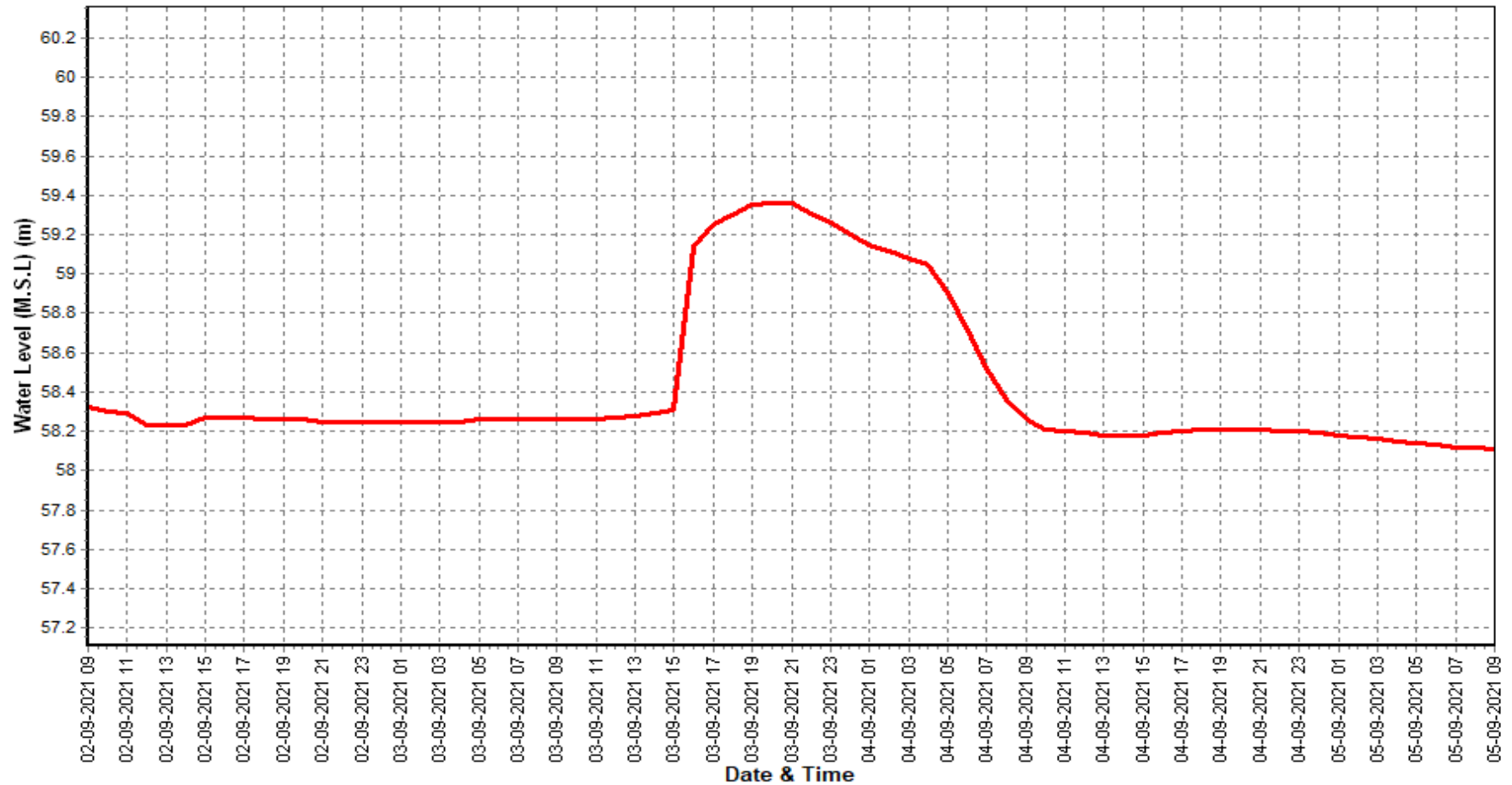
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : DAMERCHERLA (AKF00A7)

Local River : Musi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



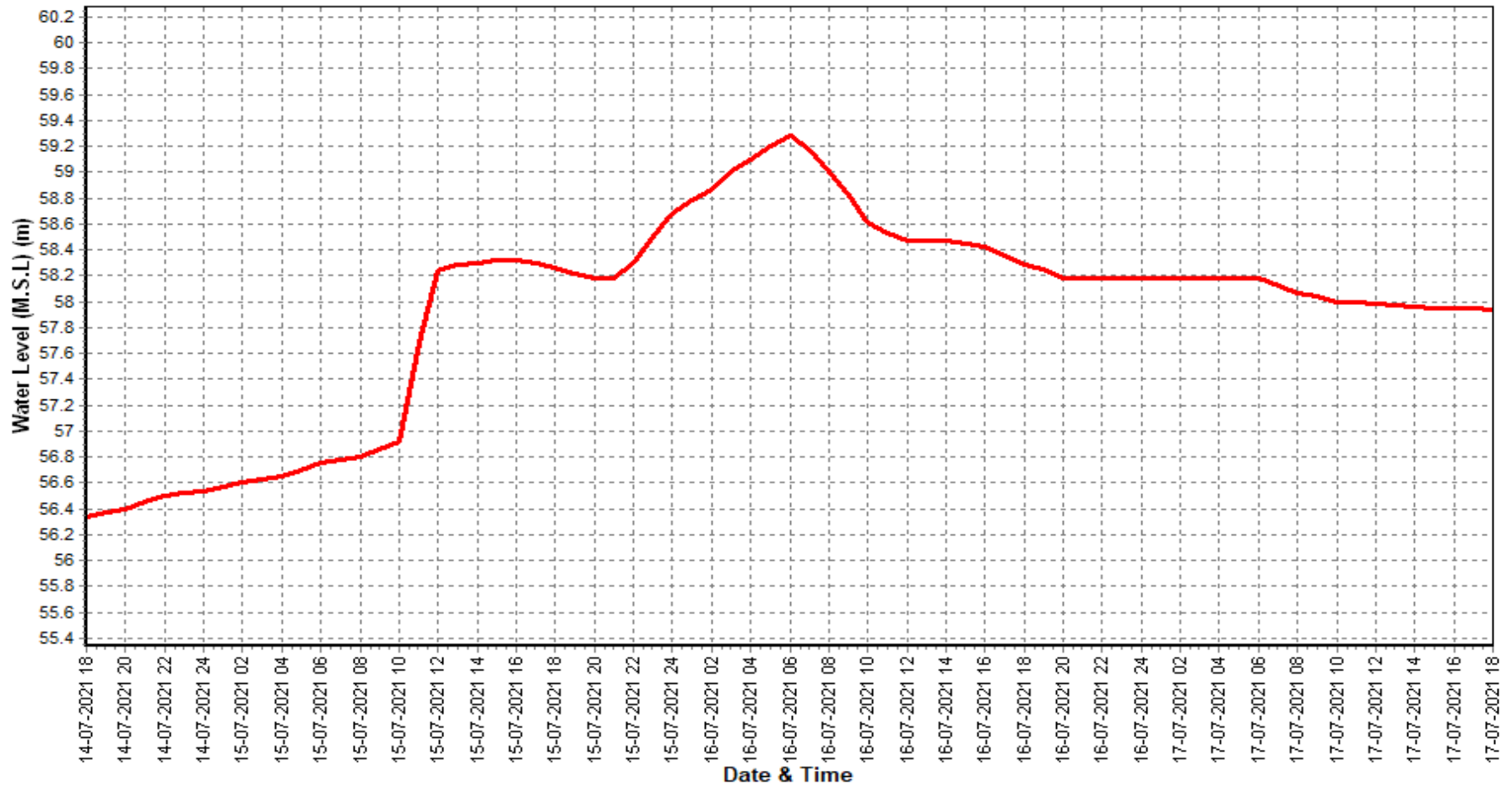
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : DAMERCHERLA (AKF00A7)

Local River : Musi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



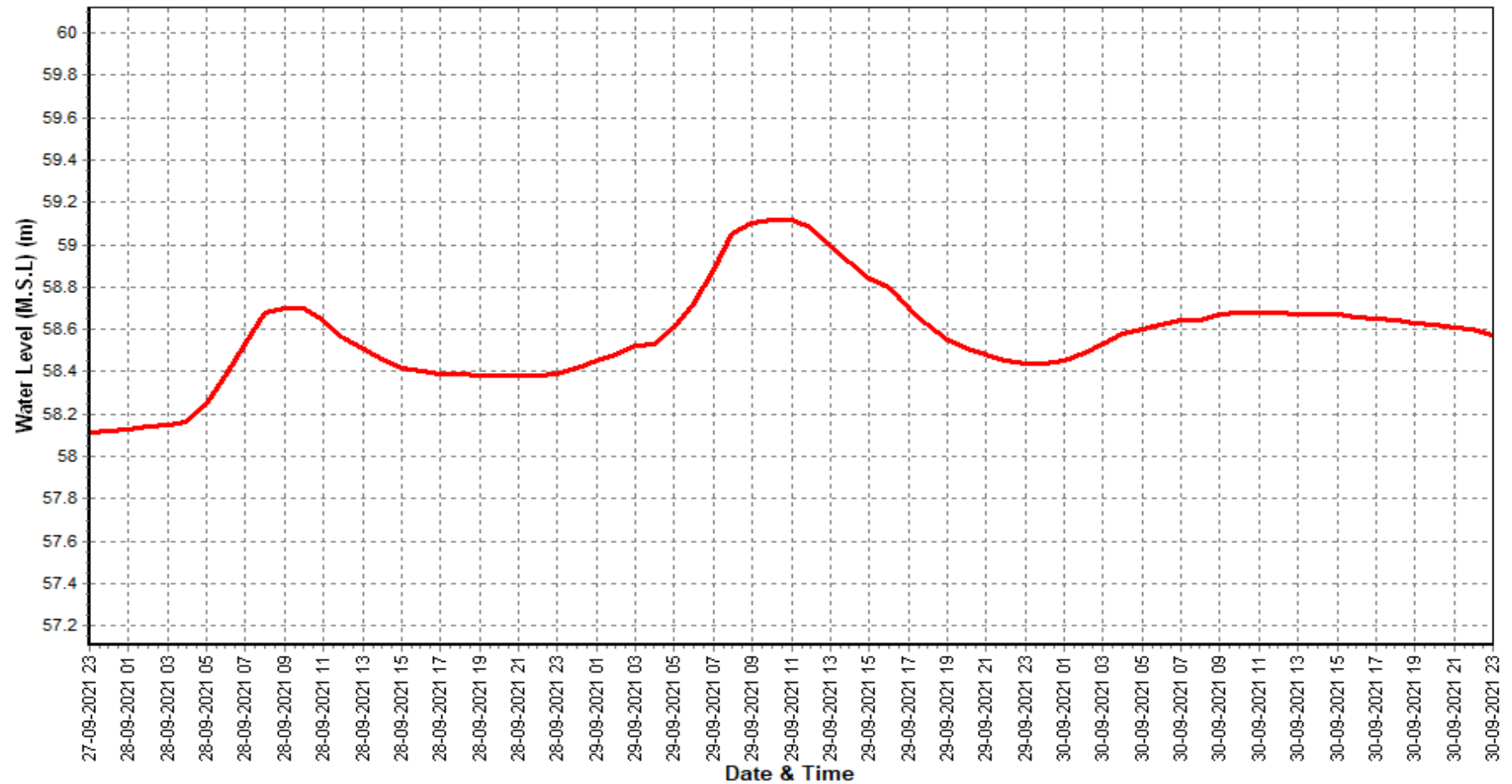
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : DAMERCHERLA (AKF00A7)

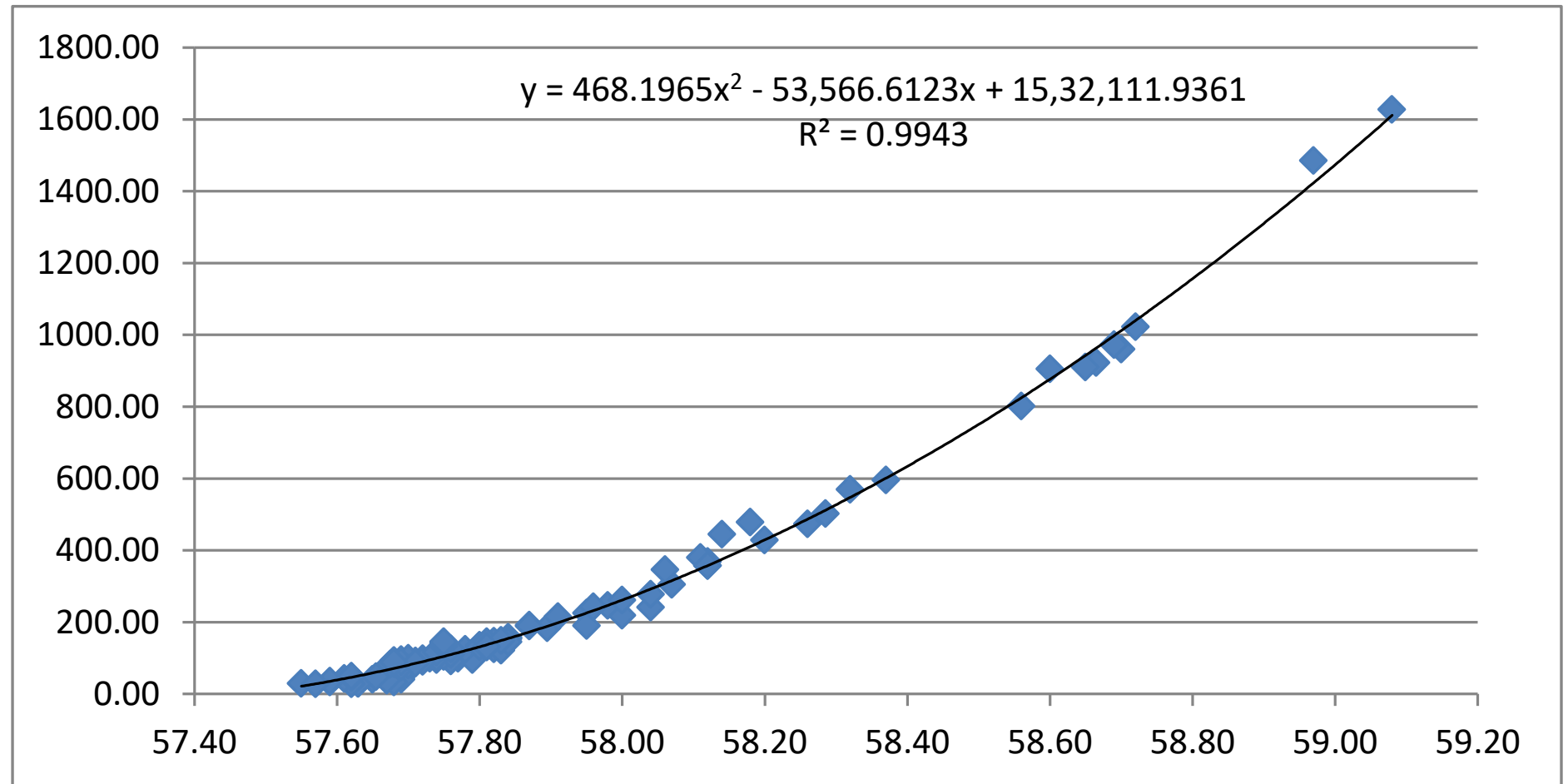
Local River : Musi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



Damercherla 2021-22



HISTORY SHEET

		Water Year	: 2021-2022
Site	: VALIGONDA	Code	: 040-LKDHYD
State	: Telangana	District	Nalgonda
Basin	: Krishna	Independent River	: Krishna
Tributary	: -	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Musi
Division	: Lower Krishna Divn., Hyderabad	Sub-Division	: Lower Krishna SD 1, N.S.Dam
Drainage Area	: 5830 Sq. Km.	Bank	:
Latitude	: 17°21'56"	Longitude	: 79°01'56"
Zero of Gauge (m)	: 94 (m.s.l) 297.5 (m.s.l)	01-06-2019 01-06-2020	- 31-05-2020
	Opening Date	Closing Date	
Gauge	: 01-06-2019	HFL During 2021-22	: 302.310 m
		Corres. Discharge	: 262 (Estimated)
Discharge	: 01-06-2019	Date & Time of occurrence	: 15-07-2021 : 10:00 Hrs
Water Quality	: 01-06-2019		

HFL Recorded so far in m :306.280 dt 14-10-2020

Corresponding Discharge (cumecs) : 2711 (Estimated)

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2019-2020	144.2	98.100	28-09-2019	0.000	96.340	26-06-2019
2020-2021	2706	306.235	14-10-2020	0.000	298.950	06-09-2020

Annual Runoff of Musi at Valigonda

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	2019-2020	438	11	449	15	0	16
2	2020-2021	1300	77	1377	46	3	49
3	2021-2022	702	175	876	25	6	31
Average		869	44	913	31	2	32

Instantaneous Flood Peak of Krishna at Valigonda

		Instantaneous Annual Flood Peak			
Sl. No.	Year	Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	2019-2020	98.520	28-09-2019	20:00:00	238 *
2	2020-2021	306.280	14-10-2020	08:00:00	2711 *
3	2021-2022	302.310	15-07-2021	10:00:00	262 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : VALIGONDA (040-LKDHYD)

Division : Lower Krishna Divn., Hyderabad

Local River : Musi

Sub-Division : Lower Krishna SD 1, N.S.Dam

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	299.180	6.810	299.350	8.888	299.580	23.54 *	300.240	86.09	300.605	112.7	299.740	34.73
2	299.270	7.998	299.270	7.650	299.550	22.85	300.255	85.07	300.300	85.63 *	299.740	33.55
3	299.370	10.44	299.540	25.49	299.500	19.97	300.500	107.8	300.140	71.59 *	299.810	39.43
4	299.540	15.78	299.230	7.460 *	299.465	15.79	300.545	113.1	299.930	59.50	299.790	40.87 *
5	299.540	15.67	299.220	6.953	299.325	11.58	301.000	147.1 *	300.085	72.72	299.770	35.94
6	299.540	16.01 *	299.220	7.060	299.270	8.943	300.620	119.0	299.990	65.51	299.760	35.30
7	299.640	24.95	299.160	5.843	299.260	8.417	300.700	125.3	299.985	63.72	299.740	36.48 *
8	299.350	9.665	299.270	7.651	305.000	498.2 *	300.675	121.3	299.940	57.44	299.720	30.89
9	299.400	12.14	299.710	31.78	299.240	7.713	300.410	96.31	300.835	131.0	299.730	31.15
10	299.360	10.21 *	299.400	10.77	299.220	7.657	300.090	67.20 *	301.280	171.7 *	299.710	29.70
11	299.330	8.629	299.300	8.560 *	299.220	7.457	299.840	43.56	300.810	130.1	299.710	29.15
12	299.475	13.73	299.690	31.04	299.160	6.268	299.680	31.21 *	300.285	90.21	299.690	27.19
13	299.390	11.25 *	300.320	90.15	299.090	5.704	299.560	23.90	300.060	70.40	299.720	30.05
14	299.440	13.23	300.260	71.16	299.090	5.388	299.570	24.27	299.990	63.09	299.710	33.84 *
15	299.400	10.23	302.280	237.2	299.070	5.120 *	299.485	19.85	299.980	57.54 *	299.710	29.48
16	299.390	9.286	300.640	117.4	299.165	7.314	299.445	15.89	299.935	58.27	299.730	30.39
17	299.400	10.69	300.210	70.57	299.345	10.67	299.430	13.07	300.066	65.09 *	299.730	31.53
18	299.340	8.723	300.060	66.45 *	299.600	24.88	299.400	12.53	300.520	106.8	299.710	29.15
19	299.270	7.718	300.320	90.36	299.635	25.14	299.340	1.366 *	300.280	83.88 *	299.740	36.48 *
20	299.200	7.260 *	299.970	54.71	299.450	12.82 *	299.550	22.07	300.060	70.27	299.790	38.48
21	299.180	6.699	299.860	48.52 *	299.310	10.95	300.130	73.17	299.990	63.86	299.810	42.62 *
22	299.160	6.007	300.250	70.15	299.310	11.02 *	300.085	63.45	299.945	58.61	299.850	44.23
23	299.170	6.509	300.500	106.0	299.220	7.491	300.090	63.84	299.890	52.35	299.820	42.22
24	299.170	6.448	300.410	90.37	299.365	12.39	300.070	71.27	299.830	44.38 *	299.770	35.97
25	299.160	6.017	300.320	91.48 *	299.770	41.26	300.095	71.49	299.805	39.06	299.770	35.74
26	299.160	5.561	300.155	70.79	299.885	51.58	300.250	81.24 *	299.790	37.81	299.720	30.58
27	299.170	5.690 *	299.960	56.36	299.940	58.64	300.250	76.34	299.760	35.25	299.720	30.76
28	299.280	7.912	299.720	37.39	299.980	62.74	301.195	158.1	299.795	38.74	299.680	31.21 *
29	299.280	7.875	299.700	32.76	300.180	75.10 *	301.615	193.0	299.760	34.92	299.680	27.45
30	299.270	7.648	299.650	26.97	300.320	90.44	300.890	128.8	299.750	34.74	299.670	26.48
31			299.610	25.04	300.410	90.94			299.750	37.35 *		
<u>Ten-Daily Mean</u>												
I Ten-Daily	299.419	12.97	299.337	11.95	299.941	62.47	300.504	106.8	300.309	89.15	299.751	34.80
II Ten-Daily	299.363	10.07	300.305	83.76	299.283	11.08	299.530	20.77	300.199	79.56	299.724	31.57
III Ten-Daily	299.200	6.637	300.012	59.62	299.790	46.60	300.467	98.07	299.824	43.37	299.749	34.73
<u>Monthly</u>												
Min.	299.160	5.561	299.160	5.843	299.070	5.120	299.340	1.366	299.750	34.74	299.670	26.48
Max.	299.640	24.95	302.280	237.2	305.000	498.2	301.615	193.0	301.280	171.7	299.850	44.23
Mean	299.328	9.892	299.889	52.03	299.675	40.26	300.167	75.22	300.101	69.81	299.741	33.7

Annual Runoff in MCM = 917 Annual Runoff in mm = 157

Peak Observed Discharge = 237.2 cumecs on 15-07-2021 Corres. Water Level :302.28 m

Lowest Observed Discharge = 3.435 cumecs on 30-03-2022 Corres. Water Level :299.02 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : VALIGONDA (040-LKDHYD)

Division : Lower Krishna Divn., Hyderabad

Local River : Musi

Sub-Division : Lower Krishna SD 1, N.S.Dam

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	299.670	26.92	299.360	9.417	299.290	9.066	299.340	10.67	299.140	6.061	299.300	10.45 *
2	299.660	25.42	299.360	12.19 *	299.290	9.262	299.180	7.560	299.130	5.712	299.300	9.552
3	299.650	24.91	299.270	7.751	299.290	9.548	299.180	7.456	299.160	7.551 *	299.290	10.19 *
4	299.630	24.07	299.270	7.500	299.290	9.178	299.160	6.328	299.150	6.095	299.500	14.10
5	299.630	23.80 *	299.270	7.421	299.290	9.346	299.160	6.230	299.150	6.116	299.770	31.39
6	299.630	24.12	299.280	7.797	299.290	10.19 *	299.140	7.271 *	299.140	6.003	299.720	28.59
7	299.620	23.82	299.260	7.103	299.290	9.337	299.140	5.932	299.180	7.727	299.640	24.77
8	299.620	23.39	299.240	6.949	299.290	9.072	299.140	5.938	299.150	6.029	299.590	21.70 *
9	299.600	20.13	299.240	9.004 *	299.300	9.728	299.100	4.683	299.170	7.244	299.540	16.27
10	299.600	20.47	299.280	7.889	299.310	9.820	299.100	4.707	299.190	8.032 *	299.530	15.09
11	299.590	19.48	299.280	7.771	299.310	9.980	299.100	4.792	299.180	7.552	299.530	15.34
12	299.590	21.70 *	299.280	7.934	299.320	9.887	299.030	4.193	299.040	3.871	299.500	14.12
13	299.580	18.60	299.300	8.911	299.320	11.00 *	299.090	6.721 *	299.050	3.975	299.500	14.42
14	299.580	18.21	299.300	10.45 *	299.320	10.90	299.090	4.688	299.170	7.703 *	299.500	14.34
15	299.560	18.01	299.300	9.011	299.330	10.48	299.080	4.544	299.190	8.032 *	299.500	17.45 *
16	299.560	17.71	299.350	11.88 *	299.330	10.36	299.070	4.280	299.200	7.969	299.500	17.45 *
17	299.550	17.07	299.640	24.91	299.340	10.71	299.080	4.568	299.170	7.703 *	299.480	14.26
18	299.540	16.49	299.520	14.92	299.340	10.67	299.070	6.560 *	299.140	6.158	299.480	14.38
19	299.540	19.25 *	299.430	13.04	299.330	10.35	299.070	4.201	299.140	6.187	299.610	21.80
20	299.530	14.80	299.350	10.13	299.320	11.00 *	299.090	6.721 *	299.150	6.293	299.630	23.76
21	299.530	14.92	299.350	10.60	299.300	9.668	299.140	5.983	299.160	6.418	299.620	22.09
22	299.500	15.65	299.340	10.09	299.300	9.722	299.080	4.675	299.150	6.350	299.600	22.21 *
23	299.500	15.16	299.340	11.58 *	299.300	9.798	299.070	4.238	299.240	8.138	299.540	16.45
24	299.500	14.80	299.300	9.417	299.250	8.181	299.070	4.456	299.290	10.19 *	299.530	15.17
25	299.400	13.53 *	299.250	8.372	299.250	8.215	299.070	4.394	299.270	8.816	299.510	14.70
26	299.400	13.53 *	299.250	9.223 *	299.250	8.296	299.110	5.134	299.200	8.133	299.330	11.30
27	299.380	10.91	299.300	9.918	299.250	9.223 *	299.100	6.814 *	299.200	8.040	299.290	9.084
28	299.380	10.08	299.300	10.44	299.250	8.156	299.100	4.809	299.300	9.756	299.250	8.378
29	299.380	10.19	299.290	9.239			299.030	3.803	299.300	9.769	299.250	9.223 *
30	299.370	9.976	299.300	10.45 *			299.020	3.435	299.330	10.24	299.230	7.706
31	299.370	9.938	299.290	9.114			299.070	4.736			299.220	7.556
<u>Ten-Daily Mean</u>												
I Ten-Daily	299.631	23.71	299.283	8.303	299.293	9.454	299.164	6.677	299.156	6.657	299.518	18.21
II Ten-Daily	299.562	18.13	299.375	11.90	299.326	10.53	299.077	5.127	299.143	6.544	299.523	16.73
III Ten-Daily	299.428	12.61	299.301	9.858	299.269	8.907	299.078	4.771	299.244	8.585	299.397	13.08
<u>Monthly</u>												
Min.	299.370	9.938	299.240	6.949	299.250	8.156	299.020	3.435	299.040	3.871	299.220	7.556
Max.	299.670	26.92	299.640	24.91	299.340	11.00	299.340	10.67	299.330	10.24	299.770	31.39
Mean	299.537	17.97	299.319	10.01	299.298	9.683	299.105	5.501	299.181	7.262	299.477	15.91

Peak Computed Discharge = 498.2 cumecs on 08-08-2021

Corres. Water Level :305 m

Lowest Computed Discharge = 1.366 cumecs on 19-09-2021

Corres. Water Level :299.34 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

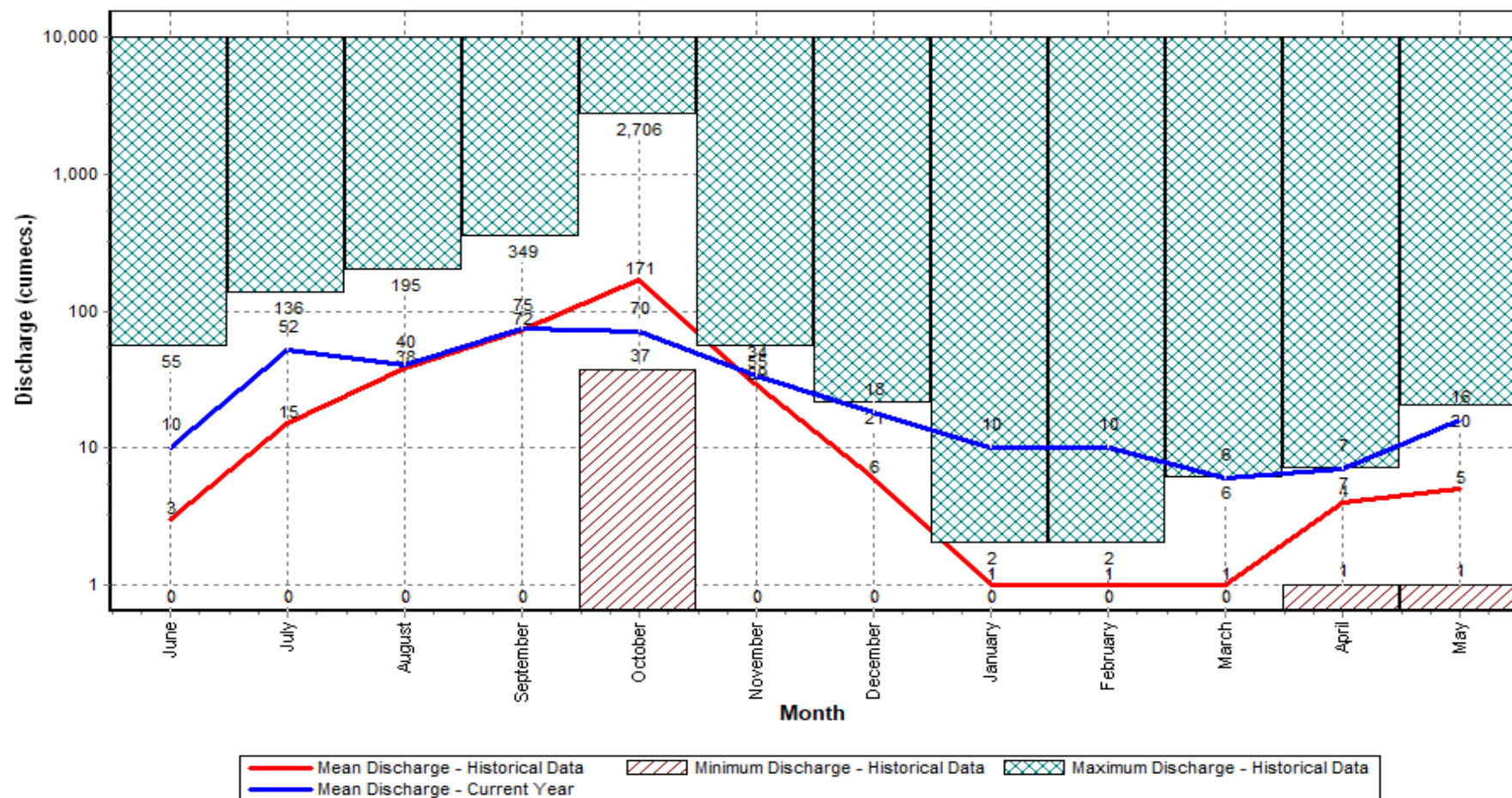
Station Name : VALIGONDA (040-LKDHYD)

Data considered : 2019-2022

Division : Lower Krishna Divn., Hyderabad

Local River : Musi

Sub-Division : Lower Krishna SD 1, N.S.Dam



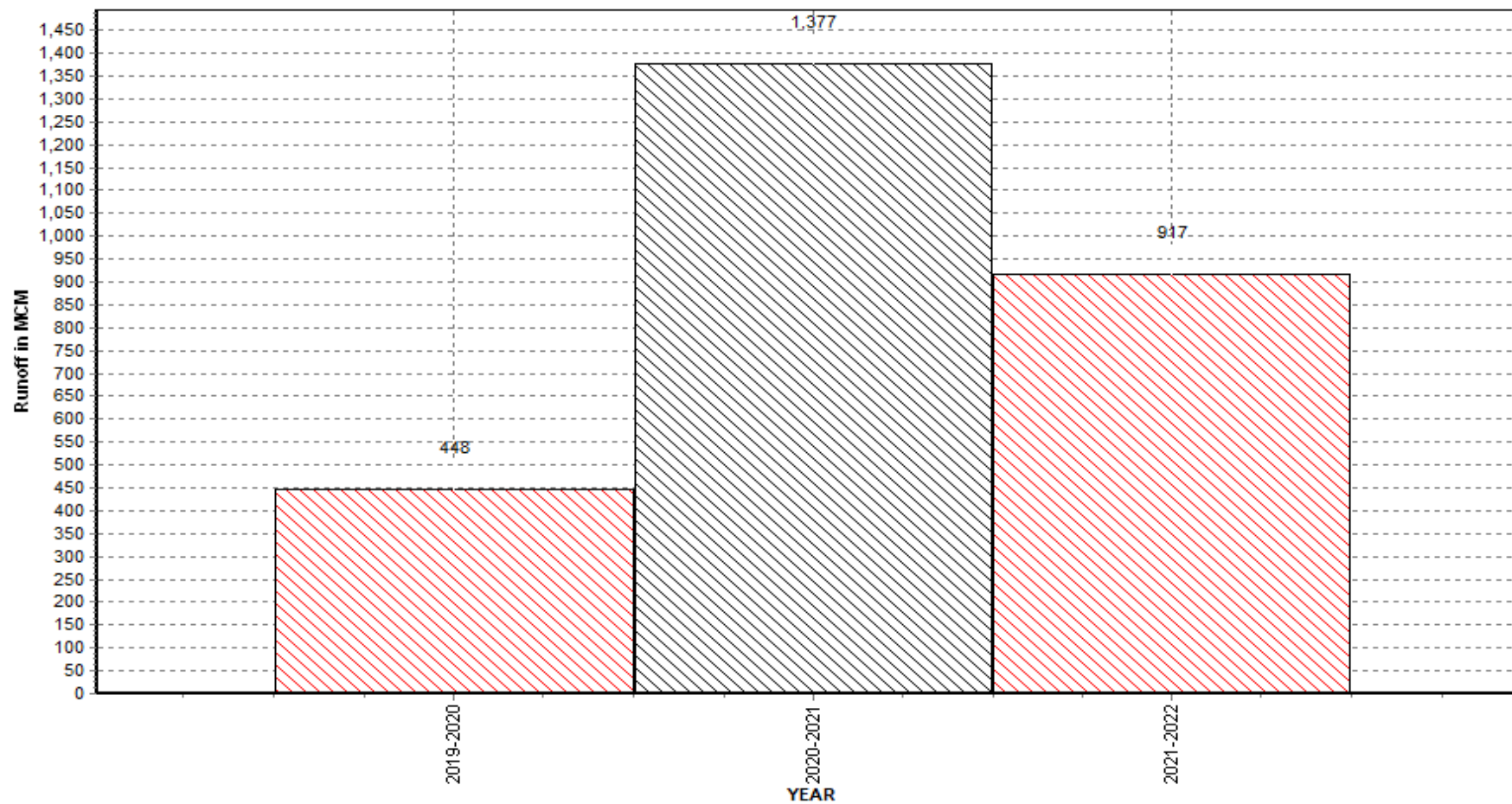
Annual Runoff Values for the period: 2019 - 2022

Station Name : VALIGONDA (040-LKDHYD)

Local River : Musi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



Note: Missing values have not been considered while arriving at Annual Runoff

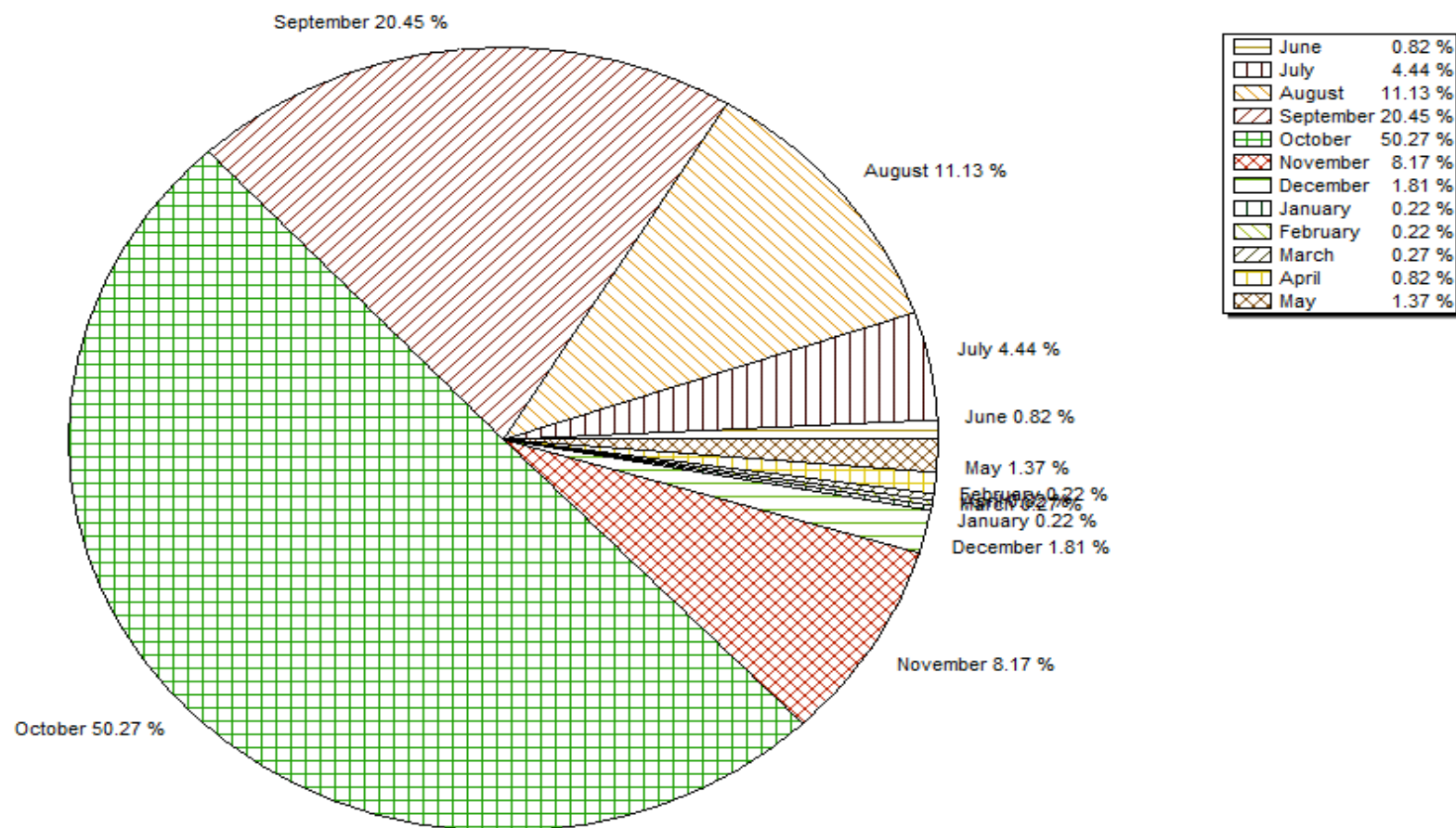
Monthly Average Runoff based on period : 2019-2021

Station Name : VALIGONDA (040-LKDHYD)

Local River : Musi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



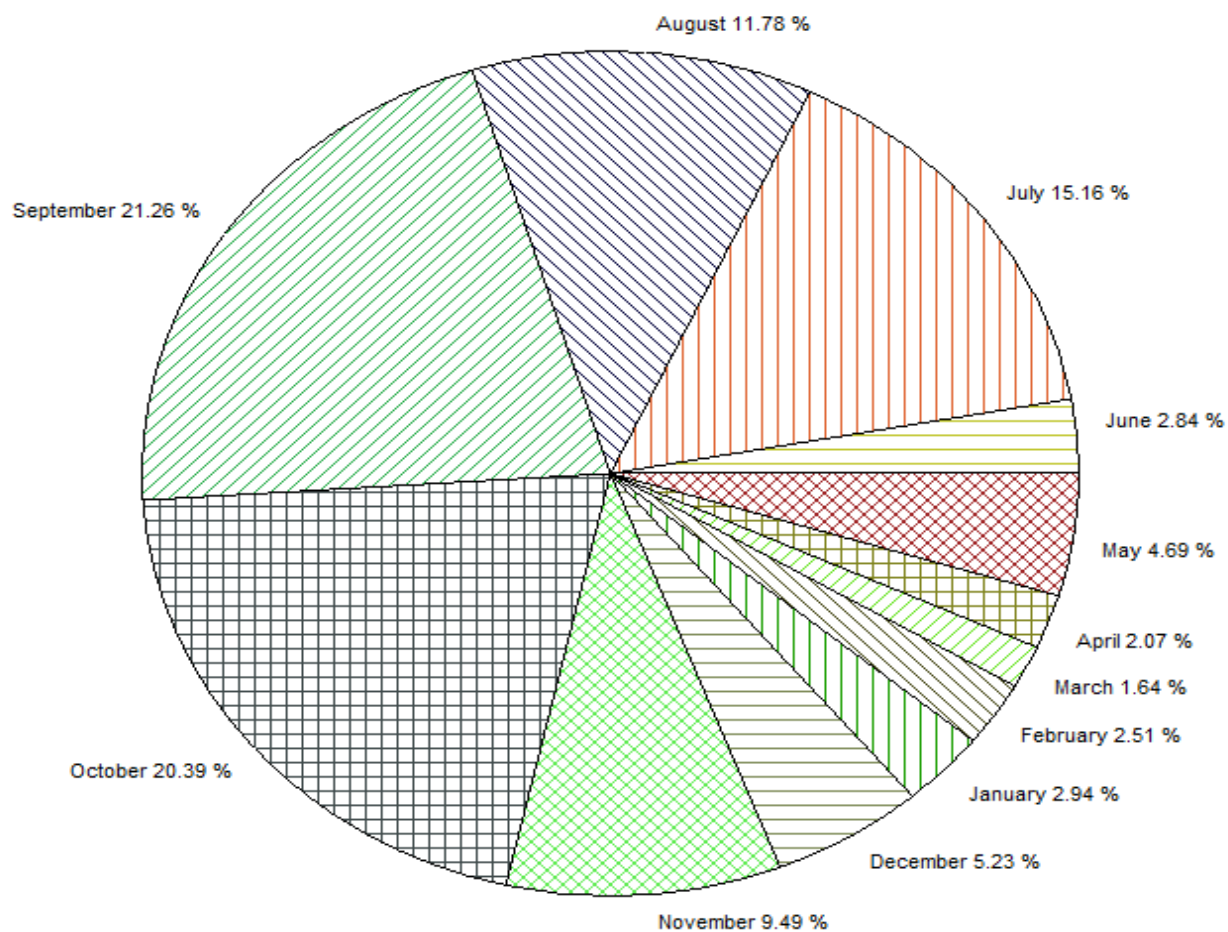
Monthly Runoff for the Year : 2021-2022

Station Name : VALIGONDA (040-LKDHYD)

Local River : Musi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



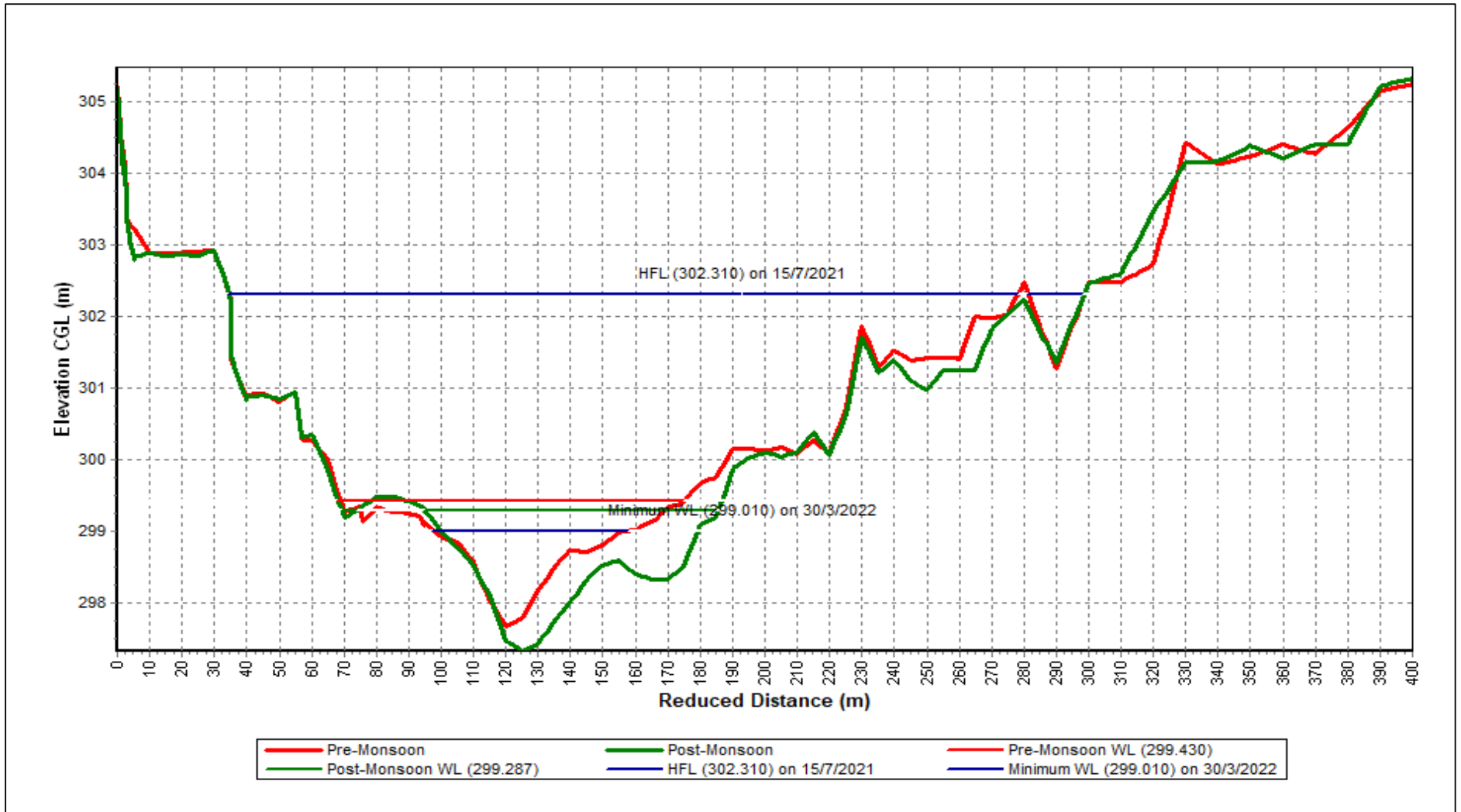
June	2.84 %
July	15.16 %
August	11.78 %
September	21.26 %
October	20.39 %
November	9.49 %
December	5.23 %
January	2.94 %
February	2.51 %
March	1.64 %
April	2.07 %
May	4.69 %

Station Name : VALIGONDA (040-LKDHYD)

Local River : Musi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



Zero of Gauge: 297.5 (m.s.l)

Remark- RD-120 to 200 Bed erosion due to Deposition of soil

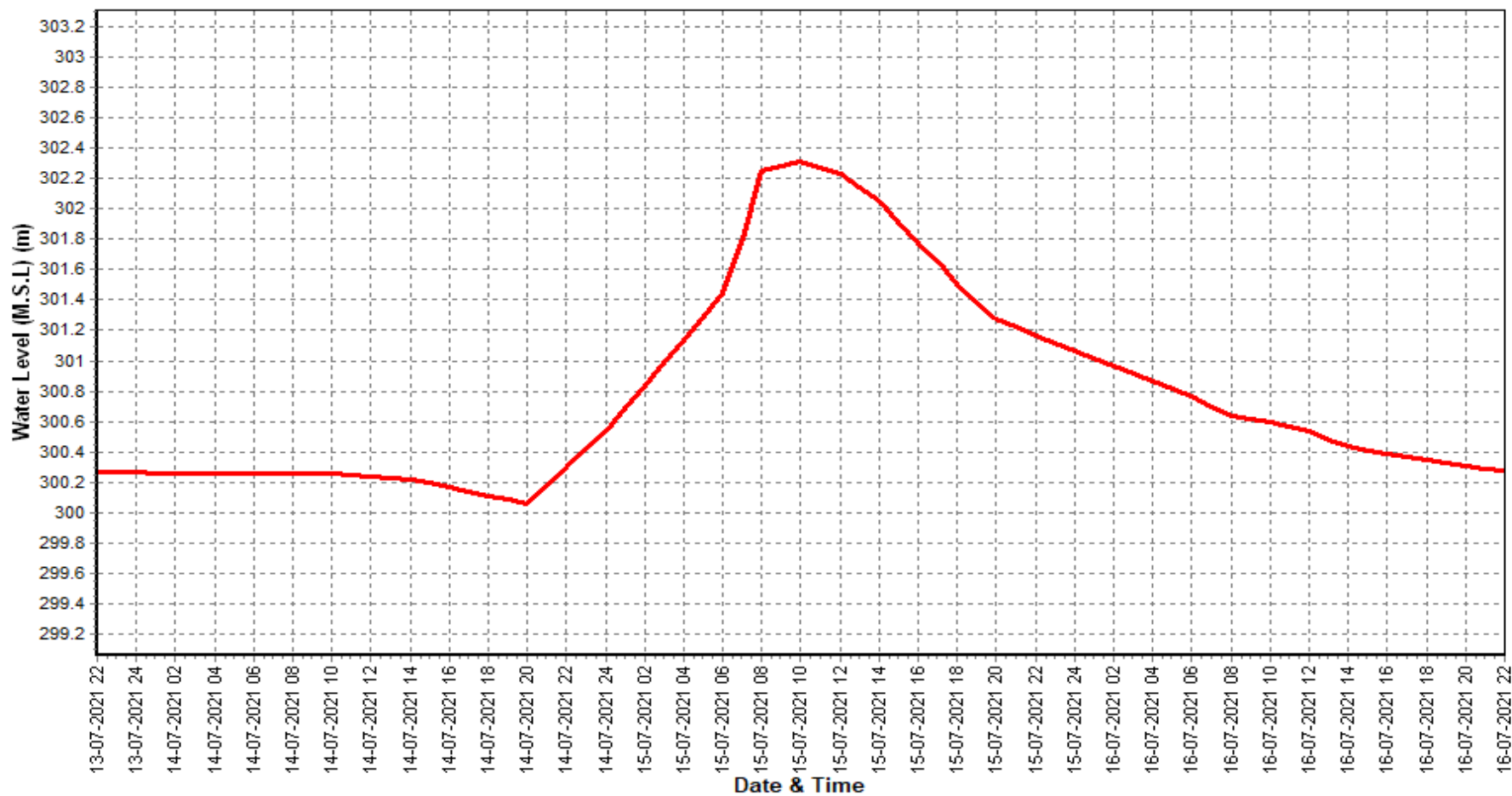
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : VALIGONDA (040-LKDHYD)

Local River : Musi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



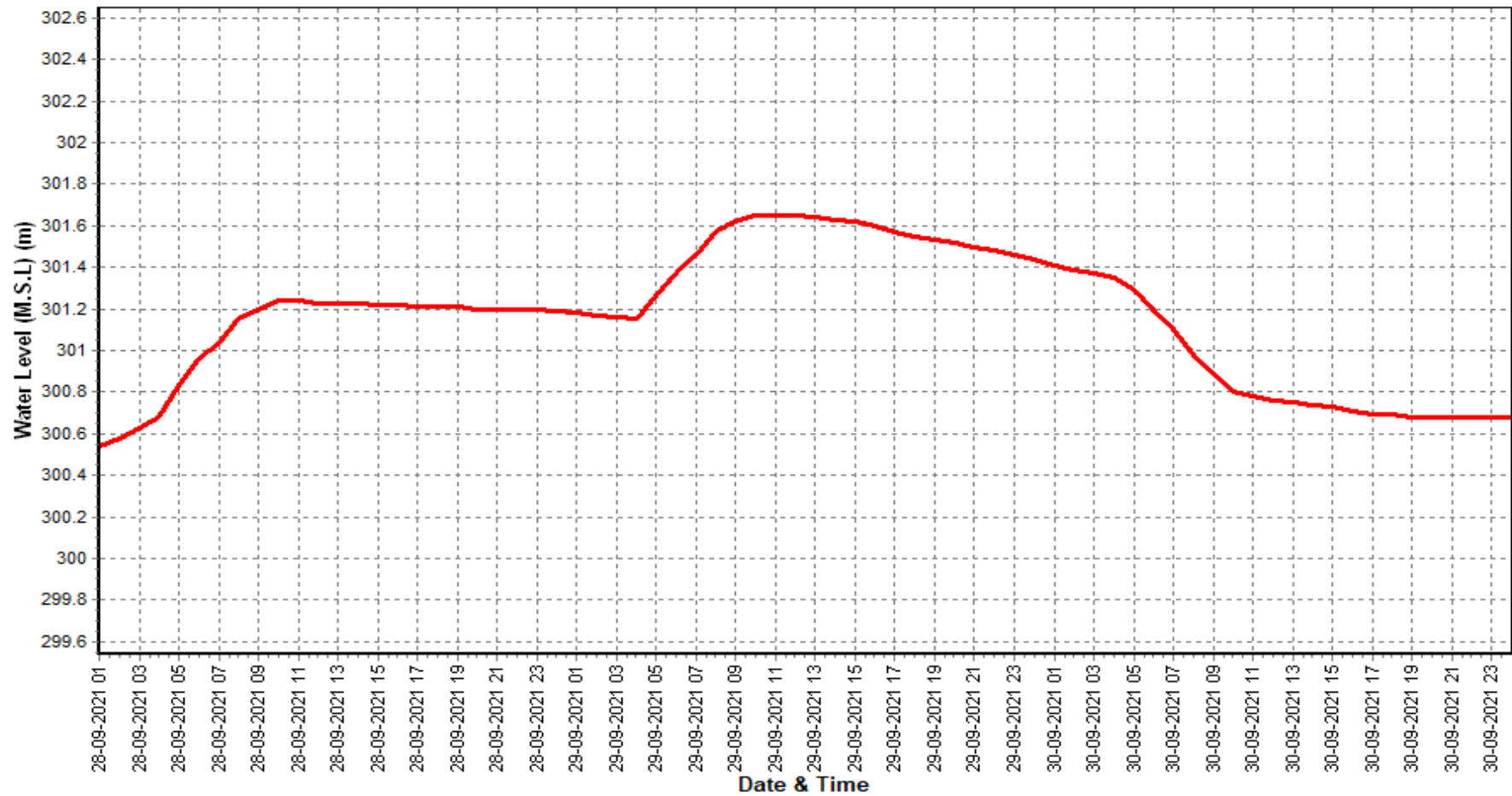
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : VALIGONDA (040-LKDHYD)

Local River : Musi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



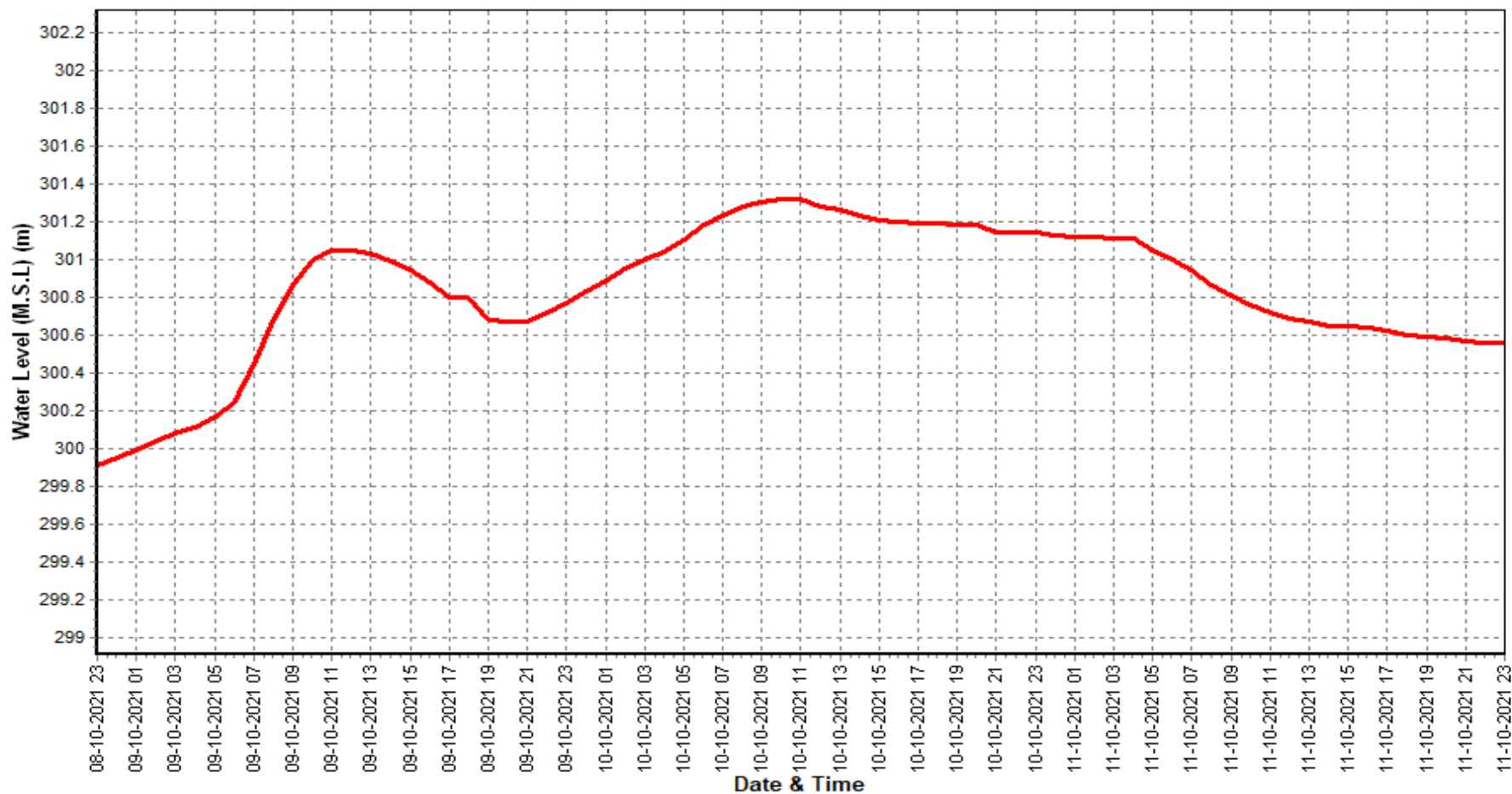
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : VALIGONDA (040-LKDHYD)

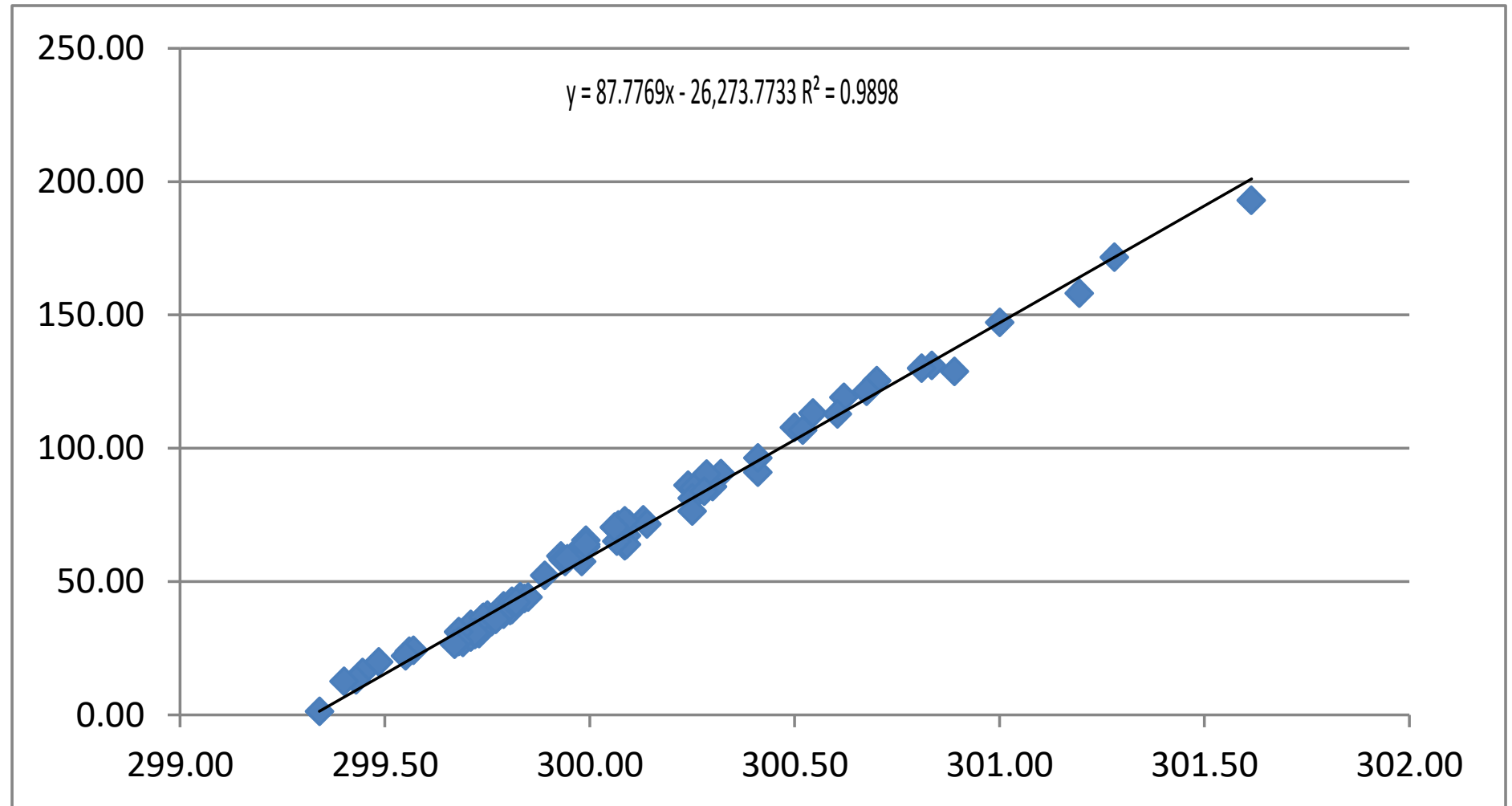
Local River : Musi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



Valigonda 2021-2022



HISTORY SHEET

		Water Year : 2021-2022	
Site	: Wadenapally	Code	: AK000D5
State	: Telangana	District	: Nalgonda
Basin	: Krishna	Independent River	: Krishna
Tributary	: -	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Krishna
Division	: Lower Krishna Divn., Hyderabad	Sub-Division	: Lower Krishna SD2, Vijayawada
Drainage Area	: 235544 Sq. Km.	Bank	: Left
Latitude	: 16°47'39"	Longitude	: 80°04'23"
Zero of Gauge (m)	: 22.054 (m.s.l)	01-01-1964	- 31-12-1999
	: 22.054 (m.s.l)	01-01-2000	-
	Opening Date	Closing Date	
Gauge	: 27-05-1964	HFL During 2021-22	: 36.454 m
		Corres. Discharge	: 14158 (Estimated)
Discharge	: 10-12-1964	Date & Time of	: 06-08-2021
		occurrence	: 16.00 hrs.
Sediment	: 01-12-1966		
Water Quality	: 01-01-1972		

HFL Recorded so far in m : 42.494 dt 05-10-2009

Corresponding Discharge (cumecs) : 31836 *

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1966-1967	11140	35.334	05-08-1966	1.094	24.529	16-05-1967
1967-1968	20016	38.554	06-08-1967	2.120	24.669	14-07-1967
1968-1969	7152	33.149	14-08-1968	20.44	24.789	17-05-1969
1969-1970	16486	37.139	08-08-1969	7.920	24.824	21-05-1970
1970-1971	14596	36.634	23-09-1970	0.000	24.799	29-05-1971
1971-1972	7122	32.969	07-09-1971	0.000	24.854	15-05-1972
1972-1973	4313	30.794	18-07-1972	0.000	24.704	02-06-1972
1973-1974	8333	33.139	18-07-1973	2.500	24.609	06-06-1973
1974-1975	16473	36.909	29-09-1974	6.797	24.594	02-06-1974
1975-1976	18962	38.129	13-10-1975	8.184	24.694	30-05-1976
1976-1977	14408	36.459	11-08-1976	2.717	24.529	06-06-1976
1977-1978	6737	33.064	02-08-1977	79.00	25.184	06-06-1977
1978-1979	18256	37.454	02-10-1978	14.20	24.749	22-05-1979
1979-1980	17560	37.514	30-09-1979	128.1	25.324	12-06-1979
1980-1981	15450	36.584	14-07-1980	20.00	24.724	11-05-1981
1981-1982	12919	35.334	24-09-1981	125.7	25.244	13-06-1981
1982-1983	6540	32.474	31-08-1982	148.2	25.312	17-05-1983

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1983-1984	14393	36.294	22-08-1983	82.40	24.954	14-06-1983
1984-1985	3832	30.924	21-08-1984	59.46	24.954	26-05-1985
1985-1986	2101	28.989	14-08-1985	50.81	24.854	01-04-1986
1986-1987	2675	29.574	13-08-1986	5.942	24.054	13-05-1987
1987-1988	2196	29.054	05-11-1987	4.835	24.004	07-06-1987
1988-1989	12959	36.374	29-09-1988	36.16	24.894	22-05-1989
1989-1990	11930	36.074	02-10-1989	61.22	24.994	20-06-1989
1990-1991	15540	36.034	24-08-1990	46.14	24.894	04-06-1990
1991-1992	12693	36.344	03-08-1991	31.32	24.804	08-06-1991
1992-1993	4913	31.363	12-09-1992	35.70	24.824	28-06-1992
1993-1994	10144	34.276	12-10-1993	53.30	24.774	06-06-1993
1994-1995	15575	36.974	23-07-1994	63.31	24.914	31-05-1995
1995-1996	1581	28.214	19-10-1995	49.16	24.774	31-05-1996
1996-1997	13740	36.809	04-10-1996	58.38	24.989	10-06-1996
1997-1998	15214	36.714	01-09-1997	41.58	24.754	08-06-1997
1998-1999	23689	41.144	16-10-1998	47.17	24.854	04-05-1999
1999-2000	6212	32.904	14-08-1999	15.00	24.854	03-06-1999
2000-2001	2957	30.224	24-08-2000	50.72	25.174	16-04-2001
2001-2002	2414	30.194	01-10-2001	34.17	24.734	29-05-2002
2002-2003	726.6	27.214	17-08-2002	5.563	24.199	15-03-2003
2003-2004	388.2	26.614	25-11-2003	5.948	24.264	24-06-2003
2004-2005	1178	28.204	05-10-2004	2.174	24.384	20-08-2004
2005-2006	16793	37.639	11-08-2005	4.244	24.504	26-06-2005
2006-2007	18000	37.484	16-08-2006	16.45	24.504	22-05-2007
2007-2008	15956	36.834	20-09-2007	16.27	24.474	31-05-2008
2008-2009	8408	32.514	17-09-2008	9.436	24.294	31-05-2009
2009-2010	31803	42.484	05-10-2009	7.808	24.234	10-06-2009
2010-2011	6021	31.324	08-10-2010	13.80	24.734	08-06-2010
2011-2012	12951	35.494	09-09-2011	7.703	24.204	15-05-2012
2012-2013	366.0	26.174	29-11-2012	11.72	24.284	06-04-2013
2013-2014	13434	35.704	26-10-2013	10.74	24.354	02-06-2013
2014-2015	4272	30.304	16-09-2014	0.000	23.794	24-06-2014
2015-2016	229.4	25.364	22-10-2015	0.000	23.164	27-01-2016
2016-2017	4919	30.454	23-09-2016	0.000	23.674	11-07-2016
2017-2018	259.3	25.464	24-10-2017	0.658	23.404	10-07-2017
2018-2019	588.1	25.929	20-08-2018	0.000	24.784	12-08-2018
2019-2020	21989	39.854	16-08-2019	1.265	23.444	26-06-2019
2020-2021	16790	38.004	16-10-2020	0.000	25.054	21-08-2020

Annual Runoff of Krishna at Wadenapalli

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1965-1966		2571	2571		91	91
2	1966-1967	28344	6661	35005	1002	235	1237
3	1967-1968	37915	4917	42832	1340	174	1513
4	1968-1969	24509	3030	27539	866	107	973
5	1969-1970	41191	2481	43672	1456	88	1543
6	1970-1971	44714	1905	46619	1580	67	1647
7	1971-1972	29421	1901	31322	1040	67	1107
8	1972-1973	10139	1307	11446	358	46	404
9	1973-1974	38291	1516	39807	1353	54	1407
10	1974-1975	32155	3845	36001	1136	136	1272
11	1975-1976	69282	4332	73614	2448	153	2601
12	1976-1977	30160	2032	32192	1066	72	1138
13	1977-1978	22236	3139	25375	786	111	897
14	1978-1979	45708	5188	50896	1615	183	1798
15	1979-1980	30298	4100	34398	1071	145	1215
16	1980-1981	35526	2564	38091	1255	91	1346
17	1981-1982	36102	4815	40917	1276	170	1446
18	1982-1983	14542	5129	19671	514	181	695
19	1983-1984	37428	3770	41198	1323	133	1456
20	1984-1985	11908	5166	17074	421	183	603
21	1985-1986	8228	2555	10783	291	90	381
22	1986-1987	8159	2633	10791	288	93	381
23	1987-1988	5738	3592	9330	203	127	330
24	1988-1989	30909	4456	35365	1092	157	1250
25	1989-1990	16511	5771	22282	583	204	787
26	1990-1991	30198	7860	38058	1067	278	1345
27	1991-1992	29502	6087	35589	1042	215	1258
28	1992-1993	9945	6591	16537	351	233	584
29	1993-1994	17913	8818	26731	633	312	945
30	1994-1995	38060	7464	45524	1345	264	1609
31	1995-1996	5533	3244	8776	196	115	310
32	1996-1997	14728	6058	20786	520	214	734
33	1997-1998	17848	3771	21619	631	133	764
34	1998-1999	30461	4974	35435	1076	176	1252
35	1999-2000	10453	4199	14652	369	148	518
36	2000-2001	6327	3186	9513	224	113	336
37	2001-2002	4393	2745	7137	155	97	252
38	2002-2003	3514	663	4177	124	23	148
39	2003-2004	1484	945	2429	52	33	86
40	2004-2005	3058	1206	4265	108	43	151
41	2005-2006	35327	2529	37856	1248	89	1338
42	2006-2007	32828	3052	35880	1160	108	1268
43	2007-2008	35114	3115	38229	1241	110	1351
44	2008-2009	12526	3232	15758	443	114	557
45	2009-2010	21622	3224	24846	764	114	878
46	2010-2011	14395	2723	17118	509	96	605
47	2011-2012	12454	1132	13586	440	40	480

48	2012-2013	1574	1216	2790	56	43	99
49	2013-2014	13279	2558	15837	469	90	560
50	2014-2015	6359	1359	7718	225	48	273
51	2015-2016	654	366	1019	23	13	36
52	2016-2017	2759	875	3634	98	31	128
53	2017-2018	641	969	1610	23	34	57
54	2018-2019	1274	594	1978	45	21	70
55	2019-2020	24829	976	25805	877	34	912
56	2020-2021	30758	1529	32287	1087	54	1141
57	2021-2022	15488	1229	16716	547	43	591
Average		20977	3296	23907	745	118	849

Instantaneous Flood Peak of Krishna at Wadenapally

Sl. No.	Year	Instantaneous Annual Flood Peak		Time	Discharge * (Cumecs)
		Peak WL (m) Recorded	Date		
1	1966-1967	35.364	05-08-1966	18:00:00	11140 *
2	1967-1968	38.635	06-08-1967	18:00:00	20016 *
3	1968-1969	33.154	14-08-1968	04:00:00	7152 *
4	1969-1970	37.204	08-08-1969	01:00:00	16486 *
5	1970-1971	36.634	23-09-1970	06:00:00	14596 *
6	1971-1972	32.974	07-09-1971	10:00:00	7122 *
7	1972-1973	30.894	18-07-1972	19:00:00	4313 *
8	1973-1974	33.594	18-07-1973	18:00:00	8333 *
9	1974-1975	38.064	29-09-1974	19:00:00	16473 *
10	1975-1976	38.624	13-10-1975	01:00:00	18962 *
11	1976-1977	36.514	11-08-1976	02:00:00	14408 *
12	1977-1978	33.384	02-08-1977	05:00:00	6737 *
13	1978-1979	38.064	02-10-1978	03:00:00	18256 *
14	1979-1980	37.534	30-09-1979	10:00:00	21560 *
15	1980-1981	36.634	14-07-1980	05:00:00	15450 *
16	1981-1982	35.354	24-09-1981	16:00:00	12919 *
17	1982-1983	32.624	31-08-1982	19:00:00	6540 *
18	1983-1984	37.064	22-08-1983	15:00:00	14393 *
19	1984-1985	30.994	21-08-1984	14:00:00	3832 *
20	1985-1986	29.004	14-08-1985	09:00:00	2101 *
21	1986-1987	29.714	13-08-1986	07:00:00	2675 *
22	1987-1988	29.204	05-11-1987	18:00:00	2196 *
23	1988-1989	36.484	29-09-1988	14:00:00	12959 *
24	1989-1990	36.124	02-10-1989	12:00:00	11930 *
25	1990-1991	36.184	24-08-1990	13:00:00	15540 *
26	1991-1992	36.394	03-08-1991	23:00:00	12693 *
27	1992-1993	32.104	12-09-1992	00:00:00	4913 *
28	1993-1994	35.134	12-10-1993	03:00:00	10144 *
29	1994-1995	36.974	23-07-1994	08:00:00	15575 *
30	1995-1996	28.294	19-10-1995	11:00:00	1581 *
31	1996-1997	37.284	04-10-1996	22:00:00	15740 *
32	1997-1998	36.734	01-09-1997	10:00:00	15214 *
33	1998-1999	41.144	16-10-1998	11:00:00	23689 *
34	1999-2000	33.394	14-08-1999	17:00:00	6212 *
35	2000-2001	33.744	24-08-2000	19:00:00	2957 *
36	2001-2002	31.954	01-10-2001	19:00:00	2414 *
37	2002-2003	27.264	17-08-2002	18:00:00	726.6 *
38	2003-2004	26.864	25-11-2003	18:00:00	388.2 *
39	2004-2005	28.334	05-10-2004	19:00:00	1178 *
40	2005-2006	37.884	11-08-2005	19:00:00	16793 *
41	2006-2007	37.554	16-08-2006	12:00:00	18000 *
42	2007-2008	36.904	20-09-2007	15:00:00	15956 *
43	2008-2009	32.874	17-09-2008	00:00:00	8408 *
44	2009-2010	42.494	05-10-2009	09:00:00	31836 *
45	2010-2011	32.194	08-10-2010	21:00:00	6021 *
46	2011-2012	35.924	09-09-2011	19:00:00	12951 *
47	2012-2013	26.234	29-11-2012	21:00:00	366.0 *
48	2013-2014	35.704	26-10-2013	08:00:00	13434 *
49	2014-2015	30.754	16-09-2014	06:00:00	4272 *
50	2015-2016	25.604	22-10-2015	08:00:00	229.4 *
51	2016-2017	32.554	23-09-2016	17:00:00	4919 *
52	2017-2018	25.554	24-10-2017	19:00:00	259.3 *
53	2018-2019	26.054	20-08-2018	16:00:00	588.1 *
54	2019-2020	40.624	16-08-2019	15:00:00	21419 *
55	2020-2021	40.154	16-10-2020	17:00:00	22098 *
56	2021-2022	36.454	16-08-2021	16:00:00	14158 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : Wadenapally (AK000D5)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

Sub-Division : Lower Krishna SD2, Vijayawada

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	24.154	16.99	25.034	196.0	27.004	807.2 *	28.124	1439	28.954	2494	27.454	1201 #
2	24.154	17.12	25.074	206.0	34.504	9992	28.754	2137	28.804	2146 *	28.454	2014
3	24.154	17.62	25.074	204.4	32.804	6918	27.274	994.1	27.554	1222 *	27.454	1195
4	24.154	18.24	25.034	139.4 *	27.554	1363	27.904	1379	27.604	1373	27.754	1423 *
5	24.154	17.61	24.974	127.7 #	31.104	4424	27.604	1120 *	28.004	1542	27.154	971.0
6	24.154	19.25 *	25.074	205.3	36.254	13848	26.304	563.9	28.354	1877	27.054	915.2
7	24.154	18.03	25.189	211.1	27.809	1158	27.904	1362	27.204	1066	27.054	967.6 *
8	24.154	17.76	25.349	209.2 #	24.454	47.86 *	27.004	837.5	28.374	1798	27.004	895.8
9	24.154	17.38	25.714	307.6	25.834	390.4	27.354	1097	27.894	1449 *	27.004	875.9
10	24.154	16.70	25.414	192.2	26.354	584.3	26.554	606.1 *	27.894	1449 *	27.354	1194
11	24.014	10.29 #	24.654	74.03 *	26.529	631.1	26.754	691.9 *	29.594	2884	27.304	1156 #
12	24.014	9.107	24.654	109.2	26.054	485.0	25.854	350.4 *	31.054	4432	27.054	1009
13	24.014	10.29 *	24.199	22.73 #	26.074	482.7	25.854	362.8	30.654	3924	26.754	799.5 *
14	24.014	9.038	24.014	10.16	28.804	2202	27.024	879.9	28.354	1875	26.754	799.5 *
15	24.014	9.304	24.054	12.56 #	26.554	606.1 *	27.154	1010	28.354	1785 *	25.854	415.9
16	24.014	9.007	24.154	19.25 #	28.654	2139	27.154	1006	28.354	1863	25.554	352.7
17	24.014	9.196	24.154	19.25 #	27.554	1204	29.004	2304	27.804	1387 *	25.204	220.1
18	24.014	9.011	24.634	71.16 *	27.794	1261	28.254	1553	27.479	1336	25.104	188.2
19	24.014	9.035	25.414	179.5	25.554	220.0	26.554	606.1 *	28.104	1598 *	25.104	167.8 *
20	24.014	10.29 *	25.014	159.6	25.304	198.4 *	27.614	1224	28.504	2007	24.204	20.49
21	24.014	9.007	25.054	143.4 *	25.949	425.2	28.154	1587	27.654	1273	24.204	32.11 *
22	24.014	9.126	25.194	193.9	27.104	855.8 *	27.954	1421	27.854	1525	24.154	16.61
23	24.014	9.167	28.174	1465 #	25.954	391.5	27.954	1459	27.254	1007	24.004	12.01
24	24.014	9.095	27.254	1000.0	27.064	894.8	28.779	2158	27.154	979.0 *	24.054	13.34
25	24.014	9.110	26.354	525.9 *	27.114	998.0	28.404	1872	27.154	949.4	24.054	13.12
26	24.014	9.307	25.984	334.1	27.114	984.6	28.454	1651 *	27.154	1009	24.054	12.86
27	24.014	10.29 *	25.644	287.3	27.154	1067	28.904	2057	27.704	1479	24.054	12.87
28	24.014	9.197	25.004	133.5	27.504	1256	29.134	2377	27.404	1110	24.034	23.02 *
29	24.014	9.325	25.004	133.5	27.754	1206 *	28.954	2215	27.884	1346	24.254	52.39
30	24.554	70.47	26.854	785.4	27.024	1018	29.254	2576	28.454	1816	24.254	50.27
31			27.154	880.6	28.044	1314			27.154	979.0 *		
<u>Ten-Daily Mean</u>												
I Ten-Daily	24.154	17.67	25.193	199.9	29.367	3953	27.478	1153	28.064	1642	27.374	1165
II Ten-Daily	24.014	9.455	24.495	67.74	26.888	943.0	27.122	998.8	28.826	2309	25.889	512.9
III Ten-Daily	24.068	15.41	26.152	534.7	27.071	946.5	28.595	1937	27.529	1225	24.112	23.86
<u>Monthly</u>												
Min.	24.014	9.007	24.014	10.16	24.454	47.86	25.854	350.4	27.154	949.4	24.004	12.01
Max.	24.554	70.47	28.174	1465	36.254	13848	29.254	2576	31.054	4432	28.454	2014
Mean	24.079	14.18	25.308	276.1	27.753	1915	27.732	1363	28.120	1709	25.792	567.4

Annual Runoff in MCM = 16716 Annual Runoff in mm = 71

Peak Observed Discharge = 13848 cumecs on 06-08-2021 Corres. Water Level :36.254 m

Lowest Observed Discharge = 0.000 cumecs on 16-01-2022 Corres. Water Level :24.054 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : Wadenapally (AK000D5)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

Sub-Division : Lower Krishna SD2, Vijayawada

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	24.254	40.48 #	24.554	80.81	24.554	79.87	24.554	83.85	23.904	18.91	24.654	112.7 *
2	24.254	39.19 #	24.554	86.92 *	24.554	79.96	24.554	94.08	23.904	18.03	24.704	136.0
3	24.254	38.47	24.704	135.6 #	24.554	79.72	24.554	82.32	23.904	15.71 *	24.754	142.5 *
4	24.454	65.17	24.674	124.0	24.554	80.56	24.554	82.64	23.904	17.46	24.754	143.0
5	24.454	65.06 *	24.554	84.01	24.554	81.02	24.554	85.70	23.904	17.99	24.934	198.4
6	24.454	65.09	24.554	80.90	24.554	86.92 *	24.554	86.92 *	23.904	17.85	24.934	196.0
7	24.704	134.4 #	24.554	82.95	24.554	78.27	24.954	212.3	23.904	17.54	24.934	195.2
8	24.804	159.5 #	24.554	86.92 *	24.554	76.48	24.914	195.8	24.504	79.29	24.654	112.7 *
9	24.454	65.46	24.554	86.92 *	24.554	74.58	24.854	174.4	24.504	75.49 *	24.554	80.62
10	24.454	65.61	24.554	83.77	24.554	76.68	24.554	82.69	24.504	75.49 *	24.504	76.06
11	24.454	65.09 *	24.554	83.02	24.554	78.79	24.554	81.53	24.504	82.83	24.204	30.36
12	24.454	65.09 *	24.554	82.90	24.554	86.92 *	24.554	86.92 *	24.504	82.93	23.954	19.84
13	24.454	68.12	24.554	82.94	24.654	112.7 *	24.554	86.92 *	24.504	81.30	23.954	18.86
14	24.454	66.90	24.054	17.27 *	24.704	135.6	24.554	83.96	24.504	75.49 *	23.954	15.24 *
15	24.494	66.74	24.554	81.62	24.704	138.7 #	24.754	142.3 #	24.504	75.49 *	23.954	15.24 *
16	24.494	68.91	24.054	0.000	24.704	136.4 #	24.754	140.8	24.504	81.62	23.954	15.24 *
17	24.494	66.10	24.154	0.000	24.704	138.9 #	24.604	104.5 #	24.504	75.49 *	23.954	15.24
18	24.494	65.16	24.054	0.000	24.654	122.0	24.554	86.92 *	24.504	82.47	23.954	18.16
19	24.554	86.92 *	24.054	0.000	24.654	126.1	24.504	79.41	24.504	79.21	23.954	17.62
20	24.554	85.94	24.204	25.25	24.654	112.7 *	24.504	75.49 *	24.504	82.73	23.954	16.78
21	24.554	84.14	24.204	25.20	24.654	130.4	24.504	79.93	24.704	135.7	23.954	16.83
22	24.554	82.43	24.554	81.50	24.554	86.56	24.504	78.97	24.704	138.3	23.854	17.17 *
23	24.554	81.42	24.554	86.92 *	24.554	84.58	24.504	77.08	24.704	135.0	23.854	13.28
24	24.554	81.76	24.554	77.47	24.554	84.63	24.504	76.99	24.704	127.1 *	23.854	13.06
25	24.554	86.92 *	24.554	78.56	24.554	88.98	24.504	79.62	24.704	138.6	23.854	13.59
26	24.554	86.92 *	24.554	86.92 *	24.554	81.74	24.504	79.54	24.704	138.2	23.854	13.23
27	24.554	82.49	24.554	81.85	24.554	86.92 *	24.454	65.06 *	24.654	123.5	23.854	13.08
28	24.554	81.80	24.554	80.85	24.554	81.98	24.504	81.75	24.654	118.6	23.854	13.14
29	24.554	80.98	24.554	82.46			24.004	15.18	24.654	121.1	23.854	17.17 *
30	24.554	84.04	24.554	86.92 *			24.004	19.85	24.654	113.4	23.854	13.63
31	24.554	82.68	24.554	79.21			23.904	18.76			23.854	13.47
<u>Ten-Daily Mean</u>												
I Ten-Daily	24.454	73.84	24.581	93.28	24.554	79.40	24.660	118.1	24.084	35.38	24.738	139.3
II Ten-Daily	24.490	70.50	24.279	37.30	24.654	118.9	24.589	96.88	24.504	79.96	23.979	18.26
III Ten-Daily	24.554	83.23	24.522	77.08	24.567	90.72	24.354	61.16	24.684	129.0	23.863	14.33
<u>Monthly</u>												
Min.	24.254	38.47	24.054	0.000	24.554	74.58	23.904	15.18	23.904	15.71	23.854	13.06
Max.	24.804	159.5	24.704	135.6	24.704	138.9	24.954	212.3	24.704	138.6	24.934	198.4
Mean	24.501	76.1	24.463	69.47	24.593	96.74	24.529	91.04	24.424	81.43	24.183	55.92

Peak Computed Discharge = 2146 cumecs on 02-10-2021

Corres. Water Level :28.804 m

Lowest Computed Discharge = 10.29 cumecs on 13-06-2021

Corres. Water Level :24.014 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

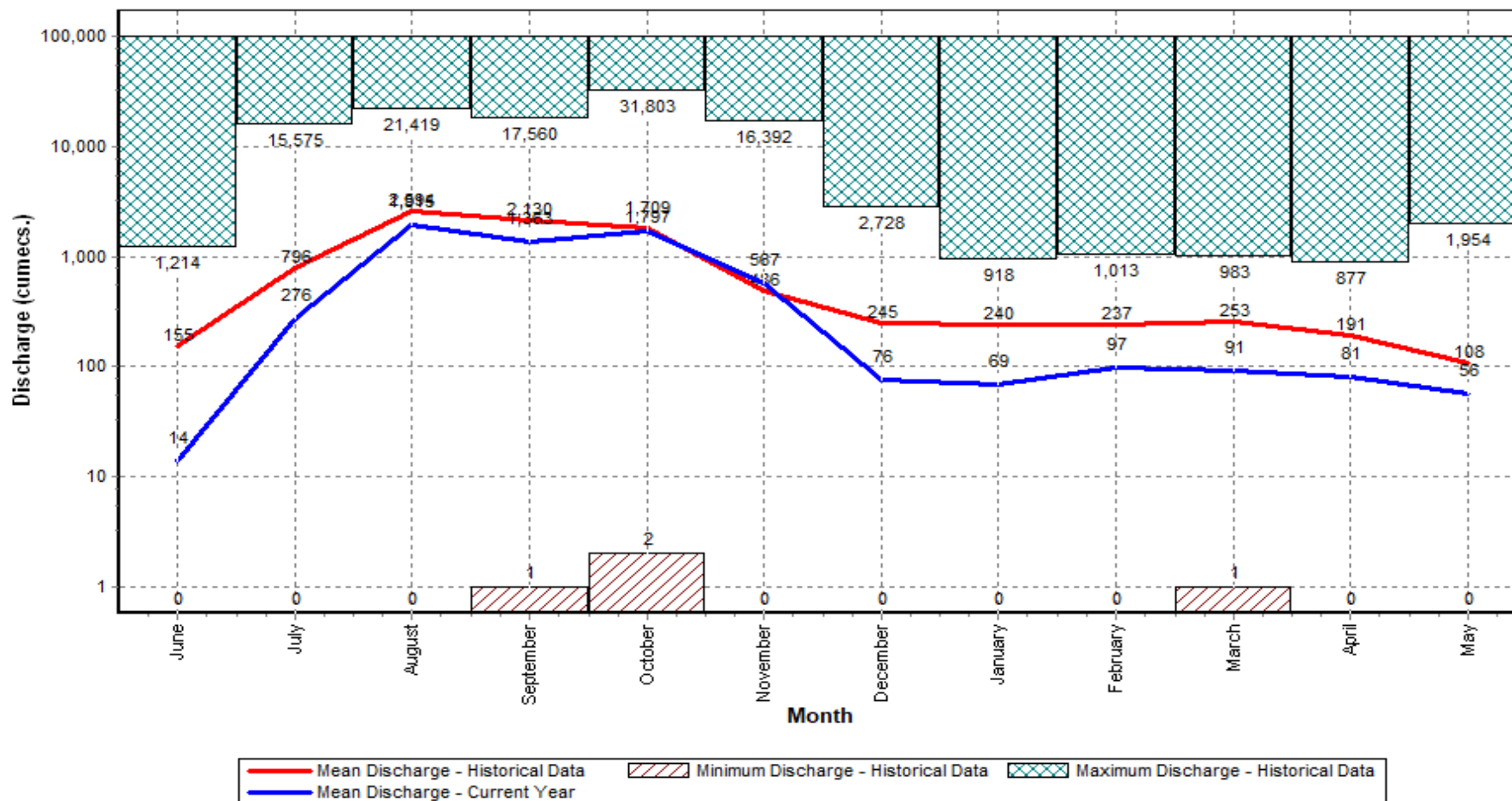
Station Name : Wadenapally (AK000D5)

Data considered : 1966-2022

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

Sub-Division : Lower Krishna SD2, Vijayawada



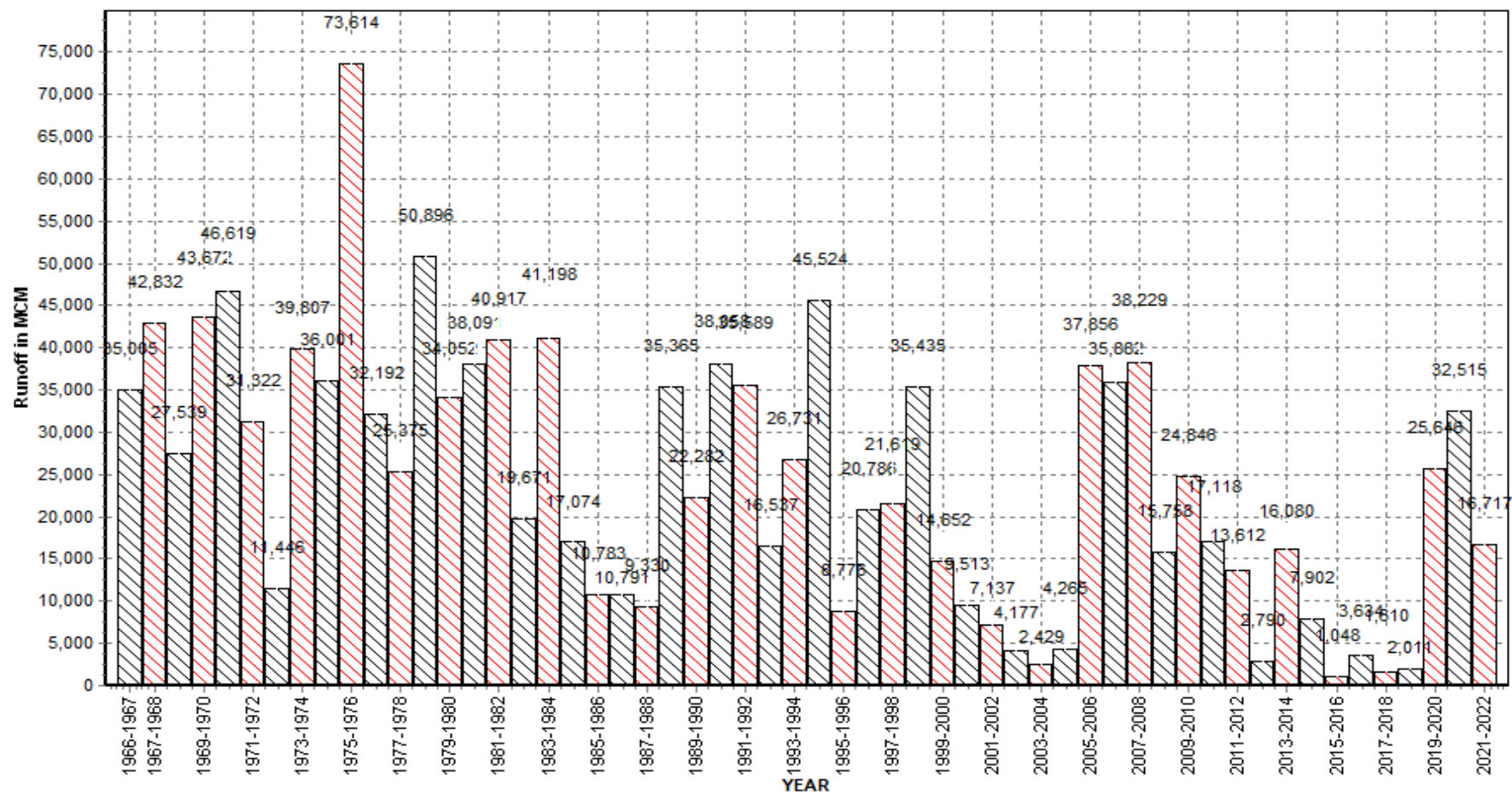
Annual Runoff Values for the period: 1966 - 2022

Station Name : Wadenapally (AK000D5)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



Note: Missing values have not been considered while arriving at Annual Runoff

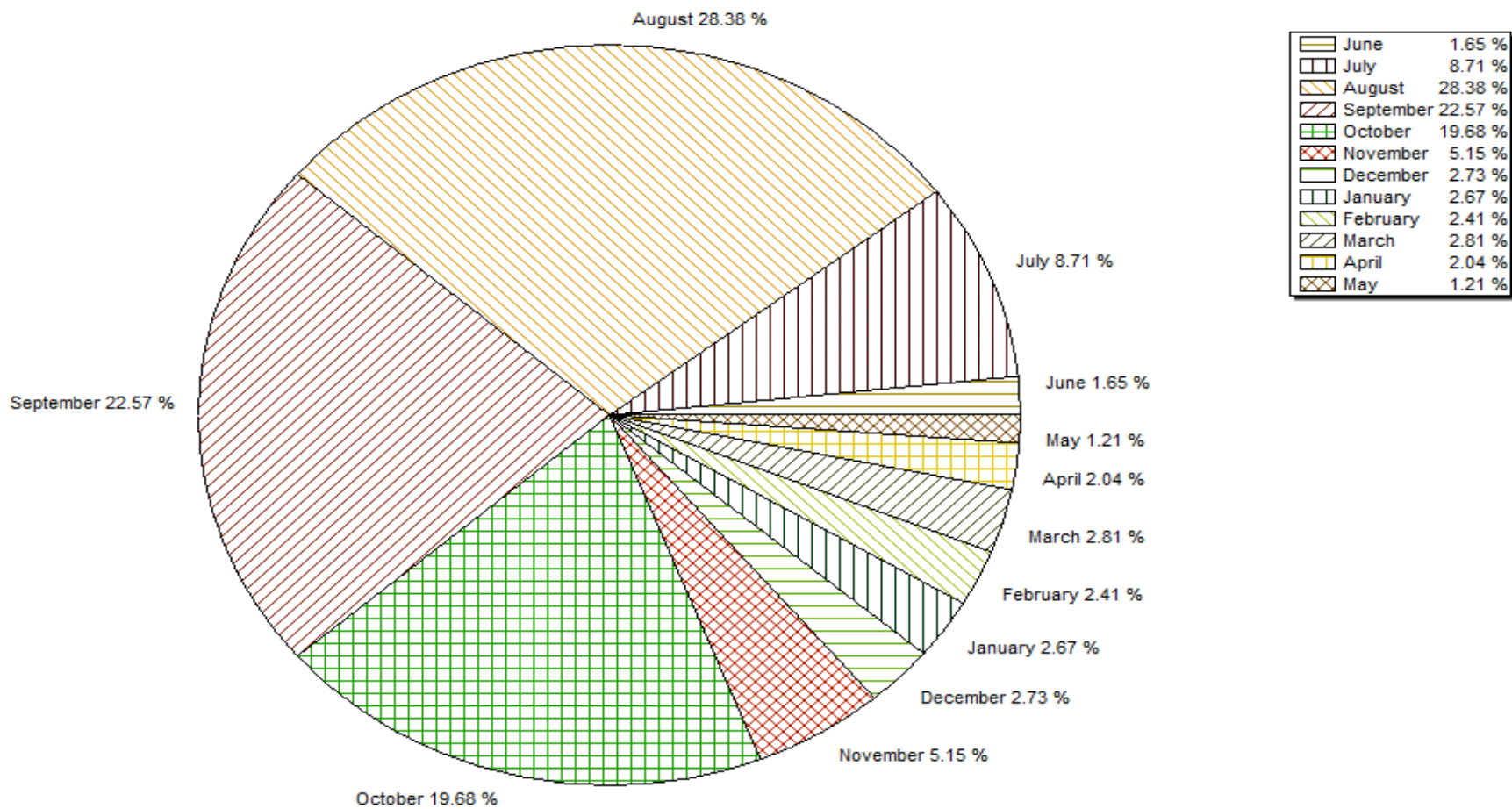
Monthly Average Runoff based on period : 1966-2021

Station Name : Wadenapally (AK000D5)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



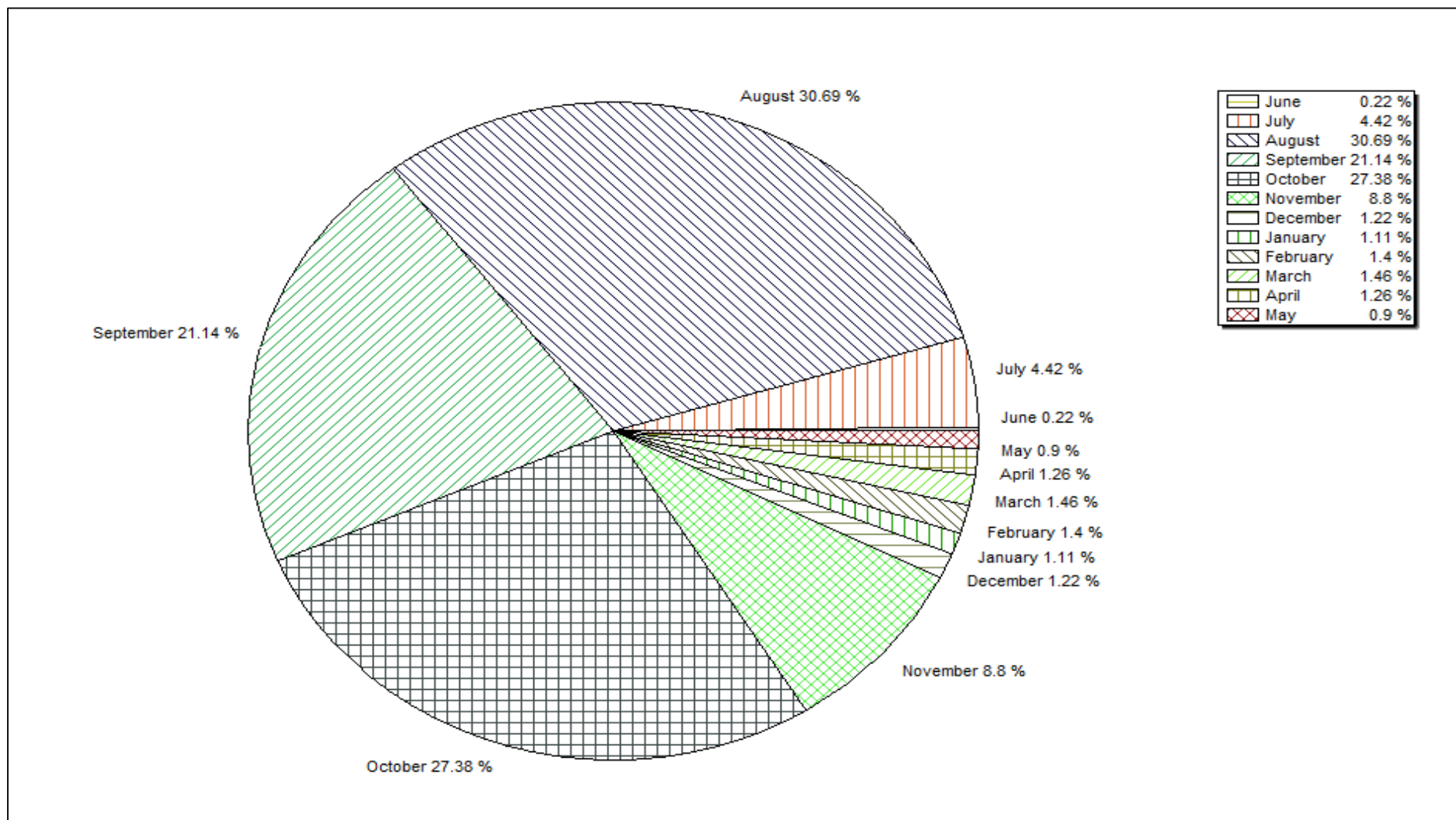
Monthly Runoff for the Year : 2021-2022

Station Name : Wadenapally (AK000D5)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



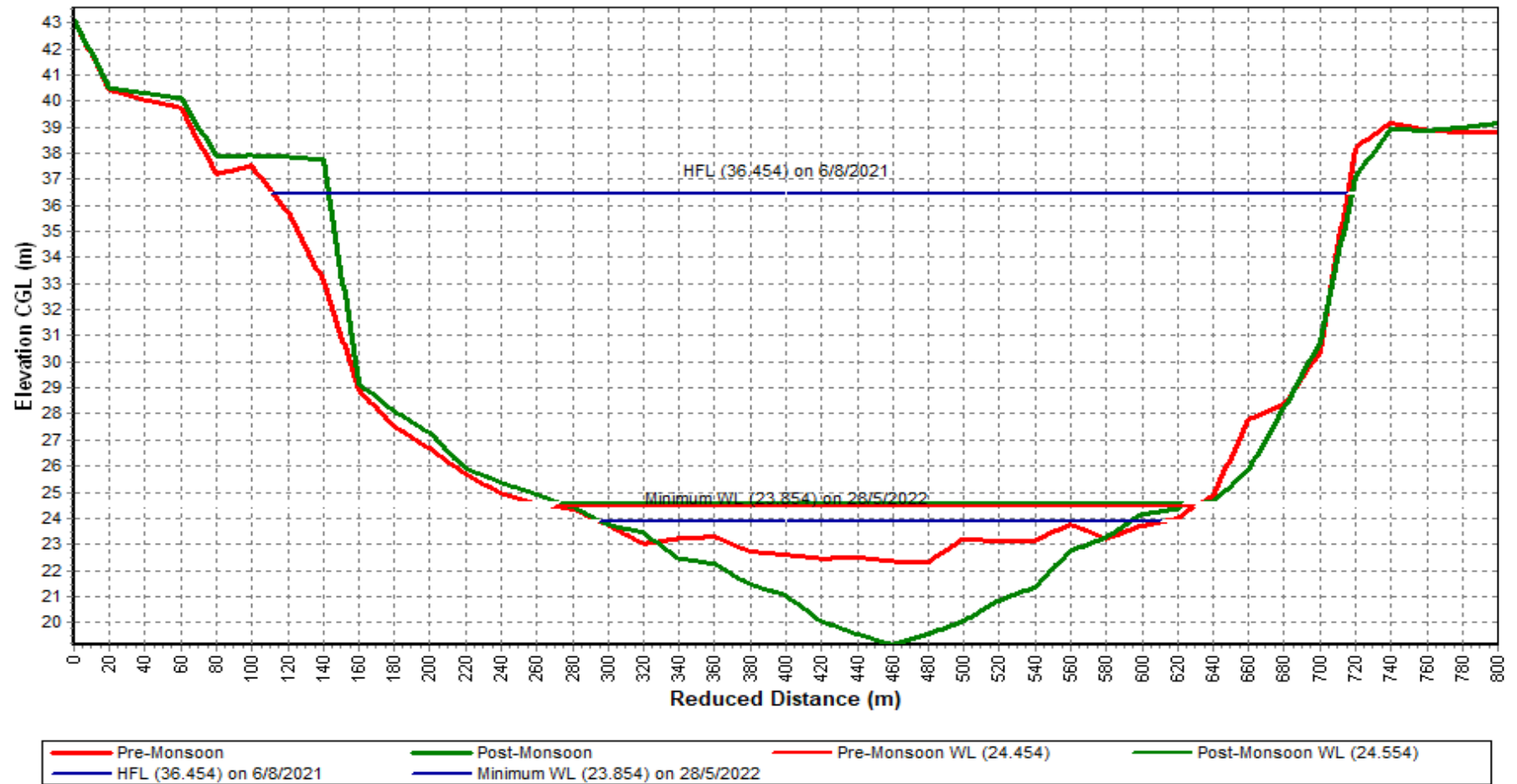
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : Wadenapally (AK000D5)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



Zero of Gauge : 22.054 (m.s.l)

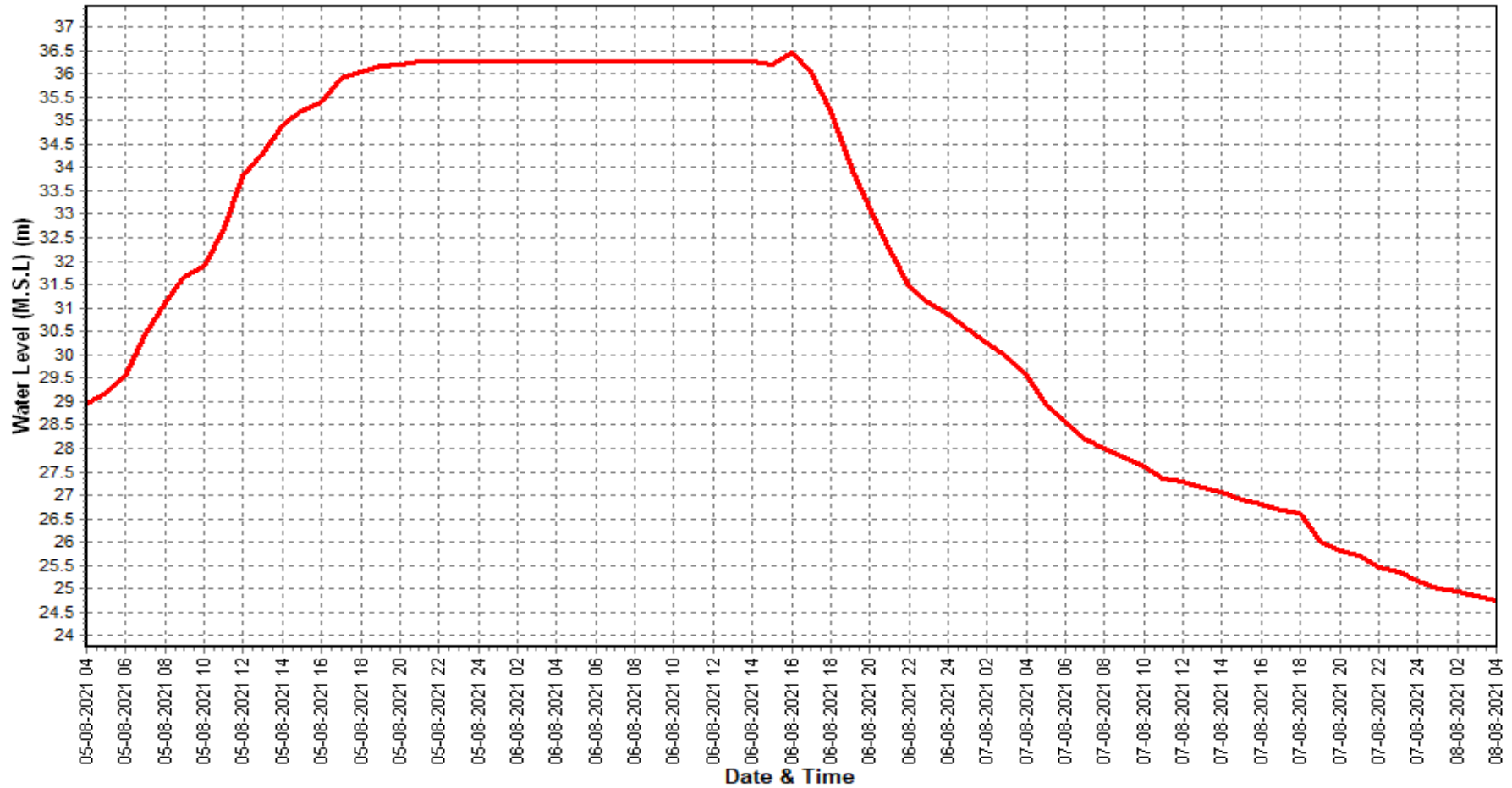
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Wadenapally (AK000D5)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



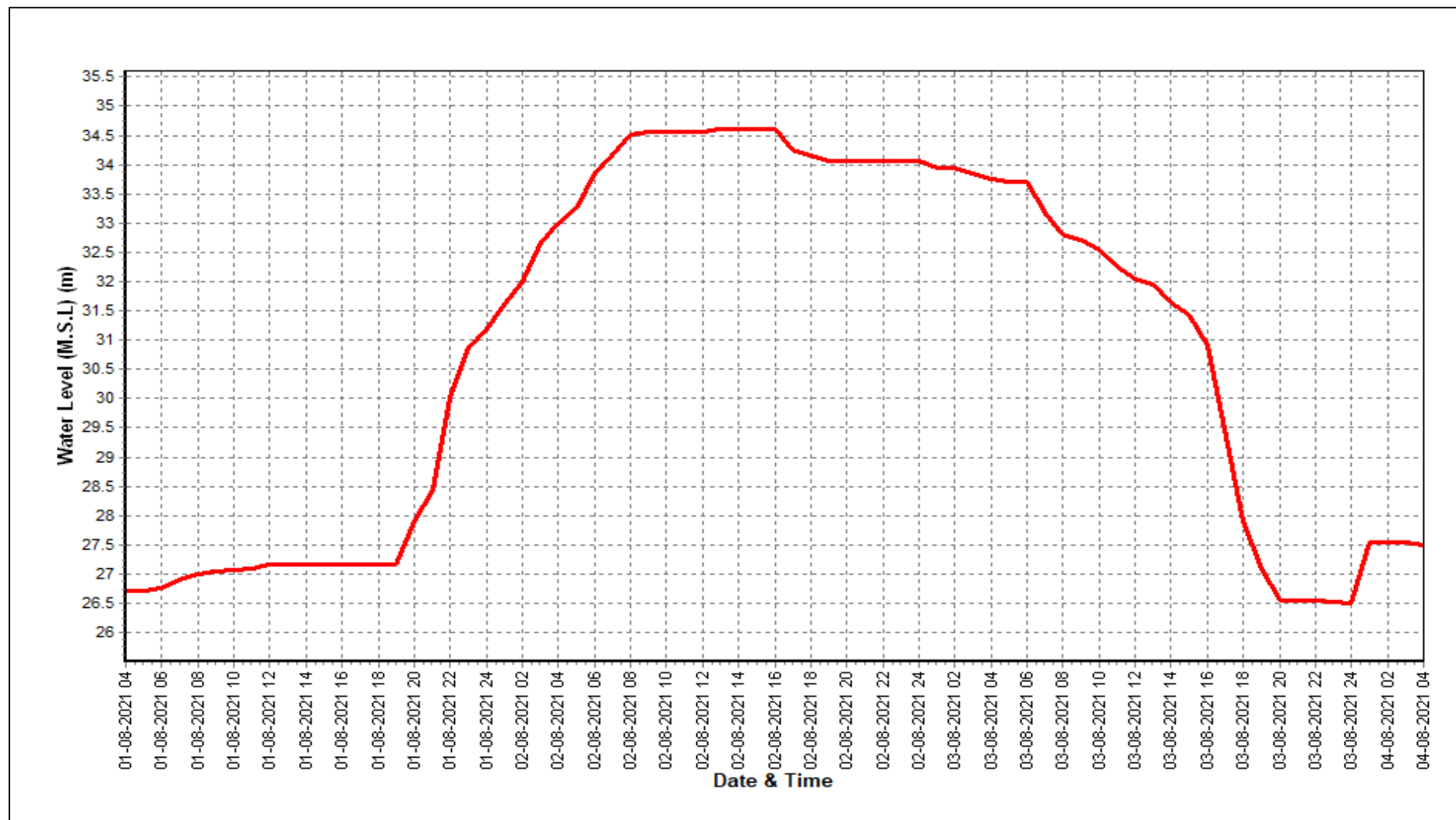
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Wadenapally (AK000D5)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



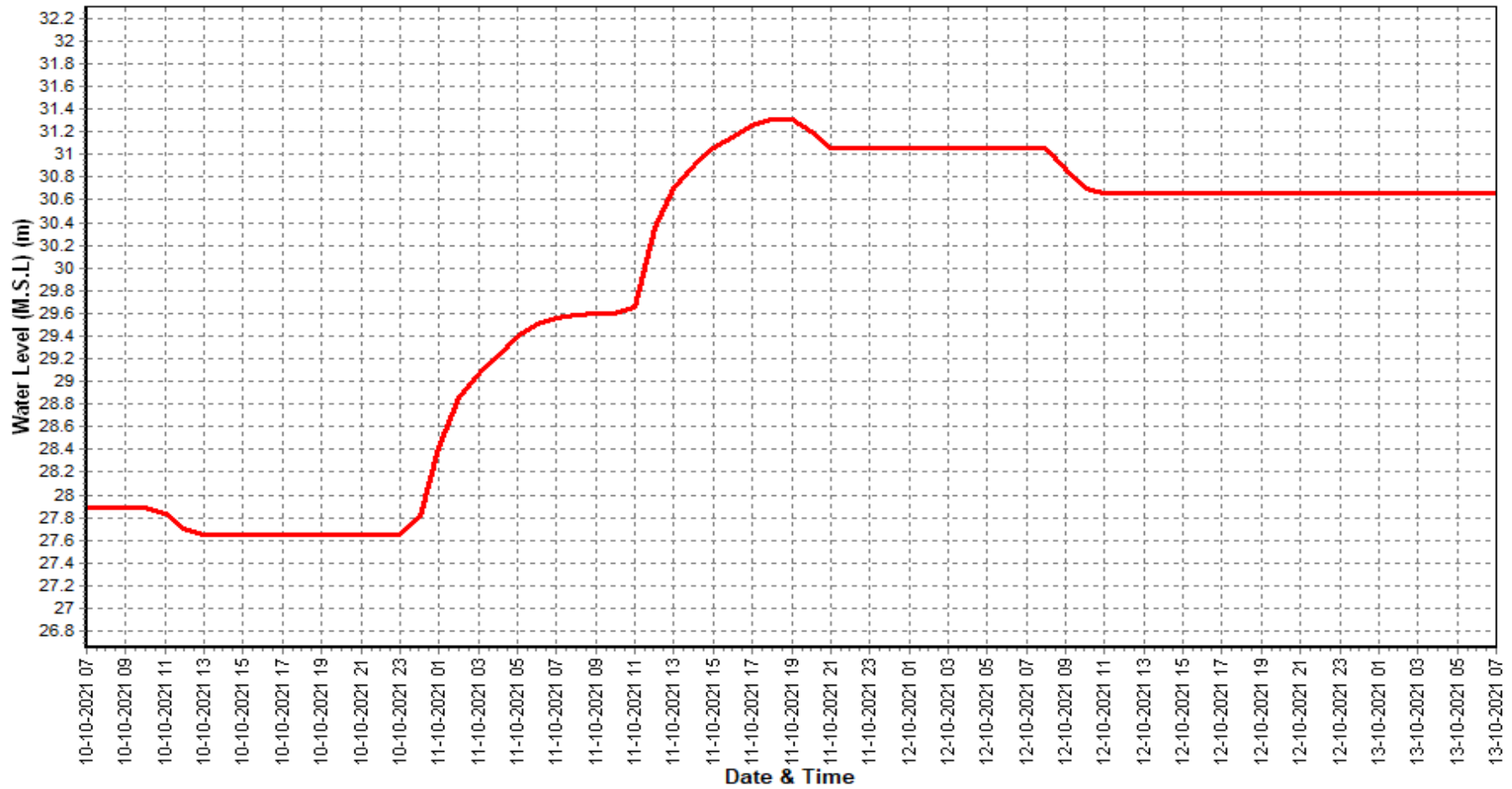
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Wadenapally (AK000D5)

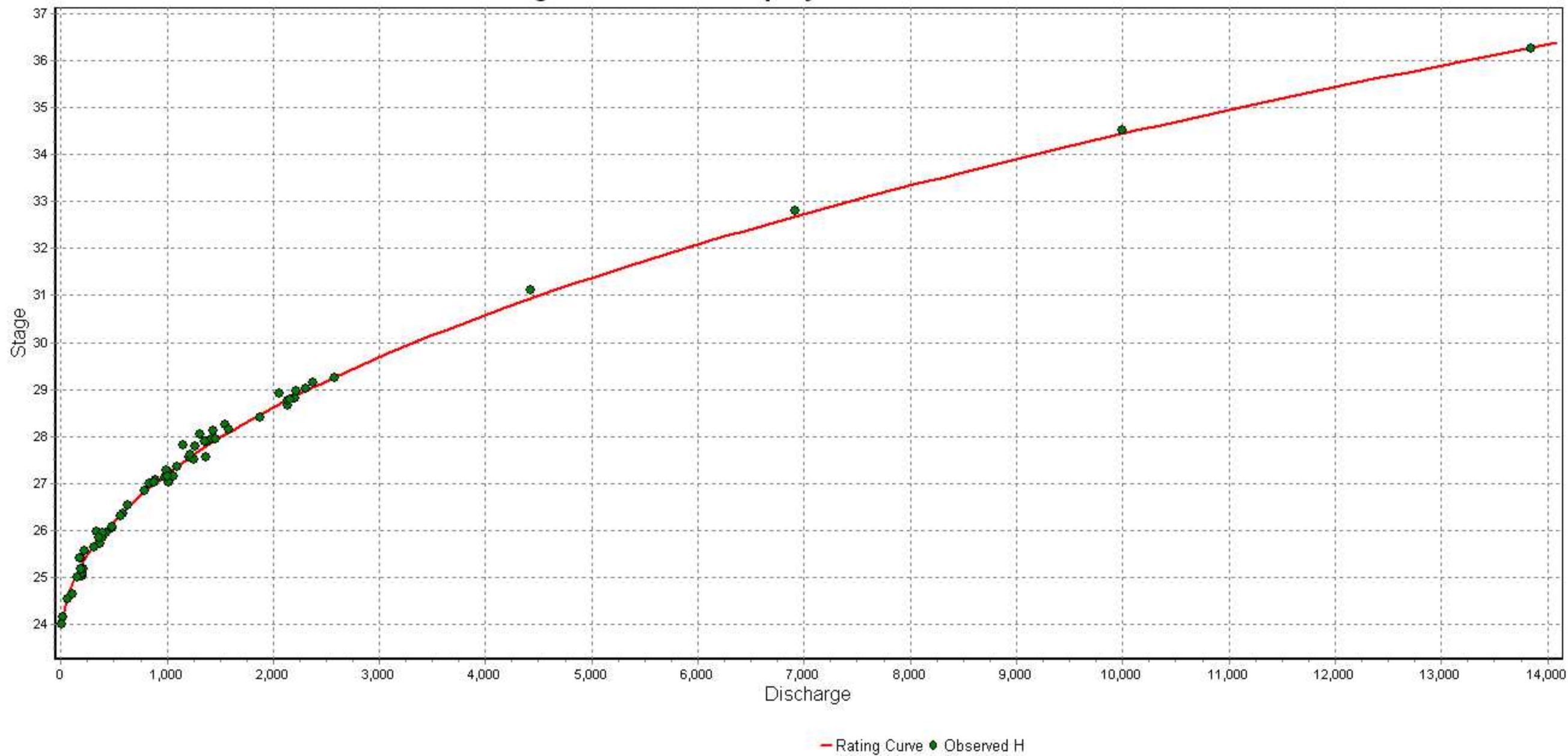
Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

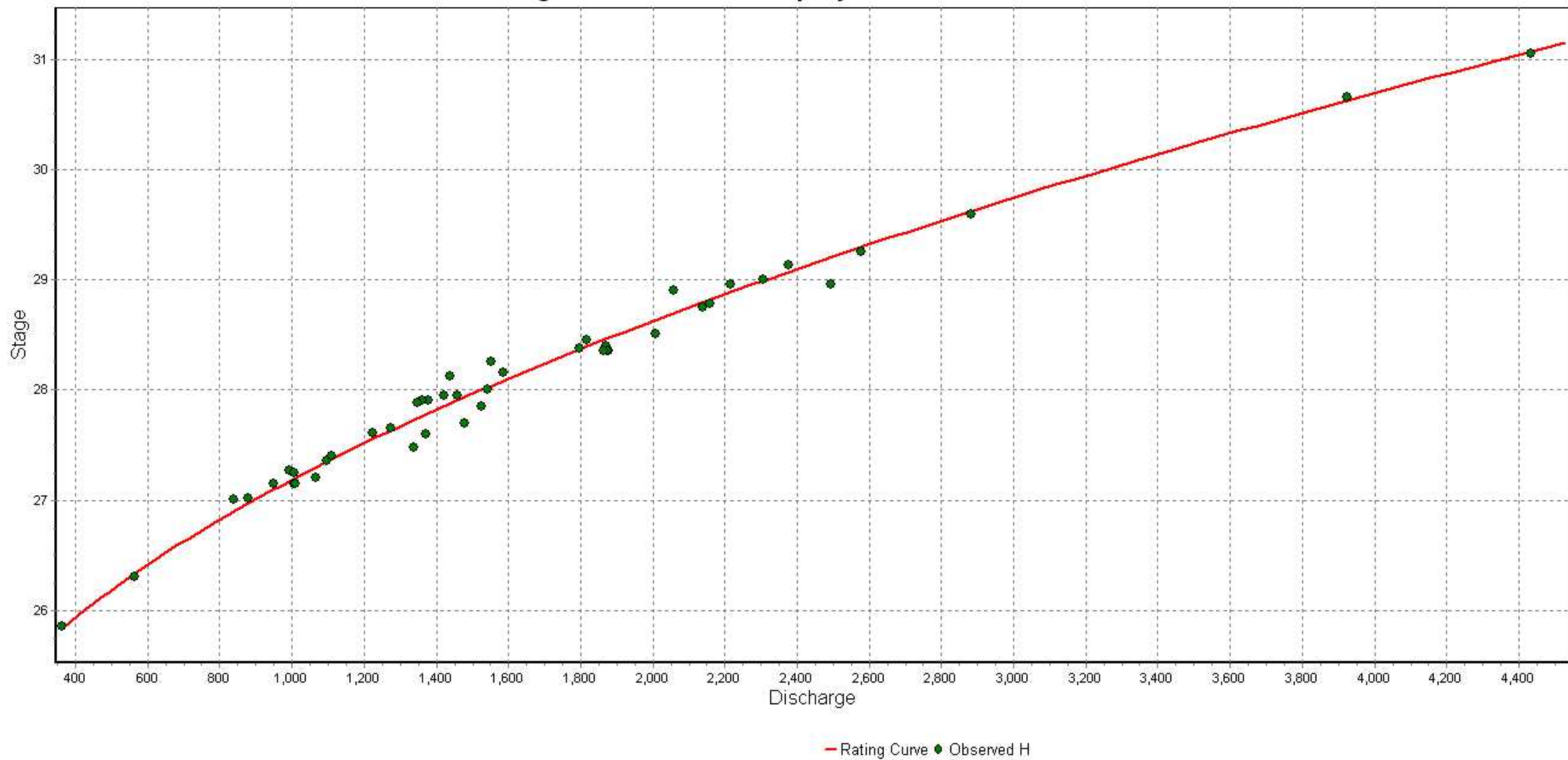
Sub-Division : Lower Krishna SD2, Vijayawada



Rating Curve Site Wadenapally 01/06/2021 to 31/08/2021



Rating Curve of Site Wadenapally 01/09/21 to 31/10/2021



HISTORY SHEET

Water Year : 2021-2022

Site : paleru Bridge

Code : AKC00D3

State : Andhra Pradesh

District

Basin : Krishna

Independent River : Krishna

Tributary : Paleru

Sub Tributary : -

Sub-Sub Tributary : -

Local River : Paleru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada

Drainage Area : 2928 Sq. Km.

Bank : Right

Latitude : 16°56'56"

Longitude : 80°02'57"

Zero of Gauge (m) : 73.232 (m.s.l)
 71.367 (m.s.l)
 71.857 (m.s.l)
 70.357 (m.s.l)

01-06-1964 - 20-09-1964
 21-09-1964 - 31-05-1970
 01-06-1970 - 31-12-1999
 01-01-2000

Opening Date

Closing Date

Gauge : 18-05-1964

HFL During 2021-22 : 75.147 m

Corres. Discharge : 341 (Estimated)

Discharge : 01-07-1964

Date & Time of
 occurrence : 28-09-2021
 : 06.00 hrs.

Sediment : 01-03-2014

Water Quality : 01-06-1992

HFL Recorded so far in m : 78.877 dt 23-07-1989

Corresponding Discharge (cumecs) : 2828*

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1965-1966	461.0	74.464	14-07-1965	0.120	71.742	10-07-1965
1966-1967	18.80	72.372	25-07-1966	0.000	71.627	31-05-1967
1967-1968	129.4	73.202	25-07-1967	0.000	71.777	13-06-1967
1968-1969	227.0	73.937	20-05-1969	0.030	71.757	15-06-1968
1969-1970	284.8	73.777	14-12-1969	0.161	71.597	07-07-1969
1970-1971	825.3	75.507	23-08-1970	0.400	72.282	19-06-1970
1971-1972	51.00	73.147	03-10-1971	0.100	72.207	21-05-1972
1972-1973	28.00	73.207	05-11-1972	0.040	72.437	11-03-1973
1973-1974	45.00	73.462	03-10-1973	0.100	72.362	01-06-1973
1974-1975	442.8	74.947	16-10-1974	0.100	72.382	23-07-1974
1975-1976	492.6	74.965	09-09-1975	0.700	72.110	25-06-1975
1976-1977	460.3	74.872	26-08-1976	0.300	72.207	10-04-1977
1977-1978	139.5	73.757	04-10-1977	0.200	72.187	17-07-1977
1978-1979	1165	76.132	16-08-1978	0.800	72.057	23-05-1979
1979-1980	208.7	74.077	28-09-1979	0.200	71.992	16-07-1979

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1980-1981	109.4	73.522	02-08-1980	0.400	72.097	31-05-1981
1981-1982	223.8	74.137	04-08-1981	0.300	72.077	17-04-1982
1982-1983	183.7	73.997	12-08-1982	0.100	72.167	31-05-1983
1983-1984	2250	78.002	06-10-1983	0.200	72.067	13-07-1983
1984-1985	202.9	73.697	12-10-1984	0.200	71.607	08-07-1984
1985-1986	587.6	75.332	14-08-1985	0.600	71.767	09-07-1985
1986-1987	406.4	74.465	13-08-1986	0.500	71.972	08-07-1986
1987-1988	104.0	73.322	13-11-1987	0.649	72.027	30-05-1988
1988-1989	1086	76.282	20-09-1988	1.000	72.052	15-06-1988
1989-1990	2477	78.447	24-07-1989	1.000	72.017	06-08-1989
1990-1991	537.6	74.807	03-10-1990	3.745	72.007	05-07-1990
1991-1992	378.3	74.286	22-09-1991	0.867	71.902	04-05-1992
1992-1993	69.63	73.102	02-09-1992	0.275	71.792	31-07-1992
1993-1994	154.3	73.615	10-10-1993	1.749	71.958	24-06-1993
1994-1995	348.7	74.357	06-10-1994	0.684	71.912	18-07-1994
1995-1996	448.9	74.807	19-10-1995	0.387	71.722	07-08-1995
1996-1997	220.7	74.057	28-08-1996	0.274	71.772	08-08-1996
1997-1998	130.2	73.552	24-09-1997	0.097	71.717	12-08-1997
1998-1999	344.6	74.652	16-10-1998	0.376	71.727	22-07-1998
1999-2000	174.2	74.027	29-09-1999	0.269	71.727	17-01-2000
2000-2001	592.3	75.407	24-08-2000	0.287	71.797	31-03-2001
2001-2002	148.7	73.572	30-09-2001	0.038	71.757	04-09-2001
2002-2003	160.0	73.657	13-10-2002	0.000	71.147	08-03-2003
2003-2004	11.13	72.487	08-08-2003	0.000		20-04-2004
2004-2005	24.03	72.657	22-09-2004	0.004	71.517	03-09-2004
2005-2006	665.7	75.607	22-09-2005	0.010	71.667	22-06-2005
2006-2007	276.0	74.277	20-09-2006	0.008	71.707	21-07-2006
2013-2014	7.192	72.357	10-05-2014	0.493	71.657	28-03-2014
2014-2015	158.2	73.682	27-10-2014	0.000	71.457	26-07-2014
2015-2016	33.60	73.357	19-06-2015	0.000	71.257	16-01-2016
2016-2017	22.99	72.452	24-09-2016	0.000		31-05-2017
2017-2018	12.65	72.117	28-04-2018	0.000	71.517	03-11-2017
2018-2019	416.1	74.672	20-08-2018	0.000	71.367	07-08-2018
2019-2020	46.72	73.072	19-09-2019	0.000	71.537	22-07-2019
2020-2021	584.3	75.957	15-10-2020	0.000	71.607	11-06-2020

Annual Runoff of Paleru at Paleru Bridge

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1965-1966	176	6	182	6	0	6
2	1966-1967	20	3	23	1	0	1
3	1967-1968	118	3	121	4	0	4
4	1968-1969	9	72	81	0	3	3
5	1969-1970	212	113	324	7	4	11
6	1970-1971	407	25	432	14	1	15
7	1971-1972	54	15	69	2	1	2
8	1972-1973	47	13	60	2	0	2
9	1973-1974	109	21	130	4	1	5
10	1974-1975	302	108	410	11	4	14
11	1975-1976	786	146	932	28	5	33
12	1976-1977	681	24	705	24	1	25
13	1977-1978	286	128	414	10	5	15
14	1978-1979	808	41	849	29	1	30
15	1979-1980	219	274	494	8	10	17
16	1980-1981	389	37	426	14	1	15
17	1981-1982	373	30	404	13	1	14
18	1982-1983	279	72	352	10	3	12
19	1983-1984	832	75	907	29	3	32
20	1984-1985	250	144	395	9	5	14
21	1985-1986	405	58	463	14	2	16
22	1986-1987	340	106	446	12	4	16
23	1987-1988	213	63	276	8	2	10
24	1988-1989	1054	130	1184	37	5	42
25	1989-1990	898	191	1089	32	7	38
26	1990-1991	486	201	687	17	7	24
27	1991-1992	403	89	492	14	3	17
28	1992-1993	214	153	367	8	5	13
29	1993-1994	281	153	434	10	5	15
30	1994-1995	419	176	596	15	6	21
31	1995-1996	320	98	418	11	3	15
32	1996-1997	348	192	540	12	7	19
33	1997-1998	268	94	362	9	3	13
34	1998-1999	558	178	735	20	6	26
35	1999-2000	304	58	362	11	2	13
36	2000-2001	504	46	550	18	2	19
37	2001-2002	111	99	210	4	4	7
38	2002-2003	39	1	39	1	0	1
39	2003-2004	12	2	14	0	0	0
40	2004-2005	34	49	83	1	2	3
41	2005-2006	486	187	673	17	7	24
42	2006-2007	268	146	414	9	5	15
43	2007-2008	Site was down graded wef 01-06-2007 and again upgraded wef 01-03-2014.					
44	2008-2009						
45	2009-2010						
46	2010-2011						
47	2011-2012						
48	2012-2013						

49	2013-2014		22	22		1	1
50	2014-2015	143	56	199	5	2	7
51	2015-2016	34	1	35	1	0	1
52	2016-2017	19	2	21	1	0	1
53	2017-2018	43	34	78	2	1	3
54	2018-2019	145	30	174	5	1	6
55	2019-2020	155	55	210	5	2	7
56	2020-2021	764	89	853	27	3	30
57	2021-2022	537	98	635	19	3	22
Average		319	82	395	11	3	14

Instantaneous Flood Peak of Krishna at Paleru Bridge

		Instantaneous Annual Flood Peak			
Sl. No.	Year	Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	1965-1966	74.227	14-07-1965	18:00:00	258 *
2	1966-1967	72.437	28-08-1966	19:00:00	19 *
3	1967-1968	73.077	25-07-1967	06:00:00	129 *
4	1968-1969	72.347	27-07-1968	16:00:00	150 *
5	1969-1970	74.847	20-05-1969	18:00:00	444 *
6	1970-1971	75.517	23-08-1970	06:00:00	830 *
7	1971-1972	73.522	26-09-1971	18:00:00	104 *
8	1972-1973	73.427	03-11-1972	13:00:00	88 *
9	1973-1974	73.467	03-10-1973	16:00:00	95 *
10	1974-1975	75.387	15-10-1974	18:00:00	646 *
11	1975-1976	75.077	27-09-1975	12:00:00	526 *
12	1976-1977	74.912	26-08-1976	12:00:00	467 *
13	1977-1978	73.827	04-10-1977	19:00:00	163 *
14	1978-1979	76.387	16-08-1978	03:00:00	1116 *
15	1979-1980	74.077	28-09-1979	08:00:00	220 *
16	1980-1981	73.577	25-07-1980	16:00:00	114 *
17	1981-1982	74.147	04-08-1981	10:00:00	237 *
18	1982-1983	74.007	12-08-1982	09:00:00	203 *
19	1983-1984	78.057	06-10-1983	10:00:00	2179 *
20	1984-1985	73.717	12-10-1984	09:00:00	140 *
21	1985-1986	75.357	14-08-1985	10:00:00	634 *
22	1986-1987	74.997	12-08-1986	15:00:00	497 *
23	1987-1988	73.507	08-10-1987	18:00:00	101 *
24	1988-1989	76.607	20-09-1988	03:00:00	1236 *
25	1989-1990	78.877	23-07-1989	22:00:00	2828 *
26	1990-1991	74.807	03-10-1990	06:00:00	431 *
27	1991-1992	74.927	21-09-1991	18:00:00	472 *
28	1992-1993	73.427	01-09-1992	21:00:00	88 *
29	1993-1994	74.037	10-10-1993	00:00:00	210 *
30	1994-1995	74.647	06-10-1994	00:00:00	379 *
31	1995-1996	74.887	19-10-1995	12:00:00	458 *
32	1996-1997	74.377	27-08-1996	16:00:00	299 *
33	1997-1998	73.627	24-09-1997	15:00:00	123 *
34	1998-1999	74.757	16-10-1998	03:00:00	414 *
35	1999-2000	74.027	29-09-1999	08:00:00	208 *
36	2000-2001	76.017	24-08-2000	19:00:00	928 *
37	2001-2002	73.687	30-09-2001	20:00:00	134 *
38	2002-2003	73.837	13-10-2002	10:00:00	165 *
39	2003-2004	72.507	08-08-2003	16:00:00	25 *
40	2004-2005	73.017	03-08-2004	17:00:00	32 *
41	2005-2006	75.707	20-09-2005	17:00:00	783 *
42	2006-2007	74.637	20-09-2006	20:00:00	376 *
44	2014-2015	73.857	26-10-2014	12:00:00	169 *
45	2015-2016	73.357	19-06-2015	08:00:00	77 *
46	2016-2017	72.597	22-09-2016	17:00:00	43 *
47	2017-2018	72.137	19-07-2017	05:00:00	18 *
48	2018-2019	74.707	20-08-2018	12:00:00	398 *
49	2019-2020	73.217	19-09-2019	00:00:00	58 *
50	2020-2021	76.087	15-10-2020	00:00:00	613 *
51	2021-2022	75.147	28-09-2021	06:00:00	341 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : paleru Bridge (AKC00D3)

Division : Lower Krishna Divn., Hyderabad

Local River : Paleru

Sub-Division : Lower Krishna SD2, Vijayawada

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	71.817	3.933	71.847	4.123	72.047	10.74 *	74.857	332.7	73.122	75.87	72.407	30.24
2	71.807	3.120	71.857	4.086	72.007	9.290	74.082	175.9	72.827	54.39 *	72.222	17.79
3	71.787	2.991	71.937	6.007	71.857	3.839	73.722	133.0	72.337	22.88 *	72.147	15.40
4	71.837	4.015	71.917	6.294 *	71.707	2.657	73.582	129.5	72.197	17.52	72.237	17.92 *
5	71.837	4.009	71.897	4.616	71.457	1.698	73.337	98.86 *	72.217	18.34	72.667	42.84 #
6	71.807	2.994 *	71.887	4.612	71.407	1.597	72.652	40.18	72.197	17.58	72.682	43.87
7	71.807	3.106	71.847	4.093	71.707	2.110	73.932	153.3	72.177	15.19 #	72.707	45.61 *
8	71.807	3.098	71.807	3.086	71.697	2.103 *	74.117	178.5	72.187	16.25	72.217	19.75
9	71.787	2.982	71.837	4.058	71.677	2.104	73.717	148.7	72.137	13.49 *	72.117	12.67 #
10	71.807	3.087	71.847	4.074	72.537	32.62	73.317	96.90 *	72.077	11.09 *	72.032	8.426
11	71.797	3.007	71.857	4.441 *	72.112	16.59	72.857	56.69 *	72.227	19.12	71.997	7.761
12	71.837	4.025	71.897	4.673	72.137	13.49 #	72.657	42.16 *	72.247	19.40	71.977	7.212
13	71.867	4.741 *	72.007	9.793	72.047	11.20	72.332	26.01	72.217	19.21	72.007	8.556 *
14	71.877	4.369	72.047	10.35	71.947	5.298	72.232	20.32	72.187	15.88	71.977	7.557 *
15	71.877	4.302	72.452	23.20	71.857	4.111 *	72.197	16.89	72.227	17.45 *	72.037	8.432
16	71.867	4.235	72.417	22.86	72.377	24.64	72.102	12.06 #	72.297	21.43	71.997	7.325
17	71.857	4.009	72.157	16.72	72.657	41.04	72.032	10.10	72.767	49.92 *	72.217	20.33
18	71.847	4.056	71.997	8.961 *	74.177	178.1	71.967	8.161	73.452	110.4 #	72.117	10.74
19	71.857	4.016	71.917	6.019	73.037	66.45	72.007	8.556 *	73.147	80.97 *	72.167	14.76 *
20	71.867	4.741 *	72.217	17.52	72.807	52.88 *	72.547	35.29	72.672	43.18 #	72.197	20.21
21	71.837	3.887	72.157	14.97 *	72.217	23.74	72.882	61.53	72.552	39.94	72.037	9.608 *
22	71.847	4.068	72.287	24.77	72.317	21.85 *	72.337	30.59	72.367	30.58	72.067	8.194
23	71.807	3.106	74.287	186.6	72.267	27.89	72.347	30.92	72.142	15.33	71.967	6.923
24	71.817	3.119	74.497	199.9	72.037	10.79	72.347	31.01	72.107	12.26 *	72.007	7.204
25	71.807	3.106	74.137	164.0 *	72.027	9.654	72.327	31.10	72.077	9.453	71.937	6.925
26	71.787	3.004	73.327	91.58	72.062	15.38	72.417	27.23 *	72.102	12.06	72.007	7.322
27	71.777	2.168 *	72.477	24.65	72.622	38.62	73.022	66.58	72.037	8.166	71.967	6.878
28	71.787	3.007	72.397	25.52	73.067	73.64	75.042	331.9	72.012	8.455	72.007	8.556 *
29	71.797	3.083	72.257	17.81	72.787	51.39 *	74.242	204.3 #	71.987	7.839	71.877	5.590
30	71.787	3.012	72.147	17.32	73.872	239.8	73.347	93.22	72.182	16.98	72.002	6.328
31			72.047	10.56	73.867	257.4			72.247	18.39 *		
Ten-Daily Mean												
I Ten-Daily	71.810	3.334	71.868	4.505	71.810	6.876	73.731	148.8	72.348	26.26	72.343	25.45
II Ten-Daily	71.855	4.150	72.096	12.45	72.515	41.38	72.293	23.62	72.544	39.70	72.069	11.29
III Ten-Daily	71.805	3.156	72.911	70.69	72.649	70.01	73.031	90.84	72.165	16.32	71.988	7.353
Monthly												
Min.	71.777	2.168	71.807	3.086	71.407	1.597	71.967	8.161	71.987	7.839	71.877	5.590
Max.	71.877	4.741	74.497	199.9	74.177	257.4	75.042	332.7	73.452	110.4	72.707	45.61
Mean	71.823	3.547	72.312	30.55	72.335	40.41	73.019	87.74	72.346	27.07	72.133	14.7

Annual Runoff in MCM = 635 Annual Runoff in mm = 217

Peak Observed Discharge = 332.7 cumecs on 01-09-2021 Corres. Water Level :74.857 m

Lowest Observed Discharge = 1.597 cumecs on 06-08-2021 Corres. Water Level :71.407 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : paleru Bridge (AKC00D3)

Division : Lower Krishna Divn., Hyderabad

Local River : Paleru

Sub-Division : Lower Krishna SD2, Vijayawada

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	71.957	6.050	71.707	3.228	72.037	8.864	71.787	3.774	71.877	5.386	71.847	4.971 *
2	71.927	5.726	71.757	3.010 *	71.917	6.037	71.847	4.779	71.847	4.229	71.897	5.976
3	71.887	5.622	71.857	5.376	71.897	5.544	71.847	4.825	71.857	5.219 *	71.877	5.732 *
4	71.887	5.582	71.837	4.928	71.917	6.144	71.897	6.209	71.897	5.905	71.787	3.531
5	71.877	5.732 *	71.837	5.079	71.787	3.589	71.947	7.888	71.897	5.911	71.807	3.863
6	71.877	5.244	71.817	4.992	71.897	6.268 *	71.917	6.829 *	71.877	5.283	71.777	3.703
7	71.887	5.886	71.837	5.081	71.917	6.177	71.967	8.070	71.947	7.730	71.797	3.627
8	71.877	5.683	71.897	6.268 *	71.787	3.610	72.077	11.28	71.917	6.189	71.787	3.610 *
9	71.877	5.816	71.857	5.219 *	71.787	3.619	72.007	8.622	71.897	6.268 *	71.777	3.514
10	71.887	5.645	71.857	5.708	71.917	6.133	71.857	4.685	71.897	6.268 *	71.807	3.896
11	72.037	10.69 *	71.757	3.510	71.817	3.832	71.847	4.660	71.947	7.832	71.817	3.963
12	72.057	11.42 *	71.677	3.278	71.817	4.264 *	71.857	5.219 *	71.957	7.835	71.807	3.906
13	71.887	5.622	72.352	27.50	71.897	6.268 *	71.897	6.268 *	71.897	5.920	71.787	3.537
14	71.927	6.400	72.177	16.28 *	71.787	3.781	71.847	4.188	71.877	5.732 *	71.787	3.610 *
15	71.887	5.660	72.197	17.65	71.817	4.005	71.817	3.514	71.877	5.732 *	71.807	4.040 *
16	71.852	5.608	72.357	25.17 *	71.807	3.976	71.837	3.660	71.917	6.210	71.807	4.040 *
17	71.877	5.774	72.997	71.32	71.847	4.067	71.837	3.691	71.847	4.971 *	71.777	3.505
18	71.827	5.145	72.587	37.46	71.857	4.060	71.857	5.219 *	71.807	3.860	71.757	1.902
19	71.807	4.040 *	72.347	28.70	71.957	6.497	71.837	3.834	71.787	3.592	71.757	1.910
20	71.847	5.613	72.147	16.89	71.917	6.829 *	71.897	6.268 *	71.957	7.780	71.767	2.074
21	71.827	5.192	72.007	7.966	71.877	5.539	71.837	3.908	71.937	7.358	71.757	1.949
22	71.817	5.127	71.927	6.292	71.867	4.637	71.877	5.206	71.917	6.180	71.757	1.960 *
23	71.707	3.214	71.887	5.997 *	71.857	5.018	71.877	5.364	71.897	5.978	71.767	2.057
24	71.757	3.511	71.917	6.235	71.917	6.691	71.897	5.979	71.897	6.268 *	71.797	2.806
25	71.757	3.010 *	71.787	3.704	71.837	4.754	71.987	8.912	71.877	5.380	71.777	2.631
26	71.807	4.040 *	71.787	3.610 *	71.877	5.091	71.987	8.981	71.957	7.797	71.797	2.784
27	71.777	3.512	71.817	4.755	71.857	5.219 *	72.017	9.988 *	71.937	7.276	71.727	1.662
28	71.757	3.545	71.917	6.313	71.827	4.562	71.997	7.822	71.917	6.114	71.707	1.650
29	71.787	3.660	71.837	4.918			71.897	5.932	71.897	6.044	71.707	1.660 *
30	71.777	3.678	71.837	4.730 *			71.877	5.309	71.877	5.408	71.727	1.668
31	71.757	3.558	71.777	3.597			71.897	5.891			71.787	2.071
Ten-Daily Mean												
I Ten-Daily	71.894	5.699	71.826	4.889	71.886	5.598	71.915	6.696	71.891	5.839	71.816	4.242
II Ten-Daily	71.900	6.597	72.259	24.78	71.852	4.758	71.853	4.652	71.887	5.946	71.787	3.249
III Ten-Daily	71.775	3.823	71.863	5.283	71.865	5.189	71.922	6.663	71.911	6.380	71.755	2.082
Monthly												
Min.	71.707	3.010	71.677	3.010	71.787	3.589	71.787	3.514	71.787	3.592	71.707	1.650
Max.	72.057	11.42	72.997	71.32	72.037	8.864	72.077	11.28	71.957	7.835	71.897	5.976
Mean	71.854	5.323	71.979	11.44	71.868	5.181	71.898	6.025	71.896	6.055	71.785	3.155

Peak Computed Discharge = 164.0 cumecs on 25-07-2021

Corres. Water Level :74.137 m

Lowest Computed Discharge = 1.660 cumecs on 29-05-2022

Corres. Water Level :71.707 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

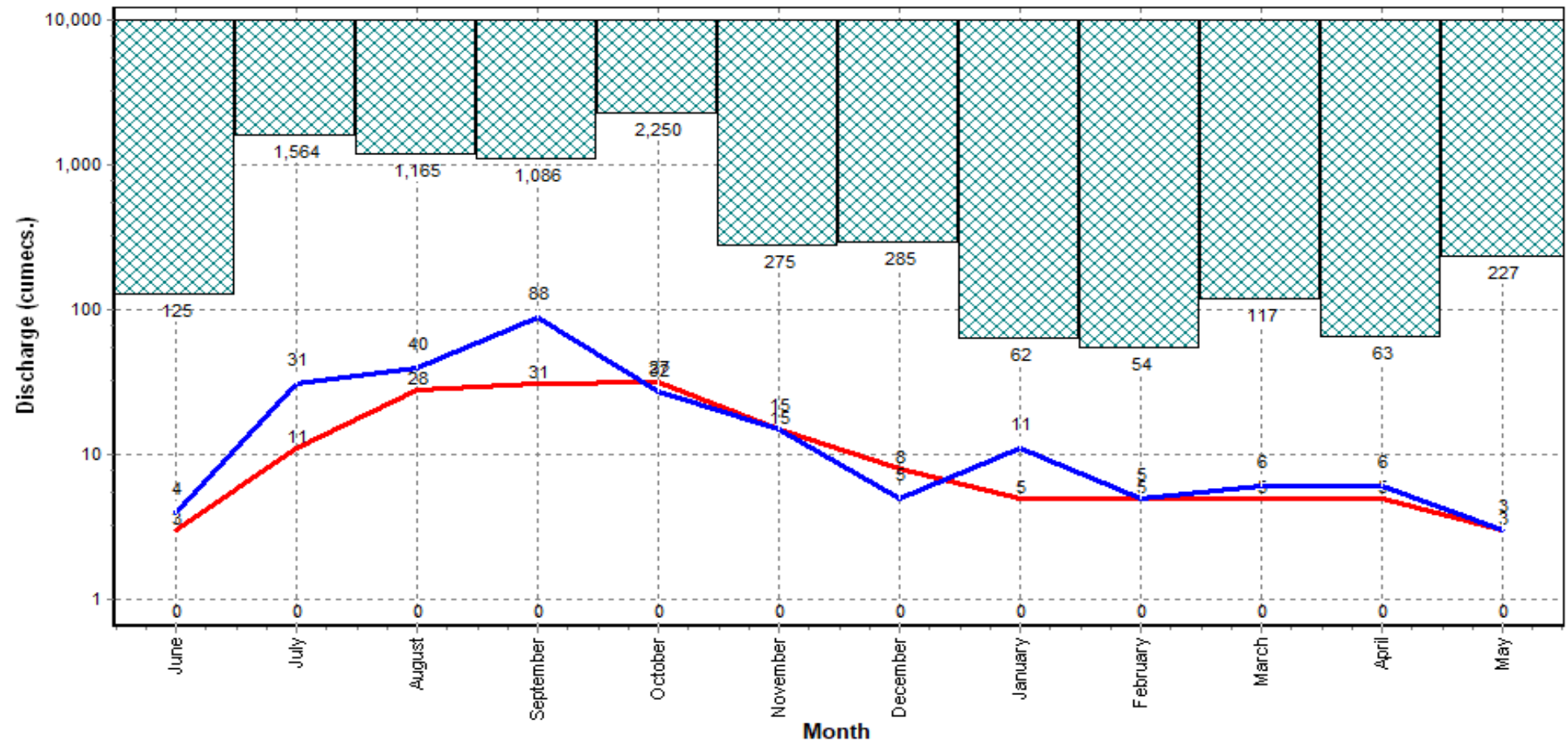
Station Name : paleru Bridge (AKC00D3)

Data considered : 1965-2022

Division : Lower Krishna Divn., Hyderabad

Local River : Paleru

Sub-Division : Lower Krishna SD2, Vijayawada



— Mean Discharge - Historical Data
 Minimum Discharge - Historical Data
 Maximum Discharge - Historical Data
 — Mean Discharge - Current Year

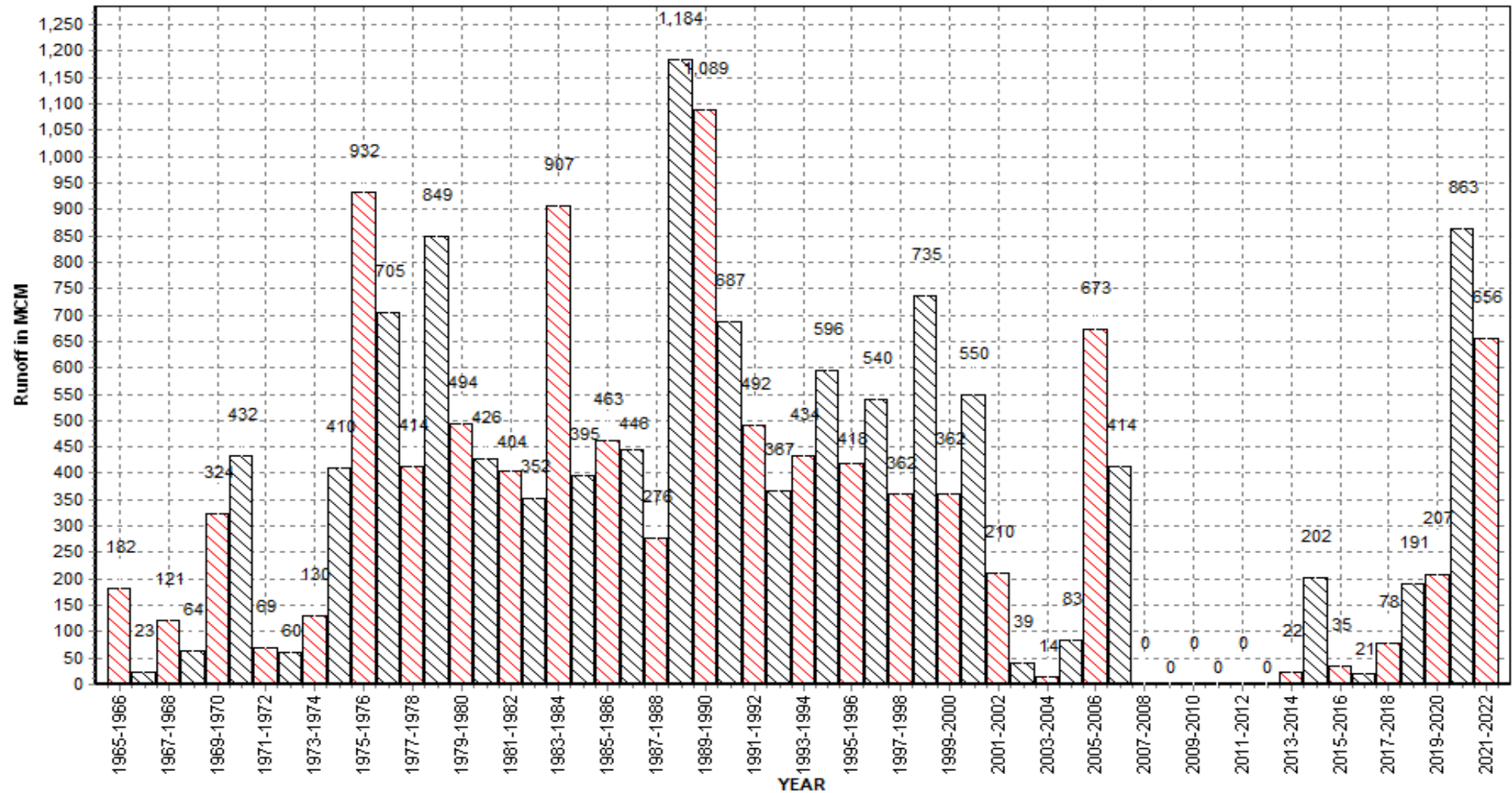
Annual Runoff Values for the period: 1965 - 2022

Station Name : paleru Bridge (AKC00D3)

Local River : Paleru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



Note: Missing values have not been considered while arriving at Annual Runoff

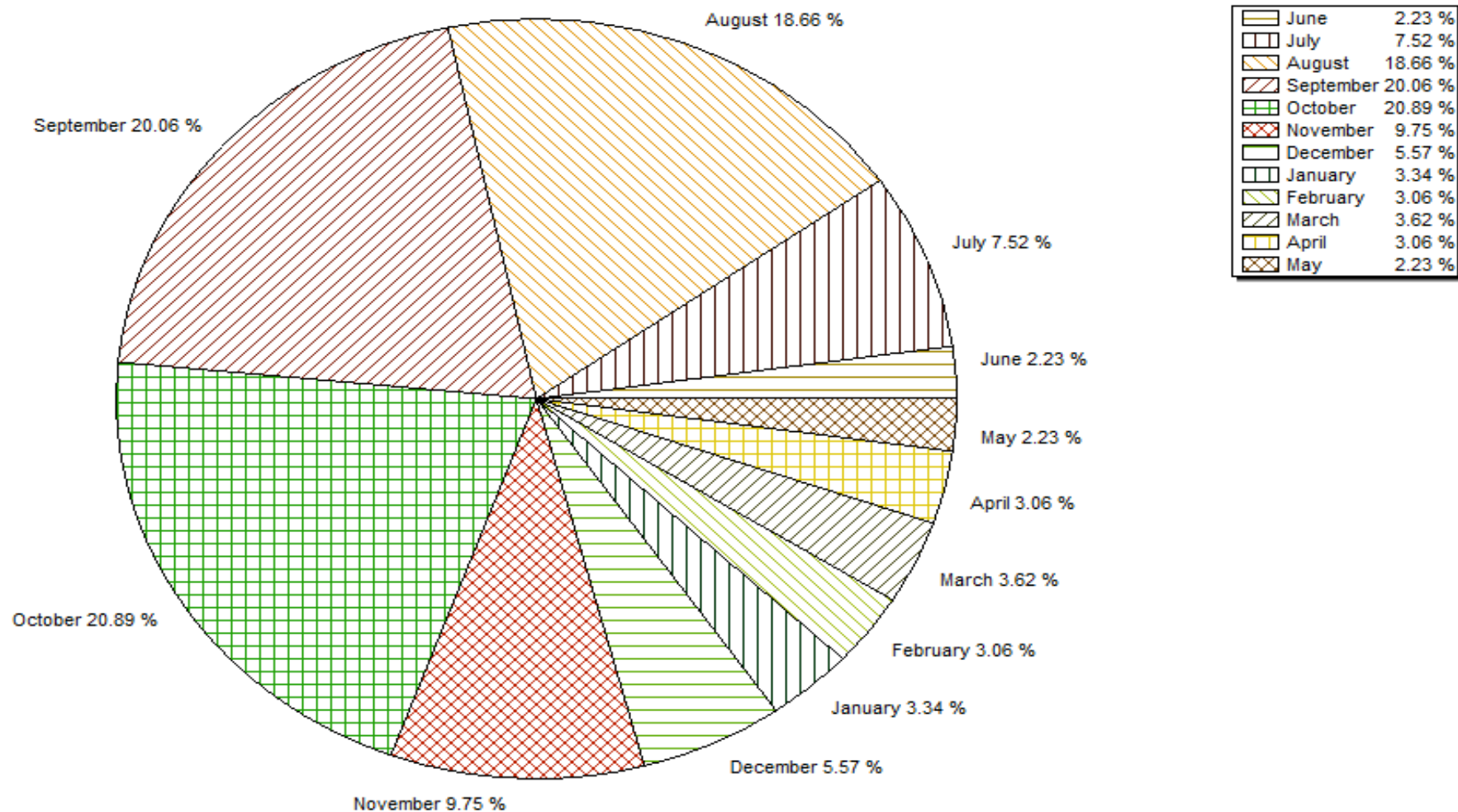
Monthly Average Runoff based on period : 1965-2021

Station Name : paleru Bridge (AKC00D3)

Local River : Paleru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



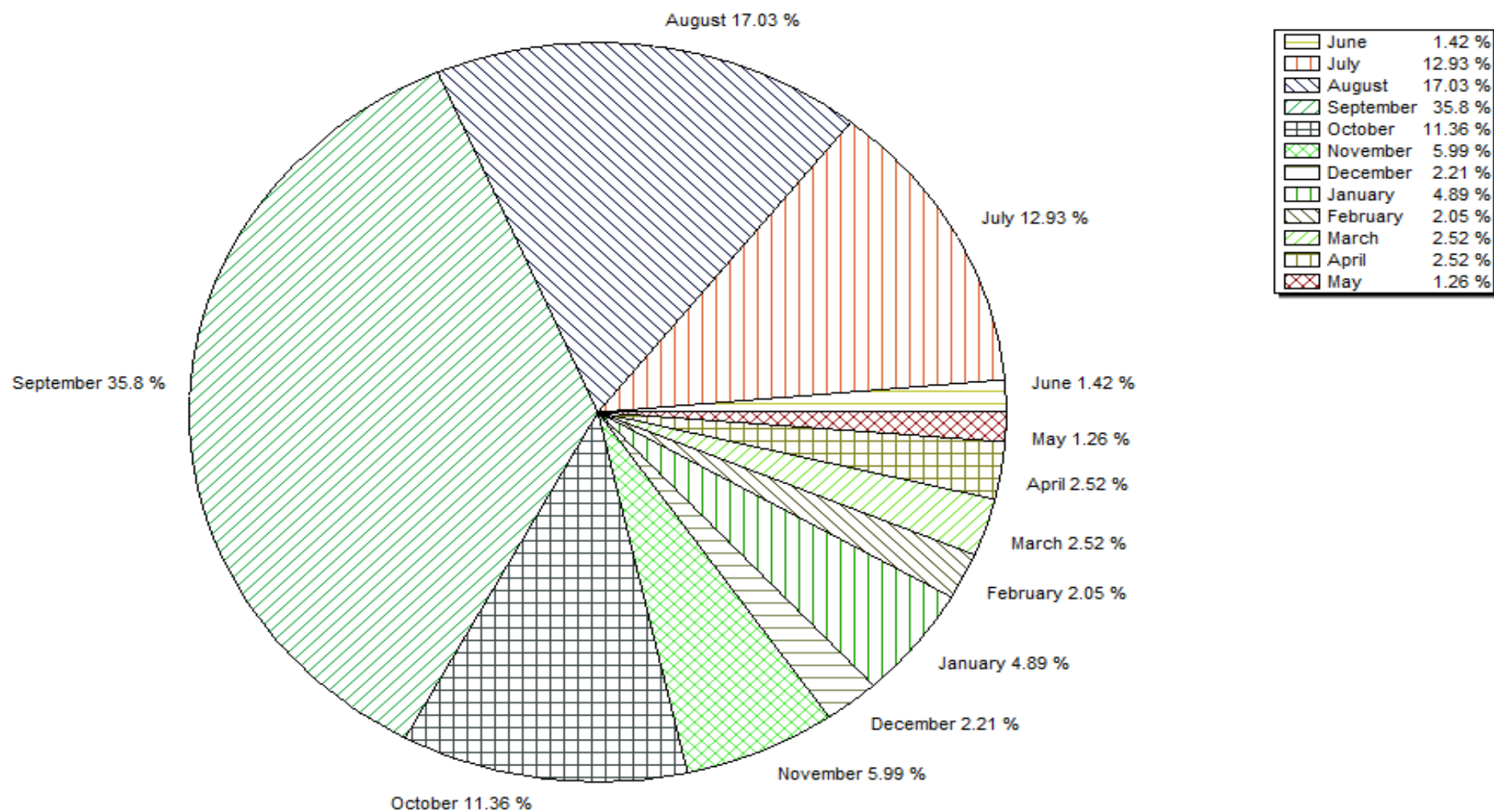
Monthly Runoff for the Year : 2021-2022

Station Name : paleru Bridge (AKC00D3)

Local River : Paleru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



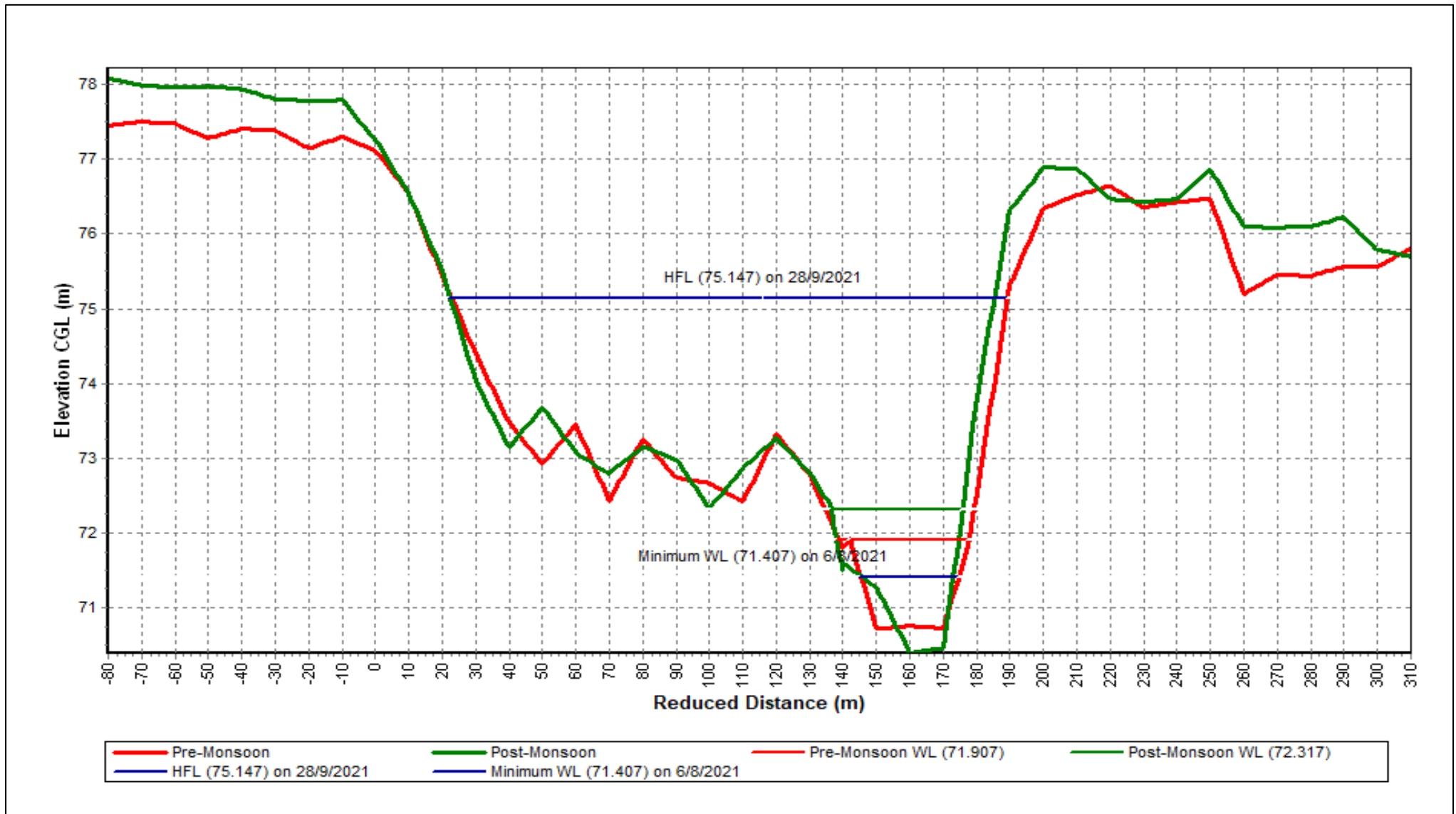
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : paleru Bridge (AKC00D3)

Local River : Paleru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



Zero of Gauge : 70.357 (m.s.l)

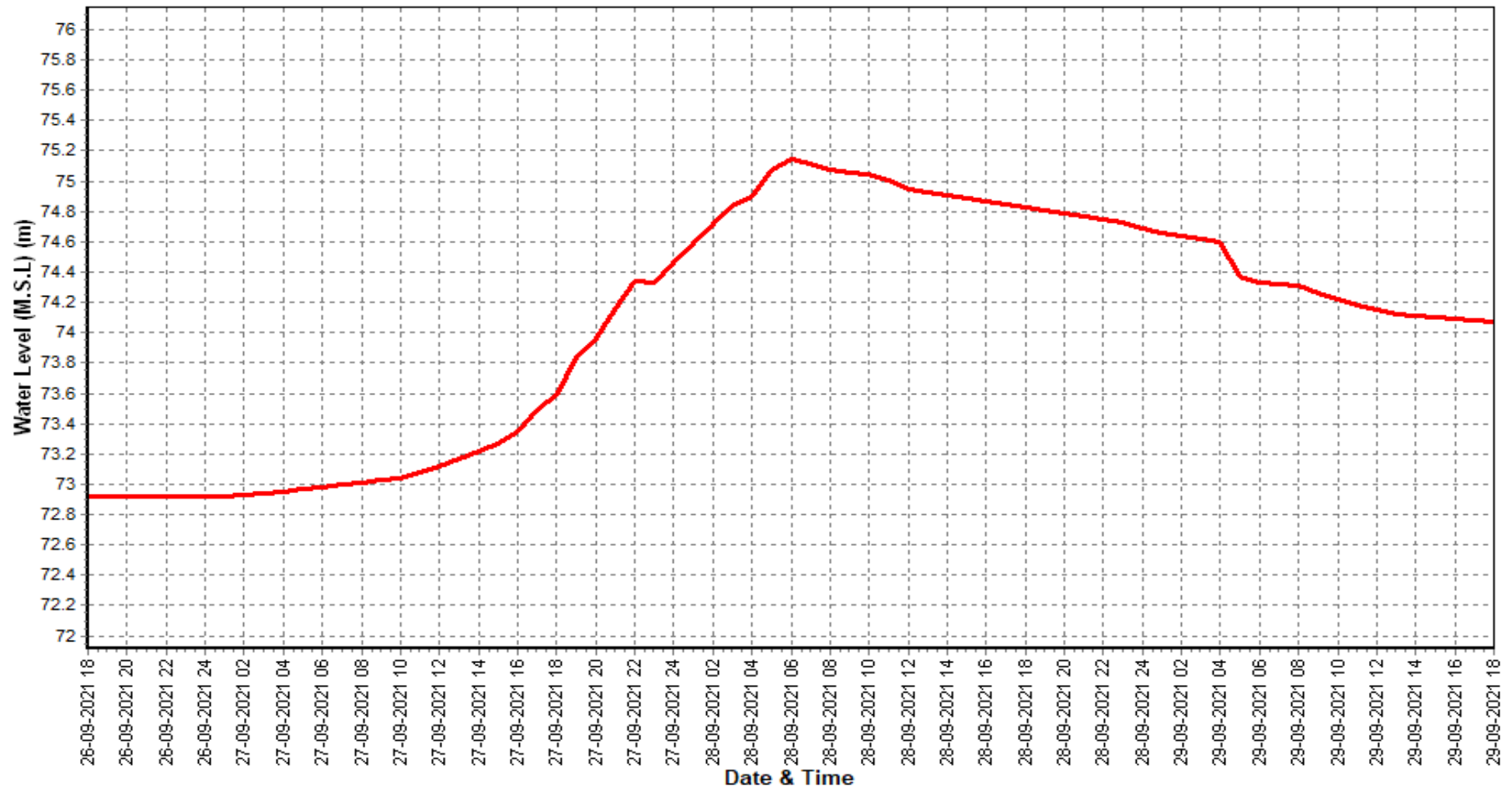
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : paleru Bridge (AKC00D3)

Local River : Paleru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



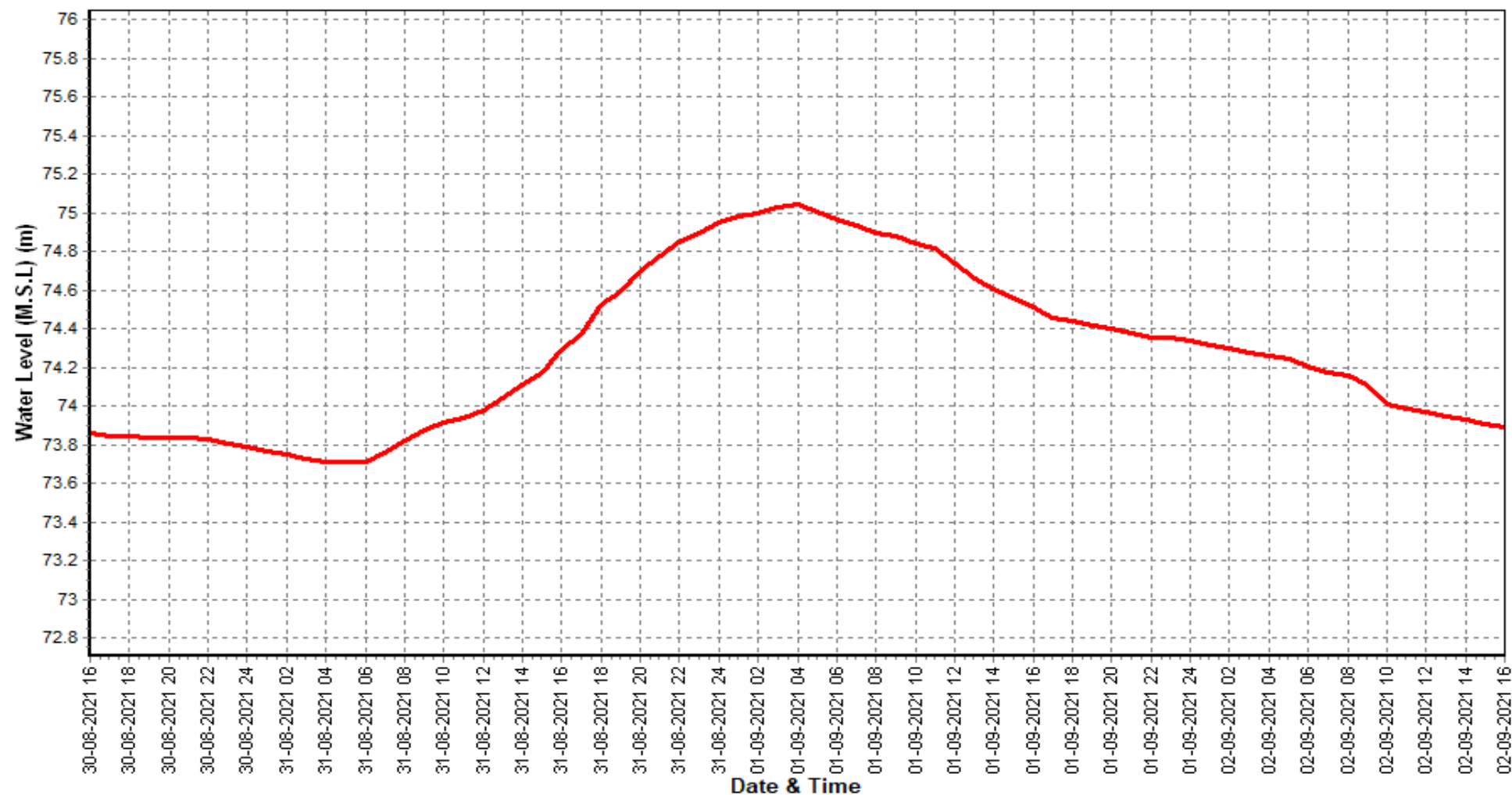
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : paleru Bridge (AKC00D3)

Local River : Paleru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



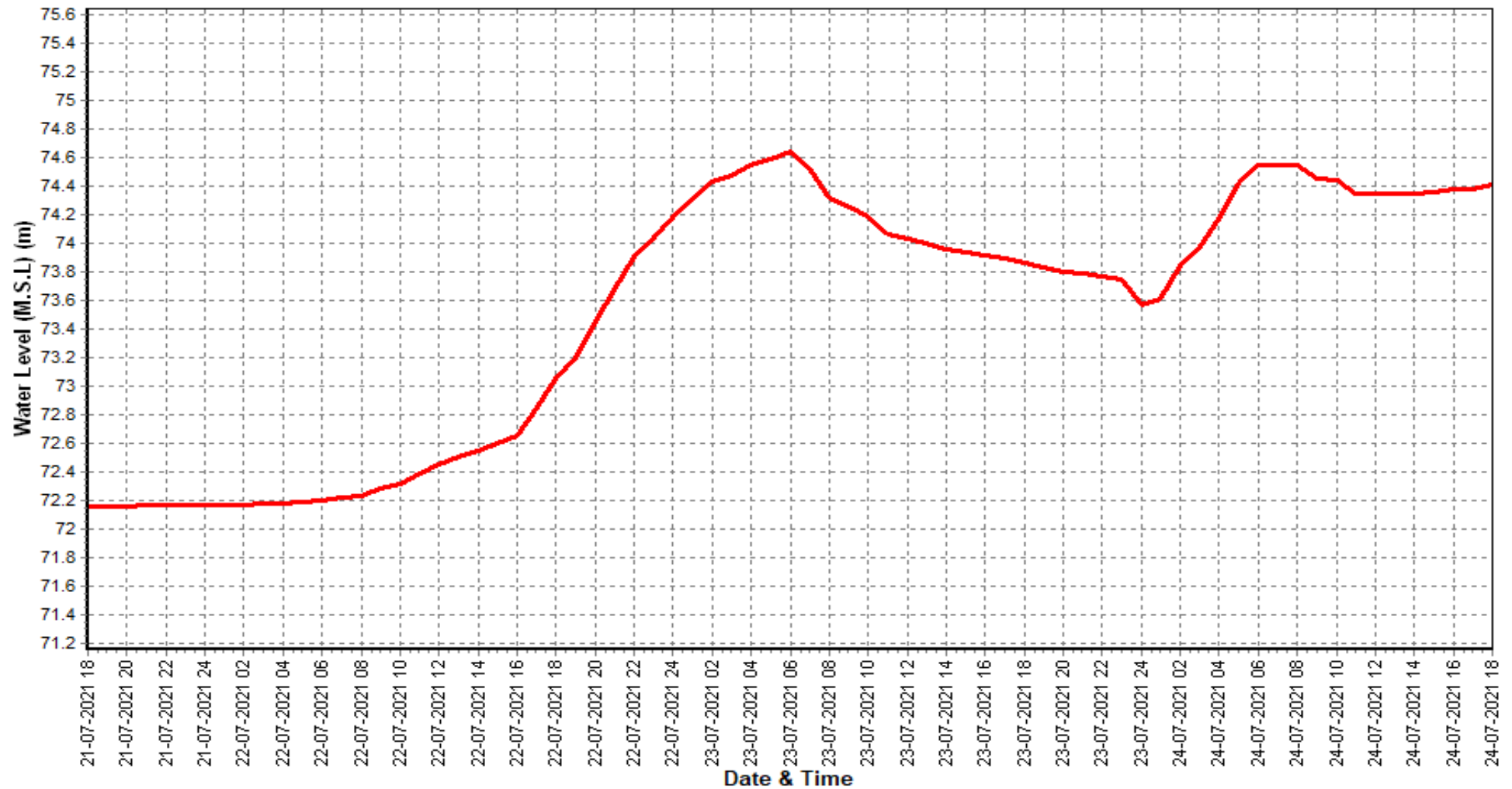
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : paleru Bridge (AKC00D3)

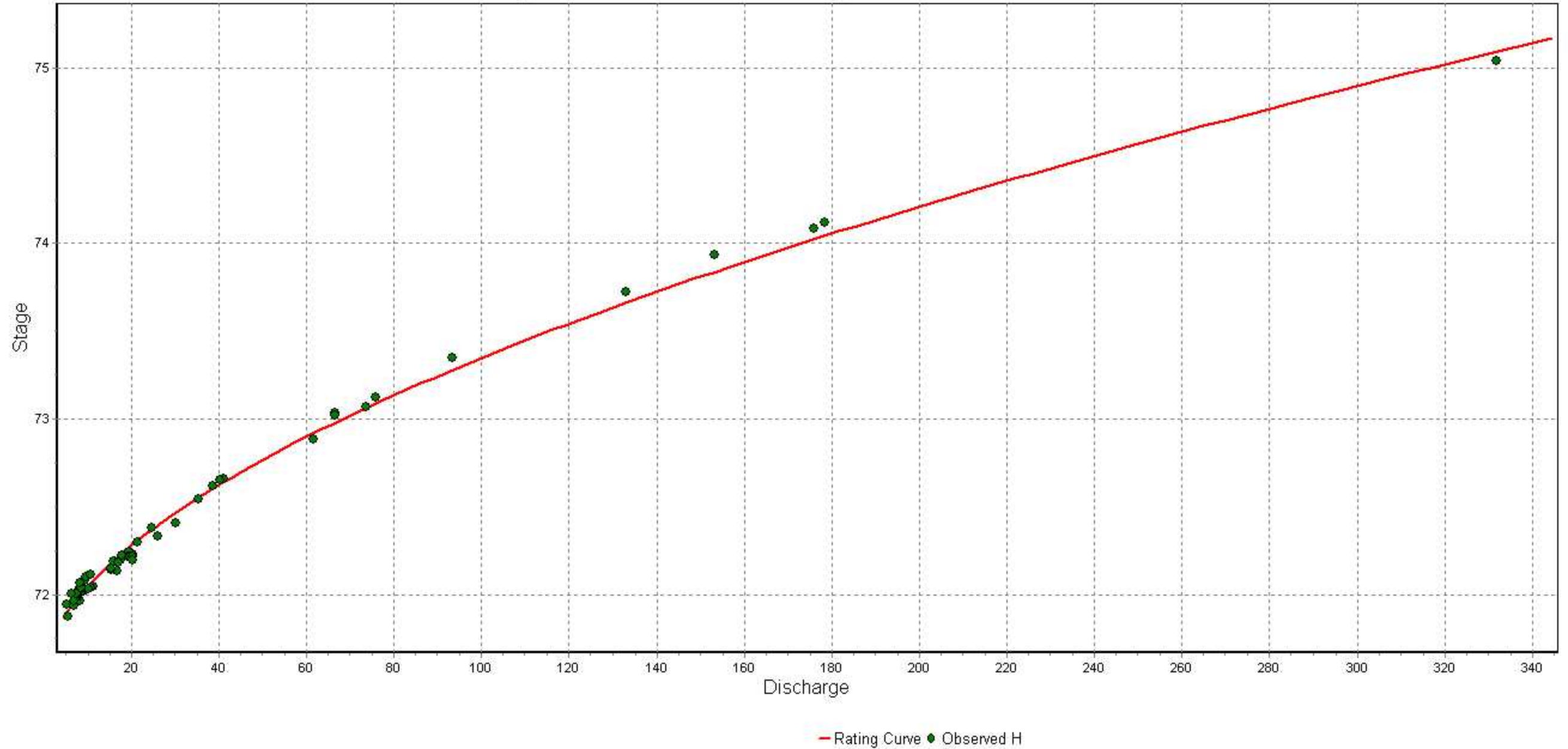
Local River : Paleru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



Rating Curve Of site Paleru to Bridge 10/08/2021 to 30/11/20



HISTORY SHEET

		Water Year	: 2021-2022
Site	: MUNUGODU	Code	: 033-LKDHYD
State	: Andhra Pradesh	District	Guntur
Basin	: Krishna	Independent River	: Krishna
Tributary	: Lower Krishna	Sub Tributary	:
Sub-Sub Tributary	:	Local River	: YEDDUVAGU
Division	: Lower Krishna Divn., Hyderabad	Sub-Division	: Lower Krishna SD2, Vijayawada
Drainage Area	: 647.8 Sq. Km.	Bank	: Left
Latitude	: 16°54'26"	Longitude	: 80°12'23"
Zero of Gauge (m)	: 24.5 (m.s.l)	01-03-2017	
	Opening Date	Closing Date	
Gauge	: 24-10-2016	HFL During 2020-21	: 28.800 m
		Corres. Discharge	: 332 (Estimated)
Discharge	: 24-10-2016	Date & Time of occurrence	: 30-08-2021 : 13.00 hrs.

HFL Recorded so far in m : 30.130 dt 14-09-2020

Corresponding Discharge (cumecs) : 1262 *

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2018-2019	68.93	27.630	20-08-2018	0.000		06-03-2019
2019-2020	570.7	29.160	18-09-2019	0.000		25-03-2020
2020-2021	676.6	29.820	14-10-2020	0.000	25.800	07-06-2020

Annual Runoff of Eddu Vagu at Munugodu

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	2017-2018	27	30	57	1	1	2
2	2018-2019	71	20	91	2	1	3
3	2019-2020	228	67	294	8	2	10
4	2020-2021	406	182	588	14	6	21
5	2021-2022	323	100	423	11	4	15
Average		211	80	291	7	3	10

Instantaneous Flood Peak of Krishna at Munugodu					
		Instantaneous Annual Flood Peak			
Sl. No.	Year	Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	2017-2018	26.700	08-10-2017	18:00:00	19 *
2	2018-2019	27.730	20-08-2018	12:00:00	86 *
3	2019-2020	29.160	18-09-2019	08:00:00	571
4	2020-2021	30.130	14-09-2020	14:00:00	1262 *
5	2021-2022	28.800	30-08-2021	13:00:00	332 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : MUNUGODU (033-LKDHYD)

Division : Lower Krishna Divn., Hyderabad

Local River : YEDDUVAGU

Sub-Division : Lower Krishna SD2, Vijayawada

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	25.900	0.690	26.000	1.209	26.110	2.390 *	27.150	48.77	26.700	15.22	26.780	17.91
2	25.910	0.780	26.170	3.923	26.090	2.311	28.450	247.6	26.580	12.26 *	26.750	17.02
3	25.880	0.623	26.070	2.274	26.070	2.224	28.360	226.3	26.460	8.964 *	26.700	15.57
4	25.880	0.642	26.010	1.520 *	26.010	1.487	27.380	73.70	26.525	11.72	26.640	14.44 *
5	25.880	0.649	25.990	1.185	26.010	1.481	26.800	22.02 *	27.350	72.31	26.680	15.01
6	25.890	0.640 *	25.980	1.144	26.020	0.825	26.760	15.47	26.950	30.22	26.600	15.89
7	25.920	0.914	25.910	0.641	25.990	0.623	26.720	13.35	27.050	37.19	26.730	18.39 *
8	25.930	0.949	26.040	1.594	25.950	0.650 *	26.770	16.13	27.090	41.49	26.690	15.29
9	25.900	0.692	26.185	3.220	26.090	1.780	26.590	12.10	26.770	20.40 *	26.640	14.28
10	25.890	0.642	26.100	2.326	26.060	1.394	26.500	9.902 *	26.660	15.25 *	26.630	14.02
11	25.880	0.608	26.050	1.420 *	26.230	3.309	26.420	8.187 *	26.615	16.01	26.650	14.54
12	25.900	0.680	26.000	1.228	26.140	2.571	26.440	8.556 *	26.590	15.40	26.680	15.35
13	25.920	0.750 *	25.980	1.091	26.245	3.702	26.500	10.32	26.515	13.63	26.760	19.88 *
14	25.920	0.894	26.020	1.537	26.740	14.18	26.520	10.36	26.620	16.21	27.000	35.08 *
15	25.940	0.798	26.030	1.580	26.470	9.184 *	26.670	14.42	26.680	16.09 *	26.990	31.77
16	26.040	2.017	26.020	1.543	27.180	51.92	27.120	45.97	26.780	18.14	26.840	19.89
17	26.040	1.808	26.105	2.390	26.950	29.84	26.780	17.43	26.750	19.37 *	26.960	29.06
18	26.030	1.596	26.810	22.58 *	26.730	13.55	26.605	12.60	26.730	16.72	26.830	19.59
19	25.990	1.186	26.360	6.972	26.520	11.97	26.560	11.61 *	26.660	15.25 *	26.780	20.93 *
20	25.910	0.650 *	26.260	4.893	26.470	9.184 *	27.050	37.57	26.610	16.83	27.090	41.49
21	25.920	0.660	26.120	2.540 *	26.385	7.321	27.270	59.74	26.610	16.54	27.770	122.6 *
22	25.920	0.671	26.120	2.538	26.540	11.00 *	27.590	102.1	26.590	15.90	27.600	108.6
23	25.980	0.987	27.130	46.71	26.520	12.09	26.930	28.15	26.525	13.50	27.000	32.70
24	25.920	0.683	26.900	25.70	26.450	10.24	26.750	13.55	26.520	10.43 *	26.730	16.72
25	25.920	0.677	26.520	10.43 *	26.410	9.193	26.650	11.34	26.545	13.77	26.670	15.08
26	25.930	0.708	26.370	7.438	27.210	55.15	26.680	16.09 *	26.530	13.47	26.530	13.21
27	25.910	0.750 *	26.310	6.050	27.350	69.95	27.310	65.07	26.530	13.54	26.510	12.83
28	26.345	5.937	26.240	4.713	26.910	26.51	27.900	147.0	26.475	11.25	26.480	9.413 *
29	26.095	2.296	26.130	2.634	27.230	55.03 *	27.230	57.35	26.480	11.43	26.590	15.74
30	26.030	1.339	26.130	2.683	28.400	235.6	26.950	29.84	26.730	16.44	26.670	15.08
31			26.100	2.382	27.700	113.4			26.970	32.86 *		
Ten-Daily Mean												
I Ten-Daily	25.898	0.722	26.046	1.904	26.040	1.516	27.148	68.53	26.814	26.50	26.684	15.78
II Ten-Daily	25.957	1.099	26.164	4.523	26.567	14.94	26.666	17.70	26.655	16.37	26.858	24.76
III Ten-Daily	25.997	1.471	26.370	10.35	27.010	55.05	27.126	53.02	26.591	15.38	26.855	36.19
Monthly												
Min.	25.880	0.608	25.910	0.641	25.950	0.623	26.420	8.187	26.460	8.964	26.480	9.413
Max.	26.345	5.937	27.130	46.71	28.400	235.6	28.450	247.6	27.350	72.31	27.770	122.6
Mean	25.951	1.097	26.199	5.745	26.554	24.84	26.980	46.42	26.684	19.28	26.799	25.58

Annual Runoff in MCM = 423 Annual Runoff in mm = 653

Peak Observed Discharge = 247.6 cumecs on 02-09-2021 Corres. Water Level :28.45 m

Lowest Observed Discharge = 0.464 cumecs on 22-03-2022 Corres. Water Level :25.89 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : MUNUGODU (033-LKDHYD)

Division : Lower Krishna Divn., Hyderabad

Local River : YEDDUVAGU

Sub-Division : Lower Krishna SD2, Vijayawada

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	26.660	14.81	26.480	10.42	26.410	8.961	26.110	2.784	26.430	9.226	25.950	1.198 *
2	26.650	14.54	26.500	10.91 *	26.400	8.813	26.100	2.698	26.440	9.371	25.940	1.188
3	26.630	14.02	26.480	10.51	26.430	9.297	26.180	4.209	26.390	8.367 *	25.950	1.190 *
4	26.640	14.28	26.485	10.87	26.430	9.310	26.210	4.636	26.220	4.722	25.950	1.241
5	26.630	14.28 *	26.490	10.98	26.390	8.625	26.220	4.723	26.130	2.908	25.980	1.401
6	26.565	12.50	26.470	10.53	26.300	6.490 *	26.300	6.490 *	26.060	2.457	26.050	2.328
7	26.555	11.86	26.480	10.78	26.100	2.610	26.340	7.448	26.040	2.248	26.220	4.738
8	26.500	10.70	26.460	9.955 *	25.980	1.316	26.350	7.582	26.070	2.559	26.300	6.490 *
9	26.535	11.84	26.490	10.67 *	25.970	1.267	26.390	8.438	26.020	1.835 *	26.050	2.277
10	26.530	11.74	26.430	8.915	25.970	1.279	26.400	8.606	26.040	2.108 *	26.030	2.192
11	26.520	11.41 *	26.430	9.011	25.960	1.233	26.400	8.640	26.130	2.885	26.020	2.126
12	26.500	10.91 *	26.400	8.656	25.980	1.316 *	26.430	9.260 *	26.240	4.899	26.110	2.760
13	26.490	10.67	26.400	8.650	26.000	1.571 *	26.390	8.367 *	26.330	7.277	26.100	2.699
14	26.490	10.59	26.520	11.41 *	26.115	2.919	26.410	8.898	26.390	8.367 *	26.050	2.248 *
15	26.480	10.44	26.500	11.12	26.260	5.890	26.230	4.771	26.380	8.149 *	26.080	2.681 *
16	26.490	10.68	26.490	10.67 *	26.310	6.972	26.120	3.148	26.430	9.207	26.090	2.830 *
17	26.500	10.78	26.410	8.844	26.320	7.041	26.080	2.603	26.480	10.43 *	26.050	2.273
18	26.480	10.43	26.450	9.924	26.400	8.644	25.900	0.389 *	26.460	10.06	26.030	2.180
19	26.480	10.43 *	26.445	9.777	26.410	8.801	25.950	1.204	26.440	9.223	26.010	2.068
20	26.500	10.87	26.430	9.563	26.430	9.260 *	25.930	0.720 *	26.470	10.19	26.000	1.996
21	26.470	10.23	26.400	8.787	26.450	9.924	25.940	1.165	26.380	8.264	26.000	2.007
22	26.430	8.875	26.400	8.828	26.345	7.544	25.890	0.464	26.310	6.876	26.000	1.571 *
23	26.440	9.030	26.390	8.367 *	26.180	4.196	25.900	0.488	26.240	4.936	25.960	1.280
24	26.430	8.818	26.390	8.670	26.100	2.734	25.890	0.475	26.150	3.773 *	25.950	1.246
25	26.430	9.260 *	26.310	6.788	26.090	2.661	26.070	2.546	26.120	2.837	25.910	0.577
26	26.420	9.034 *	26.290	6.292 *	25.990	1.377	26.230	4.804	26.080	2.611	25.910	0.591
27	26.480	10.42	26.360	7.777	25.930	0.720 *	26.320	6.891 *	26.040	2.274	25.900	0.551
28	26.450	9.184	26.400	8.843	26.100	2.820	26.380	8.293	25.990	1.482	25.890	0.528
29	26.460	9.354	26.400	8.823			26.420	9.081	25.980	1.441	25.900	0.540 *
30	26.490	10.66	26.390	8.367 *			26.400	8.671	25.960	1.286	25.890	0.516
31	26.490	10.62	26.390	8.650			26.430	9.202			25.880	0.485
Ten-Daily Mean												
I Ten-Daily	26.590	13.06	26.477	10.46	26.238	5.797	26.260	5.761	26.184	4.580	26.042	2.424
II Ten-Daily	26.493	10.72	26.448	9.762	26.219	5.365	26.184	4.800	26.375	8.068	26.054	2.386
III Ten-Daily	26.454	9.591	26.375	8.199	26.148	3.997	26.170	4.734	26.125	3.578	25.926	0.899
Monthly												
Min.	26.420	8.818	26.290	6.292	25.930	0.720	25.890	0.389	25.960	1.286	25.880	0.485
Max.	26.660	14.81	26.520	11.41	26.450	9.924	26.430	9.260	26.480	10.43	26.300	6.490
Mean	26.510	11.07	26.431	9.431	26.205	5.128	26.204	5.087	26.228	5.409	26.005	1.871

Peak Computed Discharge = 122.6 cumecs on 21-11-2021

Corres. Water Level :27.77 m

Lowest Computed Discharge = 0.389 cumecs on 18-03-2022

Corres. Water Level :25.9 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

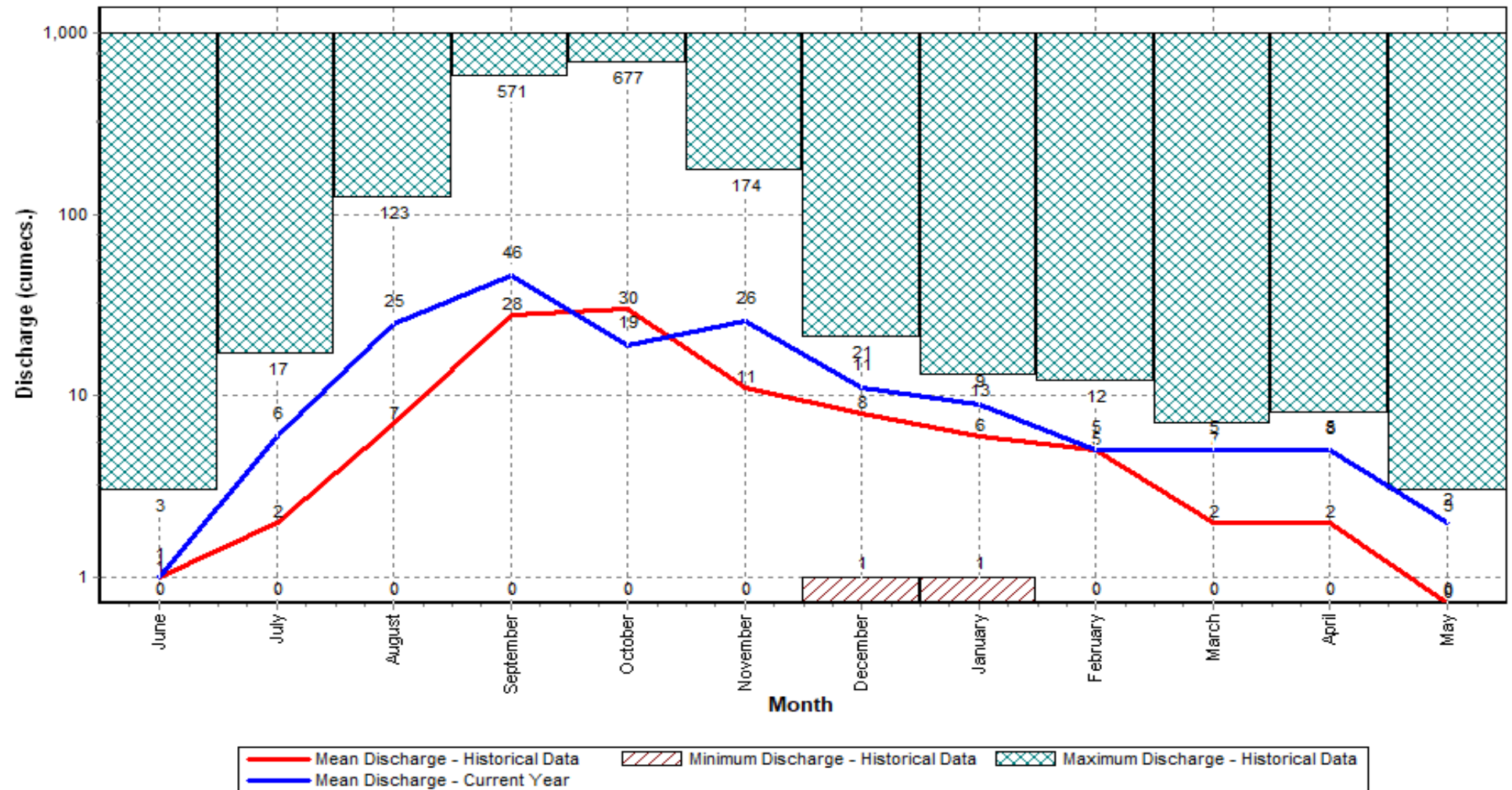
Station Name : MUNUGODU (033-LKDHYD)

Data considered : 2018-2022

Division : Lower Krishna Divn., Hyderabad

Local River : YEDDUVAGU

Sub-Division : Lower Krishna SD2, Vijayawada



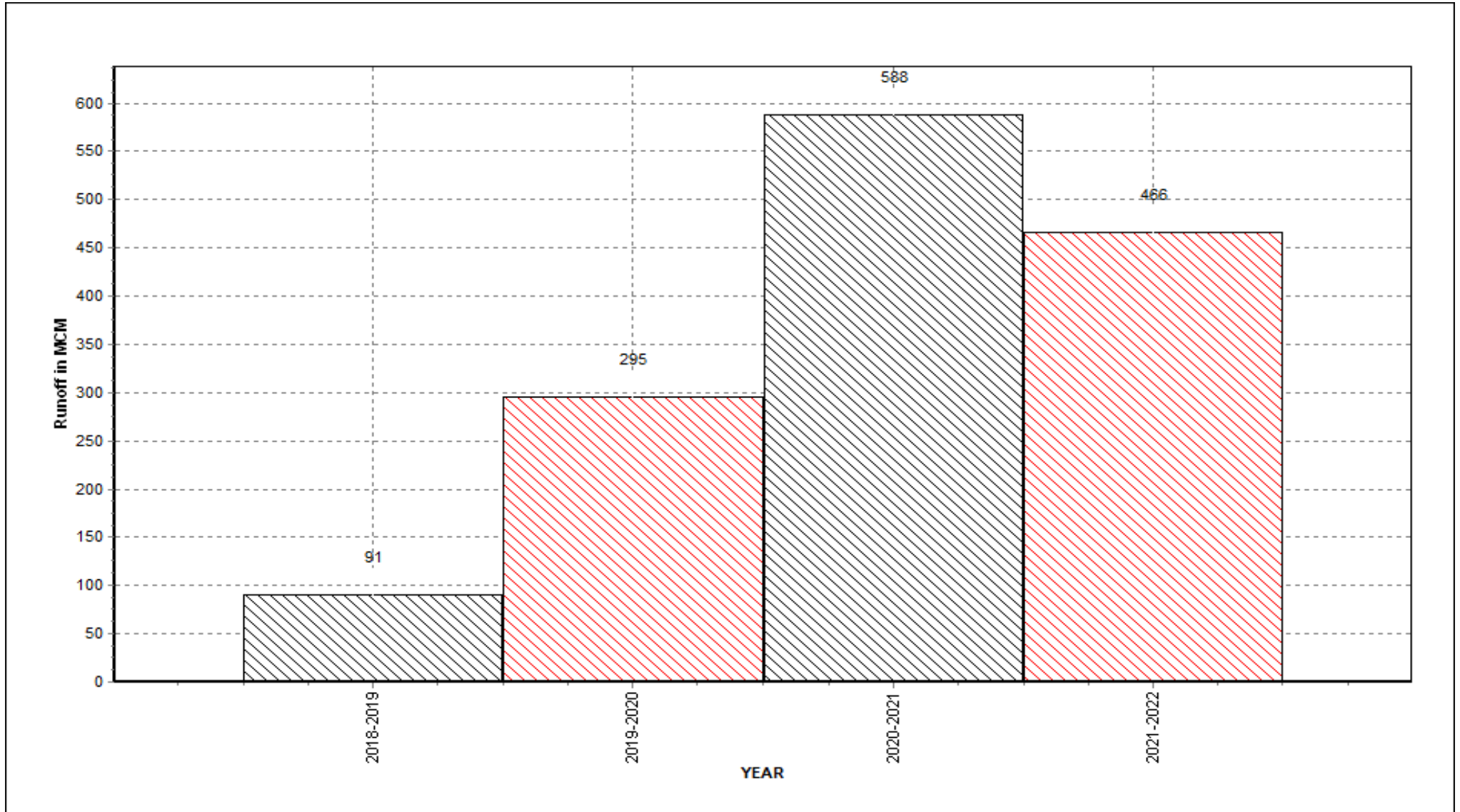
Annual Runoff Values for the period: 2018 - 2022

Station Name : MUNUGODU (033-LKDHYD)

Local River : YEDDUVAGU

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



Note: Missing values have not been considered while arriving at Annual Runoff

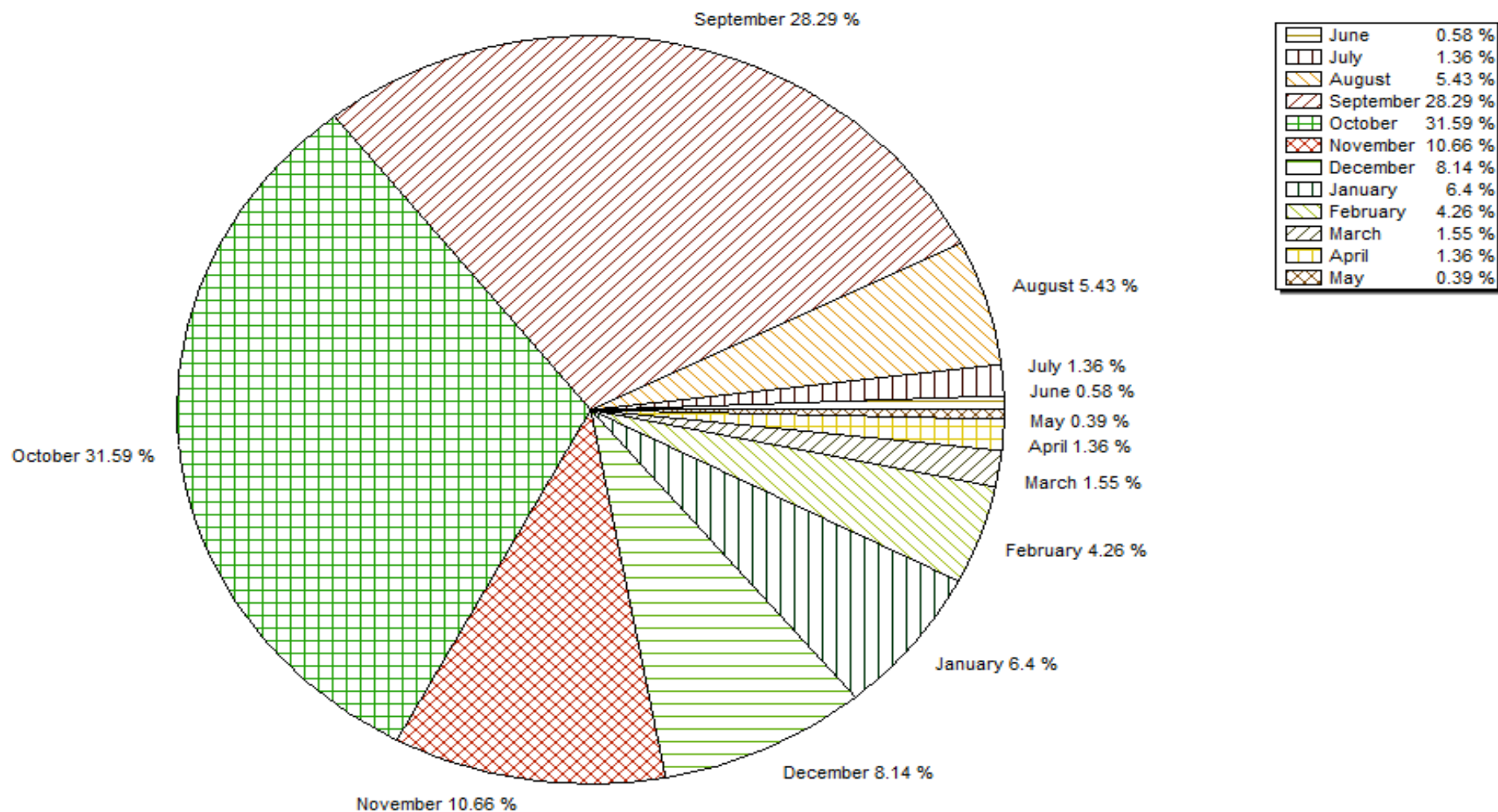
Monthly Average Runoff based on period : 2018-2021

Station Name : MUNUGODU (033-LKDHYD)

Local River : YEDDUVAGU

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



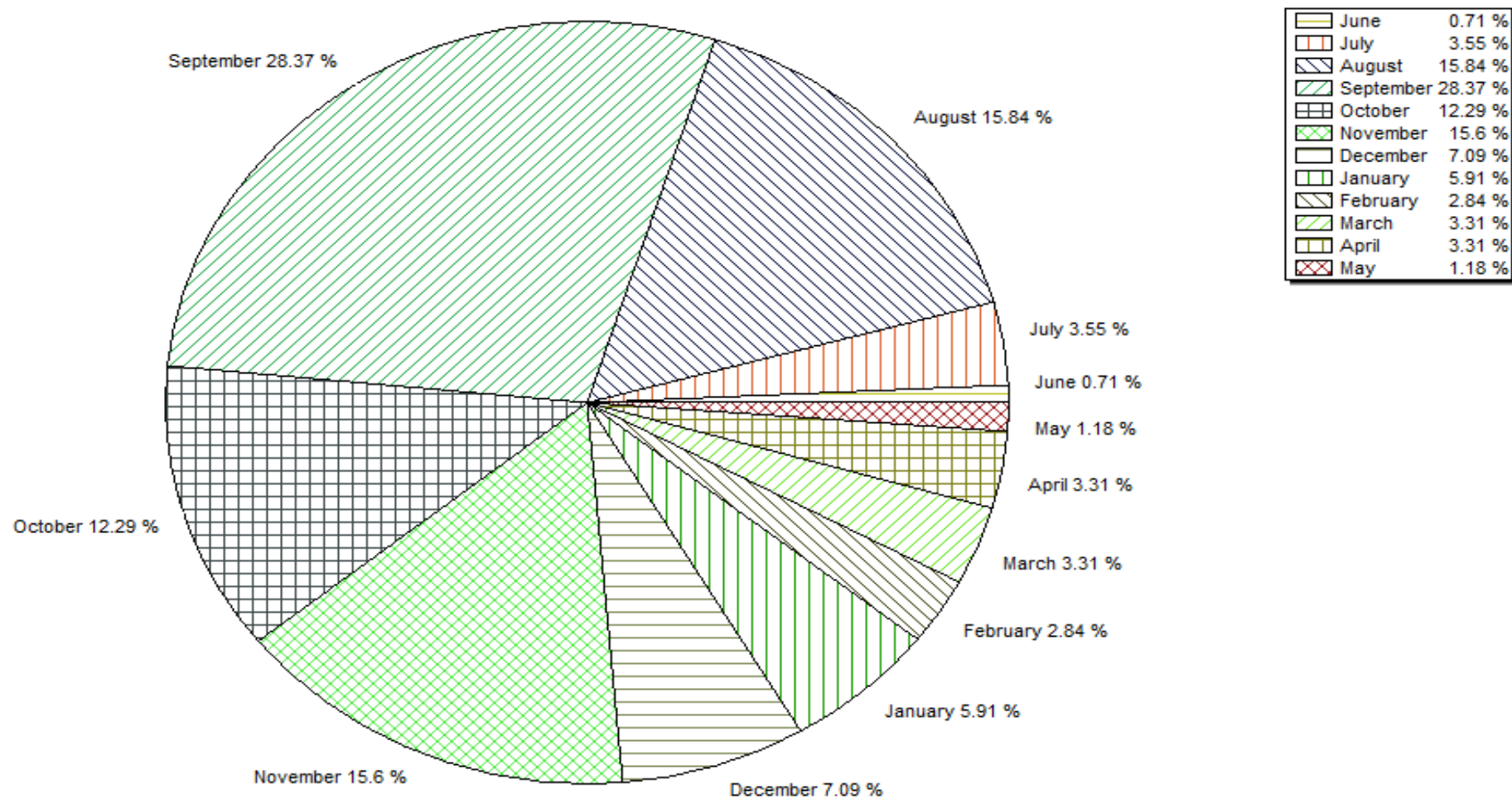
Monthly Runoff for the Year : 2021-2022

Station Name : MUNUGODU (033-LKDHYD)

Local River : YEDDUVAGU

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



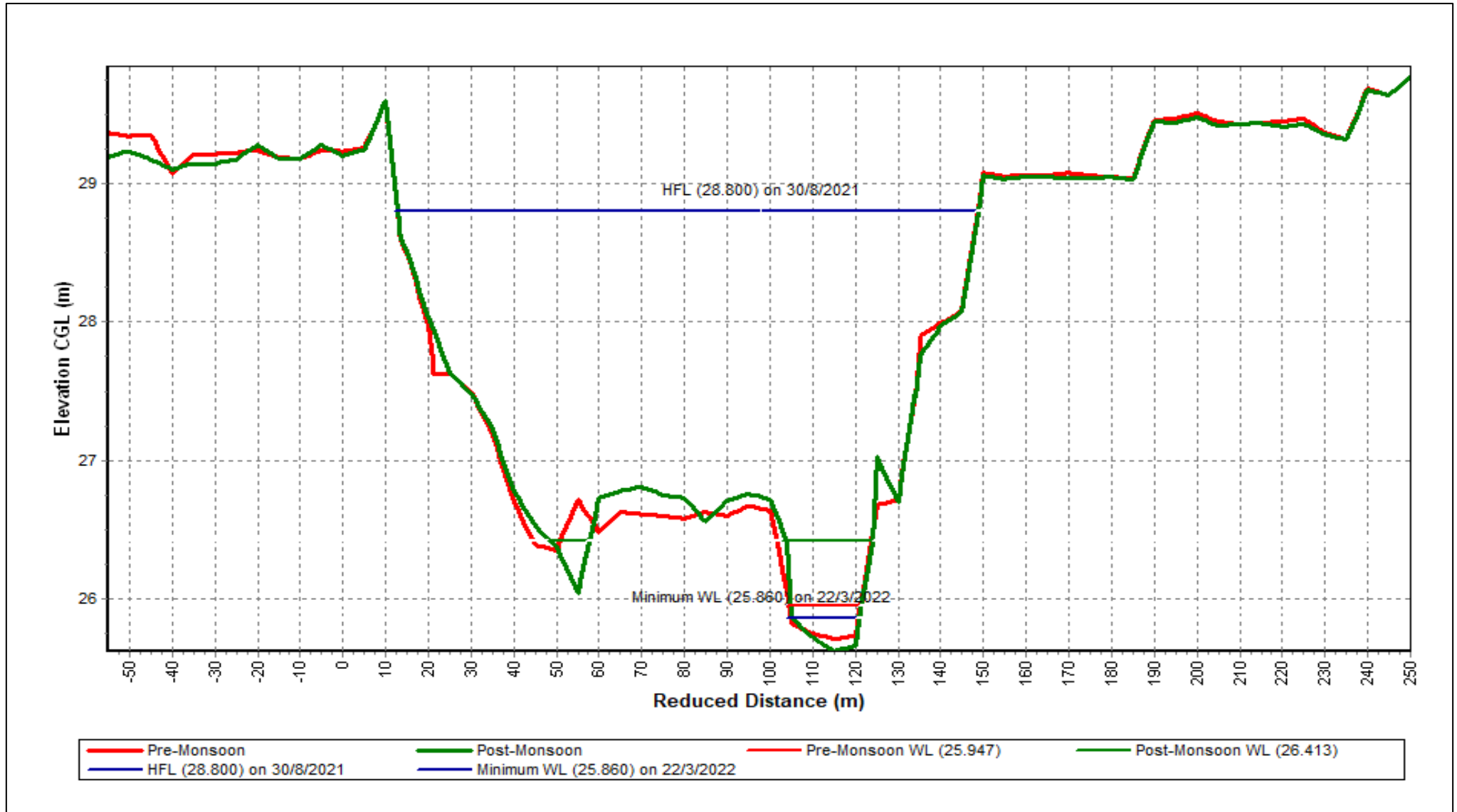
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : MUNUGODU (033-LKDHYD)

Local River : YEDDUVAGU

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



Zero of Gauge : 24.5 (m.s.l)

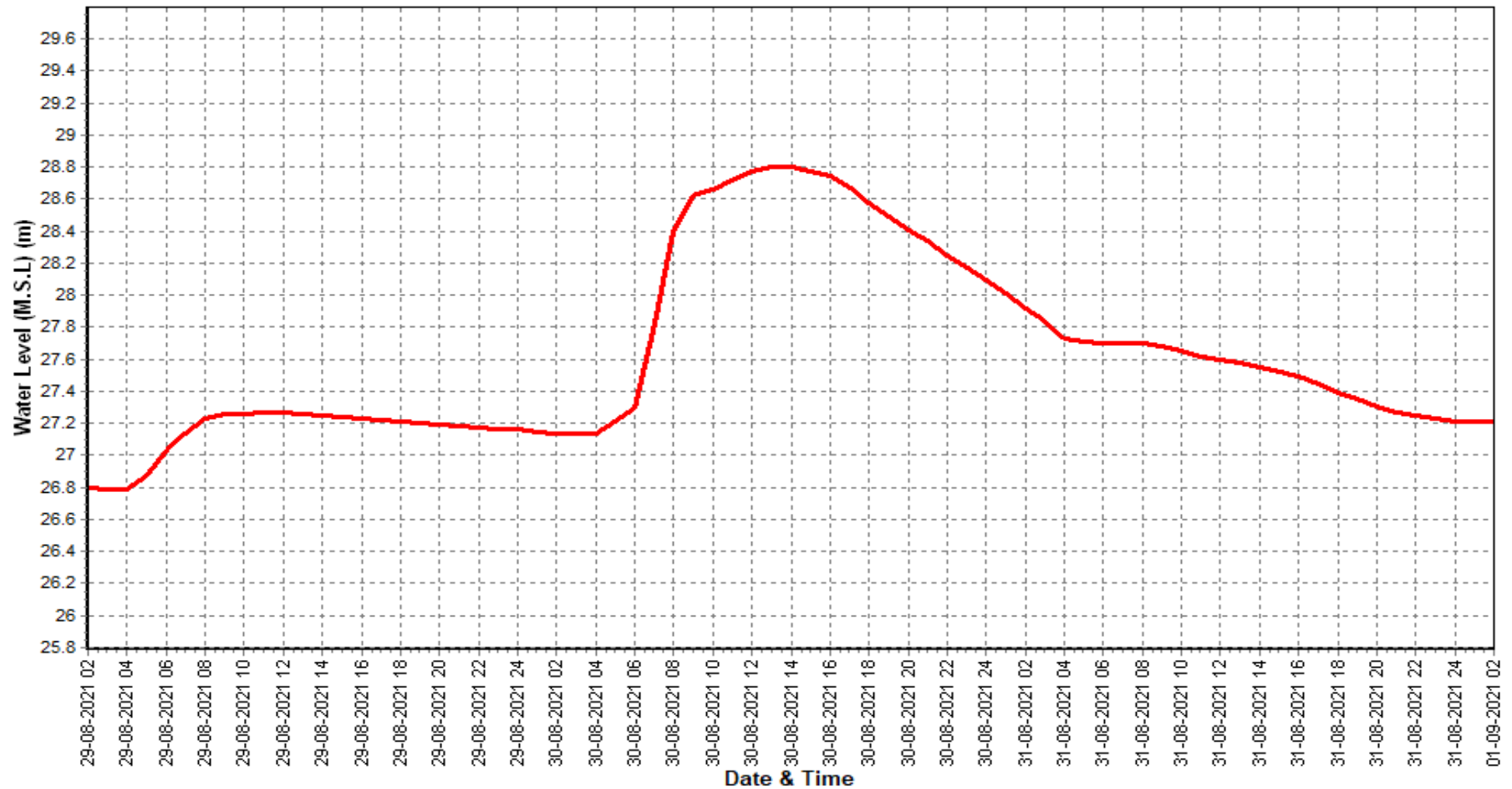
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : MUNUGODU (033-LKDHYD)

Local River : YEDDUVAGU

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



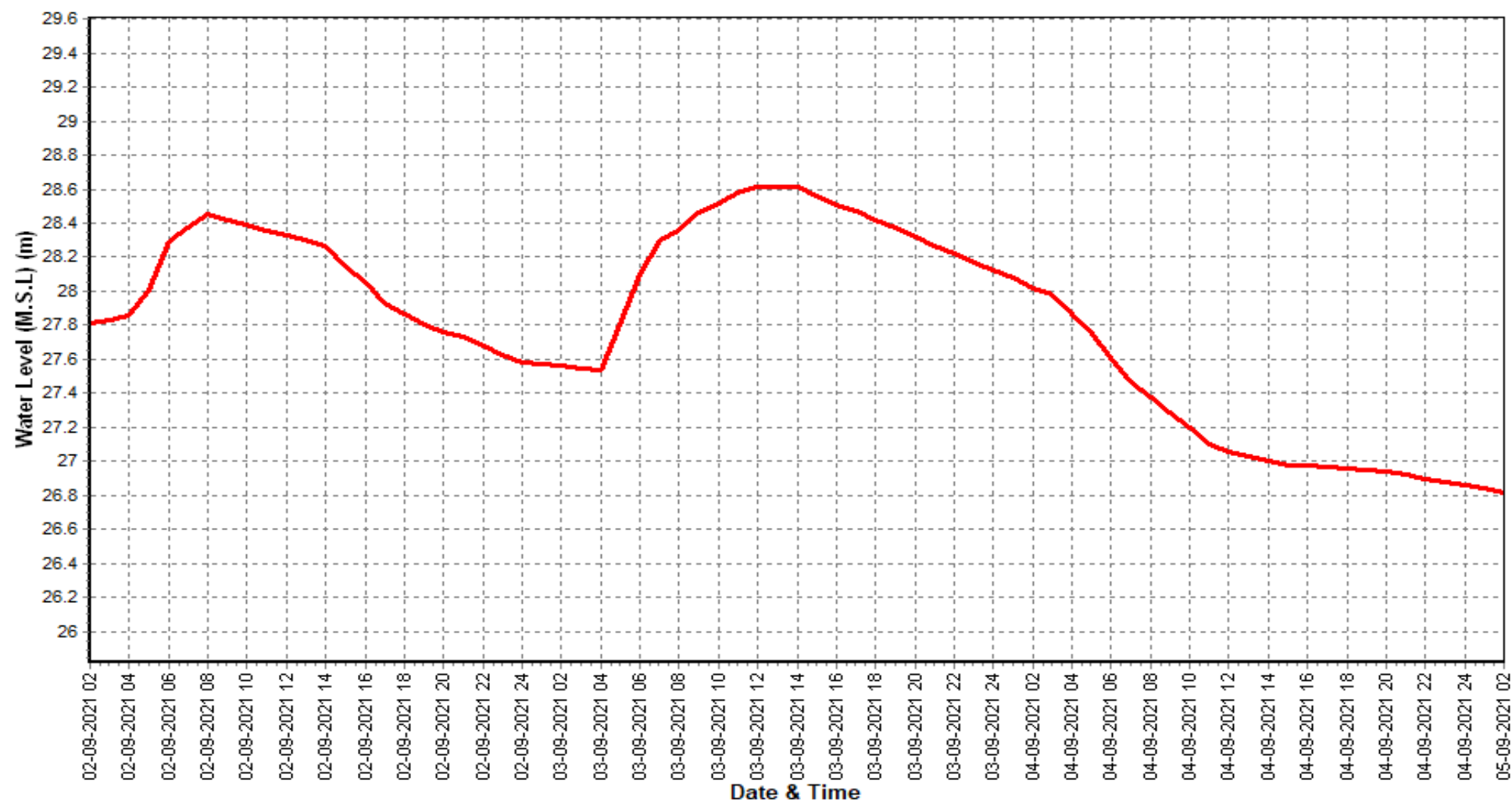
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : MUNUGODU (033-LKDHYD)

Local River : YEDDUVAGU

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



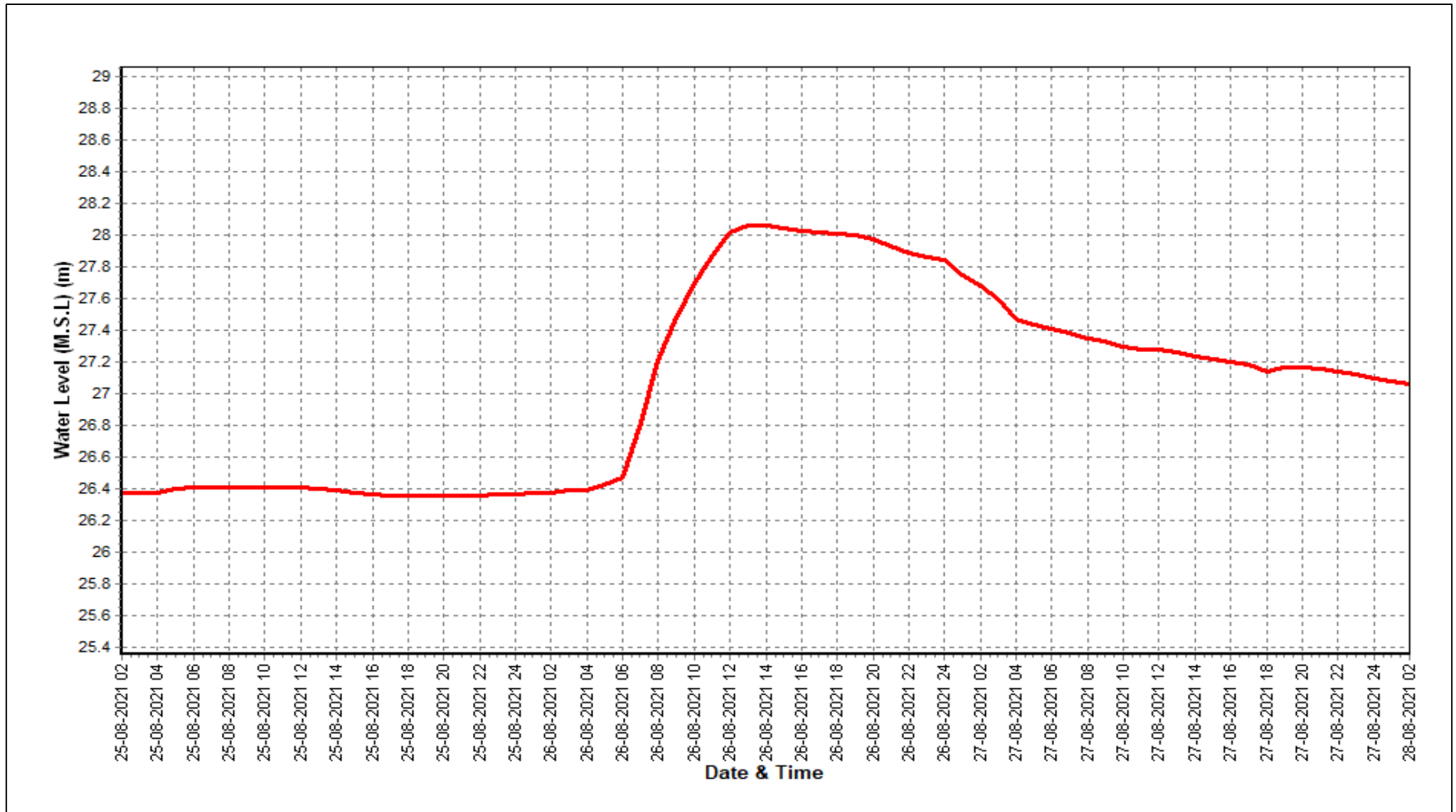
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : MUNUGODU (033-LKDHYD)

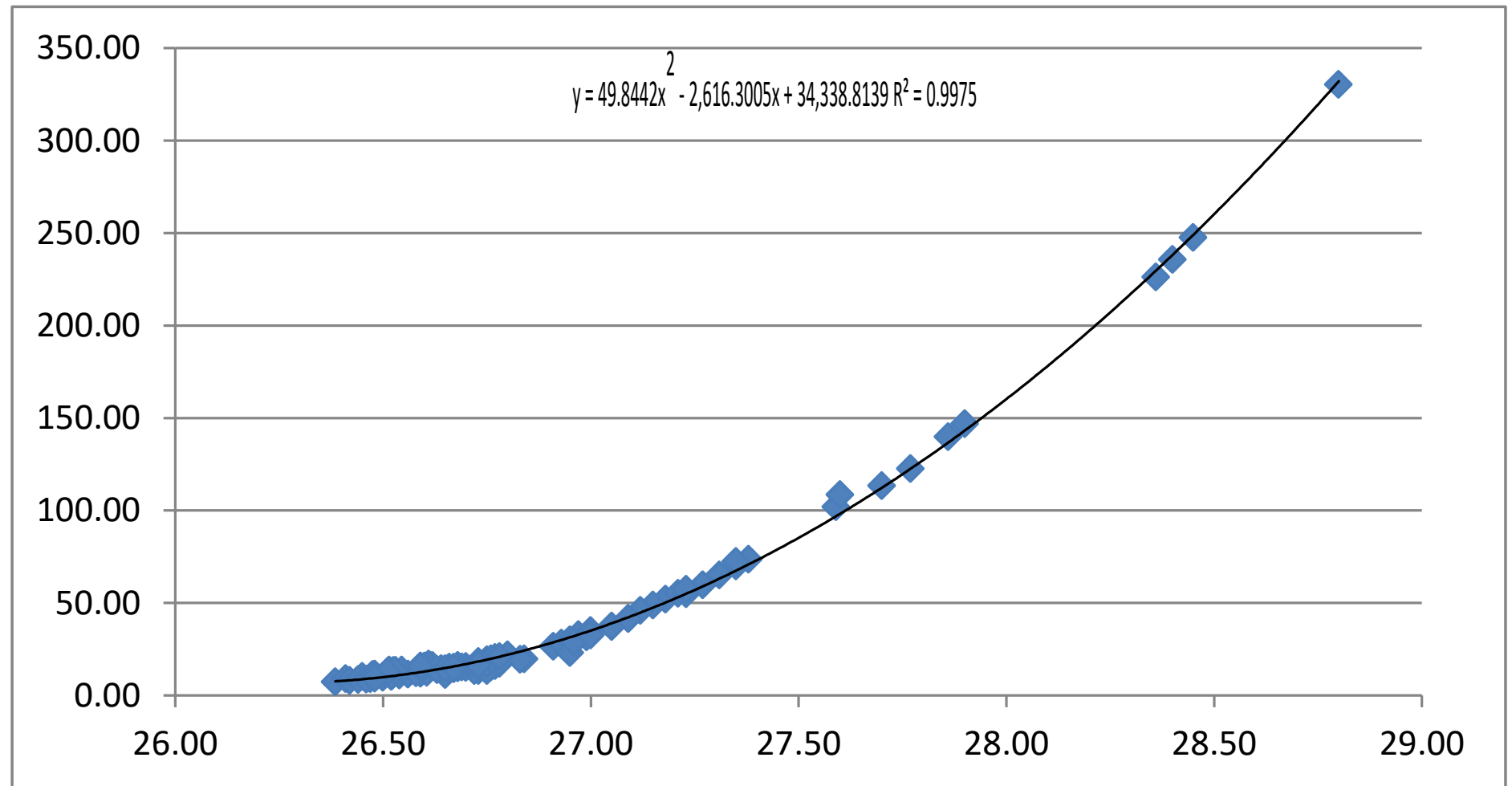
Local River : YEDDUVAGU

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



Munugodu 2021-2022



HISTORY SHEET

Water Year : 2021-2022

Site : PENUGRANCHIPROLU Code : 039-LKDHYD

State : Andhra Pradesh District : Krishna

Basin : Krishna Independent River : Krishna

Tributary : Munneru Sub Tributary :

Sub-Sub Tributary : Local River : Munneru

Division : Lower Krishna Divn., Hyderabad Sub-Division : Lower Krishna SD2, Vijayawada

Drainage Area : Sq. Km. Bank :

Latitude 16°45'15' Longitude : 80°3'24"

Zero of Gauge (m) : 93.5 (m.s.l) 01-01-2021 - 14-03-2021

Opening Date Closing Date

Gauge : 01-01-2021 HFL During 2021-22 : 53.700 m

Corres. Discharge : 2726(Observed)

Discharge : 05-01-2021 Date & Time of : 06-08-2021

occurrence : 14.00 hrs.

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

	Maximum			Minimum		
Year	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date

Annual Runoff of Munneru at Penigrunchiprolu

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	2020-2021		35	35	0	1	1
2	2021-2022	1723	117	1840	61	4	65
Average		1723	76	938	30	3	33

Stage-Discharge Data for the period 2021 - 2022

Station Name : PENUGRANCHIPROLU (039-LKDHYD)

Division : Lower Krishna Divn., Hyderabad

Local River : Munneru

Sub-Division : Lower Krishna SD2, Vijayawada

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	50.370	1.025	50.840	18.54	50.930	47.68 *	51.740	402.6	51.350	180.0	50.680	25.84
2	50.380	1.103	50.800	13.28	50.860	20.40	51.770	422.2	51.240	137.2 *	50.760	34.00
3	50.390	1.240	51.210	124.5	50.800	15.99	51.520	262.3	51.150	105.7 *	50.700	32.36
4	50.420	2.018	51.030	70.72 *	50.700	14.33	51.400	192.0	51.020	64.79	50.640	12.30 *
5	50.425	2.222	50.960	24.63	50.640	11.91	51.800	434.3 *	51.010	63.23	50.700	31.48
6	50.800	26.04 *	50.840	20.36	50.660	12.45	51.360	176.8	50.920	51.30	50.660	25.85
7	50.790	11.26	50.750	26.21	50.520	10.11	51.810	450.1	51.030	66.62	50.600	11.10 *
8	50.560	6.360	50.720	13.92	50.500	11.96 *	53.700	2726	50.960	58.38	50.600	23.43
9	50.640	8.676	50.660	13.73	50.520	4.205	52.280	850.5	50.900	41.85 *	50.580	20.83
10	50.630	8.068	50.610	9.834	50.560	4.396	51.570	291.2 *	50.910	43.74 *	50.580	19.26
11	50.590	7.048	50.580	10.82 *	50.700	8.989	51.380	195.1 *	50.970	59.95	50.570	18.61
12	50.640	9.376	50.550	7.609	50.940	55.01	51.260	144.8 *	50.860	46.38	50.560	17.29
13	50.680	14.40 *	51.200	121.1	50.860	16.42	51.230	131.6	50.760	26.36	50.580	10.82 *
14	50.650	8.752	51.120	95.06	50.775	14.22	51.180	114.8	50.745	23.92	50.910	43.74 *
15	50.620	5.857	51.170	115.3	50.700	15.79 *	51.130	98.50	50.920	45.68 *	50.680	29.82
16	50.910	24.49	51.120	96.90	51.020	64.79	51.060	78.84	50.810	28.95	50.630	28.50
17	50.960	26.37	51.000	65.96	51.050	73.80	50.980	61.40	51.030	70.72 *	50.560	26.55
18	50.795	11.71	50.980	58.51 *	51.310	158.7	50.910	49.63	51.150	104.4	50.550	25.23
19	50.780	10.79	50.950	59.07	51.300	154.0	50.860	34.86 *	51.000	63.22 *	50.540	10.95 *
20	50.690	15.07 *	50.930	55.35	51.250	141.0 *	50.800	16.90	50.880	46.22	50.530	21.69
21	50.640	8.112	50.900	41.85 *	51.100	87.79	51.170	111.5	50.760	26.88	50.520	11.34 *
22	50.595	7.637	50.960	60.14	51.050	75.99 *	51.540	273.3	50.700	10.02	50.560	26.99
23	50.550	6.782	53.100	1820	51.050	75.99	51.290	154.4	50.690	7.056	50.550	25.74
24	50.540	6.099	52.560	1143	50.980	58.70	51.320	166.7	50.640	12.30 *	50.540	24.67
25	50.530	5.430	51.880	491.0 *	50.850	43.05	51.370	188.7	50.590	21.84	50.520	21.74
26	50.520	3.522	51.450	263.8	50.760	31.94	51.220	124.9 *	50.600	22.50	50.500	20.06
27	50.510	11.63 *	51.200	141.0	50.980	58.83	51.110	92.45	50.590	21.97	50.500	19.60
28	50.490	2.480	51.200	141.1	51.210	122.7	52.700	1255	50.570	21.23	50.500	11.96 *
29	50.770	11.15	51.110	88.97	51.210	126.2 *	52.020	554.5	50.550	20.74	50.490	16.08
30	50.900	21.04	51.050	78.85	51.270	141.3	51.530	268.2	50.560	20.46	50.500	16.15
31			50.980	62.24	51.180	110.3			50.650	12.75 *		
Ten-Daily Mean												
I Ten-Daily	50.541	6.801	50.842	33.57	50.669	15.34	51.895	620.8	51.049	81.28	50.650	23.65
II Ten-Daily	50.731	13.39	50.960	68.56	50.990	70.26	51.079	92.65	50.912	51.58	50.611	23.32
III Ten-Daily	50.604	8.388	51.490	393.8	51.058	84.80	51.527	319.0	50.627	17.98	50.518	19.43
Monthly												
Min.	50.370	1.025	50.550	7.609	50.500	4.205	50.800	16.90	50.550	7.056	50.490	10.82
Max.	50.960	26.37	53.100	1820	51.310	158.7	53.700	2726	51.350	180.0	50.910	43.74
Mean	50.625	9.525	51.110	172.7	50.911	57.71	51.500	344.1	50.855	49.24	50.593	22.13

Annual Runoff in MCM = 1840 Annual Runoff in mm =

Peak Observed Discharge = 2726 cumecs on 08-09-2021 Corres. Water Level :53.7 m

Lowest Observed Discharge = 0.326 cumecs on 22-03-2022 Corres. Water Level :50.24 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : PENUGRANCHIPROLU (039-LKDHYD)

Division : Lower Krishna Divn., Hyderabad

Local River : Munneru

Sub-Division : Lower Krishna SD2, Vijayawada

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	50.490	15.46	50.540	16.31	50.300	3.035	50.260	0.636	50.250	0.533	50.400	4.000 *
2	50.480	10.75	50.540	16.81 *	50.300	2.968	50.270	0.751	50.260	0.636	50.380	2.952
3	50.500	12.31	50.520	13.62	50.290	2.587	50.270	0.654	50.260	0.650 *	50.370	2.920 *
4	50.500	12.16	50.500	9.904	50.290	2.500	50.260	0.632	50.270	0.695	50.360	2.386
5	50.500	12.80 *	50.490	6.702	50.290	2.533	50.250	0.569	50.270	0.685	50.350	2.406
6	50.550	18.96	50.470	6.330	50.290	2.520 *	50.250	0.520 *	50.270	0.701	50.330	2.064
7	50.600	22.01	50.460	5.876	50.260	2.279	50.250	0.438	50.280	0.783	50.400	3.956
8	50.550	18.93	50.450	8.602 *	50.260	2.350	50.250	0.395	50.300	1.439	50.400	4.000 *
9	50.540	17.67	50.440	7.869 *	50.240	2.254	50.240	0.336	50.300	1.390 *	50.350	2.252
10	50.510	16.49	50.420	4.637	50.240	2.252	50.240	0.361	50.300	1.390 *	50.350	2.358
11	50.500	12.80 *	50.410	4.448	50.230	2.156	50.270	0.501	50.290	1.303	50.300	1.421
12	50.490	11.89 *	50.370	2.506	50.230	2.150 *	50.280	0.620 *	50.290	1.234	50.300	1.432
13	50.580	19.70	50.360	2.272	50.230	2.150 *	50.280	0.620 *	50.280	0.966	50.360	2.383
14	50.560	19.80	50.950	90.74 *	50.230	2.120	50.290	0.621	50.280	0.990 *	50.390	3.960 *
15	50.540	18.95	51.000	100.2	50.220	2.018	50.290	0.618	50.280	0.990 *	50.390	3.960 *
16	50.530	18.44	50.950	90.74 *	50.220	2.037	50.280	0.509	50.270	0.870	50.360	3.960 *
17	50.540	17.90	50.870	73.01	50.210	1.336	50.270	0.470	50.270	0.860 *	50.350	1.844
18	50.540	17.74	50.880	75.29	50.200	1.080	50.260	0.460 *	50.410	4.010	50.340	1.730
19	50.530	15.75 *	50.560	23.99	50.200	1.046	50.240	0.355	50.430	4.685	50.300	1.115
20	50.510	17.04	50.530	21.98	50.200	1.060 *	50.220	0.320 *	50.460	5.773	50.300	1.037
21	50.540	17.82	50.500	17.53	50.200	0.959	50.240	0.340	50.430	4.479	50.290	0.991
22	50.510	16.88	50.490	17.21	50.190	0.876	50.240	0.326	50.410	3.931	50.300	1.120 *
23	50.470	9.595	50.440	7.869 *	50.240	1.341	50.250	0.347	50.410	3.996	50.300	1.079
24	50.480	9.798	50.360	5.630	50.300	1.355	50.250	0.338	50.400	4.000 *	50.290	0.949
25	50.510	13.75 *	50.350	5.068	50.280	0.935	50.270	0.704	50.370	2.794	50.320	1.154
26	50.530	15.75 *	50.360	6.250 *	50.270	0.854	50.270	0.680	50.350	2.439	50.340	1.525
27	50.550	18.60	50.370	4.446	50.270	0.910 *	50.260	0.650 *	50.440	4.892	50.350	1.732
28	50.540	16.68	50.330	4.117	50.260	0.697	50.260	0.663	50.450	5.431	50.350	1.771
29	50.510	15.85	50.320	3.974			50.260	0.628	50.440	4.822	50.340	1.720 *
30	50.540	16.53	50.320	3.750 *			50.250	0.562	50.420	3.886	50.340	1.535
31	50.520	14.48	50.310	3.285			50.250	0.540			50.330	1.230
Ten-Daily Mean												
I Ten-Daily	50.522	15.75	50.483	9.666	50.276	2.528	50.254	0.529	50.276	0.890	50.369	2.929
II Ten-Daily	50.532	17.00	50.688	48.51	50.217	1.715	50.268	0.510	50.326	2.168	50.339	2.284
III Ten-Daily	50.518	15.07	50.377	7.193	50.251	0.991	50.255	0.525	50.412	4.067	50.323	1.346
Monthly												
Min.	50.470	9.595	50.310	2.272	50.190	0.697	50.220	0.320	50.250	0.533	50.290	0.949
Max.	50.600	22.01	51.000	100.2	50.300	3.035	50.290	0.751	50.460	5.773	50.400	4.000
Mean	50.524	15.91	50.512	21.32	50.248	1.798	50.259	0.522	50.338	2.375	50.343	2.159

Peak Computed Discharge = 491.0 cumecs on 25-07-2021

Corres. Water Level :51.88 m

Lowest Computed Discharge = 0.320 cumecs on 20-03-2022

Corres. Water Level :50.22 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

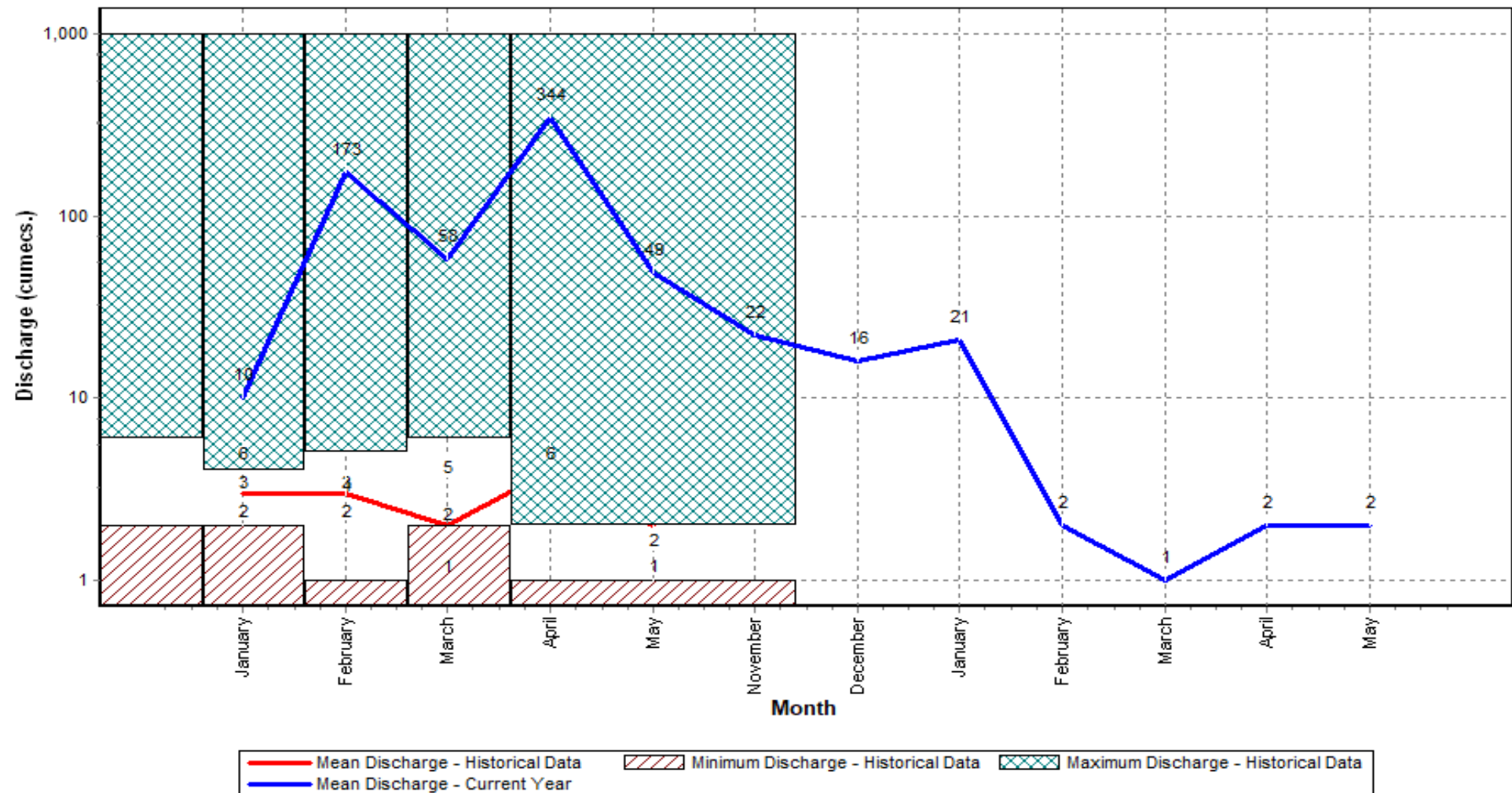
Station Name : PENUGRANCHIPROLU (039-LKDHYD)

Data considered : 2021-2022

Division : Lower Krishna Divn., Hyderabad

Local River : Munneru

Sub-Division : Lower Krishna SD2, Vijayawada



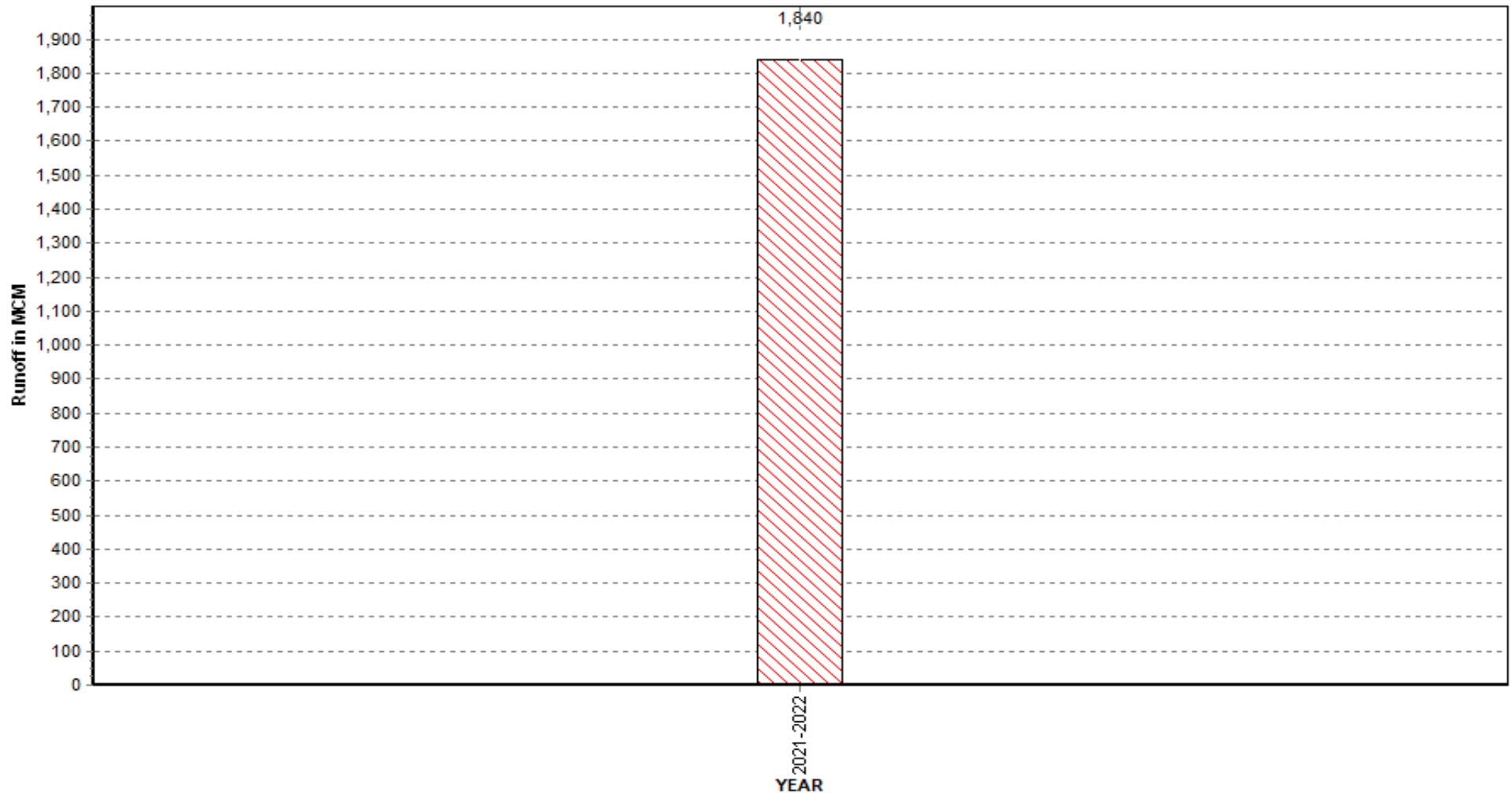
Annual Runoff Values for the period: 2021 - 2022

Station Name : PENUGRANCHIPROLU (039-LKDHYD)

Local River : Munneru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



Note: Missing values have not been considered while arriving at Annual Runoff

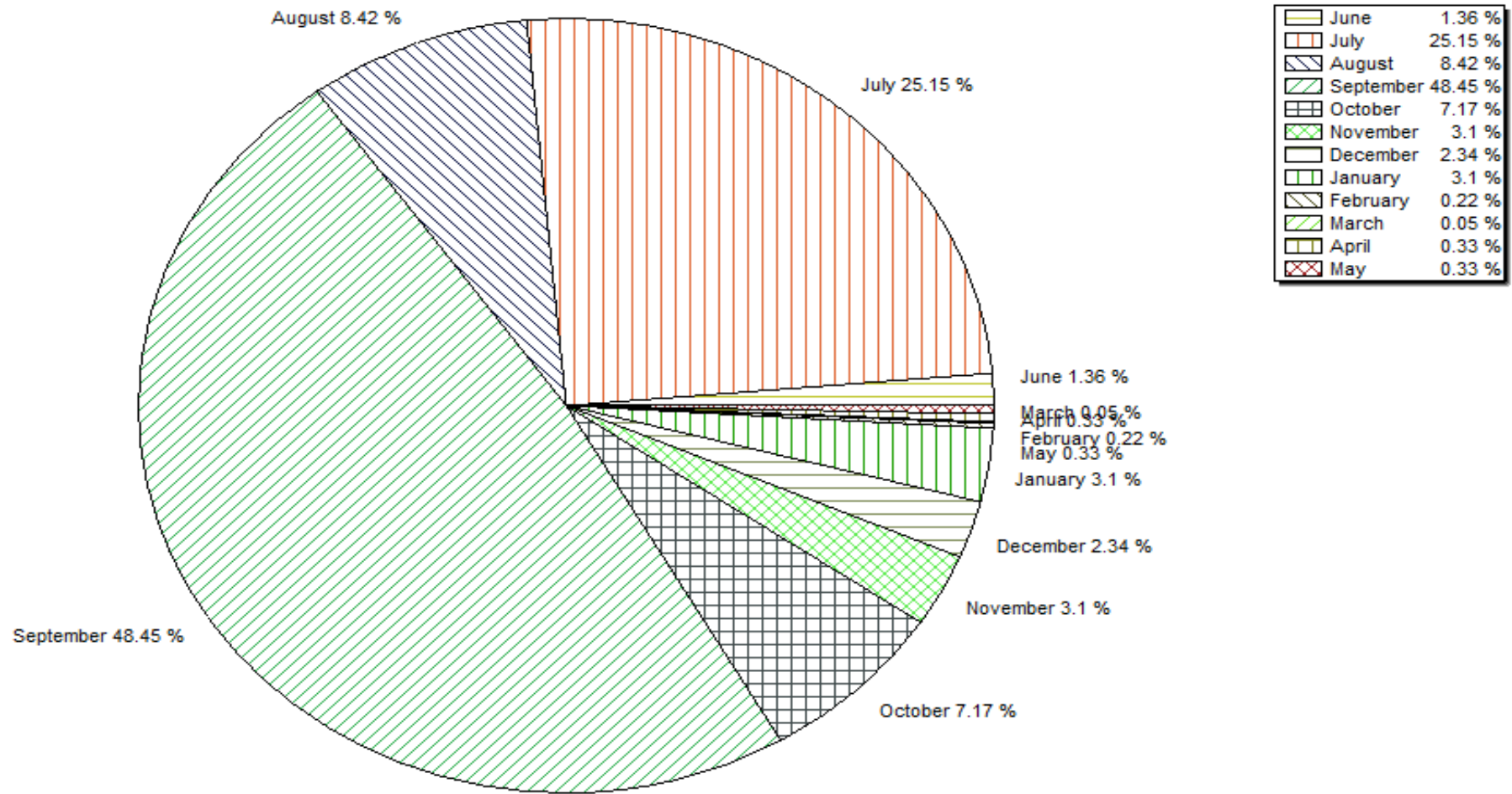
Monthly Runoff for the Year : 2021-2022

Station Name : PENUGRANCHIPROLU (039-LKDHYD)

Local River : Munneru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



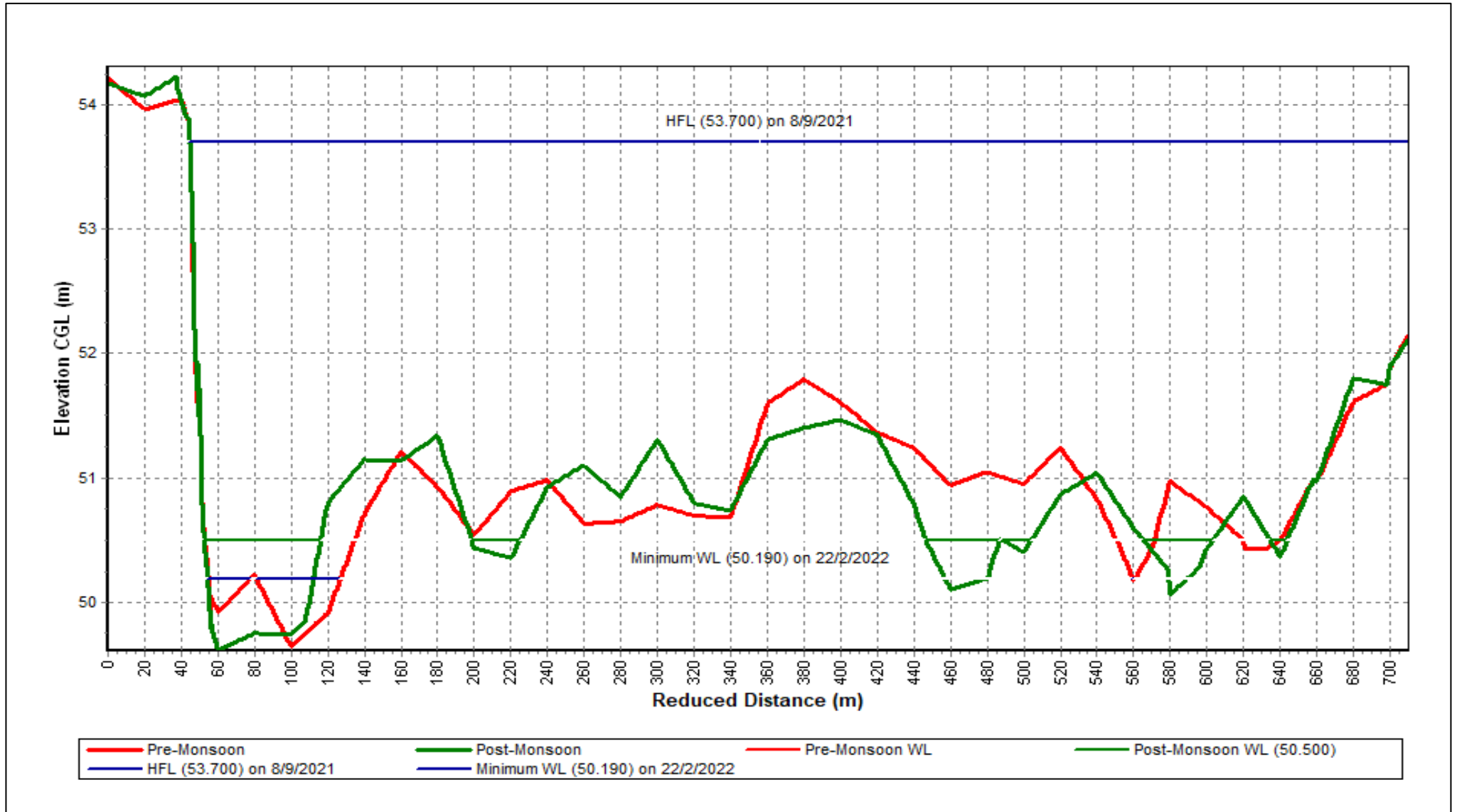
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : PENUGRANCHIPROLU (039-LKDHYD)

Local River : Munneru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



Zero of Gauge : 93.5 (m.s.l)

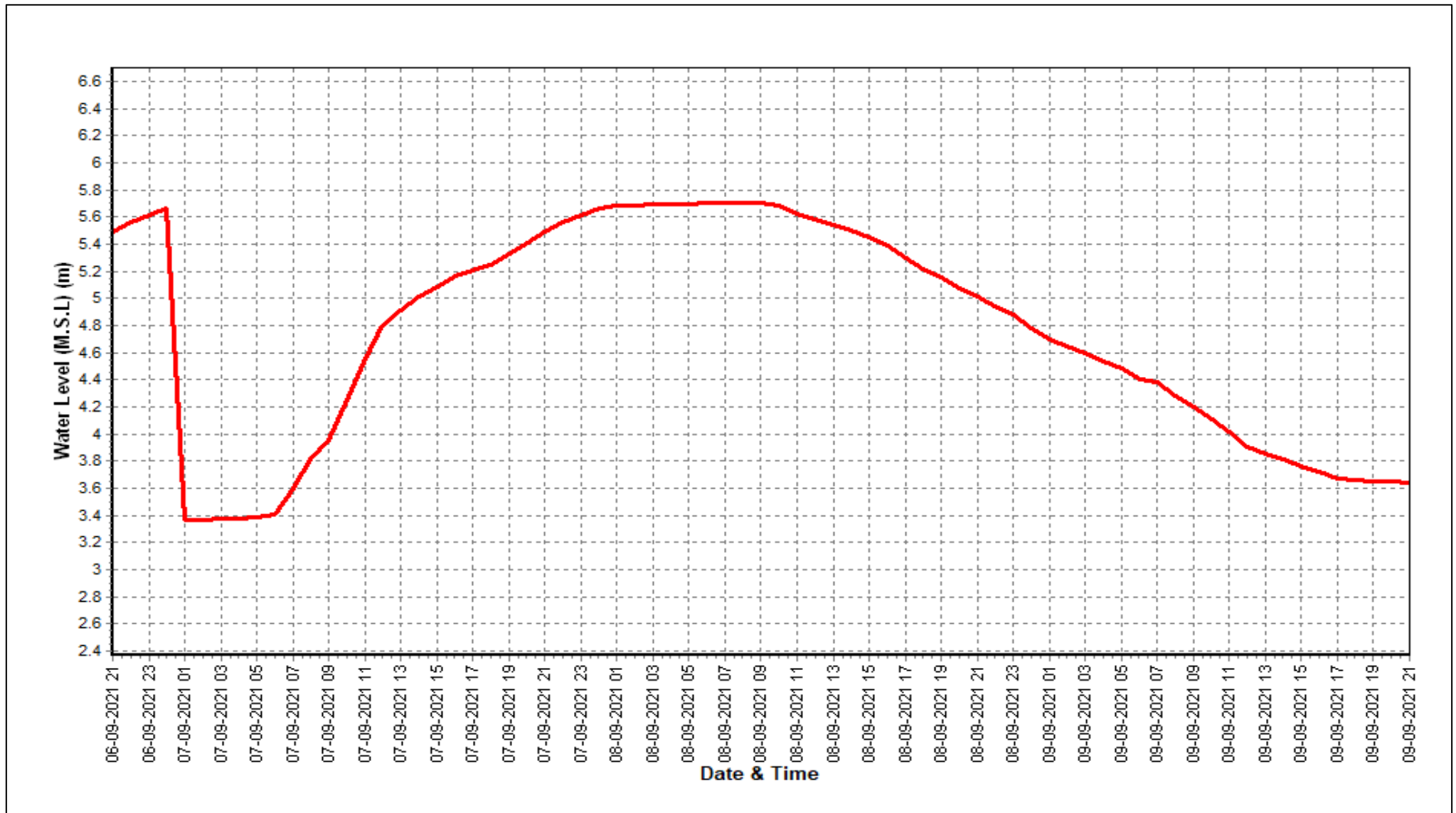
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : PENUGRANCHIPROLU (039-LKDHYD)

Local River : Munneru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



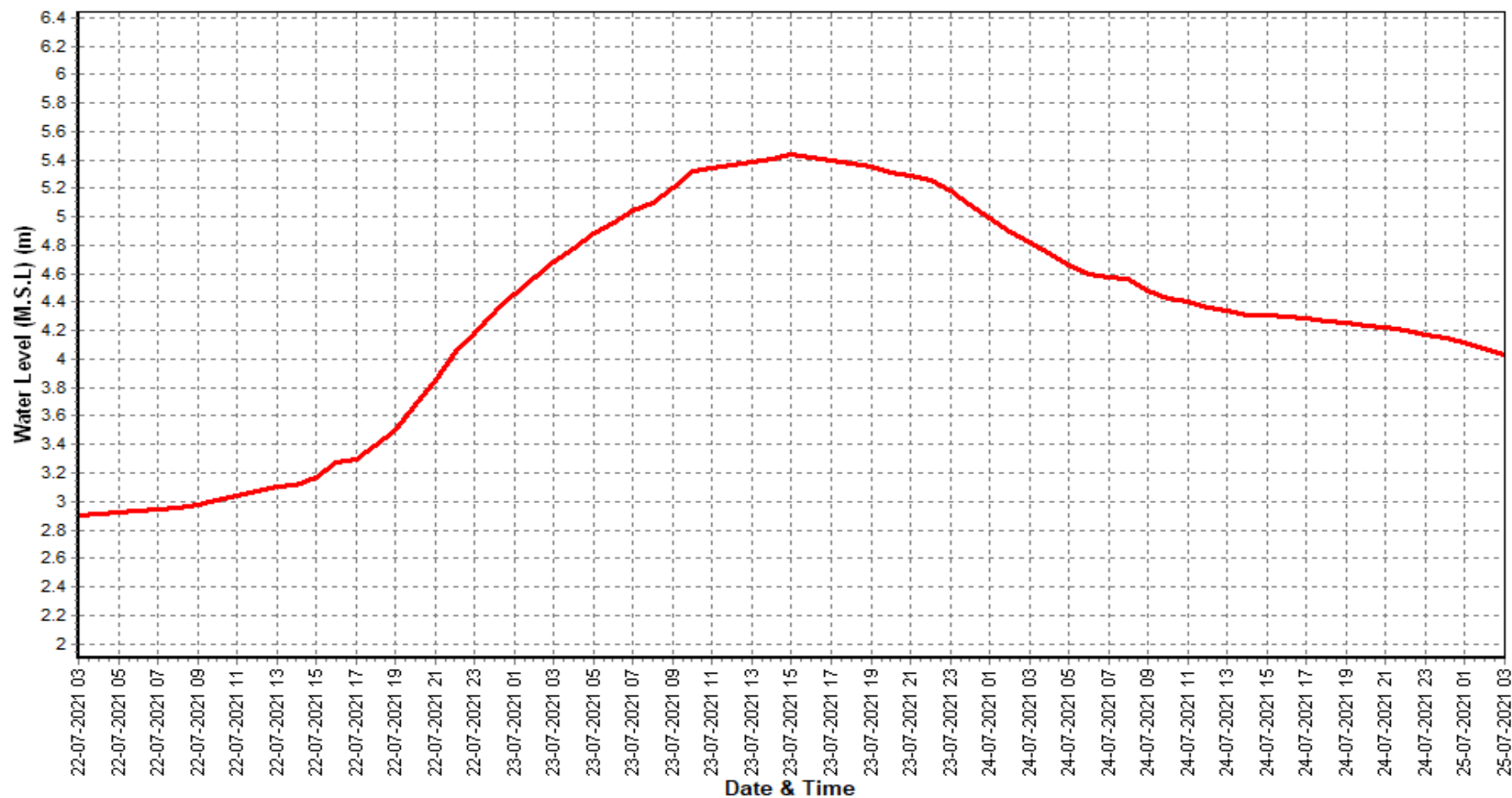
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : PENUGRANCHIPROLU (039-LKDHYD)

Local River : Munneru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



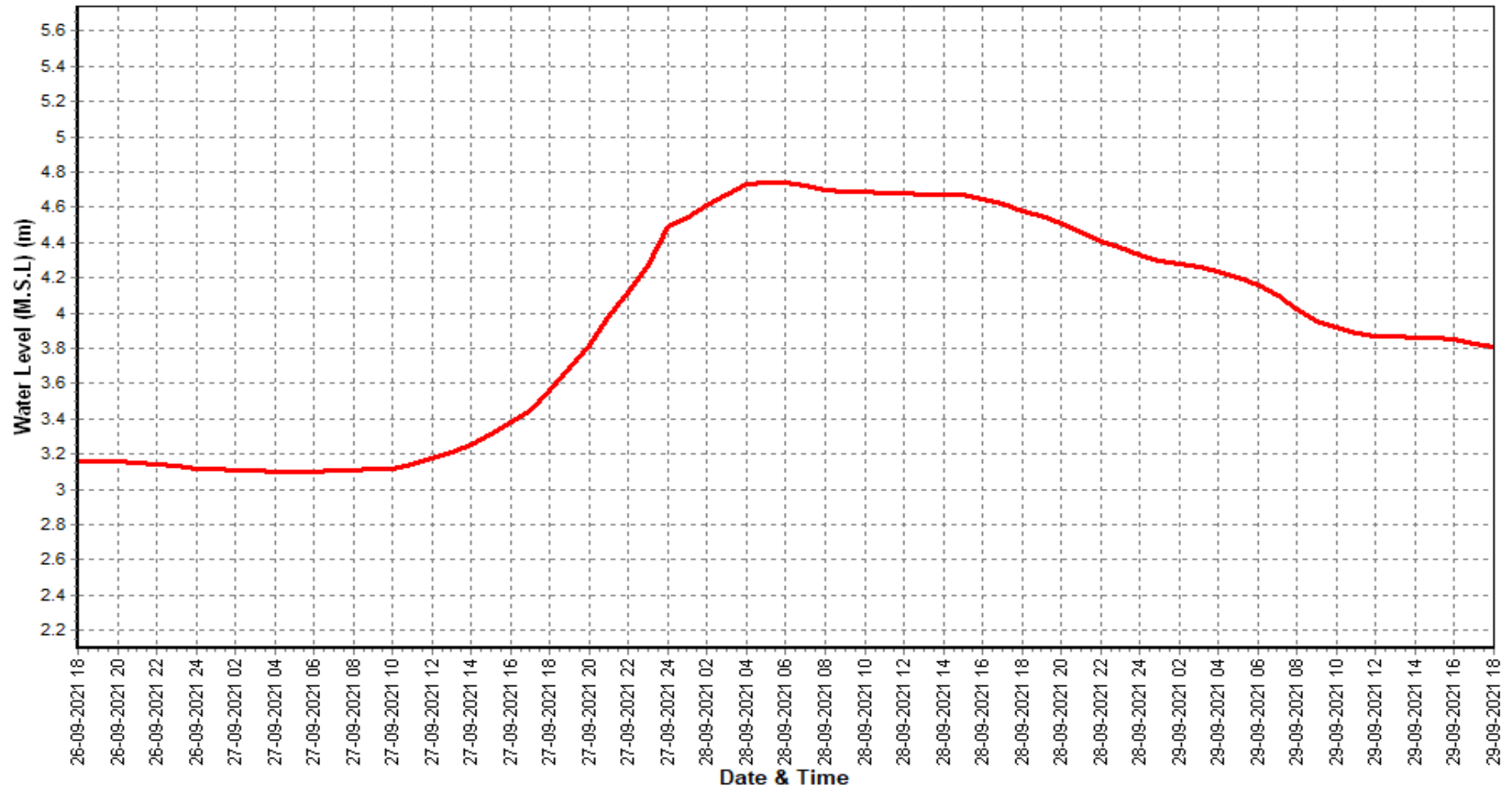
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : PENUGRANCHIPROLU (039-LKDHYD)

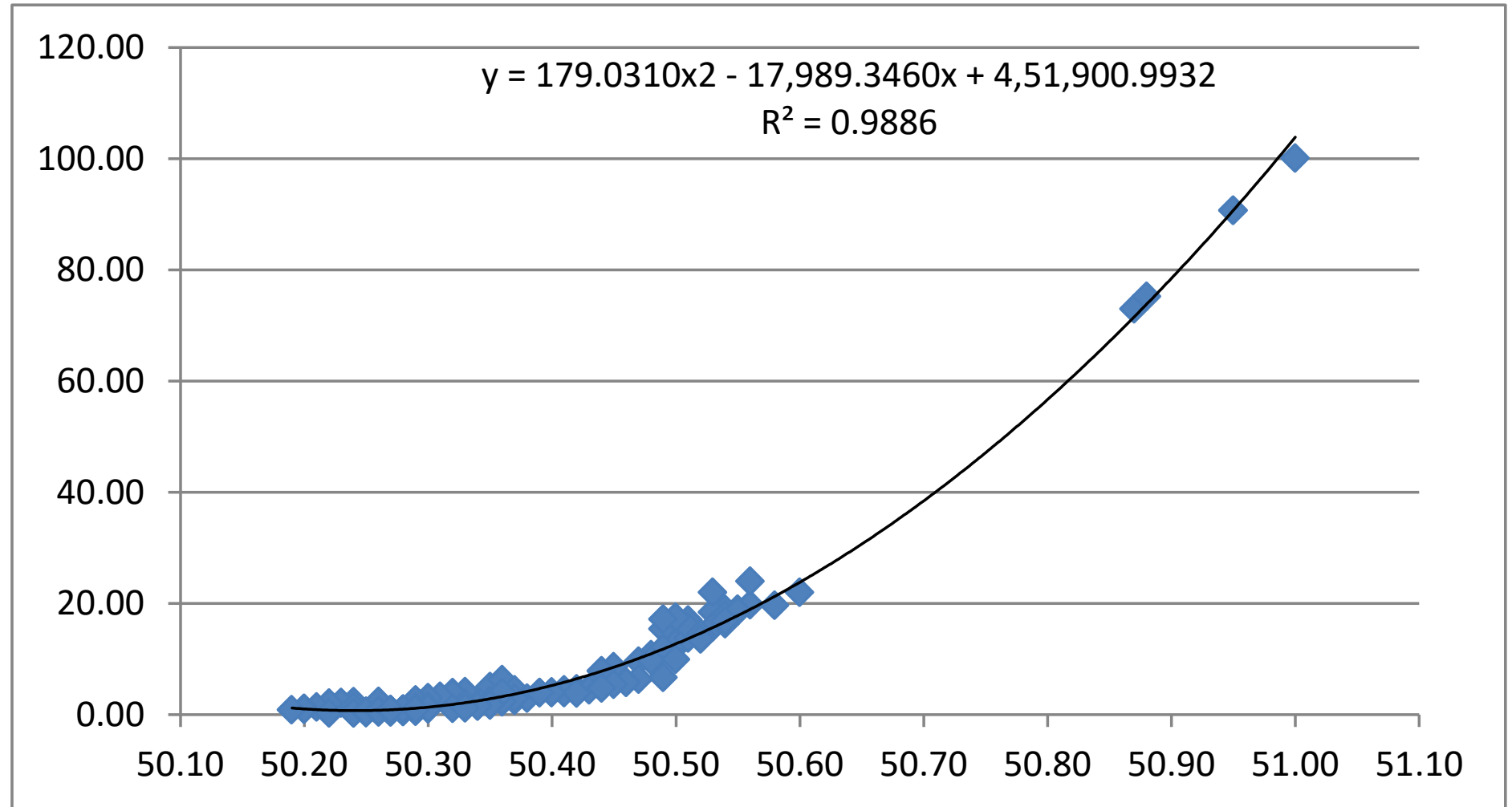
Local River : Munneru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



Penigrunchiprolu 2021-22



HISTORY SHEET

		Water Year	: 2021-2022
Site	: Madhira	Code	: AKA10D2
State	: Telangana	District	Khammam
Basin	: Krishna	Independent River	: Krishna
Tributary	: Munneru	Sub Tributary	: Wyra
Sub-Sub Tributary	: -	Local River	: Wyra
Division	: Lower Krishna Divn., Hyderabad	Sub-Division	: Lower Krishna SD2, Vijayawada
Drainage Area	: 1850 Sq. Km.	Bank	: Left
Latitude	: 16°55'05"	Longitude	: 80°21'32"
Zero of Gauge (m)	: 44.5 (m.s.l) 44.5 (m.s.l)	01-06-1984	- 31-12-1999
		01-01-2000	-
	Opening Date	Closing Date	
Gauge	: 23-02-1984	HFL During 2021-22	: 49.880 m
Discharge	: 07-06-1984	Corres. Discharge	: 1595 (Estimated)
Sediment	: 01-03-2014	Date & Time of occurrence	: 27-09-2021 : 22.00 hrs.
Water Quality	: 01-06-1992	31-05-2006	

HFL Recorded so far in m : 52.010 dt 20-09-2005

Corresponding Discharge (cumecs) : 3272*

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1984-1985	346.3	47.175	12-10-1984	0.000		01-06-1984
1985-1986	865.1	48.230	11-10-1985	0.000	44.850	28-05-1986
1986-1987	1269	49.205	13-08-1986	0.000	44.870	06-07-1986
1987-1988	110.8	46.365	13-11-1987	0.076	44.830	29-06-1987
1988-1989	859.7	48.260	19-09-1988	0.168	44.860	15-06-1988
1989-1990	1238	49.250	31-08-1989	0.224	44.860	26-06-1989
1990-1991	946.7	49.200	02-10-1990	1.000	44.850	22-05-1991
1991-1992	1306	49.280	22-09-1991	0.100	44.740	16-05-1992
1992-1993	147.9	46.300	10-10-1992	0.142	44.670	13-05-1993
1993-1994	80.44	46.021	28-08-1993	0.262	44.690	10-06-1993
1994-1995	419.1	47.400	07-10-1994	0.146	44.650	01-07-1994
1995-1996	554.6	48.015	16-10-1995	0.392	44.700	16-05-1996
1996-1997	356.1	46.995	28-08-1996	0.504	44.730	01-06-1996
1997-1998	91.39	46.070	12-09-1997	0.407	44.680	03-06-1997
1998-1999	411.0	47.160	16-10-1998	0.177	44.710	03-06-1998
1999-2000	303.9	46.950	26-08-1999	0.052	44.540	23-05-2000
2000-2001	867.1	48.505	27-08-2000	0.040	44.530	31-05-2001

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2001-2002	98.37	45.925	15-08-2001	0.000	44.540	04-07-2001
2002-2003	73.22	45.915	14-10-2002	0.000		27-01-2003
2003-2004	142.4	46.140	08-08-2003	0.000		17-04-2004
2004-2005	303.8	46.900	05-08-2004	0.000		16-04-2005
2005-2006	2309	50.820	21-09-2005	0.000		18-06-2005
2006-2007	602.2	47.975	20-09-2006	0.374	44.510	30-05-2007
2007-2008	431.3	47.030	06-10-2007	0.000		31-05-2008
2008-2009	1125	49.600	10-08-2008	0.000	44.390	12-04-2009
2009-2010	412.5	47.145	22-05-2010	0.000		11-08-2009
2010-2011	316.7	46.545	08-09-2010	0.000	44.430	31-05-2011
2011-2012	211.6	46.175	26-08-2011	0.000	44.250	28-04-2012
2012-2013	441.3	47.220	03-11-2012	0.000	44.473	27-05-2013
2013-2014	301.7	46.570	26-10-2013	0.000	44.520	28-07-2013
2014-2015	173.1	46.040	28-10-2014	0.000		08-07-2014
2015-2016	347.3	46.550	21-06-2015	0.000		02-02-2016
2016-2017	76.88	45.535	10-10-2016	0.000		03-02-2017
2017-2018	145.1	45.790	18-07-2017	0.000		24-11-2017
2018-2019	1401	50.040	20-08-2018	0.000		12-02-2019
2019-2020	213.8	46.190	19-09-2019	0.000		07-06-2019
2020-2021	1062	49.200	14-10-2020	0.000		07-06-2020

Annual Runoff of Wyra at Madhira

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1984-1985	196	95	292	7	3	10
2	1985-1986	463	53	516	16	2	18
3	1986-1987	526	71	597	19	3	21
4	1987-1988	189	59	249	7	2	9
5	1988-1989	894	63	958	32	2	34
6	1989-1990	1343	280	1623	47	10	57
7	1990-1991	1100	105	1204	39	4	43
8	1991-1992	586	80	666	21	3	24
9	1992-1993	216	61	277	8	2	10
10	1993-1994	268	76	344	9	3	12
11	1994-1995	563	119	682	20	4	24
12	1995-1996	380	65	446	13	2	16
13	1996-1997	630	119	749	22	4	26
14	1997-1998	196	83	278	7	3	10
15	1998-1999	544	122	666	19	4	24
16	1999-2000	418	69	487	15	2	17
17	2000-2001	649	76	725	23	3	26
18	2001-2002	94	55	149	3	2	5
19	2002-2003	61	0	61	2	0	2
20	2003-2004	86	13	99	3	0	4
21	2004-2005	176	13	190	6	0	7
22	2005-2006	781	164	945	28	6	33
23	2006-2007	446	71	517	16	3	18
24	2007-2008	413	116	529	15	4	19
25	2008-2009	709	52	761	25	2	27
26	2009-2010	50	142	192	2	5	7
27	2010-2011	805	167	973	28	6	34
28	2011-2012	318	51	369	11	2	13
29	2012-2013	480	10	491	17	0	17
30	2013-2014	367	47	414	13	2	15
31	2014-2015	174	72	246	6	3	9
32	2015-2016	191	0	191	7	0	7
33	2016-2017	70	6	75	2	0	3
34	2017-2018	124	36	161	4	1	6
35	2018-2019	456	21	478	16	1	17
36	2019-2020	223	44	268	7.9	1.6	9.5
37	2020-2021	829	119	948	29	4	34
38	2021-2022	667	74	741	24	3	26
Average		439	76	515	16	3	18

Instantaneous Flood Peak of Krishna at Madhira

		Instantaneous Annual Flood Peak			
Sl. No.	Year	Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	1984-1985	47.200	12-10-1984	10:00:00	412 *
2	1985-1986	48.750	11-10-1985	18:00:00	1025 *
3	1986-1987	51.220	12-08-1986	20:00:00	2609 *
4	1987-1988	46.610	14-08-1987	20:00:00	256 *
5	1988-1989	48.800	19-09-1988	13:00:00	1050 *
6	1989-1990	51.080	23-07-1989	20:00:00	2499 *
7	1990-1991	49.490	02-10-1990	00:00:00	1422 *
8	1991-1992	49.930	22-09-1991	12:00:00	1689 *
9	1992-1993	46.580	09-10-1992	23:00:00	249 *
10	1993-1994	46.240	28-08-1993	00:00:00	179 *
11	1994-1995	47.700	07-10-1994	15:00:00	578 *
12	1995-1996	48.480	16-10-1995	13:00:00	898 *
13	1996-1997	47.170	11-09-1996	16:00:00	403 *
14	1997-1998	46.080	12-09-1997	10:00:00	152 *
15	1998-1999	48.740	29-07-1998	16:00:00	1021 *
16	1999-2000	47.180	26-08-1999	04:00:00	406 *
17	2000-2001	49.180	27-08-2000	03:00:00	1248 *
18	2001-2002	45.970	15-08-2001	06:00:00	134 *
19	2002-2003	45.950	14-10-2002	07:00:00	131 *
20	2003-2004	46.220	08-08-2003	13:00:00	176 *
21	2004-2005	46.900	05-08-2004	08:00:00	327 *
22	2005-2006	52.010	20-09-2005	21:00:00	3272 *
23	2006-2007	48.100	20-09-2006	06:00:00	733 *
24	2007-2008	47.030	06-10-2007	02:00:00	363 *
25	2008-2009	49.620	10-08-2008	09:00:00	1498 *
26	2009-2010	45.910	02-10-2009	00:00:00	125 *
27	2010-2011	47.650	22-05-2010	08:00:00	560 *
28	2011-2012	46.330	25-08-2011	20:00:00	196 *
29	2012-2013	48.100	03-09-2012	16:00:00	733 *
30	2013-2014	47.320	26-10-2013	16:00:00	449 *
31	2014-2015	46.420	27-10-2014	22:00:00	214 *
32	2015-2016	46.790	21-06-2015	14:00:00	299 *
33	2016-2017	45.690	09-10-2016	22:00:00	97 *
34	2017-2018	45.810	18-07-2017	06:00:00	152 *
35	2018-2019	50.050	20-08-2018	07:00:00	1766 *
36	2019-2020	46.380	18-09-2019	22:00:00	221 *
37	2020-2021	49.860	14-10-2020	00:00:00	1536 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : Madhira (AKA10D2)

Division : Lower Krishna Divn., Hyderabad

Local River : Wyra

Sub-Division : Lower Krishna SD2, Vijayawada

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	44.700	4.558	44.800	3.861	44.700	19.96 *	45.185	83.73	44.950	47.57	44.960	50.23
2	44.680	4.303	44.875	7.171	44.740	23.19	45.670	106.0	44.870	32.91 *	44.790	30.42
3	44.630	2.874	44.950	8.170	44.710	18.51	45.655	118.0	44.770	24.96 *	44.690	20.45
4	44.650	3.851	44.890	7.250 *	44.670	16.29	46.240	226.4	44.720	23.73	44.660	17.32 *
5	44.630	2.828	44.840	6.424	44.680	16.65	45.720	134.7 *	44.670	17.53	44.610	15.25
6	44.650	3.015 *	44.865	6.817	44.710	18.80	45.240	84.54	44.660	17.11	44.590	15.07
7	44.680	4.239	44.890	7.176	44.670	15.42	47.330	455.0	44.725	25.76	44.580	12.52 *
8	44.660	3.994	44.900	7.458	44.600	13.66 *	46.250	221.4	44.690	19.10	44.580	15.05
9	44.650	3.869	44.860	6.743	44.570	10.46	45.380	91.80	44.640	16.06 *	44.630	18.23
10	44.690	4.378	44.940	8.138	44.640	13.31	45.010	45.56 *	44.630	15.44 *	44.600	16.14
11	44.730	5.136	44.900	7.456 *	44.600	11.74	44.860	32.07 *	44.620	16.11	44.590	15.30
12	44.750	5.389	44.990	9.639	44.620	12.53	44.690	19.29 *	44.650	17.76	44.620	17.19
13	44.800	7.256 *	45.030	10.94	44.965	41.34	44.630	18.91	44.600	13.08	44.640	16.06 *
14	44.860	10.47	45.175	19.32	44.900	39.08	44.720	22.91	44.650	17.28	44.980	42.71 *
15	44.750	5.471	45.310	54.02	45.290	75.92 *	44.700	20.47	44.680	18.62 *	44.700	25.80
16	44.710	5.160	45.010	14.95	45.140	54.00	44.710	21.58	44.800	31.43	44.620	19.05
17	44.680	4.665	44.930	10.94	45.660	110.8	44.610	15.21	44.780	25.71 *	44.560	15.93
18	44.660	4.244	44.950	11.26 *	45.780	128.3	44.560	12.69	44.920	42.75	44.470	11.39
19	44.640	4.049	44.910	9.823	45.180	58.07	44.570	11.97 *	44.760	24.22 *	44.510	8.879 *
20	44.680	4.256 *	44.880	9.278	44.930	38.12 *	44.640	17.26	44.670	20.34	44.550	15.65
21	44.740	4.968	44.900	9.780 *	44.870	37.93	45.110	62.49	44.680	21.22	44.580	12.52 *
22	44.770	5.170	45.040	16.37	44.870	32.91 *	45.200	77.34	44.630	16.88	44.530	13.52
23	44.820	5.258	49.120	994.6	44.740	21.91	45.090	61.07	44.650	18.09	44.560	16.02
24	44.800	5.195	46.480	282.3 *	44.765	24.20	44.930	42.39	44.630	15.44 *	44.550	15.24
25	44.750	4.221	45.640	85.25 *	44.680	19.05	44.730	24.45	44.620	16.71	44.470	11.66
26	44.760	4.231	45.330	74.25	44.695	20.42	44.820	28.82 *	44.610	16.40	44.450	10.42
27	44.790	4.956 *	44.985	41.05	44.920	41.77	45.050	57.64	44.580	15.08	44.410	9.595
28	44.760	3.921	44.690	28.22	45.170	58.97	48.850	941.7	44.600	15.18	44.420	5.001 *
29	44.820	4.257	44.780	25.31	45.740	137.8 *	45.850	137.6	44.585	15.26	44.410	9.535
30	44.840	4.299	44.745	17.86	45.330	81.04	45.250	83.95	44.630	17.62	44.430	10.88
31			44.670	17.86	45.090	48.49			45.250	71.19 *		
Ten-Daily Mean												
I Ten-Daily	44.662	3.791	44.881	6.921	44.669	16.63	45.768	156.7	44.733	24.02	44.669	21.07
II Ten-Daily	44.726	5.609	45.009	15.76	45.106	56.99	44.669	19.24	44.713	22.73	44.624	18.79
III Ten-Daily	44.785	4.648	45.489	144.8	44.988	47.68	45.488	151.7	44.679	21.73	44.481	11.44
Monthly												
Min.	44.630	2.828	44.670	3.861	44.570	10.46	44.560	11.97	44.580	13.08	44.410	5.001
Max.	44.860	10.47	49.120	994.6	45.780	137.8	48.850	941.7	45.250	71.19	44.980	50.23
Mean	44.724	4.683	45.138	58.7	44.923	40.67	45.308	109.2	44.707	22.79	44.591	17.1

Annual Runoff in MCM = 741 Annual Runoff in mm = 400

Peak Observed Discharge = 994.6 cumecs on 23-07-2021 Corres. Water Level :49.12 m

Lowest Observed Discharge = 1.154 cumecs on 26-05-2022 Corres. Water Level :43.72 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : Madhira (AKA10D2)

Division : Lower Krishna Divn., Hyderabad

Local River : Wyra

Sub-Division : Lower Krishna SD2, Vijayawada

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	44.420	11.59	44.310	8.606	44.020	4.723	43.950	3.220	43.900	2.604	43.960	3.301 *
2	44.450	12.16	44.260	8.142 *	44.060	4.934	43.930	3.068	43.860	2.328	43.860	1.947
3	44.410	10.78	44.380	11.09	44.040	4.791	43.920	2.946	43.890	2.510 *	43.880	2.407 *
4	44.440	11.71	44.360	10.73	44.000	4.544	43.880	2.728	44.040	4.638	43.920	3.163
5	44.450	12.42 *	44.340	10.47	44.010	4.700	44.040	4.400	44.010	3.933	43.950	3.295
6	44.350	10.02	44.370	11.04	43.990	3.680 *	44.040	4.363 *	43.970	3.401	43.890	2.226
7	44.360	10.12	44.330	10.44	43.940	2.478	44.020	3.916	43.930	3.221	43.870	2.006
8	44.310	9.376	44.280	8.548 *	43.910	2.322	44.060	4.497	43.960	3.489	43.860	2.209 *
9	44.300	9.234	44.300	8.965 *	43.950	2.673	44.080	4.754	43.940	3.062 *	43.940	3.253
10	44.330	10.58	44.320	9.485	44.020	4.399	44.180	6.369	43.900	2.615 *	43.930	3.207
11	44.300	8.965 *	44.190	6.299	44.050	4.686	44.150	6.089	44.070	4.180	43.970	3.578
12	44.350	10.05 *	44.150	6.020	44.010	3.945 *	44.100	5.268 *	44.020	3.740	44.010	4.021
13	44.240	7.107	44.060	4.258	43.980	3.551 *	44.020	4.082 *	43.990	3.590	44.040	4.334
14	44.260	7.659	44.130	5.756 *	43.900	2.052	43.980	3.623	43.970	3.425 *	44.020	4.082 *
15	44.220	7.027	44.170	5.830	43.920	2.215	44.000	3.836	43.940	3.062 *	43.990	3.680 *
16	44.200	6.850	44.140	5.924 *	43.860	1.593	43.940	2.897	44.050	4.305	43.960	3.301 *
17	44.060	4.154	44.100	5.049	43.890	1.771	43.950	3.081	43.990	3.680 *	43.840	1.663
18	43.990	3.936	44.130	5.817	43.950	2.301	43.930	2.946 *	43.940	3.288	43.810	1.332
19	44.050	4.507 *	44.040	3.524	43.910	2.082	43.890	2.752	43.970	3.522	43.770	1.241
20	43.940	2.519	44.060	3.948	43.920	2.833 *	43.900	2.615 *	44.020	4.266	43.740	1.197
21	44.050	3.775	44.020	3.450	43.990	2.768	43.930	3.082	43.990	3.710	43.780	1.282
22	44.100	4.884	43.990	3.378	44.120	5.933	43.910	2.774	43.950	3.316	43.800	1.680 *
23	44.080	4.660	43.950	3.180 *	44.160	6.378	43.860	2.544	43.970	3.549	43.760	1.194
24	44.040	4.365	44.050	4.688	44.060	3.982	44.150	6.055	44.000	3.811 *	43.780	1.228
25	44.050	4.507 *	44.100	5.263	44.050	4.473	44.360	11.16	43.960	3.466	43.760	1.401
26	44.010	3.945 *	44.090	5.111 *	44.070	4.717	44.280	8.098	43.920	3.121	43.720	1.154
27	44.240	8.119	44.150	6.096	44.050	4.507 *	44.180	6.622 *	43.980	3.640	43.770	1.434
28	44.280	8.305	44.130	6.122	43.970	3.278	44.100	4.854	44.020	4.200	43.800	1.636
29	44.210	7.789	44.100	5.035			44.060	4.408	44.060	4.393	43.820	1.846 *
30	44.290	8.424	44.110	5.428 *			44.010	3.851	44.010	4.152	43.740	1.352
31	44.320	8.686	44.070	4.891			43.970	3.544			43.770	1.420
Ten-Daily Mean												
I Ten-Daily	44.382	10.80	44.325	9.751	43.994	3.924	44.010	4.026	43.940	3.180	43.906	2.701
II Ten-Daily	44.161	6.278	44.117	5.242	43.939	2.703	43.986	3.719	43.996	3.706	43.915	2.843
III Ten-Daily	44.152	6.133	44.069	4.786	44.059	4.505	44.074	5.181	43.986	3.736	43.773	1.420
Monthly												
Min.	43.940	2.519	43.950	3.180	43.860	1.593	43.860	2.544	43.860	2.328	43.720	1.154
Max.	44.450	12.42	44.380	11.09	44.160	6.378	44.360	11.16	44.070	4.638	44.040	4.334
Mean	44.229	7.685	44.167	6.535	43.993	3.654	44.025	4.337	43.974	3.541	43.862	2.293

Peak Computed Discharge = 282.3 cumecs on 24-07-2021

Corres. Water Level :46.48 m

Lowest Computed Discharge = 1.680 cumecs on 22-05-2022

Corres. Water Level :43.8 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

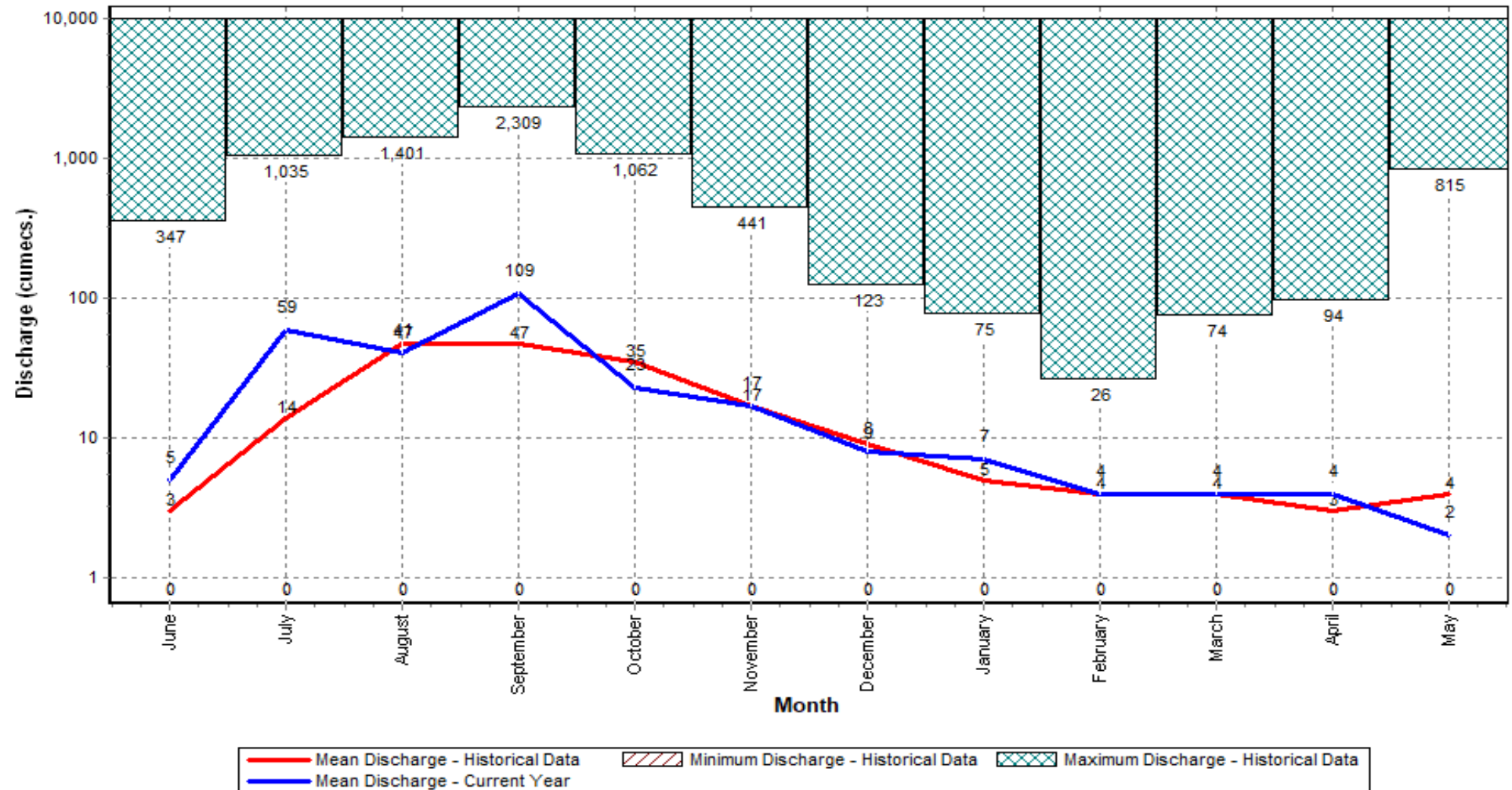
Station Name : Madhira (AKA10D2)

Data considered : 1984-2022

Division : Lower Krishna Divn., Hyderabad

Local River : Wyra

Sub-Division : Lower Krishna SD2, Vijayawada



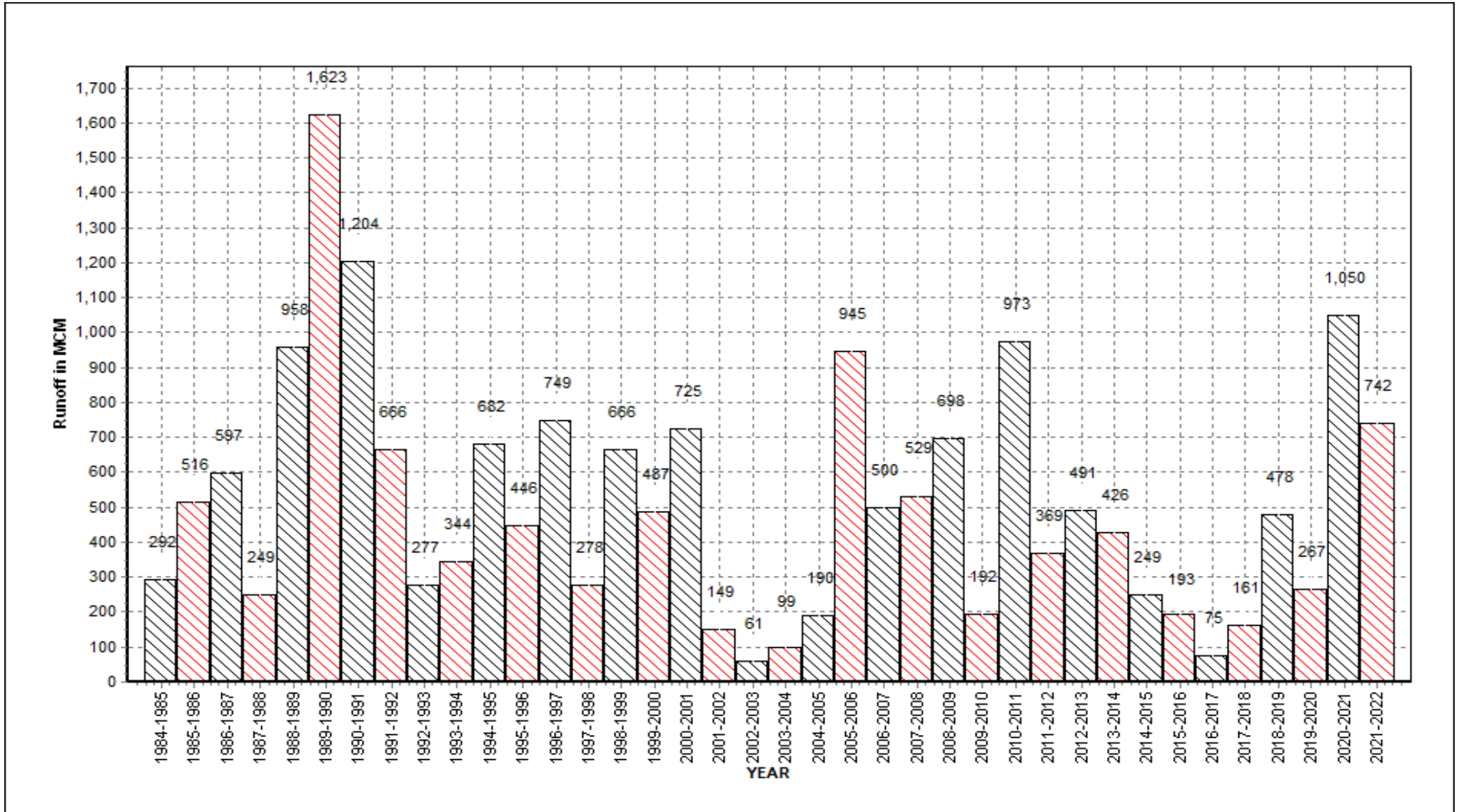
Annual Runoff Values for the period: 1984 - 2022

Station Name : Madhira (AKA10D2)

Local River : Wyra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



Note: Missing values have not been considered while arriving at Annual Runoff

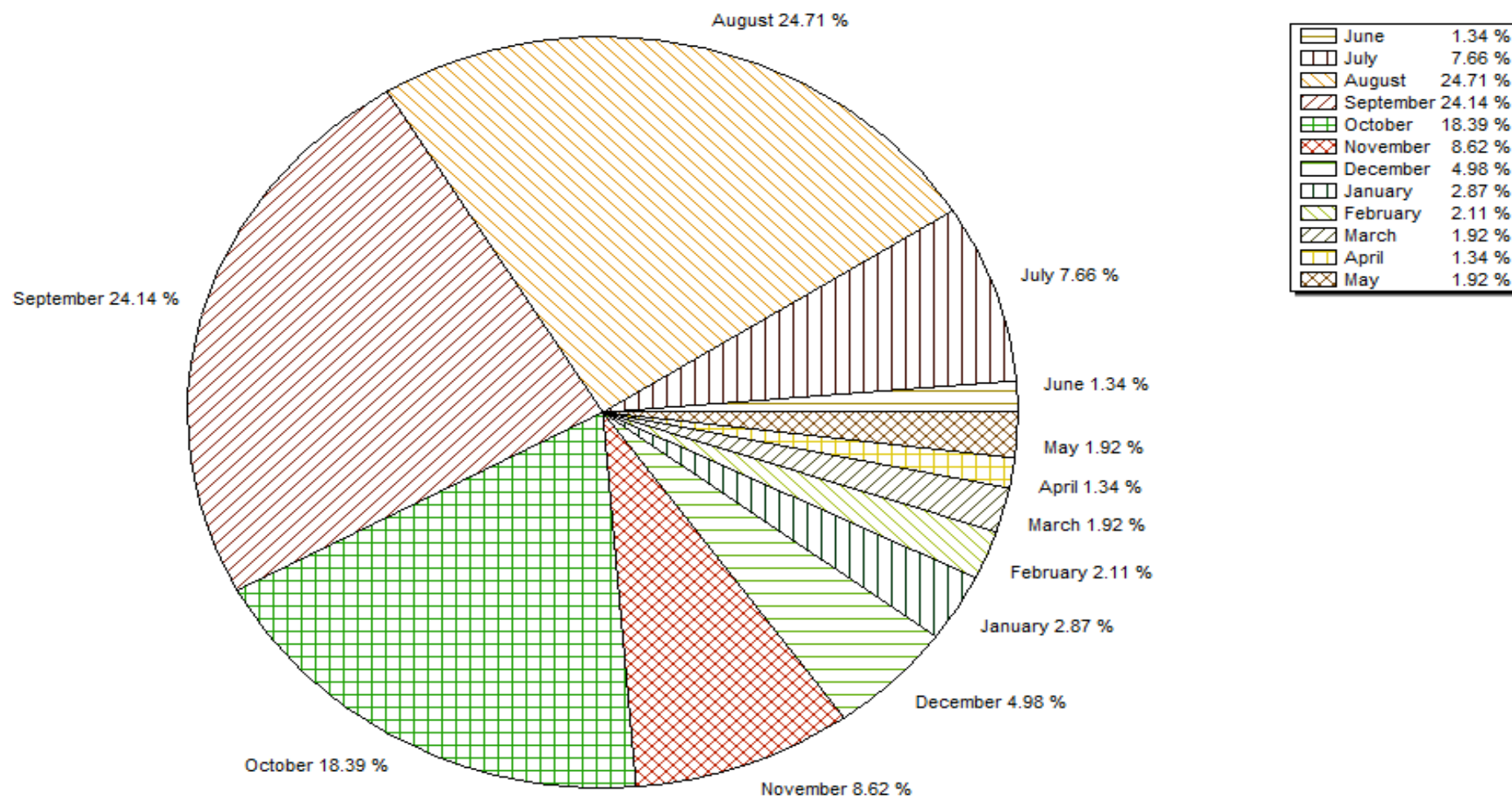
Monthly Average Runoff based on period : 1984-2021

Station Name : Madhira (AKA10D2)

Local River : Wyra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



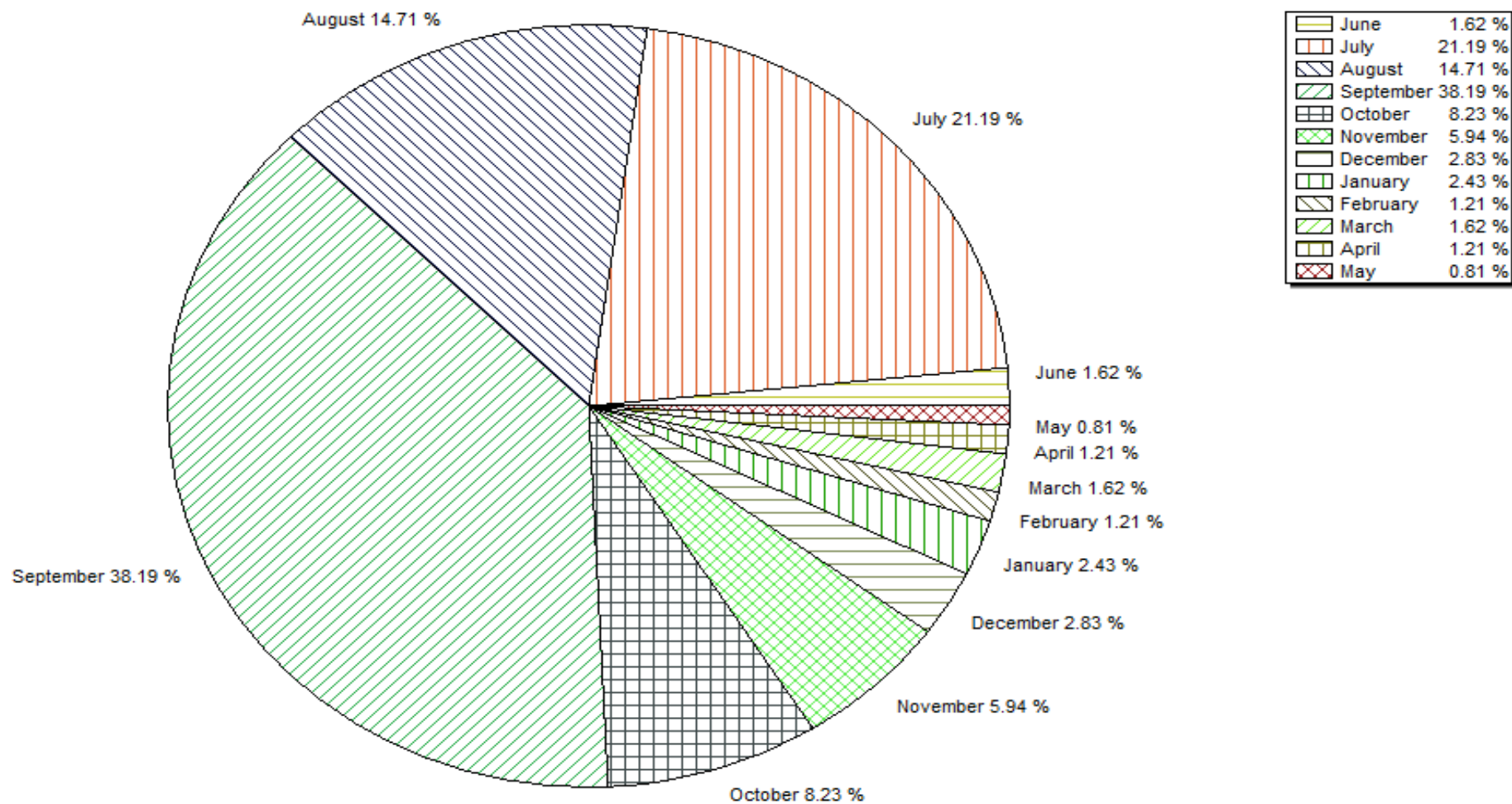
Monthly Runoff for the Year : 2021-2022

Station Name : Madhira (AKA10D2)

Local River : Wyra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



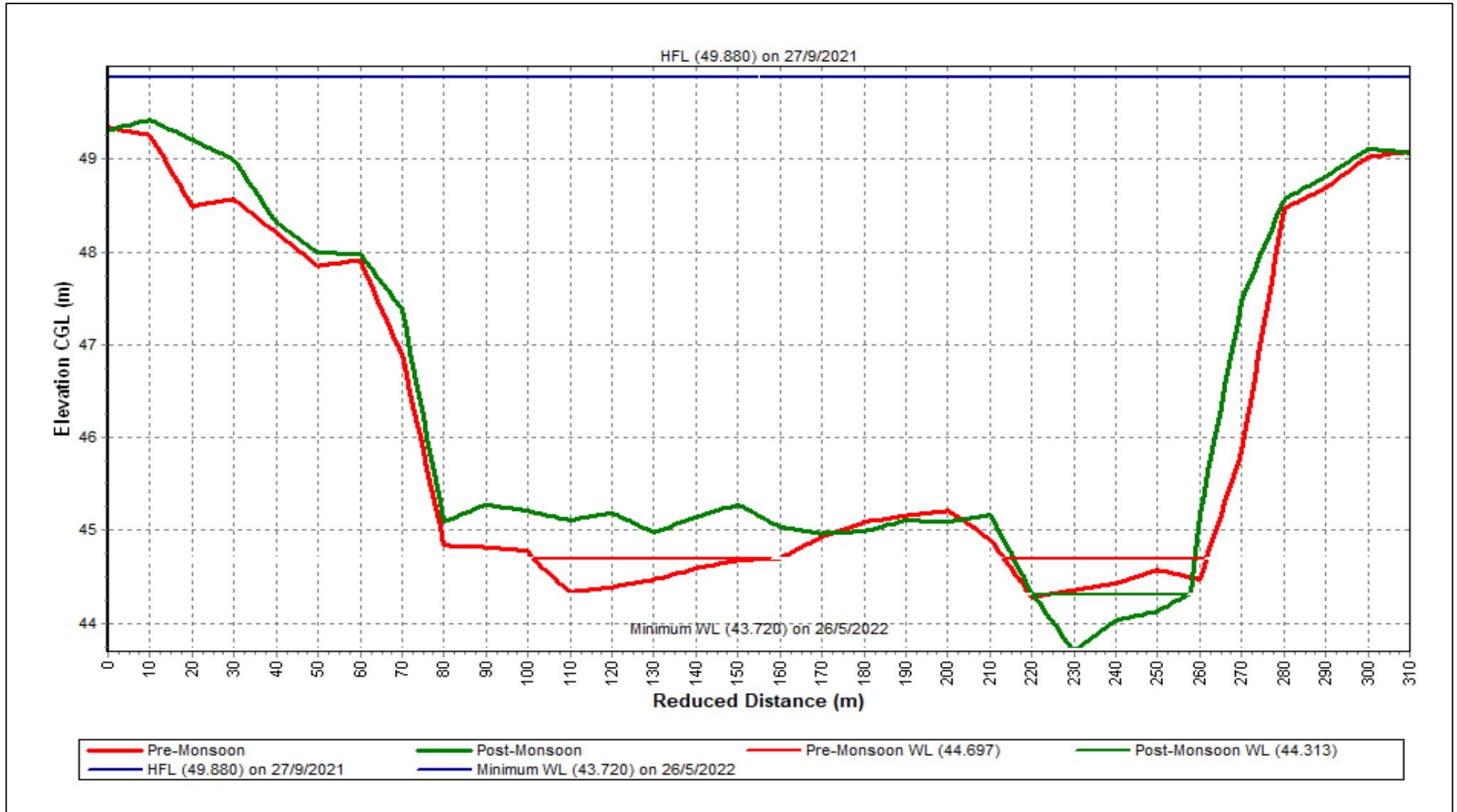
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : Madhira (AKA10D2)

Local River : Wyra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



Zero of the Gauge: 44.5 (m.s.l)

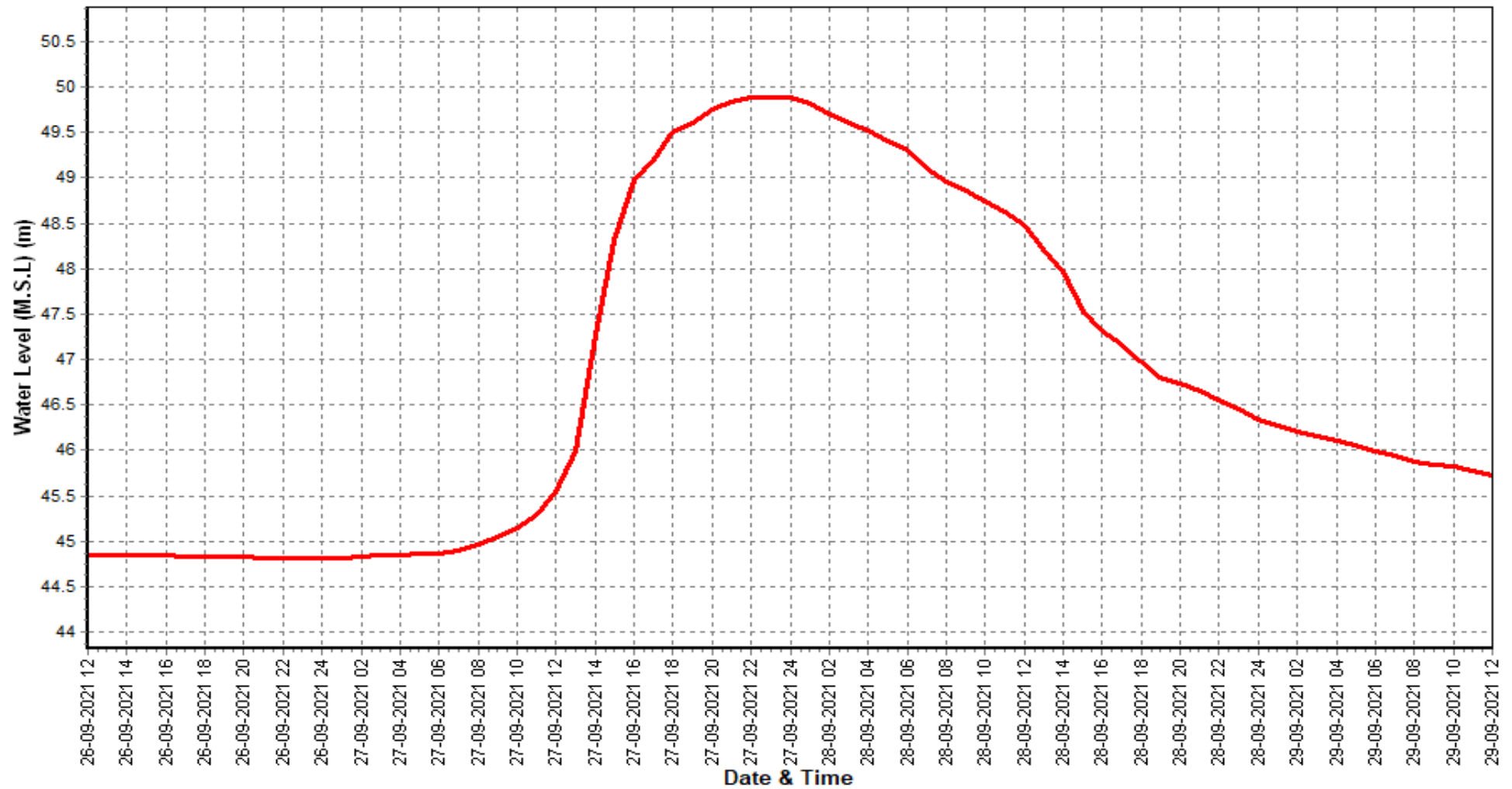
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Madhira (AKA10D2)

Local River : Wyra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



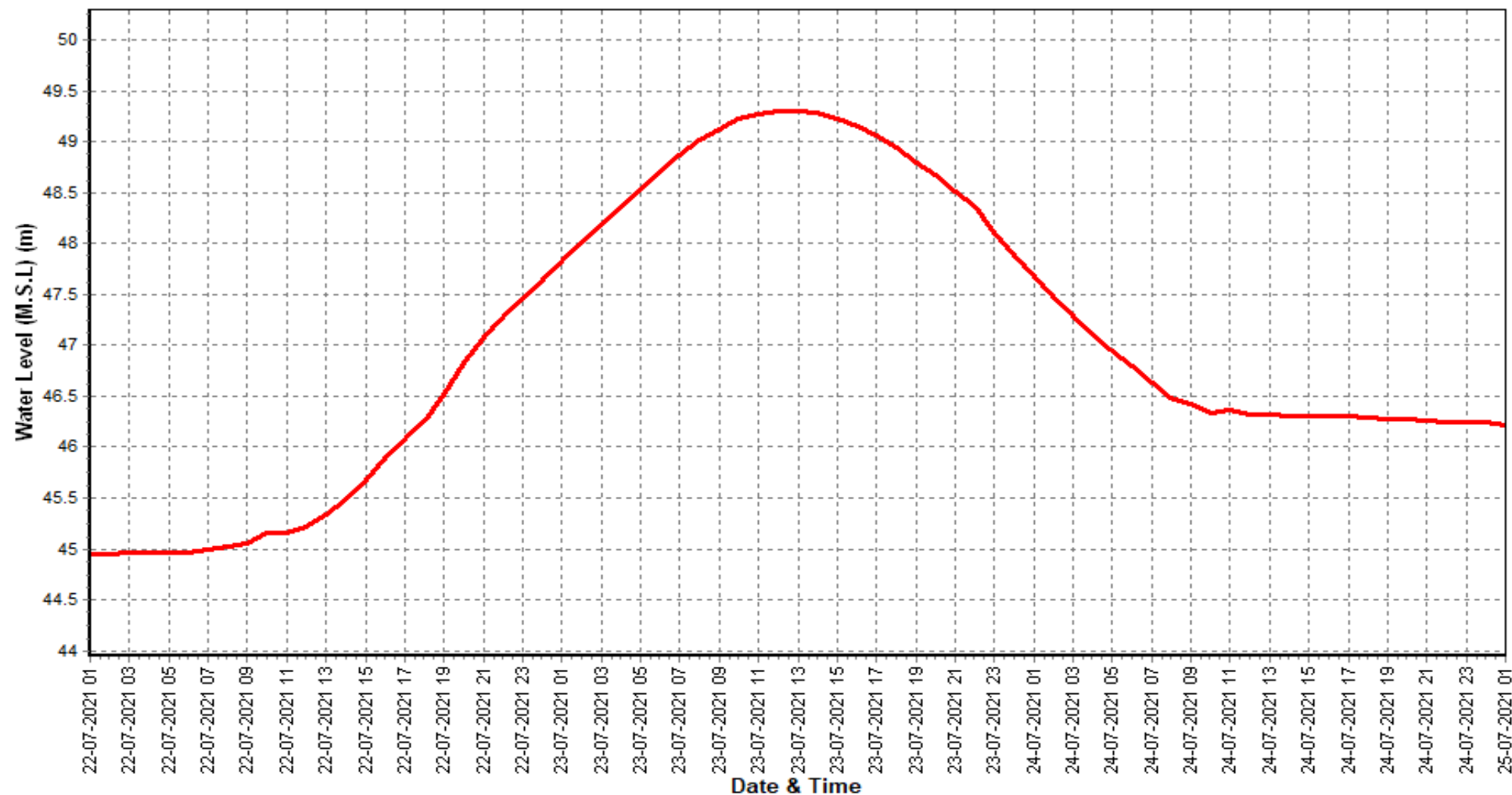
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Madhira (AKA10D2)

Local River : Wyra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



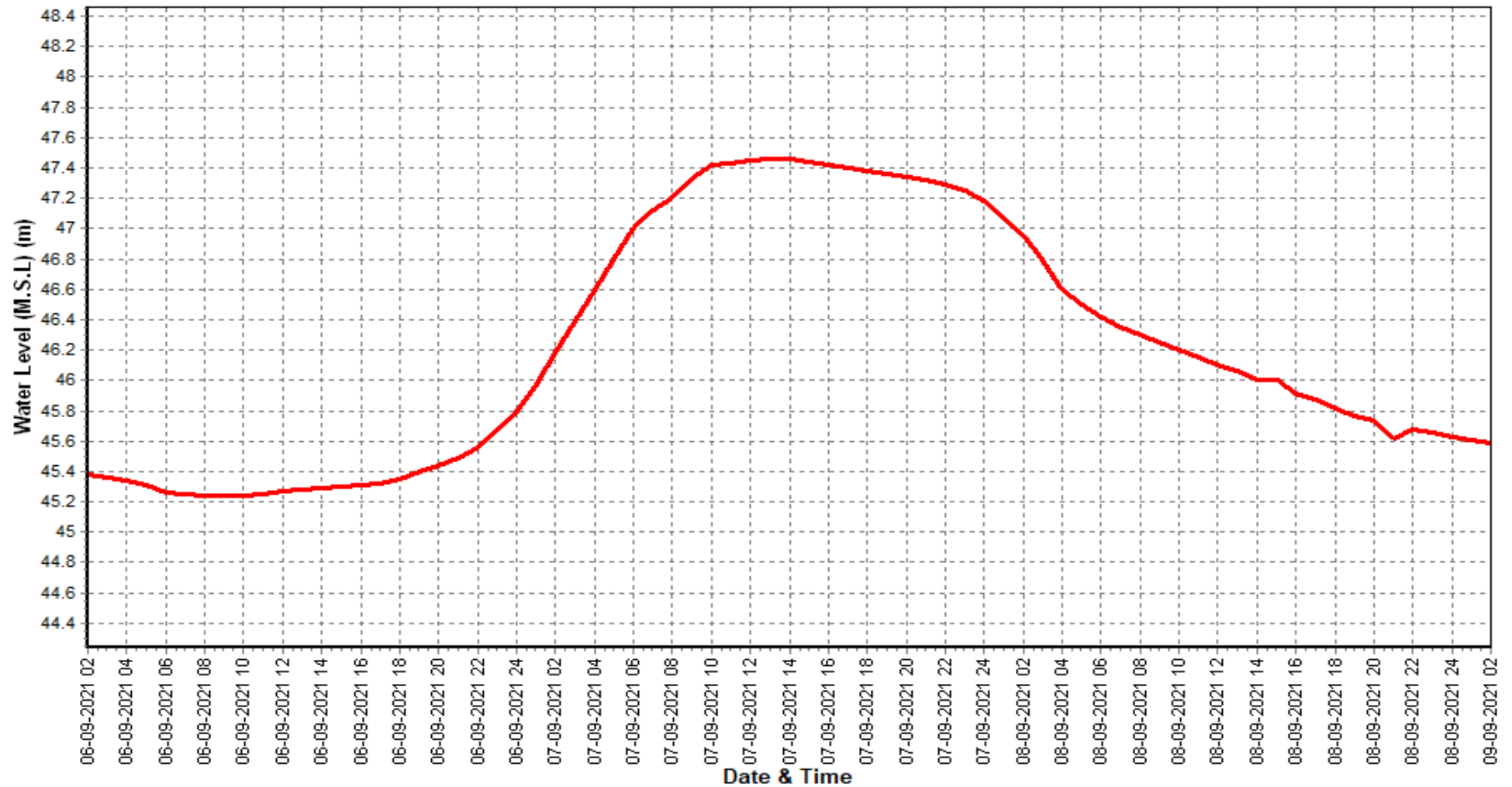
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Madhira (AKA10D2)

Local River : Wyra

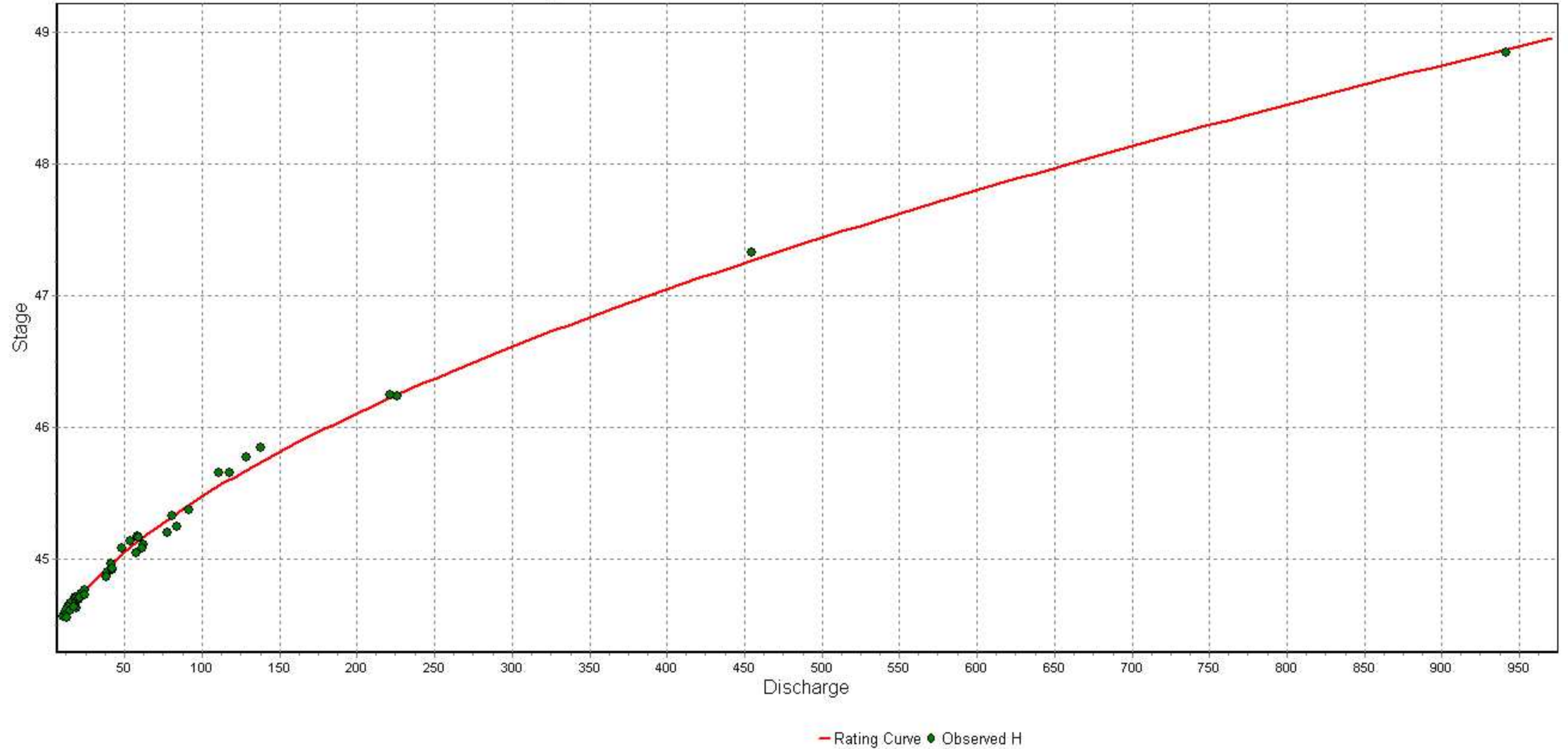
Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



Time Span: 72 Hrs

Rating Curve of Site Madhira 01/08/2021 to 30/09/2021



HISTORY SHEET

Water Year : 2021-2022

Site : Keesara

Code : AKA00B4

State : Andhra Pradesh

District : Krishna

Basin : Krishna

Independent River : Krishna

Tributary : Munneru

Sub Tributary : -

Sub-Sub Tributary : -

Local River : Munneru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada

Drainage Area : 9854 Sq. Km.

Bank : Left

Latitude : 16°42'53"

Longitude : 80°19'13"

Zero of Gauge (m) : 28.585 (m.s.l)
 28.186 (m.s.l)
 27.186 (m.s.l)
 27.035 (m.s.l)
 27.5 (m.s.l)

01-04-1964 - 04-08-1970
 05-08-1970 - 31-01-1972
 01-02-1972 - 31-05-1972
 01-06-1972 - 31-05-1984
 01-06-1984 -

Opening Date

Closing Date

Gauge : 23-09-1963

HFL During 2021-22 : 33.180 m

Corres. Discharge : 2965 (Estimated)

Discharge : 01-06-1965

Date & Time of
 occurrence : 28-09-2021
 : 12.00 hrs.

Sediment : 02-07-1965

Water Quality : 01-01-1972

HFL Recorded so far in m : 35.810 dt 24-07-1989

Corresponding Discharge (cumecs) :6503*

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1965-1966	1130	31.435	16-07-1965	0.000		18-05-1966
1966-1967	1485	31.785	06-09-1966	0.000	29.050	21-05-1967
1967-1968	1092	31.357	24-07-1967	0.000	28.770	15-04-1968
1968-1969	734	36.810	20-05-1969	0.000	28.700	28-03-1969
1969-1970	2396	32.585	31-07-1969	0.700	28.605	26-04-1970
1970-1971	2473	32.286	23-08-1970	0.000	28.056	06-04-1971
1971-1972	324.5	30.016	12-10-1971	0.000	28.001	21-03-1972
1972-1973	117.5	29.000	04-07-1972	0.000	27.785	24-03-1973
1973-1974	936.9	30.500	10-08-1973	0.000	27.840	20-03-1974
1974-1975	871.5	30.565	16-10-1974	0.000	27.815	13-04-1975
1975-1976	1605	31.465	11-09-1975	0.000	27.955	22-04-1976
1976-1977	2153	31.540	03-08-1976	0.000	28.025	28-03-1977
1977-1978	1023	30.840	20-11-1977	0.200	28.010	14-04-1978
1978-1979	3180	33.000	15-08-1978	0.000	27.855	23-04-1979
1979-1980	477.2	30.020	24-09-1979	0.000	28.005	12-07-1979

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1980-1981	912.1	30.755	23-08-1980	0.000	27.925	27-02-1981
1981-1982	3003	32.550	04-08-1981	0.000	27.825	20-04-1982
1982-1983	1559	31.430	13-08-1982	0.000	27.865	12-06-1982
1983-1984	4140	33.755	06-10-1983	0.000	28.055	12-06-1983
1984-1985	664.4	31.260	12-10-1984	0.200	28.940	07-06-1984
1985-1986	1133	32.025	14-08-1985	0.000		25-05-1986
1986-1987	5950	35.110	13-08-1986	0.000	29.135	15-06-1986
1987-1988	1508	32.290	11-07-1987	0.129	29.000	27-06-1987
1988-1989	3390	33.740	30-07-1988	0.244	29.060	16-06-1988
1989-1990	5744	35.295	24-07-1989	0.576	28.605	01-06-1989
1990-1991	4090	33.680	02-10-1990	3.000	29.230	29-05-1991
1991-1992	2757	33.024	22-09-1991	0.100	29.310	18-05-1992
1992-1993	380.5	30.705	10-10-1992	0.000	29.300	05-06-1992
1993-1994	297.1	30.550	08-09-1993	0.550	29.195	21-05-1994
1994-1995	957.6	31.500	07-10-1994	0.201	29.120	02-07-1994
1995-1996	1801	32.440	17-10-1995	0.200	29.180	19-05-1996
1996-1997	2354	32.680	28-08-1996	0.340	29.180	02-06-1996
1997-1998	727.6	31.250	29-10-1997	0.504	29.050	07-06-1997
1998-1999	1478	32.070	16-10-1998	0.372	29.080	05-06-1998
1999-2000	654.0	31.115	12-09-1999	0.016	28.940	25-05-2000
2000-2001	3267	33.055	27-08-2000	0.034	28.870	30-05-2001
2001-2002	264.4	30.480	05-08-2001	0.010	28.920	30-05-2002
2002-2003	200.6	30.370	25-08-2002	0.000		25-01-2003
2003-2004	763.4	31.260	08-08-2003	0.000		11-04-2004
2004-2005	1064	31.580	05-08-2004	0.000		16-04-2005
2005-2006	6027	35.660	21-09-2005	0.000		03-07-2005
2006-2007	3799	33.700	05-08-2006	0.109	28.730	31-05-2007
2007-2008	864.2	31.100	21-09-2007	0.211	28.725	01-06-2007
2008-2009	4691	34.150	10-08-2008	0.000	28.650	01-06-2008
2009-2010	1104	31.635	22-05-2010	0.000	28.400	12-07-2009
2010-2011	1578	31.675	08-09-2010	3.047	28.790	26-05-2011
2011-2012	662.5	30.755	26-08-2011	0.000	28.260	01-05-2012
2012-2013	3036	33.150	04-09-2012	0.000	28.310	18-05-2013
2013-2014	1371	31.810	27-10-2013	0.000	28.600	02-04-2014
2014-2015	514.8	30.585	28-10-2014	0.000	28.530	07-07-2014
2015-2016	1194	31.650	22-06-2015	0.000		23-03-2016
2016-2017	1769	32.020	24-09-2016	0.000	28.520	16-03-2017
2017-2018	348.9	30.280	19-07-2017	0.000	28.280	07-02-2018
2018-2019	2933	33.040	20-08-2018	0.000	28.480	22-03-2019
2019-2020	524.4	30.785	03-09-2019	0.000	28.760	30-04-2020
2020-2021	4052	33.680	14-10-2020	0.000	28.770	03-06-2020

Annual Runoff of Munneru at Keesara

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1965-1966	899	18	917	32	1	32
2	1966-1967	1620	55	1676	57	2	59
3	1967-1968	1110	19	1129	39	1	40
4	1968-1969	530	1005	1535	19	36	54
5	1969-1970	2158	178	2335	76	6	83
6	1970-1971	2712	44	2755	96	2	97
7	1971-1972	392	6	397	14	0	14
8	1972-1973	164	16	180	6	1	6
9	1973-1974	818	13	831	29	0	29
10	1974-1975	723	12	735	26	0	26
11	1975-1976	2689	33	2722	95	1	96
12	1976-1977	2797	35	2832	99	1	100
13	1977-1978	399	29	428	14	1	15
14	1978-1979	4321	36	4357	153	1	154
15	1979-1980	312	54	366	11	2	13
16	1980-1981	1365	25	1390	48	1	49
17	1981-1982	1957	30	1987	69	1	70
18	1982-1983	1329	100	1429	47	4	50
19	1983-1984	4633	163	4796	164	6	169
20	1984-1985	614	191	805	22	7	28
21	1985-1986	1142	148	1290	40	5	46
22	1986-1987	1616	132	1748	57	5	62
23	1987-1988	1101	112	1213	39	4	43
24	1988-1989	4296	145	4440	152	5	157
25	1989-1990	3950	822	4772	140	29	169
26	1990-1991	3336	247	3583	118	9	127
27	1991-1992	1857	189	2046	66	7	72
28	1992-1993	755	181	937	27	6	33
29	1993-1994	813	162	975	29	6	34
30	1994-1995	2158	311	2470	76	11	87
31	1995-1996	1852	129	1981	65	5	70
32	1996-1997	2749	284	3033	97	10	107
33	1997-1998	749	239	988	26	8	35
34	1998-1999	2727	284	3011	96	10	106
35	1999-2000	1447	150	1597	51	5	56
36	2000-2001	2776	169	2945	98	6	104
37	2001-2002	455	81	536	16	3	19
38	2002-2003	225	0	225	8	0	8
39	2003-2004	763	39	801	27	1	28
40	2004-2005	677	32	709	24	1	25
41	2005-2006	2898	317	3214	102	11	114
42	2006-2007	2134	138	2272	75	5	80
43	2007-2008	1419	314	1733	50	11	61
44	2008-2009	4036	175	4212	143	6	149
45	2009-2010	132	310	442	5	11	16
46	2010-2011	3835	383	4218	136	14	149
47	2011-2012	944	120	1065	33	4	38

48	2012-2013	2395	34	2429	85	1	86
49	2013-2014	2175	118	2293	77	4	81
50	2014-2015	507	95	602	18	3	21
51	2015-2016	908	1	909	32	0	32
52	2016-2017	996	12	1009	35	0	36
53	2017-2018	765	17	783	27	1	28
54	2018-2019	1512	101	1614	53	4	57
55	2019-2020	1117	128	1245	39	5	44
56	2020-2021	5888	221	6109	208	8	216
57	2021-2022	2987	230	3217	106	8	114
Average		1783	151	1934	63	5	68

Instantaneous Flood Peak of Krishna at Keesara

		Instantaneous Annual Flood Peak			
Sl. No.	Year	Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
1	1965-1966	31.435	16-07-1965	08:00:00	1214 *
2	1966-1967	31.785	06-09-1966	08:00:00	1540 *
3	1967-1968	31.375	24-07-1967	09:00:00	1160 *
4	1968-1969	30.885	07-09-1968	15:00:00	735 *
5	1969-1970	32.785	31-07-1969	12:00:00	2566 *
6	1970-1971	32.386	23-08-1970	00:00:00	2140 *
7	1971-1972	30.386	06-10-1971	22:00:00	336 *
8	1972-1973	29.225	08-07-1972	18:00:00	103 *
9	1973-1974	30.675	10-08-1973	01:00:00	563 *
10	1974-1975	30.645	16-10-1974	08:00:00	539 *
11	1975-1976	31.785	11-09-1975	00:00:00	1540 *
12	1976-1977	32.800	22-07-1976	09:00:00	2582 *
13	1977-1978	31.405	20-11-1977	13:00:00	1187 *
14	1978-1979	33.345	15-08-1978	23:00:00	3200 *
15	1979-1980	30.075	24-09-1979	07:00:00	105 *
16	1980-1981	31.055	02-08-1980	16:00:00	878 *
17	1981-1982	32.985	04-08-1981	20:00:00	2787 *
18	1982-1983	31.475	13-08-1982	13:00:00	1250 *
19	1983-1984	33.835	06-10-1983	01:00:00	3790 *
20	1984-1985	31.850	12-10-1984	21:00:00	1603 *
21	1985-1986	32.320	12-10-1985	05:00:00	2072 *
22	1986-1987	35.110	13-08-1986	05:00:00	5480 *
23	1987-1988	33.140	10-07-1987	22:00:00	2963 *
24	1988-1989	33.740	30-07-1988	07:00:00	3673 *
25	1989-1990	35.810	24-07-1989	04:00:00	6503 *
26	1990-1991	33.730	02-10-1990	15:00:00	3661 *
27	1991-1992	33.610	22-09-1991	18:00:00	3515 *
28	1992-1993	30.820	10-10-1992	12:00:00	681 *
29	1993-1994	30.740	02-08-1993	12:00:00	615 *
30	1994-1995	31.930	07-10-1994	18:00:00	1680 *
31	1995-1996	32.910	17-10-1995	16:00:00	2703 *
32	1996-1997	32.700	28-08-1996	11:00:00	2473 *
33	1997-1998	31.250	29-10-1997	08:00:00	1048 *
34	1998-1999	32.270	16-10-1998	04:00:00	2020 *
35	1999-2000	31.195	05-08-1999	00:00:00	1000 *
36	2000-2001	33.330	24-08-2000	17:00:00	3182 *
37	2001-2002	30.560	05-08-2001	12:00:00	471 *
38	2002-2003	30.700	25-08-2002	13:00:00	583 *
39	2003-2004	31.600	08-08-2003	04:00:00	1366 *
40	2004-2005	31.810	04-08-2004	22:00:00	1564 *
41	2005-2006	35.690	21-09-2005	10:00:00	6323 *
42	2006-2007	33.820	05-08-2006	14:00:00	3771 *
43	2007-2008	31.120	21-09-2007	06:00:00	934 *
44	2008-2009	34.590	10-08-2008	17:00:00	4764 *
45	2009-2010	31.635	22-05-2010	14:00:00	227
46	2010-2011	31.880	08-09-2010	18:00:00	1632 *

47	2011-2012	30.780	26-08-2011	09:00:00	648 *
48	2012-2013	33.150	04-09-2012	10:00:00	2974 *
49	2013-2014	31.810	27-10-2013	07:00:00	1564 *
50	2014-2015	30.900	30-08-2014	14:00:00	747 *
51	2015-2016	32.200	21-06-2015	20:00:00	1949 *
52	2016-2017	32.040	24-09-2016	10:00:00	1789 *
53	2017-2018	30.630	18-07-2017	15:00:00	527 *
54	2018-2019	33.400	20-08-2018	20:00:00	3264 *
55	2019-2020	30.810	03-09-2019	06:00:00	673 *
56	2020-2021	33.800	14-10-2020	13:00:00	4245 *
57	2021-2022	33.180	28-09-2021	12:00:00	2965 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : Keesara (AKA00B4)

Division : Lower Krishna Divn., Hyderabad

Local River : Munneru

Sub-Division : Lower Krishna SD2, Vijayawada

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	28.500	2.141	28.980	31.24	29.180	54.93 *	30.670	520.6	30.110	293.6	29.480	125.3
2	28.580	4.115	28.950	28.50	29.060	28.95	30.800	549.1	30.000	261.2 *	29.420	94.34
3	28.550	3.018	29.040	31.60	29.010	27.04	30.670	520.8	29.670	153.5 *	29.360	92.36
4	28.540	2.496	29.350	80.82 *	28.950	20.74	31.000	755.8	29.440	109.3	29.300	72.29 *
5	28.560	3.491	29.300	76.05	28.880	21.31	30.770	642.0 *	29.340	87.26 #	29.310	79.58
6	28.760	17.84 *	29.100	50.18	28.840	19.58	30.500	495.0	29.260	77.25 #	29.300	72.54
7	28.880	24.89	28.980	34.78	28.810	16.83	31.100	780.0	29.400	110.5	29.220	60.23 *
8	28.780	19.14	28.895	29.29	28.760	28.84 *	32.600	2231	29.480	119.2	29.180	77.23
9	28.710	12.39	28.820	22.19	28.740	13.95	31.410	1059	29.410	92.06 *	29.120	68.06
10	28.620	6.492	28.800	20.37	28.770	17.04	30.560	520.2 *	29.400	90.11 *	29.100	64.58
11	28.660	7.720	28.830	29.45 *	28.870	21.89	30.150	321.2 *	29.400	100.3	29.080	59.01
12	28.680	11.49	29.030	31.40	29.190	74.14	29.800	192.0 *	29.350	90.50	29.100	60.86
13	28.760	18.84 *	30.020	294.1	29.040	44.11	29.660	151.9	29.260	85.46	29.160	52.47 *
14	28.810	21.82	29.990	277.5	29.330	73.89	29.520	130.0	29.240	67.89	29.560	125.0 *
15	28.720	12.81	30.100	313.1	29.500	111.0 *	29.500	116.6	29.400	90.11 *	29.480	130.0
16	28.710	11.83	29.880	197.7	29.720	180.8	29.450	132.7	29.290	71.87	29.300	80.87
17	28.990	31.28	29.660	158.8	30.210	347.1	29.340	107.5	29.420	94.04 *	29.280	79.96
18	28.920	25.04	29.420	94.04 *	30.850	641.3	29.190	72.30	29.840	230.2	29.260	72.22
19	28.890	22.87	29.430	101.2	30.140	312.9	29.120	47.91 *	29.650	148.0 *	29.220	60.23 *
20	28.850	22.90 *	29.320	75.01	29.950	242.8 *	29.100	83.15	29.410	100.7	29.200	68.00
21	28.810	21.66	29.160	52.47 *	29.620	147.3	29.960	268.9	29.290	79.24	29.200	57.52 *
22	28.760	19.14	29.460	105.8	29.530	117.9 *	30.600	539.4	29.220	67.74 #	29.180	72.72
23	28.720	12.58	32.690	2409	29.510	104.2	30.160	317.5	29.150	60.32	29.160	64.45
24	28.680	11.47	31.950	1553	29.460	94.93	30.020	268.0	29.120	47.91 *	29.150	59.70
25	28.640	6.910	31.120	875.0 *	29.200	72.63	29.900	238.7	29.080	52.01	29.120	55.21
26	28.610	6.513	30.450	472.5	29.100	64.20	29.860	211.5 *	29.090	52.52	29.020	52.76
27	28.660	12.57 *	30.110	293.4	29.305	84.21	29.690	148.0	29.070	50.64	28.980	47.33
28	28.620	6.629	29.790	226.5	29.965	254.8	33.100	2916	29.050	47.18	28.970	35.15 *
29	28.700	12.21	29.560	129.6	30.170	329.7 *	31.790	1418	29.020	48.94	28.950	44.37
30	28.960	29.06	29.340	92.16	30.320	442.8	30.780	592.0	29.100	53.12	28.950	44.78
31			29.220	76.01	30.080	294.3			29.320	75.61 *		
Ten-Daily Mean												
I Ten-Daily	28.648	9.601	29.021	40.50	28.900	24.92	31.008	807.4	29.551	139.4	29.279	80.65
II Ten-Daily	28.799	18.66	29.568	157.2	29.680	205.0	29.483	135.5	29.426	107.9	29.264	78.86
III Ten-Daily	28.716	13.87	30.259	571.4	29.660	182.4	30.586	691.9	29.137	57.75	29.068	53.40
Monthly												
Min.	28.500	2.141	28.800	20.37	28.740	13.95	29.100	47.91	29.020	47.18	28.950	35.15
Max.	28.990	31.28	32.690	2409	30.850	641.3	33.100	2916	30.110	293.6	29.560	130.0
Mean	28.721	14.05	29.637	266.5	29.421	138.9	30.359	544.9	29.364	100.3	29.204	70.97

Annual Runoff in MCM = 3217 Annual Runoff in mm = 327

Peak Observed Discharge = 2916 cumecs on 28-09-2021 Corres. Water Level :33.1 m

Lowest Observed Discharge = 0.000 cumecs on 21-03-2022 Corres. Water Level :28.3 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : Keesara (AKA00B4)

Division : Lower Krishna Divn., Hyderabad

Local River : Munneru

Sub-Division : Lower Krishna SD2, Vijayawada

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	28.980	43.69	28.920	34.45	28.740	13.26	28.600	2.981	28.550	1.077	28.630	4.250 *
2	28.960	42.03	28.950	39.36 *	28.740	12.69	28.590	1.920	28.550	1.122	28.610	2.847
3	28.960	39.89	28.950	42.97	28.740	12.14	28.590	2.016	28.550	1.130 *	28.590	1.750 *
4	28.960	44.35	28.950	43.21	28.740	11.03	28.590	1.945	28.680	12.43	28.570	1.555
5	28.960	44.32 *	28.950	42.85	28.740	11.28	28.590	1.895	28.650	4.741	28.560	1.396
6	28.960	42.53	28.950	41.30	28.740	11.22 *	28.590	1.920 *	28.640	4.574	28.560	1.366
7	28.960	42.49	28.930	36.01	28.720	9.720	28.590	1.841	28.660	5.055	28.580	1.666
8	28.960	40.16	28.920	35.36 *	28.720	10.00	28.550	1.310	28.650	4.789	28.580	1.680 *
9	28.920	37.35	28.920	35.36 *	28.700	8.702	28.630	4.617	28.650	4.820 *	28.560	1.409
10	28.880	27.49	28.920	34.02	28.700	8.200	28.640	4.768	28.630	3.250 *	28.560	1.393
11	28.850	25.36 *	28.880	25.68	28.700	7.953	28.720	9.843	28.610	3.103	28.560	1.390
12	28.830	21.25 *	28.860	24.35	28.720	9.550 *	28.730	10.21 *	28.650	5.094	28.530	1.217
13	28.830	24.76	28.770	14.76	28.740	11.22 *	28.640	3.960 *	28.680	10.50	28.510	1.167
14	28.830	22.78	28.960	44.32 *	28.710	10.03	28.590	1.903	28.680	10.52 *	28.550	1.420 *
15	28.830	21.02	29.310	89.92	28.710	10.89	28.550	1.148	28.650	5.250 *	28.580	1.670 *
16	28.820	19.22	29.360	94.05 *	28.640	4.787	28.550	1.018	28.680	12.33	28.630	4.250 *
17	28.800	16.19	29.090	58.81	28.620	3.395	28.500	1.130	28.700	15.25 *	28.590	1.903
18	28.760	14.92	29.080	58.73	28.640	4.852	28.500	1.210 *	28.710	13.36	28.560	1.342
19	28.740	12.69 *	29.060	54.42	28.640	4.931	28.500	1.153	28.790	17.16	28.560	1.344
20	28.740	13.50	29.040	51.35	28.640	4.920 *	28.480	1.250 *	28.810	20.27	28.540	1.310
21	28.740	13.40	29.000	45.06	28.640	4.747	28.300	0.000	28.820	21.26	28.550	1.313
22	28.740	12.97	29.000	42.80	28.640	4.799	28.260	0.000	28.830	22.89	28.550	1.320 *
23	28.800	16.83	28.980	46.25 *	28.690	10.24	28.350	0.000	28.780	16.57	28.550	1.316
24	28.800	15.63	28.960	39.27	28.650	4.637	28.390	0.000	28.730	15.25 *	28.520	1.270
25	28.800	15.61 *	28.880	25.94	28.630	4.591	28.600	2.927	28.700	12.72	28.520	1.228
26	28.800	15.61 *	28.880	25.45 *	28.630	4.559	28.650	4.745	28.650	4.794	28.520	1.263
27	28.820	19.03	28.860	24.31	28.630	4.610 *	28.700	8.250 *	28.620	3.146	28.510	1.178
28	28.880	27.41	28.820	23.32	28.610	3.061	28.650	4.602	28.650	4.979	28.520	1.211
29	28.880	27.12	28.820	23.49			28.600	2.952	28.670	12.18	28.520	1.220 *
30	28.820	18.37	28.780	16.45 *			28.590	1.861	28.650	5.094	28.500	1.111
31	28.880	26.21	28.770	14.83			28.500	1.083			28.500	1.130
Ten-Daily Mean												
I Ten-Daily	28.950	40.43	28.936	38.49	28.728	10.83	28.596	2.521	28.621	4.299	28.580	1.931
II Ten-Daily	28.803	19.17	29.041	51.64	28.676	7.253	28.576	3.282	28.696	11.28	28.561	1.701
III Ten-Daily	28.815	18.93	28.886	29.74	28.640	5.155	28.508	2.402	28.710	11.89	28.524	1.233
Monthly												
Min.	28.740	12.69	28.770	14.76	28.610	3.061	28.260	0.000	28.550	1.077	28.500	1.111
Max.	28.980	44.35	29.360	94.05	28.740	13.26	28.730	10.21	28.830	22.89	28.630	4.250
Mean	28.855	25.94	28.952	39.63	28.684	7.929	28.558	2.724	28.676	9.157	28.554	1.609

Peak Computed Discharge = 875.0 cumecs on 25-07-2021

Corres. Water Level :31.12 m

Lowest Computed Discharge = 1.130 cumecs on 03-04-2022

Corres. Water Level :28.55 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

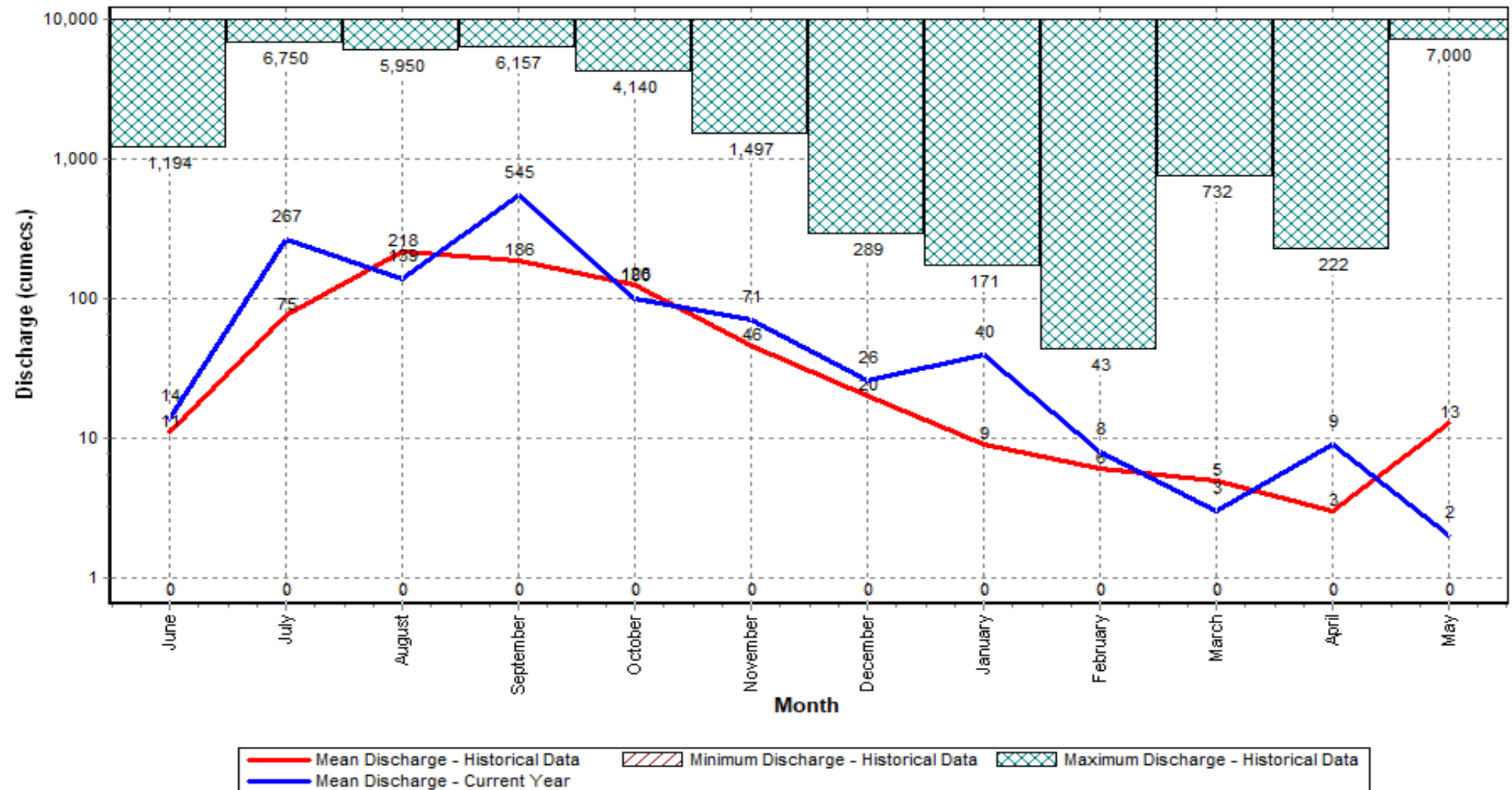
Station Name : Keesara (AKA00B4)

Data considered : 1965-2022

Division : Lower Krishna Divn., Hyderabad

Local River : Munneru

Sub-Division : Lower Krishna SD2, Vijayawada



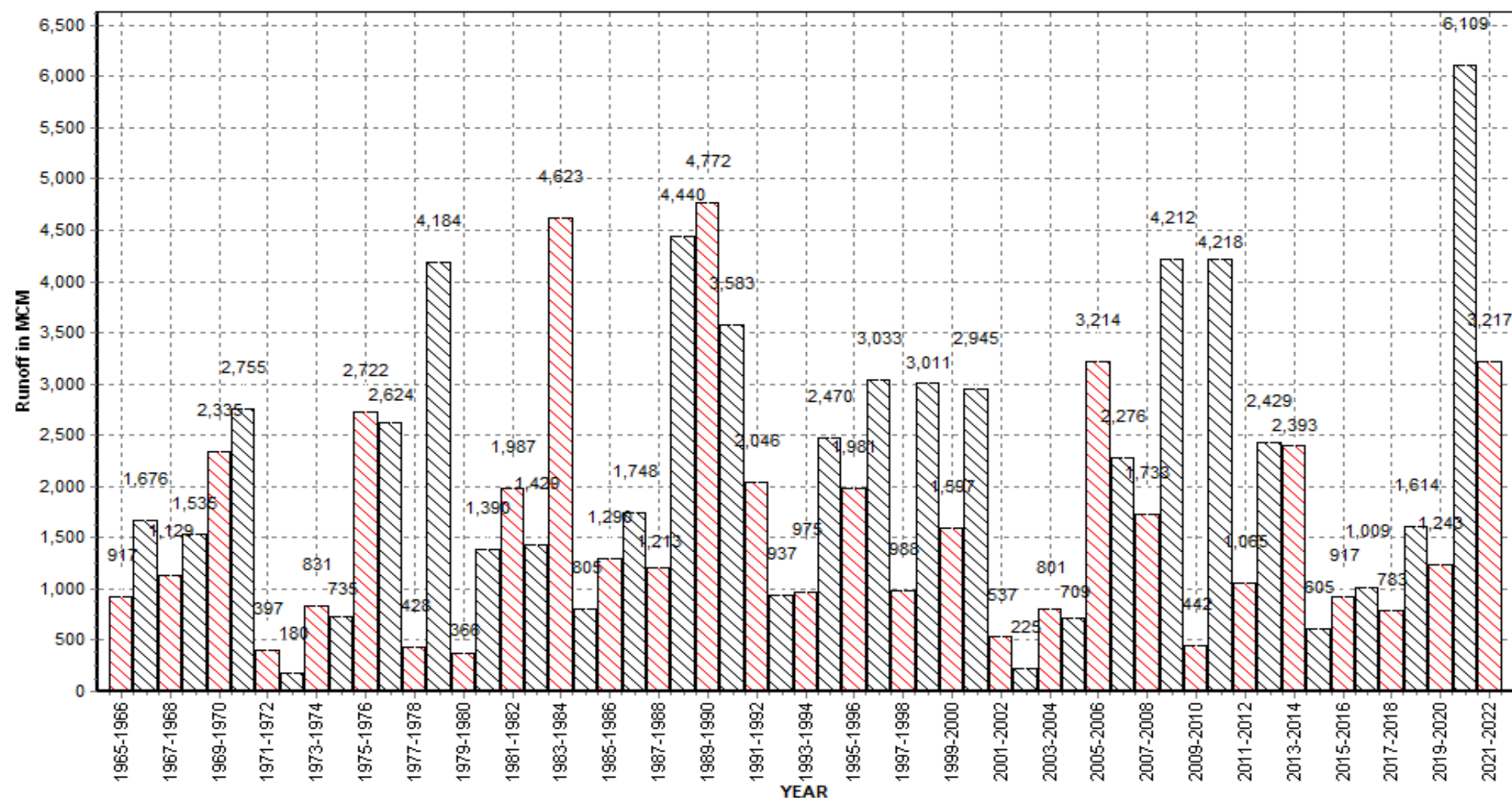
Annual Runoff Values for the period: 1965 - 2022

Station Name : Keesara (AKA00B4)

Local River : Munneru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



Note: Missing values have not been considered while arriving at Annual Runoff

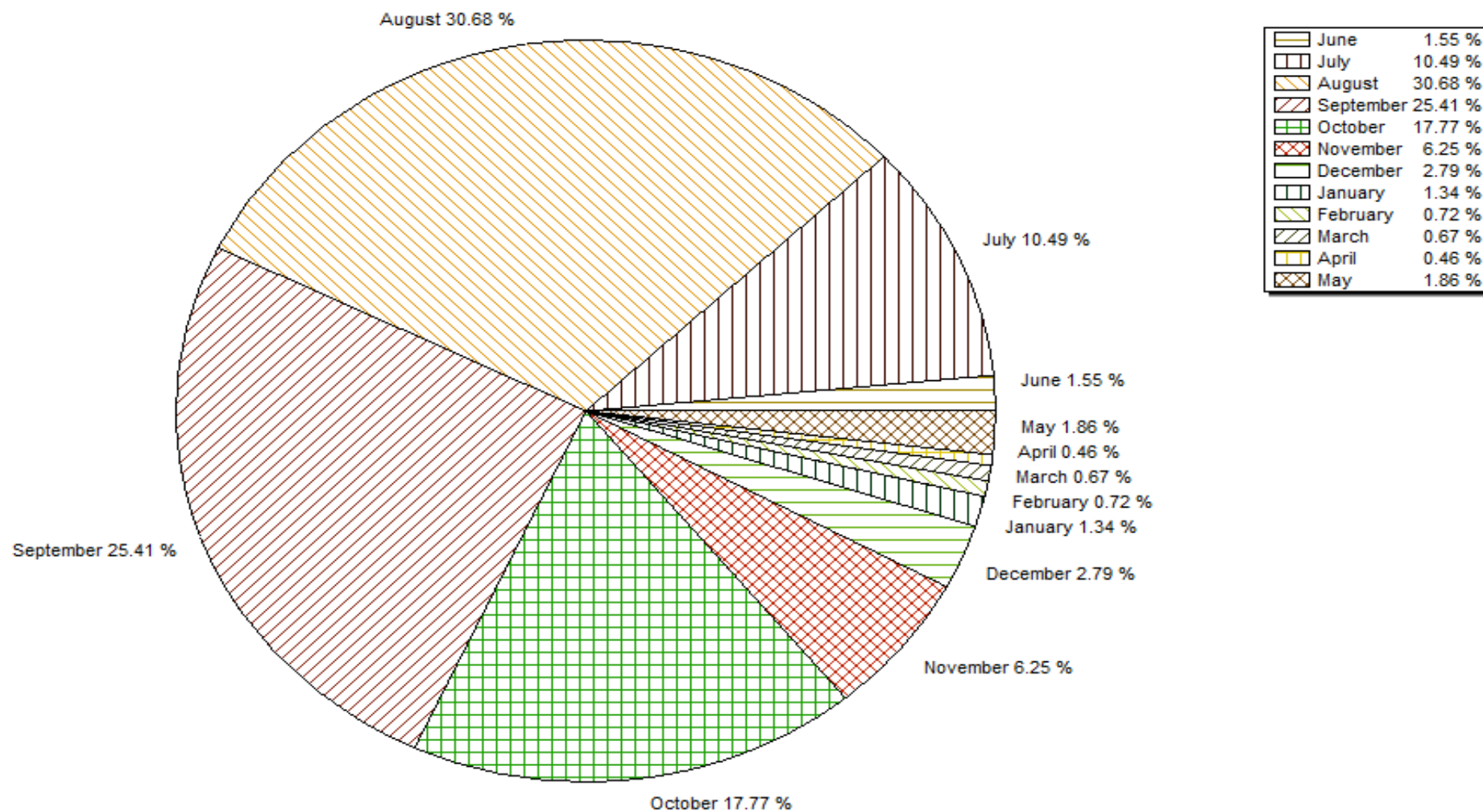
Monthly Average Runoff based on period : 1965-2021

Station Name : Keesara (AKA00B4)

Local River : Munneru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



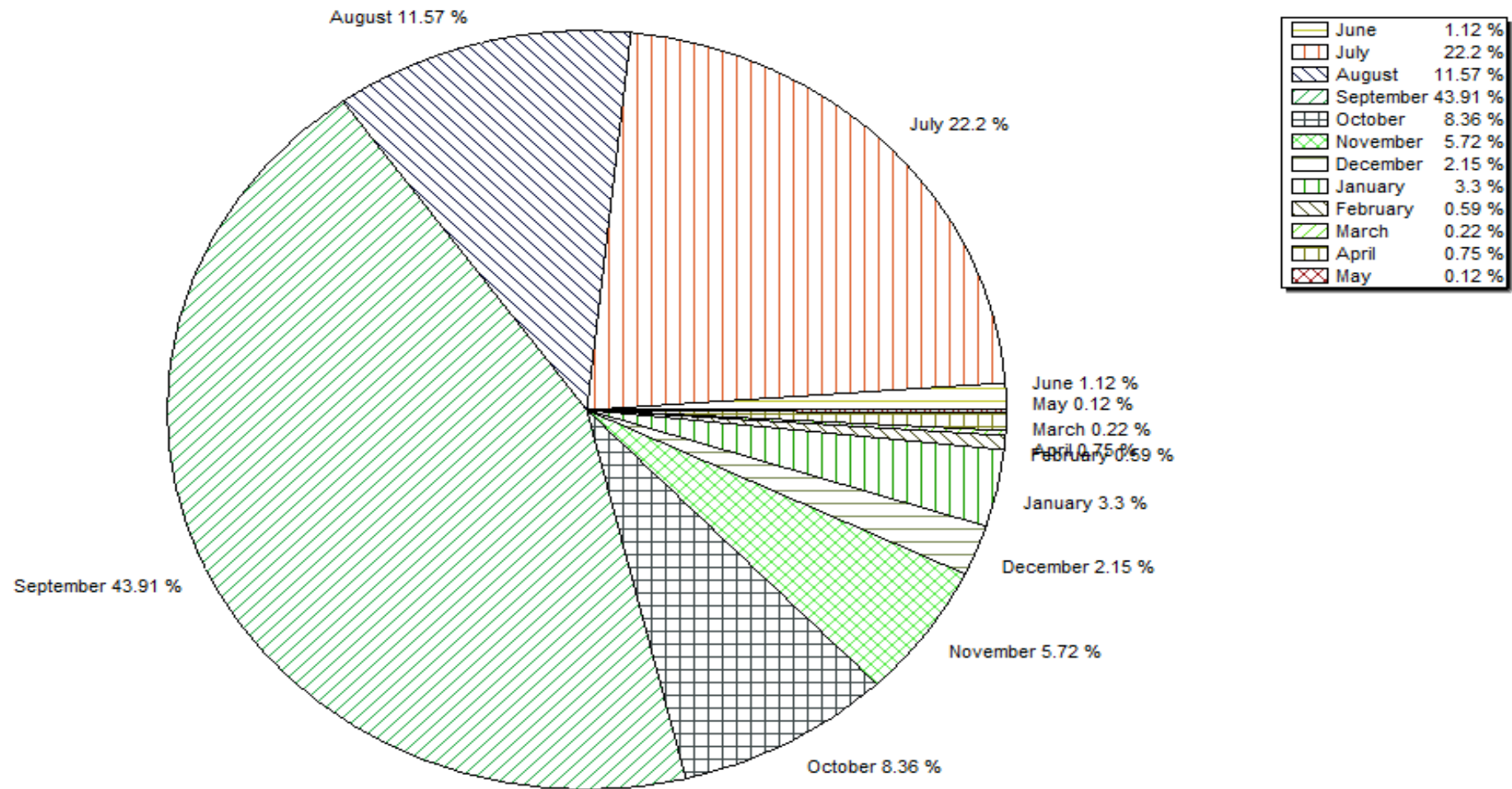
Monthly Runoff for the Year : 2021-2022

Station Name : Keesara (AKA00B4)

Local River : Munneru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



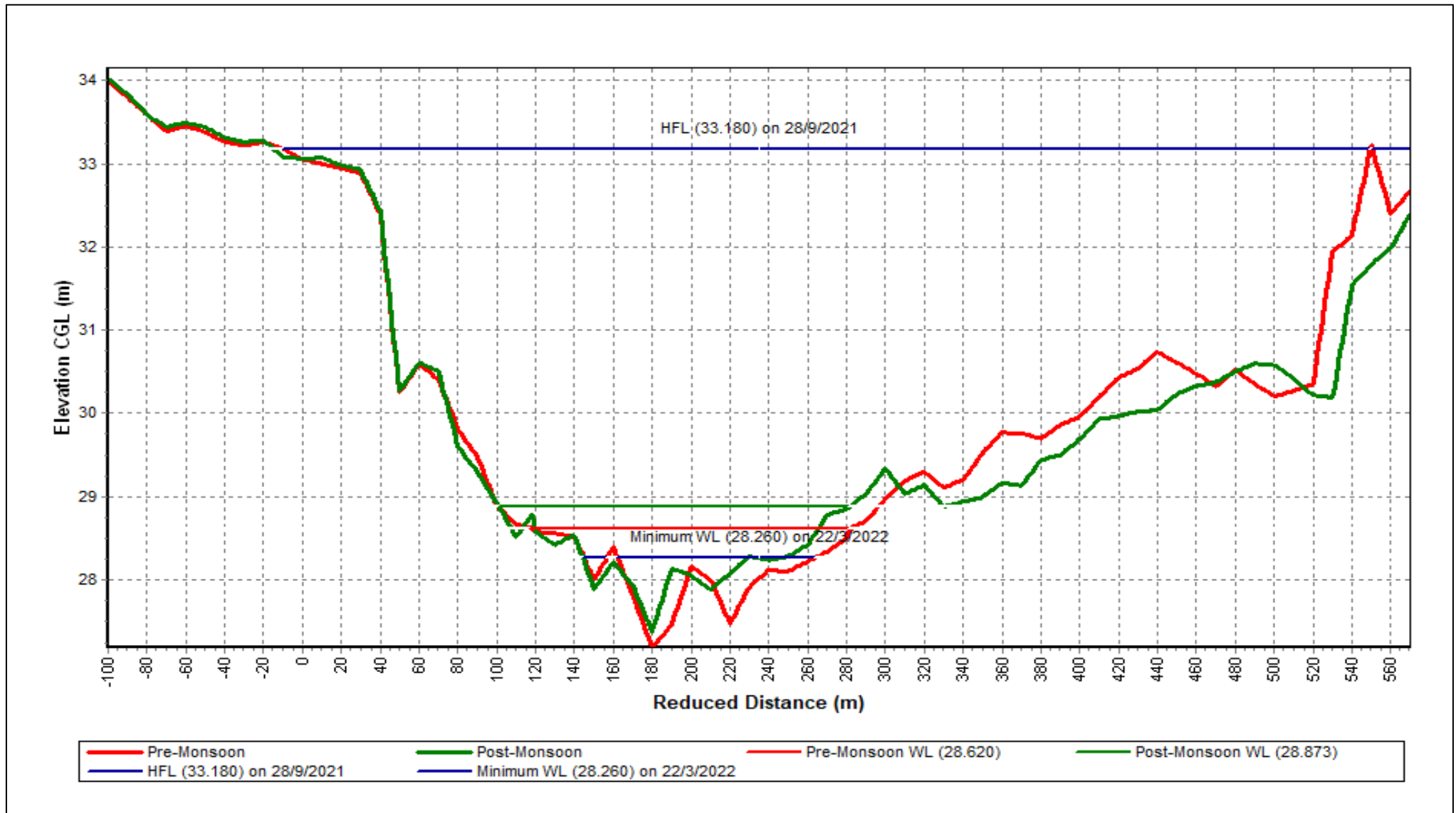
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : Keesara (AKA00B4)

Local River : Munneru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



Zero of the Gauge: 27.5 (m.s.l)

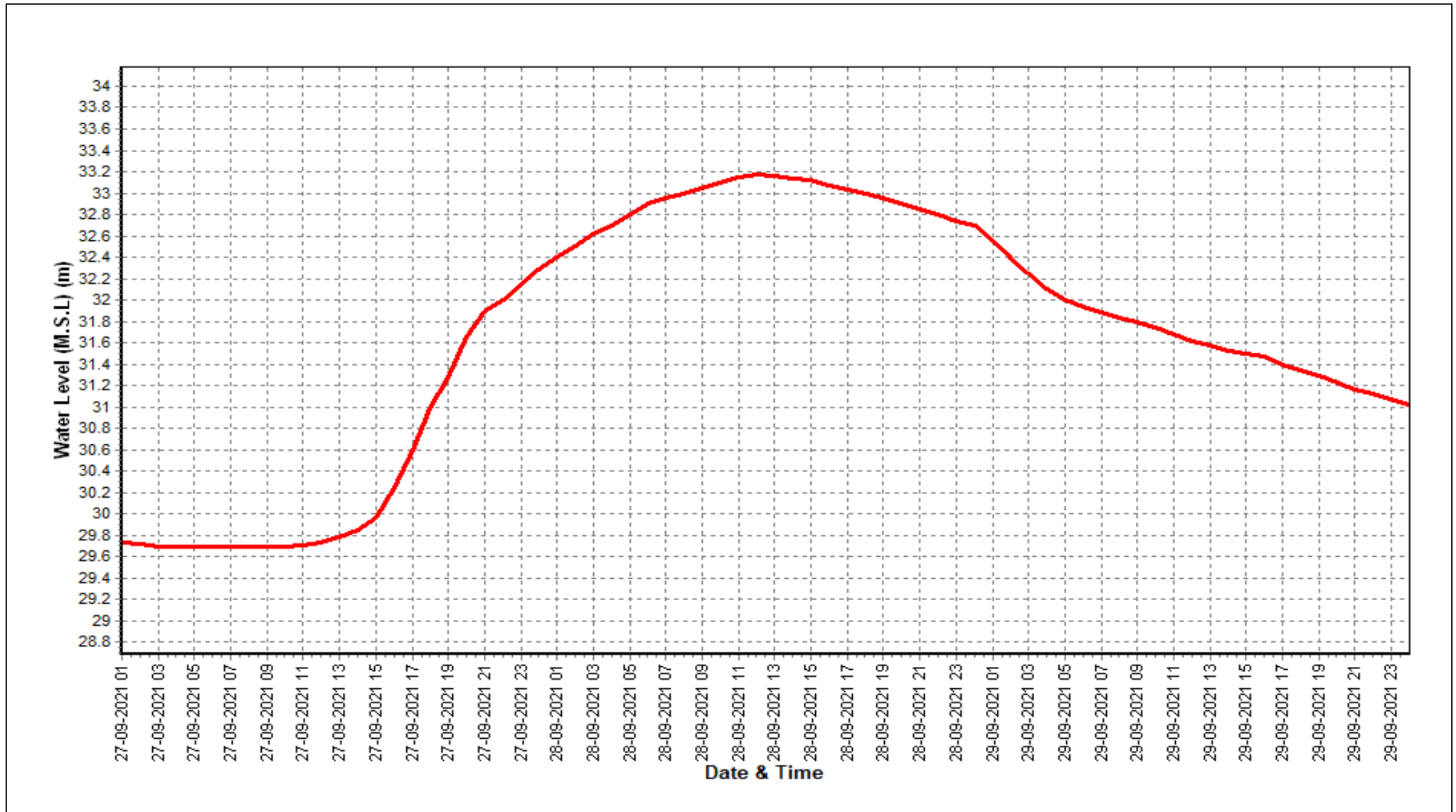
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Keesara (AKA00B4)

Local River : Munneru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



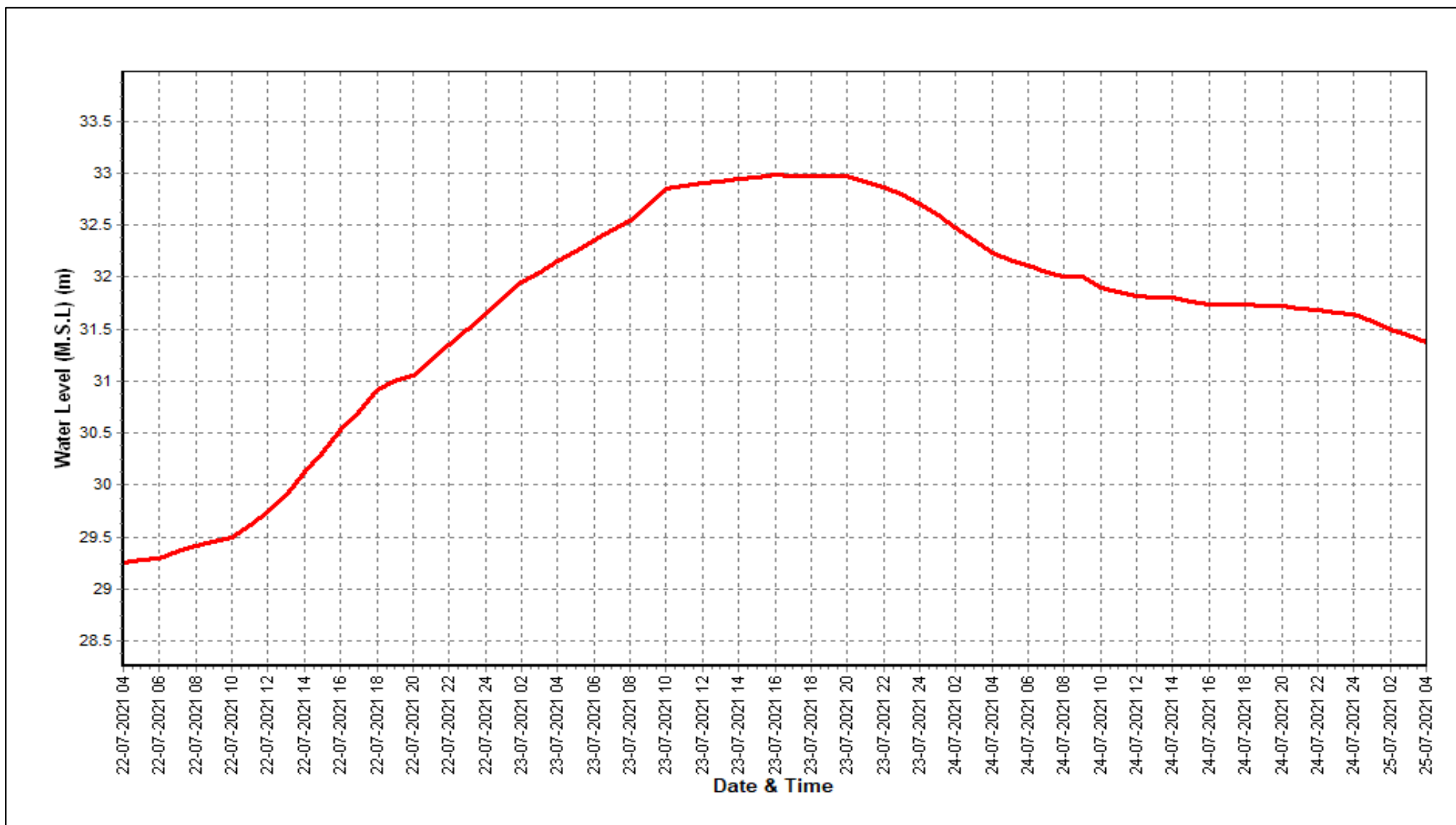
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Keesara (AKA00B4)

Local River : Munneru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



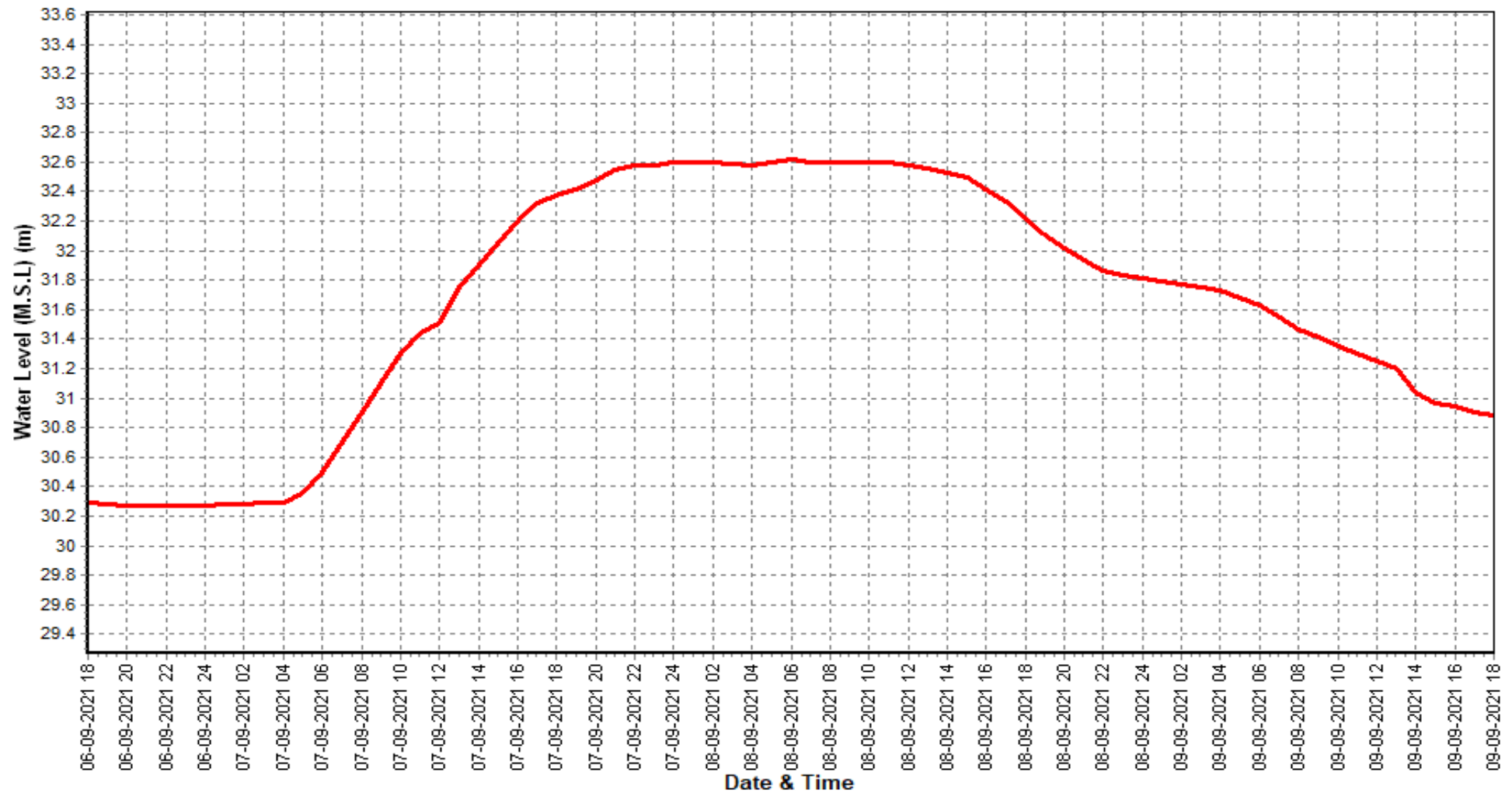
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Keesara (AKA00B4)

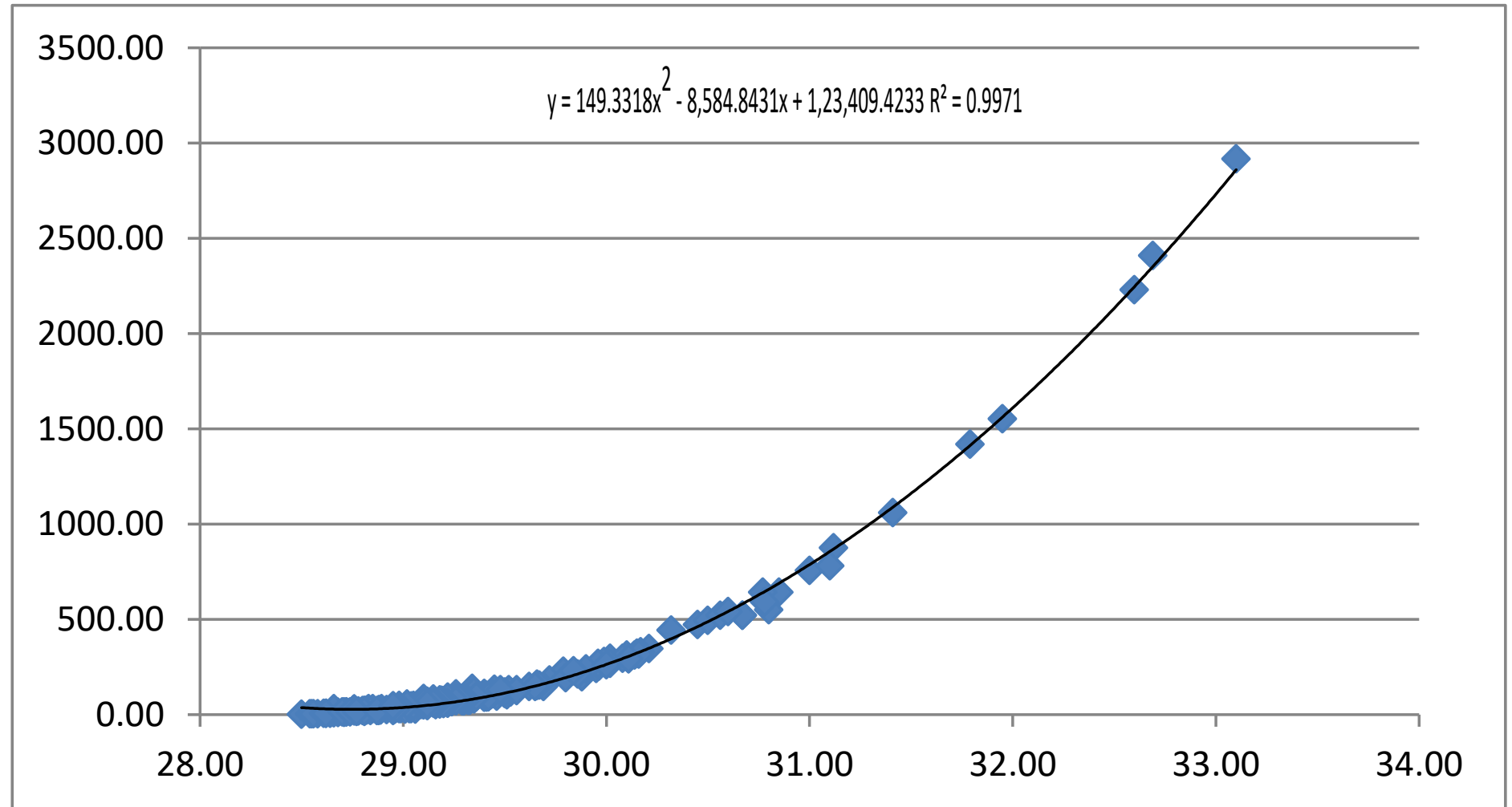
Local River : Munneru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



Keesara 2021-22



HISTORY SHEET

Water Year : 2021-2022

Site : Vijayawada

Code : AK000B9

State : Andhra Pradesh

District : Krishna

Basin : Krishna

Independent River : Krishna

Tributary : -

Sub Tributary : -

Sub-Sub Tributary : -

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada

Drainage Area : 251360 Sq. Km.

Bank : Left

Latitude : 16°30'04"

Longitude : 80°37'30"

Zero of Gauge (m) : 8.69 (m.s.l)
8.152 (m.s.l)
8.152 (m.s.l)01-01-1964 - 31-08-1964
01-09-1964 - 31-12-1999
01-01-2000 -

Opening Date

Closing Date

Gauge : 21-03-1964

HFL During 2021-22 : 15.952 m

Corres. Discharge : 10103(Estimated)

Discharge : 24-03-1964

Date & Time of
occurrence : 06-08-2021
: 14.00 hrs.

Sediment : 01-02-1965

Water Quality : 01-01-1972

HFL Recorded so far in m : 19.332 dt 05-10-2009

Corresponding Discharge (cumecs) : 25663 *

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1965-1966	14925	17.392	06-08-1965	2.100	9.182	20-12-1965
1966-1967	14600	16.822	06-08-1966	0.000	8.997	28-05-1967
1967-1968	18215	18.192	07-08-1967	0.000	9.047	16-07-1967
1968-1969	12006	16.932	21-05-1969	2.509	8.997	13-04-1969
1969-1970	17346	17.552	08-08-1969	1.868	9.092	05-05-1970
1970-1971	17193	17.592	23-09-1970	2.930	9.032	16-04-1971
1971-1972	6915	15.132	08-09-1971	3.969	8.842	21-05-1972
1972-1973	3451	13.777	18-07-1972	1.700	8.812	27-04-1973
1973-1974	7795	15.302	30-10-1973	2.400	9.022	07-05-1974
1974-1975	13307	17.092	30-09-1974	5.045	9.122	21-02-1975
1975-1976	18513	18.182	13-10-1975	5.100	9.312	23-04-1976
1976-1977	14218	17.102	11-08-1976	2.470	9.052	29-03-1977
1977-1978	6793	15.122	02-08-1977	8.046	9.182	23-04-1978
1978-1979	17024	17.742	16-08-1978	2.954	9.012	21-05-1979
1979-1980	17015	17.572	30-09-1979	15.37	9.192	06-04-1980
1980-1981	13473	16.777	15-07-1980	3.489	8.982	18-02-1981
1981-1982	11661	16.442	27-09-1981	10.94	8.932	21-06-1981

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1982-1983	6388	14.847	24-08-1982	22.70	9.032	30-06-1982
1983-1984	18712	18.217	07-10-1983	9.200	8.842	20-07-1983
1984-1985	3082	13.392	21-08-1984	15.50	9.222	10-07-1984
1985-1986	2799	12.992	14-08-1985	7.900	8.872	15-02-1986
1986-1987	10144	16.237	13-08-1986	3.306	8.692	17-05-1987
1987-1988	2345	12.802	15-11-1987	6.161	8.802	15-10-1987
1988-1989	12071	16.782	01-10-1988	6.370	8.932	12-07-1988
1989-1990	15619	17.302	24-07-1989	13.95	9.052	07-07-1989
1990-1991	12239	16.502	23-08-1990	21.62	9.022	30-06-1990
1991-1992	11306	16.551	06-08-1991	27.70	8.954	07-07-1991
1992-1993	4072	13.679	12-09-1992	18.68	8.852	29-07-1992
1993-1994	8724	15.386	22-10-1993	26.56	8.832	28-07-1993
1994-1995	12366	16.572	24-07-1994	21.91	8.782	29-06-1994
1995-1996	3764	13.057	21-10-1995	9.194	8.592	02-04-1996
1996-1997	12323	16.992	04-10-1996	28.49	8.802	05-08-1996
1997-1998	13120	16.652	31-08-1997	13.45	8.542	22-07-1997
1998-1999	24082	18.947	16-10-1998	13.89	9.412	15-12-1998
1999-2000	5864	14.602	15-08-1999	11.31	8.932	29-01-2000
2000-2001	8135	15.537	24-08-2000	5.482	8.852	20-01-2001
2001-2002	4486	13.677	01-10-2001	4.424	8.772	24-07-2001
2002-2003	165.2	9.622	09-06-2002	2.989	8.772	25-03-2003
2003-2004	577.9	10.902	09-08-2003	0.176	8.852	29-05-2004
2004-2005	1481	12.122	07-10-2004	0.000	8.832	01-08-2004
2005-2006	17512	17.937	21-09-2005	0.000	9.432	08-04-2006
2006-2007	14636	16.772	17-08-2006	0.000	9.702	17-02-2007
2007-2008	14590	16.852	21-09-2007	0.431	9.392	24-05-2008
2008-2009	10580	16.302	11-08-2008	29.00	9.252	24-05-2009
2009-2010	25319	19.272	06-10-2009	23.72	9.132	16-08-2009
2010-2011	6954	14.662	06-09-2010	0.000	9.332	13-01-2011
2011-2012	11812	16.047	10-09-2011	0.000	9.332	28-12-2011
2012-2013	3182	13.172	05-09-2012	0.000	8.922	27-11-2012
2013-2014	10899	16.202	27-10-2013	0.000	9.152	03-01-2014
2014-2015	2456	12.702	19-09-2014	0.000	8.882	24-12-2014
2015-2016	1596	12.032	22-06-2015	0.000	8.762	21-01-2016
2016-2017	3596	13.102	23-09-2016	0.000	8.862	04-12-2016
2017-2018	134	9.712	20-07-2017	0.000	8.732	09-12-2017
2018-2019	4174	13.930	21-08-2018	0.000	8.842	26-01-2019
2019-2020	21641	18.832	17-08-2019	0.000	9.502	01-02-2020
2020-2021	20408	18.362	15-10-2020	0.000	9.272	26-03-2021

Annual Runoff of Krishna at Vijayawada

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1964-1965		241	241		9	9
2	1965-1966	34371	996	35367	1215	35	1250
3	1966-1967	23657	4263	27921	836	151	987
4	1967-1968	29502	1751	31253	1042	62	1104
5	1968-1969	20893	2394	23287	738	85	823
6	1969-1970	40870	1112	41982	1444	39	1483
7	1970-1971	43671	291	43961	1543	10	1553
8	1971-1972	27022	215	27237	955	8	962
9	1972-1973	5275	126	5402	186	4	191
10	1973-1974	32848	185	33032	1161	7	1167
11	1974-1975	27890	372	28261	986	13	999
12	1975-1976	67697	2465	70162	2392	87	2479
13	1976-1977	29842	168	30011	1054	6	1060
14	1977-1978	18708	671	19379	661	24	685
15	1978-1979	48367	3700	52067	1709	131	1840
16	1979-1980	23533	2456	25988	832	87	918
17	1980-1981	30328	611	30939	1072	22	1093
18	1981-1982	33214	2622	35835	1174	93	1266
19	1982-1983	11347	2977	14324	401	105	506
20	1983-1984	37358	1916	39274	1320	68	1388
21	1984-1985	6682	3567	10250	236	126	362
22	1985-1986	4015	1451	5466	142	51	193
23	1986-1987	4084	901	4985	144	32	176
24	1987-1988	2252	2059	4311	80	73	152
25	1988-1989	30904	2606	33509	1092	92	1184
26	1989-1990	17451	3846	21297	617	136	753
27	1990-1991	22946	6098	29044	811	215	1026
28	1991-1992	27530	5139	32669	973	182	1154
29	1992-1993	5008	4607	9614	177	163	340
30	1993-1994	12336	7159	19495	436	253	689
31	1994-1995	34061	5071	39131	1204	179	1383
32	1995-1996	4794	1537	6332	169	54	224
33	1996-1997	15169	3923	19092	536	139	675
34	1997-1998	14697	1986	16683	519	70	590
35	1998-1999	30908	2785	33692	1092	98	1191
36	1999-2000	8430	1929	10360	298	68	366
37	2000-2001	5932	1259	7191	210	44	254
38	2001-2002	2116	1087	3203	75	38	113
39	2002-2003	311	63	374	11	2	13
40	2003-2004	245	88	333	9	3	12
41	2004-2005	628	31	658	22	1	23
42	2005-2006	35590	443	36034	1258	16	1273
43	2006-2007	26740	1	26741	945	0	945
44	2007-2008	25721	541	26262	909	19	928
45	2008-2009	9064	693	9757	320	25	345
46	2009-2010	13169	1341	14510	465	47	513
47	2010-2011	12525	1299	13825	443	46	488

48	2011-2012	7306	0	7306	258	0	258
49	2012-2013	1715	0	1715	61	0	61
50	2013-2014	11207	55	11262	396	2	398
51	2014-2015	2373	0	2373	84	0	84
52	2015-2016	237	0	237	8	0	8
53	2016-2017	1439	0	1439	51	0	51
54	2017-2018	12	0	12	0	0	0
55	2018-2019	1000	16	1016	35	1	36
56	2019-2020	20336	0	20336	719	0	719
57	2020-2021	37046	57	37102	1309	2	1311
58	2021-2022	15063	27	15091	532	1	533
Average		18551	1572	19804	656	56	700

Instantaneous Flood Peak of Krishna at Vijayawada

		Instantaneous Annual Flood Peak			
Sl. No.	Year	Peak WL (m) Recorded	Date	Time	Discharge * (Cumecs)
2	1965-1966	17.952	28-07-1965	03:00:00	18366 *
3	1966-1967	16.852	06-08-1966	05:00:00	13446 *
4	1967-1968	18.202	06-08-1967	21:00:00	19595 *
5	1968-1969	15.452	12-10-1968	13:00:00	8333 *
6	1969-1970	17.902	20-05-1969	18:00:00	18125 *
7	1970-1971	17.592	23-09-1970	08:00:00	16668 *
8	1971-1972	15.182	07-09-1971	21:00:00	7496 *
9	1972-1973	13.872	18-07-1972	05:00:00	4111 *
10	1973-1974	15.712	17-08-1973	03:00:00	9185 *
11	1974-1975	17.602	30-09-1974	07:00:00	16714 *
12	1975-1976	18.282	13-10-1975	15:00:00	19997 *
13	1976-1977	17.112	11-08-1976	13:00:00	14537 *
14	1977-1978	15.262	02-08-1977	17:00:00	7739 *
15	1978-1979	17.982	16-08-1978	20:00:00	18511 *
16	1979-1980	17.592	30-09-1979	21:00:00	16668 *
17	1980-1981	16.952	14-07-1980	15:00:00	13860 *
18	1981-1982	16.512	25-09-1981	01:00:00	12086 *
19	1982-1983	14.912	25-08-1982	02:00:00	6706 *
20	1983-1984	18.682	07-10-1983	02:00:00	22070 *
21	1984-1985	13.752	21-08-1984	21:00:00	3857 *
22	1985-1986	13.582	15-08-1985	01:00:00	3514 *
23	1986-1987	16.232	13-08-1986	13:00:00	11023 *
24	1987-1988	12.832	11-07-1987	10:00:00	2226 *
25	1988-1989	16.782	01-10-1988	03:00:00	13160 *
26	1989-1990	18.152	24-07-1989	18:00:00	19346 *
27	1990-1991	16.502	22-08-1990	20:00:00	12047 *
28	1991-1992	16.982	07-08-1991	08:00:00	13986 *
29	1992-1993	13.952	12-09-1992	12:00:00	4285 *
30	1993-1994	15.632	13-10-1993	00:00:00	8919 *
31	1994-1995	16.752	23-07-1994	23:00:00	13038 *
32	1995-1996	13.312	18-10-1995	06:00:00	3008 *
33	1996-1997	17.022	04-10-1996	12:00:00	14154 *
34	1997-1998	16.662	31-08-1997	13:00:00	12676 *
35	1998-1999	19.052	16-10-1998	22:00:00	24081 *
36	1999-2000	14.602	15-08-1999	06:00:00	5858 *
37	2000-2001	15.552	24-08-2000	08:00:00	8656 *
38	2001-2002	13.682	01-10-2001	13:00:00	3713 *
39	2002-2003	10.252	17-04-2002	13:00:00	620 *
40	2003-2004	11.292	08-08-2003	18:00:00	741 *
41	2004-2005	12.452	05-10-2004	23:00:00	1715 *
42	2005-2006	18.252	21-09-2005	15:00:00	19846 *
43	2006-2007	16.782	17-08-2006	05:00:00	13160 *
44	2007-2008	16.852	21-09-2007	01:00:00	13446 *
45	2008-2009	16.302	11-08-2008	08:00:00	11284 *
46	2009-2010	19.332	05-10-2009	23:00:00	25663 *

47	2010-2011	14.692	06-09-2010	12:00:00	6097 *
48	2011-2012	16.052	10-09-2011	09:00:00	10367 *
49	2012-2013	13.902	05-09-2012	00:00:00	4175 *
50	2013-2014	16.332	26-10-2013	19:00:00	11397 *
51	2014-2015	13.122	17-09-2014	18:00:00	2680 *
52	2015-2016	12.042	22-06-2015	10:00:00	1270 *
53	2016-2017	13.432	24-09-2016	17:00:00	3227 *
54	2017-2018	9.752	20-07-2017	06:00:00	814 *
55	2018-2019	14.002	21-08-2018	07:00:00	4396 *
56	2019-2020	18.912	17-08-2019	06:00:00	23310 *
57	2020-2021	18.682	17-10-2020	03:00:00	21991 *
58	2021-2022	15.952	06-08-2021	14:00:00	10103 *

Stage-Discharge Data for the period 2021 - 2022

Station Name : Vijayawada (AK000B9)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

Sub-Division : Lower Krishna SD2, Vijayawada

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	9.252	0.000	9.242	0.000	10.862	757.1 *	12.147	1970	12.422	2136	11.142	970.7
2	9.252	0.000	9.242	0.000	11.502	1309	12.427	2377	12.312	2360 *	11.527	1430
3	9.252	0.000	9.772	80.59	14.827	7098	12.192	2154	11.562	1423 *	11.792	1726
4	9.252	0.000	9.742	99.87 *	11.982	1703	12.227	2228	11.542	1398	11.152	1008 *
5	9.252	0.000	9.792	82.04	11.322	914.4	12.112	2087 *	11.362	1114	11.182	967.5
6	9.252	0.000	9.772	78.57	15.752	9663	11.277	1163	11.737	1736	10.972	950.1
7	9.252	0.000	9.672	68.27	14.037	5673	11.692	1593	11.582	1413	11.002	874.0 *
8	9.252	0.000	9.602	63.22	10.702	633.5 *	13.042	3148	11.552	1286	11.052	934.9
9	9.252	0.000	9.722	119.2	9.492	0.000	12.192	1959	11.502	1358 *	10.952	889.8
10	9.252	0.000	9.927	222.4	9.452	0.000	11.352	1202 *	11.422	1274 *	11.077	1022
11	9.252	0.000	10.142	225.2 *	10.347	431.0	10.752	671.0 *	11.267	1097	11.152	1114
12	9.252	0.000	9.482	0.000	9.827	125.3	10.502	494.1 *	13.202	3581	11.152	1052
13	9.252	0.000	9.522	0.000	9.732	76.18	10.052	278.3	12.852	3203	11.072	935.6 *
14	9.252	0.000	9.452	0.000	11.232	1188	10.297	402.6	11.752	1686	11.002	874.0 *
15	9.252	0.000	9.442	42.57	11.102	962.6 *	10.917	855.4	11.602	1467 *	10.852	852.3
16	9.252	0.000	9.842	155.3	11.467	1363	10.712	631.2	11.652	1575	10.302	478.9
17	9.252	0.000	9.677	49.24	11.772	1790	11.057	962.3	11.982	1919 *	10.052	326.0
18	9.252	0.000	9.512	57.80 *	12.302	2342	13.187	3281	11.177	1073	10.052	312.9
19	9.252	0.000	9.422	0.000	11.327	1148	11.212	1065 *	11.272	1123 *	9.982	211.1 *
20	9.252	0.000	10.262	288.8	10.392	424.7 *	10.582	639.0	11.697	1613 #	10.012	268.5
21	9.252	0.000	9.542	62.05 *	10.102	264.1	11.702	1662	11.147	959.3	9.882	170.0 *
22	9.252	0.000	9.852	170.6	10.752	671.0 *	11.762	1798	11.137	1008	9.932	187.2
23	9.242	0.000	11.712	1433	10.742	713.7	11.592	1334	11.002	819.5	9.682	95.75
24	9.242	0.000	13.202	3371	10.147	295.3	12.092	1867	10.732	655.9 *	9.672	90.04
25	9.242	0.000	12.342	2097 *	10.807	856.6	11.967	1739	10.942	743.4	9.602	73.74
26	9.242	0.000	11.372	948.8	11.182	954.3	11.872	1782 *	10.662	753.3	9.572	66.15
27	9.242	0.000	10.862	493.2	10.982	902.8	12.027	1868	10.682	706.7	9.552	48.18
28	9.242	0.000	10.527	401.4	11.217	1194	13.582	4369	11.232	1026	9.412	35.43 *
29	9.242	0.000	9.462	51.55	11.512	1369 *	13.627	4687	11.002	1056	9.352	25.35 *
30	9.242	0.000	9.452	50.43	11.597	1343	13.002	3057	11.327	1061	9.682	83.87
31			10.552	485.7	12.052	1758			11.352	1202 *		
Ten-Daily Mean												
I Ten-Daily	9.252	0.000	9.649	81.42	11.993	2775	12.066	1988	11.700	1550	11.185	1077
II Ten-Daily	9.252	0.000	9.675	81.88	10.950	985.2	10.927	928.0	11.846	1834	10.563	642.5
III Ten-Daily	9.244	0.000	10.807	869.5	11.008	938.2	12.323	2416	11.020	908.3	9.634	87.57
Monthly												
Min.	9.242	0.000	9.242	0.000	9.452	0.000	10.052	278.3	10.662	655.9	9.352	25.35
Max.	9.252	0.000	13.202	3371	15.752	9663	13.627	4687	13.202	3581	11.792	1726
Mean	9.249	0	10.068	361.2	11.307	1546	11.772	1777	11.505	1414	10.461	602.5

Annual Runoff in MCM = 15091 Annual Runoff in mm = 60

Peak Observed Discharge = 9663 cumecs on 06-08-2021 Corres. Water Level :15.752 m

Lowest Observed Discharge = 0.000 cumecs on 01-06-2021 Corres. Water Level :9.252001 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2021 - 2022

Station Name : Vijayawada (AK000B9)

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

Sub-Division : Lower Krishna SD2, Vijayawada

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	9.652	75.01	9.042	0.000	9.022	0.000	8.822	0.000	8.752	0.000	8.752	0.000
2	9.732	110.9	9.042	0.000	9.022	0.000	8.822	0.000	8.752	0.000	8.752	0.000
3	9.592	65.11	9.042	0.000	9.022	0.000	8.812	0.000	8.752	0.000	8.752	0.000
4	9.522	64.13	9.042	0.000	9.022	0.000	8.812	0.000	8.752	0.000	8.752	0.000
5	9.262	0.000	9.042	0.000	9.012	0.000	8.802	0.000	8.752	0.000	8.752	0.000
6	9.182	0.000	9.042	0.000	9.012	0.000	8.802	0.000	8.752	0.000	8.752	0.000
7	9.152	0.000	9.032	0.000	9.002	0.000	8.792	0.000	8.752	0.000	8.752	0.000
8	9.132	0.000	9.032	0.000	9.002	0.000	8.792	0.000	8.752	0.000	8.752	0.000
9	9.112	0.000	9.032	0.000	8.992	0.000	8.792	0.000	8.752	0.000	8.752	0.000
10	9.092	0.000	9.032	0.000	8.992	0.000	8.792	0.000	8.752	0.000	8.752	0.000
11	9.092	0.000	9.032	0.000	8.992	0.000	8.792	0.000	8.752	0.000	8.742	0.000
12	9.092	0.000	9.032	0.000	8.992	0.000	8.782	0.000	8.752	0.000	8.742	0.000
13	9.092	0.000	9.032	0.000	8.982	0.000	8.782	0.000	8.752	0.000	8.742	0.000
14	9.092	0.000	9.032	0.000	8.982	0.000	8.782	0.000	8.752	0.000	8.742	0.000
15	9.092	0.000	9.032	0.000	8.982	0.000	8.772	0.000	8.752	0.000	8.742	0.000
16	9.092	0.000	9.032	0.000	8.982	0.000	8.772	0.000	8.752	0.000	8.742	0.000
17	9.092	0.000	9.032	0.000	8.982	0.000	8.772	0.000	8.752	0.000	8.742	0.000
18	9.092	0.000	9.032	0.000	8.982	0.000	8.772	0.000	8.752	0.000	8.742	0.000
19	9.092	0.000	9.032	0.000	8.982	0.000	8.772	0.000	8.752	0.000	8.742	0.000
20	9.082	0.000	9.032	0.000	8.982	0.000	8.772	0.000	8.752	0.000	8.742	0.000
21	9.082	0.000	9.032	0.000	8.982	0.000	8.772	0.000	8.752	0.000	8.742	0.000
22	9.072	0.000	9.032	0.000	8.982	0.000	8.762	0.000	8.752	0.000	8.742	0.000
23	9.072	0.000	9.032	0.000	8.932	0.000	8.762	0.000	8.752	0.000	8.742	0.000
24	9.052	0.000	9.022	0.000	8.872	0.000	8.762	0.000	8.752	0.000	8.742	0.000
25	9.052	0.000	9.022	0.000	8.842	0.000	8.762	0.000	8.752	0.000	8.742	0.000
26	9.052	0.000	9.022	0.000	8.832	0.000	8.762	0.000	8.752	0.000	8.742	0.000
27	9.052	0.000	9.022	0.000	8.822	0.000	8.762	0.000	8.752	0.000	8.742	0.000
28	9.052	0.000	9.022	0.000	8.822	0.000	8.762	0.000	8.752	0.000	8.742	0.000
29	9.052	0.000	9.022	0.000			8.762	0.000	8.752	0.000	8.742	0.000
30	9.052	0.000	9.022	0.000			8.762	0.000	8.752	0.000	8.742	0.000
31	9.052	0.000	9.022	0.000			8.762	0.000			8.742	0.000
Ten-Daily Mean												
I Ten-Daily	9.343	31.51	9.038	0.000	9.010	0.000	8.804	0.000	8.752	0.000	8.752	0.000
II Ten-Daily	9.091	0.000	9.032	0.000	8.984	0.000	8.777	0.000	8.752	0.000	8.742	0.000
III Ten-Daily	9.058	0.000	9.025	0.000	8.886	0.000	8.763	0.000	8.752	0.000	8.742	0.000
Monthly												
Min.	9.052	0.000	9.022	0.000	8.822	0.000	8.762	0.000	8.752	0.000	8.742	0.000
Max.	9.732	110.9	9.042	0.000	9.022	0.000	8.822	0.000	8.752	0.000	8.752	0.000
Mean	9.161	10.16	9.031	0	8.965	0	8.781	0	8.752	0	8.745	0

Peak Computed Discharge = 2360 cumecs on 02-10-2021

Corres. Water Level :12.312 m

Lowest Computed Discharge = 25.35 cumecs on 29-11-2021

Corres. Water Level :9.352 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

#:Discarded Discharge (values changed as per rating curve)

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2021-2022

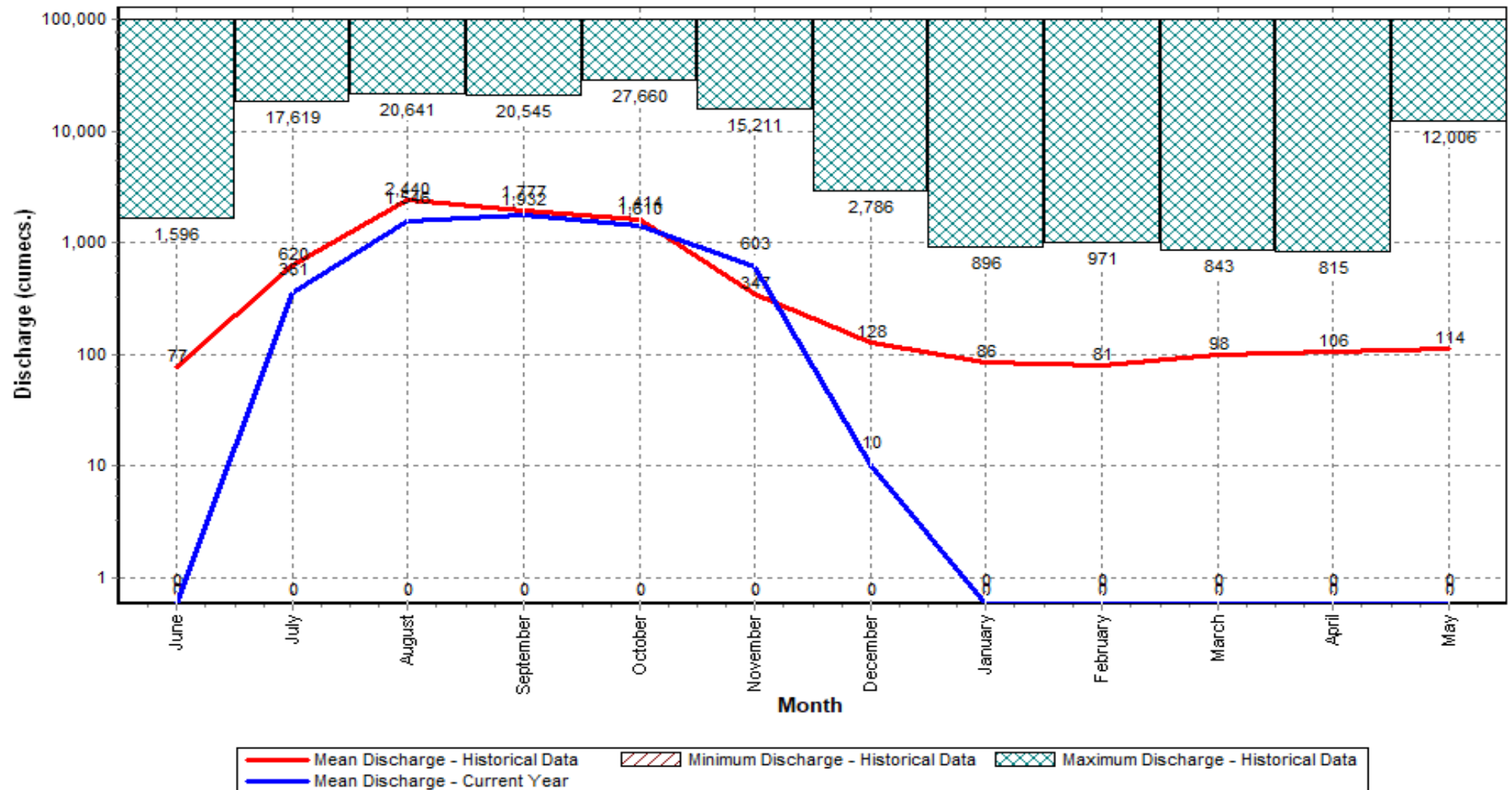
Station Name : Vijayawada (AK000B9)

Data considered : 1965-2022

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

Sub-Division : Lower Krishna SD2, Vijayawada



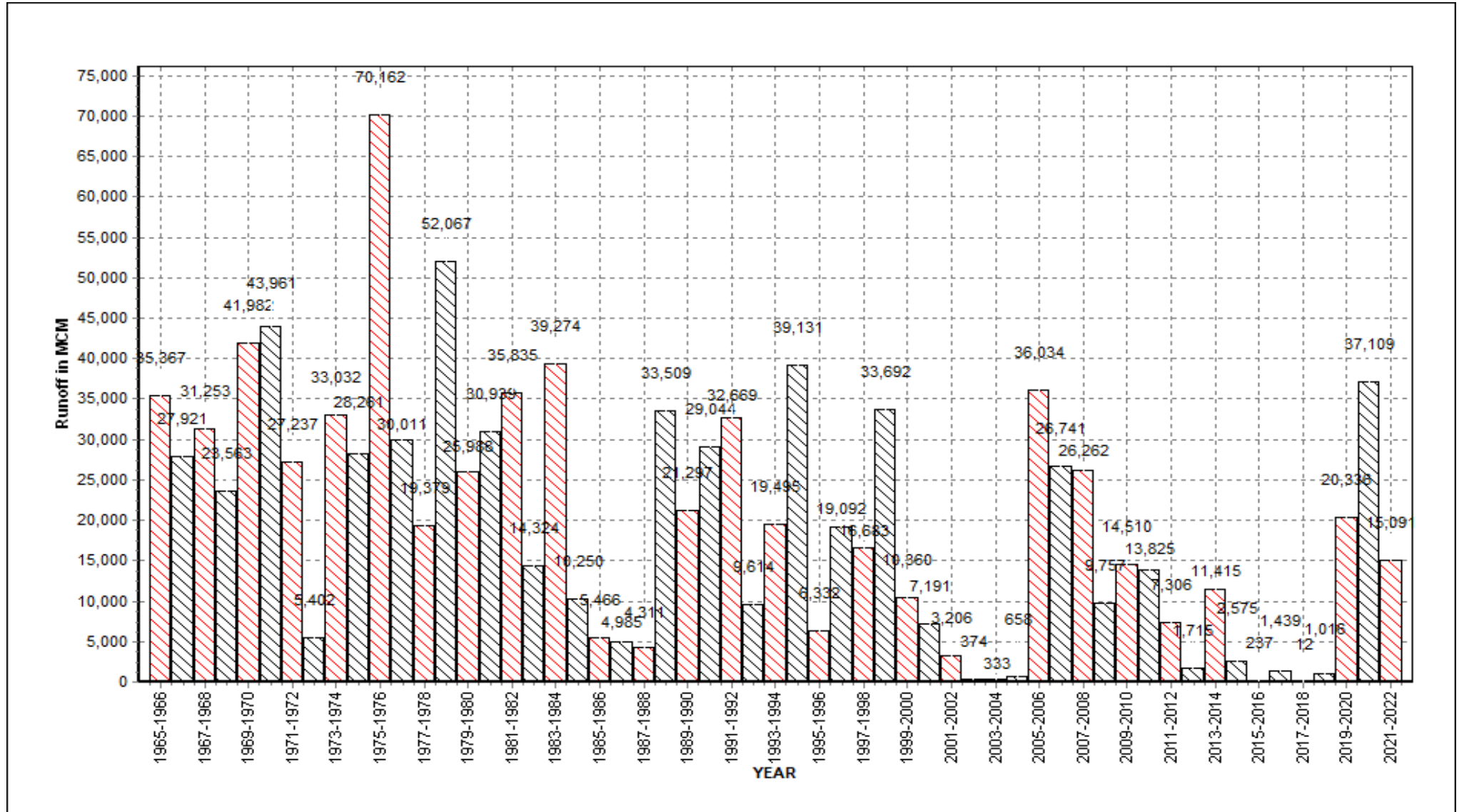
Annual Runoff Values for the period: 1965 - 2022

Station Name : Vijayawada (AK000B9)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



Note: Missing values have not been considered while arriving at Annual Runoff

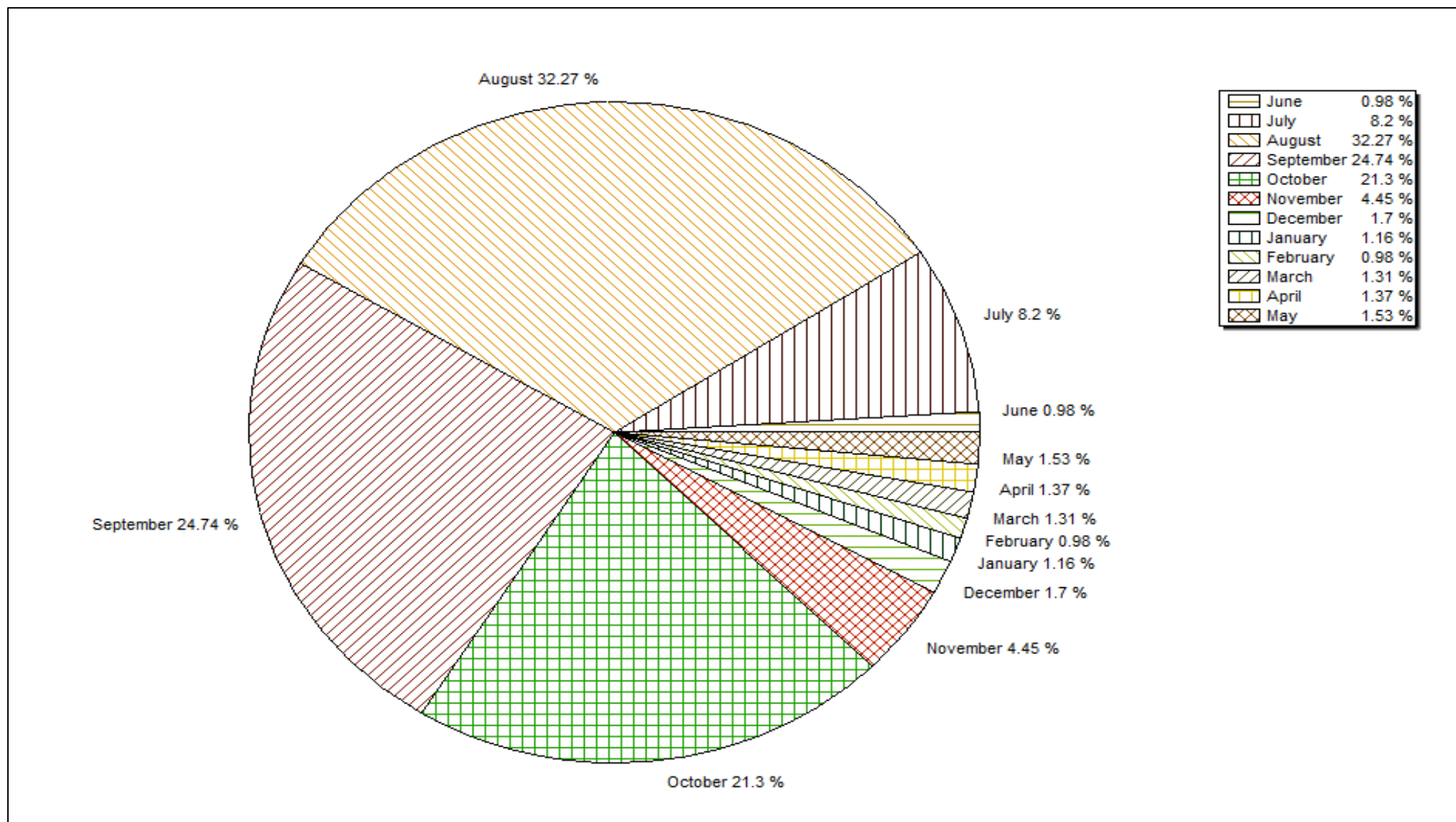
Monthly Average Runoff based on period : 1965-2021

Station Name : Vijayawada (AK000B9)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



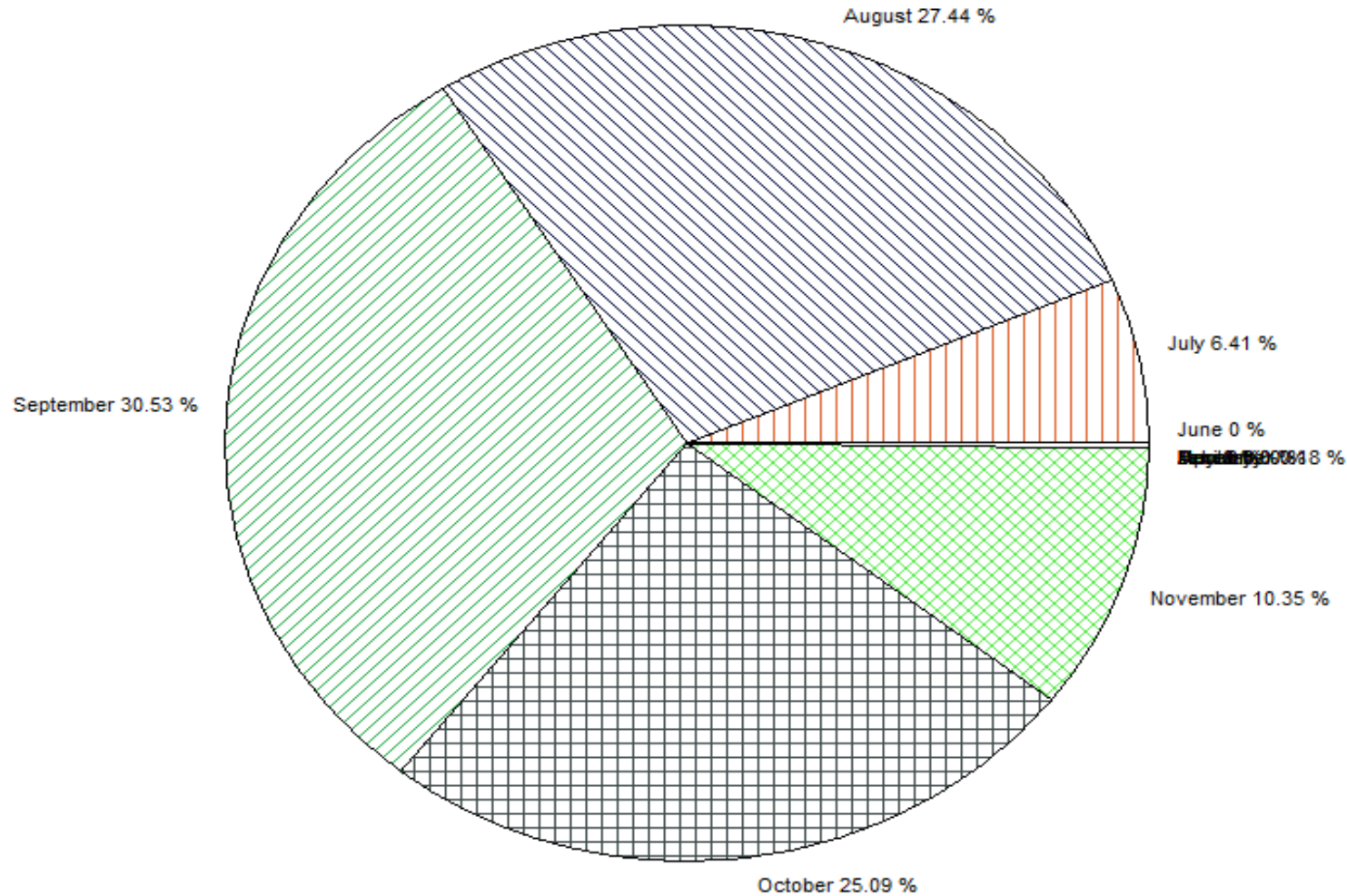
Monthly Runoff for the Year : 2021-2022

Station Name : Vijayawada (AK000B9)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



June	0 %
July	6.41 %
August	27.44 %
September	30.53 %
October	25.09 %
November	10.35 %
December	0.18 %
January	0 %
February	0 %
March	0 %
April	0 %
May	0 %

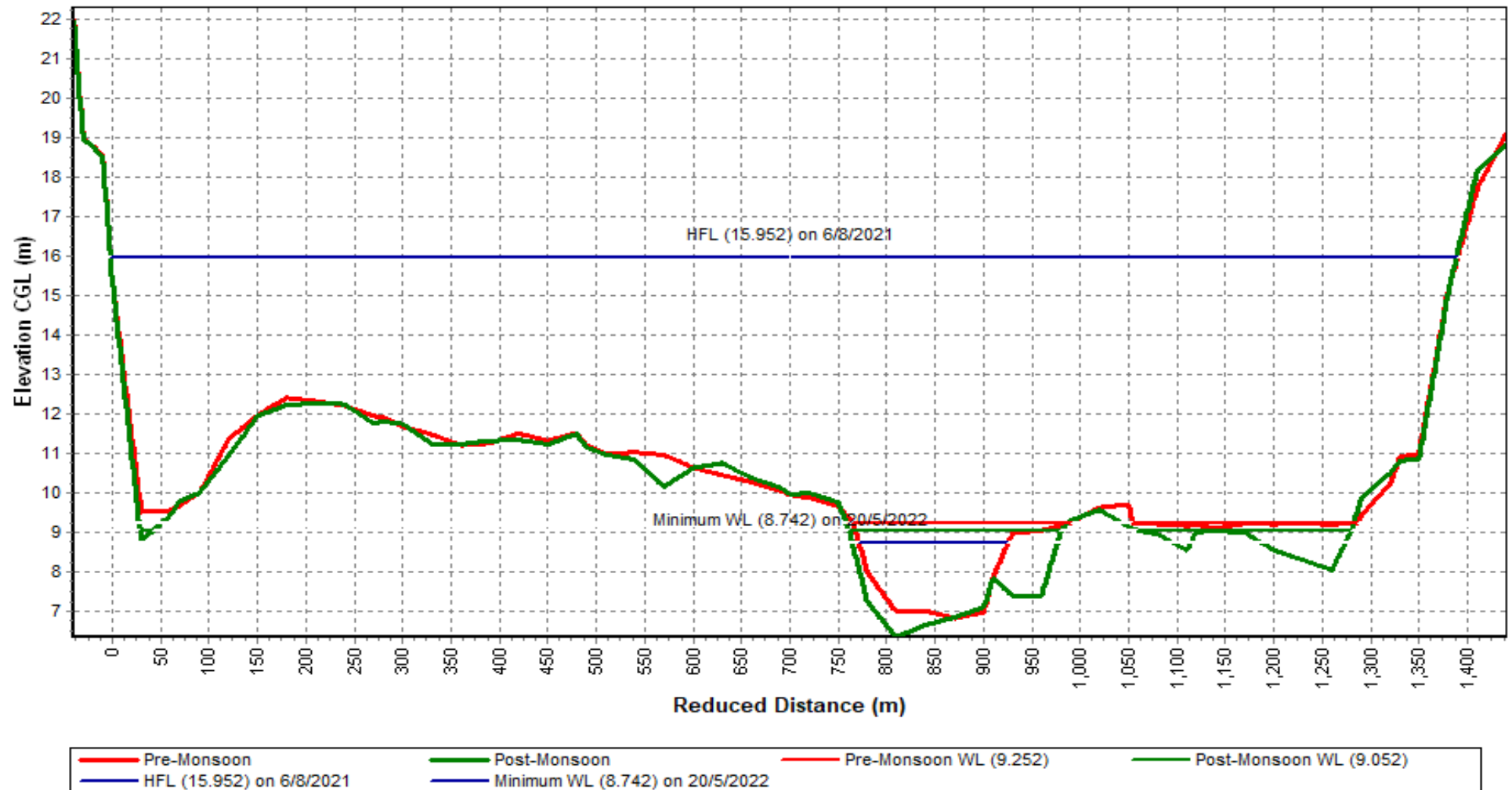
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2021-2022

Station Name : Vijayawada (AK000B9)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



Zero of the Gauge: 8.152 (m.s.l)

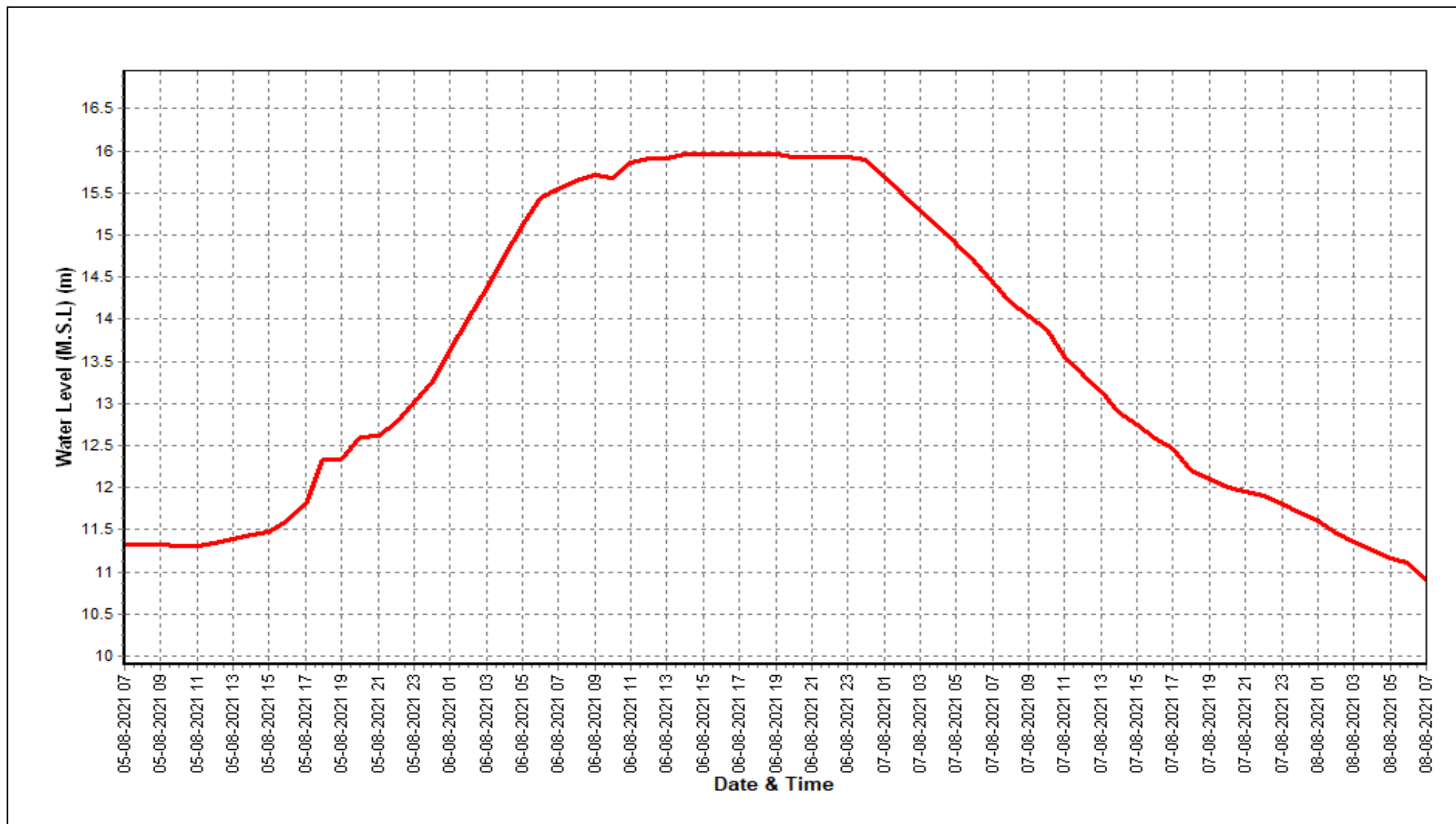
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2021-2022

Station Name : Vijayawada (AK000B9)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



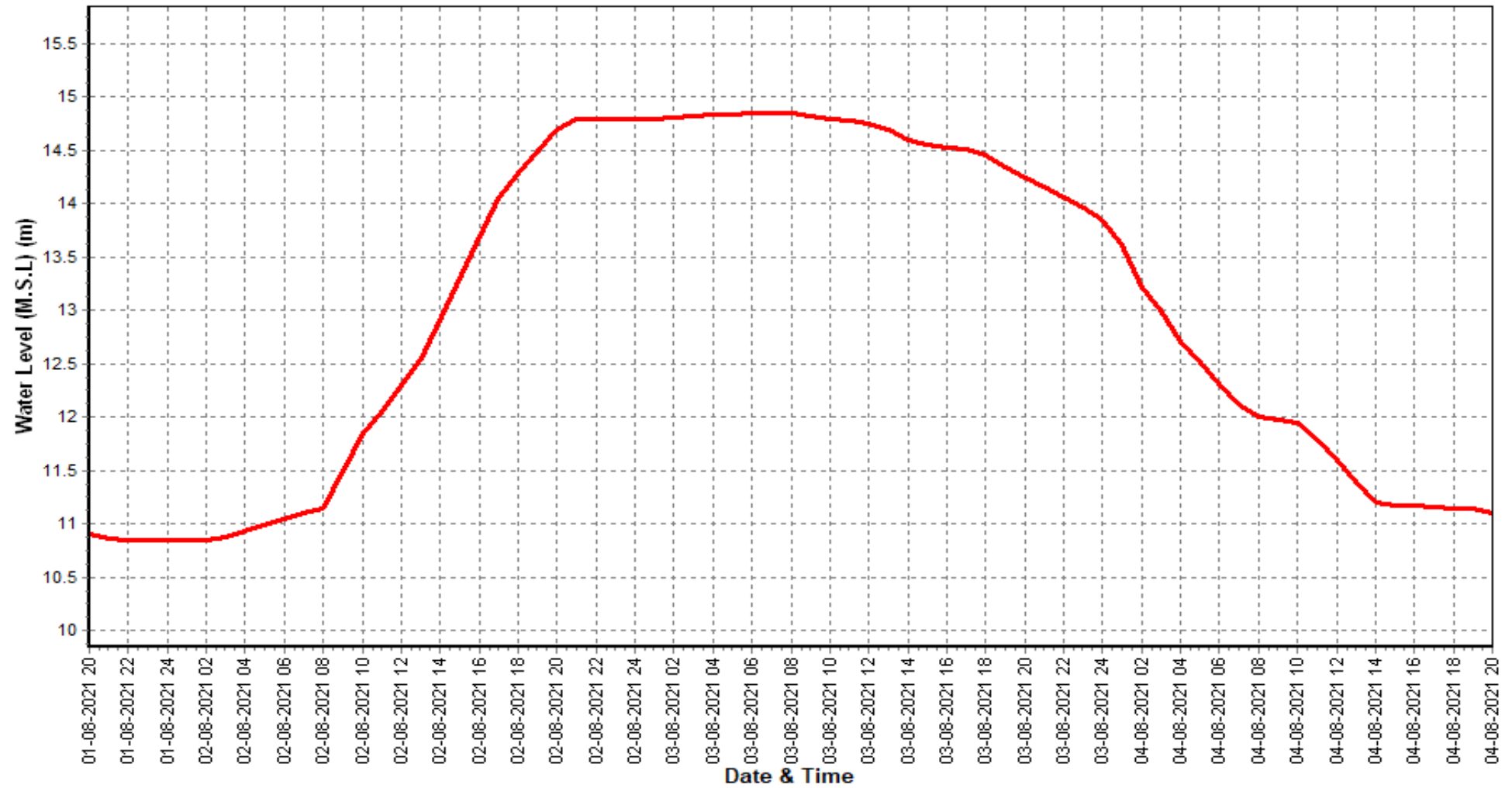
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2021-2022

Station Name : Vijayawada (AK000B9)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



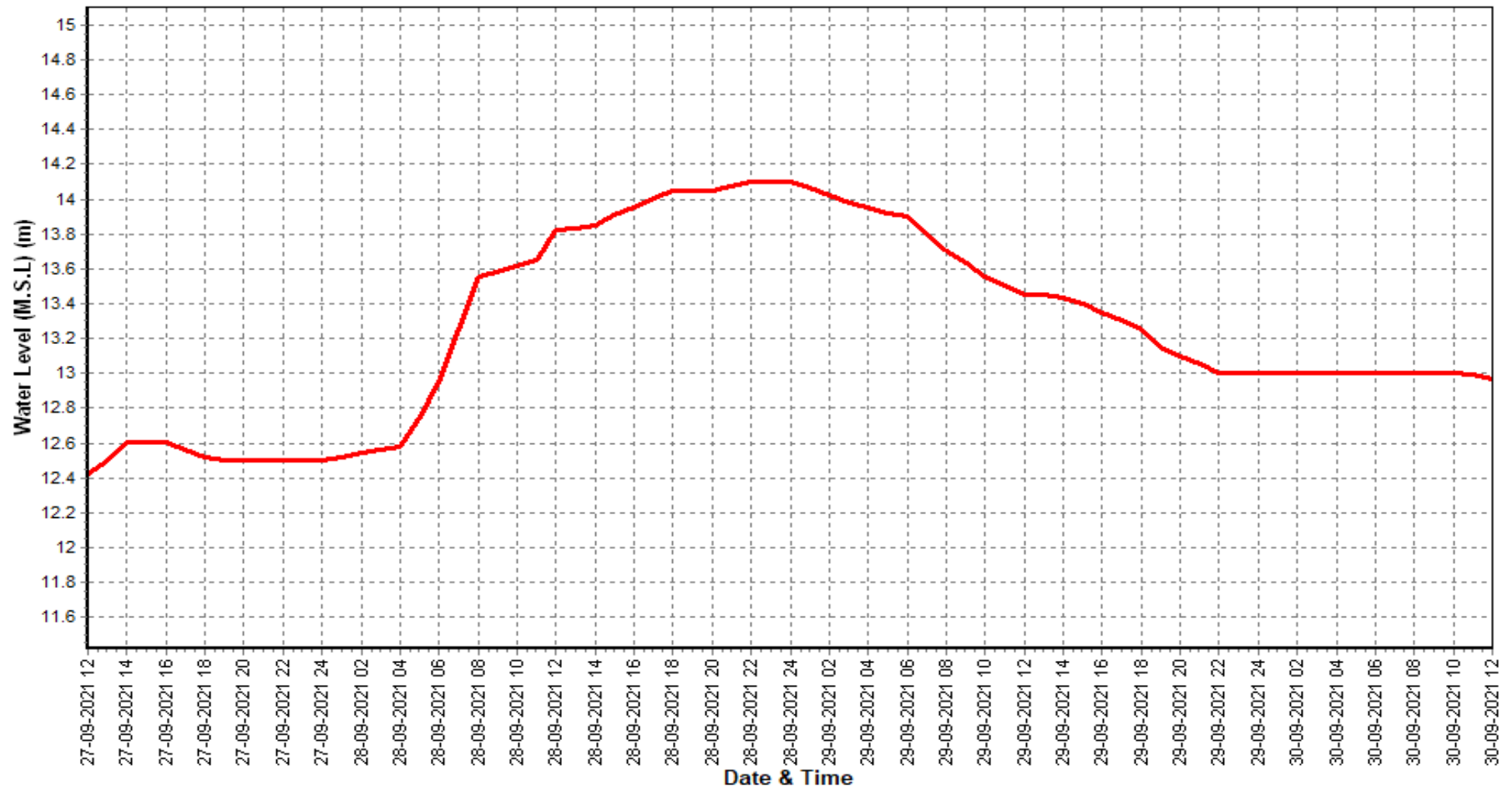
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2021-2022

Station Name : Vijayawada (AK000B9)

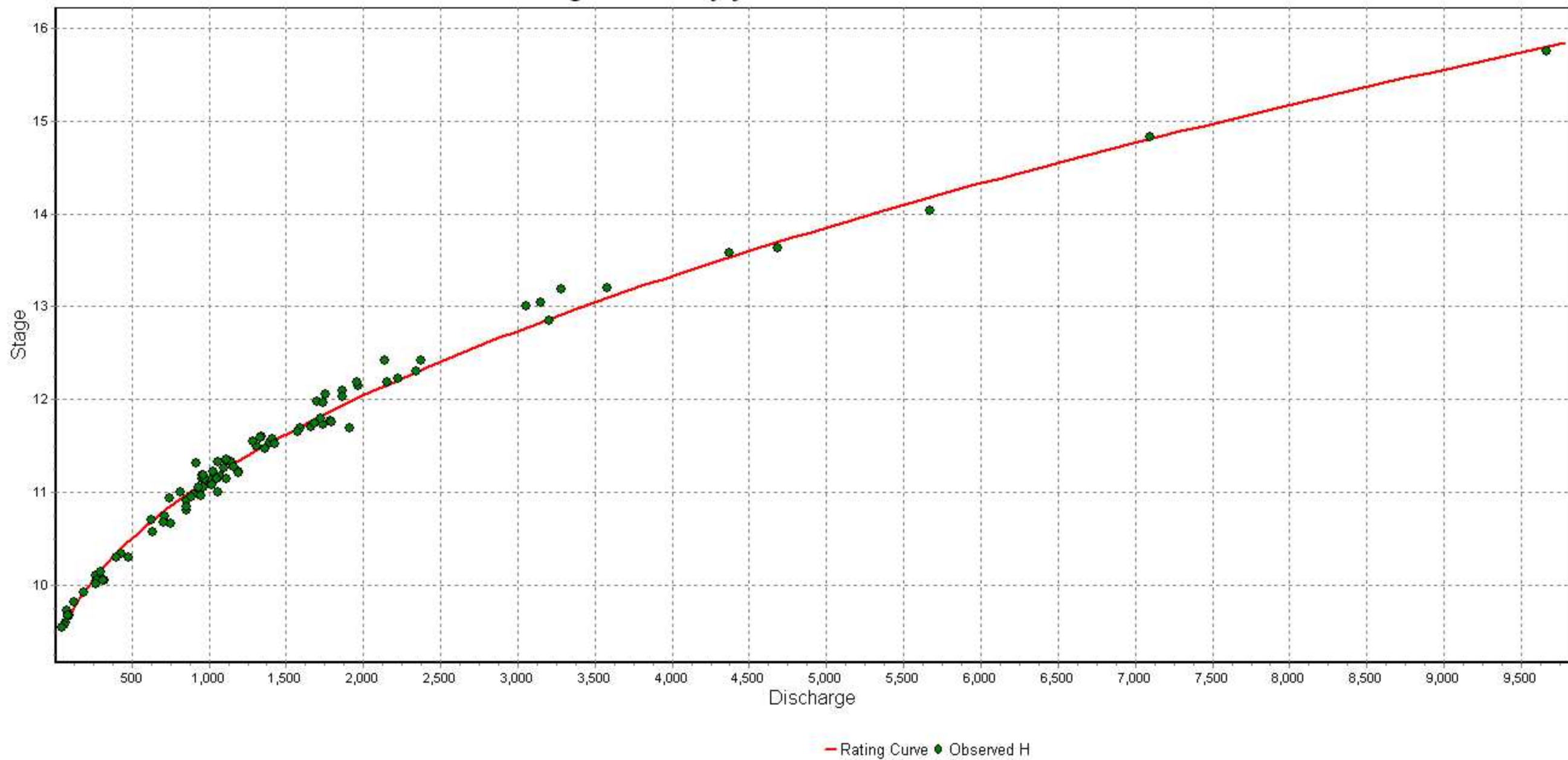
Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



Rating Curve of Vijayawada 1/8/2021 to 30/11/2021



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कृष्णा एवं समन्वय परिमंडल / KRISHNA & CO-ORDINATION CIRCLE
हैदराबाद / HYDERABAD

मार्च-2023
March-2023