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केन्द्रीय जल आयोग/ CENTRAL WATER COMMISSION



कृष्णा बेसीन / KRISHNA BASIN

वर्ष पुस्तिका (भाग - 1)

WATER YEAR BOOK (Vol. I)

निस्सारण वर्ष पुस्तिका/DISCHARGE YEAR BOOK

(जून-2018 - मई-2019)

(JUNE-2018 - MAY-2019)

कृष्णा एवं समन्वय परिमंडल / KRISHNA & CO-ORDINATION CIRCLE
हैदराबाद / HYDERABAD

अप्रैल-2020

April-2020

प्रस्तावना

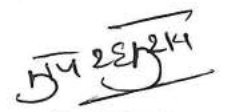
जल, सीमित संसाधन होने के कारण, विवेकपूर्णता से उपयोग करने के लिए उचित योजना अत्यधिक आवश्यक है। योजना के लिए, सांख्यिकता से मान्य आंकड़ा संग्रह प्राथमिक जरूरत है। भारत में सभी नदी क्षेत्रों में जल विज्ञान संबंधी प्रेक्षण स्टेशनों के अच्छे नेटवर्क के माध्यम से इस उद्देश्य को निभाने के लिए केंद्रीय जल आयोग 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 2018-19 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 2018-19 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 49 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 12 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. वेबसाइट 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 2018-19 को प्रकाशित करने में इस कार्यालय और विभिन्न मंडल कार्यालयों यथा ऊपरी कृष्णा मंडल, पुणे, निचली कृष्णा मंडल, हैदराबाद और कावेरी मंडल, बेंगलूरु के अधिकारियों और कर्मचारियों के प्रयासों को अभिस्वीकृत किया जाता है जिन के बिना यह खंड प्रकाशित करना संभव नहीं होता।

हैदराबाद
अप्रैल 2020


(एम रघुराम)
अधीक्षण अभियंता

PREFACE

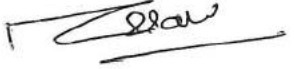
Water, being a limited resource needs to be judiciously utilized for which proper planning is very essential. In order to plan, a statistically valid data bank is a primary requirement. Central Water Commission endeavours to achieve this objective through a good network of Hydrological observation Stations 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 2018-19 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 2018-19 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 49 sites in the Krishna Basin, out of which 37 sites are under the jurisdiction of Krishna and Co-ordination Circle, Hyderabad and remaining 12 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 2018-19 are hereby acknowledged, without which, it would not have been possible to bring out this volume.

Hyderabad
April 2020


(M. RAGHURAM)
Superintending Engineer

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कृष्णा नदी क्षेत्र
दैनिक निर्वहन डेटा (खंड - I)
(जून 2018 - मई 2019)

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 $73^{\circ}21'$ से $81^{\circ}09'$ तक और उत्तरी अक्षांश $13^{\circ}07'$ से $19^{\circ}25'$ 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 मुन्नेरू 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	पेद्दवागु	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 2018-19 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 49 जल-विज्ञान अवलोकन केंद्रों में से 37, कृष्णा और समन्वय परिमंडल, हैदराबाद के नियंत्रण में हैं और 12 कावेरी मंडल, जल विज्ञानीय प्रेश्रण एवं समन्वय परिमंडल, (एच.वो. और सी.सी.), बेंगलुरू के अधीन हैं। कृष्णा और समन्वय परिमंडल के तहत, दो मंडल हैं, यथा ऊपरी कृष्णा मंडल, पुणे ने 17 अवलोकन केंद्रों को और निचली कृष्णा मंडल, हैदराबाद ने 20 अवलोकन केंद्रों को सम्भाले रखा है।

2018-19 के दौरान एकत्रित 49 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 49 साइटों का वर्ष 2018-19 के लिए जल स्तर और निर्वहन डेटा खंड -1 में प्रस्तुत किया गया है। निलंबित तलछट डेटा (27 साइट) और जल गुणवत्ता डेटा (33 साइट) वर्ष 2018-19 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 मैनुअल रूप से पढ़ कर जल स्तर माप किया जाता है। लंबवत चिह्नित छड़ी की श्रृंखला प्रत्येक साइट पर तीन लाइनों 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।

गहराई 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 है। 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।

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

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:

अ) दैनिक निर्वहन	(क्यूमेक्स में)
आ) दस दैनिक औसत निर्वहन	(क्यूमेक्स में)
इ) मासिक औसत निर्वहन	(क्यूमेक्स में)
ई) मासिक अधिकतम और न्यूनतम निर्वहन	(क्यूमेक्स में)
उ) वार्षिक रनऑफ	(मि. क्यूमेक्स और मिमी में)
ऊ) वार्षिक अपवाह	(एमसीएम से टीएमसी में)

KRISHNA BASIN DAILY DISCHARGE DATA (VOL - I) (JUNE 2018 – MAY 2019)

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 **2018-19** 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 49 Hydrological observation stations in the Krishna Basin, 37 are under the control of Krishna & Co-Ordination Circle, Hyderabad and 12 are under Hydrological observation & coordination circle Bangalore. Under the Krishna & Co-Ordination Circle, there are two divisions namely, Upper Krishna Division, (UKD) Pune maintaining 17 observation stations and Lower Krishna Division, (LKD) Hyderabad maintaining 20 observation stations.

The daily gauge and discharge data of 49 stations collected during 2018-19 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 2018-19 of all the 49 sites are presented in Volume-I. Suspended Sediment data (27 sites) and Water Quality data (33 Sites) are presented for the year 2018-19 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 data 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.

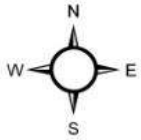
1.6 METHOD OF PRESENTATION

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)
f) Annual run-off	(in MCM to TMC)

72°0'0"E	74°0'0"E	76°0'0"E	78°0'0"E	80°0'0"E	82°0'0"E	84°0'0"E



HISTORY SHEET

Water Year : 2018-2019

Site : Vijayawada (Teriminal site
of River Krishna)

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
01/01/2000 - 31/12/2220

Opening Date

Closing Date

Gauge : 21/03/1964

HFL During 2018-19 : 14.002 m

Corres. Discharge : 4400 (Estimated)

Discharge : 24/03/1964

Date & Time of
occurance : 21/08/2018
: 07.00 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) : 28140 *

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	10950	16.822	06/08/1966	0.000	8.997	28/05/1967
1967-1968	15215	18.192	07/08/1967	0.000	9.047	16/07/1967
1968-1969	8806	16.932	21/05/1969	2.509	8.997	13/04/1969
1969-1970	14346	17.552	08/08/1969	1.868	9.092	05/05/1970
1970-1971	14193	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	18620	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

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	11661	16.442	27/09/1981	10.94	8.932	21/06/1981
1982-1983	6388	14.847	24/08/1982	22.70	9.032	30/06/1982
1983-1984	20712	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	17619	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	25082	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	20545	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	27660	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	134.0	9.712	20/07/2017	0.000	8.732	09/12/2017

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

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
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
Average		18241	1657	19566	645	59	691
75% Dependable flow (MCM)				5402			
90 % Dependable flow (MCM)				545			

Stage-Discharge Data for the period 2018 - 2019

Station Name : Vijayawada (AK00B9)

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	8.672	0.000	8.672	0.000	9.002	0.000	9.132	0.000	9.002	0.000	8.982	0.000
2	8.672	0.000	8.672	0.000	8.982	0.000	9.132	0.000	9.002	0.000	8.982	0.000
3	8.672	0.000	8.672	0.000	8.972	0.000	9.132	0.000	9.002	0.000	8.982	0.000
4	8.672	0.000	8.672	0.000	8.952	0.000	9.132	0.000	9.002	0.000	8.982	0.000
5	8.672	0.000	8.672	0.000	8.942	0.000	9.132	0.000	9.002	0.000	8.982	0.000
6	8.672	0.000	8.672	0.000	8.942	0.000	9.132	0.000	9.002	0.000	8.972	0.000
7	8.672	0.000	8.672	0.000	8.932	0.000	9.132	0.000	9.002	0.000	8.972	0.000
8	8.672	0.000	8.672	0.000	8.922	0.000	9.132	0.000	9.002	0.000	8.972	0.000
9	8.672	0.000	8.692	0.000	8.912	0.000	9.132	0.000	9.002	0.000	8.972	0.000
10	8.672	0.000	8.692	0.000	8.902	0.000	9.132	0.000	9.002	0.000	8.972	0.000
11	8.672	0.000	8.692	0.000	8.892	0.000	9.132	0.000	8.992	0.000	8.972	0.000
12	8.672	0.000	8.692	0.000	11.402	700.8	9.122	0.000	8.992	0.000	8.972	0.000
13	8.672	0.000	8.692	0.000	12.102	1391	9.122	0.000	8.992	0.000	8.972	0.000
14	8.672	0.000	9.687	26.16 #	11.665	856.9	9.122	0.000	8.992	0.000	8.972	0.000
15	8.672	0.000	10.027	77.82	10.752	254.5	9.112	0.000	8.992	0.000	8.972	0.000
16	8.672	0.000	10.097	83.20	10.327	80.74	9.112	0.000	8.992	0.000	8.972	0.000
17	8.672	0.000	10.497	89.90 #	10.102	43.40	9.112	0.000	8.992	0.000	8.972	0.000
18	8.672	0.000	9.952	62.12	9.617	26.20	9.152	0.000	8.992	0.000	8.972	0.000
19	8.672	0.000	9.622	22.06 #	9.837	41.56	9.902	61.10	8.992	0.000	8.972	0.000
20	8.672	0.000	9.472	17.56	12.377	1994	9.002	0.000	8.992	0.000	8.972	0.000
21	8.672	0.000	9.392	12.29	13.930	4174	9.002	0.000	8.992	0.000	8.972	0.000
22	8.672	0.000	9.302	8.500 *	11.952	1243	9.002	0.000	8.992	0.000	8.972	0.000
23	8.672	0.000	9.287	7.897	10.622	252.9	9.002	0.000	8.992	0.000	8.972	0.000
24	8.672	0.000	9.092	0.000	9.752	36.08	9.002	0.000	8.992	0.000	8.972	0.000
25	8.672	0.000	9.012	0.000	9.332	8.842	9.002	0.000	8.992	0.000	8.972	0.000
26	8.672	0.000	9.002	0.000	9.172	0.000	9.002	0.000	8.992	0.000	8.972	0.000
27	8.672	0.000	9.002	0.000	9.142	0.000	9.002	0.000	8.982	0.000	8.972	0.000
28	8.672	0.000	9.002	0.000	9.142	0.000	9.002	0.000	8.982	0.000	8.972	0.000
29	8.672	0.000	9.002	0.000	9.142	0.000	9.002	0.000	8.982	0.000	8.972	0.000
30	8.672	0.000	9.002	0.000	9.142	0.000	9.002	0.000	8.982	0.000	8.972	0.000
31			9.002	0.000	9.142	0.000			8.982	0.000		
Ten-Daily Mean												
I Ten-Daily	8.672	0.000	8.676	0.000	8.946	0.000	9.132	0.000	9.002	0.000	8.977	0.000
II Ten-Daily	8.672	0.000	9.543	37.88	10.707	538.9	9.189	6.110	8.992	0.000	8.972	0.000
III Ten-Daily	8.672	0.000	9.100	2.607	10.043	519.5	9.002	0.000	8.987	0.000	8.972	0.000
Monthly												
Min.	8.672	0.000	8.672	0.000	8.892	0.000	9.002	0.000	8.982	0.000	8.972	0.000
Max.	8.672	0.000	10.497	89.90	13.930	4174	9.902	61.10	9.002	0.000	8.982	0.000
Mean	8.672	0	9.106	13.15	9.903	358.2	9.108	2.037	8.994	0	8.974	0

Annual Runoff in MCM = 1016 Annual Runoff in mm = 4

Peak Observed Discharge = 4174 cumecs on 21/08/2018 Corres. Water Level :13.9295 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018 Corres. Water Level :8.672001 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 2018 - 2019

Station Name : Vijayawada (AK00B9)

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	8.972	0.000	8.982	0.000	8.842	0.000	8.832	0.000	8.822	0.000	8.812	0.000
2	8.972	0.000	8.982	0.000	8.842	0.000	8.832	0.000	8.812	0.000	8.802	0.000
3	8.972	0.000	8.982	0.000	8.842	0.000	8.822	0.000	8.812	0.000	8.802	0.000
4	8.962	0.000	8.982	0.000	8.842	0.000	8.822	0.000	8.812	0.000	8.802	0.000
5	8.962	0.000	8.962	0.000	8.842	0.000	8.822	0.000	8.812	0.000	8.802	0.000
6	8.962	0.000	8.962	0.000	8.842	0.000	8.822	0.000	8.812	0.000	8.802	0.000
7	8.962	0.000	8.962	0.000	8.842	0.000	8.822	0.000	8.812	0.000	8.802	0.000
8	8.962	0.000	8.962	0.000	8.842	0.000	8.822	0.000	8.812	0.000	8.802	0.000
9	8.962	0.000	8.932	0.000	8.832	0.000	8.822	0.000	8.812	0.000	8.802	0.000
10	8.962	0.000	8.932	0.000	8.832	0.000	8.822	0.000	8.812	0.000	8.802	0.000
11	8.962	0.000	8.932	0.000	8.832	0.000	8.822	0.000	8.812	0.000	8.802	0.000
12	8.962	0.000	8.932	0.000	8.832	0.000	8.822	0.000	8.812	0.000	8.802	0.000
13	8.962	0.000	8.932	0.000	8.832	0.000	8.822	0.000	8.812	0.000	8.802	0.000
14	8.962	0.000	8.932	0.000	8.832	0.000	8.822	0.000	8.812	0.000	8.802	0.000
15	8.962	0.000	8.932	0.000	8.832	0.000	8.822	0.000	8.812	0.000	8.802	0.000
16	8.962	0.000	8.932	0.000	8.832	0.000	8.822	0.000	8.812	0.000	8.802	0.000
17	8.982	0.000	8.912	0.000	8.832	0.000	8.822	0.000	8.812	0.000	8.802	0.000
18	9.242	0.000	8.892	0.000	8.832	0.000	8.822	0.000	8.812	0.000	8.802	0.000
19	10.102	178.4	8.852	0.000	8.832	0.000	8.822	0.000	8.812	0.000	8.802	0.000
20	9.442	7.576	8.852	0.000	8.832	0.000	8.822	0.000	8.812	0.000	8.802	0.000
21	9.267	2.780	8.852	0.000	8.832	0.000	8.822	0.000	8.812	0.000	8.802	0.000
22	9.102	0.000	8.852	0.000	8.832	0.000	8.822	0.000	8.812	0.000	8.802	0.000
23	9.022	0.000	8.852	0.000	8.832	0.000	8.822	0.000	8.812	0.000	8.802	0.000
24	8.982	0.000	8.842	0.000	8.832	0.000	8.822	0.000	8.812	0.000	8.802	0.000
25	8.982	0.000	8.842	0.000	8.832	0.000	8.822	0.000	8.812	0.000	8.802	0.000
26	8.982	0.000	8.842	0.000	8.832	0.000	8.822	0.000	8.812	0.000	8.802	0.000
27	8.982	0.000	8.842	0.000	8.832	0.000	8.822	0.000	8.812	0.000	8.802	0.000
28	8.982	0.000	8.842	0.000	8.832	0.000	8.822	0.000	8.812	0.000	8.802	0.000
29	8.982	0.000	8.842	0.000			8.822	0.000	8.812	0.000	8.802	0.000
30	8.982	0.000	8.842	0.000			8.822	0.000	8.812	0.000	8.802	0.000
31	8.982	0.000	8.842	0.000			8.822	0.000			8.802	0.000
Ten-Daily Mean												
I Ten-Daily	8.965	0.000	8.964	0.000	8.840	0.000	8.824	0.000	8.813	0.000	8.803	0.000
II Ten-Daily	9.154	18.60	8.910	0.000	8.832	0.000	8.822	0.000	8.812	0.000	8.802	0.000
III Ten-Daily	9.022	0.253	8.845	0.000	8.832	0.000	8.822	0.000	8.812	0.000	8.802	0.000
Monthly												
Min.	8.962	0.000	8.842	0.000	8.832	0.000	8.822	0.000	8.812	0.000	8.802	0.000
Max.	10.102	178.4	8.982	0.000	8.842	0.000	8.832	0.000	8.822	0.000	8.812	0.000
Mean	9.046	6.089	8.904	0	8.835	0	8.823	0	8.812	0	8.802	0

Peak Computed Discharge = 8.500 cumecs on 22/07/2018

Corres. Water Level :9.302 m

Lowest Computed Discharge = 8.500 cumecs on 22/07/2018

Corres. Water Level :9.302 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

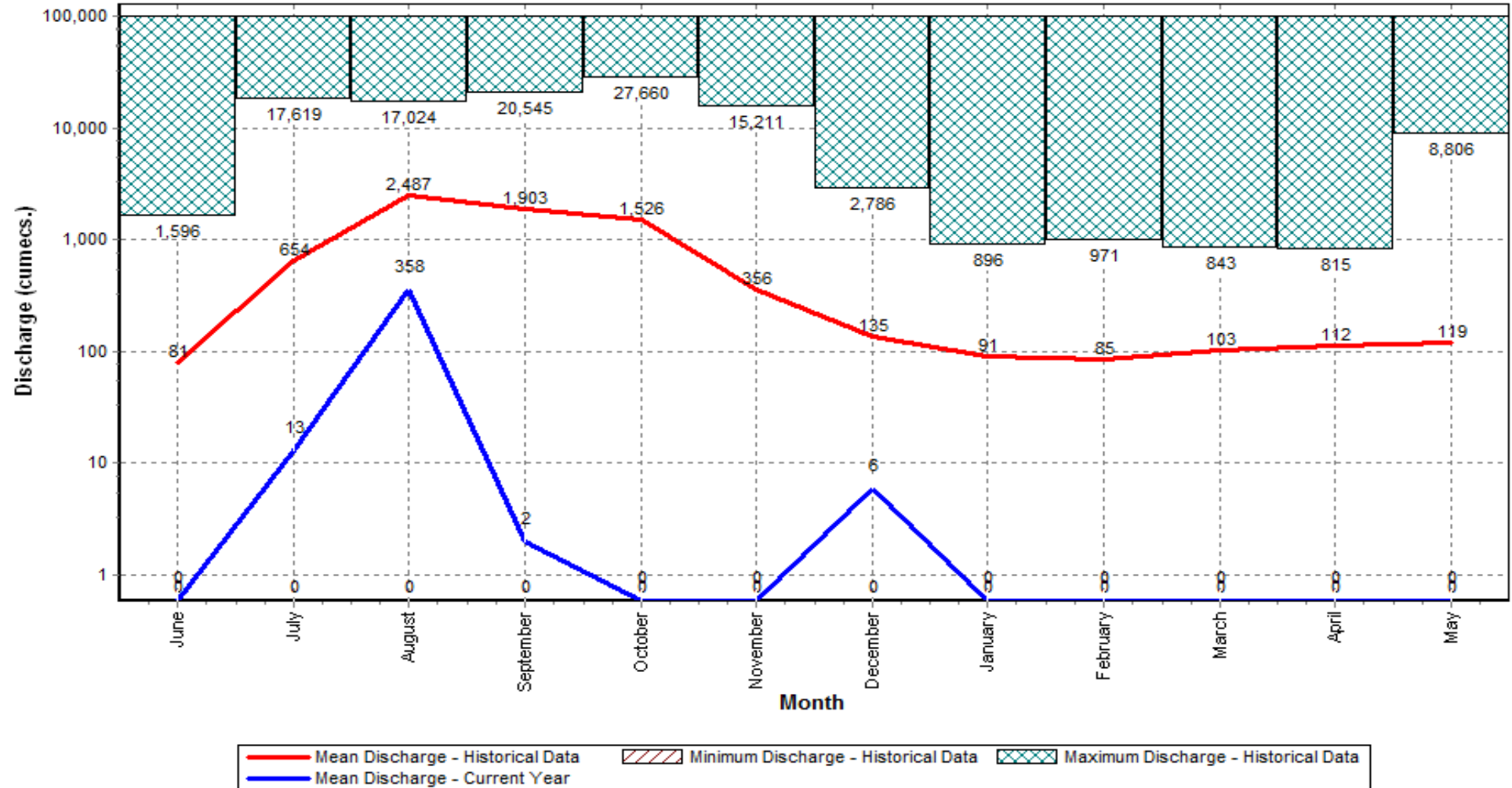
HISTOGRAM - HYDROGRAPH for Water Year : 2018-2019

Station Name : Vijayawada (AK000B9)

Data considered : 1965-2019

Division : Lower Krishna Divn., Hyderabad
Sub-Division : Lower Krishna SD2, Vijayawada

Local River : Krishna



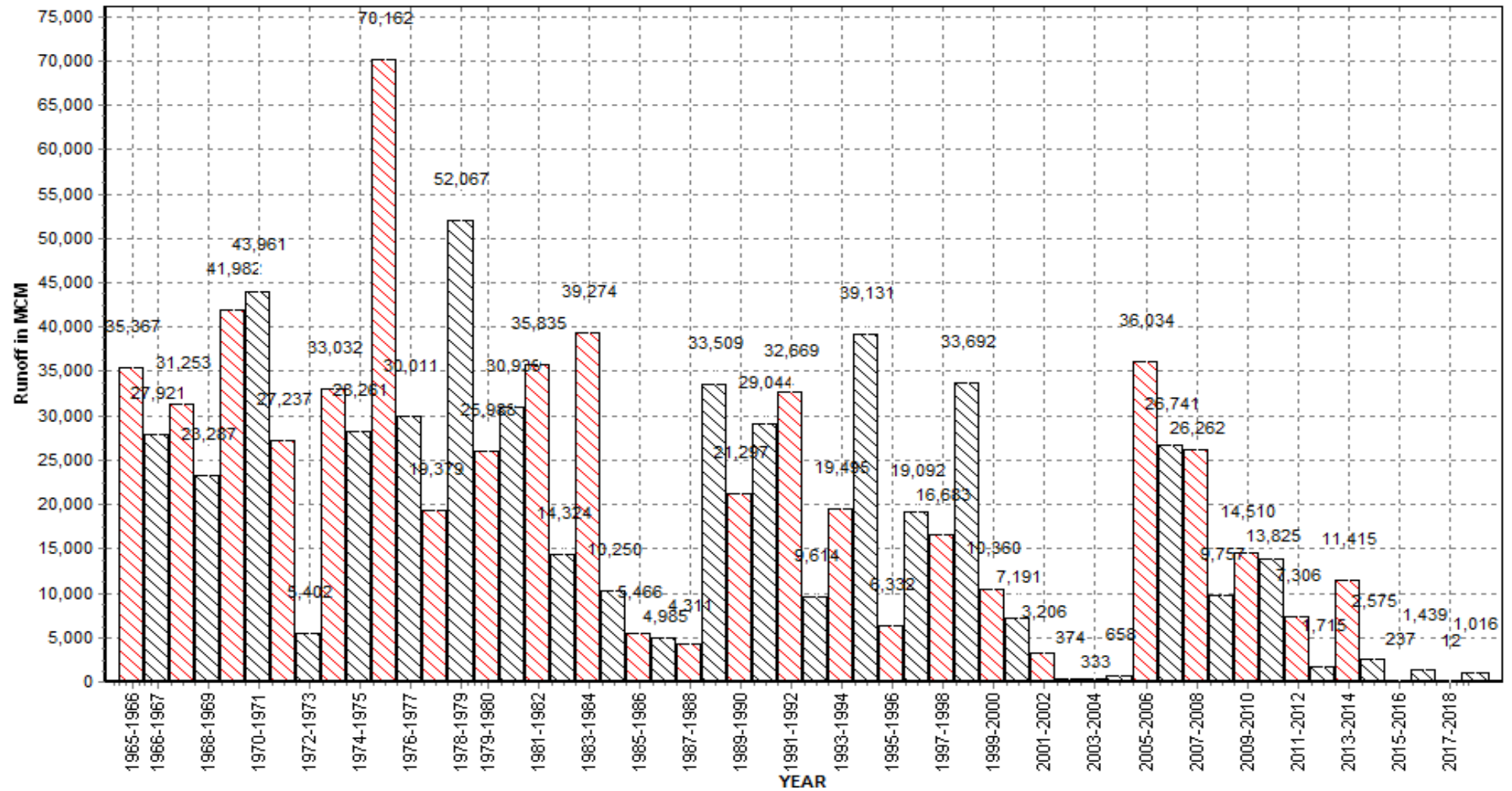
Annual Runoff Values for the period: 1965 - 2019

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

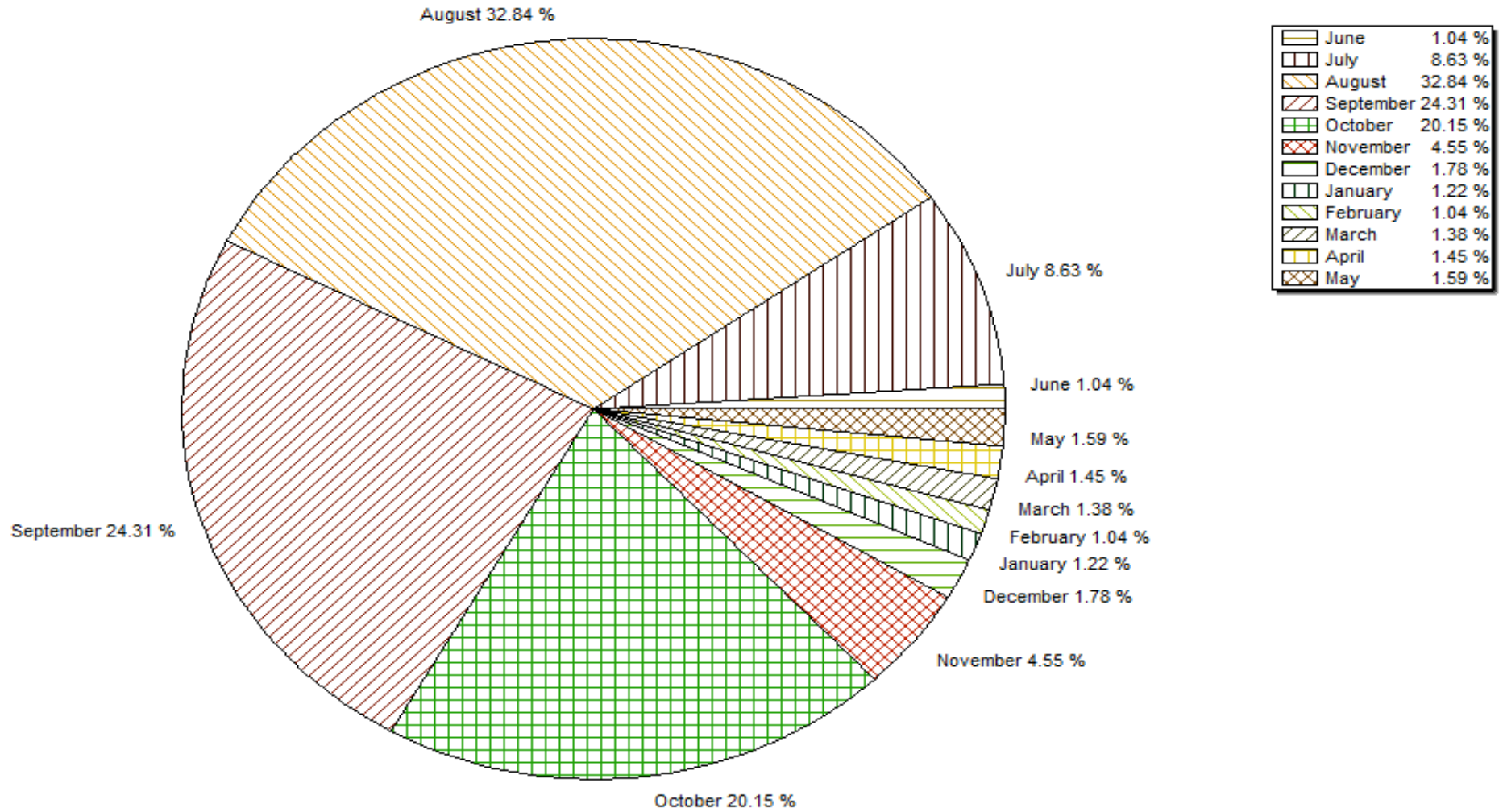
Monthly Average Runoff based on period : 1965-2018

Station Name : Vijayawada (AK000B9)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



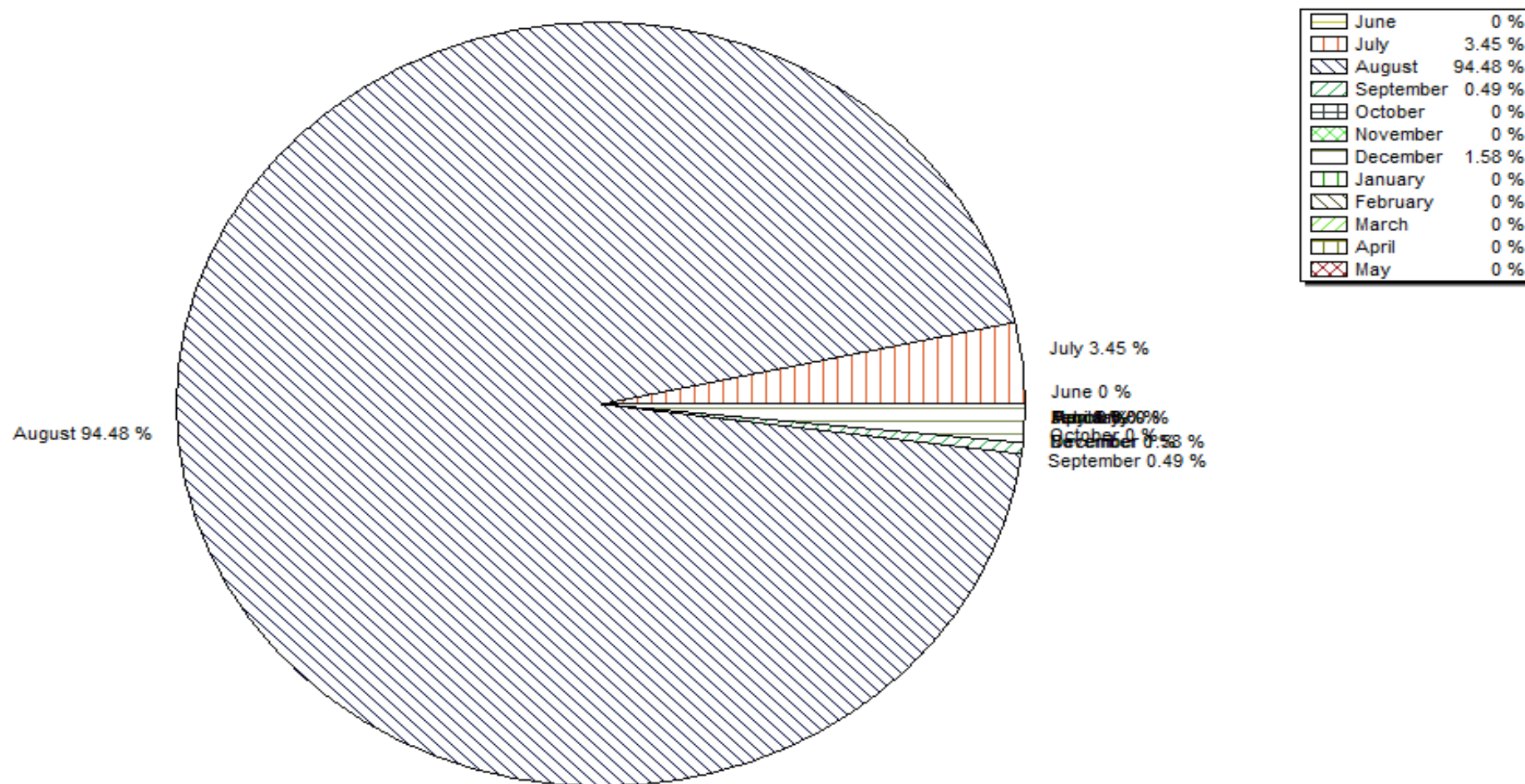
Monthly Runoff for the Year : 2018-2019

Station Name : Vijayawada (AK000B9)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



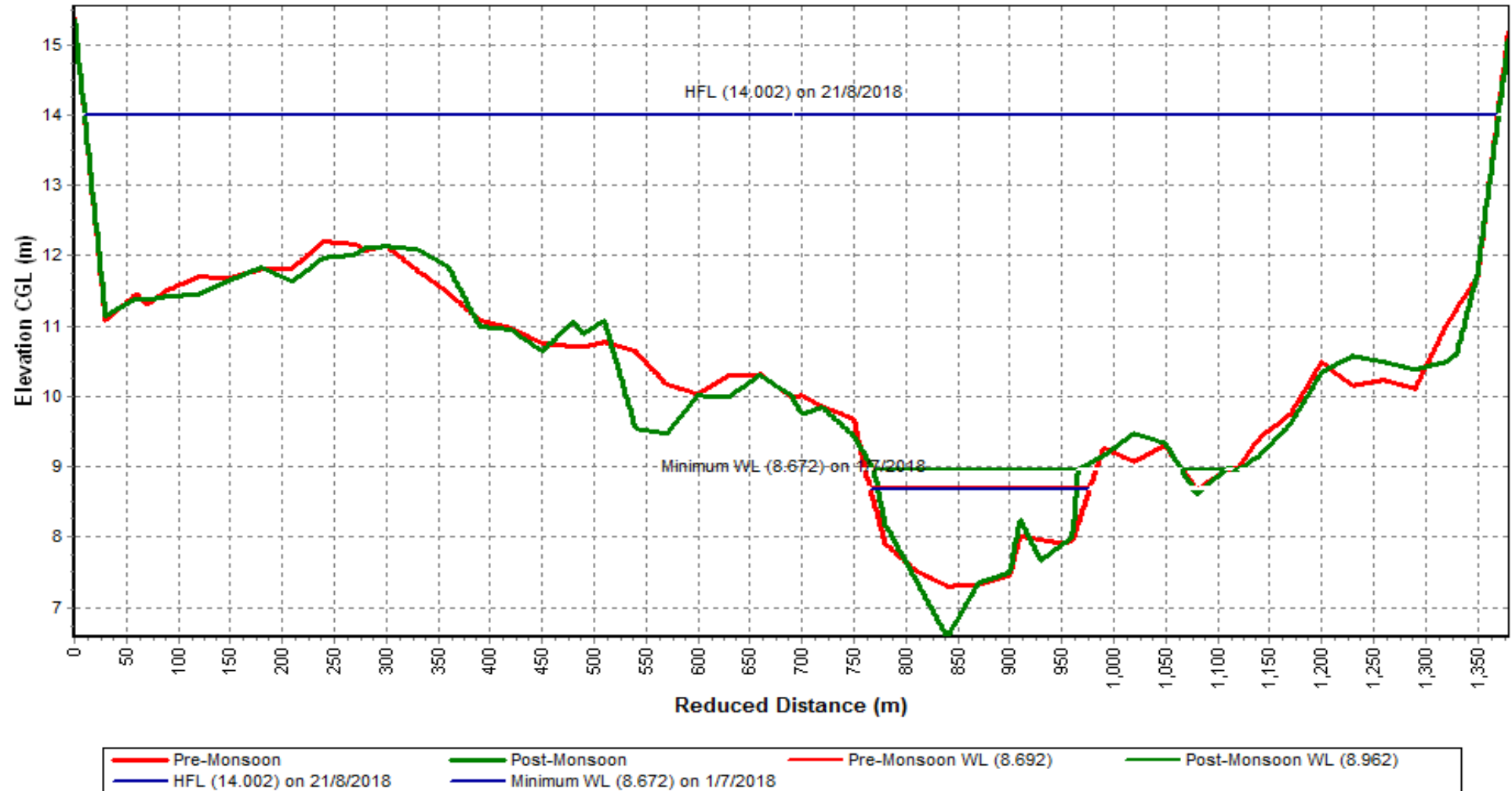
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Vijayawada (AK000B9)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



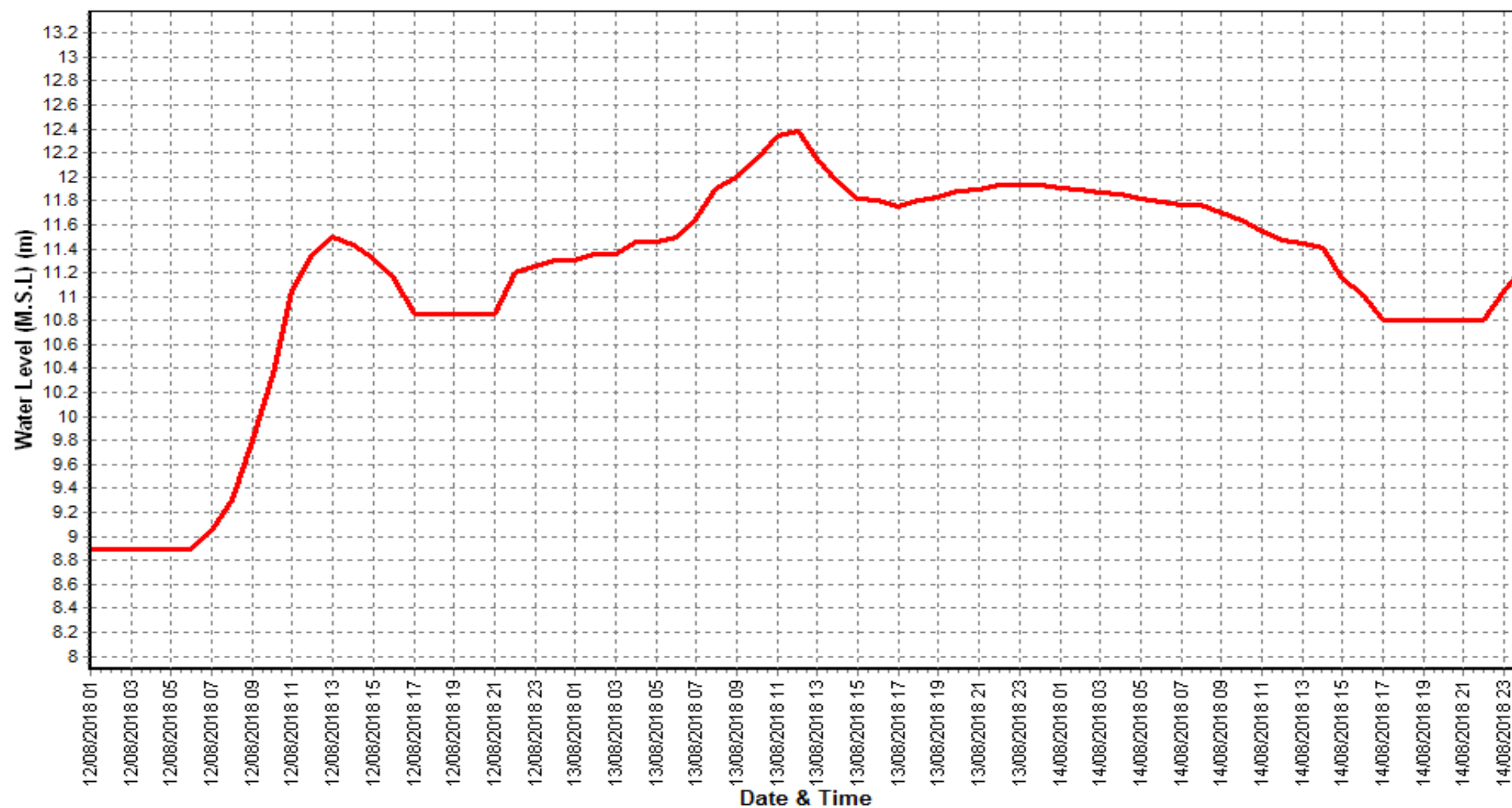
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Vijayawada (AK000B9)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

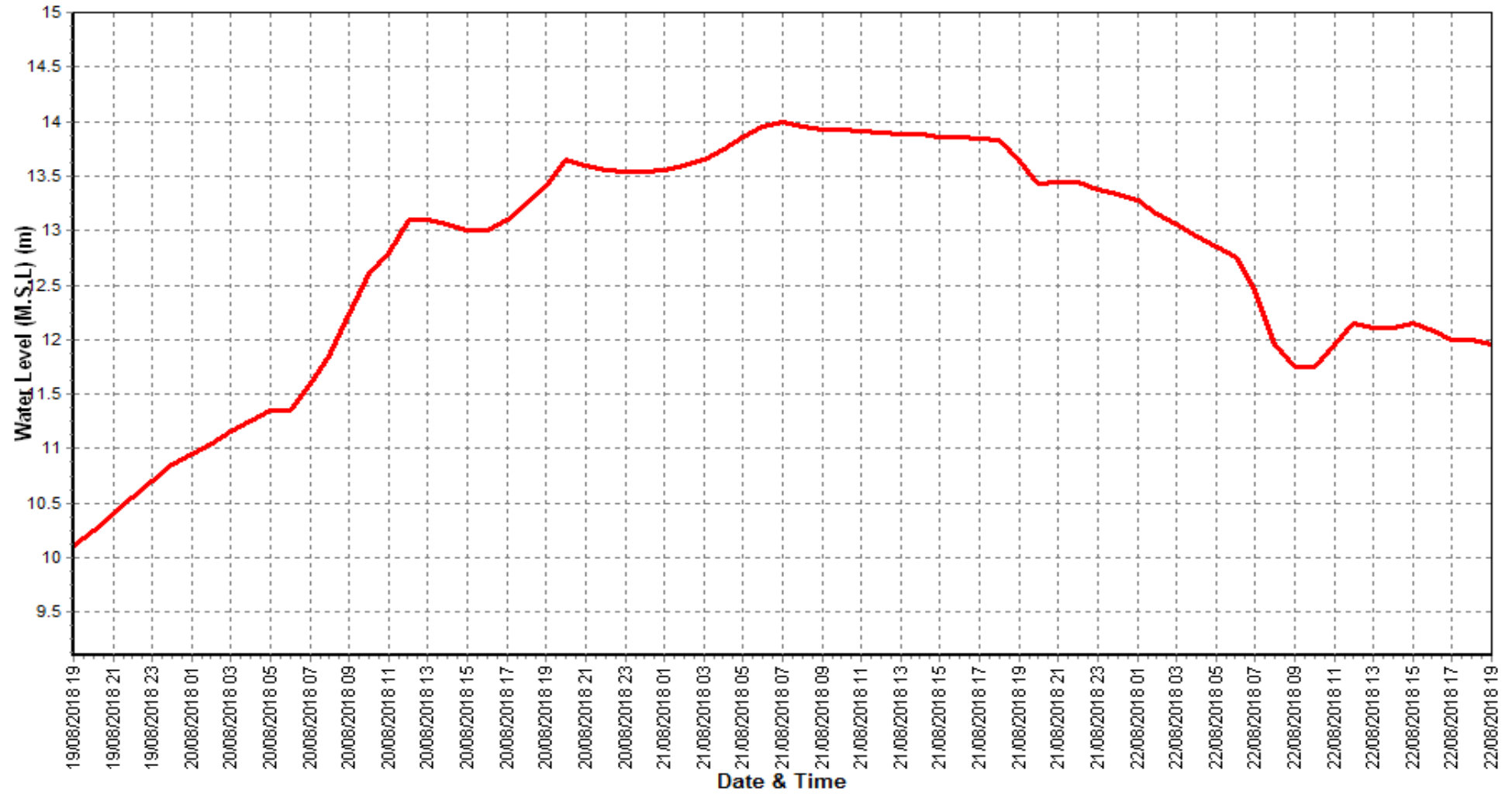
Sub-Division : Lower Krishna SD2, Vijayawada



Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Vijayawada (AK000B9)
Local River : Krishna

Division : Lower Krishna Divn., Hyderabad
Sub-Division : Lower Krishna SD2, Vijayawada



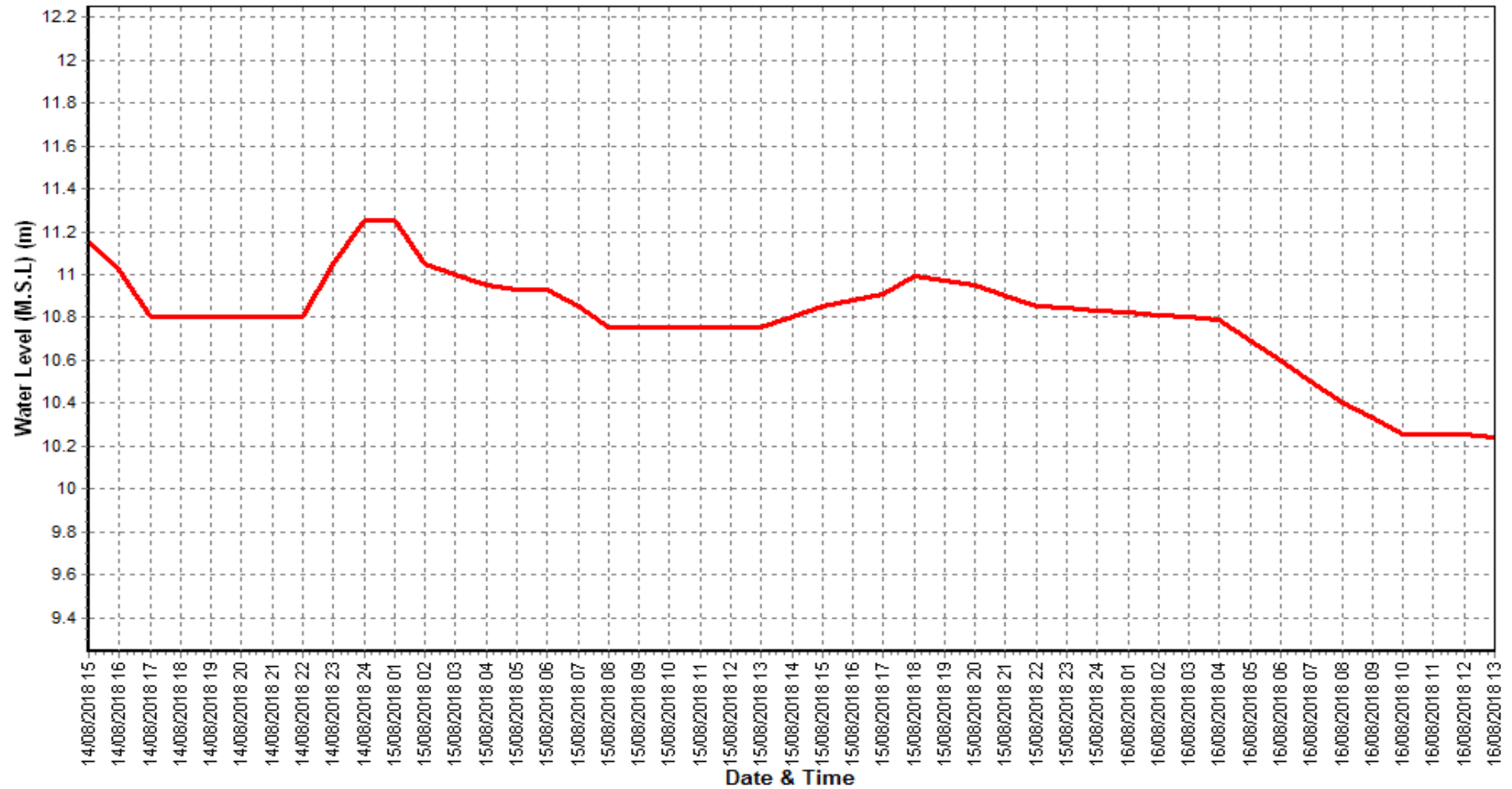
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : Vijayawada (AK000B9)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



Time Span: 72 Hrs

HISTORY SHEET

		Water Year	: 2018-2019
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 05/08/1970 01/02/1972 01/06/1972 01/06/1984	- 04/08/1970 - 31/01/1972 - 31/05/1972 - 31/05/1984
	Opening Date	Closing Date	
Gauge	: 23/09/1963	HFL During 2018-19	: 33.400 m
		Corres. Discharge	: 3534 (Estimated)
Discharge	: 26/06/1964	Date & Time of occurrence	: 20/08/2018 : 19:00 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) :14128*

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	7000	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	4553	32.753	22/07/1976	0.000	28.025	28/03/1977
1977-1978	1023	30.840	20/11/1977	0.200	28.010	14/04/1978
1978-1979	5180	33.000	15/08/1978	0.000	27.855	23/04/1979

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

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1979-1980	477.2	30.020	24/09/1979	0.000	28.005	12/07/1979
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	6140	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	6750	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	6157	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

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

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
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
Average		1697	149	1846	60	5	65
75% Dependable flow (MCM)				805			
90 % Dependable flow (MCM)				416			

Stage-Discharge Data for the period 2018 - 2019

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		0.000	28.460	0.000	28.730	3.852	29.290	53.71	29.130	31.82	29.010	19.78
2		0.000	28.790	5.287	28.715	2.797	29.280	51.54 *	29.230	44.39 *	29.060	26.62 #
3		0.000	28.770	4.121	28.730	3.555	29.250	48.49	29.290	53.55	29.090	27.56 #
4		0.000	28.730	3.671	28.710	2.810	29.180	39.68	29.250	48.51	29.260	48.61 *
5		0.000	28.620	0.000	28.670	1.950 *	29.100	31.79	29.240	46.71	29.160	35.20
6		0.000	28.620	0.000	28.660	2.089	28.950	15.53	29.200	40.11	29.110	31.23
7		0.000	28.620	0.000	28.590	0.000	28.920	11.30	29.150	34.22 *	29.090	27.56 *
8		0.000	28.650	0.000	28.580	0.000	29.090	28.69	29.080	26.34	29.060	22.84
9		0.000	28.710	2.456	28.845	6.623	29.150	34.22 *	29.040	21.81	29.040	21.93
10		0.000	29.310	61.73	29.150	35.92	29.110	31.74	29.020	20.02	29.030	21.42
11		0.000	29.620	110.1	29.620	112.2	29.090	27.65	28.990	18.43	29.110	29.69 *
12	28.410	0.000	29.560	103.0	30.830	579.7	29.090	27.15	28.990	18.38	29.110	31.81
13	28.910	13.62	29.560	102.6	31.640	1123 #	29.130	31.91 *	29.000	18.78	29.150	36.51
14	28.900	11.36	29.850	172.4	30.835	583.2	29.110	29.12	28.990	18.26 *	29.140	33.87
15	28.870	8.802	29.750	157.2	30.545	455.4	29.110	29.90 #	28.980	17.49	29.200	40.70
16	28.820	7.228 *	30.205	311.5	30.195	309.6	29.200	40.40 *	28.980	17.49 #	29.200	40.95
17	28.740	3.937 *	30.195	300.3	30.030	264.1	29.180	36.50	29.020	21.36 #	29.200	40.82
18	28.690	2.997	29.810	154.0	29.900	211.3	29.350	63.68	29.260	49.23	29.210	41.71 *
19	28.650	2.148	29.750	159.4	30.060	249.9 *	29.450	79.10	29.200	40.40 *	29.310	54.97
20	28.500	0.000	29.620	111.9	33.040	2933	29.630	117.9	29.150	34.67	29.220	41.60
21	28.500	0.000	29.395	68.41	32.980	2899	29.590	110.0 *	29.090	27.56 *	29.180	37.86 *
22	28.500	0.000	29.740	147.7 *	31.120	723.9	29.530	98.35	29.070	26.00	29.140	33.93
23	28.500	0.000	29.740	149.4	30.260	337.6	29.420	74.85 *	29.050	23.39	29.090	27.56 *
24	28.500	0.000	29.505	96.51	29.880	197.1	29.350	63.52	29.040	22.23	29.100	30.64
25	28.500	0.000	29.315	60.16	29.720	148.6	29.490	88.65	29.030	21.31	29.090	27.56 *
26	28.500	0.000	29.005	19.30	29.800	164.5 *	29.270	52.41	29.020	20.69	29.080	26.62
27	28.500	0.000	29.070	25.01	29.690	140.8	29.200	38.47	29.010	19.69	29.060	25.31
28	28.480	0.000	29.000	20.09	29.520	95.71	29.190	37.88	29.020	20.82 *	29.050	24.86
29	28.470	0.000	28.950	15.14 *	29.480	88.87	29.180	36.39	29.020	20.59	29.010	20.10
30	28.460	0.000	28.880	8.146	29.410	68.39	29.160	35.41 *	29.010	19.86	29.000	19.12
31			28.800	5.508	29.305	55.31			29.000	18.76		
Ten-Daily Mean												
I Ten-Daily		0.000	28.728	7.726	28.738	5.960	29.132	34.67	29.163	36.75	29.091	28.27
II Ten-Daily	28.721	5.009	29.792	168.2	30.670	682.1	29.234	48.33	29.056	25.45	29.185	39.26
III Ten-Daily	28.491	0.000	29.218	55.95	30.106	447.3	29.338	63.60	29.033	21.90	29.080	27.36
Monthly												
Min.	28.410	0.000	28.460	0.000	28.580	0.000	28.920	11.30	28.980	17.49	29.000	19.12
Max.	28.910	13.62	30.205	311.5	33.040	2933	29.630	117.9	29.290	53.55	29.310	54.97
Mean	28.600	1.67	29.245	76.62	29.846	380.7	29.235	48.86	29.082	27.83	29.119	31.63

Annual Runoff in MCM = 1614 Annual Runoff in mm = 164

Peak Observed Discharge = 2933 cumecs on 20/08/2018 Corres. Water Level :33.04 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018

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 2018 - 2019

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	29.000	19.69	28.960	16.00	28.920	13.90	28.620	0.000	28.150	0.000	28.520	0.000
2	29.000	18.66 *	28.940	13.90	28.890	10.82	28.620	0.000	28.090	0.000	28.510	0.000
3	28.990	18.19	28.910	11.74	28.890	10.36 *	28.610	0.000	28.030	0.000	28.500	0.000
4	28.990	18.35	28.890	10.88	28.870	9.365	28.600	0.000	27.990	0.000	28.500	0.000
5	29.020	19.89	28.870	9.506	28.850	7.872	28.600	0.000	27.960	0.000	28.490	0.000
6	29.040	21.00	28.850	7.987 *	28.810	4.907	28.590	0.000	27.930	0.000	28.470	0.000
7	29.050	21.58	28.840	8.064	28.800	4.833	28.580	0.000	27.900	0.000	28.460	0.000
8	29.060	22.95	28.830	7.511	28.800	4.701	28.580	0.000	27.870	0.000	28.450	0.000
9	28.990	17.80 *	28.820	6.991	28.790	4.499	28.570	0.000	27.840	0.000	28.440	0.000
10	29.000	19.07	28.810	6.308	28.780	4.631 *	28.570	0.000	27.810	0.000	28.430	0.000
11	28.990	18.50	28.800	5.473	28.750	0.000	28.560	0.000	27.790	0.000	28.420	0.000
12	28.970	16.72	28.790	5.253	28.740	0.000	28.550	0.000	27.760	0.000	28.410	0.000
13	28.950	15.82	28.780	4.631 *	28.740	0.000	28.540	0.000	27.730	0.000	28.400	0.000
14	28.950	14.51	28.770	4.232 *	28.730	0.000	28.540	0.000	27.700	0.000	28.380	0.000
15	28.940	14.00	28.740	0.000	28.710	0.000	28.530	0.000	27.650	0.000	28.370	0.000
16	28.920	12.36 *	28.730	0.000	28.710	0.000	28.520	0.000		0.000	28.350	0.000
17	28.960	15.10	28.720	0.000	28.700	0.000	28.520	0.000		0.000	28.330	0.000
18	29.355	62.99 #	28.710	0.000	28.690	0.000	28.510	0.000	28.040	0.000	28.310	0.000
19	29.680	134.8	28.700	0.000	28.690	0.000	28.510	0.000	28.270	0.000	28.260	0.000
20	29.480	86.60	28.690	0.000	28.680	0.000	28.500	0.000	28.670	0.000	28.200	0.000
21	29.350	63.53	28.690	0.000	28.670	0.000	28.490	0.000	28.620	0.000	28.140	0.000
22	29.240	42.49	28.680	0.000	28.670	0.000	28.480	0.000	28.590	0.000	28.050	0.000
23	29.160	35.64 *	28.680	0.000	28.650	0.000	28.470	0.000	28.560	0.000	27.980	0.000
24	29.120	30.36	28.670	0.000	28.650	0.000	28.470	0.000	28.630	0.000	27.900	0.000
25	29.080	26.41 *	28.670	0.000	28.640	0.000	28.450	0.000	28.670	0.000	27.800	0.000
26	29.060	23.64	28.670	0.000	28.640	0.000	28.440	0.000	28.650	0.000	27.700	0.000
27	29.040	22.43	28.670	0.000	28.630	0.000	28.420	0.000	28.600	0.000		0.000
28	29.020	20.09	28.900	10.95	28.630	0.000	28.380	0.000	28.550	0.000		0.000
29	29.000	18.54	29.060	21.72			28.300	0.000	28.540	0.000		0.000
30	28.990	17.80 *	29.020	20.17			28.240	0.000	28.540	0.000		0.000
31	28.980	17.12	28.970	17.61			28.200	0.000				0.000
Ten-Daily Mean												
I Ten-Daily	29.014	19.72	28.872	9.889	28.840	7.589	28.594	0.000	27.957	0.000	28.477	0.000
II Ten-Daily	29.120	39.14	28.743	1.959	28.714	0.000	28.528	0.000	27.951	0.000	28.343	0.000
III Ten-Daily	29.095	28.91	28.789	6.405	28.648	0.000	28.395	0.000	28.595	0.000	27.928	0.000
Monthly												
Min.	28.920	12.36	28.670	0.000	28.630	0.000	28.200	0.000	27.650	0.000	27.700	0.000
Max.	29.680	134.8	29.060	21.72	28.920	13.90	28.620	0.000	28.670	0.000	28.520	0.000
Mean	29.077	29.25	28.801	6.095	28.740	2.71	28.502	0	28.183	0	28.299	0

Peak Computed Discharge = 249.9 cumecs on 19/08/2018

Corres. Water Level :30.06 m

Lowest Computed Discharge = 1.950 cumecs on 05/08/2018

Corres. Water Level :28.67 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 : 2018-2019

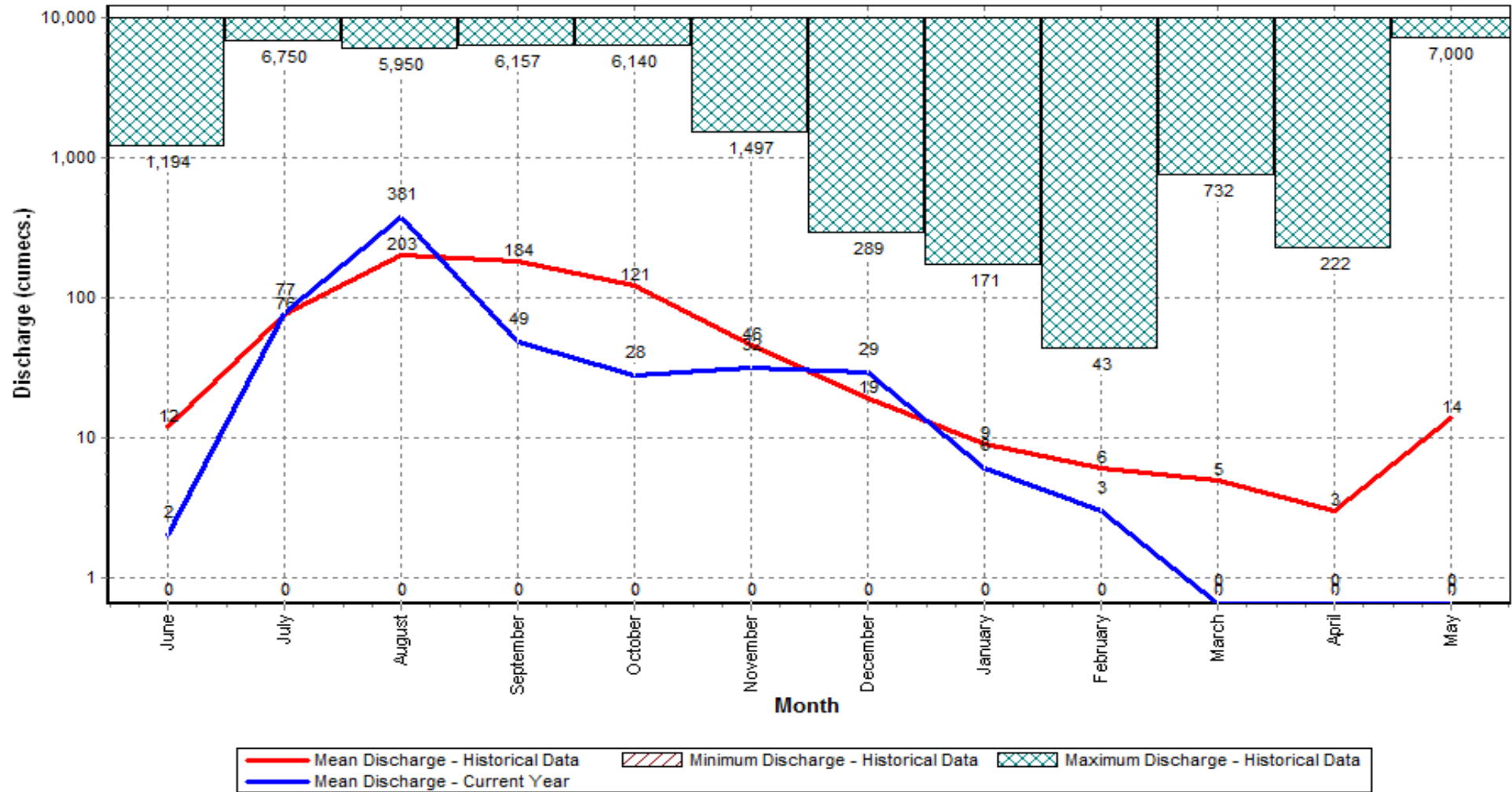
Station Name : Keesara (AKA00B4)

Data considered : 1965-2019

Division : Lower Krishna Divn., Hyderabad

Local River : Munneru

Sub-Division : Lower Krishna SD2, Vijayawada



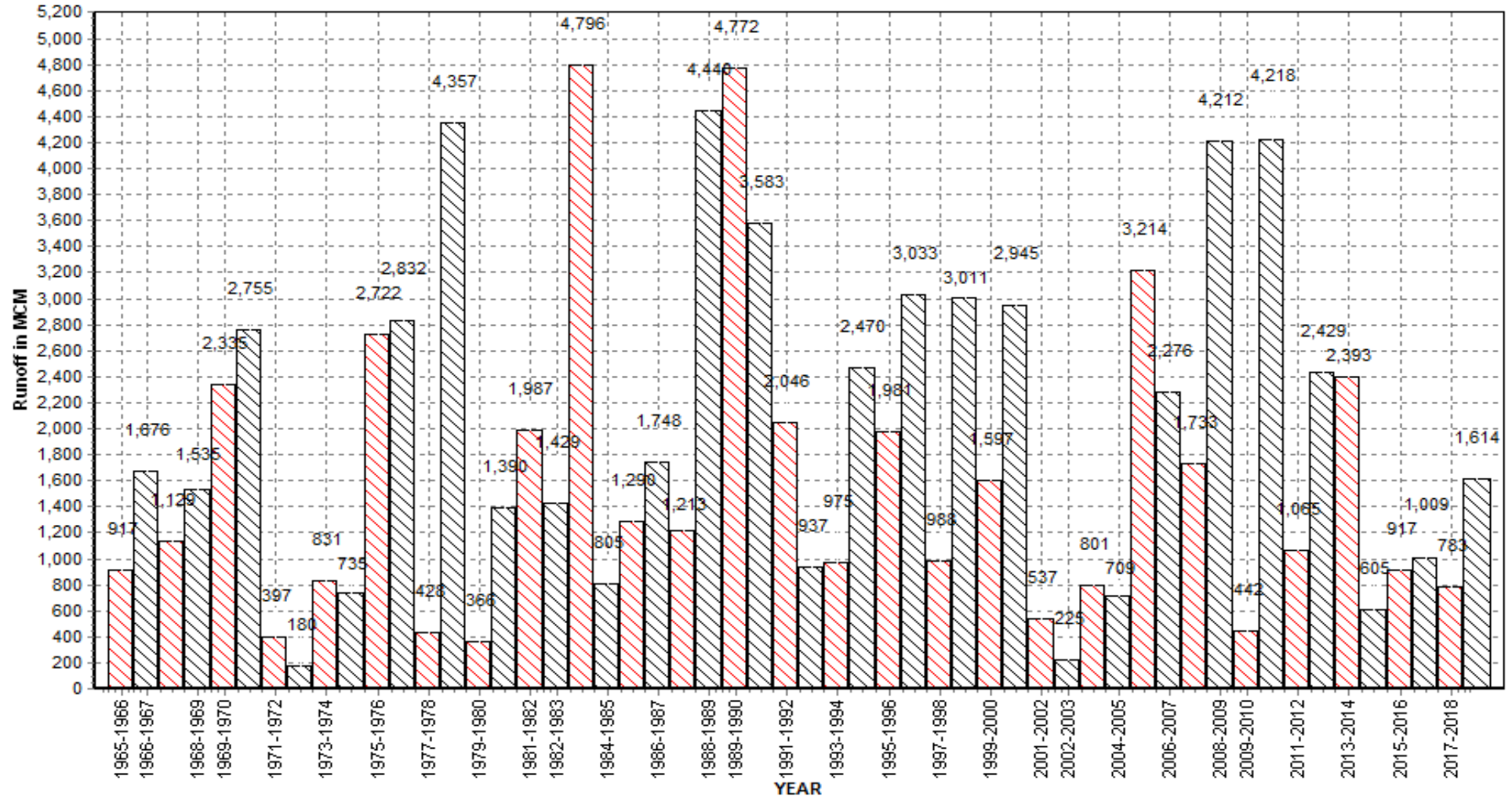
Annual Runoff Values for the period: 1965 - 2019

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

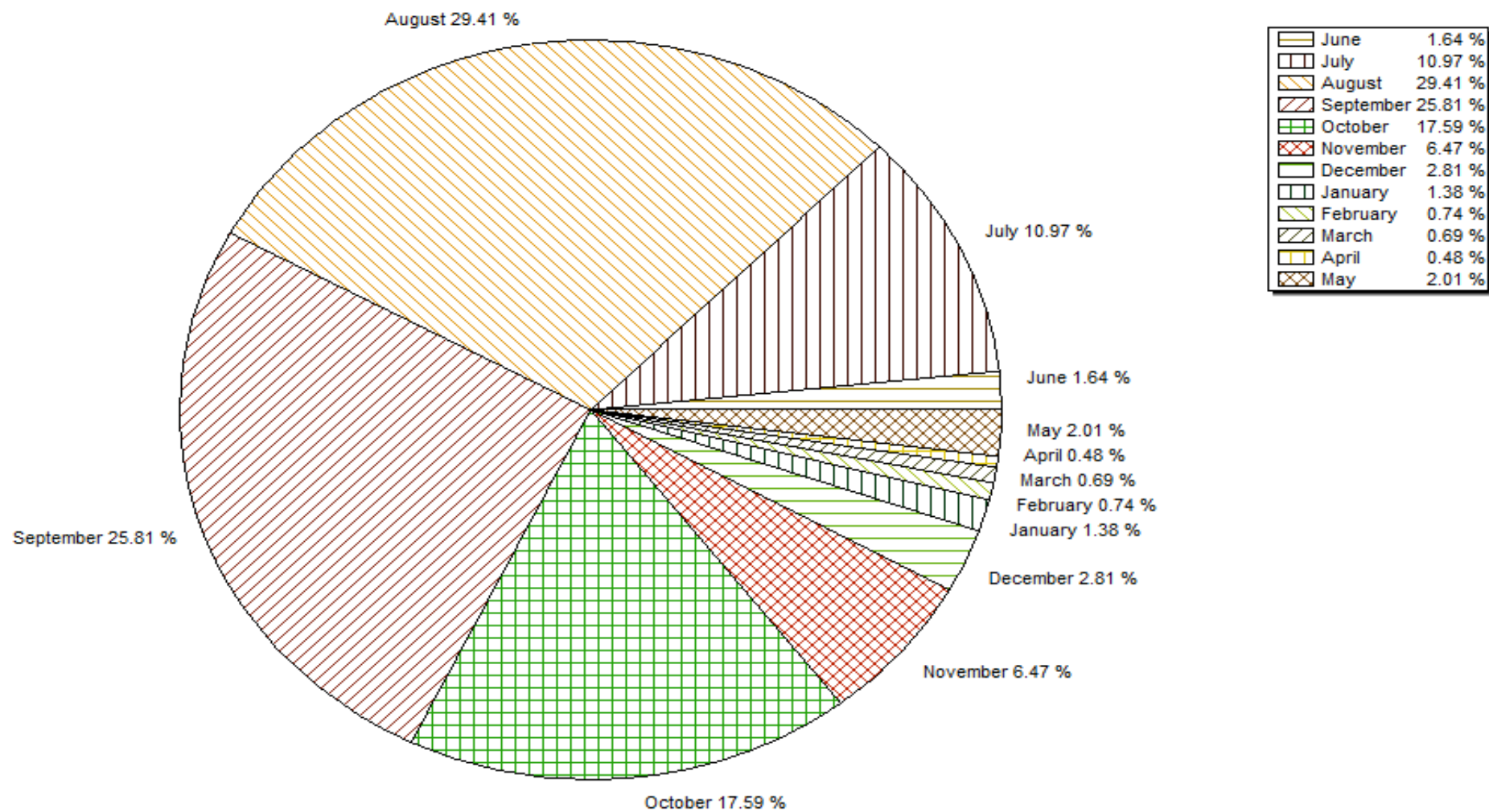
Monthly Average Runoff based on period : 1965-2018

Station Name : Keesara (AKA00B4)

Local River : Munneru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



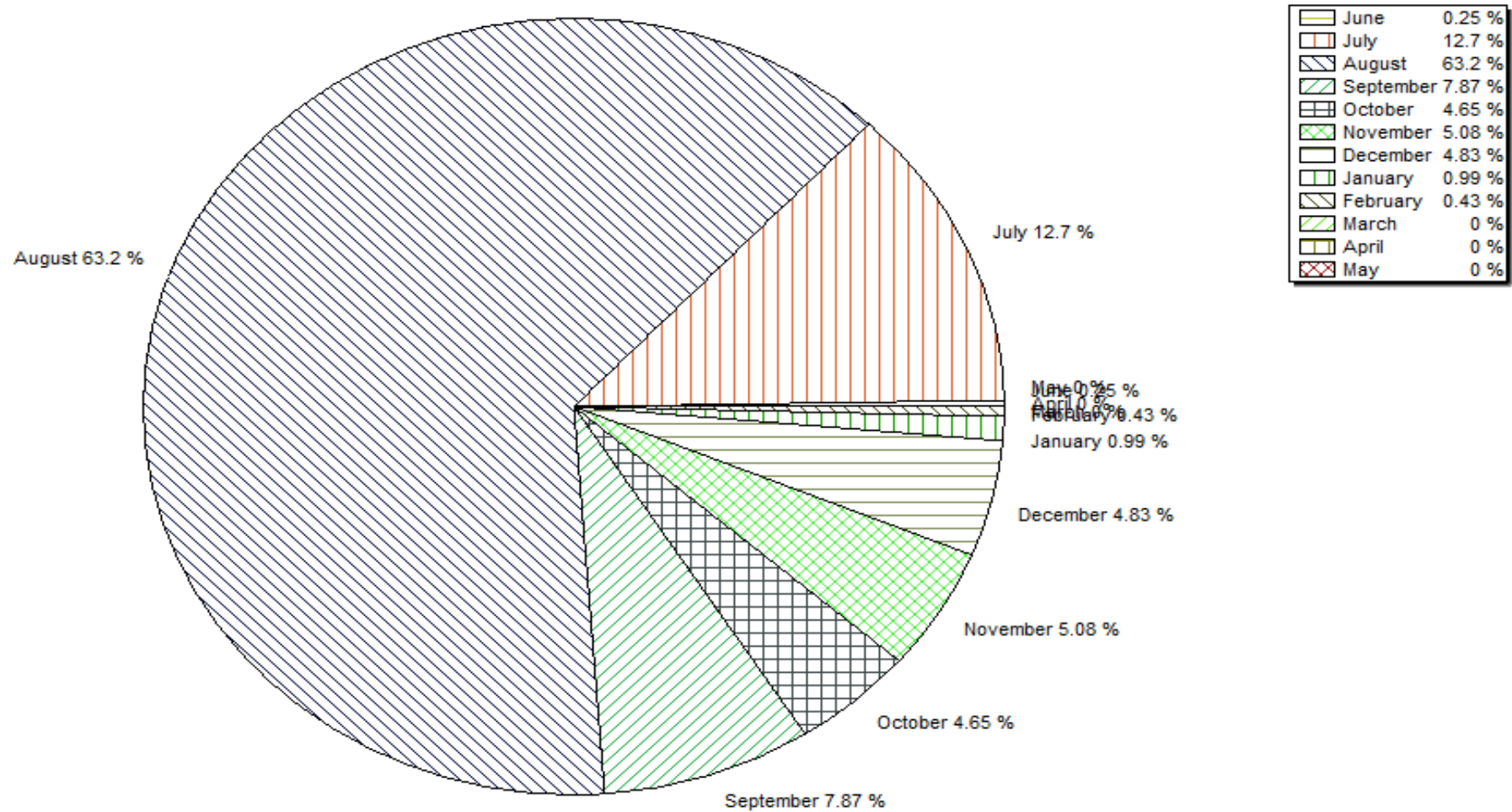
Monthly Runoff for the Year : 2018-2019

Station Name : Keesara (AKA00B4)

Local River : Munneru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



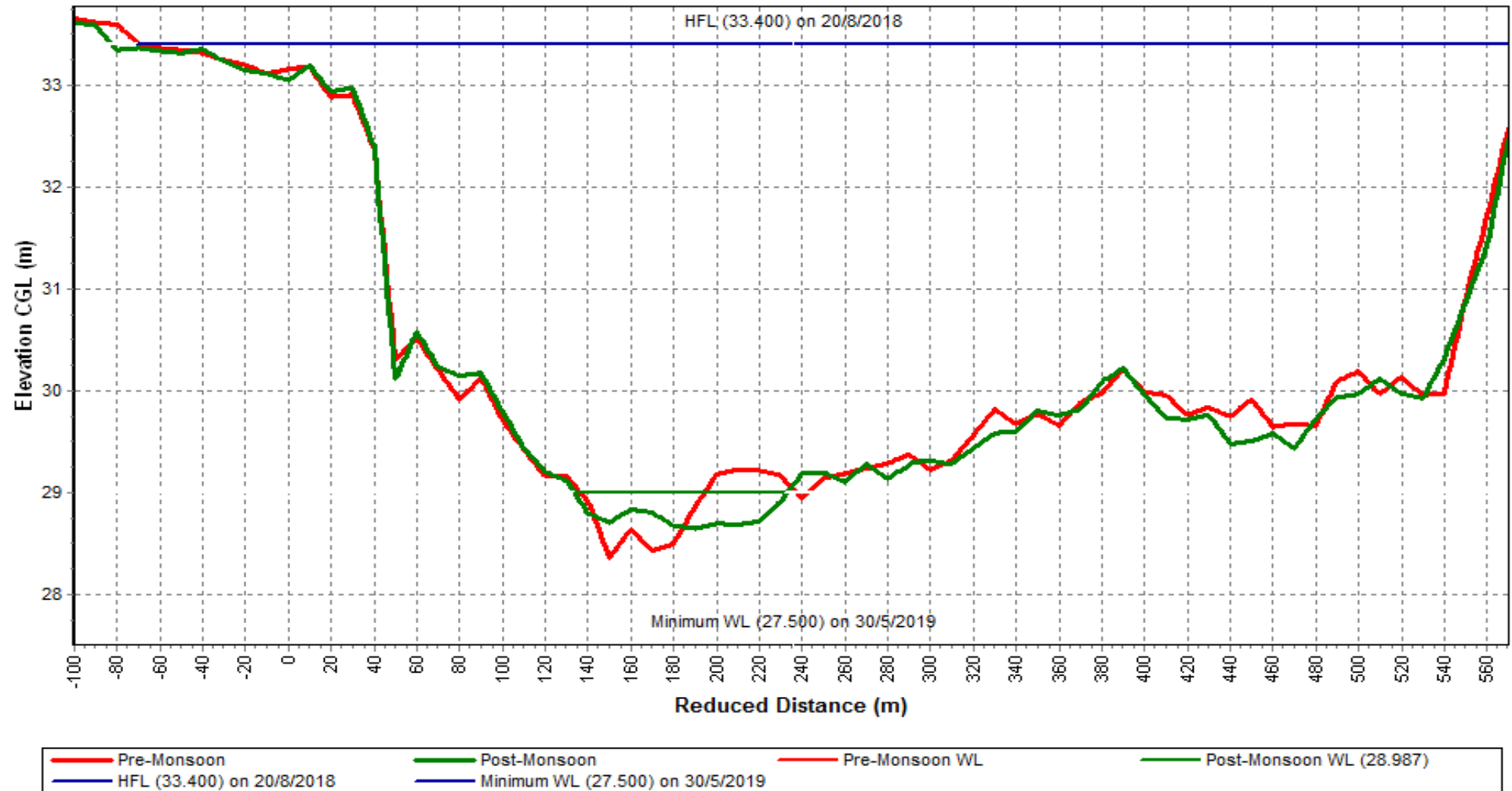
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Keesara (AKA00B4)

Local River : Munneru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



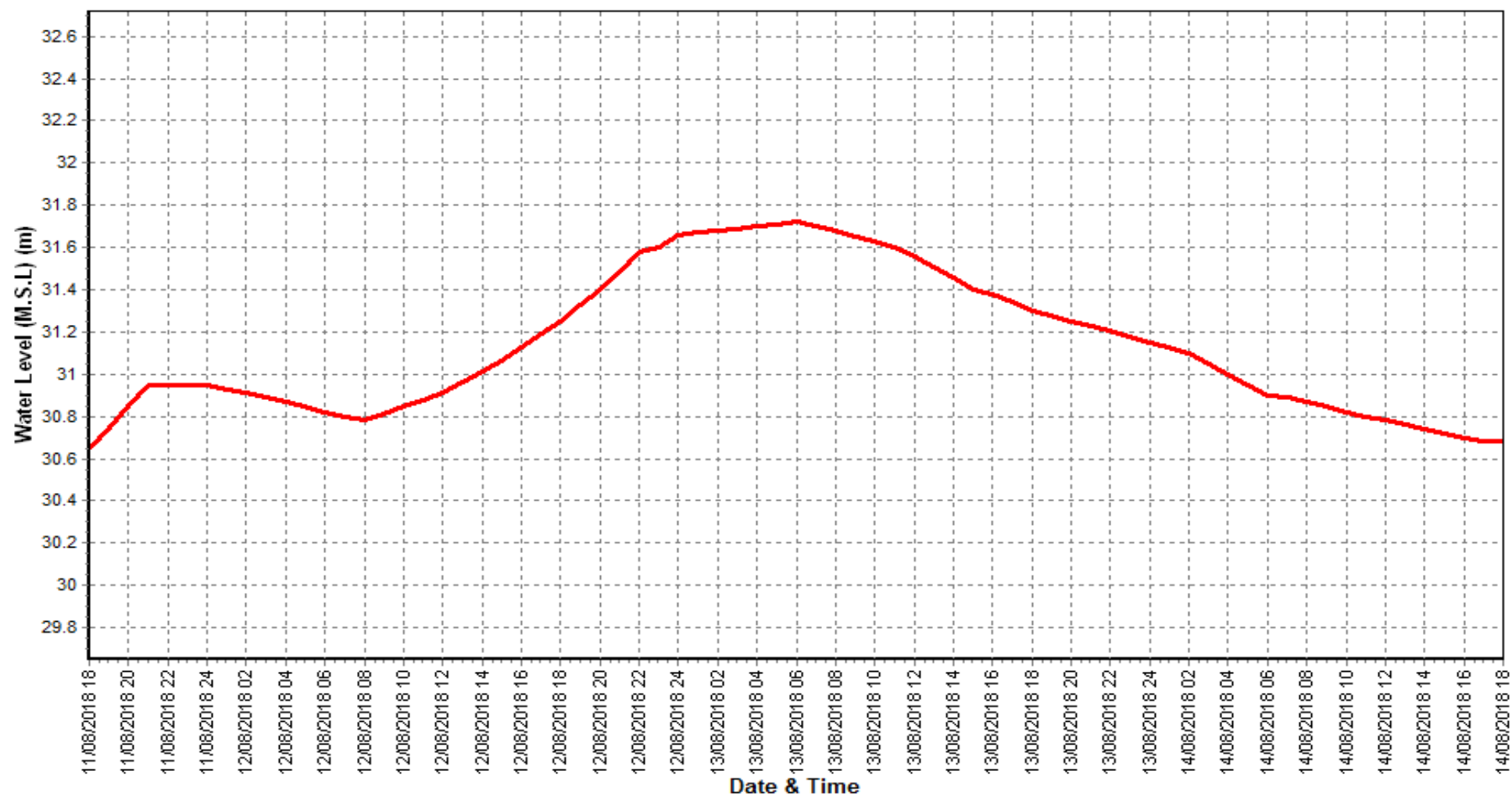
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Keesara (AKA00B4)

Local River : Munneru

Division : Lower Krishna Divn., Hyderabad

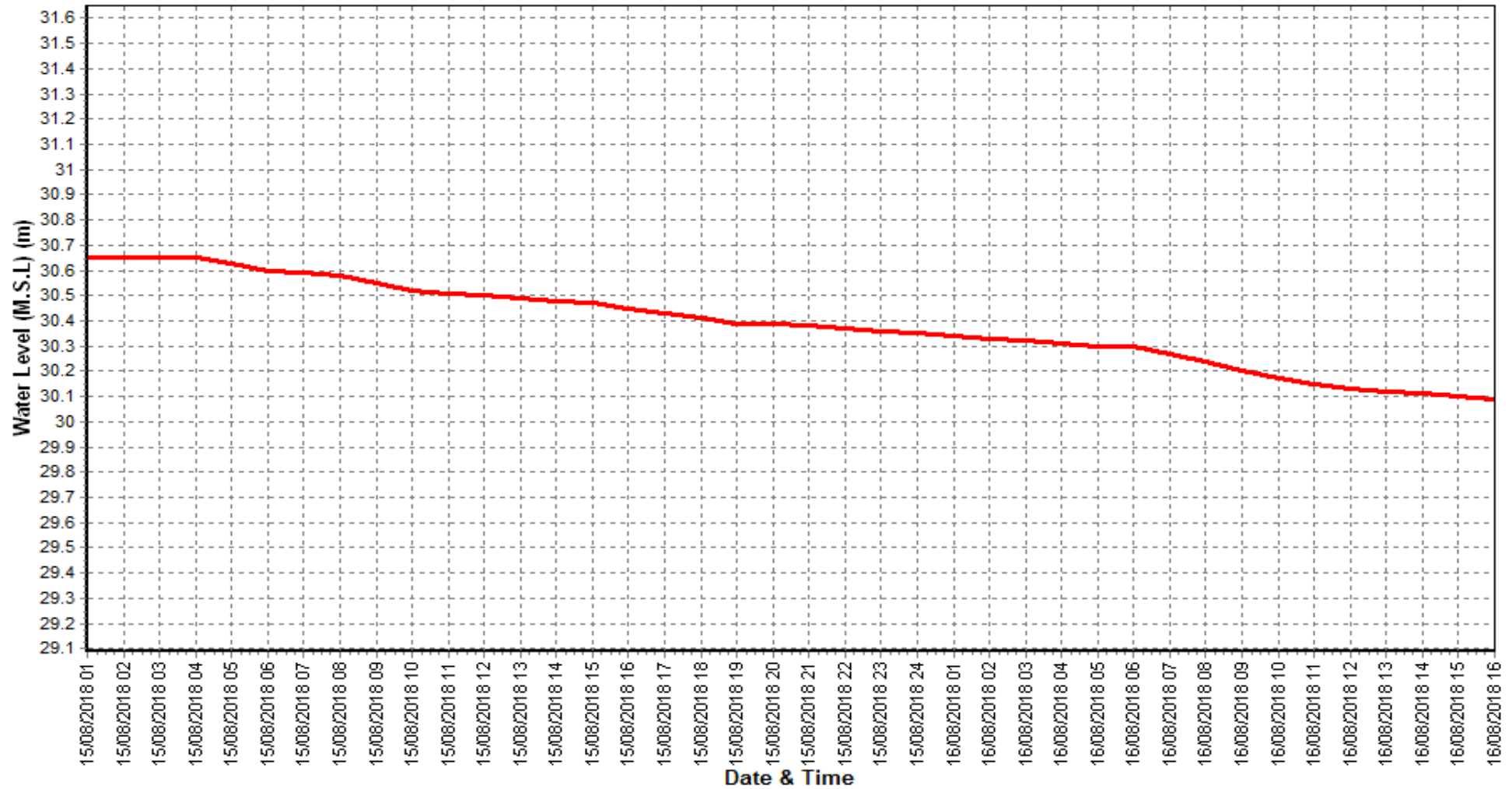
Sub-Division : Lower Krishna SD2, Vijayawada



Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : Keesara (AKA00B4)
Local River : Munneru

Division : Lower Krishna Divn., Hyderabad
Sub-Division : Lower Krishna SD2, Vijayawada



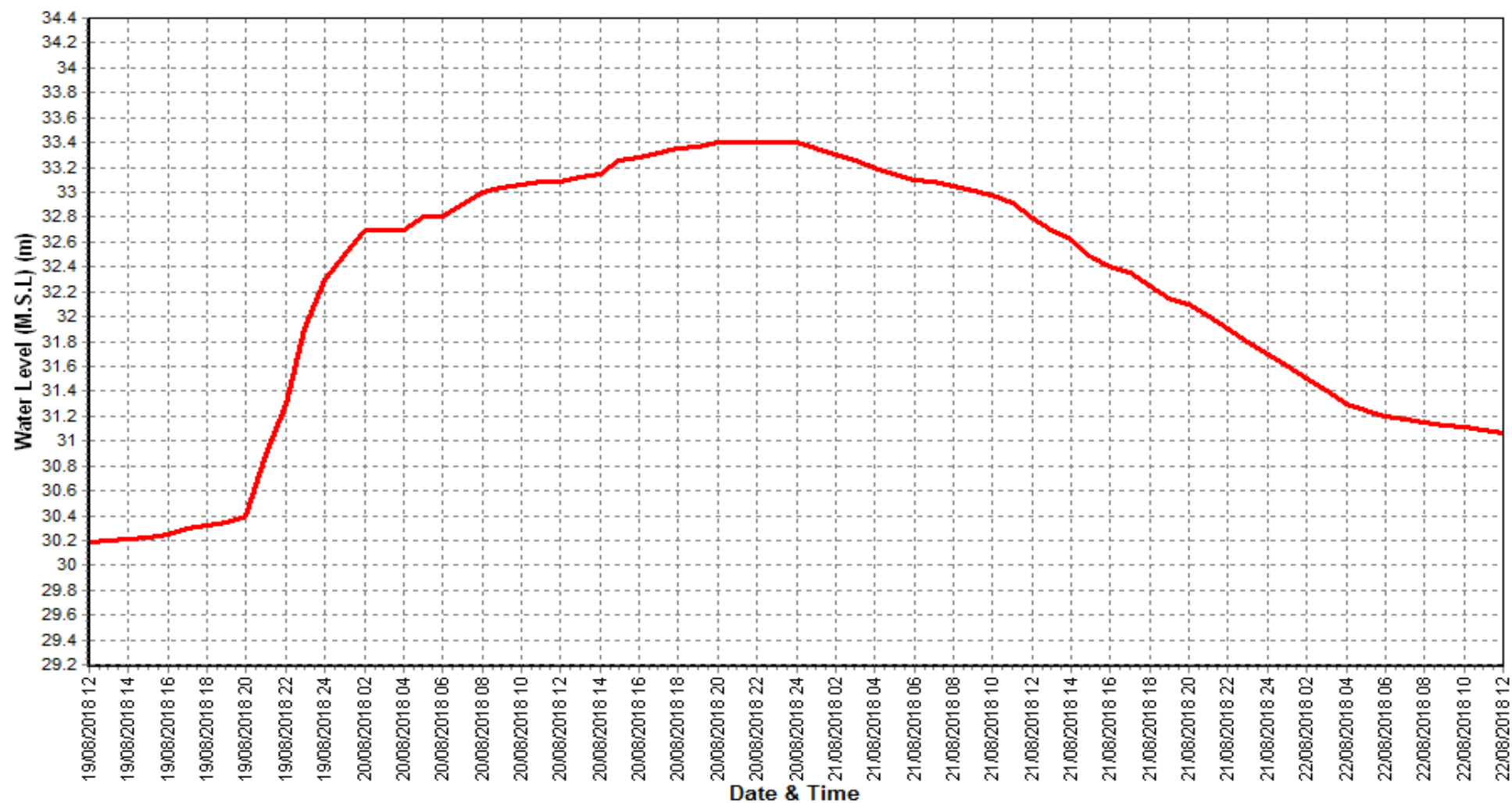
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Keesara (AKA00B4)

Local River : Munneru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



Time Span: 72 Hrs

HISTORY SHEET

Water Year : 2018-2019

Site : Madhira

Code : AKA10D2

State : Telangana

District : Khammam

Basin : Krishna

Independent River : Krishna

Tributary : Munneru

Sub Tributary : Wyr

Sub-Sub Tributary : -

Local River : Wyr

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)

01/06/1984

Opening Date

Closing Date

Gauge : 23/02/1984

HFL During 2018-19 : 50.050 m

Corres. Discharge : 1403 (Estimated)

Discharge : 07/06/1984

Date & Time of
occurrence : 20/08/2018
: 07:00 Hrs

Sediment : 01/03/2014

Water Quality : 01/06/1992

HFL Recorded so far in m : 52.010 dt 20-09-2005

Corresponding Discharge (cumecs) : 3048 *

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
2001-2002	98.37	45.925	15/08/2001	0.000	44.540	04/07/2001

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

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
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	802.2	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	1854	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

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	<u>61</u>	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

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
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
Average		428	75	503	15	3	18
75% Dependable flow (MCM)				246			
90 % Dependable flow (MCM)				129			

Stage-Discharge Data for the period 2018 - 2019

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		0.000	44.730	5.581 *		0.000	44.830	10.61	44.730	7.780	44.670	6.578
2		0.000	44.690	3.383		0.000	44.940	18.39 *	44.900	16.23 *	44.725	8.807
3		0.000	44.650	2.889		0.000	44.840	10.42	44.760	8.831	44.820	11.29
4		0.000	44.615	1.771		0.000	44.720	6.528 #	44.780	8.748	44.810	11.86 *
5		0.000	44.590	0.756		0.000	44.655	5.639 #	44.720	7.304	44.690	7.612
6		0.000	44.570	0.637		0.000	44.635	5.528 #	44.630	6.001	44.670	7.048
7		0.000	44.570	0.599		0.000	44.650	5.632 #	44.600	4.327 *	44.630	5.176 *
8		0.000	44.650	2.631 *	44.990	20.13	44.680	5.879 #	44.590	3.763	44.620	5.528
9		0.000	45.210	32.23	45.005	20.60	44.670	6.426 *	44.620	5.007	44.610	5.096
10		0.000	45.105	23.70	45.100	23.67	44.660	7.296	44.640	5.679	44.640	5.740
11		0.000	45.130	22.20	46.390	169.8	44.645	6.525	44.640	5.699	44.650	5.784 *
12	44.800	8.369	45.050	20.15	46.440	186.7	44.745	8.649	44.650	5.784	44.690	7.686
13	44.740	5.441	45.860	141.3	47.040	385.3	44.775	9.926	44.630	5.160	44.740	9.055
14	44.800	8.347	45.310	52.05	46.280	172.6	44.980	22.54	44.640	5.476 *	44.770	10.25
15	44.730	5.387	45.240	43.59 *	45.880	130.5 *	44.910	17.46	44.630	5.201	44.800	11.09
16	44.690	3.988 *	45.735	135.6	45.400	63.76	44.900	16.23 *	44.640	5.750	44.790	11.13
17	44.660	2.948 *	45.260	43.55	45.310	54.94	44.870	12.97	44.640	5.845	44.900	15.34
18	44.640	1.979	45.090	23.16	45.210	43.58	45.250	45.83	44.680	7.328	45.070	26.35 *
19	44.590	1.033	45.040	21.35	45.240	43.59 *	45.340	57.58	44.700	7.452 *	44.920	15.99
20	44.570	0.734	44.940	15.05	50.040	1401	45.350	69.60	44.620	5.284	44.780	10.44
21	44.530	0.369	44.850	10.67	47.400	473.0	45.200	39.96 *	44.650	5.784 *	44.690	7.102 *
22	44.530	0.374	44.890	14.13 *	45.800	126.0	45.140	34.52	44.640	5.719	44.640	5.808
23	44.520	0.322	44.800	6.795	45.350	57.72	44.990	21.29 *	44.640	5.617	44.630	5.176 *
24	44.510	0.225 *	44.680	4.431	45.170	38.20	45.330	54.99 #	44.630	5.570	44.630	5.330
25	44.500	0.170	44.580	1.848	45.240	45.96	44.970	21.75	44.650	5.974	44.610	4.602 *
26	44.490	0.143	44.500	0.659	45.100	28.39 *	44.775	9.804	44.670	6.770	44.590	4.037
27	44.580	0.612	44.470	0.537	45.040	21.35	44.880	15.08 #	44.670	6.847	44.580	3.965
28	44.610	1.123	44.430	0.000	45.020	20.67	44.870	13.23	44.660	6.101 *	44.580	4.008
29	44.580	0.626	44.420	0.000	44.915	14.99	44.820	10.56	44.670	6.894	44.600	4.597
30	44.770	6.352	44.420	0.000	44.880	10.80	44.740	8.939 *	44.720	8.658	44.600	4.536
31			44.410	0.000	44.985	19.12			44.670	6.935		
Ten-Daily Mean												
I Ten-Daily		0.000	44.738	7.417	45.032	6.440	44.728	8.235	44.697	7.367	44.688	7.474
II Ten-Daily	44.691	3.822	45.266	51.80	46.323	265.2	44.977	26.73	44.647	5.898	44.811	12.31
III Ten-Daily	44.562	1.032	44.586	3.552	45.355	77.84	44.972	23.01	44.661	6.442	44.615	4.916
Monthly												
Min.	44.490	0.000	44.410	0.000	44.880	0.000	44.635	5.528	44.590	3.763	44.580	3.965
Max.	44.800	8.369	45.860	141.3	50.040	1401	45.350	69.60	44.900	16.23	45.070	26.35
Mean	44.623	1.618	44.854	20.36	45.718	115.3	44.892	19.33	44.668	6.565	44.705	8.234

Annual Runoff in MCM = 478 Annual Runoff in mm = 258

Peak Observed Discharge = 1401 cumecs on 20/08/2018 Corres. Water Level :50.04 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018

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 2018 - 2019

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	44.600	4.288	44.480	0.796		0.000		0.000		0.000		0.000
2	44.600	4.327 *	44.470	0.541		0.000		0.000		0.000		0.000
3	44.610	4.844	44.450	0.000		0.000		0.000		0.000		0.000
4	44.620	5.472	44.440	0.000		0.000		0.000		0.000		0.000
5	44.630	5.640	44.440	0.000		0.000		0.000		0.000		0.000
6	44.630	5.466	44.430	0.000		0.000		0.000		0.000		0.000
7	44.630	5.430	44.420	0.000		0.000		0.000		0.000		0.000
8	44.620	5.396	44.420	0.000		0.000		0.000		0.000		0.000
9	44.590	4.061 *	44.410	0.000		0.000		0.000		0.000		0.000
10	44.580	4.060		0.000		0.000		0.000		0.000		0.000
11	44.560	2.908		0.000		0.000		0.000		0.000		0.000
12	44.550	2.824		0.000		0.000		0.000		0.000		0.000
13	44.550	2.856		0.000		0.000		0.000		0.000		0.000
14	44.540	2.843		0.000		0.000		0.000		0.000		0.000
15	44.540	2.810		0.000		0.000		0.000		0.000		0.000
16	44.530	2.642 *		0.000		0.000		0.000		0.000		0.000
17	44.550	2.799		0.000		0.000		0.000		0.000		0.000
18	45.610	89.54		0.000		0.000		0.000		0.000		0.000
19	45.185	34.27 #		0.000		0.000		0.000		0.000		0.000
20	44.910	17.64		0.000		0.000		0.000		0.000		0.000
21	44.680	8.840		0.000		0.000		0.000		0.000		0.000
22	44.610	5.186		0.000		0.000		0.000		0.000		0.000
23	44.580	3.803 *		0.000		0.000		0.000		0.000		0.000
24	44.560	3.252		0.000		0.000		0.000		0.000		0.000
25	44.540	2.857 *		0.000		0.000		0.000		0.000		0.000
26	44.530	2.358		0.000		0.000		0.000		0.000		0.000
27	44.520	2.031		0.000		0.000		0.000		0.000		0.000
28	44.510	1.738		0.000		0.000		0.000		0.000		0.000
29	44.500	1.390		0.000				0.000		0.000		0.000
30	44.490	1.864 *		0.000				0.000		0.000		0.000
31	44.490	0.926		0.000				0.000				0.000
Ten-Daily Mean												
I Ten-Daily	44.611	4.899	44.440	0.134		0.000		0.000		0.000		0.000
II Ten-Daily	44.752	16.11		0.000		0.000		0.000		0.000		0.000
III Ten-Daily	44.546	3.113		0.000		0.000		0.000		0.000		0.000
Monthly												
Min.	44.490	0.926	44.410	0.000		0.000		0.000		0.000		0.000
Max.	45.610	89.54	44.480	0.796		0.000		0.000		0.000		0.000
Mean	44.634	7.882	44.440	0.043		0		0		0		0

Peak Computed Discharge = 130.5 cumecs on 15/08/2018

Corres. Water Level :45.88 m

Lowest Computed Discharge = 0.225 cumecs on 24/06/2018

Corres. Water Level :44.51 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)

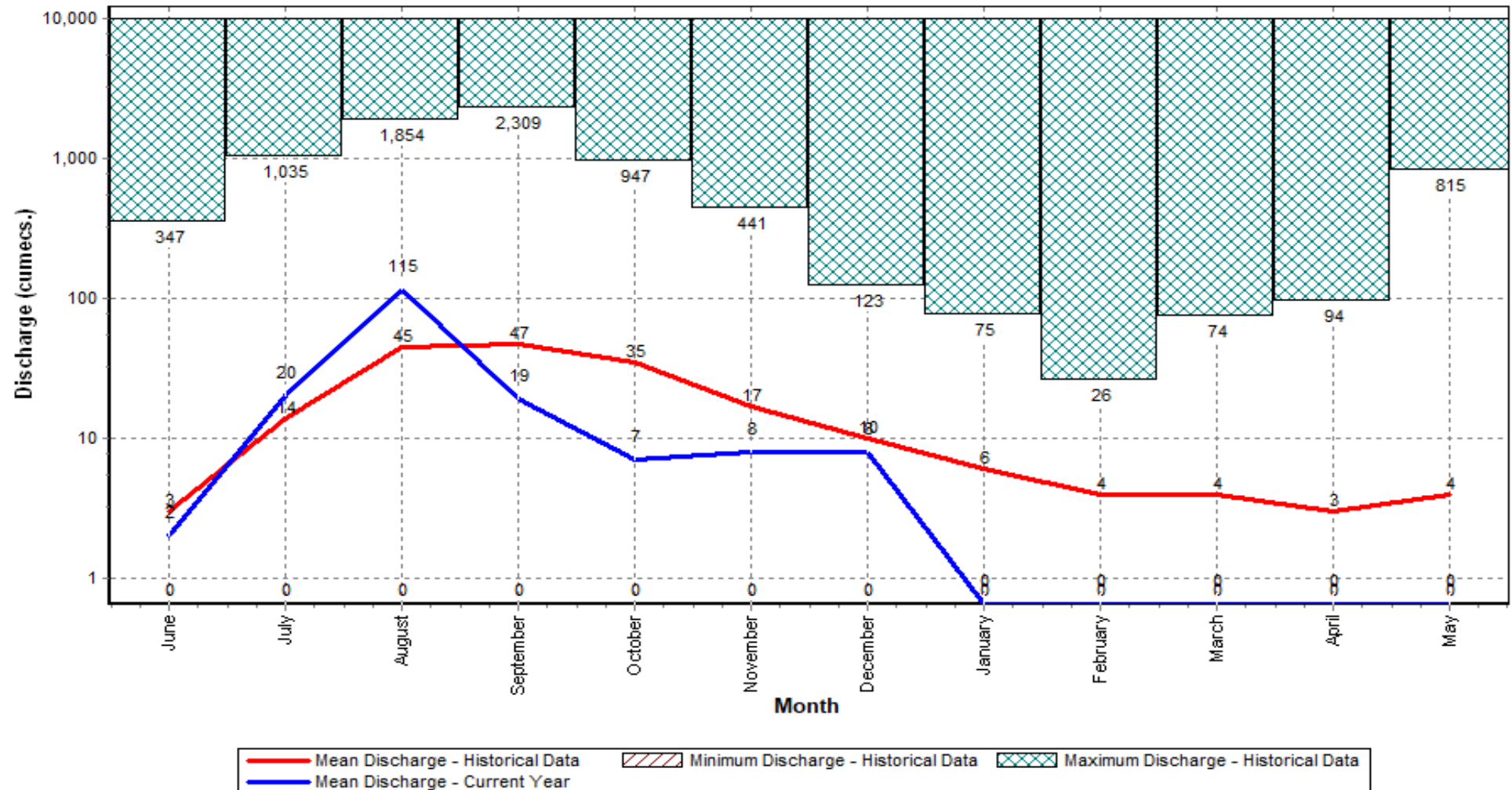
Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2018-2019

Station Name : Madhira (AKA10D2)
Local River : Wyra

Data considered : 1984-2019

Division : Lower Krishna Divn., Hyderabad
Sub-Division : Lower Krishna SD2, Vijayawada



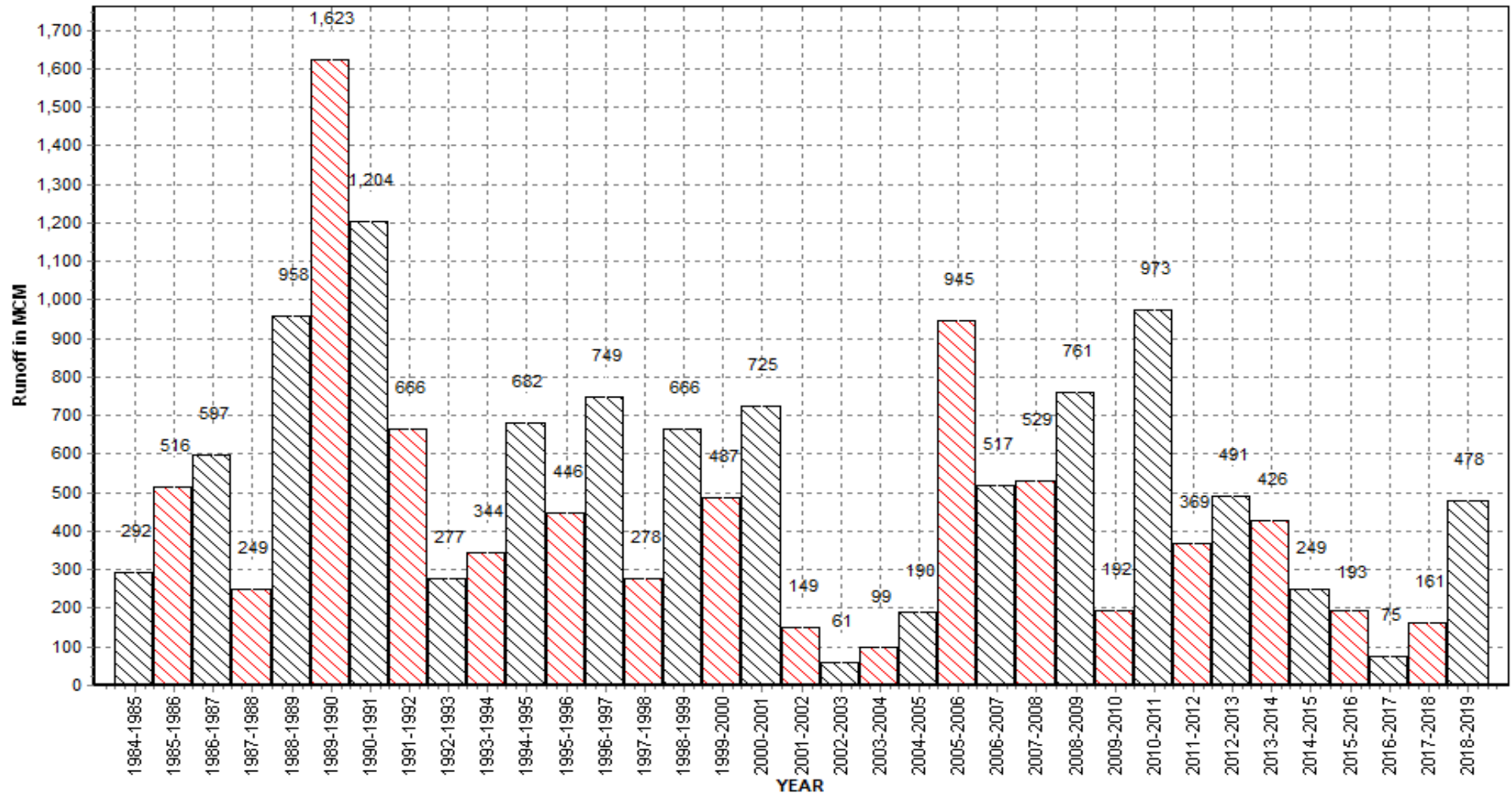
Annual Runoff Values for the period: 1984 - 2019

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

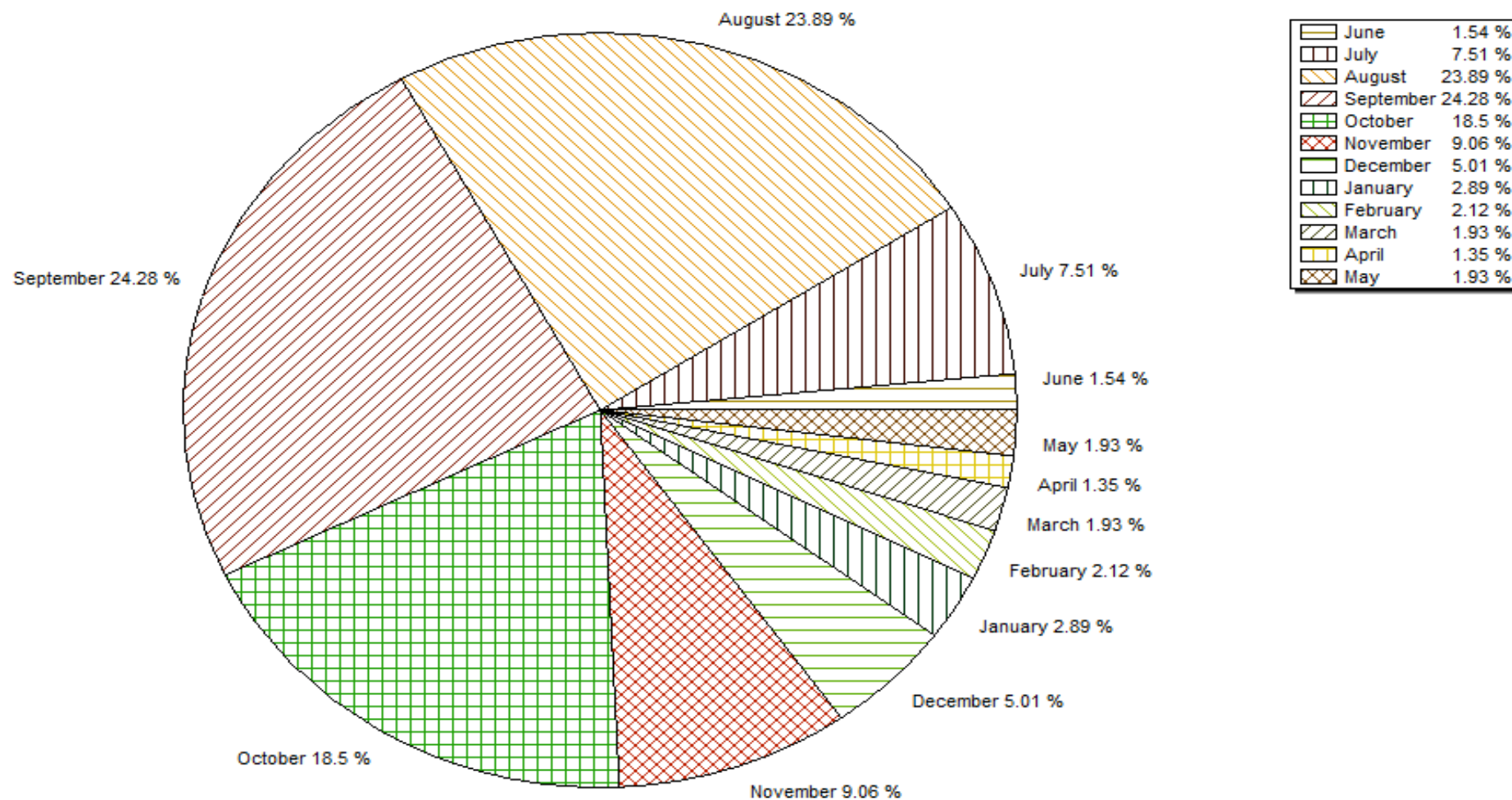
Monthly Average Runoff based on period : 1984-2018

Station Name : Madhira (AKA10D2)

Local River : Wyra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



Station Name : Madhira (AKA10D2)
Local River : Wyra

Monthly Average Runoff based on period : 1984-2018

Division : Lower Krishna Divn., Hyderabad
Sub-Division : Lower Krishna SD2, Vijayawada

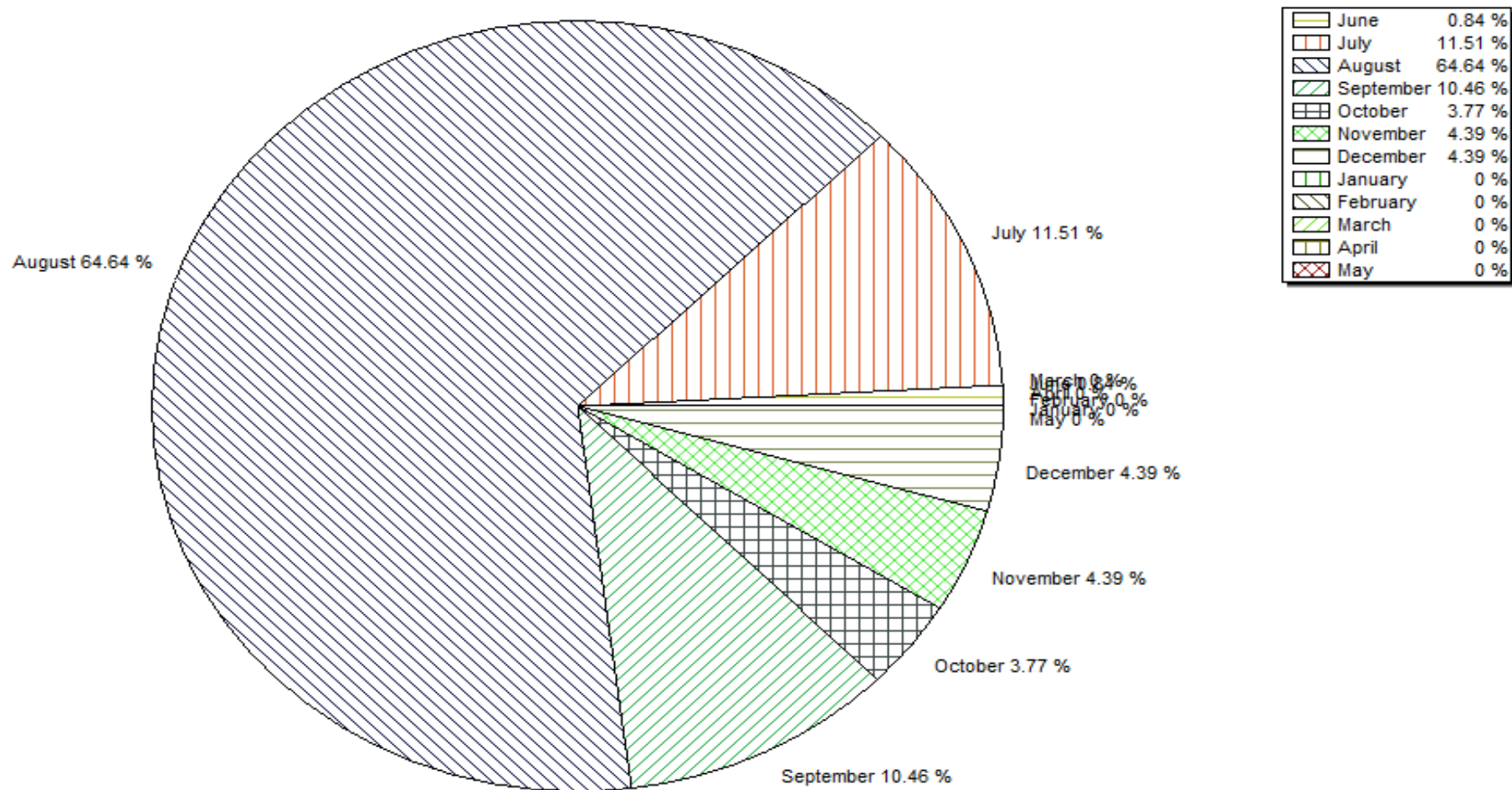
Monthly Runoff for the Year : 2018-2019

Station Name : Madhira (AKA10D2)

Local River : Wyra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



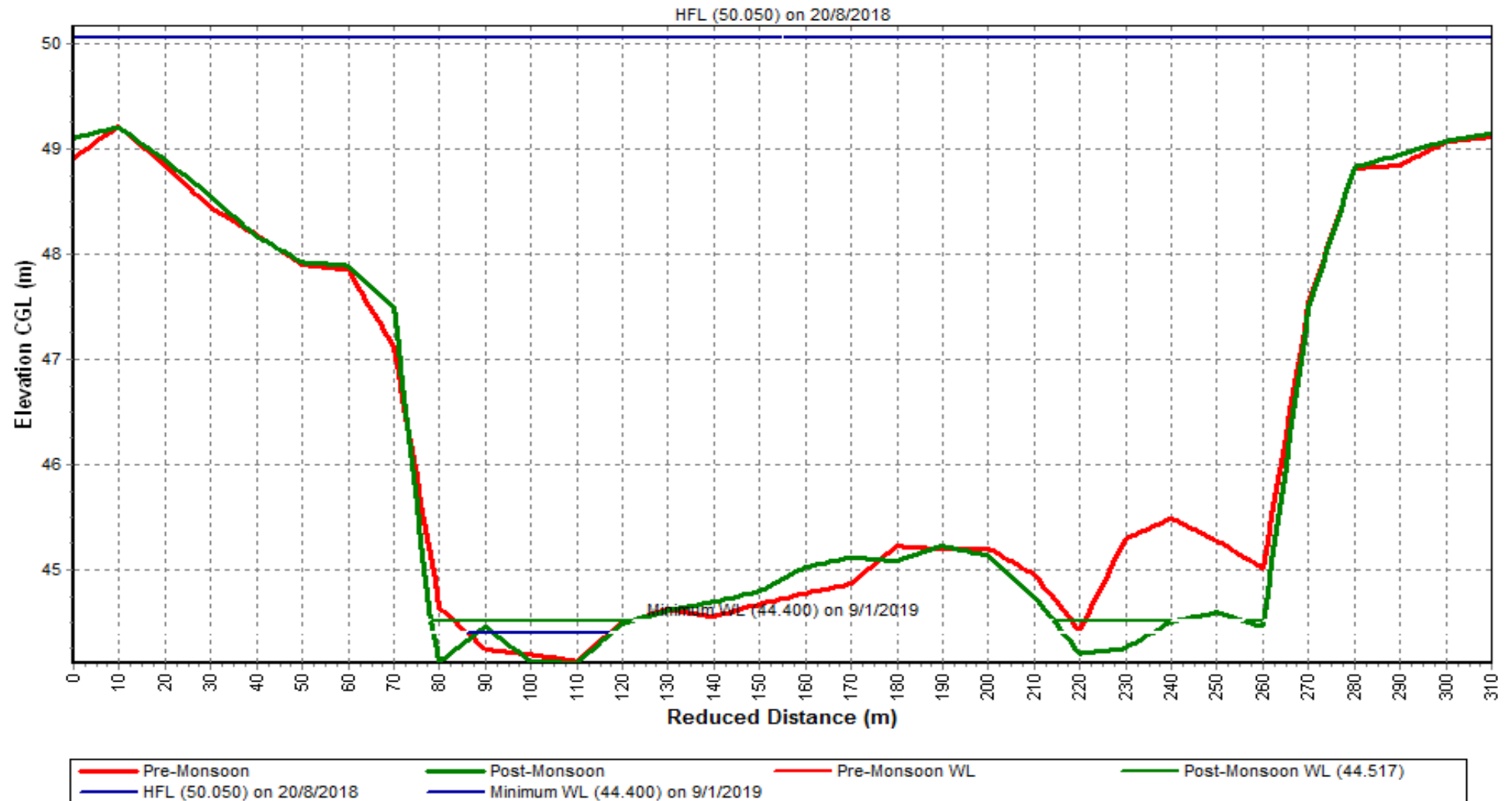
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Madhira (AKA10D2)

Local River : Wyra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



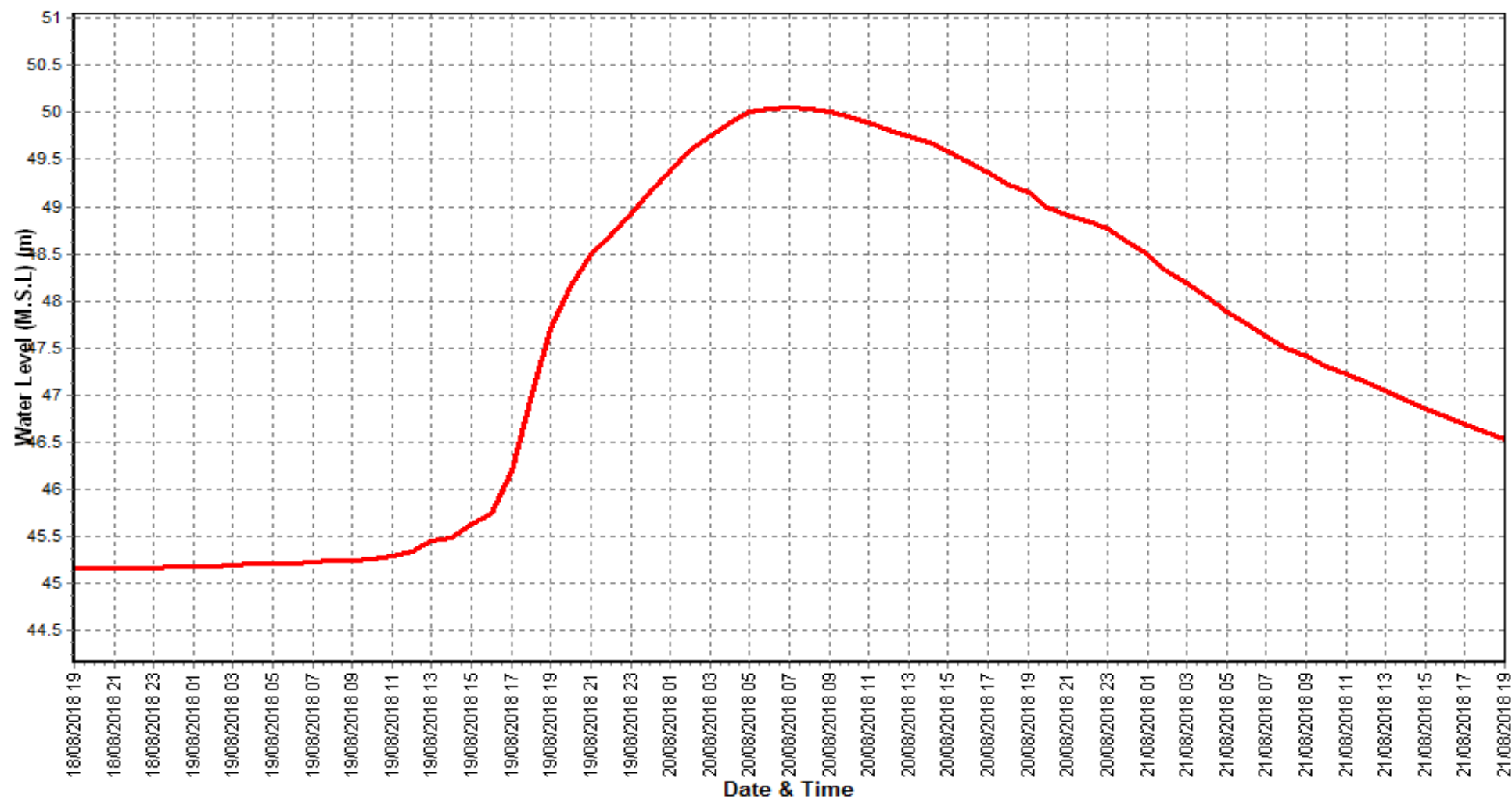
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Madhira (AKA10D2)

Local River : Wyra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



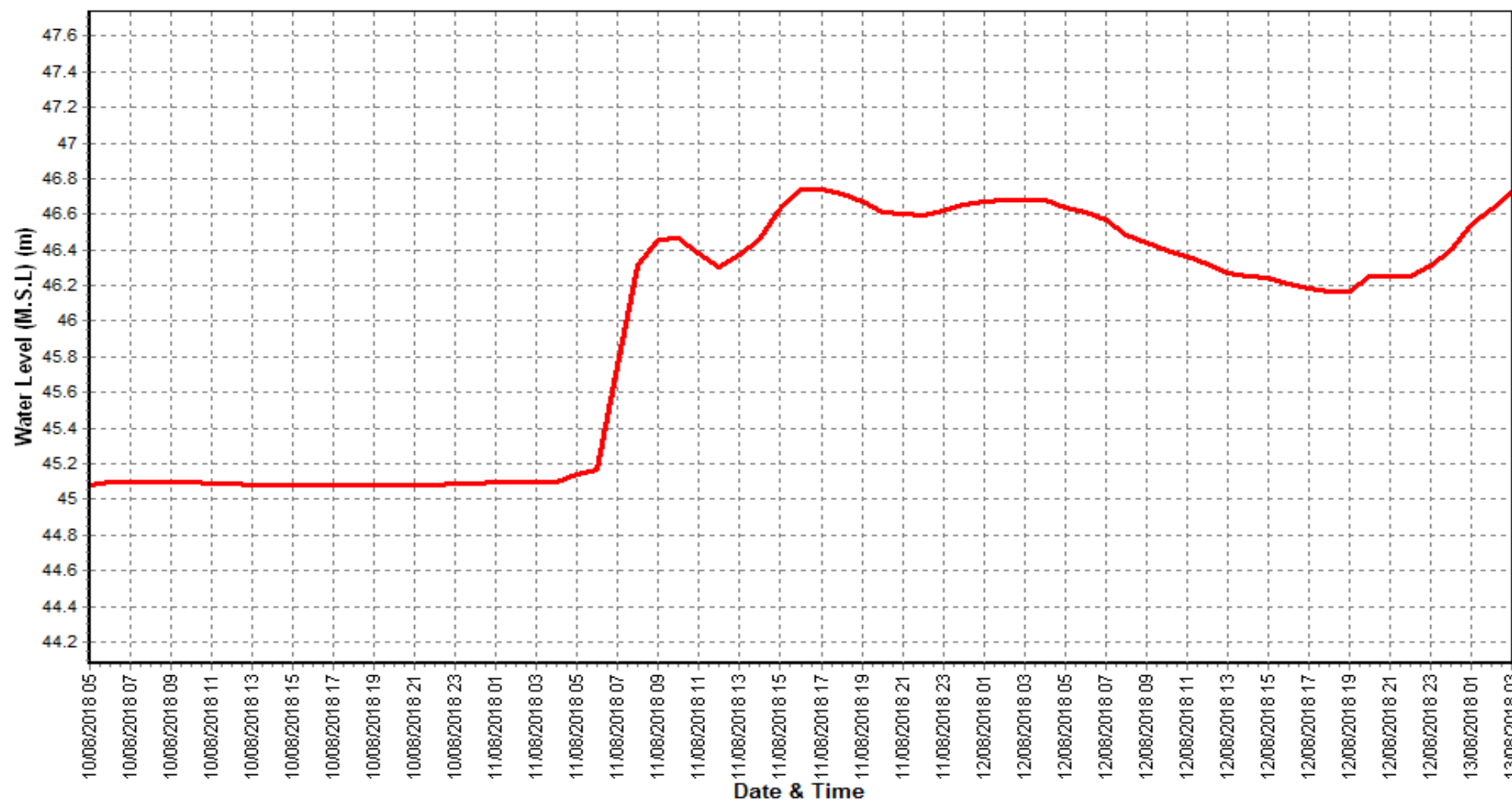
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : Madhira (AKA10D2)

Local River : Wyra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



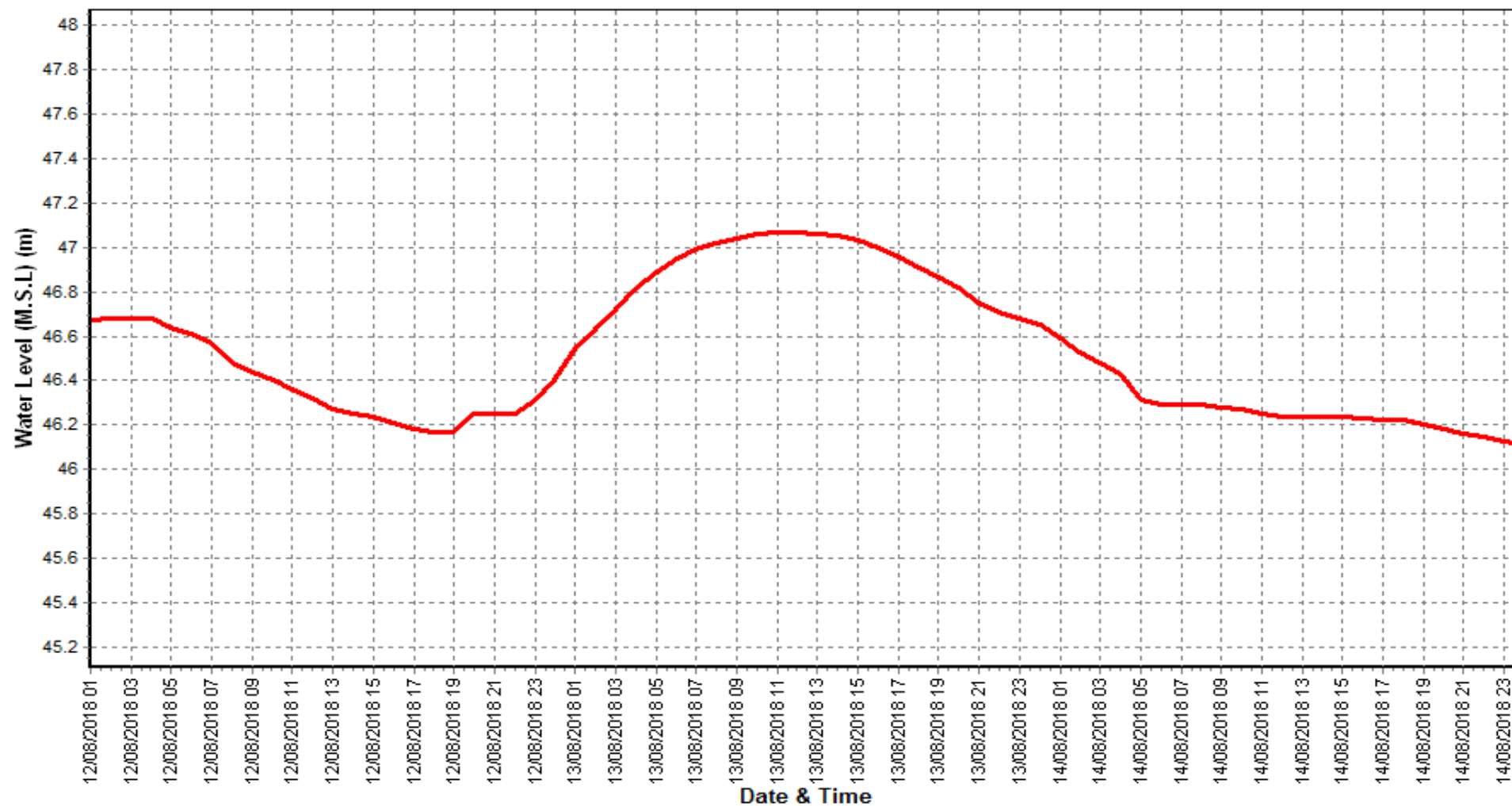
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Madhira (AKA10D2)

Local River : Wyra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



HISTORY SHEET

Water Year : 2018-2019

Site : DAREDU **Code : 035-LKDHYD**

State : Telangana District : Khammam

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 : 3100 Sq. Km. Bank : Left

Latitude : 17°22'46" Longitude : 80°07'49"

Zero of Gauge (m) : 93.5 (m.s.l) 16/11/2016

Opening Date Closing Date

Gauge : 16/11/2016 HFL During 2018-19 : 101.480 m

Discharge : 16/11/2016 Corres. Discharge : 1582 (Estimated)

Sediment : Date & Time of occurrence : 21/08/2018

Water Quality : : 06:00 Hrs

HFL Recorded so far in m : 101.480 dt 21-08-2018

Corresponding Discharge (cumecs) :

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	11.70	95.620	24/10/2017	0.000		26/05/2018

Annual Runoff of Munneru at Daredu

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	2017-2018	16	1	17	1	0	1
2	2018-2019	743	12	755	26	0	27
Average		380	6	386	13	0	14
75% Dependable flow (MCM)				Sufficient data not available			
90 % Dependable flow (MCM)				Sufficient data not available			

Stage-Discharge Data for the period 2018 - 2019

Station Name : DAREDU (035-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		0.000		0.000	95.740	1.757	96.210	26.09 *	96.020	14.06 *	95.750	2.478
2		0.000		0.000	95.730	1.468	96.120	20.01 *	96.070	16.93 *	95.790	4.144
3		0.000		0.000	95.930	8.061	96.020	14.06 *	95.960	12.07	95.905	7.296
4		0.000		0.000	95.890	7.850	95.940	8.853	96.030	14.62 *	96.140	21.30 *
5		0.000		0.000	95.840	5.506 *	95.890	7.591	95.890	8.553	96.070	16.93 *
6		0.000		0.000	95.710	1.203	95.820	5.541	95.750	2.756	95.825	2.644
7		0.000		0.000	95.740	1.921	95.770	4.480	95.660	0.000	95.860	6.321 *
8		0.000		0.000	95.930	8.229	95.700	1.026	95.650	0.000	95.810	2.148
9		0.000	94.980	2.609 *	96.340	36.08 *	95.660	0.000	95.640	0.000	95.840	3.062
10		0.000	96.660	66.79 *	96.660	66.79 *	95.630	0.000	95.660	0.000	96.090	18.14 *
11		0.000	96.800	82.96 *	96.550	55.25 *	95.600	0.000	95.650	0.000	96.030	14.62 *
12		0.000	96.170	23.30 *	98.210	338.7 *	95.590	0.000	95.630	0.000	95.905	10.33
13		0.000	96.060	16.34 *	101.000	1343 *	95.580	0.000	95.660	0.000	95.880	8.404
14		0.000	96.460	46.58 *	97.920	272.3 *	95.560	0.000	95.680	0.209 *	95.850	7.327
15		0.000	97.030	113.1 *	97.700	226.7 *	95.560	0.000	95.945	7.858	95.810	2.358
16		0.000	96.800	82.96 *	97.190	136.8 *	95.680	0.000	96.160	22.63 *	95.765	0.000
17		0.000	97.450	179.9 *	96.810	84.18 *	95.620	0.000	96.050	15.76 *	95.730	0.000
18		0.000	96.940	100.8 *	96.740	75.83 *	95.550	0.000	96.110	19.38 *	95.740	0.000
19		0.000	96.790	81.75 *	97.810	249.0 *	95.920	9.101	96.430	43.84 *	95.720	0.000
20		0.000	96.530	53.26 *	99.440	699.7 *	96.410	42.05 *	96.340	36.08 *	96.110	19.38 *
21		0.000	96.230	27.53 *	101.360	1520 *	96.790	81.75 *	96.220	26.80 *	96.170	23.30 *
22		0.000	97.160	132.2 *	98.180	331.5 *	97.200	138.3 *	95.935	8.357	95.940	10.55
23		0.000	96.780	80.55 *	97.800	246.9 *	96.870	91.67 *	95.860	7.393	95.890	7.607 *
24		0.000	96.620	62.48 *	96.850	89.14 *	96.390	40.30 *	95.795	4.221	95.770	2.121
25		0.000	96.330	35.26 *	97.270	149.4 *	96.260	29.76 *	95.740	2.216	95.720	1.329 *
26		0.000	96.130	20.65 *	97.000	109.0 *	95.820	5.714	95.810	3.983	95.690	0.000
27		0.000	96.050	15.76 *	96.590	59.33 *	95.730	1.487	95.805	3.875	95.670	0.000
28		0.000	95.960	11.38	96.460	46.58 *	95.790	5.184	95.840	5.506 *	95.680	0.000
29		0.000	95.890	7.607 *	96.500	50.35 *	95.770	4.407	95.780	3.326	95.650	0.000
30		0.000	95.770	2.921 #	96.530	53.26 *	95.820	4.725 *	95.770	3.021	95.680	0.000
31			95.805	4.628	96.450	45.65 *			95.800	4.555		
Ten-Daily Mean												
I Ten-Daily		0.000	95.820	6.940	95.951	13.89	95.876	8.765	95.833	6.899	95.908	8.446
II Ten-Daily		0.000	96.703	78.10	97.937	348.1	95.707	5.115	95.965	14.57	95.854	6.241
III Ten-Daily		0.000	96.248	36.45	97.363	245.6	96.244	40.34	95.850	6.660	95.786	4.491
Monthly												
Min.		0.000	94.980	0.000	95.710	1.203	95.550	0.000	95.630	0.000	95.650	0.000
Max.		0.000	97.450	179.9	101.360	1520	97.200	138.3	96.430	43.84	96.170	23.30
Mean		0	96.408	40.37	97.093	203.9	95.942	18.07	95.882	9.29	95.849	6.393

Annual Runoff in MCM = 755 Annual Runoff in mm = 243

Peak Observed Discharge = 13.13 cumecs on 18/12/2018 Corres. Water Level :96 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018

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 2018 - 2019

Station Name : DAREDU (035-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	95.670	0.000	95.770	2.260	95.650	0.000	95.250	0.000		0.000		0.000
2	95.650	0.000	95.760	2.034	95.570	0.000	95.240	0.000		0.000		0.000
3	95.650	0.000	95.740	1.402	95.540	0.000	95.220	0.000		0.000		0.000
4	95.640	0.000	95.710	0.000	95.530	0.000	95.220	0.000		0.000		0.000
5	95.630	0.000	95.660	0.000	95.530	0.000	110.220	0.000		0.000		0.000
6	95.630	0.000	95.610	0.000	95.520	0.000	110.210	0.000		0.000		0.000
7	95.620	0.000	95.560	0.000	95.510	0.000	110.140	0.000		0.000		0.000
8	95.620	0.000	95.540	0.000	95.500	0.000	110.100	0.000		0.000		0.000
9	95.620	0.000	95.540	0.000	95.480	0.000		0.000		0.000		0.000
10	95.610	0.000	95.530	0.000	95.460	0.000		0.000		0.000		0.000
11	95.680	0.000	95.500	0.000	95.440	0.000		0.000		0.000		0.000
12	95.680	0.000	95.470	0.000	95.430	0.000		0.000		0.000		0.000
13	95.680	0.000	95.440	0.000	95.410	0.000		0.000		0.000		0.000
14	95.670	0.000	95.410	0.000	95.390	0.000		0.000		0.000		0.000
15	95.660	0.000	95.400	0.000	95.370	0.000		0.000		0.000		0.000
16	95.650	0.000	95.390	0.000	95.350	0.000		0.000		0.000		0.000
17	95.690	0.000	95.390	0.000	95.350	0.000		0.000		0.000		0.000
18	96.000	13.13	95.380	0.000	95.330	0.000		0.000		0.000		0.000
19	95.970	12.19	95.370	0.000	95.330	0.000		0.000		0.000		0.000
20	95.950	11.99	95.350	0.000	95.320	0.000		0.000		0.000		0.000
21	95.975	12.92	95.340	0.000	95.320	0.000		0.000		0.000		0.000
22	95.975	12.59	95.330	0.000	95.310	0.000		0.000		0.000		0.000
23	96.000	12.98 *	95.330	0.000	95.290	0.000		0.000		0.000		0.000
24	96.005	11.18	95.320	0.000	95.290	0.000		0.000		0.000		0.000
25	95.960	10.91 *	95.310	0.000	95.280	0.000		0.000		0.000		0.000
26	95.930	9.732	95.300	0.000	95.270	0.000		0.000		0.000		0.000
27	95.920	9.132	95.300	0.000	95.270	0.000		0.000		0.000		0.000
28	95.870	7.506	95.330	0.000	95.260	0.000		0.000		0.000		0.000
29	95.820	4.004	95.520	0.000				0.000		0.000		0.000
30	95.810	4.347 *	95.640	0.000				0.000		0.000		0.000
31	95.780	2.573	95.680	0.000				0.000				0.000
Ten-Daily Mean												
I Ten-Daily	95.634	0.000	95.642	0.570	95.529	0.000	102.700	0.000		0.000		0.000
II Ten-Daily	95.763	3.731	95.410	0.000	95.372	0.000		0.000		0.000		0.000
III Ten-Daily	95.913	8.897	95.400	0.000	95.286	0.000		0.000		0.000		0.000
Monthly												
Min.	95.610	0.000	95.300	0.000	95.260	0.000	95.220	0.000		0.000		0.000
Max.	96.005	13.13	95.770	2.260	95.650	0.000	110.220	0.000		0.000		0.000
Mean	95.775	4.36	95.481	0.184	95.404	0	102.700	0		0		0

Peak Computed Discharge = 1520 cumecs on 21/08/2018

Corres. Water Level :101.36 m

Lowest Computed Discharge = 0.209 cumecs on 14/10/2018

Corres. Water Level :95.68 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 : 2018-2019

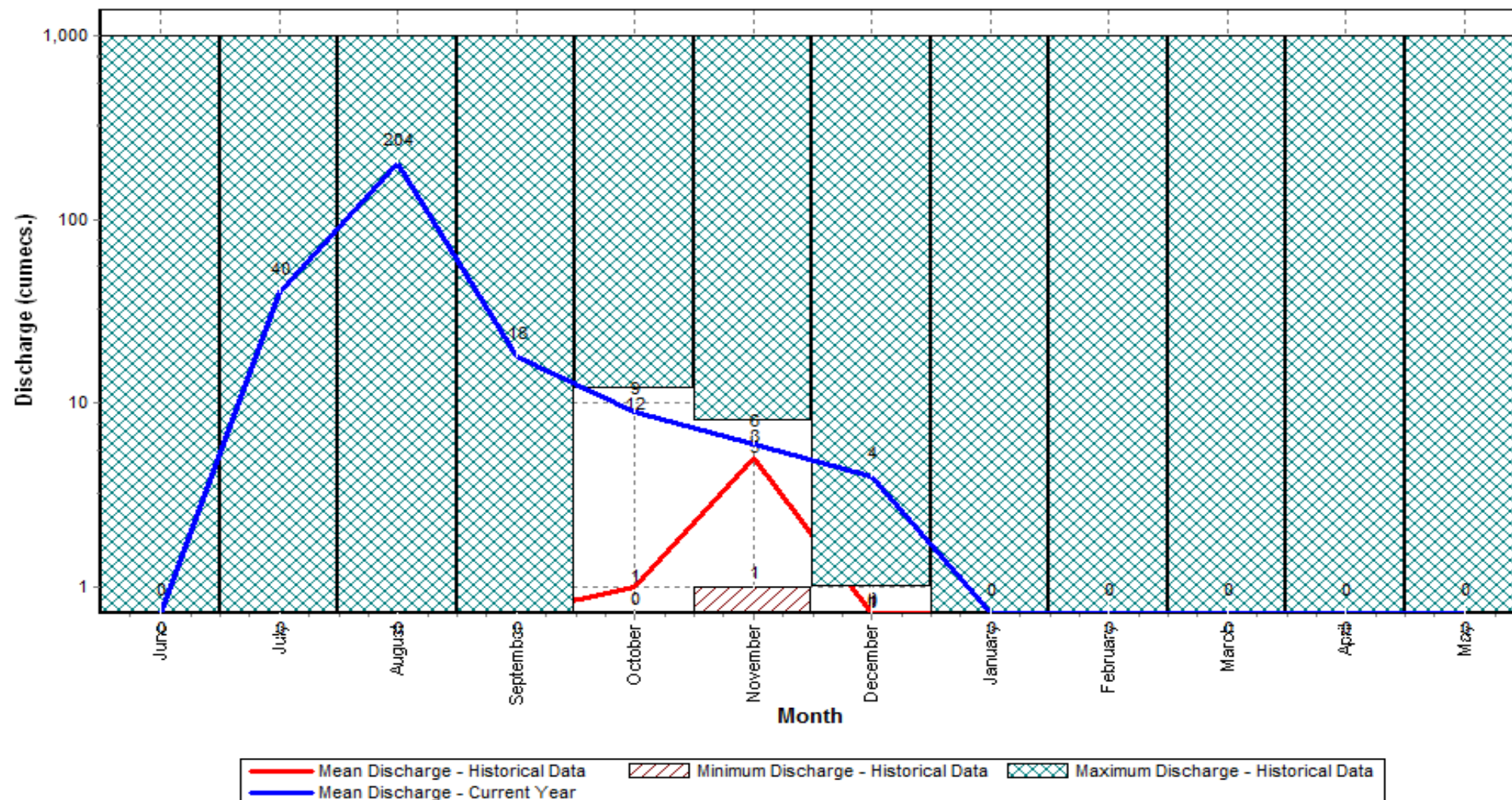
Station Name : DAREDU (035-LKDHYD)

Data considered : 2017-2019

Division : Lower Krishna Divn., Hyderabad

Local River : Munneru

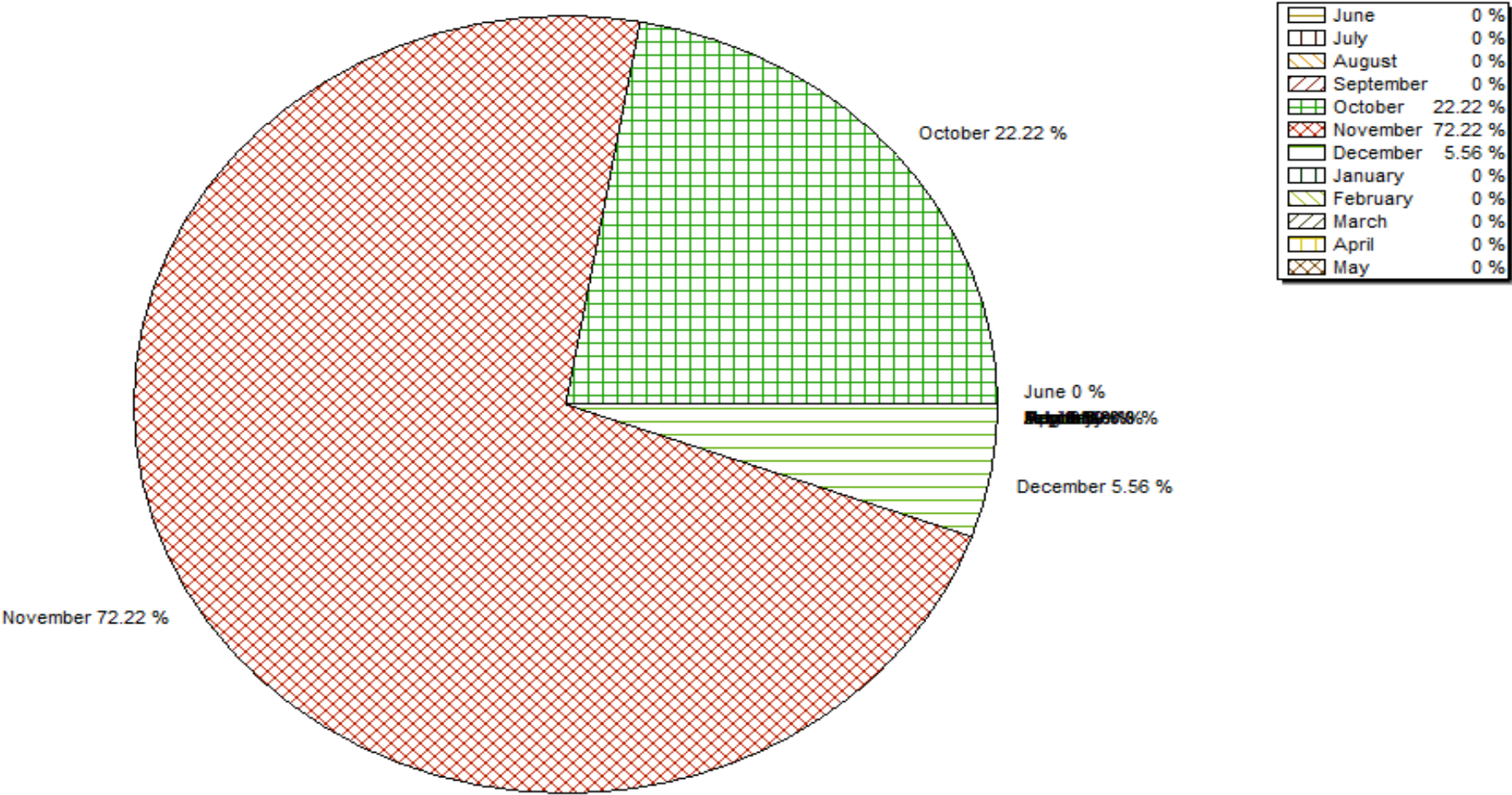
Sub-Division : Lower Krishna SD2, Vijayawada



Monthly Average Runoff based on period : 2017-2018

Station Name : DAREDU (035-LKDHYD)
Local River : Munneru

Division : Lower Krishna Divn., Hyderabad
Sub-Division : Lower Krishna SD2, Vijayawada



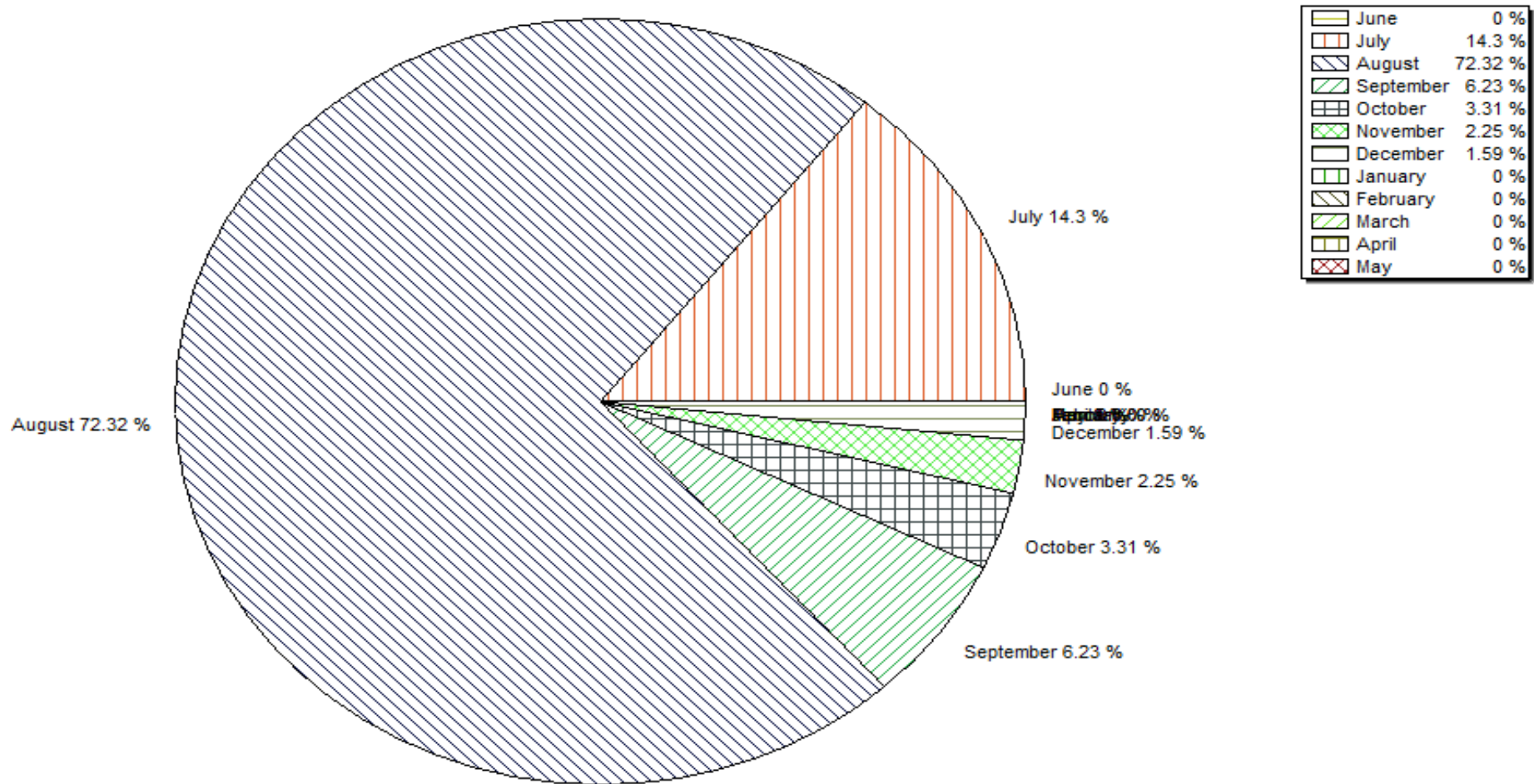
Monthly Runoff for the Year : 2018-2019

Station Name : DAREDU (035-LKDHYD)

Local River : Munneru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



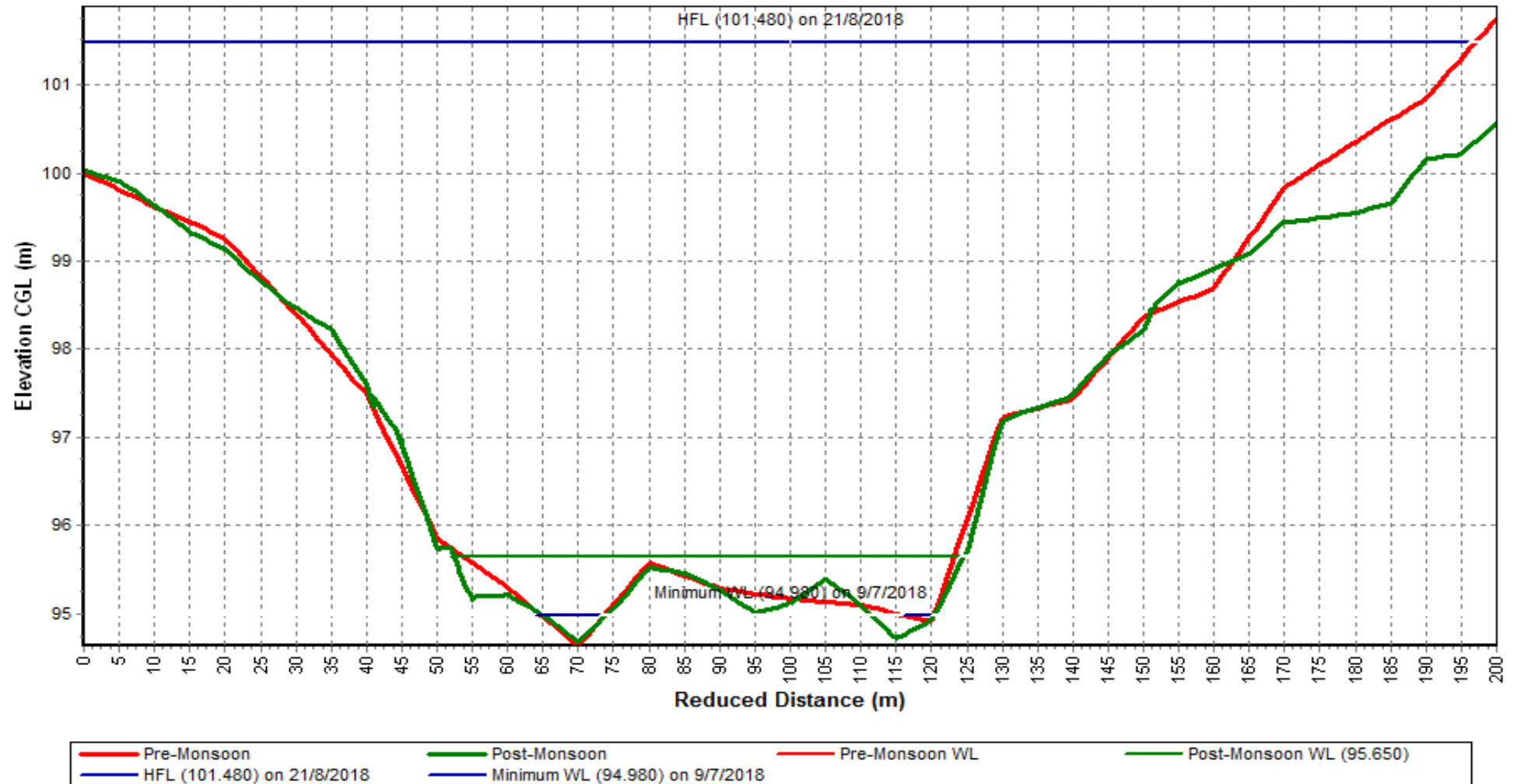
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : DAREDU (035-LKDHYD)

Local River : Munneru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



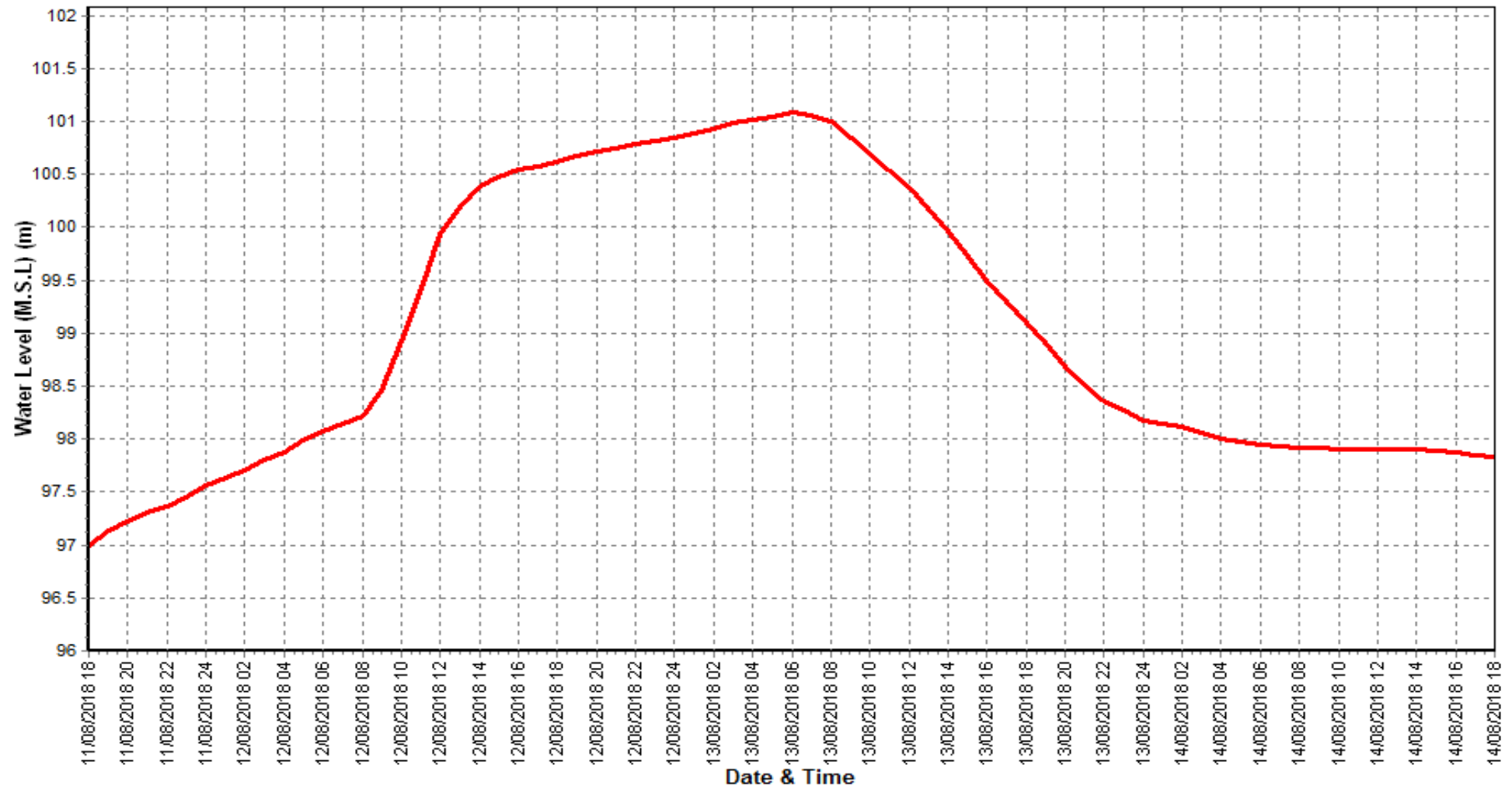
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : DAREDU (035-LKDHYD)

Local River : Munneru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



Time Span: 72 Hrs

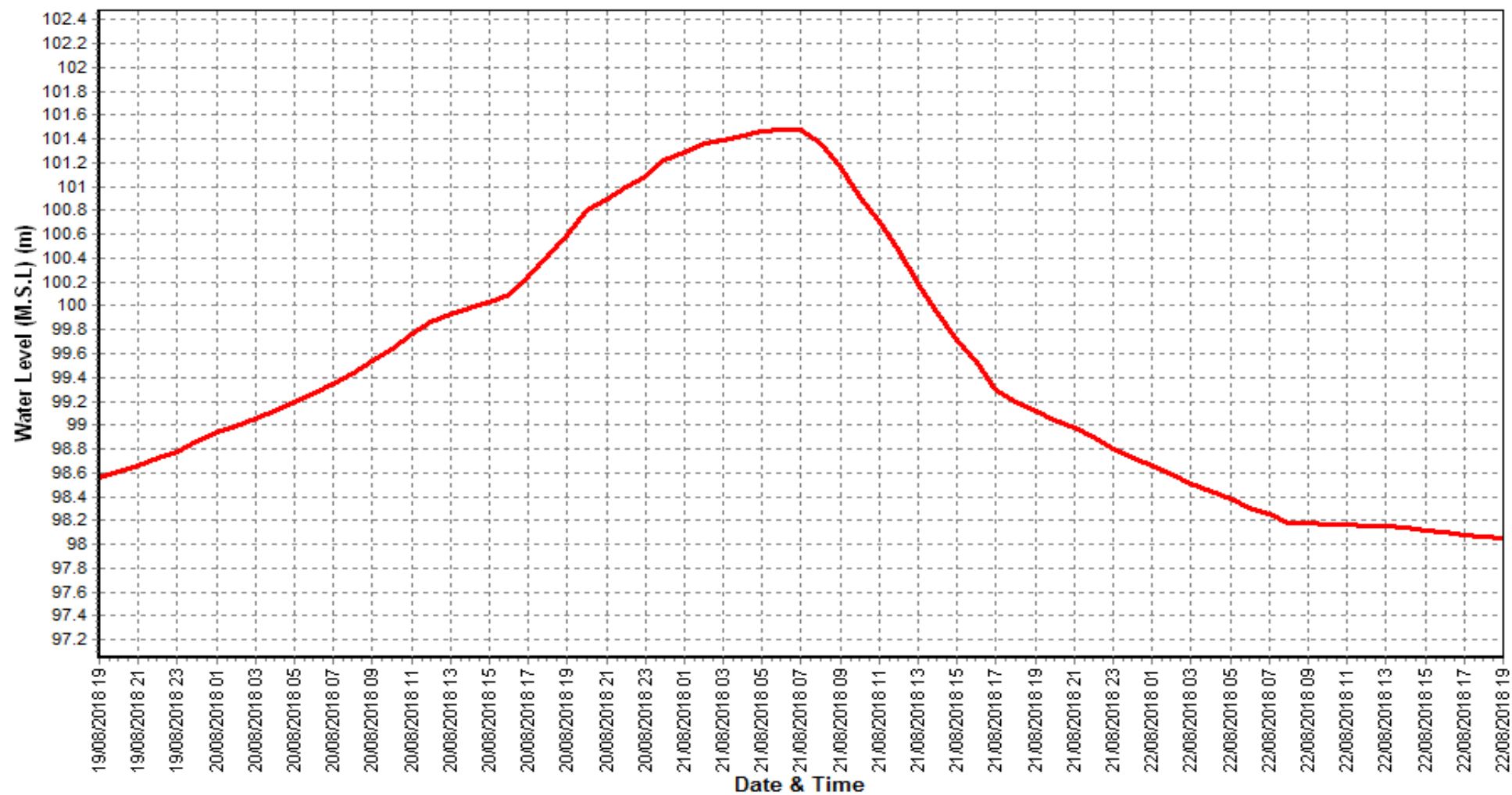
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : DAREDU (035-LKDHYD)

Local River : Munneru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



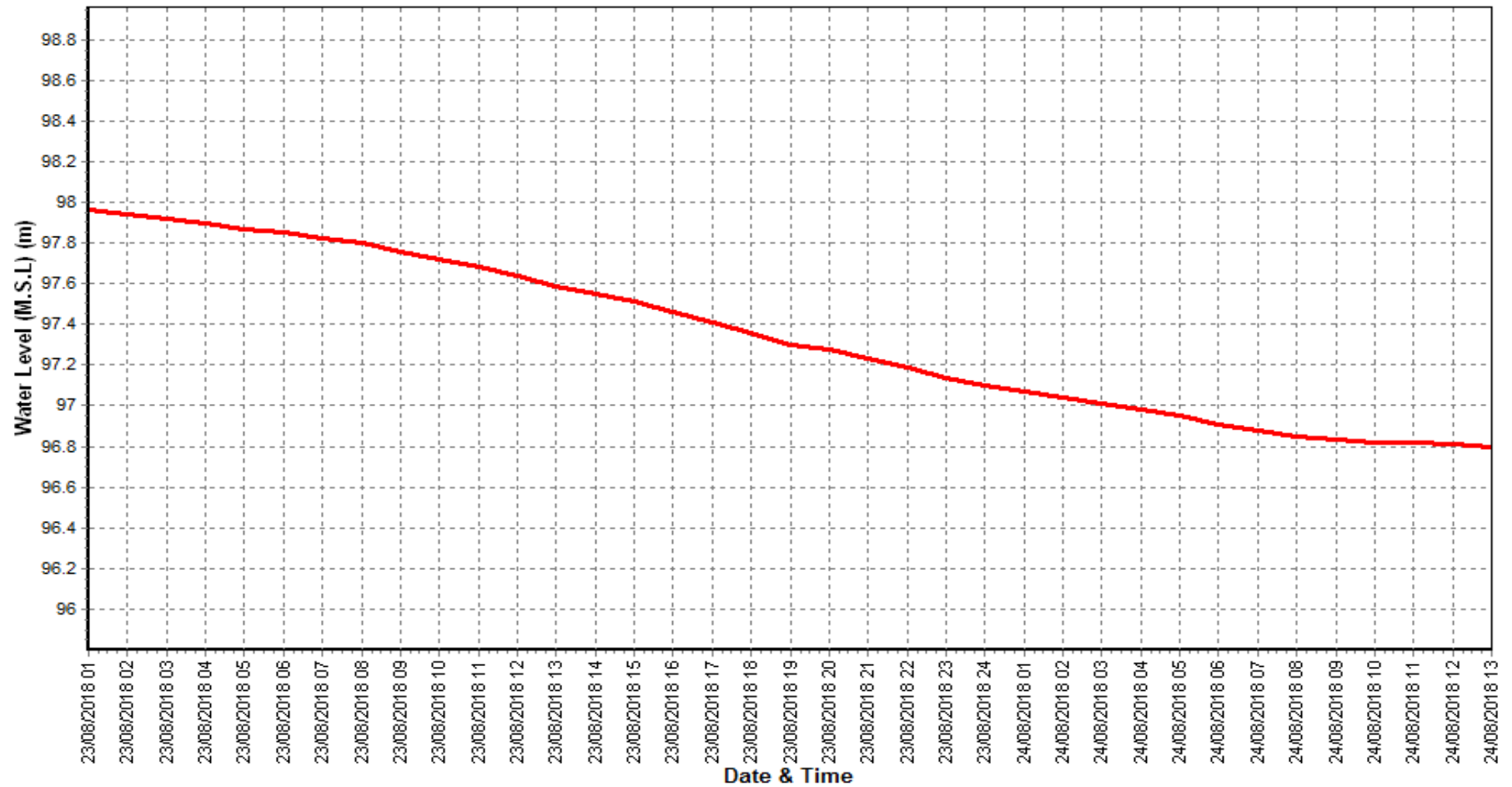
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : DAREDU (035-LKDHYD)

Local River : Munneru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



HISTORY SHEET

		Water Year	: 2018-2019
Site	: Munugodu	Code	: 033-LKDHYD
State	: Andhra Pradesh	District	Guntur
Basin	: Krishna	Independent River	: Krishna
Tributary	: -	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Eddu Vagu
Division	: Lower Krishna Divn., Hyderabad	Sub-Division	: Lower Krishna SD 1, N.S.Dam
Drainage Area	: 647.8 Sq. Km.	Bank	: Left
Latitude	: 16°33'17"	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 2018-19	: 27.730 m
		Corres. Discharge	: 78.28 (Estimated)
Discharge	: 24/10/2016	Date & Time of occurrence	: 20/08/2018 : 12:00 Hrs
Sediment	:		
Water Quality	:		

HFL Recorded so far in m : 27.730 dt 20-08-2018

Corresponding Discharge (cumecs) : 78.28 *

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

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date

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
Average		49	25	74	2	1	3
75% Dependable flow (MCM)				Sufficient data not available			
90 % Dependable flow (MCM)				Sufficient data not available			

Stage-Discharge Data for the period 2018 - 2019

Station Name : Munugodu (033-LKDHYD)

Division : Lower Krishna Divn., Hyderabad

Local River : Eddu Vagu

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	25.780	0.000	25.850	0.000	25.760	0.000	25.960	0.864	26.610	10.60	26.280	3.690
2	26.190	3.122	25.850	0.000	25.770	0.000	25.930	0.688 *	26.700	13.83 *	26.430	5.927
3	26.030	1.296 *	25.850	0.000	25.770	0.000	25.905	0.439	27.130	32.72 #	26.500	7.112
4	25.920	0.651	25.850	0.000	25.780	0.000	25.970	0.970	26.870	20.10 #	26.500	9.440 *
5	25.920	0.641	25.860	0.164	25.760	0.000	25.830	0.000	26.680	13.68	26.365	4.793
6	25.900	0.439	25.860	0.163	25.740	0.000	25.975	1.120	26.590	11.76	26.225	3.321
7	25.910	0.568	25.880	0.492	25.720	0.000	26.130	2.254	26.590	10.53 *	26.130	2.932 *
8	25.920	0.658	26.000	1.088 *	25.720	0.000	26.145	2.362	26.580	11.14	26.040	1.733
9	25.920	0.663	26.240	4.126	25.720	0.000	26.150	2.373 *	26.540	7.614	26.030	1.650
10	25.960	0.845 *	26.120	2.193	25.730	0.000	26.145	2.422	26.505	6.340	26.020	1.509
11	25.930	0.759	26.050	1.607	25.760	0.000	26.250	3.881	26.500	6.168	26.080	2.315 *
12	25.940	0.820	26.040	1.490	26.690	13.51 *	26.315	4.561	26.440	7.514	26.020	1.526
13	25.940	0.836	26.140	2.435	26.370	4.683	26.340	5.000 *	26.380	5.764	26.030	1.667
14	25.930	0.752	26.120	2.200	26.200	2.666	26.390	6.113	26.290	4.189 *	25.995	1.503
15	25.920	0.706	26.050	1.448 *	26.240	3.465 *	26.430	6.448	26.320	5.434	25.955	1.014
16	25.920	0.640 *	26.150	2.584	26.520	9.631	26.360	5.351 *	26.485	5.890	25.960	1.059
17	25.910	0.594 *	26.070	1.757	26.285	3.613	26.390	6.185	26.540	7.535	26.030	1.651
18	25.900	0.521	26.010	1.299	26.170	2.230	26.435	6.529	26.750	15.52 #	26.090	2.433 *
19	25.900	0.512	26.010	1.351	26.280	4.037 *	26.660	12.18	26.770	16.24 *	26.290	3.819
20	25.890	0.396	25.990	1.044	27.630	68.93 *	26.640	11.54	26.770	16.24 #	26.310	4.241
21	25.880	0.292	25.940	0.822	26.910	21.79 *	26.570	9.994 *	26.660	12.57 *	26.280	5.168 *
22	25.880	0.284	25.990	1.024 *	26.550	9.472 *	26.660	12.30	26.540	7.273	26.260	5.237
23	25.870	0.180	25.940	0.817	26.340	4.641	26.660	12.57 *	26.530	7.062	26.330	6.038 *
24	25.870	0.432 *	25.890	0.464	26.340	4.706	26.630	10.93	26.460	7.519	26.340	6.423
25	25.860	0.156	25.880	0.399	26.240	3.009	26.620	10.50	26.465	7.811	26.280	5.168 *
26	25.850	0.000	25.840	0.282	26.240	3.465 *	26.530	8.019	26.490	8.381	26.145	2.564
27	25.840	0.000	25.830	0.249	26.240	2.977	26.595	10.66	26.460	7.398	26.030	1.690
28	25.840	0.000	25.820	0.167	26.340	4.680	26.590	13.10	26.400	6.098 *	25.970	1.182
29	25.840	0.000	25.800	0.221 *	26.340	4.587	26.600	11.93	26.370	4.665	25.970	1.147
30	25.840	0.000	25.790	0.000	26.080	1.659	26.550	9.472 *	26.310	4.233	25.950	1.079
31			25.780	0.000	25.990	1.068			26.300	4.099		
Ten-Daily Mean												
I Ten-Daily	25.945	0.889	25.936	0.823	25.747	0.000	26.014	1.349	26.679	13.83	26.252	4.211
II Ten-Daily	25.918	0.654	26.063	1.721	26.415	11.28	26.421	6.778	26.524	9.049	26.076	2.123
III Ten-Daily	25.857	0.134	25.864	0.404	26.328	5.642	26.601	10.95	26.453	7.010	26.156	3.570
Monthly												
Min.	25.780	0.000	25.780	0.000	25.720	0.000	25.830	0.000	26.290	4.099	25.950	1.014
Max.	26.190	3.122	26.240	4.126	27.630	68.93	26.660	13.10	27.130	32.72	26.500	9.440
Mean	25.907	0.559	25.951	0.964	26.169	5.639	26.345	6.359	26.549	9.869	26.161	3.301

Annual Runoff in MCM = 91 Annual Runoff in mm = 140

Peak Observed Discharge = 32.72 cumecs on 03/10/2018 Corres. Water Level :27.13 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018 Corres. Water Level :25.78 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 2018 - 2019

Station Name : Munugodu (033-LKDHYD)

Division : Lower Krishna Divn., Hyderabad

Local River : Eddu Vagu

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	25.970	1.399	26.240	4.871	26.280	5.599		0.000		0.000		0.000
2	26.050	1.976 *	26.220	3.975	26.220	4.032		0.000		0.000		0.000
3	26.130	2.668	26.200	3.720	26.280	5.168 *		0.000		0.000		0.000
4	26.210	3.733	26.200	3.721	26.140	2.795		0.000		0.000		0.000
5	26.280	5.434	26.180	3.233	26.030	1.924		0.000		0.000		0.000
6	26.380	6.996	26.220	4.206 *	25.980	1.148		0.000		0.000		0.000
7	26.400	7.736	26.290	5.855	25.960	1.084		0.000		0.000		0.000
8	26.430	8.264	26.345	6.476	25.930	0.852		0.000		0.000		0.000
9	26.420	7.754 *	26.280	5.545	25.930	0.883		0.000		0.000		0.000
10	26.380	7.032	26.280	5.568	25.910	0.724 *		0.000		0.000		0.000
11	26.320	5.801	26.220	4.016	25.860	0.360		0.000		0.000		0.000
12	26.210	3.915	26.230	4.762	25.840	0.291		0.000		0.000		0.000
13	26.090	2.702	26.020	1.662 *	25.850	0.323		0.000		0.000		0.000
14	26.015	1.961	25.960	1.108 *	25.800	0.142		0.000		0.000		0.000
15	26.050	2.089	25.990	1.598	25.760	0.043		0.000		0.000		0.000
16	26.070	2.199 *	26.000	1.714	25.750	0.000		0.000		0.000		0.000
17	26.080	2.539	25.990	1.587	25.710	0.000		0.000		0.000		0.000
18	26.230	4.694	25.950	0.967	25.700	0.000		0.000		0.000		0.000
19	26.160	2.841	25.930	0.825	25.680	0.000		0.000		0.000		0.000
20	26.130	2.763	25.900	0.656 *	25.680	0.000		0.000		0.000		0.000
21	26.070	2.394	25.900	0.736	25.680	0.000		0.000		0.000		0.000
22	26.050	2.000	25.890	0.601	25.600	0.000		0.000		0.000		0.000
23	26.040	1.869 *	25.890	0.597	25.620	0.000		0.000		0.000		0.000
24	26.040	1.830	25.910	0.783		0.000		0.000		0.000		0.000
25	26.080	2.315 *	25.930	0.867		0.000	25.840	0.194		0.000		0.000
26	26.090	2.717	25.980	1.281 *		0.000	25.800	0.000		0.000		0.000
27	26.100	2.726	25.990	1.372 *		0.000	25.700	0.000		0.000		0.000
28	26.120	3.088	26.090	2.740		0.000		0.000		0.000		0.000
29	26.280	5.588	26.240	4.926				0.000		0.000		0.000
30	26.250	4.676 *	26.290	5.871				0.000		0.000		0.000
31	26.240	4.887	26.280	5.606				0.000				0.000
Ten-Daily Mean												
I Ten-Daily	26.265	5.299	26.246	4.717	26.066	2.421		0.000		0.000		0.000
II Ten-Daily	26.136	3.150	26.019	1.890	25.763	0.116		0.000		0.000		0.000
III Ten-Daily	26.124	3.099	26.035	2.307	25.633	0.000	25.780	0.018		0.000		0.000
Monthly												
Min.	25.970	1.399	25.890	0.597	25.600	0.000	25.700	0.000		0.000		0.000
Max.	26.430	8.264	26.345	6.476	26.280	5.599	25.840	0.194		0.000		0.000
Mean	26.173	3.825	26.098	2.95	25.878	0.906	25.780	0.006		0		0

Peak Computed Discharge = 68.93 cumecs on 20/08/2018

Corres. Water Level :27.63 m

Lowest Computed Discharge = 0.221 cumecs on 29/07/2018

Corres. Water Level :25.8 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

HISTOGRAM - HYDROGRAPH for Water Year : 2018-2019

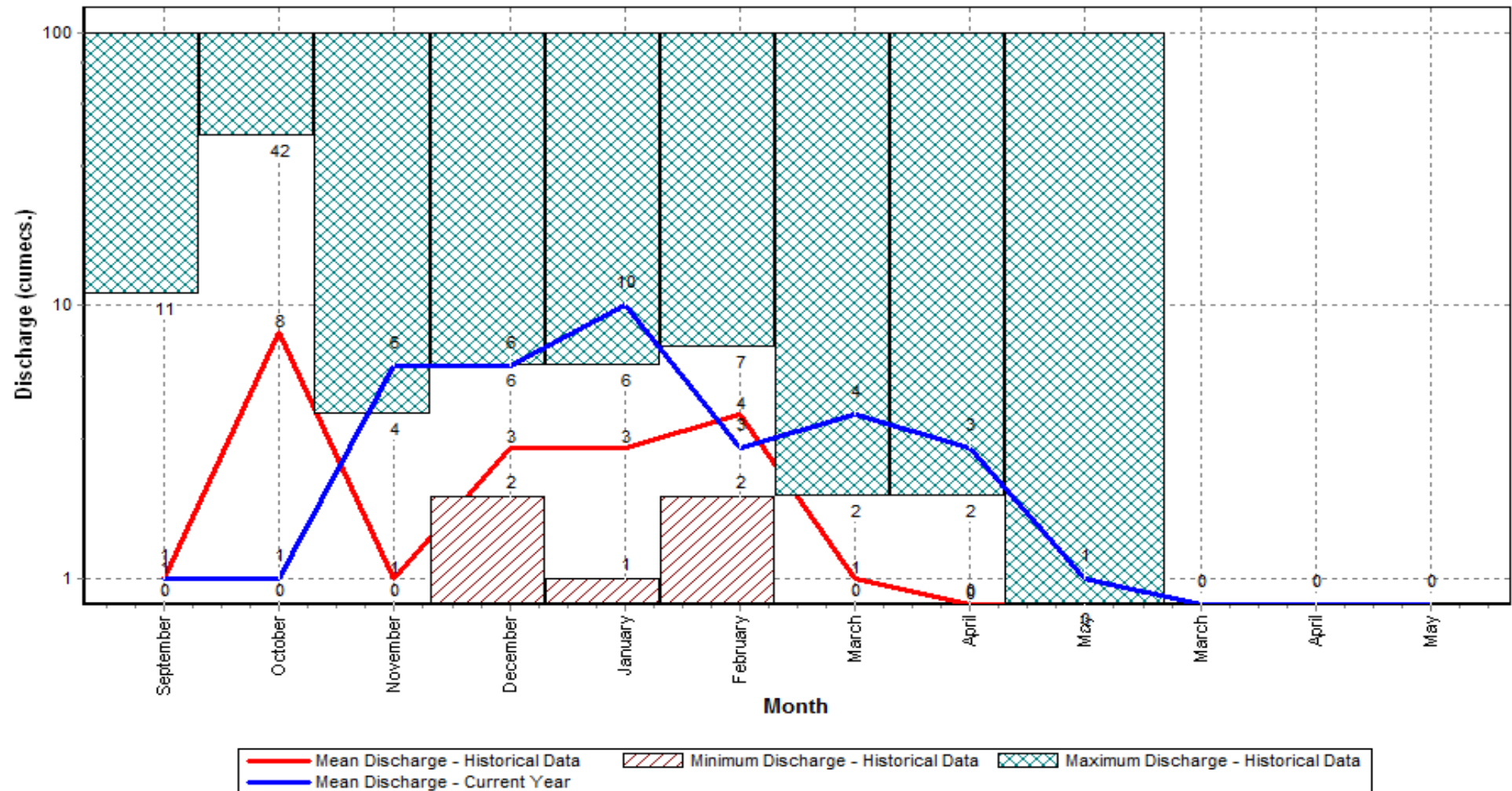
Station Name : Munugodu (033-LKDHYD)

Data considered : 2018-2019

Division : Lower Krishna Divn., Hyderabad

Local River : Eddu Vagu

Sub-Division : Lower Krishna SD 1, N.S.Dam



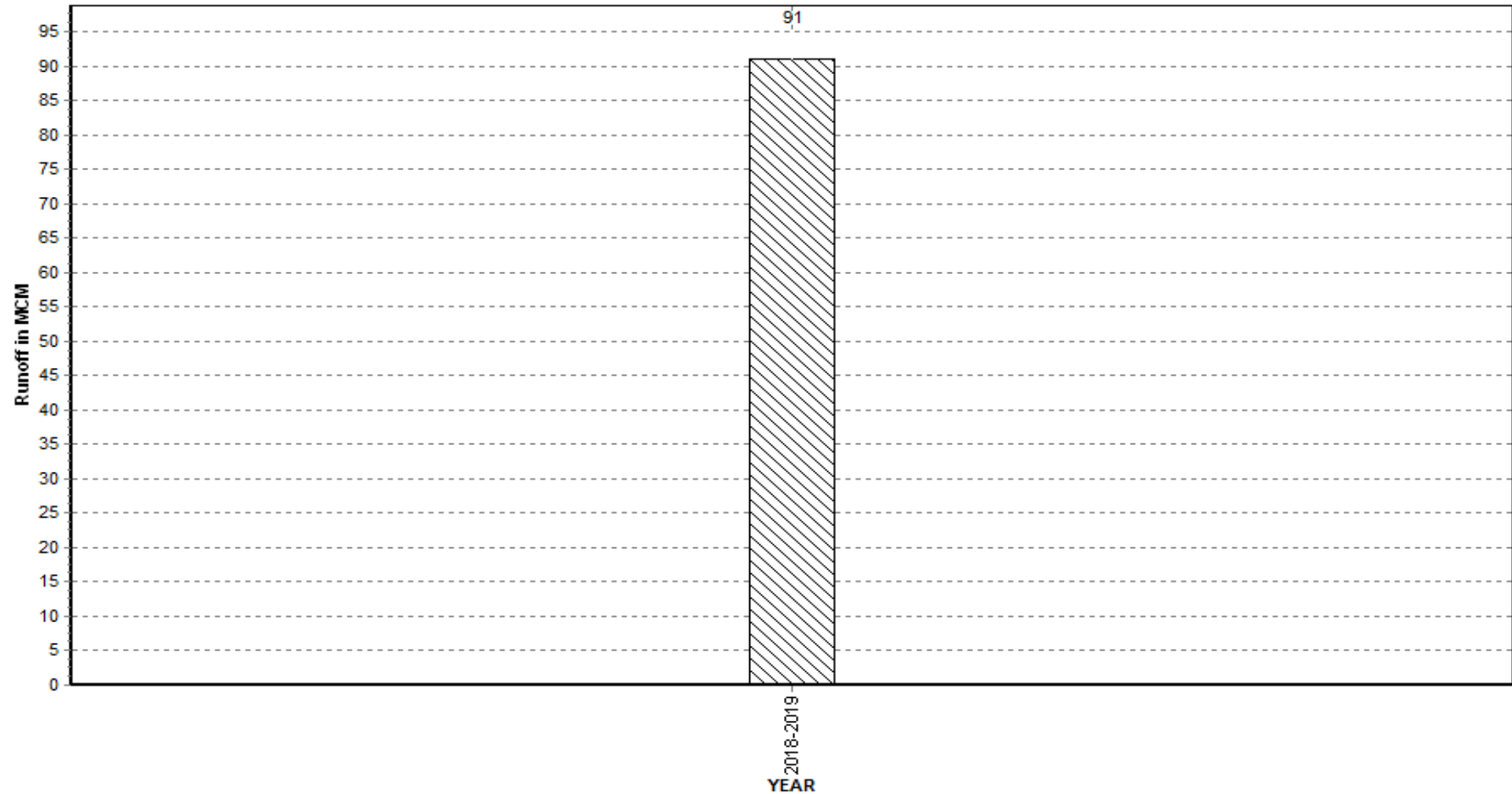
Annual Runoff Values for the period: 2018 - 2019

Station Name : Munugodu (033-LKDHYD)

Local River : Eddu Vagu

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

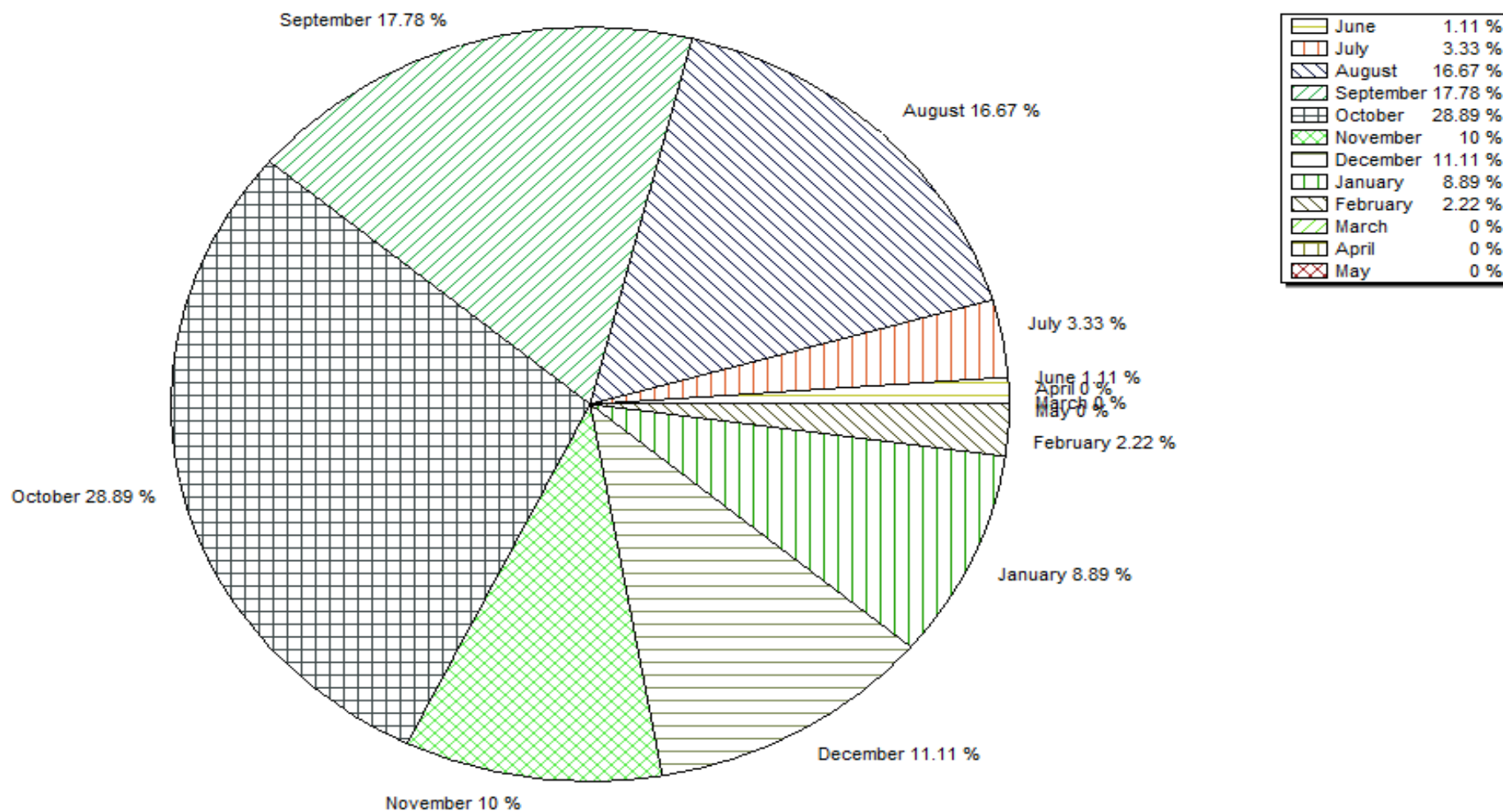
Monthly Runoff for the Year : 2018-2019

Station Name : Munugodu (033-LKDHYD)

Local River : Eddu Vagu

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



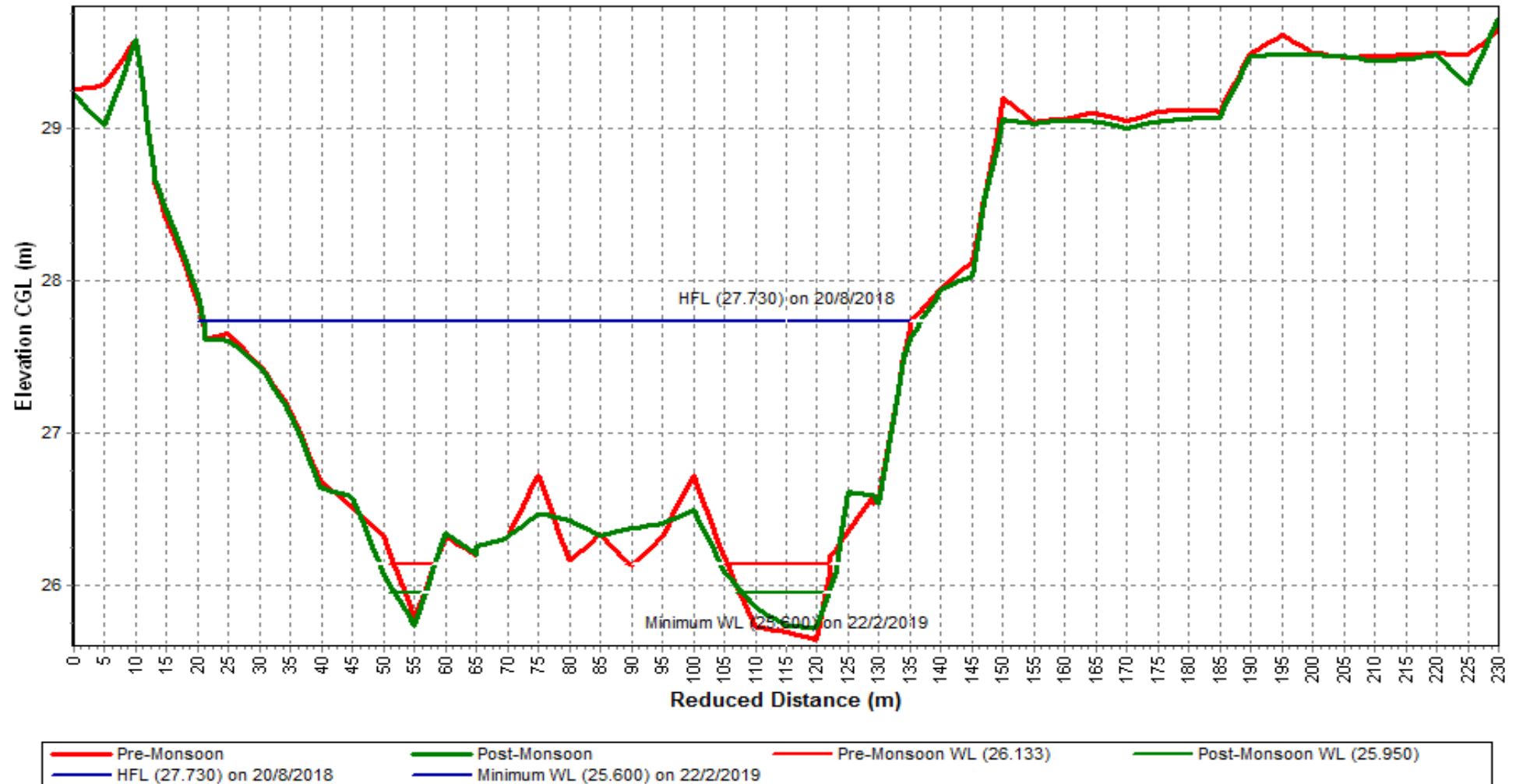
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Munugodu (033-LKDHYD)

Local River : Eddu Vagu

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



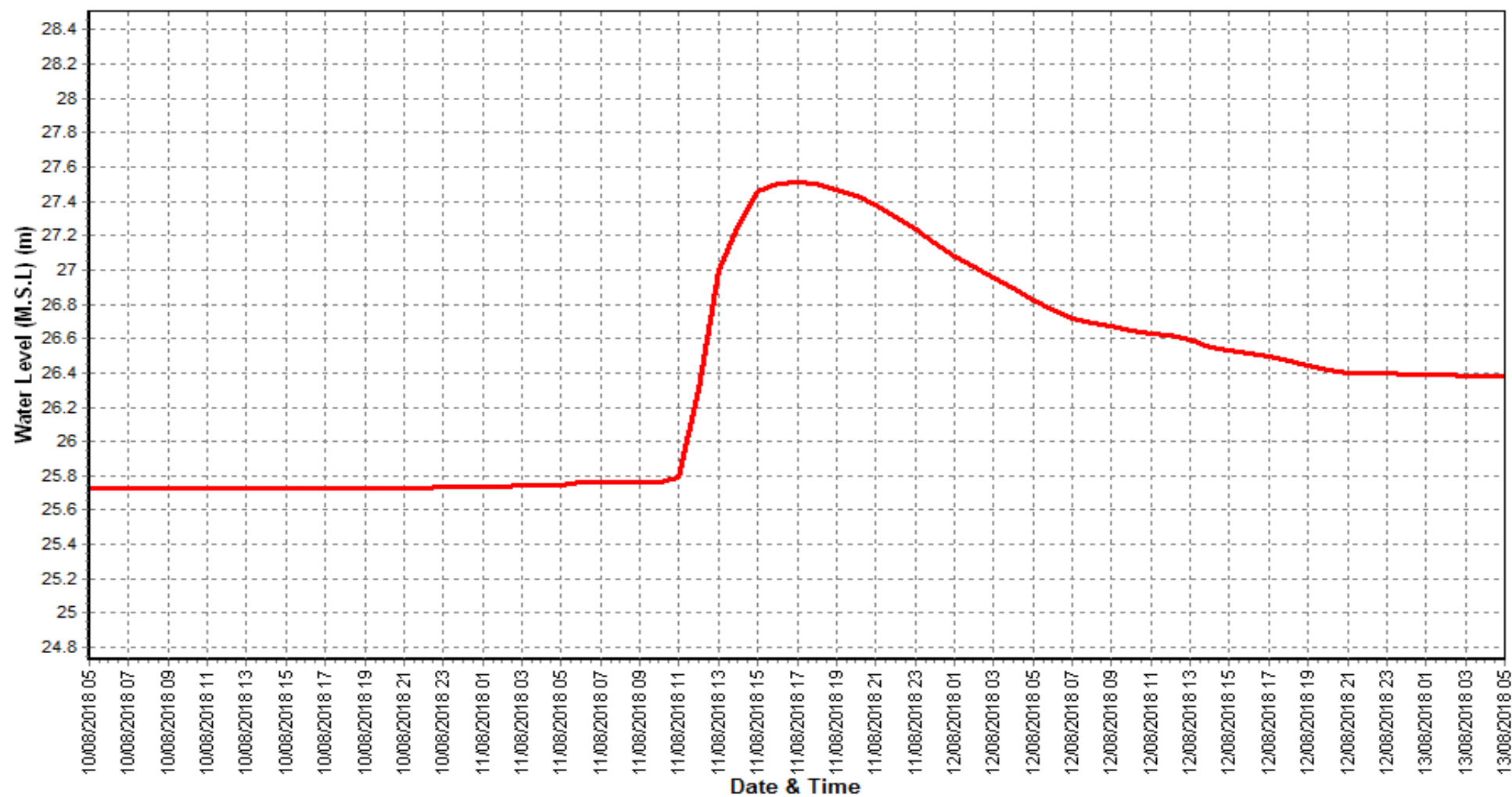
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Munugodu (033-LKDHYD)

Local River : Eddu Vagu

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



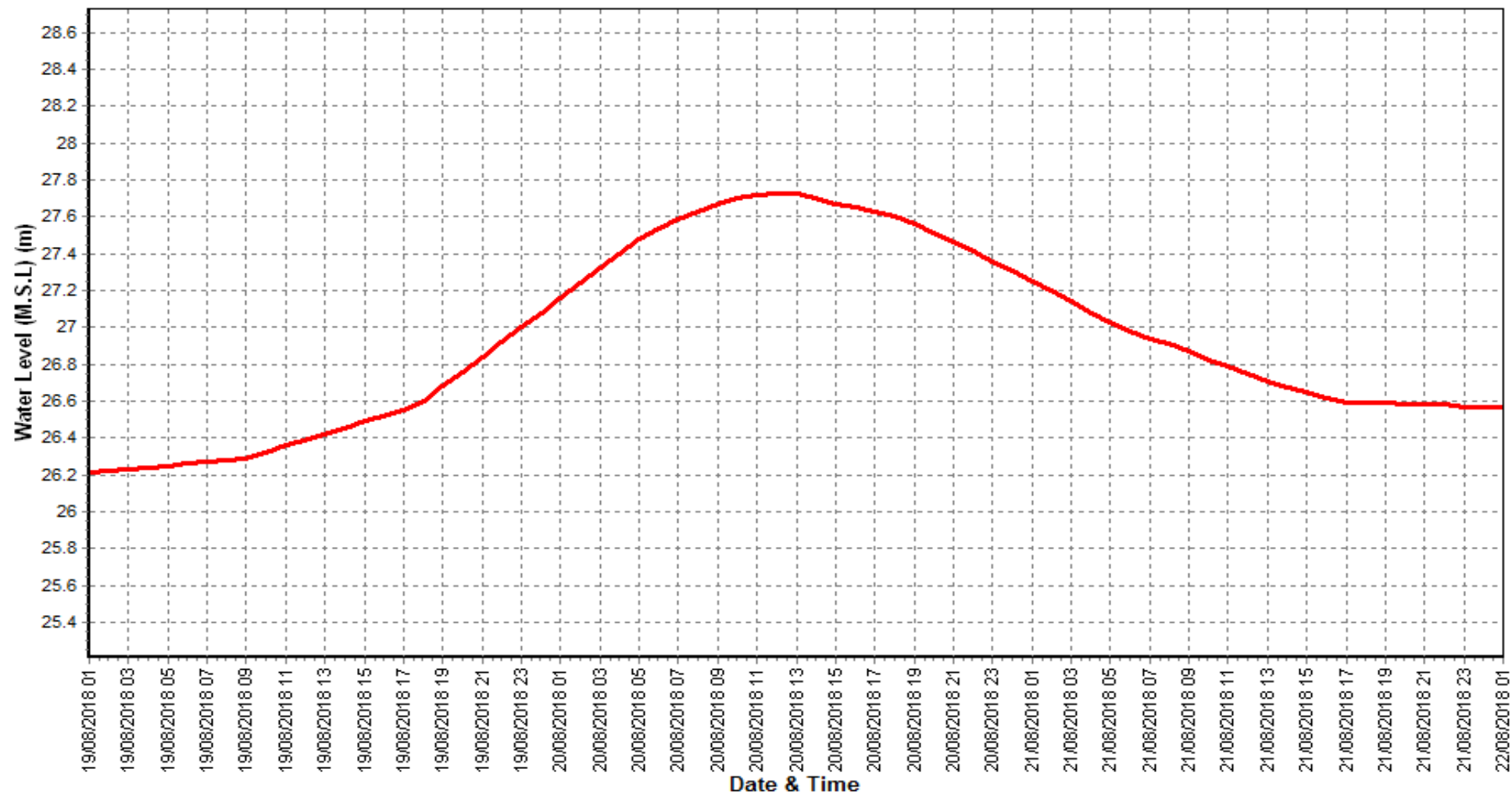
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Munugodu (033-LKDHYD)

Local River : Eddu Vagu

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



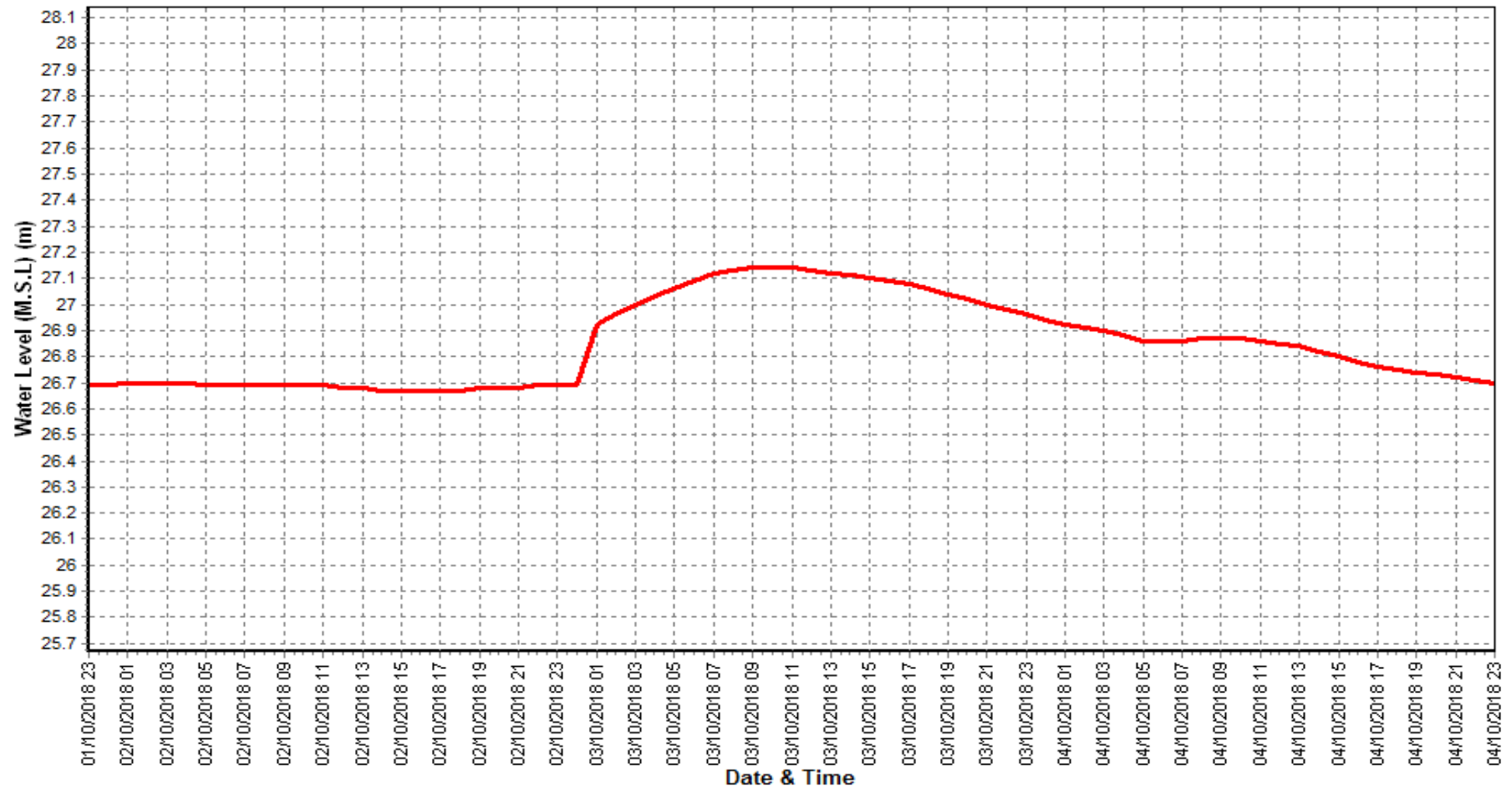
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : Munugodu (033-LKDHYD)

Local River : Eddu Vagu

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



HISTORY SHEET

		Water Year	: 2018-2019
Site	: Paleru Bridge	Code	: AKC00D3
State	: Andhra Pradesh	District	Krishna
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 21/09/1964 01/06/1970 01/11/1984	- 20/09/1964 - 31/05/1970 - 31/10/1984
	Opening Date	Closing Date	
Gauge	: 18/05/1964	HFL During 2018-19	: 74.707 m
		Corres. Discharge	: 226 *
Discharge	: 01/07/1964	Date & Time of occurrence	: 20/08/2018 : 12:00 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) :

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	427.0	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

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

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1979-1980	208.7	74.077	28/09/1979	0.200	71.992	16/07/1979
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	1564	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

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

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
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
Average		313	83	389	11	3	14
75% Dependable flow (MCM)				124			
90 % Dependable flow (MCM)				34			

Stage-Discharge Data for the period 2018 - 2019

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	71.737	1.237	71.847	1.991 *	71.587	0.335	71.797	1.823	71.917	3.886	71.647	0.570
2	71.727	1.202	71.867	2.815	71.577	0.283	71.857	2.081 *	72.197	16.54 *	71.787	1.797
3	71.717	0.981 *	71.851	1.948	71.517	0.000	71.907	3.599	72.157	13.37	72.012	7.935
4	71.752	1.485	71.807	1.580	71.447	0.000	71.867	2.790	71.887	3.836	72.017	7.926 *
5	71.917	3.467	71.707	0.963	71.407	0.000	72.097	10.61	71.997	6.650	72.037	7.520
6	71.907	3.194	71.757	1.151	71.377	0.000	71.982	5.839	71.977	5.947	72.147	13.47
7	71.887	3.055	71.757	1.248	71.367	0.000	71.927	4.695	71.837	1.903 *	72.187	16.04 *
8	71.897	3.143	71.787	1.488 *	71.367	0.000	71.917	4.099	71.887	3.877	72.177	13.95
9	71.907	3.288	71.777	1.438	71.357	0.000	71.917	3.513 *	71.897	4.113	72.077	10.96
10	71.917	3.513 *	71.767	1.410		0.000	71.877	2.841	71.757	1.263	71.977	5.710
11	71.907	3.224	71.777	1.441	73.807	142.3	71.887	3.042	71.727	1.235	71.947	4.809 *
12	71.987	4.531	72.062	7.614	73.452	109.6	71.747	1.402	71.677	0.887	71.977	6.004
13	71.977	4.482	72.187	16.52	72.507	31.45	71.667	0.672 *	71.587	0.342	71.982	6.536
14	71.957	4.061	72.387	21.64	72.252	19.89	71.667	0.843	71.587	0.269 *	71.937	4.928
15	71.937	3.613	72.037	8.841 *	72.087	11.17 *	72.067	8.951	71.637	0.585	71.977	6.285
16	71.917	3.513 *	72.177	15.69	71.977	5.146	72.077	10.70 *	71.617	0.583	72.087	10.92
17	71.907	3.086 *	72.147	13.30	71.987	5.204	71.967	5.098	71.917	3.804	72.157	13.43
18	71.867	2.782	72.097	10.57	71.677	0.864	72.372	21.02 #	71.977	6.223	72.167	15.04 *
19	71.857	2.111	72.007	4.684	71.747	1.187 *	72.527	31.88	72.037	8.841 *	72.147	13.09
20	71.807	1.576	71.927	3.607	74.672	216.1	72.477	27.02	72.017	8.198	72.077	11.07
21	71.757	1.385	71.887	3.009	73.747	130.5 #	72.377	21.08 *	72.007	7.473 *	72.017	7.926 *
22	71.797	1.484	71.907	3.086 *	72.862	59.06 #	72.237	15.98 #	71.997	6.674	72.037	8.461
23	71.777	1.405	71.877	2.735	72.247	19.78	72.057	9.766 *	72.047	8.082	72.077	10.70 *
24	71.767	1.334 *	71.817	1.824	72.077	10.73	72.157	13.57	72.072	10.01	72.037	8.978
25	71.757	1.245	71.737	1.133	72.037	8.327	72.127	11.24	72.037	6.972	71.977	6.129 *
26	71.747	1.190	71.657	0.772	71.947	4.809 *	72.017	8.459	72.087	10.51	71.917	3.948
27	71.727	1.172	71.657	0.737	71.967	5.647	72.077	10.23	71.977	5.995	71.917	3.898
28	71.727	1.173	71.637	0.450	72.057	8.917	72.117	11.10	71.747	1.187 *	71.917	3.462
29	71.827	1.846	71.627	0.456 *	71.937	4.626	72.097	10.79	71.687	0.916	71.907	3.434
30	71.857	2.123	71.597	0.394	71.857	2.857	72.097	11.65 *	71.707	1.217	71.897	3.196
31			71.597	0.357	71.757	1.404			71.597	0.392		
Ten-Daily Mean												
I Ten-Daily	71.836	2.457	71.792	1.603	71.445	0.062	71.914	4.189	71.951	6.138	72.007	8.588
II Ten-Daily	71.912	3.298	72.081	10.39	72.617	54.29	72.045	11.06	71.778	3.097	72.046	9.212
III Ten-Daily	71.774	1.436	71.727	1.359	72.227	23.33	72.136	12.39	71.906	5.402	71.970	6.013
Monthly												
Min.	71.717	0.981	71.597	0.357	71.357	0.000	71.667	0.672	71.587	0.269	71.647	0.570
Max.	71.987	4.531	72.387	21.64	74.672	216.1	72.527	31.88	72.197	16.54	72.187	16.04
Mean	71.841	2.397	71.862	4.351	72.122	25.81	72.032	9.213	71.879	4.896	72.007	7.938

Annual Runoff in MCM = 174 Annual Runoff in mm = 59

Peak Observed Discharge = 216.1 cumecs on 20/08/2018 Corres. Water Level :74.672 m

Lowest Observed Discharge = 0.000 cumecs on 03/08/2018 Corres. Water Level :71.51701 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 2018 - 2019

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	71.987	6.566	71.627	0.402	71.787	1.792	71.707	0.945	71.662	0.828	71.817	1.874
2	71.967	5.687 *	71.607	0.344	71.757	1.431	71.827	2.033	71.637	0.516	71.777	1.567
3	71.997	6.606	71.587	0.332	71.737	1.117 *	71.887	2.362 *	71.627	0.505	71.767	1.496
4	71.947	5.005	71.577	0.296	71.717	1.128	71.817	1.731 *	71.607	0.434	71.807	1.764
5	71.957	5.310	71.562	0.256	71.737	1.336	71.667	0.800	71.587	0.330	71.807	1.648 *
6	72.027	8.123 #	71.557	0.147 *	71.677	0.895	71.637	0.574	71.607	0.448	71.807	1.718
7	72.017	7.867	71.607	0.322	71.717	1.122	71.627	0.502	71.597	0.313 *	71.717	1.219
8	72.017	7.900	71.667	0.886	71.757	1.435	71.607	0.364	71.607	0.474	71.677	0.913
9	72.007	7.473 *	71.637	0.445	71.787	1.786	71.597	0.337	71.607	0.463	71.667	0.850
10	71.957	5.359	71.657	0.872	71.737	1.117 *	71.587	0.269 *	71.627	0.518	71.627	0.513
11	71.897	3.199	71.647	0.791	71.717	1.157	71.507	0.000	71.607	0.473	71.627	0.510
12	71.887	3.873	71.717	1.124	71.707	1.136	71.497	0.000	71.827	2.003	71.677	0.730 *
13	71.877	3.300	71.737	1.117 *	71.677	0.875		0.000	71.857	2.117	71.857	2.092
14	71.907	3.634	71.657	0.615 *	71.687	0.869		0.000	71.877	2.266 *	71.877	2.176
15	71.877	3.300	71.677	0.917	71.747	1.491		0.000	71.877	2.056	71.897	2.224
16	71.877	2.732 *	71.737	1.352	71.767	1.753		0.000	71.887	2.255	71.857	2.101
17	71.877	3.293	71.717	1.128	71.737	1.117 *		0.000	71.867	2.173 *	71.857	2.112
18	72.117	10.97 *	71.637	0.444	71.677	0.840	71.827	2.012	71.827	2.019	71.837	1.903 *
19	72.077	10.17	71.607	0.386	71.667	0.797	71.787	1.913	71.837	1.903 *	71.807	1.648 *
20	71.937	4.977	71.597	0.313 *	71.647	0.592	71.637	0.551	71.817	1.908	71.787	1.569
21	71.887	3.860 *	71.587	0.328	71.637	0.566	71.527	0.000	71.807	1.648 *	71.767	1.495
22	71.827	2.071 *	71.607	0.350	71.627	0.505	71.517	0.000	71.827	1.991	71.797	1.752
23	71.817	1.731 *	71.637	0.458	71.607	0.363		0.000	71.817	1.846	71.787	1.558
24	71.797	1.810	71.597	0.355	71.587	0.269 *		0.000	71.837	2.034	71.767	1.488
25	71.797	1.567 *	71.637	0.476	71.537	0.000		0.000	71.827	1.879	71.747	1.444
26	71.757	1.440	71.677	0.730 *	71.547	0.000		0.000	71.857	2.112	71.737	1.117 *
27	71.747	1.340	71.657	0.615 *	71.557	0.000		0.000	71.837	2.015	71.767	1.483
28	71.737	1.328	72.087	10.39	71.557	0.000	71.622	0.504	71.827	1.816 *	71.787	1.547
29	71.667	0.851	72.467	26.68			71.857	2.100	71.817	1.894	71.807	1.693
30	71.657	0.615 *	72.157	13.85			71.877	2.124	71.767	1.540	71.787	1.546
31	71.637	0.448	71.917	4.990			71.857	2.081 *			71.857	2.235
Ten-Daily Mean												
I Ten-Daily	71.988	6.590	71.609	0.430	71.741	1.316	71.696	0.992	71.617	0.483	71.747	1.356
II Ten-Daily	71.933	4.944	71.673	0.819	71.703	1.063	71.651	0.448	71.828	1.917	71.808	1.706
III Ten-Daily	71.757	1.551	71.821	5.384	71.582	0.213	71.710	0.619	71.822	1.878	71.782	1.578
Monthly												
Min.	71.637	0.448	71.557	0.147	71.537	0.000	71.497	0.000	71.587	0.313	71.627	0.510
Max.	72.117	10.97	72.467	26.68	71.787	1.792	71.887	2.362	71.887	2.266	71.897	2.235
Mean	71.888	4.271	71.705	2.313	71.682	0.91	71.689	0.684	71.756	1.426	71.779	1.548

Peak Computed Discharge = 21.08 cumecs on 21/09/2018

Corres. Water Level :72.377 m

Lowest Computed Discharge = 0.147 cumecs on 06/01/2019

Corres. Water Level :71.557 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)

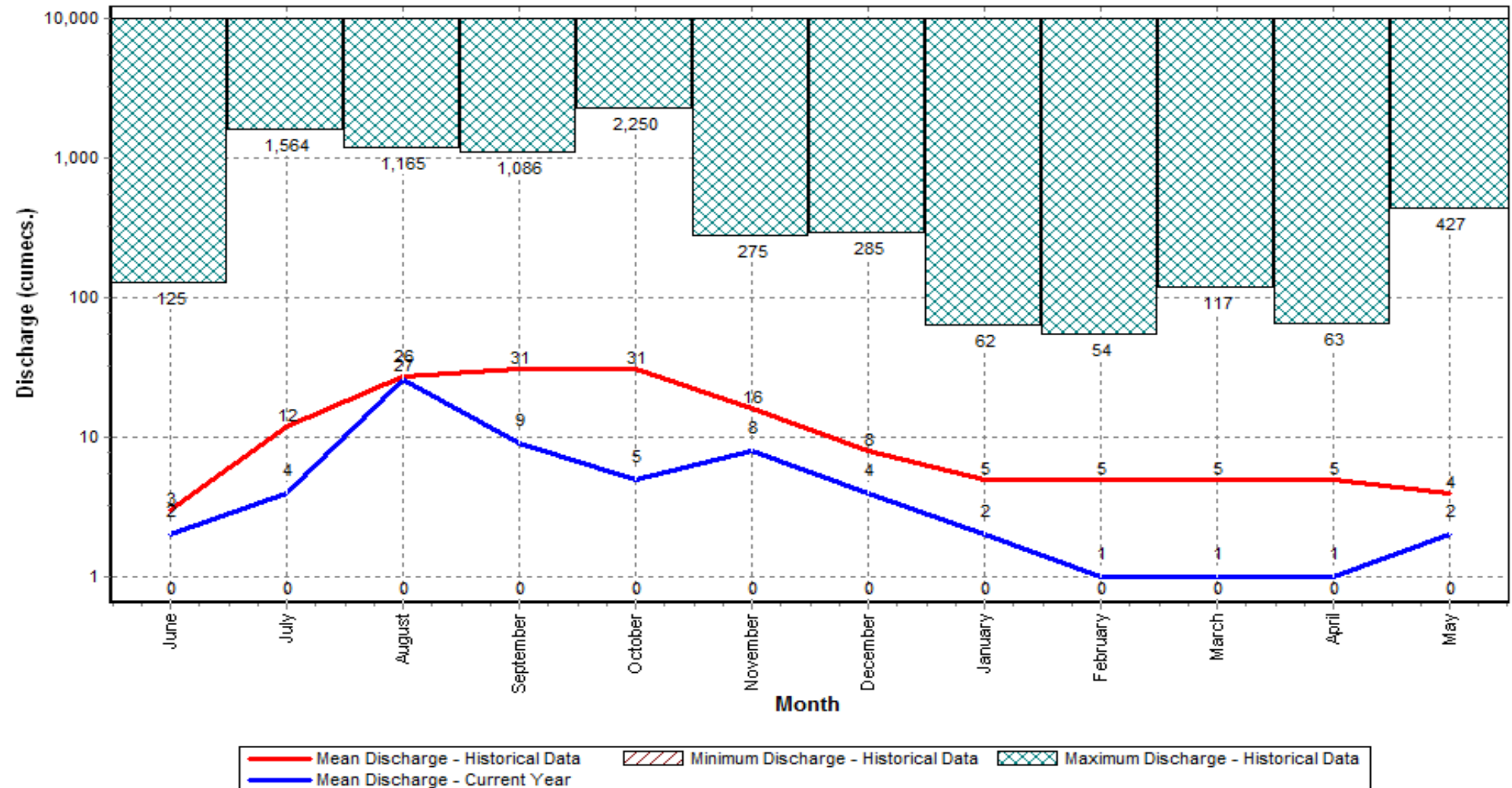
Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2018-2019

Station Name : Paleru Bridge (AKC00D3)
Local River : Paleru

Data considered : 1965-2019

Division : Lower Krishna Divn., Hyderabad
Sub-Division : Lower Krishna SD2, Vijayawada



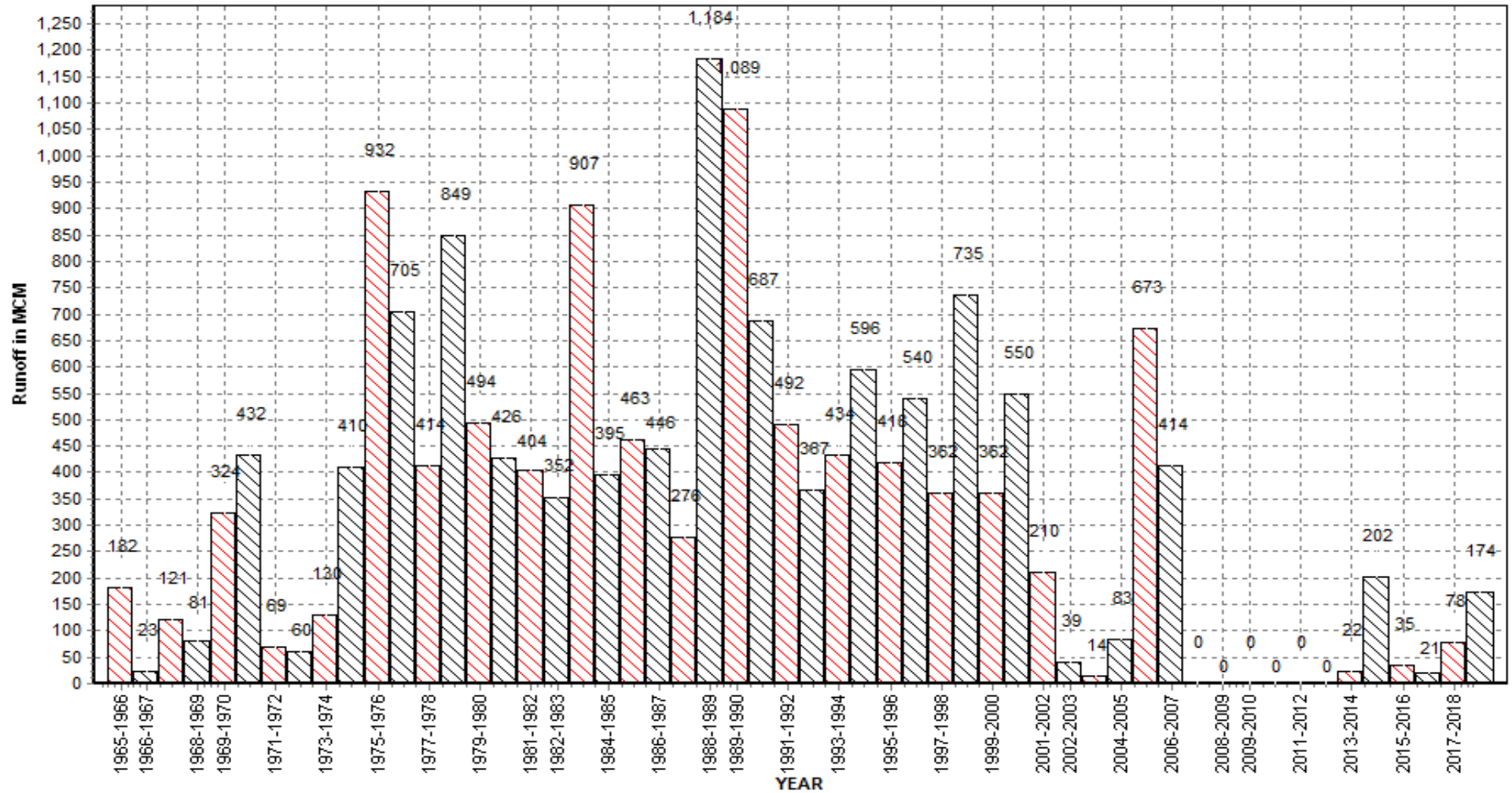
Annual Runoff Values for the period: 1965 - 2019

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

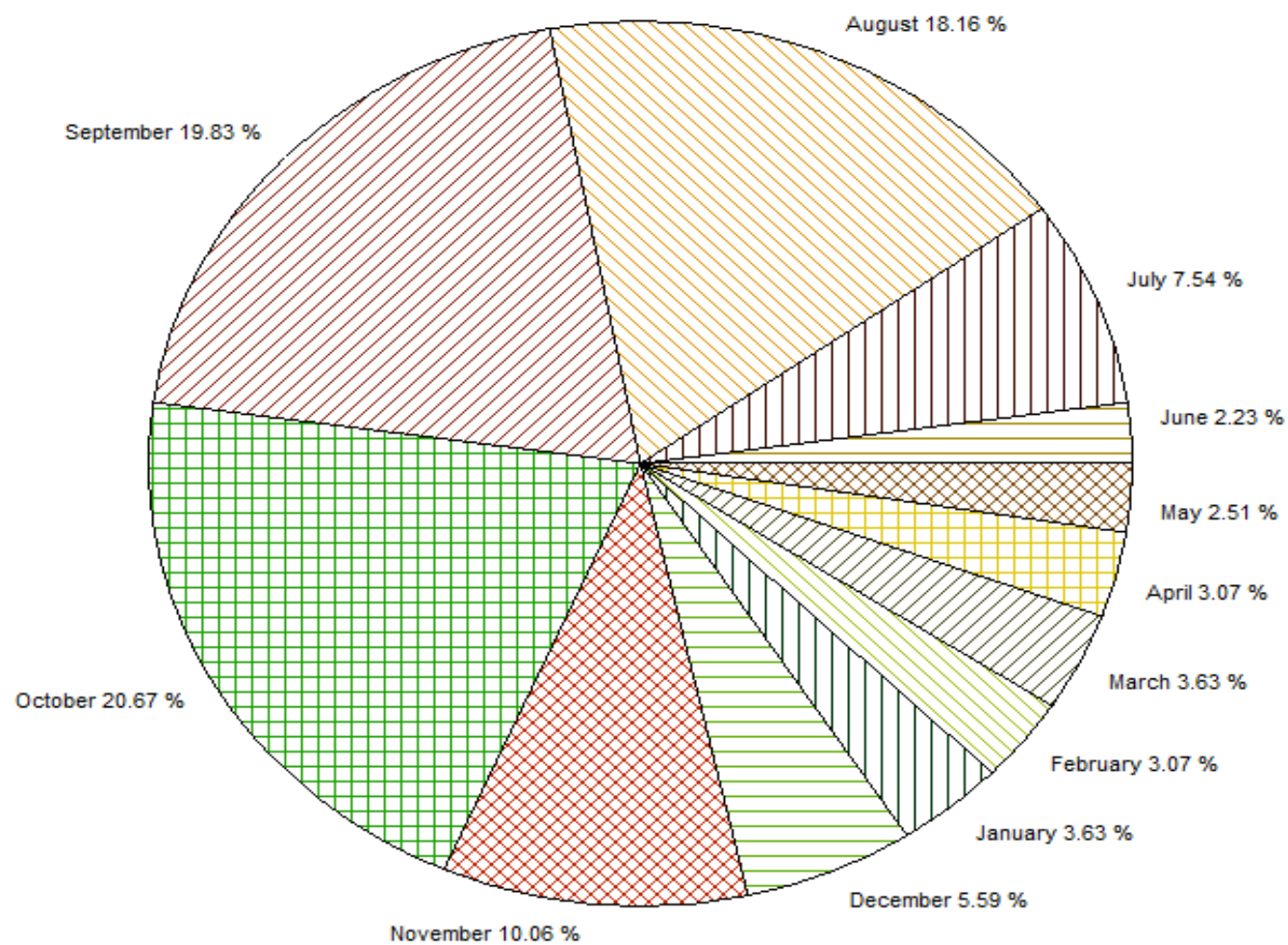
Monthly Average Runoff based on period : 1965-2018

Station Name : Paleru Bridge (AKC00D3)

Local River : Paleru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



June	2.23 %
July	7.54 %
August	18.16 %
September	19.83 %
October	20.67 %
November	10.06 %
December	5.59 %
January	3.63 %
February	3.07 %
March	3.63 %
April	3.07 %
May	2.51 %

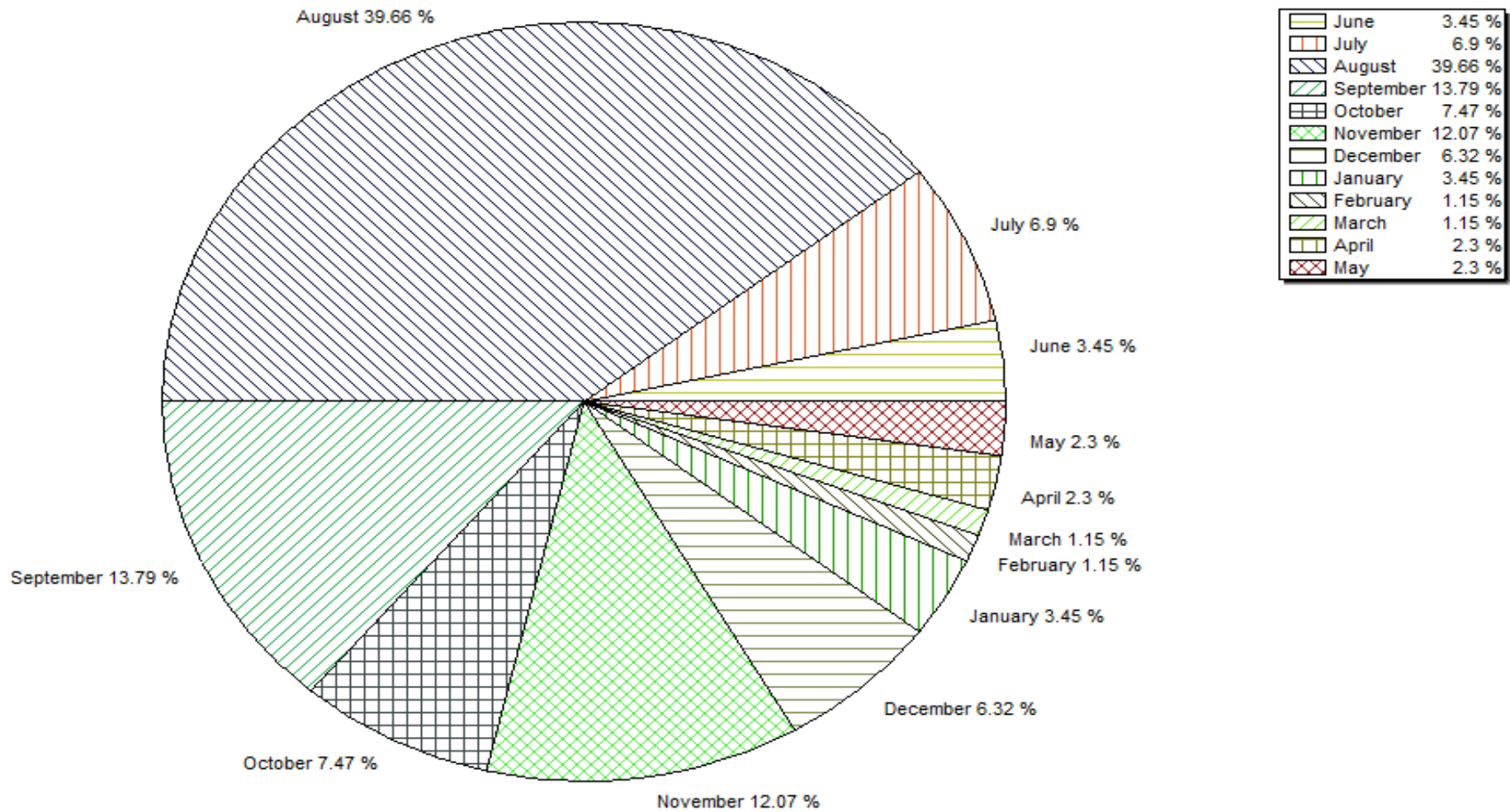
Monthly Runoff for the Year : 2018-2019

Station Name : Paleru Bridge (AKC00D3)

Local River : Paleru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



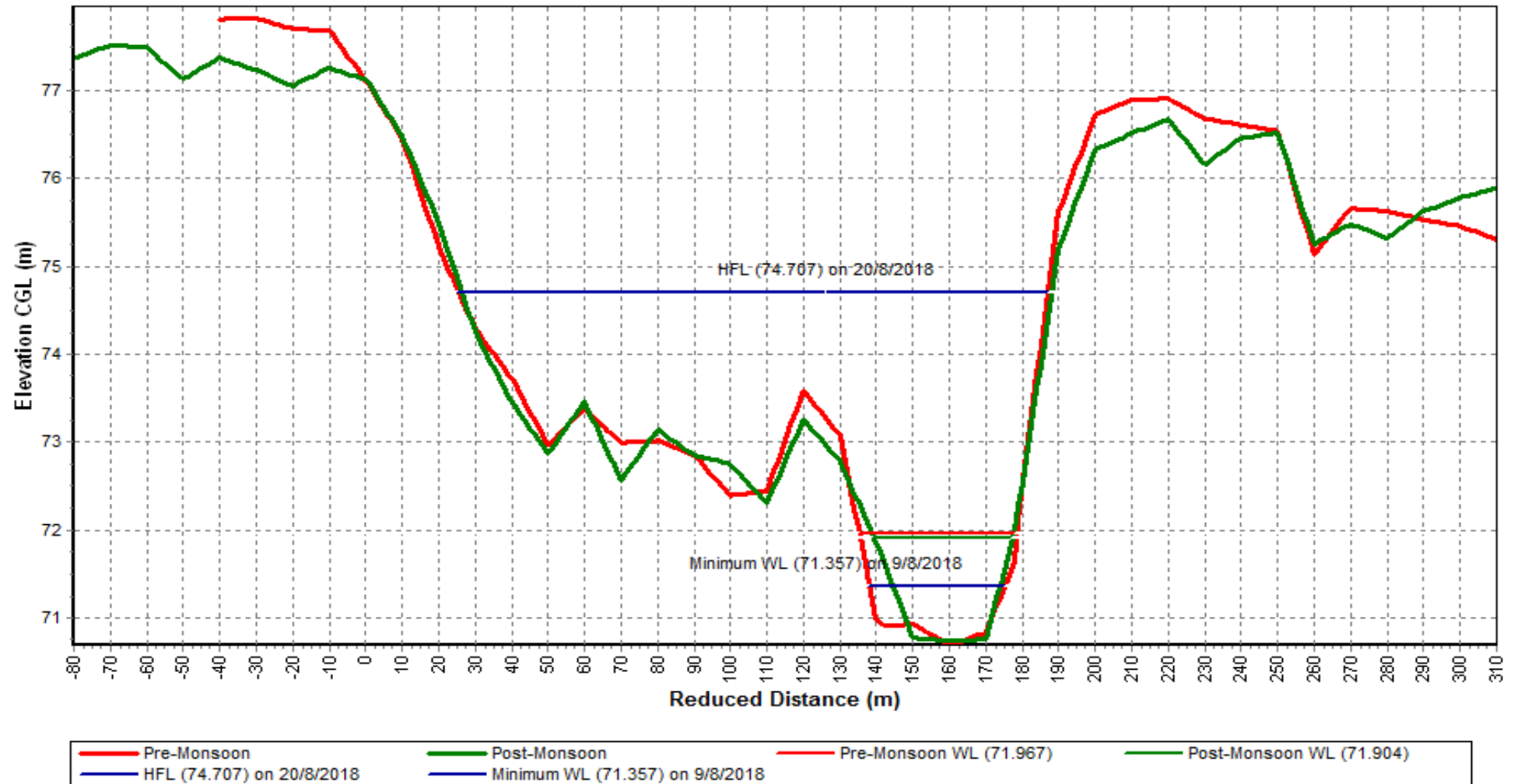
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Paleru Bridge (AKC00D3)

Local River : Paleru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



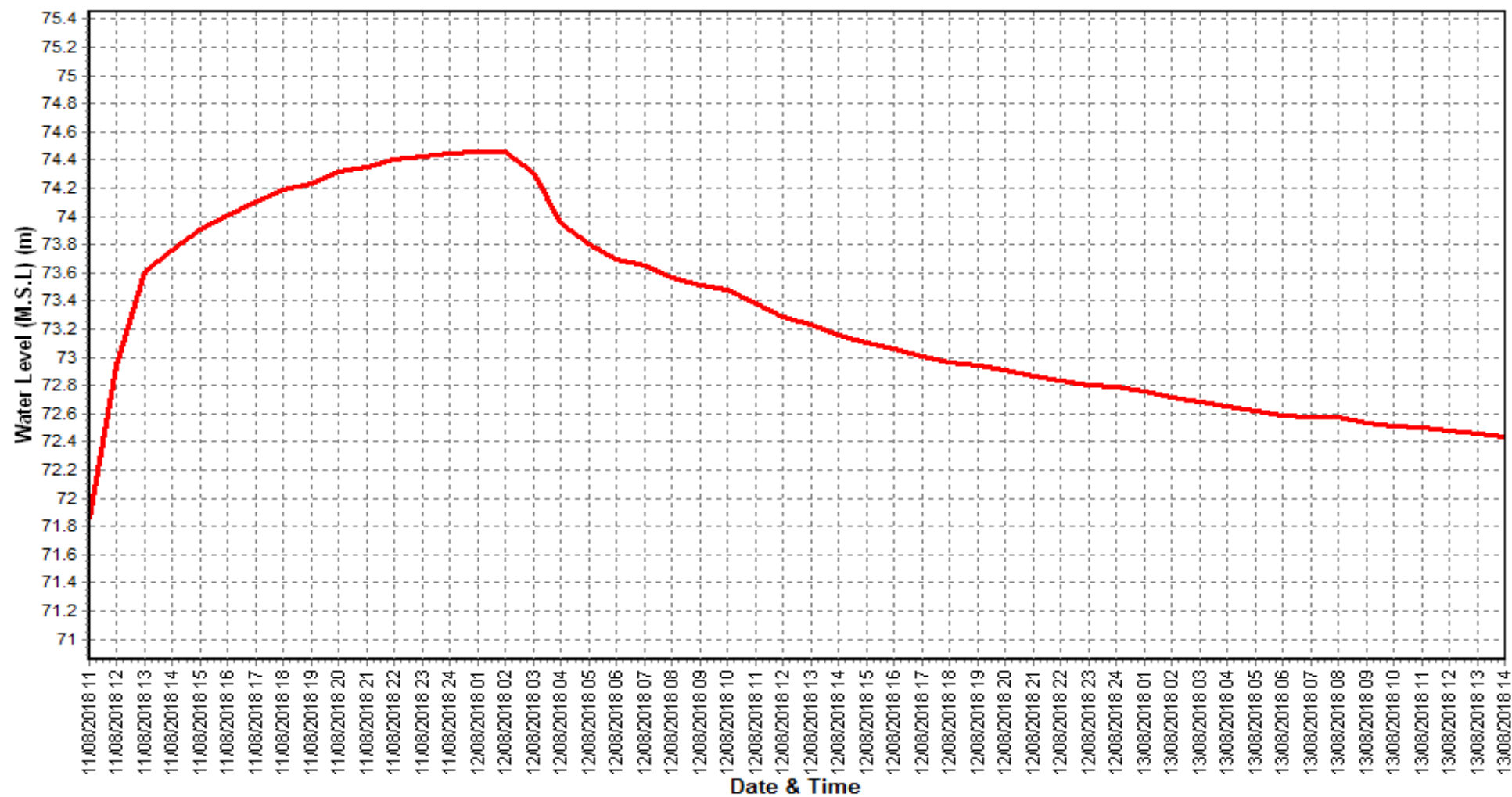
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Paleru Bridge (AKC00D3)

Local River : Paleru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



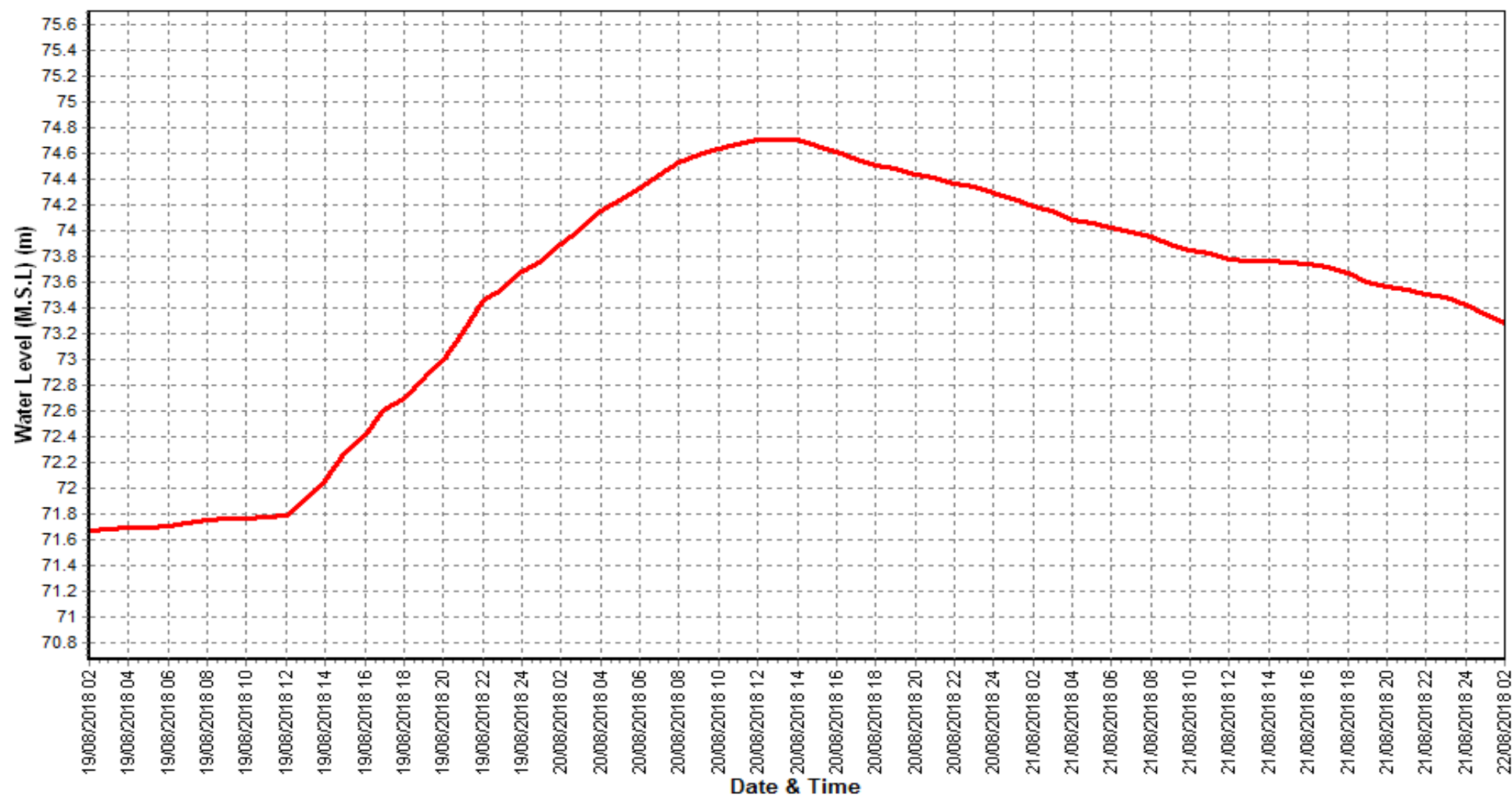
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Paleru Bridge (AKC00D3)

Local River : Paleru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



HISTORY SHEET

Water Year : 2018-2019

Site : Wadenapally

Code : AK000D5

State : Telangana

District : Suryapet

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

Opening Date

Closing Date

Gauge : 27/05/1964

HFL During 2018-19 : 26.054 m

Corres. Discharge : 378 (Estimated)

Discharge : 10/12/1965

Date & Time of

occurrence : 20/08/2018

Sediment : 01/12/1966

: 16.00 hrs.

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	21560	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
1983-1984	14393	36.294	22/08/1983	82.40	24.954	14/06/1983

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

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
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

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

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
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
Average		20823	3410	23850	736	120	843
75% Dependable flow (MCM)				9467			
90 % Dependable flow (MCM)				2680			

Stage-Discharge Data for the period 2018 - 2019

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	23.504	1.698	23.454	1.223 *	24.674	113.8 #	24.754	133.5	24.354	32.77	25.274	202.4
2	23.504	1.322	23.454	1.238	24.754	131.0 #	25.154	179.5 *	24.354	48.83 *	24.934	128.7
3	23.504	1.906 *	23.454	1.232	24.624	121.9	25.304	185.2	25.254	216.3	24.854	122.1
4	23.454	1.274	23.454	1.236	24.504	75.18	25.354	206.5	25.134	189.0	24.854	122.0 *
5	23.454	1.268	23.454	1.184	24.614	102.0 *	25.394	216.3	25.134	186.4	24.854	124.8
6	23.454	1.251	23.454	1.268	24.704	135.2	25.654	277.5	25.154	190.6	24.854	114.5
7	23.454	1.218	23.454	1.301	24.704	135.7	25.834	326.5	25.154	179.5 *	24.854	122.0 *
8	23.454	1.236	23.454	1.223 *	24.554	108.0	25.354	201.0	25.134	183.1	24.854	117.1
9	23.454	1.217	23.454	1.286	24.834	139.8	25.514	253.3 *	25.054	167.9	24.634	101.1
10	23.454	1.223 *	23.454	1.290	24.934	157.6	25.454	215.9	24.954	160.0	24.854	120.7
11	23.454	1.252	23.454	1.257	24.404	62.10	25.704	295.3 #	25.114	182.9	25.234	177.0 *
12	23.479	1.591	23.454	1.222	24.784	0.000	24.904	118.6	25.054	146.4	25.004	163.7
13	23.464	1.228	23.454	1.242	24.404	0.000	25.304	209.2 *	24.854	131.4	25.004	159.5
14	23.454	1.277	23.454	1.314	23.504	0.355	25.824	323.0 #	24.854	124.5 *	25.024	166.9
15	23.454	1.231	23.454	1.223 *	23.504	1.906 *	25.704	304.6	25.154	173.0	25.054	167.4
16	23.454	1.223 *	23.454	1.253	23.404	0.959	25.724	299.9 *	25.254	197.2	24.754	103.7
17	23.454	1.223 *	23.454	1.217	23.404	0.553	25.774	278.1	25.254	201.8	24.604	82.43
18	23.454	1.302	23.454	1.208	23.354	0.481	25.154	182.9	25.214	186.5	24.604	82.40 *
19	23.454	1.215	23.454	1.239	23.354	0.371 *	25.154	175.6	25.134	175.6 *	24.754	100.7
20	23.454	1.241	23.454	1.235	25.929	0.000	25.154	154.7 #	25.114	170.8	24.754	100.9
21	23.454	1.243	23.454	1.240	25.744	0.000	24.254	36.59 *	25.094	168.0 *	24.754	100.9 *
22	23.454	1.232	23.454	1.223 *	24.814	0.000	23.834	0.945	24.954	149.0	24.324	53.03
23	23.454	1.259	23.454	1.252	24.254	0.000	23.834	1.017 *	24.854	139.8	24.324	53.00 *
24	23.454	1.259 *	23.454	1.259	23.704	1.281	25.154	152.2	24.814	114.8	24.324	51.30
25	23.454	1.261	23.454	1.332	23.704	1.363	24.654	79.51	24.814	115.4	23.584	1.500 *
26	23.454	1.260	23.464	1.373	23.704	6.854 *	24.714	106.0	24.814	119.8	23.584	1.528
27	23.454	1.202	23.484	1.393	23.654	1.180	23.954	9.006	25.074	155.2	23.584	1.488
28	23.454	1.298	23.484	1.392	23.644	1.174	24.739	119.3	25.074	164.2 *	23.609	1.680
29	23.454	1.243	24.414	68.08 *	23.644	1.208	24.554	72.45	24.854	131.3	24.254	46.69
30	23.454	1.242	23.834	8.043	24.454	74.18 #	24.554	76.42 *	24.854	131.3 #	24.254	45.88
31			24.504	75.11	24.754	140.9			25.354	249.8		
Ten-Daily Mean												
I Ten-Daily	23.469	1.361	23.454	1.248	24.690	122.0	25.377	219.5	24.968	155.4	24.882	127.5
II Ten-Daily	23.457	1.278	23.454	1.241	24.004	6.672	25.440	234.2	25.100	169.0	24.879	130.5
III Ten-Daily	23.454	1.250	23.678	14.70	24.189	20.74	24.424	65.34	24.959	149.0	24.059	35.70
Monthly												
Min.	23.454	1.202	23.454	1.184	23.354	0.000	23.834	0.945	24.354	32.77	23.584	1.488
Max.	23.504	1.906	24.504	75.11	25.929	157.6	25.834	326.5	25.354	249.8	25.274	202.4
Mean	23.460	1.297	23.533	6.019	24.291	48.87	25.080	173	25.008	157.5	24.607	97.9

Annual Runoff in MCM = 1869 Annual Runoff in mm = 8

Peak Observed Discharge = 326.5 cumecs on 07/09/2018 Corres. Water Level :25.834 m

Lowest Observed Discharge = 0.000 cumecs on 12/08/2018 Corres. Water Level :24.784 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 2018 - 2019

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	23.954	30.05	24.204	45.42	23.654	2.467	24.444	58.81	23.854	2.435	23.644	3.265
2	24.054	32.00 *	24.204	43.03	23.554	2.173	24.644	112.3	23.754	2.063	23.654	3.579
3	24.604	89.59	24.204	44.02	23.554	2.170 *	25.054	156.0 *	23.754	2.080	23.654	3.678
4	24.604	90.65	24.184	42.69	23.504	2.035	25.094	164.0 *	23.554	1.937	23.654	3.615
5	24.604	86.51	23.984	17.01	23.504	2.074	24.954	157.6	23.554	2.180	23.654	3.610 *
6	24.604	89.41	23.984	17.00 *	23.654	2.502	24.874	138.4	23.554	2.264	23.684	3.940
7	24.604	87.33	24.014	19.02	23.654	2.531	24.754	103.4	23.554	2.260 *	23.684	3.903
8	24.604	87.95	24.064	27.04	23.554	2.222	24.624	113.1	23.534	2.214	25.604	272.9 #
9	24.604	87.90 *	24.014	22.81	23.554	2.257	24.504	75.88	23.534	2.274	25.469	243.6 #
10	23.704	2.808	24.184	41.65	23.554	2.250 *	24.504	75.80 *	23.534	2.229	23.754	2.438
11	24.484	75.26	24.224	43.98	23.554	2.261	24.204	31.50	23.534	2.220 *	23.754	2.639
12	24.484	68.74	24.324	49.76	24.184	42.62	23.454	1.501	23.504	2.060	23.754	2.630 *
13	24.484	69.91	24.324	49.70 *	24.184	42.92	23.254	0.791	23.504	1.928	23.754	3.045
14	24.434	65.56	24.324	49.70 *	24.944	153.5	23.254	0.722	23.504	1.920 *	24.534	80.65
15	24.244	42.36	24.414	60.01	24.434	57.00	23.404	0.790	23.604	3.184	24.524	76.84
16	24.244	42.36 *	24.414	58.32	24.624	86.96 #	23.404	0.796	23.554	2.717	23.754	3.013
17	23.854	26.24	24.344	56.78	24.624	105.7 *	23.404	0.790 *	23.554	2.710 *	23.754	3.329
18	23.584	1.526	23.764	3.189	23.504	1.948	23.404	0.822	23.554	2.725	23.754	3.320 *
19	23.584	1.849	23.704	3.094	23.454	1.634	25.104	190.2	23.554	2.720 *	23.754	3.320 *
20	23.584	1.826	23.704	3.090 *	23.454	1.667	25.074	169.5	23.604	3.035	23.754	3.144
21	23.584	1.818	23.764	3.240	23.504	2.662	24.874	124.0	23.604	3.030 *	23.754	2.913
22	23.584	1.734	23.764	3.163	23.504	2.557	23.954	9.271	23.604	3.068	23.754	3.073
23	23.584	1.730 *	23.764	3.291	23.504	2.436	24.434	58.37	23.624	3.200	23.754	3.023
24	23.634	1.998	24.434	67.38	23.504	2.430 *	24.434	58.30 *	23.624	3.369	23.754	3.064
25	23.954	30.00 *	24.924	148.8	23.504	2.339	24.404	55.93	23.604	3.012	23.754	2.831
26	24.184	43.63	24.924	148.8 *	23.504	2.381	24.854	120.8	23.624	3.084	23.754	2.830 *
27	24.184	43.22	24.604	89.00 *	25.094	168.0 #	24.774	110.0	23.624	3.098	25.204	209.1
28	24.184	42.13	23.834	3.849	24.814	101.9	24.604	87.73	23.624	3.090 *	24.684	80.05
29	24.184	42.58	23.704	2.213			24.394	54.99	23.624	3.011	24.404	57.63
30	24.184	42.50 *	23.704	2.204			24.244	47.03	23.624	3.157	24.204	31.55
31	24.184	41.98	23.704	2.268			24.244	47.00 *			23.554	1.881
Ten-Daily Mean												
I Ten-Daily	24.394	68.42	24.104	31.97	23.574	2.268	24.745	115.5	23.618	2.193	24.045	54.46
II Ten-Daily	24.098	39.56	24.154	37.76	24.096	49.62	23.796	39.74	23.547	2.522	23.909	18.19
III Ten-Daily	23.949	26.67	24.102	43.11	23.866	35.59	24.474	70.32	23.618	3.112	24.052	36.17
Monthly												
Min.	23.584	1.526	23.704	2.204	23.454	1.634	23.254	0.722	23.504	1.920	23.554	1.881
Max.	24.604	90.65	24.924	148.8	25.094	168.0	25.104	190.2	23.854	3.369	25.604	272.9
Mean	24.141	44.29	24.119	37.79	23.844	28.7	24.343	75.04	23.594	2.609	24.004	36.27

Peak Computed Discharge = 299.9 cumecs on 16/09/2018

Corres. Water Level :25.724 m

Lowest Computed Discharge = 0.371 cumecs on 19/08/2018

Corres. Water Level :23.354 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)

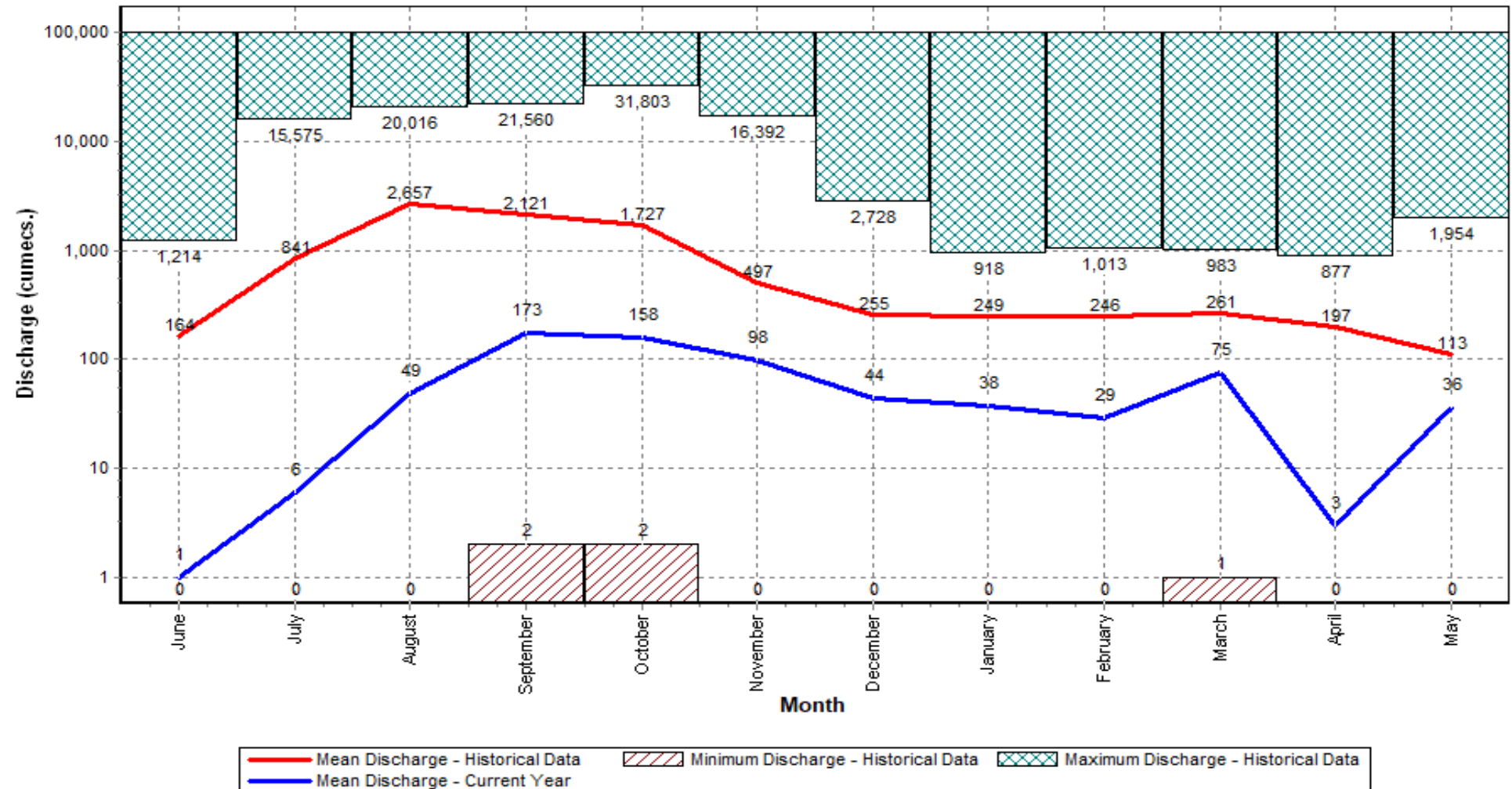
Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2018-2019

Station Name : Wadenapally (AK000D5)
Local River : Krishna

Data considered : 1966-2019

Division : Lower Krishna Divn., Hyderabad
Sub-Division : Lower Krishna SD2, Vijayawada



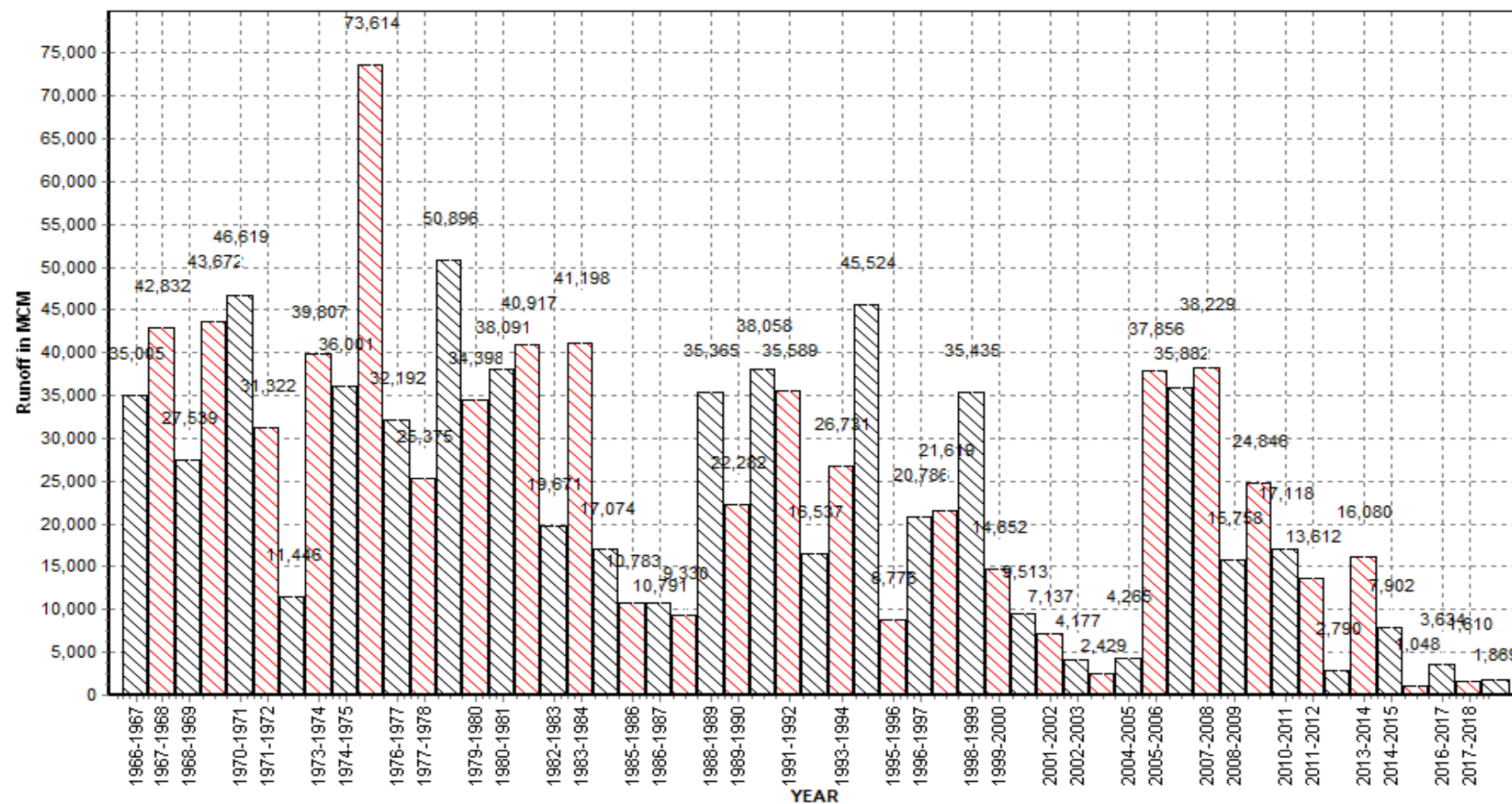
Annual Runoff Values for the period: 1966 - 2019

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

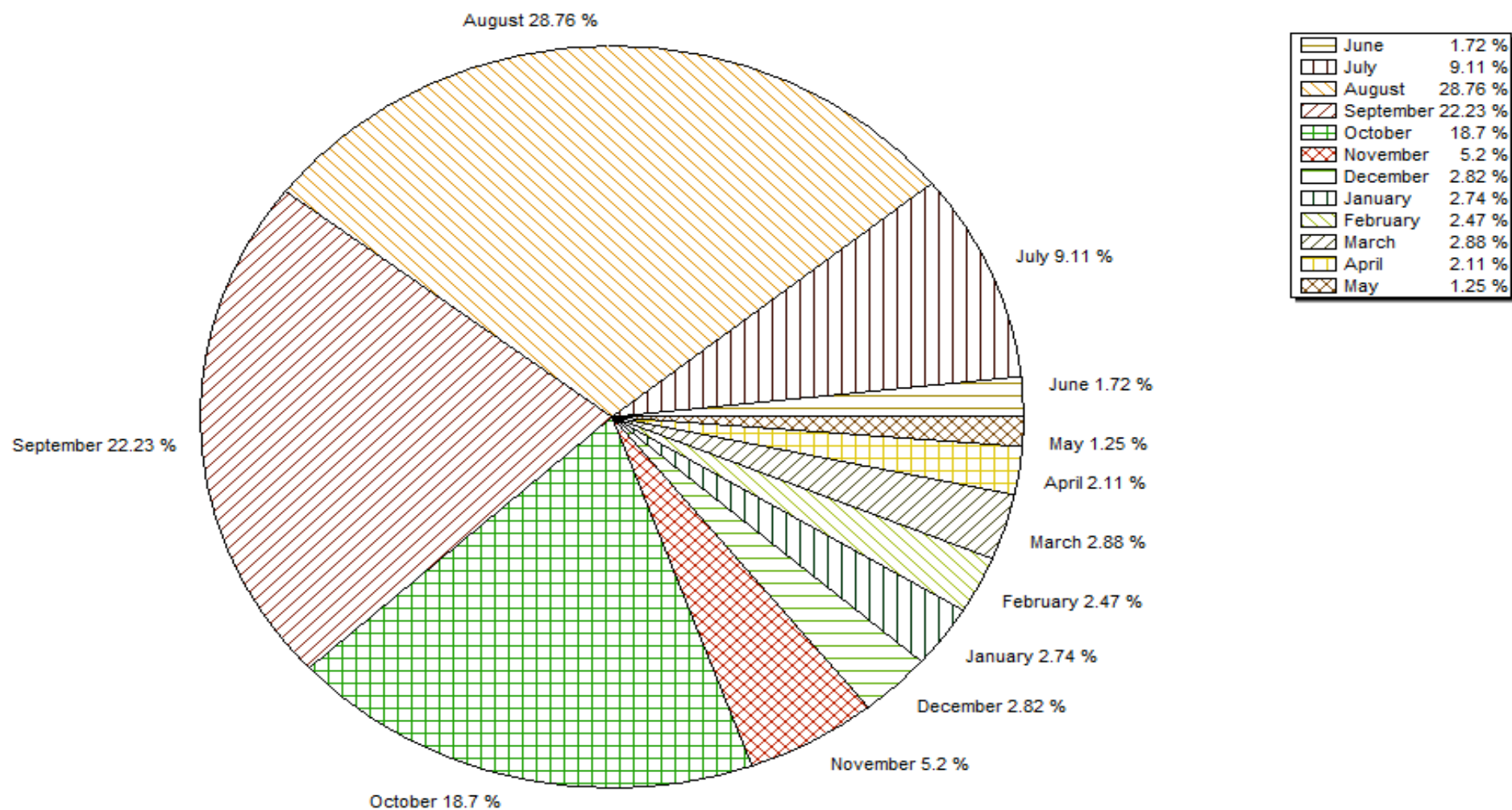
Monthly Average Runoff based on period : 1966-2018

Station Name : Wadenapally (AK000D5)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



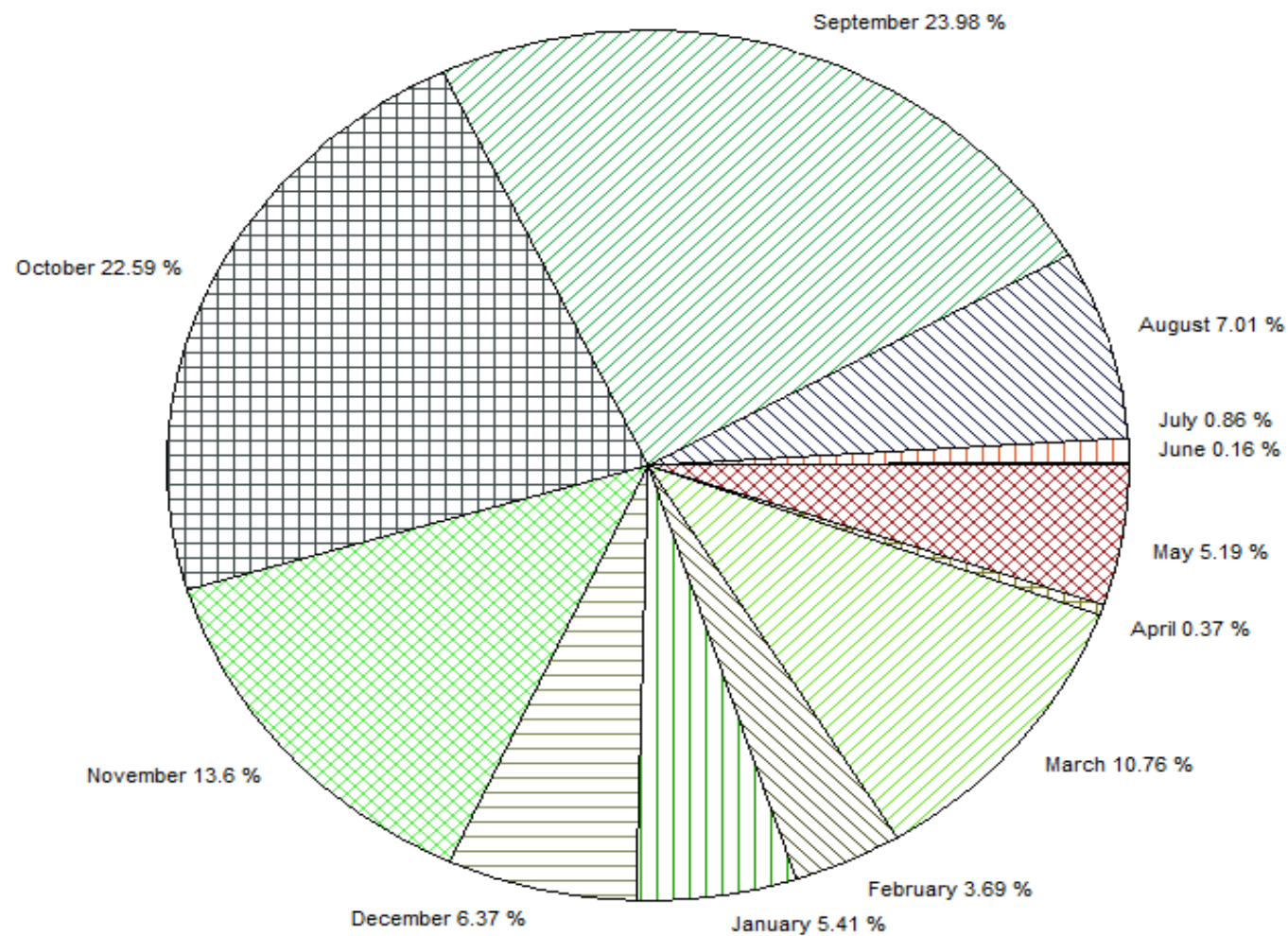
Monthly Runoff for the Year : 2018-2019

Station Name : Wadenapally (AK000D5)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



June	0.16 %
July	0.86 %
August	7.01 %
September	23.98 %
October	22.59 %
November	13.6 %
December	6.37 %
January	5.41 %
February	3.69 %
March	10.76 %
April	0.37 %
May	5.19 %

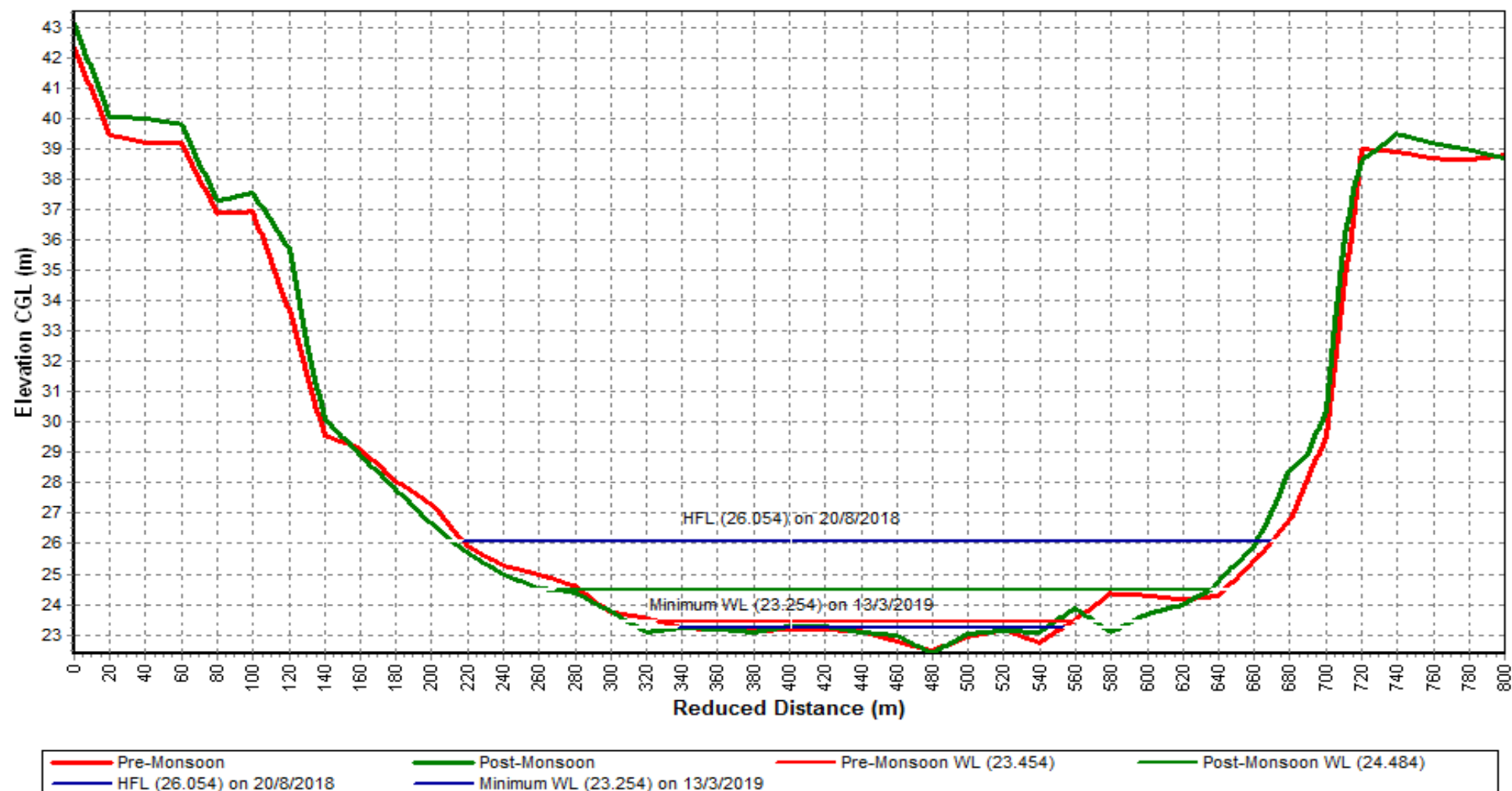
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Wadenapally (AK000D5)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



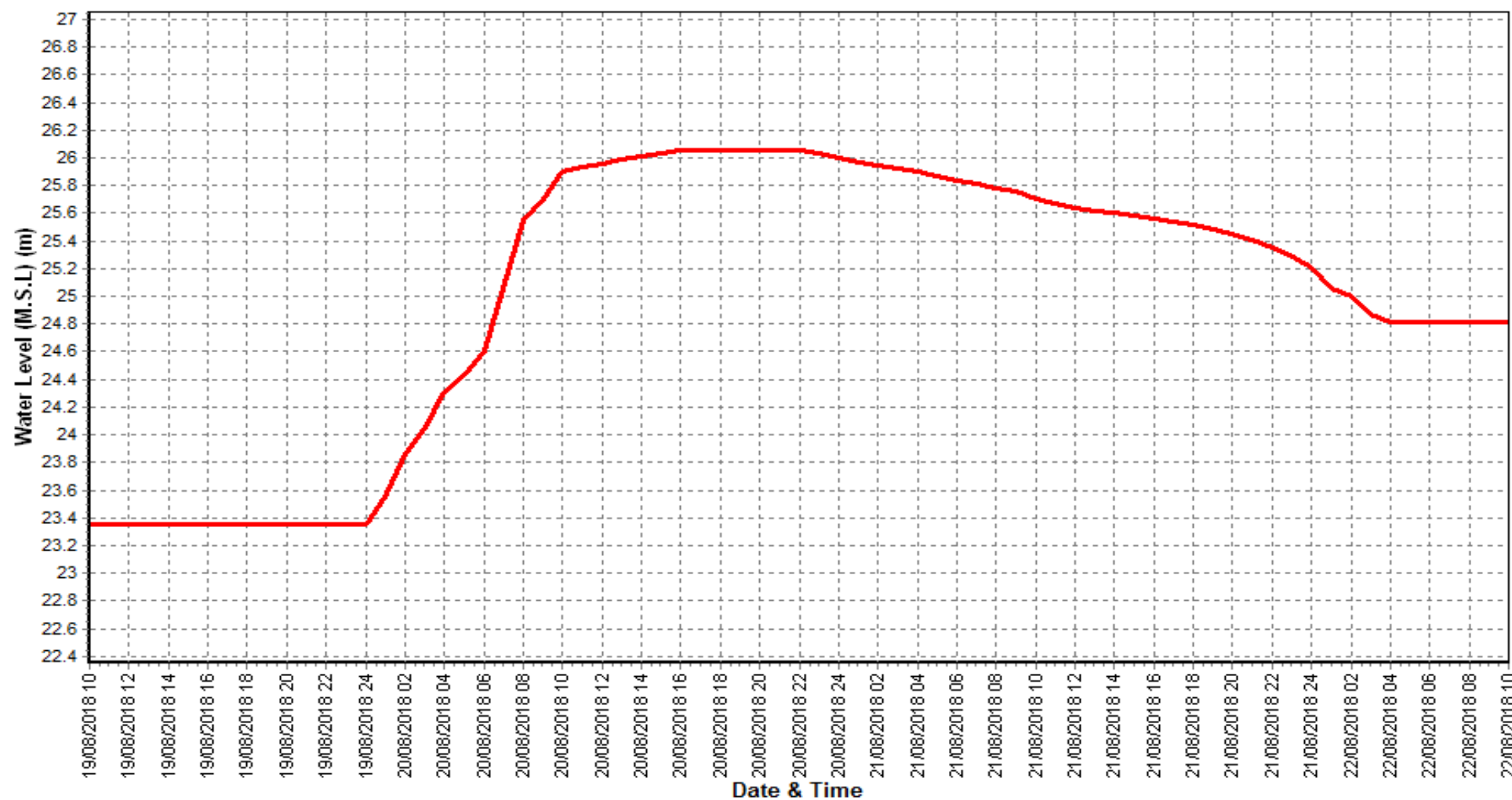
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Wadenapally (AK000D5)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD2, Vijayawada



HISTORY SHEET

		Water Year	: 2018-2019
Site	: Dameracherla	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	: Right
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	: 01/12/1967	HFL During 2018-19	: 56.490 m
Discharge	: 27/07/1968	Corres. Discharge	: 441.4 (Estimated)
		Date & Time of	: 20/08/2018
		occurrence	: 22:00 Hrs
Sediment	: 02/09/2013		
Water Quality	: 01/01/1980		

HFL Recorded so far in m : 62.500 dt 05-10-2009

Corresponding Discharge (cumecs) : 4300 *

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	215.0	57.575	06/09/1969	1.000	56.080	31/05/1970
1970-1971	644.0	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	367.5	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	5762	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	1659	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	3656	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	1963	58.375	24/09/2016	0.000	54.460	10/08/2016
2017-2018	583.5	57.200	04/10/2017	0.000	54.640	15/06/2017

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

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
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
Average		774	256	1029	27	9	36
75% Dependable flow (MCM)				571			
90 % Dependable flow (MCM)				374			

Stage-Discharge Data for the period 2018 - 2019

Station Name : Dameracherla (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	54.810	0.777	55.040	3.901 *	54.650	0.000	55.200	16.64	55.050	5.552	55.290	21.69 #
2	54.810	0.858	55.070	5.486	54.640	0.000	55.320	25.94 *	55.300	22.64 #	55.340	26.67 #
3	54.800	0.840 *	55.070	5.295	54.730	0.000	55.250	21.53	55.300	22.64 #	55.460	40.96
4	54.810	0.846	55.050	4.255	54.680	0.000	55.240	19.24	55.270	19.85 #	55.480	43.57 *
5	54.780	0.667	55.040	3.798	54.650	0.000	55.190	15.65	55.260	18.97 #	55.440	38.08
6	54.790	0.745	55.030	3.183	54.640	0.000	55.135	9.233	55.260	18.97 #	55.420	35.80
7	54.820	0.934	55.100	9.273	54.630	0.000	55.200	16.93	55.260	18.97 *	55.410	34.58 *
8	54.820	0.972	55.150	11.47 *	54.600	0.000	55.160	11.17	55.350	27.73 #	55.370	29.92 #
9	54.810	0.889	55.120	9.938	54.500	0.000	55.140	11.40 *	55.300	22.64 #	55.310	23.61 #
10	54.810	0.890 *	55.100	8.382	54.500	0.000	55.150	10.95	55.220	15.66 #	55.290	21.69 #
11	54.820	0.994	55.090	7.823	54.560	0.000	55.080	6.881	55.140	8.814	55.270	19.85 *
12	54.810	0.839	55.100	8.666	54.600	0.000	55.100	8.182	55.120	8.174	55.240	17.27 #
13	54.790	0.765	55.150	9.633	54.620	0.000	55.300	23.92 *	55.100	7.674	55.230	16.45 #
14	54.800	0.818	55.300	24.85	55.290	25.47	55.450	40.81	55.100	7.851 *	55.210	14.88 #
15	54.790	0.784	55.330	29.85 *	55.180	13.97 *	55.400	35.24	55.080	6.738	55.240	17.27 #
16	54.800	0.840 *	55.250	20.35 #	55.010	3.371	55.400	35.17 *	55.150	10.62	55.220	15.66 #
17	54.800	0.840 *	55.150	10.14	54.850	1.464	55.330	27.77	55.230	16.45 #	55.240	17.27 #
18	54.790	0.783	55.100	8.053	54.840	1.375	55.650	70.29	55.250	18.11 #	55.230	16.45 *
19	54.750	0.573	55.100	7.587	55.100	9.175 *	55.900	116.2	55.270	19.85 *	55.280	20.76 #
20	54.750	0.564	55.080	6.859	55.560	50.79	56.030	171.6	55.350	27.73 #	55.270	19.85 #
21	54.730	0.491	55.050	4.800	56.350	343.9	55.680	75.91	55.410	34.58 *	55.290	21.69 *
22	54.700	0.000	55.050	4.474 *	55.900	117.0 #	55.500	55.88	55.435	42.40	55.280	20.76 #
23	54.710	0.000	55.040	4.402	55.450	40.98	55.400	35.17 *	55.450	43.86	55.270	19.85 *
24	54.990	2.998 *	55.040	4.181	55.240	19.08	55.250	20.57	55.450	37.12	55.210	14.88 #
25	55.050	3.413	54.980	1.558	55.150	9.465	55.200	15.12	55.480	42.47	55.200	14.13 *
26	55.050	3.538	54.980	1.621	55.100	9.175 *	55.090	8.713	55.540	51.68	55.160	9.625
27	55.040	3.398	54.850	1.305	55.000	4.758	55.100	8.872	55.460	39.79	55.150	8.397
28	55.040	3.443	54.850	1.115	55.240	20.98	55.100	7.491	55.440	38.30 *	55.160	9.641
29	55.030	3.254	54.840	1.000 *	55.225	18.02	55.080	6.124	55.270	19.85 #	55.150	8.669
30	55.020	3.152	54.730	0.457	55.150	9.983	55.080	8.180 *	55.260	18.97 #	55.150	8.911
31			54.730	0.522	55.150	10.44			55.240	17.27 #		
Ten-Daily Mean												
I Ten-Daily	54.806	0.842	55.077	6.498	54.622	0.000	55.199	15.87	55.257	19.36	55.381	31.66
II Ten-Daily	54.790	0.780	55.165	13.38	54.961	10.56	55.464	53.60	55.179	13.20	55.243	17.57
III Ten-Daily	54.936	2.369	54.922	2.312	55.360	54.89	55.248	24.20	55.403	35.12	55.202	13.66
Monthly												
Min.	54.700	0.000	54.730	0.457	54.500	0.000	55.080	6.124	55.050	5.552	55.150	8.397
Max.	55.050	3.538	55.330	29.85	56.350	343.9	56.030	171.6	55.540	51.68	55.480	43.57
Mean	54.844	1.33	55.050	7.233	54.993	22.88	55.304	31.23	55.284	22.97	55.275	20.96

Annual Runoff in MCM = 347 Annual Runoff in mm = 30

Peak Observed Discharge = 343.9 cumecs on 21/08/2018 Corres. Water Level :56.35 m

Lowest Observed Discharge = 0.000 cumecs on 22/06/2018 Corres. Water Level :54.7 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 2018 - 2019

Station Name : Dameracherla (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	55.140	8.308	54.540	0.000	55.120	7.580	55.150	9.965	55.170	10.87	55.020	5.612
2	55.130	9.501 *	54.550	0.000	54.940	2.441	55.070	7.204	55.140	9.925	54.860	1.677
3	55.120	7.469	54.550	0.000	54.950	2.611 *	54.990	3.518 *	55.090	8.261	54.850	1.639
4	55.160	9.628	54.880	1.739	54.930	2.358	54.900	1.978 *	55.020	6.180	54.840	1.447
5	55.160	9.430	54.890	1.834	54.910	1.950	54.920	2.761	55.020	6.090	54.840	1.400 *
6	55.170	9.923	54.900	1.978 *	54.920	2.534	54.850	1.571	55.000	5.185	54.830	1.206
7	55.170	9.908	54.910	1.970	54.940	3.091	54.820	1.356	54.980	3.258 *	54.830	1.262
8	55.120	7.424	54.910	1.963	54.960	3.840	54.800	1.101	54.950	5.872	54.840	1.389
9	55.100	7.851 *	54.970	2.797	54.980	4.228	54.800	1.178	54.950	5.766	54.820	1.187
10	55.060	5.490	54.950	2.752	55.050	5.547 *	54.880	1.881 *	55.020	6.324	54.810	1.113
11	55.040	4.501	54.940	2.460	55.100	8.581	55.000	5.148	54.990	4.554	54.800	1.002
12	55.010	3.191	54.930	2.178	55.120	9.180	55.100	8.469	55.010	4.935	54.800	1.000 *
13	54.930	2.492	54.940	2.440 *	55.130	9.789	55.120	9.569	55.000	4.651	54.810	1.116
14	54.900	1.887	54.940	2.440 *	55.140	10.10	55.150	10.25	55.000	3.800 *	54.810	1.102
15	54.860	1.516	54.900	1.778	55.100	8.519	55.170	11.48	55.010	5.277	54.790	0.975
16	54.820	2.126 *	54.820	1.059	55.020	6.046	55.240	17.27 #	55.010	5.071	54.770	0.521
17	54.920	2.021	54.820	1.022	55.000	3.800 *	55.170	12.01 *	55.000	3.800 *	54.770	0.504
18	54.960	2.325	54.830	1.135	54.990	4.602	55.100	8.208	54.980	4.493	54.760	0.450 *
19	54.910	1.837	54.830	1.260	54.980	4.367	54.990	4.726	54.970	3.020 *	54.760	0.450 *
20	54.930	2.145	54.810	0.840 *	54.910	2.460	54.900	2.143	54.950	3.801	54.780	0.548
21	54.900	1.875	54.800	0.838	54.900	2.115	54.850	1.577	54.950	2.611 *	54.780	0.589
22	54.890	1.714	54.840	1.390	54.910	2.239	54.840	1.516	54.960	3.970	54.770	0.558
23	54.870	1.866 *	54.890	1.876	54.990	4.568	54.840	1.470	54.910	2.868	54.750	0.517
24	54.750	0.000	54.890	1.892	55.050	5.547 *	54.840	1.354 *	54.900	2.238	54.790	0.695
25	54.740	0.000	54.880	1.815	55.120	8.918	54.830	1.240	54.900	2.320	54.770	0.579
26	54.700	0.000	54.870	1.854 *	55.140	9.507	54.940	2.987	54.900	2.053	54.770	0.550 *
27	54.650	0.000	54.950	2.400 *	55.160	10.47	55.020	6.345	54.850	1.644	54.780	0.545
28	54.650	0.000	55.400	35.09	55.170	10.84	55.080	8.393	54.900	1.978 *	54.750	0.521
29	54.550	0.000	55.480	45.02			55.070	7.157	54.980	4.548	54.700	0.000
30	54.550	0.000	55.280	20.76 #			55.110	9.033	55.000	4.936	54.690	0.000
31	54.540	0.000	55.130	7.803			55.110	8.379 *			54.690	0.000
Ten-Daily Mean												
I Ten-Daily	55.133	8.493	54.805	1.503	54.970	3.618	54.918	3.251	55.034	6.773	54.854	1.793
II Ten-Daily	54.928	2.404	54.876	1.661	55.049	6.744	55.094	8.927	54.992	4.340	54.785	0.767
III Ten-Daily	54.708	0.496	55.037	10.98	55.055	6.776	54.957	4.496	54.925	2.917	54.749	0.414
Monthly												
Min.	54.540	0.000	54.540	0.000	54.900	1.950	54.800	1.101	54.850	1.644	54.690	0.000
Max.	55.170	9.923	55.480	45.02	55.170	10.84	55.240	17.27	55.170	10.87	55.020	5.612
Mean	54.916	3.691	54.910	4.916	55.022	5.637	54.989	5.524	54.984	4.677	54.795	0.973

Peak Computed Discharge = 43.57 cumecs on 04/11/2018

Corres. Water Level :55.48 m

Lowest Computed Discharge = 0.450 cumecs on 18/05/2019

Corres. Water Level :54.76 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 : 2018-2019

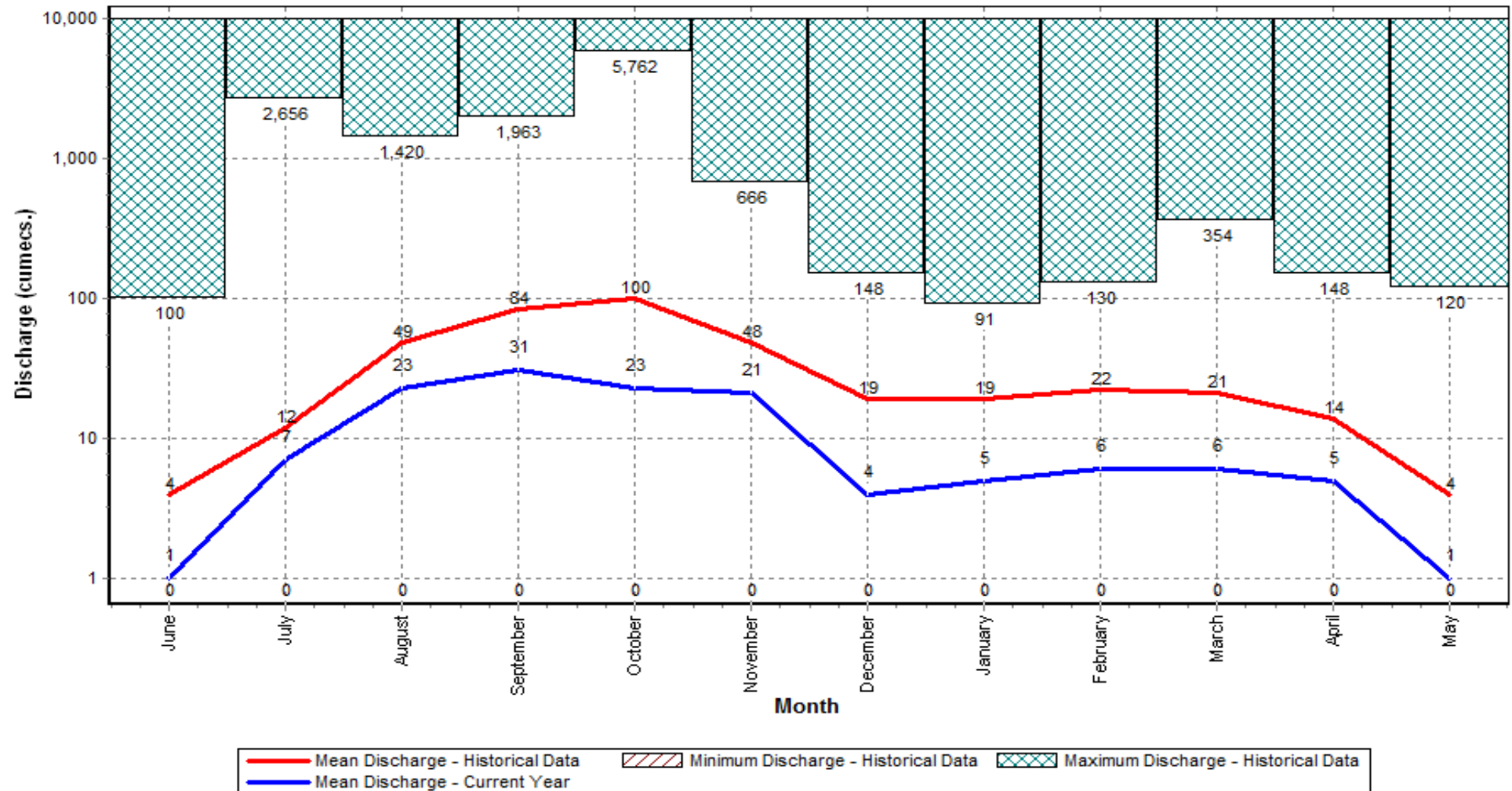
Station Name : Dameracherla (AKF00A7)

Data considered : 1969-2019

Division : Lower Krishna Divn., Hyderabad

Local River : Musi

Sub-Division : Lower Krishna SD 1, N.S.Dam



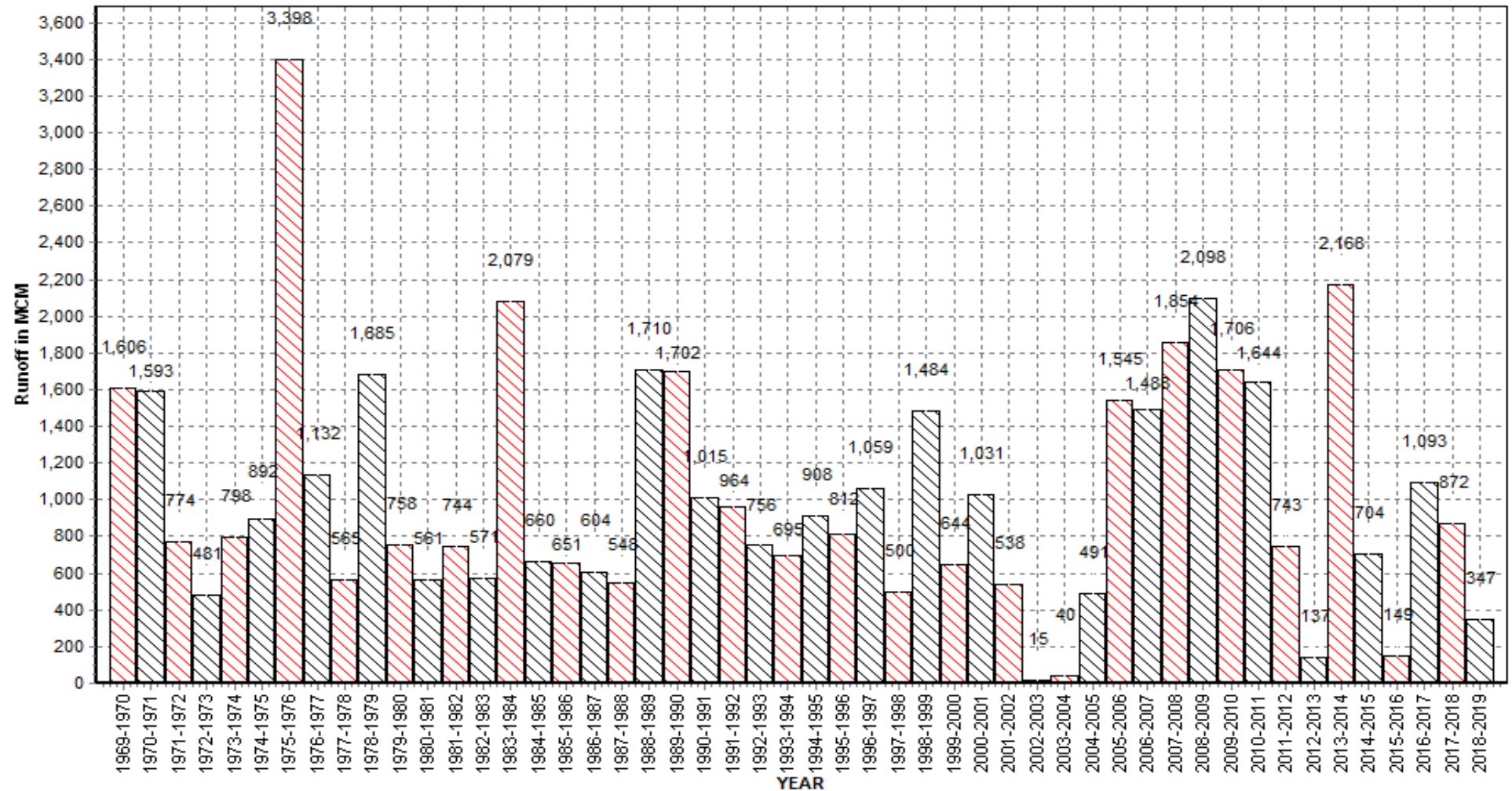
Annual Runoff Values for the period: 1969 - 2019

Station Name : Dameracherla (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

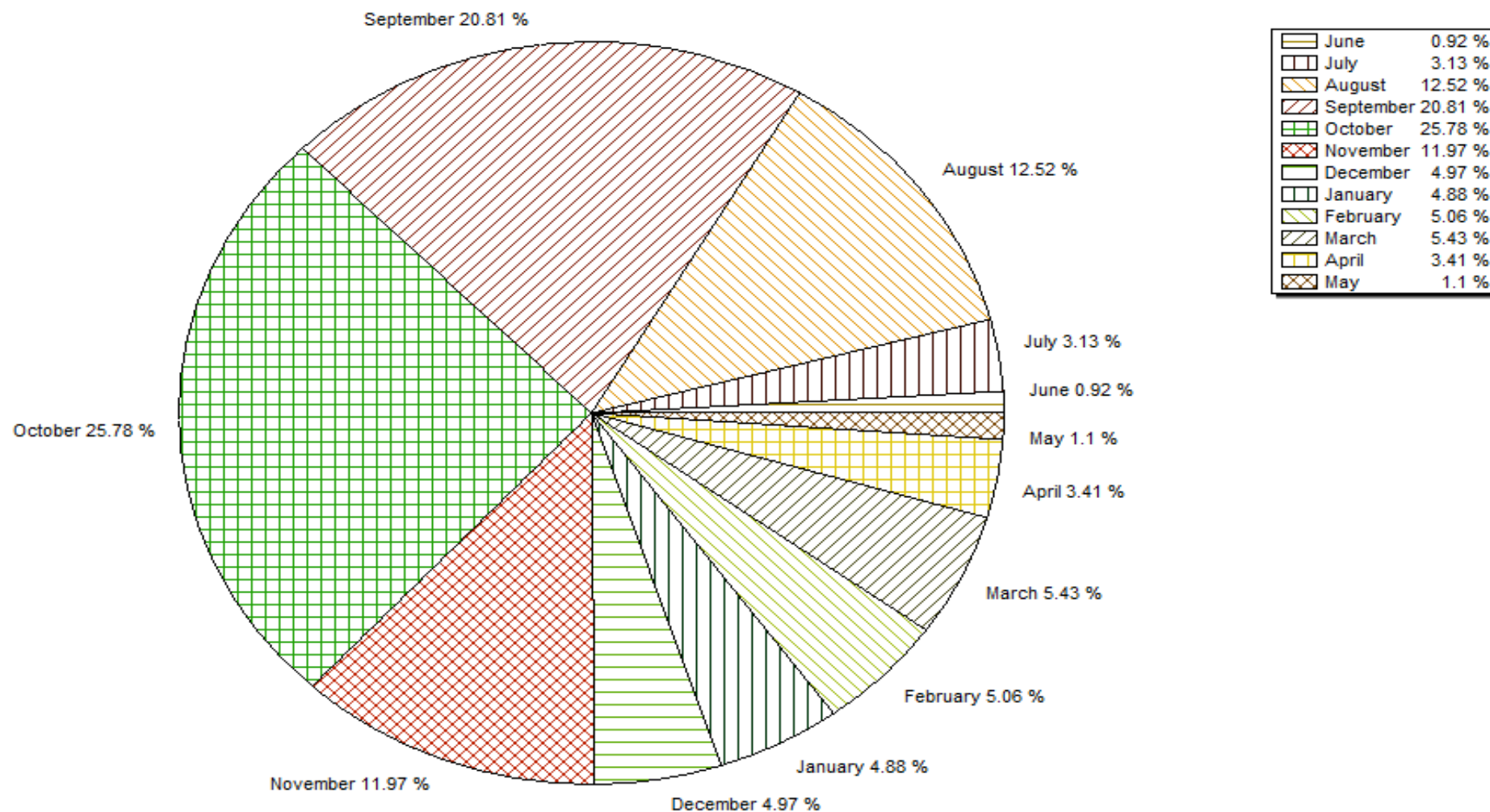
Monthly Average Runoff based on period : 1969-2018

Station Name : Dameracherla (AKF00A7)

Local River : Musi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



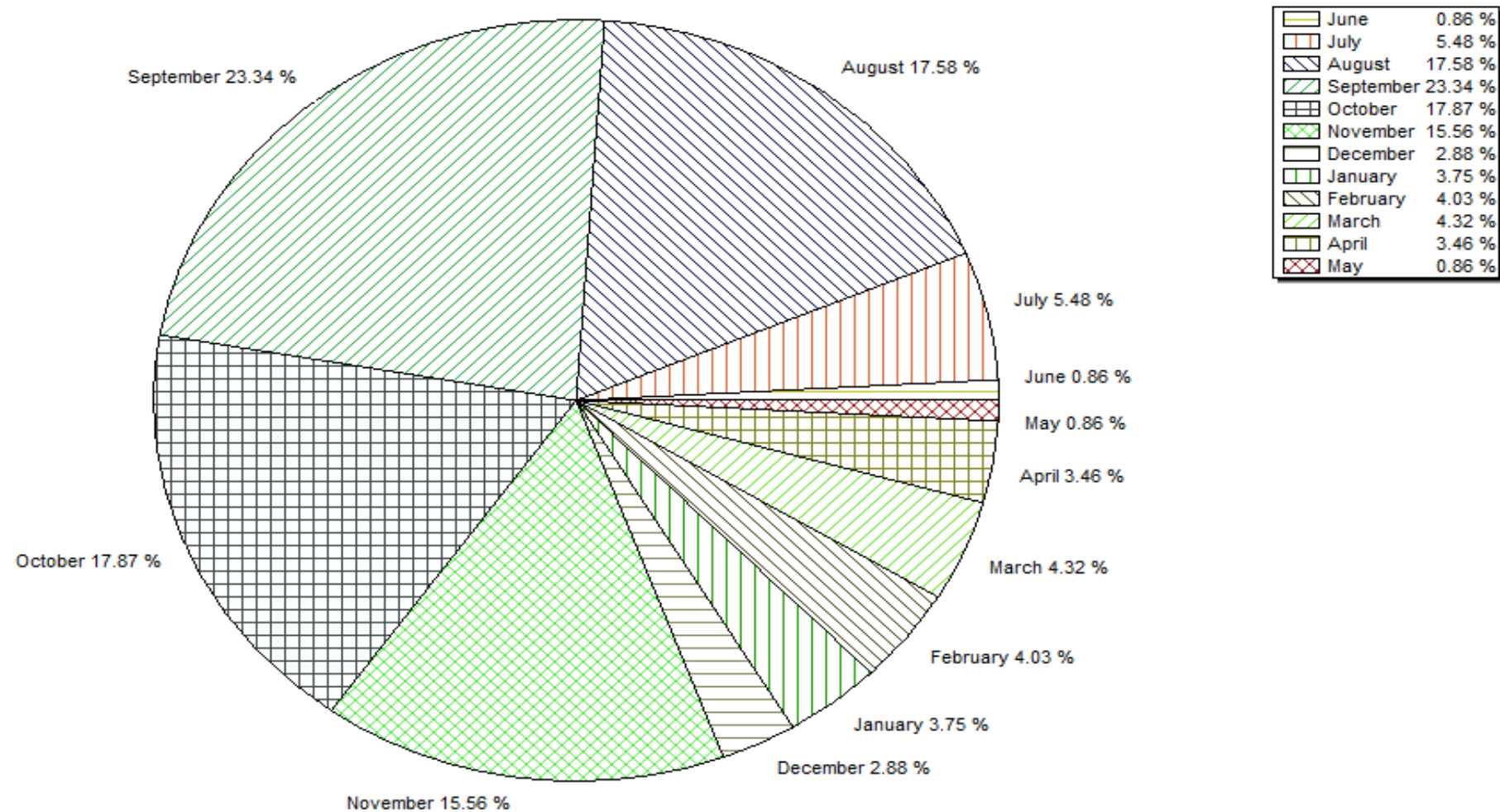
Monthly Runoff for the Year : 2018-2019

Station Name : Dameracherla (AKF00A7)

Local River : Musi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



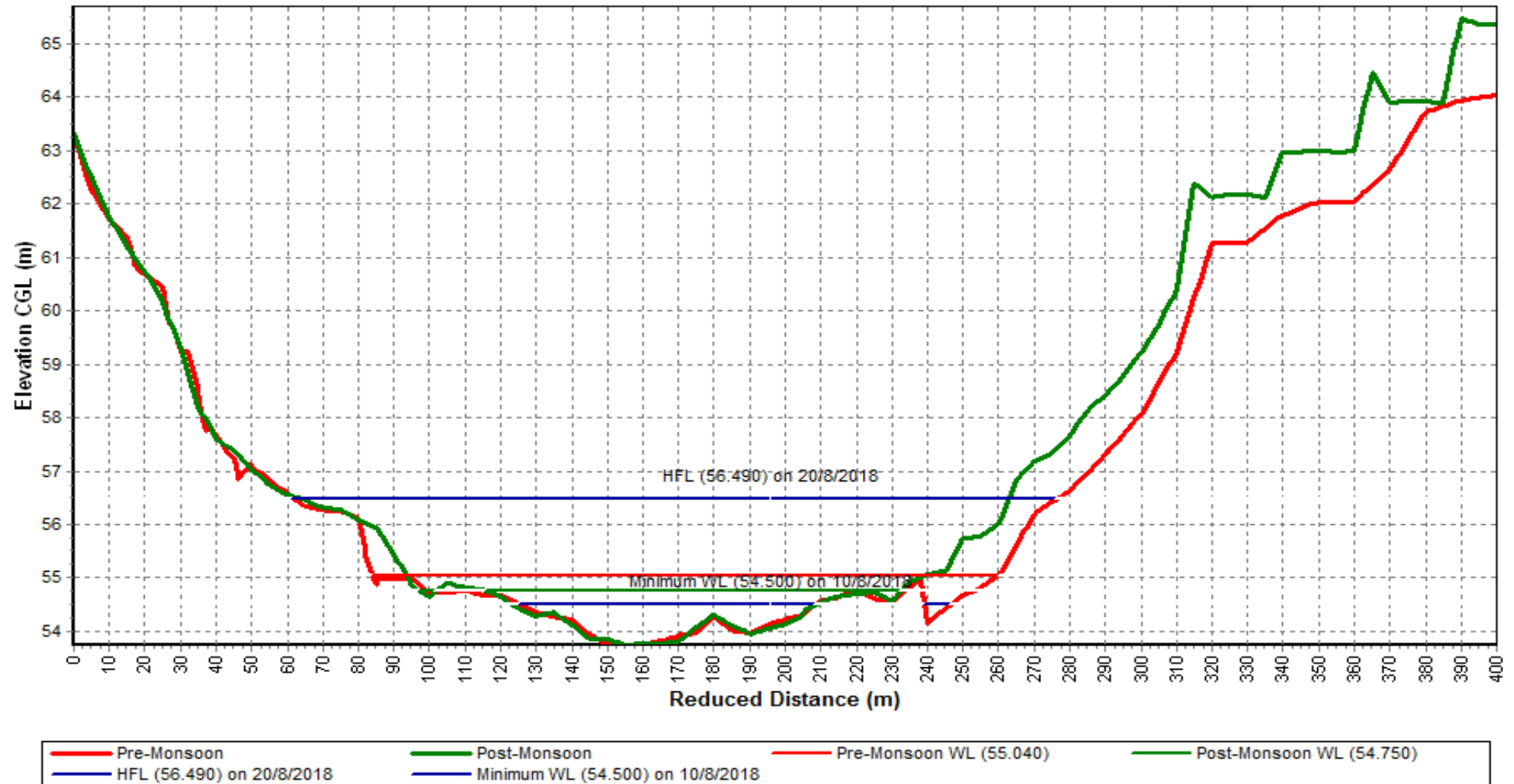
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Dameracherla (AKF00A7)

Local River : Musi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



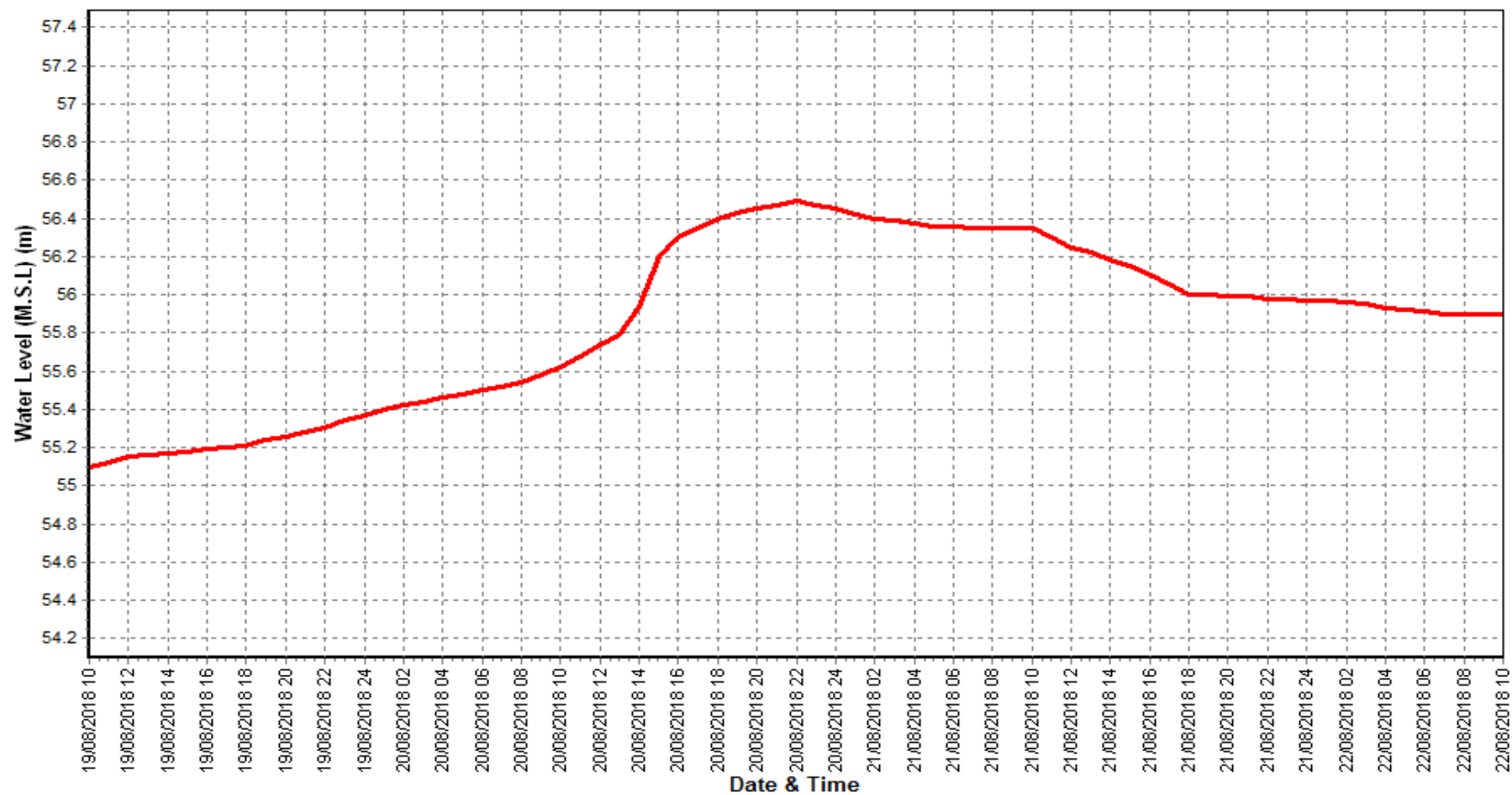
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Dameracherla (AKF00A7)

Local River : Musi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



Time Span: 72 Hrs

HISTORY SHEET

Water Year : 2018-2019

Site : Anantharam

Code : 034-LKDHYD

State : Telangana

District : Nalgonda

Basin : Krishna

Independent River : Krishna

Tributary : -

Sub Tributary :

Sub-Sub Tributary :

Local River : Aleru

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam

Drainage Area : 2448.4 Sq. Km.

Bank : Right

Latitude : 17°26'05"

Longitude : 79°24'43"

Zero of Gauge (m) : 96 (m.s.l)

01/03/2017

Opening Date

Closing Date

Gauge : 26/10/2016

Discharge : 26/10/2016

Sediment :

Water Quality :

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

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date

River bed dry

Stage-Discharge Data for the period 2018 - 2019

Station Name : Anantharam (034-LKDHYD)

Division : Lower Krishna Divn., Hyderabad

Local River : Aleru

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		0.000		0.000		0.000		0.000
2		0.000		0.000		0.000		0.000		0.000		0.000
3		0.000		0.000		0.000		0.000		0.000		0.000
4		0.000		0.000		0.000		0.000		0.000		0.000
5		0.000		0.000		0.000		0.000		0.000		0.000
6		0.000		0.000		0.000		0.000		0.000		0.000
7		0.000		0.000		0.000		0.000		0.000		0.000
8		0.000		0.000		0.000		0.000		0.000		0.000
9		0.000		0.000		0.000		0.000		0.000		0.000
10		0.000		0.000		0.000		0.000		0.000		0.000
11		0.000		0.000		0.000		0.000		0.000		0.000
12		0.000		0.000		0.000		0.000		0.000		0.000
13		0.000		0.000		0.000		0.000		0.000		0.000
14		0.000		0.000		0.000		0.000		0.000		0.000
15		0.000		0.000		0.000		0.000		0.000		0.000
16		0.000		0.000		0.000		0.000		0.000		0.000
17		0.000		0.000		0.000		0.000		0.000		0.000
18		0.000		0.000		0.000		0.000		0.000		0.000
19		0.000		0.000		0.000		0.000		0.000		0.000
20		0.000		0.000		0.000		0.000		0.000		0.000
21		0.000		0.000		0.000		0.000		0.000		0.000
22		0.000		0.000		0.000		0.000		0.000		0.000
23		0.000		0.000		0.000		0.000		0.000		0.000
24		0.000		0.000		0.000		0.000		0.000		0.000
25		0.000		0.000		0.000		0.000		0.000		0.000
26		0.000		0.000		0.000		0.000		0.000		0.000
27		0.000		0.000		0.000		0.000		0.000		0.000
28		0.000		0.000		0.000		0.000		0.000		0.000
29		0.000		0.000		0.000		0.000		0.000		0.000
30		0.000		0.000		0.000		0.000		0.000		0.000
31				0.000		0.000				0.000		
<u>Ten-Daily Mean</u>												
I Ten-Daily		0.000		0.000		0.000		0.000		0.000		0.000
II Ten-Daily		0.000		0.000		0.000		0.000		0.000		0.000
III Ten-Daily		0.000		0.000		0.000		0.000		0.000		0.000
<u>Monthly</u>												
Min.		0.000		0.000		0.000		0.000		0.000		0.000
Max.		0.000		0.000		0.000		0.000		0.000		0.000
Mean		0		0		0		0		0		0

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

Peak Observed Discharge = 0.000 cumecs on 01/06/2018

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018

Stage-Discharge Data for the period 2018 - 2019

Station Name : Anantharam (034-LKDHYD)

Division : Lower Krishna Divn., Hyderabad

Local River : Aleru

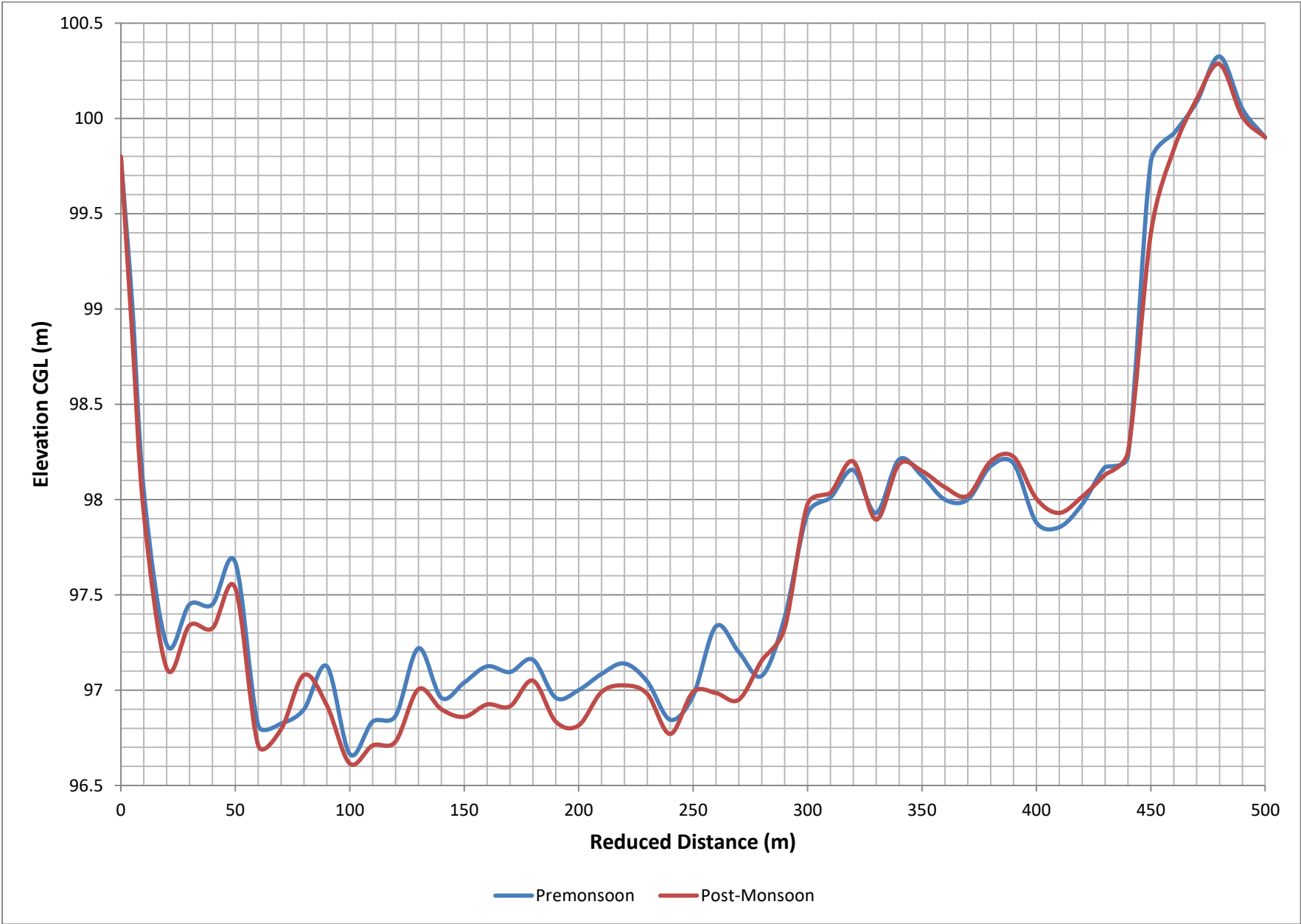
Sub-Division : Lower Krishna SD 1, N.S.Dam

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1		0.000		0.000		0.000		0.000		0.000		0.000
2		0.000		0.000		0.000		0.000		0.000		0.000
3		0.000		0.000		0.000		0.000		0.000		0.000
4		0.000		0.000		0.000		0.000		0.000		0.000
5		0.000		0.000		0.000		0.000		0.000		0.000
6		0.000		0.000		0.000		0.000		0.000		0.000
7		0.000		0.000		0.000		0.000		0.000		0.000
8		0.000		0.000		0.000		0.000		0.000		0.000
9		0.000		0.000		0.000		0.000		0.000		0.000
10		0.000		0.000		0.000		0.000		0.000		0.000
11		0.000		0.000		0.000		0.000		0.000		0.000
12		0.000		0.000		0.000		0.000		0.000		0.000
13		0.000		0.000		0.000		0.000		0.000		0.000
14		0.000		0.000		0.000		0.000		0.000		0.000
15		0.000		0.000		0.000		0.000		0.000		0.000
16		0.000		0.000		0.000		0.000		0.000		0.000
17		0.000		0.000		0.000		0.000		0.000		0.000
18		0.000		0.000		0.000		0.000		0.000		0.000
19		0.000		0.000		0.000		0.000		0.000		0.000
20		0.000		0.000		0.000		0.000		0.000		0.000
21		0.000		0.000		0.000		0.000		0.000		0.000
22		0.000		0.000		0.000		0.000		0.000		0.000
23		0.000		0.000		0.000		0.000		0.000		0.000
24		0.000		0.000		0.000		0.000		0.000		0.000
25		0.000		0.000		0.000		0.000		0.000		0.000
26		0.000		0.000		0.000		0.000		0.000		0.000
27		0.000		0.000		0.000		0.000		0.000		0.000
28		0.000		0.000		0.000		0.000		0.000		0.000
29		0.000		0.000				0.000		0.000		0.000
30		0.000		0.000				0.000		0.000		0.000
31		0.000		0.000				0.000				0.000
<u>Ten-Daily Mean</u>												
I Ten-Daily		0.000		0.000		0.000		0.000		0.000		0.000
II Ten-Daily		0.000		0.000		0.000		0.000		0.000		0.000
III Ten-Daily		0.000		0.000		0.000		0.000		0.000		0.000
<u>Monthly</u>												
Min.		0.000		0.000		0.000		0.000		0.000		0.000
Max.		0.000		0.000		0.000		0.000		0.000		0.000
Mean		0		0		0		0		0		0

Station Name : Anantharam (034-LKDHYD)
Local River : Aleru

Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Division : Lower Krishna Divn., Hyderabad
Sub-Division : Lower Krishna SD, N S Dam



HISTORY SHEET

		Water Year	: 2018-2019
Site	: Veerlapalem	Code	: 032-LKDHYD
State	: Telangana	District	Nalgonda
Basin	: Krishna	Independent River	: Krishna
Tributary	: -	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Tungapadu
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) 63 (m.s.l)	01/03/2017 26/02/2019	- 25/02/2019
	Opening Date	Closing Date	
Gauge	: 21/10/2016	HFL During 2018-19	: 48.000 m
		Corres. Discharge	: 20.88 (Estimated)
Discharge	: 21/10/2016	Date & Time of occurrence	: 20/08/2018 : 11:00 Hrs
Sediment	:		
Water Quality	:		

HFL Recorded so far in m : 48.000 dt 20-08-2018

Corresponding Discharge (cumecs) : 20.88 *

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

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date

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
Average		32	32	64	1	1	2
75% Dependable flow (MCM)				Sufficient data not available			
90 % Dependable flow (MCM)				Sufficient data not available			

Stage-Discharge Data for the period 2018 - 2019

Station Name : Veerlapalem (032-LKDHYD)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungapadu

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	47.050	0.000	46.990	0.000	47.400	5.362	47.170	0.000
2		0.000		0.000	46.970	0.000	47.000	0.000	47.400	5.362 *	47.440	5.316
3		0.000		0.000	46.900	0.000	47.290	3.175	47.600	12.25 #	47.510	8.722
4		0.000		0.000	46.850	0.000	47.220	2.684	47.470	6.823	47.500	7.695 *
5		0.000		0.000	46.830	0.000	47.280	3.093	47.580	9.181	47.630	12.22 #
6		0.000		0.000	46.820	0.000	47.320	3.056	47.470	6.815	47.610	11.90 #
7		0.000		0.000	46.820	0.000	47.360	3.817	47.460	6.792 *	47.540	7.705 *
8		0.000		0.000	46.800	0.000	47.260	2.783	47.580	9.200	47.510	8.410
9		0.000	47.470	2.199	46.790	0.000	47.120	1.824 *	47.540	8.019	47.430	5.168
10		0.000	47.320	1.269	46.790	0.000	47.350	3.708	47.420	6.137	47.270	2.933
11		0.000	47.320	1.160	46.800	0.000	47.180	2.064	47.310	3.193	47.250	3.413 *
12		0.000	47.340	1.328	46.800	0.000	47.360	3.791	47.350	3.596	47.240	2.578
13		0.000	47.565	4.101	46.790	0.000	47.400	3.947 *	46.960	0.000	47.210	1.655
14		0.000	47.520	3.042	46.810	0.000	47.480	5.072	47.100	0.000	47.230	2.146
15		0.000	47.490	2.381 *	46.830	0.000	47.460	4.959	47.110	0.000	47.320	2.970
16		0.000	47.490	2.381	46.800	0.000	47.430	3.921 *	47.250	2.389	47.350	3.532
17		0.000	47.480	2.156	46.750	0.000	47.440	4.690	47.220	2.109	47.470	6.040
18		0.000	47.360	1.685	46.740	0.000	47.810	15.02 #	47.240	2.269	47.500	8.496 *
19		0.000	47.330	1.400	46.740	0.000	47.820	36.53	47.280	2.782 *	47.530	8.581
20		0.000	47.300	1.279	47.830	38.99 *	47.750	11.67 #	47.380	3.822	47.490	7.593
21		0.000	47.300	0.978	47.790	31.06	47.670	10.04 #	47.350	3.320 *	47.490	7.589 *
22		0.000	47.270	0.833 *	47.480	5.110 #	47.470	4.990	47.450	5.065	47.570	9.117
23		0.000	46.980	0.000	47.220	1.728	47.480	5.103 *	47.430	4.769	47.550	8.525 *
24		0.000	46.950	0.000	47.030	0.000	47.420	4.324	47.440	5.713	47.280	2.960
25		0.000	46.900	0.000	46.800	0.000	47.330	3.114	47.500	8.315	47.250	3.417 *
26		0.000	46.900	0.000	46.790	0.000	47.290	2.869	47.430	4.979	47.230	2.197
27		0.000	47.340	1.451	46.750	0.000	47.280	2.782	47.400	4.689	47.280	2.838
28		0.000	47.350	1.502	46.750	0.000	47.180	1.949	47.390	4.499 *	47.200	1.808
29		0.000	47.310	1.352 *	46.740	0.000	47.300	2.988	47.180	0.000	47.200	1.729
30		0.000	47.220	0.000	47.270	2.596	47.330	3.110 *	47.100	0.000	47.300	2.541
31			47.130	0.000	46.970	0.000			47.100	0.000		
Ten-Daily Mean												
I Ten-Daily		0.000	47.395	0.347	46.862	0.000	47.219	2.414	47.492	7.594	47.461	7.007
II Ten-Daily		0.000	47.420	2.091	46.889	3.899	47.513	9.167	47.220	2.016	47.359	4.700
III Ten-Daily		0.000	47.150	0.556	47.054	3.682	47.375	4.126	47.343	3.759	47.335	4.272
Monthly												
Min.		0.000	46.900	0.000	46.740	0.000	46.990	0.000	46.960	0.000	47.170	0.000
Max.		0.000	47.565	4.101	47.830	38.99	47.820	36.53	47.600	12.25	47.630	12.22
Mean		0	47.288	0.984	46.939	2.564	47.369	5.236	47.351	4.434	47.385	5.326

Annual Runoff in MCM = 73 Annual Runoff in mm = 117

Peak Observed Discharge = 36.53 cumecs on 19/09/2018 Corres. Water Level :47.82 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018

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 2018 - 2019

Station Name : Veerlapalem (032-LKDHYD)

Division : Lower Krishna Divn., Hyderabad

Local River : Tungapadu

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	47.260	2.331	46.950	0.000	64.870	2.917	64.740	2.067	64.900	3.845	64.830	2.776
2	47.250	2.413 *	46.950	0.000	64.640	0.737	64.580	0.606	64.890	3.914	64.850	2.982
3	47.490	8.339	46.950	0.000	64.780	2.239 *	64.550	0.000	64.840	3.445	64.860	3.037
4	47.440	5.731	47.100	0.000	64.660	0.768	64.530	0.000	64.520	0.267	64.860	3.109
5	47.460	6.767	47.100	0.000	64.690	0.997	64.450	0.000	64.650	1.084	64.880	3.588 *
6	47.420	5.458	47.080	0.000	64.680	0.918	64.400	0.000	64.670	1.116	64.900	3.787
7	47.390	4.443	47.050	0.000	64.620	0.712	64.420	0.000	64.850	3.141 *	64.880	3.388
8	47.320	3.224	47.070	0.000	64.740	1.474	64.390	0.000	64.980	4.955	64.720	1.647
9	47.300	2.541 *	47.150	0.000	64.720	1.323	64.400	0.000	64.950	4.530	64.710	1.557
10	47.240	2.441	64.590	0.640	64.720	1.615 *	64.410	0.000	64.920	4.124	64.710	1.584
11	47.320	3.088	64.580	0.618	64.890	3.306	64.420	0.000	64.900	3.872	64.720	1.624
12	47.310	2.923	64.610	0.739	64.900	3.527	64.730	1.636	64.930	4.329	64.720	1.615 *
13	47.260	2.611	64.580	0.698 *	64.850	2.912	64.780	2.428	64.910	4.080	64.710	1.564
14	47.220	2.166	64.530	0.000	64.780	2.107	64.830	3.078	64.850	3.141 *	64.660	1.153
15	47.200	1.658	64.530	0.000	64.760	2.296	64.820	2.900	64.830	3.087	64.650	1.084
16	47.200	1.658 *	64.470	0.000	64.720	1.597	64.840	3.476	64.810	2.879	64.640	0.907
17	47.260	2.825	64.430	0.000	64.500	0.000	64.800	2.477 *	64.800	2.477 *	64.600	0.768
18	47.400	5.034	64.410	0.000	64.470	0.000	64.790	2.549	64.770	2.323	64.600	0.727 *
19	47.320	3.130	64.400	0.000	64.450	0.000	64.560	0.000	64.860	3.286 *	64.600	0.727 *
20	47.260	2.769	64.380	0.000	64.460	0.000	64.530	0.000	64.830	3.078	64.590	0.748
21	47.200	1.668	64.360	0.000	64.480	0.000	64.500	0.000	64.760	2.017 *	64.610	0.813
22	47.220	1.745	64.350	0.000	64.470	0.000	64.460	0.000	64.650	1.028	64.650	1.259
23	47.250	2.413 *	64.330	0.000	64.470	0.000	64.440	0.000	64.660	1.093	64.640	1.190
24	47.020	0.000	64.350	0.000	64.460	0.000	64.430	0.000	64.720	1.623	64.640	1.129
25	47.000	0.000	64.370	0.000	64.460	0.000	64.420	0.000	64.700	1.518	64.630	0.996
26	46.980	0.000	64.400	0.000	64.730	1.824	64.380	0.000	64.690	1.458	64.620	0.845 *
27	46.960	0.000	64.500	0.000	64.770	2.474	64.310	0.000	64.660	1.083	64.610	0.809
28	46.910	0.000	65.800	2.541 *	64.750	2.258	64.280	0.000	64.670	1.190 *	64.590	0.704
29	46.880	0.000	65.760	2.535 *			64.850	3.541	64.680	1.358	64.580	0.670
30	46.900	0.000	65.030	1.146 #			64.830	3.131	64.660	1.099	64.620	0.844
31	46.920	0.000	65.000	1.030 #			64.850	3.141 *			64.620	0.887
Ten-Daily Mean												
I Ten-Daily	47.357	4.369	48.799	0.064	64.712	1.370	64.487	0.267	64.817	3.042	64.820	2.746
II Ten-Daily	47.275	2.786	64.492	0.205	64.678	1.575	64.710	1.854	64.849	3.255	64.649	1.092
III Ten-Daily	47.022	0.530	64.750	0.659	64.574	0.819	64.523	0.892	64.685	1.347	64.619	0.922
Monthly												
Min.	46.880	0.000	46.950	0.000	64.450	0.000	64.280	0.000	64.520	0.267	64.580	0.670
Max.	47.490	8.339	65.800	2.541	64.900	3.527	64.850	3.541	64.980	4.955	64.900	3.787
Mean	47.212	2.496	59.521	0.321	64.660	1.286	64.572	1.001	64.784	2.548	64.694	1.565

Peak Computed Discharge = 38.99 cumecs on 20/08/2018

Corres. Water Level :47.83 m

Lowest Computed Discharge = 0.698 cumecs on 13/01/2019

Corres. Water Level :64.58 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)

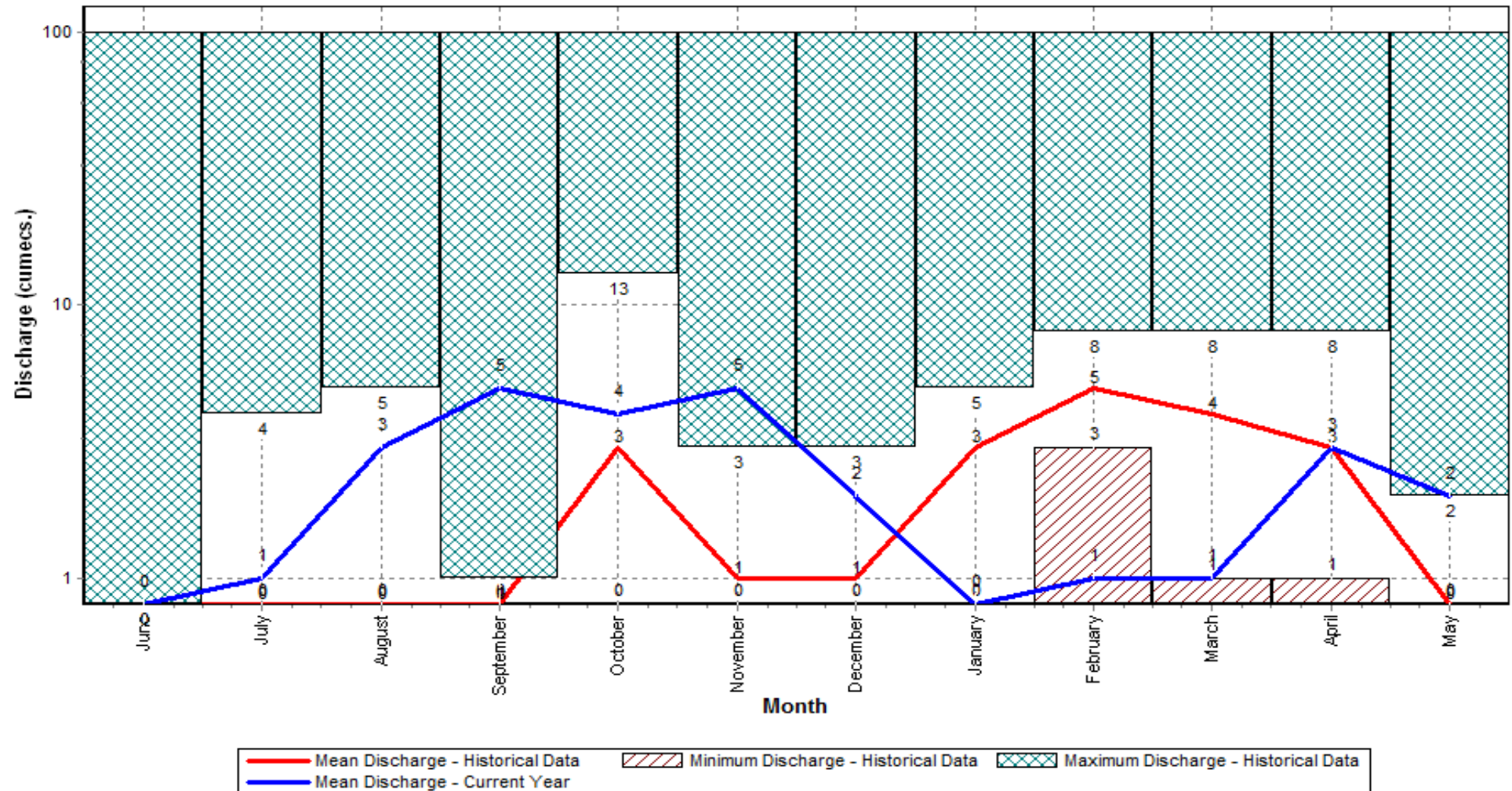
Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2018-2019

Station Name : Veerlapalem (032-LKDHYD)
Local River : Tungapadu

Data considered : 2018-2019

Division : Lower Krishna Divn., Hyderabad
Sub-Division : Lower Krishna SD 1, N.S.Dam



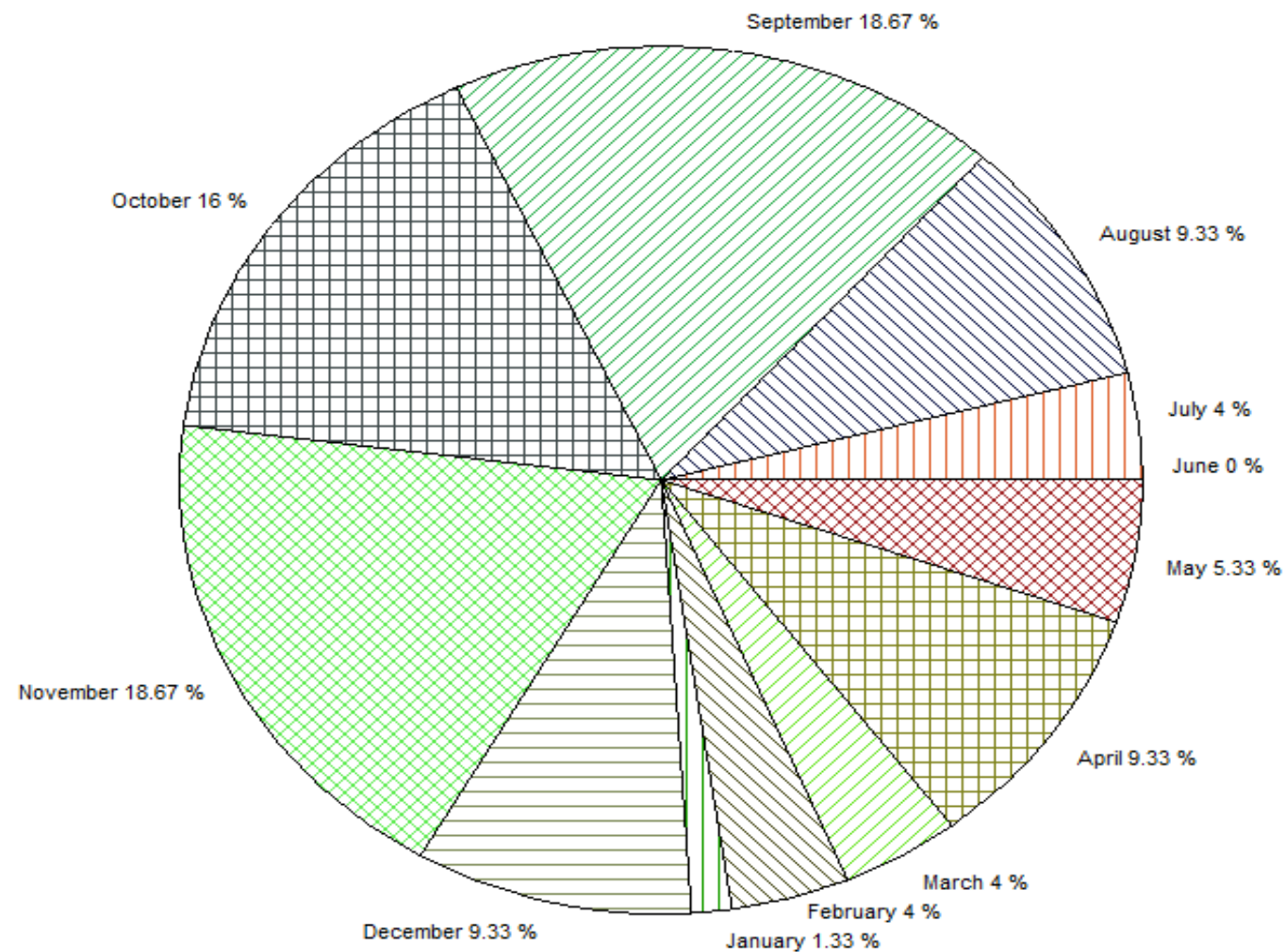
Monthly Runoff for the Year : 2018-2019

Station Name : Veerlapalem (032-LKDHYD)

Local River : Tungapadu

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam

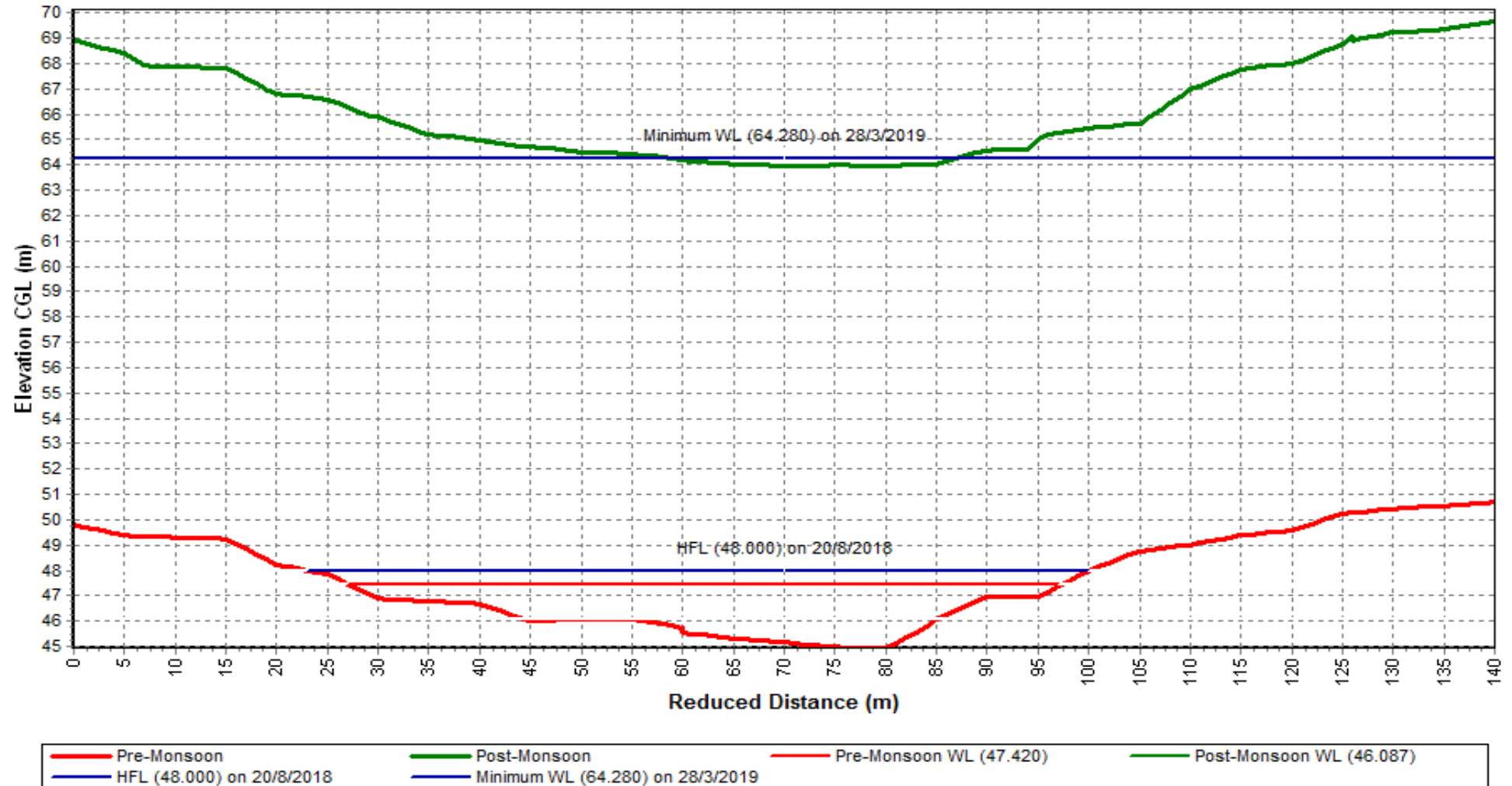


June	0 %
July	4 %
August	9.33 %
September	18.67 %
October	16 %
November	18.67 %
December	9.33 %
January	1.33 %
February	4 %
March	4 %
April	9.33 %
May	5.33 %

Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Veerlapalem (032-LKDHYD)
Local River : Tungapadu

Division : Lower Krishna Divn., Hyderabad
Sub-Division : Lower Krishna SD 1, N.S.Dam



ZOG changed from 44.500 m to 63.000 m

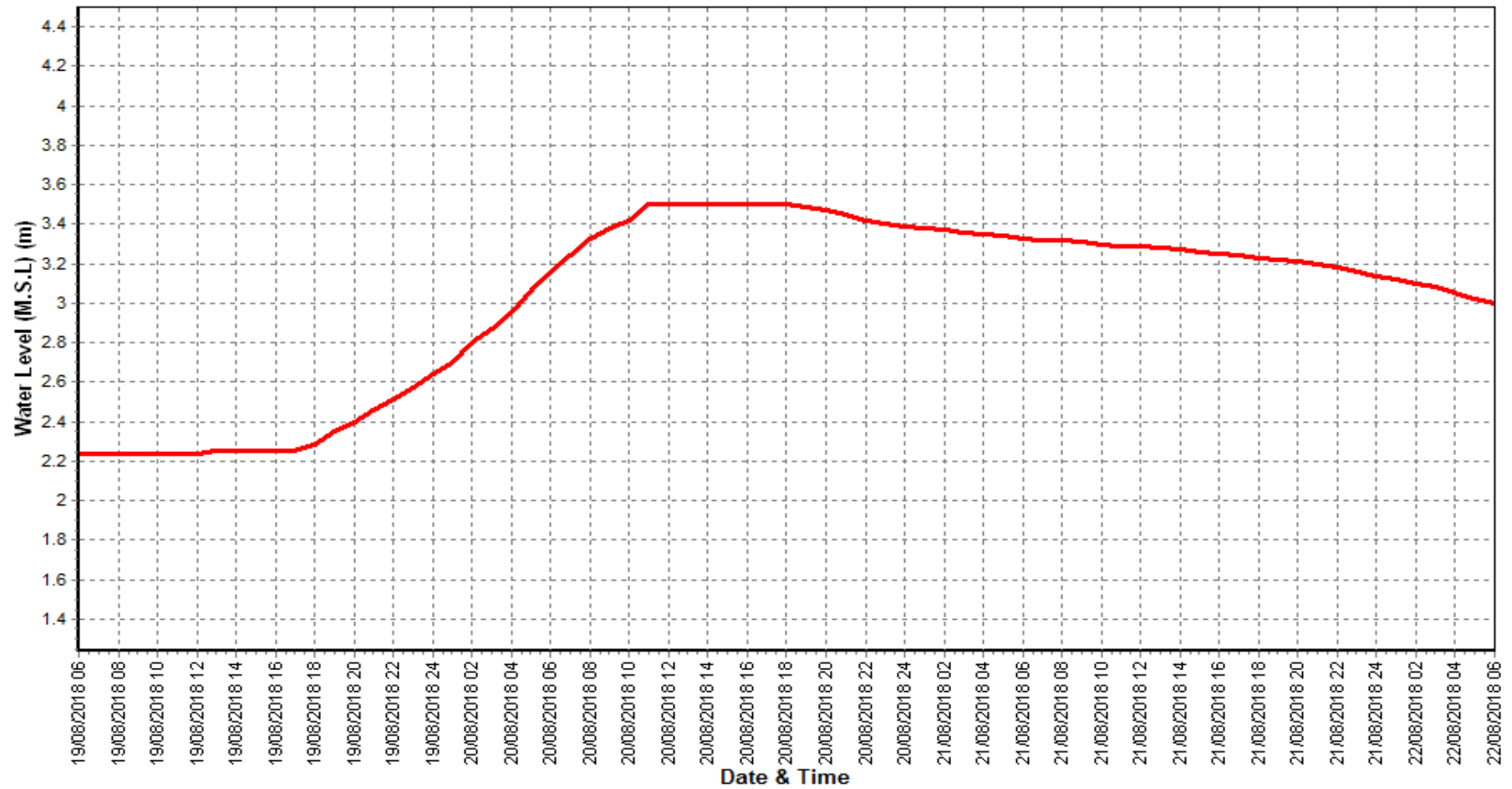
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Veerlapalem (032-LKDHYD)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1. N.S.Dam



HISTORY SHEET

		Water Year	: 2018-2019
Site	: Halia	Code	: AKH00G2
State	: Telangana	District	Nalgonda
Basin	: Krishna	Independent River	: Krishna
Tributary	: Halia	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Halia
Division	: Lower Krishna Divn., Hyderabad	Sub-Division	: Lower Krishna SD 1, N.S.Dam
Drainage Area	: 3100 Sq. Km.	Bank	: Left
Latitude	: 16°47'25"	Longitude	: 79°20'19"
Zero of Gauge (m)	: 129 (m.s.l) 127.9 (m.s.l)	15/02/1984 01/06/2002	- 31/05/2002
	Opening Date	Closing Date	
Gauge	: 15/02/1984	HFL During 2018-19	: 129.260 m
		Corres. Discharge	: 32.36 (Estimated)
Discharge	: 11/07/1984	Date & Time of occurrence	: 20/09/2018 : 21.00 hrs.
Sediment	:		
Water Quality	: 01/06/1992		

HFL Recorded so far in m : 134.405 dt 23-09-1991

Corresponding Discharge (cumecs) : 2647 *

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

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	2.049	128.340	12/08/2002	0.000		23/04/2003
2003-2004	144.3	129.600	24/10/2003	0.000	127.970	20/01/2004
2004-2005	280.3	129.650	09/10/2004	0.000		19/07/2004
2005-2006	3383	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	524.3	130.400	17/09/2007	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	1126	132.325	25/10/2013	0.000	128.340	08/07/2013
2014-2015	71.70	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	291.2	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

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
Average		151	25	176	5	1	6
75% Dependable flow (MCM)				55			
90 % Dependable flow (MCM)				22			

Stage-Discharge Data for the period 2018 - 2019

Station Name : Halia (AKH00G2)

Division : Lower Krishna Divn., Hyderabad

Local River : Halia

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	128.310	0.000	128.350	0.000		0.000		0.000	128.760	6.594	128.650	2.924
2	128.320	0.000	128.380	0.544		0.000	128.260	0.000	128.760	6.125 *	128.650	2.763
3	128.330	0.000	128.370	0.532		0.000	128.750	5.003	128.800	6.863	128.660	3.187
4	128.340	0.000	128.370	0.517		0.000	128.740	4.543	128.760	6.528	128.750	5.809 *
5	128.340	0.000	128.280	0.000		0.000	128.740	4.451	128.760	6.535	128.685	3.630
6	128.340	0.000	128.290	0.000		0.000	128.750	4.937	128.750	5.796	128.660	3.138
7	128.340	0.000	128.290	0.000		0.000	128.650	3.026	128.710	4.623 *	128.590	1.850 *
8	128.330	0.000	128.320	0.000		0.000	128.630	2.987	128.610	2.568	128.620	2.444
9	128.330	0.000	128.450	0.890		0.000	128.620	2.433 *	128.590	2.293	128.650	2.991
10	128.320	0.000	128.460	0.967		0.000	128.650	3.337	128.560	1.268	128.690	3.936
11	128.340	0.000	128.500	1.157		0.000	128.660	3.641	128.600	1.936	128.710	4.623 *
12	128.340	0.000	128.500	1.155		0.000	128.690	4.314	128.640	2.137	128.720	4.409
13	128.320	0.000	128.630	3.307		0.000	128.690	4.079 *	128.680	3.686	128.720	4.553
14	128.320	0.000	128.700	4.608		0.000	128.650	3.144	128.750	5.809 *	128.700	4.436
15	128.330	0.000	128.640	2.863 *		0.000	128.660	3.597	128.830	9.189	128.670	3.162
16	128.320	0.000	128.660	4.275		0.000	128.760	6.125 *	128.760	6.301	128.650	2.855
17	128.320	0.000	128.580	3.133		0.000	128.835	9.746	128.750	5.795	128.690	3.921
18	128.340	0.000	128.520	1.146		0.000	128.850	10.15	128.770	6.792	128.720	4.907 *
19	128.330	0.000	128.460	0.997		0.000	129.150	29.65	128.750	5.809 *	128.690	4.420
20	128.330	0.000	128.450	0.850		0.000	128.990	14.42	128.750	5.663	128.700	4.613
21	128.340	0.000	128.440	0.838		0.000	129.160	25.48 *	128.750	5.809 *	128.670	3.568 *
22	128.330	0.000	128.400	0.400 *		0.000	129.020	14.30	128.710	4.395	128.650	3.095
23	128.350	0.000	128.350	0.397	128.260	0.000	128.920	12.30 *	128.540	1.116	128.640	2.863 *
24	128.350	0.000	128.320	0.000	128.250	0.000	128.770	6.848	128.490	0.772	128.610	1.957
25	128.330	0.000	128.290	0.000		0.000	128.690	4.378	128.540	1.262	128.610	2.231 *
26	128.340	0.000	128.260	0.000		0.000	128.680	3.817	128.540	1.139	128.635	2.987
27	128.340	0.000	128.250	0.000		0.000	128.700	4.704	128.550	1.300	128.680	4.133
28	128.330	0.000		0.000		0.000	128.750	6.107	128.520	1.100 *	128.700	4.527
29	128.320	0.000		0.000		0.000	128.710	4.853	128.560	1.498	128.690	4.215
30	128.330	0.000		0.000		0.000	128.750	5.809 *	128.570	2.012	128.690	4.169
31				0.000		0.000			128.610	2.450		
Ten-Daily Mean												
I Ten-Daily	128.330	0.000	128.356	0.345		0.000	128.643	3.072	128.706	4.919	128.660	3.267
II Ten-Daily	128.329	0.000	128.564	2.349		0.000	128.794	8.886	128.728	5.312	128.697	4.190
III Ten-Daily	128.336	0.000	128.330	0.149	128.255	0.000	128.815	8.860	128.580	2.078	128.658	3.375
Monthly												
Min.	128.310	0.000	128.250	0.000	128.250	0.000	128.260	0.000	128.490	0.772	128.590	1.850
Max.	128.350	0.000	128.700	4.608	128.260	0.000	129.160	29.65	128.830	9.189	128.750	5.809
Mean	128.332	0	128.426	0.922	128.255	0	128.754	6.939	128.668	4.038	128.672	3.611

Annual Runoff in MCM = 68 Annual Runoff in mm = 22

Peak Observed Discharge = 29.65 cumecs on 19/09/2018 Corres. Water Level :129.15 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018 Corres. Water Level :128.31 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

Stage-Discharge Data for the period 2018 - 2019

Station Name : Halia (AKH00G2)

Division : Lower Krishna Divn., Hyderabad

Local River : Halia

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	128.690	4.149	128.430	0.653	128.560	2.079	128.380	0.400 *	128.550	1.808	128.480	0.891
2	128.720	4.907 *	128.410	0.510	128.510	1.764	128.340	0.200 *	128.500	1.580	128.480	0.889
3	128.700	5.058	128.370	0.360	128.510	1.750 *	128.300	0.000	128.400	1.083	128.460	0.756
4	128.700	4.578	128.360	0.360	128.475	0.946	128.280	0.000	128.400	0.602	128.460	0.719
5	128.700	4.655	128.350	0.207	128.490	1.048	128.240	0.000	128.420	0.805	128.460	0.750 *
6	128.740	5.814	128.340	0.000	128.490	1.023	128.240	0.000	128.490	1.554	128.420	0.601
7	128.720	4.907 *	128.340	0.000	128.470	0.888	128.260	0.000	128.500	1.864 *	128.400	0.465
8	128.700	4.576	128.340	0.000	128.500	1.147	128.280	0.000	128.530	1.814	128.400	0.454
9	128.690	4.079 *	128.330	0.000	128.600	2.259	128.290	0.000	128.850	11.51	128.420	0.601
10	128.655	3.820	128.370	0.316	128.600	2.036 *	128.300	0.000	128.880	12.39	128.390	0.421
11	128.610	3.381	128.450	0.703	128.600	2.148	128.440	0.707	128.850	11.38 *	128.380	0.386
12	128.580	2.396	128.410	0.494	128.550	1.321	128.440	0.632	128.820	8.868	128.380	0.400 *
13	128.580	2.411	128.450	0.750 *	128.530	1.182	128.440	0.688	128.740	6.181	128.420	0.598
14	128.560	2.204	128.450	0.750 *	128.530	1.111	128.580	2.009	128.680	5.256 *	128.420	0.599
15	128.550	1.965	128.410	0.517	128.500	1.095	128.580	2.008	128.575	2.624	128.430	0.669
16	128.560	1.950 *	128.410	0.458	128.480	0.822	128.550	1.736	128.520	1.775	128.400	0.500
17	128.550	1.832	128.380	0.358	128.440	0.644 *	128.480	1.656 *	128.480	1.656 *	128.380	0.414
18	128.550	1.934	128.360	0.295	128.385	0.466	128.550	1.065	128.440	1.086	128.380	0.400 *
19	128.580	2.893	128.360	0.314	128.370	0.374	128.400	0.625	128.530	2.240 *	128.320	0.150 *
20	128.570	2.499	128.290	0.000	128.460	0.817	128.370	0.539	128.750	6.531	128.280	0.091
21	128.550	1.885	128.330	0.074	128.460	0.771	128.370	0.532	128.895	12.67 *	128.245	0.088
22	128.540	1.782	128.340	0.161	128.420	0.586	128.350	0.357	128.890	12.58	128.200	0.000
23	128.520	1.150 *	128.300	0.000	128.400	0.488	128.350	0.356	128.830	8.690	128.200	0.000
24	128.490	1.350	128.300	0.000	128.370	0.380 *	128.450	1.407 *	128.540	2.363	128.200	0.000
25	128.490	1.240 *	128.300	0.000	128.385	0.456	128.470	1.713	128.550	2.103	128.190	0.000
26	128.490	1.137	128.340	0.160 *	128.380	0.450	128.530	1.788	128.530	1.706	128.190	0.000
27	128.450	0.867	128.410	0.500 *	128.360	0.286	128.510	1.662	128.550	1.858		0.000
28	128.450	0.881	128.750	5.931	128.370	0.369	128.510	1.672	128.530	1.652 *		0.000
29	128.430	0.605	128.770	6.749			128.680	5.101	128.520	1.355		0.000
30	128.420	0.500 *	128.710	5.340			128.700	5.403	128.500	1.227		0.000
31	128.450	0.762	128.630	3.628			128.600	3.411 *				0.000
Ten-Daily Mean												
I Ten-Daily	128.701	4.654	128.364	0.241	128.520	1.494	128.291	0.060	128.552	3.501	128.437	0.655
II Ten-Daily	128.569	2.346	128.397	0.464	128.484	0.998	128.483	1.167	128.639	4.760	128.379	0.421
III Ten-Daily	128.480	1.105	128.471	2.049	128.393	0.473	128.502	2.127	128.633	4.620	128.204	0.008
Monthly												
Min.	128.420	0.500	128.290	0.000	128.360	0.286	128.240	0.000	128.400	0.602	128.190	0.000
Max.	128.740	5.814	128.770	6.749	128.600	2.259	128.700	5.403	128.895	12.67	128.480	0.891
Mean	128.580	2.651	128.413	0.954	128.471	1.025	128.428	1.151	128.608	4.294	128.361	0.35

Peak Computed Discharge = 25.48 cumecs on 21/09/2018

Corres. Water Level :129.16 m

Lowest Computed Discharge = 0.150 cumecs on 19/05/2019

Corres. Water Level :128.32 m

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

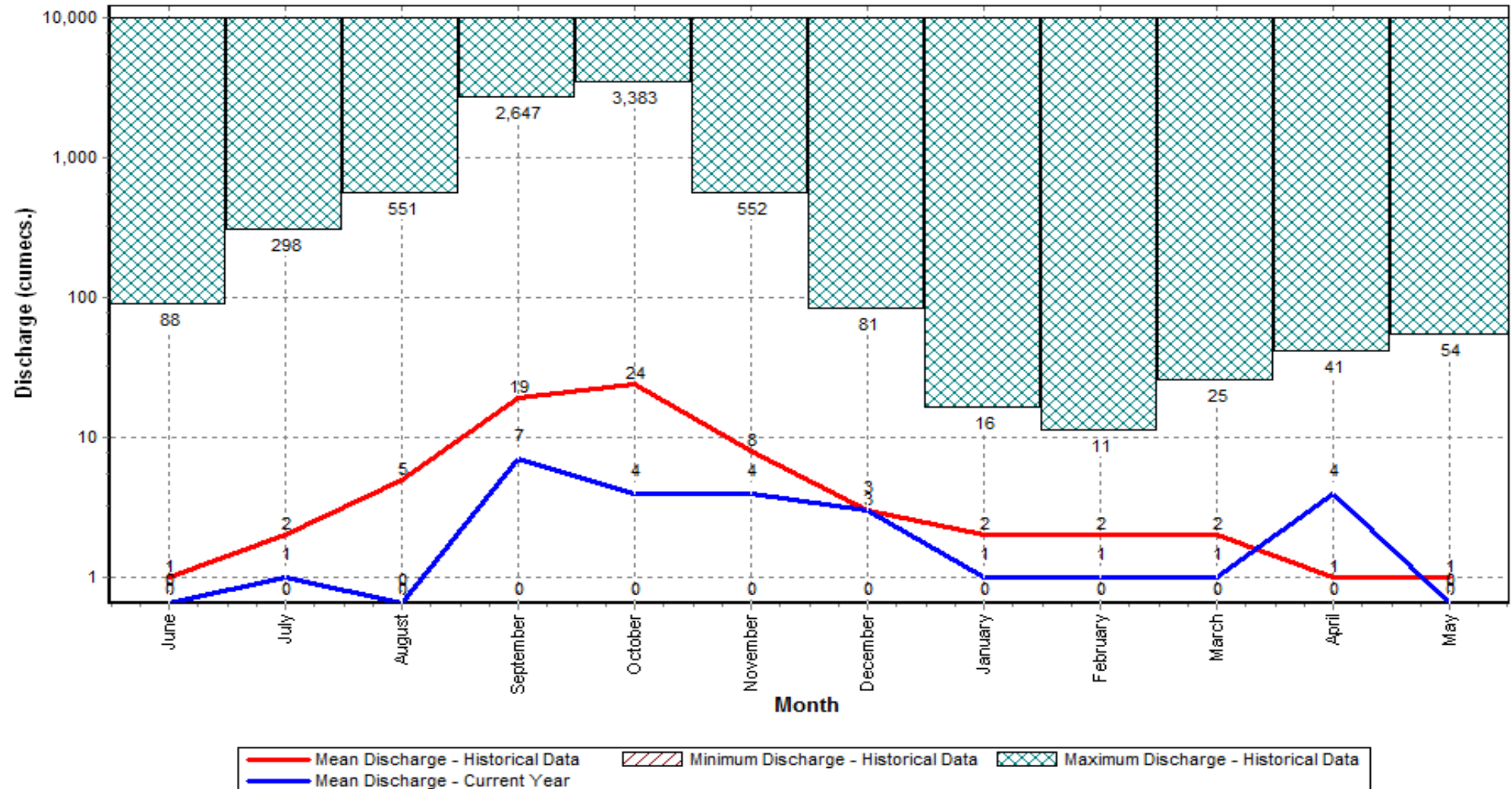
Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2018-2019

Station Name : Halia (AKH00G2)
Local River : Halia

Data considered : 1985-2019

Division : Lower Krishna Divn., Hyderabad
Sub-Division : Lower Krishna SD 1, N.S.Dam



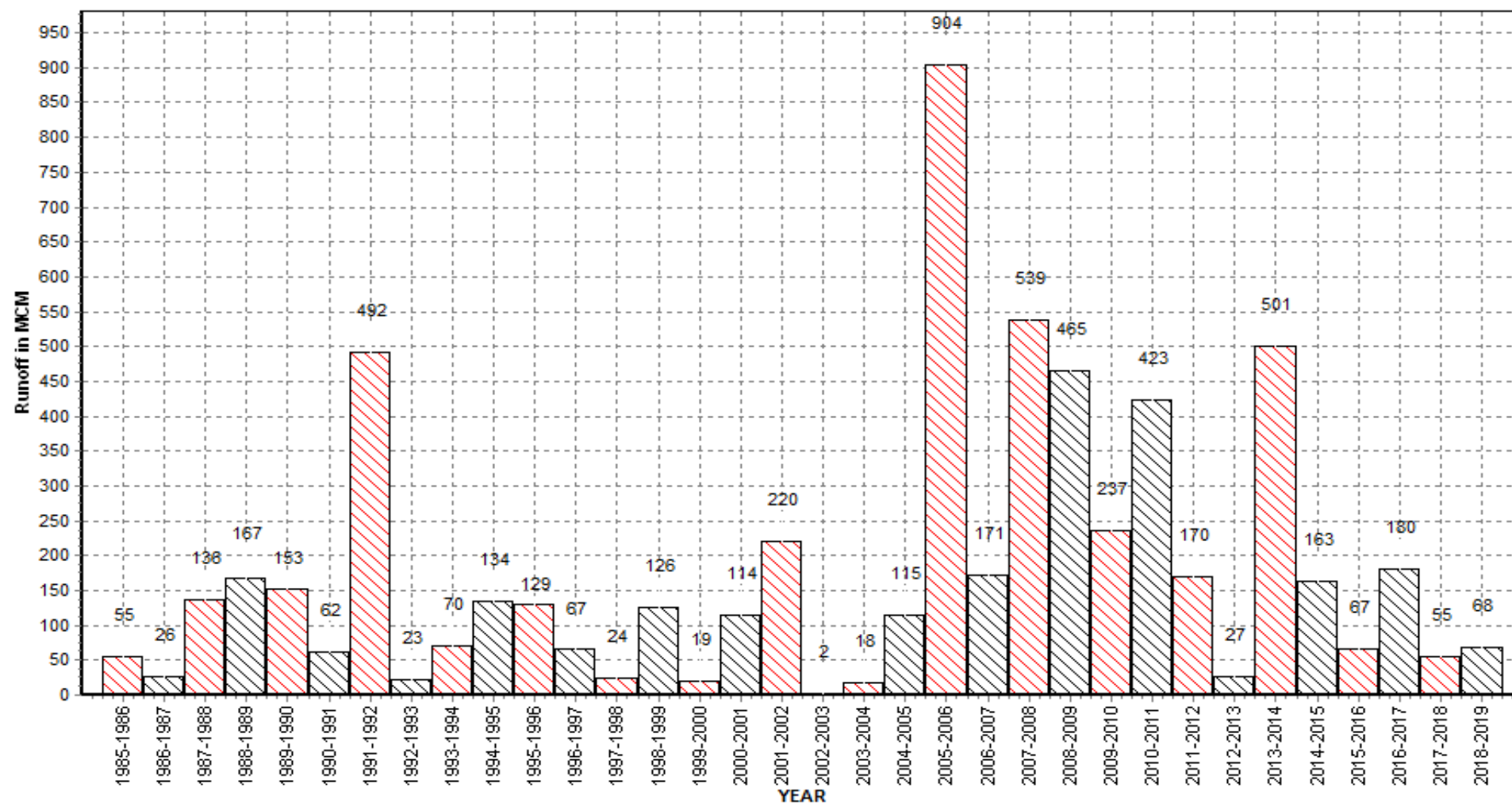
Annual Runoff Values for the period: 1985 - 2019

Station Name : Halia (AKH00G2)

Local River : Halia

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

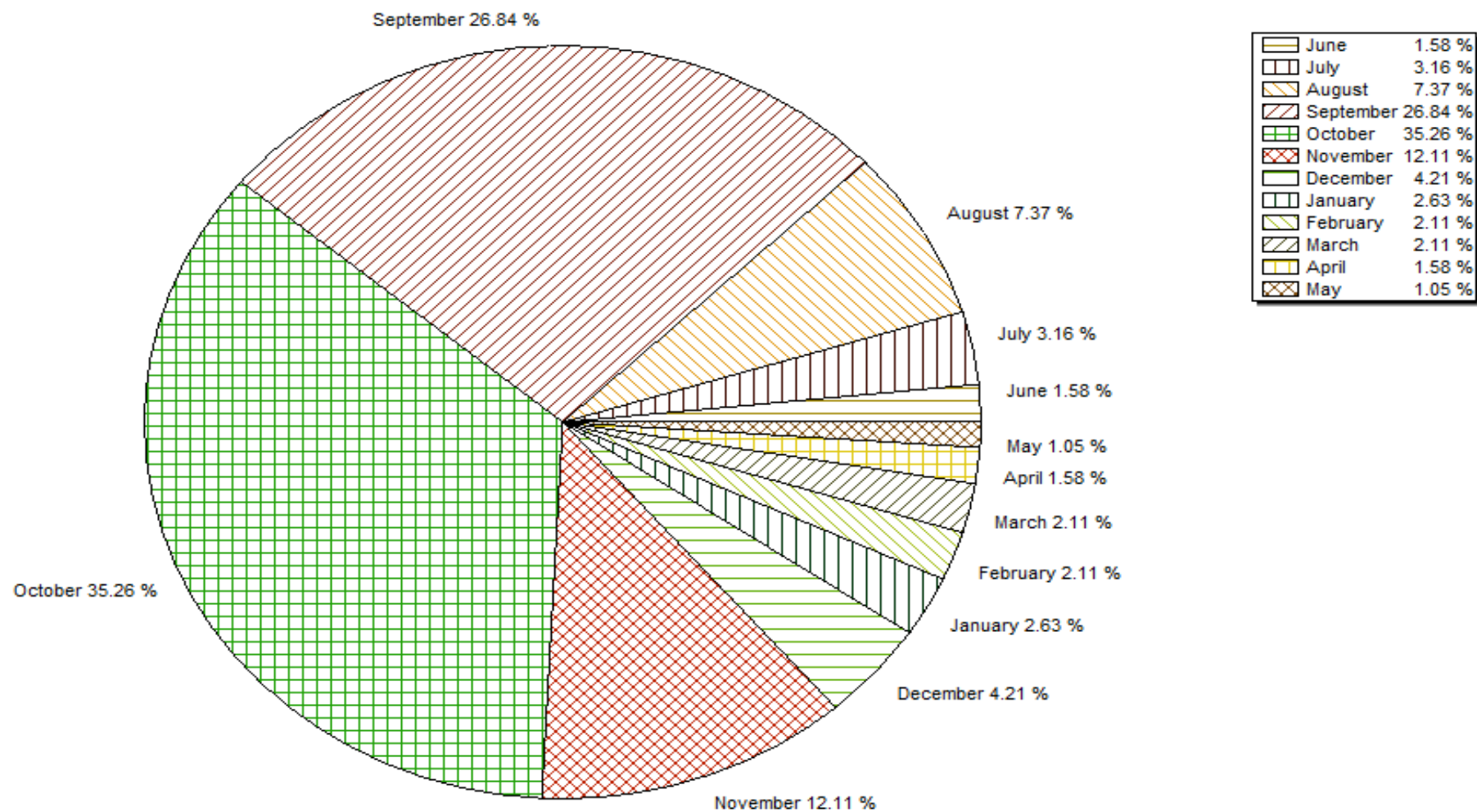
Monthly Average Runoff based on period : 1985-2018

Station Name : Halia (AKH00G2)

Local River : Halia

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



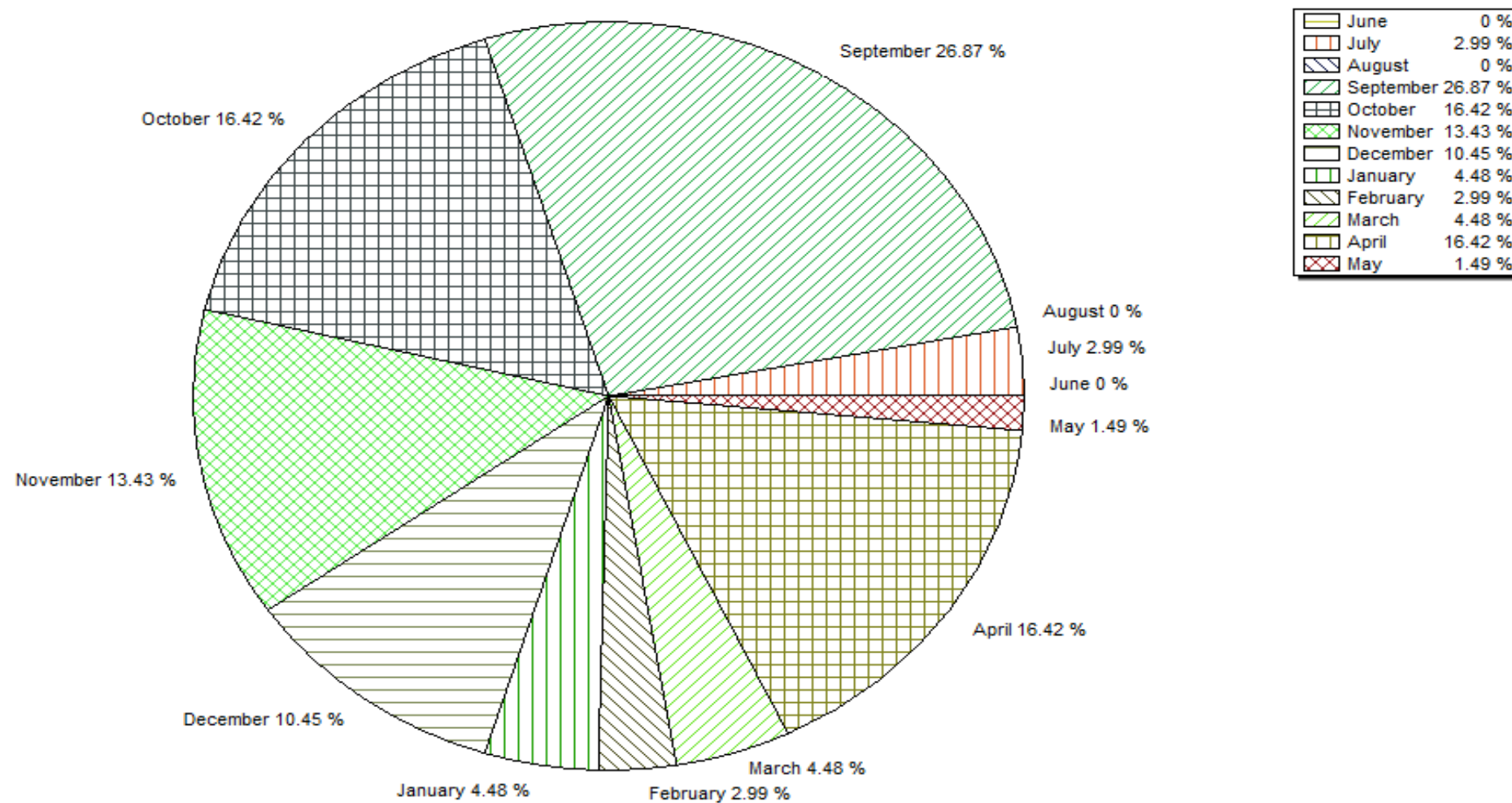
Monthly Runoff for the Year : 2018-2019

Station Name : Halia (AKH00G2)

Local River : Halia

Division : Lower Krishna Divn., Hyderabad

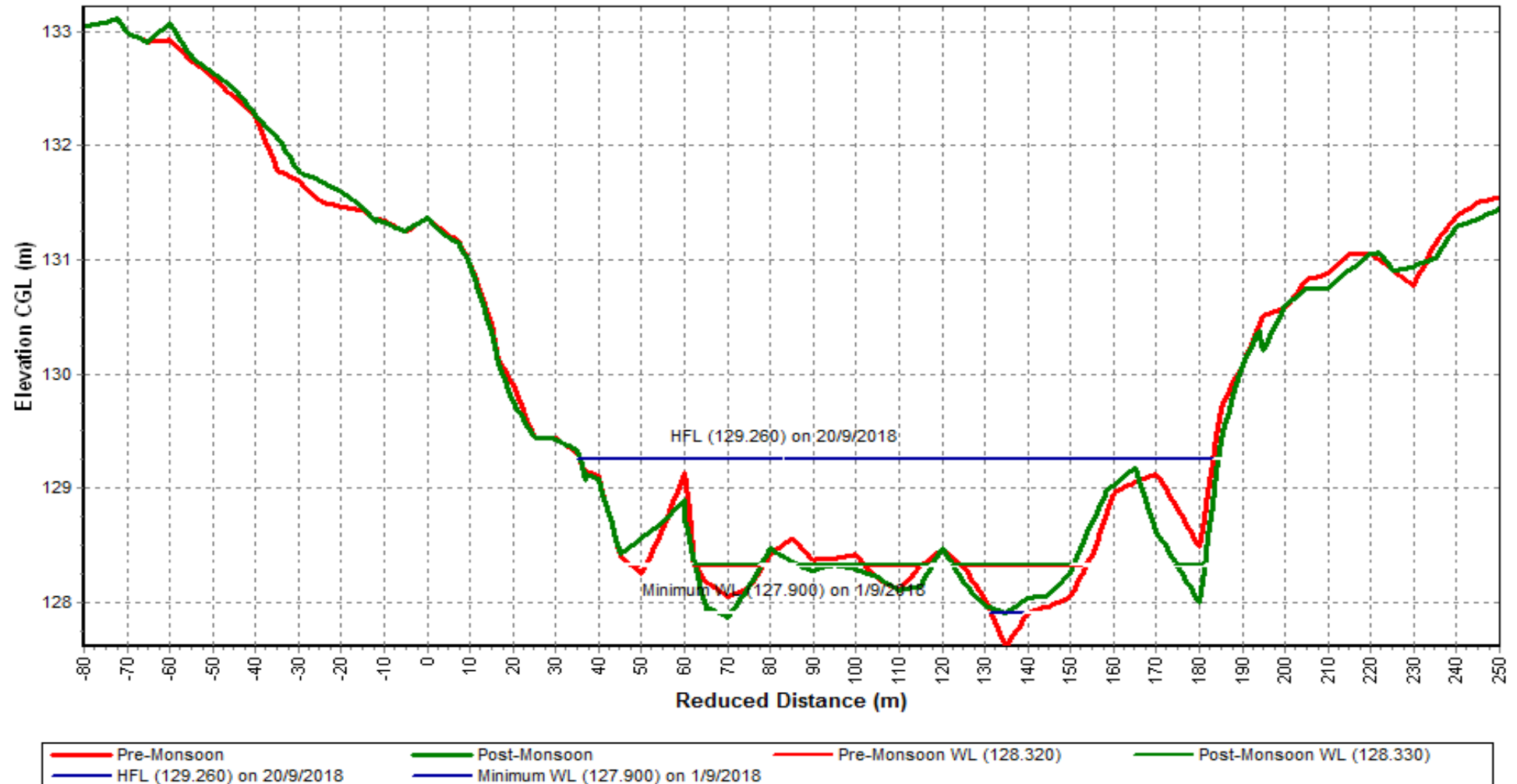
Sub-Division : Lower Krishna SD 1, N.S.Dam



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Halia (AKH00G2)
Local River : Halia

Division : Lower Krishna Divn., Hyderabad
Sub-Division : Lower Krishna SD 1. N.S.Dam



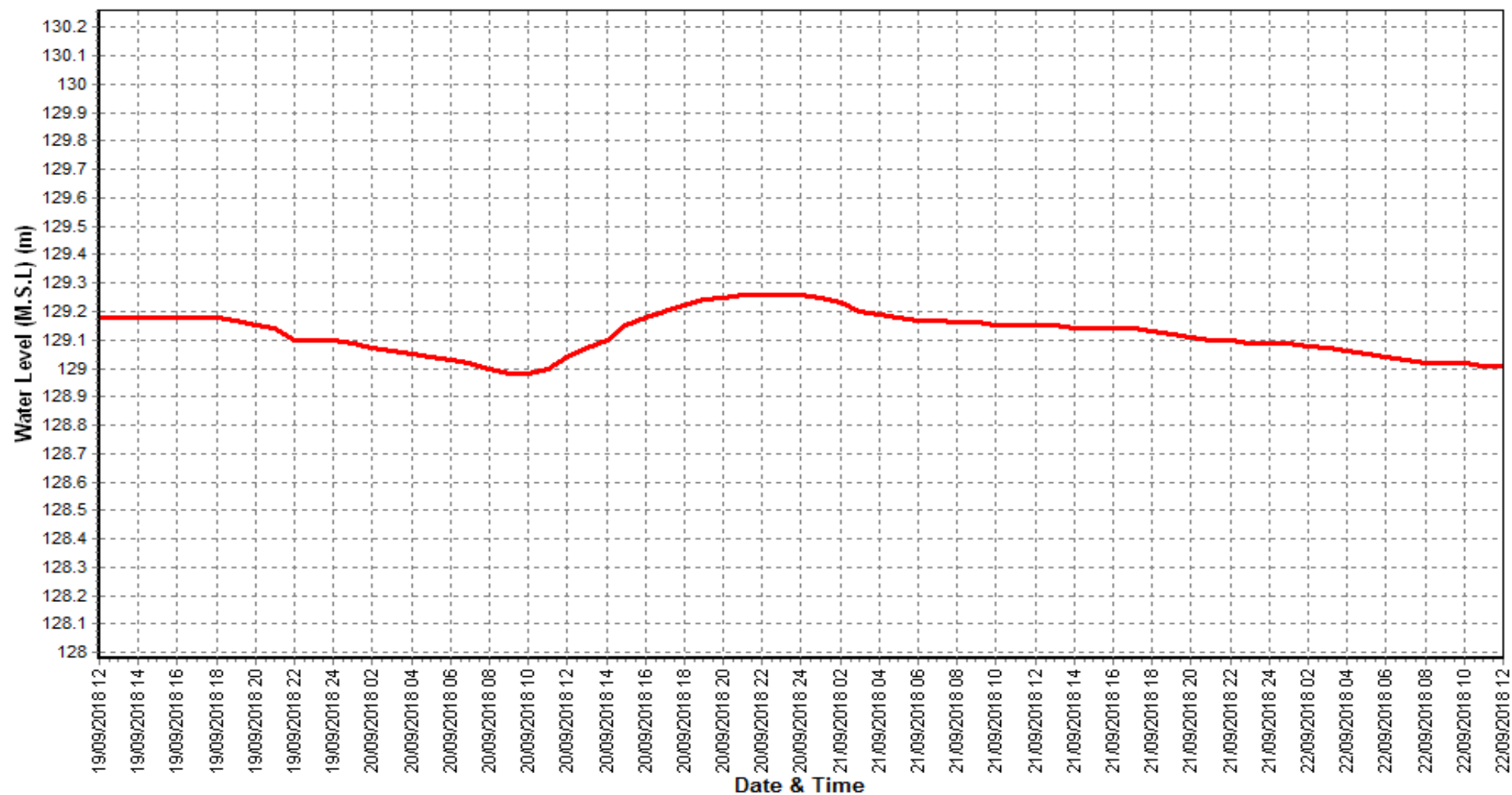
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Halia (AKH00G2)

Local River : Halia

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Krishna SD 1, N.S.Dam



HISTORY SHEET

		Water Year	: 2018-2019
Site	: DODDIPADU.	Code	: AKL00B1
State	: Andhra Pradesh	District	Kurnool
Basin	: Krishna	Independent River	: Krishna
Tributary	: Tungabhadra	Sub Tributary	: HUNDRI
Sub-Sub Tributary	: HUNDRI	Local River	: HUNDRI
Division	: Lower Krishna Divn., Hyderabad	Sub-Division	: Lower Tungabhadra SD, Kurnool
Drainage Area	: 3240 Sq. Km.	Bank	: Left
Latitude	: 15°44'24"	Longitude	: 77°59'35"
Zero of Gauge (m)	: 286.383 (m.s.l)	18/11/2014	
	Opening Date	Closing Date	
Gauge	: 18/11/2014	HFL During 2018-19	: 287.873 m
Discharge	: 18/11/2014	Corres. Discharge	: 83.6 (Estimated)
Sediment	:	Date & Time of occurrence	: 18/10/2018 : 12:00 Hrs
Water Quality	:		

HFL Recorded so far in m :290.063 dt 13-10-2017

Corresponding Discharge (cumecs) : 1836*

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	74.81	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

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
Average		82	11	93	3	0	3
75% Dependable flow (MCM)				Sufficient data not available			
90 % Dependable flow (MCM)				Sufficient data not available			

Stage-Discharge Data for the period 2018 - 2019

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		0.000		0.000		0.000	287.263	3.732	287.383	9.048	287.303	5.193
2		0.000		0.000		0.000	287.273	4.691 *	287.383	11.72 *	287.273	3.460
3		0.000		0.000		0.000	287.283	5.337	287.373	8.889	287.263	2.200
4		0.000		0.000		0.000	287.278	5.928	287.343	8.350	287.223	1.250 *
5		0.000		0.000		0.000	287.273	5.157	287.323	6.161	287.203	0.539
6		0.000		0.000		0.000	287.303	6.576	287.323	6.453	287.183	0.436
7		0.000		0.000		0.000	287.293	5.777	287.323	7.471 *	287.163	0.000
8		0.000		0.000		0.000	287.303	6.286	287.313	5.776	287.143	0.000
9		0.000		0.000		0.000	287.253	3.773 *	287.293	5.404	287.133	0.000
10	287.103	0.000		0.000		0.000	287.263	4.758	287.293	5.595	287.123	0.000
11		0.000		0.000		0.000	287.183	0.693	287.293	5.476	287.133	0.000
12		0.000		0.000		0.000	287.213	3.112	287.283	4.541	287.113	0.000
13		0.000		0.000		0.000	287.303	6.276 *	287.213	2.641	287.113	0.000
14		0.000		0.000		0.000	287.323	6.513	287.253	3.773 *	287.123	0.000
15		0.000		0.000		0.000	287.318	6.225	287.233	3.423	287.073	0.000
16		0.000		0.000		0.000	287.253	3.773 *	287.263	4.259	287.103	0.000
17		0.000		0.000		0.000	287.283	5.675	287.273	4.980	287.103	0.000
18		0.000		0.000		0.000	287.393	11.21	287.623	38.64 #	287.133	0.000
19		0.000		0.000		0.000	287.598	35.10 #	287.583	33.05 *	287.103	0.000
20		0.000		0.000		0.000	287.503	24.47	287.483	21.00 #	287.193	0.128
21		0.000		0.000		0.000	287.403	13.35 *	287.423	15.10 *	287.163	0.145 *
22		0.000		0.000		0.000	287.343	8.956	287.383	9.234	287.163	0.146
23		0.000		0.000		0.000	287.273	4.691 *	287.343	8.543	287.153	0.100 *
24		0.000		0.000	287.238	3.884	287.353	8.159	287.333	6.860	287.163	0.135
25		0.000		0.000	287.283	4.466	287.393	10.03	287.293	5.920	287.173	0.143 *
26		0.000		0.000	287.293	5.094	287.423	15.10 #	287.323	6.341	287.173	0.142
27		0.000		0.000	287.293	4.712	287.573	31.72 #	287.333	6.972	287.193	0.185
28		0.000		0.000	287.313	6.619	287.453	17.93 #	287.323	7.471 *	287.193	0.183
29		0.000		0.000	287.303	6.020	287.443	16.96 #	287.303	6.050	287.193	0.189
30		0.000		0.000	287.293	5.971	287.393	12.52 *	287.313	6.187	287.193	0.188
31				0.000	287.283	5.544			287.323	6.146		
Ten-Daily Mean												
I Ten-Daily	287.103	0.000		0.000		0.000	287.278	5.201	287.335	7.486	287.201	1.308
II Ten-Daily		0.000		0.000		0.000	287.337	10.30	287.350	12.18	287.119	0.013
III Ten-Daily		0.000		0.000	287.287	3.846	287.405	13.94	287.336	7.711	287.176	0.155
Monthly												
Min.	287.103	0.000		0.000	287.238	0.000	287.183	0.693	287.213	2.641	287.073	0.000
Max.	287.103	0.000		0.000	287.313	6.619	287.598	35.10	287.623	38.64	287.303	5.193
Mean	287.103	0		0	287.287	1.365	287.340	9.816	287.340	9.08	287.165	0.492

Annual Runoff in MCM = 58 Annual Runoff in mm = 18

Peak Observed Discharge = 38.64 cumecs on 18/10/2018 Corres. Water Level :287.623 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018

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 2018 - 2019

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	287.203	0.193	287.163	0.236	287.193	0.455	287.053	0.000	286.573	0.000	286.683	0.000
2	287.203	0.193 *	287.153	0.178	287.183	0.447	287.063	0.000	286.563	0.000	286.673	0.000
3	287.213	0.209	287.133	0.108	287.193	0.455 *	287.053	0.000	286.563	0.000	286.663	0.000
4	287.213	0.206	287.123	0.098	287.173	0.438	287.063	0.000	286.563	0.000	286.663	0.000
5	287.223	0.233	287.123	0.097	287.173	0.324	287.063	0.000	286.563	0.000	286.663	0.000
6	287.253	0.414	287.123	0.000	287.173	0.322	287.043	0.000	286.563	0.000	286.643	0.000
7	287.273	0.944	287.113	0.000	287.153	0.205	287.063	0.000	286.563	0.000	286.643	0.000
8	287.263	0.955	287.113	0.000	287.163	0.248	287.053	0.000	286.553	0.000	286.633	0.000
9	287.273	0.944 *	287.103	0.000	287.153	0.213	287.043	0.000	287.223	0.621	286.633	0.000
10	287.263	0.942	287.103	0.000	287.153	0.213 *	287.063	0.000	287.233	0.634	286.623	0.000
11	287.263	0.946	287.093	0.000	287.153	0.211	287.043	0.000	287.253	0.938 *	286.623	0.000
12	287.243	0.691	287.073	0.000	287.153	0.214	287.063	0.000	287.263	0.938	286.613	0.000
13	287.223	0.716		0.000	287.153	0.210	287.053	0.000	287.243	0.709	286.603	0.000
14	287.213	0.588		0.000	287.153	0.213	287.033	0.000	287.243	0.709 *	286.603	0.000
15	287.213	0.491		0.000	287.163	0.245	287.043	0.000	287.203	0.368	286.593	0.000
16	287.203	0.193 *		0.000	287.163	0.244	287.053	0.000	287.123	0.000	286.553	0.000
17	287.213	0.518		0.000	287.153	0.213 *	287.003	0.000	287.063	0.000	286.533	0.000
18	287.203	0.491		0.000	287.163	0.246	286.973	0.000	286.813	0.000	286.533	0.000
19	287.273	1.330		0.000	287.153	0.217	286.923	0.000	286.813	0.000	286.523	0.000
20	287.293	2.711		0.000	287.153	0.215	286.763	0.000	286.793	0.000	286.503	0.000
21	287.253	1.395		0.000	287.153	0.209	286.753	0.000	286.783	0.000	286.483	0.000
22	287.233	0.998		0.000	287.143	0.197	286.753	0.000	286.763	0.000	286.483	0.000
23	287.223	0.998 *	287.153	0.099	287.103	0.058	286.753	0.000	286.753	0.000	286.473	0.000
24	287.213	0.856	287.163	0.124	287.083	0.000	286.753	0.000	286.743	0.000	286.473	0.000
25	287.213	0.856 *	287.163	0.128	287.083	0.000	286.743	0.000	286.733	0.000	286.463	0.000
26	287.213	0.893	287.153	0.099 *	287.063	0.000	286.703	0.000	286.723	0.000	286.393	0.000
27	287.203	0.612	287.213	0.462 *	287.073	0.000	286.683	0.000	286.713	0.000	286.363	0.000
28	287.193	0.587	287.193	0.425	287.073	0.000	286.643	0.000	286.703	0.000	286.343	0.000
29	287.183	0.414	287.213	0.462			286.603	0.000	286.693	0.000	286.323	0.000
30	287.163	0.249 *	287.193	0.449			286.593	0.000	286.683	0.000	286.323	0.000
31	287.163	0.249	287.203	0.469			286.583	0.000			286.313	0.000
Ten-Daily Mean												
I Ten-Daily	287.238	0.523	287.125	0.072	287.171	0.332	287.056	0.000	286.696	0.125	286.652	0.000
II Ten-Daily	287.234	0.867	287.083	0.000	287.156	0.223	286.995	0.000	287.081	0.366	286.568	0.000
III Ten-Daily	287.205	0.737	287.183	0.247	287.097	0.058	286.688	0.000	286.729	0.000	286.403	0.000
Monthly												
Min.	287.163	0.193	287.073	0.000	287.063	0.000	286.583	0.000	286.553	0.000	286.313	0.000
Max.	287.293	2.711	287.213	0.469	287.193	0.455	287.063	0.000	287.263	0.938	286.683	0.000
Mean	287.225	0.71	287.146	0.111	287.144	0.215	286.906	0	286.835	0.164	286.537	0

Peak Computed Discharge = 33.05 cumecs on 19/10/2018

Corres. Water Level :287.583 m

Lowest Computed Discharge = 0.099 cumecs on 26/01/2019

Corres. Water Level :287.153 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 : 2018-2019

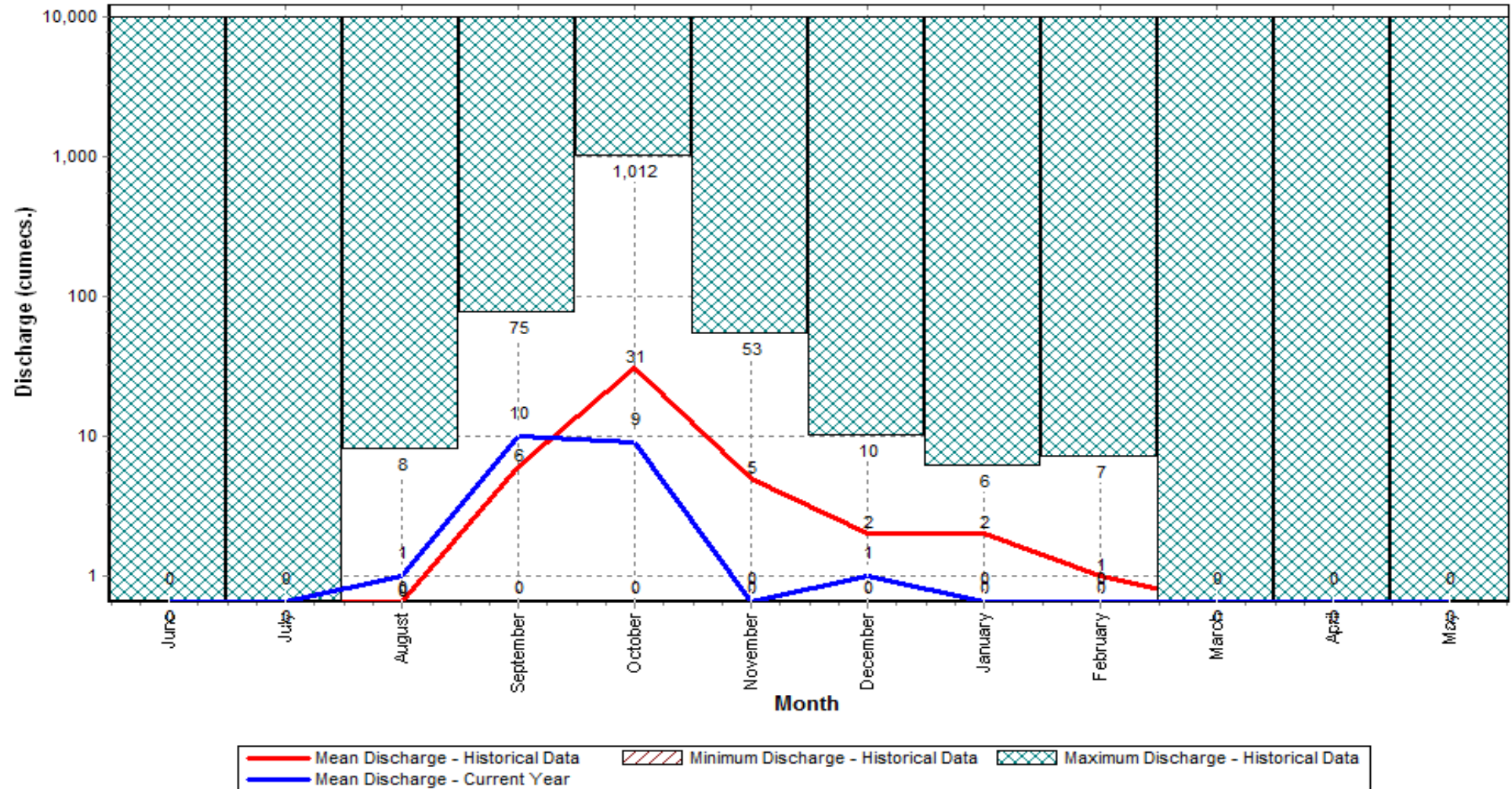
Station Name : DODDIPADU. (AKL00B1)

Data considered : 2015-2019

Division : Lower Krishna Divn., Hyderabad

Local River : HUNDRI

Sub-Division : Lower Tungabhadra SD, Kurnool



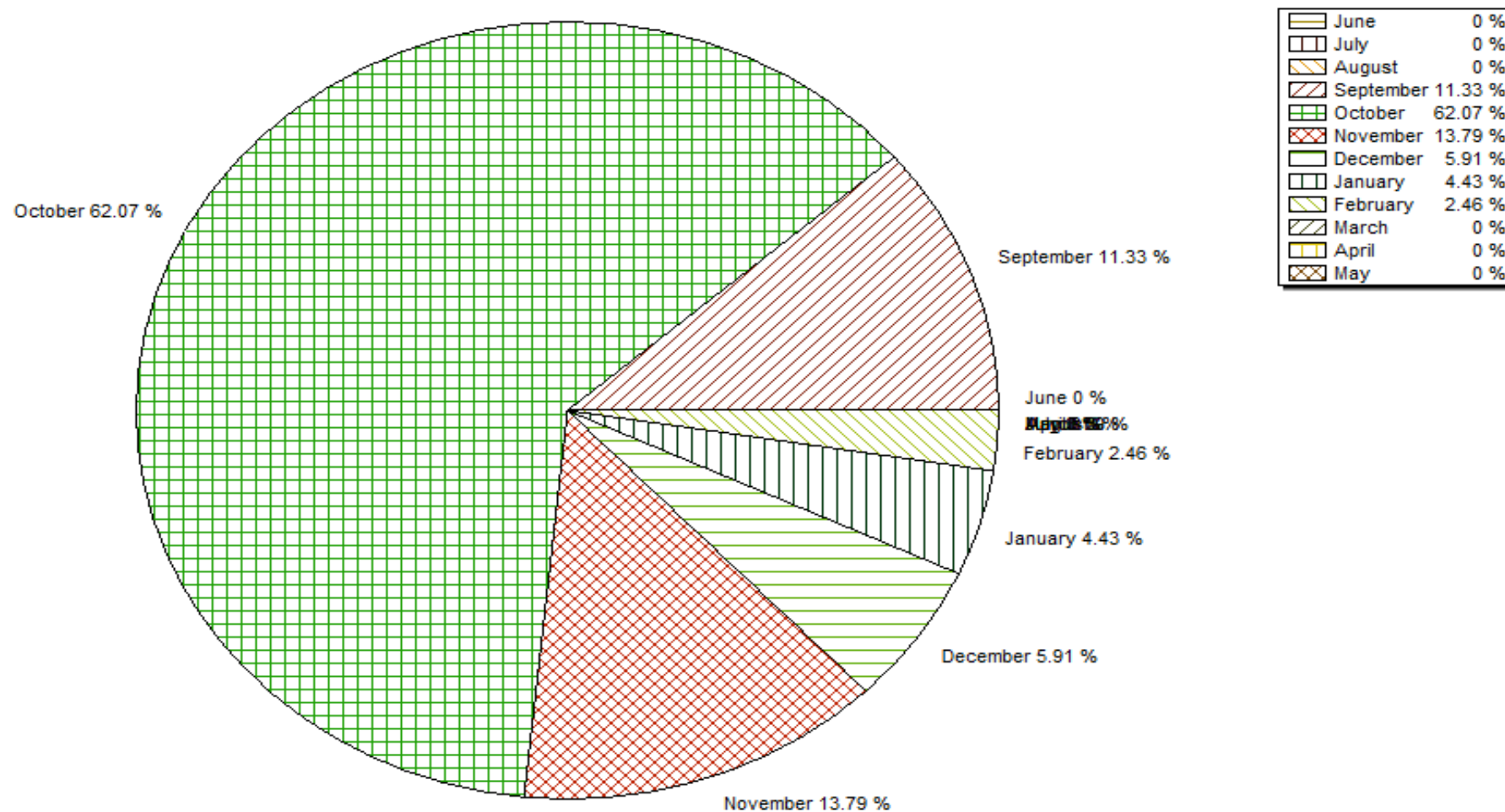
Monthly Average Runoff based on period : 2015-2018

Station Name : DODDIPADU. (AKL00B1)

Local River : HUNDRI

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



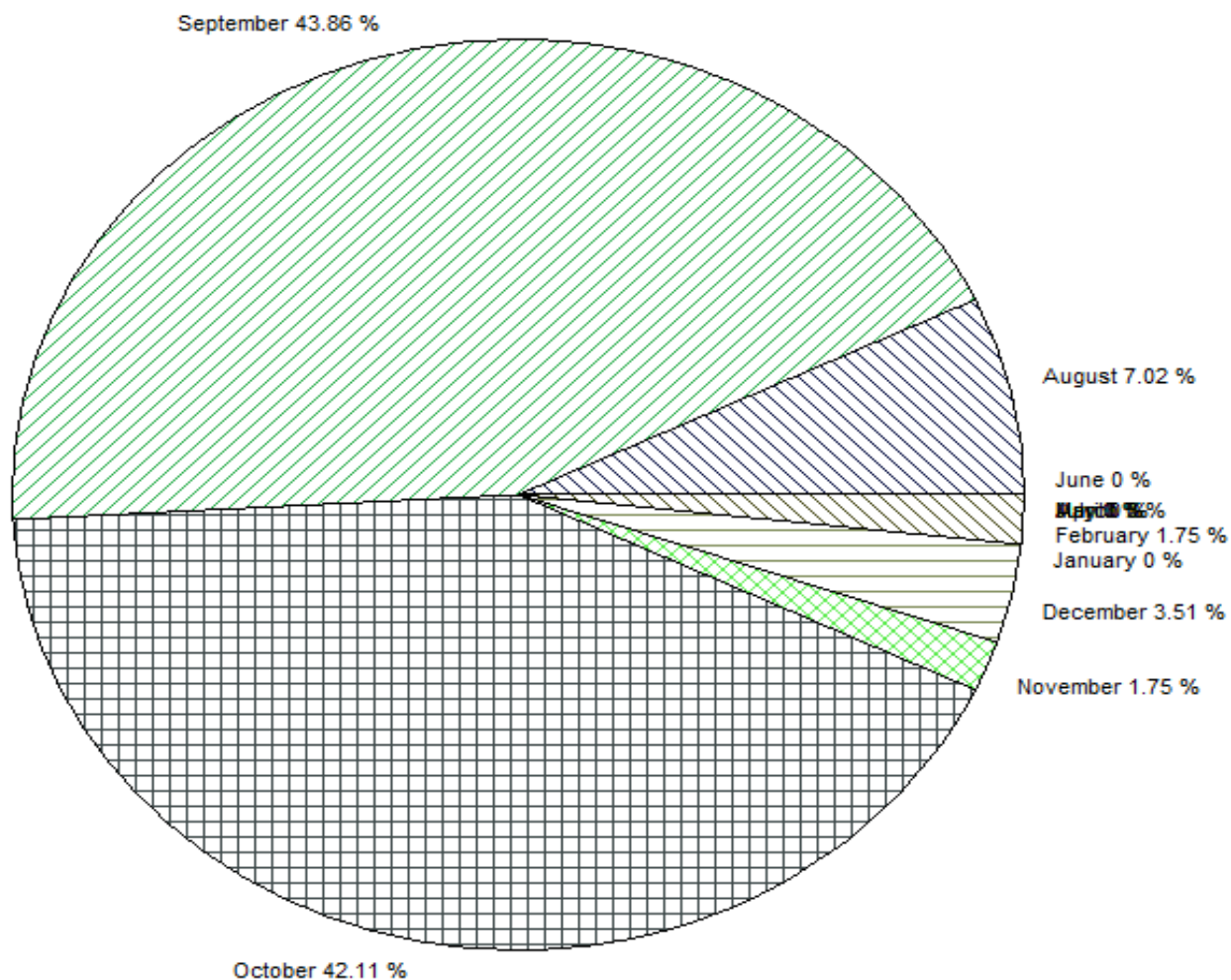
Monthly Runoff for the Year : 2018-2019

Station Name : DODDIPADU. (AKL00B1)

Local River : HUNDRI

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



June	0 %
July	0 %
August	7.02 %
September	43.86 %
October	42.11 %
November	1.75 %
December	3.51 %
January	0 %
February	1.75 %
March	0 %
April	0 %
May	0 %

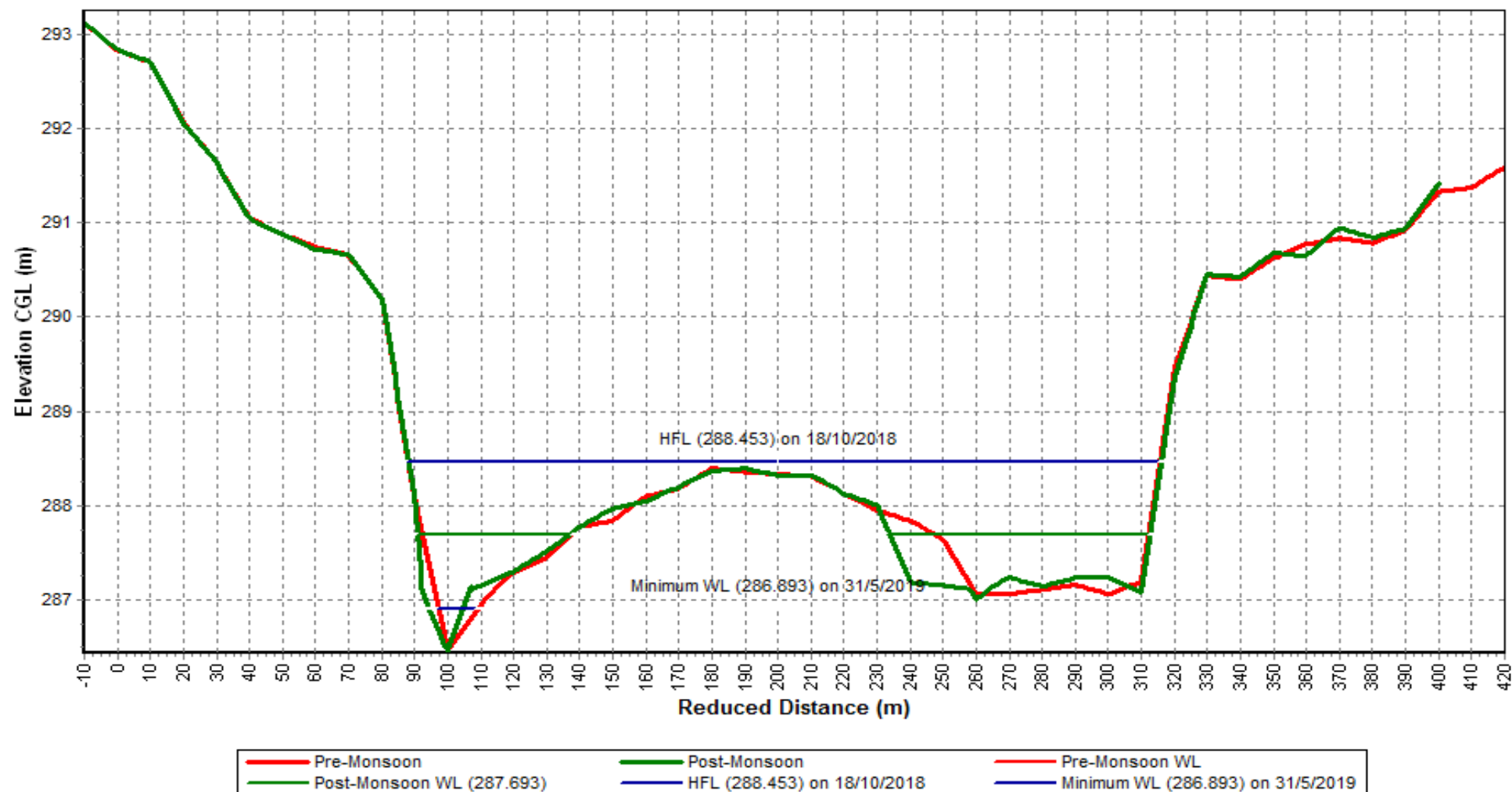
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : DODDIPADU. (AKL00B1)

Local River : HUNDRI

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD. Kurnool



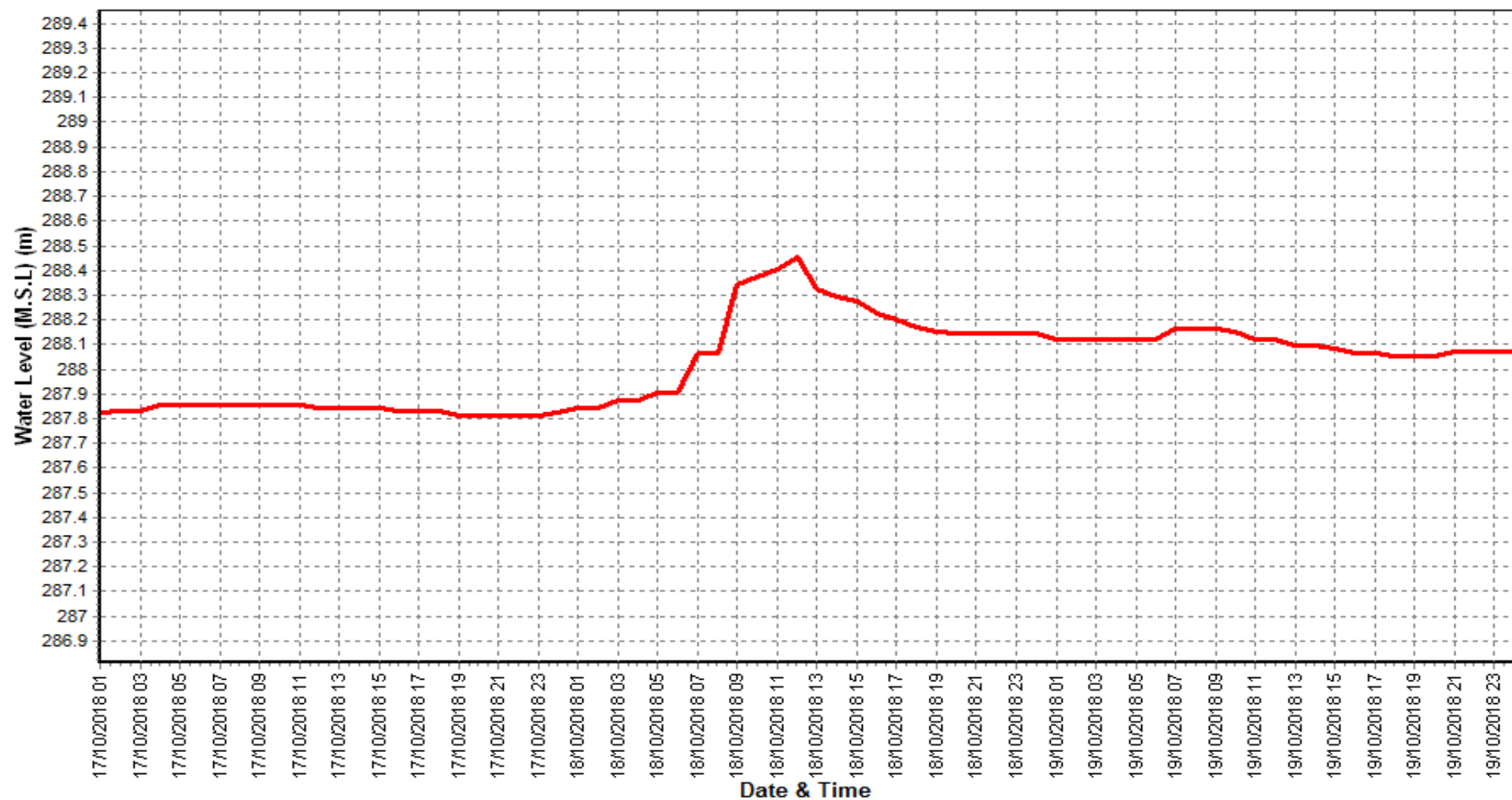
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : DODDIPADU. (AKL00B1)

Local River : HUNDRI

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



HISTORY SHEET

Water Year : 2018-2019

Site : Bawapuram (Teriminal site
of River Tungabhadra)

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)
270.485 (m.s.l)
270.245 (m.s.l)14/03/1964 - 31/05/1969
01/06/1969 - 31/12/1972
01/01/1973

Opening Date

Closing Date

Gauge : 14/03/1964

HFL During 2018-19 : 276.415 m

Corres. Discharge : 5749.739

Discharge : 01/04/1964

Date & Time of
occurrence : 18/08/2018
: 06.00 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	5714	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	1152	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	465.8	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
1981-1982	4345	276.885	20/09/1981	2.400	271.055	25/07/1981

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	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	1156	274.165	19/08/1985	0.100	270.885	19/04/1986
1986-1987	2858	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	6036	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	534.0	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	5667	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	281.585	02/10/2009	0.632	270.515	21/03/2010
2010-2011	5494	276.675	25/08/2010	0.585	270.505	10/08/2010
2011-2012	3774	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	4755	275.755	06/08/2013	0.000	270.335	01/03/2014
2014-2015	5830	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	2757	274.495	16/09/2017	0.000	270.025	19/03/2018

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

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
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
Average		4985	232	5218	176	8	184
75% Dependable flow (MCM)				2728			
90 % Dependable flow (MCM)				1221			

Stage-Discharge Data for the period 2018 - 2019

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	270.045	0.000	269.955	0.000	271.340	148.0	272.240	569.9	271.085	104.7	270.395	2.504
2	270.065	0.000	269.945	0.000	270.595	12.21	273.595	1665 *	270.685	21.26 *	270.365	2.233
3	270.075	0.000	269.935	0.000	270.535	8.413	272.945	1069	270.545	6.661	270.365	2.188
4	270.075	0.000	269.925	0.000	270.435	4.003	272.020	469.3	270.515	5.760	270.365	1.827 *
5	270.085	0.000	269.905	0.000	270.415	4.003 *	271.370	238.7	270.505	5.307	270.385	2.389
6	270.095	0.000	269.885	0.000	270.450	4.440	271.385	244.8	270.505	5.246	270.355	1.475
7	270.105	0.000	269.885	0.000	270.365	2.749	270.585	10.77	270.475	3.082 *	270.345	1.475 *
8	270.105	0.000	269.885	0.000	270.335	1.875	270.525	7.625	270.435	3.383	270.375	2.193
9	270.125	0.000	269.865	0.000	272.115	598.2	270.485	5.697 *	270.415	3.183	270.395	2.540
10	270.125	0.000	269.895	0.000	271.925	414.1	270.510	7.373	270.405	3.002	270.415	3.113
11	270.595	11.94	269.905	0.000	271.795	368.9	270.475	5.328	270.405	3.044	270.425	3.143 *
12	270.455	6.396	269.925	0.000	273.480	1710	270.485	5.697	270.395	2.804	270.395	2.412
13	270.385	3.128	269.935	0.000	274.325	2494	270.455	4.985 *	270.375	2.476	270.355	1.427
14	270.325	1.984	269.955	0.000	272.960	980.9	270.465	5.319	270.355	1.994 *	270.325	0.902
15	270.285	1.272	270.025	0.000	272.785	961.3 *	270.405	4.013	270.345	1.994	270.305	0.746
16		0.000	270.095	0.000	275.645	4109	270.365	2.342 *	270.365	2.450	270.295	0.680
17	270.205	0.000	270.125	0.000	275.985	4511	270.345	2.342	270.365	2.376	270.325	0.995
18	270.185	0.000	270.135	0.000	276.415	5750	270.555	6.257	270.385	2.631	270.325	0.995 *
19	270.155	0.000	270.125	0.000	274.545	2693	270.485	5.749	273.725	1867	270.325	0.995
20	270.125	0.000	270.115	0.000	274.525	2676	270.650	15.79	273.015	1159	270.315	0.865
21	270.105	0.000	270.105	0.000	272.835	883.1	270.525	5.993 *	272.175	553.6 *	270.325	0.995 *
22	270.085	0.000	273.205	1298	273.015	1142 *	271.095	108.5	271.615	275.9	270.375	1.845
23	270.065	0.000	272.975	1075	274.375	2541	271.165	118.0 *	271.330	198.4	270.365	1.827 *
24	270.055	0.000	273.095	1199	273.395	1468	271.530	256.8	270.605	10.08	270.365	1.827
25	270.045	0.000	273.265	1373	273.075	1217	270.645	15.54	270.535	7.246	270.355	1.827 *
26	270.025	0.000	273.305	1418	272.195	565.3 *	270.805	25.75	270.590	9.152	270.325	0.929
27	269.995	0.000	273.065	1147	271.850	299.8	271.625	272.2	270.505	5.462	270.295	0.733
28	269.985	0.000	272.890	985.5	272.310	606.5	271.625	273.5	270.465	2.985 *	270.275	0.512
29	269.985	0.000	273.115	1226 *	272.135	558.8	271.470	241.4	270.435	3.451	270.275	0.504
30	269.975	0.000	273.105	1209	271.395	159.3	271.115	104.5 *	270.425	3.143	270.275	0.505
31			272.605	826.4	270.605	12.49			270.405	2.966		
Ten-Daily Mean												
I Ten-Daily	270.090	0.000	269.908	0.000	270.851	119.8	271.566	428.8	270.557	16.16	270.376	2.194
II Ten-Daily	270.302	2.472	270.034	0.000	274.246	2625	270.468	5.782	270.973	304.5	270.339	1.316
III Ten-Daily	270.032	0.000	272.794	1069	272.471	859.4	271.160	142.2	270.826	97.50	270.323	1.150
Monthly												
Min.	269.975	0.000	269.865	0.000	270.335	1.875	270.345	2.342	270.345	1.994	270.275	0.504
Max.	270.595	11.94	273.305	1418	276.415	5750	273.595	1665	273.725	1867	270.425	3.143
Mean	270.136	0.824	270.973	379.2	272.521	1190	271.065	192.3	270.787	138	270.346	1.553

Annual Runoff in MCM = 5081 Annual Runoff in mm = 76

Peak Observed Discharge = 5750 cumecs on 18/08/2018 Corres. Water Level :276.415 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018 Corres. Water Level :270.045 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 2018 - 2019

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	270.305	0.815	270.305	0.842	270.285	0.690	269.845	0.000	269.325	0.000	268.745	0.000
2	270.285	0.544 *	270.305	0.840	270.285	0.620	269.825	0.000	269.305	0.000	268.705	0.000
3	270.285	0.544	270.295	0.763	270.265	0.620 *	269.815	0.000	269.285	0.000	268.695	0.000
4	270.275	0.645	270.295	0.747	270.225	0.000	269.795	0.000	269.265	0.000	268.645	0.000
5	270.265	0.340	270.275	0.550	270.195	0.000	269.775	0.000	269.245	0.000	268.635	0.000
6	270.275	0.624	270.265	0.326 *	270.175	0.000	269.745	0.000	269.225	0.000	268.635	0.000
7	270.275	0.539	270.265	0.326	270.165	0.000	269.725	0.000	269.195	0.000	268.635	0.000
8	270.275	0.537	270.265	0.308	270.145	0.000	269.705	0.000	269.175	0.000	268.625	0.000
9	270.275	0.537 *	270.235	0.000	270.125	0.000	269.695	0.000	269.165	0.000	268.615	0.000
10	270.285	0.681	270.215	0.000	270.115	0.000	269.685	0.000	269.165	0.000	268.605	0.000
11	270.285	0.671	270.195	0.000	270.105	0.000	269.675	0.000	269.155	0.000	268.605	0.000
12	270.285	0.653	270.195	0.000	270.095	0.000	269.665	0.000	269.145	0.000	268.605	0.000
13	270.265	0.313	270.195	0.000	270.085	0.000	269.645	0.000	269.135	0.000	268.595	0.000
14	270.265	0.315	270.205	0.000	270.065	0.000	269.625	0.000	269.125	0.000	268.595	0.000
15	270.265	0.279	270.205	0.000	270.055	0.000	269.595	0.000	269.105	0.000	268.585	0.000
16	270.265	0.326 *	270.205	0.000	270.045	0.000	269.575	0.000	269.095	0.000	268.585	0.000
17	270.275	0.544	270.205	0.000	270.035	0.000	269.555	0.000	269.075	0.000	268.585	0.000
18	270.285	0.621	270.225	0.000	270.005	0.000	269.535	0.000	269.045	0.000	268.585	0.000
19	270.285	0.629	270.225	0.000	269.995	0.000	269.515	0.000	269.035	0.000	268.585	0.000
20	270.285	0.637	270.225	0.000	269.985	0.000	269.495	0.000	269.005	0.000	268.585	0.000
21	270.285	0.620	270.225	0.000	269.975	0.000	269.485	0.000	268.975	0.000	268.585	0.000
22	270.305	0.839	270.225	0.000	269.955	0.000	269.465	0.000	268.945	0.000	268.585	0.000
23	270.305	0.839 *	270.235	0.000	269.945	0.000	269.445	0.000	268.925	0.000	268.585	0.000
24	270.305	0.847	270.225	0.000	269.905	0.000	269.425	0.000	268.925	0.000	268.575	0.000
25	270.285	0.673 *	270.225	0.000	269.895	0.000	269.415	0.000	268.915	0.000	268.575	0.000
26	270.265	0.286	270.225	0.000	269.885	0.000	269.405	0.000	268.895	0.000	268.575	0.000
27	270.265	0.291	270.235	0.000	269.865	0.000	269.385	0.000	268.875	0.000	268.575	0.000
28	270.265	0.289	270.325	1.025	269.855	0.000	269.355	0.000	268.845	0.000	268.575	0.000
29	270.265	0.287	270.325	0.992			269.345	0.000	268.825	0.000	268.575	0.000
30	270.265	0.326 *	270.325	0.957			269.345	0.000	268.785	0.000	268.565	0.000
31	270.285	0.673	270.305	0.833			269.325	0.000			268.565	0.000
Ten-Daily Mean												
I Ten-Daily	270.280	0.581	270.272	0.470	270.198	0.193	269.761	0.000	269.235	0.000	268.654	0.000
II Ten-Daily	270.276	0.499	270.208	0.000	270.047	0.000	269.588	0.000	269.092	0.000	268.591	0.000
III Ten-Daily	270.281	0.543	270.261	0.346	269.910	0.000	269.400	0.000	268.891	0.000	268.576	0.000
Monthly												
Min.	270.265	0.279	270.195	0.000	269.855	0.000	269.325	0.000	268.785	0.000	268.565	0.000
Max.	270.305	0.847	270.325	1.025	270.285	0.690	269.845	0.000	269.325	0.000	268.745	0.000
Mean	270.279	0.541	270.248	0.274	270.062	0.069	269.577	0	269.073	0	268.606	0

Peak Computed Discharge = 1665 cumecs on 02/09/2018

Corres. Water Level :273.595 m

Lowest Computed Discharge = 0.326 cumecs on 16/12/2018

Corres. Water Level :270.265 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 : 2018-2019

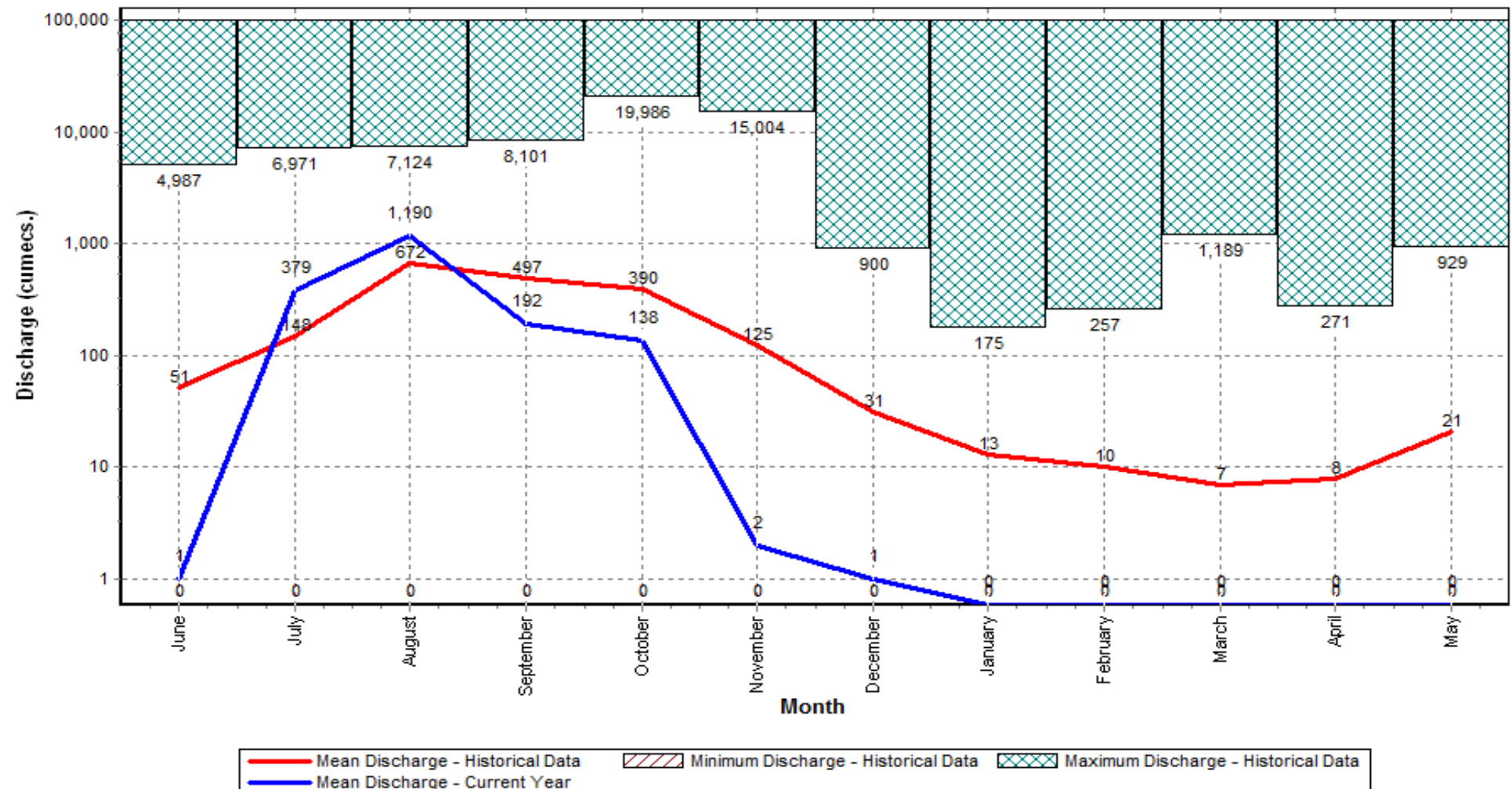
Station Name : Bawapuram (AKL00B8)

Data considered : 1965-2019

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

Sub-Division : Lower Tungabhadra SD, Kurnool



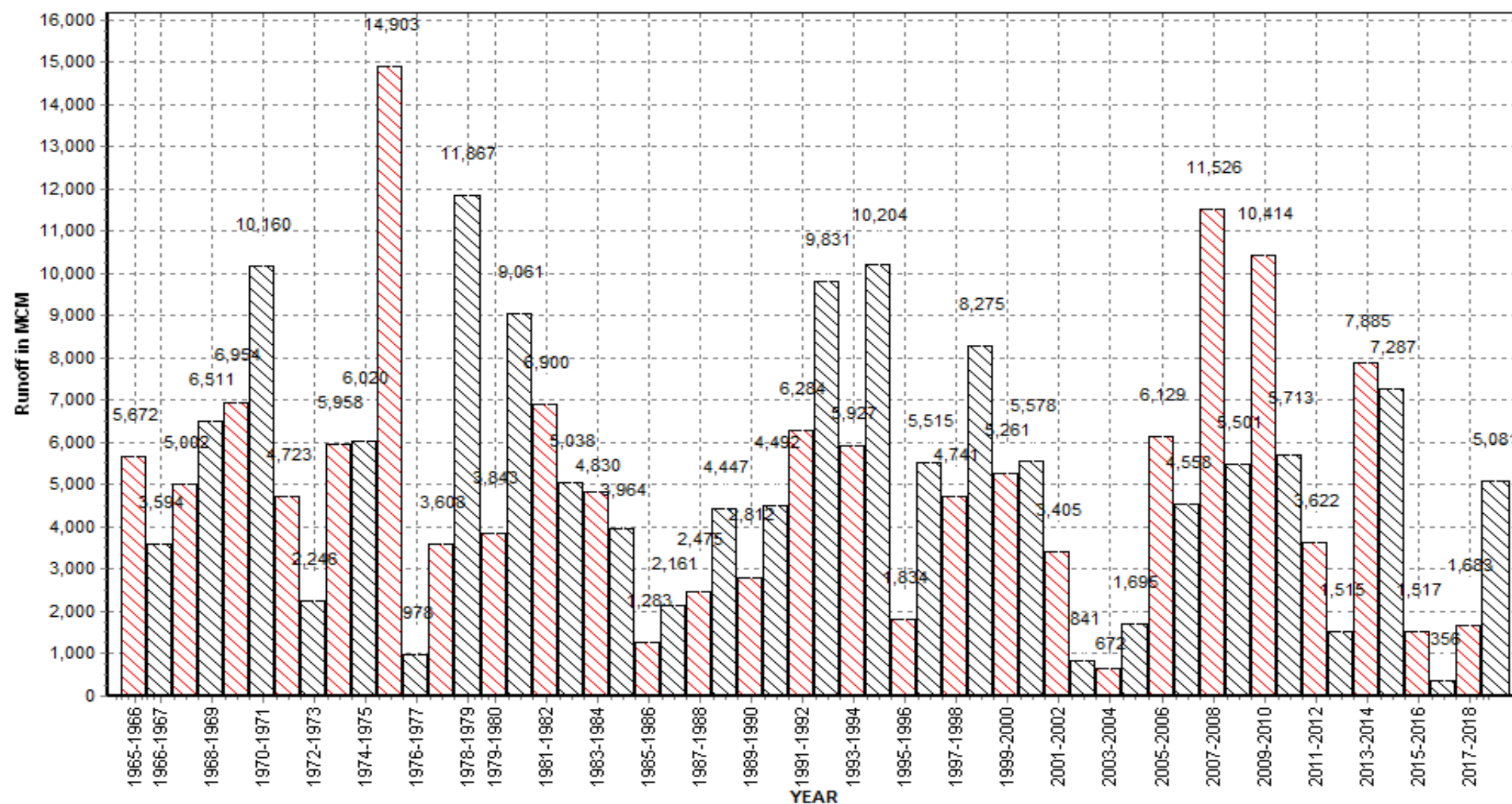
Annual Runoff Values for the period: 1965 - 2019

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

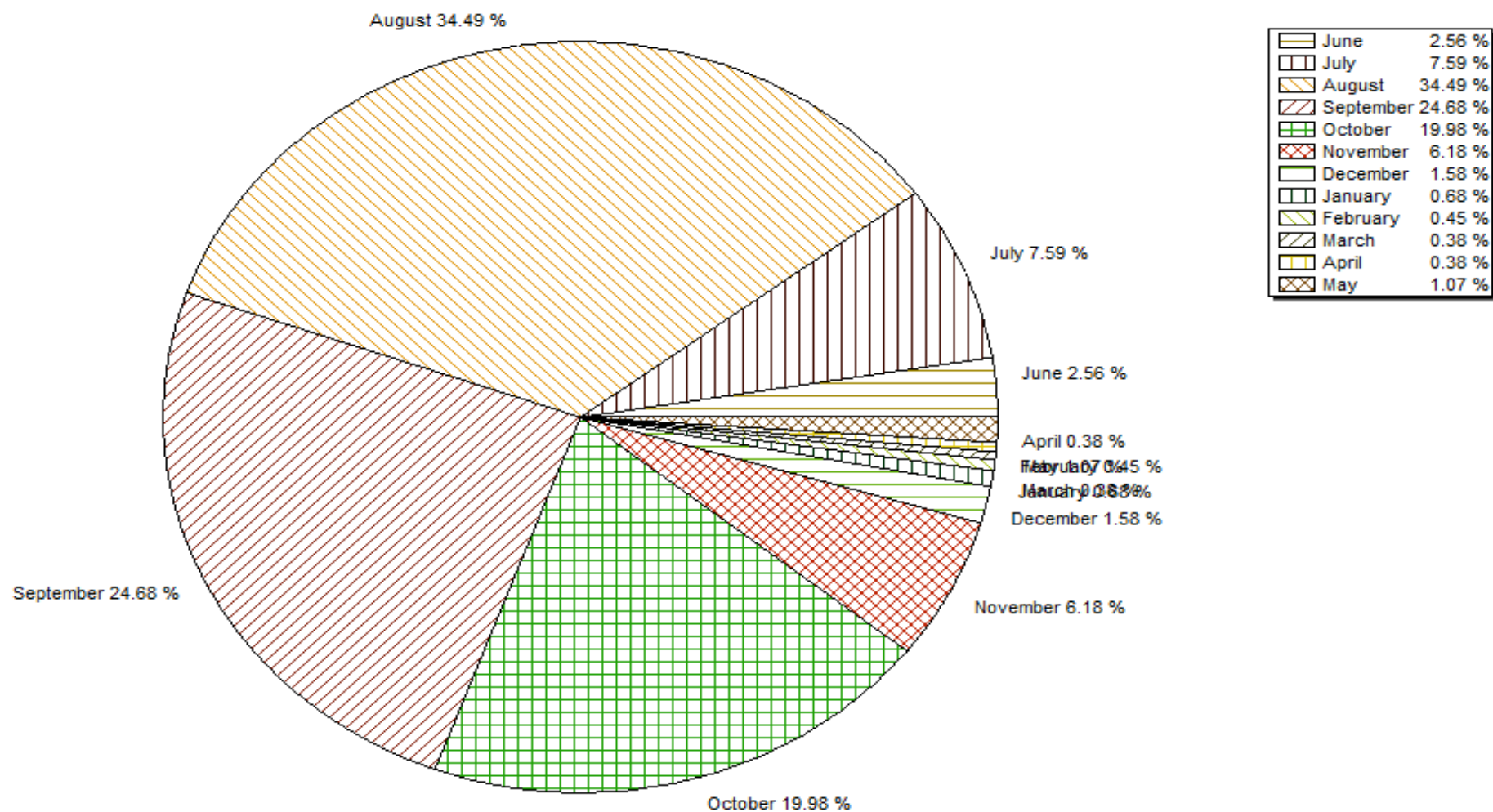
Monthly Average Runoff based on period : 1965-2018

Station Name : Bawapuram (AKL00B8)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD. Kurnool



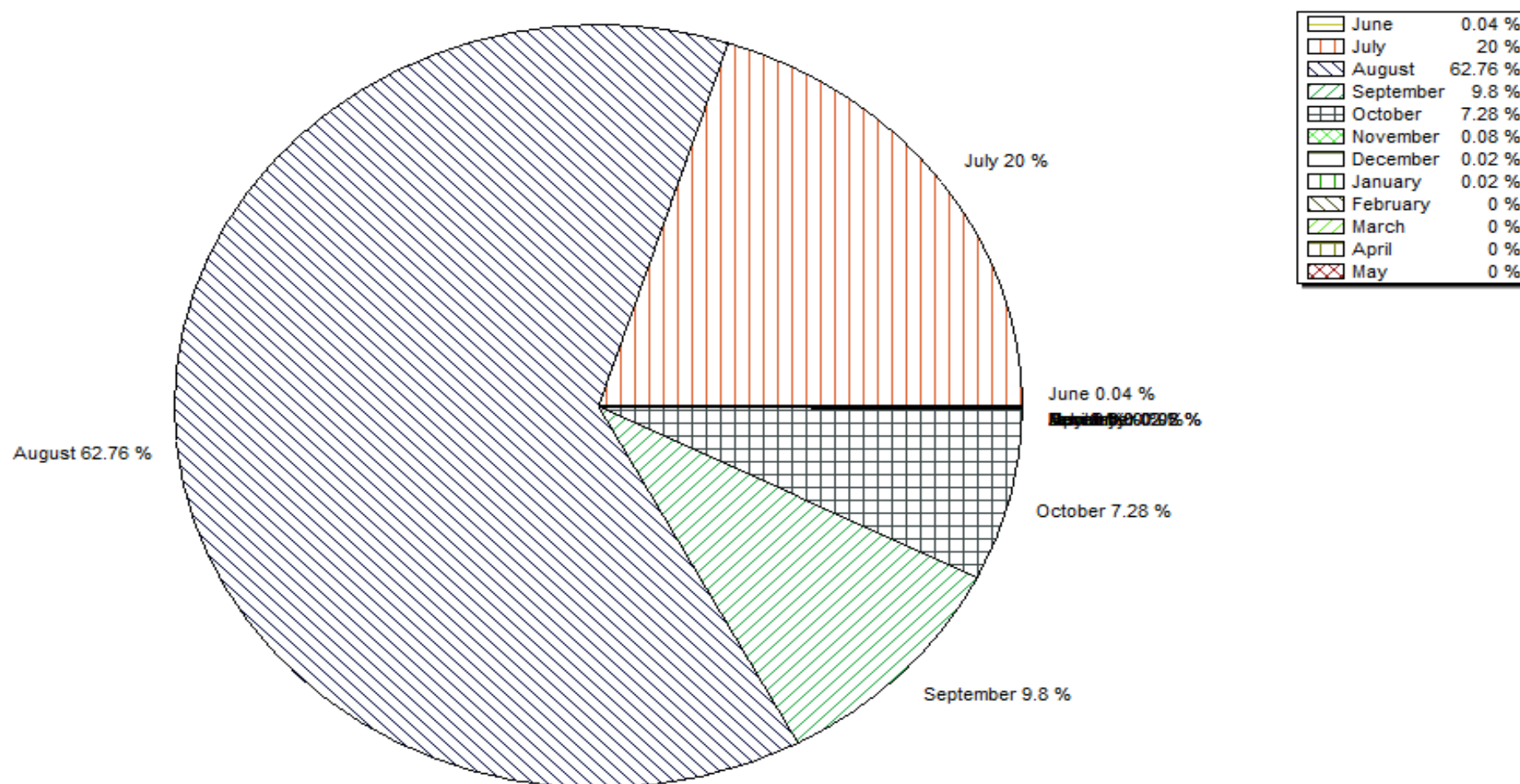
Monthly Runoff for the Year : 2018-2019

Station Name : Bawapuram (AKL00B8)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



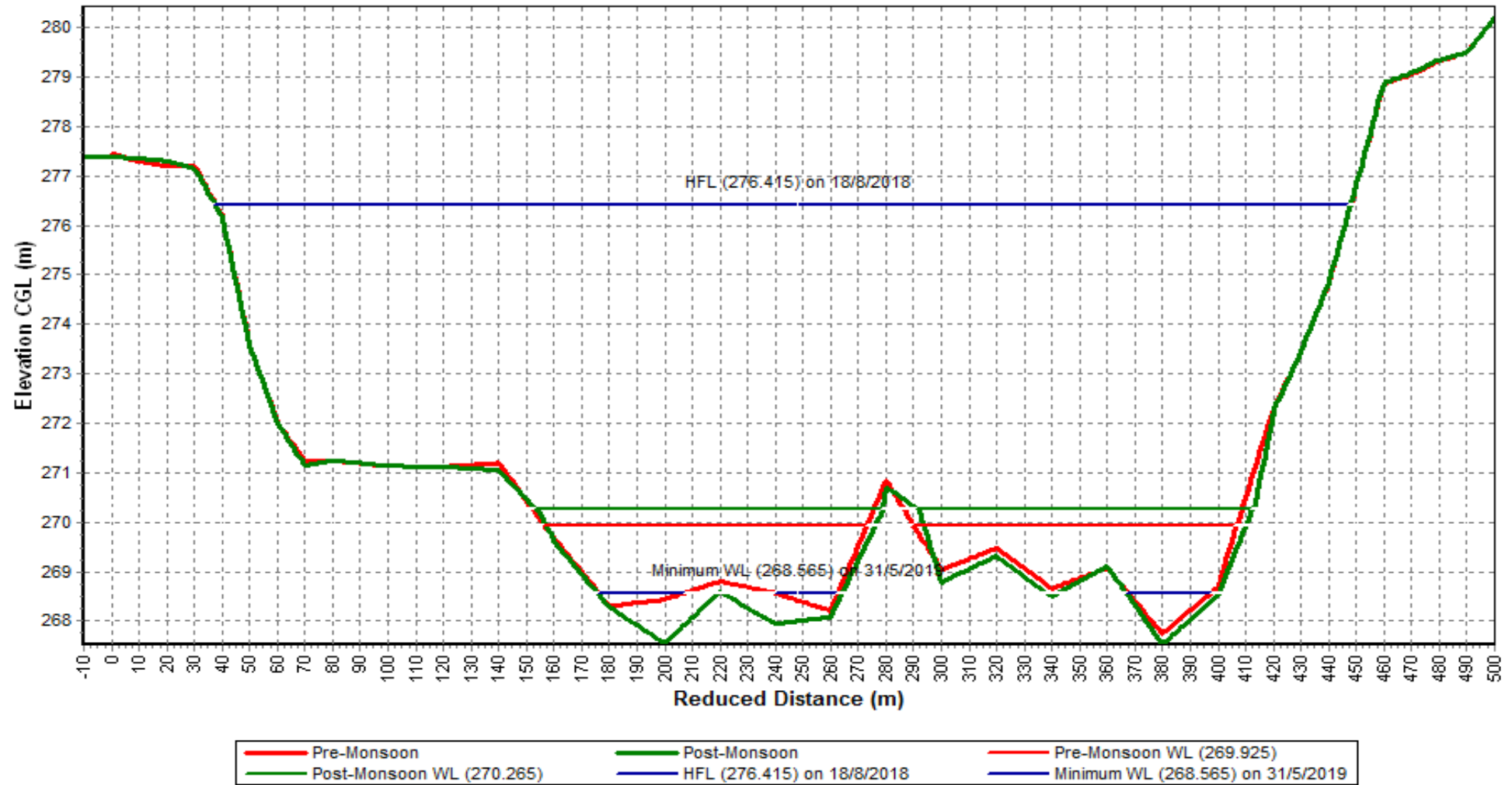
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Bawapuram (AKL00B8)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



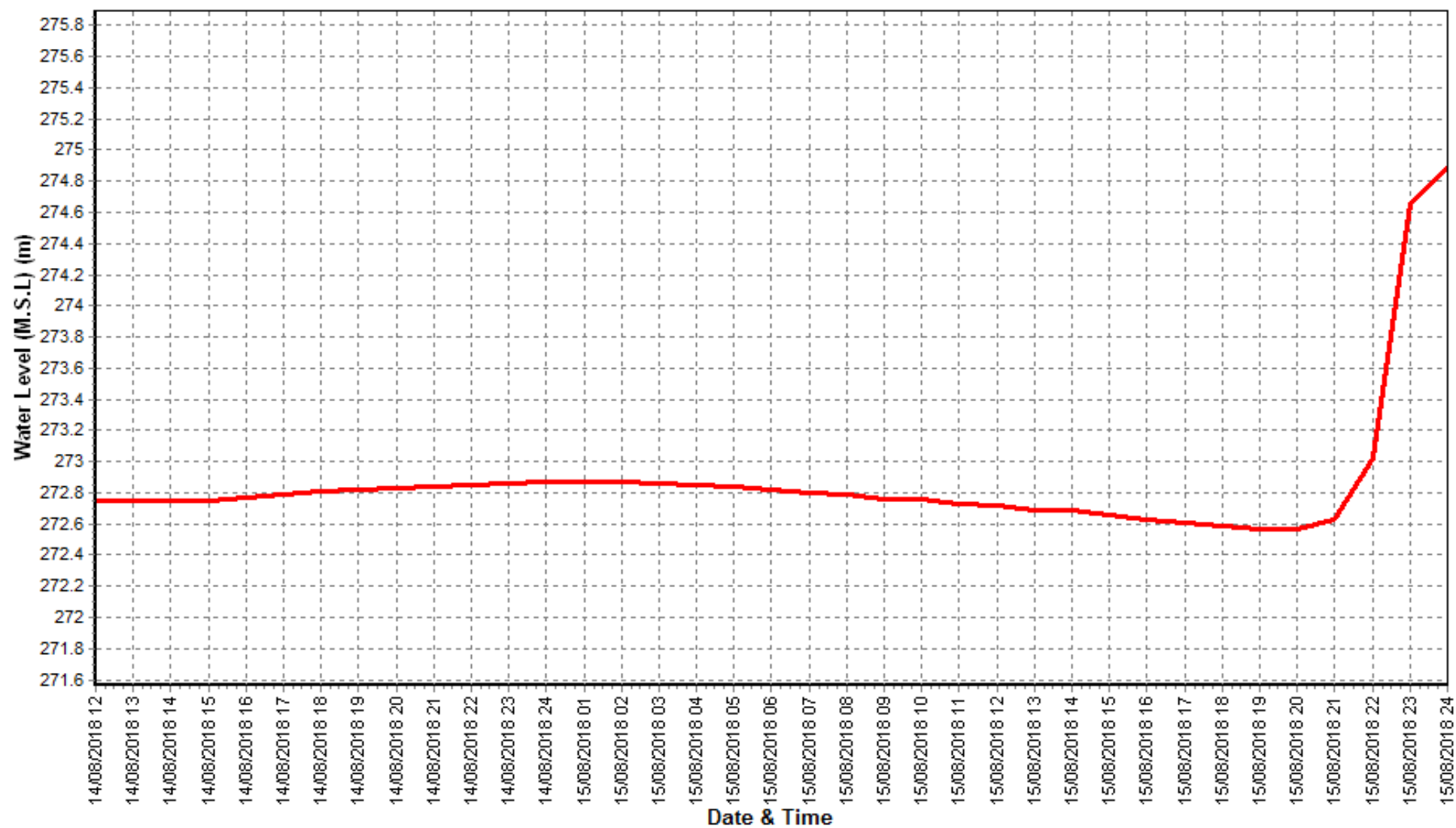
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Bawapuram (AKL00B8)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



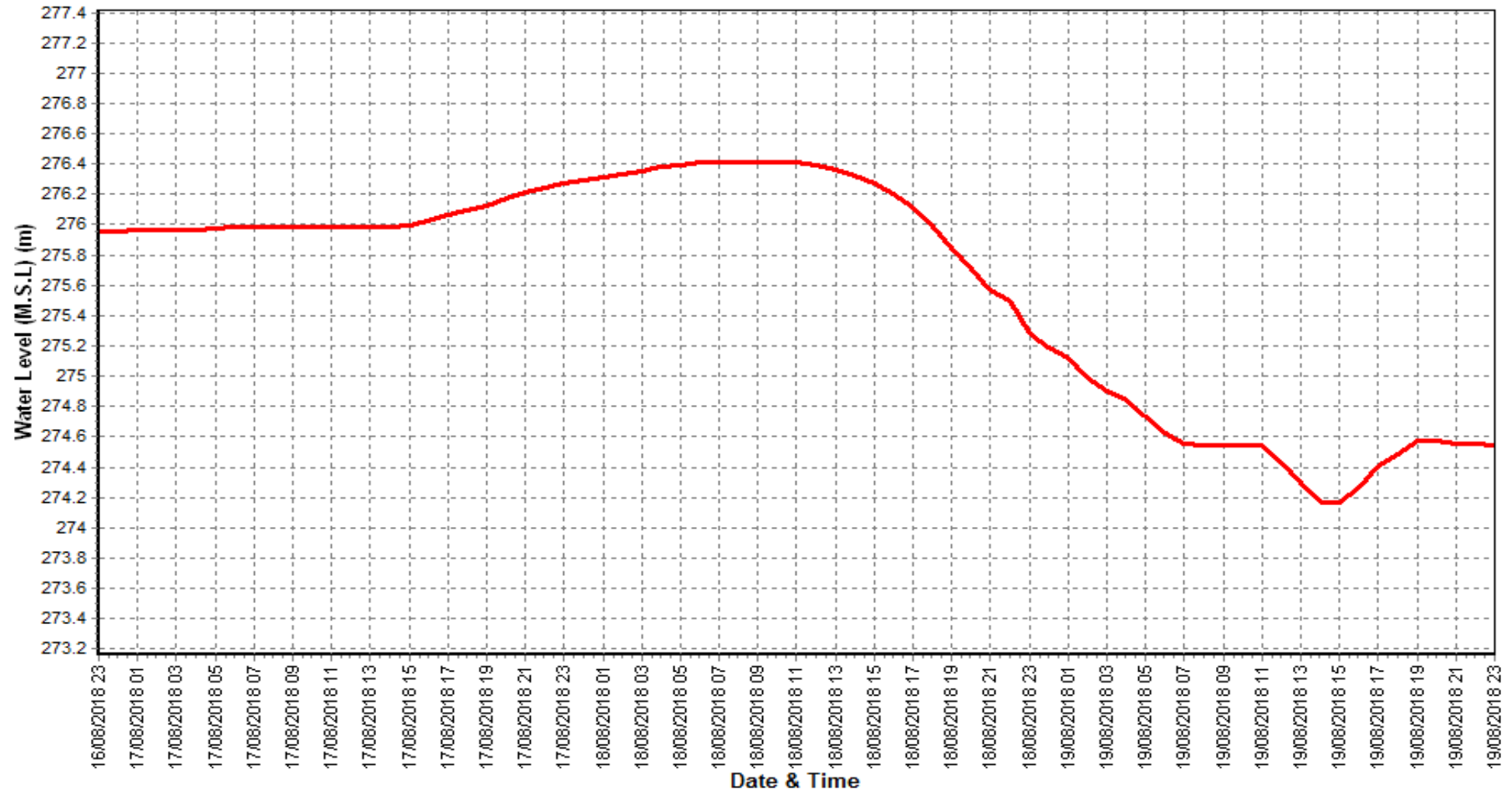
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Bawapuram (AKL00B8)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



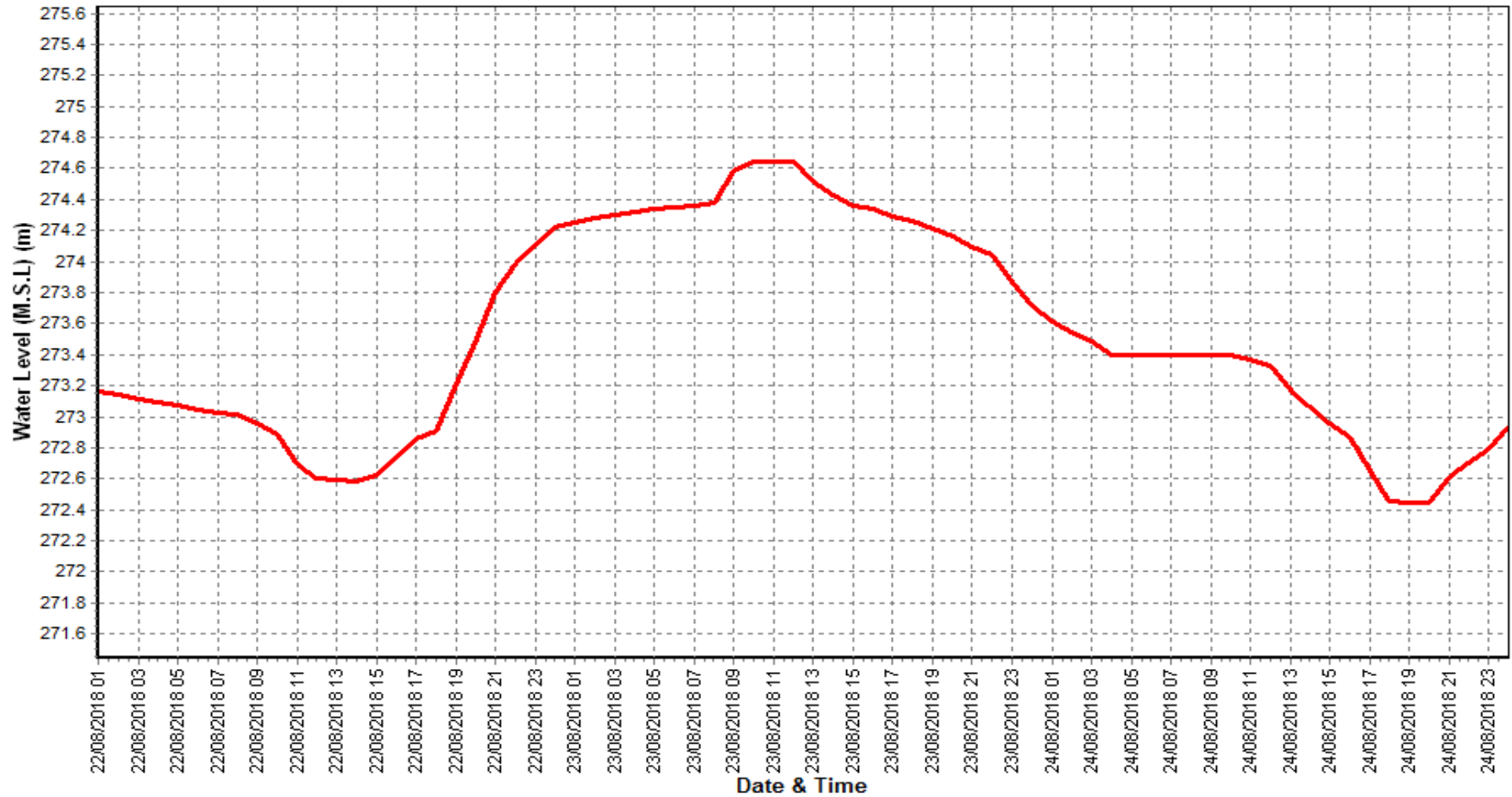
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : Bawapuram (AKL00B8)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



HISTORY SHEET

Water Year : 2018-2019

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°56'43"

Longitude : 77°25'38"

Zero of Gauge (m) : 308.34 (m.s.l)
 307.645 (m.s.l)
 307.5 (m.s.l)
 306 (m.s.l)

10/03/1972 - 30/11/1973
 01/12/1973 - 31/05/1975
 01/06/1975 - 31/05/1982
 01/06/1982

Opening Date

Closing Date

Gauge : 10/03/1972

HFL During 2018-19 : 312.480 m

Corres. Discharge : 5674 (Estimated)

Discharge : 01/06/1972

Date & Time of

occurrence : 17/08/2018

Sediment : 26/07/1977

Water Quality : 01/08/1977

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	16540	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	7793	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	5421	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

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

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
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
Average		5646	625	6271	200	22	222
75% Dependable flow (MCM)				3548			
90 % Dependable flow (MCM)				1765			

Stage-Discharge Data for the period 2018 - 2019

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	305.270	0.000		0.000	307.400	207.2	308.250	440.4	306.970	90.91	306.650	48.73
2	305.280	0.000	305.990	0.000	307.005	101.0	309.890	1719 *	307.070	113.6 *	306.540	29.00
3	305.280	0.000	305.980	0.000	306.810	74.20	308.480	577.9	307.040	105.8	306.520	28.89
4	305.280	0.000	305.950	0.000	306.540	43.34	307.760	296.2	306.830	70.13	306.520	28.26 *
5	305.280	0.000	305.920	0.000	306.350	13.94 *	307.455	194.7	306.640	43.85	306.710	56.37
6	305.270	0.000	305.890	0.000	306.235	8.211	307.335	189.4	306.580	32.87	306.710	55.86
7	305.270	0.000	305.870	0.000	306.190	4.681	306.990	98.55	306.510	27.27 *	306.720	52.21 *
8	305.280	0.000	305.850	0.000	307.795	289.3	306.615	47.44	306.440	20.72	306.820	68.17
9	305.520	0.000	305.830	0.000	308.280	502.8	306.500	26.30 *	306.390	14.80	306.645	49.75
10	305.570	0.000	305.770	0.000	307.775	313.1	306.420	18.96	306.345	11.97	306.570	33.52 *
11	305.820	0.000	305.770	0.000	308.910	964.6	306.390	14.98	306.260	8.855	306.530	29.28 *
12	306.270	9.028 *	305.760	0.000	310.225	2045	306.490	22.02	306.230	6.117	306.450	20.91
13	306.350	13.94 *	305.750	0.000	310.195	2063	306.360	14.63 *	306.190	5.241 *	306.430	19.14
14	306.310	11.34 *	305.750	0.000	309.030	942.0	306.280	11.48	306.150	0.000	306.420	18.09
15	306.270	10.00	305.740	0.000	311.225	3677	306.195	5.031	306.120	0.000	306.420	17.69
16	306.390	16.83 *	305.740	0.000	312.030	4805	306.230	6.997 *	306.100	0.000	306.420	17.53
17	306.270	9.028 *	305.730	0.000	312.100	4962	306.245	7.593	307.140	148.8	306.420	18.37
18	306.190	4.010	305.720	0.000	312.390	5401	306.760	64.49	306.910	75.92	306.420	19.19 *
19	306.180	4.003	305.710	0.000	310.670	2638 *	306.780	68.26	309.485	1265	306.475	20.88
20	306.140	0.000	305.700	0.000	310.200	2091	307.185	178.4	308.530	596.9	306.640	52.91
21	306.130	0.000	309.450	1376	309.125	974.4	307.150	131.2 *	308.000	406.0 *	306.650	42.93 *
22	306.120	0.000	309.170	1065	309.250	1126 *	307.020	99.19	307.675	263.9	306.695	56.49
23	306.120	0.000	309.130	1032	310.425	2428	307.400	195.2 *	307.220	164.3	306.640	41.69 *
24	306.090	0.000	309.400	1239	309.245	1108	307.190	155.5	306.900	80.70	306.570	35.28
25	306.070	0.000	309.750	1486	308.975	931.9	306.990	93.15	306.700	55.32	306.550	31.36 *
26	306.060	0.000	309.600	1404	308.160	476.3 *	307.240	165.8	306.510	29.55	306.510	28.99
27	306.050	0.000	309.730	1476	308.200	443.5	307.730	292.3	306.365	11.87	306.500	27.72
28	306.030	0.000	309.140	1037	308.275	479.6	307.700	280.9	306.320	11.96 *	306.545	32.34
29	306.020	0.000	309.350	1209 *	307.830	320.0	307.460	207.2	306.395	15.04	306.580	36.15
30	306.010	0.000	309.140	1042	307.370	172.3	307.200	142.9 *	306.680	51.33	306.600	39.80
31			308.000	385.2	308.030	380.0			306.705	53.89		
Ten-Daily Mean												
I Ten-Daily	305.330	0.000	305.894	0.000	307.038	155.8	307.569	360.8	306.682	53.19	306.641	45.07
II Ten-Daily	306.219	7.818	305.737	0.000	310.697	2959	306.492	39.39	306.911	210.7	306.462	23.40
III Ten-Daily	306.070	0.000	309.260	1159	308.626	803.6	307.308	176.3	306.861	104.0	306.584	37.27
Monthly												
Min.	305.270	0.000	305.700	0.000	306.190	4.681	306.195	5.031	306.100	0.000	306.420	17.53
Max.	306.390	16.83	309.750	1486	312.390	5401	309.890	1719	309.485	1265	306.820	68.17
Mean	305.873	2.606	307.076	411.3	308.782	1290	307.123	192.2	306.819	122	306.562	35.25

Annual Runoff in MCM = 5630 Annual Runoff in mm = 93

Peak Observed Discharge = 5401 cumecs on 18/08/2018 Corres. Water Level :312.39 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018 Corres. Water Level :305.27 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 2018 - 2019

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	306.550	30.89	306.470	20.59	306.190	4.808	305.620	0.000	304.840	0.000	305.040	0.000
2	306.520	27.88 *	306.450	19.95	306.160	2.542	305.620	0.000	304.810	0.000	305.090	0.000
3	306.540	30.46	306.410	17.99	306.150	3.200 *	305.600	0.000	304.780	0.000	305.100	0.000
4	306.540	30.70	306.390	16.16	306.130	0.000	305.580	0.000	304.750	0.000	305.100	0.000
5	306.530	29.69	306.380	15.81	306.120	0.000	305.560	0.000	304.720	0.000	305.100	0.000
6	306.530	30.29	306.370	14.14 *	306.110	0.000	305.540	0.000	304.690	0.000	305.100	0.000
7	306.530	29.47	306.360	13.13	306.100	0.000	305.530	0.000	304.690	0.000	305.100	0.000
8	306.530	29.00 *	306.430	19.26	306.090	0.000	305.520	0.000	304.690	0.000	305.100	0.000
9	306.530	29.00 *	306.440	19.76	306.080	0.000	305.490	0.000	304.690	0.000	305.090	0.000
10	306.520	28.48	306.470	21.82	306.080	0.000	305.440	0.000	304.690	0.000	305.090	0.000
11	306.520	28.17	306.500	27.37	306.030	0.000	305.390	0.000	304.690	0.000	305.080	0.000
12	306.510	27.46	306.520	27.88 *	305.970	0.000	305.360	0.000	304.690	0.000	305.080	0.000
13	306.480	20.84	306.550	31.33 *	305.900	0.000	305.340	0.000	304.690	0.000	305.090	0.000
14	306.430	18.25	306.560	32.54 *	305.865	0.000	305.320	0.000	304.690	0.000	305.090	0.000
15	306.380	16.69	306.570	30.80	305.850	0.000	305.320	0.000	304.690	0.000	305.090	0.000
16	306.800	70.71 *	306.570	30.23	305.820	0.000	305.320	0.000	304.805	0.000	305.080	0.000
17	306.820	72.95	306.560	29.97	305.800	0.000	305.310	0.000	304.800	0.000	305.090	0.000
18	306.705	56.82	306.560	29.93	305.780	0.000	305.300	0.000	304.800	0.000	305.090	0.000
19	306.600	39.98	306.560	29.53	305.760	0.000	305.280	0.000	304.800	0.000	305.100	0.000
20	306.580	35.72	306.560	32.54 *	305.740	0.000	305.270	0.000	304.800	0.000	305.100	0.000
21	306.570	33.83	306.440	18.87	305.720	0.000	305.240	0.000	304.800	0.000	305.100	0.000
22	306.560	32.75	306.410	17.38	305.720	0.000	305.230	0.000	304.800	0.000	305.100	0.000
23	306.540	30.15 *	306.390	15.88	305.710	0.000	305.210	0.000	304.800	0.000	305.100	0.000
24	306.470	20.83	306.370	13.69	305.690	0.000	305.080	0.000	304.800	0.000	305.130	0.000
25	306.550	31.34 *	306.360	13.41	305.660	0.000	305.010	0.000	304.800	0.000	305.130	0.000
26	306.770	63.73	306.340	12.06 *	305.650	0.000	304.980	0.000	304.800	0.000	305.140	0.000
27	306.725	57.27	306.320	10.78 *	305.640	0.000	304.950	0.000	304.810	0.000	305.150	0.000
28	306.620	41.17	306.300	11.19	305.630	0.000	304.920	0.000	304.810	0.000	305.170	0.000
29	306.650	48.47	306.290	10.23			304.890	0.000	304.820	0.000	305.170	0.000
30	306.610	39.02 *	306.270	9.228			304.880	0.000	304.830	0.000	305.170	0.000
31	306.520	28.25	306.220	5.549			304.860	0.000			305.150	0.000
Ten-Daily Mean												
I Ten-Daily	306.532	29.58	306.417	17.86	306.121	1.055	305.550	0.000	304.735	0.000	305.091	0.000
II Ten-Daily	306.583	38.76	306.551	30.21	305.852	0.000	305.321	0.000	304.746	0.000	305.089	0.000
III Ten-Daily	306.599	38.80	306.337	12.57	305.677	0.000	305.023	0.000	304.807	0.000	305.137	0.000
Monthly												
Min.	306.380	16.69	306.220	5.549	305.630	0.000	304.860	0.000	304.690	0.000	305.040	0.000
Max.	306.820	72.95	306.570	32.54	306.190	4.808	305.620	0.000	304.840	0.000	305.170	0.000
Mean	306.572	35.81	306.432	19.97	305.898	0.377	305.289	0	304.763	0	305.107	0

Peak Computed Discharge = 2638 cumecs on 19/08/2018

Corres. Water Level :310.67 m

Lowest Computed Discharge = 3.200 cumecs on 03/02/2019

Corres. Water Level :306.15 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 : 2018-2019

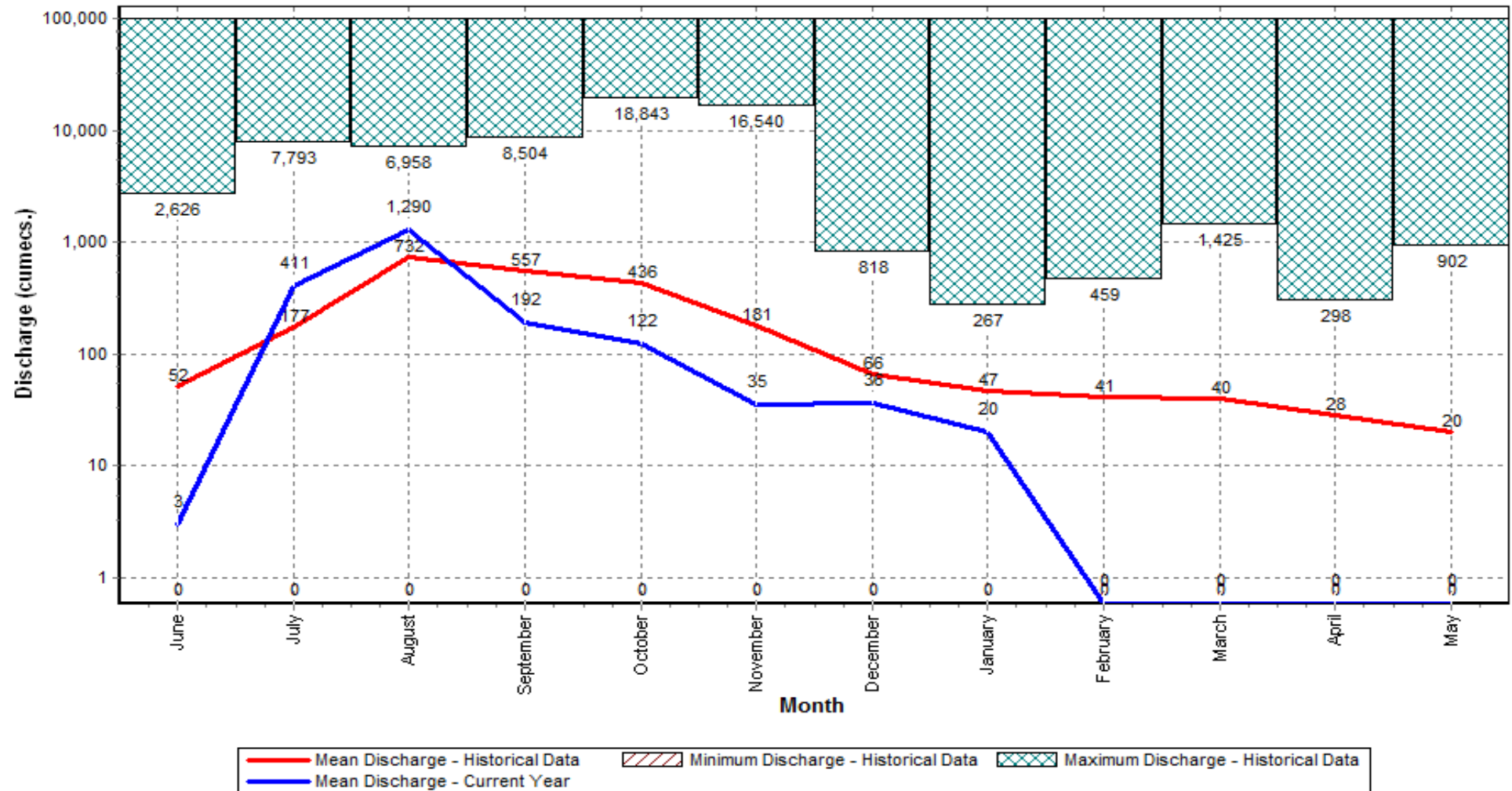
Station Name : Mantralayam (AKL00F2)

Data considered : 1972-2019

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

Sub-Division : Lower Tungabhadra SD, Kurnool



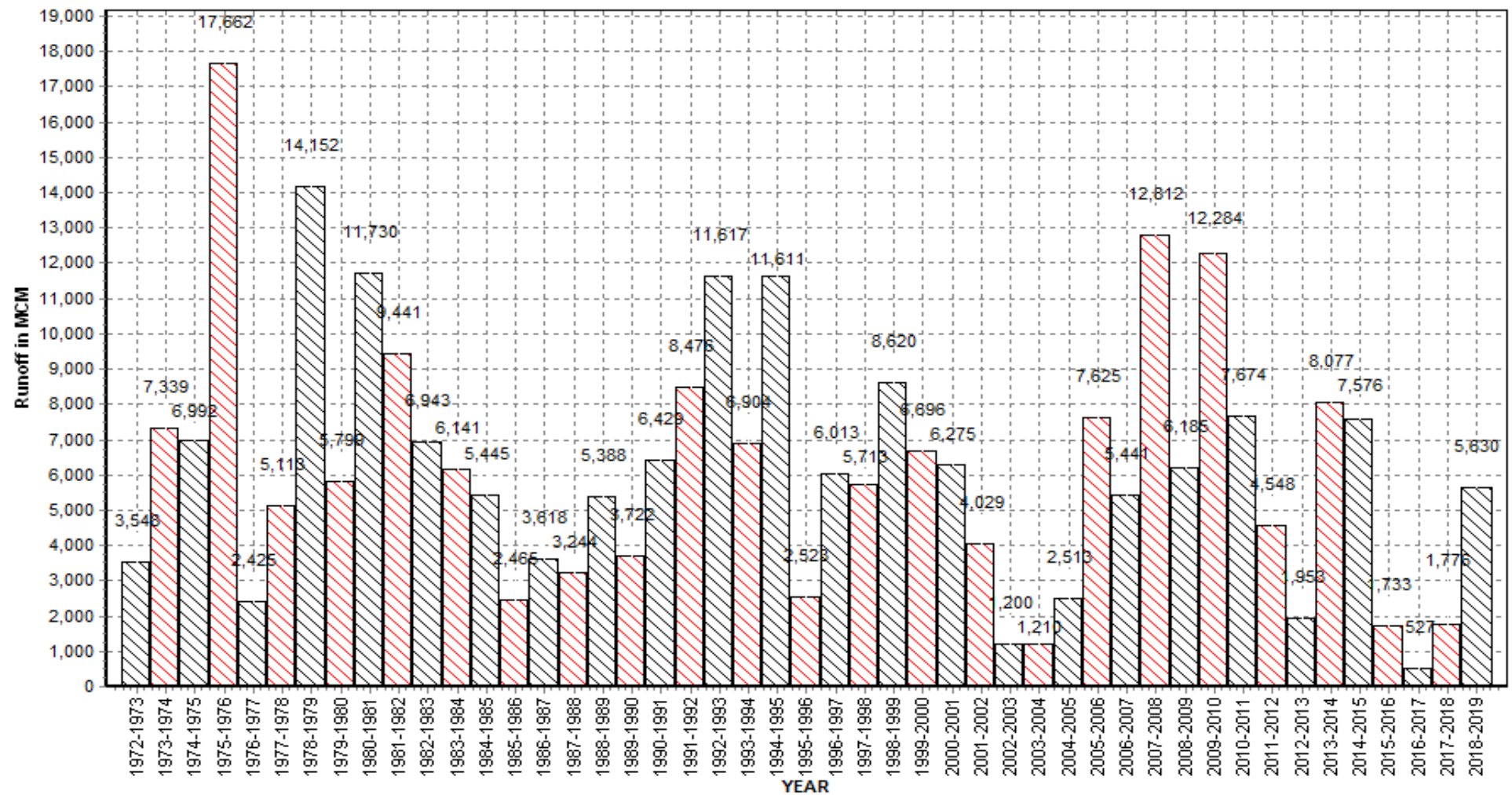
Annual Runoff Values for the period: 1972 - 2019

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

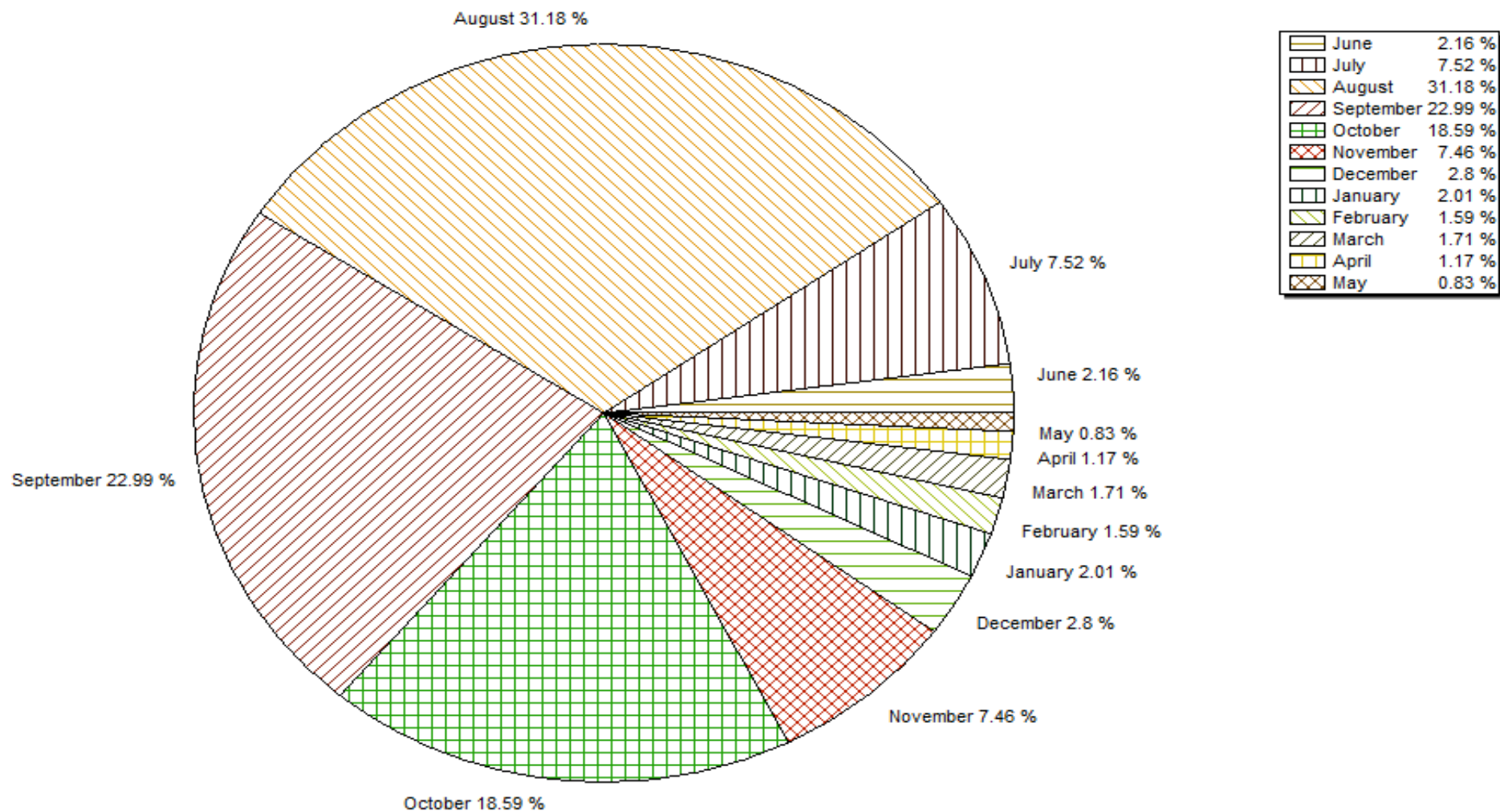
Monthly Average Runoff based on period : 1972-2018

Station Name : Mantralayam (AKL00F2)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



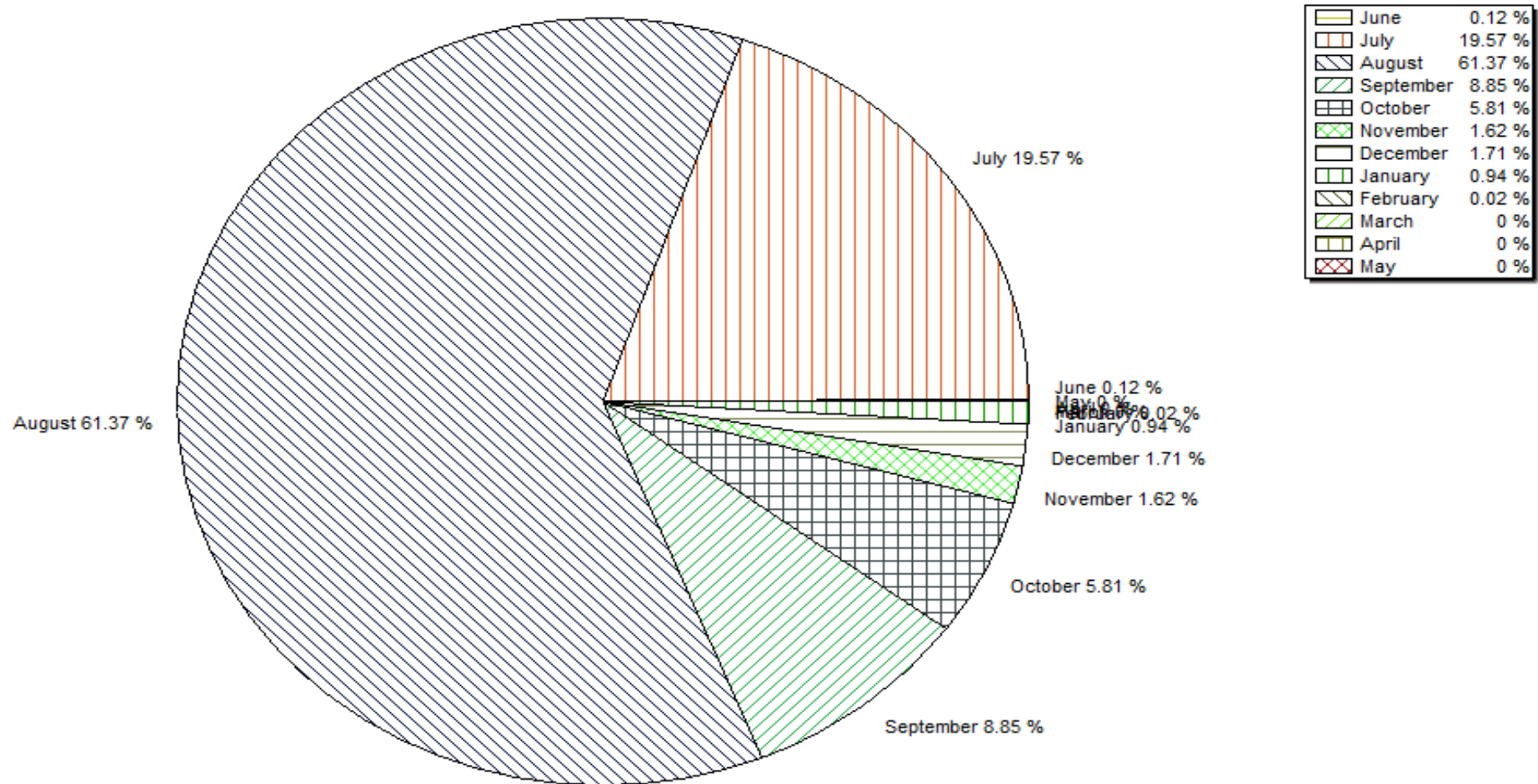
Monthly Runoff for the Year : 2018-2019

Station Name : Mantralayam (AKL00F2)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool

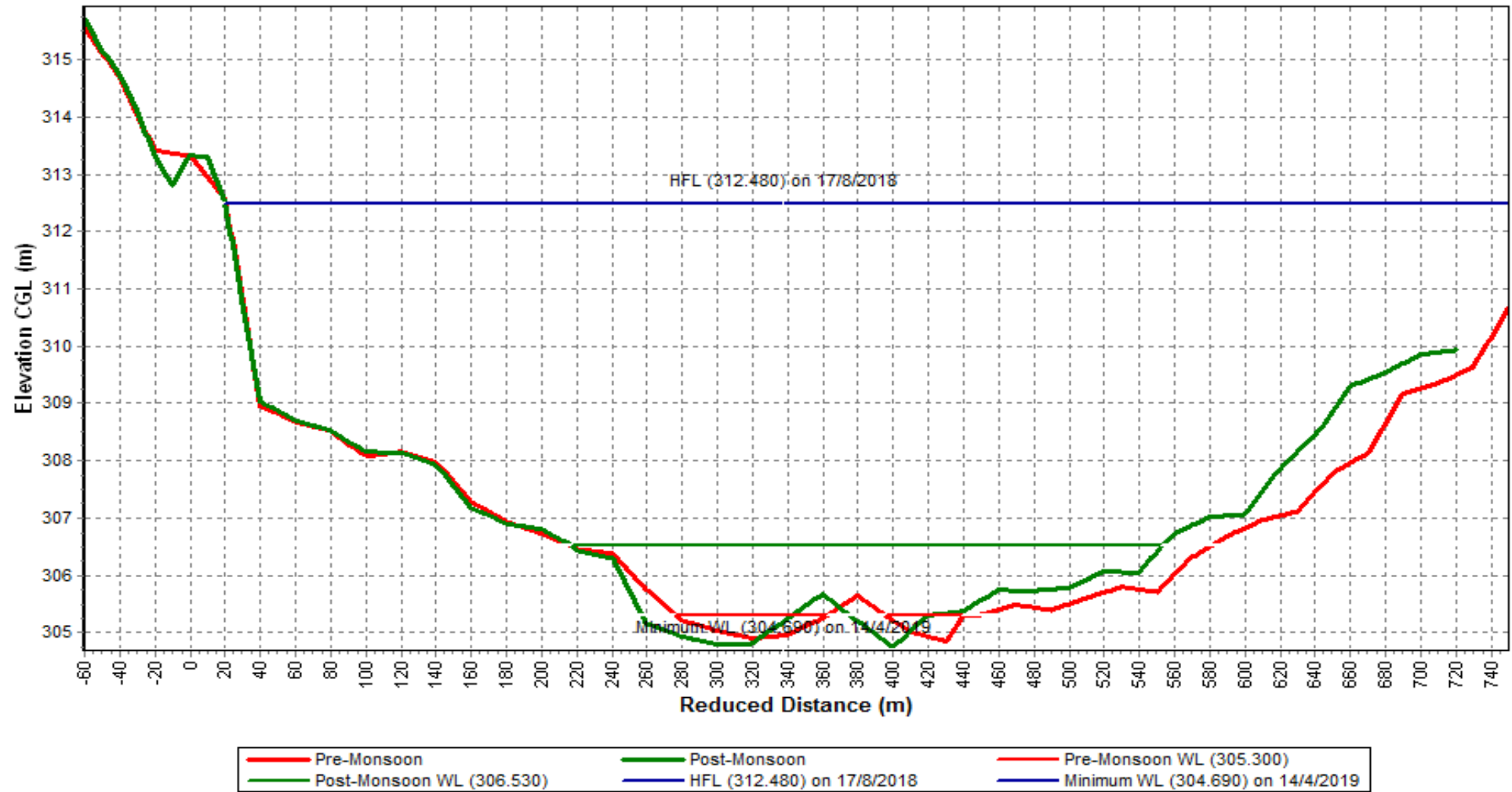


Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Mantralayam (AKL00F2)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad
Sub-Division : Lower Tungabhadra SD, Kurnool



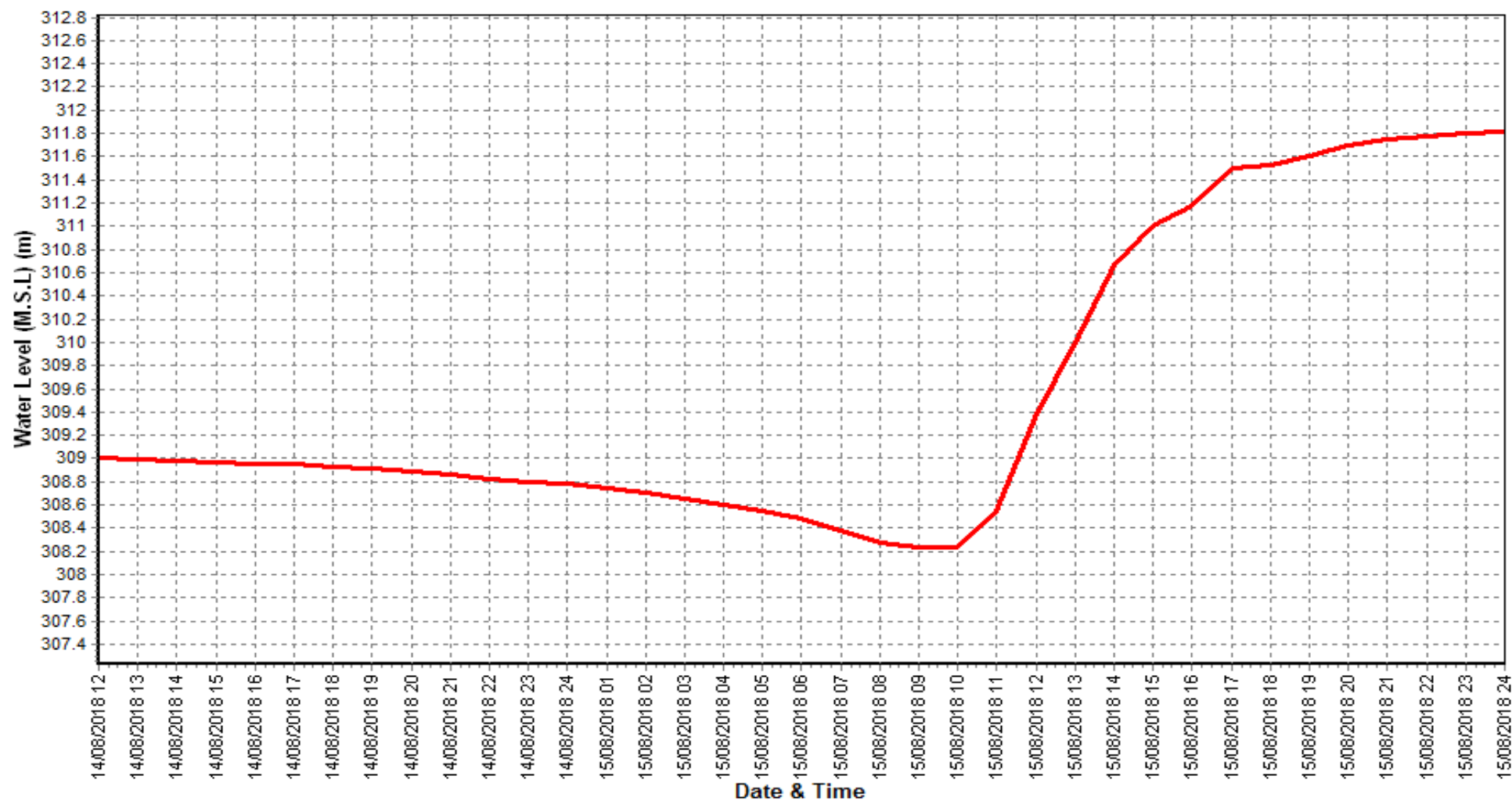
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Mantralayam (AKL00F2)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



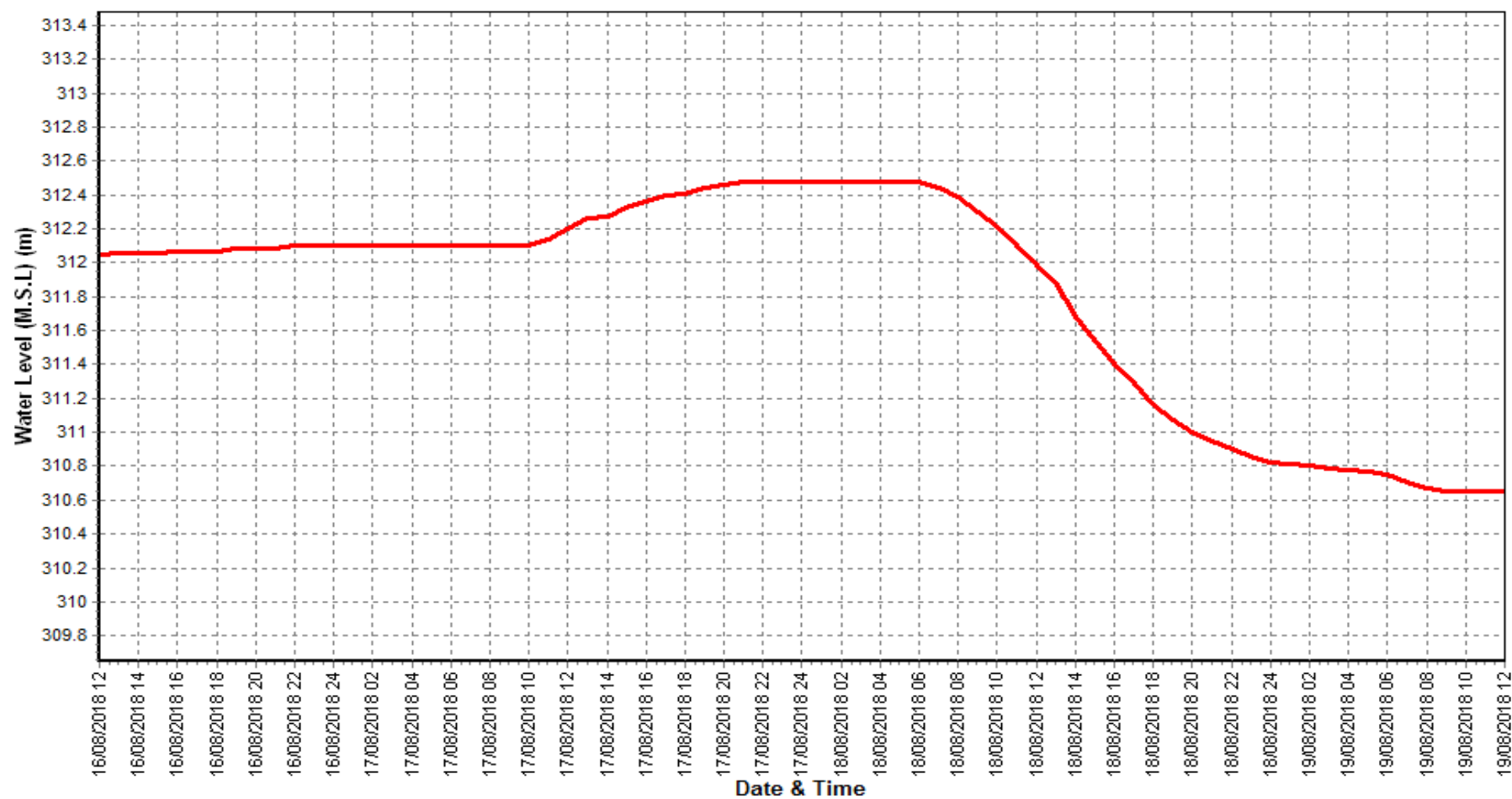
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Mantralayam (AKL00F2)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



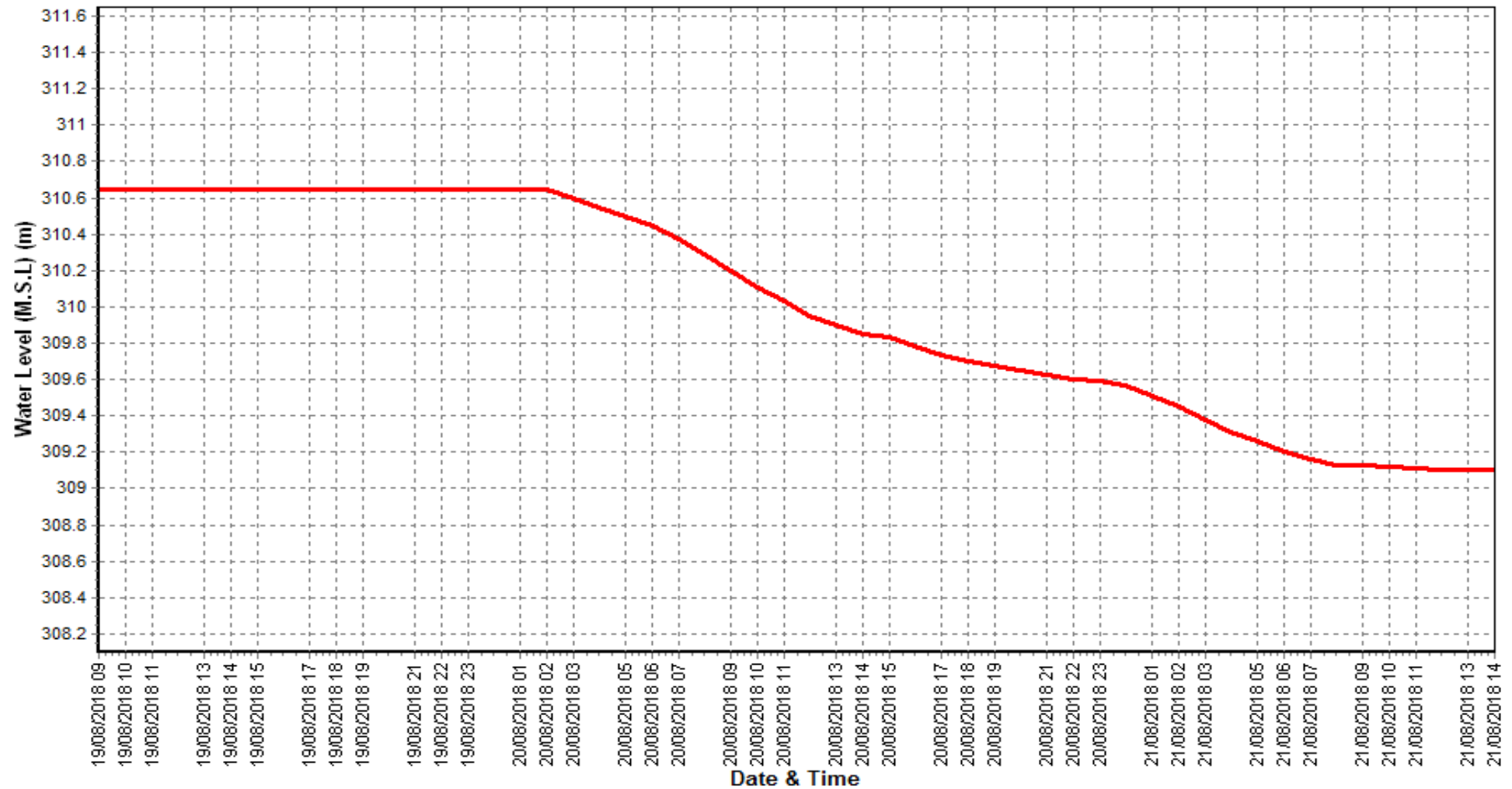
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : Mantralayam (AKL00F2)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



HISTORY SHEET

		Water Year	: 2018-2019
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)	: 94 (m.s.l) 332.5 (m.s.l)	01/06/2017 28/05/2018	- 27/05/2018
	Opening Date	Closing Date	
Gauge	: 24/10/2016	HFL During 2018-19	: 342.380 m
		Corres. Discharge	: 5920 (Estimated)
Discharge	: 24/10/2016	Date & Time of occurrence	: 17/08/2018 : 14:00 Hrs
Sediment	:		
Water Quality	:		

HFL Recorded so far in m : 342.380 dt 17-08-2018

Corresponding Discharge (cumecs) : 5920 *

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

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date

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
Average		3544	113	3753	125	4	133
75% Dependable flow (MCM)				Sufficient data not available			
90 % Dependable flow (MCM)				Sufficient data not available			

Stage-Discharge Data for the period 2018 - 2019

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		0.000	335.920	0.000	337.300	239.2	338.830	1092	336.620	72.30	336.550	61.04
2	335.800	0.000	335.880	0.000	336.830	94.88	339.200	1453	336.580	64.48	336.550	59.29
3	336.040	12.77 *	335.860	0.000	336.425	39.15	337.830	384.0	336.590	65.27	336.550	60.63
4	336.020	11.78 *	335.840	0.000	336.225	16.98	336.950	156.5	336.500	46.89	336.620	72.72 *
5	336.160	19.81 *	335.820	0.000	336.180	21.17 *	336.990	167.6	336.400	37.87	336.620	72.74
6	336.160	19.81 *	335.820	0.000	336.415	53.20	336.600	60.55 #	336.350	31.36	336.620	71.79
7	336.160	19.81 *	335.820	0.000	337.540	329.2	336.200	60.53	336.300	31.36 *	336.620	74.91
8	336.270	27.99 *	335.800	0.000	338.180	503.1	336.090	48.62	336.250	17.12	336.590	67.35
9	336.320	32.29 *	335.800	0.000	338.140	491.8	336.020	35.18 *	336.190	11.82	336.500	59.56
10	336.400	39.98 *	335.800	0.000	337.480	262.4	336.020	35.19	336.170	8.257	336.460	52.35
11	336.400	39.98 *	335.800	0.000	339.050	1154	335.930	27.80	336.140	3.284	336.400	37.68 *
12	336.350	35.06 *	335.800	0.000	340.300	2804	335.830	19.01	336.130	2.660	336.400	37.69
13	336.350	35.06 *	335.790	0.000	339.750	1988	335.800	14.41	336.130	2.409	336.360	31.29
14	336.280	28.82 *	335.790	0.000	338.900	965.6	335.750	0.000	336.150	3.270 *	336.360	30.94
15	336.260	27.17 *	335.790	0.000	340.800	3643	336.060	46.03	336.430	43.27	336.360	29.14
16	336.230	24.81 *	335.790	0.000	341.960	5022	336.200	60.53 *	336.530	67.08	336.360	28.21
17	336.180	21.17 *		0.000	342.220	5543	336.170	56.65	336.700	85.85	336.360	27.48
18	336.160	19.81 *		0.000	341.450	4156	336.270	74.39	337.220	135.2	336.330	27.44 *
19	336.100	16.05 *		0.000	340.430	3009	336.480	62.67	338.940	850.1	336.490	53.87
20	336.080	14.91 *	338.500	821.5	339.590	1773	336.600	82.60	338.200	382.9	336.500	57.79
21	336.070	14.35 *	339.400	1420 #	339.000	1108	336.480	62.67	337.530	210.6	336.500	56.04
22	336.060	13.81 *	339.100	1219 #	340.200	2646	336.610	84.41	337.000	91.50	336.450	51.71
23	336.060	13.81 *	339.000	1104	339.880	2168	336.780	116.9	336.720	87.97	336.410	40.70
24	336.060	13.81 *	339.300	1364	338.990	1098	336.550	74.26	336.500	61.32	336.370	35.00
25	336.050	13.29 *	339.730	1781	338.550	657.6	336.750	111.0	336.480	53.26	336.390	35.10 *
26	336.050	13.29 *	339.460	1458	338.180	503.1	336.520	69.20	336.350	25.67	336.430	42.93
27	336.020	11.78 *	339.550	1563	338.220	513.1	337.050	177.8	336.290	21.53	336.450	45.79
28	335.990	0.000	339.040	1140	338.140	491.8	336.930	148.8	336.510	64.65 *	336.390	37.50
29	335.960	0.000	339.220	1271 #	337.300	239.2	336.630	88.05	336.550	64.66	336.460	47.91
30	335.940	0.000	338.860	927.6	337.700	211.0	336.410	51.70	336.610	67.29	336.420	41.79
31			337.600	355.4	337.880	247.6			336.550	63.29		
Ten-Daily Mean												
I Ten-Daily	336.148	18.42	335.836	0.000	337.071	205.1	337.073	349.3	336.395	38.67	336.568	65.24
II Ten-Daily	336.239	26.28	336.180	82.15	340.445	3006	336.109	44.41	336.857	157.6	336.392	36.15
III Ten-Daily	336.026	9.414	339.115	1237	338.549	898.5	336.671	98.48	336.645	73.80	336.427	43.45
Monthly												
Min.	335.800	0.000	335.790	0.000	336.180	16.98	335.750	0.000	336.130	2.409	336.330	27.44
Max.	336.400	39.98	339.730	1781	342.220	5543	339.200	1453	338.940	850.1	336.620	74.91
Mean	336.137	18.04	337.210	465.3	338.684	1355	336.618	164.1	336.633	89.5	336.462	48.28

Annual Runoff in MCM = 5917 Annual Runoff in mm = 9965

Peak Observed Discharge = 5543 cumecs on 17/08/2018 Corres. Water Level :342.22 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018

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 2018 - 2019

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	336.420	42.01	336.280	28.97	335.950	0.000		0.000		0.000		0.000
2	336.410	41.00 *	336.250	25.17	336.080	0.000	336.340	23.29		0.000		0.000
3	336.400	39.72	336.200	19.06	335.950	0.000	336.350	25.09		0.000		0.000
4	336.420	43.83	336.200	18.63	335.950	0.000	336.340	24.68		0.000		0.000
5	336.400	40.36	336.350	39.79	336.120	0.000	336.250	19.12		0.000		0.000
6	336.380	37.98	336.380	39.90 *	336.130	0.000	336.230	18.16		0.000		0.000
7	336.390	39.55	336.350	39.81	336.100	0.000	336.110	14.33		0.000		0.000
8	336.400	42.46	336.400	42.56	336.060	0.000	335.970	2.241		0.000		0.000
9	336.350	37.00 *	336.400	42.02	335.950	0.000	335.920	0.759		0.000		0.000
10	336.310	33.79	336.380	41.88	335.850	0.000	335.850	0.000		0.000		0.000
11	336.290	31.38	336.390	42.30	335.840	0.000	335.750	0.000		0.000		0.000
12	336.280	30.60	336.410	43.95	335.700	0.000		0.000		0.000		0.000
13	336.270	29.50	336.430	44.70 *	335.700	0.000		0.000		0.000		0.000
14	336.300	32.52	336.420	44.68		0.000		0.000		0.000		0.000
15	336.590	65.10	336.420	44.74		0.000		0.000		0.000		0.000
16	336.600	65.10 *	336.400	42.40		0.000		0.000		0.000		0.000
17	336.500	56.88	336.400	41.36		0.000		0.000		0.000		0.000
18	336.400	42.99	336.440	45.49		0.000		0.000		0.000		0.000
19	336.400	41.80	336.370	40.65		0.000		0.000		0.000		0.000
20	336.400	42.82	336.300	27.60 *		0.000		0.000		0.000		0.000
21	336.400	41.38	336.280	27.41		0.000		0.000		0.000		0.000
22	336.420	43.96	336.260	25.30		0.000		0.000		0.000		0.000
23	336.380	38.60 *	336.240	24.52		0.000		0.000		0.000		0.000
24	336.380	38.61	336.190	16.31		0.000		0.000		0.000		0.000
25	336.500	56.78	336.150	13.87		0.000		0.000		0.000		0.000
26	336.520	59.73	336.120	11.50 *		0.000		0.000		0.000		0.000
27	336.500	56.63	336.100	11.00 *		0.000		0.000		0.000		0.000
28	336.470	52.27	336.070	5.487		0.000		0.000		0.000		0.000
29	336.470	51.94	336.070	5.610				0.000		0.000		0.000
30	336.400	40.50 *	336.040	4.684				0.000		0.000		0.000
31	336.300	30.94	335.950	0.000				0.000				0.000
Ten-Daily Mean												
I Ten-Daily	336.388	39.77	336.319	33.78	336.014	0.000	336.151	12.77		0.000		0.000
II Ten-Daily	336.403	43.87	336.398	41.79	335.747	0.000	335.750	0.000		0.000		0.000
III Ten-Daily	336.431	46.49	336.134	13.25		0.000		0.000		0.000		0.000
Monthly												
Min.	336.270	29.50	335.950	0.000	335.700	0.000	335.750	0.000		0.000		0.000
Max.	336.600	65.10	336.440	45.49	336.130	0.000	336.350	25.09		0.000		0.000
Mean	336.408	43.47	336.279	29.08	335.952	0	336.111	4.118		0		0

Peak Computed Discharge = 72.72 cumecs on 04/11/2018

Corres. Water Level :336.62 m

Lowest Computed Discharge = 3.270 cumecs on 14/10/2018

Corres. Water Level :336.15 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

HISTOGRAM - HYDROGRAPH for Water Year : 2018-2019

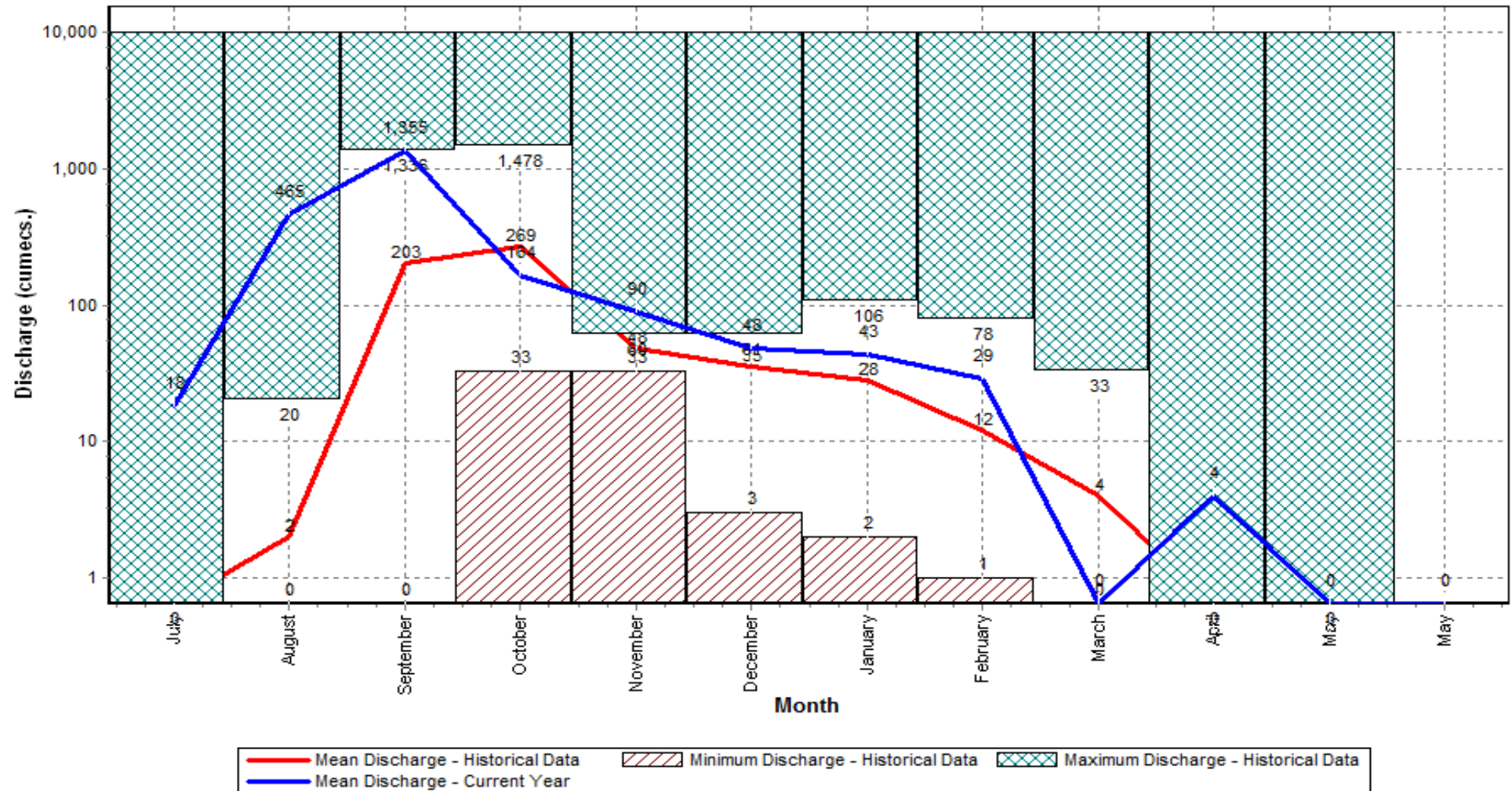
Station Name : MELAGANUR (030-LKDHYD)

Data considered : 2018-2019

Division : Lower Krishna Divn., Hyderabad

Local River : Tungabhadra

Sub-Division : Lower Tungabhadra SD, Kurnool



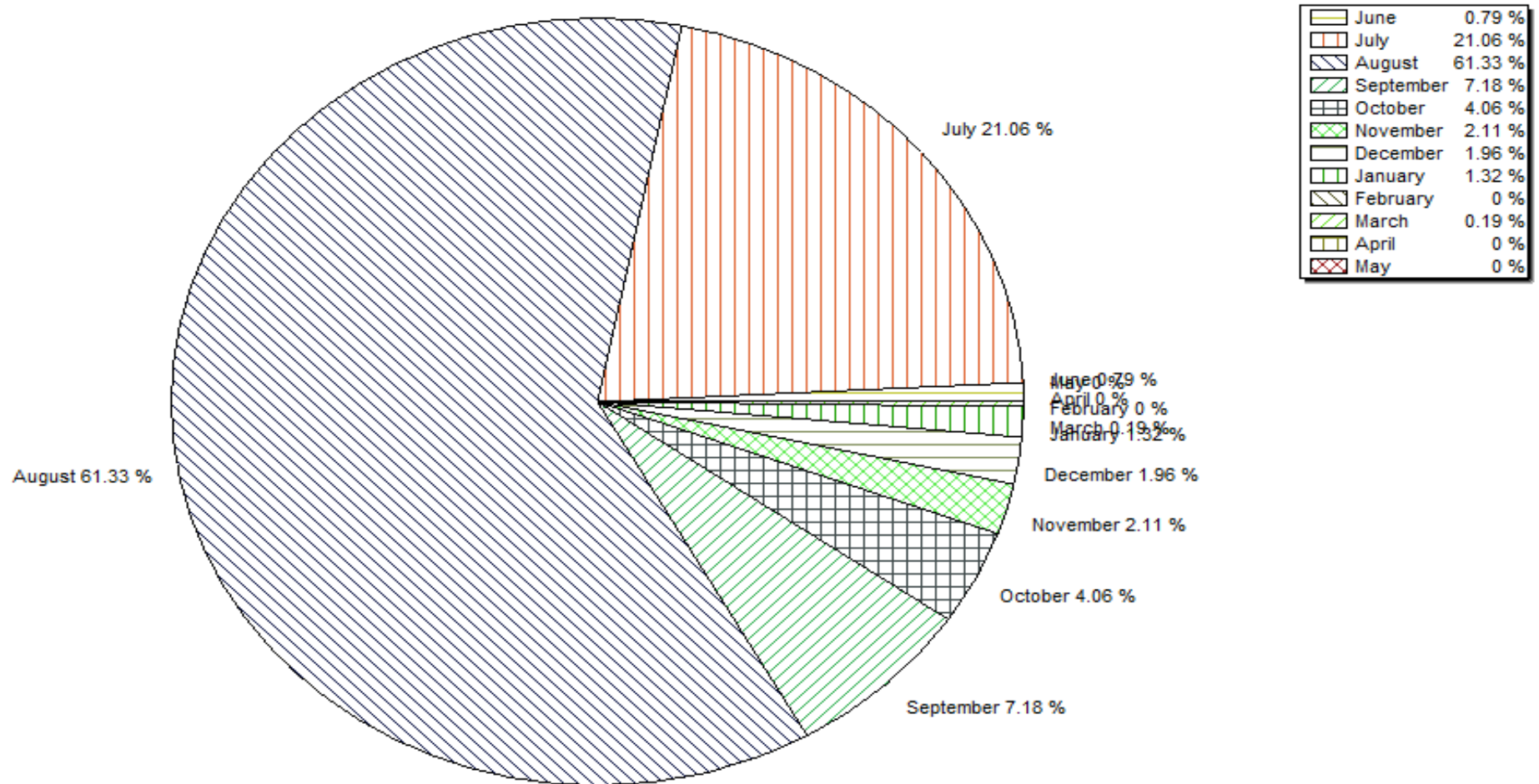
Monthly Runoff for the Year : 2018-2019

Station Name : MELAGANUR (030-LKDHYD)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



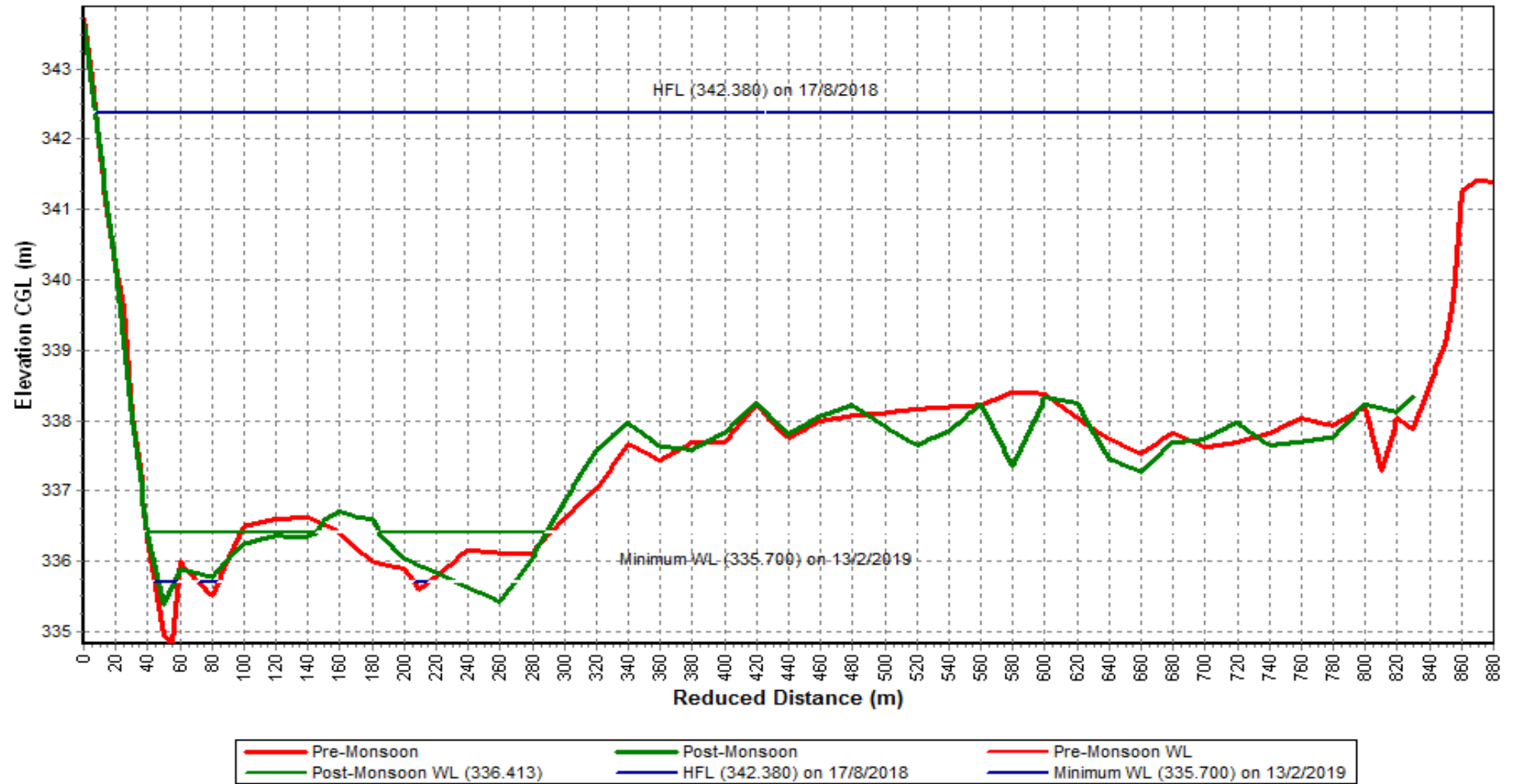
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : MELAGANUR (030-LKDHYD)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



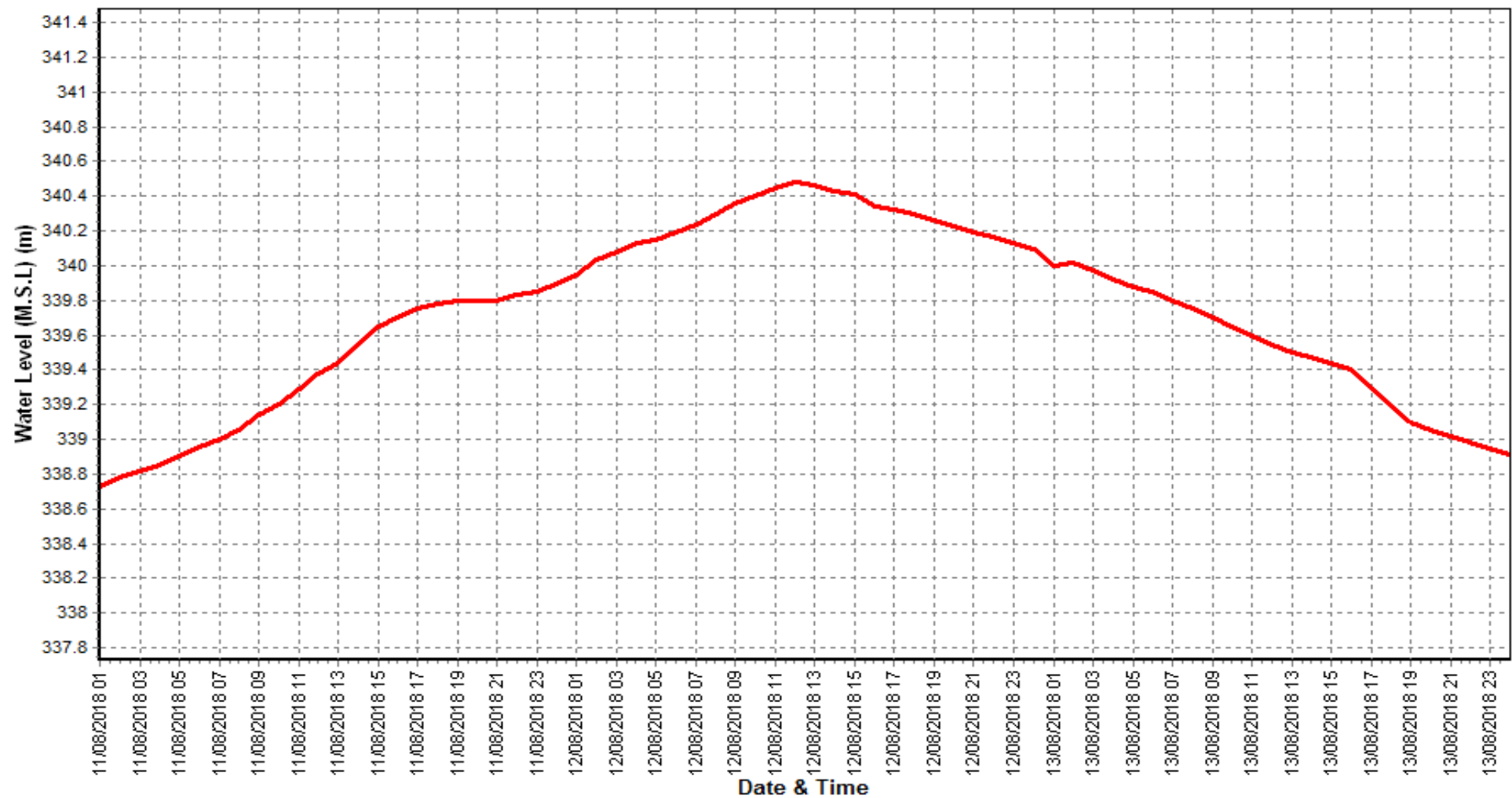
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : MELAGANUR (030-LKDHYD)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



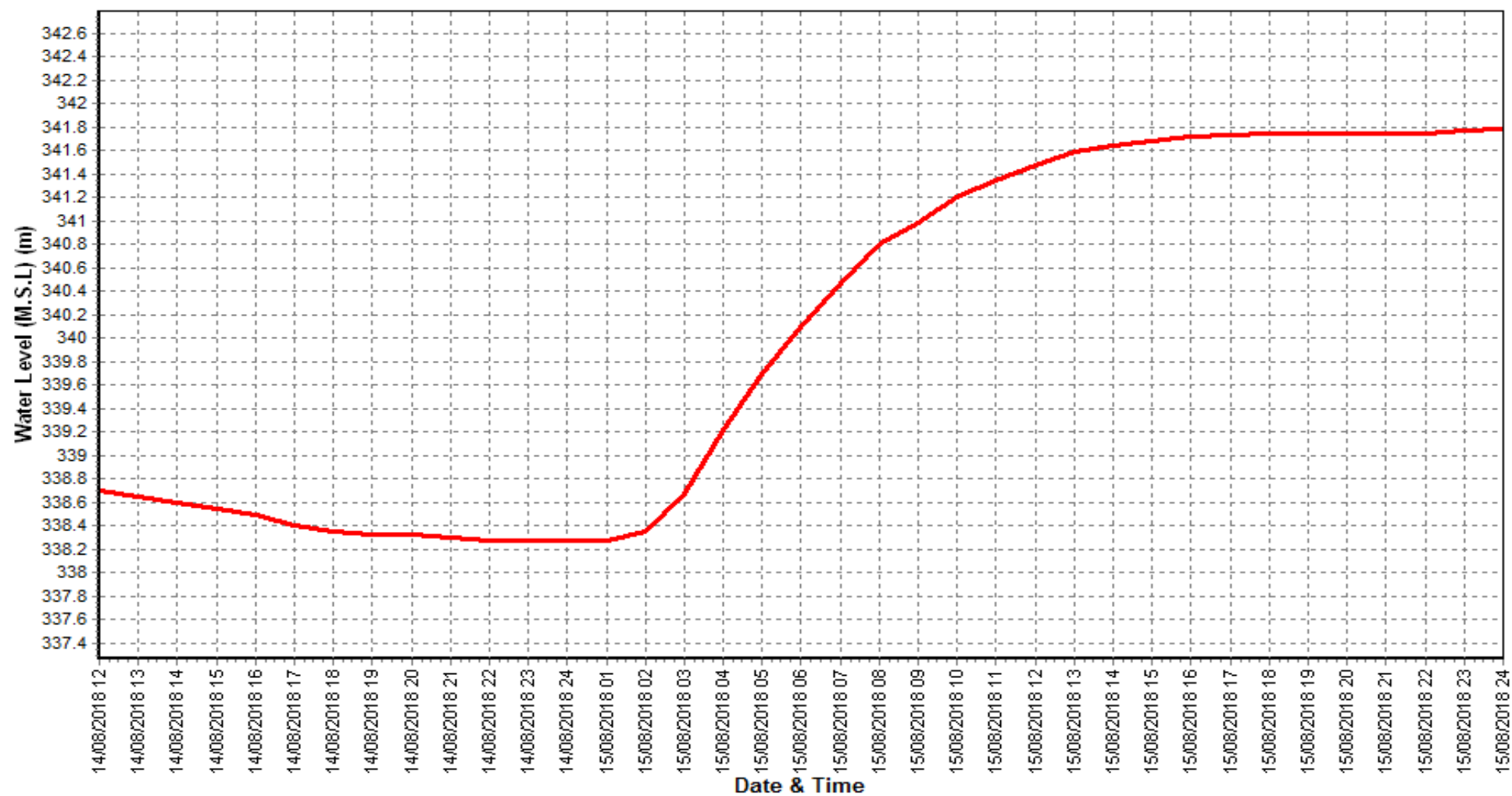
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : MELAGANUR (030-LKDHYD)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



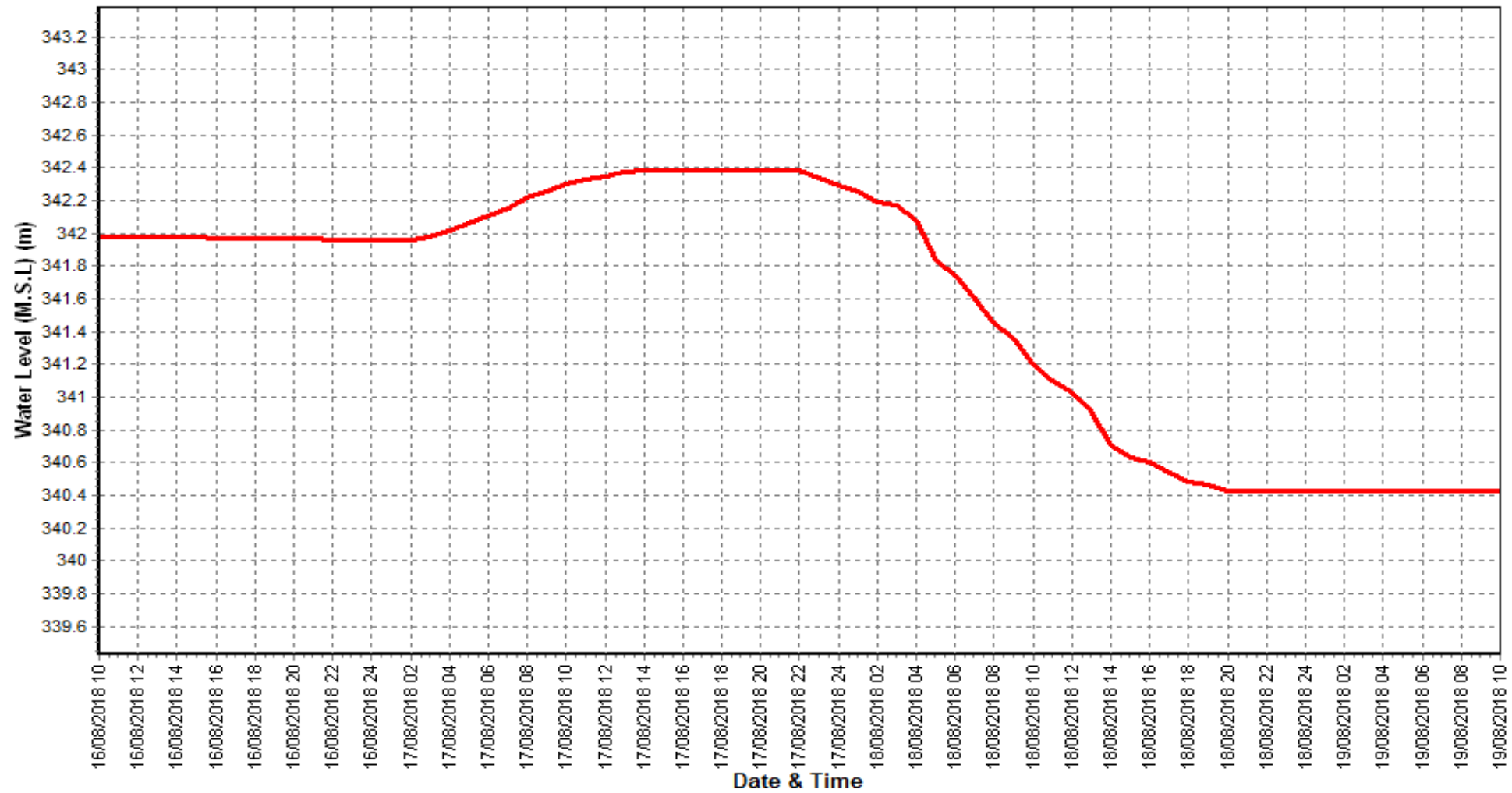
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : MELAGANUR (030-LKDHYD)

Local River : Tungabhadra

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



HISTORY SHEET

Water Year : 2018-2019

Site : T Ramapuram

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)

13/07/1963

Opening Date

Closing Date

Gauge : 13/07/1963

HFL During 2018-19 : 350.988 m

Corres. Discharge : 211.8 (Estimated)

Discharge : 23/08/1964

Date & Time of
occurrence : 20/10/2018
: 02:00 Hrs

Sediment :

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	635.0	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	1923	353.858	14/10/1971	0.510	350.268	26/04/1972
1972-1973	740.0	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	156.0	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
1983-1984	930.0	352.868	04/10/1983	0.100	350.018	02/06/1983

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

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1984-1985	308.0	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	1116	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	142.0	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	1809	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	3192	355.948	02/10/2009	0.000		19/07/2009
2010-2011	981.8	352.788	24/08/2010	0.000		31/07/2010
2011-2012	193.4	350.768	02/06/2011	0.000		12/08/2011
2012-2013	326.4	351.143	04/09/2012	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	1117	353.458	07/09/2015	0.000		07/07/2015
2016-2017	243.3	350.858	03/06/2016	0.000		27/08/2016
2017-2018	1312	352.783	13/10/2017	0.000		27/04/2018

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

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
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
Average		687	117	773	24	4	27
75% Dependable flow (MCM)				453			
90 % Dependable flow (MCM)				276			

Stage-Discharge Data for the period 2018 - 2019

Station Name : T Ramapuram (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		0.000		0.000		0.000	349.663	15.99	349.948	30.91	349.618	14.07
2		0.000		0.000		0.000	349.548	10.65 *	349.928	33.53 *	349.588	12.47
3		0.000		0.000		0.000	349.448	7.703	349.868	28.16	349.703	17.22 #
4		0.000		0.000		0.000	349.278	2.792	349.798	22.65	349.738	20.04 *
5	349.638	14.84		0.000		0.000	349.183	1.292	349.683	14.87	349.718	21.18
6	349.448	7.175		0.000		0.000	349.198	0.867	349.608	11.87	349.728	18.40 #
7	349.308	3.065		0.000		0.000	349.188	1.359	349.488	8.425 *	349.758	21.26 *
8	349.298	3.625		0.000		0.000	349.148	1.036	349.338	4.300	349.743	18.55 #
9	349.238	2.786		0.000		0.000	349.208	1.939 *	349.428	6.001	349.728	18.23 #
10	349.218	2.077 *		0.000		0.000	349.178	1.409	349.328	4.062	349.648	17.48
11	349.208	2.326		0.000		0.000	349.078	0.000	349.338	4.464	349.668	16.14 *
12	349.228	2.571		0.000		0.000		0.000	349.348	4.836	349.678	18.69
13	349.178	1.847		0.000		0.000		0.000	349.308	3.687	349.638	16.89
14	349.148	0.957		0.000		0.000		0.000	349.338	4.226 *	349.633	16.41
15	349.098	0.000		0.000		0.000		0.000	349.428	6.914	349.643	15.31 #
16	349.088	0.000		0.000	349.538	9.964		0.000	349.468	8.135	349.638	16.65
17		0.000		0.000	349.688	17.83		0.000	349.813	26.61	349.648	15.42 #
18		0.000		0.000	349.198	1.969		0.000	350.228	64.67 #	349.668	16.14 *
19		0.000		0.000		0.000	349.528	10.51	350.818	169.2 *	349.638	16.65 #
20		0.000		0.000		0.000	349.718	19.45	350.878	183.6 #	349.728	18.23 #
21		0.000		0.000		0.000	349.608	13.21 *	350.168	57.39 *	349.668	16.14 *
22		0.000		0.000		0.000	349.728	19.87	350.208	62.18 #	349.628	14.58 #
23		0.000		0.000		0.000	349.638	14.63 *	350.078	47.48 #	349.648	15.42 *
24		0.000		0.000		0.000	349.458	7.966	350.018	41.53 #	349.628	14.58 #
25		0.000		0.000		0.000	350.348	85.82 #	349.888	30.32 #	349.668	16.14 *
26		0.000		0.000		0.000	350.143	49.05	349.833	26.23 #	349.738	18.24 #
27		0.000		0.000		0.000	350.548	113.5 #	349.868	28.79 #	349.698	16.85 #
28		0.000		0.000		0.000	350.498	104.7 #	349.798	23.83 *	349.738	18.24 #
29		0.000		0.000	349.728	19.57	350.308	72.14	349.783	22.84 #	349.683	16.36 #
30		0.000		0.000	349.688	16.38	350.118	51.73 *	349.628	14.14 #	349.653	17.67
31				0.000	349.663	15.49			349.578	11.56		
Ten-Daily Mean												
I Ten-Daily	349.358	3.357		0.000		0.000	349.304	4.503	349.642	16.48	349.697	17.89
II Ten-Daily	349.158	0.770		0.000	349.475	2.976	349.441	2.996	349.796	47.63	349.658	16.65
III Ten-Daily		0.000		0.000	349.693	4.677	350.040	53.26	349.895	33.30	349.675	16.42
Monthly												
Min.	349.088	0.000		0.000	349.198	0.000	349.078	0.000	349.308	3.687	349.588	12.47
Max.	349.638	14.84		0.000	349.728	19.57	350.548	113.5	350.878	183.6	349.758	21.26
Mean	349.258	1.376		0	349.584	2.62	349.642	20.25	349.782	32.5	349.677	16.99

Annual Runoff in MCM = 216 Annual Runoff in mm = 9

Peak Observed Discharge = 183.6 cumecs on 20/10/2018 Corres. Water Level :350.878 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018

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 2018 - 2019

Station Name : T Ramapuram (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	349.643	16.63	349.188	1.943		0.000		0.000		0.000		0.000
2	349.678	16.66 *	349.228	2.892		0.000		0.000		0.000		0.000
3	349.648	17.50	349.148	1.194		0.000		0.000		0.000		0.000
4	349.668	19.97	349.068	0.000		0.000		0.000		0.000		0.000
5	349.653	17.23	349.068	0.000		0.000		0.000		0.000		0.000
6	349.678	19.01	349.068	0.000		0.000		0.000		0.000		0.000
7	349.668	18.81	349.068	0.000		0.000		0.000		0.000		0.000
8	349.568	12.77	349.118	0.859		0.000		0.000		0.000		0.000
9	349.468	7.756 *		0.000		0.000		0.000		0.000		0.000
10	349.428	7.903		0.000		0.000		0.000		0.000		0.000
11	349.398	7.276		0.000		0.000		0.000		0.000		0.000
12	349.318	6.027		0.000		0.000		0.000		0.000		0.000
13	349.298	4.512		0.000		0.000		0.000		0.000		0.000
14	349.298	4.744		0.000		0.000		0.000		0.000		0.000
15	349.298	4.607		0.000		0.000		0.000		0.000		0.000
16	349.308	3.597 *		0.000		0.000		0.000		0.000		0.000
17	349.248	3.730		0.000		0.000		0.000		0.000		0.000
18	349.228	3.665		0.000		0.000		0.000		0.000		0.000
19	349.218	3.517		0.000		0.000		0.000		0.000		0.000
20	349.218	3.274		0.000		0.000		0.000		0.000		0.000
21	349.208	2.838		0.000		0.000		0.000		0.000		0.000
22	349.208	2.832		0.000		0.000		0.000		0.000		0.000
23	349.208	1.939 *		0.000		0.000		0.000		0.000		0.000
24	349.428	8.196		0.000		0.000		0.000		0.000		0.000
25	349.388	5.424 *		0.000		0.000		0.000		0.000		0.000
26	349.308	4.619		0.000		0.000		0.000		0.000		0.000
27	349.338	5.395		0.000		0.000		0.000		0.000		0.000
28	349.318	4.737		0.000		0.000		0.000		0.000		0.000
29	349.258	3.540		0.000				0.000		0.000		0.000
30	349.238	2.369 *		0.000				0.000		0.000		0.000
31	349.138	0.789		0.000				0.000				0.000
Ten-Daily Mean												
I Ten-Daily	349.610	15.42	349.119	0.689		0.000		0.000		0.000		0.000
II Ten-Daily	349.283	4.495		0.000		0.000		0.000		0.000		0.000
III Ten-Daily	349.276	3.880		0.000		0.000		0.000		0.000		0.000
Monthly												
Min.	349.138	0.789	349.068	0.000		0.000		0.000		0.000		0.000
Max.	349.678	19.97	349.228	2.892		0.000		0.000		0.000		0.000
Mean	349.386	7.802	349.119	0.222		0		0		0		0

Peak Computed Discharge = 169.2 cumecs on 19/10/2018

Corres. Water Level :350.818 m

Lowest Computed Discharge = 1.939 cumecs on 09/09/2018

Corres. Water Level :349.208 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 : 2018-2019

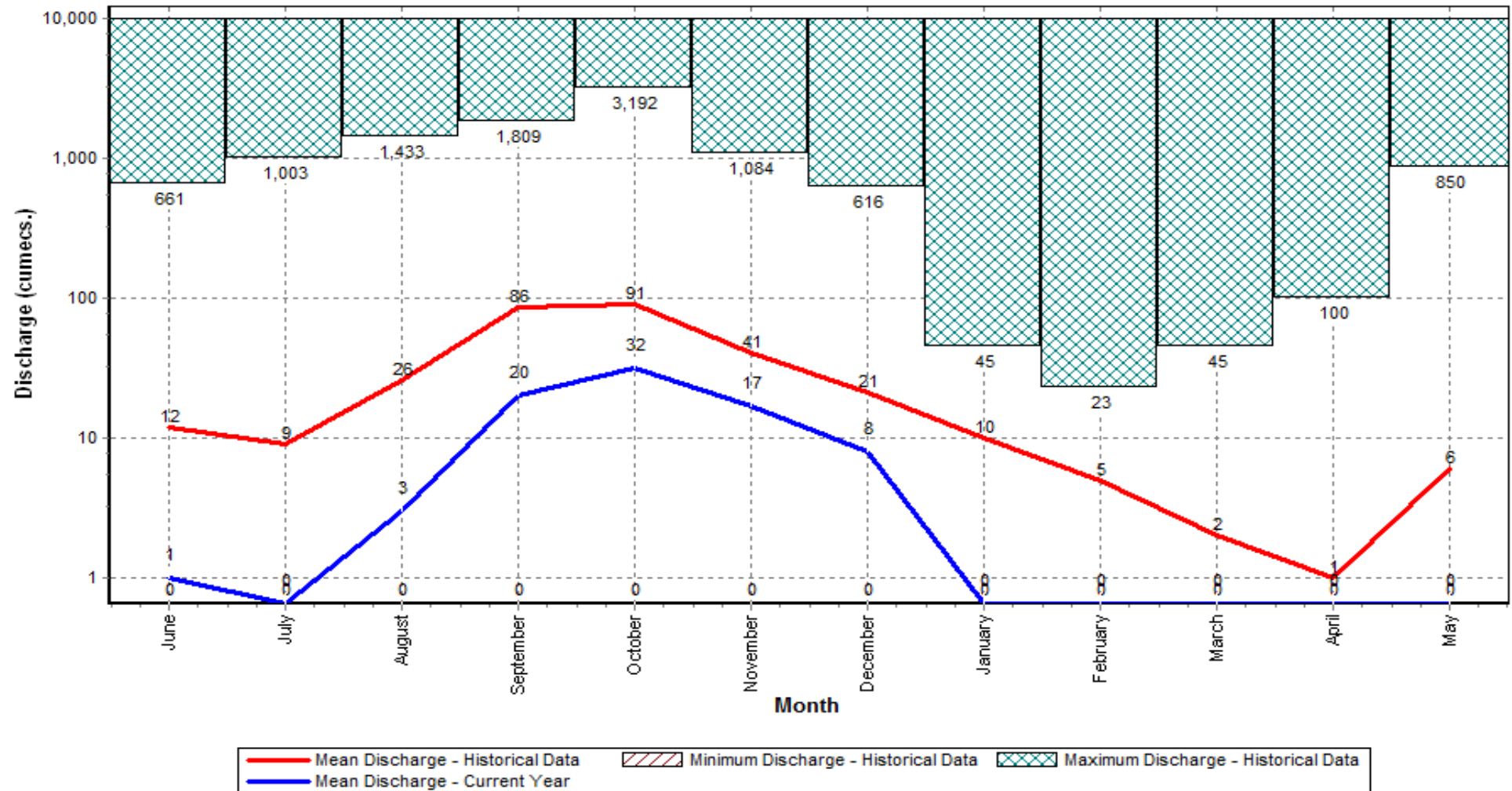
Station Name : T Ramapuram (AKL50A6)

Data considered : 1966-2019

Division : Lower Krishna Divn., Hyderabad

Local River : Hagari

Sub-Division : Lower Tungabhadra SD, Kurnool



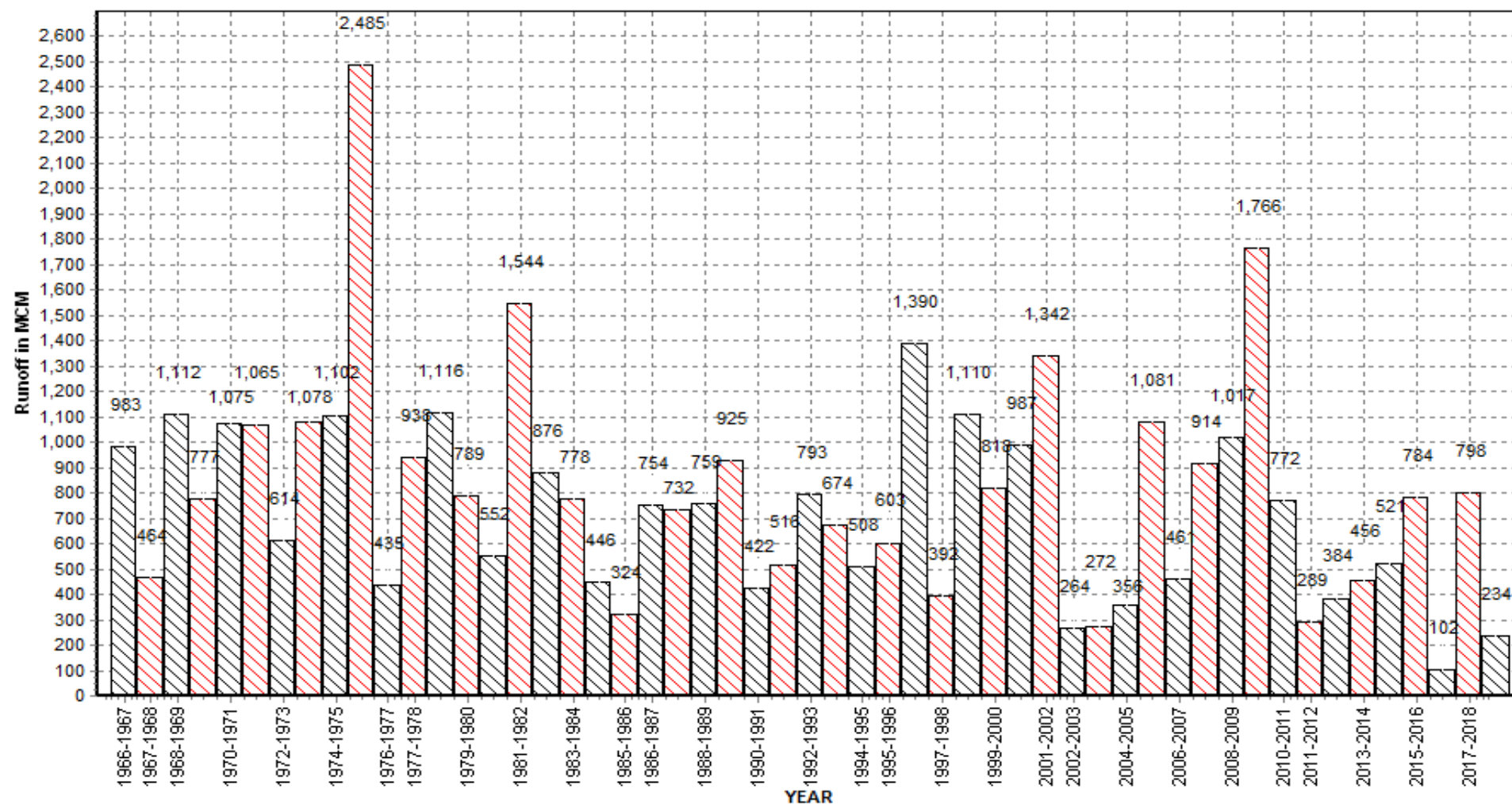
Annual Runoff Values for the period: 1966 - 2019

Station Name : T Ramapuram (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

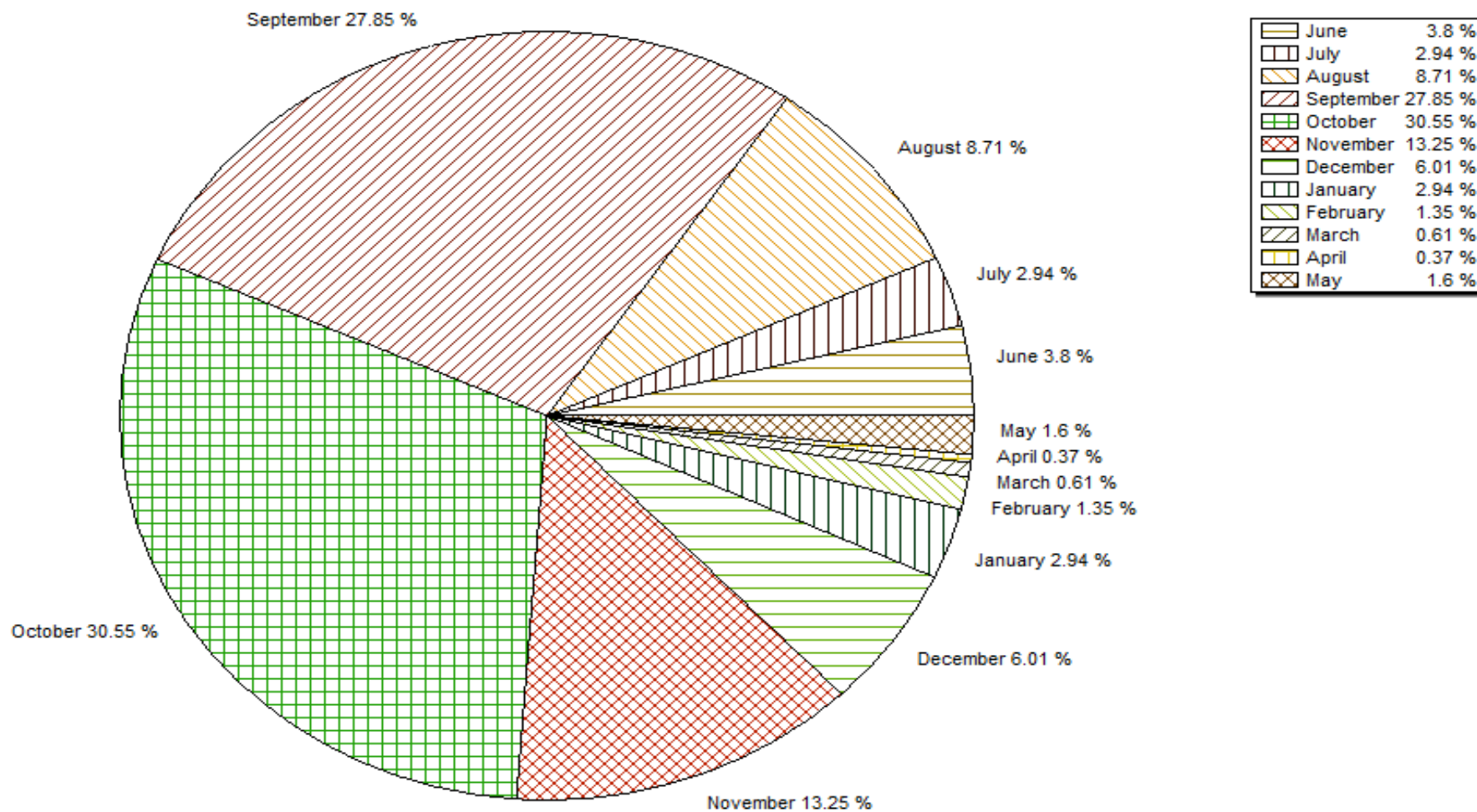
Monthly Average Runoff based on period : 1966-2018

Station Name : T Ramapuram (AKL50A6)

Local River : Hagari

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



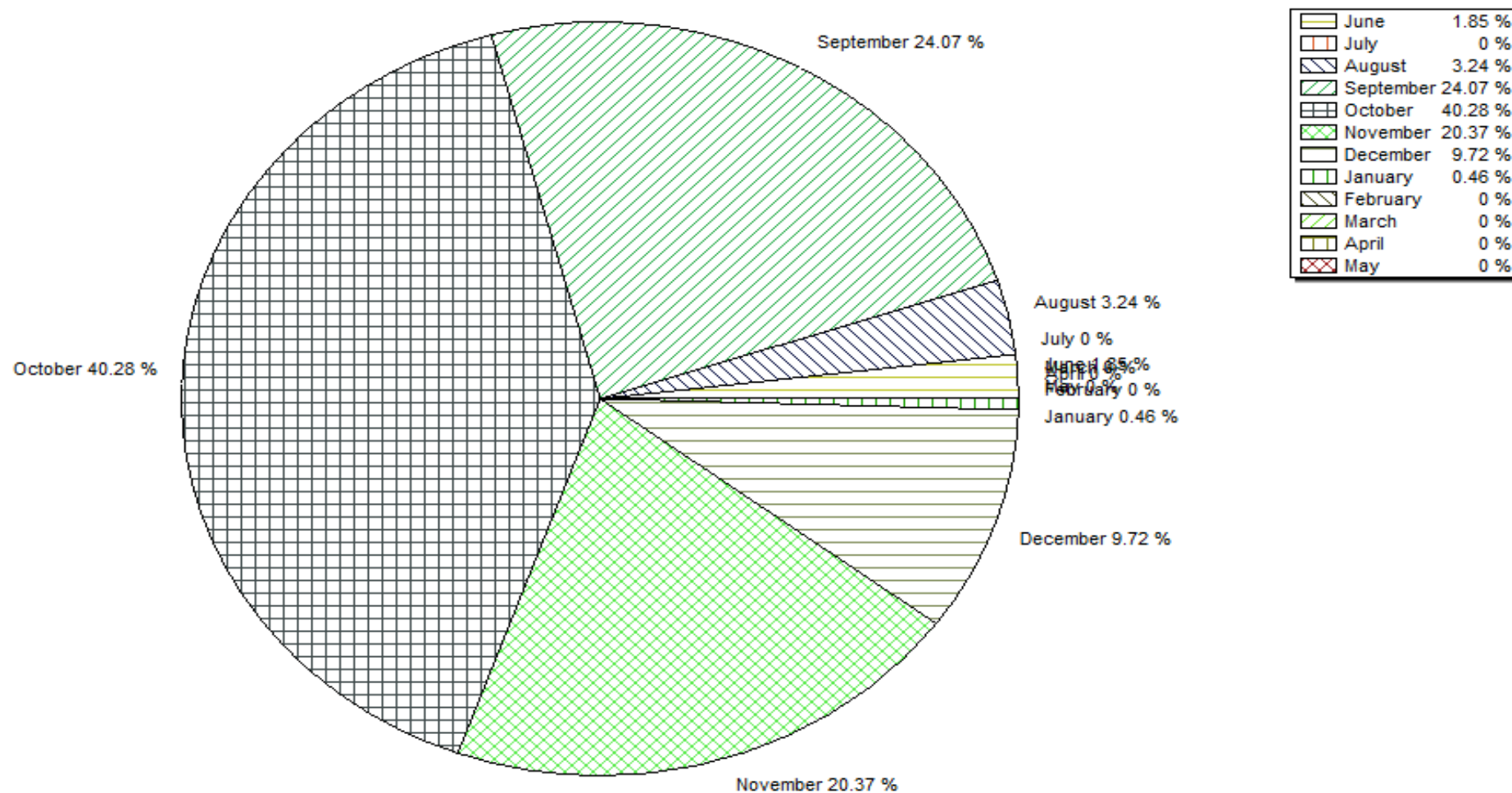
Monthly Runoff for the Year : 2018-2019

Station Name : T Ramapuram (AKL50A6)

Local River : Hagari

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



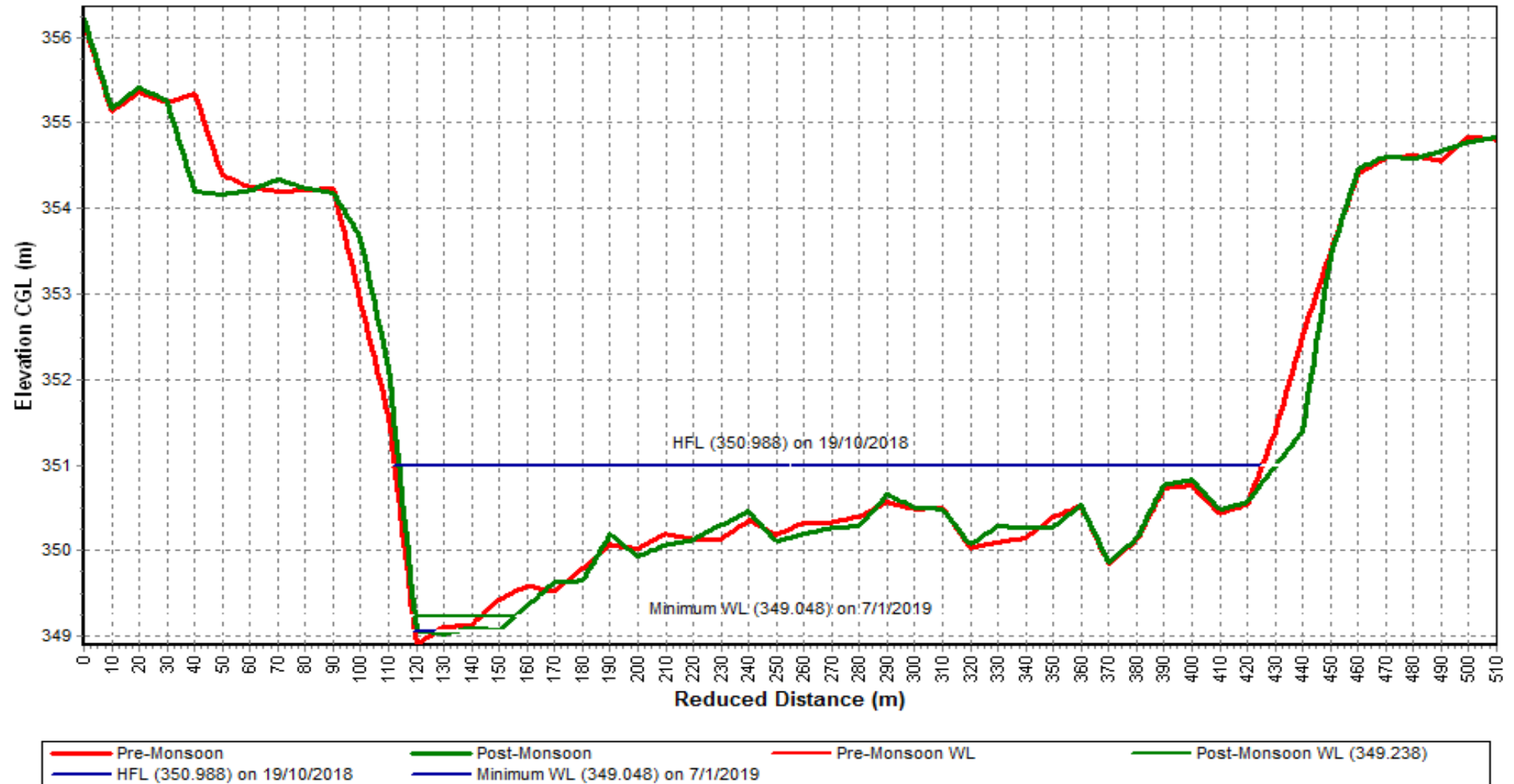
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : T Ramapuram (AKL50A6)

Local River : Hagari

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



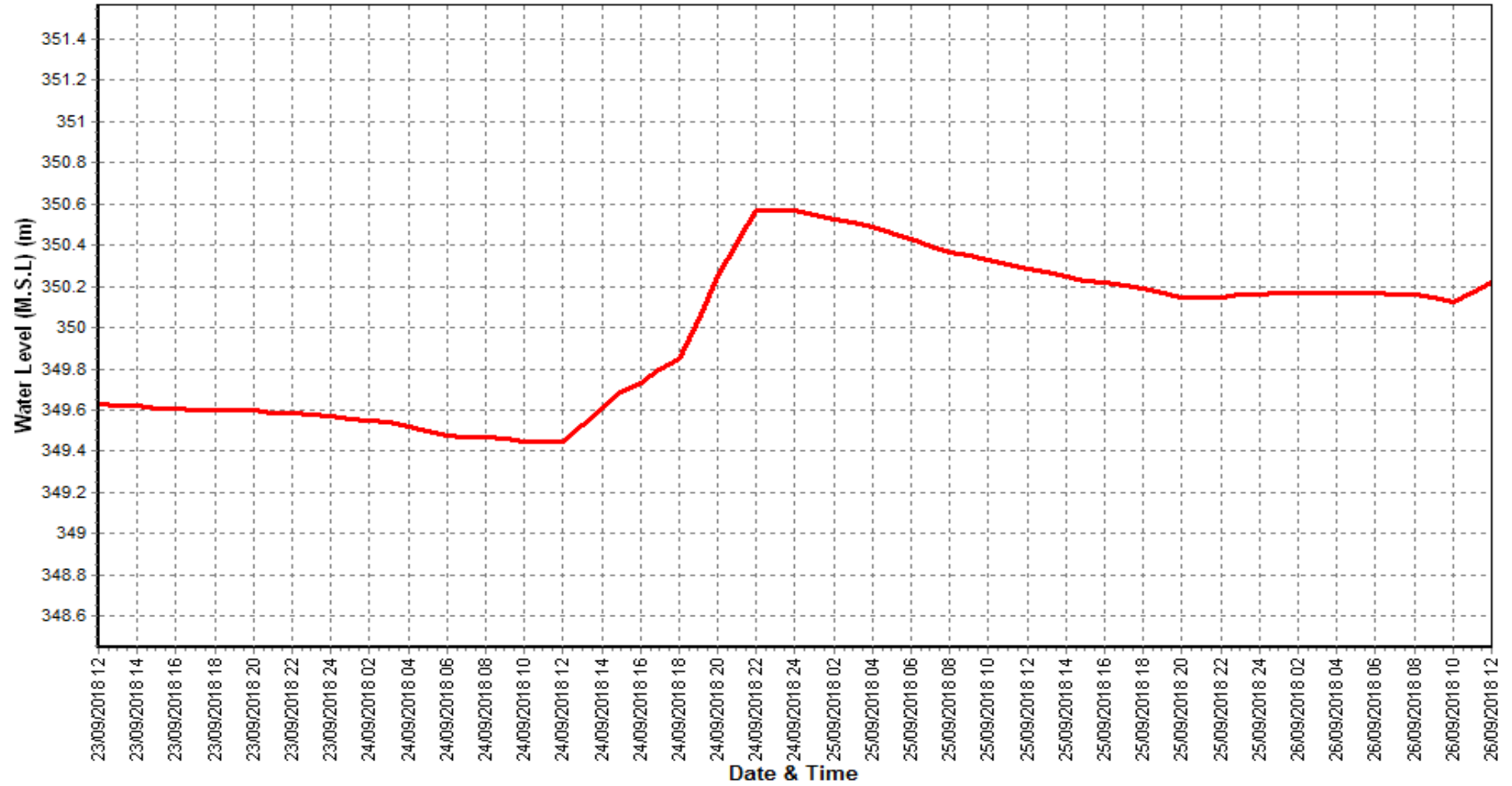
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : T Ramapuram (AKL50A6)

Local River : Hagari

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



Time Span: 72 Hrs

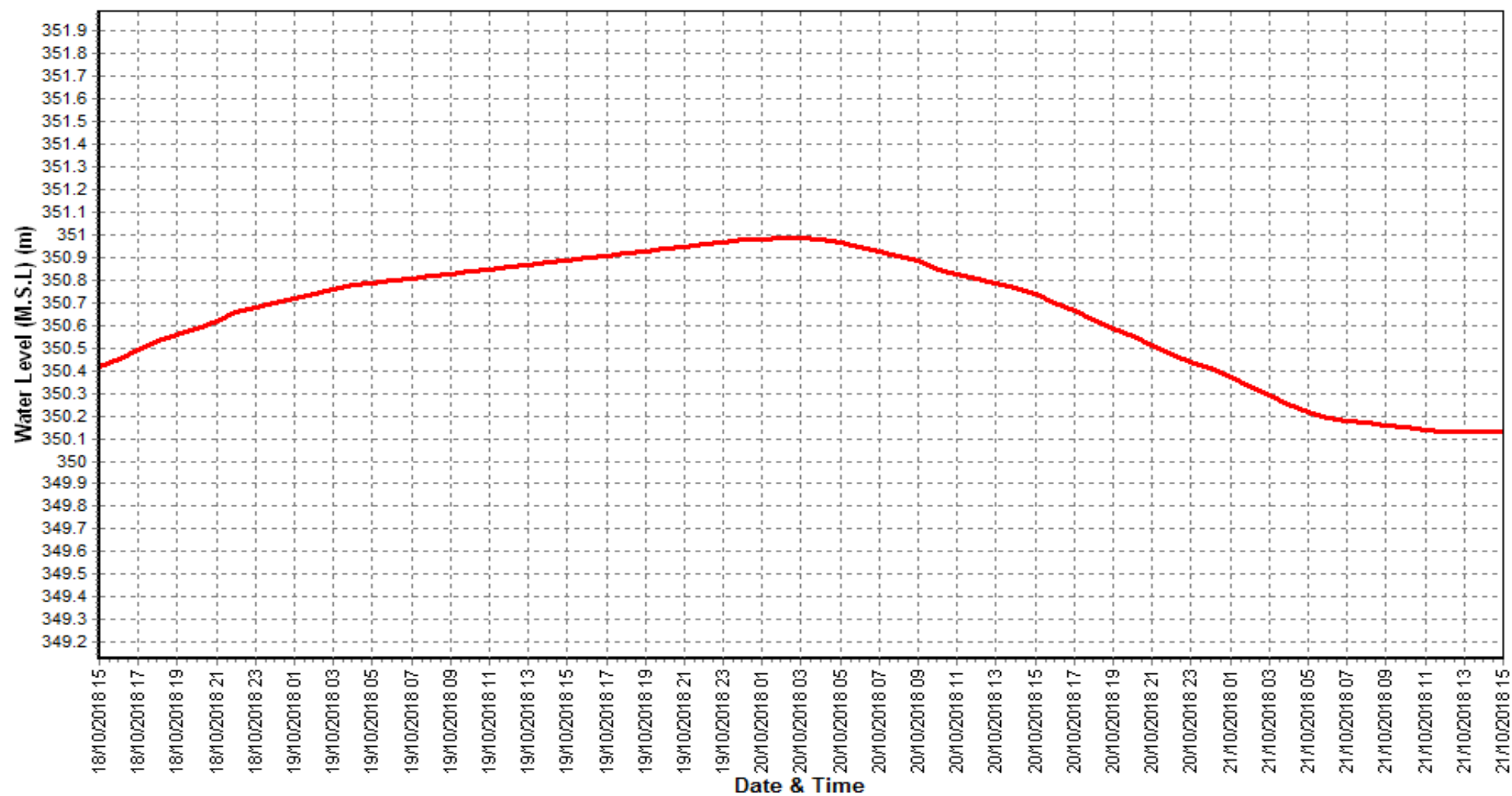
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : T Ramapuram (AKL50A6)

Local River : Hagari

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Lower Tungabhadra SD, Kurnool



HISTORY SHEET

Water Year : 2018-2019

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) : 644.75 (m.s.l)

01/03/1990

Opening Date

Closing Date

Gauge : 01/06/1990

Discharge : 11/07/1990

Sediment :

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	99.965	17/09/1991	0.000		01/04/1992
1992-1993	576.6	102.880	17/11/1992	0.245	98.920	15/04/1993
1993-1994	253.0	101.867	22/10/1993	0.000	98.930	28/03/1994
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	98.615	27/01/2001
2001-2002	52.49	99.250	19/09/2001	0.000		14/04/2002
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		03/07/2003
2004-2005	0.000		10/09/2004	0.000		25/01/2005
2005-2006	53.52	99.540	17/07/2005	0.000	97.545	07/03/2006
2006-2007	2.307	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		25/06/2010
2011-2012	48.55	647.825	15/10/2011	0.000	646.300	03/12/2011
2012-2013	11.56	647.060	01/10/2012	0.000		23/01/2013

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

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2013-2014	4.716	647.290	17/09/2013	0.000		27/08/2013
2014-2015	128.9	649.540	27/10/2014	0.000		23/03/2015
2015-2016	77.90	648.390	03/11/2015	0.000		08/05/2016
2016-2017	0.000		05/04/2017	0.000		27/08/2016
2017-2018	0.000		01/06/2017	0.000		01/06/2017

Annual Runoff of Vedavathi at Kellodu

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1991-1992	12	4	15	0	0	1
2	1992-1993	47	2	49	2	0	2
3	1993-1994	259	28	288	9	1	10
4	1994-1995	222	9	231	8	0	8
5	1995-1996	175	17	192	6	1	7
6	1996-1997	28	6	33	1	0	1
7	1997-1998	43	3	46	2	0	2
8	1998-1999	60	6	66	2	0	2
9	1999-2000	60	6	67	2	0	2
10	2000-2001	253	12	265	9	0	9
11	2001-2002	444	0	444	16	0	16
12	2002-2003	22	4	26	1	0	1
13	2003-2004	10	0	10	0	0	0
14	2004-2005	10	0	10	0	0	0
15	2005-2006	0	0	0	0	0	0
16	2006-2007	50	1	50	2	0	2
17	2007-2008	1	0	1	0	0	0
18	2008-2009	1	0	1	0	0	0
19	2009-2010	15	7	21	1	0	1
20	2010-2011	67	4	71	2	0	2
21	2011-2012	282	23	305	10	1	11
22	2012-2013	7	0	7	0	0	0
23	2013-2014	1	0	1	0	0	0
24	2014-2015	2	0	2	0	0	0
25	2015-2016	69	0	69	2	0	2
26	2016-2017	66	2	69	2	0	2
27	2017-2018	0	0	0	0	0	0
28	2018-2019	0		0	0	0	0
Average		2	0	2	3	0	3
75% Dependable flow (MCM)				2.324			
90 % Dependable flow (MCM)				0.000			

Stage-Discharge Data for the period 2018 - 2019

Station Name : KELLODU (AKL50T9)

Division : Cauvery Division, Bangalore

Local River : Vedavathi

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		0.000		0.000		0.000	646.070	0.000	646.080	0.000	646.120	0.000
2		0.000		0.000		0.000	646.070	0.000	646.070	0.000	646.120	0.000
3		0.000		0.000		0.000	646.070	0.000	646.070	0.000	646.120	0.000
4		0.000		0.000		0.000	646.070	0.000	646.070	0.000	646.120	0.000
5		0.000		0.000		0.000	646.070	0.000	646.070	0.000	646.120	0.000
6		0.000		0.000		0.000	646.070	0.000	646.070	0.000	646.120	0.000
7		0.000		0.000		0.000	646.070	0.000	647.030	5.168 *	646.120	0.000
8		0.000		0.000		0.000	646.070	0.000	646.430	0.754 #	646.120	0.000
9		0.000		0.000		0.000	646.070	0.000	646.280	0.165 #	646.120	0.000
10		0.000		0.000		0.000	646.070	0.000	646.260	0.111 #	646.120	0.000
11		0.000		0.000		0.000	646.070	0.000	646.150	0.000	646.120	0.000
12		0.000		0.000		0.000	646.070	0.000	646.140	0.000	646.120	0.000
13		0.000		0.000		0.000	646.320	0.000	646.140	0.000	646.120	0.000
14		0.000		0.000		0.000	646.160	0.000	646.140	0.000	646.120	0.000
15		0.000		0.000		0.000	646.110	0.000	646.140	0.000	646.120	0.000
16		0.000		0.000		0.000	646.110	0.000	646.130	0.000	646.120	0.000
17		0.000		0.000		0.000	646.110	0.000	646.130	0.000	646.120	0.000
18		0.000		0.000		0.000	646.110	0.000	646.130	0.000	646.120	0.000
19		0.000		0.000		0.000	646.110	0.000	646.130	0.000	646.120	0.000
20		0.000		0.000	647.100	6.062	646.110	0.000	646.130	0.000	646.120	0.000
21		0.000		0.000	647.000	4.705	646.100	0.000	646.130	0.000	646.120	0.000
22		0.000		0.000	647.000	4.888 *	646.100	0.000	646.130	0.000	646.120	0.000
23		0.000		0.000	646.860	3.653 #	646.100	0.000	646.130	0.000	646.120	0.000
24		0.000		0.000	646.530	1.289 #	646.100	0.000	646.130	0.000	646.120	0.000
25		0.000		0.000	646.410	0.659 #	646.100	0.000	646.130	0.000	646.110	0.000
26		0.000		0.000	646.270	0.292 *	646.090	0.000	646.130	0.000	646.110	0.000
27		0.000		0.000	646.220	0.029	646.080	0.000	646.130	0.000	646.110	0.000
28		0.000		0.000	646.220	0.028	646.080	0.000	646.130	0.000	646.110	0.000
29		0.000		0.000	646.140	0.000	646.080	0.000	646.120	0.000	646.110	0.000
30		0.000		0.000	646.130	0.000	646.080	0.000	646.120	0.000	646.110	0.000
31				0.000	646.090	0.000			646.120	0.000		
Ten-Daily Mean												
I Ten-Daily		0.000		0.000		0.000	646.070	0.000	646.243	0.620	646.120	0.000
II Ten-Daily		0.000		0.000	647.100	0.606	646.128	0.000	646.136	0.000	646.120	0.000
III Ten-Daily		0.000		0.000	646.443	1.413	646.091	0.000	646.127	0.000	646.114	0.000
Monthly												
Min.		0.000		0.000	646.090	0.000	646.070	0.000	646.070	0.000	646.110	0.000
Max.		0.000		0.000	647.100	6.062	646.320	0.000	647.030	5.168	646.120	0.000
Mean		0		0	646.497	0.697	646.096	0	646.167	0.2	646.118	0

Annual Runoff in MCM = 2 Annual Runoff in mm = 1

Peak Observed Discharge = 6.062 cumecs on 20/08/2018 Corres. Water Level :647.1 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018

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 2018 - 2019

Station Name : KELLODU (AKL50T9)

Division : Cauvery Division, Bangalore

Local River : Vedavathi

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	646.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	646.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	646.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	646.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	646.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6	646.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	646.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	646.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9	646.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	646.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11	646.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12	646.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	646.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14	646.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	646.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
16	646.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17	646.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	646.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	646.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	646.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
21	646.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
22	646.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
23	646.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24	646.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	646.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26	646.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
27	646.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
28		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
29		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ten-Daily Mean												
I Ten-Daily	646.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
II Ten-Daily	646.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
III Ten-Daily	646.101	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Monthly												
Min.	646.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Max.	646.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mean	646.108	0	0	0	0	0	0	0	0	0	0	0

Peak Computed Discharge = 5.168 cumecs on 07/10/2018

Corres. Water Level :647.03 m

Lowest Computed Discharge = 0.292 cumecs on 26/08/2018

Corres. Water Level :646.27 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 : 2018-2019

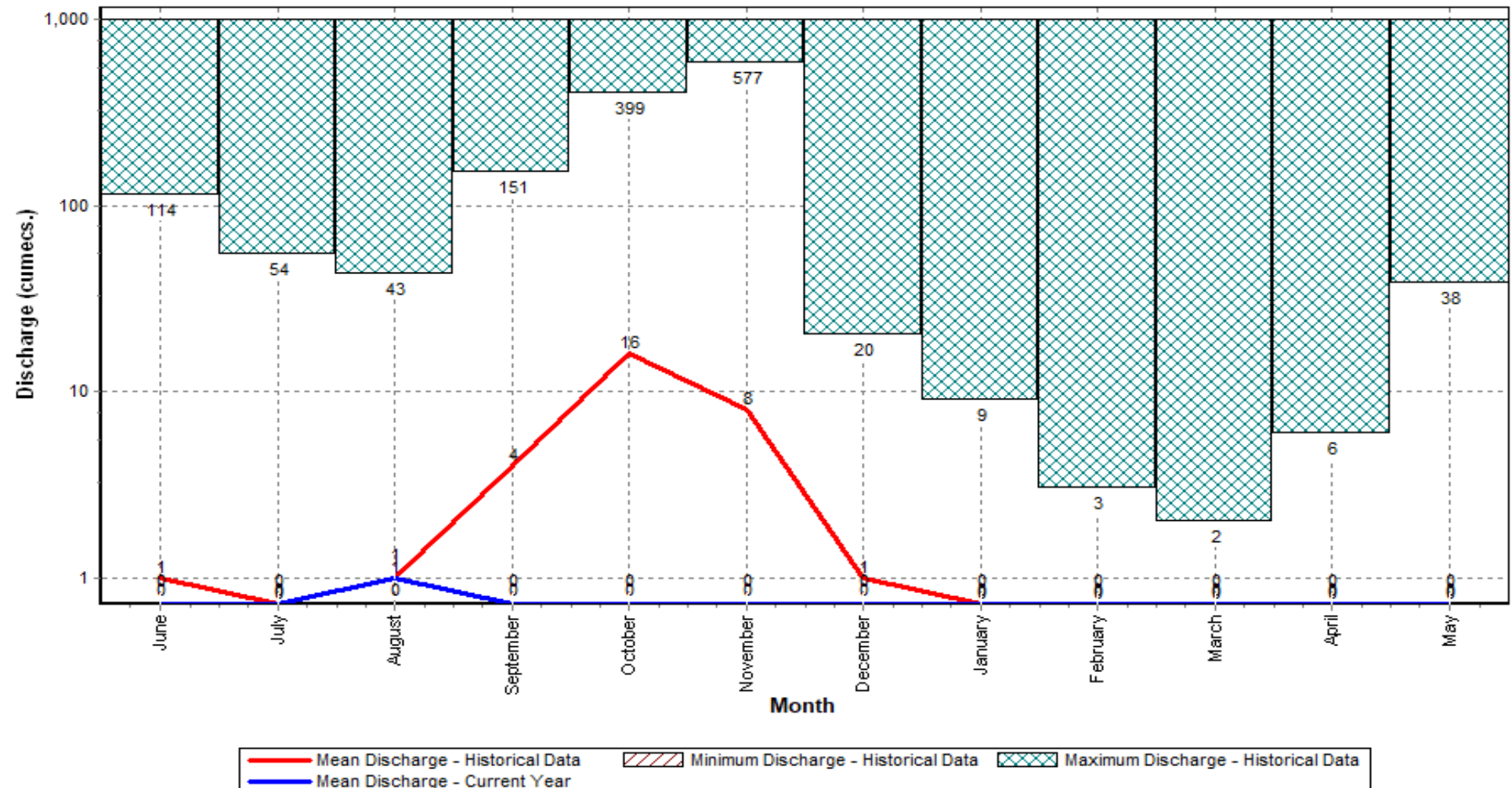
Station Name : KELLODU (AKL50T9)

Data considered : 1991-2019

Division : Cauvery Division, Bangalore

Local River : Vedavathi

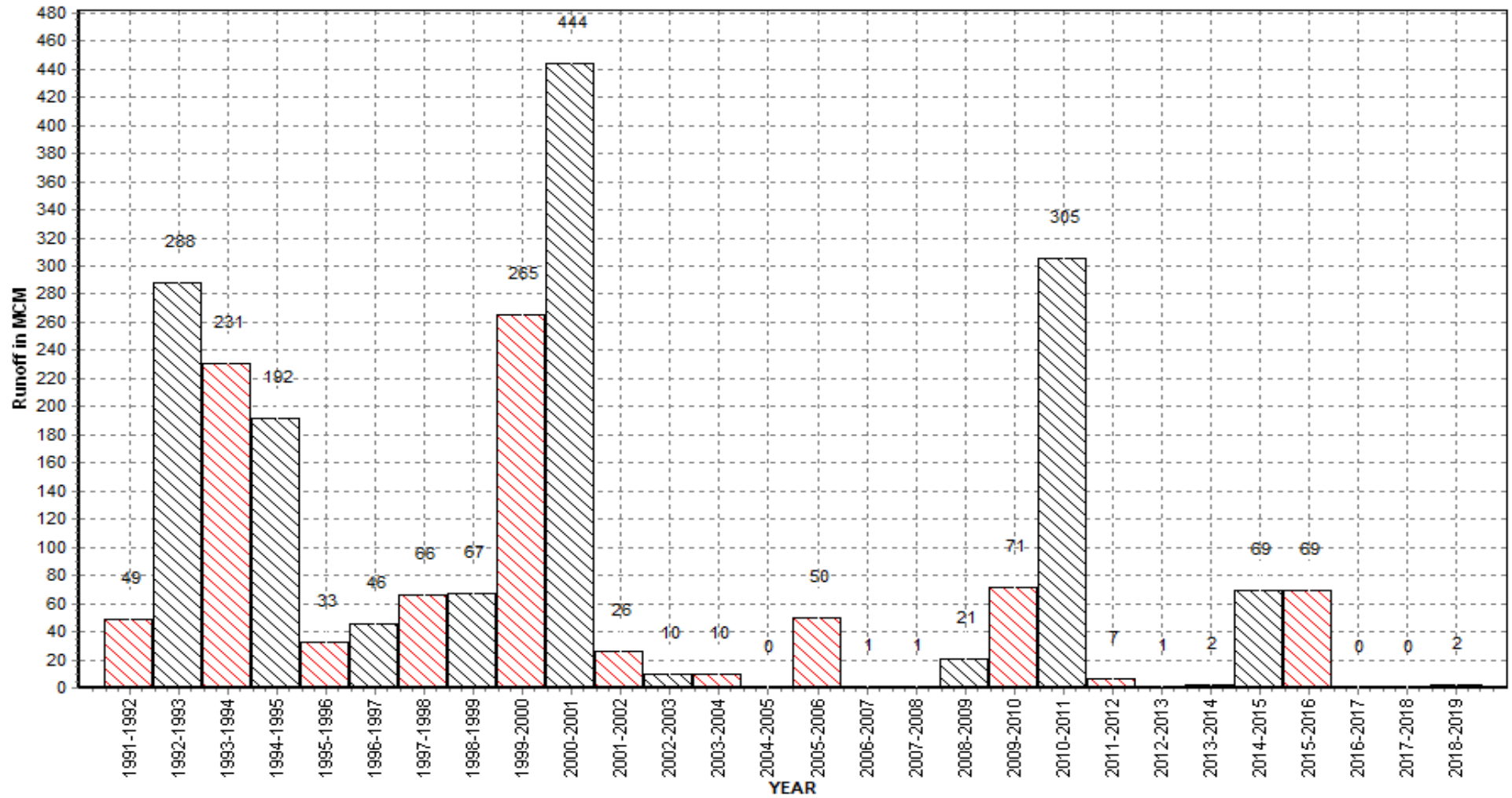
Sub-Division : Upper Tungu Subdn. Devangere



Annual Runoff Values for the period: 1991 - 2019

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

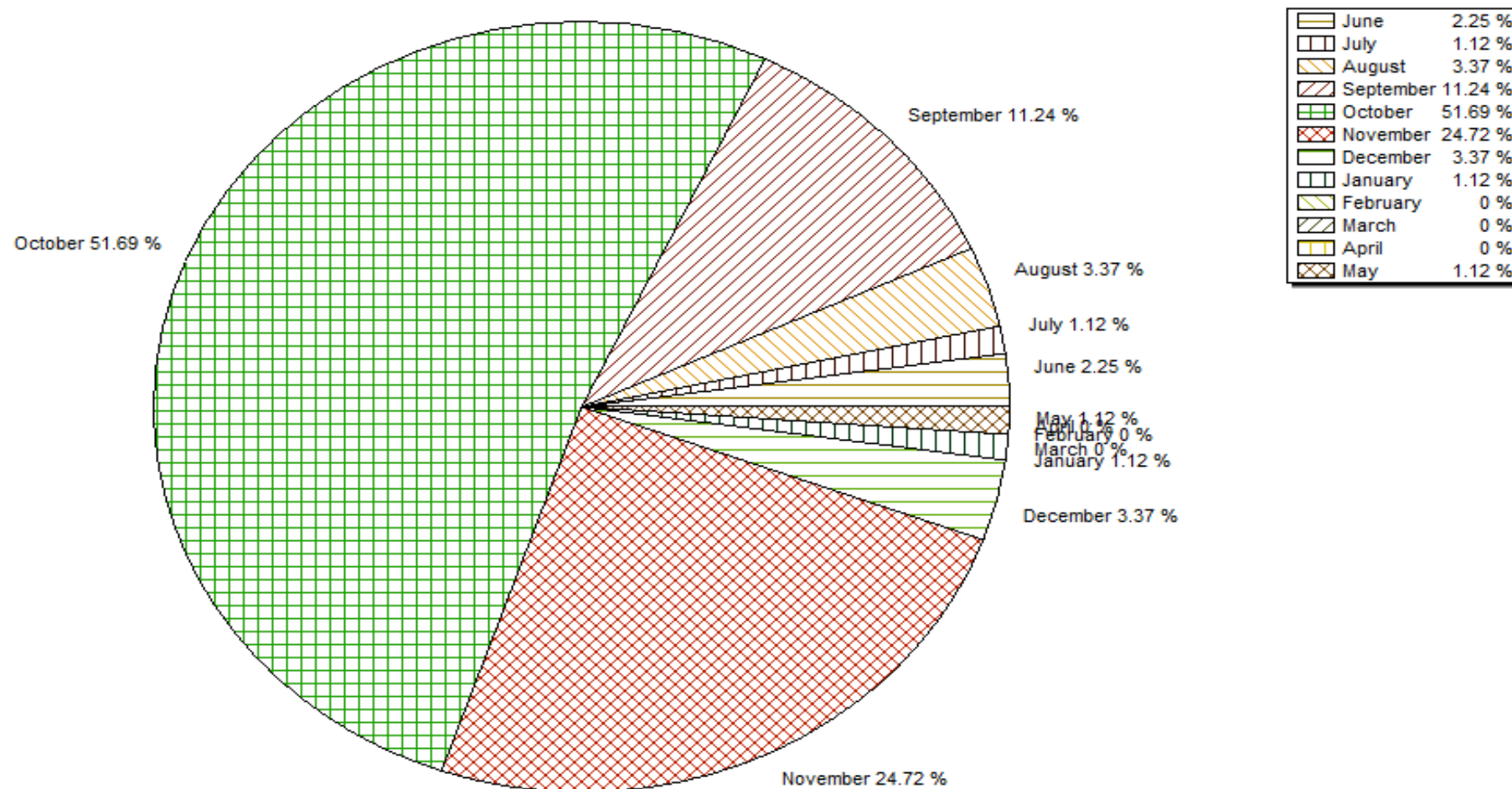
Monthly Average Runoff based on period : 1991-2018

Station Name : KELLODU (AKL50T9)

Local River : Vedavathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



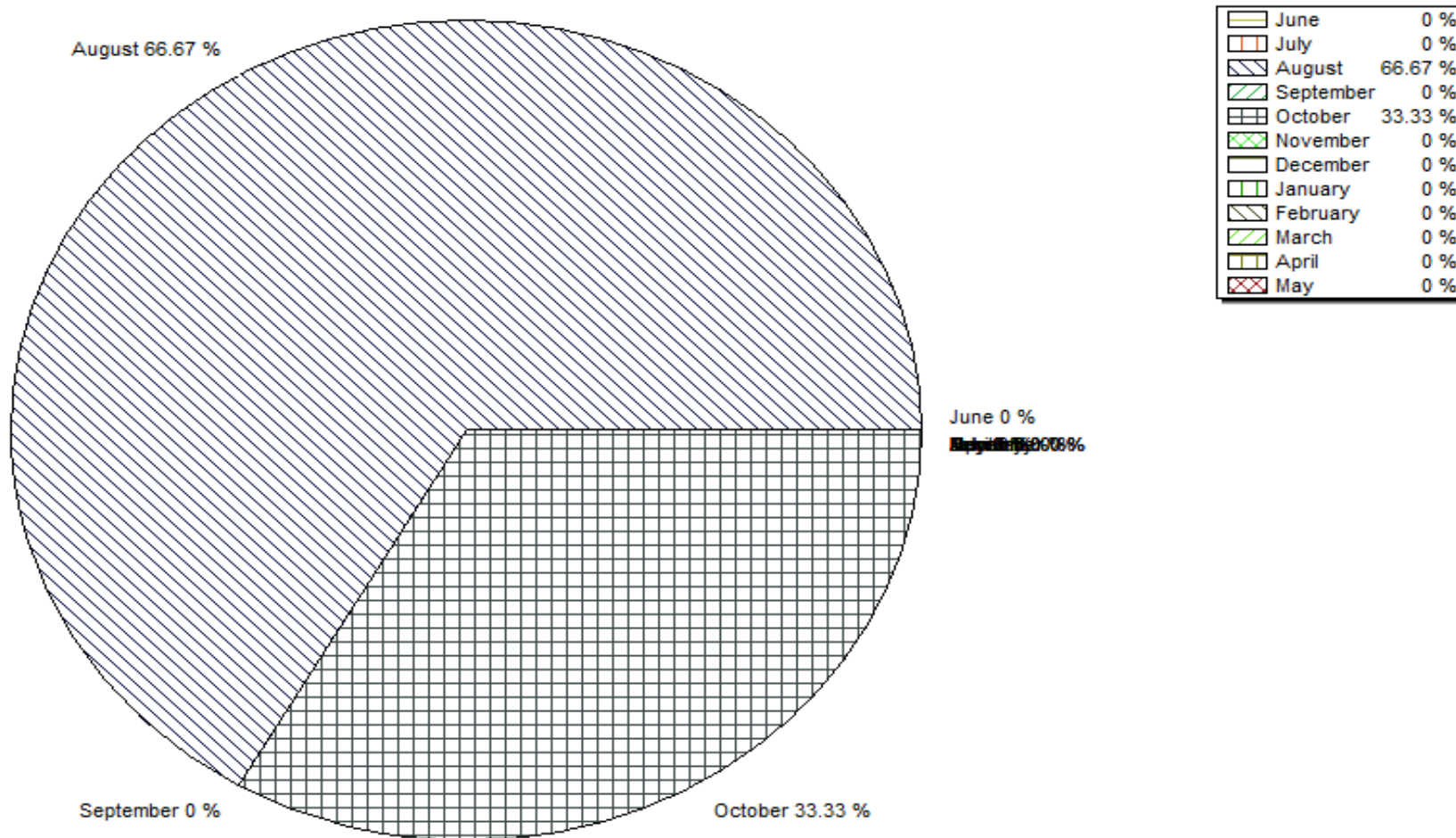
Monthly Runoff for the Year : 2018-2019

Station Name : KELLODU (AKL50T9)

Local River : Vedavathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



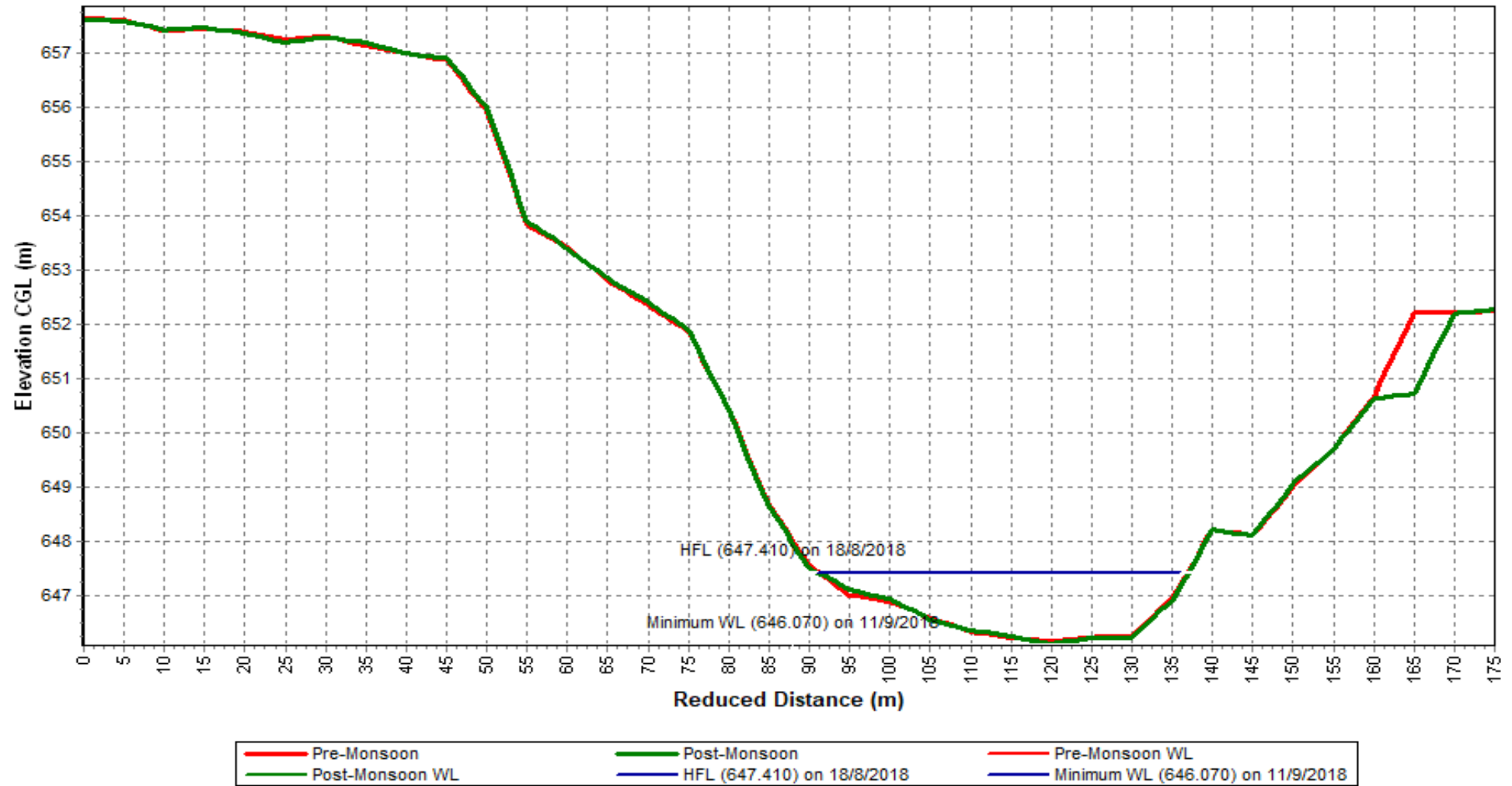
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : KELLODU (AKL50T9)

Local River : Vedavathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tungta Subdn. Devangere



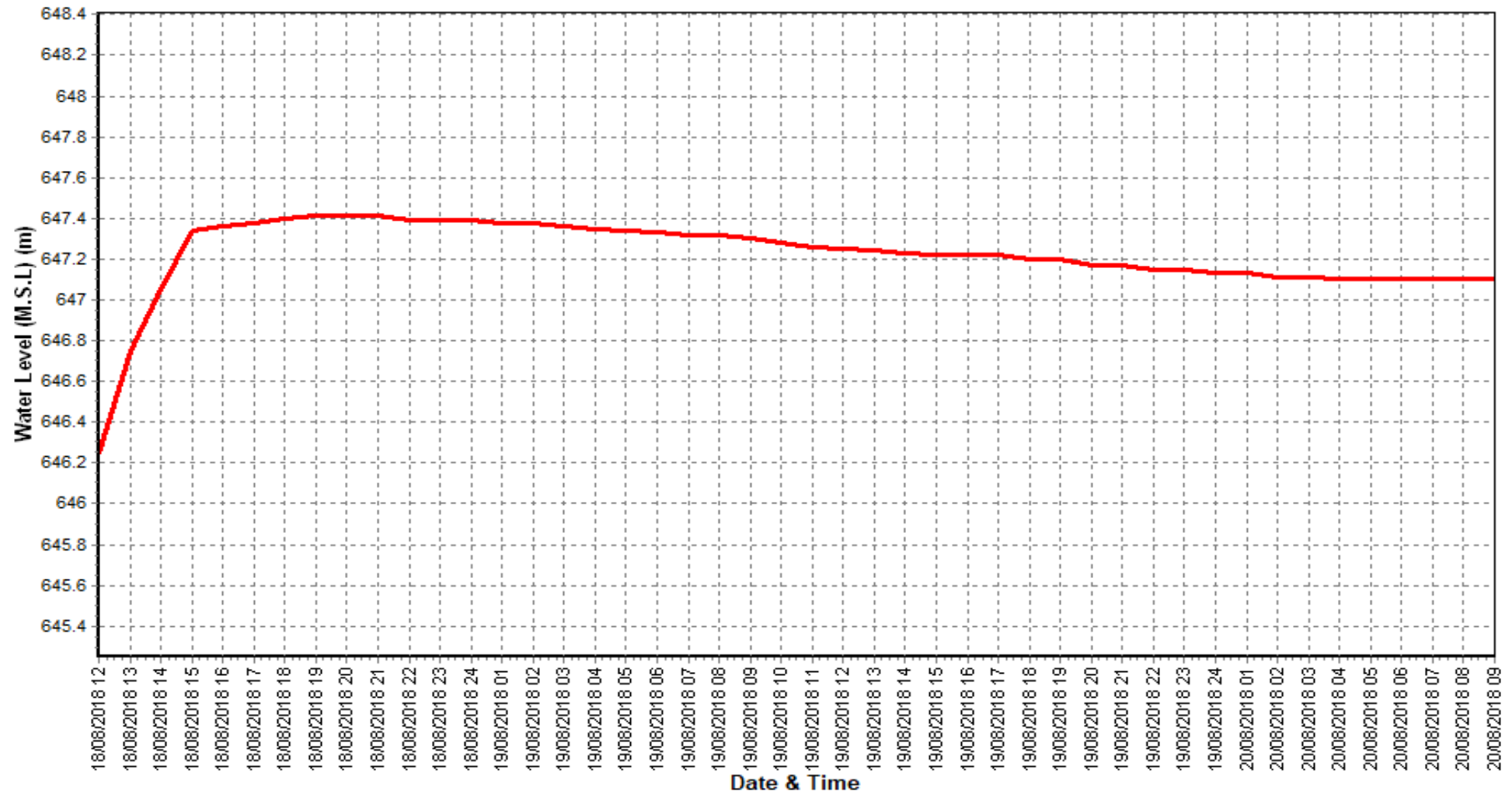
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : KELLODU (AKL50T9)

Local River : Vedavathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



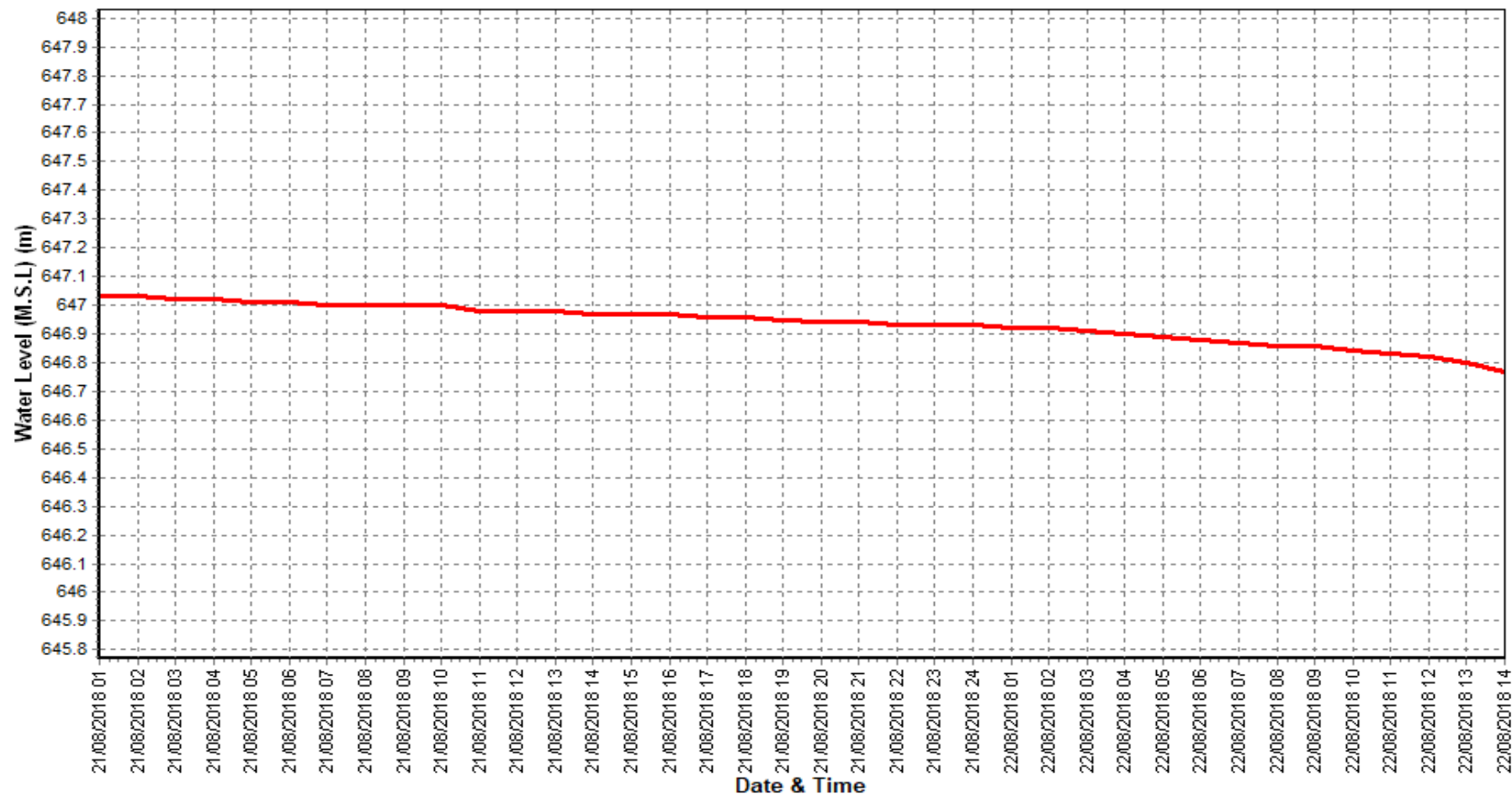
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : KELLODU (AKL50T9)

Local River : Vedavathi

Division : Cauvery Division, Bangalore

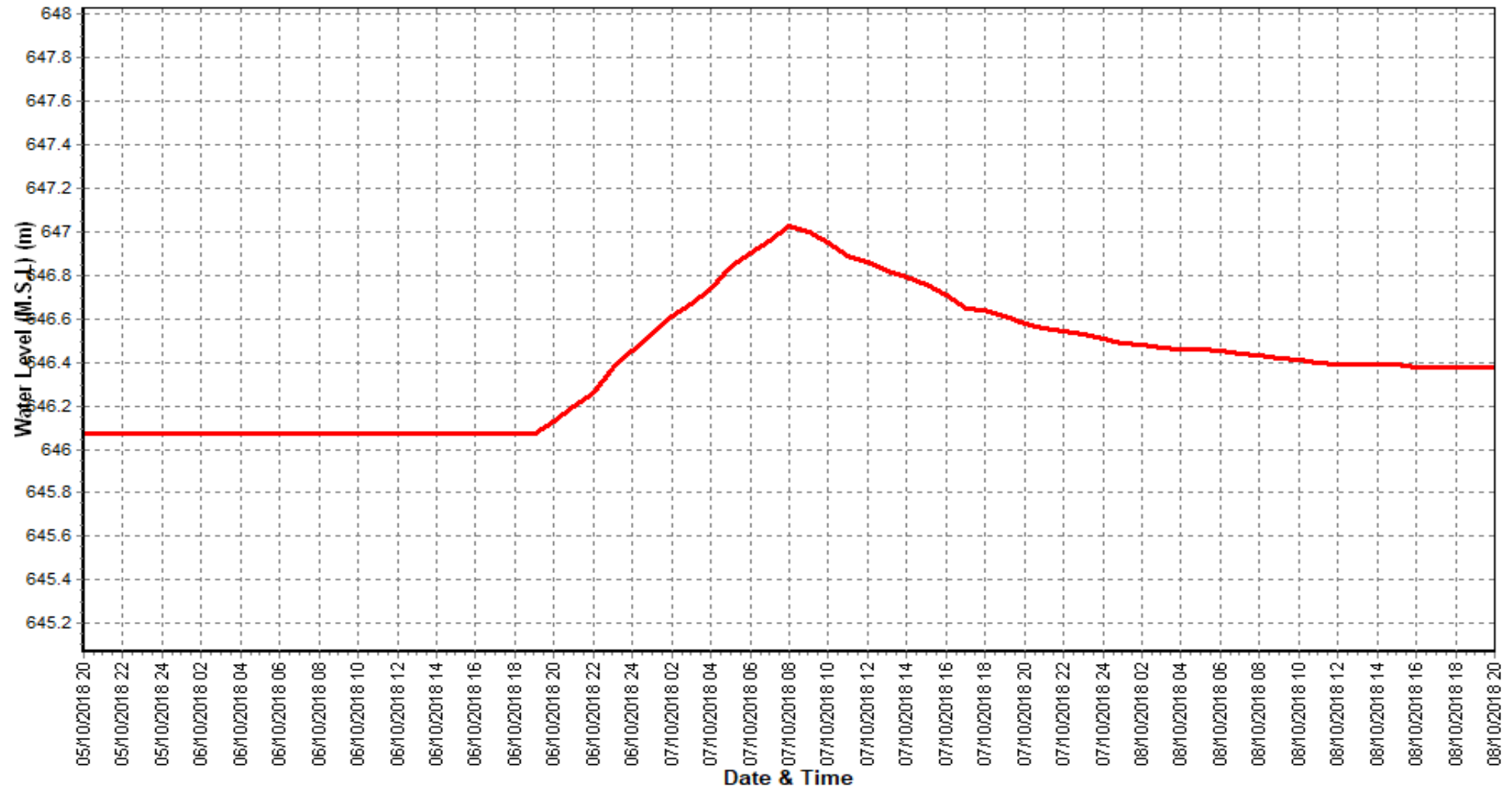
Sub-Division : Upper Tunga Subdn, Devangere



Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : KELLODU (AKL50T9)
Local River : Vedavathi

Division : Cauvery Division, Bangalore
Sub-Division : Upper Tunga Subdn, Devangere



HISTORY SHEET

Water Year : 2018-2019

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

Sediment :

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	16.39	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	13.37	95.500	03/11/2005	0.000		06/04/2006
2006-2007	2.576	94.860	20/06/2006	0.000		03/01/2007
2007-2008	5.331	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	7.174	94.080	27/11/2015	0.000		30/05/2016
2016-2017	0.000		06/05/2017	0.000		27/08/2016
2017-2018	0.000		01/06/2017	0.000		01/06/2017

Annual Runoff of Suvarnamukhi at Hoovinahole

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	2002-2003	11	0	11	0	0	0
2	2003-2004	0	0	0	0	0	0
3	2004-2005	0	0	0	0	0	0
4	2005-2006	17	1	18	1	0	0
5	2006-2007	2	0	2	0	0	0
6	2007-2008	4	0	4	0	0	0
7	2008-2009	50	8	58	2	0	0
8	2009-2010	42	1	43	1	0	0
9	2010-2011	62	7	69	2	0	0
10	2011-2012		0	0	0	0	0
11	2012-2013	0	0	0	0	0	0
12	2013-2014	4	0	4	0	0	0
13	2014-2015	0	0	0	0	0	0
14	2015-2016	3	2	5	0	0	0
15	2016-2017	0	0	0	0	0	0
16	2017-2018	0		0	0	0	0
17	2018-2019						
Average		13	1	13	0	0	0
75% Dependable flow (MCM)				0			
90 % Dependable flow (MCM)				0			

Stage-Discharge Data for the period 2018 - 2019

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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
16	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
22	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
27	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
28	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
29	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31			0.000	0.000	0.000	0.000			0.000	0.000		
<u>Ten-Daily Mean</u>												
I Ten-Daily												
II Ten-Daily												
III Ten-Daily												
<u>Monthly</u>												
Min.												
Max.												
Mean												

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

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 2018 - 2019

Station Name : HOOVINAHOLE (HOOVINAHOLE)

Division : Cauvery Division, Bangalore

Local River : Suvarnamukhi

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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
16	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
22	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
27	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
28	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
29	0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	0.000	0.000
31	0.000	0.000	0.000	0.000			0.000	0.000			0.000	0.000
<u>Ten-Daily Mean</u>												
I Ten-Daily												
II Ten-Daily												
III Ten-Daily												
<u>Monthly</u>												
Min.												
Max.												
Mean												

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

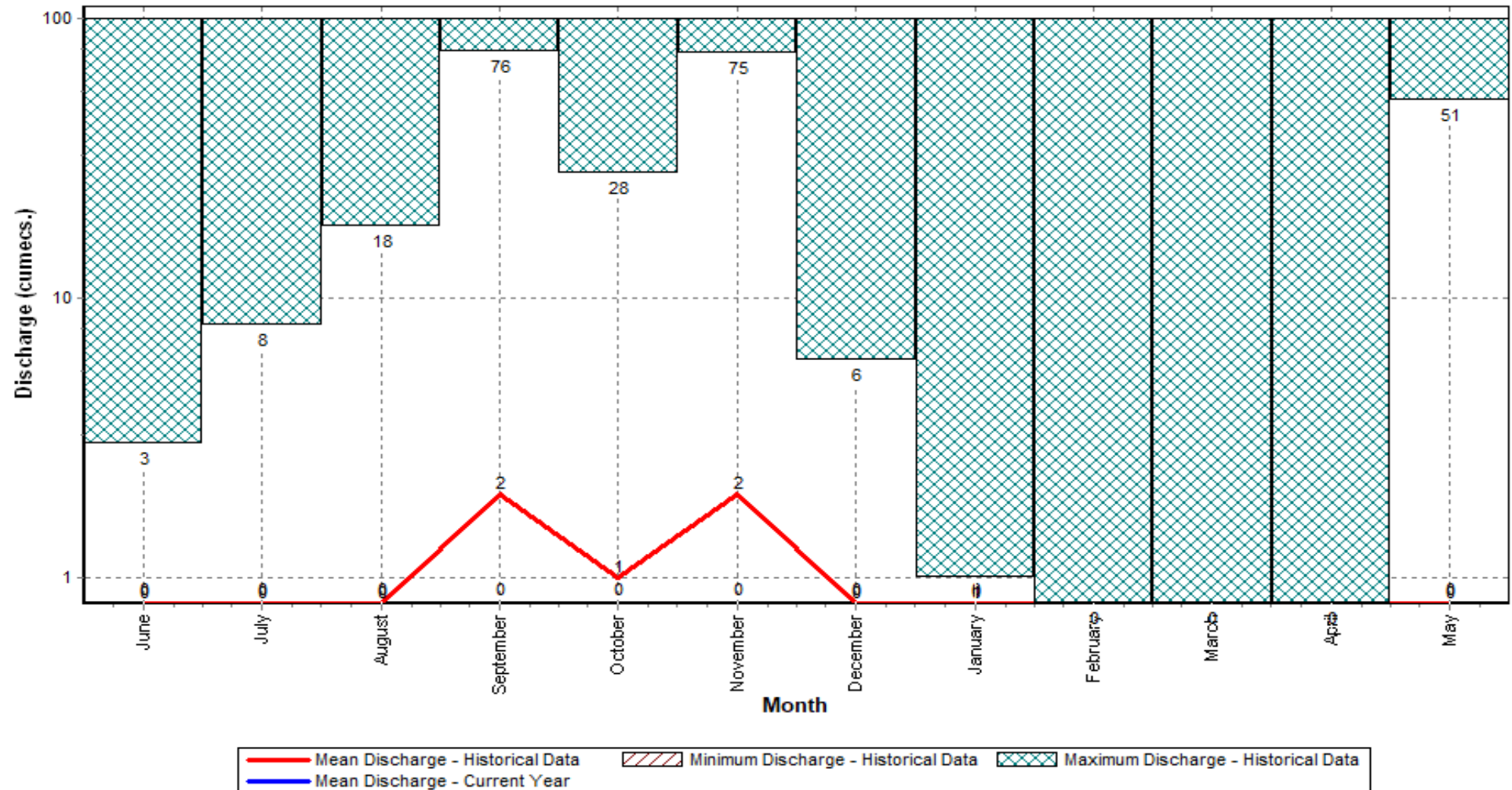
Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2018-2019

Station Name : HOOVINAHOLE (HOOVINAHOLE)
Local River : Suvarnamukhi

Data considered : 2002-2019

Division : Cauvery Division, Bangalore
Sub-Division : Upper Tunga SD, Devangere



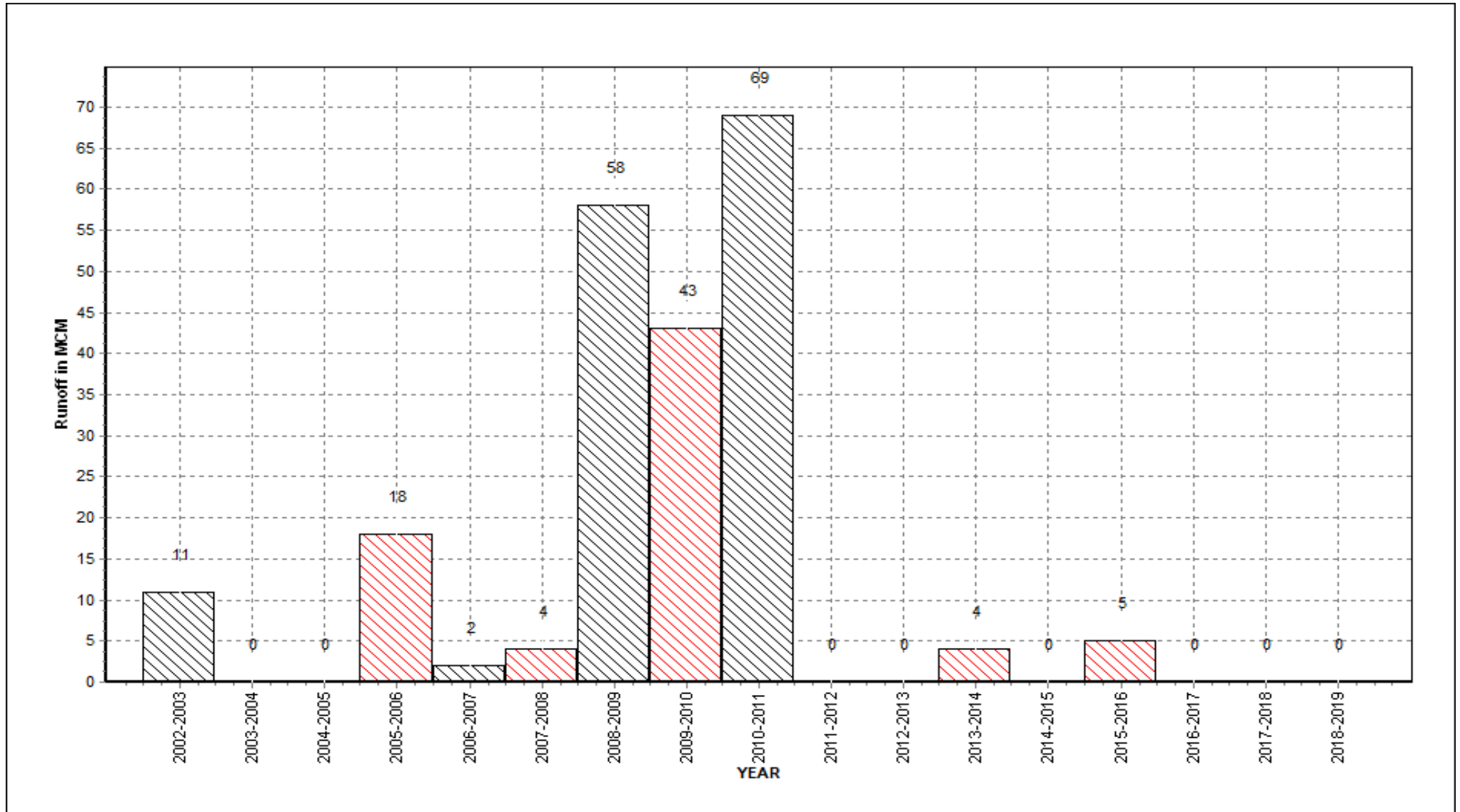
Annual Runoff Values for the period: 2002 - 2019

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

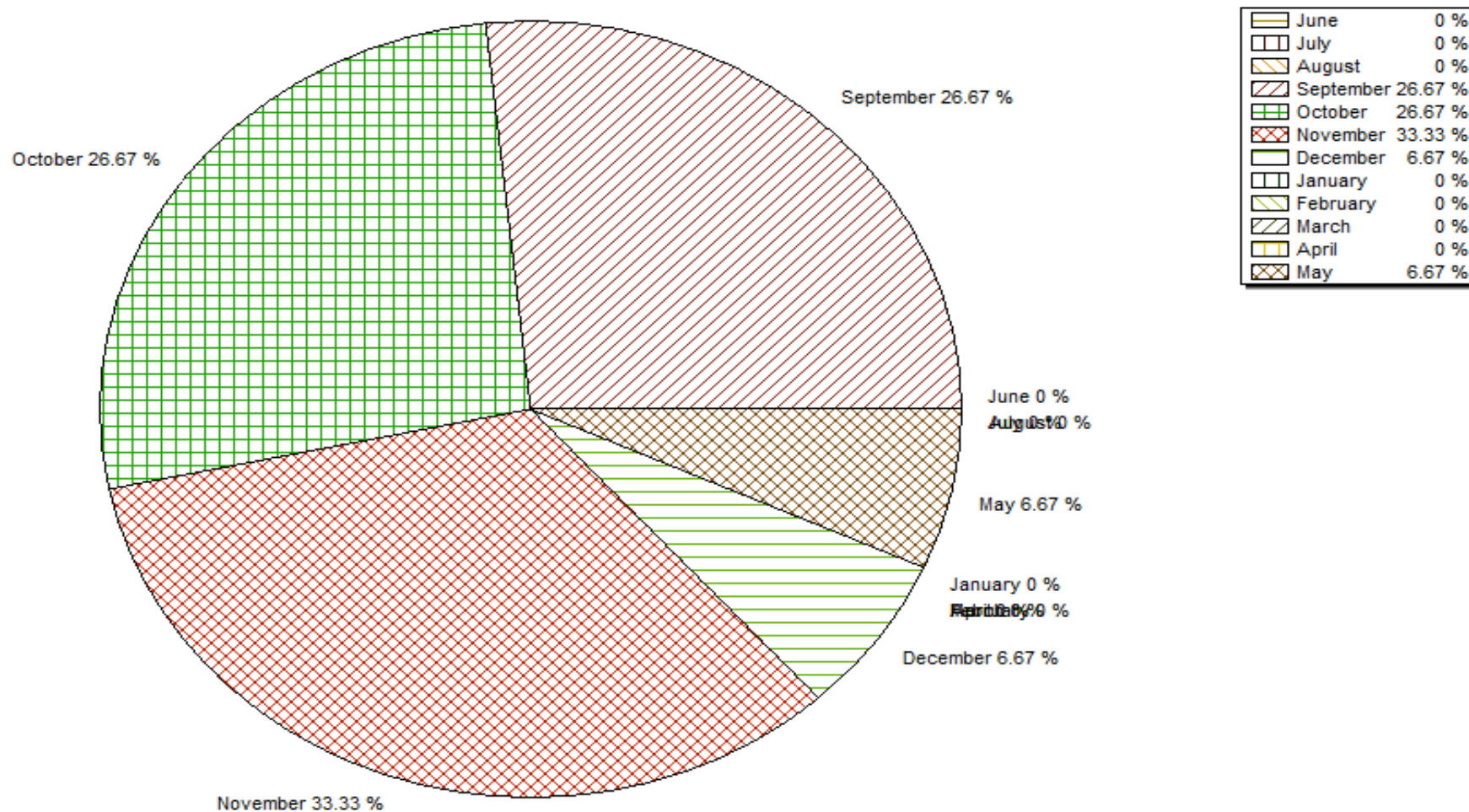
Monthly Average Runoff based on period : 2002-2018

Station Name : HOOVINAHOLE (HOOVINAHOLE)

Local River : Suvarnamukhi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



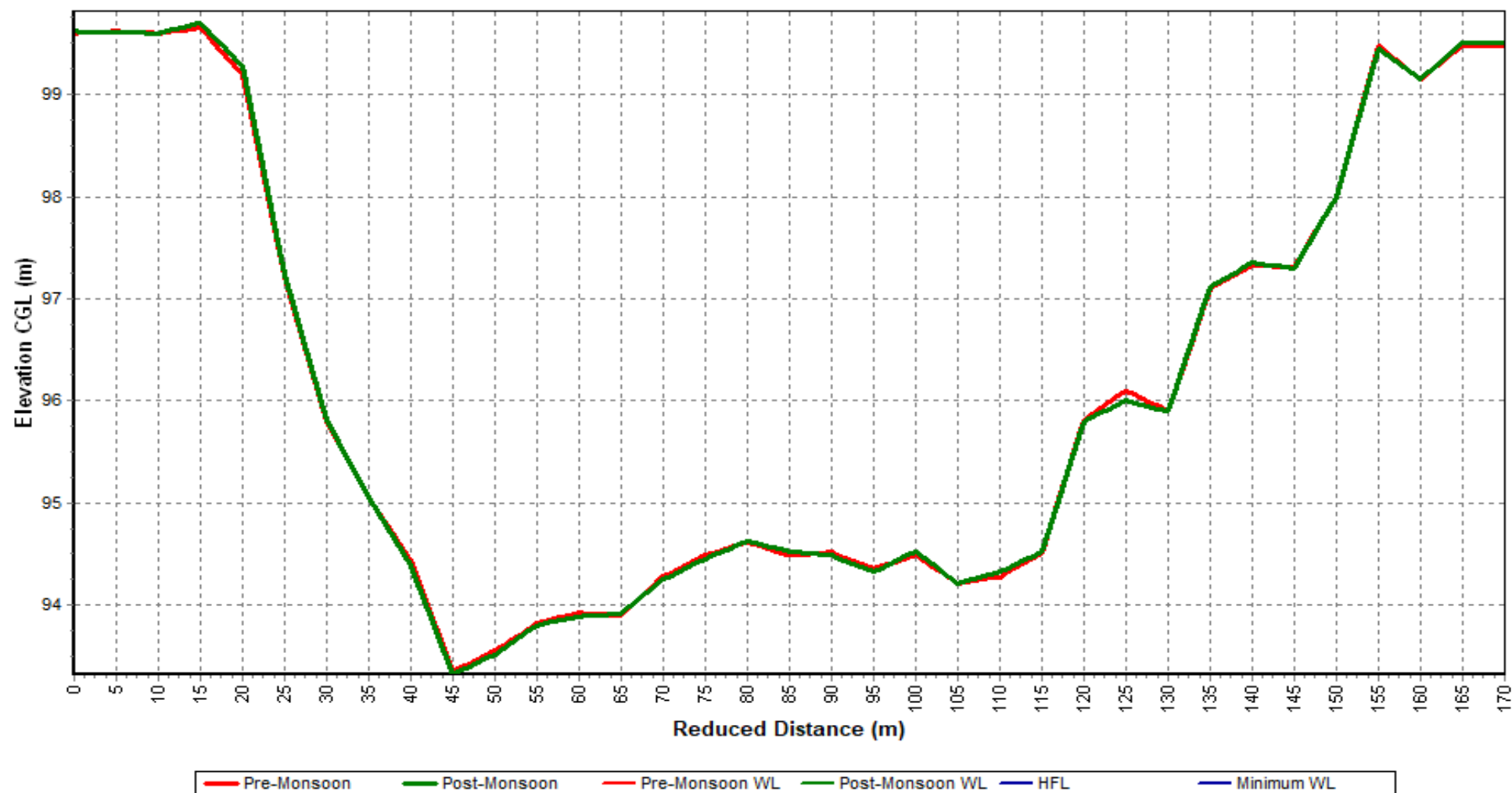
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : HOOVINAHOLE (HOOVINAHOLE)

Local River : Suvarnamukhi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



HISTORY SHEET

Water Year : 2018-2019

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)
507.551 (m.s.l)11/08/1965
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	511.096	03/12/1966	0.100	508.321	14/05/1967
1967-1968	1000	515.671	05/08/1967	0.110	508.316	04/04/1968
1968-1969	499.0	512.721	22/07/1968	0.000		06/05/1969
1969-1970	895.6	514.379	26/07/1969	0.000	508.306	22/04/1970
1970-1971	1008	514.819	23/08/1970	0.000		10/04/1971
1971-1972	440.0	512.821	07/06/1971	0.000		10/04/1972
1972-1973	869.8	514.844	11/07/1972	0.000		29/03/1973
1973-1974	588.0	513.651	11/07/1973	0.000		28/02/1974
1974-1975	462.0	512.754	08/07/1974	0.000		27/03/1975
1975-1976	1017	514.756	12/07/1975	0.000	508.046	25/05/1976
1976-1977	304.1	511.961	03/08/1976	0.000	507.711	25/03/1977
1977-1978	482.9	512.714	26/07/1977	0.000		14/03/1978
1978-1979	601.6	513.581	27/09/1978	0.000		24/04/1979
1979-1980	799.7	514.379	12/08/1979	0.000		30/03/1980
1980-1981	1525	516.751	05/07/1980	0.000		29/03/1981
1981-1982	588.5	513.291	21/08/1981	0.000		02/03/1982
1982-1983	1430	516.881	06/08/1982	0.000	507.851	10/04/1983
1983-1984	1010	514.871	14/08/1983	0.000		17/04/1984
1984-1985	752.5	513.971	03/07/1984	0.000	508.231	27/02/1985
1985-1986	576.9	513.156	05/08/1985	0.000	508.301	06/02/1986
1986-1987	751.7	513.931	14/08/1986	0.000	508.051	10/02/1987

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	305.5	511.531	11/07/1987	0.000	509.551	02/02/1988
1988-1989	1180	515.511	22/07/1988	0.000		24/01/1989
1989-1990	644.9	513.799	27/07/1989	0.000	509.161	25/01/1990
1990-1991	485.0	512.854	20/08/1990	0.000		25/01/1991
1991-1992	1194	514.311	19/07/1991	0.000		28/01/1992
1992-1993	1525	517.459	18/11/1992	0.000	508.111	17/02/1993
1993-1994	640.5	513.406	18/10/1993	0.000		21/02/1994
1994-1995	1320	516.861	17/07/1994	0.000	510.051	01/02/1995
1995-1996	476.0	512.581	23/07/1995	0.000	509.001	26/01/1996
1996-1997	377.8	512.156	30/07/1996	0.000	509.991	25/01/1997
1997-1998	1191	515.861	09/08/1997	0.000	508.621	10/02/1998
1998-1999	475.0	512.971	06/07/1998	0.000	509.413	01/02/1999
1999-2000	1107	516.521	25/07/1999	0.000		29/01/2000
2000-2001	807.5	514.821	16/07/2000	0.000	510.261	25/01/2001
2001-2002	249.1	511.486	11/07/2001	0.000		25/01/2002
2002-2003	380.9	512.306	13/08/2002	0.000		25/01/2003
2003-2004	315.1	511.841	06/10/2003	0.000		26/01/2004
2004-2005	605.0	513.521	07/08/2004	0.000		25/01/2005
2005-2006	919.6	515.361	29/07/2005	0.000		25/01/2006
2006-2007	780.4	514.491	14/08/2006	0.000	508.901	25/01/2007
2007-2008	1540	517.451	09/08/2007	0.000	508.061	04/04/2008
2008-2009	1317	516.471	15/08/2008	0.000	509.051	25/01/2009
2009-2010	1076	515.591	19/07/2009	0.000	510.011	25/01/2010
2010-2011	677.5	513.951	05/10/2010	0.000		03/05/2011
2011-2012	700.4	514.031	05/09/2011	0.000	508.161	24/01/2012
2012-2013	571.6	513.316	10/08/2012	0.000	509.771	02/12/2012
2013-2014	915.6	515.141	05/08/2013	0.000		29/04/2014
2014-2015	1121	515.871	04/08/2014	0.000	510.821	26/12/2014
2015-2016	260.2	511.301	27/06/2015	0.000		22/05/2016
2016-2017	241.8	511.151	07/07/2016	0.000	508.381	16/09/2016
2017-2018	381.2	511.681	23/07/2017	0.000	509.071	04/12/2017

Annual Runoff of Varada at Marol

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1966-1967	97	139	236	3	5	8
2	1967-1968	1767	40	1807	62	1	64
3	1968-1969	1390	17	1407	49	1	50
4	1969-1970	2234	53	2287	79	2	81
5	1970-1971	2800	38	2838	99	1	100
6	1971-1972	1393	31	1425	49	1	50
7	1972-1973	1258	11	1268	44	0	45
8	1973-1974	1591	13	1604	56	0	57
9	1974-1975	1604	29	1633	57	1	58
10	1975-1976	2497	46	2544	88	2	90
11	1976-1977	842	74	916	30	3	32
12	1977-1978	1321	62	1383	47	2	49
13	1978-1979	2491	26	2518	88	1	89
14	1979-1980	1446	52	1497	51	2	53
15	1980-1981	3345	25	3370	118	1	119
16	1981-1982	1835	17	1853	65	1	65
17	1982-1983	2860	16	2876	101	1	102
18	1983-1984	2396	13	2409	85	0	85
19	1984-1985	2162	8	2169	76	0	77
20	1985-1986	1320	2	1322	47	0	47
21	1986-1987	1498	3	1502	53	0	53
22	1987-1988	812	8	820	29	0	29
23	1988-1989	1908	0	1908	67	0	67
24	1989-1990	1251	0	1251	44	0	44
25	1990-1991	1822	0	1822	64	0	64
26	1991-1992	3253	1	3255	115	0	115
27	1992-1993	3406	87	3494	120	3	123
28	1993-1994	1902	99	2000	67	3	71
29	1994-1995	3428	4	3432	121	0	121
30	1995-1996	1225	0	1225	43	0	43
31	1996-1997	1045	0	1045	37	0	37
32	1997-1998	2517	48	2565	89	2	91
33	1998-1999	1835	2	1837	65	0	65
34	1999-2000	2120	0	2120	75	0	75
35	2000-2001	2017	0	2017	71	0	71
36	2001-2002	803	0	803	28	0	28
37	2002-2003	805	0	805	28	0	28
38	2003-2004	847	0	847	30	0	30
39	2004-2005	1394	0	1394	49	0	49
40	2005-2006	2325	0	2325	82	0	82
41	2006-2007	2541	0	2541	90	0	90
42	2007-2008	3420	0	3420	121	0	121
43	2008-2009	1901	0	1901	67	0	67
44	2009-2010	2325	0	2325	82	0	82
45	2010-2011	2025	41	2065	72	1	73
46	2011-2012	2528	40	2568	89	1	91
47	2012-2013	1344	0	1344	47	0	47
48	2013-2014	2622	0	2622	93	0	93

49	2014-2015	2727	0	2727	96	0	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
Average		1839	20	1859	65	1	66
75% Dependable flow (MCM)				1295			
90 % Dependable flow (MCM)				804			

Stage-Discharge Data for the period 2018 - 2019

Station Name : MAROL (AKLA0C4)

Division : Cauvery Division, Bangalore

Local River : Varada

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	508.201	0.000	509.981	98.40 *	509.891	96.01	510.541	162.0 *	510.491	0.000	511.081	0.000
2	508.131	0.000	509.721	82.36	509.651	76.80	510.341	135.3 *	510.951	0.000	511.061	0.000
3	508.651	0.000	509.031	27.39	509.621	74.60	510.111	118.3 *	511.311	0.000	511.051	0.000
4	508.271	0.000	508.701	12.29	509.621	74.60	509.871	94.71 *	511.421	0.000	511.051	0.000
5	508.231	0.000	508.521	0.000	509.581	63.76 *	509.641	75.78 *	511.401	0.000	511.041	0.000
6	508.171	0.000	508.471	0.000	509.551	68.46	509.451	60.57	511.431	0.000	511.041	0.000
7	508.181	0.000	508.451	0.000	509.551	68.46	509.291	47.37	511.441	0.000	511.041	0.000
8	508.141	0.000	508.451	0.000	509.611	73.06	509.161	37.29	511.351	0.000	511.041	0.000
9	508.101	0.000	509.501	64.81	509.751	85.41	509.081	30.29 *	511.471	0.000	511.031	0.000
10	508.071	0.000	510.381	145.2	510.351	142.4	509.101	32.38	511.501	0.000	511.031	0.000
11	508.071	0.000	510.791	192.8	511.391	273.6	509.141	36.11	511.411	0.000	511.031	0.000
12	508.061	0.000	511.251	253.5	510.591	164.0 *	509.011	26.76	511.251	0.000	511.021	0.000
13	508.401	0.000	511.691	317.7	510.581	167.3	508.911	21.52 *	511.361	0.000	511.011	0.000
14	509.521	0.000	511.991	361.4	511.801	332.1	508.871	19.01	511.361	0.000	510.981	0.000
15	510.061	113.5	512.031	377.1 *	513.421	655.8 *	508.801	16.60	511.341	0.000	510.941	0.000
16	510.051	105.2 *	512.291	402.2	514.701	1025	508.731	13.74 *	511.321	0.000	510.901	0.000
17	509.711	74.27 *	512.661	458.0	514.401	909.8	508.661	10.90	511.301	0.000	510.851	0.000
18	509.131	34.38	512.651	454.6	513.341	573.2	508.611	8.156	511.481	0.000	510.811	0.000
19	508.611	8.156	512.721	465.3	513.171	600.6 *	508.611	8.156	511.701	0.000	510.791	0.000
20	508.561	6.108	512.701	459.9	512.821	479.9	508.571	6.800	511.621	0.000	510.781	0.000
21	508.351	0.000	512.451	423.0	512.811	476.6	508.511	0.000	511.471	0.000	510.771	0.000
22	508.331	0.000	512.281	422.0 *	512.441	452.0 *	508.391	0.000	511.451	0.000	510.751	0.000
23	508.451	0.000	512.271	397.0	512.371	410.5	508.371	0.000	511.411	0.000	510.721	0.000
24	508.511	0.000	512.161	379.6	512.291	402.2	508.951	0.000	511.361	0.000	510.691	0.000
25	508.401	0.000	512.051	365.0	511.971	352.7	509.281	0.000	511.281	0.000	510.671	0.000
26	508.341	0.000	512.001	358.8	511.611	306.8 *	509.681	0.000	511.231	0.000	510.641	0.000
27	508.301	0.000	511.771	325.8	511.271	254.3	509.781	0.000	511.191	0.000	510.611	0.000
28	508.381	0.000	511.381	271.2	510.871	201.3	509.951	0.000	511.171	0.000	510.571	0.000
29	508.531	0.000	511.091	229.0 *	510.661	177.0	510.181	0.000	511.131	0.000	510.531	0.000
30	508.611	0.000	510.711	182.7	510.601	170.0	510.331	0.000	511.101	0.000	510.491	0.000
31			510.251	132.5	510.681	179.4			511.091	0.000		
Ten-Daily Mean												
I Ten-Daily	508.215	0.000	509.121	43.05	509.718	82.36	509.659	79.40	511.277	0.000	511.047	0.000
II Ten-Daily	509.018	34.16	512.078	374.3	512.622	518.1	508.792	16.78	511.415	0.000	510.912	0.000
III Ten-Daily	508.421	0.000	511.675	317.0	511.598	307.5	509.343	0.000	511.263	0.000	510.645	0.000
Monthly												
Min.	508.061	0.000	508.451	0.000	509.551	63.76	508.371	0.000	510.491	0.000	510.491	0.000
Max.	510.061	113.5	512.721	465.3	514.701	1025	510.541	162.0	511.701	0.000	511.081	0.000
Mean	508.551	11.39	510.981	247.1	511.322	302.8	509.265	32.06	511.316	0	510.868	0

Annual Runoff in MCM = 1585 Annual Runoff in mm = 324

Peak Observed Discharge = 1025 cumecs on 16/08/2018 Corres. Water Level :514.701 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018 Corres. Water Level :508.201 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 2018 - 2019

Station Name : MAROL (AKLA0C4)

Division : Cauvery Division, Bangalore

Local River : Varada

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	510.461	0.000	508.401	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	510.421	0.000	508.351	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	510.391	0.000	508.351	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	510.341	0.000	508.341	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	510.271	0.000	508.301	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6	510.231	0.000	508.251	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	510.191	0.000	508.211	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	510.131	0.000	508.151	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9	510.091	0.000	508.091	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	510.061	0.000	508.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11	510.021	0.000	507.971	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12	509.971	0.000	507.891	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	509.921	0.000	507.731	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14	509.861	0.000	507.601	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	509.761	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
16	509.641	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17	509.521	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	509.401	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	509.131	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	509.051	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
21	509.031	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
22	508.991	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
23	508.941	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24	508.871	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	508.811	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26	508.751	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
27	508.711	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
28	508.661	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
29	508.601	0.000		0.000			0.000	0.000	0.000	0.000	0.000	0.000
30	508.541	0.000		0.000			0.000	0.000	0.000	0.000	0.000	0.000
31	508.471	0.000		0.000			0.000				0.000	0.000
Ten-Daily Mean												
I Ten-Daily	510.259	0.000	508.248	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
II Ten-Daily	509.628	0.000	507.799	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
III Ten-Daily	508.762	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Monthly												
Min.	508.471	0.000	507.601	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Max.	510.461	0.000	508.401	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mean	509.524	0	508.120	0	0	0	0	0	0	0	0	0

Peak Computed Discharge = 655.8 cumecs on 15/08/2018

Corres. Water Level :513.421 m

Lowest Computed Discharge = 13.74 cumecs on 16/09/2018

Corres. Water Level :508.731 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 : 2018-2019

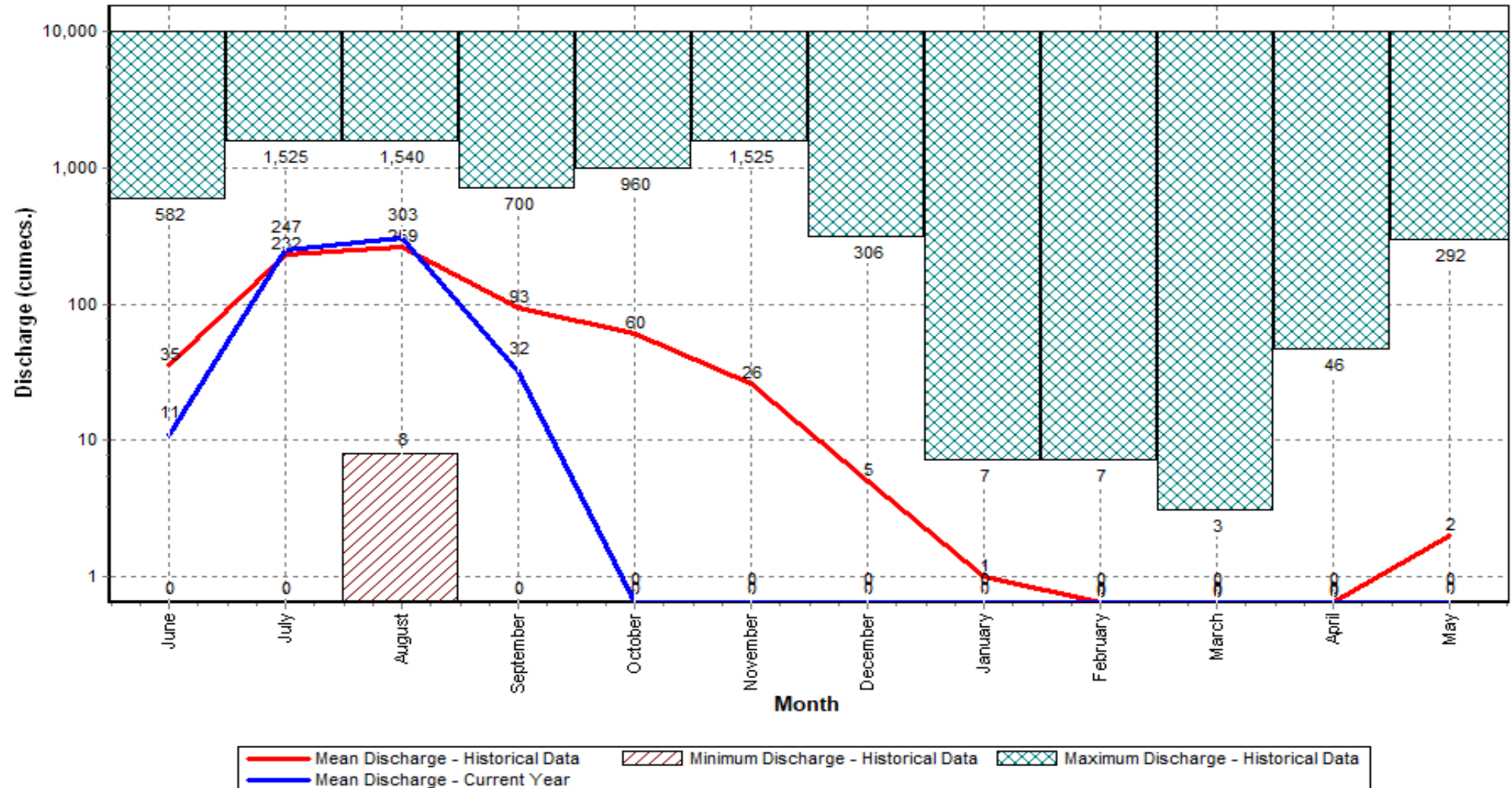
Station Name : MAROL (AKLA0C4)

Data considered : 1966-2019

Division : Cauvery Division, Bangalore

Local River : Varada

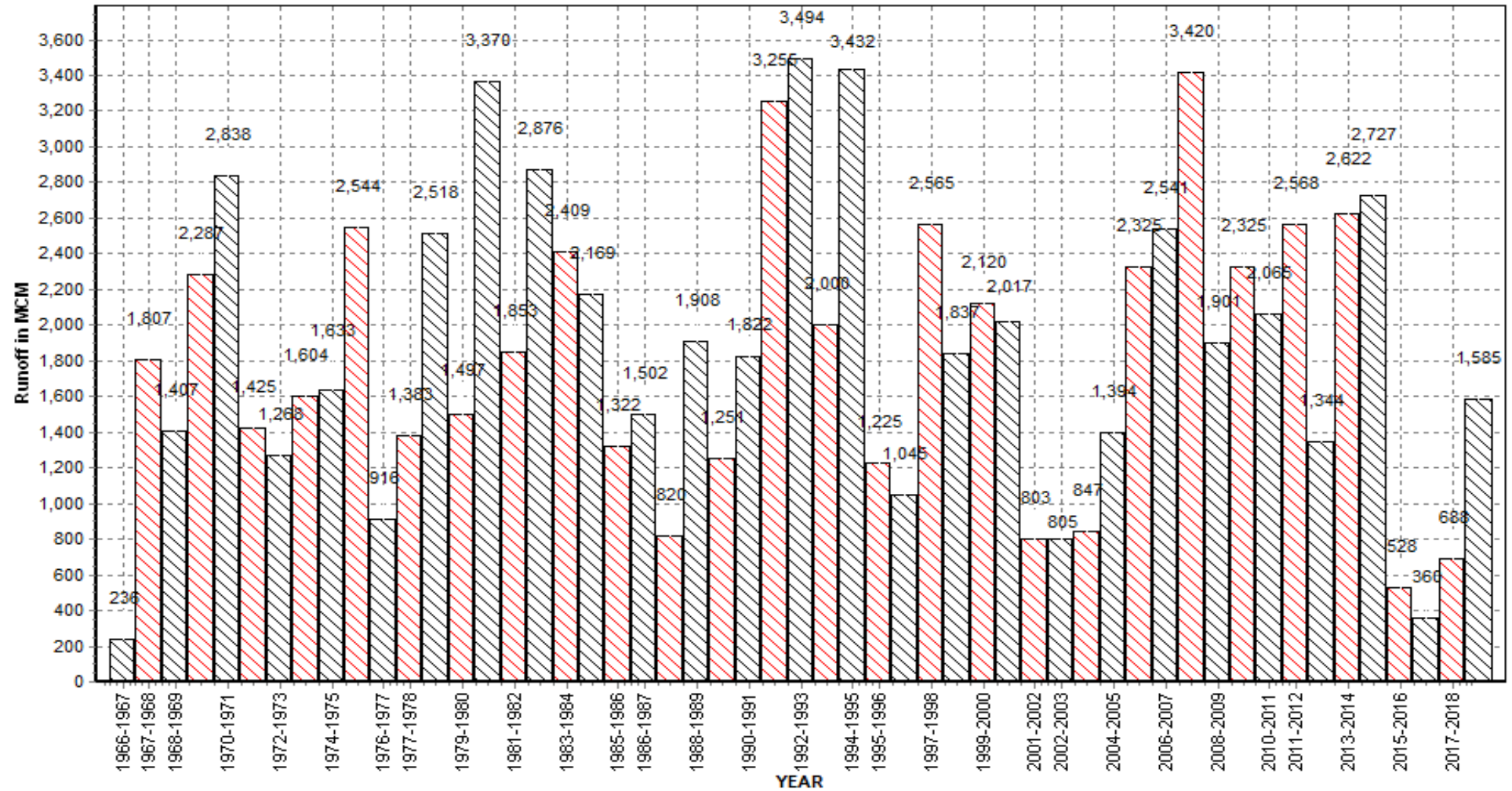
Sub-Division : Upper Tunga Subdn, Devangere



Annual Runoff Values for the period: 1966 - 2019

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

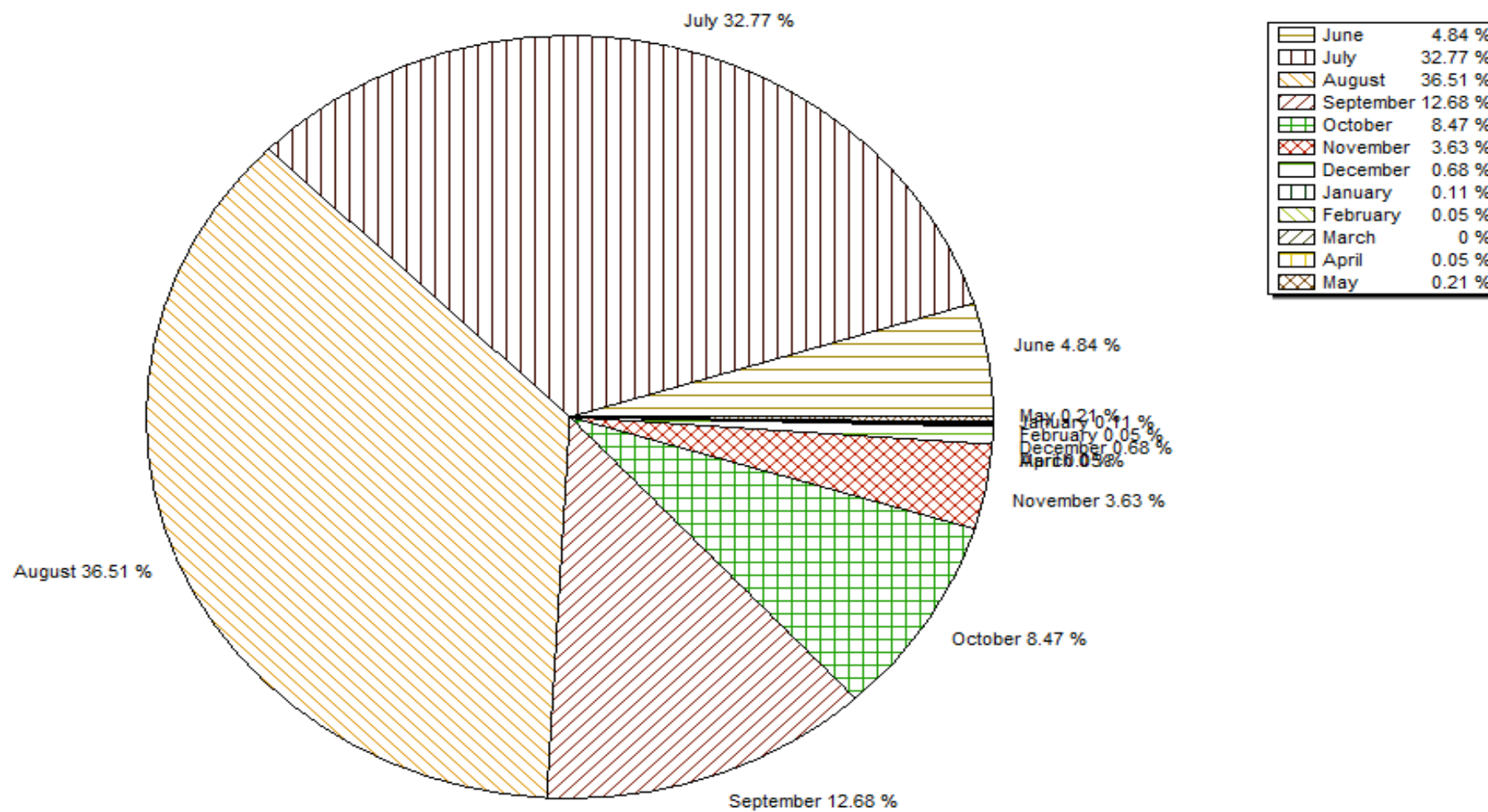
Monthly Average Runoff based on period : 1966-2018

Station Name : MAROL (AKLA0C4)

Local River : Varada

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



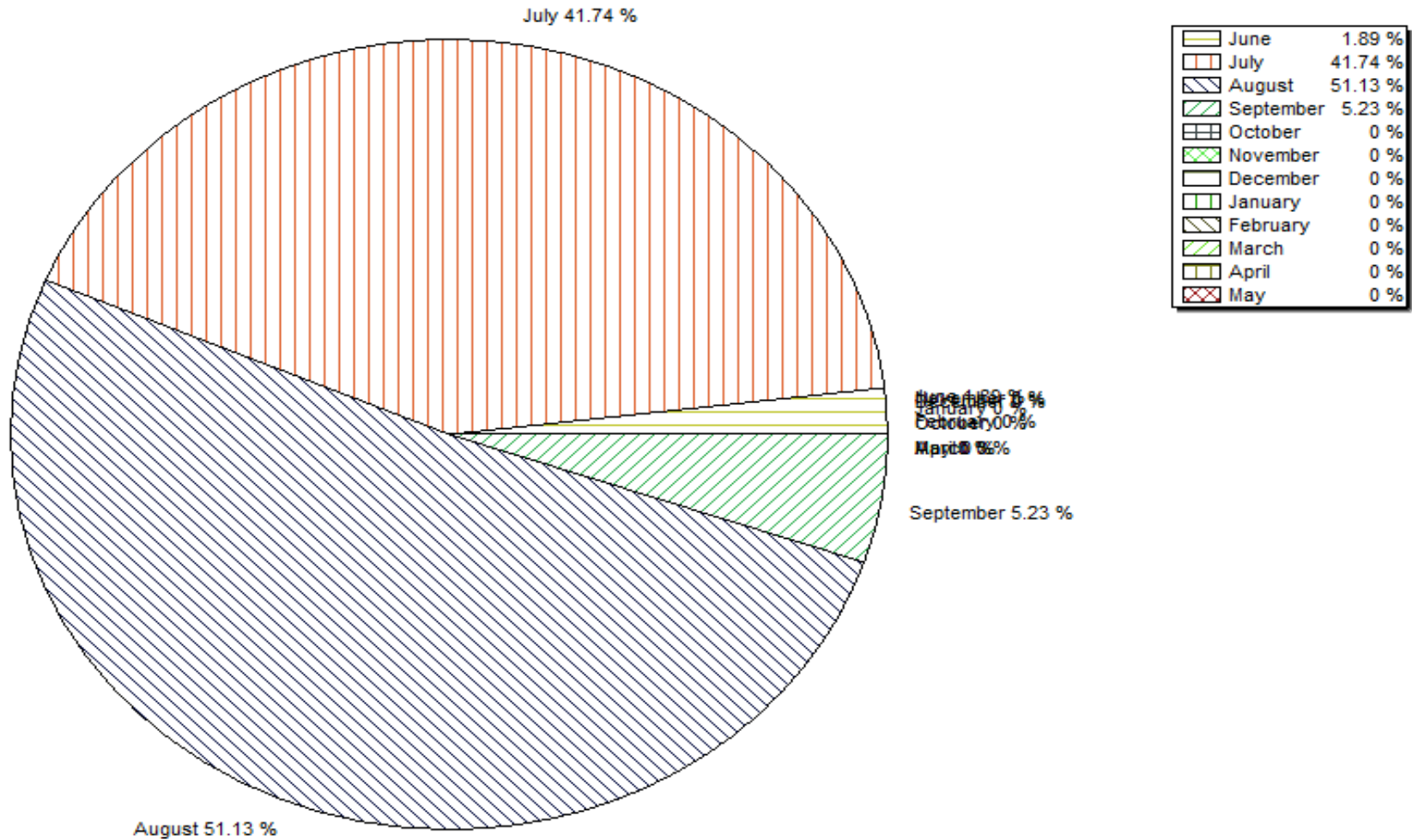
Monthly Runoff for the Year : 2018-2019

Station Name : MAROL (AKLA0C4)

Local River : Varada

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



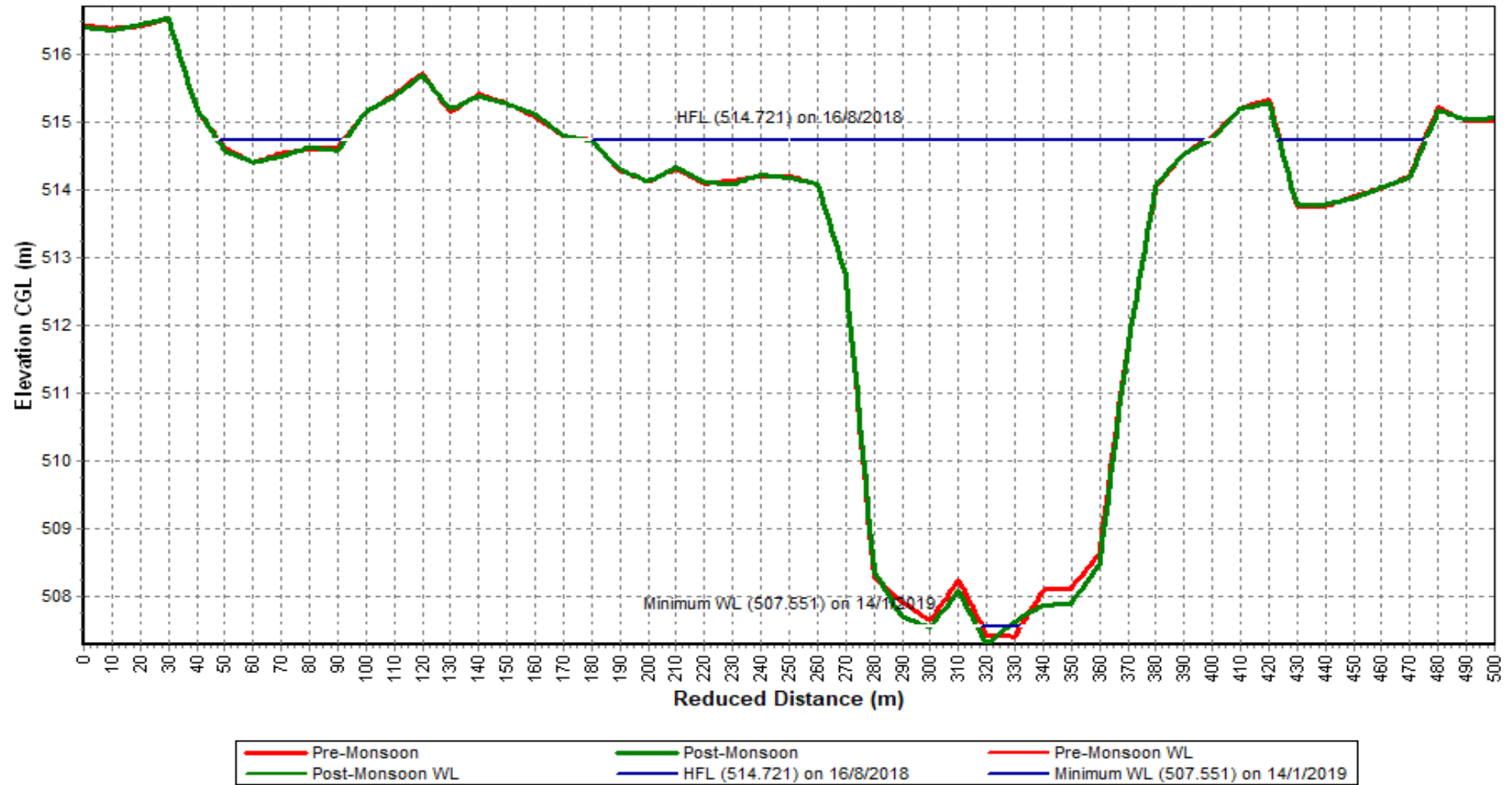
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : MAROL (AKLA0C4)

Local River : Varada

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



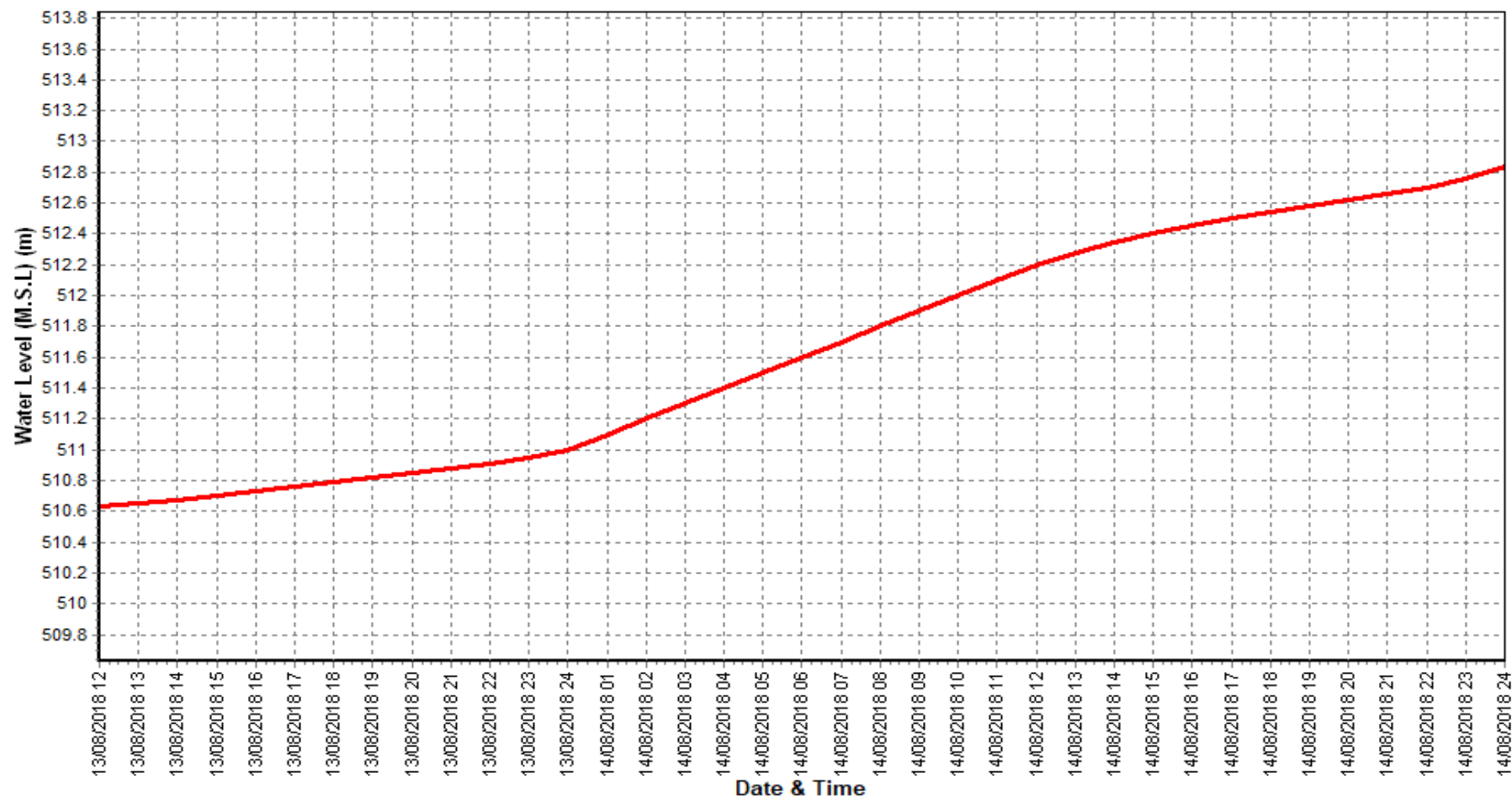
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : MAROL (AKLA0C4)

Local River : Varada

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



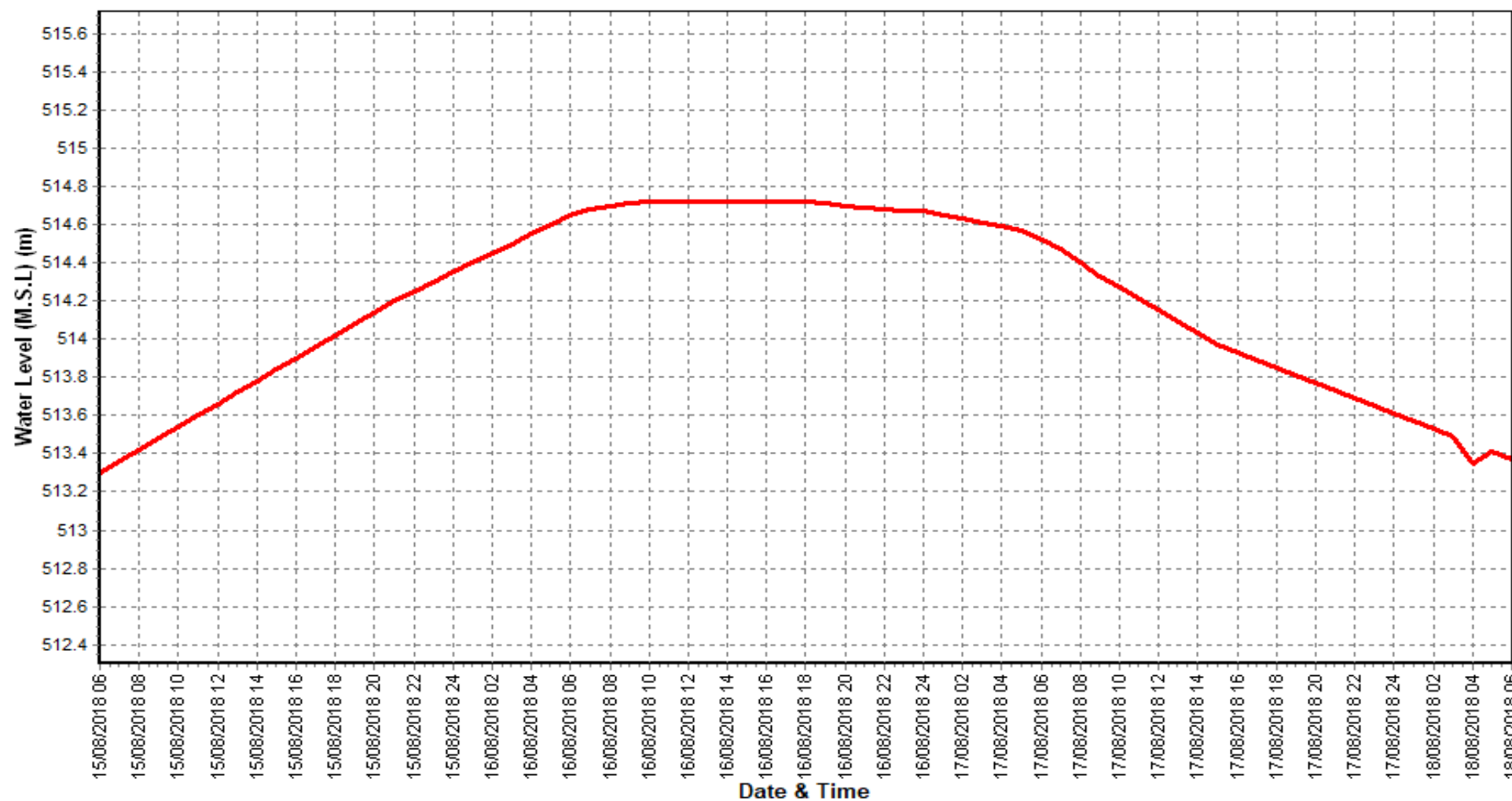
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : MAROL (AKLA0C4)

Local River : Varada

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



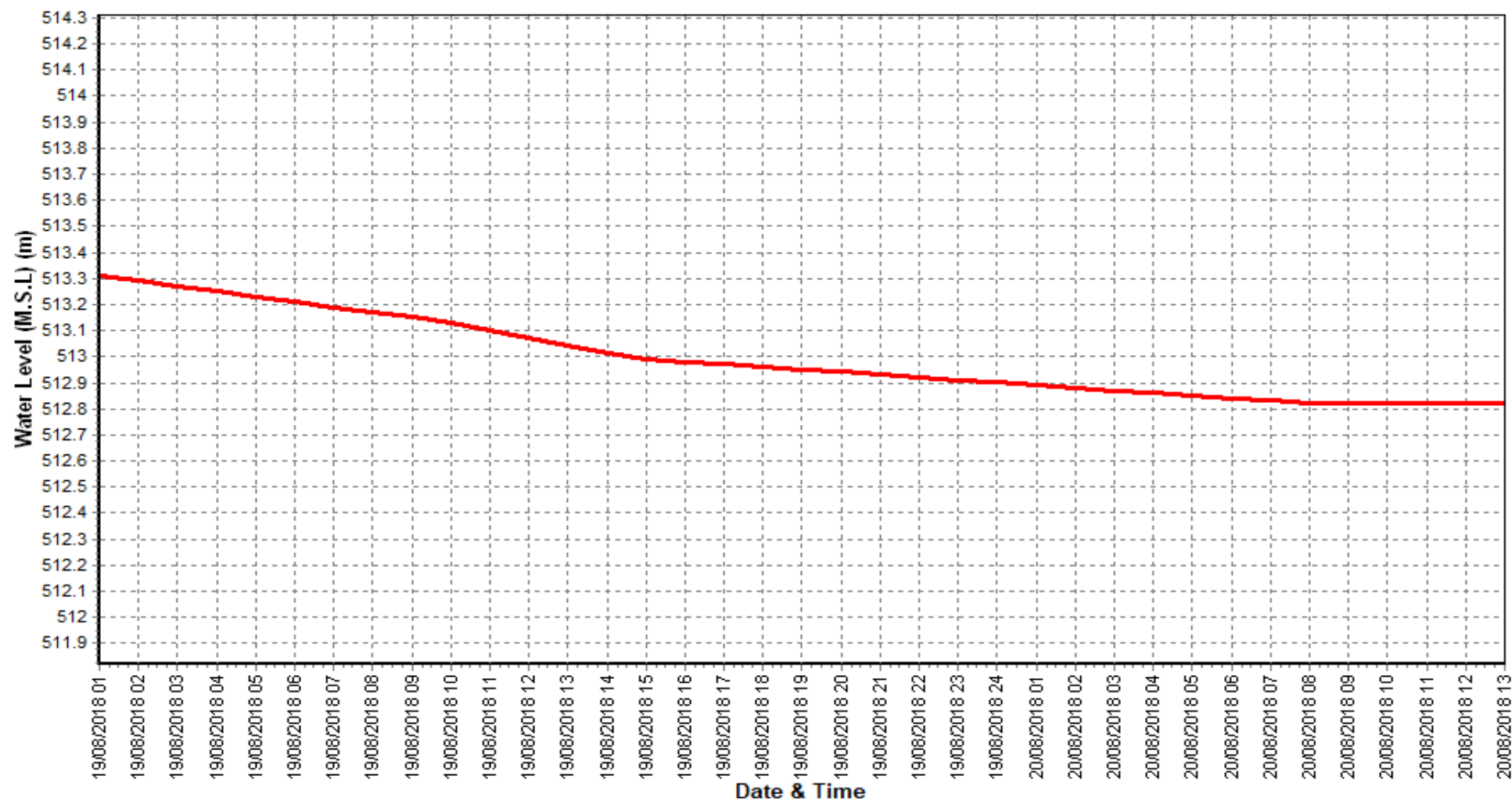
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : MAROL (AKLA0C4)

Local River : Varada

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



HISTORY SHEET

Water Year : 2018-2019

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)
507.436 (m.s.l)11/08/1965
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	514.701	29/07/1967	15.40	507.911	09/06/1967
1968-1969	1809	513.608	21/07/1968	21.40	507.981	19/06/1968
1969-1970	3788	515.066	24/07/1969	25.30	508.091	18/02/1970
1970-1971	2745	514.238	24/08/1970	31.70	508.146	01/04/1971
1971-1972	2550	514.176	22/07/1971	26.60	508.131	30/04/1972
1972-1973	2226	513.746	09/07/1972	5.400	507.821	13/04/1973
1973-1974	2419	514.136	10/07/1973	15.30	507.971	27/02/1974
1974-1975	2189	513.596	27/07/1974	15.00	508.071	23/06/1974
1975-1976	2902	514.546	12/07/1975	22.60	508.121	10/05/1976
1976-1977	1758	512.996	24/07/1976	3.100	507.751	22/04/1977
1977-1978	1741	513.014	26/07/1977	10.90	507.919	13/06/1977
1978-1979	2805	514.651	19/08/1978	16.10	507.951	06/04/1979
1979-1980	2033	514.015	04/08/1979	15.30	507.959	17/01/1980
1980-1981	3066	515.454	04/07/1980	14.10	507.966	23/04/1981
1981-1982	2578	514.454	20/08/1981	11.70	507.901	16/03/1982
1982-1983	4559	516.426	04/08/1982	8.500	507.816	11/04/1983
1983-1984	2617	514.537	24/07/1983	9.700	507.886	07/03/1984
1984-1985	2595	514.664	20/07/1984	7.600	507.861	11/05/1985
1985-1986	1902	513.506	28/06/1985	0.400	507.661	03/04/1986
1986-1987	2498	514.431	11/08/1986	2.300	507.656	20/04/1987
1987-1988	1076	511.949	28/08/1987	0.000	507.466	13/04/1988

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	2743	514.496	20/07/1988	0.000	507.466	16/04/1989
1989-1990	2974	514.621	26/07/1989	2.000	507.721	15/04/1990
1990-1991	2314	513.936	19/08/1990	7.000	507.836	31/03/1991
1991-1992	3414	515.049	30/07/1991	0.000		26/03/1992
1992-1993	7357	518.109	18/11/1992	3.466	507.796	06/04/1993
1993-1994	1684	513.106	17/08/1993	7.226	507.818	03/06/1993
1994-1995	5840	517.566	17/07/1994	3.500	507.636	13/04/1995
1995-1996	1788	513.306	03/09/1995	2.000	507.586	10/05/1996
1996-1997	1538	512.761	25/07/1996	6.453	507.761	21/04/1997
1997-1998	3388	515.236	09/08/1997	2.500	507.666	22/04/1998
1998-1999	2286	513.891	15/09/1998	3.200	507.586	18/06/1998
1999-2000	2975	514.736	20/07/1999	7.212	507.766	24/03/2000
2000-2001	3036	514.846	15/07/2000	5.106	507.596	31/03/2001
2001-2002	1417	512.396	10/07/2001	0.000	507.076	07/04/2002
2002-2003	1452	512.476	19/08/2002	0.000		15/03/2003
2003-2004	1375	512.276	06/10/2003	0.000	507.186	17/02/2004
2004-2005	2993	514.736	06/08/2004	0.000		09/03/2005
2005-2006	3030	514.806	04/08/2005	0.000		21/01/2006
2006-2007	3516	515.146	14/08/2006	0.000		24/03/2007
2007-2008	5239	517.276	08/08/2007	0.000		10/02/2008
2008-2009	4550	516.676	15/08/2008	0.000	507.286	06/04/2009
2009-2010	3629	515.486	18/07/2009	0.000	507.276	12/04/2010
2010-2011	1741	513.016	31/07/2010	0.000	507.216	22/03/2011
2011-2012	2593	514.051	03/09/2011	0.000	507.376	19/03/2012
2012-2013	2544	513.946	09/08/2012	0.000	507.436	01/04/2013
2013-2014	3728	515.516	04/08/2013	0.000	507.296	02/02/2014
2014-2015	3986	515.376	08/08/2014	0.000	507.336	18/02/2015
2015-2016	1712	512.946	21/07/2015	0.000		17/01/2016
2016-2017	911.6	511.411	06/07/2016	0.000		17/04/2017
2017-2018	1002	511.636	21/07/2017	0.000	0.000	15/01/2018

Annual Runoff of Tungabhadra 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	0
2	1967-1968	6201	676	6877	219	24	8
3	1968-1969	5968	887	6855	211	31	7
4	1969-1970	7639	895	8534	270	32	10
5	1970-1971	8474	1052	9527	299	37	11
6	1971-1972	6235	1048	7283	220	37	8
7	1972-1973	5018	571	5589	177	20	6
8	1973-1974	6672	608	7280	236	21	8
9	1974-1975	5845	634	6479	207	22	7
10	1975-1976	9790	728	10519	346	26	12
11	1976-1977	4348	425	4773	154	15	5
12	1977-1978	6057	667	6723	214	24	8
13	1978-1979	11516	619	12135	407	22	14
14	1979-1980	5402	723	6126	191	26	7
15	1980-1981	9567	734	10302	338	26	12
16	1981-1982	7062	539	7601	250	19	9
17	1982-1983	6550	446	6996	231	16	8
18	1983-1984	6518	554	7072	230	20	8
19	1984-1985	6576	501	7077	232	18	8
20	1985-1986	5294	262	5557	187	9	7
21	1986-1987	5113	321	5434	181	11	6
22	1987-1988	3582	344	3926	127	12	4
23	1988-1989	4919	377	5297	174	13	6
24	1989-1990	5532	318	5850	195	11	7
25	1990-1991	7141	570	7711	252	20	9
26	1991-1992	8167	381	8548	289	13	10
27	1992-1993	10976	690	11666	388	24	14
28	1993-1994	6746	505	7251	238	18	8
29	1994-1995	11754	426	12180	415	15	15
30	1995-1996	4648	356	5004	164	13	6
31	1996-1997	4885	388	5273	173	14	6
32	1997-1998	7375	480	7855	261	17	9
33	1998-1999	7033	614	7647	249	22	9
34	1999-2000	7902	576	8478	279	20	10
35	2000-2001	7062	710	7772	250	25	9
36	2001-2002	4747	329	5077	168	12	6
37	2002-2003	3583	121	3703	127	4	4
38	2003-2004	3274	95	3369	116	3	4
39	2004-2005	4841	131	4972	171	5	6
40	2005-2006	7208	352	7560	255	12	9
41	2006-2007	6839	340	7179	242	12	9
42	2007-2008	9667	565	10232	342	20	12
43	2008-2009	6269	399	6668	222	14	8
44	2009-2010	7248	576	7824	256	20	9
45	2010-2011	6554	539	7094	232	19	8
46	2011-2012	6034	451	6484	213	16	8
47	2012-2013	3993	160	4153	141	6	5

48	2013-2014	8167	303	8470	289	11	10
49	2014-2015	7025	243	7269	248	9	9
50	2015-2016	2985	79	3063	105	3	4
51	2016-2017	2170	43	2213	77	2	3
52	2017-2018	2323	111	2433	82	4	3
53	2018-2019	7291	54	7345	258	2	9
Average		6419	472	6770	223	17	8
75% Dependable flow (MCM)				5285			
90 % Dependable flow (MCM)				3503			

Stage-Discharge Data for the period 2018 - 2019

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	507.460	0.000	510.520	578.5 *	509.986	430.1	510.476	576.3	509.286	242.6	507.656	28.46
2	507.430	0.000	509.346	256.3	510.076	458.9	510.280	499.0 *	508.970	180.8 *	507.676	30.53
3	507.410	0.000	509.016	188.4	509.906	405.5	509.896	401.9	508.726	143.7	507.676	30.53
4	507.590	27.10 #	508.826	159.2	510.096	460.3	509.636	326.3	508.456	105.0	507.740	36.31 *
5	507.520	23.33 #	508.746	146.1	509.980	409.2 *	509.266	240.2	508.216	81.78	507.716	33.71
6	507.650	30.59 #	508.646	131.5	509.966	422.2	509.076	202.6	508.136	73.67	507.696	32.31
7	507.530	23.85 #	508.736	145.5	510.136	473.7	509.020	189.6 *	508.160	71.10 *	507.756	36.79
8	507.866	46.69	508.730	142.0 *	509.926	410.1	508.846	162.1	508.276	87.59	507.810	41.16 *
9	507.926	52.50	511.196	826.0	510.446	567.0	508.860	162.3 *	508.496	110.0	507.806	40.96
10	507.830	42.62 *	511.336	878.7	512.236	1278	508.916	173.0	508.356	95.98	507.746	36.27
11	507.786	39.00	511.636	997.3	513.266	1964	508.876	166.4	508.276	87.59	507.710	34.34 *
12	510.436	565.0	511.936	1146	511.750	1102 *	508.936	175.7	508.126	72.48	507.696	32.31
13	511.136	808.1	512.816	1624	511.566	971.4	508.610	124.6 *	508.196	79.80	507.686	31.61
14	511.296	863.0	512.596	1485	513.706	2345	508.346	95.01	508.160	71.10 *	507.836	43.97
15	511.656	1008	512.340	1426 *	515.110	3662 *	508.486	108.8	508.016	61.47	507.666	29.65
16	511.490	974.2 *	512.976	1743	516.236	6048	508.360	92.70 *	507.936	53.50	507.656	28.46
17	510.590	603.1 *	512.176	1246 *	514.696	3266	508.266	86.79	508.066	66.69	507.656	28.46
18	509.106	208.0	511.826	1089	514.356	2918	508.236	83.67	508.850	160.7 *	507.700	33.69 *
19	508.706	141.2	511.936	1146	512.910	1787 *	508.166	76.92	510.220	480.2 *	507.726	34.80
20	508.676	136.0	511.786	1068	512.606	1491	508.146	74.55	509.576	306.6	508.516	112.3
21	508.696	138.0	511.236	842.2	512.916	1695	508.160	71.10 *	509.110	206.0 *	508.430	101.1 *
22	508.706	141.2	511.540	998.0 *	511.790	1122 *	508.696	138.7	508.706	143.8	508.036	63.73
23	508.806	156.5	511.886	1122	511.906	1129	508.650	130.2 *	508.446	106.6	507.860	44.85 *
24	508.730	142.0 *	511.606	989.6	511.186	823.4	508.446	104.8	508.256	86.01	507.736	35.14
25	508.736	145.5	511.916	1133	510.816	689.2	508.246	84.87	508.076	67.76	507.690	33.06 *
26	508.716	142.0	511.956	1156	510.510	575.1 *	508.176	77.48	507.926	52.68	507.656	28.46
27	508.486	108.8	511.786	1068	510.236	504.2	508.466	107.1	507.796	40.00	507.636	26.55
28	508.766	150.0	511.486	941.2	510.046	448.6	508.546	116.3	507.780	39.04 *	507.616	24.56
29	509.525	291.8	511.120	808.9 *	510.046	448.6	508.566	118.9	507.766	37.65	507.606	23.44
30	511.996	1178	510.406	556.4	510.436	565.0	510.020	420.6 *	507.726	34.80	507.596	22.38
31			510.126	471.3	511.086	791.4			507.676	30.53		
Ten-Daily Mean												
I Ten-Daily	507.621	24.67	509.510	345.2	510.275	531.5	509.427	293.3	508.508	119.2	507.728	34.70
II Ten-Daily	510.088	534.6	512.202	1297	513.620	2555	508.443	108.5	508.542	144.0	507.785	40.96
III Ten-Daily	509.116	259.4	511.369	917.0	510.998	799.2	508.597	137.0	508.115	76.81	507.786	40.33
Monthly												
Min.	507.410	0.000	508.646	131.5	509.906	405.5	508.146	71.10	507.676	30.53	507.596	22.38
Max.	511.996	1178	512.976	1743	516.236	6048	510.476	576.3	510.220	480.2	508.516	112.3
Mean	508.942	272.9	511.038	855.1	511.611	1279	508.822	179.6	508.379	112.2	507.766	38.66

Annual Runoff in MCM = 7345 Annual Runoff in mm = 504

Peak Observed Discharge = 6048 cumecs on 16/08/2018 Corres. Water Level :516.236 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018 Corres. Water Level :507.46 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 2018 - 2019

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	507.586	21.41	507.086	0.000		0.000	506.596	0.000	507.616	26.09	506.486	0.000
2	507.560	18.44 *	507.066	0.000		0.000	506.476	0.000	507.606	25.20	506.406	0.000
3	507.506	13.55	507.056	0.000		0.000	506.386	0.000	507.606	25.20	506.336	0.000
4	507.466	9.172	507.036	0.000		0.000	506.326	0.000	507.626	27.06	506.256	0.000
5	507.436	6.287	507.016	0.000	507.286	0.000	506.236	0.000	507.616	26.09	506.186	0.000
6	507.420	0.000	506.976	0.000	507.646	28.13	506.146	0.000	507.556	0.000	506.716	0.000
7	507.410	0.000	506.936	0.000	507.676	32.08	506.086	0.000	507.626	0.000	506.956	0.000
8	507.380	0.000	506.906	0.000	507.756	38.50	505.996	0.000	507.656	0.000	507.036	0.000
9	507.360	0.000	506.866	0.000	507.766	39.80	505.856	0.000	507.616	0.000	507.056	0.000
10	507.370	0.000	506.736	0.000	507.786	49.39 *	505.746	0.000	507.576	0.000	507.086	0.000
11	507.380	0.000	506.776	0.000	507.776	47.75 *	505.636	0.000	507.486	0.000	507.116	0.000
12	507.380	0.000	506.716	0.000	507.676	32.67 *	505.536	0.000	507.416	0.000	507.126	0.000
13	507.400	0.000	506.656	0.000	507.596	22.47 *	505.446	0.000	507.356	0.000	507.146	0.000
14	507.410	0.000	506.596	0.000	507.586	21.31 *		0.000	507.316	0.000	507.126	0.000
15	507.360	0.000	506.596	0.000	507.476	10.44 *		0.000	507.236	0.000	507.096	0.000
16	507.350	0.000	506.556	0.000	507.446	8.082 *		0.000	507.196	0.000	507.066	0.000
17	507.320	0.000	506.506	0.000	507.366	0.000		0.000	507.146	0.000	507.036	0.000
18	507.320	0.000	506.376	0.000	507.286	0.000		0.000	507.076	0.000	507.026	0.000
19	507.330	0.000	506.316	0.000	507.236	0.000		0.000	507.036	0.000	507.016	0.000
20	507.340	0.000	506.256	0.000	507.256	0.000		0.000	506.986	0.000	507.006	0.000
21	507.320	0.000	506.136	0.000	507.236	0.000		0.000	506.936	0.000	507.056	0.000
22	507.310	0.000	506.066	0.000	507.186	0.000		0.000	506.906	0.000	507.116	0.000
23	507.310	0.000	505.986	0.000	507.136	0.000		0.000	506.836	0.000	507.146	0.000
24	507.270	0.000	505.936	0.000	507.086	0.000		0.000	506.776	0.000	507.176	0.000
25	507.230	0.000	505.856	0.000	506.986	0.000		0.000	506.736	0.000	507.186	0.000
26	507.210	0.000	505.776	0.000	506.886	0.000		0.000	506.706	0.000	507.216	0.000
27	507.200	0.000	505.686	0.000	506.786	0.000	506.986	0.000	506.676	0.000	507.246	0.000
28	507.190	0.000	505.636	0.000	506.686	0.000	507.606	25.20	506.656	0.000	507.276	0.000
29	507.170	0.000	505.536	0.000			507.596	24.60	506.616	0.000	507.286	0.000
30	507.160	0.000		0.000			507.586	23.08	506.556	0.000	507.306	0.000
31	507.130	0.000		0.000			507.596	22.47 *			507.316	0.000
Ten-Daily Mean												
I Ten-Daily	507.449	6.886	506.968	0.000	507.653	18.79	506.185	0.000	507.610	12.96	506.652	0.000
II Ten-Daily	507.359	0.000	506.535	0.000	507.470	14.27	505.539	0.000	507.225	0.000	507.076	0.000
III Ten-Daily	507.227	0.000	505.846	0.000	506.999	0.000	507.474	8.668	506.740	0.000	507.211	0.000
Monthly												
Min.	507.130	0.000	505.536	0.000	506.686	0.000	505.446	0.000	506.556	0.000	506.186	0.000
Max.	507.586	21.41	507.086	0.000	507.786	49.39	507.606	25.20	507.656	27.06	507.316	0.000
Mean	507.341	2.221	506.470	0	507.358	11.81	506.435	3.076	507.192	4.321	506.987	0

Peak Computed Discharge = 3662 cumecs on 15/08/2018

Corres. Water Level :515.11 m

Lowest Computed Discharge = 8.082 cumecs on 16/02/2019

Corres. Water Level :507.446 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 : 2018-2019

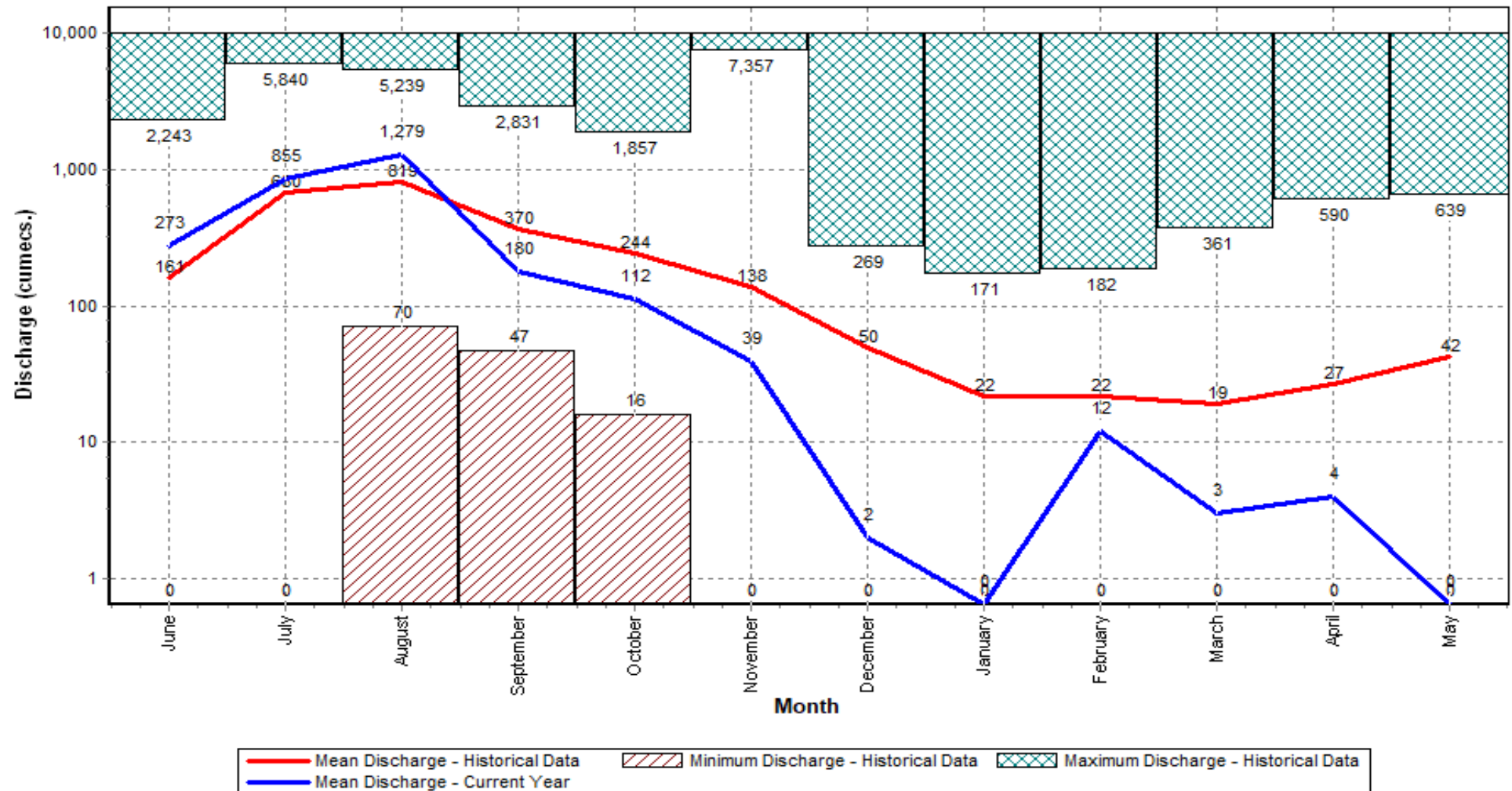
Station Name : HARALAHALLI (AKL00S8)

Data considered : 1967-2019

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

Sub-Division : Upper Tunga Subdn, Devangere



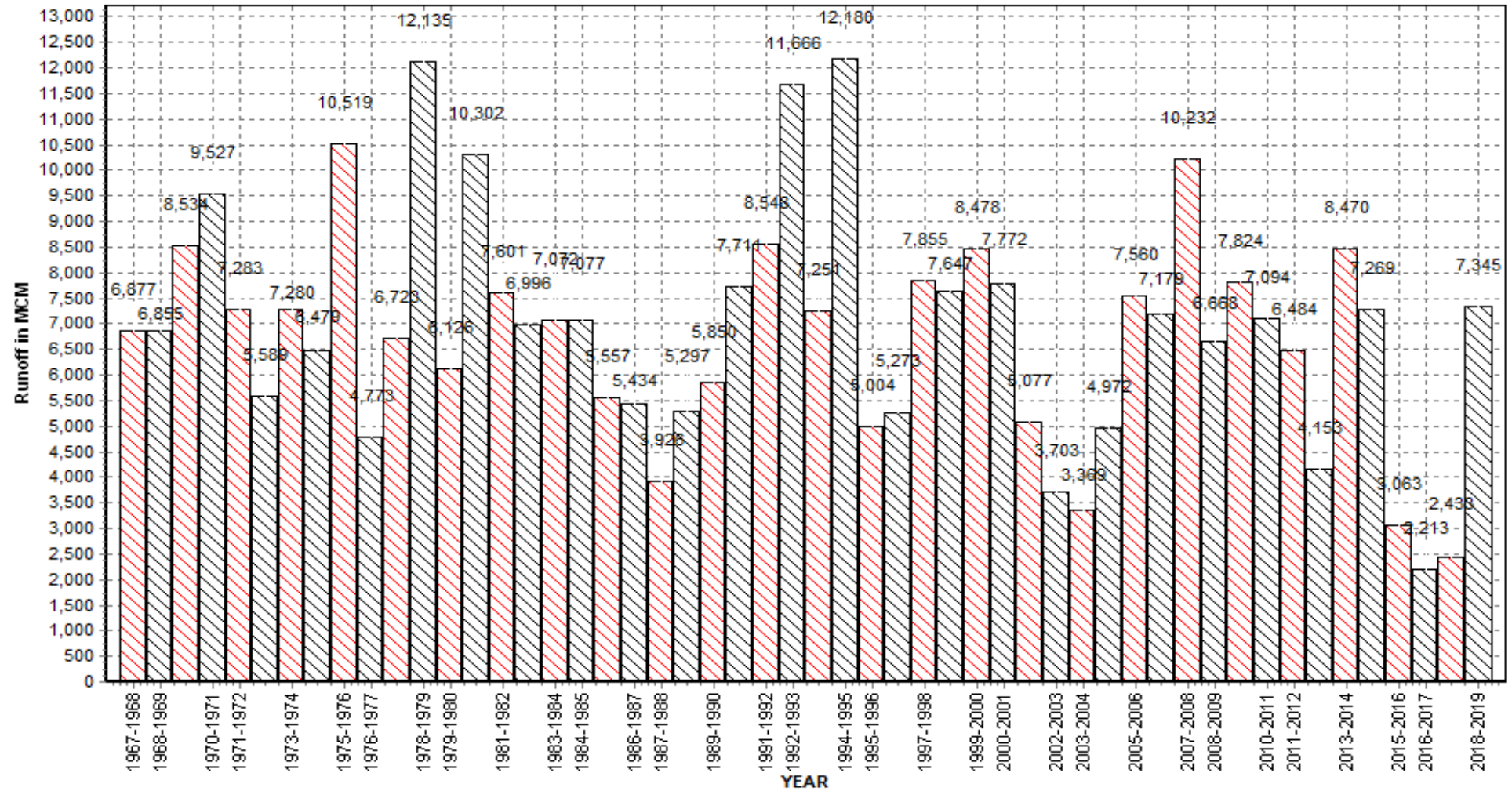
Annual Runoff Values for the period: 1967 - 2019

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

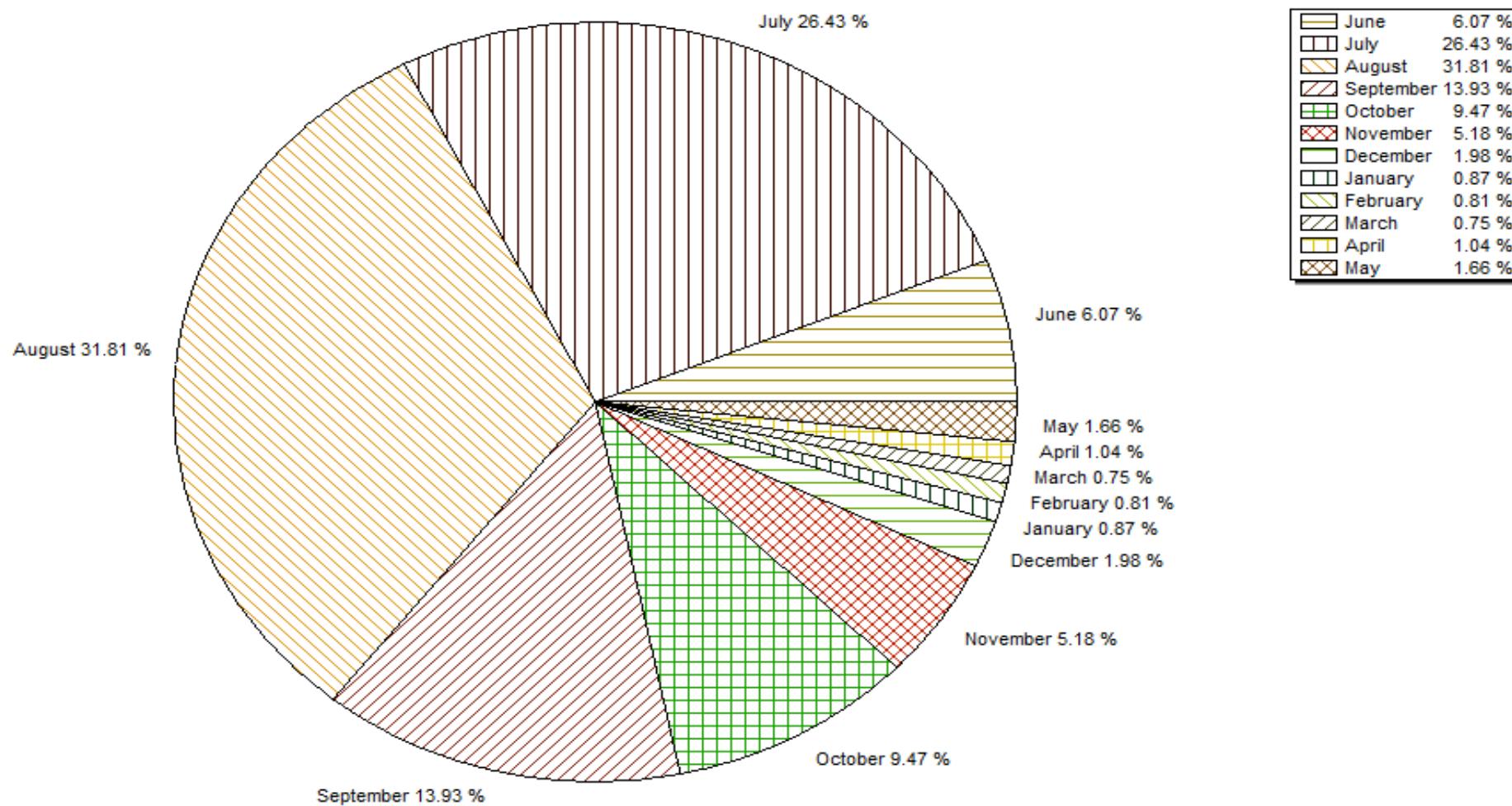
Monthly Average Runoff based on period : 1967-2018

Station Name : HARALAHALLI (AKL00S8)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



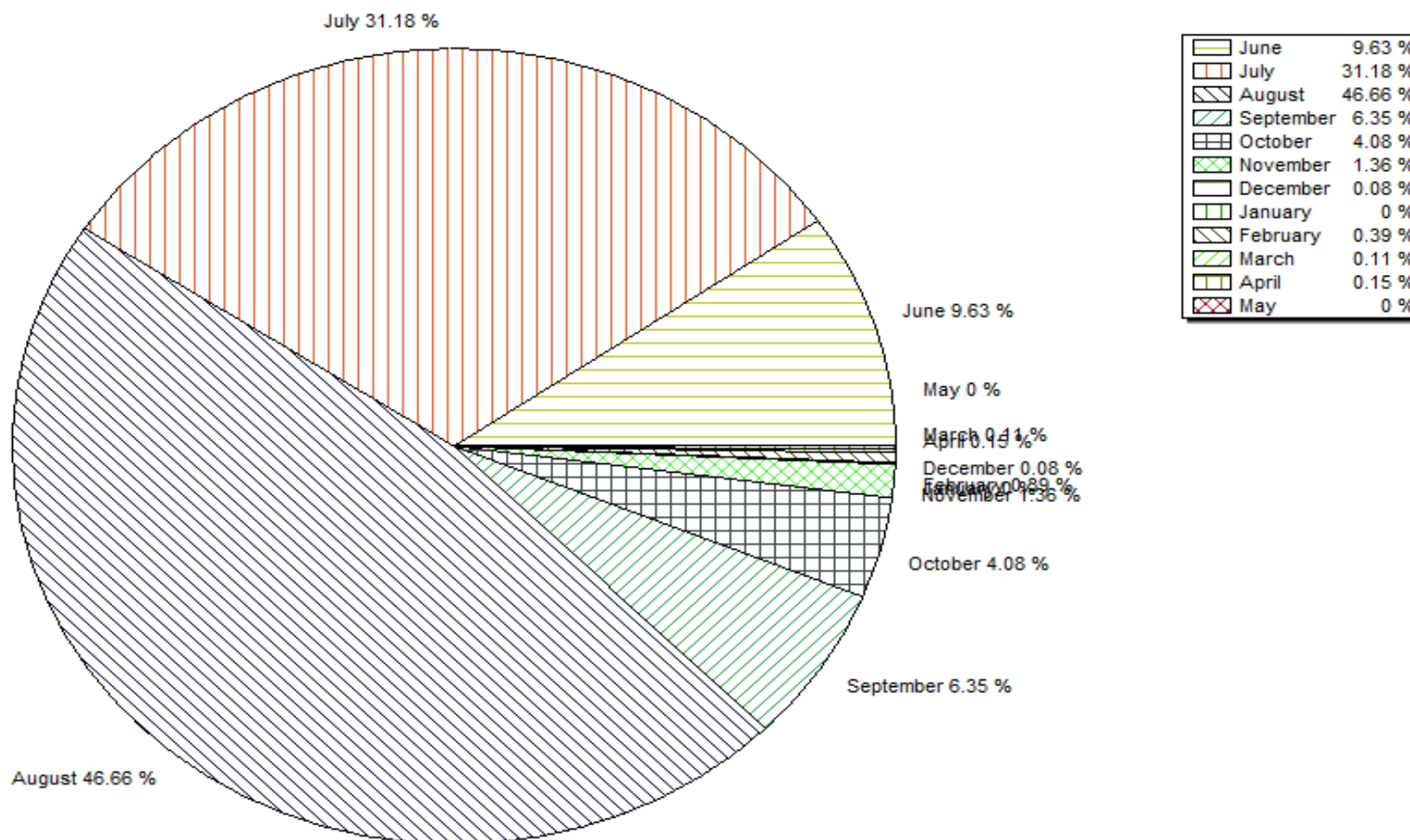
Monthly Runoff for the Year : 2018-2019

Station Name : HARALAHALLI (AKL00S8)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



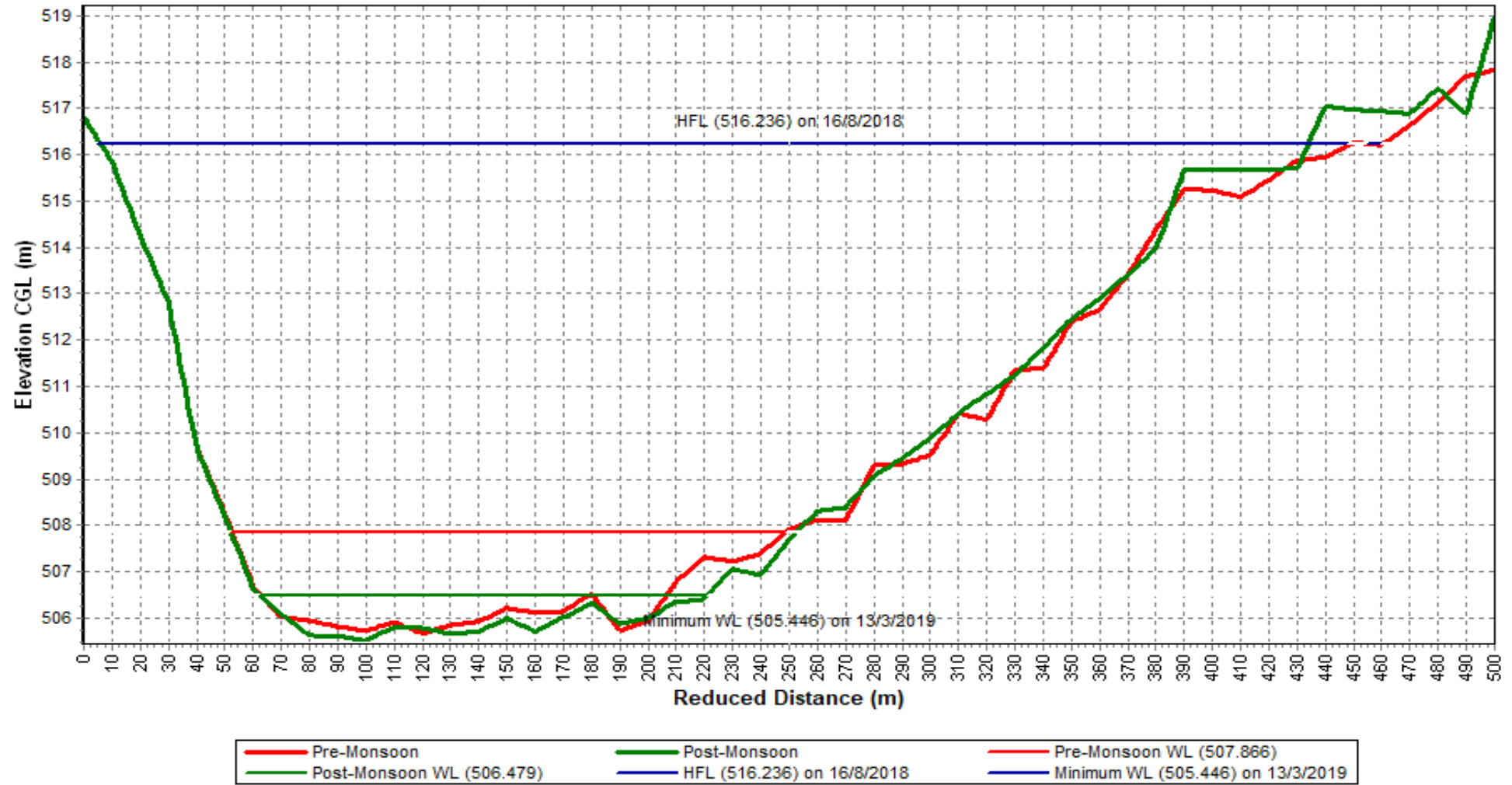
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : HARALAHALLI (AKL00S8)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



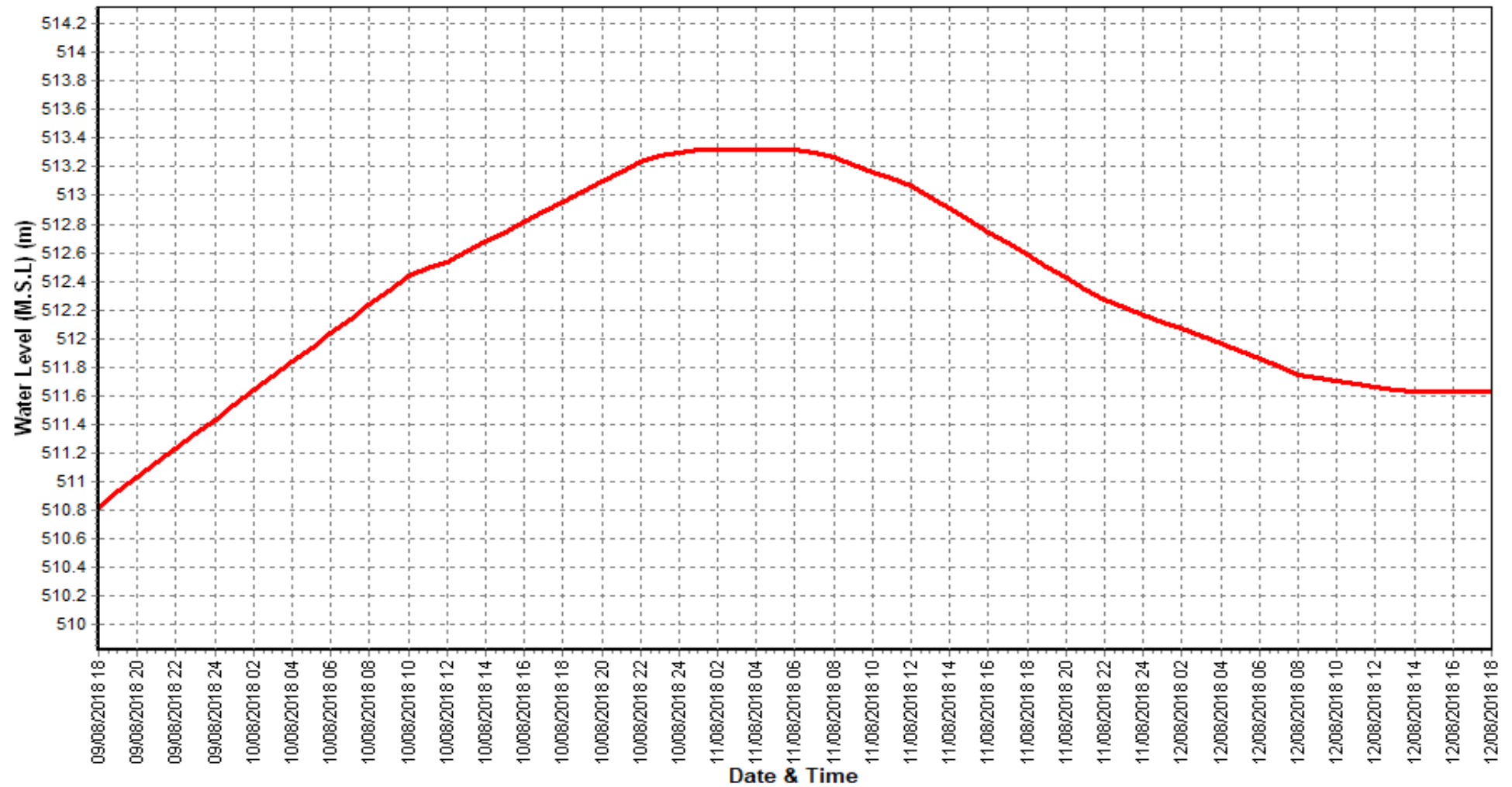
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : HARALAHALLI (AKL00S8)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

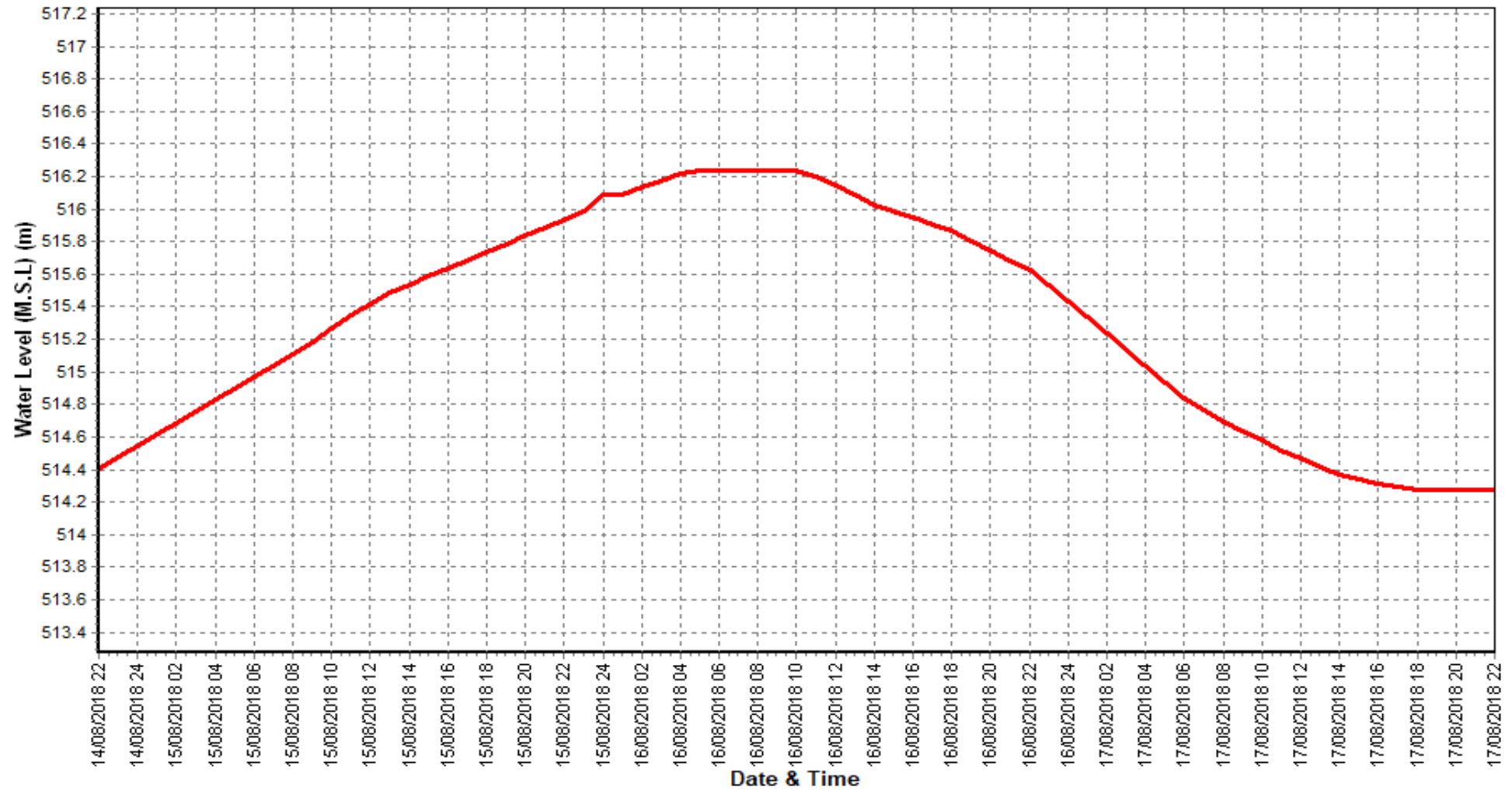
Sub-Division : Upper Tunga Subdn, Devangere



Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : HARALAHALLI (AKL00S8)
Local River : Tungabhadra

Division : Cauvery Division, Bangalore
Sub-Division : Upper Tunga Subdn, Devangere



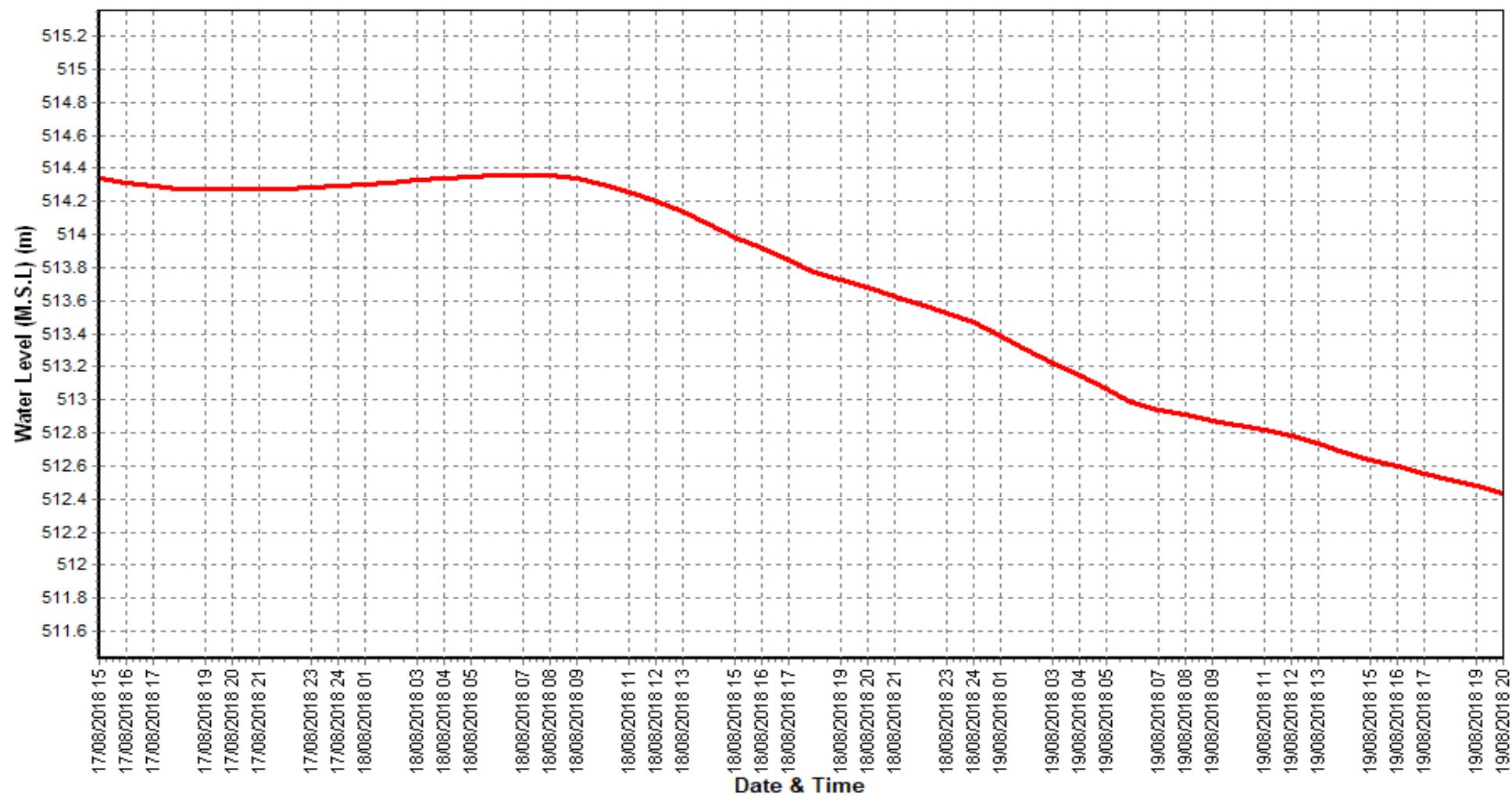
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : HARALAHALLI (AKL00S8)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



HISTORY SHEET

Water Year : 2018-2019

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	0.500	531.160	08/06/1986
1987-1988	154.5	533.460	02/10/1987	0.500	530.800	07/06/1987
1988-1989	120.1	532.985	29/08/1988	0.200	531.060	05/03/1989
1989-1990	82.29	532.535	09/10/1989	0.169	531.080	06/07/1989
1990-1991	88.00	532.680	11/08/1990	0.511	531.180	12/06/1990
1991-1992	121.1	532.965	02/08/1991	0.000	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	533.420	16/10/1993	0.317	530.720	03/07/1993
1994-1995	166.6	532.940	26/10/1994	0.325	530.750	21/12/1994
1995-1996	102.0	532.520	17/09/1995	0.000	530.750	09/05/1996
1996-1997	241.1	533.710	21/10/1996	0.000	530.800	08/07/1996
1997-1998	157.5	532.960	26/10/1997	0.000	530.700	12/05/1998
1998-1999	236.5	533.460	11/10/1998	0.000	530.700	12/12/1998
1999-2000	224.8	533.700	05/10/1999	0.000	530.700	07/02/2000
2000-2001	251.0	534.020	10/10/2000	0.000	530.620	30/01/2001
2001-2002	112.8	532.685	02/08/2001	0.000	530.460	04/02/2002
2002-2003	116.1	533.045	16/10/2002	0.000	530.480	06/01/2003
2003-2004	138.8	532.920	06/10/2003	0.000	530.580	24/01/2004
2004-2005	49.21	531.900	07/09/2004	0.000		27/02/2005
2005-2006	190.1	533.460	27/07/2005	0.000		21/02/2006
2006-2007	179.9	533.740	04/11/2006	0.000	530.410	31/01/2007
2007-2008	99.30	532.580	19/09/2007	0.000		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	532.570	06/10/2008	0.000		08/02/2009
2009-2010	167.8	533.470	02/10/2009	0.000		12/03/2010
2010-2011	257.3	534.040	09/11/2010	0.000	530.030	18/03/2011
2011-2012	90.51	532.200	15/10/2011	0.000	530.100	28/03/2012
2012-2013	339.9	534.650	02/11/2012	0.000		12/02/2013
2013-2014	92.30	532.370	18/09/2013	0.000	530.120	02/01/2014
2014-2015	243.0	534.000	28/10/2014	0.000	530.070	20/02/2015
2015-2016	117.3	532.680	09/09/2015	0.000	530.020	31/01/2016
2016-2017	23.65	531.380	26/09/2016	0.000	530.090	02/07/2016
2017-2018	178.2	533.320	04/10/2017	0.000	0.000	02/01/2018

Annual Runoff of Haridra at Byladahalli

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1985-1986	230	38	268	8	1	9
1	1986-1987	234	56	290	8	2	10
2	1987-1988	244	51	296	9	2	10
3	1988-1989	190	72	262	7	3	9
4	1989-1990	232	98	329	8	3	12
5	1990-1991	297	211	508	10	7	18
6	1991-1992	387	4	391	14	0	14
7	1992-1993	591	74	666	21	3	24
8	1993-1994	456	103	559	16	4	20
9	1994-1995	494	70	564	17	2	20
10	1995-1996	245	46	290	9	2	10
11	1996-1997	406	84	490	14	3	17
12	1997-1998	353	44	397	12	2	14
13	1998-1999	410	111	521	14	4	18
14	1999-2000	317	28	345	11	1	12
15	2000-2001	460	115	576	16	4	20
16	2001-2002	233	10	244	8	0	9
17	2002-2003	127	4	131	4	0	5
18	2003-2004	47	0	47	2	0	2
19	2004-2005	100	0	100	4	0	4
20	2005-2006	344	51	395	12	2	14
21	2006-2007	189	41	230	7	1	8
22	2007-2008	127	38	166	4	1	6
23	2008-2009	244	40	283	9	1	10
24	2009-2010	322	8	330	11	0	12
25	2010-2011	617	35	652	22	1	23
26	2011-2012	261	60	321	9	2	11
27	2012-2013	212	1	213	7	0	8
28	2013-2014	351	2	353	12	0	12
29	2014-2015	340	18	358	12	1	13
30	2015-2016	243	6	249	9	0	9
31	2016-2017	62	2	65	2	0	2
32	2017-2018	98	0	98	3	0	3
33	2018-2019	194	18	212	7	1	8
Average		284	45	329	10	2	12
75% Dependable flow (MCM)				226			
90 % Dependable flow (MCM)				99			

Stage-Discharge Data for the period 2018 - 2019

Station Name : BYLADAHALLI (AKLB0D3)

Division : Cauvery Division, Bangalore

Local River : Haridra

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	530.080	0.000	530.090	0.000	530.290	1.347	531.300	23.21	531.100	16.68	531.000	13.98
2	530.080	0.000	530.090	0.000	530.300	1.387	531.280	22.86 *	531.130	17.74 *	531.030	14.69
3	530.080	0.000	530.090	0.000	530.300	1.387	531.200	19.80	531.130	17.66	531.050	15.31
4	530.080	0.000	530.080	0.000	530.290	1.345	531.100	16.80	531.110	16.93	531.030	14.70 *
5	530.090	0.000	530.080	0.000	530.290	1.351 *	531.060	15.54	531.100	16.69	531.060	15.64
6	530.090	0.000	530.080	0.000	530.280	1.312	531.040	14.87	531.080	16.15	531.040	15.07
7	530.090	0.000	530.080	0.000	530.280	1.294	531.030	14.60	531.060	15.58 *	531.010	14.30
8	530.090	0.000	530.080	0.000	530.290	1.310	531.010	14.06 *	531.010	14.15	531.010	14.13 *
9	530.080	0.000	530.080	0.000	530.300	1.333	531.000	13.85 *	531.010	14.18	530.980	13.50
10	530.080	0.000	530.080	0.000	530.300	1.384	530.980	13.34	531.060	15.57	530.970	13.28
11	530.090	0.000	530.080	0.000	530.300	1.385	530.980	13.33	531.080	16.16	530.960	12.76 *
12	530.090	0.000	530.090	0.000	530.300	1.431 *	530.970	13.13	531.050	15.29	530.930	12.20
13	530.090	0.000	530.090	0.000	530.310	1.420	530.960	12.76 *	531.050	15.30	530.930	12.17
14	530.080	0.000	530.090	0.000	530.320	1.542	530.960	12.91	531.040	14.99 *	530.950	12.63
15	530.080	0.000	530.090	0.000	530.680	6.455 *	530.960	12.86	531.000	14.06	530.960	12.85
16	530.080	0.000	530.090	0.000	532.120	64.74	530.940	12.24 *	530.980	13.44	530.960	12.84
17	530.080	0.000	530.270	1.296	532.130	64.77	530.940	12.36	530.960	12.85	530.980	13.54
18	530.080	0.000	530.270	1.291	532.100	63.62	530.940	12.33	530.990	13.58 *	531.000	13.85 *
19	530.080	0.000	530.280	1.321	532.090	63.11 *	530.930	12.08	532.060	61.23 *	531.030	14.78
20	530.080	0.000	530.280	1.328	532.080	62.05	530.930	12.10 *	532.140	67.93	532.070	61.35
21	530.080	0.000	530.290	1.358	531.060	15.03	530.940	12.24 *	532.160	67.62 *	532.190	69.61 *
22	530.080	0.000	530.290	1.351 *	530.900	11.22 *	530.940	12.37	532.100	65.09	531.320	24.13
23	530.080	0.000	530.280	1.309	531.130	17.61	530.960	12.76 *	531.320	23.98	531.260	22.14 *
24	530.080	0.000	530.290	1.366	531.240	20.85	530.960	12.87	531.100	16.70	531.240	21.20
25	530.090	0.000	530.290	1.367	531.300	22.97	530.940	12.38	531.080	16.13	531.210	20.38 *
26	530.090	0.000	530.290	1.344	531.220	20.73 *	530.970	13.18	531.080	16.19	531.200	19.85
27	530.090	0.000	530.300	1.391	531.100	16.60	530.980	13.36	531.060	15.59	531.130	17.60
28	530.090	0.000	530.300	1.390	531.130	17.72	531.000	14.02	531.060	15.58 *	531.080	16.12
29	530.090	0.000	530.300	1.431 *	531.240	21.48	531.000	14.09	531.050	15.27	531.060	15.52
30	530.090	0.000	530.290	1.347	531.240	21.22	531.040	14.99 *	531.010	14.13	531.040	14.98
31			530.290	1.352	531.240	21.29			531.000	13.96		
Ten-Daily Mean												
I Ten-Daily	530.084	0.000	530.083	0.000	530.292	1.345	531.100	16.89	531.079	16.13	531.018	14.46
II Ten-Daily	530.083	0.000	530.163	0.524	531.243	33.05	530.951	12.61	531.235	24.48	531.077	17.90
III Ten-Daily	530.086	0.000	530.292	1.364	531.164	18.79	530.973	13.23	531.275	25.47	531.273	24.15
Monthly												
Min.	530.080	0.000	530.080	0.000	530.280	1.294	530.930	12.08	530.960	12.85	530.930	12.17
Max.	530.090	0.000	530.300	1.431	532.130	64.77	531.300	23.21	532.160	67.93	532.190	69.61
Mean	530.084	0	530.183	0.653	530.908	17.76	531.008	14.24	531.199	22.14	531.123	18.84

Annual Runoff in MCM = 212 Annual Runoff in mm = 92

Peak Observed Discharge = 67.93 cumecs on 20/10/2018 Corres. Water Level :532.14 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018 Corres. Water Level :530.08 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 2018 - 2019

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	531.020	14.40	530.080	0.864	529.930	0.000	529.950	0.000	529.950	0.000	529.960	0.000
2	530.980	13.25 *	530.070	0.832	529.930	0.000	529.960	0.000	529.950	0.000	529.960	0.000
3	530.980	13.51	530.070	0.833	529.930	0.000	529.960	0.000	529.940	0.000	529.960	0.000
4	530.960	12.94	530.060	0.819	529.930	0.000	529.950	0.000	529.940	0.000	529.960	0.000
5	530.950	12.68	530.050	0.764	529.950	0.000	529.950	0.000	529.940	0.000	529.960	0.000
6	530.930	12.26	530.030	0.000	529.960	0.000	529.950	0.000	529.940	0.000	529.960	0.000
7	530.930	12.28	530.000	0.000	529.960	0.000	529.950	0.000	529.940	0.000	529.960	0.000
8	530.920	11.99	529.970	0.000	529.950	0.000	529.950	0.000	529.940	0.000	529.960	0.000
9	530.910	11.81 *	529.950	0.000	529.950	0.000	529.950	0.000	529.940	0.000	529.960	0.000
10	530.910	11.82	529.950	0.000	529.950	0.000	529.950	0.000	529.950	0.000	529.960	0.000
11	530.910	11.79	529.940	0.000	529.950	0.000	529.950	0.000	529.950	0.000	529.960	0.000
12	530.920	12.02	529.940	0.000	529.960	0.000	529.940	0.000	529.950	0.000	529.950	0.000
13	530.920	12.03	529.940	0.000	529.970	0.000	529.940	0.000	529.950	0.000	529.950	0.000
14	530.910	11.81	529.930	0.000	529.970	0.000	529.940	0.000	529.950	0.000	529.950	0.000
15	530.880	11.09	529.900	0.000	529.970	0.000	529.940	0.000	529.950	0.000	529.950	0.000
16	530.620	6.677 *	529.870	0.000	529.970	0.000	529.950	0.000	529.950	0.000	529.950	0.000
17	530.100	0.827	529.890	0.000	529.970	0.000	529.950	0.000	529.950	0.000	529.950	0.000
18	530.110	0.839	529.890	0.000	529.950	0.000	529.950	0.000	529.960	0.000	529.950	0.000
19	530.060	0.822	529.890	0.000	529.950	0.000	529.950	0.000	529.960	0.000	529.950	0.000
20	530.060	0.782	529.890	0.000	529.950	0.000	529.950	0.000	529.960	0.000	529.950	0.000
21	530.070	0.836	529.890	0.000	529.950	0.000	529.940	0.000	529.950	0.000	529.950	0.000
22	530.070	0.837	529.890	0.000	529.950	0.000	529.940	0.000	529.950	0.000	529.960	0.000
23	530.070	0.824 *	529.880	0.000	529.930	0.000	529.940	0.000	529.950	0.000	529.960	0.000
24	530.060	0.821	529.880	0.000	529.930	0.000	529.940	0.000	529.950	0.000	529.960	0.000
25	530.060	0.767 *	529.880	0.000	529.930	0.000	529.940	0.000	529.950	0.000	529.960	0.000
26	530.060	0.767 #	529.870	0.000	529.930	0.000	529.940	0.000	529.950	0.000	529.960	0.000
27	530.060	0.822	529.860	0.000	529.930	0.000	529.940	0.000	529.950	0.000	529.960	0.000
28	530.070	0.835	529.860	0.000	529.930	0.000	529.950	0.000	529.950	0.000	529.960	0.000
29	530.070	0.835	529.950	0.000			529.950	0.000	529.950	0.000	529.960	0.000
30	530.070	0.824 *	529.950	0.000			529.950	0.000	529.950	0.000	529.960	0.000
31	530.080	0.856 *	529.930	0.000			529.950	0.000			529.960	0.000
Ten-Daily Mean												
I Ten-Daily	530.949	12.69	530.023	0.411	529.944	0.000	529.952	0.000	529.943	0.000	529.960	0.000
II Ten-Daily	530.549	6.869	529.908	0.000	529.961	0.000	529.946	0.000	529.953	0.000	529.951	0.000
III Ten-Daily	530.067	0.820	529.895	0.000	529.935	0.000	529.944	0.000	529.950	0.000	529.959	0.000
Monthly												
Min.	530.060	0.767	529.860	0.000	529.930	0.000	529.940	0.000	529.940	0.000	529.950	0.000
Max.	531.020	14.40	530.080	0.864	529.970	0.000	529.960	0.000	529.960	0.000	529.960	0.000
Mean	530.507	6.602	529.940	0.133	529.948	0	529.947	0	529.949	0	529.957	0

Peak Computed Discharge = 69.61 cumecs on 21/11/2018

Corres. Water Level :532.19 m

Lowest Computed Discharge = 0.767 cumecs on 25/12/2018

Corres. Water Level :530.06 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)

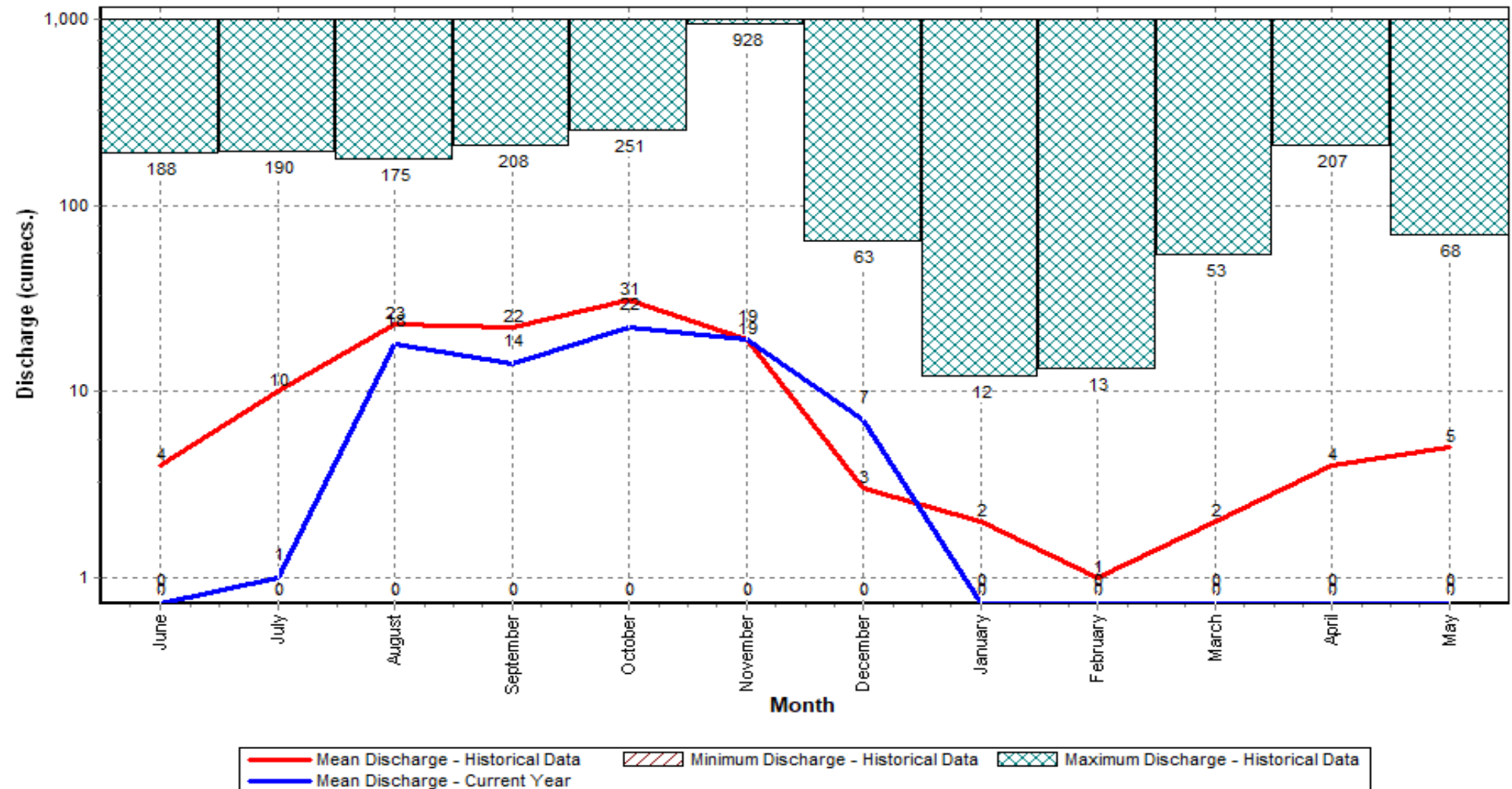
Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2018-2019

Station Name : BYLADAHALLI (AKLB0D3)
Local River : Haridra

Data considered : 1986-2019

Division : Cauvery Division, Bangalore
Sub-Division : Upper Tunga SD, Devangere



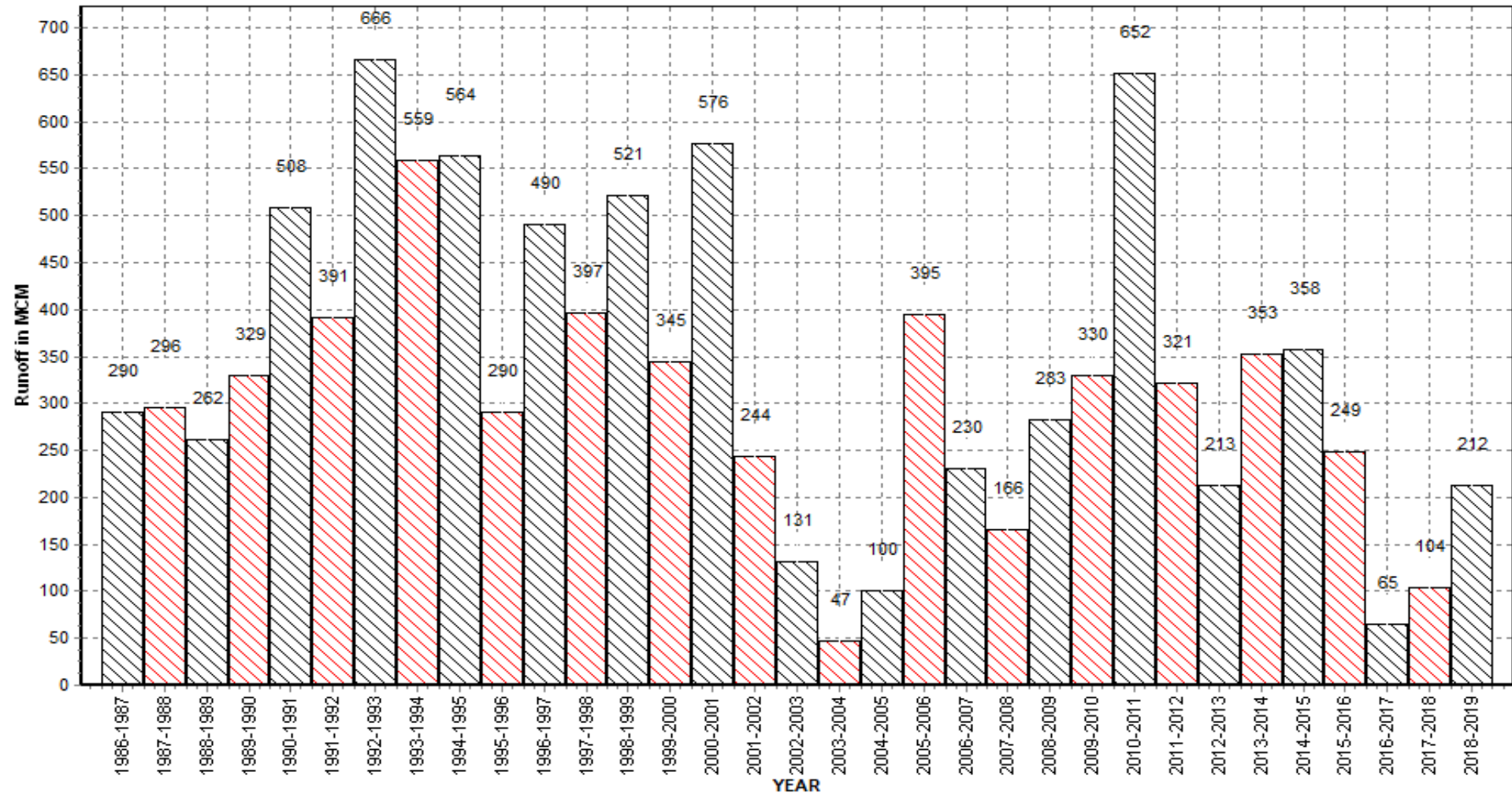
Annual Runoff Values for the period: 1986 - 2019

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

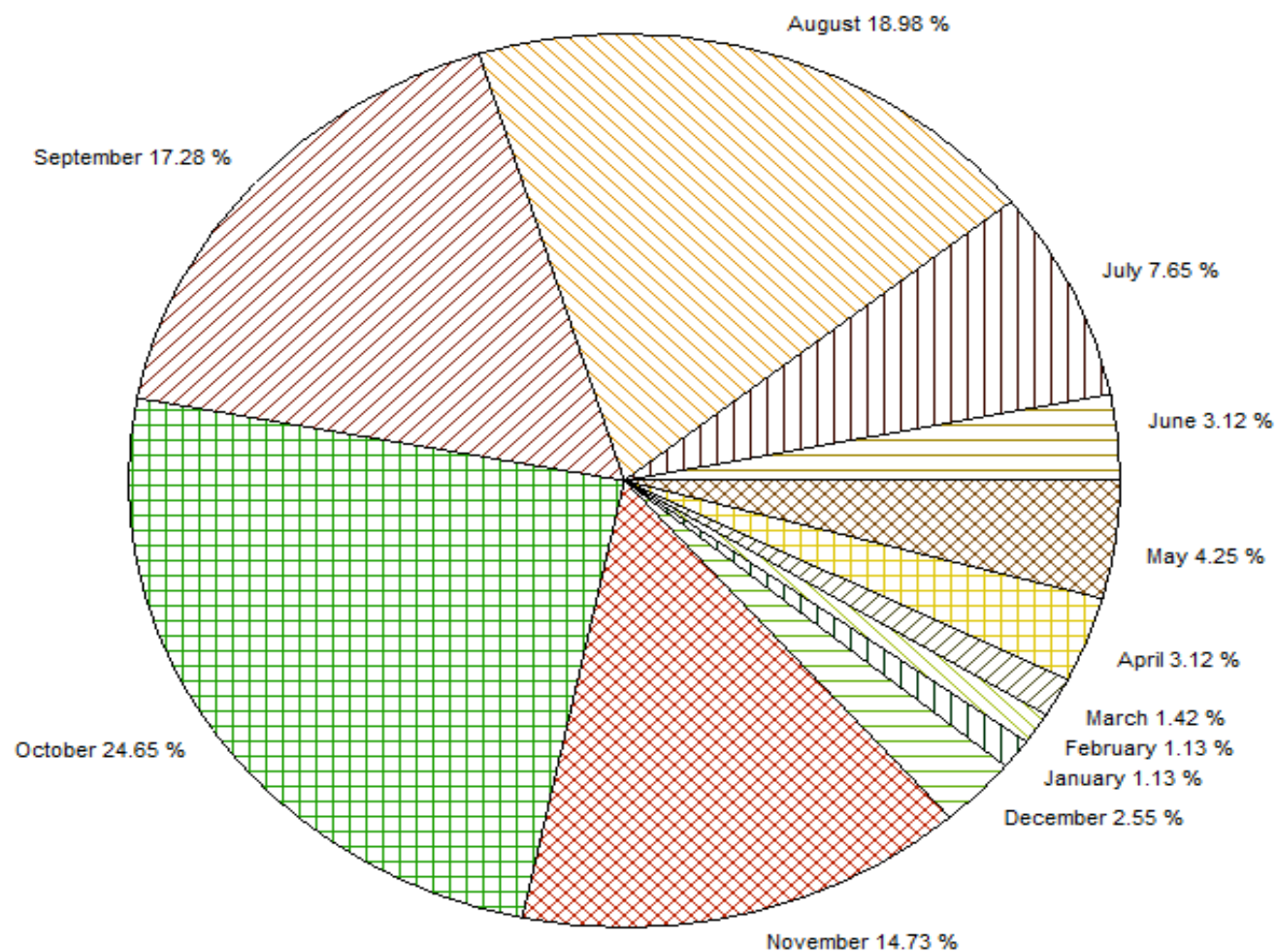
Monthly Average Runoff based on period : 1986-2018

Station Name : BYLADAHALLI (AKLB0D3)

Local River : Haridra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere

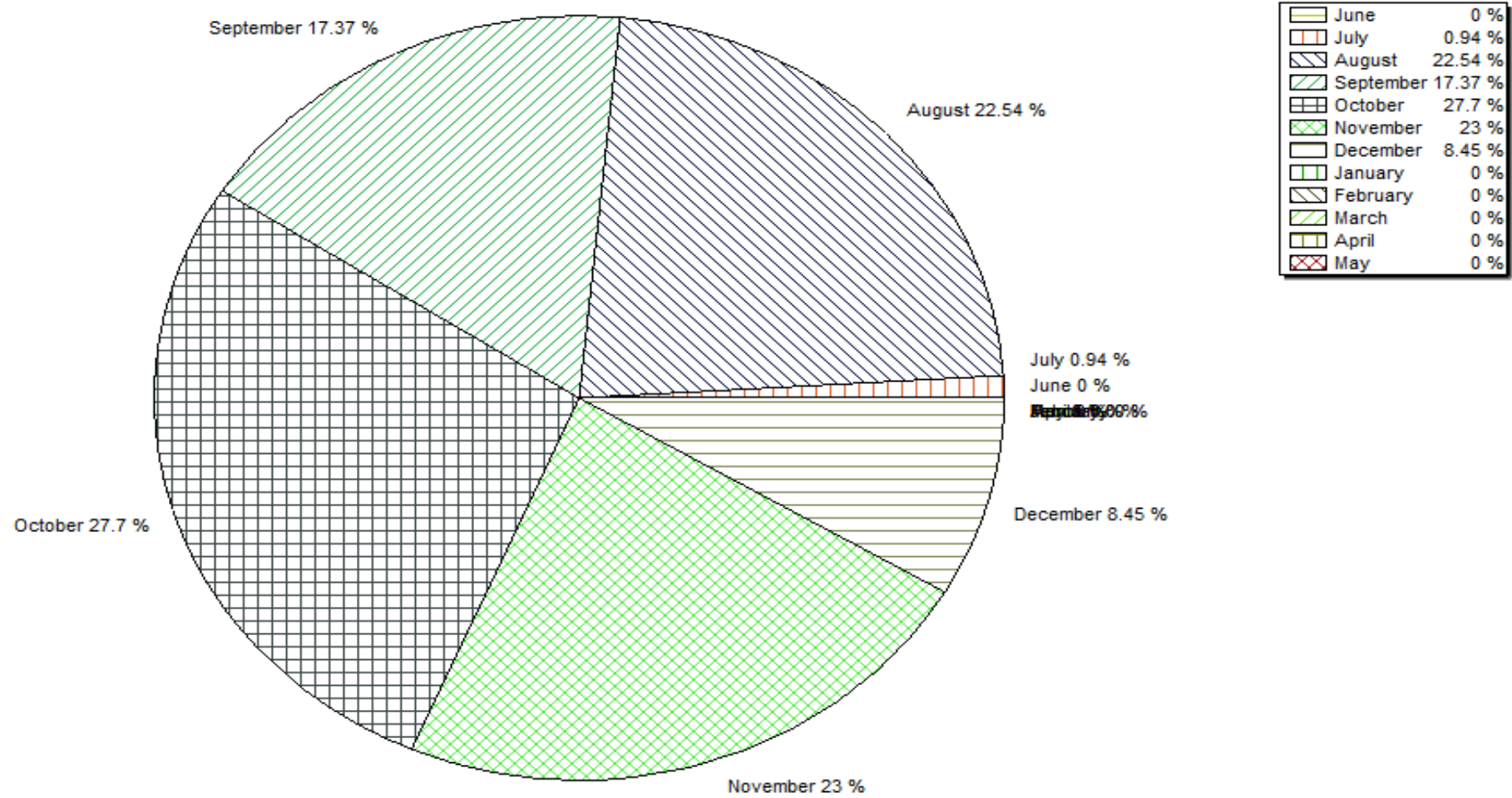


June	3.12 %
July	7.65 %
August	18.98 %
September	17.28 %
October	24.65 %
November	14.73 %
December	2.55 %
January	1.13 %
February	1.13 %
March	1.42 %
April	3.12 %
May	4.25 %

Monthly Runoff for the Year : 2018-2019

Station Name : BYLADAHALLI (AKLB0D3)
Local River : Haridra

Division : Cauvery Division, Bangalore
Sub-Division : Upper Tunga SD, Devangere



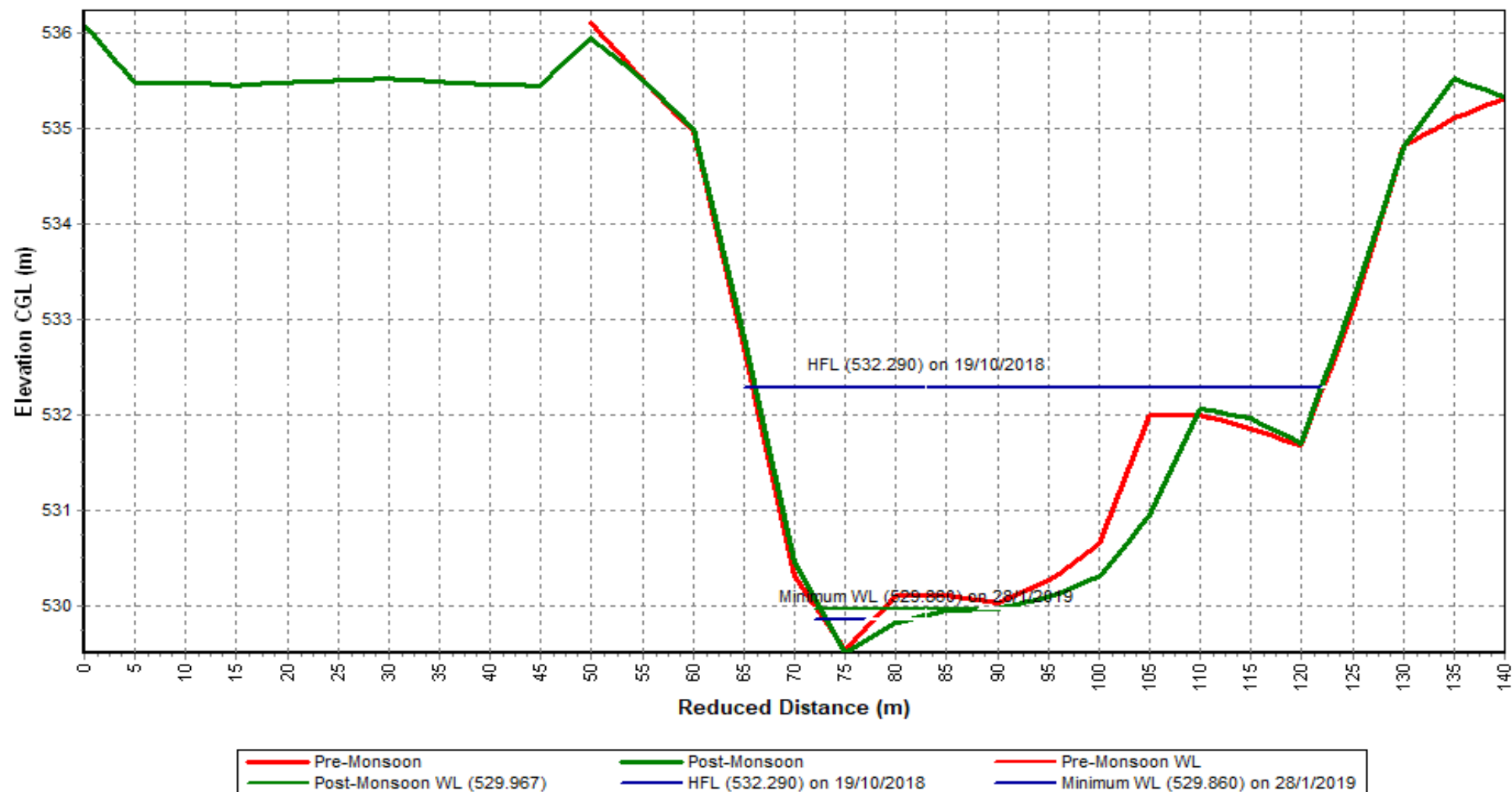
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : BYLADAHALLI (AKLB0D3)

Local River : Haridra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



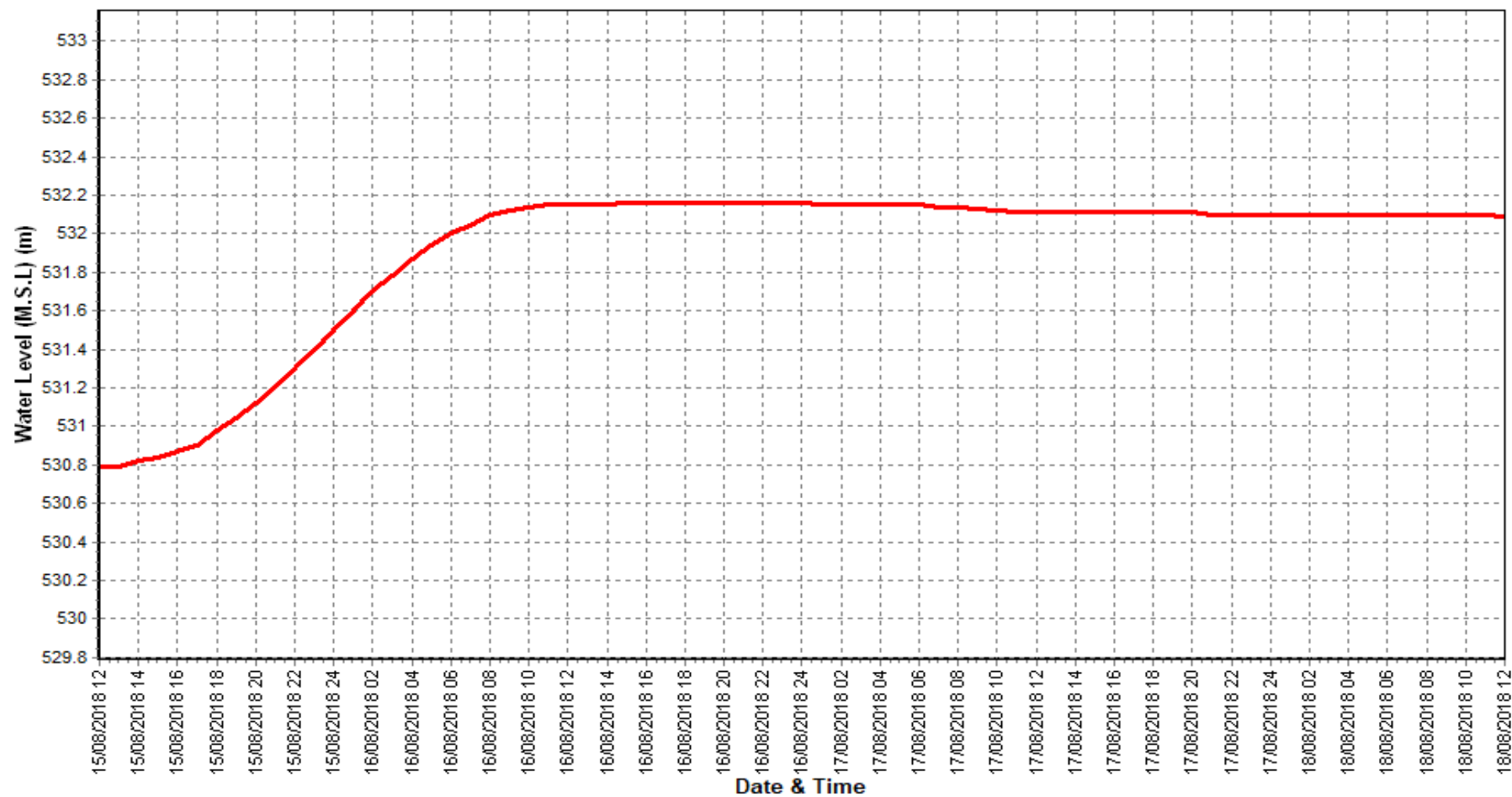
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : BYLADAHALLI (AKLB0D3)

Local River : Haridra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



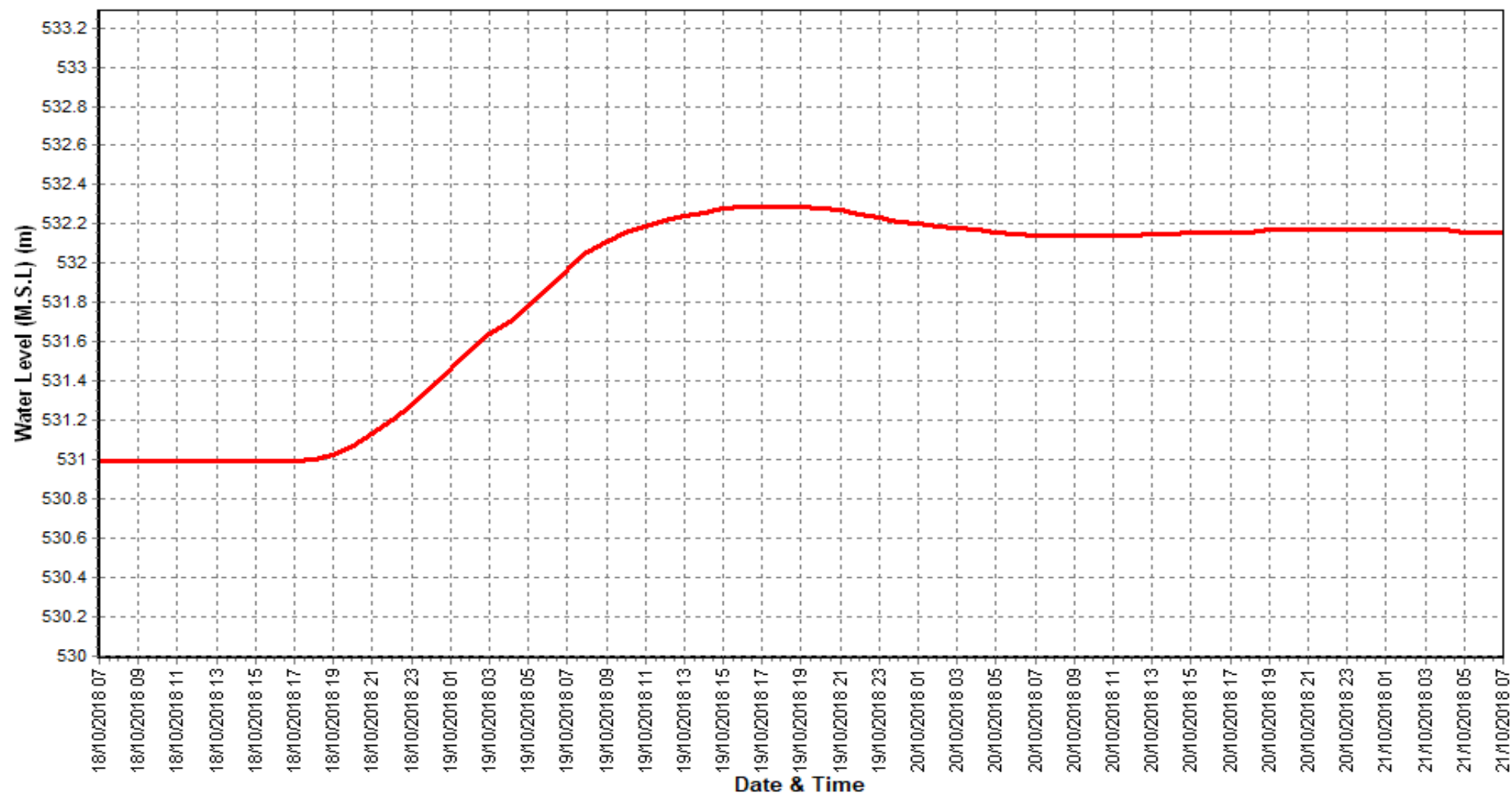
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : BYLADAHALLI (AKLB0D3)

Local River : Haridra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



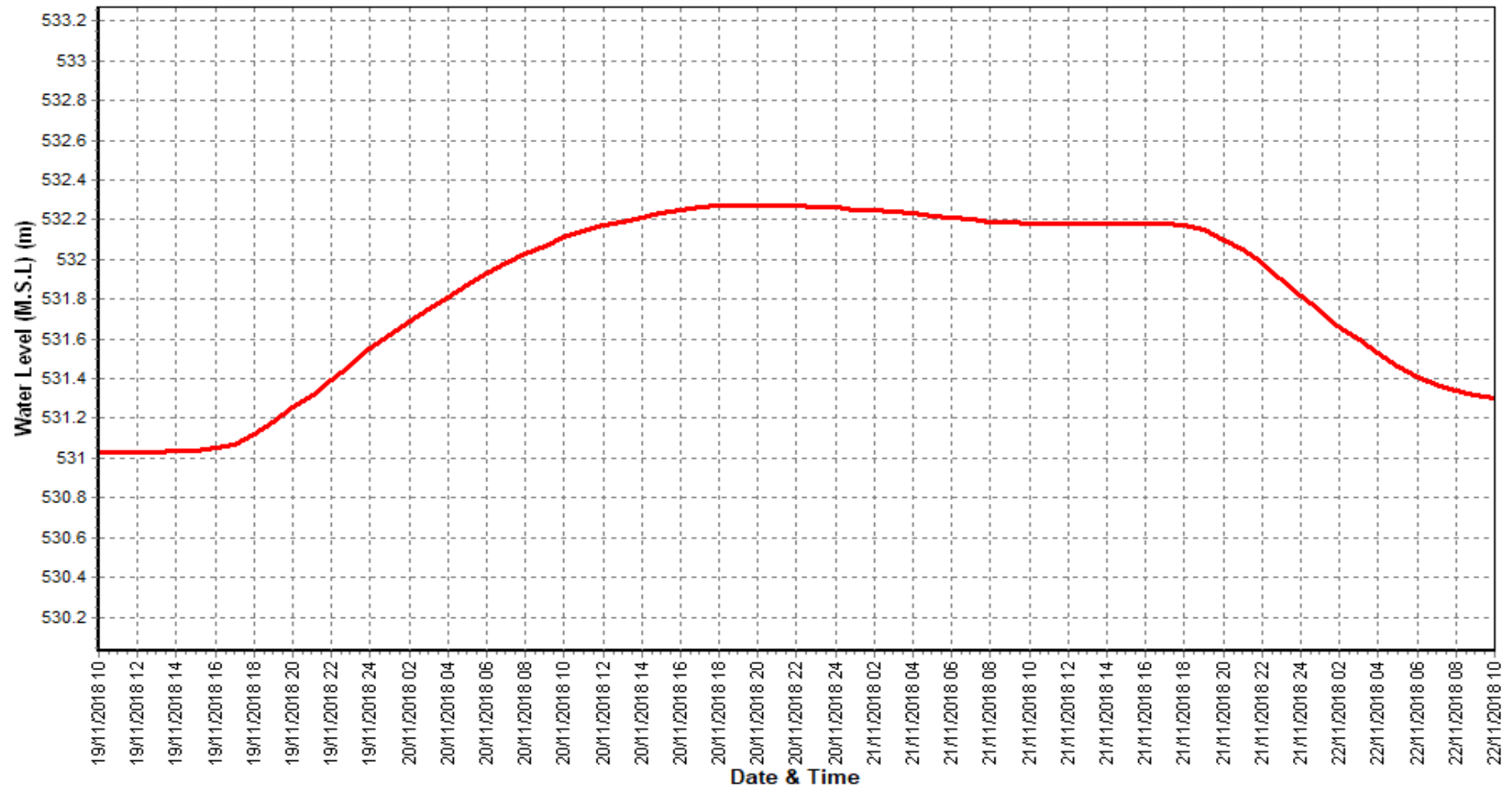
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : BYLADAHALLI (AKLB0D3)

Local River : Haridra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



HISTORY SHEET

Water Year : 2018-2019

Site : KUPPELUR

Code : AKLC0B8

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) : 531.67 (m.s.l)

01/06/1990

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
2012-2013	64.26	536.090	03/11/2012	0.000	534.740	25/01/2013

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

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
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

Annual Runoff of Kumudavathi at Kuppelur

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1990-1991	165	0	165	5.835627	0	5.83563
2	1991-1992	474	2	476	16.76236	0.059045088	16.8214
3	1992-1993	634	24	658	22.385614	0.851323929	23.2369
4	1993-1994	292	14	306	10.315833	0.491017611	10.8069
5	1994-1995	658	18	676	23.256282	0.642046643	23.8983
6	1995-1996	176	2	178	6.2086033	0.086494643	6.2951
7	1996-1997	133	4	138	4.716286	0.147982134	4.86427
8	1997-1998	428	10	438	15.123596	0.337878954	15.4615
9	1998-1999	398	5	403	14.071073	0.181162177	14.2522
10	1999-2000	329	2	331	11.623767	0.084671103	11.7084
11	2000-2001	407	2	408	14.370738	0.06207825	14.4328
12	2001-2002	45	0	45	1.6061978	0	1.6062
13	2002-2003	49	1	50	1.7364837	0.031848338	1.76833
14	2003-2004	73	1	74	2.5912986	0.026999073	2.6183
15	2004-2005	240	0	240	8.4772904	0	8.47729
16	2005-2006	472	2	475	16.685794	0.087712792	16.7735
17	2006-2007	301	0	301	10.639838	0.004893965	10.6447
18	2007-2008	773	9	782	27.311741	0.306355026	27.6181
19	2008-2009	400	6	406	14.142566	0.215422982	14.358
20	2009-2010	586	2	588	20.721558	0.060619633	20.7822
21	2010-2011	930	27	957	32.8529	0.956736901	33.8096
22	2011-2012	360	29	389	12.731992	1.020867175	13.7529
23	2012-2013	88	0	88	3.113441	0	3.11344
24	2013-2014	615	0	615	21.736342	0	21.7363
25	2014-2015	609	0	609	21.517512	0	21.5175
26	2015-2016	96	0	96	3.376008	0	3.37601
27	2016-2017	23	0	23	0.8037984	0	0.8038
28	2017-2018	0	0	0	0	0	0
29	2018-2019	235	0	235	8.3020569	0	8.30206
Average		344	6	350	12	0	12
75% Dependable flow (MCM)				93.68			
90 % Dependable flow (MCM)				25.02			

Stage-Discharge Data for the period 2018 - 2019

Station Name : KUPPELUR (AKLC0B8)

Division : Cauvery Division, Bangalore

Local River : Kumudavathi

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		0.000	535.180	11.55	535.670	40.89	535.320	14.22	534.990	5.388
2		0.000		0.000	535.170	10.77	535.570	27.23 *	535.290	14.51 *	534.980	5.222
3		0.000		0.000	535.170	10.72	535.460	19.79	535.170	10.54	535.050	0.000
4		0.000		0.000	535.160	10.41	535.320	13.61	535.110	9.040	535.150	0.000
5		0.000		0.000	535.140	9.310 *	535.220	11.96	535.040	5.920	535.190	0.000
6		0.000		0.000	535.120	9.198	535.170	11.12	534.980	5.166	535.210	0.000
7		0.000		0.000	535.100	8.700	535.150	10.20	535.010	5.715 *	535.210	0.000
8		0.000		0.000	535.100	8.728	535.090	8.858	535.020	5.787	535.220	0.000
9		0.000		0.000	535.140	9.887	535.070	7.268 *	535.030	5.912	535.210	0.000
10		0.000		0.000	535.160	10.33	535.090	8.823	535.020	5.865	535.200	0.000
11		0.000		0.000	535.150	10.08	535.110	9.304	535.050	6.009	535.210	0.000
12		0.000		0.000	535.170	10.26 *	535.080	6.349	535.070	6.589	535.200	0.000
13		0.000		0.000	535.250	12.94	535.050	6.730 *	535.080	6.800	535.190	0.000
14		0.000		0.000	535.860	45.19	535.040	5.573	535.050	6.730 *	535.180	0.000
15		0.000		0.000	536.890	138.6 *	535.020	5.282	535.020	5.920	535.170	0.000
16		0.000	535.820	43.25	538.010	300.0	535.010	5.715 *	535.010	5.678	535.170	0.000
17		0.000	536.230	63.32	536.810	130.7	534.990	5.132	535.390	17.75 #	535.160	0.000
18		0.000	536.040	45.78	536.730	112.8	534.980	5.037	535.920	48.54 *	535.160	0.000
19		0.000	536.120	48.61	536.470	94.06 *	534.980	5.033	535.590	28.28 *	535.180	0.000
20		0.000	535.990	44.16	536.150	66.04	534.970	4.757	535.345	14.56	535.190	0.000
21		0.000	535.800	42.71	536.150	66.41	535.050	6.730 *	535.220	11.94 *	535.180	0.000
22		0.000	535.730	36.22 *	536.070	59.50 *	534.990	5.141	535.140	10.34	535.170	0.000
23		0.000	535.830	43.82	536.080	62.20	534.990	5.238 *	535.040	6.048	535.160	0.000
24		0.000	535.870	44.58	536.020	59.04	535.000	5.370	534.990	5.244	535.150	0.000
25		0.000	535.870	44.88	535.670	42.36	535.020	5.728	534.990	5.239	535.140	0.000
26		0.000	535.860	44.40	535.590	28.28 *	535.070	6.538	534.970	5.052	535.150	0.000
27		0.000	535.760	40.92	535.540	25.68 #	535.070	6.467	534.980	5.170	535.160	0.000
28		0.000	535.610	35.84	535.500	23.68 #	535.080	6.677	534.970	4.781 *	535.170	0.000
29		0.000	535.440	20.84 *	535.490	23.20 #	535.210	11.60 *	534.960	4.662	535.170	0.000
30		0.000	535.300	13.41	535.600	35.88	535.360	17.33 *	534.970	5.178	535.180	0.000
31			535.240	12.81	535.710	42.67			534.980	5.203		
Ten-Daily Mean												
I Ten-Daily		0.000		0.000	535.144	9.961	535.281	15.97	535.099	8.268	535.141	1.061
II Ten-Daily		0.000	536.040	24.51	536.249	92.08	535.023	5.891	535.252	14.69	535.181	0.000
III Ten-Daily		0.000	535.664	34.58	535.766	42.63	535.084	7.682	535.019	6.260	535.163	0.000
Monthly												
Min.		0.000	535.240	0.000	535.100	8.700	534.970	4.757	534.960	4.662	534.980	0.000
Max.		0.000	536.230	63.32	538.010	300.0	535.670	40.89	535.920	48.54	535.220	5.388
Mean		0	535.782	20.18	535.721	48.04	535.129	9.849	535.120	9.625	535.162	0.354

Annual Runoff in MCM = 235 Annual Runoff in mm = 127

Peak Observed Discharge = 300.0 cumecs on 16/08/2018 Corres. Water Level :538.01 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018

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 2018 - 2019

Station Name : KUPPELUR (AKLC0B8)

Division : Cauvery Division, Bangalore

Local River : Kumudavathi

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	535.180	0.000	534.520	0.000	534.500	0.000	533.990	0.000	0.000	0.000		
2	535.170	0.000	534.450	0.000	534.490	0.000	533.790	0.000	0.000	0.000		
3	535.170	0.000	534.390	0.000	534.490	0.000	533.580	0.000	0.000	0.000		
4	535.160	0.000	534.360	0.000	534.480	0.000	533.420	0.000	0.000	0.000		
5	535.150	0.000	534.450	0.000	534.470	0.000	533.270	0.000	0.000	0.000		
6	535.150	0.000	534.490	0.000	534.470	0.000	533.150	0.000	0.000	0.000		
7	535.140	0.000	534.470	0.000	534.520	0.000	533.070	0.000	0.000	0.000		
8	535.130	0.000	534.470	0.000	534.510	0.000	532.910	0.000	0.000	0.000		
9	535.130	0.000	534.470	0.000	534.510	0.000	532.480	0.000	0.000	0.000		
10	535.120	0.000	534.460	0.000	534.500	0.000		0.000	0.000	0.000		
11	535.120	0.000	534.450	0.000	534.500	0.000		0.000	0.000	0.000		
12	535.110	0.000	534.440	0.000	534.500	0.000		0.000	0.000	0.000		
13	535.110	0.000	534.440	0.000	534.500	0.000		0.000	0.000	0.000		
14	535.100	0.000	534.470	0.000	534.480	0.000		0.000	0.000	0.000		
15	535.090	0.000	534.470	0.000	534.470	0.000		0.000	0.000	0.000		
16	535.080	0.000	534.480	0.000	534.460	0.000		0.000	0.000	0.000		
17	535.070	0.000	534.480	0.000	534.450	0.000		0.000	0.000	0.000		
18	534.820	0.000	534.490	0.000	534.440	0.000		0.000	0.000	0.000		
19	534.800	0.000	534.490	0.000	534.430	0.000		0.000	0.000	0.000		
20	534.790	0.000	534.500	0.000	534.430	0.000		0.000	0.000	0.000		
21	534.780	0.000	534.500	0.000	534.410	0.000		0.000	0.000	0.000		
22	534.780	0.000	534.500	0.000	534.400	0.000		0.000	0.000	0.000		
23	534.750	0.000	534.500	0.000	534.390	0.000		0.000	0.000	0.000		
24	534.740	0.000	534.490	0.000	534.380	0.000		0.000	0.000	0.000		
25	534.730	0.000	534.490	0.000	534.370	0.000		0.000	0.000	0.000		
26	534.710	0.000	534.480	0.000	534.370	0.000		0.000	0.000	0.000		
27	534.670	0.000	534.480	0.000	534.310	0.000		0.000	0.000	0.000		
28	534.640	0.000	534.470	0.000	534.170	0.000		0.000	0.000	0.000		
29	534.620	0.000	534.520	0.000				0.000	0.000	0.000		
30	534.590	0.000	534.520	0.000				0.000	0.000	0.000		
31	534.570	0.000	534.510	0.000				0.000				0.000
Ten-Daily Mean												
I Ten-Daily	535.150	0.000	534.453	0.000	534.494	0.000	533.296	0.000	0.000	0.000		
II Ten-Daily	535.009	0.000	534.471	0.000	534.466	0.000		0.000	0.000	0.000		
III Ten-Daily	534.689	0.000	534.496	0.000	534.350	0.000		0.000	0.000	0.000		
Monthly												
Min.	534.570	0.000	534.360	0.000	534.170	0.000	532.480	0.000	0.000	0.000		
Max.	535.180	0.000	534.520	0.000	534.520	0.000	533.990	0.000	0.000	0.000		
Mean	534.941	0	534.474	0	534.443	0	533.296	0	0	0		

Peak Computed Discharge = 138.6 cumecs on 15/08/2018

Corres. Water Level :536.89 m

Lowest Computed Discharge = 4.781 cumecs on 28/10/2018

Corres. Water Level :534.97 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 : 2018-2019

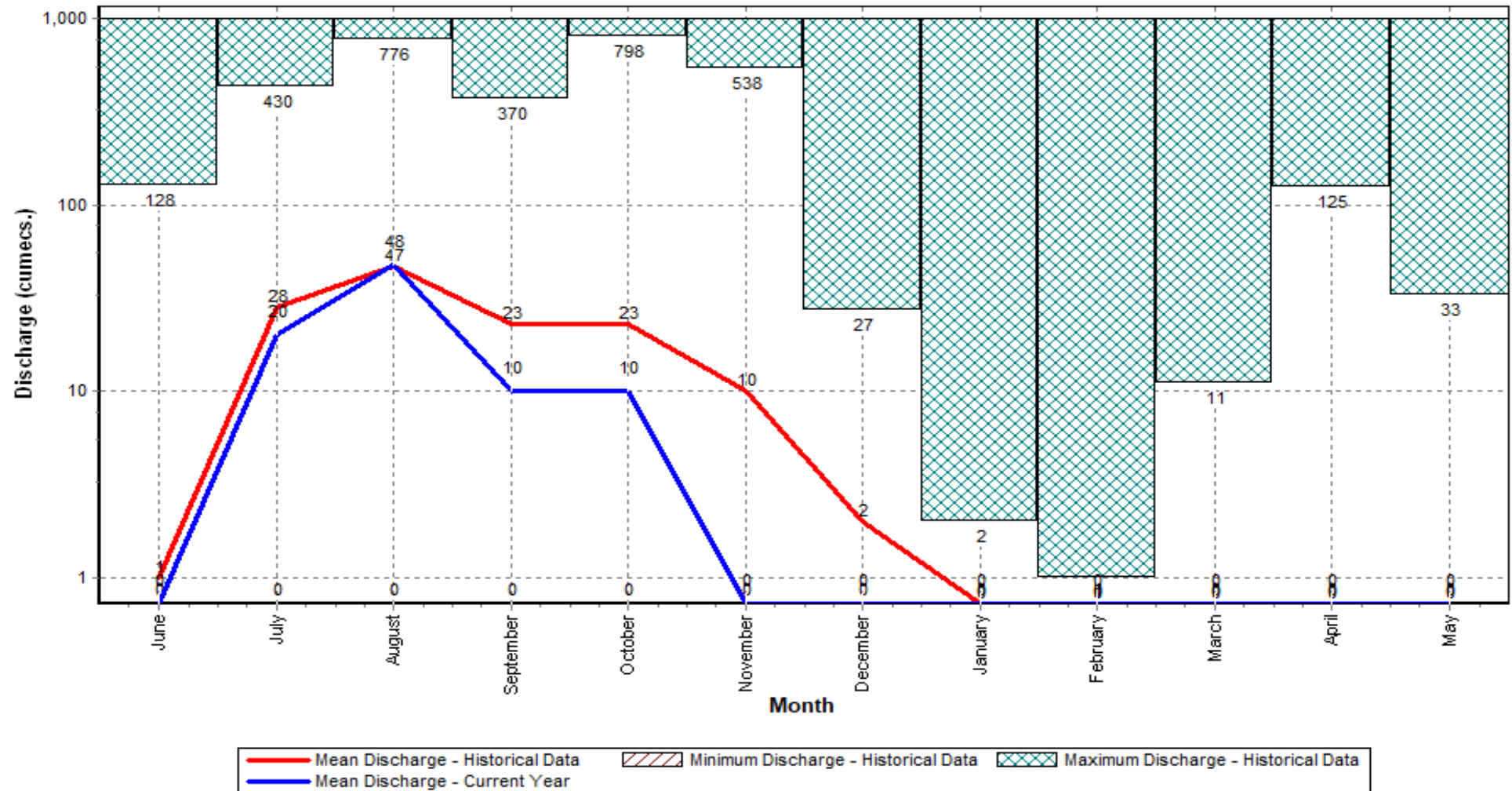
Station Name : KUPPELUR (AKLC0B8)

Data considered : 1991-2019

Division : Cauvery Division, Bangalore

Local River : Kumudavathi

Sub-Division : Upper Tunga SD, Devangere



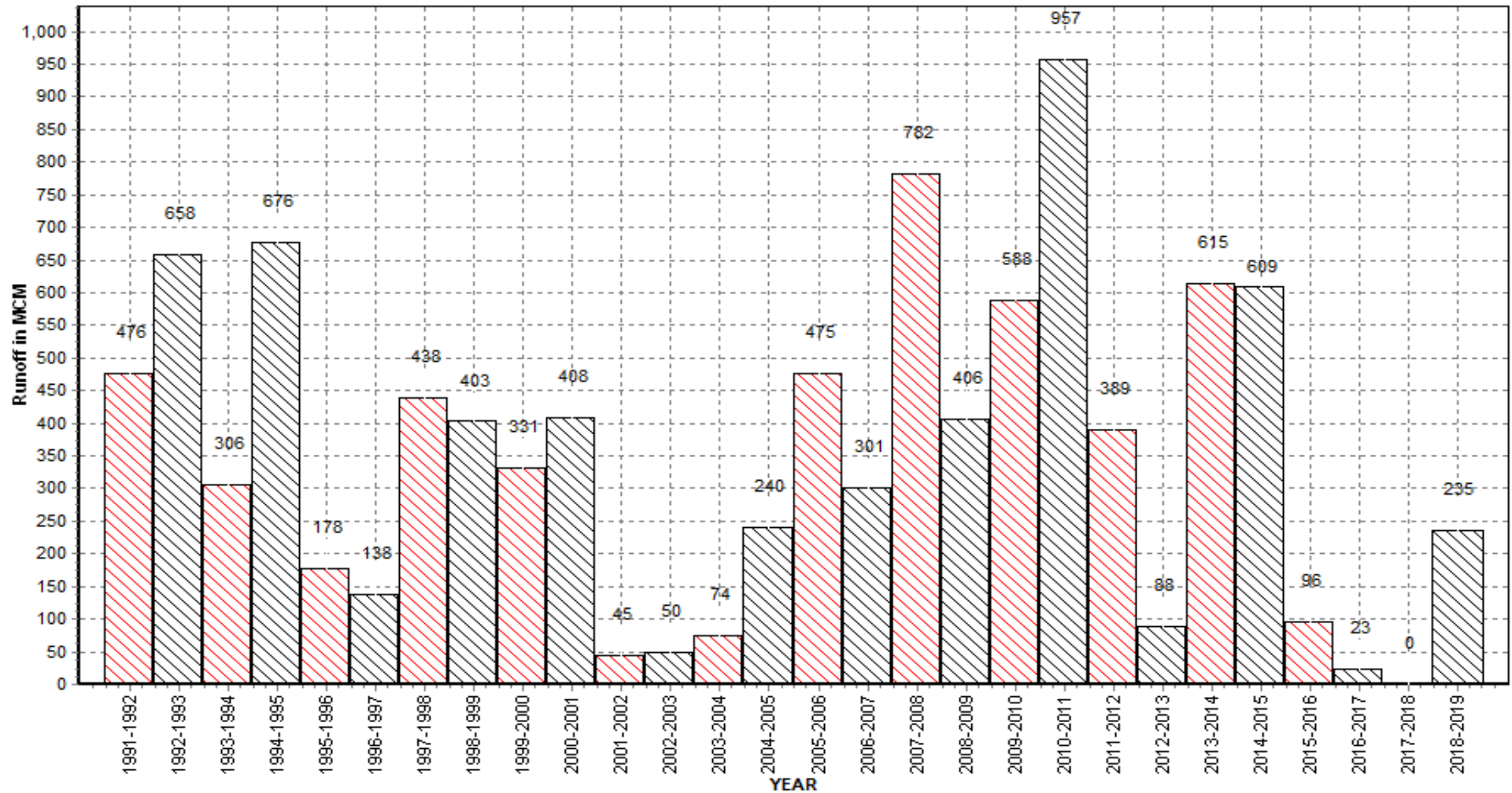
Annual Runoff Values for the period: 1991 - 2019

Station Name : KUPPELUR (AKLC0B8)

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

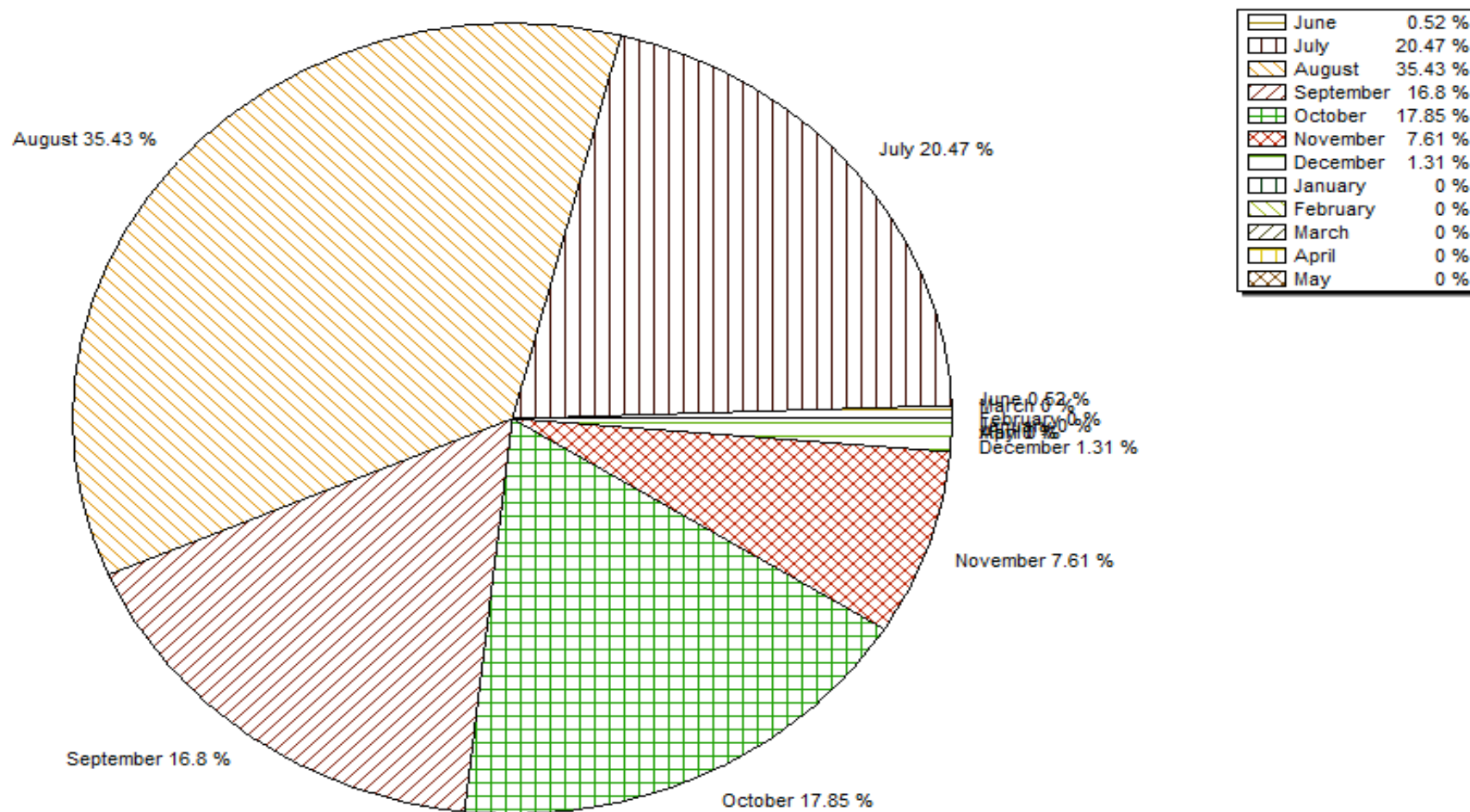
Monthly Average Runoff based on period : 1991-2018

Station Name : KUPPELUR (AKLC0B8)

Local River : Kumudavathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



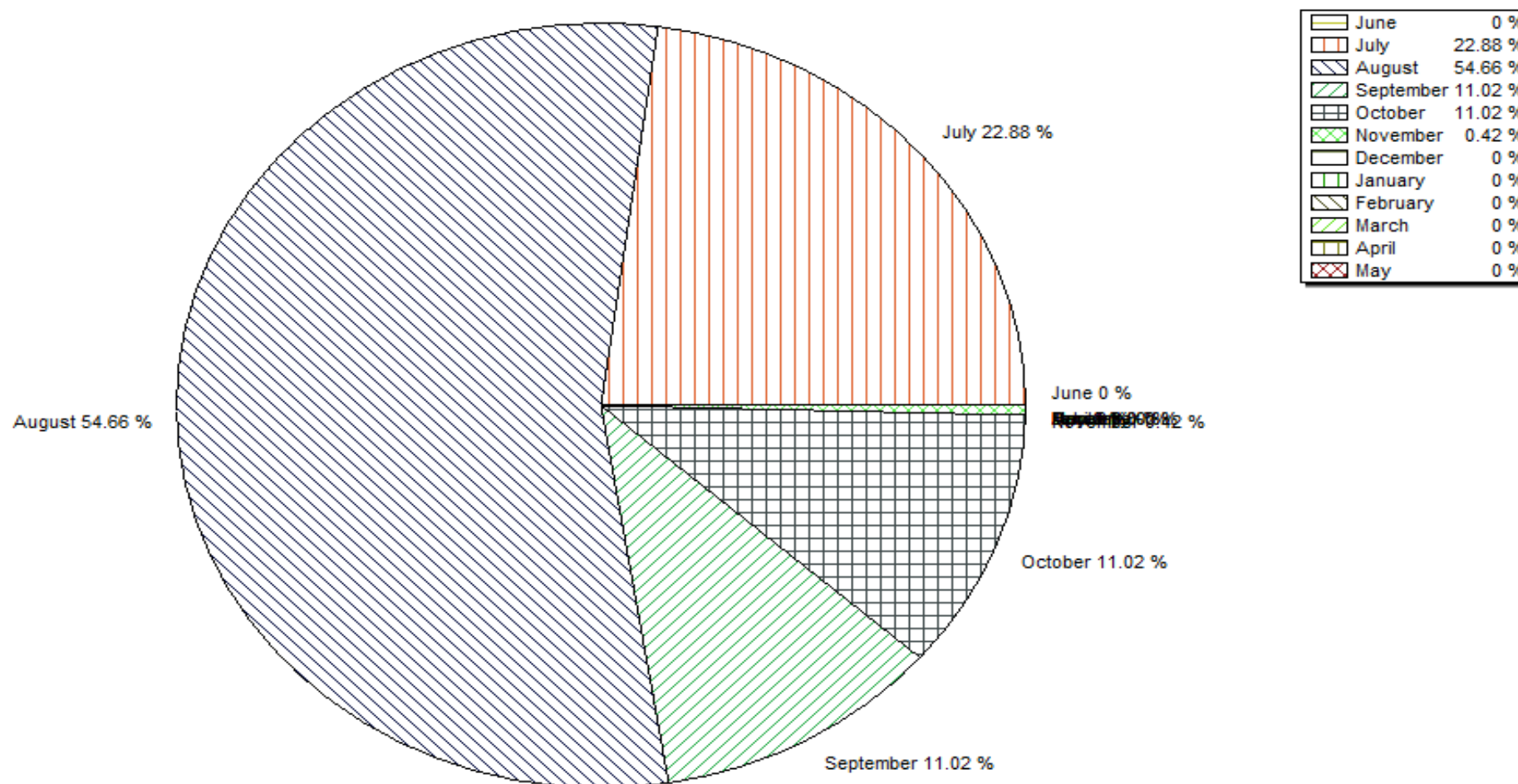
Monthly Runoff for the Year : 2018-2019

Station Name : KUPPELUR (AKLC0B8)

Local River : Kumudavathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



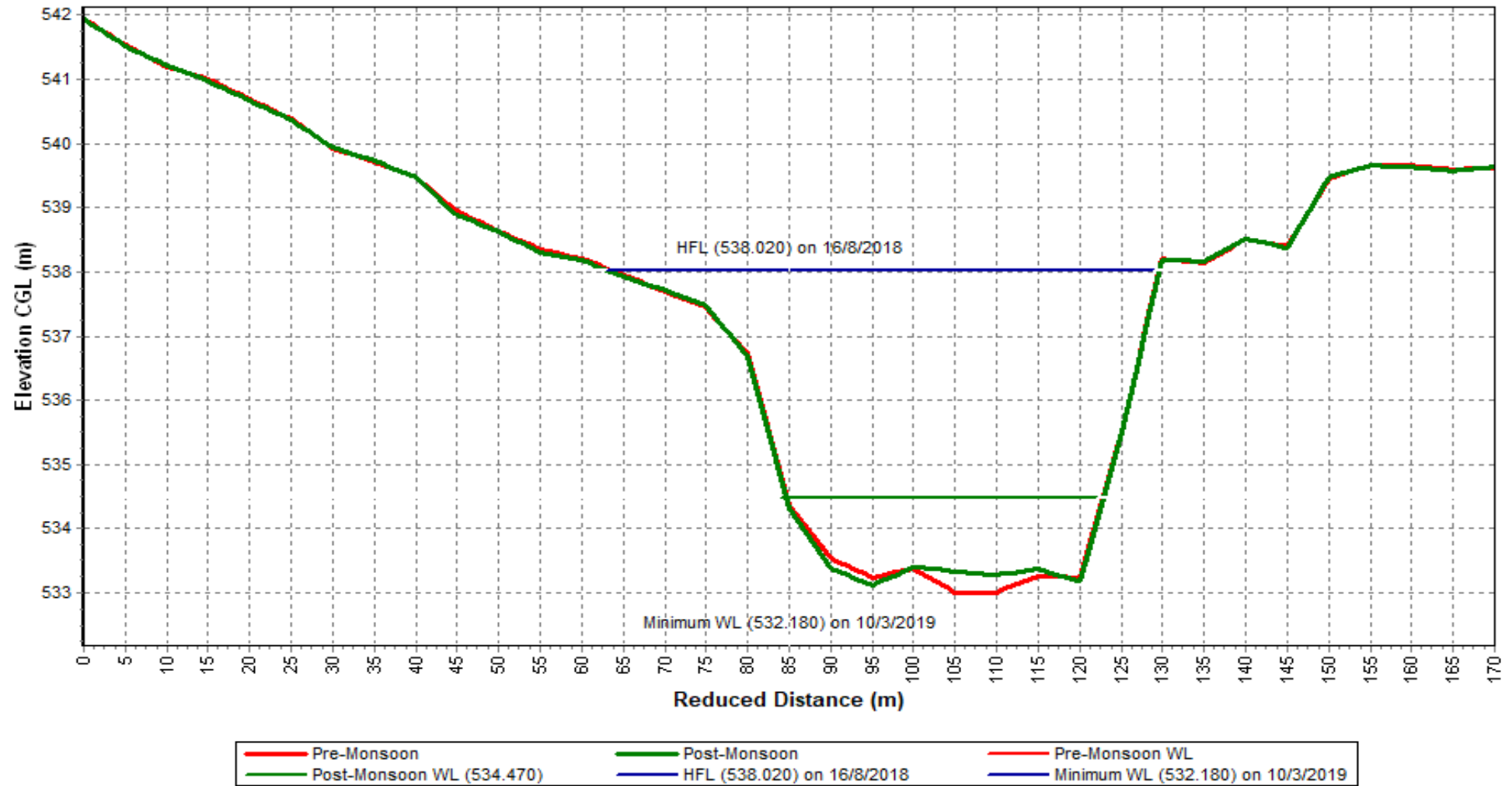
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : KUPPELUR (AKLC0B8)

Local River : Kumudavathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



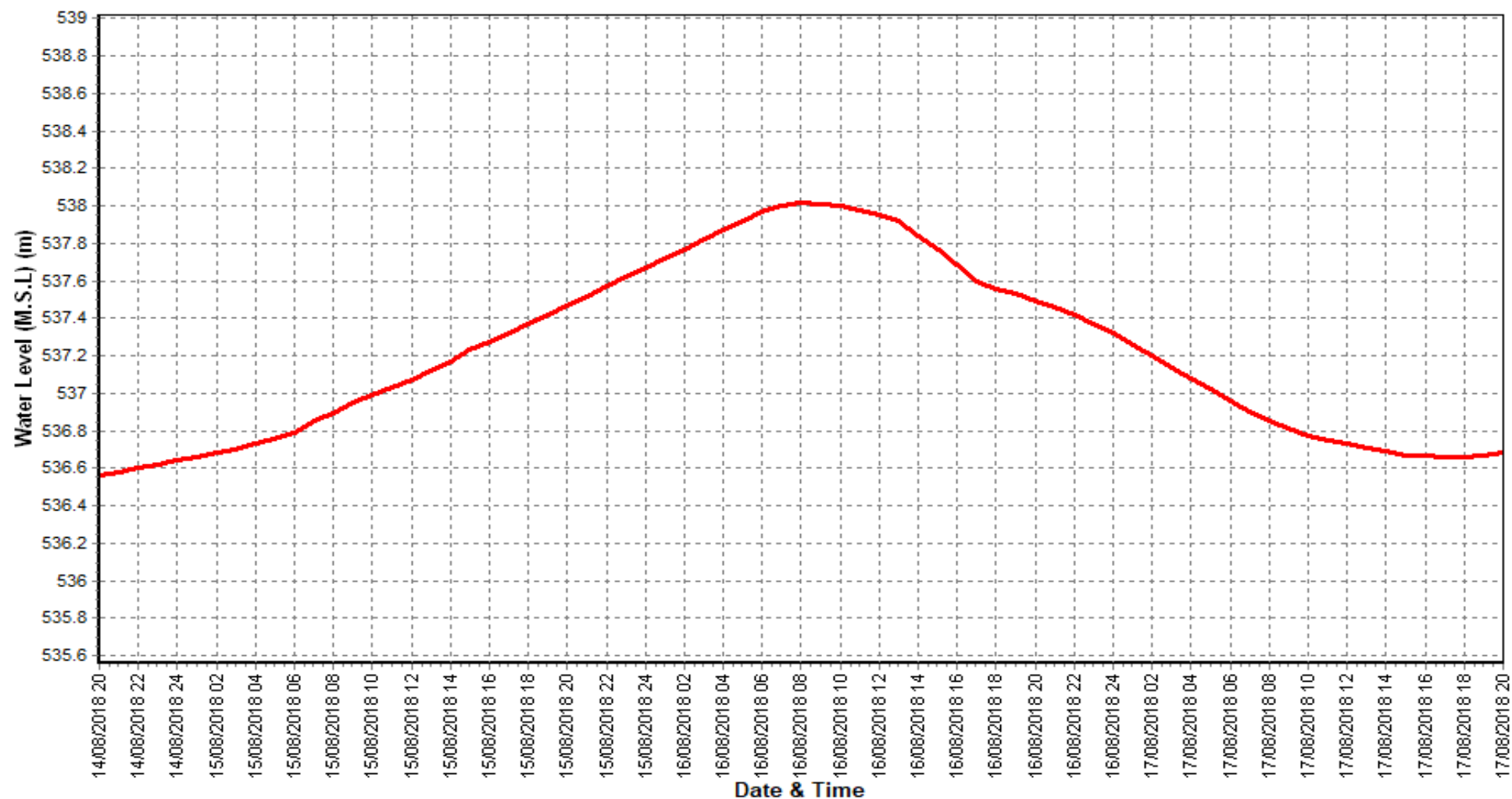
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : KUPPELUR (AKLC0B8)

Local River : Kumudavathi

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga SD, Devangere



HISTORY SHEET

Water Year : 2018-2019

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	93.635	04/07/1980	16.80	87.695	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	537.865	12/06/1986
1987-1988	1223	541.890	27/08/1987	1.726	537.710	05/04/1988
1988-1989	2833	543.795	19/07/1988	2.882	537.730	15/04/1989
1989-1990	2970	543.745	24/07/1989	4.616	537.850	02/06/1989
1990-1991	2075	543.090	16/08/1990	6.287	537.880	02/06/1990
1991-1992	3385	544.027	29/07/1991	7.012	537.970	23/03/1992
1992-1993	3758	544.672	28/07/1992	4.676	538.040	01/05/1993
1993-1994	1510	542.558	16/08/1993	4.533	538.237	13/06/1993
1994-1995	6950	546.400	16/07/1994	11.72	538.045	24/03/1995
1995-1996	1851	542.900	02/09/1995	8.755	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	7.719	538.080	02/05/1998
1998-1999	2035	543.045	14/09/1998	6.953	537.960	12/06/1998
1999-2000	3561	544.105	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	4.464	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	0.011	537.390	26/05/2003
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	17/02/2005
2005-2006	3685	544.090	17/08/2005	5.270	537.880	11/01/2006
2006-2007	4042	544.600	13/08/2006	3.024	537.820	13/01/2007
2007-2008	5361	546.300	07/08/2007	3.444	537.860	14/01/2008
2008-2009	6732	545.920	14/08/2008	0.576	537.650	08/01/2009
2009-2010	3651	544.710	17/07/2009	10.87	538.000	29/12/2009
2010-2011	1909	542.935	29/07/2010	15.69	538.100	19/03/2011
2011-2012	2639	543.785	02/09/2011	4.625	537.890	09/01/2012
2012-2013	3126	544.050	08/08/2012	3.056	537.790	17/06/2012
2013-2014	4528	544.975	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	5.295	537.480	06/05/2017
2017-2018	1361	542.340	21/07/2017	13.55	537.840	07/06/2017

Annual Runoff of Tungabhadra at Honnali

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1980-1981	10716	731	11447	379	26	404
2	1981-1982	6662	585	7247	235	21	256
3	1982-1983	6864	458	7322	243	16	259
4	1983-1984	6749	558	7308	238	20	258
5	1984-1985	6690	510	7200	236	18	254
6	1985-1986	5046	288	5333	178	10	188
7	1986-1987	4832	323	5154	171	11	182
8	1987-1988	2851	252	3102	101	9	110
9	1988-1989	4569	380	4949	161	13	175
10	1989-1990	5113	283	5396	181	10	191
11	1990-1991	6487	440	6927	229	16	245
12	1991-1992	6944	426	7370	245	15	260
13	1992-1993	8707	720	9428	308	25	333
14	1993-1994	5955	504	6459	210	18	228
15	1994-1995	10663	469	11132	377	17	393
16	1995-1996	4469	459	4928	158	16	174
17	1996-1997	4488	378	4866	159	13	172
18	1997-1998	7240	506	7746	256	18	274
19	1998-1999	6301	697	6998	223	25	247
20	1999-2000	7107	635	7742	251	22	274
21	2000-2001	6179	716	6895	218	25	244
22	2001-2002	4175	365	4540	148	13	160
23	2002-2003	3753	224	3977	133	8	141
24	2003-2004	3515	253	3768	124	9	133
25	2004-2005	8197	473	8670	290	17	306
26	2005-2006	4404	582	4987	156	21	176
27	2006-2007	7836	534	8371	277	19	296
28	2007-2008	10367	721	11087	366	25	392
29	2008-2009	7082	521	7604	250	18	269
30	2009-2010	7140	634	7775	252	22	275
31	2010-2011	6062	665	6727	214	24	238
32	2011-2012	6660	560	7219	235	20	255
33	2012-2013	4581	370	4951	162	13	175
34	2013-2014	9004	590	9594	318	21	339
35	2014-2015	7297	647	7944	258	23	281
36	2015-2016	4340	596	4936	153	21	174
37	2016-2017	3443	456	3900	122	16	138
38	2017-2018	3251	601	3851	115	21	136
39	2018-2019	9104	576	9680	322	20	342
Average		6093	495	6588	215	18	233
75% Dependable flow (MCM)				4949.22			
90 % Dependable flow (MCM)				3899.71			

Stage-Discharge Data for the period 2018 - 2019

Station Name : HONNALI (AKL00X6)

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	538.330	50.46	540.090	374.5 *	540.880	628.0	541.120	704.0	539.410	211.1	538.440	55.00
2	538.330	50.39	539.720	248.6	540.690	550.1	540.670	567.7 *	539.190	161.6 *	538.440	55.00
3	538.440	56.93 *	539.480	221.2	541.040	693.7	540.450	465.2	539.030	141.3	538.420	53.12
4	538.330	50.23	539.480	221.2	540.740	573.9	540.120	364.8	538.940	126.1	538.410	53.98
5	538.280	43.28	539.440	212.7	540.820	625.3 *	539.990	346.4	538.900	123.4	538.450	56.25
6	538.640	70.47	539.690	245.4	541.000	678.8	539.850	324.6	538.880	118.8	538.490	60.46
7	538.640	70.47	539.450	214.9	540.840	613.2	539.790	309.9	539.050	137.3 *	538.490	60.46
8	538.610	68.18	541.630	992.9 *	541.200	707.6	539.740	298.5	539.210	172.2	538.460	58.95 *
9	538.400	54.72	541.940	1156	542.200	1290	539.750	282.1 *	538.960	130.8	538.460	57.30
10	539.090	144.0 *	542.000	1191	543.840	2586	539.700	285.6	538.910	125.7	538.450	56.25
11	541.200	709.6	542.310	1356	542.500	1472	539.760	303.3	538.790	105.6	538.430	55.94 *
12	541.580	932.3	543.060	1919	542.100	1252 *	539.350	204.5	538.960	130.8	538.410	51.97
13	542.280	1333	542.710	1620	543.500	2216	539.300	182.3 *	538.830	113.0	538.400	51.26
14	542.760	1648	542.680	1600	544.700	3865	539.370	209.3	538.650	80.12 *	538.400	51.26
15	542.560	1510	543.200	2118	546.250	5170 *	539.180	165.1	538.650	80.00	538.420	53.12
16	541.650	1003 *	542.830	1688	544.700	3865	539.110	147.4 *	538.710	91.00	538.400	51.26
17	539.690	267.3 *	542.520	1486	544.290	3161	539.030	138.3	538.710	91.00	538.400	51.26
18	539.450	214.9	542.410	1404	543.800	2524	539.020	136.1	539.980	342.9 *	538.390	52.07 *
19	539.450	214.9	542.170	1273	542.530	1519 *	539.020	136.1	539.520	228.0 *	538.410	51.97
20	539.460	218.1	541.890	1128	543.230	2136	538.940	126.1	539.360	207.1	538.420	53.12
21	539.460	218.1	541.900	1132	542.320	1360	539.090	144.0 *	539.100	145.7 *	538.410	53.98 *
22	539.560	227.2	542.400	1435 *	542.520	1513 *	539.200	170.1	538.900	123.4	538.400	51.26
23	539.570	229.5	542.350	1378	541.750	1061	538.990	127.6	538.830	113.0	538.390	52.07 *
24	539.460	214.9 *	542.300	1353	541.490	908.4	538.950	128.9	538.730	96.47	538.410	51.97
25	539.460	218.1	542.310	1356	541.250	789.8	538.840	115.2	538.610	71.39	538.390	52.07 *
26	539.240	161.6	542.440	1420	541.140	758.9 *	538.890	121.2	538.540	64.50	538.400	51.26
27	539.670	242.2	542.060	1222	540.820	606.4	538.960	130.8	538.540	64.50 *	538.410	51.97
28	540.200	384.0	541.970	1172	540.750	576.1	538.990	136.1	538.510	64.16 *	538.430	54.61
29	542.760	1648	541.180	776.7 *	540.870	623.8	539.910	334.8	538.480	58.47	538.420	53.12
30	541.540	919.0	540.910	639.4	541.770	1072	539.720	274.6 *	538.450	56.25	538.410	51.97
31			540.850	617.5	541.270	805.6			538.450	56.25		
Ten-Daily Mean												
I Ten-Daily	538.509	65.91	540.292	507.8	541.325	894.7	540.118	394.9	539.048	144.8	538.451	56.68
II Ten-Daily	541.008	805.1	542.578	1559	543.760	2718	539.208	174.9	539.016	147.0	538.408	52.32
III Ten-Daily	540.092	446.3	541.879	1137	541.450	916.0	539.154	168.3	538.649	83.10	538.407	52.43
Monthly												
Min.	538.280	43.28	539.440	212.7	540.690	550.1	538.840	115.2	538.450	56.25	538.390	51.26
Max.	542.760	1648	543.200	2118	546.250	5170	541.120	704.0	539.980	342.9	538.490	60.46
Mean	539.870	439.1	541.593	1070	542.155	1490	539.493	246	538.896	123.6	538.422	53.81

Annual Runoff in MCM = 9680 Annual Runoff in mm = 1368

Peak Observed Discharge = 3865 cumecs on 14/08/2018 Corres. Water Level :544.7 m

Lowest Observed Discharge = 18.40 cumecs on 31/05/2019 Corres. Water Level :537.95 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 2018 - 2019

Station Name : HONNALI (AKL00X6)

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	538.400	51.26	538.020	23.26	538.290	47.03	538.070	25.61	538.460	57.30	538.160	33.66
2	538.390	52.87 *	538.020	23.13	538.700	89.57	538.070	25.53	538.500	65.36	538.160	33.65
3	538.400	51.26	537.990	21.95	538.700	89.00 *	538.060	25.67 *	538.480	62.04	538.160	33.17
4	538.370	47.59	537.990	21.48	538.700	89.51	538.060	24.41	538.450	56.25	538.160	33.34
5	538.200	38.16	537.990	21.74	538.700	89.51	538.060	24.50	538.430	54.61	538.150	31.99 *
6	538.120	29.91	537.950	19.00 *	538.700	89.51	538.060	24.40	538.460	57.30	538.110	28.60
7	538.180	36.22	537.950	19.20	538.680	86.20	538.120	29.66	538.440	57.97 *	538.110	29.15
8	538.180	36.14	537.950	19.26	538.740	97.70	538.120	30.06	538.410	52.86	538.090	27.03
9	538.210	36.66 *	537.950	19.31	538.740	97.70	538.120	29.71	538.320	47.51	538.090	27.22
10	538.300	45.66	537.950	19.13	538.610	77.40 *	538.090	27.69 *	538.200	37.57	538.100	28.76
11	538.300	45.25	537.950	19.51	538.580	75.04	538.060	24.63	538.200	37.12	538.100	28.46
12	538.300	45.96	537.950	19.33	538.500	65.36	538.060	24.56	538.200	37.25	538.060	25.67 *
13	538.130	30.94	537.990	21.29 *	538.480	62.04	538.060	24.92	538.200	37.87	538.020	21.76
14	538.130	31.29	538.050	26.65	538.480	62.04	538.100	28.43	538.180	34.28 *	538.020	21.61
15	538.130	31.35	538.080	27.01 *	538.470	60.01	538.100	28.35	538.180	35.80	538.020	21.82
16	538.160	32.74 *	538.020	23.60	538.470	60.01	538.100	28.25	538.180	35.39	538.110	29.54
17	538.130	30.80	538.020	23.32	538.450	59.03 *	538.070	26.33 *	538.180	34.28 *	538.110	29.26
18	538.120	29.55	538.020	23.27	538.410	52.86	538.070	25.28	538.140	31.80	538.080	27.01 *
19	538.130	32.33	538.020	23.33	538.280	43.76	538.070	25.64	538.140	31.25 *	538.050	25.02 *
20	538.060	26.39	538.060	25.67 *	538.180	35.11	538.070	25.55	538.140	31.26	538.020	21.82
21	538.040	25.31	538.140	33.04	538.120	29.13	538.100	28.73	538.080	27.01 *	538.020	21.57
22	538.040	25.79	538.140	33.47	538.120	30.04	538.550	66.70	538.020	21.80	538.110	29.48
23	538.030	23.74 *	538.140	33.33	538.120	29.40	538.700	89.51	538.020	21.67	538.110	29.65
24	538.060	27.18	538.140	33.03	538.100	28.38 *	538.580	73.74 *	538.020	21.70	538.110	29.02
25	538.060	25.67 *	538.140	33.46	538.090	27.37	538.500	65.36	537.980	18.58	538.110	29.55
26	538.060	27.66	538.140	31.25 *	538.090	27.27	538.470	60.01	538.080	26.23	538.080	27.01 *
27	538.040	25.66	538.170	33.51 *	538.070	25.31	538.470	60.01	538.080	26.59	538.050	23.98
28	538.040	25.22	538.140	33.82	538.070	25.52	538.460	57.30	538.080	27.01 *	538.050	24.37
29	538.040	25.49	538.110	28.98			538.450	56.25	538.080	26.15	538.050	24.26
30	537.950	19.00 *	538.110	28.53			538.460	57.30	538.080	26.63	538.050	24.54
31	538.020	23.04	538.110	28.99			538.460	60.10 *			537.950	18.40
Ten-Daily Mean												
I Ten-Daily	538.275	42.57	537.976	20.75	538.656	85.31	538.083	26.72	538.415	54.88	538.129	30.66
II Ten-Daily	538.159	33.66	538.016	23.30	538.430	57.53	538.076	26.19	538.174	34.63	538.059	25.20
III Ten-Daily	538.035	24.89	538.135	31.95	538.098	27.80	538.473	61.36	538.052	24.34	538.063	25.62
Monthly												
Min.	537.950	19.00	537.950	19.00	538.070	25.31	538.060	24.40	537.980	18.58	537.950	18.40
Max.	538.400	52.87	538.170	33.82	538.740	97.70	538.700	89.51	538.500	65.36	538.160	33.66
Mean	538.152	33.42	538.045	25.54	538.416	58.96	538.219	38.84	538.214	37.95	538.083	27.11

Peak Computed Discharge = 5170 cumecs on 15/08/2018

Corres. Water Level :546.25 m

Lowest Computed Discharge = 19.00 cumecs on 30/12/2018

Corres. Water Level :537.95 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 : 2018-2019

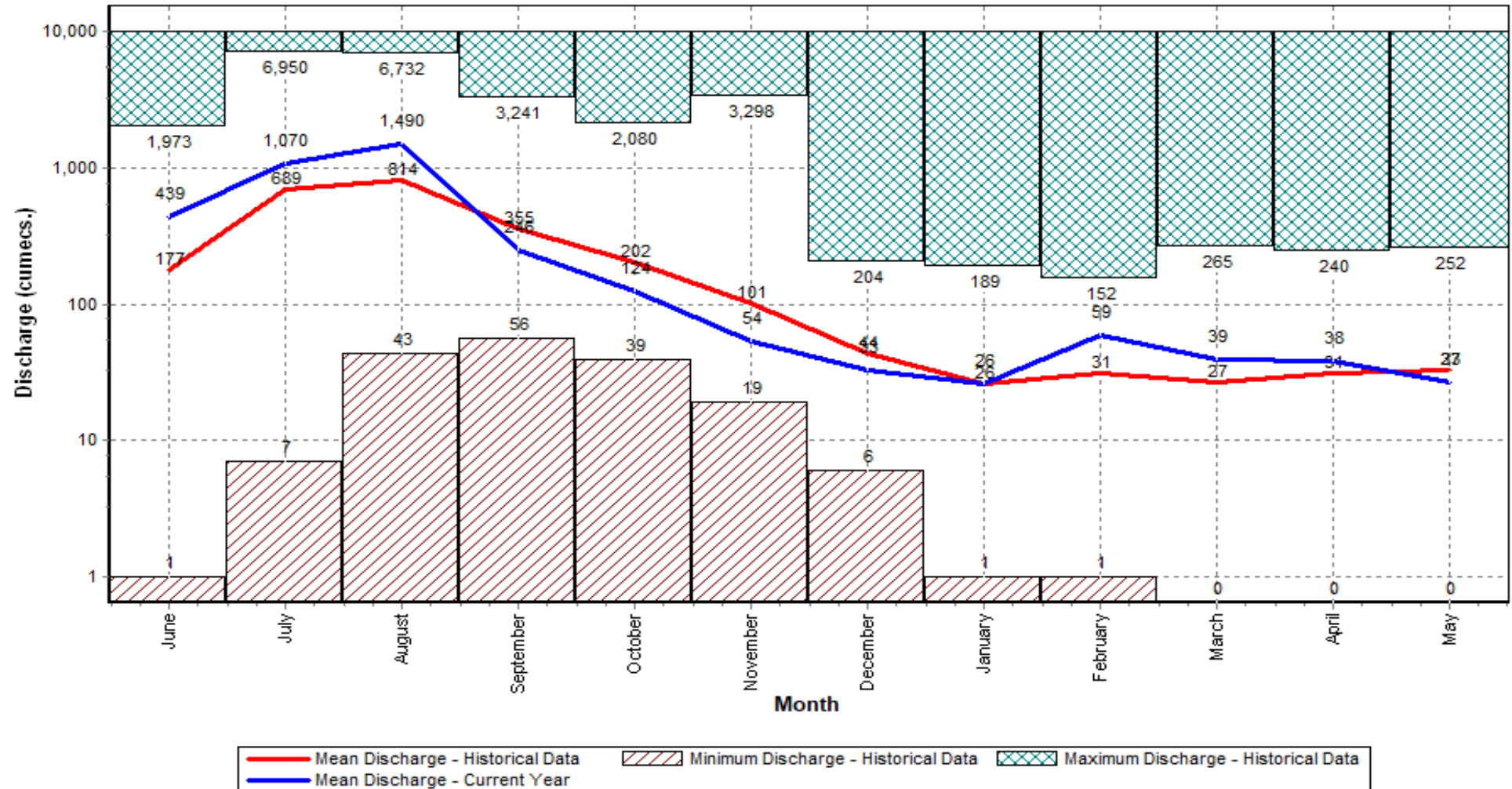
Station Name : HONNALI (AKL00X6)

Data considered : 1980-2019

Division : Cauvery Division, Bangalore

Local River : Tungabhadra

Sub-Division : Upper Tunga Subdn, Devangere



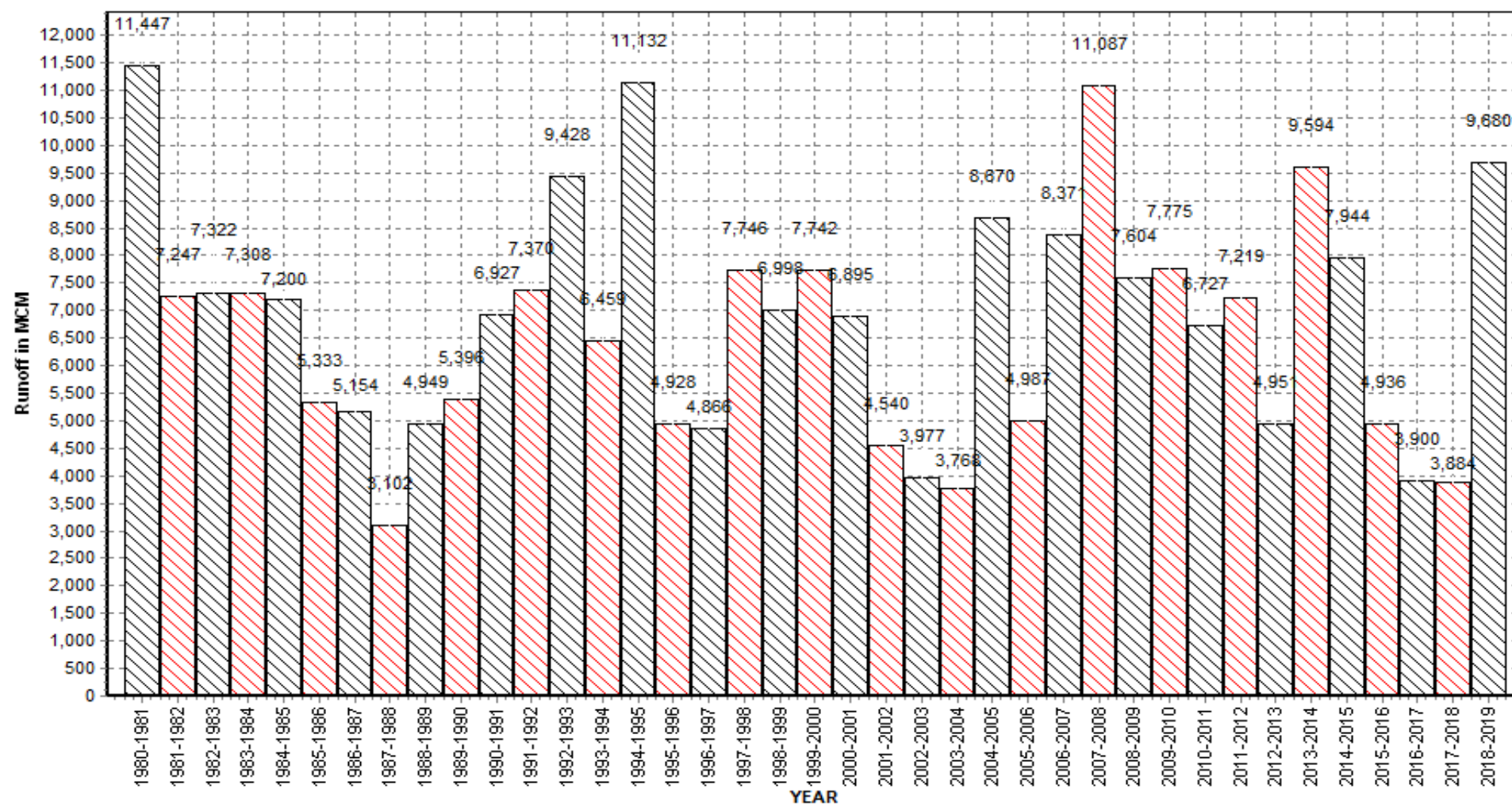
Annual Runoff Values for the period: 1980 - 2019

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

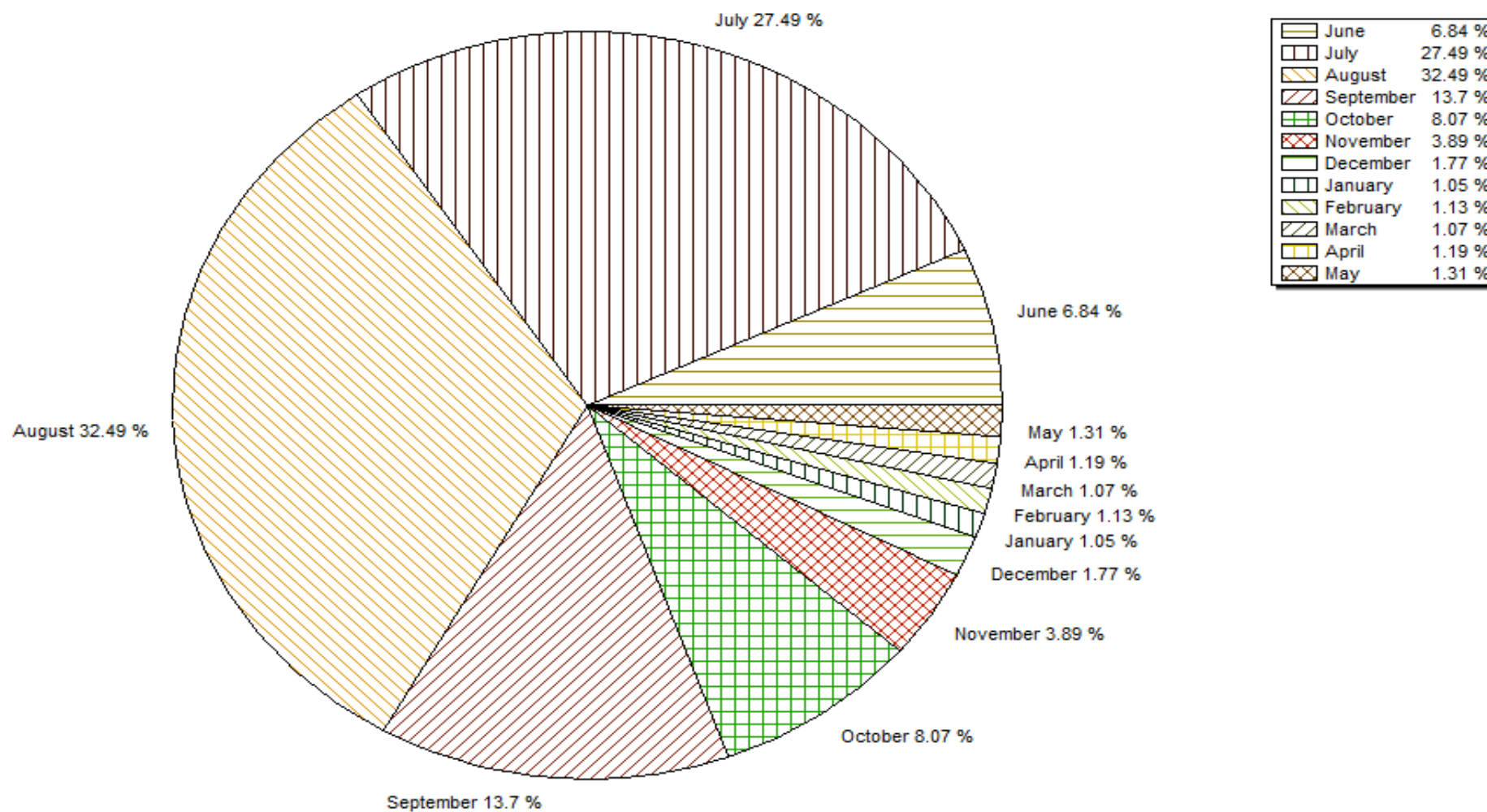
Monthly Average Runoff based on period : 1980-2018

Station Name : HONNALI (AKL00X6)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

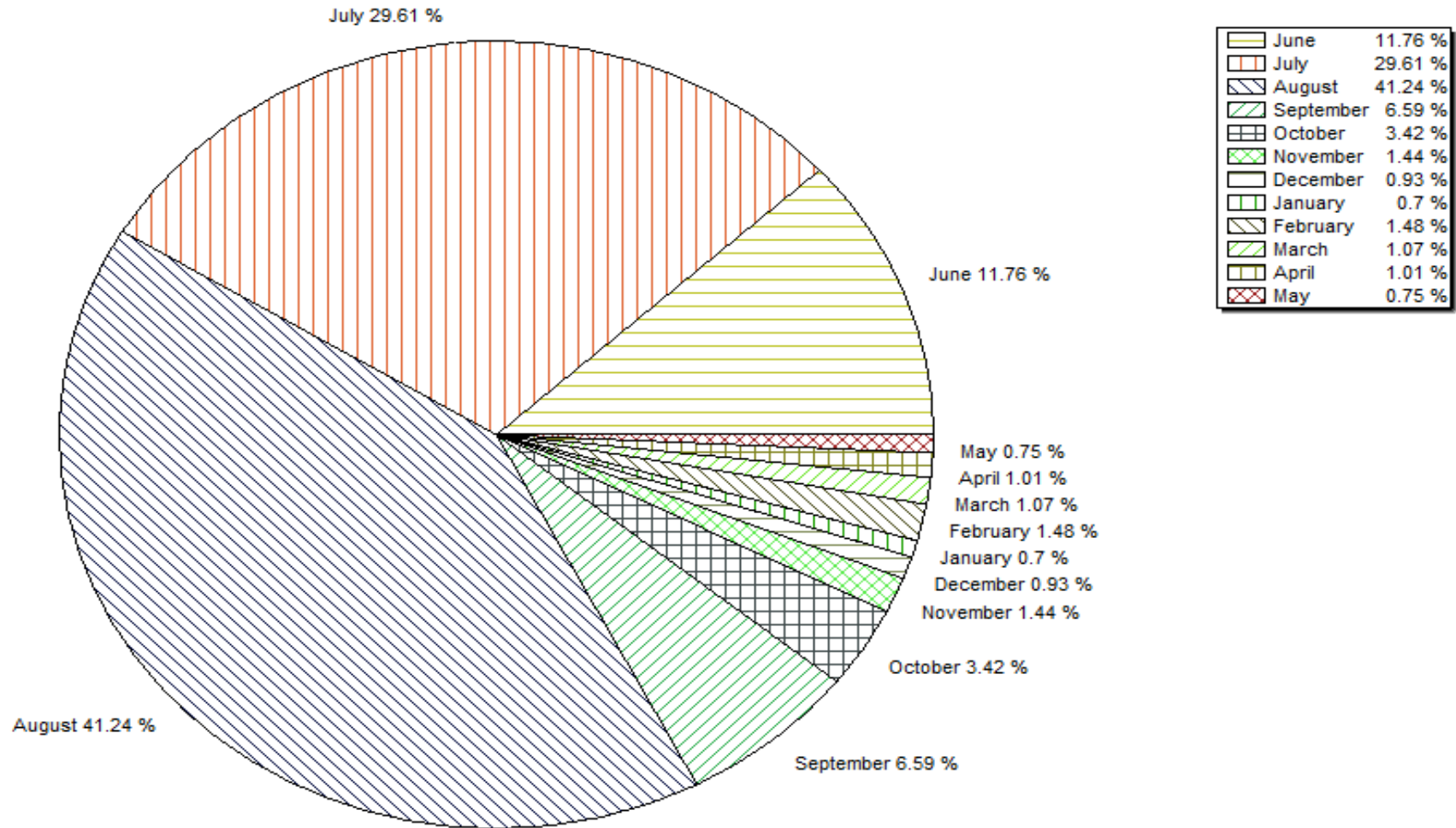
Sub-Division : Upper Tunga Subdn, Devangere



Monthly Runoff for the Year : 2018-2019

Station Name : HONNALI (AKL00X6)
Local River : Tungabhadra

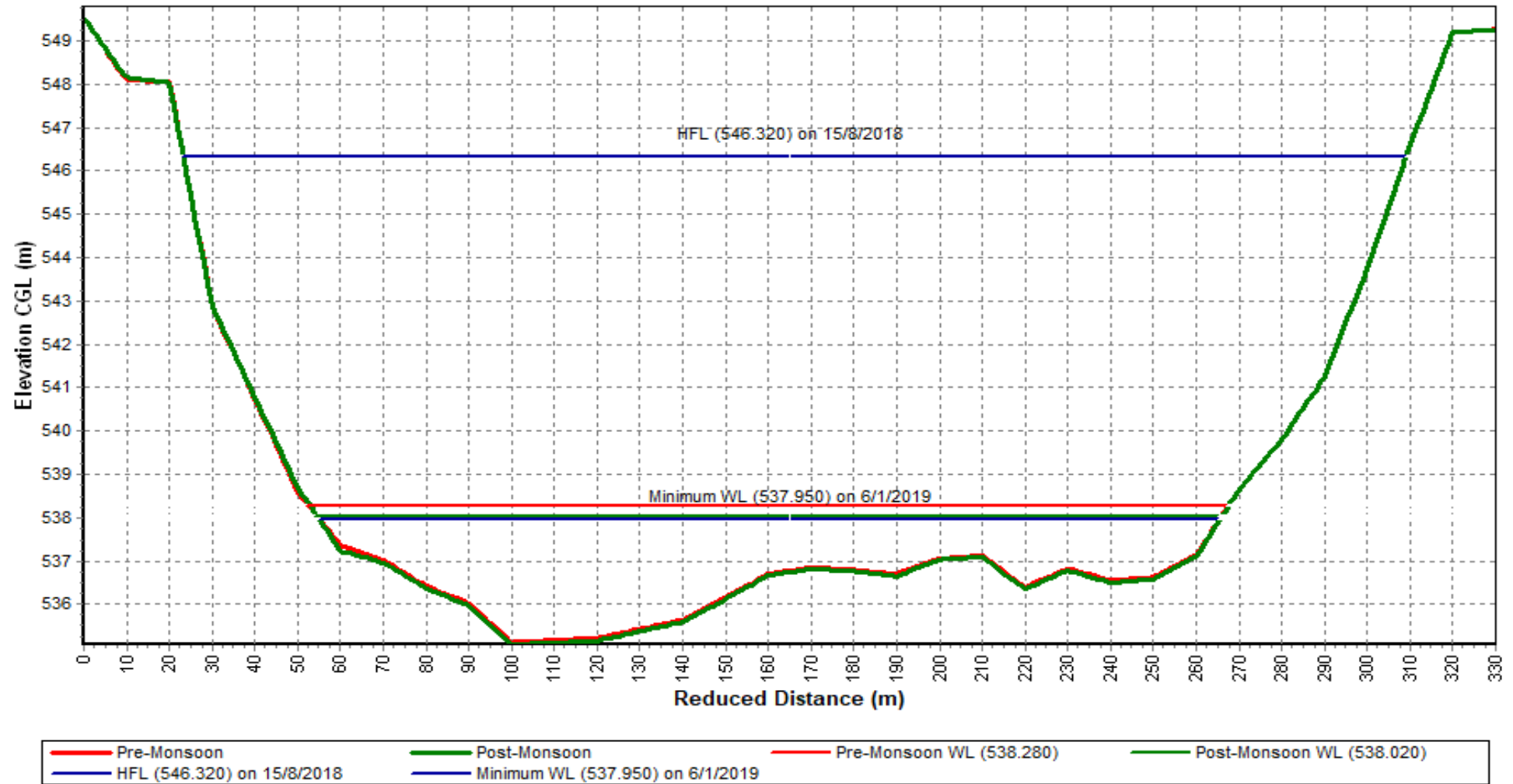
Division : Cauvery Division, Bangalore
Sub-Division : Upper Tunga Subdn, Devangere



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : HONNALI (AKL00X6)
Local River : Tungabhadra

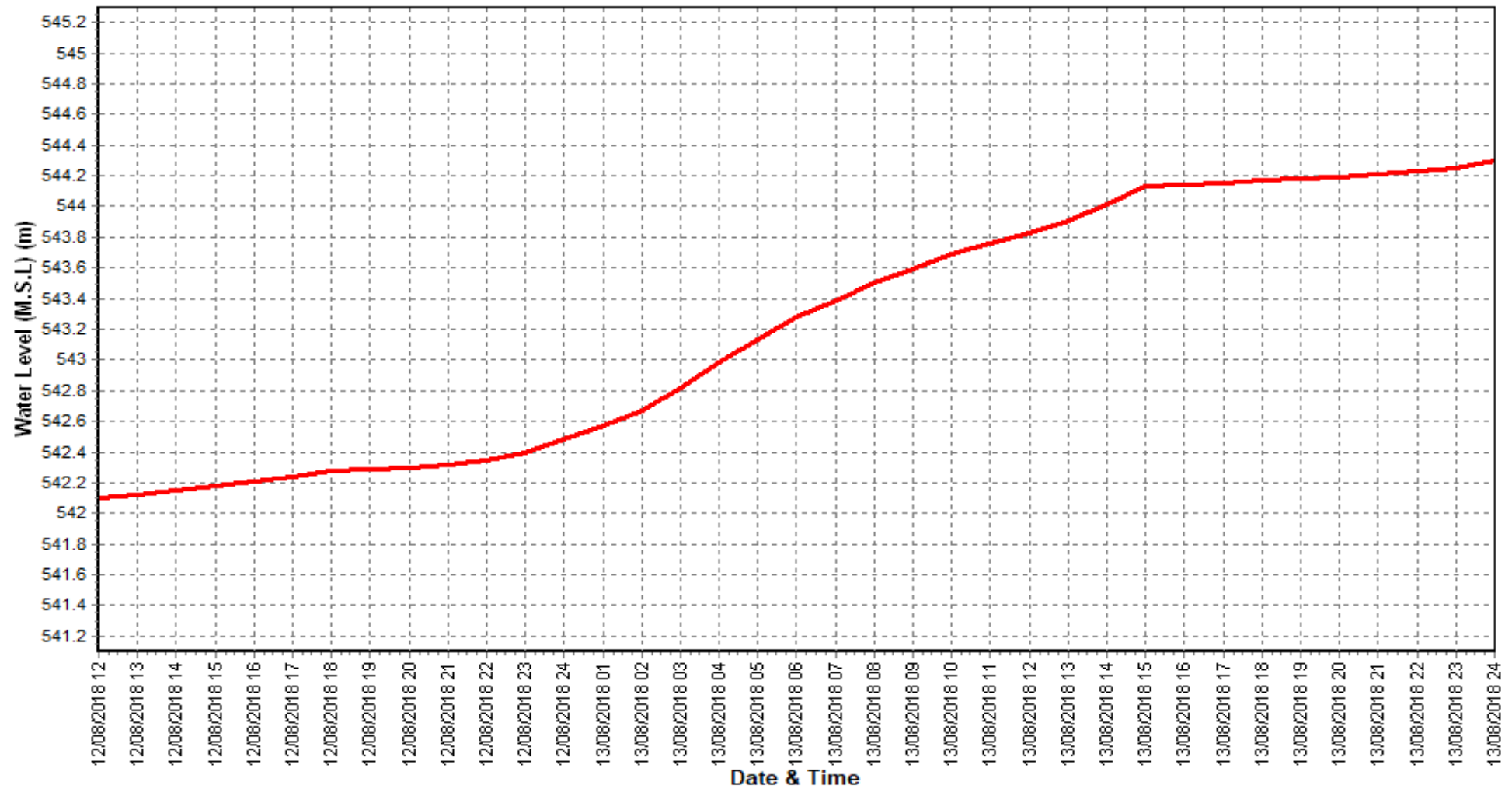
Division : Cauvery Division, Bangalore
Sub-Division : Upper Tunga Subdn, Devangere



Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : HONNALI (AKL00X6)
Local River : Tungabhadra

Division : Cauvery Division, Bangalore
Sub-Division : Upper Tunga Subdn, Devangere



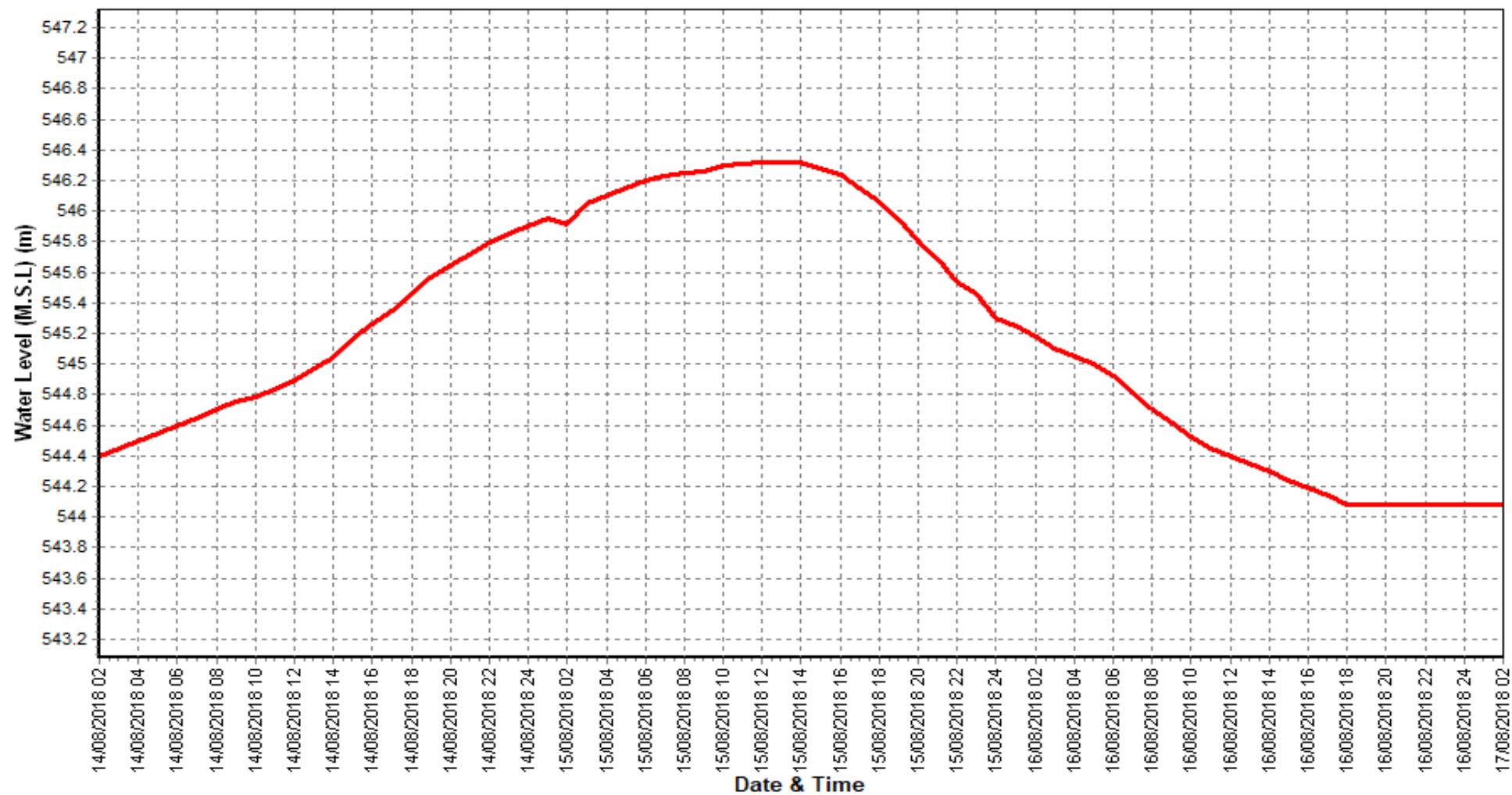
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : HONNALI (AKL00X6)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



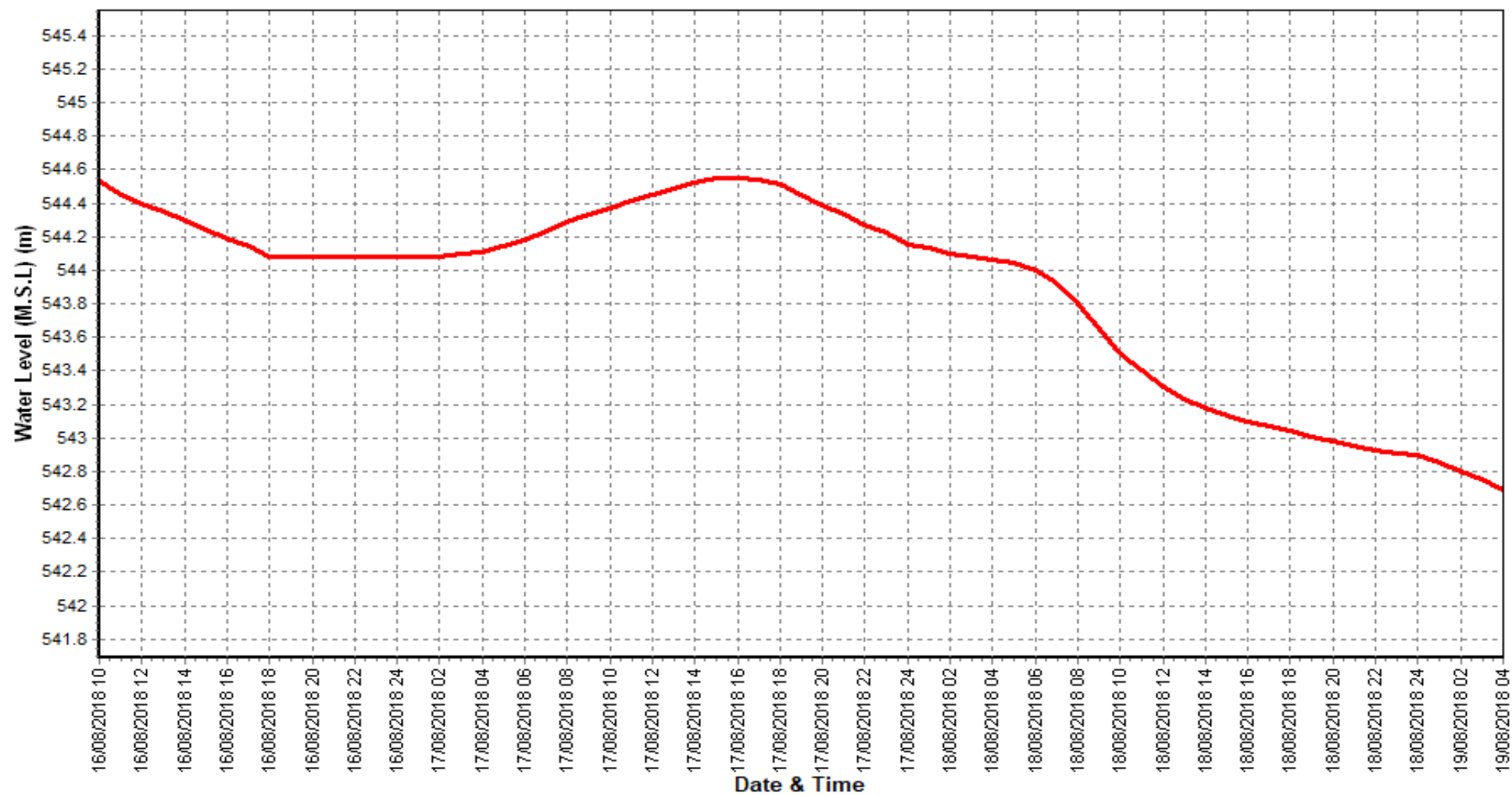
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : HONNALI (AKL00X6)

Local River : Tungabhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



HISTORY SHEET

Water Year : 2018-2019

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	2346	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	2203	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	2452	563.460	12/08/2006	0.000	557.060	31/01/2007
2007-2008	2563	564.110	07/08/2007	0.000	557.185	19/06/2007
2008-2009	3069	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

Annual Runoff of Tunga 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	3669	105	3774	130	4	133
3	1973-1974	5242	110	5352	185	4	189
4	1974-1975	4851	111	4962	171	4	175
5	1975-1976	6543	158	6701	231	6	237
6	1976-1977	3385	96	3481	120	3	123
7	1977-1978	5001	175	5175	177	6	183
8	1978-1979	7736	163	7899	273	6	279
9	1979-1980	4162	121	4283	147	4	151
10	1980-1981	7300	151	7451	258	5	263
11	1981-1982	5744	119	5862	203	4	207
12	1982-1983	5272	86	5358	186	3	189
13	1983-1984	4953	199	5153	175	7	182
14	1984-1985	5097	119	5217	180	4	184
15	1985-1986	4104	115	4220	145	4	149
16	1986-1987	4100	90	4190	145	3	148
17	1987-1988	2464	145	2609	87	5	92
18	1988-1989	3962	80	4042	140	3	143
19	1989-1990	4507	85	4592	159	3	162
20	1990-1991	5866	126	5993	207	4	212
21	1991-1992	5615	91	5705	198	3	202
22	1992-1993	6438	252	6690	227	9	236
23	1993-1994	5141	196	5337	182	7	189
24	1994-1995	8325	150	8475	294	5	299
25	1995-1996	4064	78	4142	144	3	146
26	1996-1997	4040	105	4145	143	4	146
27	1997-1998	6163	188	6351	218	7	224
28	1998-1999	5318	213	5531	188	8	195
29	1999-2000	6065	120	6185	214	4	219
30	2000-2001	5481	96	5577	194	3	197
31	2001-2002	4218	76	4294	149	3	152
32	2002-2003	3538	77	3615	125	3	128
33	2003-2004	3426	57	3482	121	2	123
34	2004-2005	4218	56	4274	149	2	151
35	2005-2006	6070	150	6220	214	5	220
36	2006-2007	6277	89	6366	222	3	225
37	2007-2008	6989	314	7303	247	11	258
38	2008-2009	5743	147	5890	203	5	208
39	2009-2010	6010	75	6086	212	3	215
40	2010-2011	4989	73	5062	176	3	179
41	2011-2012	5902	117	6020	209	4	213
42	2012-2013	4497	75	4572	159	3	162
43	2013-2014	7577	136	7712	268	5	273
44	2014-2015	6497	176	6673	230	6	236
45	2015-2016	3542	128	3670	125	5	130
46	2016-2017	3439	93	3532	122	3	125
47	2017-2018	3643	105	3748	129	4	132
48	2018-2019	8162	95	8257	288	3	292
Average		5220	124	5235	181	4	185
75% Dependable flow (MCM)				4156.32			
90 % Dependable flow (MCM)				3527.44			

Stage-Discharge Data for the period 2018 - 2019

Station Name : SHIMOGA (AKLD0C6)

Division : Cauvery Division, Bangalore

Local River : Tunga

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	561.370	0.000	563.470	367.3 *	564.110	708.0	563.800	576.2	562.750	125.3	561.930	26.48
2	561.350	0.000	563.100	231.6 #	563.780	570.0	563.460	363.4 *	562.690	110.3 *	561.980	27.91
3	561.300	0.000	563.030	189.4	563.950	653.4	563.330	356.4	562.640	83.81	561.970	27.61
4	562.520	68.10	563.040	190.6	563.730	554.4	563.160	319.5	562.640	83.81	562.030	28.77 *
5	562.560	74.40	563.040	190.6	564.040	618.6 *	563.160	319.5	562.600	81.21	562.060	30.27
6	562.550	73.81	563.040	190.6	563.710	548.8	563.060	262.1	562.720	120.9	562.100	33.11
7	562.230	36.23	564.290	745.2	564.010	673.8	563.070	264.0	562.780	134.0 *	562.060	30.27
8	562.370	38.80	565.350	1362 *	564.320	853.2	563.060	262.1	562.590	80.60	562.060	29.89 *
9	562.930	195.2	565.580	1450	565.760	1634	563.060	218.3 *	562.560	70.40	562.000	28.51
10	563.280	294.7 *	565.780	1632	565.740	1622	563.060	262.1	562.430	40.52	562.090	32.82
11	564.810	942.9	566.180	1891	564.380	772.6	562.900	185.0	562.630	83.15	561.960	26.23 *
12	566.130	1859	567.040	2456	565.140	1229 *	562.860	179.3	562.530	68.68	562.130	32.07
13	564.930	993.2	567.130	2519	566.660	2201	562.820	133.5	562.460	41.55	561.910	25.91
14	565.000	1023	566.400	2031	567.790	3001	562.780	125.3	562.490	56.00 *	561.920	26.19
15	564.560	842.0	567.110	2666 *	568.180	3607 *	562.750	125.9 *	562.390	45.57	561.670	0.000
16	563.570	407.9 *	565.790	1652	566.220	1916	562.700	112.8 *	562.390	45.57	561.650	0.000
17	563.040	211.8 *	565.390	1358	566.490	2089	562.710	120.0	562.730	121.9	561.700	0.000
18	563.030	189.4	566.010	1785	566.020	1791	562.680	101.0	562.710	106.5 *	561.740	19.01 *
19	563.040	190.1	565.680	1587	565.770	1643 *	562.680	101.0	562.760	120.2 *	561.860	20.71
20	563.050	192.0	564.870	924.4	565.590	1536	562.620	82.50	562.680	101.0	561.840	20.29
21	563.130	318.4	565.820	1670	564.940	998.0	562.630	95.43 *	562.570	72.47 *	561.830	21.83 *
22	563.030	189.4	565.720	1609 *	564.980	1130 *	562.600	81.21	562.570	70.92	562.310	39.10
23	563.040	190.6	565.220	1221	564.510	823.0	562.610	90.65 *	562.450	41.22	562.310	40.08 *
24	563.050	215.1 *	565.980	1767	564.280	735.0	562.580	79.92	562.190	33.30	562.300	38.75
25	562.870	187.4	565.440	1385	563.860	595.0	562.580	79.92	562.360	44.44	562.370	42.74 *
26	563.050	192.0	564.930	993.2	563.670	450.0 *	562.600	82.21	562.350	44.06	562.370	44.81
27	563.770	566.8	564.360	765.0	563.580	415.3	562.610	81.85	562.240	36.50	562.320	39.41
28	564.900	936.8	564.160	701.1	563.790	573.5	563.000	252.0	562.160	33.79 *	562.300	38.75
29	566.240	1841	563.850	529.5 *	564.110	708.0	562.830	142.6	562.180	32.95	562.190	33.30
30	563.660	445.7 *	563.860	595.6	564.230	722.7	562.860	156.6 *	562.140	32.40	562.180	33.01
31			563.460	388.4	564.050	687.0			562.250	36.90		
Ten-Daily Mean												
I Ten-Daily	562.246	78.12	563.972	654.9	564.315	843.7	563.222	320.4	562.640	93.09	562.028	29.56
II Ten-Daily	564.116	685.2	566.160	1887	566.224	1979	562.750	126.6	562.577	79.01	561.838	17.04
III Ten-Daily	563.674	508.3	564.800	1057	564.182	712.5	562.690	114.2	562.315	43.54	562.248	37.18
Monthly												
Min.	561.300	0.000	563.030	189.4	563.580	415.3	562.580	79.92	562.140	32.40	561.650	0.000
Max.	566.240	1859	567.130	2666	568.180	3607	563.800	576.2	562.780	134.0	562.370	44.81
Mean	563.345	423.9	564.972	1195	564.884	1163	562.887	187.1	562.504	70.97	562.038	27.93

Annual Runoff in MCM = 8257 Annual Runoff in mm = 2917

Peak Observed Discharge = 3001 cumecs on 14/08/2018 Corres. Water Level :567.79 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018 Corres. Water Level :561.37 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 2018 - 2019

Station Name : SHIMOGA (AKLD0C6)

Division : Cauvery Division, Bangalore

Local River : Tunga

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	562.090	32.82	561.890	25.48	561.510	0.000	561.590	0.000	561.340	0.000	561.490	0.000
2	562.060	30.26 *	562.000	28.51	561.530	0.000	561.600	0.000	561.320	0.000	561.470	0.000
3	562.090	32.82	562.000	28.51	561.600	0.000	561.590	0.000	561.300	0.000	561.480	0.000
4	562.090	32.82	561.680	0.000	561.610	0.000	561.610	0.000	561.290	0.000	561.540	0.000
5	562.160	32.50	561.710	0.000	561.610	0.000	561.600	0.000	561.280	0.000	561.470	0.000
6	562.180	32.95	561.670	0.000	561.630	0.000	561.570	0.000	562.030	0.000	561.470	0.000
7	562.360	44.44	561.750	18.16	561.650	0.000	561.520	0.000	561.610	0.000	561.470	0.000
8	562.360	44.41 *	561.660	0.000	561.630	0.000	561.510	0.000	561.450	0.000	561.460	0.000
9	562.360	43.62 *	561.590	0.000	561.600	0.000	561.500	0.000	561.350	0.000	561.450	0.000
10	562.350	44.06	561.670	0.000	561.640	0.000	561.410	0.000	561.280	0.000	561.440	0.000
11	561.700	0.000	561.610	0.000	561.660	0.000	561.400	0.000	561.280	0.000	561.280	0.000
12	562.070	30.58	561.620	0.000	561.660	0.000	561.430	0.000	561.260	0.000	561.270	0.000
13	562.220	36.81	561.650	0.000	561.530	0.000	561.420	0.000	561.270	0.000	561.290	0.000
14	562.160	32.50	561.650	0.000	561.590	0.000	561.430	0.000	561.330	0.000	561.310	0.000
15	562.160	32.50	561.670	0.000	561.580	0.000	561.440	0.000	561.400	0.000	561.270	0.000
16	562.180	35.32 *	561.670	0.000	561.570	0.000	561.430	0.000	561.440	0.000	561.260	0.000
17	562.240	36.50	561.600	0.000	561.560	0.000	561.400	0.000	561.450	0.000	561.280	0.000
18	562.070	30.58	561.540	0.000	561.560	0.000	561.400	0.000	561.490	0.000	561.270	0.000
19	562.070	30.58	561.520	0.000	561.520	0.000	561.480	0.000	561.370	0.000	561.260	0.000
20	562.100	33.10	561.520	0.000	561.500	0.000	561.530	0.000	561.340	0.000	561.250	0.000
21	562.120	31.15	561.510	0.000	561.480	0.000	561.560	0.000	561.280	0.000	561.260	0.000
22	562.100	33.11	561.500	0.000	561.460	0.000	561.560	0.000	561.240	0.000	561.260	0.000
23	562.100	31.91 *	561.520	0.000	561.480	0.000	561.560	0.000	561.270	0.000	561.250	0.000
24	562.090	32.82	561.500	0.000	561.430	0.000	561.560	0.000	561.370	0.000	561.220	0.000
25	562.070	30.67 *	561.510	0.000	561.430	0.000	561.590	0.000	561.260	0.000	561.220	0.000
26	562.040	29.62	561.500	0.000	561.480	0.000	561.560	0.000	561.220	0.000	561.480	0.000
27	561.750	18.16	561.510	0.000	561.530	0.000	561.490	0.000	561.660	0.000	561.390	0.000
28	562.060	30.27	561.500	0.000	561.600	0.000	561.430	0.000	561.500	0.000	561.350	0.000
29	562.070	30.58	561.500	0.000			561.400	0.000	561.470	0.000	561.260	0.000
30	562.050	29.86 *	561.520	0.000			561.400	0.000	561.520	0.000	561.220	0.000
31	562.000	28.51	561.530	0.000			561.350	0.000			561.220	0.000
Ten-Daily Mean												
I Ten-Daily	562.210	37.07	561.762	10.07	561.601	0.000	561.550	0.000	561.425	0.000	561.474	0.000
II Ten-Daily	562.097	29.85	561.605	0.000	561.573	0.000	561.436	0.000	561.363	0.000	561.274	0.000
III Ten-Daily	562.041	29.70	561.509	0.000	561.486	0.000	561.496	0.000	561.379	0.000	561.285	0.000
Monthly												
Min.	561.700	0.000	561.500	0.000	561.430	0.000	561.350	0.000	561.220	0.000	561.220	0.000
Max.	562.360	44.44	562.000	28.51	561.660	0.000	561.610	0.000	562.030	0.000	561.540	0.000
Mean	562.114	32.12	561.622	3.247	561.558	0	561.494	0	561.389	0	561.342	0

Peak Computed Discharge = 3607 cumecs on 15/08/2018

Corres. Water Level :568.18 m

Lowest Computed Discharge = 19.01 cumecs on 18/11/2018

Corres. Water Level :561.74 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)

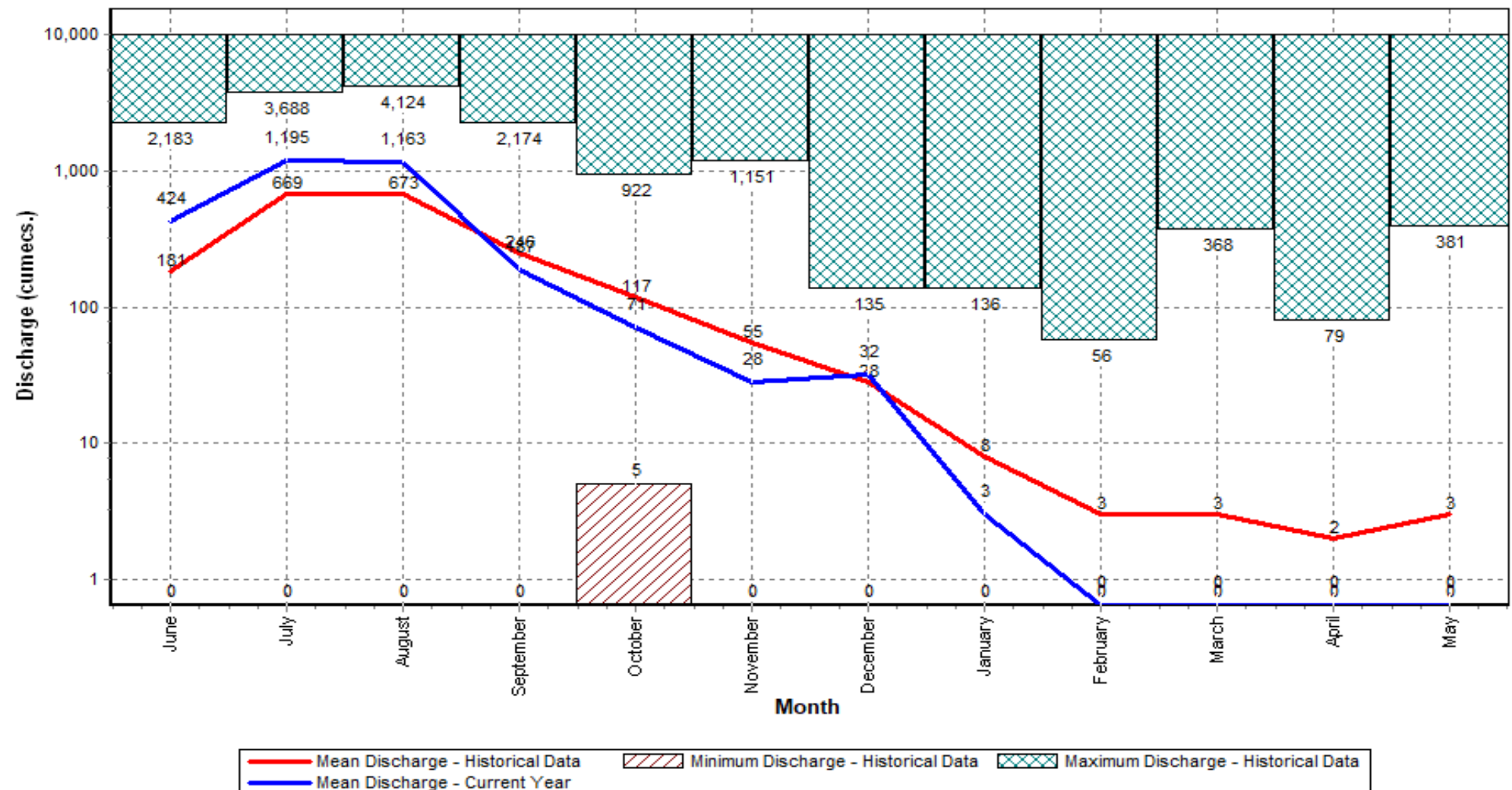
Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2018-2019

Station Name : SHIMOGA (AKLD0C6)
Local River : Tunga

Data considered : 1972-2019

Division : Cauvery Division, Bangalore
Sub-Division : Upper Tunga Subdn, Devangere



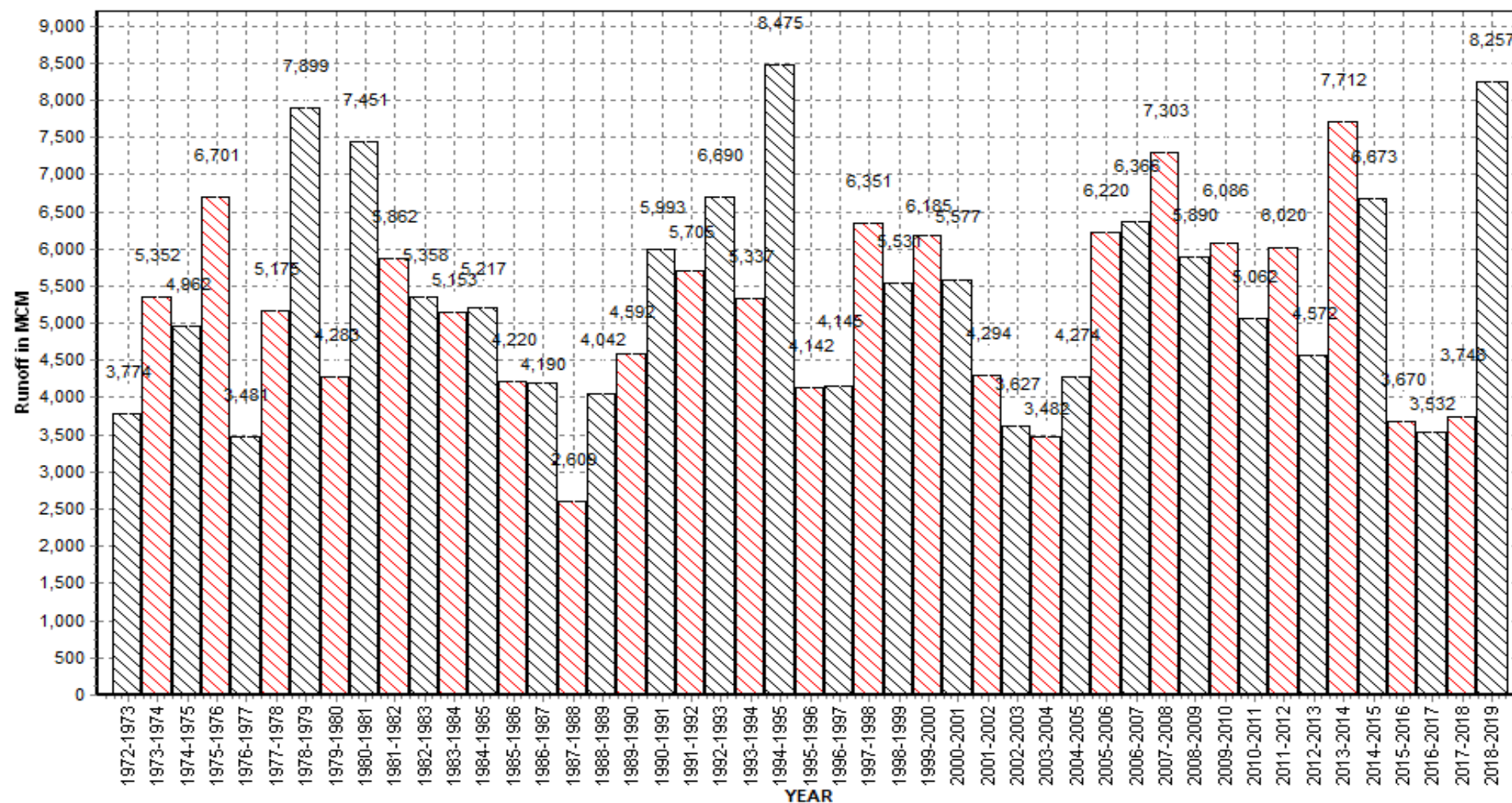
Annual Runoff Values for the period: 1972 - 2019

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

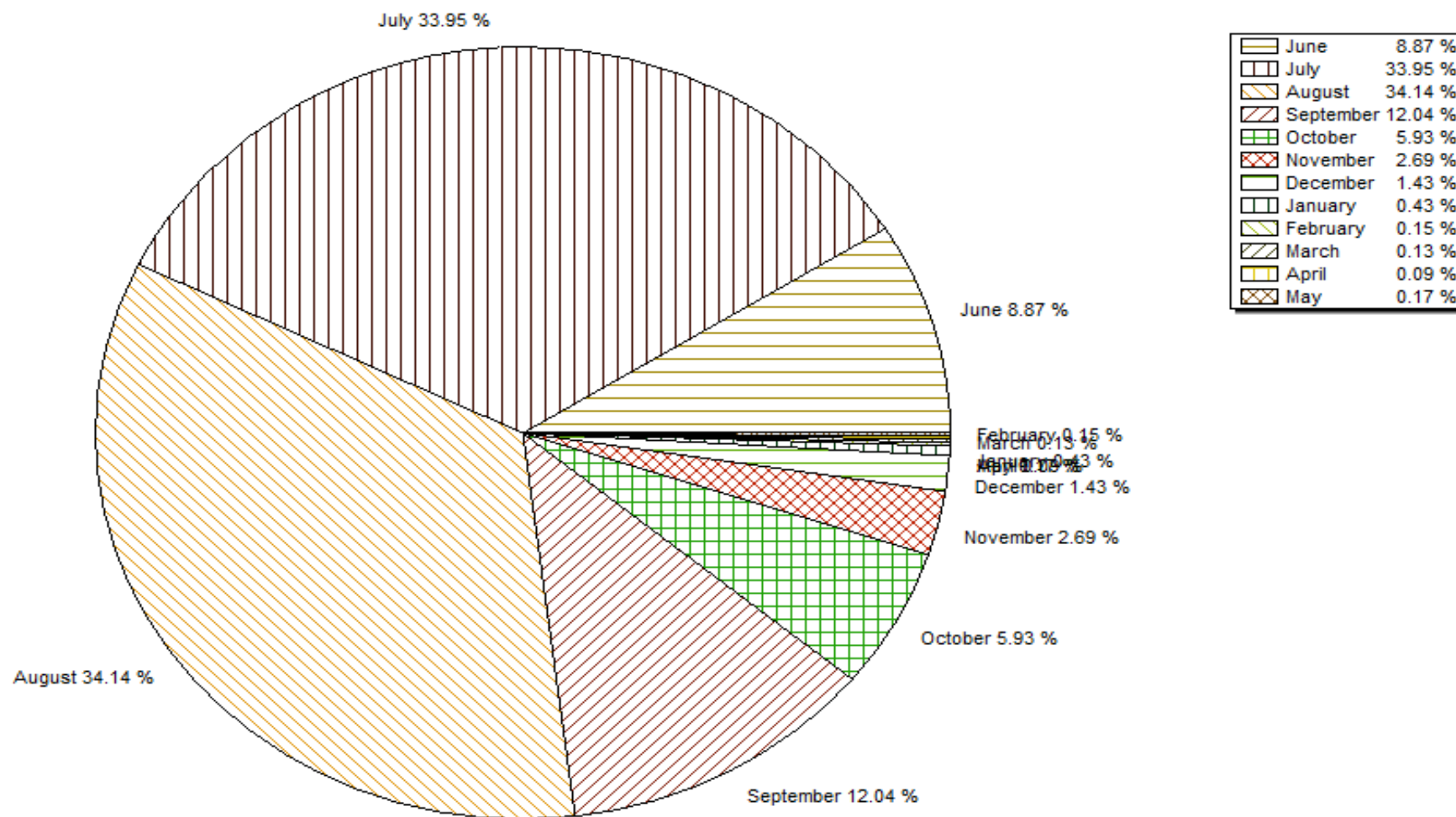
Monthly Average Runoff based on period : 1972-2018

Station Name : SHIMOGA (AKLD0C6)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



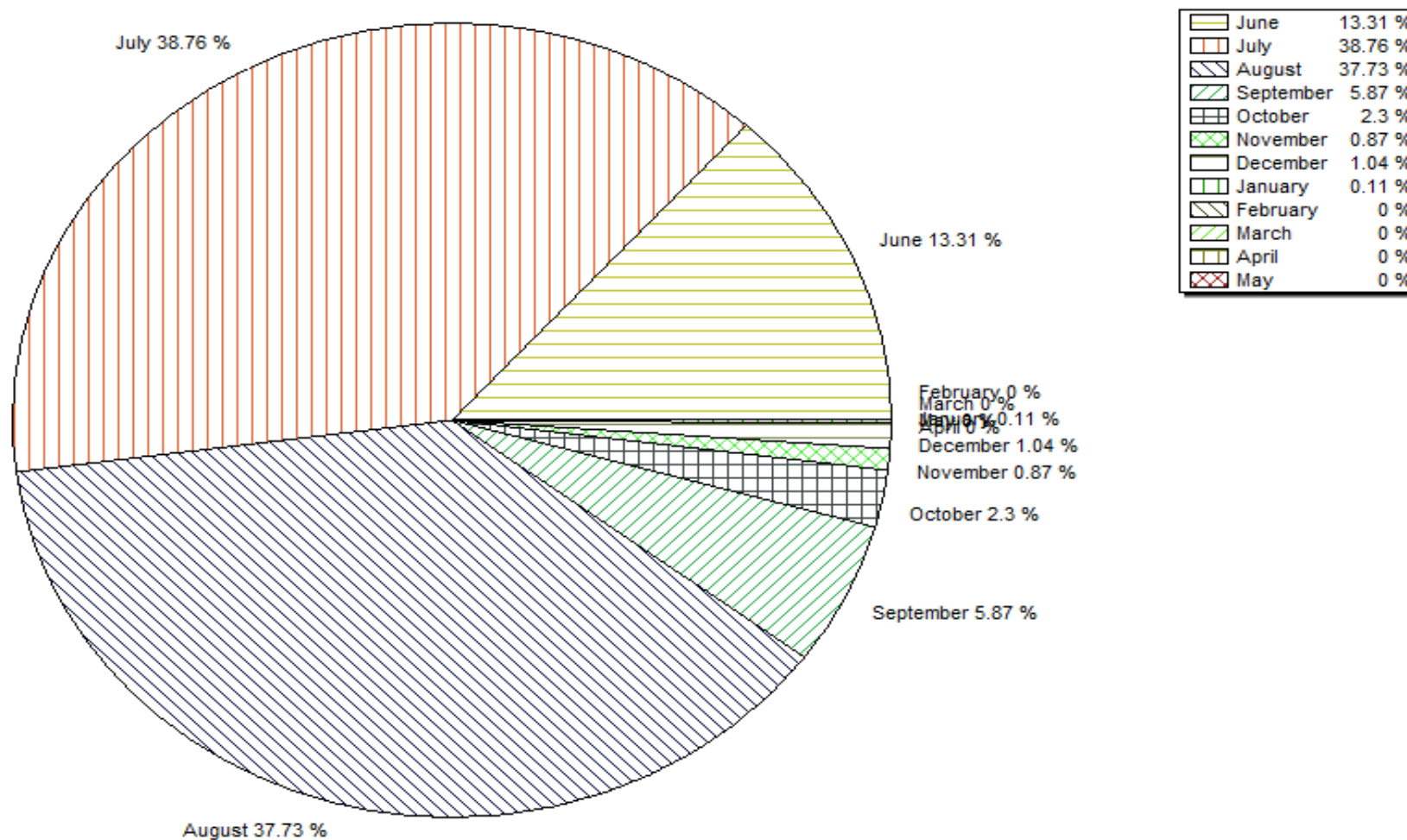
Monthly Runoff for the Year : 2018-2019

Station Name : SHIMOGA (AKLD0C6)

Local River : Tunga

Division : Cauvery Division, Bangalore

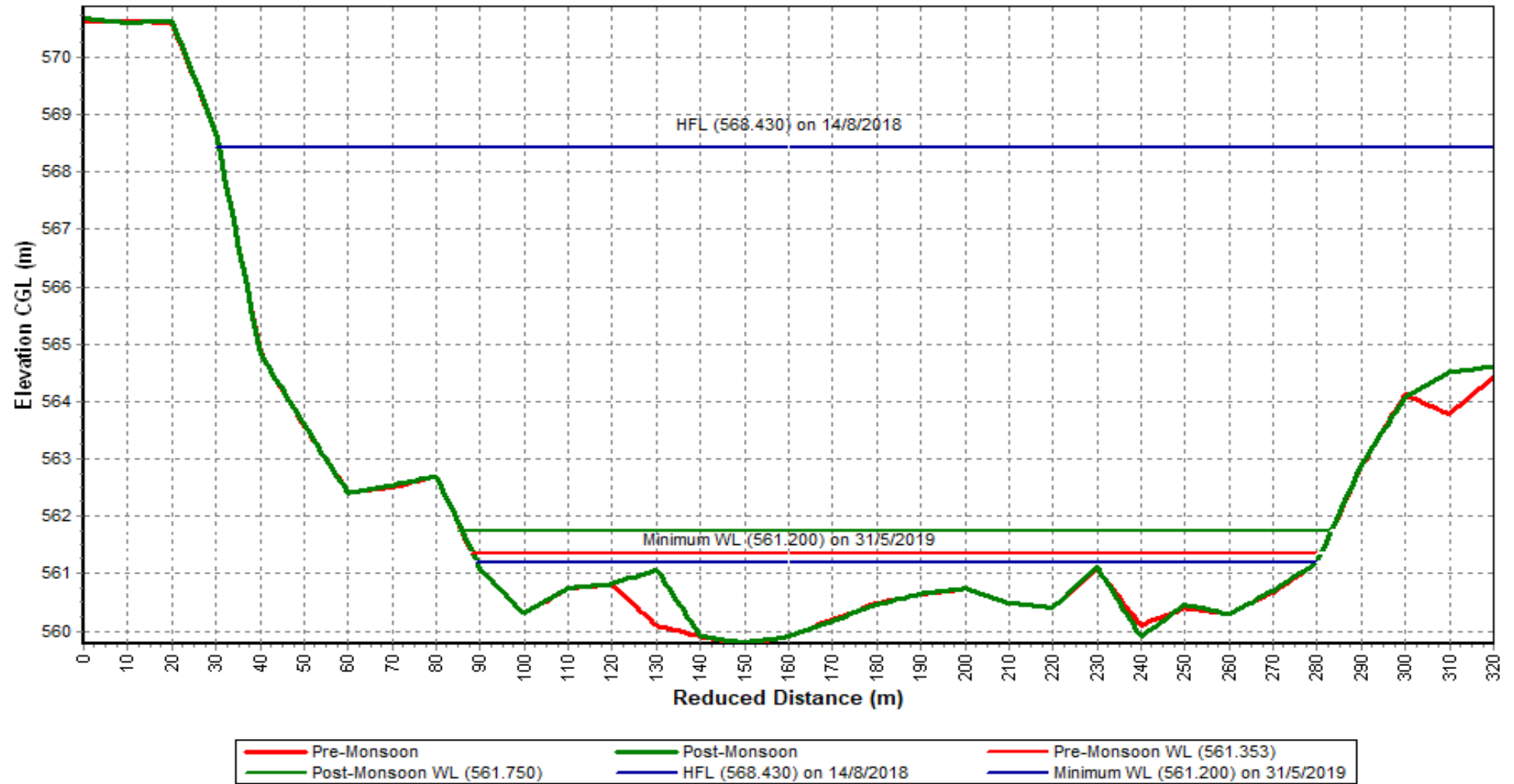
Sub-Division : Upper Tunga Subdn, Devangere



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : SHIMOGA (AKLD0C6)
Local River : Tunga

Division : Cauvery Division, Bangalore
Sub-Division : Upper Tunga Subdn, Devangere



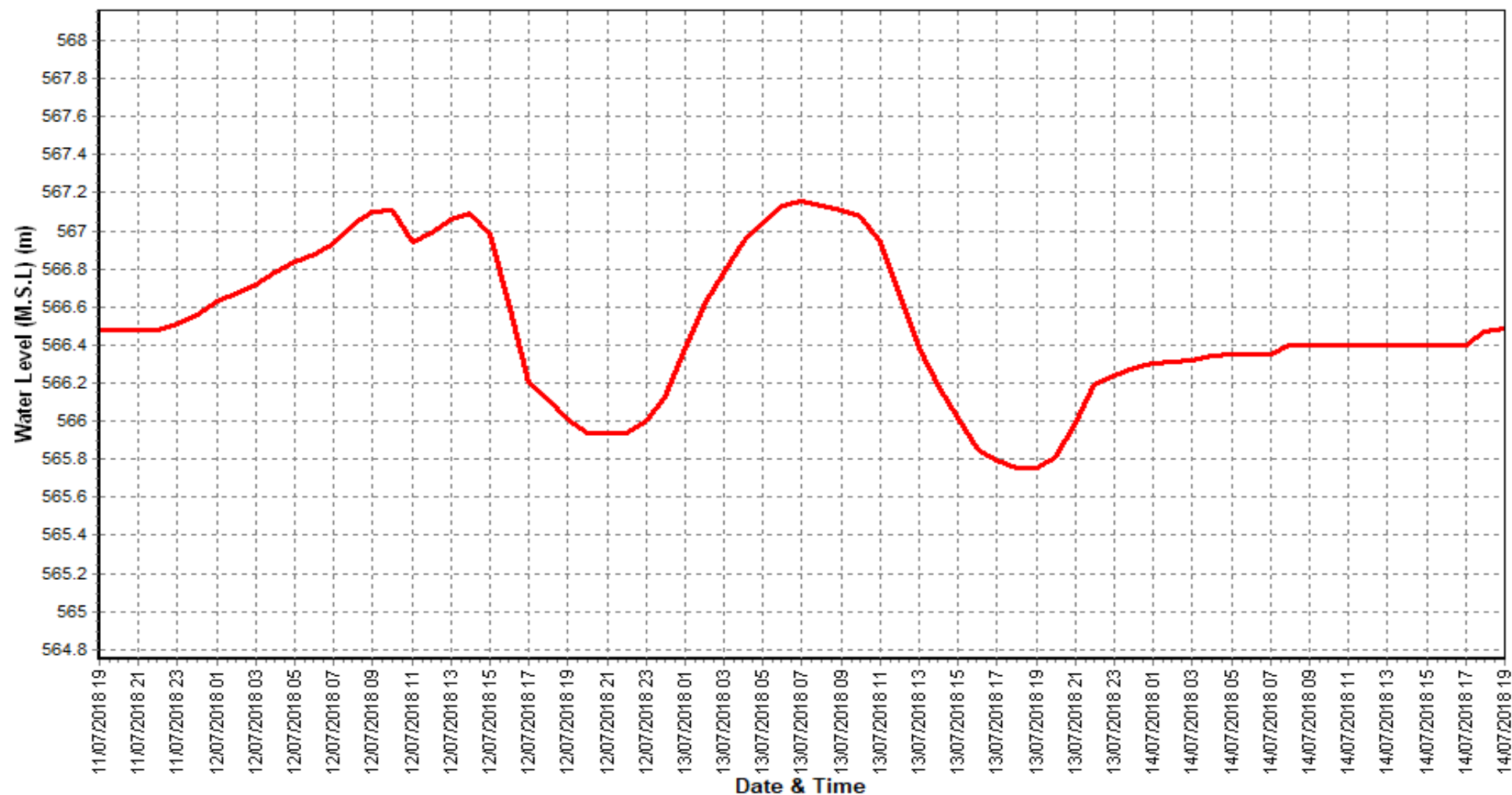
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : SHIMOGA (AKLD0C6)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



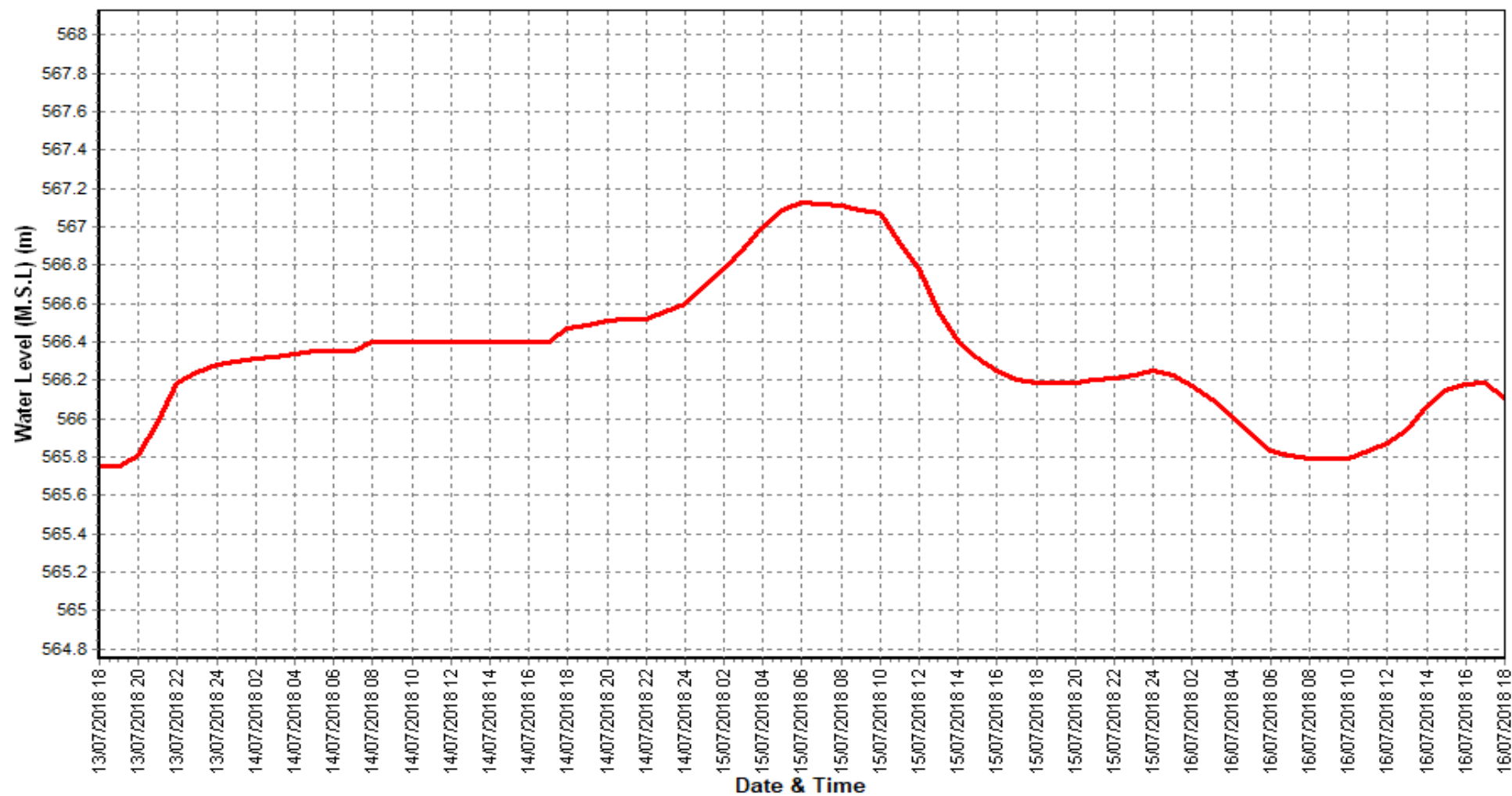
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : SHIMOGA (AKLD0C6)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



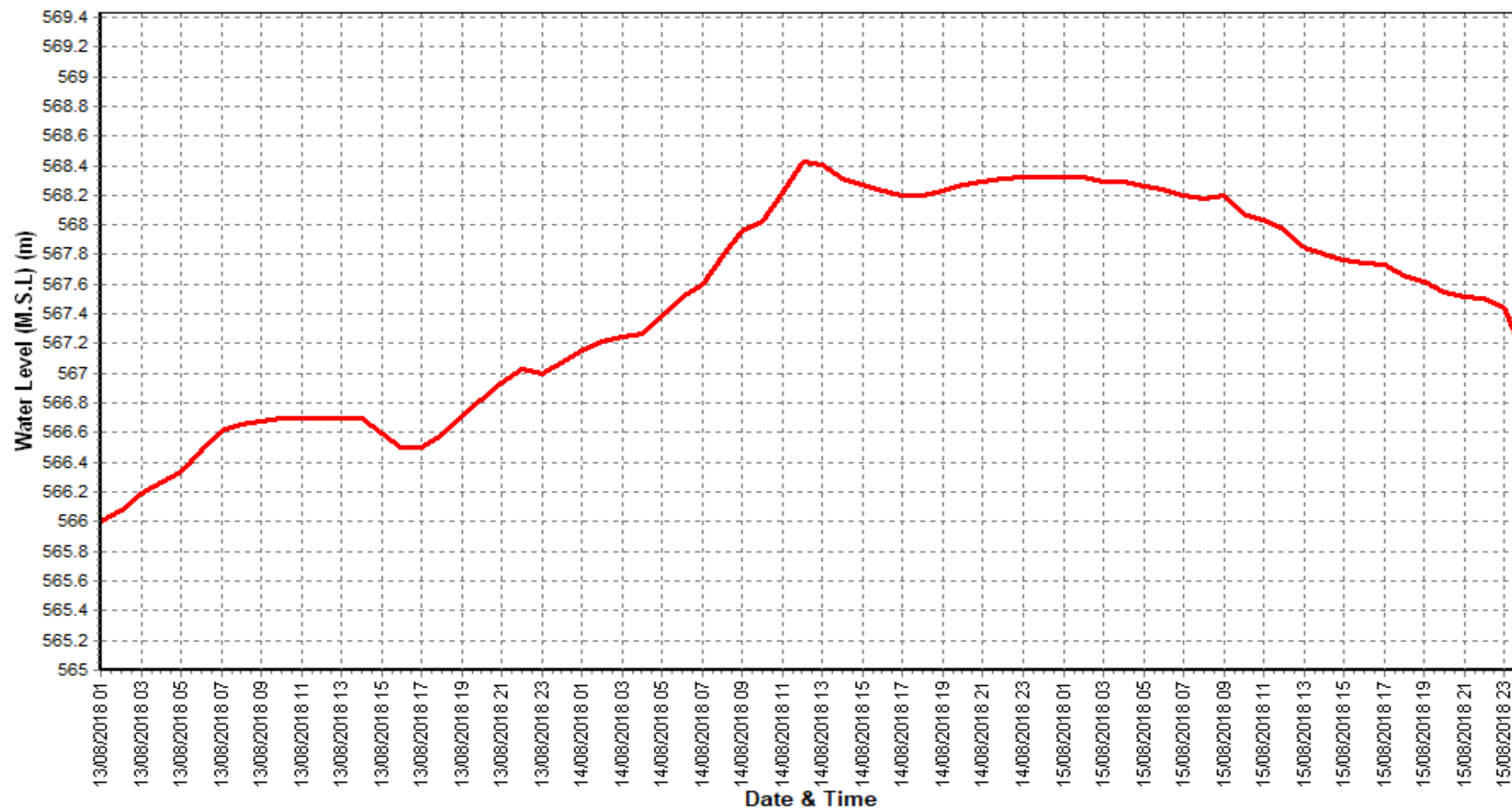
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : SHIMOGA (AKLD0C6)

Local River : Tunga

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Devangere



HISTORY SHEET

Water Year : 2018-2019

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) : 552.725 (m.s.l)

26/11/1997

Opening Date

Closing Date

Gauge : 26/11/1997

Discharge : 01/07/2003

Sediment :

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	14.07	555.855	01/06/2017	14.07	555.855	01/06/2017

Annual Runoff of Bhadra at Hollehonnur

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	2003-2004	2	5	6	0.06	0.16	0.22
2	2004-2005	40	45	85	1.41	1.60	3.01
3	2005-2006	1074	382	1456	37.96	13.48	51.45
4	2006-2007	1057	414	1471	37.35	14.62	51.98
5	2007-2008	2426	482	2907	85.71	17.03	102.73
6	2008-2009	1501	761	2262	53.04	26.90	79.94
7	2009-2010	1834	683	2517	64.82	24.13	88.94
8	2010-2011	1579	776	2355	55.81	27.41	83.22
9	2011-2012	1507	735	2242	53.26	25.98	79.24
10	2012-2013	805	655	1460	28.43	23.15	51.58
11	2013-2014	2187	708	2895	77.27	25.02	102.29
12	2014-2015	1754	447	2201	61.97	15.80	77.77
13	2015-2016	920	540	1460	32.50	19.08	51.58
14	2016-2017	473	510	983	16.71	18.02	34.73
15	2017-2018	1		1	0.04	0.00	0.04
16	2018-2019	2195	555	2750	77.57	19.62	97.19
Average		1210	513	1691	43	17	60
75% Dependable flow (MCM)				1101.167			
90 % Dependable flow (MCM)				4.810			

Stage-Discharge Data for the period 2018 - 2019

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	556.015	29.84	555.890	19.47 *	557.345	173.1	557.405	181.9	556.475	83.45	556.045	31.97
2	556.045	30.95	555.845	13.04	556.715	108.6	557.330	189.8 *	556.250	50.36 *	556.025	30.68
3	555.990	27.04 *	555.805	13.00	557.045	143.0	557.035	141.5	556.045	32.40	556.015	30.24
4	555.935	24.05	555.785	12.51	557.115	147.7	556.845	124.1	556.025	32.34	556.020	29.48 *
5	556.035	30.59	555.825	12.58	557.080	152.3 *	556.815	121.9	556.035	31.88	556.045	32.71
6	555.965	24.79	555.805	12.96	557.335	171.2	556.495	86.23	556.045	32.27	556.045	32.06
7	556.025	30.25	555.795	12.90	557.345	173.1	556.395	76.11	556.320	57.44 *	556.045	32.83
8	555.915	23.12	555.800	13.42 *	557.375	178.4	556.585	96.19	556.475	82.80	556.050	31.98 *
9	556.045	31.36	556.615	90.34	558.260	361.3	556.530	80.49 *	556.390	64.83 *	556.025	31.34
10	556.400	65.91 *	555.975	24.82	560.045	739.7	556.365	73.60	556.305	68.62	556.025	31.33
11	556.505	85.06	556.025	30.49	558.600	421.1	556.755	114.6	556.275	65.94	556.030	30.31 *
12	556.965	124.2	556.565	85.84	559.210	549.6 *	556.475	85.48	556.045	32.38	556.035	31.62
13	557.275	153.6	557.035	132.4	558.715	452.6	556.400	65.91 *	556.040	31.14 *	556.045	32.26
14	557.485	169.5	559.575	532.9	560.755	941.5	556.375	76.34	556.040	31.14 *	556.045	32.22
15	556.035	30.36	559.570	632.1 *	562.640	1479 *	556.455	83.91	556.045	32.31	556.035	31.71
16	556.270	52.35 *	559.005	437.0	562.100	1313 *	556.430	69.18 *	556.045	32.41	556.025	31.11
17	555.950	23.91 *	556.925	120.8	561.480	1131 *	556.405	77.64	556.765	111.0	556.015	30.30
18	555.935	23.68	556.765	106.6	559.785	728.2	556.395	77.10	556.750	107.3 *	556.020	29.48 *
19	555.875	16.40	556.705	101.8	558.930	488.2 *	556.375	74.99	556.460	72.52 *	555.995	29.74
20	555.865	16.47	556.825	113.5	559.975	780.2	556.035	32.48	556.395	74.75	556.005	30.49
21	555.895	17.65	556.805	108.0	558.790	503.1	556.580	86.36 *	556.260	51.35 *	555.990	27.04 *
22	555.905	17.73	557.350	192.9 *	558.800	460.6 *	556.475	84.04	556.045	31.98	555.925	22.24
23	555.935	23.29	556.965	125.3	557.525	194.1	556.210	46.46 *	556.045	32.07	555.860	17.36 *
24	555.880	18.76 *	556.925	120.8	557.475	190.6	556.045	32.06	556.025	30.76	555.835	13.71
25	555.835	12.50	559.045	502.3	557.955	315.6	556.045	32.36	556.045	31.99	555.830	15.35 *
26	555.815	12.43	559.395	582.6	557.500	216.8 *	556.025	31.21	556.045	32.59	555.845	14.97
27	555.825	12.43	559.345	555.7	557.225	161.6	556.045	32.43	556.025	31.23	555.825	14.32
28	555.845	12.94	558.295	359.2	557.185	158.6	556.035	31.49	556.050	31.98 *	555.835	14.43
29	556.035	30.42	557.710	251.9 *	558.205	364.9	556.760	109.8	556.025	31.48	555.815	14.12
30	556.755	101.7	556.905	120.9	558.465	418.6	556.610	89.95 *	556.025	31.48	555.756	10.53
31			556.885	123.8	557.285	166.9			556.035	31.57		
Ten-Daily Mean												
I Ten-Daily	556.037	31.79	555.914	22.50	557.566	234.8	556.780	117.2	556.237	53.64	556.034	31.46
II Ten-Daily	556.416	69.55	557.500	229.4	560.219	828.4	556.410	75.77	556.286	59.09	556.025	30.92
III Ten-Daily	555.973	25.99	557.784	276.7	557.855	286.5	556.283	57.61	556.057	33.50	555.852	16.41
Monthly												
Min.	555.815	12.43	555.785	12.51	556.715	108.6	556.025	31.21	556.025	30.76	555.756	10.53
Max.	557.485	169.5	559.575	632.1	562.640	1479	557.405	189.8	556.765	111.0	556.050	32.83
Mean	556.142	42.44	557.089	179.4	558.525	444.6	556.491	83.52	556.189	48.25	555.970	26.26

Annual Runoff in MCM = 2750 Annual Runoff in mm = 920

Peak Observed Discharge = 941.5 cumecs on 14/08/2018 Corres. Water Level :560.755 m

Lowest Observed Discharge = 3.559 cumecs on 18/12/2018 Corres. Water Level :555.56 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 2018 - 2019

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	555.735	10.39	555.745	9.210	556.765	102.6	555.995	27.32	556.645	96.95	556.035	29.75
2	555.710	9.305 *	555.745	8.983	556.875	111.6	555.945	23.33	556.705	103.9	556.025	29.69
3	555.675	8.871	555.755	9.060	556.815	113.6 *	555.955	23.47 *	556.675	100.4	556.035	30.07
4	555.665	8.803	555.765	9.498	556.795	103.9	555.945	23.17	556.765	111.3	556.035	31.42
5	555.695	9.902	555.735	8.696	556.785	102.2	555.945	23.10	556.705	102.8	556.035	29.29 *
6	555.675	9.469	555.745	10.98 *	556.805	103.4	555.965	25.60	556.735	108.1 *	556.045	31.40
7	555.675	9.615	555.745	8.997	556.915	115.4	555.965	25.56	556.515	75.48 *	556.045	30.81
8	555.685	9.840	555.755	9.169	556.875	111.0	555.955	25.30	556.045	29.83	556.035	29.88
9	555.690	8.403 *	555.685	8.263	556.745	97.65	555.965	25.85	556.045	29.61	556.025	29.44
10	555.695	10.14	555.655	7.758	556.715	100.1 *	555.975	24.87 *	556.045	29.79	556.035	29.78
11	555.675	9.678	555.675	8.220	556.695	92.02	555.935	22.43	556.045	29.95	556.045	30.29
12	555.685	9.960	555.905	16.90	556.485	73.24	555.925	21.55	556.045	30.06	556.045	30.05 *
13	555.665	8.810	555.955	23.47 *	556.365	64.85	555.935	21.93	556.045	30.06	556.025	29.88
14	555.645	8.245	555.805	12.28	556.385	65.84	555.955	25.18	556.045	30.05 *	556.035	29.48
15	555.655	8.551	555.825	15.25 *	556.375	65.78	555.955	25.04	556.045	29.04	556.045	30.51
16	555.670	7.541 *	555.825	13.06	556.415	69.40	555.945	24.63	556.035	29.57	556.045	30.63
17	555.575	5.155	555.865	16.08	556.415	64.32 *	555.955	23.47 *	556.025	28.53 *	556.045	30.56
18	555.560	3.559 #	555.895	17.46	556.005	26.62	555.965	25.31	556.045	29.70	556.045	30.05 *
19	555.560	3.559 #	555.945	20.32	556.025	29.12	555.995	27.37	556.045	30.05 *	556.045	30.05 *
20	555.675	8.606	555.965	24.17 *	556.005	27.79	555.955	25.28	556.035	29.54 *	556.045	30.60
21	555.745	8.942	555.975	21.87	555.985	26.24	556.515	81.73	556.035	29.29 *	556.045	30.49
22	555.765	9.420	555.975	21.85	555.975	25.51	556.625	92.04	556.005	27.57	556.045	30.59
23	555.770	12.25 *	555.985	23.19	555.995	27.30	556.625	96.41	556.015	28.10	556.025	29.92
24	555.755	9.021	555.995	24.29	555.975	24.87 *	556.655	92.41 *	556.025	29.75	556.015	29.56
25	555.750	11.23 *	556.015	26.51	555.985	26.49	556.665	99.40	556.045	30.45	555.945	24.45
26	555.745	8.890	556.015	27.78 *	555.955	21.32	556.655	99.00	556.045	30.17	555.935	22.11 *
27	555.735	8.775	556.005	27.04 *	555.965	25.46	556.655	97.65	556.035	29.61	555.845	14.33
28	555.745	9.077	556.005	26.05	555.955	24.11	556.675	101.6	556.035	29.29 *	555.925	23.69
29	555.755	9.270	556.035	28.27			556.665	99.68	556.045	29.86	555.855	14.36
30	555.760	11.73 *	556.045	29.42			556.645	96.78	556.045	30.41	555.825	13.55
31	555.745	8.985	556.045	30.33			556.615	87.41 *			555.825	14.04 *
Ten-Daily Mean												
I Ten-Daily	555.690	9.474	555.733	9.061	556.809	106.1	555.961	24.76	556.488	78.81	556.035	30.15
II Ten-Daily	555.636	7.366	555.866	16.72	556.317	57.90	555.952	24.22	556.041	29.65	556.042	30.21
III Ten-Daily	555.752	9.781	556.009	26.05	555.974	25.16	556.636	94.92	556.033	29.45	555.935	22.46
Monthly												
Min.	555.560	3.559	555.655	7.758	555.955	21.32	555.925	21.55	556.005	27.57	555.825	13.55
Max.	555.770	12.25	556.045	30.33	556.915	115.4	556.675	101.6	556.765	111.3	556.045	31.42
Mean	555.695	8.903	555.874	17.56	556.395	65.78	556.198	49.48	556.187	45.97	556.002	27.44

Peak Computed Discharge = 1479 cumecs on 15/08/2018

Corres. Water Level :562.64 m

Lowest Computed Discharge = 7.541 cumecs on 16/12/2018

Corres. Water Level :555.67 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)

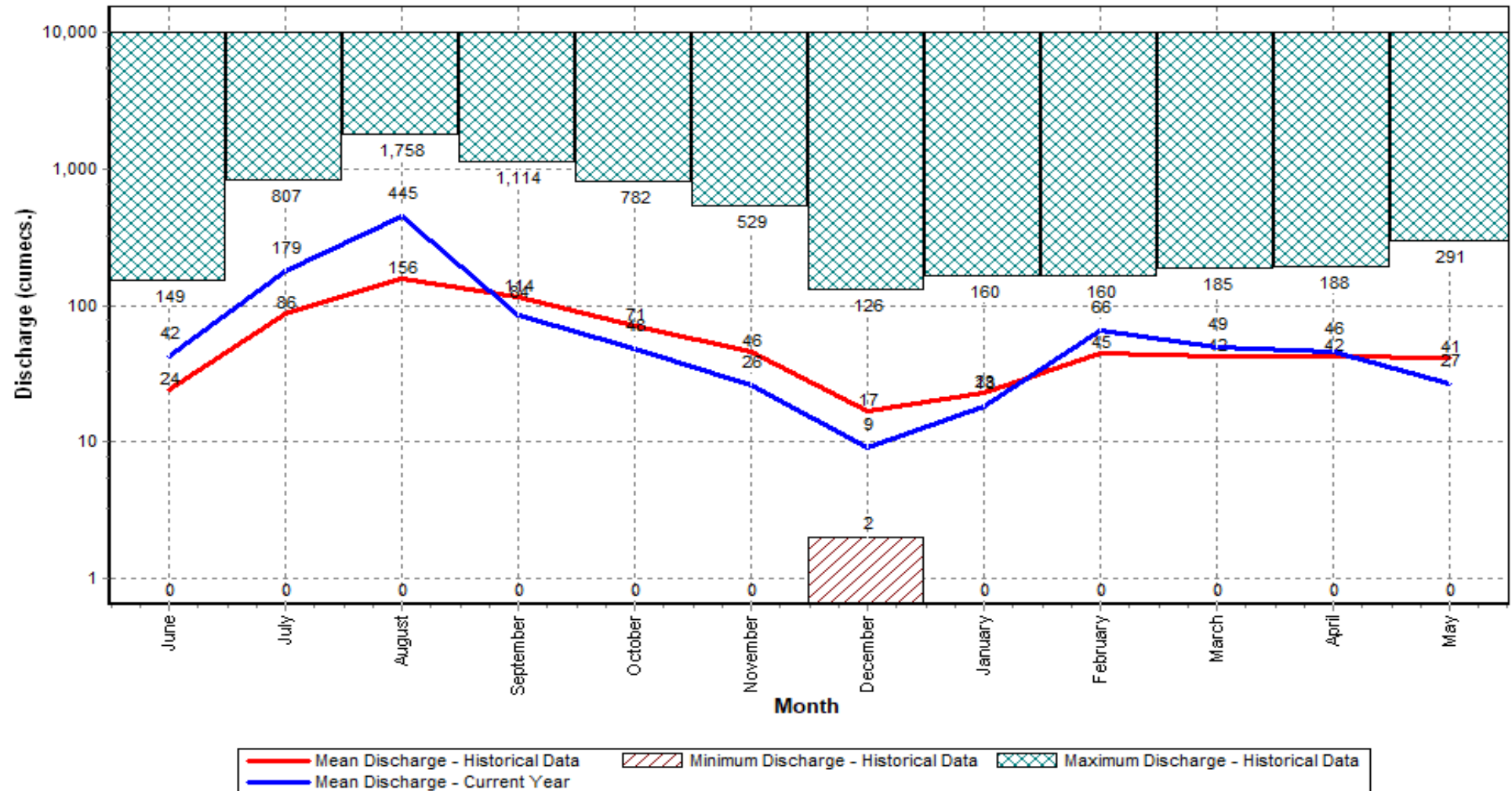
Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2018-2019

Station Name : HOLEHONNUR (AKLE0A4)
Local River : Bhadra

Data considered : 2004-2019

Division : Cauvery Division, Bangalore
Sub-Division : Upper Tunga Subdn, Davanagere



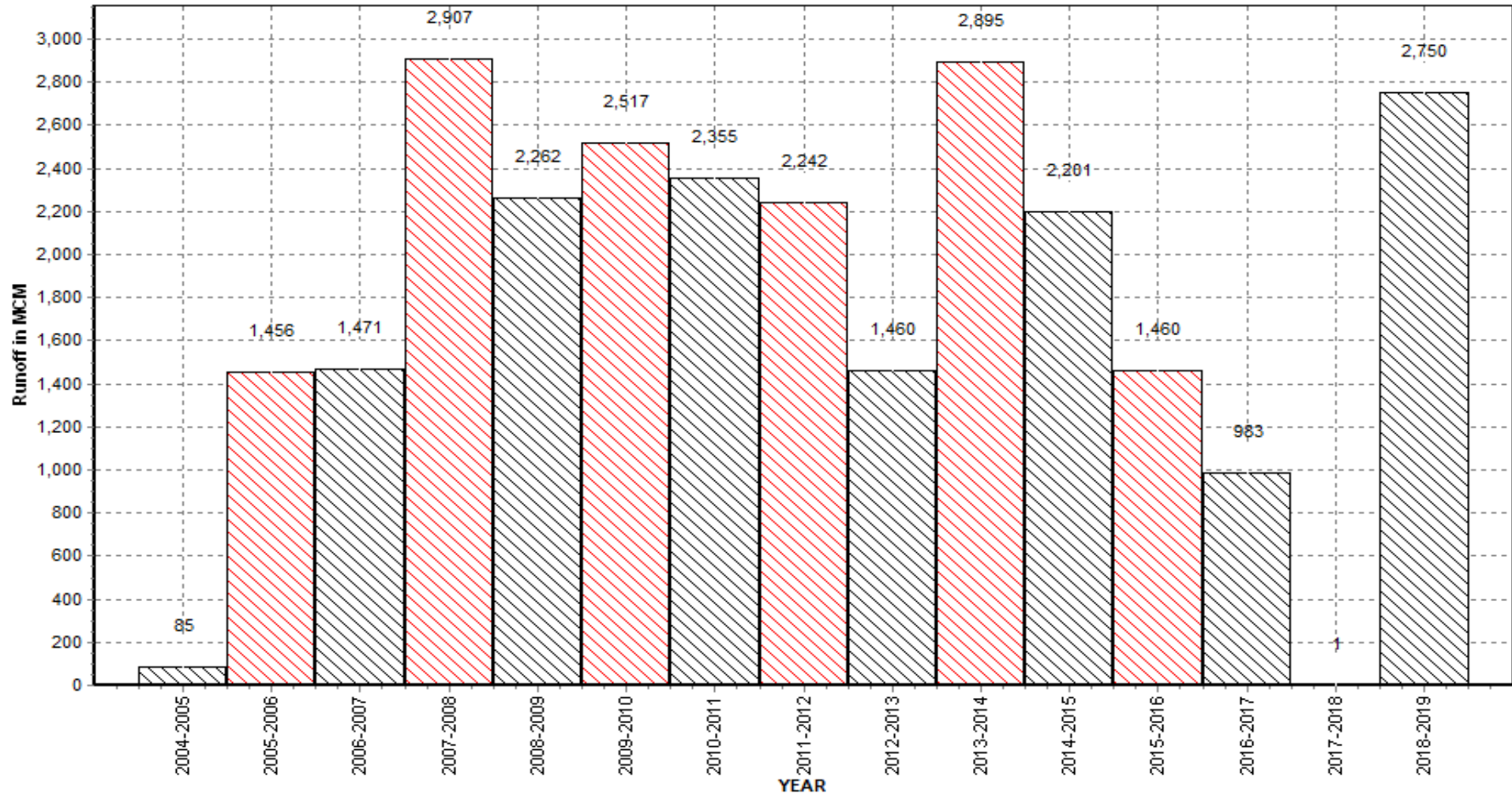
Annual Runoff Values for the period: 2004 - 2019

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

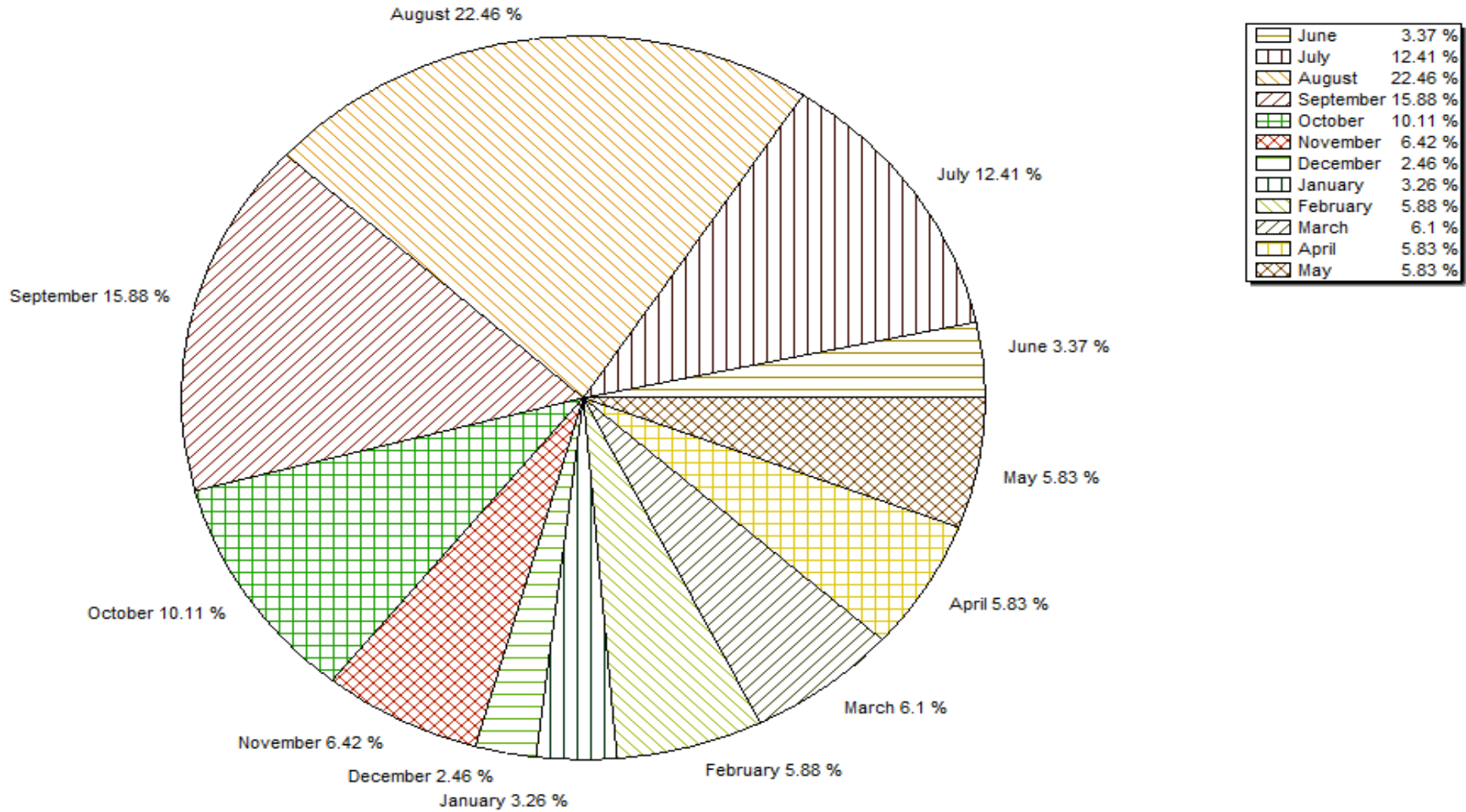
Monthly Average Runoff based on period : 2004-2018

Station Name : HOLEHONNUR (AKLE0A4)

Local River : Bhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Davanagere



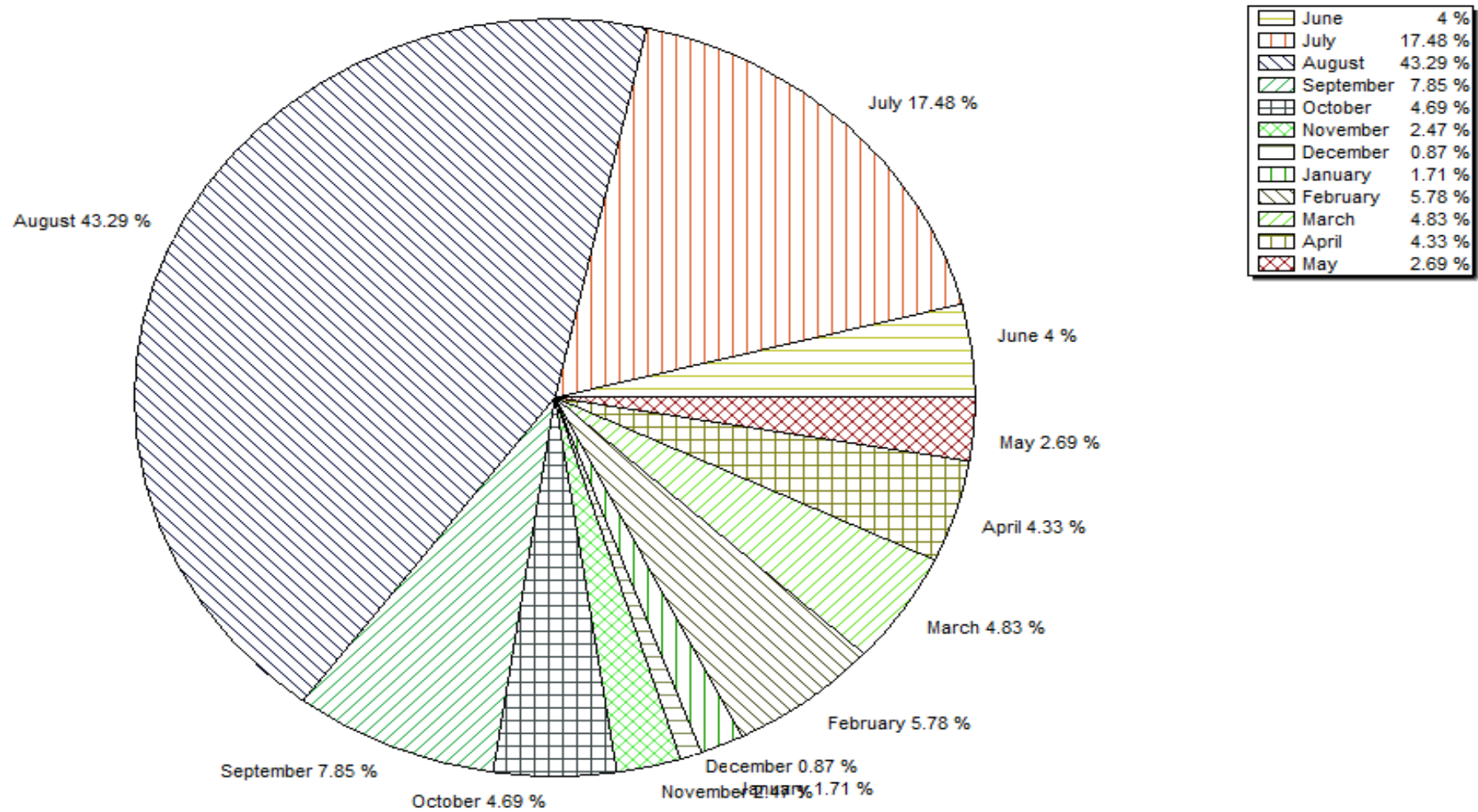
Monthly Runoff for the Year : 2018-2019

Station Name : HOLEHONNUR (AKLE0A4)

Local River : Bhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Davanagere



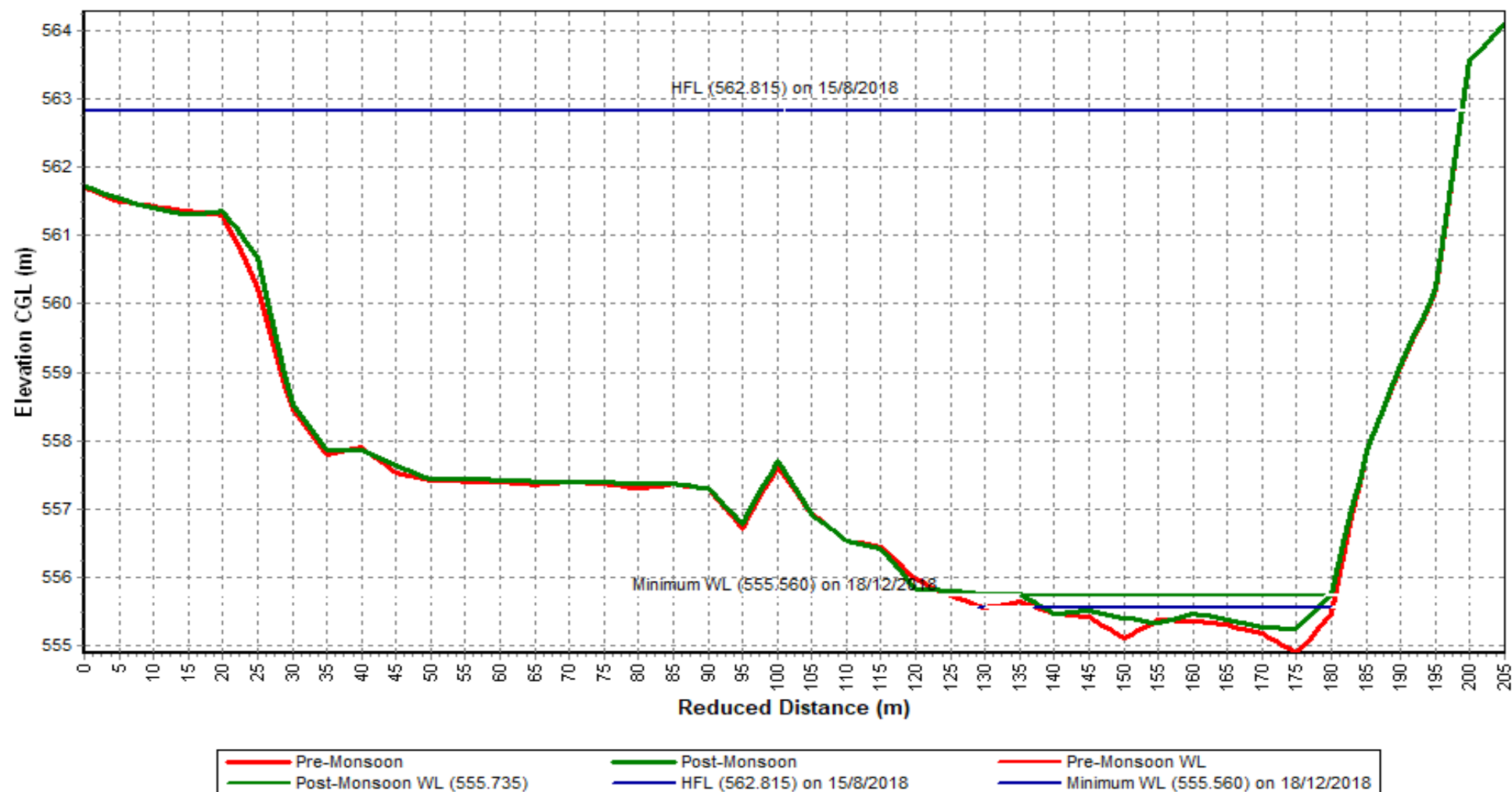
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : HOLEHONNUR (AKLE0A4)

Local River : Bhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Davanagere



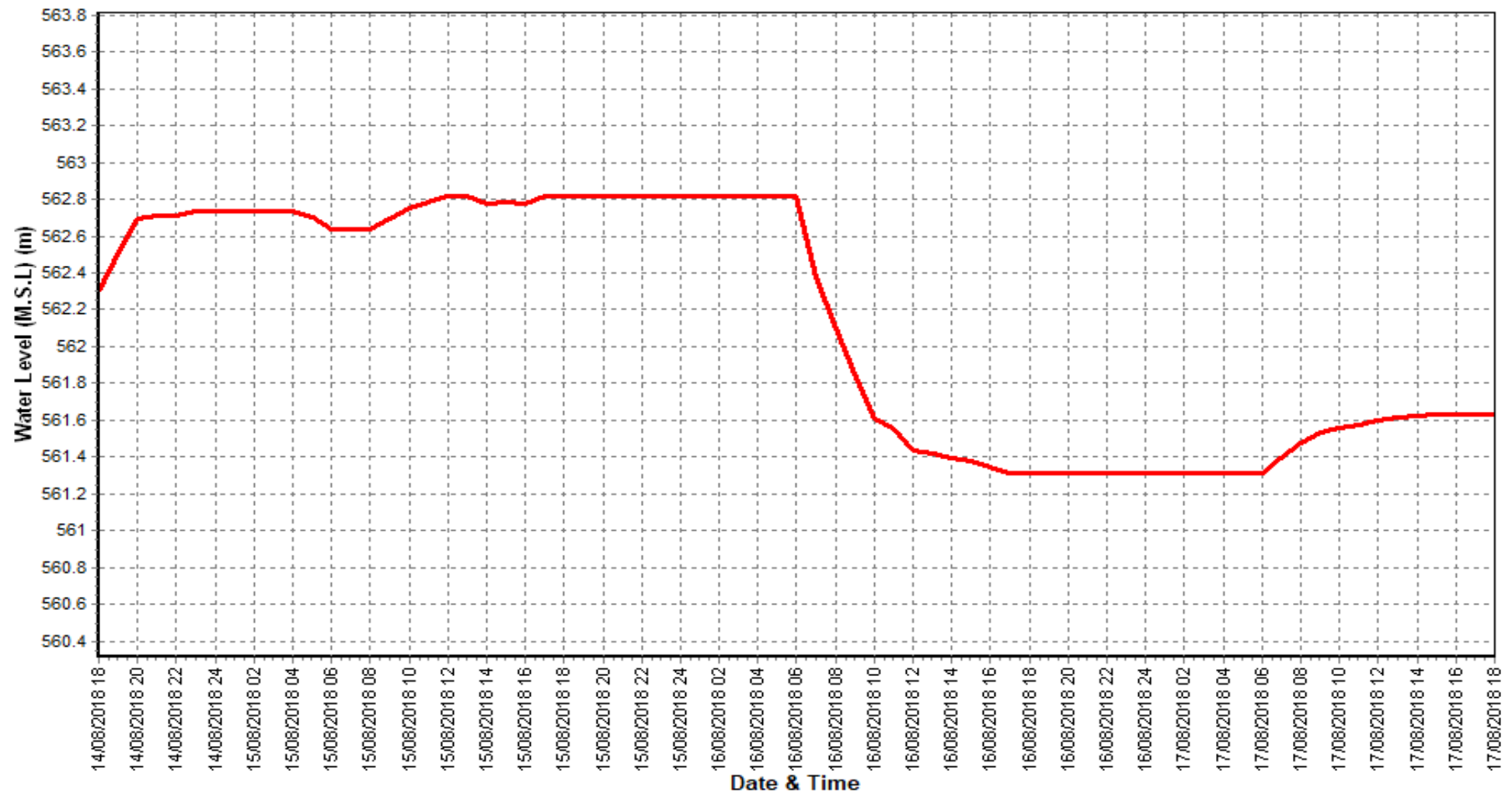
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : HOLEHONNUR (AKLE0A4)

Local River : Bhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Davanagere



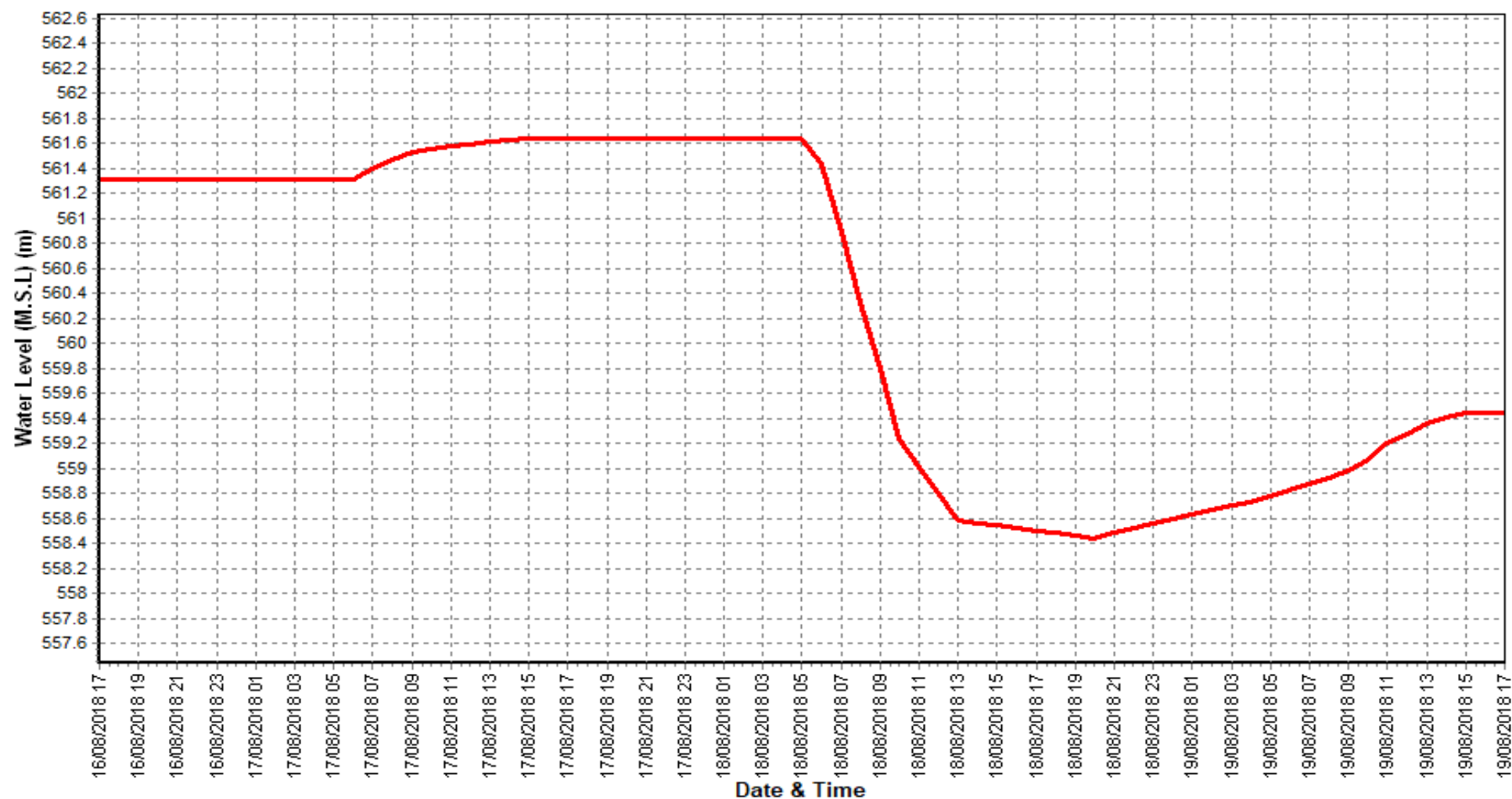
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : HOLEHONNUR (AKLE0A4)

Local River : Bhadra

Division : Cauvery Division, Bangalore

Sub-Division : Upper Tunga Subdn, Davanagere



HISTORY SHEET

Water Year : 2018-2019

Site : Yadgir (Teriminal site
of River Bhima)

Code : AKP00B6

State : Karnataka

District : Yadgir

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

Opening Date

Closing Date

Gauge : 05/09/1963

HFL During 2018-19 : 354.443 m

Corres. Discharge : 1205 (estimated)

Discharge : 11/11/1964

Date & Time of
occurrence : 31/08/2018
: 17:00 Hrs

Sediment : 01/06/1965

Water Quality : 01/01/1972

HFL Recorded so far in m : 361.913 dt 07-09-1969

Corresponding Discharge (cumecs) : 10609 *

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	10255	361.873	07/09/1969	0.530	350.623	16/05/1970
1970-1971	4903	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	9479	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
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

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	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	8487	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	10057	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	9807	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	4939	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	3306	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	297.0	352.383	18/09/2015	0.000	350.123	10/04/2016
2016-2017	2640	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

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

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
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
Average		7816	262	8078	276	9	285
75% Dependable flow (MCM)				3951			
90 % Dependable flow (MCM)				1907			

Stage-Discharge Data for the period 2018 - 2019

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	351.203	0.000	351.923	0.000	350.703	0.000	354.113	997.1	352.423	74.18	352.223	54.45
2	351.203	0.000	351.903	0.000	350.683	0.000	353.883	885.0 *	352.413	71.50 *	352.053	40.82
3	351.203	0.000	351.903	0.000	350.593	0.000	353.403	668.3	352.393	69.13	351.853	37.44
4	351.213	0.000	351.903	0.000	350.463	0.000	353.023	487.6	352.393	63.51	351.853	34.50 *
5	351.303	0.000	351.903	0.000	350.453	0.000	353.003	465.5	352.393	69.45	351.853	31.66
6	351.663	0.000	351.903	0.000	350.453	0.000	352.833	280.3 #	352.393	69.98	351.623	0.000
7	351.903	0.000	351.793	0.000	350.563	0.000	352.723	280.2 #	352.383	69.00 *	351.583	0.000
8	352.103	0.000	351.673	0.000	350.683	0.000	352.723	280.2 #	352.383	68.56	351.503	0.000
9	352.203	0.000	351.563	0.000	350.693	0.000	352.603	124.2 *	352.333	58.94 #	351.483	0.000
10	352.203	0.000	351.203	0.000	350.713	0.000	352.603	124.2 #	352.203	54.52	351.483	0.000
11	352.203	0.000	351.203	0.000	350.713	0.000	352.753	307.4	351.903	47.67	351.483	0.000
12	352.193	0.000	351.203	0.000	350.763	0.000	352.703	276.7	351.883	42.95	351.473	0.000
13	352.153	0.000	351.103	0.000	350.823	0.000	352.673	223.0 *	351.873	45.00 *	351.683	0.000
14	352.153	0.000	351.003	0.000	350.823	0.000	352.653	170.9	351.853	42.00 *	352.133	0.000
15	352.153	0.000	350.993	0.000	350.993	0.000	352.603	124.2	351.853	42.24 #	352.263	0.000
16	352.173	0.000	351.003	0.000	351.113	18.60 #	352.253	96.60 *	351.873	42.84 #	352.273	0.000
17	352.183	0.000	351.003	0.000	351.183	19.78 #	352.103	87.40	352.203	55.50	351.943	0.000
18	352.183	0.000	351.003	0.000	351.493	28.89 #	352.033	83.26	352.223	54.24	351.913	0.000
19	352.183	0.000	351.003	0.000	351.503	28.91 *	352.113	85.65	352.223	54.00 *	351.903	0.000
20	352.153	0.000	351.003	0.000	351.543	28.93 #	352.303	111.8	352.203	53.86	351.883	0.000
21	352.153	0.000	351.003	0.000	352.223	0.000	352.303	111.0 *	352.223	54.00 *	351.883	0.000
22	352.153	0.000	350.993	0.000	352.263	0.000	352.303	111.0	352.223	53.84	351.873	0.000
23	352.153	0.000	350.953	0.000	352.263	0.000	352.453	80.00 *	352.323	60.75	351.853	0.000
24	352.153	0.000	350.873	0.000	352.153	0.000	352.493	74.97	352.383	69.71	351.843	0.000
25	352.153	0.000	350.803	0.000	352.203	0.000	352.493	80.59	352.433	70.73	351.823	0.000
26	352.153	0.000	350.733	0.000	352.203	0.000	352.493	79.25	352.433	71.33	351.683	0.000
27	352.153	0.000	350.733	0.000	352.203	0.000	352.473	78.09	352.433	71.43	351.623	0.000
28	352.163	0.000	350.733	0.000	353.603	754.8	352.443	74.84	352.433	71.50 *	351.603	0.000
29	352.083	0.000	350.733	0.000	353.183	482.5	352.443	75.44	352.433	71.88	351.603	0.000
30	351.993	0.000	350.703	0.000	353.323	617.3	352.433	75.44 *	352.343	58.35	351.603	0.000
31			350.703	0.000	354.308	1140			352.223	54.05		
Ten-Daily Mean												
I Ten-Daily	351.620	0.000	351.767	0.000	350.600	0.000	353.091	459.3	352.371	66.88	351.751	19.89
II Ten-Daily	352.173	0.000	351.052	0.000	351.095	12.51	352.419	156.7	352.009	48.03	351.895	0.000
III Ten-Daily	352.131	0.000	350.815	0.000	352.721	272.2	352.433	84.06	352.353	64.32	351.739	0.000
Monthly												
Min.	351.203	0.000	350.703	0.000	350.453	0.000	352.033	74.84	351.853	42.00	351.473	0.000
Max.	352.203	0.000	351.923	0.000	354.308	1140	354.113	997.1	352.433	74.18	352.273	54.45
Mean	351.975	0	351.198	0	351.512	100.6	352.648	233.3	352.248	59.89	351.795	6.629

Annual Runoff in MCM = 1052 Annual Runoff in mm = 15

Peak Observed Discharge = 1140 cumecs on 31/08/2018 Corres. Water Level :354.308 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018 Corres. Water Level :351.203 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 2018 - 2019

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	351.583	0.000	351.033	0.000	350.483	0.000	350.243	0.000	350.203	0.000	350.223	0.000
2	351.543	0.000	351.023	0.000	350.483	0.000	350.233	0.000	350.193	0.000	350.223	0.000
3	351.533	0.000	351.003	0.000	350.483	0.000	350.233	0.000	350.193	0.000	350.193	0.000
4	351.463	0.000	350.993	0.000	350.483	0.000	350.233	0.000	350.183	0.000	350.223	0.000
5	351.443	0.000	350.963	0.000	350.473	0.000	350.233	0.000	350.183	0.000	350.243	0.000
6	351.413	0.000	350.903	0.000	350.473	0.000	350.233	0.000	350.183	0.000	350.243	0.000
7	351.313	0.000	350.853	0.000	350.473	0.000	350.223	0.000	350.183	0.000	350.233	0.000
8	351.283	0.000	350.813	0.000	350.473	0.000	350.223	0.000	350.183	0.000	350.273	0.000
9	351.213	0.000	350.803	0.000	350.483	0.000	350.213	0.000	350.173	0.000	350.313	0.000
10	351.173	0.000	350.753	0.000	350.483	0.000	350.203	0.000	350.173	0.000	350.323	0.000
11	351.153	0.000	350.713	0.000	350.483	0.000	350.193	0.000	350.163	0.000	350.323	0.000
12	351.143	0.000	350.673	0.000	350.483	0.000	350.193	0.000	350.163	0.000	350.323	0.000
13	351.143	0.000	350.643	0.000	350.473	0.000	350.193	0.000	350.163	0.000	350.323	0.000
14	351.133	0.000	350.633	0.000	350.473	0.000	350.193	0.000	350.163	0.000	350.303	0.000
15	351.103	0.000	350.633	0.000	350.463	0.000	350.193	0.000	350.163	0.000	350.293	0.000
16	351.103	0.000	350.603	0.000	350.463	0.000	350.183	0.000	350.173	0.000	350.293	0.000
17	351.103	0.000	350.603	0.000	350.463	0.000	350.183	0.000	350.183	0.000	350.273	0.000
18	351.093	0.000	350.563	0.000	350.463	0.000	350.183	0.000	350.183	0.000	350.273	0.000
19	351.093	0.000	350.553	0.000	350.423	0.000	350.173	0.000	350.183	0.000	350.273	0.000
20	351.063	0.000	350.553	0.000	350.343	0.000	350.173	0.000	350.193	0.000	350.273	0.000
21	351.053	0.000	350.553	0.000	350.263	0.000	350.173	0.000	350.163	0.000	350.263	0.000
22	351.053	0.000	350.553	0.000	350.253	0.000	350.193	0.000	350.123	0.000	350.203	0.000
23	351.053	0.000	350.553	0.000	350.243	0.000	350.233	0.000	350.113	0.000	350.193	0.000
24	351.053	0.000	350.513	0.000	350.243	0.000	350.273	0.000	350.113	0.000	350.193	0.000
25	351.053	0.000	350.503	0.000	350.243	0.000	350.323	0.000	350.153	0.000	350.193	0.000
26	351.053	0.000	350.503	0.000	350.243	0.000	350.303	0.000	350.243	0.000	350.193	0.000
27	351.043	0.000	350.513	0.000	350.243	0.000	350.263	0.000	350.273	0.000	350.193	0.000
28	351.043	0.000	350.483	0.000	350.243	0.000	350.213	0.000	350.273	0.000	350.183	0.000
29	351.043	0.000	350.483	0.000			350.213	0.000	350.253	0.000	350.183	0.000
30	351.043	0.000	350.483	0.000			350.203	0.000	350.223	0.000	350.243	0.000
31	351.043	0.000	350.483	0.000			350.203	0.000			350.343	0.000
Ten-Daily Mean												
I Ten-Daily	351.396	0.000	350.914	0.000	350.479	0.000	350.227	0.000	350.185	0.000	350.249	0.000
II Ten-Daily	351.113	0.000	350.617	0.000	350.453	0.000	350.186	0.000	350.173	0.000	350.295	0.000
III Ten-Daily	351.048	0.000	350.511	0.000	350.247	0.000	350.236	0.000	350.193	0.000	350.217	0.000
Monthly												
Min.	351.043	0.000	350.483	0.000	350.243	0.000	350.173	0.000	350.113	0.000	350.183	0.000
Max.	351.583	0.000	351.033	0.000	350.483	0.000	350.323	0.000	350.273	0.000	350.343	0.000
Mean	351.181	0	350.675	0	350.403	0	350.217	0	350.184	0	350.252	0

Peak Computed Discharge = 885.0 cumecs on 02/09/2018

Corres. Water Level :353.883 m

Lowest Computed Discharge = 28.91 cumecs on 19/08/2018

Corres. Water Level :351.503 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 : 2018-2019

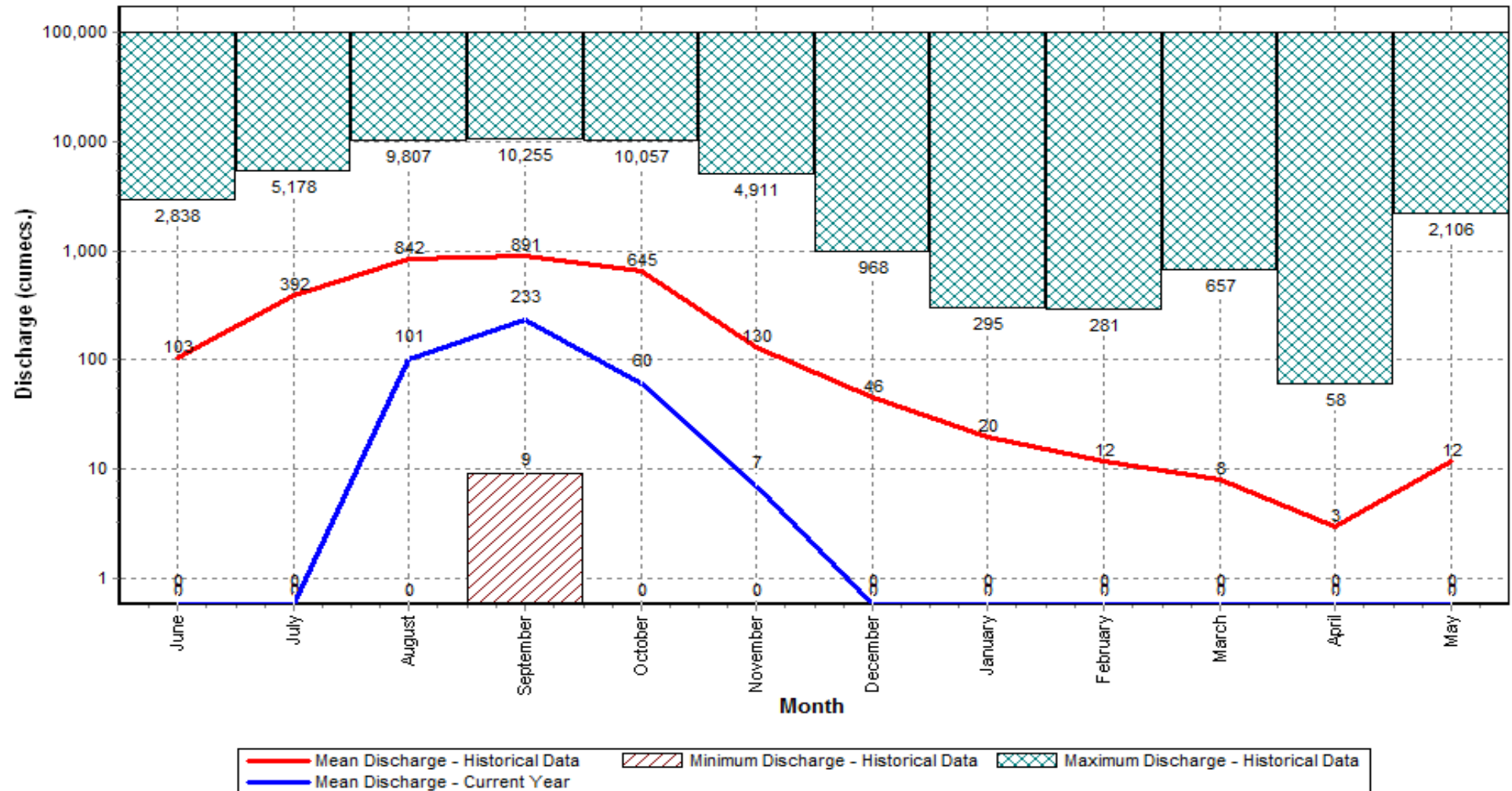
Station Name : Yadgir (AKP00B6)

Data considered : 1965-2019

Division : Lower Krishna Divn., Hyderabad

Local River : Bhima

Sub-Division : Middle Krishna SD 2 , Kurnool



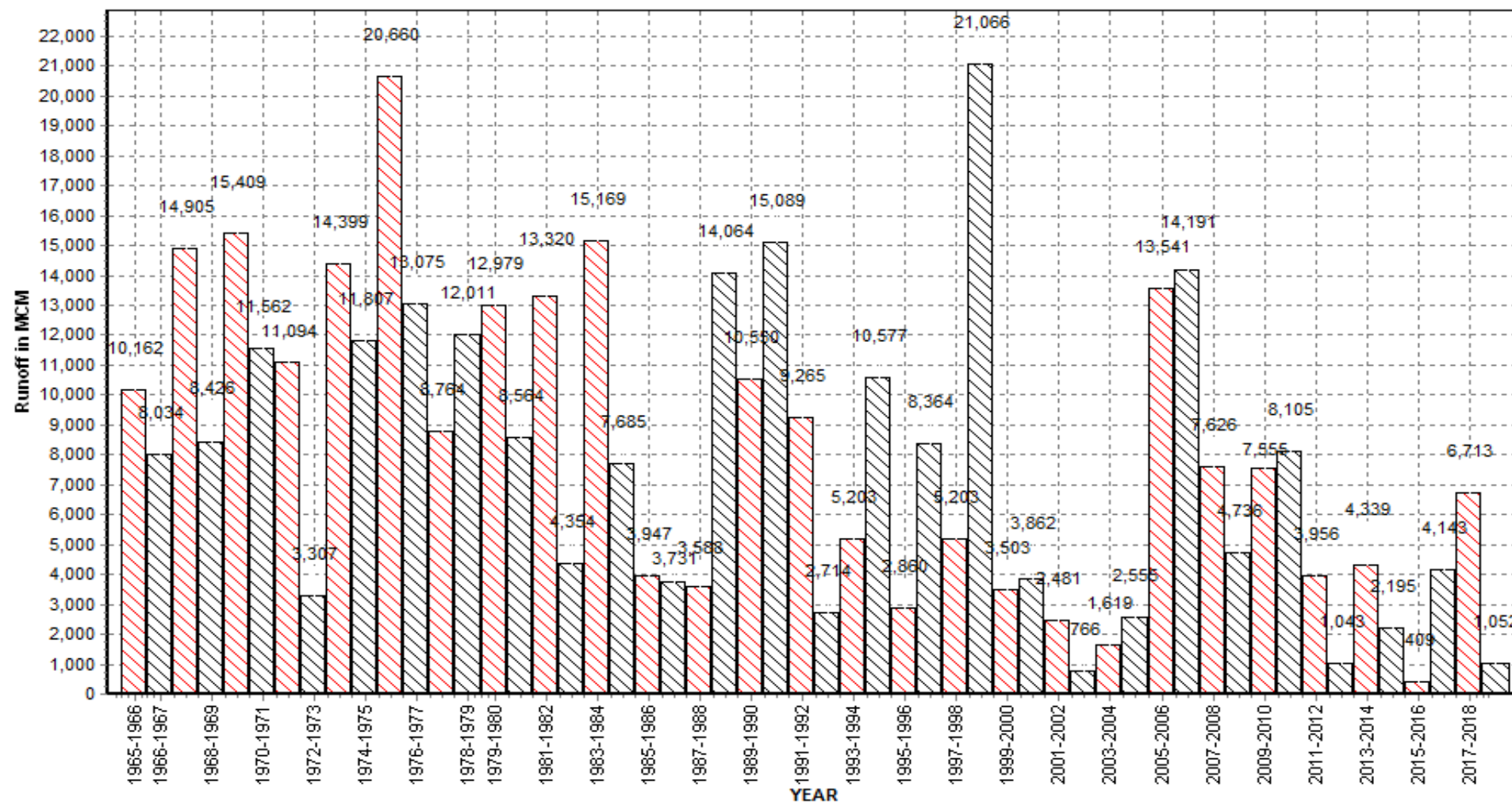
Annual Runoff Values for the period: 1965 - 2019

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

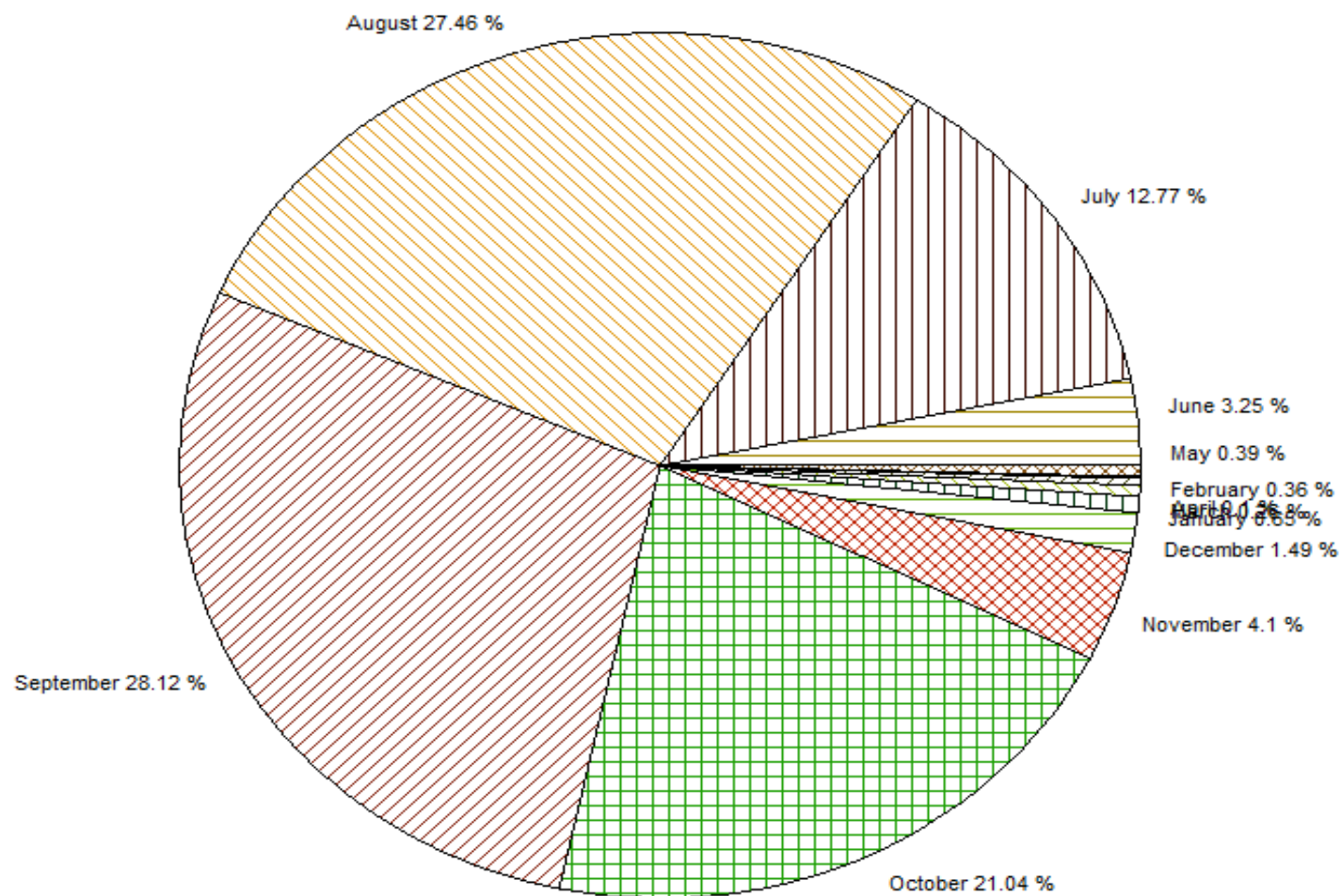
Monthly Average Runoff based on period : 1965-2018

Station Name : Yadgir (AKP00B6)

Local River : Bhima

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



June	3.25 %
July	12.77 %
August	27.46 %
September	28.12 %
October	21.04 %
November	4.1 %
December	1.49 %
January	0.65 %
February	0.36 %
March	0.26 %
April	0.1 %
May	0.39 %

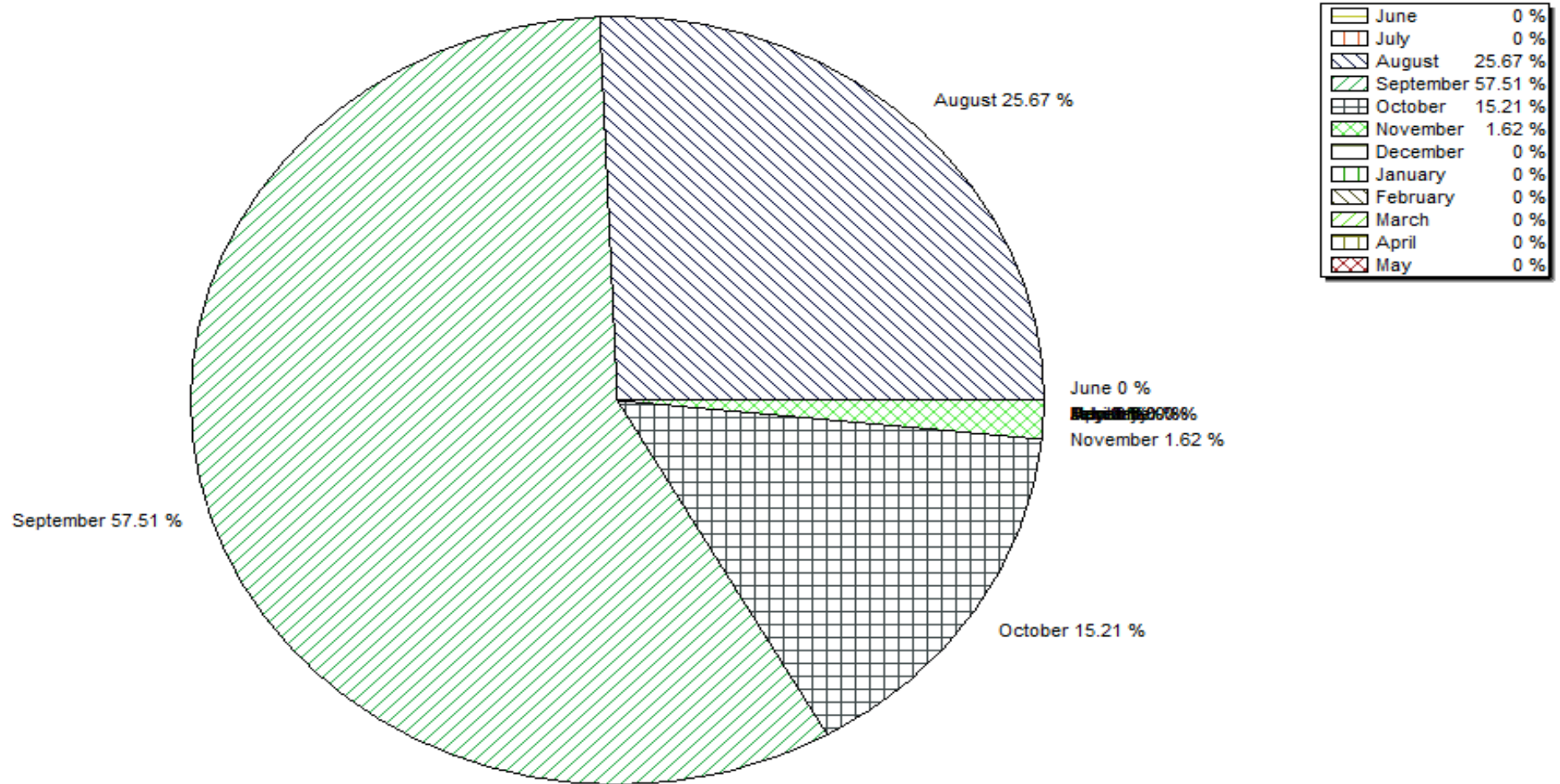
Monthly Runoff for the Year : 2018-2019

Station Name : Yadgir (AKP00B6)

Local River : Bhima

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



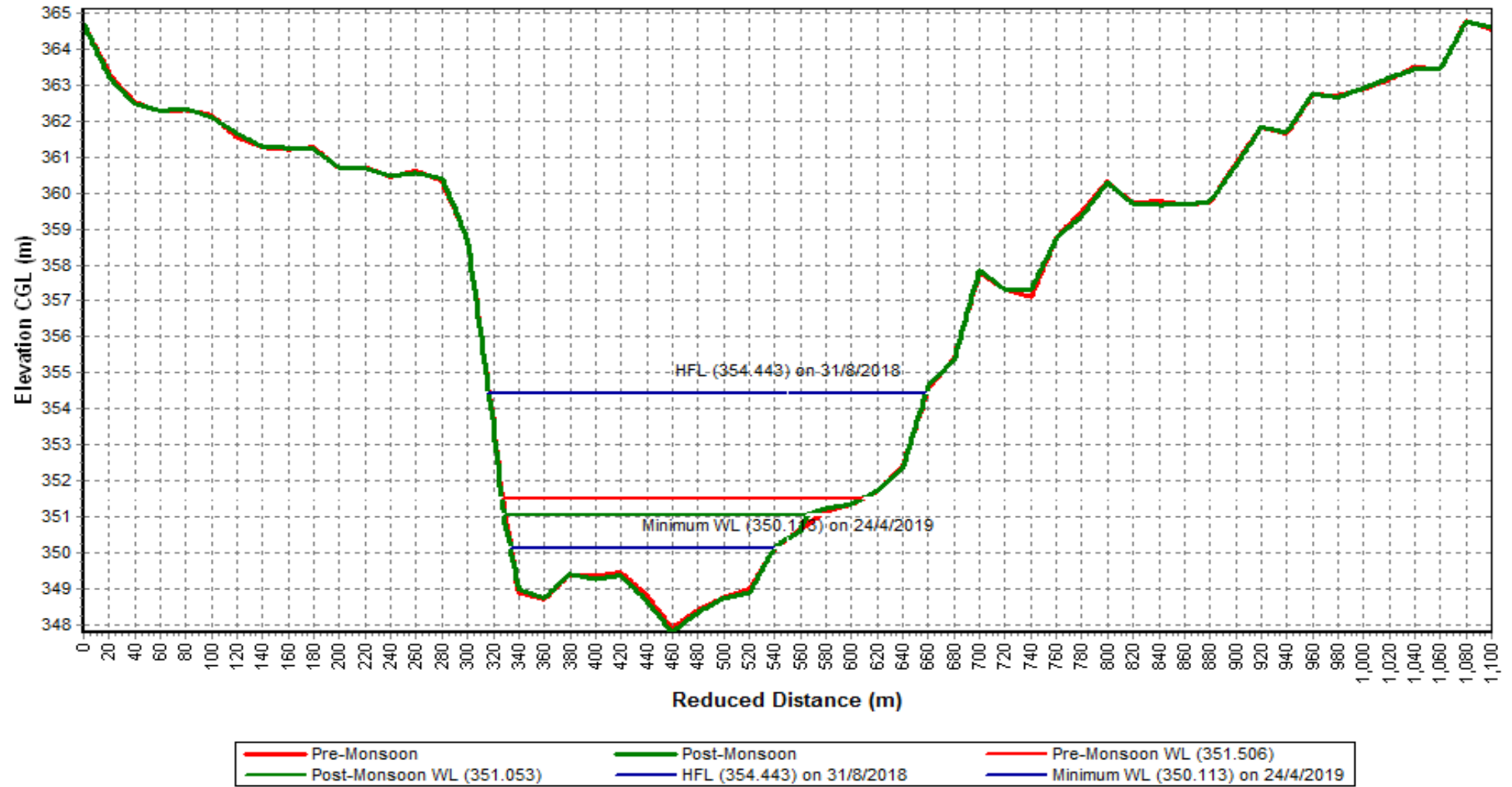
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Yadgir (AKP00B6)

Local River : Bhima

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



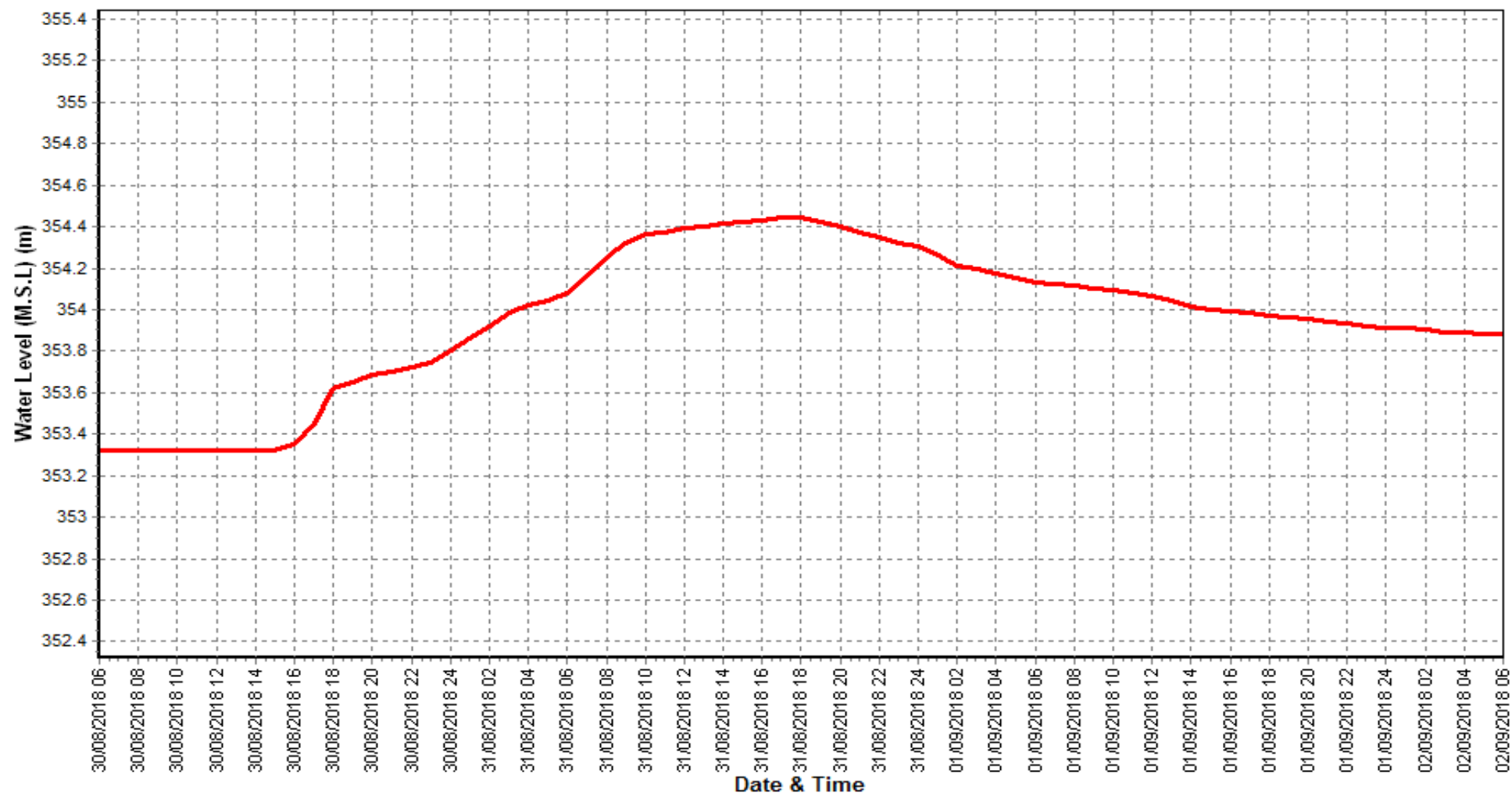
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Yadgir (AKP00B6)

Local River : Bhima

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



Time Span: 72 Hrs

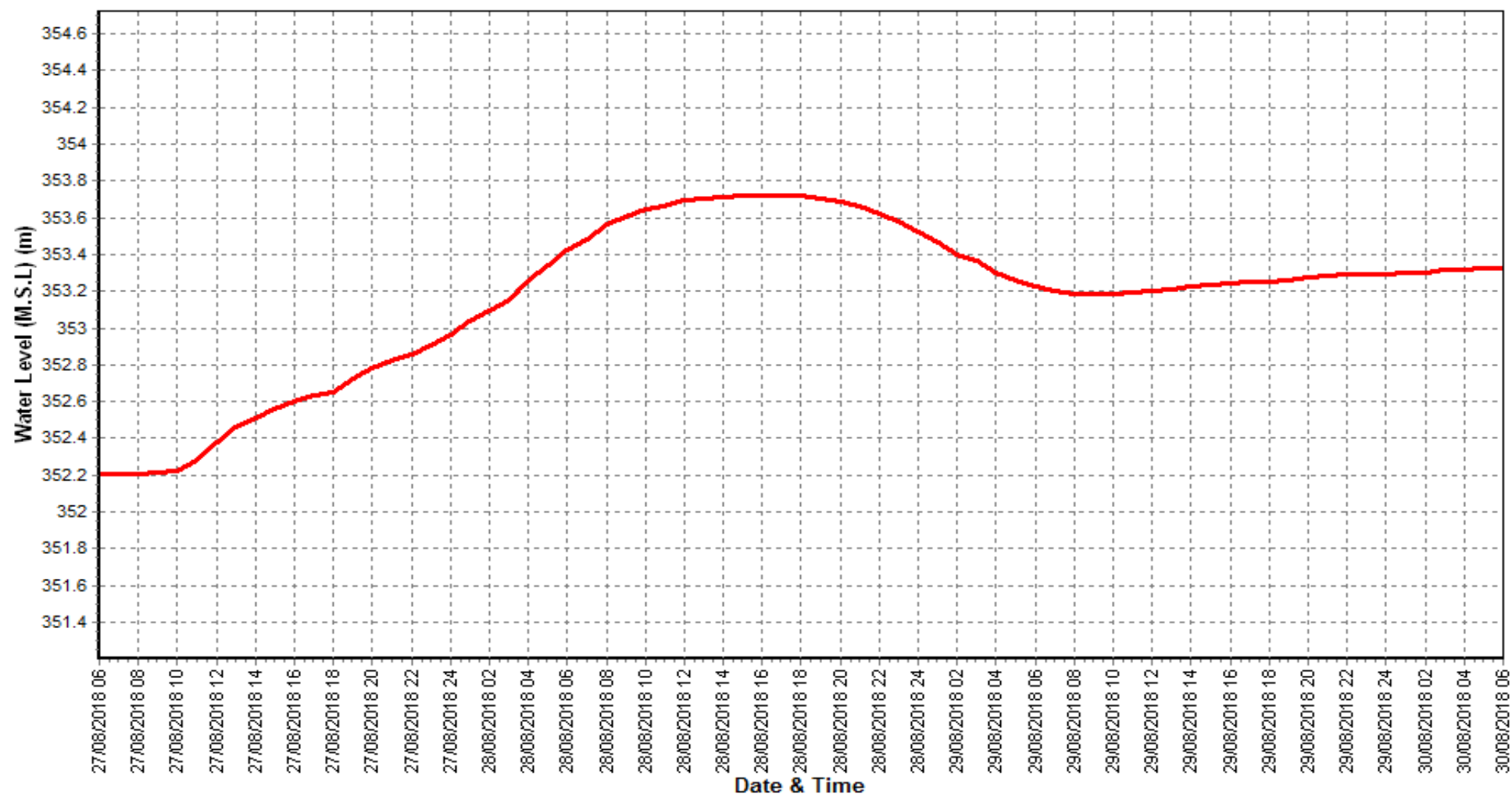
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Yadgir (AKP00B6)

Local River : Bhima

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



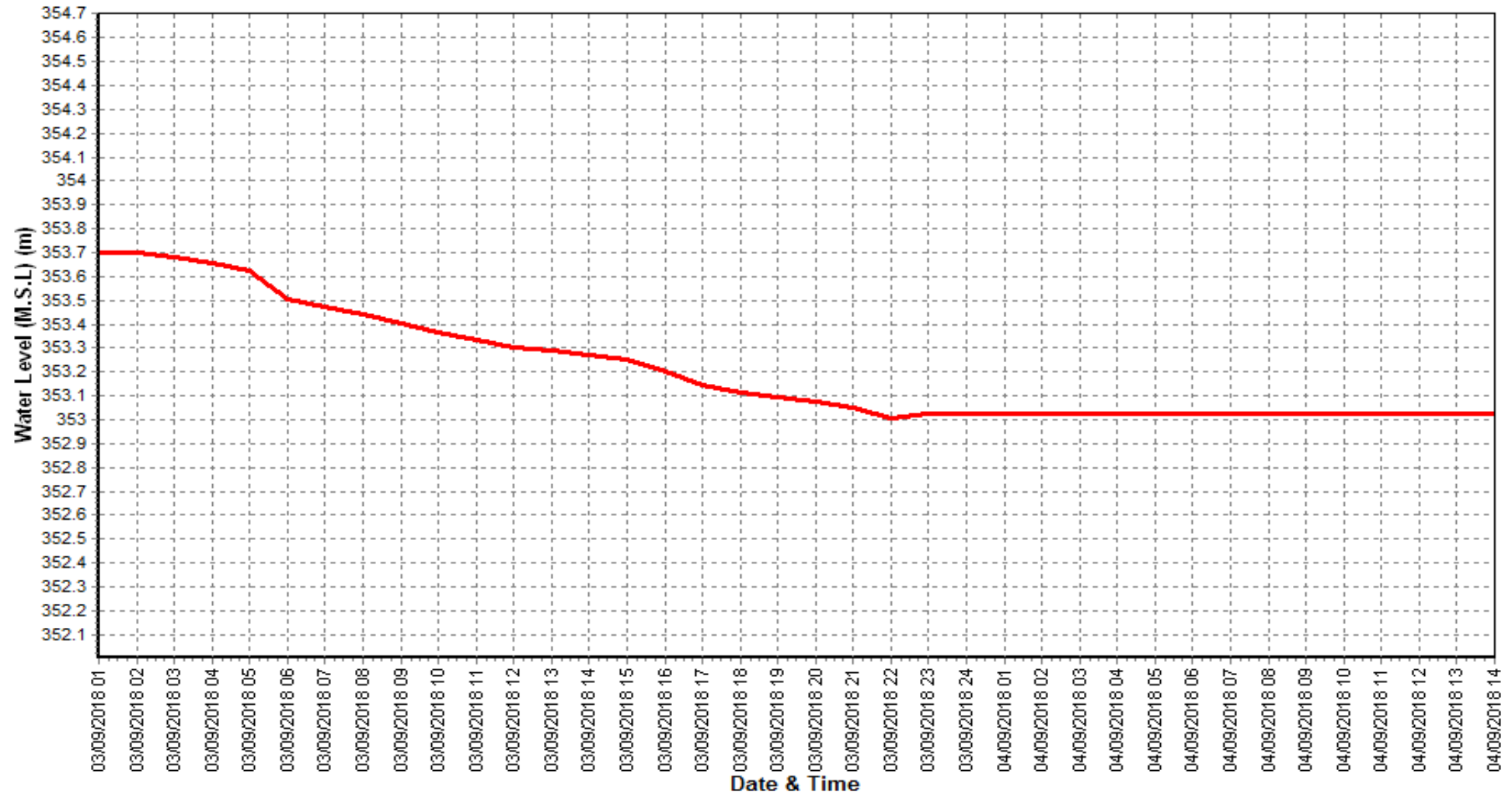
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : Yadgir (AKP00B6)

Local River : Bhima

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



HISTORY SHEET

		Water Year : 2018-2019	
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	
	Opening Date	Closing Date	
Gauge	: 29/09/1989	HFL During 2018-19	: 393.920 m
Discharge	: 15/08/1990	Corres. Discharge	: 138.7 (Estimated)
Sediment	: 08/09/1992	Date & Time of occurrence	: 12/08/2018
Water Quality	: 01/06/1992		: 16:00 Hrs

HFL Recorded so far in m : 401.010 dt 24-09-2016

Corresponding Discharge (cumecs) : 4209 *

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	979.2	396.154	09/07/1991	0.050	392.450	17/04/1992
1992-1993	1176	396.118	02/09/1992	0.000		01/05/1993
1993-1994	611.3	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	1101	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	2215	398.270	15/10/1998	0.000		11/06/1998
1999-2000	414.3	394.600	03/08/1999	0.063	392.140	24/05/2000
2000-2001	1577	396.975	24/08/2000	0.157	391.995	31/05/2001
2001-2002	1228	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	32.93	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
2008-2009	1499	397.450	10/08/2008	0.000	392.700	15/07/2008

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

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
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	1500	397.200	31/07/2011	0.732	392.680	18/03/2012
2012-2013	550.0	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	120.7	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

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
Average		805	51	855	28	2	30
75% Dependable flow (MCM)				241			
90 % Dependable flow (MCM)				142			

Stage-Discharge Data for the period 2018 - 2019

Station Name : Malkhed (AKP10E1)

Local River : Kagna

Division : Lower Krishna Divn., Hyderabad

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	392.740	0.285 *	392.830	2.574 *	392.750	1.394	392.880	3.675	392.830	1.910	392.770	0.797
2	392.740	0.443	392.840	2.962	392.750	1.387	392.880	3.774 *	392.840	2.449 *	392.770	0.766
3	392.740	0.285 *	392.840	2.934	392.760	1.460	392.860	3.068	392.850	2.535	392.770	0.679
4	392.750	0.503	392.830	2.720	392.760	1.458	392.860	3.030	392.850	2.541	392.770	0.762 *
5	392.750	0.428 *	392.830	2.717	392.760	1.460 *	392.860	3.031	393.250	42.90	392.770	0.677
6	392.910	5.469	392.850	3.221	392.760	1.441	392.850	2.997	392.900	3.645	392.770	0.670
7	393.300	46.73	392.860	3.479	392.750	1.281	392.840	2.247	392.880	3.774 *	392.770	0.762 *
8	393.520	73.53	392.850	2.624 *	392.750	1.277	392.840	2.256	392.850	2.833	392.770	0.669
9	393.450	57.94	392.850	3.193	392.760	1.457	392.840	2.449 *	392.830	1.987	392.780	0.803
10	393.420	56.52 *	392.860	3.383	392.760	1.450	392.830	2.206	392.820	1.646	392.780	0.799
11	393.400	53.85	392.850	3.102	392.760	1.445	392.820	1.635 #	392.820	1.644	392.770	0.762 *
12	393.350	50.01	392.860	3.459	393.810	139.2 *	392.820	1.635 #	392.800	1.310	392.770	0.718
13	393.580	82.04	392.860	3.429	393.400	53.98	392.810	1.628 *	392.800	1.294	392.770	0.715
14	393.520	73.53	392.850	3.159	393.270	44.89	392.810	1.517 #	392.800	1.387 *	392.770	0.713
15	393.450	57.94	392.850	2.624 *	393.250	42.13 *	392.810	1.527	392.790	1.374	392.780	0.728
16	393.280	43.72 *	392.840	3.139	393.240	42.20	392.810	1.628 *	392.790	1.337	392.770	0.668
17	392.850	2.603 *	393.200	39.51	393.260	43.63	392.820	1.821	392.790	1.250	392.760	0.669
18	392.830	2.574	393.210	40.20	393.230	41.50	392.820	1.840	392.790	1.306	392.760	0.587 *
19	392.850	2.624	392.850	3.821	393.210	40.66 *	392.830	1.850 #	392.780	0.954 *	392.750	0.655
20	392.820	2.579	392.850	3.594	393.200	39.51	392.860	2.878	392.930	4.394	392.750	0.653
21	392.840	2.587	392.850	3.563	392.910	5.477	392.870	2.890 *	392.900	4.536 *	392.750	0.428 *
22	392.860	2.900	392.840	2.587 *	392.910	4.941 *	392.860	2.902	392.800	1.293	392.750	0.651
23	392.800	2.494	392.850	3.555	392.900	5.215	392.870	2.890 *	392.800	1.469	392.750	0.428 *
24	393.210	40.66 *	392.850	3.264	392.880	5.045	392.870	3.150	392.780	1.018	392.760	0.679
25	393.250	42.91	392.840	3.422	392.880	4.785	392.870	3.023	392.780	1.013	392.760	0.587 *
26	393.270	44.89	392.830	3.354	392.870	3.418 *	392.870	2.944	392.780	1.083	392.760	0.675
27	393.250	42.91	392.800	1.954	392.860	3.693	392.840	2.254	392.780	1.075	392.750	0.650
28	393.240	42.20	392.780	1.890	392.860	3.650	392.830	1.957	392.780	0.954 *	392.750	0.777
29	393.230	41.50	392.780	0.954 *	392.890	4.392	392.830	1.934	392.780	1.071	392.750	0.765
30	392.830	2.777	392.770	1.801	392.890	4.261	392.830	1.934 *	392.780	1.067	392.750	0.770
31			392.760	1.729	392.890	4.214			392.770	0.772		
Ten-Daily Mean												
I Ten-Daily	393.032	24.21	392.844	2.981	392.756	1.406	392.854	2.873	392.890	6.622	392.772	0.738
II Ten-Daily	393.193	37.15	392.922	10.60	393.263	48.92	392.821	1.796	392.809	1.625	392.765	0.687
III Ten-Daily	393.078	26.58	392.814	2.552	392.885	4.463	392.854	2.588	392.794	1.396	392.753	0.641
Monthly												
Min.	392.740	0.285	392.760	0.954	392.750	1.277	392.810	1.517	392.770	0.772	392.750	0.428
Max.	393.580	82.04	393.210	40.20	393.810	139.2	392.880	3.774	393.250	42.90	392.780	0.803
Mean	393.101	29.31	392.858	5.288	392.965	17.82	392.843	2.419	392.830	3.155	392.763	0.689

Annual Runoff in MCM = 160 Annual Runoff in mm = 21

Peak Observed Discharge = 82.04 cumecs on 13/06/2018 Corres. Water Level :393.58 m

Lowest Observed Discharge = 0.000 cumecs on 20/02/2019 Corres. Water Level :392.72 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

Stage-Discharge Data for the period 2018 - 2019

Station Name : Malkhed (AKP10E1)

Local River : Kagna

Division : Lower Krishna Divn., Hyderabad

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	392.750	0.759	392.730	0.456	392.720	0.287	392.680	0.000	392.310	0.000	392.280	0.000
2	392.750	0.428 *	392.730	0.438	392.720	0.282	392.680	0.000	392.310	0.000	392.280	0.000
3	392.750	0.750	392.730	0.440	392.720	0.049 *	392.680	0.000	392.300	0.000	393.040	3.681
4	392.750	0.740	392.730	0.346	392.720	0.252	392.680	0.000	392.300	0.000	393.040	3.655
5	392.750	0.714	392.730	0.346	392.720	0.256	392.680	0.000	392.300	0.000	392.980	2.000 *
6	392.750	0.716	392.730	0.159 *	392.720	0.158	392.680	0.000	392.300	0.000	392.960	1.876
7	392.750	0.591	392.730	0.345	392.720	0.158	392.680	0.000	392.300	0.000	392.960	2.204
8	392.750	0.592	392.730	0.345	392.720	0.159	392.680	0.000	392.300	0.000	392.960	2.139
9	392.750	0.428 *	392.730	0.367	392.720	0.157	392.680	0.000	392.300	0.000	392.960	1.863
10	392.750	0.589	392.730	0.366	392.720	0.049 *	392.680	0.000	392.300	0.000	392.960	1.817
11	392.750	0.588	392.730	0.363	392.720	0.159	392.680	0.000	392.300	0.000	392.960	1.797
12	392.750	0.582	392.730	0.361	392.720	0.159	392.580	0.000	392.300	0.000	392.960	1.795 *
13	392.750	0.584	392.730	0.159 *	392.720	0.159	392.580	0.000	392.300	0.000	392.960	1.796
14	392.750	0.586	392.730	0.159 *	392.720	0.157	392.560	0.000	392.300	0.000	392.960	1.780
15	392.750	0.582	392.730	0.362	392.720	0.157	392.540	0.000	392.290	0.000	392.890	1.213
16	392.750	0.428 *	392.730	0.361	392.720	0.155	392.540	0.000	392.290	0.000	392.830	0.959
17	392.750	0.584	392.730	0.358	392.720	0.049 *	392.520	0.000	392.290	0.000	392.790	0.849
18	392.750	0.575	392.730	0.358	392.720	0.157	392.520	0.000	392.290	0.000	392.750	0.000
19	392.750	0.578	392.730	0.357	392.720	0.156	392.520	0.000	392.290	0.000	392.720	0.000
20	392.750	0.580	392.730	0.159 *	392.720	0.000	392.520	0.000	392.290	0.000	392.680	0.000
21	392.750	0.581	392.730	0.356	392.720	0.000	392.510	0.000	392.280	0.000	392.680	0.000
22	392.750	0.574	392.730	0.354	392.710	0.000	392.510	0.000	392.280	0.000	392.630	0.000
23	392.750	0.428 *	392.730	0.350	392.710	0.000	392.510	0.000	392.280	0.000	392.590	0.000
24	392.750	0.568	392.730	0.354	392.710	0.000	392.500	0.000	392.280	0.000	392.580	0.000
25	392.740	0.285 *	392.730	0.351	392.710	0.000	392.500	0.000	392.280	0.000	392.570	0.000
26	392.730	0.469	392.730	0.159 *	392.680	0.000	392.460	0.000	392.280	0.000	392.560	0.000
27	392.730	0.467	392.730	0.159 *	392.680	0.000	392.440	0.000	392.280	0.000	392.550	0.000
28	392.730	0.462	392.730	0.350	392.680	0.000	392.310	0.000	392.280	0.000	392.530	0.000
29	392.730	0.459	392.730	0.346			392.310	0.000	392.280	0.000	392.520	0.000
30	392.730	0.159 *	392.730	0.347			392.310	0.000	392.280	0.000	392.520	0.000
31	392.730	0.452	392.730	0.347			392.310	0.000			392.510	0.000
Ten-Daily Mean												
I Ten-Daily	392.750	0.631	392.730	0.361	392.720	0.181	392.680	0.000	392.302	0.000	392.842	1.924
II Ten-Daily	392.750	0.567	392.730	0.300	392.720	0.131	392.556	0.000	392.294	0.000	392.850	1.019
III Ten-Daily	392.738	0.446	392.730	0.316	392.700	0.000	392.425	0.000	392.280	0.000	392.567	0.000
Monthly												
Min.	392.730	0.159	392.730	0.159	392.680	0.000	392.310	0.000	392.280	0.000	392.280	0.000
Max.	392.750	0.759	392.730	0.456	392.720	0.287	392.680	0.000	392.310	0.000	393.040	3.681
Mean	392.746	0.544	392.730	0.325	392.714	0.111	392.549	0	392.292	0	392.747	0.949

Peak Computed Discharge = 139.2 cumecs on 12/08/2018

Corres. Water Level :393.81 m

Lowest Computed Discharge = 0.049 cumecs on 03/02/2019

Corres. Water Level :392.72 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)

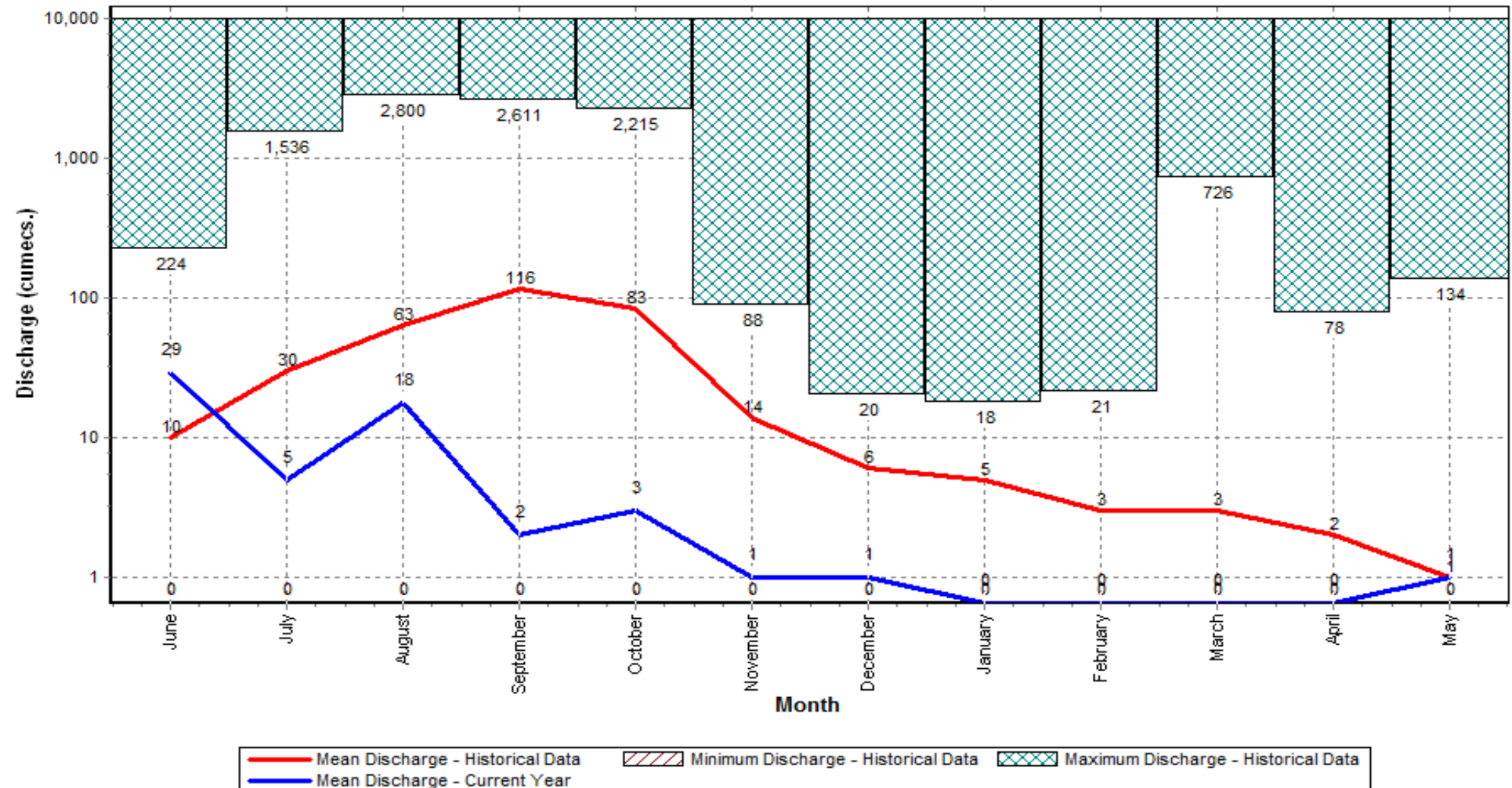
Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2018-2019

Station Name : Malkhed (AKP10E1)
Local River : Kagna

Data considered : 1991-2019

Division : Lower Krishna Divn., Hyderabad
Sub-Division : Middle Krishna SD 2 , Kurnool



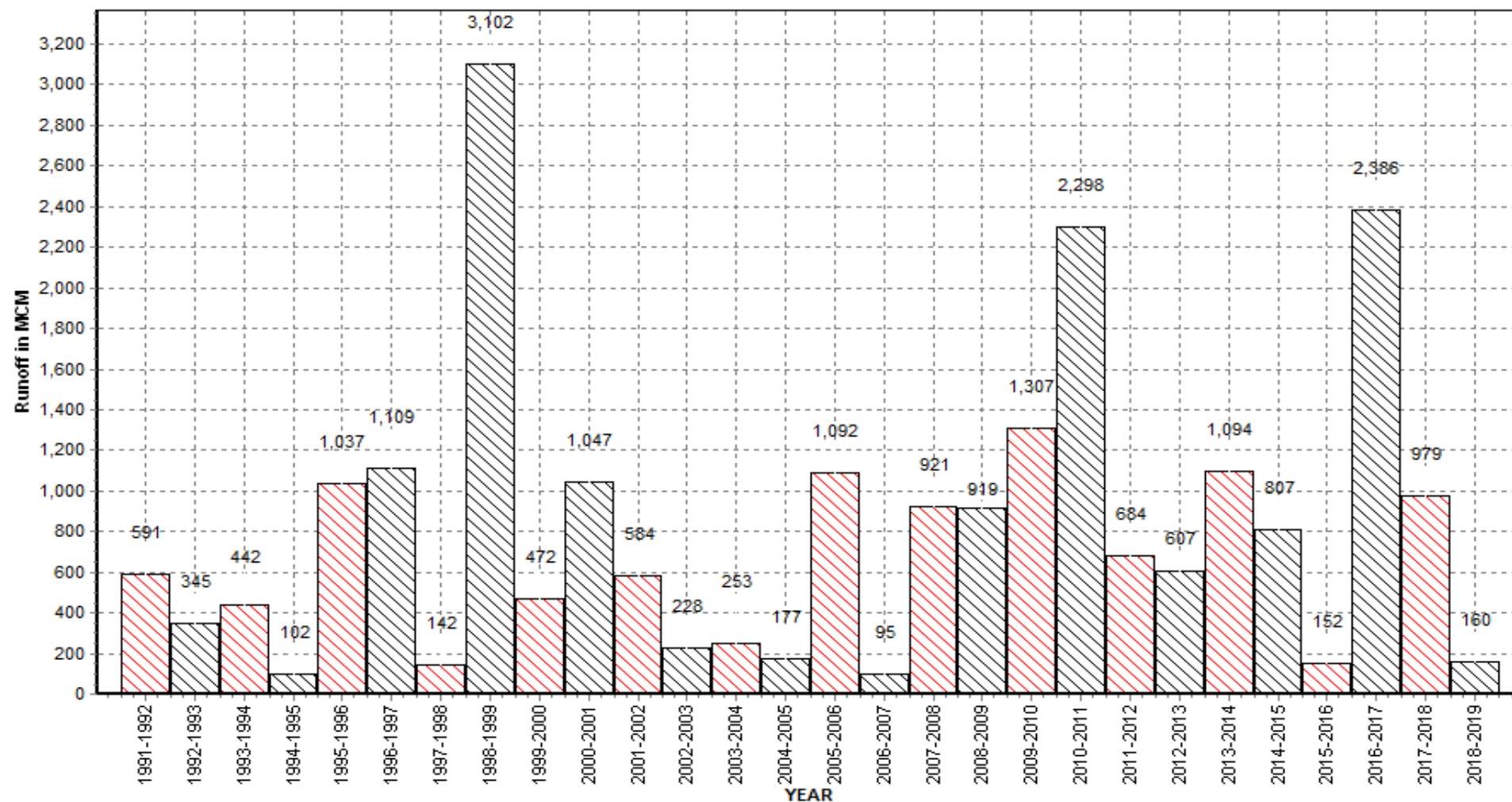
Annual Runoff Values for the period: 1991 - 2019

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

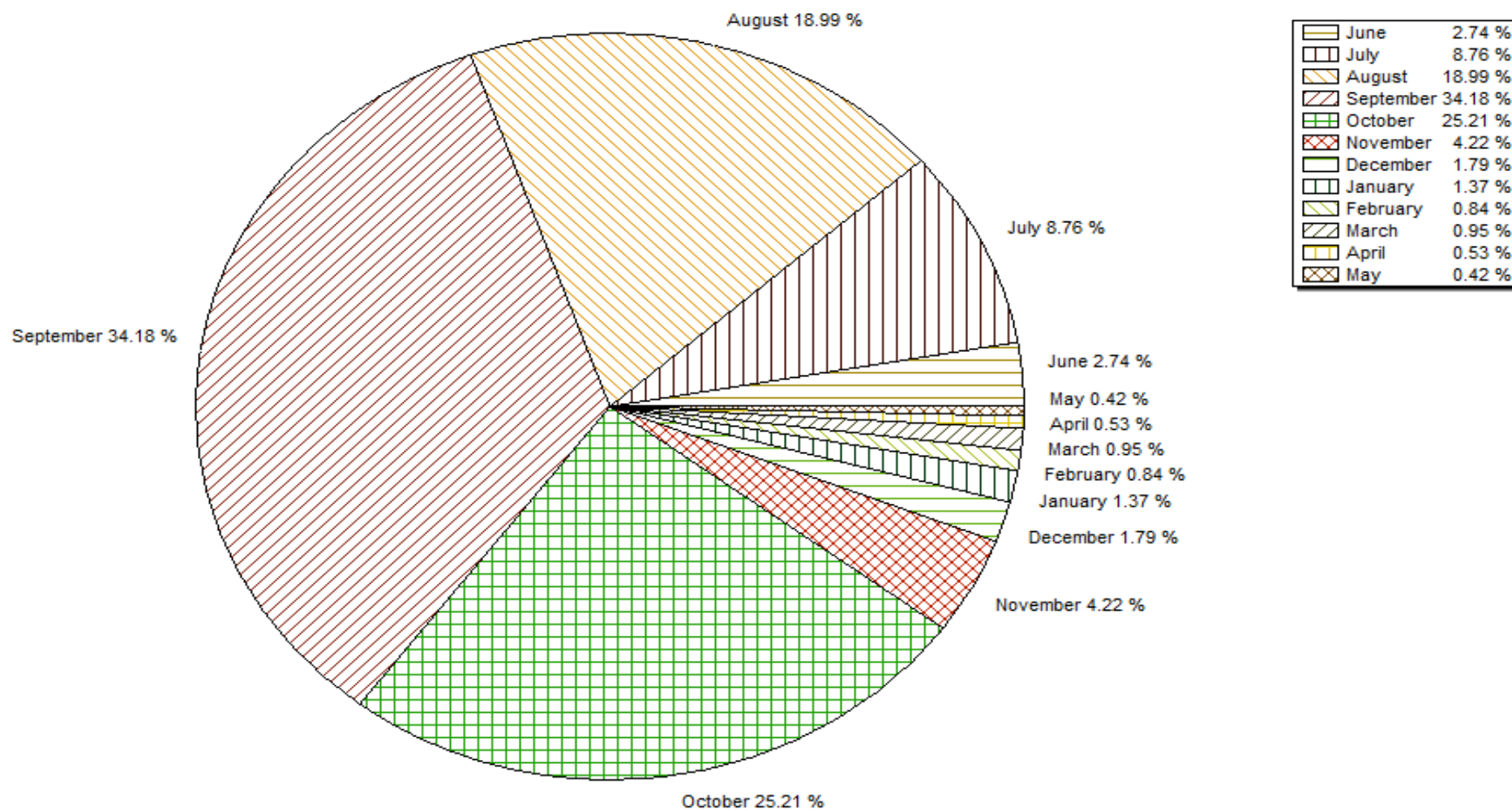
Monthly Average Runoff based on period : 1991-2018

Station Name : Malkhed (AKP10E1)

Local River : Kagna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



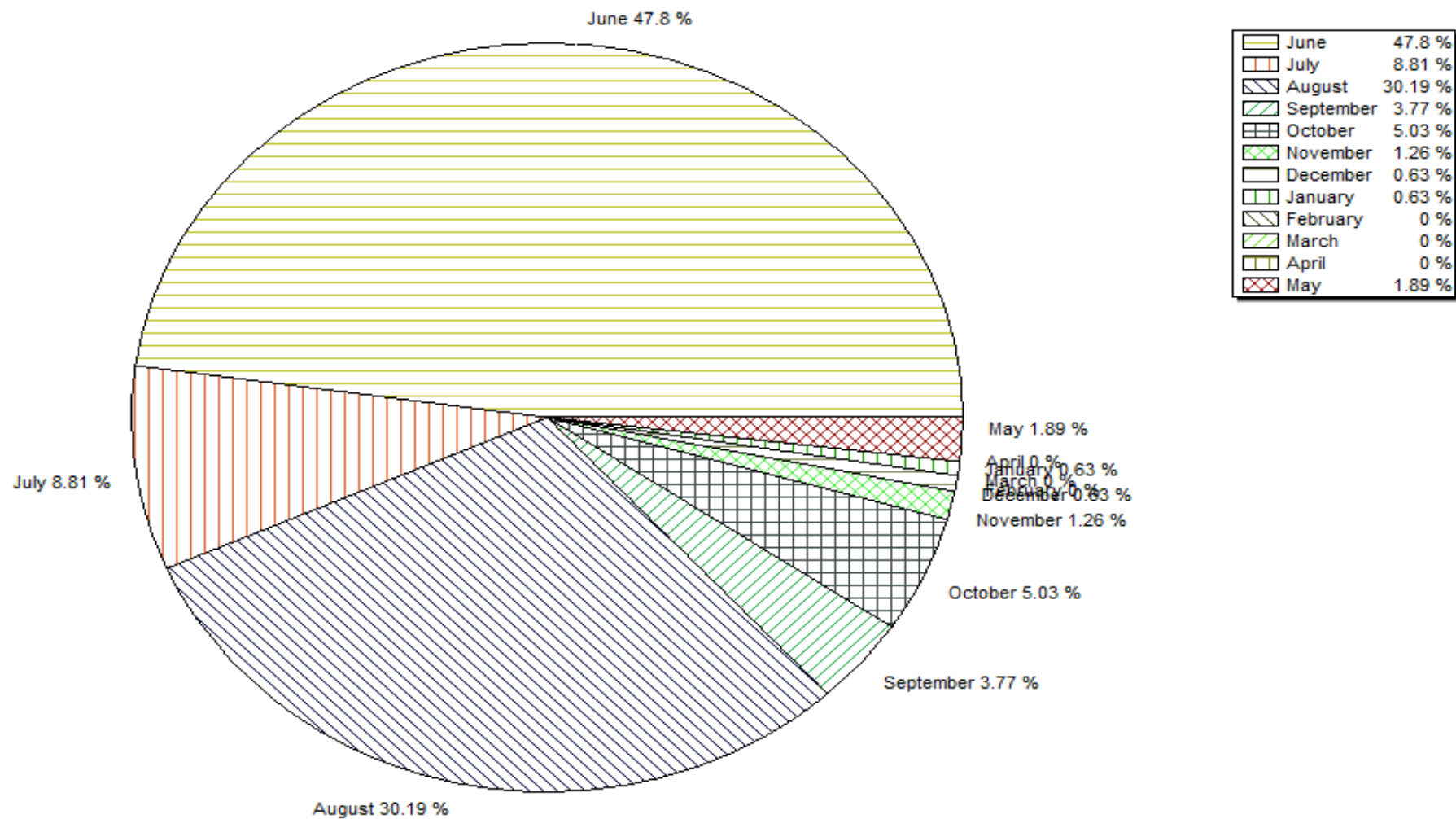
Monthly Runoff for the Year : 2018-2019

Station Name : Malkhed (AKP10E1)

Local River : Kagna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



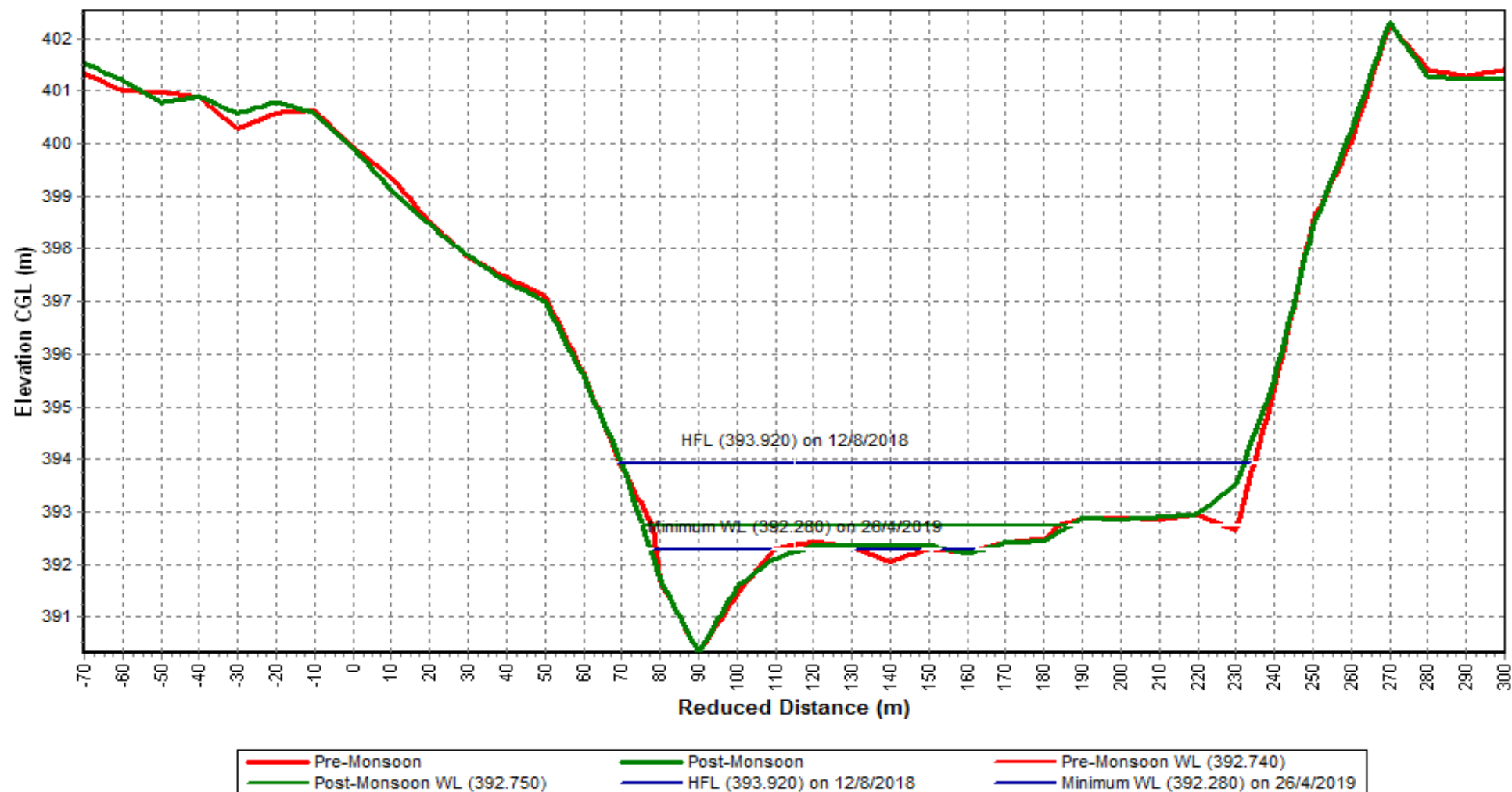
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Malkhed (AKP10E1)

Local River : Kagna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



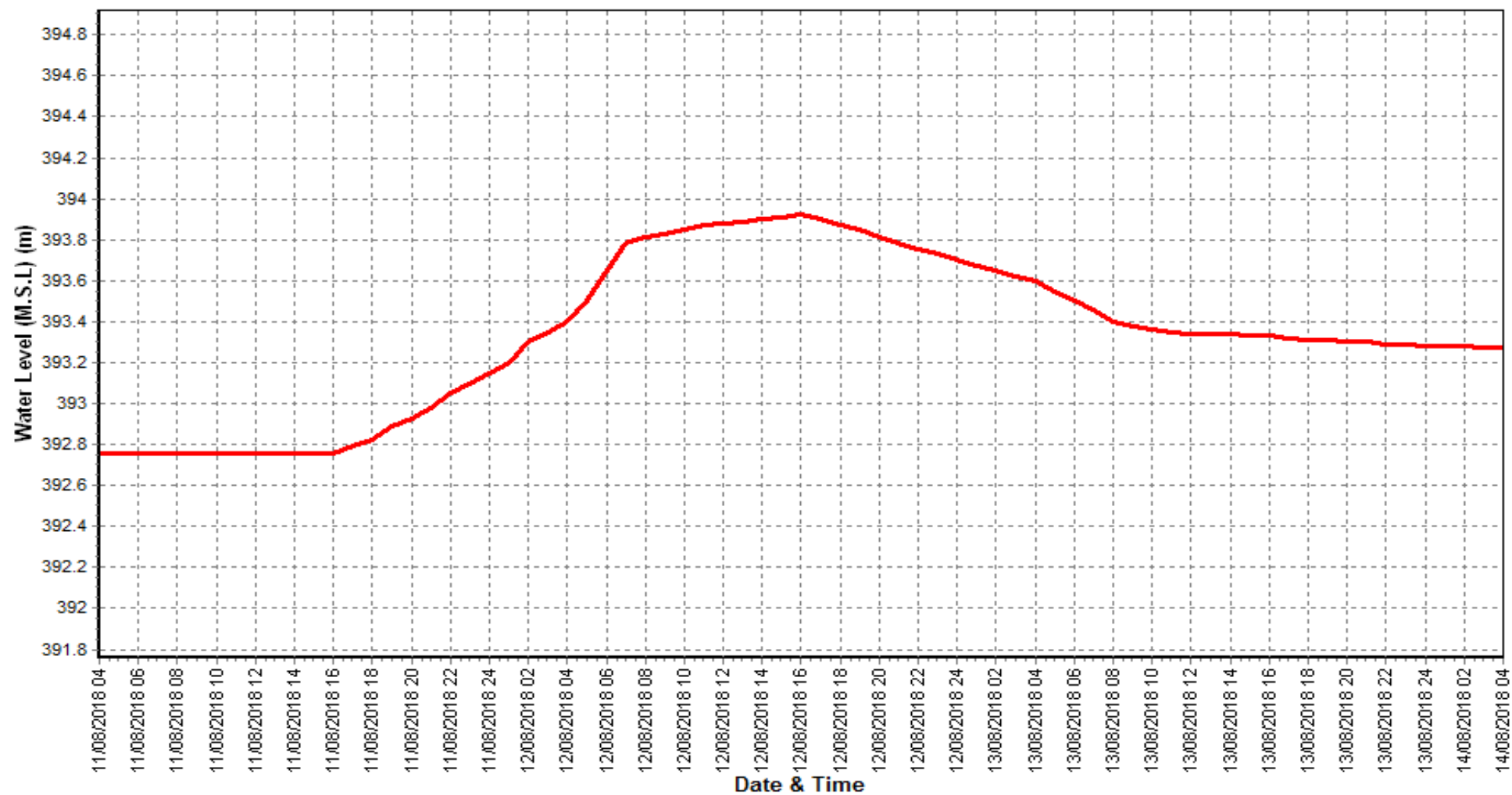
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Malkhed (AKP10E1)

Local River : Kagna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



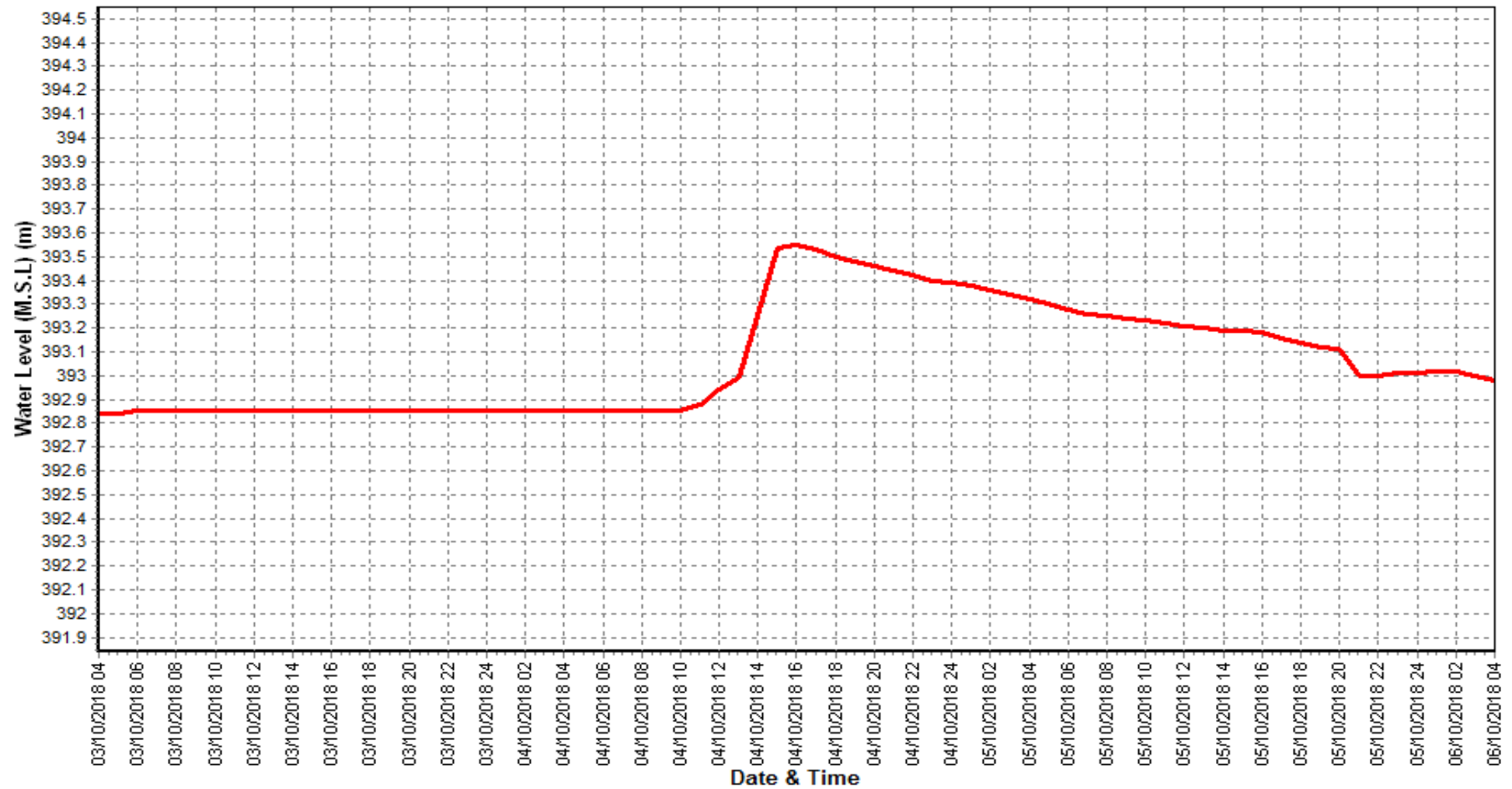
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Malkhed (AKP10E1)

Local River : Kagna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



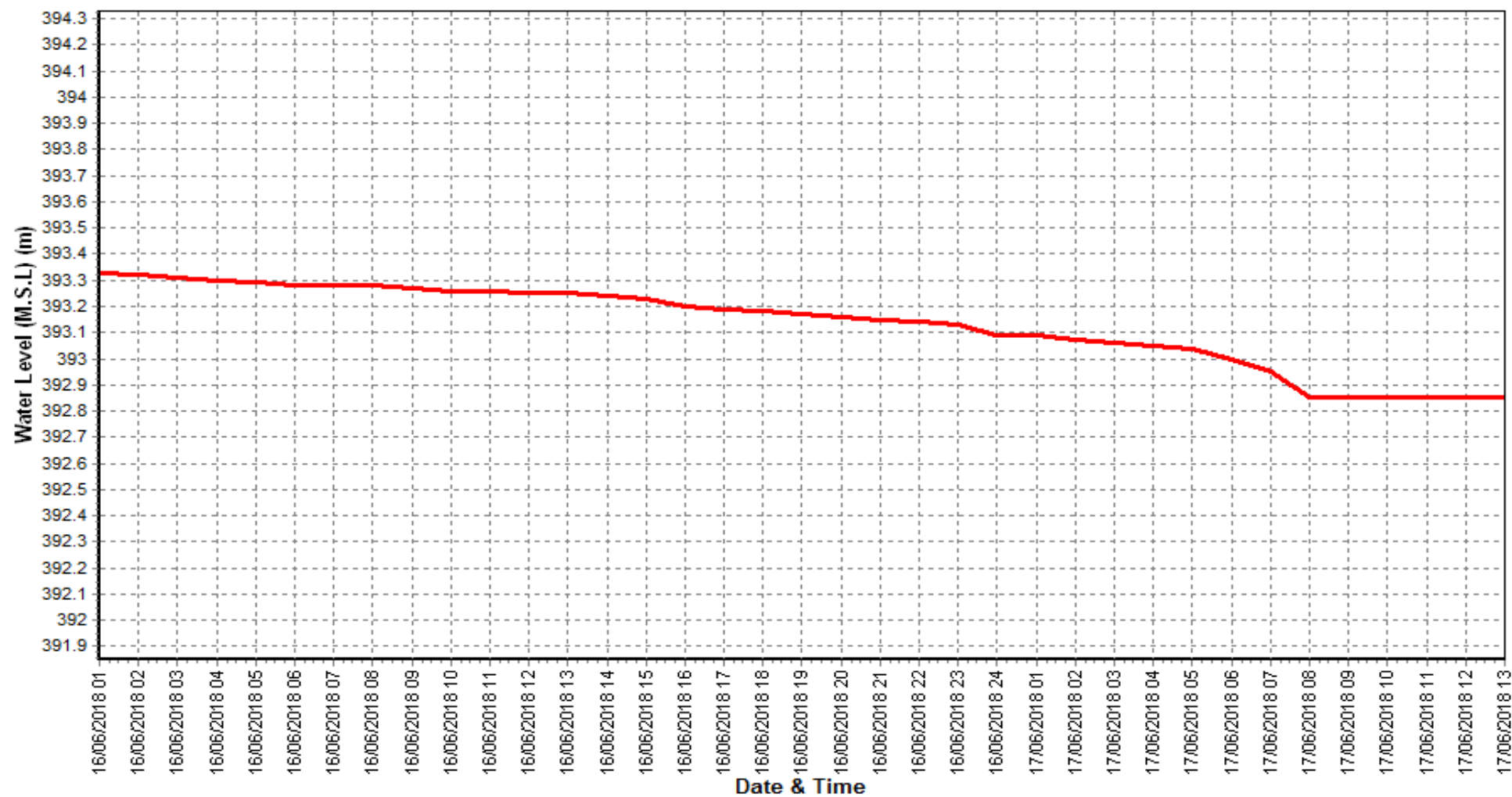
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : Malkhed (AKP10E1)

Local River : Kagna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



HISTORY SHEET

Water Year : 2018-2019

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 : 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)
 418.383 (m.s.l)
 416.883 (m.s.l)
 417 (m.s.l)

19/07/1963 - 31/10/1966
 01/11/1966 - 31/05/1969
 01/06/1969 - 31/05/2011
 01/06/2011

Opening Date

Closing Date

Gauge : 19/07/1963

HFL During 2018-19 : 419.620 m

Discharge : 06/08/1964

Corres. Discharge : 26

Sediment : 01/06/1965

Date & Time of occurrence : 18/08/2018

Water Quality : 01/09/1972

31/05/2006 : 06:00 hrs.

31/05/2006

HFL Recorded so far in m : 428.563 dt 29-09-1989

Corresponding Discharge (cumecs) : 3271 observed

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	2488	426.783	05/09/1969	0.000	418.508	02/06/1969
1970-1971	3070	427.753	19/09/1970	0.100	418.728	03/05/1971
1971-1972	1495	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	934.7	424.141	20/09/1973	0.000	418.888	08/05/1974
1974-1975	731.1	423.573	23/10/1974	0.000	418.873	06/05/1975
1975-1976	1330	425.343	10/10/1975	0.000	418.763	15/05/1976
1976-1977	359.5	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

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

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
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
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	2439	427.709	24/09/1983	0.000	418.673	15/04/1984
1984-1985	1169	425.977	10/10/1984	0.000	418.583	05/02/1985
1985-1986	562.0	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	1571	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	821.7	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	20.00	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	631.0	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	936.0	426.278	28/08/2000	0.000	418.643	23/01/2001
2001-2002	522.1	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	8.000	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	480.0	423.488	10/09/2005	0.000	419.313	22/01/2006
2006-2007	488.6	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	1159	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	1213	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

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

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
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
Average		781	32	813	28	1	29
75% Dependable flow (MCM)				183			
90 % Dependable flow (MCM)				32			

Stage-Discharge Data for the period 2018 - 2019

Station Name : Wadakbal (AKP60C4)

Local River : Sina

Division : Upper Krishna Divn, Pune

Sub-Division : 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			418.810	0.000		0.000	419.210	10.03 #		0.000		0.000
2		0.000	418.740	0.000		0.000	419.140	8.059 *		0.000		0.000
3		0.000	418.680	0.000		0.000	418.860	2.335 *		0.000		0.000
4		0.000	418.660	0.000		0.000	418.780	1.262		0.000		0.000
5		0.000	418.600	0.000		0.000	418.760	1.186		0.000		0.000
6		0.000	418.570	0.000		0.000	418.715	0.727 *		0.000		0.000
7		0.000	418.550	0.000		0.000	418.660	0.357 *		0.000		0.000
8		0.000	418.540	0.000		0.000	418.550	0.000		0.000		0.000
9		0.000	418.520	0.000		0.000	418.500	0.000		0.000		0.000
10		0.000	418.510	0.000		0.000		0.000		0.000		0.000
11		0.000	418.500	0.000		0.000		0.000		0.000		0.000
12		0.000		0.000		0.000		0.000		0.000		0.000
13		0.000		0.000		0.000		0.000		0.000		0.000
14		0.000	418.760	0.000		0.000		0.000		0.000		0.000
15		0.000	418.760	0.000		0.000		0.000		0.000		0.000
16		0.000	418.700	0.000		0.000		0.000		0.000		0.000
17		0.000	418.770	0.000	419.430	16.86		0.000		0.000		0.000
18		0.000	418.780	0.000	419.620	26.35		0.000		0.000		0.000
19		0.000	418.720	0.000	419.490	20.11 *		0.000		0.000		0.000
20		0.000	418.730	0.000	419.175	9.018		0.000		0.000		0.000
21		0.000	418.730	0.000	418.800	1.558 *		0.000		0.000		0.000
22		0.000	418.710	0.000	418.880	2.630 *		0.000		0.000		0.000
23		0.000	418.670	0.000	418.780	1.334 *		0.000		0.000		0.000
24		0.000	418.640	0.000	418.740	0.939 *		0.000		0.000		0.000
25		0.000	418.620	0.000	419.030	5.397 *		0.000		0.000		0.000
26	418.680	0.000	418.600	0.000	419.070	6.303 *		0.000		0.000		0.000
27	418.580	0.000	418.530	0.000	419.240	11.64		0.000		0.000		0.000
28	418.750	0.000	418.500	0.000	419.300	13.40		0.000		0.000		0.000
29	418.670	0.000		0.000	419.380	15.82		0.000		0.000		0.000
30	418.700	0.000		0.000	419.430	16.91		0.000		0.000		0.000
31				0.000	419.445	18.32				0.000		
Ten-Daily Mean												
I Ten-Daily		0.000	418.618	0.000		0.000	418.797	2.396		0.000		0.000
II Ten-Daily		0.000	418.715	0.000	419.429	7.233		0.000		0.000		0.000
III Ten-Daily	418.676	0.000	418.625	0.000	419.100	8.568		0.000		0.000		0.000
Monthly												
Min.	418.580	0.000	418.500	0.000	418.740	0.000	418.500	0.000		0.000		0.000
Max.	418.750	0.000	418.810	0.000	419.620	26.35	419.210	10.03		0.000		0.000
Mean	418.676	0	418.650	0	419.187	5.374	418.797	0.799		0		0

Annual Runoff in MCM = 21 Annual Runoff in mm = 2

Peak Observed Discharge = 26.35 cumecs on 18/08/2018 Corres. Water Level :419.62 m

Lowest Observed Discharge = 0.000 cumecs on 02/06/2018

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 2018 - 2019

Station Name : Wadakbal (AKP60C4)

Local River : Sina

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1		0.000		0.000		0.000		0.000	418.910	3.566		0.000
2	419.000	4.700 *		0.000		0.000		0.000	418.920	3.978		0.000
3	419.140	7.679		0.000		0.000		0.000	418.600	0.000		0.000
4	419.160	8.552		0.000		0.000		0.000	418.540	0.000		0.000
5	419.170	8.312		0.000		0.000		0.000		0.000		0.000
6	418.680	0.000		0.000		0.000		0.000		0.000		0.000
7	418.630	0.000		0.000		0.000		0.000		0.000		0.000
8	418.620	0.000		0.000		0.000		0.000		0.000		0.000
9	418.620	0.000		0.000		0.000		0.000		0.000		0.000
10	418.620	0.000		0.000		0.000		0.000		0.000		0.000
11	418.610	0.000		0.000		0.000		0.000		0.000		0.000
12	418.560	0.000		0.000		0.000		0.000		0.000		0.000
13	418.550	0.000		0.000		0.000		0.000		0.000		0.000
14	418.510	0.000		0.000		0.000		0.000		0.000		0.000
15	418.500	0.000		0.000		0.000		0.000		0.000		0.000
16		0.000		0.000		0.000		0.000		0.000		0.000
17		0.000		0.000		0.000		0.000		0.000		0.000
18		0.000		0.000		0.000		0.000		0.000		0.000
19		0.000		0.000		0.000		0.000		0.000		0.000
20		0.000		0.000		0.000		0.000		0.000		0.000
21		0.000		0.000		0.000		0.000		0.000		0.000
22		0.000		0.000		0.000		0.000		0.000		0.000
23		0.000		0.000		0.000		0.000		0.000		0.000
24		0.000		0.000		0.000		0.000		0.000		0.000
25		0.000		0.000		0.000		0.000		0.000		0.000
26		0.000		0.000		0.000		0.000		0.000		0.000
27		0.000		0.000		0.000	418.780	0.000		0.000		0.000
28		0.000		0.000		0.000	419.025	5.054		0.000		0.000
29		0.000		0.000			418.990	4.558		0.000		0.000
30		0.000		0.000			418.940	3.657		0.000		0.000
31		0.000		0.000			418.830	1.927 *				0.000
Ten-Daily Mean												
I Ten-Daily	418.849	2.924		0.000		0.000		0.000	418.743	0.754		0.000
II Ten-Daily	418.546	0.000		0.000		0.000		0.000		0.000		0.000
III Ten-Daily		0.000		0.000		0.000	418.913	1.381		0.000		0.000
Monthly												
Min.	418.500	0.000		0.000		0.000	418.780	0.000	418.540	0.000		0.000
Max.	419.170	8.552		0.000		0.000	419.025	5.054	418.920	3.978		0.000
Mean	418.741	0.943		0		0	418.913	0.49	418.743	0.251		0

Peak Computed Discharge = 20.11 cumecs on 19/08/2018

Corres. Water Level :419.49 m

Lowest Computed Discharge = 0.357 cumecs on 07/09/2018

Corres. Water Level :418.66 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 : 2018-2019

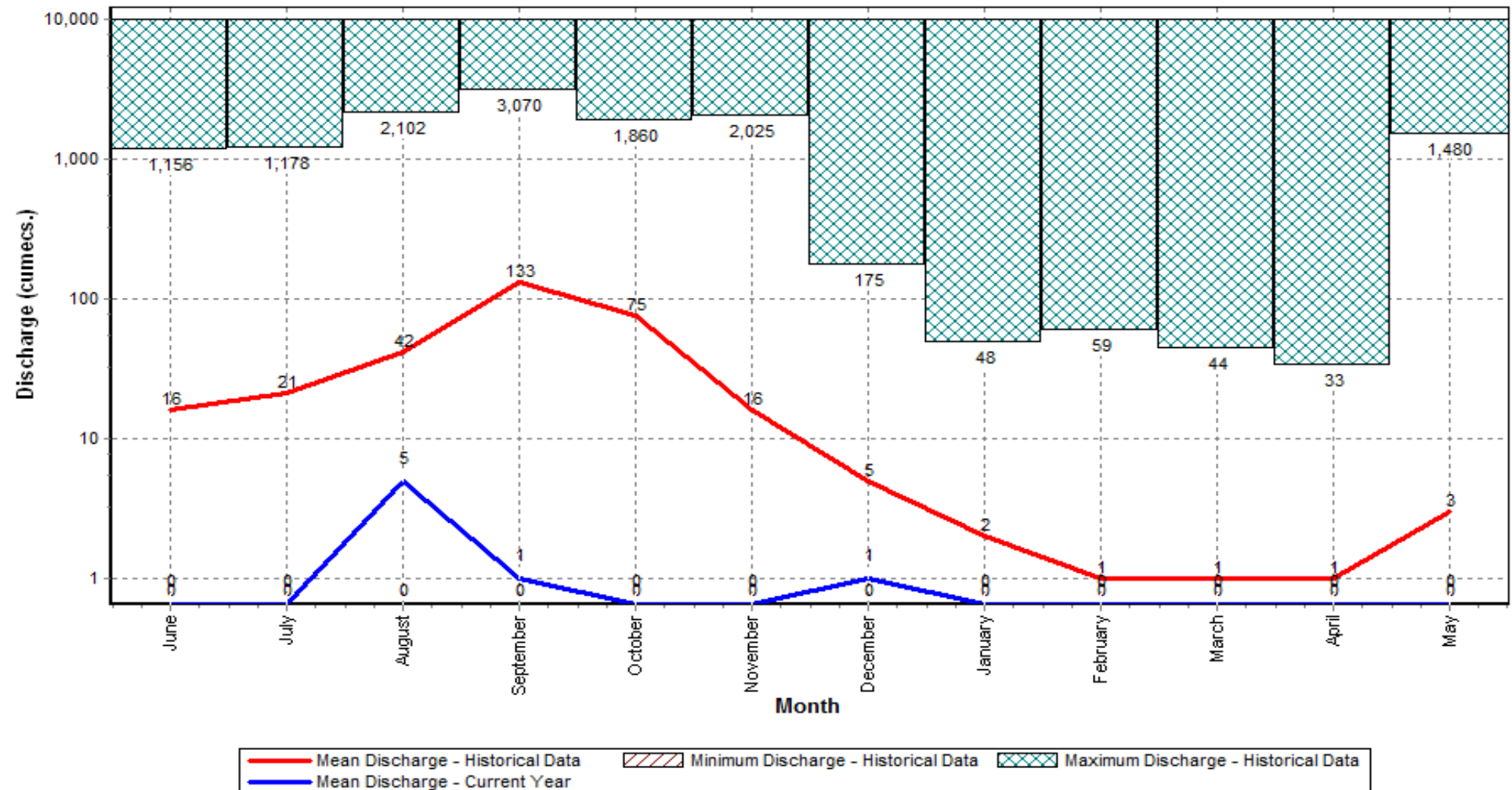
Station Name : Wadakbal (AKP60C4)

Data considered : 1965-2019

Division : Upper Krishna Divn, Pune

Local River : Sina

Sub-Division : Bhima SD, Sholapur



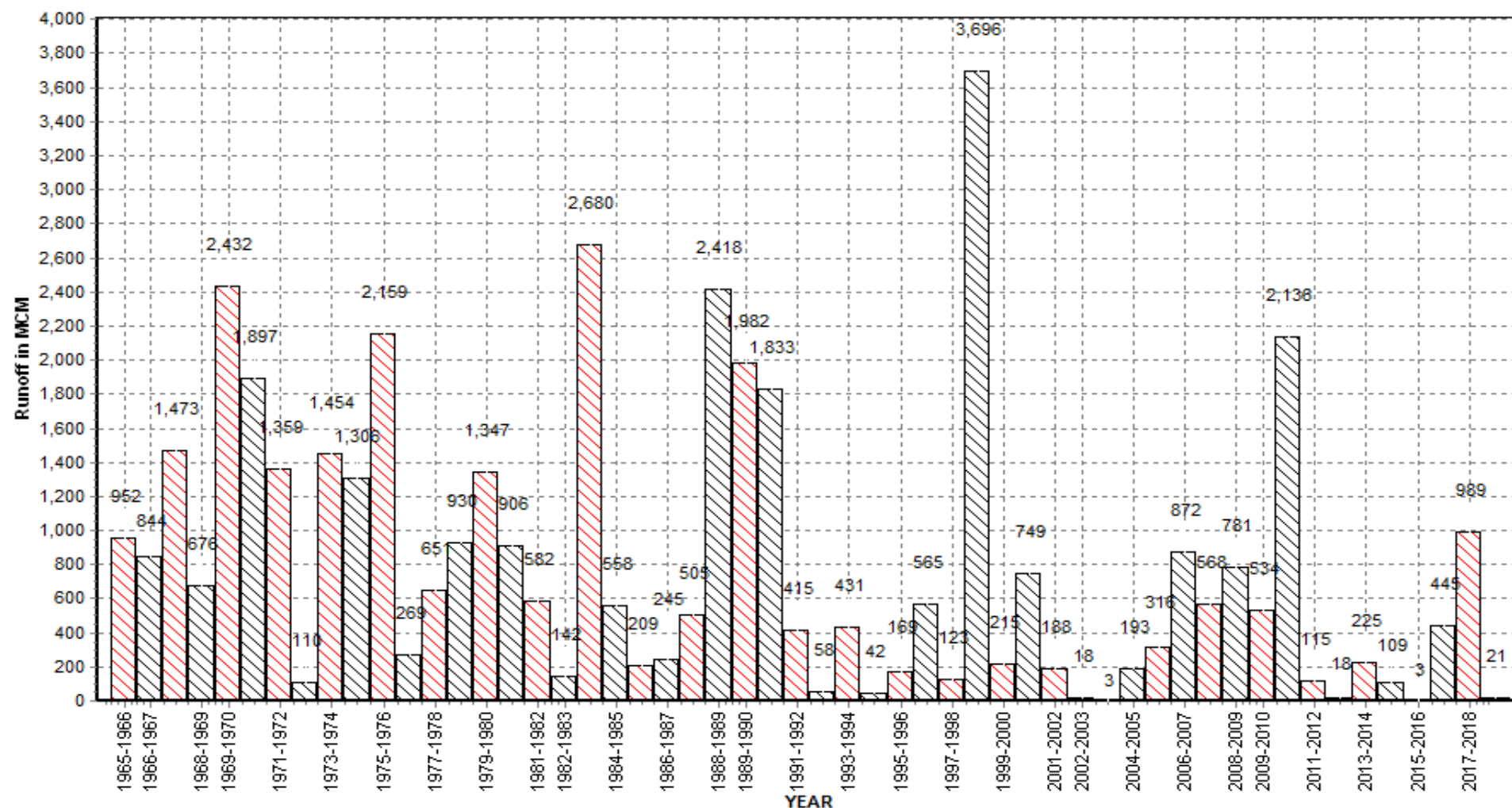
Annual Runoff Values for the period: 1965 - 2019

Station Name : Wadakbal (AKP60C4)

Local River : Sina

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



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

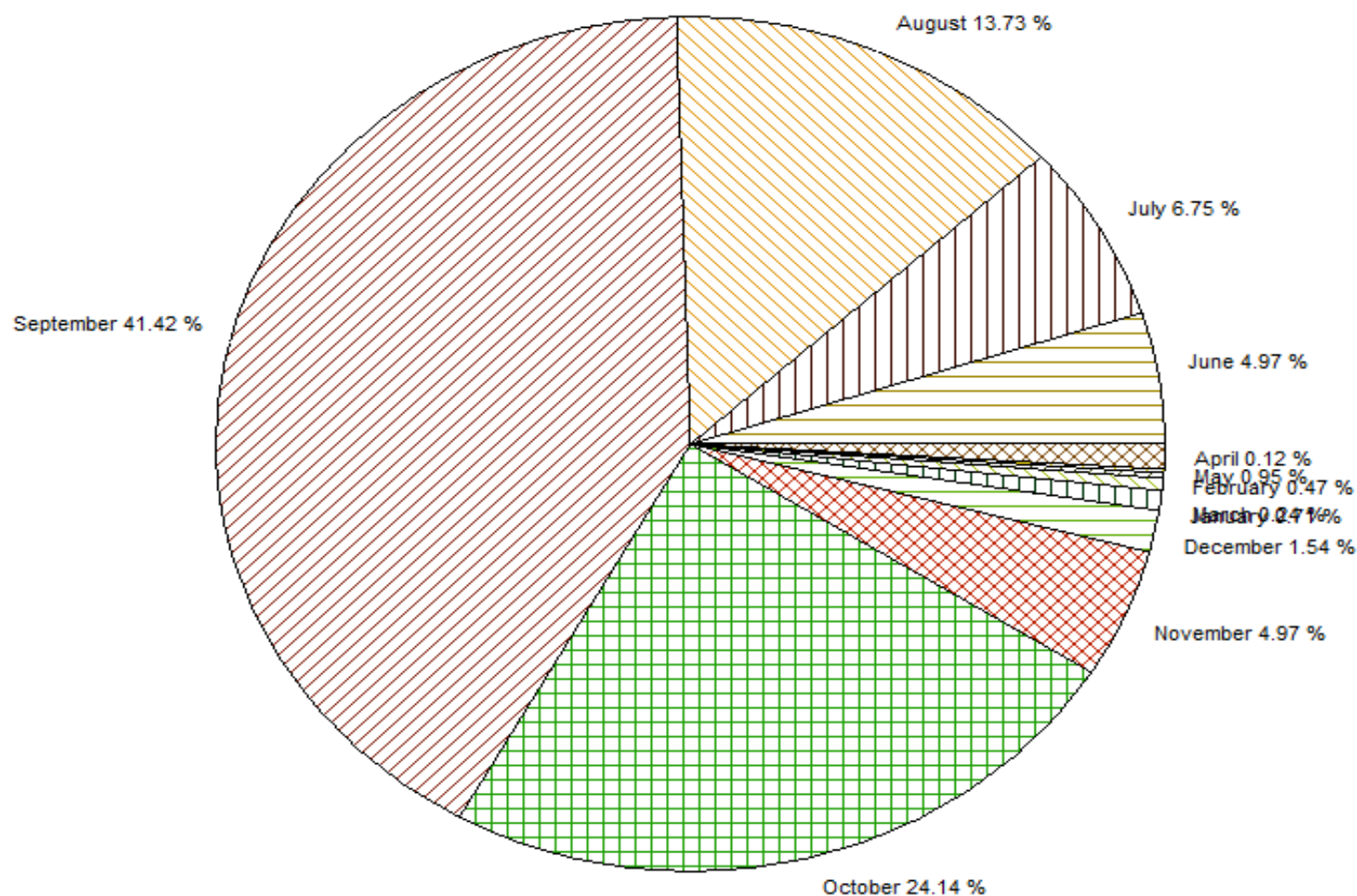
Monthly Average Runoff based on period : 1965-2018

Station Name : Wadakbal (AKP60C4)

Local River : Sina

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



June	4.97 %
July	6.75 %
August	13.73 %
September	41.42 %
October	24.14 %
November	4.97 %
December	1.54 %
January	0.71 %
February	0.47 %
March	0.24 %
April	0.12 %
May	0.95 %

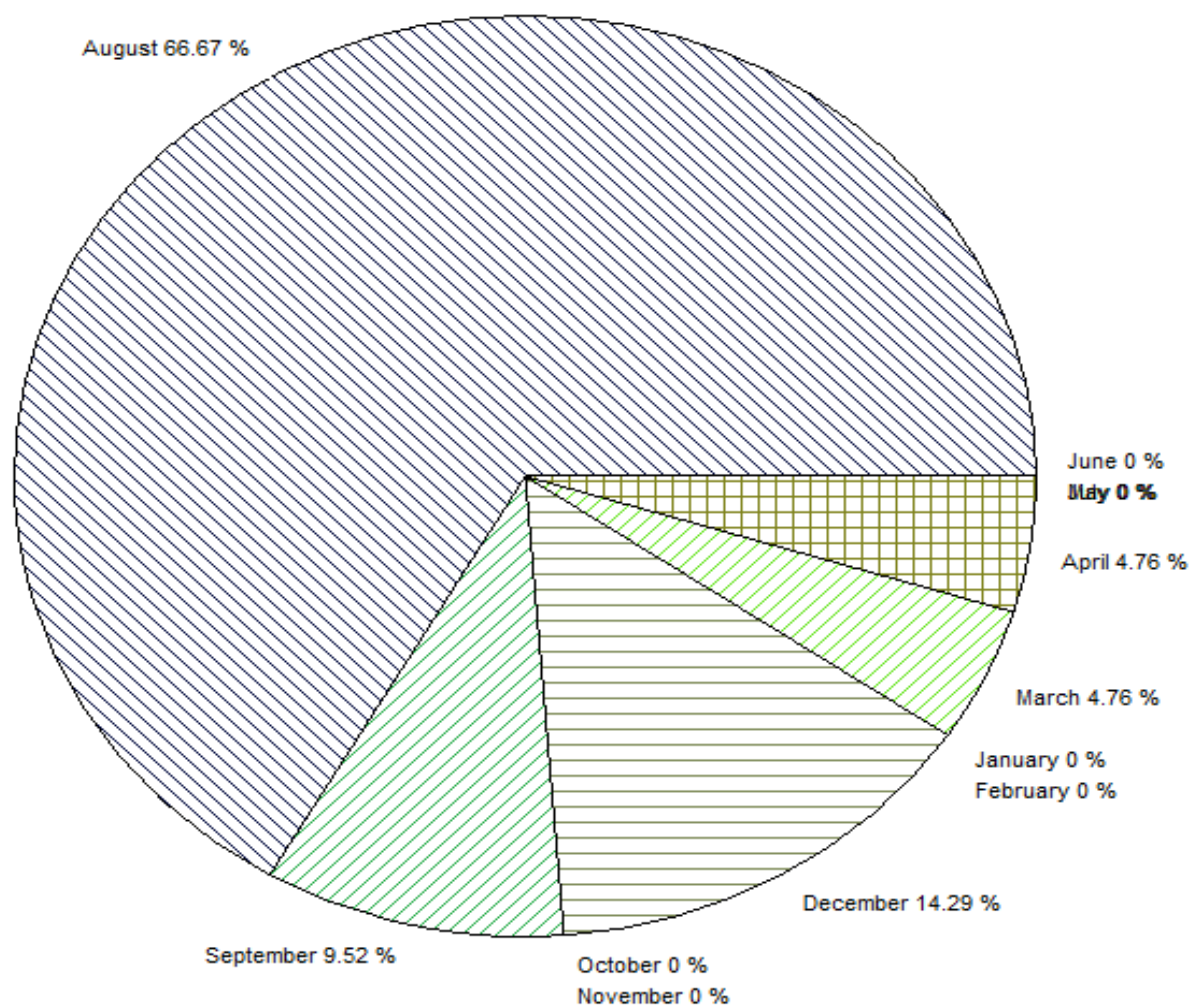
Monthly Runoff for the Year : 2018-2019

Station Name : Wadakbal (AKP60C4)

Local River : Sina

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



June	0 %
July	0 %
August	66.67 %
September	9.52 %
October	0 %
November	0 %
December	14.29 %
January	0 %
February	0 %
March	4.76 %
April	4.76 %
May	0 %

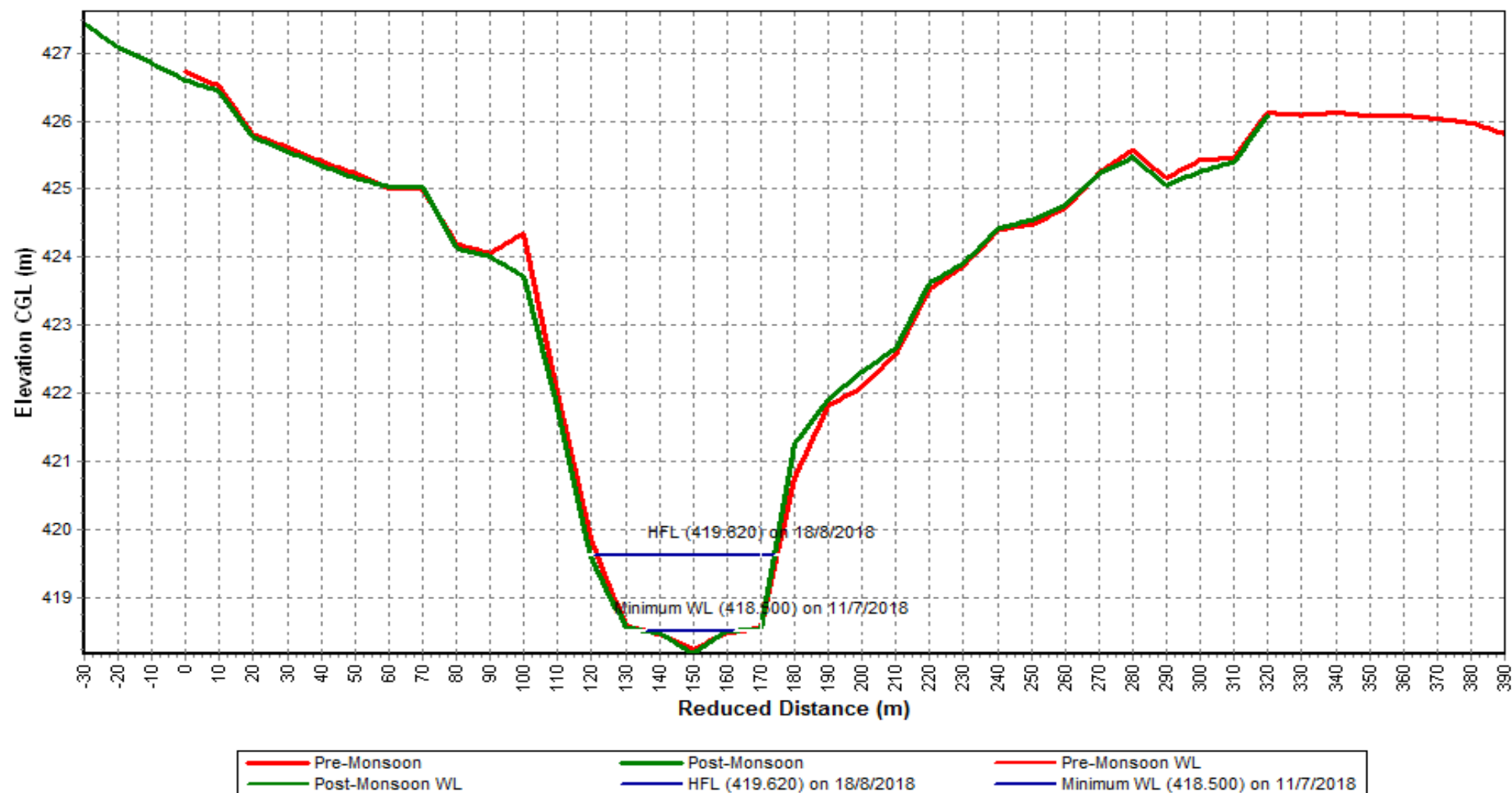
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Wadakbal (AKP60C4)

Local River : Sina

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



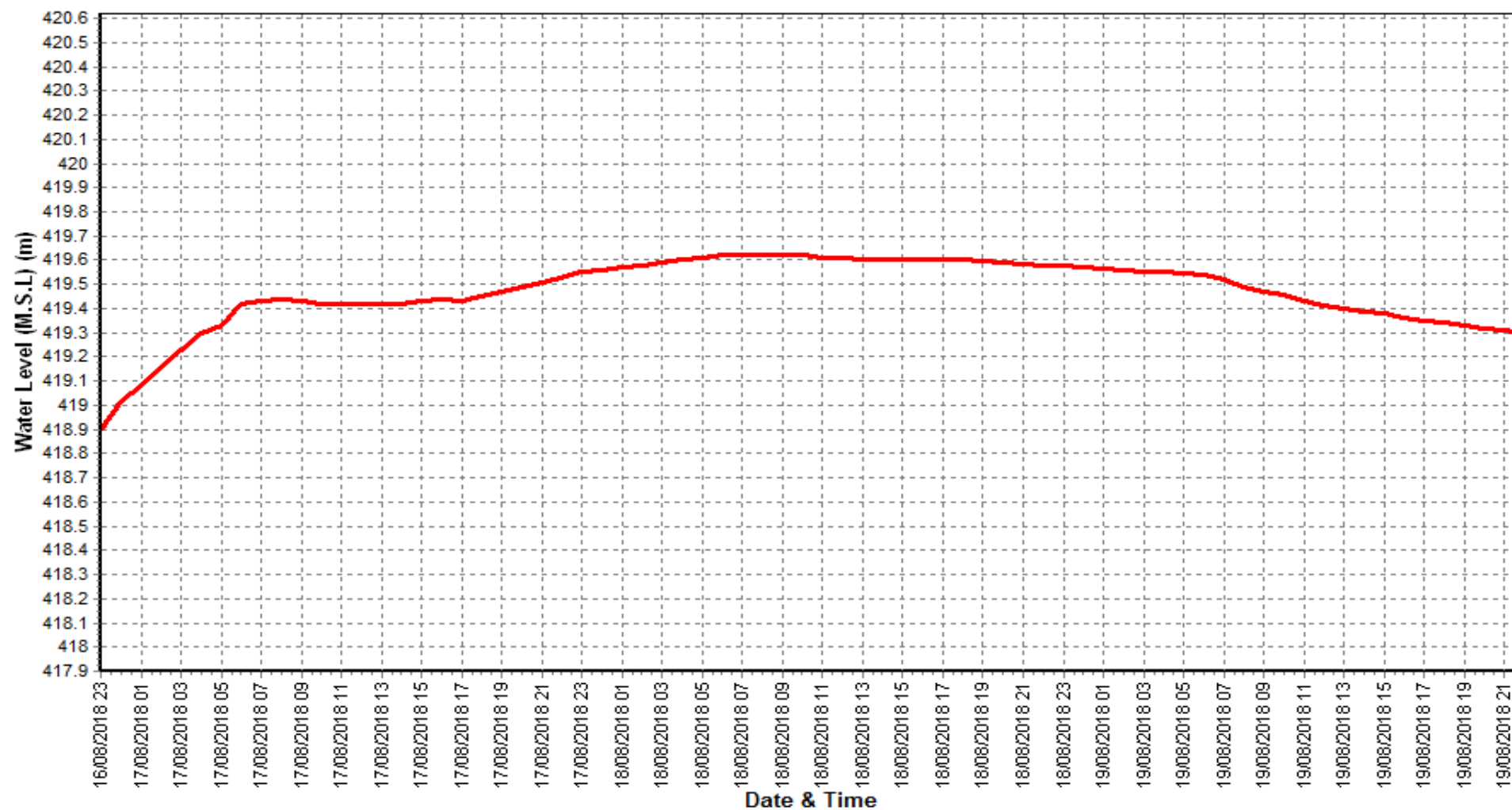
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Wadakbal (AKP60C4)

Local River : Sina

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



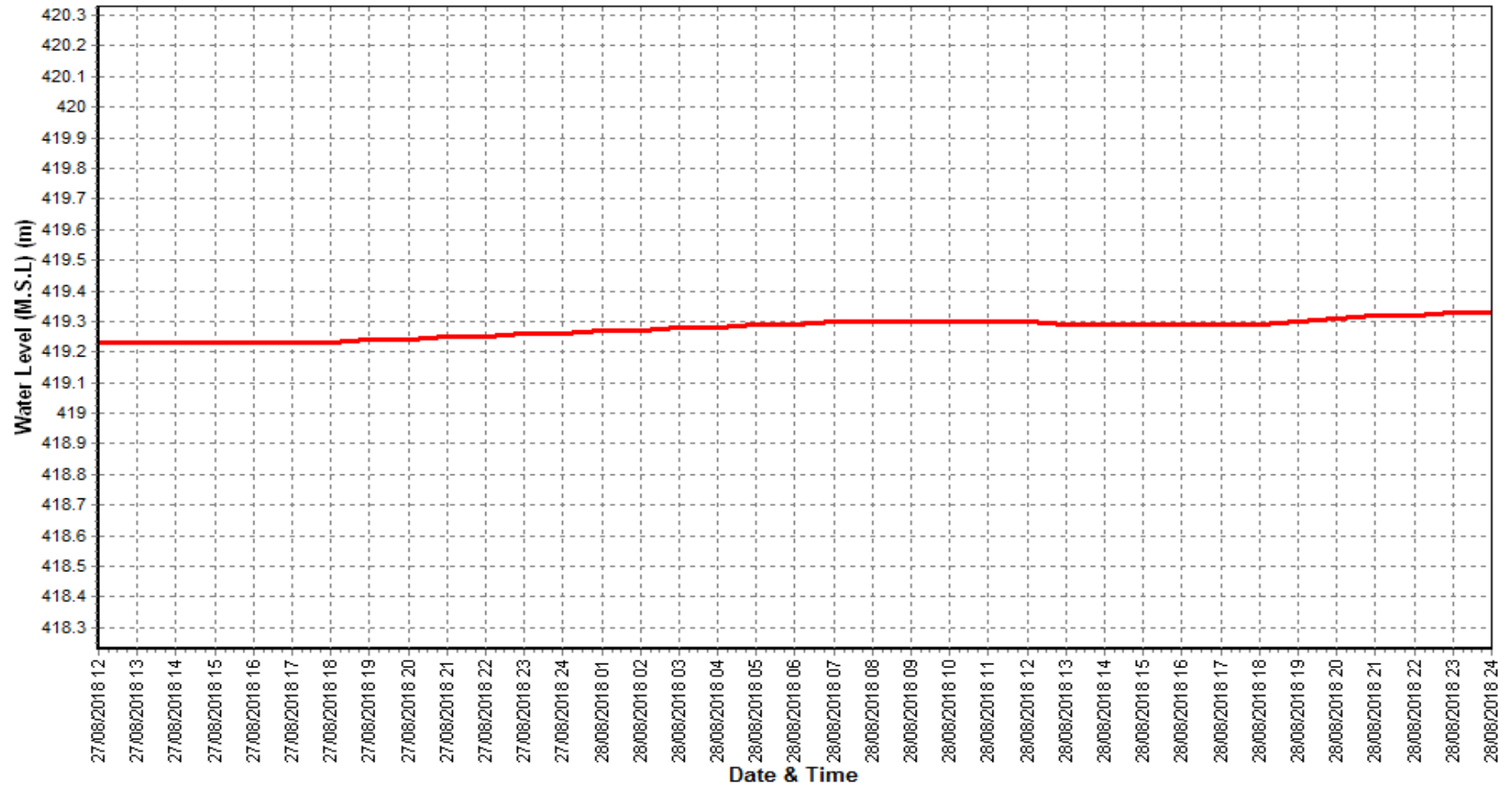
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : Wadakbal (AKP60C4)

Local River : Sina

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



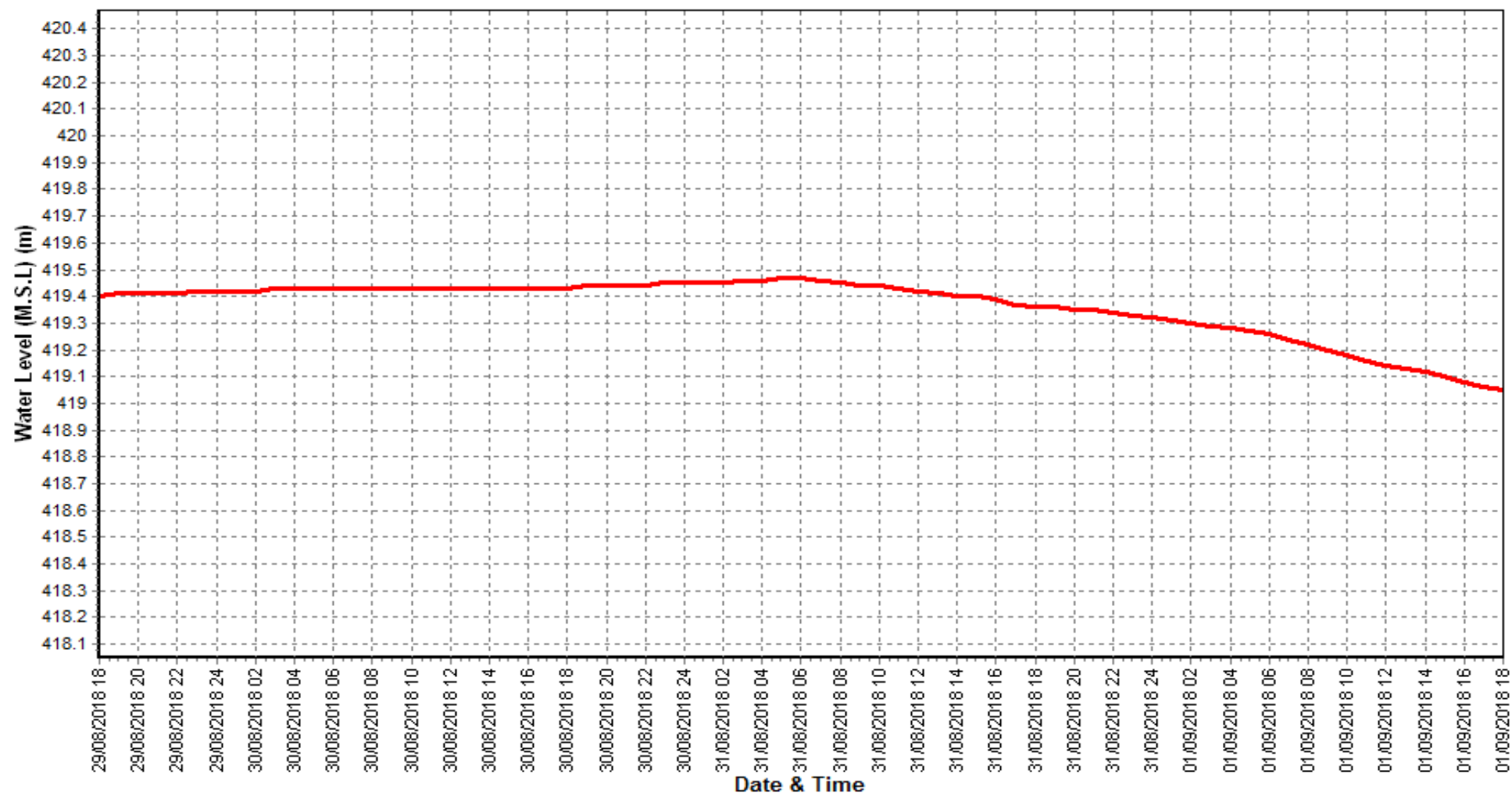
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Wadakbal (AKP60C4)

Local River : Sina

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



HISTORY SHEET

Water Year : 2018-2019

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 : 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)
409.278 (m.s.l)
408 (m.s.l)20/07/1963 - 24/06/1969
25/06/1969 - 31/05/2011
01/06/2011

Opening Date

Closing Date

Gauge : 14/07/1965

HFL During 2018 : 415.025 m

Corres. Discharge : 886 (Estimated)

Discharge : 01/06/1965

Date & Time of : 29/08/2018

occurrence : 12.00 hrs.

Sediment : 01/12/1966

Water Quality : 01/09/1972

HFL Recorded so far in m : 423.718 dt 12-08-2006

Corresponding Discharge (cumecs) : 7662 *

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	4150	418.773	17/08/1975	0.000	410.408	19/05/1976
1976-1977	8296	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

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

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1978-1979	2164	417.273	04/09/1978	0.000	410.108	24/04/1979
1979-1980	8700	422.843	27/09/1979	0.000	411.125	31/05/1980
1980-1981	3285	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
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	2740	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	4005	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	2344	417.617	19/10/1993	0.000	411.608	10/04/1994
1994-1995	7698	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	8120	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	7103	419.428	30/07/2005	0.000	410.873	25/01/2006
2006-2007	7672	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	2412	417.878	22/09/2008	0.000	414.038	25/01/2009
2009-2010	3669	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	2076	417.545	16/09/2017	0.000	410.040	25/01/2018

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

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
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
Average		4818	113	4931	170	4	174
75% Dependable flow (MCM)				1949			
90 % Dependable flow (MCM)				250			

Stage-Discharge Data for the period 2018 - 2019

Station Name : Takli (AKP00K4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : 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	410.010	0.000	412.880	0.000	413.120	0.000	414.105	322.8	413.150	0.000	410.150	0.000
2	409.890	0.000	412.740	0.000	413.080	0.000	413.840	221.2 *	412.990	0.000	410.030	0.000
3	409.770	0.000	412.630	0.000	413.015	0.000	413.675	169.4 *	413.300	0.000	409.870	0.000
4	409.650	0.000	412.490	0.000	412.950	0.000	413.590	196.6	413.350	0.000	410.080	0.000
5	409.530	0.000	412.370	0.000	412.850	0.000	413.500	120.9	413.280	0.000	410.650	0.000
6	409.415	0.000	412.250	0.000	412.780	0.000	413.830	221.3	413.215	0.000	411.700	0.000
7	409.300	0.000	412.160	0.000	412.660	0.000	414.010	296.9	413.135	0.000	413.550	0.000
8	409.200	0.000	412.450	0.000	412.755	0.000	413.770	234.0	413.045	0.000	414.860	0.000
9	415.080	0.000	412.565	0.000	412.690	0.000	413.560	138.2 *	412.960	0.000	414.540	0.000
10	414.810	0.000	412.520	0.000	412.570	0.000	413.280	105.4	412.840	0.000	414.440	0.000
11	414.610	0.000	412.500	0.000	412.415	0.000	413.190	0.000	412.750	0.000	414.250	0.000
12	414.350	0.000	412.415	0.000	412.310	0.000	413.160	0.000	412.685	0.000	414.090	0.000
13	413.730	0.000	412.325	0.000	412.590	0.000	412.980	0.000	412.590	0.000	414.005	0.000
14	413.560	0.000	412.240	0.000	412.700	0.000	412.710	0.000	412.485	0.000	413.955	0.000
15	413.515	0.000	412.070	0.000	412.590	0.000	412.530	0.000	412.395	0.000	413.855	0.000
16	413.495	0.000	412.055	0.000	412.575	0.000	412.425	0.000	412.230	0.000	413.760	0.000
17	413.465	0.000	412.240	0.000	412.535	0.000	412.300	0.000	412.180	0.000	413.650	0.000
18	413.420	0.000	412.710	0.000	412.450	0.000	412.260	0.000	412.025	0.000	413.575	0.000
19	413.300	0.000	412.635	0.000	412.340	0.000	412.225	0.000	411.870	0.000	413.465	0.000
20	413.180	0.000	412.530	0.000	413.960	161.0	412.175	0.000	411.720	0.000	413.370	0.000
21	413.000	0.000	412.420	0.000	414.255	415.7	412.070	0.000	411.570	0.000	413.700	0.000
22	413.970	0.000	412.570	0.000	414.190	361.3 *	412.460	0.000	411.405	0.000	413.850	0.000
23	414.010	0.000	412.590	0.000	414.275	387.7	412.585	0.000	411.245	0.000	413.900	0.000
24	413.945	0.000	412.510	0.000	414.510	562.3	412.505	0.000	411.055	0.000	413.900	0.000
25	413.775	0.000	412.435	0.000	414.545	543.2	412.575	0.000	410.900	0.000	413.870	0.000
26	413.595	0.000	412.300	0.000	414.220	375.4 *	412.490	0.000	410.810	0.000	413.815	0.000
27	413.475	0.000	412.210	0.000	414.100	250.4	412.420	0.000	410.690	0.000	413.750	0.000
28	413.310	0.000	413.480	0.000	414.320	377.7	412.310	0.000	410.570	0.000	413.690	0.000
29	413.180	0.000	413.220	0.000	415.005	872.2	413.030	0.000	410.450	0.000	413.620	0.000
30	413.010	0.000	413.200	0.000	414.565	538.4	413.245	0.000	410.340	0.000	413.535	0.000
31			413.180	0.000	414.265	371.8			410.200	0.000		
Ten-Daily Mean												
I Ten-Daily	410.666	0.000	412.505	0.000	412.847	0.000	413.716	202.7	413.126	0.000	411.987	0.000
II Ten-Daily	413.663	0.000	412.372	0.000	412.646	16.10	412.596	0.000	412.293	0.000	413.798	0.000
III Ten-Daily	413.527	0.000	412.738	0.000	414.386	459.7	412.569	0.000	410.840	0.000	413.763	0.000
Monthly												
Min.	409.200	0.000	412.055	0.000	412.310	0.000	412.070	0.000	410.200	0.000	409.870	0.000
Max.	415.080	0.000	413.480	0.000	415.005	872.2	414.105	322.8	413.350	0.000	414.860	0.000
Mean	412.618	0	412.545	0	413.329	168.3	412.960	67.56	412.046	0	413.183	0

Annual Runoff in MCM = 626 Annual Runoff in mm = 18

Peak Observed Discharge = 872.2 cumecs on 29/08/2018 Corres. Water Level :415.005 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018 Corres. Water Level :410.01 m

Stage-Discharge Data for the period 2018 - 2019

Station Name : Takli (AKP00K4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	414.000	0.000	413.000	0.000	414.150	0.000	412.880	0.000	409.280	0.000	413.230	0.000
2	414.270	0.000	412.910	0.000	414.070	0.000	412.740	0.000	409.220	0.000	413.100	0.000
3	414.150	0.000	412.830	0.000	414.200	0.000	412.980	0.000	410.040	0.000	412.950	0.000
4	414.010	0.000	412.790	0.000	414.245	0.000	412.900	0.000	414.810	0.000	413.120	0.000
5	413.860	0.000	412.720	0.000	414.270	0.000	412.790	0.000	414.940	0.000	413.060	0.000
6	413.750	0.000	412.650	0.000	414.240	0.000	412.710	0.000	414.730	0.000	412.960	0.000
7	413.650	0.000	412.580	0.000	414.155	0.000	412.620	0.000	414.480	0.000	412.850	0.000
8	413.550	0.000	412.500	0.000	414.040	0.000	412.530	0.000	414.240	0.000	412.650	0.000
9	413.450	0.000	412.420	0.000	413.910	0.000	412.430	0.000	414.050	0.000	412.600	0.000
10	413.300	0.000	412.340	0.000	413.800	0.000	412.320	0.000	413.870	0.000	412.480	0.000
11	413.650	0.000	412.250	0.000	413.870	0.000	412.230	0.000	413.750	0.000	412.360	0.000
12	413.860	0.000	412.170	0.000	413.840	0.000	412.080	0.000	413.650	0.000	412.210	0.000
13	413.900	0.000	412.070	0.000	413.680	0.000	411.900	0.000	413.500	0.000	412.050	0.000
14	413.830	0.000	411.900	0.000	413.900	0.000	411.760	0.000	413.350	0.000	411.900	0.000
15	413.750	0.000	411.770	0.000	413.900	0.000	411.690	0.000	413.270	0.000	411.810	0.000
16	413.640	0.000	411.620	0.000	413.800	0.000	411.460	0.000	413.220	0.000	411.680	0.000
17	413.540	0.000	411.500	0.000	413.650	0.000	411.320	0.000	413.180	0.000	411.550	0.000
18	413.440	0.000	411.370	0.000	413.500	0.000	411.170	0.000	413.120	0.000	411.410	0.000
19	413.840	0.000	411.250	0.000	413.350	0.000	411.030	0.000	412.970	0.000	411.290	0.000
20	413.830	0.000	411.130	0.000	413.250	0.000	410.885	0.000	412.850	0.000	411.150	0.000
21	413.760	0.000	411.080	0.000	413.130	0.000	410.750	0.000	413.290	0.000	411.035	0.000
22	413.660	0.000	414.790	0.000	412.996	0.000	410.625	0.000	413.340	0.000	410.885	0.000
23	413.530	0.000	414.810	0.000	413.280	0.000	410.540	0.000	413.330	0.000	410.775	0.000
24	413.430	0.000	414.550	0.000	413.320	0.000	410.375	0.000	413.160	0.000	410.650	0.000
25	413.320	0.000	414.710	0.000	413.250	0.000	410.300	0.000	413.040	0.000	410.525	0.000
26	413.220	0.000	414.625	0.000	413.110	0.000	410.190	0.000	412.900	0.000	410.395	0.000
27	413.110	0.000	414.530	0.000	412.910	0.000	409.960	0.000	413.300	0.000	410.535	0.000
28	413.250	0.000	414.450	0.000	412.930	0.000	409.840	0.000	413.500	0.000	412.500	0.000
29	413.180	0.000	414.360	0.000			409.700	0.000	413.500	0.000	414.600	0.000
30	413.120	0.000	414.270	0.000			409.550	0.000	413.340	0.000	414.790	0.000
31	413.050	0.000	414.250	0.000			409.470	0.000			414.530	0.000
Ten-Daily Mean												
I Ten-Daily	413.799	0.000	412.674	0.000	414.108	0.000	412.690	0.000	412.966	0.000	412.900	0.000
II Ten-Daily	413.728	0.000	411.703	0.000	413.674	0.000	411.552	0.000	413.286	0.000	411.741	0.000
III Ten-Daily	413.330	0.000	414.220	0.000	413.116	0.000	410.118	0.000	413.270	0.000	411.929	0.000
Monthly												
Min.	413.050	0.000	411.080	0.000	412.910	0.000	409.470	0.000	409.220	0.000	410.395	0.000
Max.	414.270	0.000	414.810	0.000	414.270	0.000	412.980	0.000	414.940	0.000	414.790	0.000
Mean	413.610	0	412.909	0	413.669	0	411.410	0	413.174	0	412.182	0

Peak Computed Discharge = 375.4 cumecs on 26/08/2018

Corres. Water Level :414.22 m

Lowest Computed Discharge = 138.2 cumecs on 09/09/2018

Corres. Water Level :413.56 m

HISTOGRAM - HYDROGRAPH for Water Year : 2018-2019

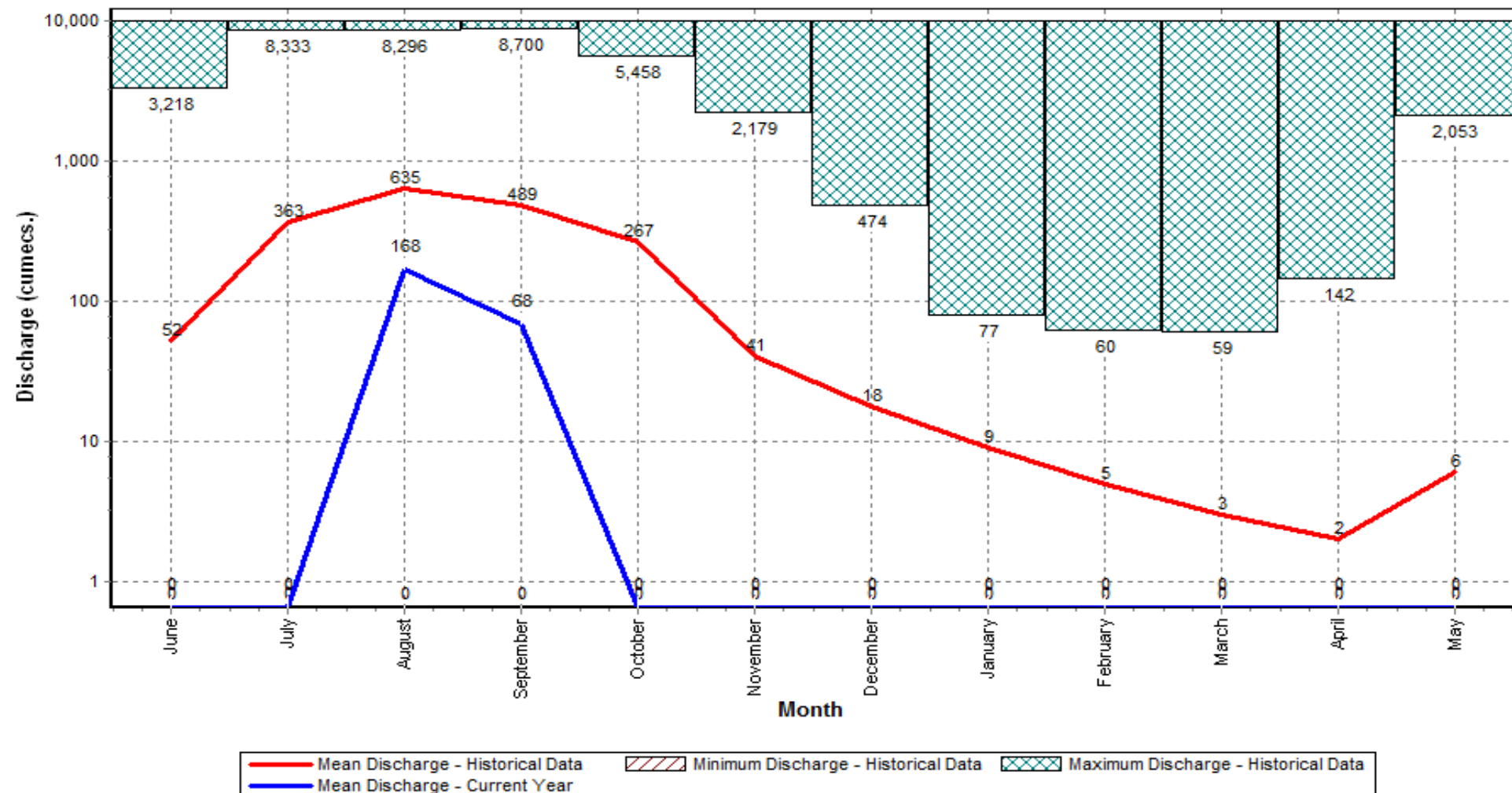
Station Name : Takli (AKP00K4)

Data considered : 1965-2019

Division : Upper Krishna Divn, Pune

Local River : Bhima

Sub-Division : Bhima SD, Sholapur



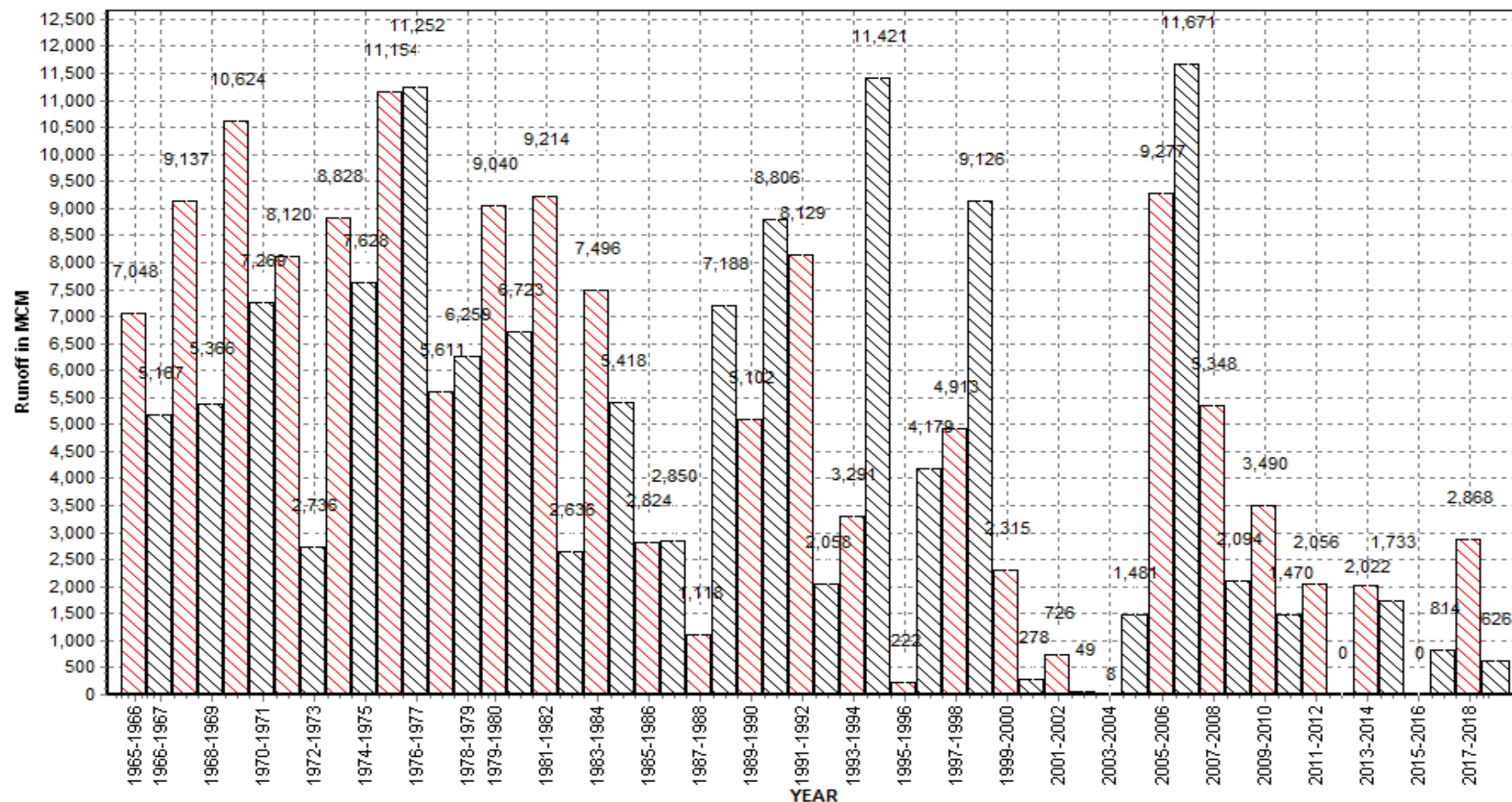
Annual Runoff Values for the period: 1965 - 2019

Station Name : Takli (AKP00K4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



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

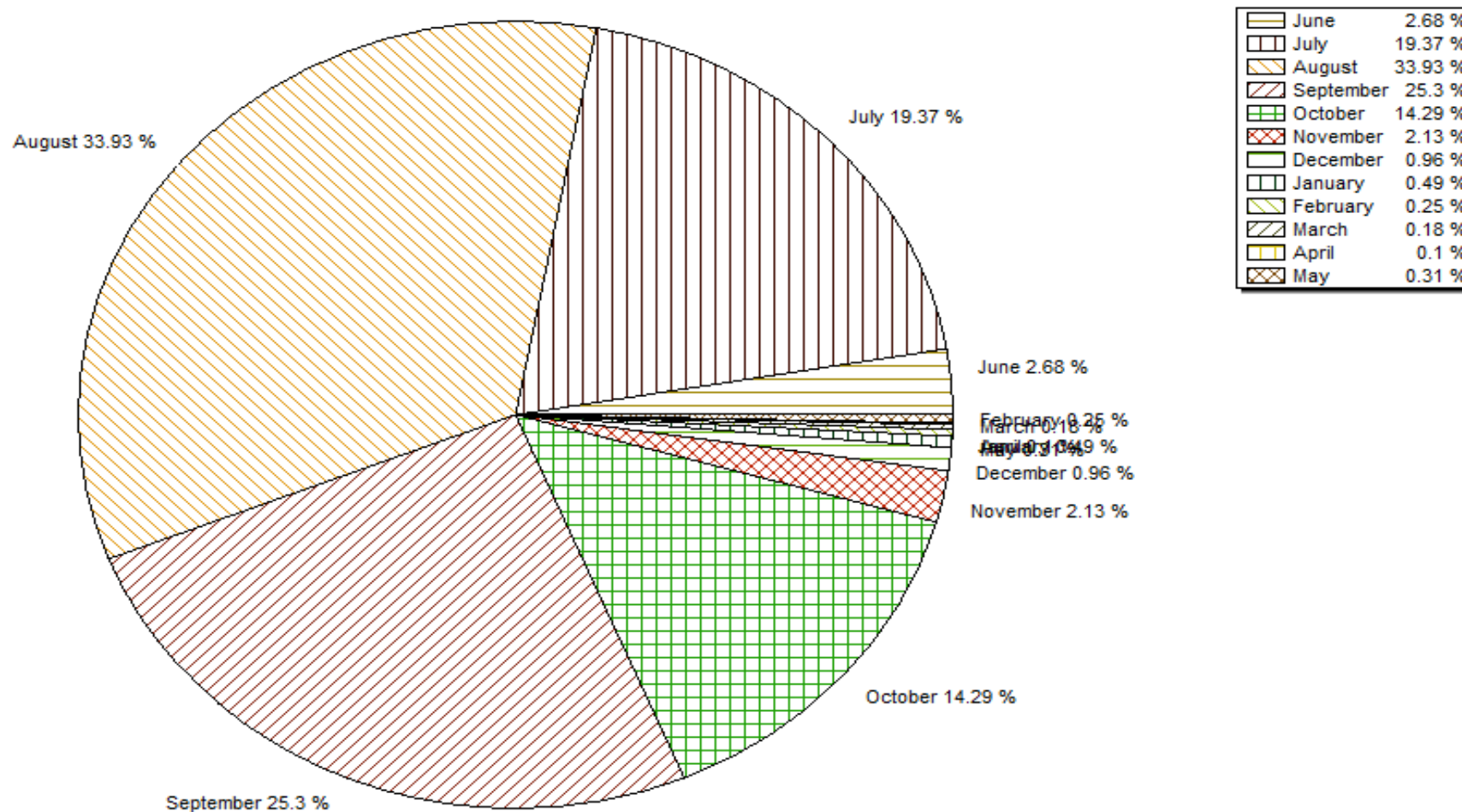
Monthly Average Runoff based on period : 1965-2018

Station Name : Takli (AKP00K4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



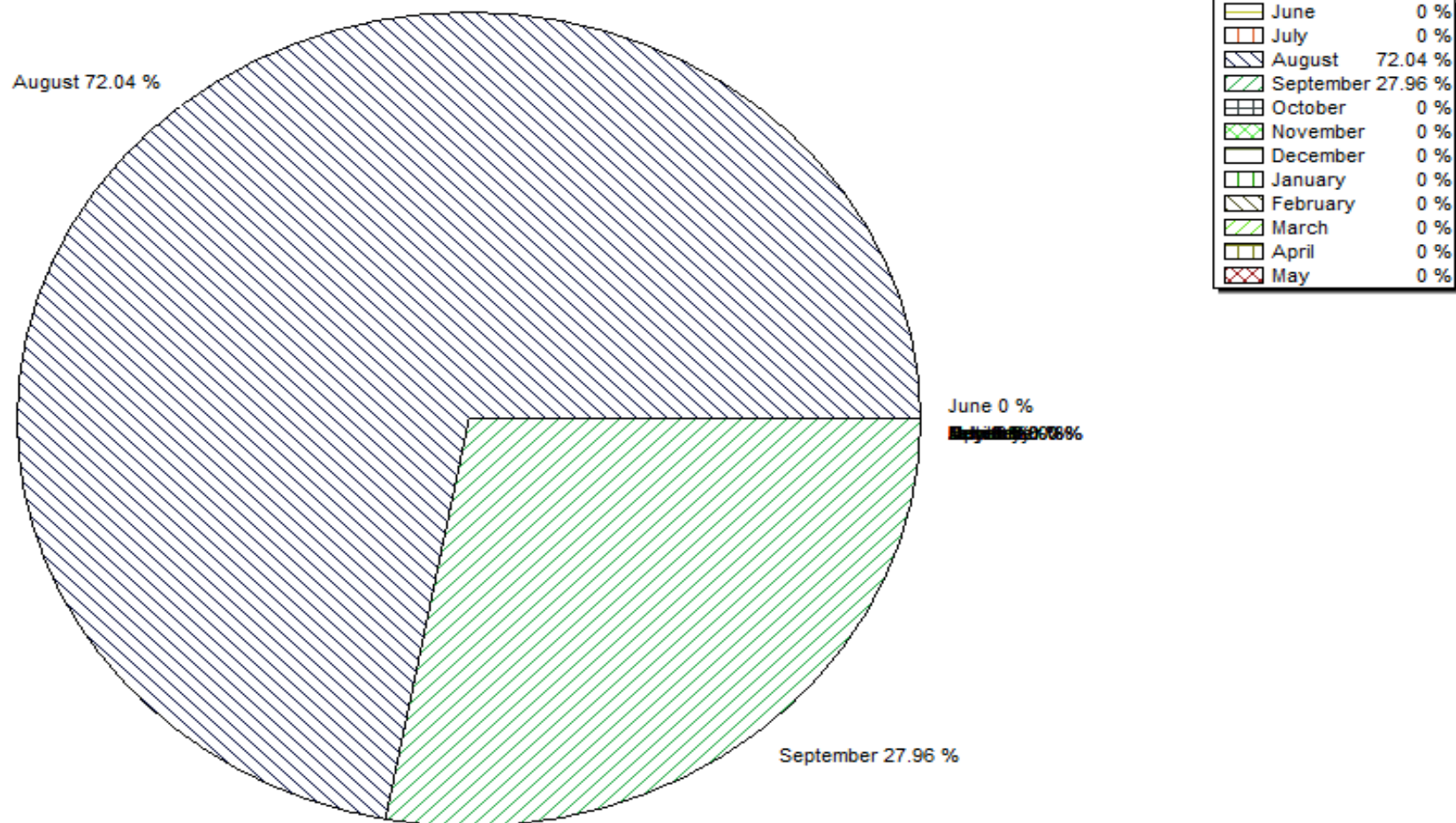
Monthly Runoff for the Year : 2018-2019

Station Name : Takli (AKP00K4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

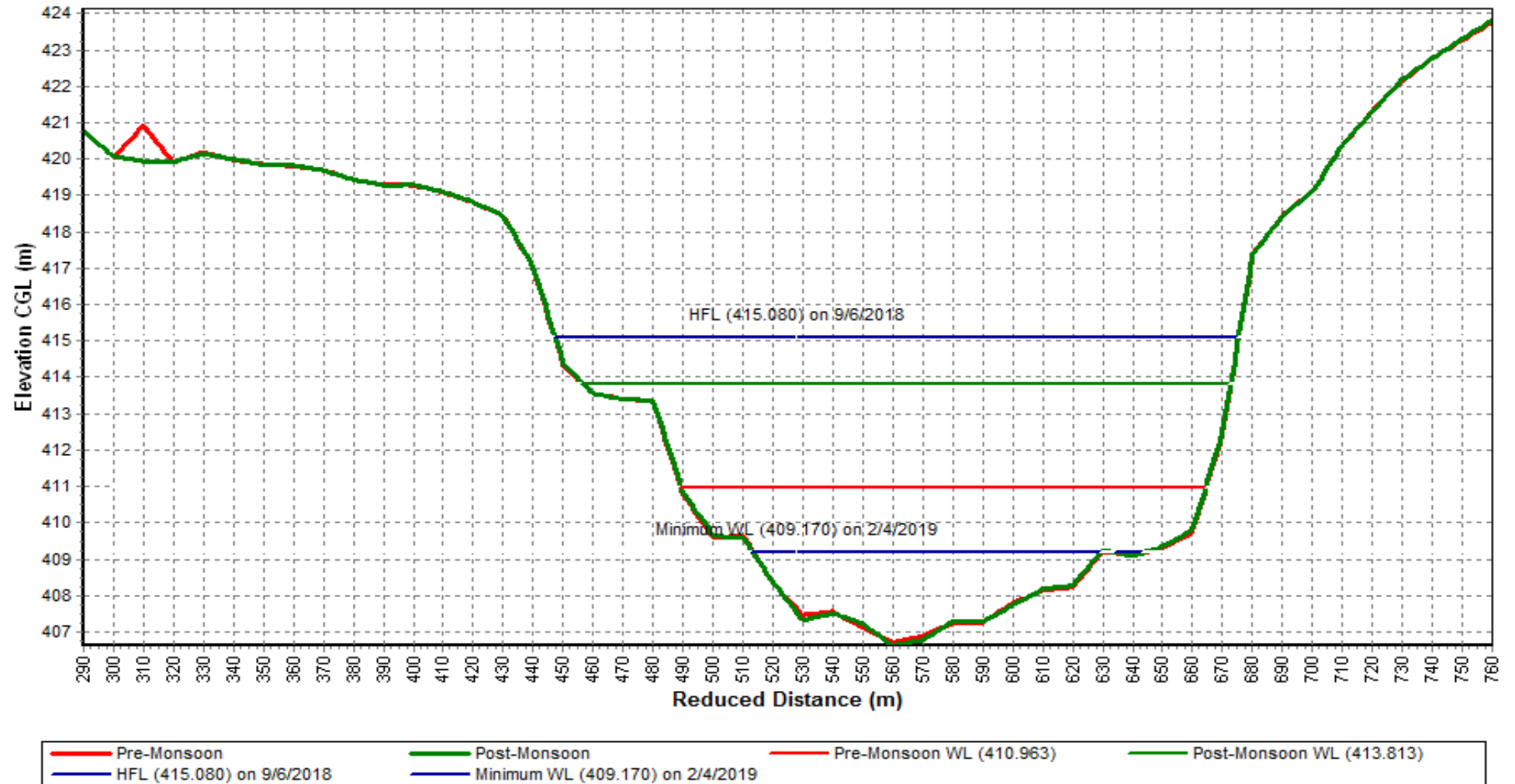
Sub-Division : Bhima SD, Sholapur



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Takli (AKP00K4)
Local River : Bhima

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



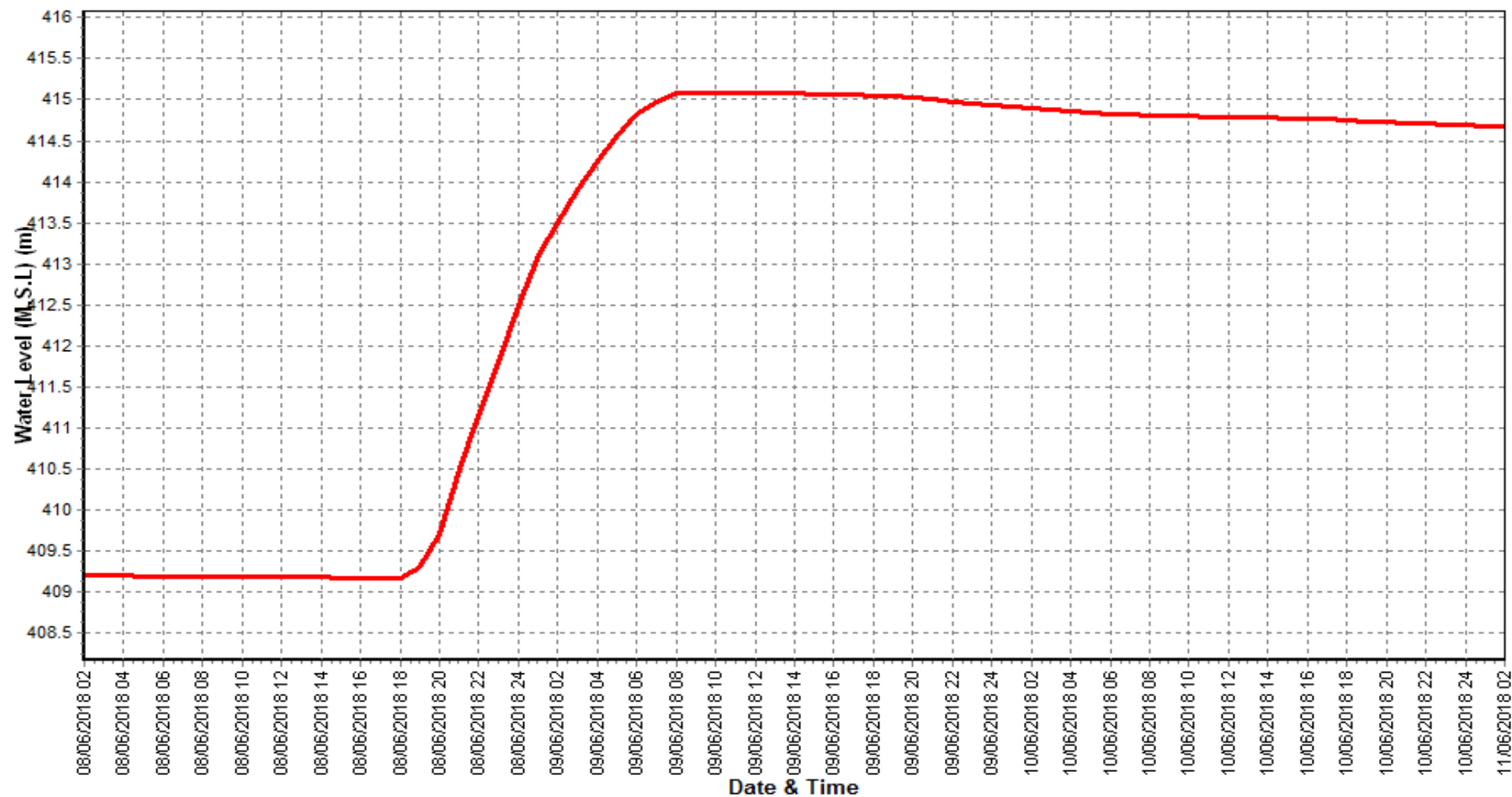
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Takli (AKP00K4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



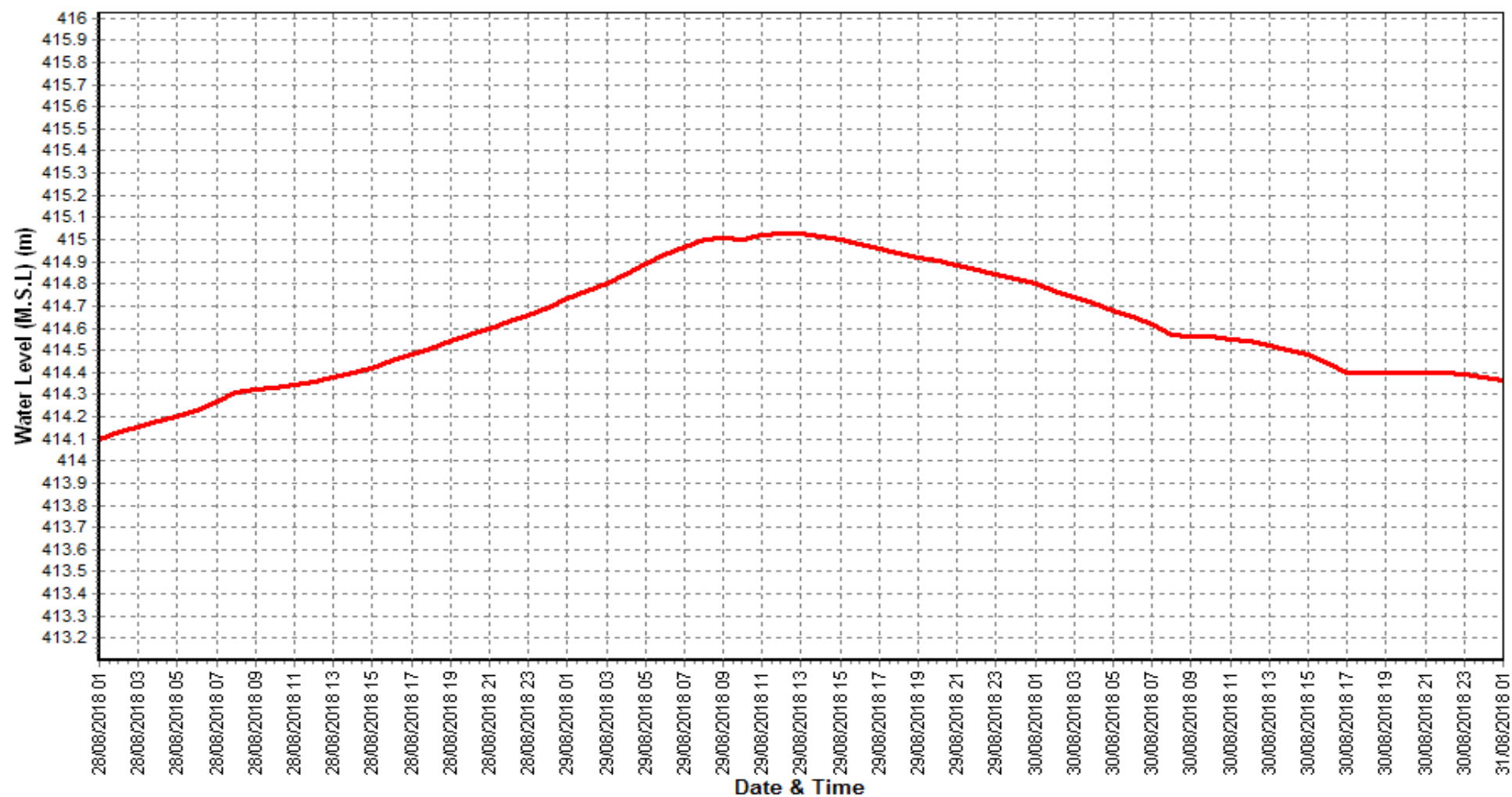
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Takli (AKP00K4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



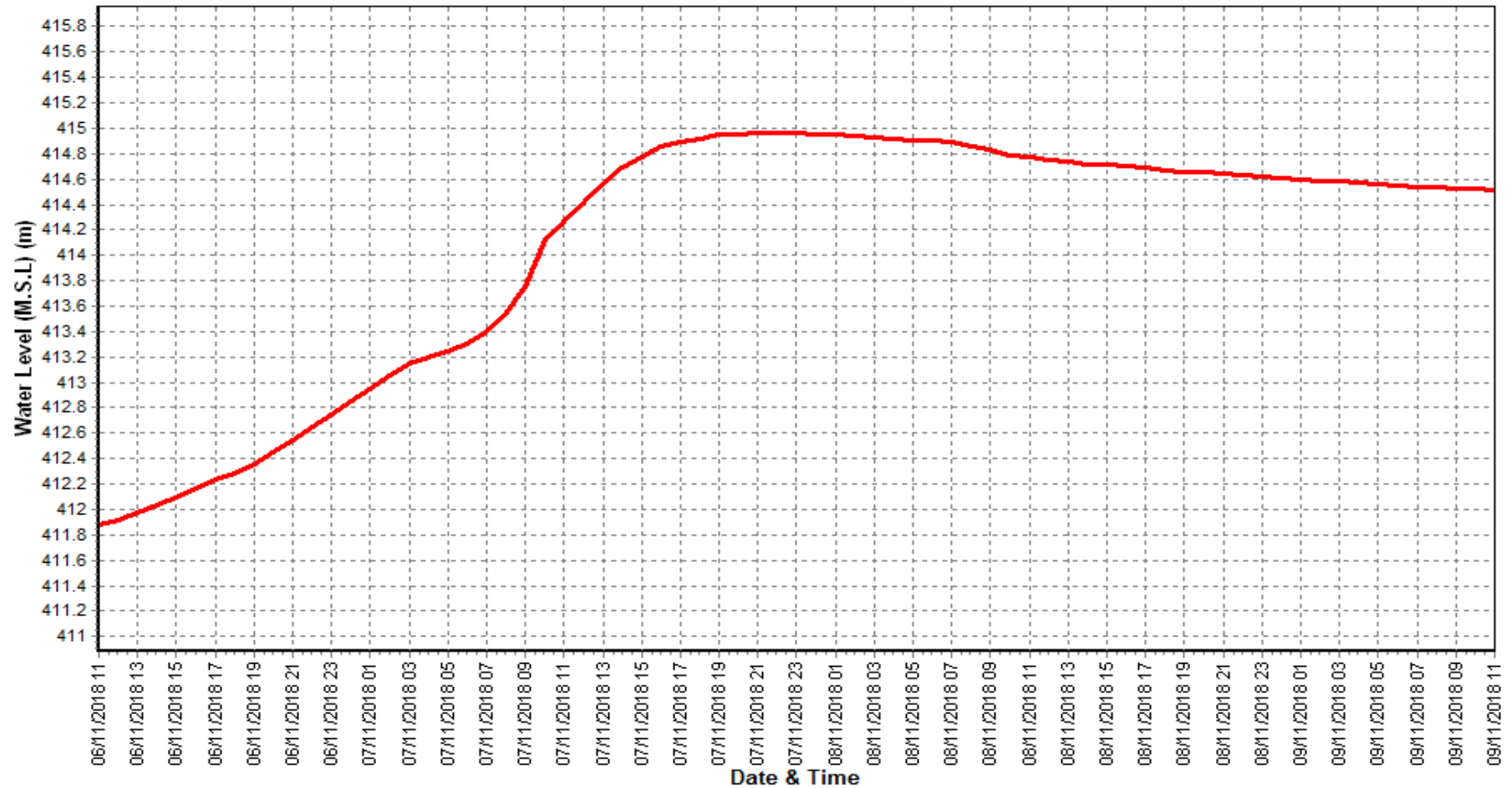
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : Takli (AKP00K4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



HISTORY SHEET

		Water Year	: 2018-2019
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	: 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	: 01/06/1965	HFL During 2019-19	: 451.733 m
		Corres. Discharge	: 1042
Discharge	: 22/02/1966	Date & Time of	: 28/08/2018
		occurrence	: 08.00 hrs.
Sediment	:		
Water Quality	:		

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

Corresponding Discharge (cumecs) : 8873 *

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	6620	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	5241	457.618	31/08/1971	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	6677	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	3593	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	6990	459.693	11/07/1981	0.500	448.843	03/03/1982

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	2665	454.821	24/08/1982	0.600	448.583	04/03/1983
1983-1984	7602	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
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	3860	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	350.0	450.693	26/03/2002	0.000	448.533	16/01/2002
2002-2003	450.0	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	7109	461.793	04/08/2005	0.000	448.933	07/01/2006
2006-2007	8863	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	5098	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	3725	456.081	20/09/2013	0.000	449.423	02/01/2014
2014-2015	1493	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

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

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
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
Average		4350	148	4417	154	5	156
75% Dependable flow (MCM)				1697			
90 % Dependable flow (MCM)				343			

Stage-Discharge Data for the period 2018 - 2019

Station Name : Narasingpur (AKP00Q4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : 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			447.923	0.000	447.933	0.000	448.788	73.39	447.803	0.000	449.993	283.0 #
2	448.193	9.426 *	447.923	0.000	447.923	0.000	448.883	72.55 *	447.793	0.000	449.993	283.0 *
3	449.693	213.5 *	447.913	0.000	447.903	0.000	448.493	30.07 *	447.783	0.000	449.693	213.5 *
4	449.693	224.1	447.903	0.000	447.873	0.000	449.843	261.3	447.783	0.000	449.483	170.3 *
5	449.693	219.8	447.903	0.000	447.863	0.000	449.473	191.6	447.778	0.000	449.483	170.3 *
6	449.693	219.5	447.893	0.000	447.843	0.000	449.513	189.0	447.773	0.000	450.033	292.9 *
7	449.683	218.2	447.893	0.000	447.833	0.000	448.943	75.80	447.763	0.000	450.063	300.5 *
8	449.038	87.08	447.883	0.000	447.823	0.000	448.243	0.000	447.753	0.000	448.863	0.000
9	448.553	37.12	447.883	0.000	447.813	0.000	448.523	0.000	447.743	0.000	449.653	0.000
10	448.413	0.000	447.878	0.000	447.808	0.000	448.183	0.000	447.733	0.000	449.583	0.000
11	448.333	0.000	447.878	0.000	447.793	0.000	448.013	0.000	447.733	0.000	449.553	0.000
12	448.253	0.000	447.873	0.000	447.783	0.000	448.033	0.000		0.000	449.533	0.000
13	447.723	0.000	447.873	0.000	447.763	0.000	448.093	0.000		0.000	449.513	0.000
14	447.683	0.000	447.863	0.000	447.758	0.000	448.123	0.000		0.000	449.503	0.000
15	447.673	0.000	447.863	0.000	447.753	0.000	448.093	0.000		0.000	449.473	0.000
16	447.663	0.000	448.968	77.91	447.748	0.000	448.083	0.000		0.000	449.473	0.000
17	447.663	0.000	449.143	111.7	449.293	127.1	448.013	0.000		0.000	449.463	0.000
18	447.653	0.000	448.838	65.55	450.533	441.4	448.003	0.000		0.000	449.463	0.000
19	447.653	0.000	448.293	0.000	449.693	213.5 *	447.983	0.000		0.000	449.463	0.000
20	447.643	0.000	448.143	0.000	450.463	361.6	447.953	0.000		0.000	449.483	0.000
21	447.663	0.000	448.273	0.000	450.228	321.1	447.933	0.000		0.000	449.493	0.000
22	447.668	0.000	448.123	0.000	450.338	342.8	447.913	0.000		0.000	449.503	0.000
23	447.683	0.000	448.043	0.000	450.873	569.5	447.893	0.000		0.000	449.503	0.000
24	447.713	0.000	449.538	173.5	450.663	464.7	447.883	0.000		0.000	449.503	0.000
25	447.973	0.000	449.333	154.8	450.353	344.7	447.863	0.000		0.000	449.503	0.000
26	448.003	0.000	448.628	33.83	449.823	242.5 *	447.853	0.000	448.963	92.04	449.503	0.000
27	448.003	0.000	448.263	0.000	450.458	396.4	447.843	0.000	449.818	241.3 #	449.503	0.000
28	447.983	0.000	448.063	0.000	451.733	1042	447.833	0.000	449.823	242.5 *	449.503	0.000
29	447.943	0.000	447.978	0.000	450.648	492.8	447.823	0.000	449.823	242.5 #	449.513	0.000
30	447.933	0.000	447.963	0.000	450.313	364.8	447.818	0.000	449.993	283.0	449.513	0.000
31			447.953	0.000	449.633	206.0			449.993	283.0 #		
Ten-Daily Mean												
I Ten-Daily	449.184	136.5	447.900	0.000	447.862	0.000	448.888	89.38	447.771	0.000	449.684	171.3
II Ten-Daily	447.794	0.000	448.274	25.52	448.658	114.4	448.039	0.000	447.733	0.000	449.492	0.000
III Ten-Daily	447.857	0.000	448.378	32.92	450.460	435.2	447.866	0.000	449.735	125.8	449.504	0.000
Monthly												
Min.	447.643	0.000	447.863	0.000	447.748	0.000	447.818	0.000	447.733	0.000	448.863	0.000
Max.	449.693	224.1	449.538	173.5	451.733	1042	449.843	261.3	449.993	283.0	450.063	300.5
Mean	448.247	42.37	448.190	19.91	449.041	191.3	448.264	29.79	448.462	44.65	449.560	57.12

Annual Runoff in MCM = 1173 Annual Runoff in mm = 51

Peak Observed Discharge = 1042 cumecs on 28/08/2018 Corres. Water Level :451.733 m

Lowest Observed Discharge = 0.000 cumecs on 10/06/2018 Corres. Water Level :448.413 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 2018 - 2019

Station Name : Narasingpur (AKP00Q4)

Division : Upper Krishna Divn, Pune

Local River : Bhima

Sub-Division : Bhima SD, Sholapur

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	449.513	0.000	448.433	0.000	448.483	0.000		0.000	449.593	0.000		0.000
2	449.508	0.000	448.383	0.000	448.463	0.000		0.000	449.593	0.000		0.000
3	449.503	0.000	448.358	0.000	448.393	0.000		0.000	449.593	0.000		0.000
4	449.503	0.000	448.343	0.000	448.323	0.000		0.000	448.948	0.000		0.000
5	449.503	0.000	448.293	0.000	448.303	0.000		0.000	448.643	0.000		0.000
6	449.493	0.000	448.293	0.000	448.283	0.000		0.000	448.493	0.000		0.000
7	449.463	0.000	448.273	0.000	448.243	0.000		0.000	448.343	0.000		0.000
8	449.443	0.000	448.268	0.000	448.193	0.000		0.000	448.213	0.000		0.000
9	449.393	0.000	448.253	0.000	448.143	0.000		0.000	448.113	0.000		0.000
10	449.283	0.000	448.248	0.000	448.063	0.000		0.000	448.003	0.000		0.000
11	449.203	0.000	448.248	0.000	447.993	0.000		0.000	447.923	0.000		0.000
12	449.153	0.000	448.243	0.000	447.913	0.000		0.000	447.863	0.000		0.000
13	449.143	0.000	448.243	0.000	447.843	0.000		0.000	447.813	0.000		0.000
14	449.143	0.000	448.233	0.000	447.773	0.000		0.000	447.763	0.000		0.000
15	449.113	0.000	448.223	0.000	447.753	0.000		0.000	447.733	0.000		0.000
16	449.073	0.000	449.303	0.000	447.723	0.000		0.000	447.693	0.000		0.000
17	449.043	0.000	449.343	0.000	447.693	0.000		0.000	447.663	0.000		0.000
18	449.023	0.000	449.623	0.000	447.673	0.000		0.000	447.643	0.000	449.543	179.1
19	449.003	0.000	449.623	0.000	447.653	0.000		0.000	447.623	0.000	449.743	180.4
20	448.973	0.000	449.673	0.000	447.623	0.000		0.000	447.603	0.000	449.743	179.8
21	448.943	0.000	449.673	0.000	447.543	0.000		0.000		0.000	449.743	181.5
22	448.933	0.000	449.673	0.000				0.000		0.000	449.743	179.8
23	448.873	0.000	449.293	0.000				0.000		0.000	449.743	180.2
24	448.863	0.000	449.023	0.000				0.000		0.000	449.743	182.1
25	448.833	0.000	448.923	0.000				0.000		0.000	449.743	180.7
26	448.783	0.000	448.863	0.000			449.403	0.000		0.000	449.743	180.7 *
27	448.673	0.000	448.823	0.000			449.593	0.000		0.000	449.743	188.2
28	448.603	0.000	448.723	0.000			449.593	0.000		0.000	449.293	0.000
29	448.553	0.000	448.623	0.000			449.593	0.000		0.000	448.193	0.000
30	448.483	0.000	448.563	0.000			449.593	0.000		0.000	448.113	0.000
31	448.468	0.000	448.493	0.000			449.593	0.000			447.993	0.000
Ten-Daily Mean												
I Ten-Daily	449.461	0.000	448.315	0.000	448.289	0.000		0.000	448.754	0.000		0.000
II Ten-Daily	449.087	0.000	448.875	0.000	447.764	0.000		0.000	447.732	0.000	449.676	53.93
III Ten-Daily	448.728	0.000	448.970	0.000	447.543	0.000	449.561	0.000		0.000	449.254	115.7
Monthly												
Min.	448.468	0.000	448.223	0.000	447.543	0.000	449.403	0.000	447.603	0.000	447.993	0.000
Max.	449.513	0.000	449.673	0.000	448.483	0.000	449.593	0.000	449.593	0.000	449.743	188.2
Mean	449.080	0	448.728	0	448.003	0	449.561	0	448.243	0	449.344	58.47

Peak Computed Discharge = 300.5 cumecs on 07/11/2018

Corres. Water Level :450.063 m

Lowest Computed Discharge = 9.426 cumecs on 02/06/2018

Corres. Water Level :448.193 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)

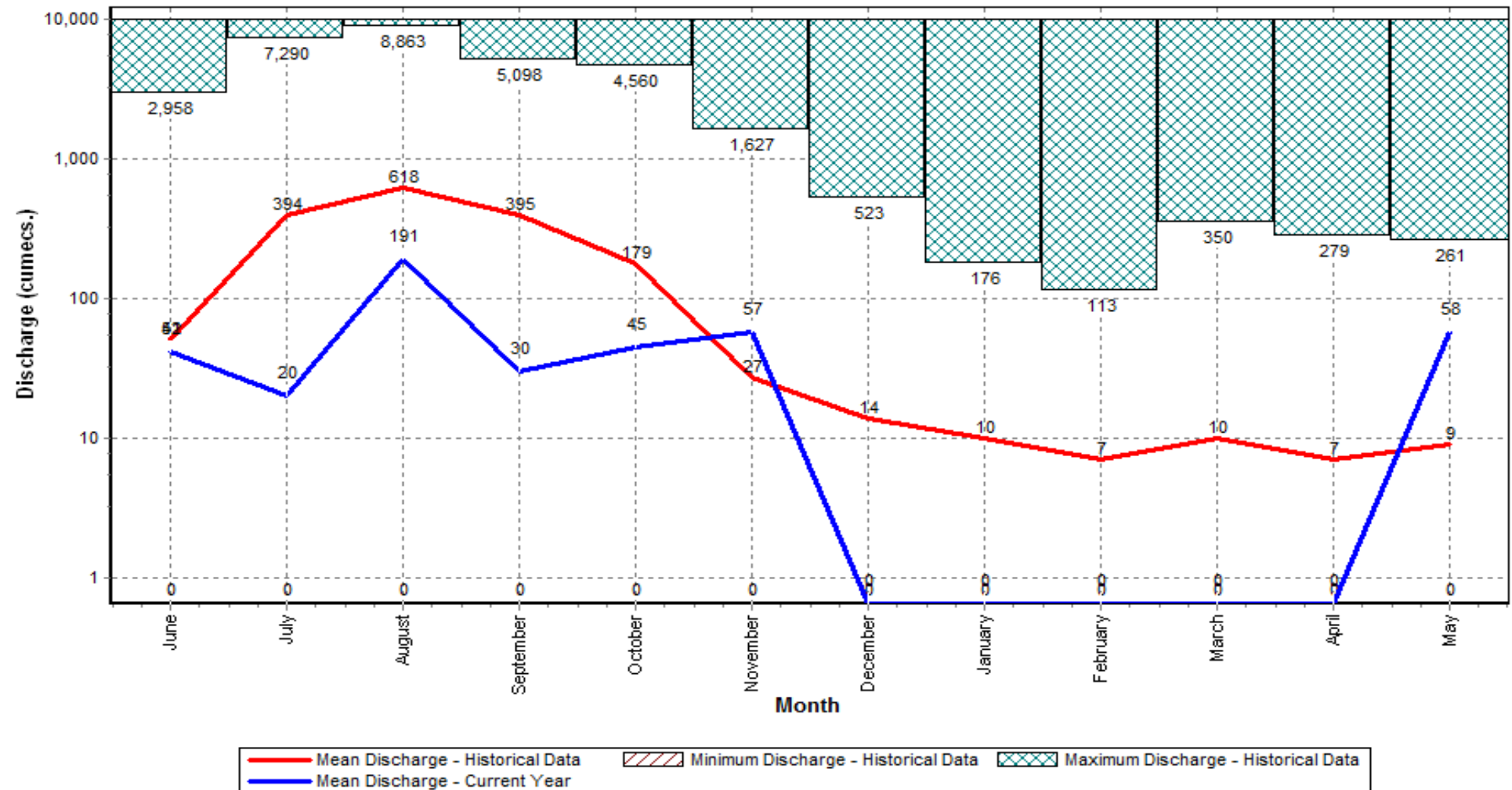
Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2018-2019

Station Name : Narasingpur (AKP00Q4)
Local River : Bhima

Data considered : 1967-2019

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



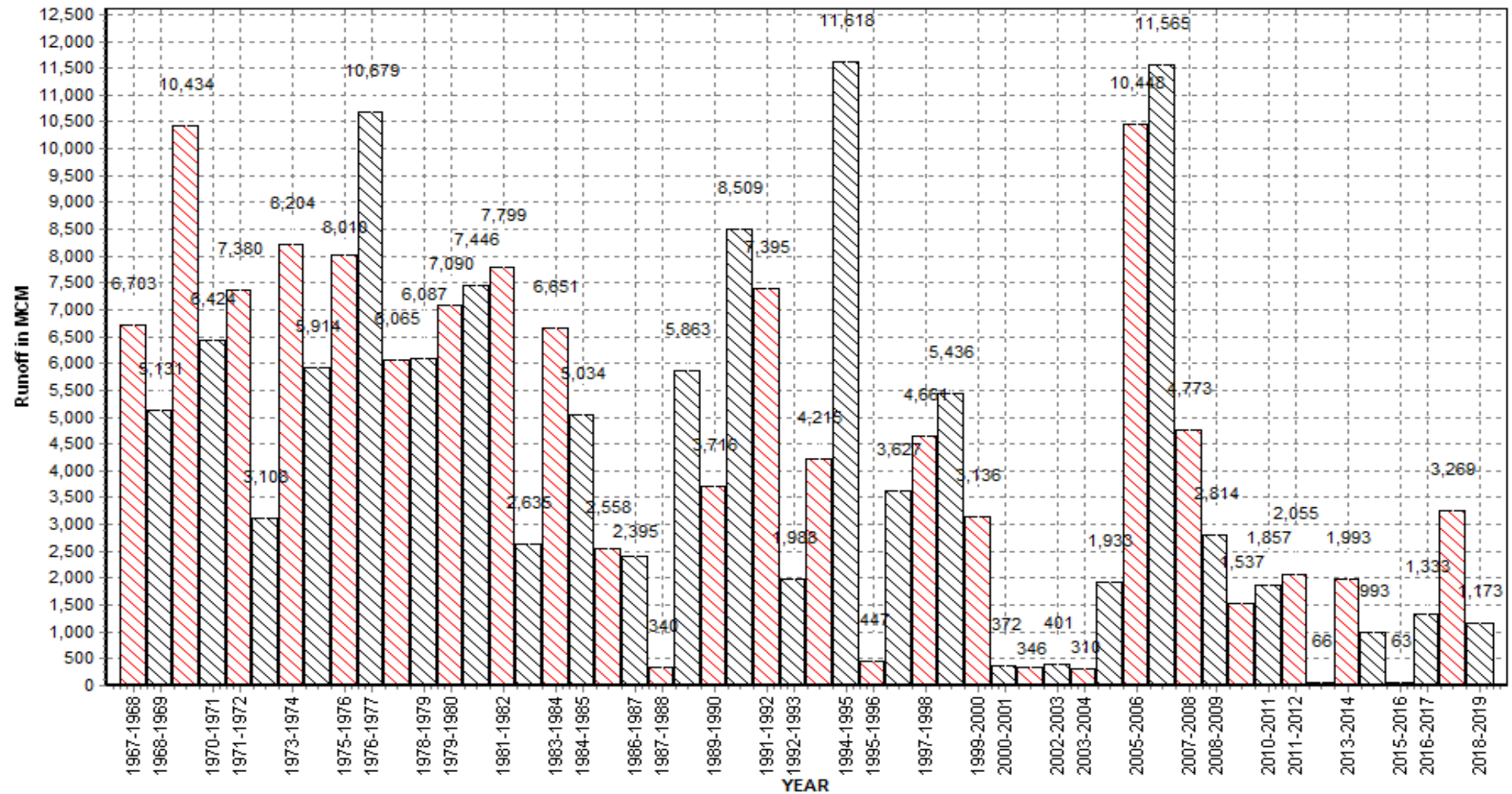
Annual Runoff Values for the period: 1967 - 2019

Station Name : Narasingpur (AKP00Q4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



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

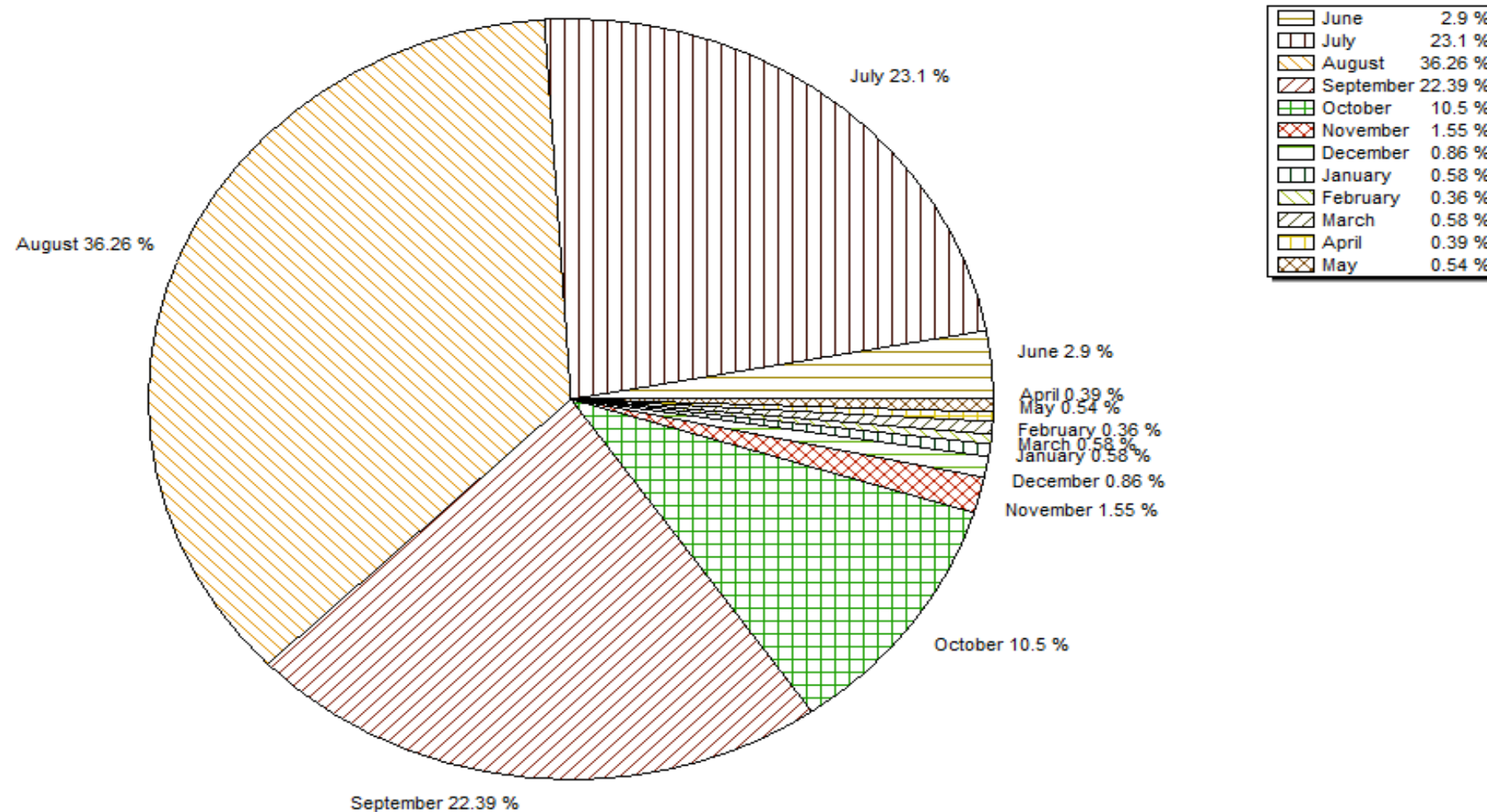
Monthly Average Runoff based on period : 1967-2018

Station Name : Narasingpur (AKP00Q4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



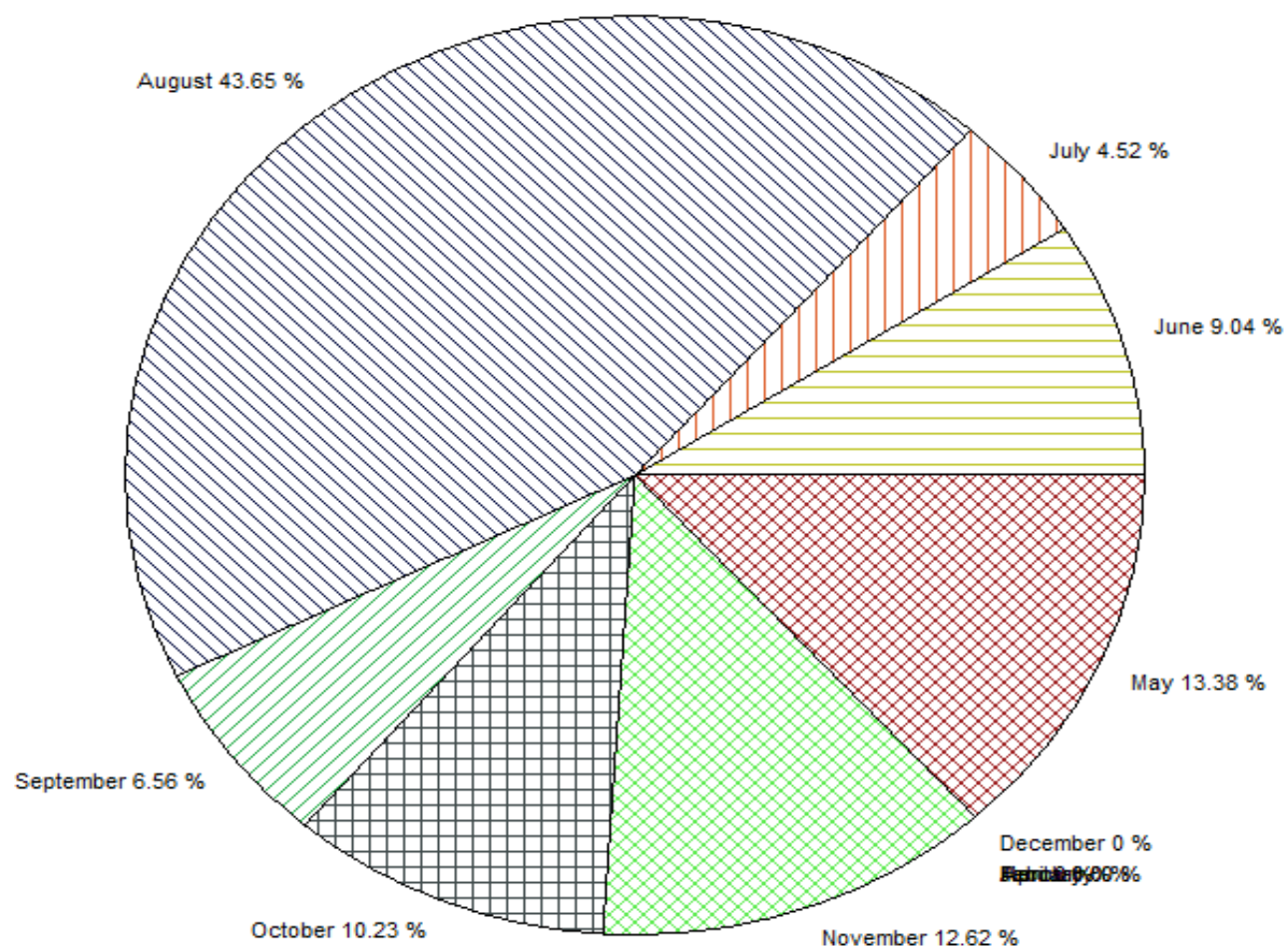
Monthly Runoff for the Year : 2018-2019

Station Name : Narasingpur (AKP00Q4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



June	9.04 %
July	4.52 %
August	43.65 %
September	6.56 %
October	10.23 %
November	12.62 %
December	0 %
January	0 %
February	0 %
March	0 %
April	0 %
May	13.38 %

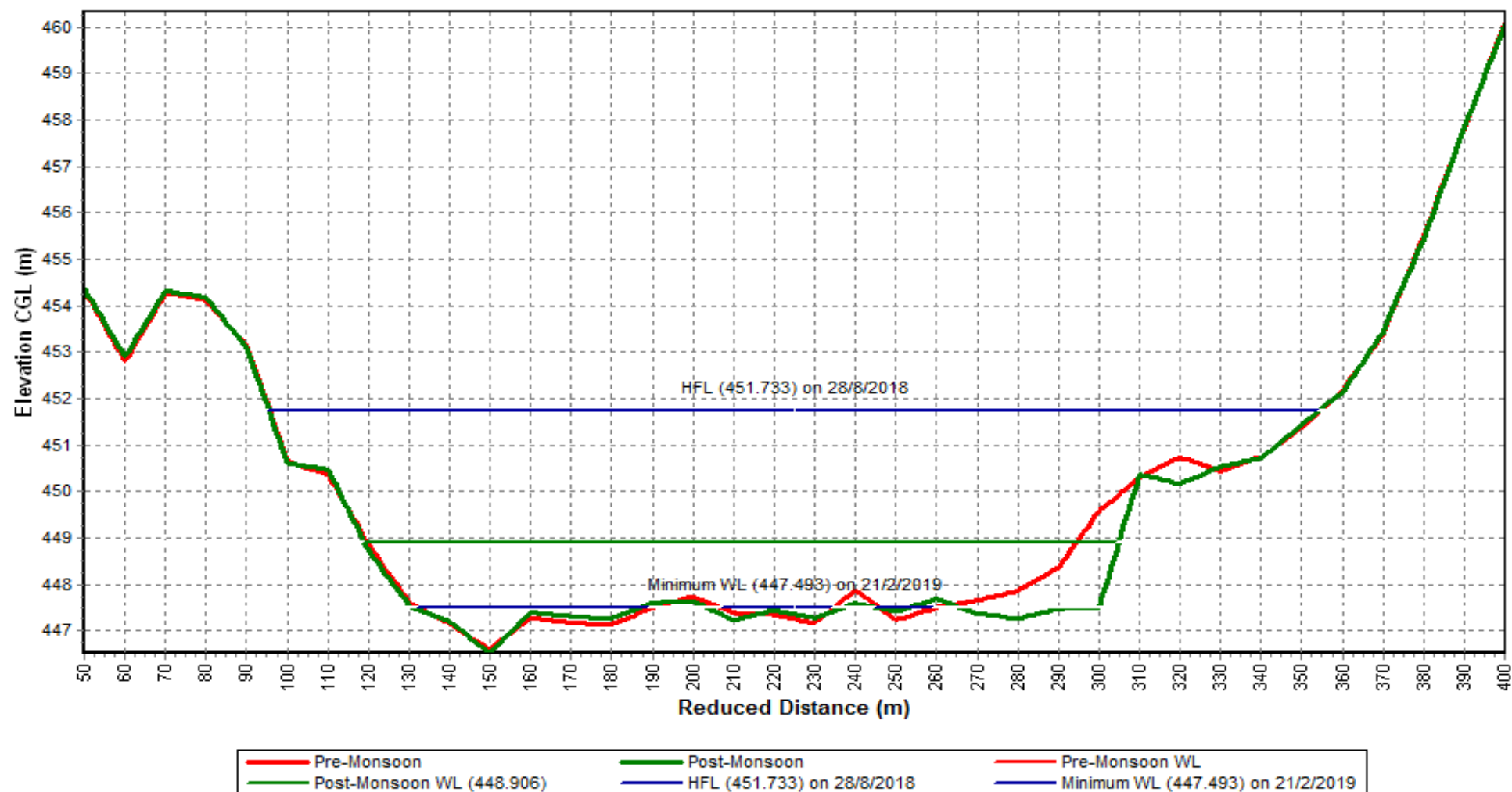
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Narasingpur (AKP00Q4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



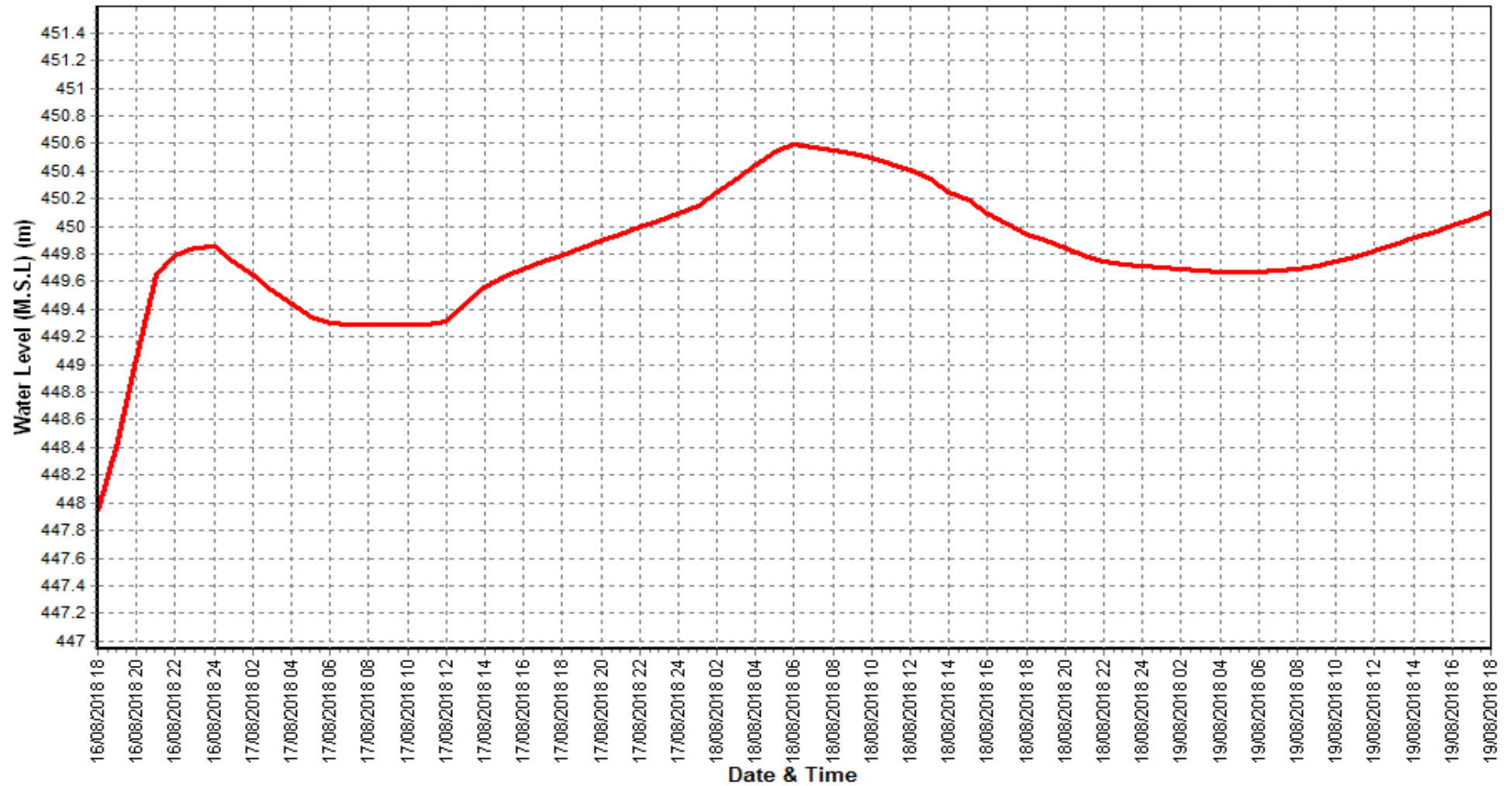
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : Narasingpur (AKP00Q4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



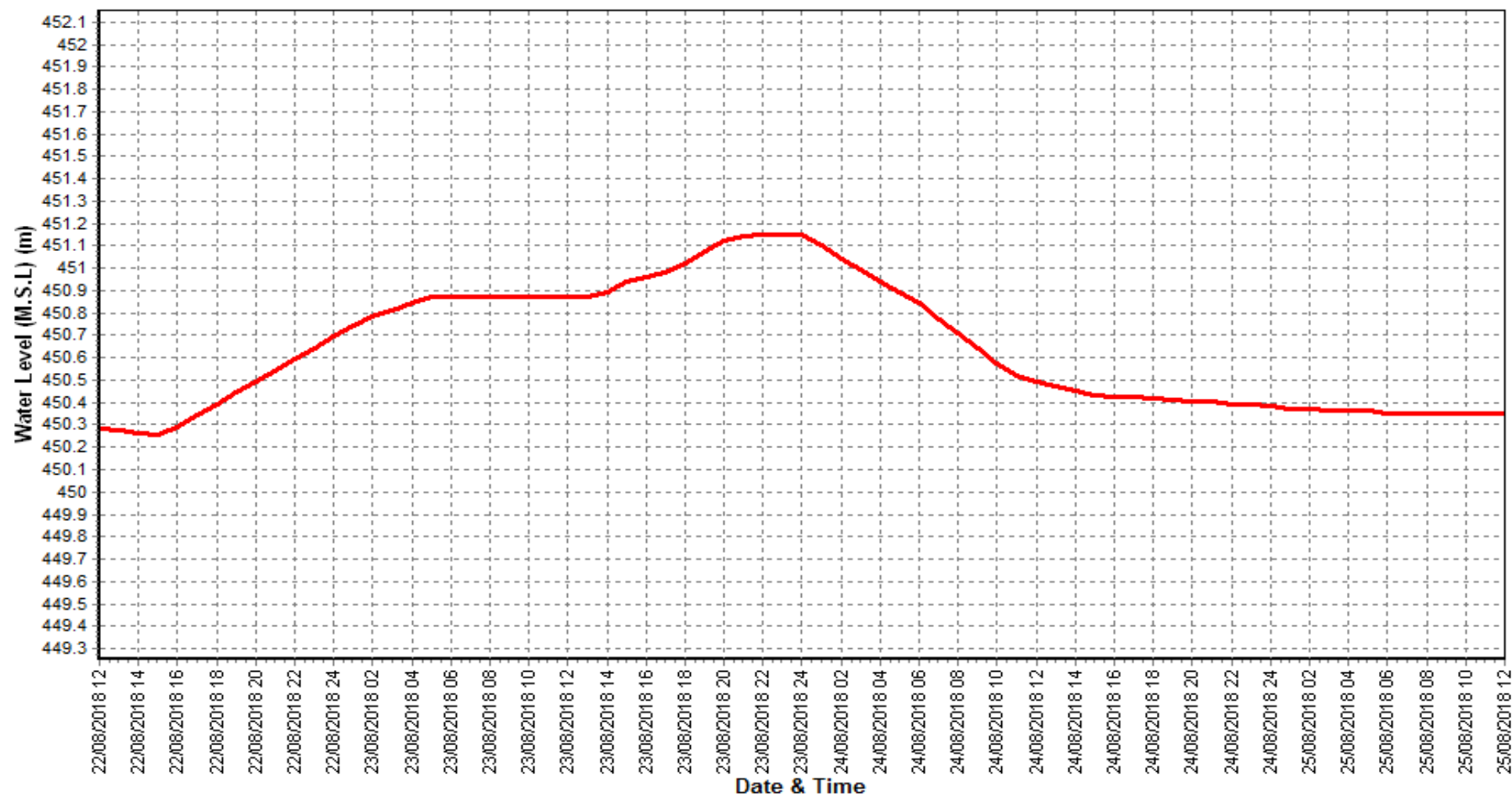
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Narasingpur (AKP00Q4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



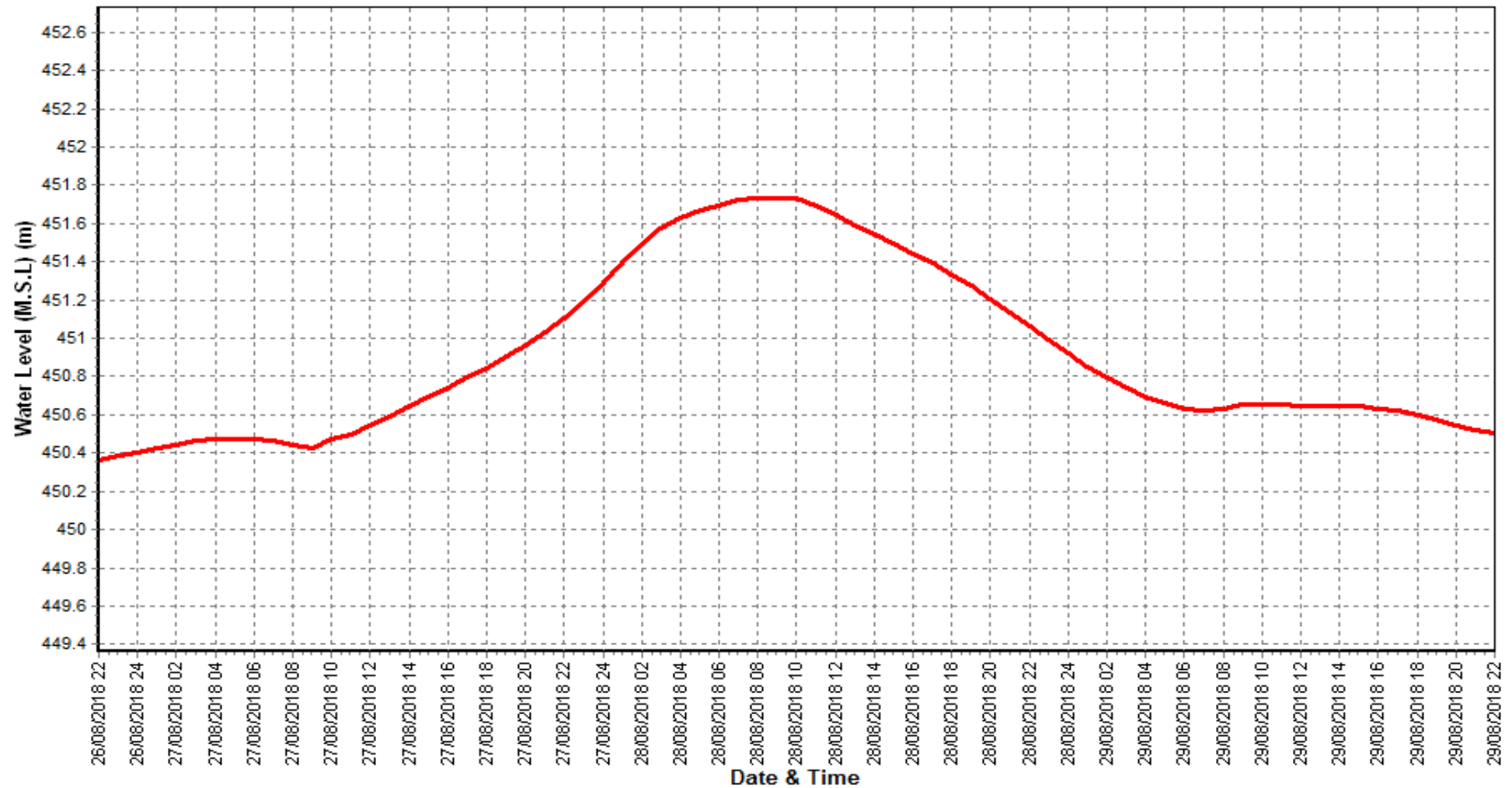
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Narasingpur (AKP00Q4)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



HISTORY SHEET

Water Year : 2018-2019

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 : 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 - 31/05/2003
01/06/2003

Opening Date

Closing Date

Gauge : 01/06/1965

HFL During 2018-19 : 471.628 m

Corres. Discharge : 629 (Estimated)

Discharge : 01/06/1965

Date & Time of
occurrence : 23/08/2018
: 17.00 hrs.

Sediment : 01/06/1966

Water Quality : 01/09/1972

HFL Recorded so far in m : 476.788 dt 02-08-1976

Corresponding Discharge (cumecs) : 3233*

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

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

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1978-1979	929.6	472.086	30/08/1978	0.000	468.433	25/04/1979
1979-1980	2930	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
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	1341	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	1318	472.348	19/09/2013	0.000	468.208	22/12/2013
2014-2015	120.8	470.508	07/09/2014	0.000		25/01/2015
2015-2016	0.000	468.898	18/09/2015	0.000		24/06/2015
2016-2017	1143	472.608	05/08/2016	0.000		08/12/2016
2017-2018	694.0	471.508	15/09/2017	0.000	467.613	28/01/2018

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

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
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
Average		1136	36	1171	40	1	41
75% Dependable flow (MCM)				538			
90 % Dependable flow (MCM)				102			

Stage-Discharge Data for the period 2018 - 2019

Station Name : Sarati (AKPA0C2)

Local River : Nira

Division : Upper Krishna Divn, Pune

Sub-Division : 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		0.000	468.078	8.298	467.928	0.000	468.928	88.23		0.000		0.000
2		0.000	467.968	0.000	467.828	0.000	468.768	69.19 *		0.000		0.000
3		0.000	467.868	0.000	467.793	0.000	468.738	67.49		0.000		0.000
4		0.000	467.728	0.000	467.788	0.000	469.913	241.4		0.000		0.000
5		0.000	467.718	0.000	467.768	0.000	469.728	201.5		0.000		0.000
6		0.000	467.718	0.000	467.658	0.000	469.063	104.4		0.000		0.000
7		0.000	467.708	0.000	467.623	0.000	468.448	26.26		0.000		0.000
8		0.000	467.688	0.000	467.593	0.000	468.613	52.79		0.000		0.000
9		0.000	467.663	0.000	467.518	0.000	468.478	35.07 *		0.000		0.000
10		0.000	467.628	0.000	467.498	0.000	468.153	12.29		0.000		0.000
11		0.000	467.618	0.000	467.473	0.000	467.968	0.000		0.000		0.000
12		0.000	467.623	0.000	467.423	0.000	467.778	0.000		0.000		0.000
13		0.000	467.623	0.000	467.318	0.000	467.668	0.000		0.000		0.000
14		0.000	467.658	0.000	467.273	0.000	467.668	0.000		0.000		0.000
15		0.000	467.633	0.000	467.268	0.000	467.578	0.000		0.000		0.000
16		0.000	467.563	0.000	467.268	0.000	467.508	0.000		0.000		0.000
17		0.000	467.618	0.000	469.743	243.1	467.358	0.000		0.000		0.000
18		0.000	467.603	0.000	470.358	339.3	467.348	0.000		0.000		0.000
19		0.000	468.618	47.12	470.338	337.3 *	467.338	0.000		0.000		0.000
20		0.000	468.503	42.57	470.038	284.6	467.328	0.000		0.000		0.000
21		0.000	468.408	20.53	469.623	210.9	467.318	0.000		0.000		0.000
22		0.000	468.358	23.12 *	470.363	362.0	467.258	0.000		0.000		0.000
23		0.000	468.168	9.915	471.168	507.2	467.248	0.000		0.000		0.000
24		0.000	470.318	336.8	470.508	402.8	467.138	0.000		0.000		0.000
25		0.000	469.233	128.7	470.313	320.6		0.000		0.000		0.000
26		0.000	468.553	44.86	469.908	252.8 *		0.000		0.000		0.000
27		0.000	468.288	13.67	470.893	441.5		0.000		0.000		0.000
28	468.173	18.79	468.198	9.995	470.423	375.8		0.000		0.000		0.000
29	468.128	12.23	468.148	0.000	470.303	316.7		0.000		0.000		0.000
30	468.198	10.86	468.058	0.000	469.543	198.4		0.000		0.000		0.000
31			468.028	0.000	469.198	143.3				0.000		
Ten-Daily Mean												
I Ten-Daily		0.000	467.777	0.830	467.700	0.000	468.883	89.85		0.000		0.000
II Ten-Daily		0.000	467.806	8.969	468.450	120.4	467.554	0.000		0.000		0.000
III Ten-Daily	468.166	4.188	468.523	53.42	470.204	321.1	467.240	0.000		0.000		0.000
Monthly												
Min.	468.128	0.000	467.563	0.000	467.268	0.000	467.138	0.000		0.000		0.000
Max.	468.198	18.79	470.318	336.8	471.168	507.2	469.913	241.4		0.000		0.000
Mean	468.166	1.396	468.051	22.12	468.830	152.8	468.055	29.95		0		0

Annual Runoff in MCM = 550 Annual Runoff in mm = 76

Peak Observed Discharge = 507.2 cumecs on 23/08/2018 Corres. Water Level :471.168 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018

Stage-Discharge Data for the period 2018 - 2019

Station Name : Sarati (AKPA0C2)

Local River : Nira

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1		0.000		0.000		0.000		0.000		0.000		0.000
2		0.000		0.000		0.000		0.000		0.000		0.000
3		0.000		0.000		0.000		0.000		0.000		0.000
4		0.000		0.000		0.000		0.000		0.000		0.000
5		0.000		0.000		0.000		0.000		0.000		0.000
6		0.000		0.000		0.000		0.000		0.000		0.000
7		0.000		0.000		0.000		0.000		0.000		0.000
8		0.000		0.000		0.000		0.000		0.000		0.000
9		0.000		0.000		0.000		0.000		0.000		0.000
10		0.000		0.000		0.000		0.000		0.000		0.000
11		0.000		0.000		0.000		0.000		0.000		0.000
12		0.000		0.000		0.000		0.000		0.000		0.000
13		0.000		0.000		0.000		0.000		0.000		0.000
14		0.000		0.000		0.000		0.000		0.000		0.000
15		0.000		0.000		0.000		0.000		0.000		0.000
16		0.000		0.000		0.000		0.000		0.000		0.000
17		0.000		0.000		0.000		0.000		0.000		0.000
18		0.000		0.000		0.000		0.000		0.000		0.000
19		0.000		0.000		0.000		0.000		0.000		0.000
20		0.000		0.000		0.000		0.000		0.000		0.000
21		0.000		0.000		0.000		0.000		0.000		0.000
22		0.000		0.000		0.000		0.000		0.000		0.000
23		0.000		0.000		0.000		0.000		0.000		0.000
24		0.000		0.000		0.000		0.000		0.000		0.000
25		0.000		0.000		0.000		0.000		0.000		0.000
26		0.000		0.000		0.000		0.000		0.000		0.000
27		0.000		0.000		0.000		0.000		0.000		0.000
28		0.000		0.000		0.000		0.000		0.000		0.000
29		0.000		0.000				0.000		0.000		0.000
30		0.000		0.000				0.000		0.000		0.000
31		0.000		0.000				0.000				0.000
Ten-Daily Mean												
I Ten-Daily		0.000		0.000		0.000		0.000		0.000		0.000
II Ten-Daily		0.000		0.000		0.000		0.000		0.000		0.000
III Ten-Daily		0.000		0.000		0.000		0.000		0.000		0.000
Monthly												
Min.		0.000		0.000		0.000		0.000		0.000		0.000
Max.		0.000		0.000		0.000		0.000		0.000		0.000
Mean		0		0		0		0		0		0

Peak Computed Discharge = 337.3 cumecs on 19/08/2018

Corres. Water Level :470.338 m

Lowest Computed Discharge = 23.12 cumecs on 22/07/2018

Corres. Water Level :468.358 m

HISTOGRAM - HYDROGRAPH for Water Year : 2018-2019

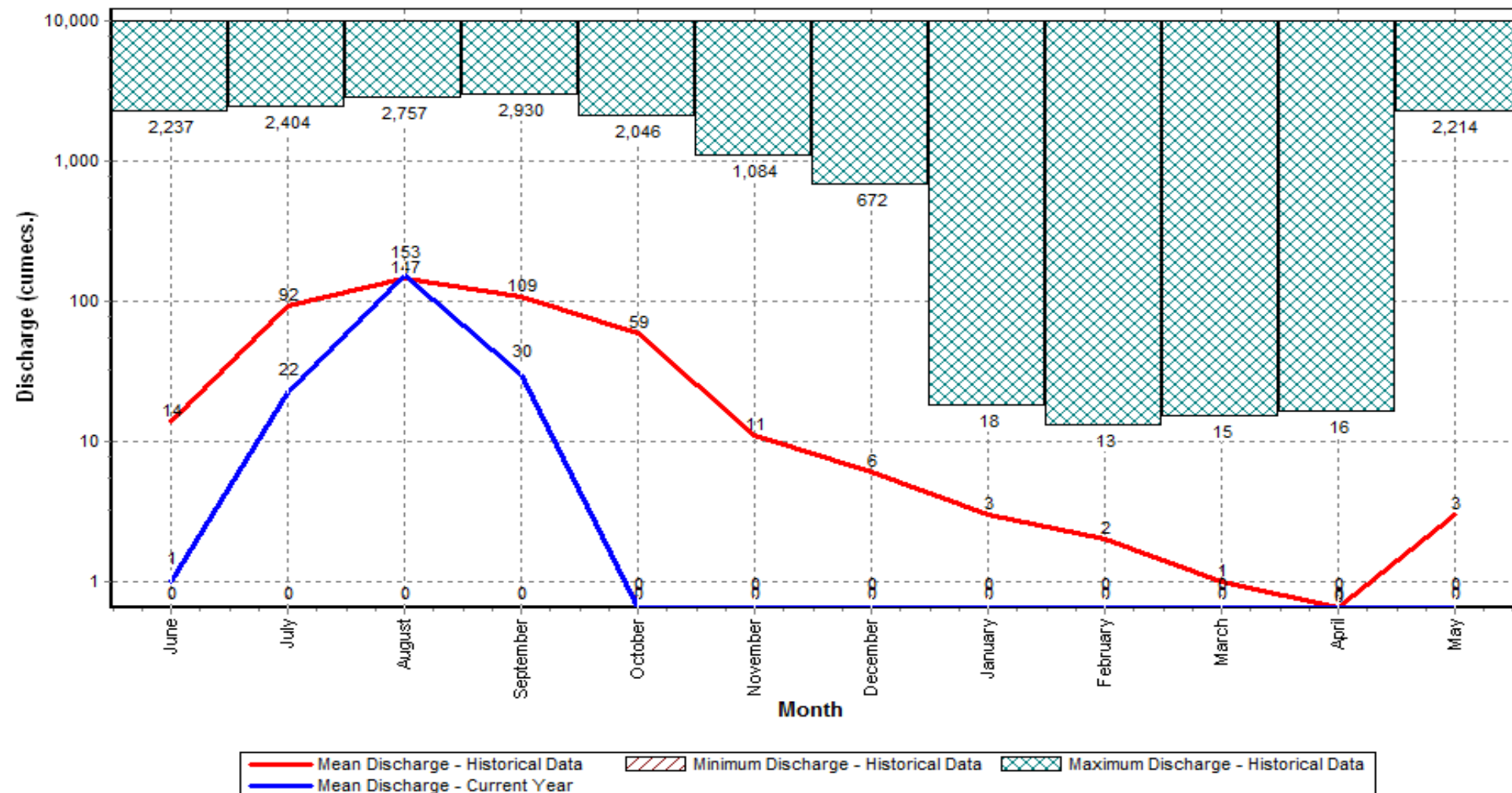
Station Name : Sarati (AKPA0C2)

Data considered : 1965-2019

Division : Upper Krishna Divn, Pune

Local River : Nira

Sub-Division : Bhima SD, Sholapur



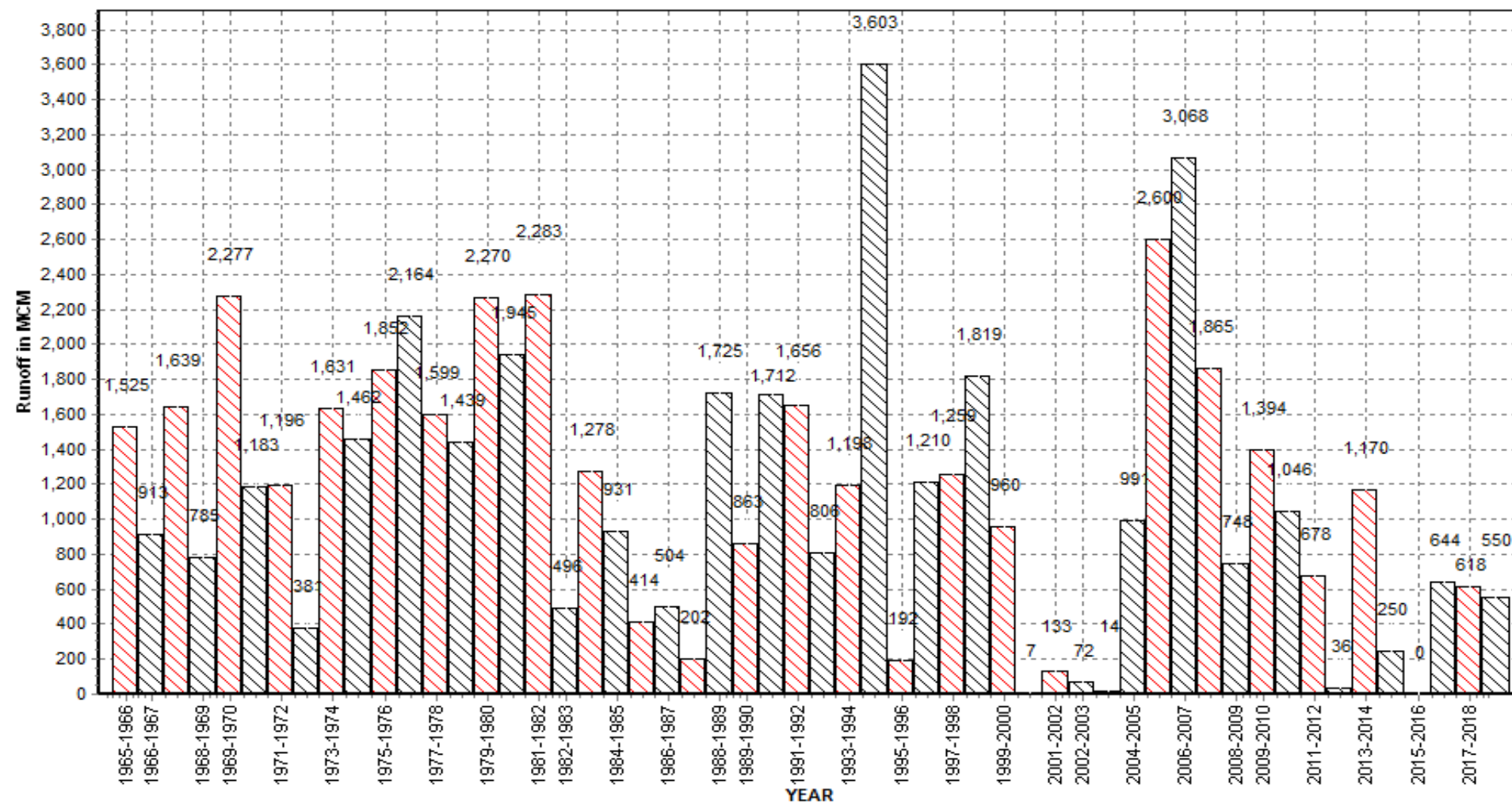
Annual Runoff Values for the period: 1965 - 2019

Station Name : Sarati (AKPA0C2)

Local River : Nira

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur

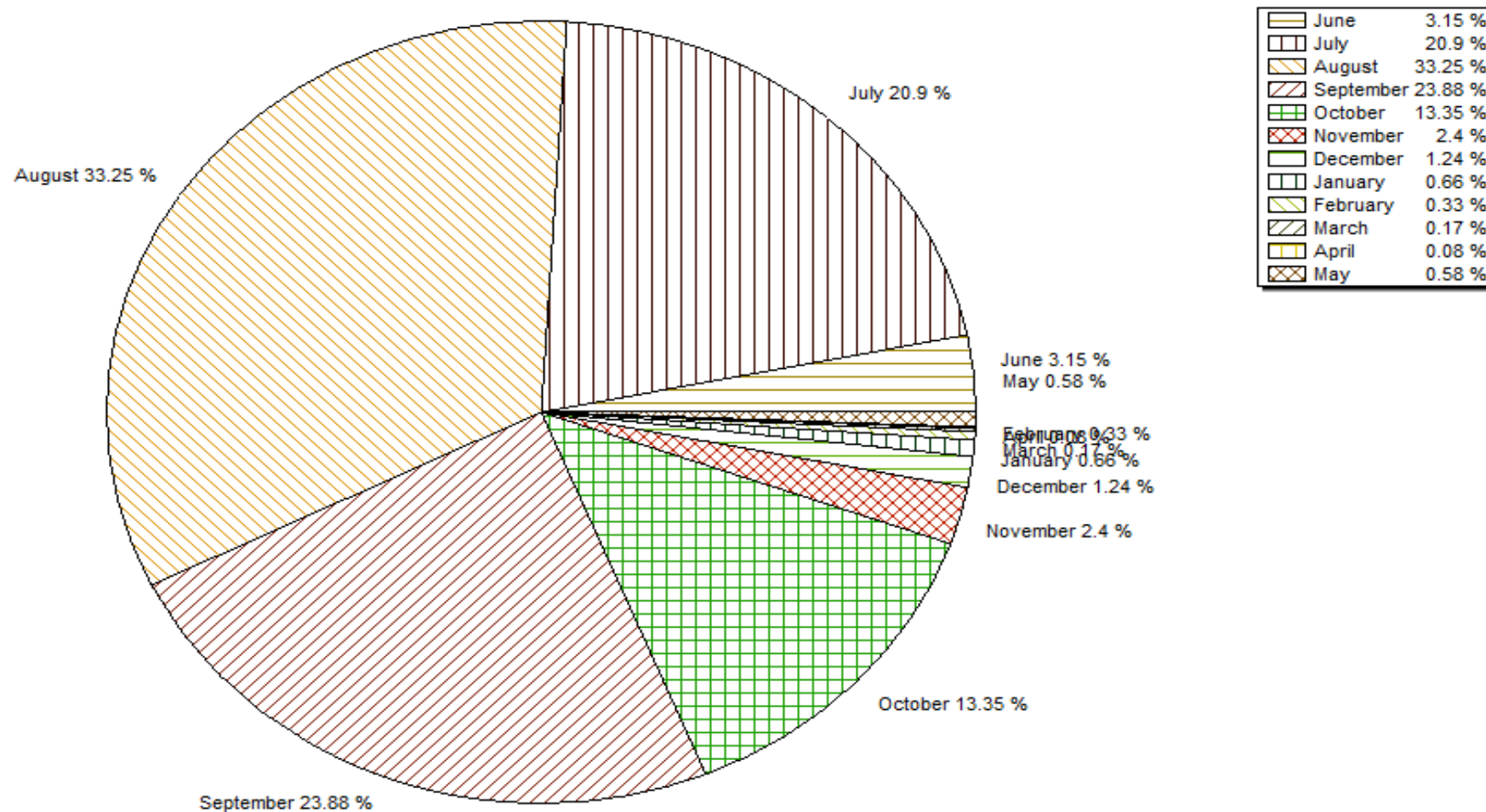


Note: Missing values have not been considered while arriving at Annual Runoff

Monthly Average Runoff based on period : 1965-2018

Station Name : Sarati (AKPA0C2)
Local River : Nira

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



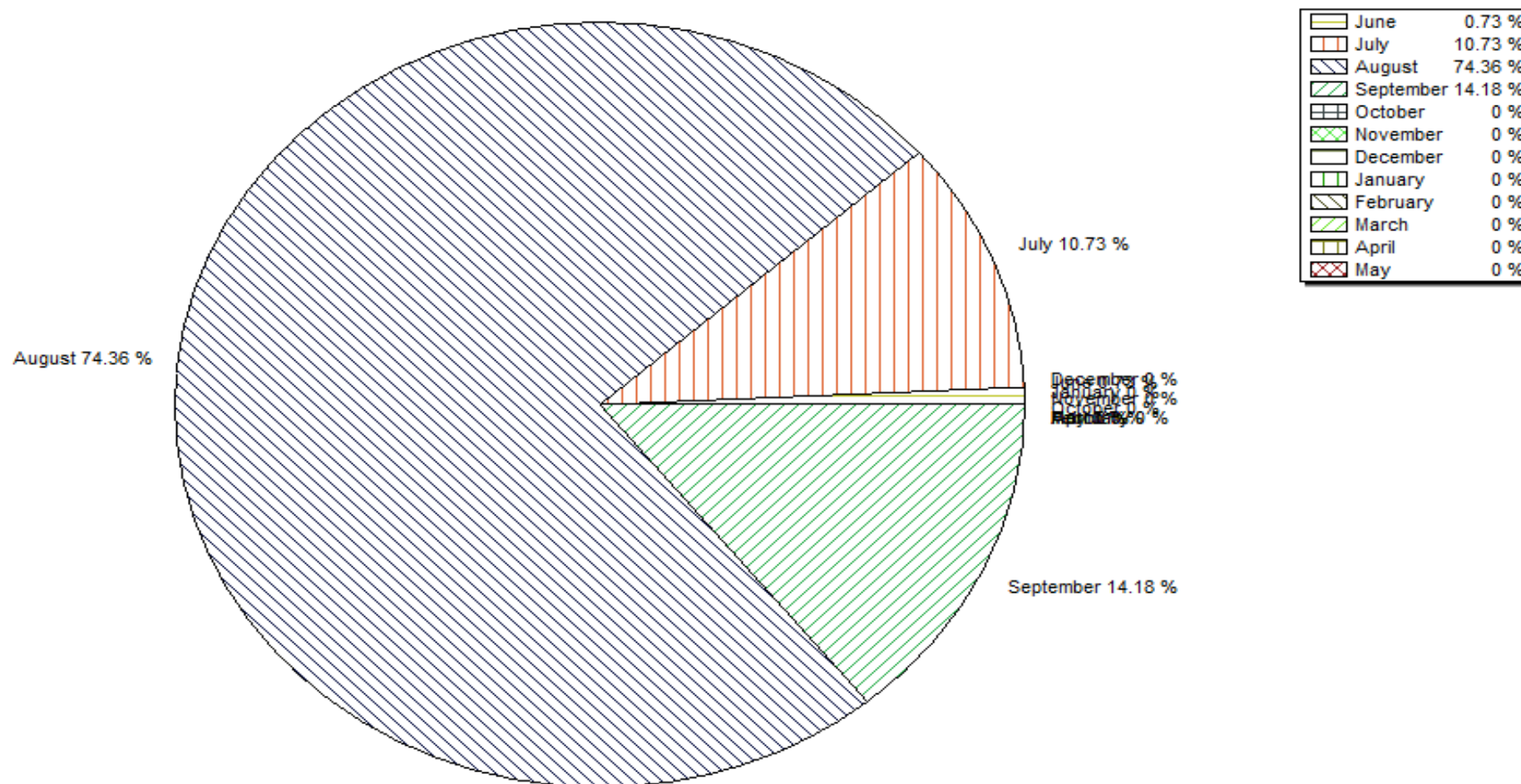
Monthly Runoff for the Year : 2018-2019

Station Name : Sarati (AKPA0C2)

Local River : Nira

Division : Upper Krishna Divn, Pune

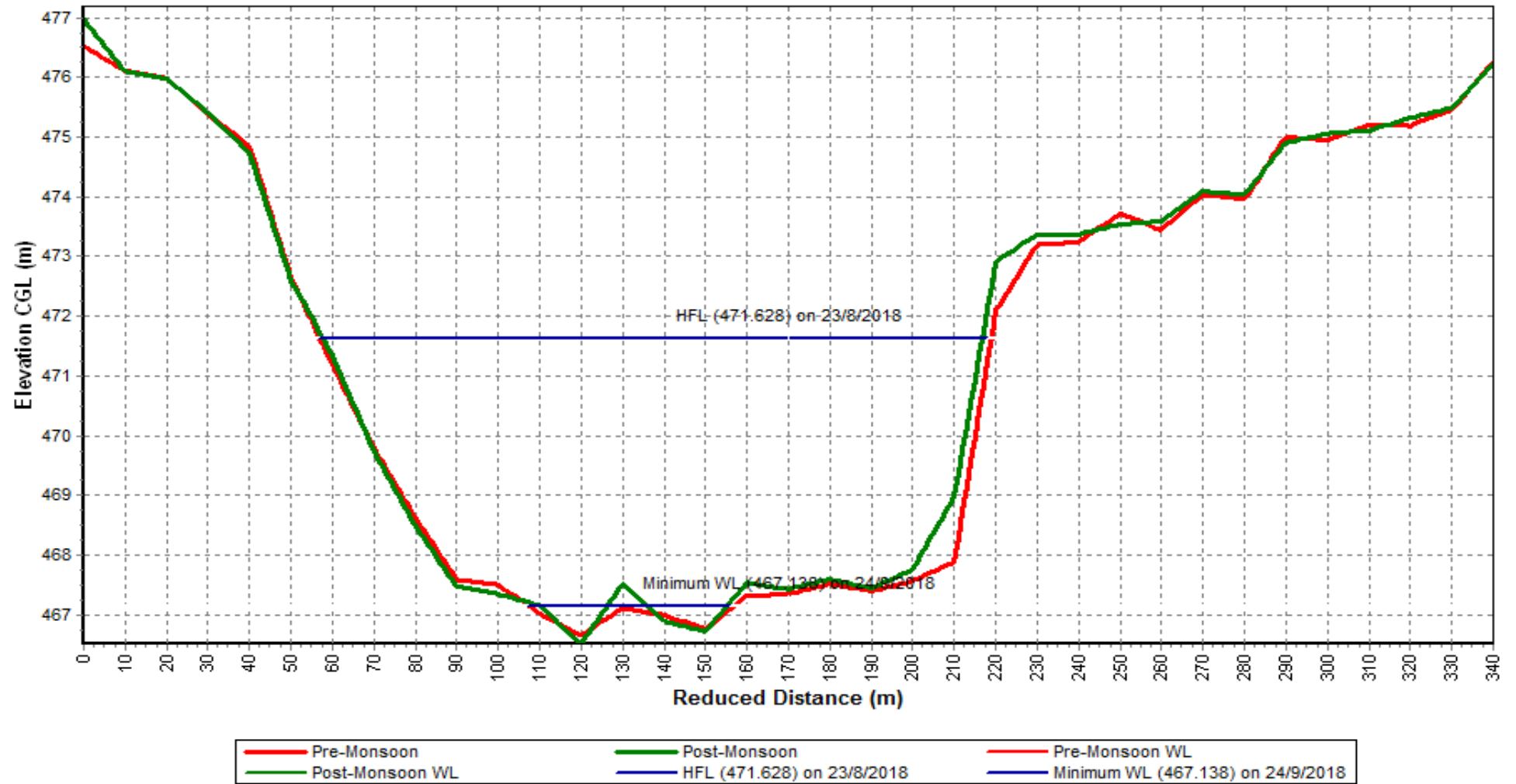
Sub-Division : Bhima SD, Sholapur



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Sarati (AKPA0C2)
Local River : Nira

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



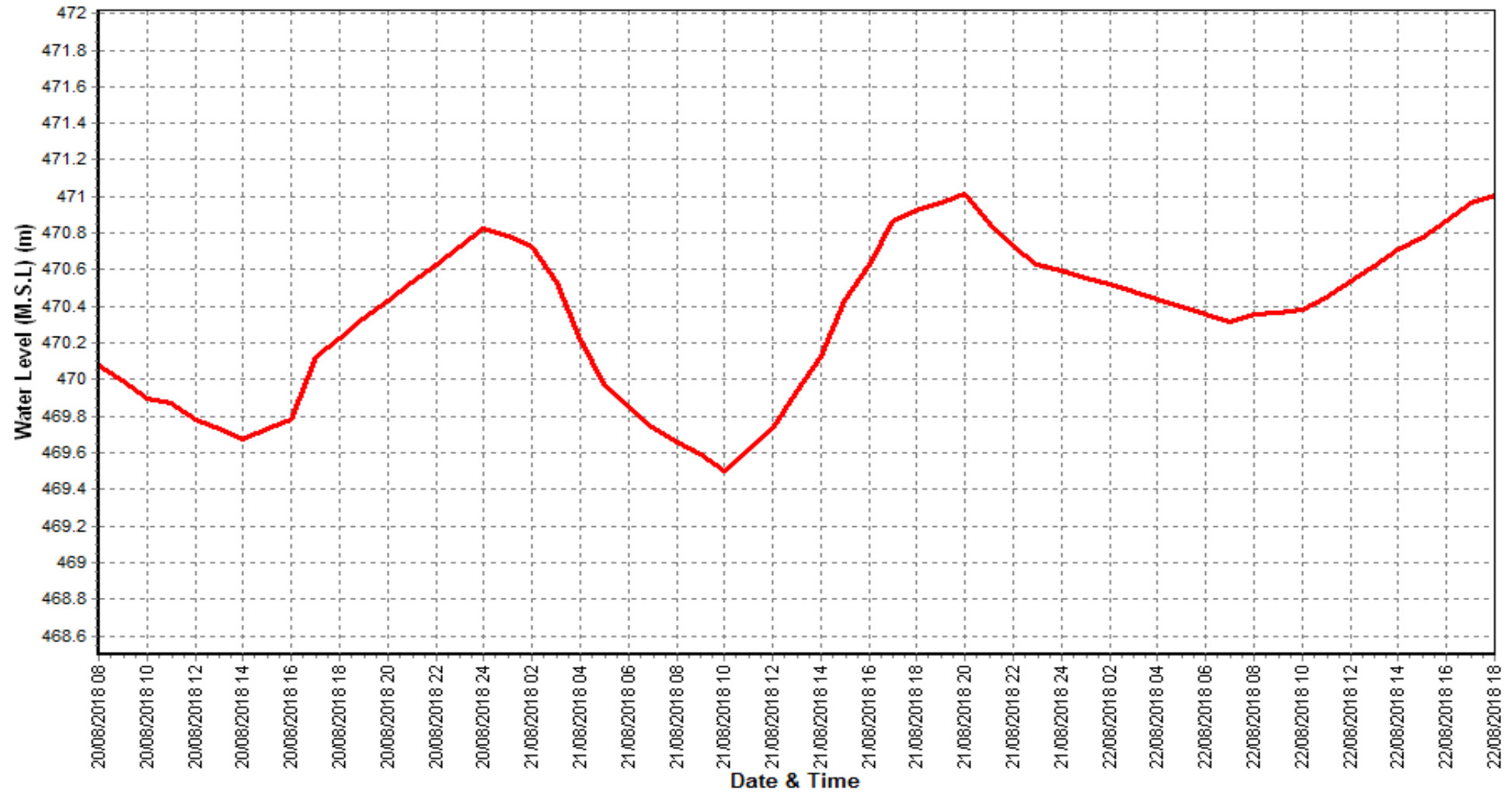
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : Sarati (AKPA0C2)

Local River : Nira

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



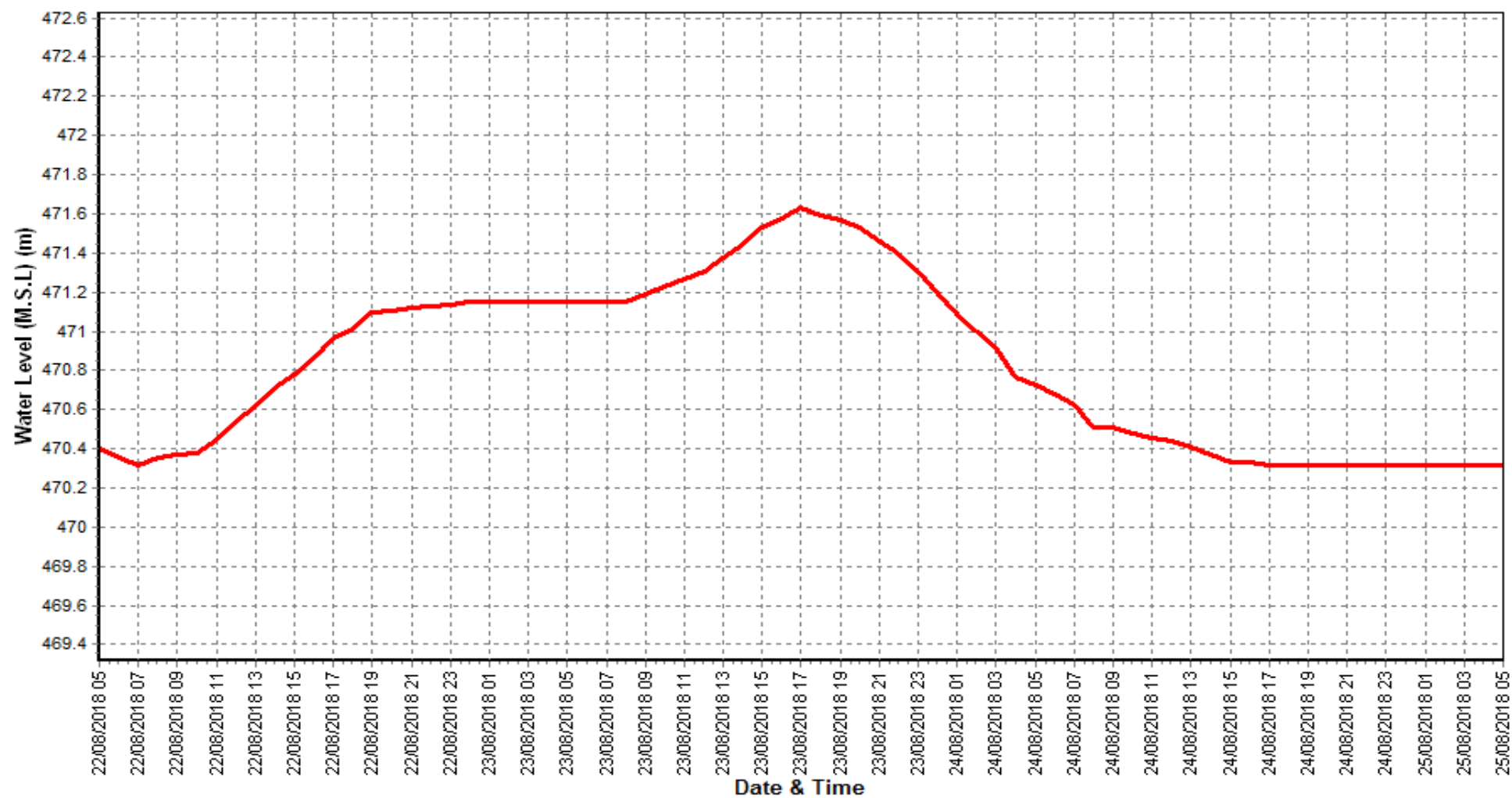
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Sarati (AKPA0C2)

Local River : Nira

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



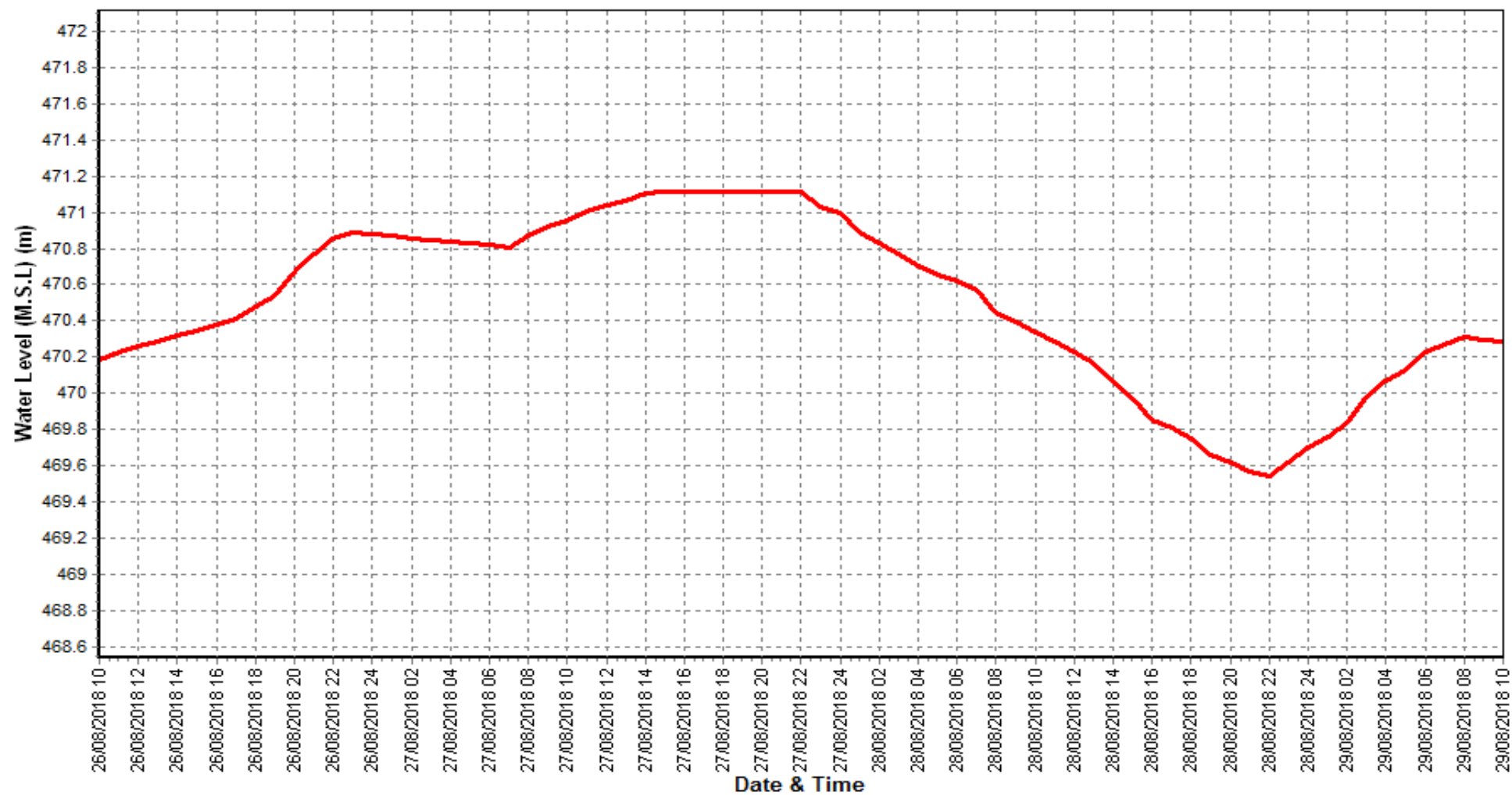
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Sarati (AKPA0C2)

Local River : Nira

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



HISTORY SHEET

Water Year : 2018-2019

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 : Bhima SD, Sholapur

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 : 06/06/1986

HFL During 2018-19 : 543.100 m

Corres. Discharge : 574.6 (Estimated)

Discharge : 20/06/1992

Date & Time of

occurrence : 21/08/2018

Sediment :

Water Quality : 02/08/1993

HFL Recorded so far in m : 93.950 dt 23-08-1997

Corresponding Discharge (cumecs) : 5998*

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

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

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
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
2010-2011	442.9	541.750	01/09/2010	0.000	539.190	07/10/2010
2011-2012	1735	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	1271	543.450	25/07/2013	0.000	540.480	10/07/2013
2014-2015	1101	543.950	05/08/2014	0.000	541.655	09/11/2014
2015-2016	310.8	541.950	24/06/2015	0.000	542.070	24/11/2015
2016-2017	763.8	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

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
Average		1229	0	1229	43	0	43
75% Dependable flow (MCM)				674			
90 % Dependable flow (MCM)				448			

Stage-Discharge Data for the period 2018 - 2019

Station Name : Phulgaon (Seasonal) (AKP00X5)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : 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	540.720	0.000	540.295	0.000	540.383	26.79	540.525	39.80	540.285	0.000	542.865	0.000
2	540.665	0.000	540.165	0.000	540.365	23.23	540.510	39.38 *	540.380	0.000	542.865	0.000
3	540.565	0.000	540.150	0.000	540.595	47.38 *	540.740	62.63 *	540.450	0.000	542.860	0.000
4	540.445	0.000	540.065	0.000	540.470	35.85 *	541.023	93.56	540.290	0.000	542.860	0.000
5	540.345	0.000	540.725	0.000	540.625	50.37 *	541.003	93.32	540.210	0.000	542.890	0.000
6	540.245	0.000	541.145	114.3	540.745	63.11	540.703	61.56	540.185	0.000	542.890	0.000
7	540.145	0.000	540.868	71.83	540.610	52.14	540.585	50.91	540.090	0.000	542.890	0.000
8	540.055	0.000	541.700	212.4 *	540.608	52.22	540.350	26.22 *	540.045	0.000	542.890	0.000
9	542.205	0.000	541.090	102.5	540.555	46.78	540.310	23.32 *	540.045	0.000	542.890	0.000
10	542.065	0.000	541.348	147.7	540.720	58.20	540.300	24.88	539.890	0.000	542.830	0.000
11	542.235	0.000	541.265	135.8	540.700	58.22 *	540.255	17.97	539.835	0.000	542.830	0.000
12	542.255	0.000	541.050	108.6	541.260	133.4 *	540.120	0.000	539.780	0.000	542.895	0.000
13	542.265	0.000	541.593	191.7	541.600	171.2	540.100	0.000	539.670	0.000	542.905	0.000
14	542.180	0.000	541.430	161.9 *	541.925	260.9	540.100	0.000	539.585	0.000	542.905	0.000
15	542.165	0.000	541.370	151.5 *	541.750	222.4 *	540.100	0.000	539.465	0.000	542.880	0.000
16	542.045	0.000	542.375	342.4	541.315	142.3	540.070	0.000	539.375	0.000	542.830	0.000
17	541.410	0.000	543.015	557.7	542.595	428.4	540.050	0.000	539.285	0.000	542.750	0.000
18	540.665	0.000	542.363	380.7	541.920	266.8	540.050	0.000	539.220	0.000	542.655	0.000
19	540.150	0.000	541.425	155.7	541.560	185.4 *	540.040	0.000	539.185	0.000	542.640	0.000
20	539.895	0.000	541.110	108.6	541.905	258.3	540.070	0.000	539.180	0.000	542.640	0.000
21	539.545	0.000	541.190	113.7	543.053	554.5	540.050	0.000	539.160	0.000	542.640	0.000
22	539.585	0.000	542.185	319.0 *	542.970	534.1 *	540.190	0.000	539.110	0.000	542.660	0.000
23	539.740	0.000	542.143	306.3	542.350	344.7	540.000	0.000	539.045	0.000	542.675	0.000
24	539.930	0.000	541.180	131.2	541.885	251.4	540.000	0.000	538.920	0.000	542.675	0.000
25	540.230	0.000	541.195	129.7	541.680	207.0	539.950	0.000	538.930	0.000	542.675	0.000
26	540.135	0.000	541.180	120.6	541.990	273.7 *	539.800	0.000	538.870	0.000	542.675	0.000
27	540.688	61.45	541.025	102.7	541.780	228.8	539.815	0.000	538.820	0.000	542.675	0.000
28	540.465	32.49	540.840	74.34	541.605	193.0	539.835	0.000	538.770	0.000	542.665	0.000
29	540.400	0.000	540.730	61.51 *	541.245	134.7	539.885	0.000	538.740	0.000	542.655	0.000
30	540.350	0.000	540.555	47.40	540.800	71.21	540.090	0.000	538.700	0.000	542.660	0.000
31			540.428	29.00	540.590	52.44			541.870	0.000		
Ten-Daily Mean												
I Ten-Daily	540.745	0.000	540.755	64.88	540.568	45.61	540.605	51.56	540.187	0.000	542.873	0.000
II Ten-Daily	541.526	0.000	541.699	229.5	541.653	212.7	540.095	1.797	539.458	0.000	542.793	0.000
III Ten-Daily	540.107	9.394	541.150	130.5	541.813	258.7	539.962	0.000	539.176	0.000	542.666	0.000
Monthly												
Min.	539.545	0.000	540.065	0.000	540.365	23.23	539.800	0.000	538.700	0.000	542.640	0.000
Max.	542.265	61.45	543.015	557.7	543.052	554.5	541.023	93.56	541.870	0.000	542.905	0.000
Mean	540.793	3.131	541.200	141.3	541.360	175.1	540.221	17.78	539.593	0	542.777	0

Annual Runoff in MCM = 902 Annual Runoff in mm = 409

Peak Observed Discharge = 557.7 cumecs on 17/07/2018 Corres. Water Level :543.015 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018 Corres. Water Level :540.72 m

HISTOGRAM - HYDROGRAPH for Water Year : 2018-2019

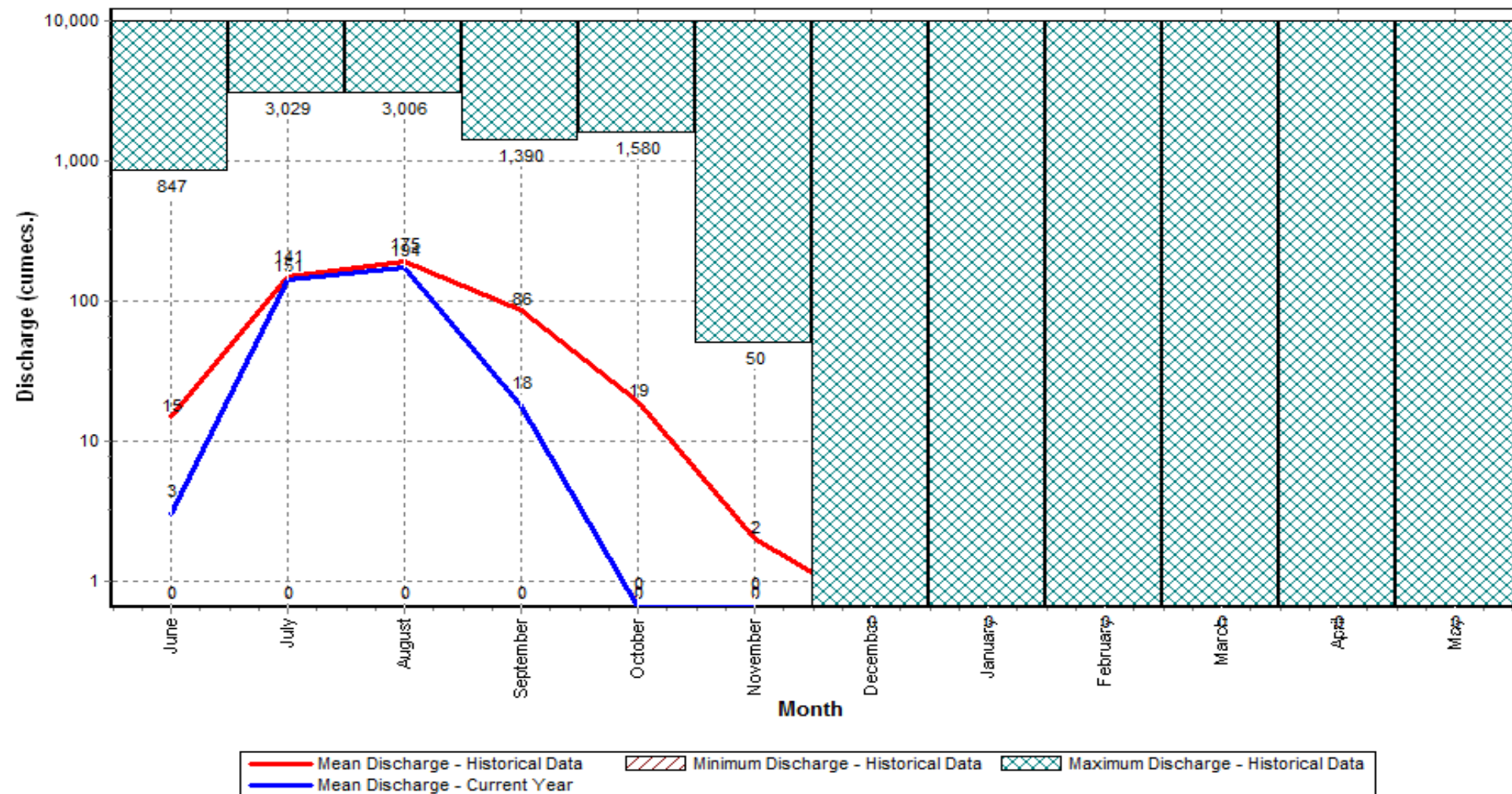
Station Name : Phulgaon (Seasonal) (AKP00X5)

Data considered : 1992-2019

Division : Upper Krishna Divn, Pune

Local River : Bhima

Sub-Division : Bhima SD, Sholapur



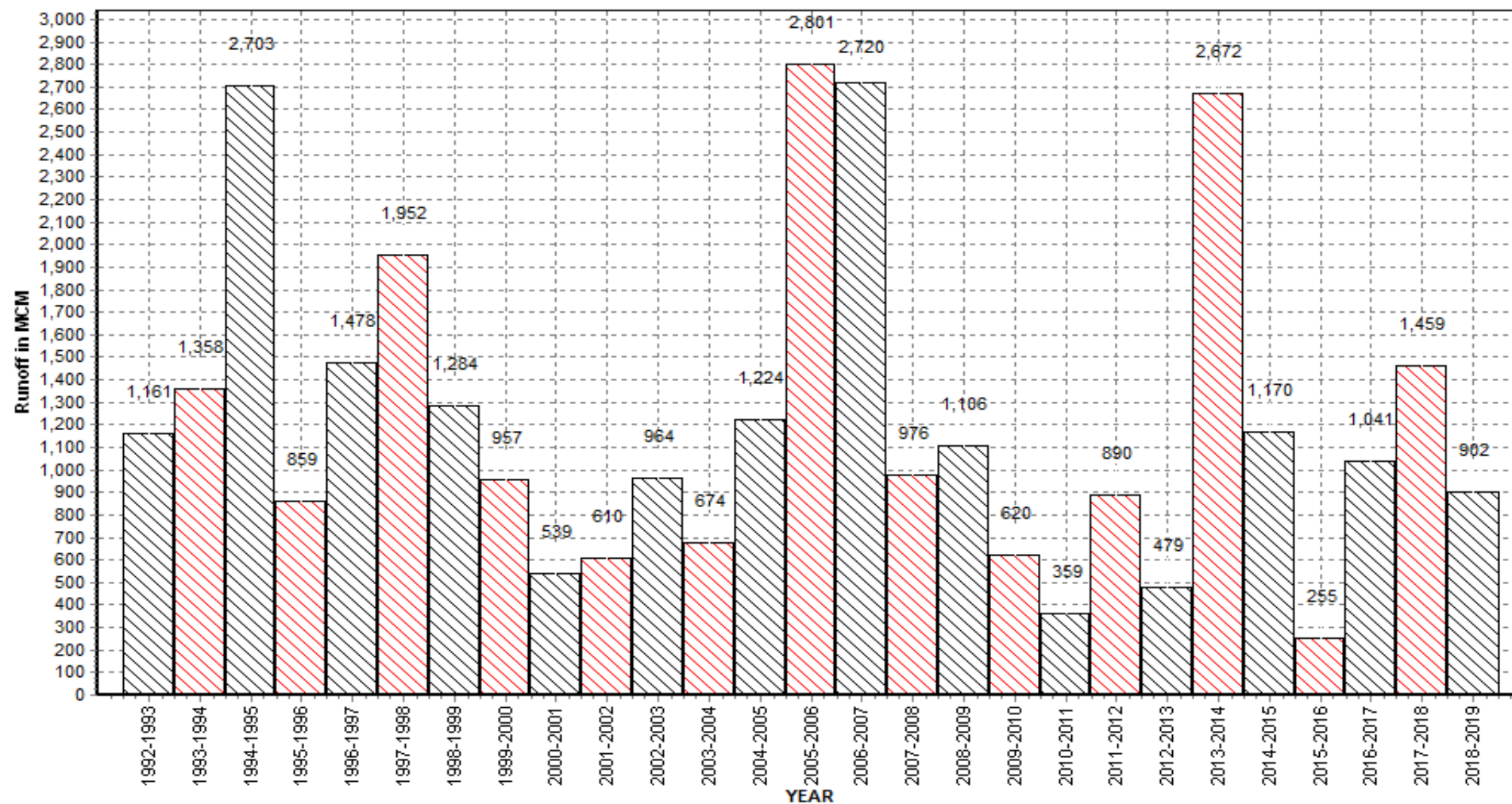
Annual Runoff Values for the period: 1992 - 2019

Station Name : Phulgaon (Seasonal) (AKP00X5)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



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

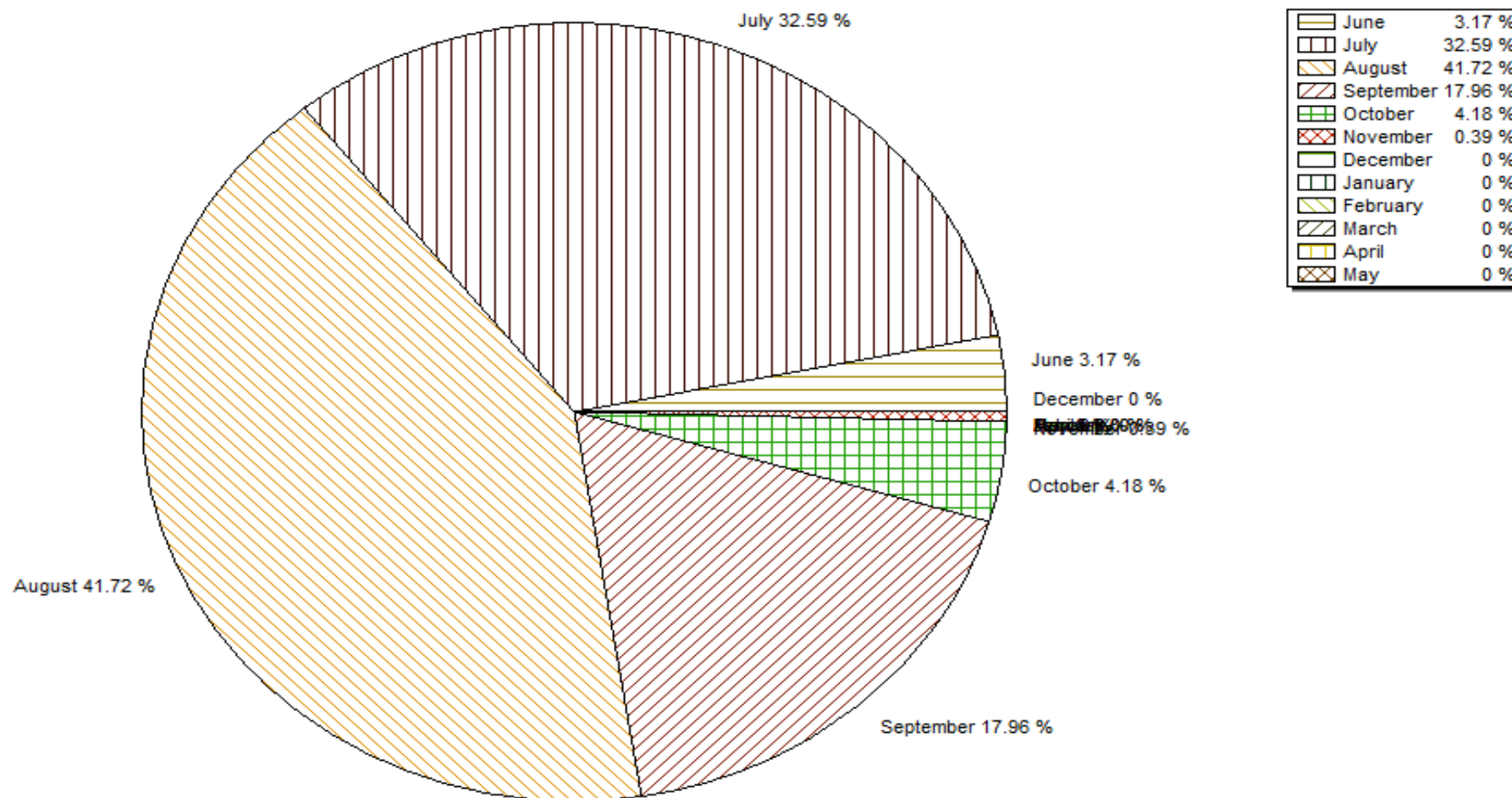
Monthly Average Runoff based on period : 1992-2018

Station Name : Phulgaon (Seasonal) (AKP00X5)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



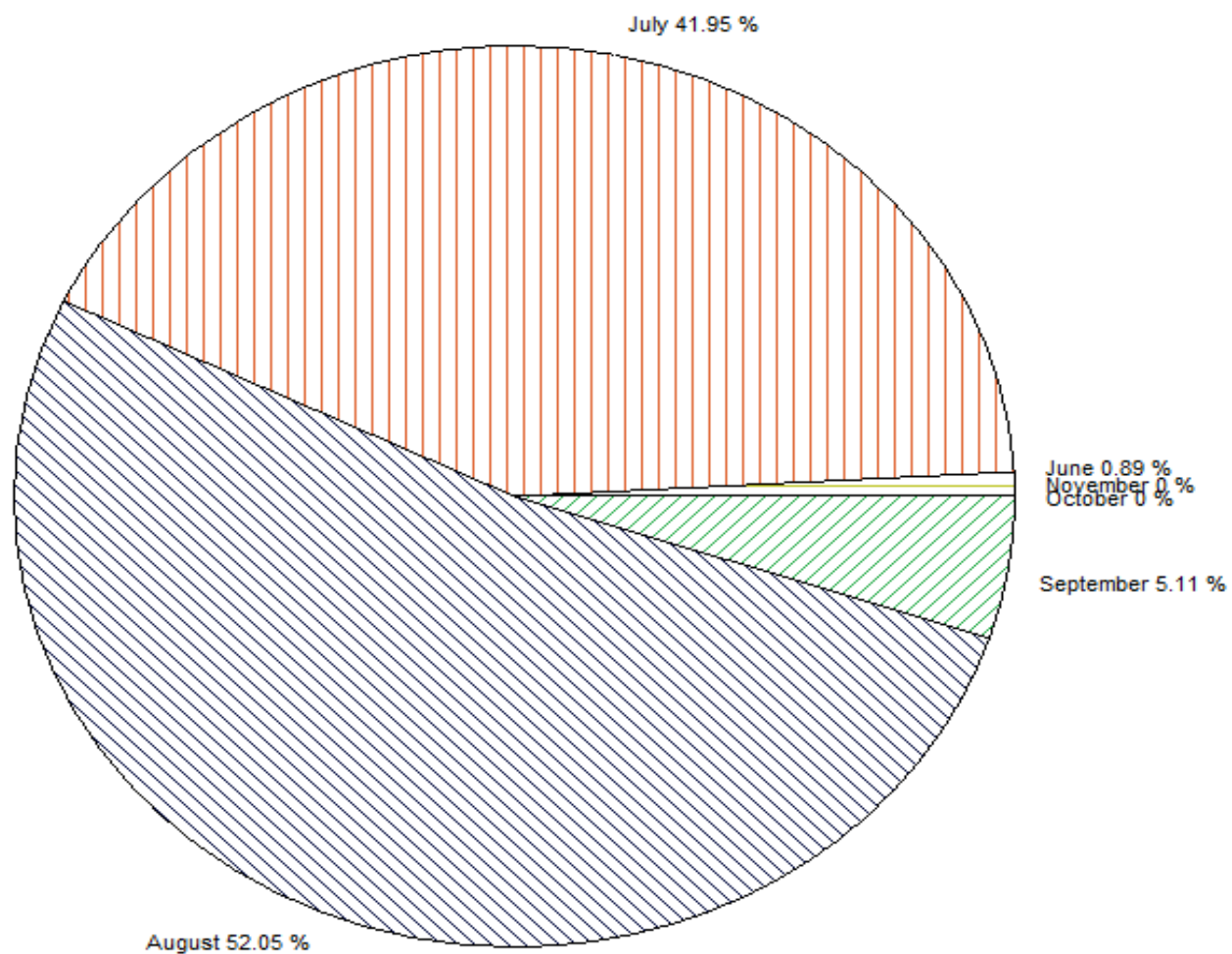
Monthly Runoff for the Year : 2018-2019

Station Name : Phulgaon (Seasonal) (AKP00X5)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



June	0.89 %
July	41.95 %
August	52.05 %
September	5.11 %
October	0 %
November	0 %

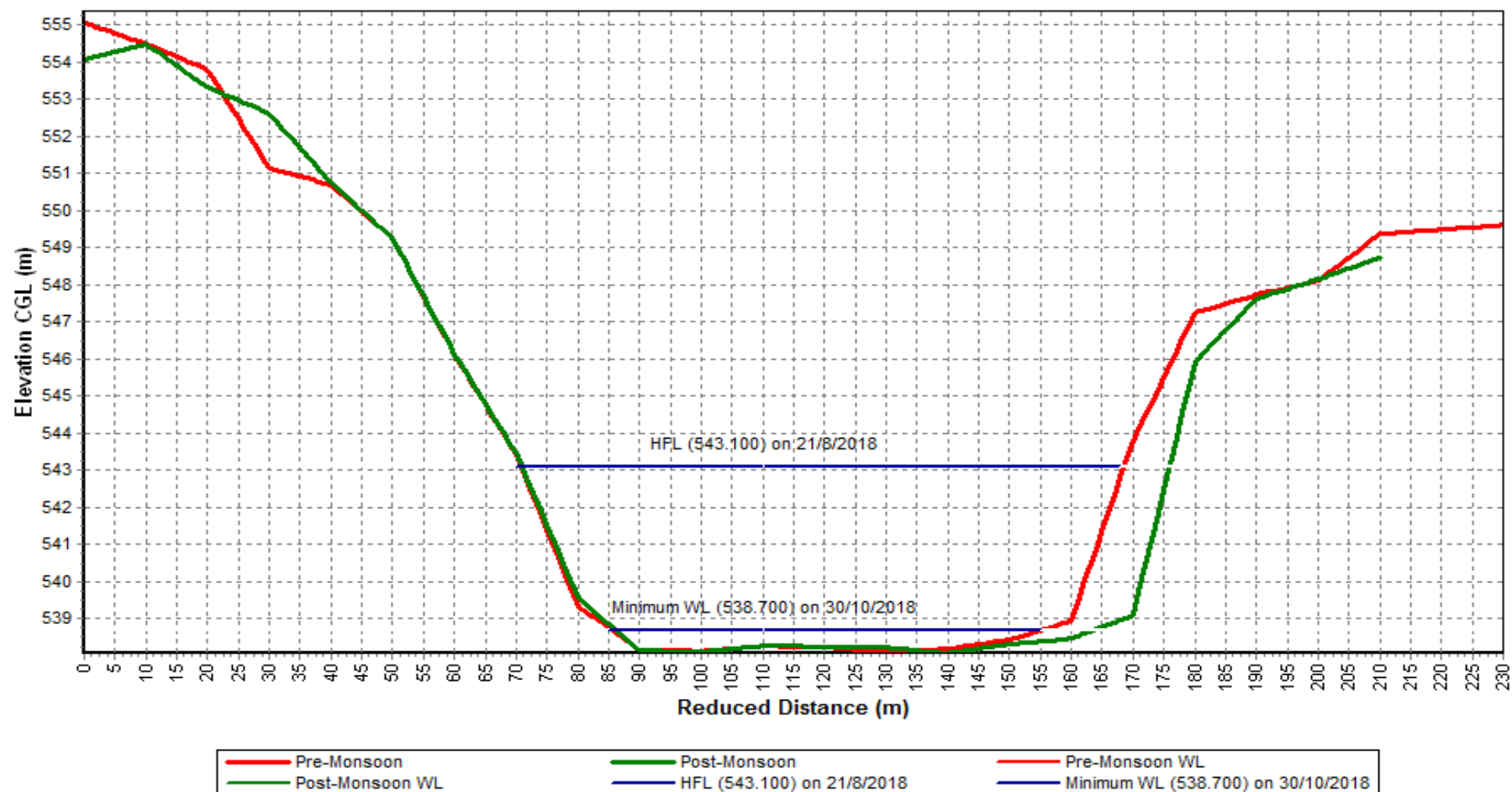
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Phulgaon (Seasonal) (AKP00X5)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



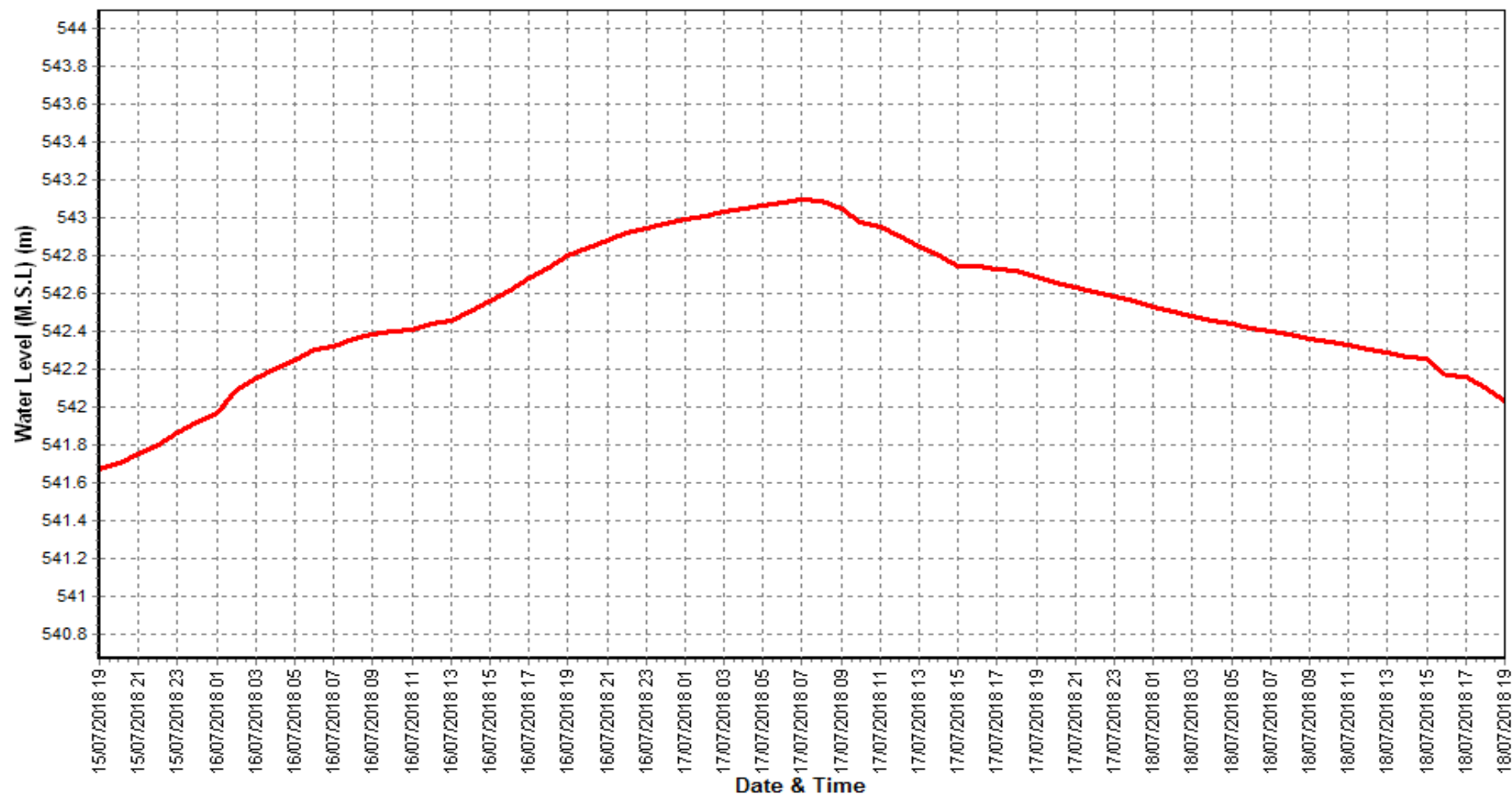
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Phulgaon (Seasonal) (AKP00X5)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



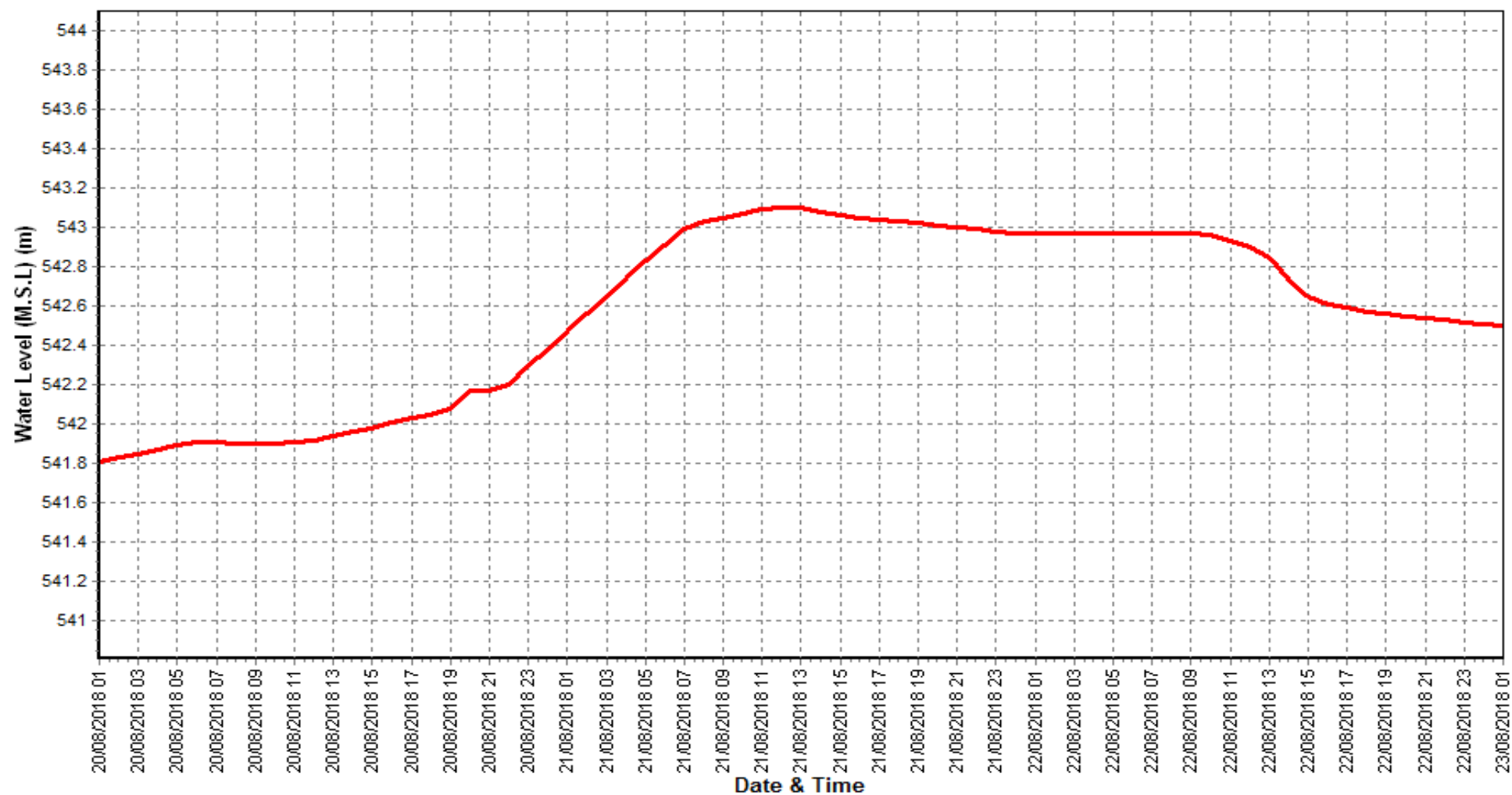
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Phulgaon (Seasonal) (AKP00X5)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



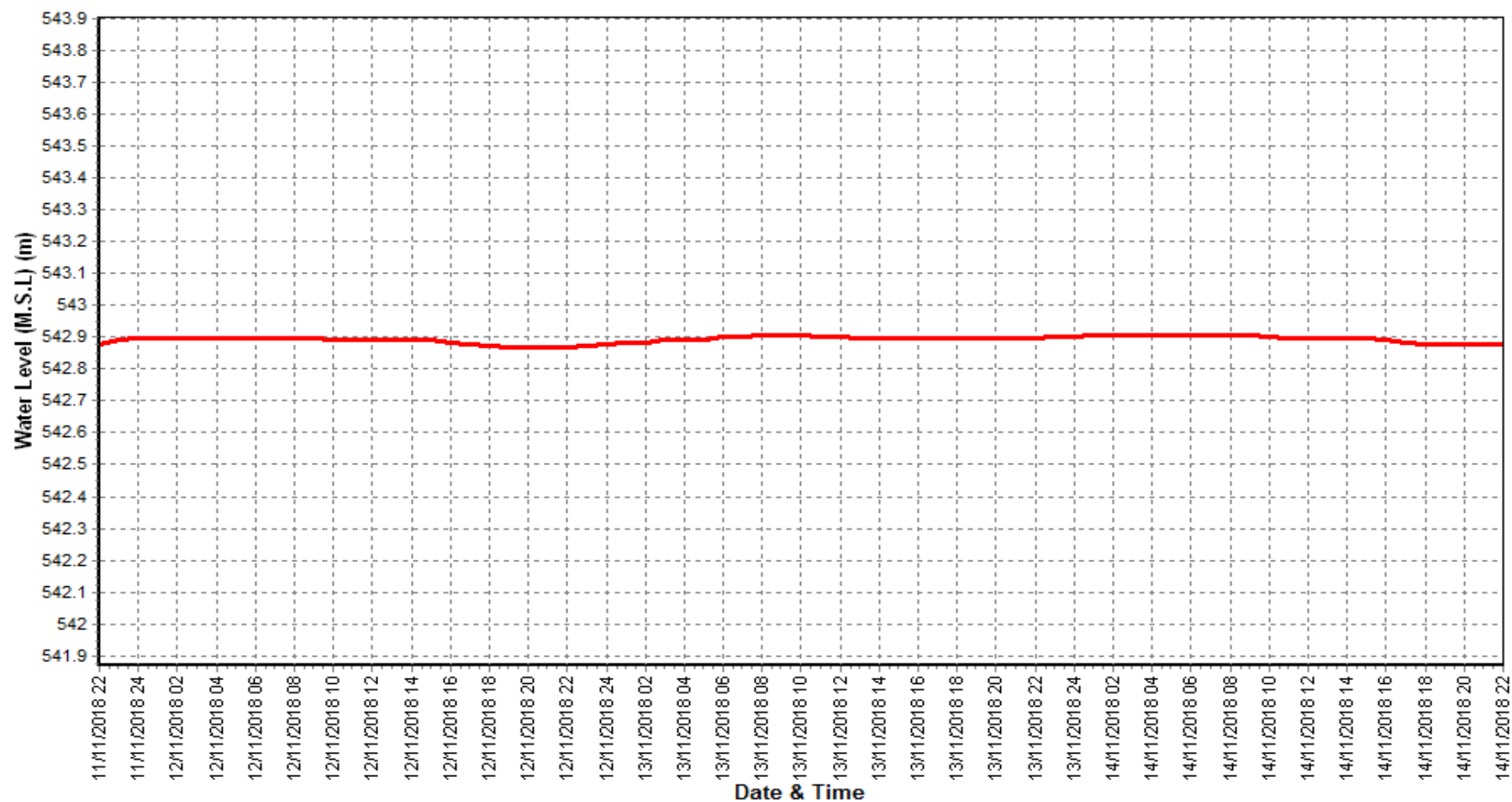
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : Phulgaon (Seasonal) (AKP00X5)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



HISTORY SHEET

		Water Year	: 2018-2019
Site	: Mirawadi	Code	: MIRAWADI
State	: Maharashtra	District	Pune
Basin	: Krishna	Independent River	: Krishna
Tributary	: -	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Mula
Division	: Upper Krishna Divn, Pune	Sub-Division	: Upper Krishna SD 2, Miraj
Drainage Area	: 2640 Sq. Km.	Bank	: Right
Latitude	: 18°32'19"	Longitude	: 74°10'60"
Zero of Gauge (m)	: 508.500 m (m.s.l)	01/05/2017	-
		Opening Date	Closing Date
Gauge	: 19/06/2017	HFL During 2018-19	: 516.950 m
Discharge	: 07/08/2018	Corres. Discharge	: 1453 (estimated)
Sediment	:	Date & Time of occurrence	: 17/07/2018 : 10:00 Hrs.
Water Quality	:		

HFL Recorded so far in m : 516.950 dt 17-07-2018
Corresponding Discharge (cumecs) : 151 1453*

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	6	1358	48	0	48
75% Dependable flow (MCM)				Sufficient data not available			
90 % Dependable flow (MCM)				Sufficient data not available			

Stage-Discharge Data for the period 2018 - 2019

Station Name : Mirawadi (MIRAWADI)

Division : Upper Krishna Divn, Pune

Local River : Mula

Sub-Division : 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	Reguler SWA Joined Duty w.e.f 16/06/2018		512.190	0.000	512.820	149.4 *	512.750	135.1	512.150	47.61	513.760	0.000
2			512.170	0.000	512.460	87.78 *	512.685	125.0 *	512.150	39.30	513.760	0.000
3			512.150	0.000	512.610	112.1 *	512.843	153.6 #	512.140	40.94	513.760	0.000
4			512.140	0.000	512.630	115.5 *	514.285	490.2	512.150	43.24	513.760	0.000
5			512.250	0.000	513.420	274.3 *	513.400	314.3	512.130	39.97	513.760	0.000
6			512.830	0.000	513.000	184.1 #	512.733	126.7	512.070	39.19	513.760	0.000
7			512.820	0.000	513.080	200.3 #	512.605	105.6	512.010	28.47 *	513.760	0.000
8			513.780	0.000	513.020	188.1	512.280	64.54	512.060	36.18	513.760	0.000
9			513.240	0.000	512.945	173.2 #	512.270	60.06 *	512.050	35.51	513.800	0.000
10			512.590	0.000	512.745	135.6	512.270	62.62	511.990	20.89	513.800	0.000
11			512.430	0.000	512.765	139.2 #	512.240	56.78	511.980	23.52	513.800	0.000
12			512.600	0.000	513.090	202.4 *	512.230	55.72	511.805	19.97	513.800	0.000
13			513.490	0.000	513.665	332.4 #	512.210	51.50	511.800	21.77	513.800	0.000
14			513.520	0.000	514.005	419.0 #	512.110	34.04	511.890	16.82 *	513.800	0.000
15			512.900	0.000	514.395	526.6 *	512.120	47.90	511.900	19.97	513.800	0.000
16	511.520	0.000	514.540	0.000	513.795	364.7 #	512.165	46.35 *	511.930	19.57	513.800	0.000
17	511.570	0.000	516.850	0.000	514.985	704.5 #	512.160	45.92	511.900	19.48	513.800	0.000
18	511.620	0.000	514.140	0.000	516.000	1050 #	512.155	38.19	511.910	22.94	513.800	0.000
19	511.570	0.000	514.120	0.000	514.560	574.6 *	512.170	40.24	511.870	20.09 *	513.800	0.000
20	511.570	0.000	513.300	0.000	514.810	649.9 #	512.240	60.39	512.040	30.36	513.800	0.000
21	512.090	0.000	513.050	0.000	515.320	813.2 #	512.160	47.07	512.060	30.00	513.800	0.000
22	512.750	0.000	513.280	0.000	515.830	988.6 *	512.230	67.35	512.180	0.000	513.800	0.000
23	512.180	0.000	514.570	0.000	515.310	809.9 #	512.200	50.79 *	512.250	0.000	513.800	0.000
24	511.715	0.000	514.190	0.000	514.740	628.5 #	512.185	50.40	512.240	0.000	513.800	0.000
25	512.180	0.000	512.800	0.000	513.305	264.0	512.140	39.63	512.240	0.000	513.800	0.000
26	512.210	0.000	513.000	0.000	514.330	508.1 *	512.085	37.43	512.760	0.000	513.800	0.000
27	512.420	0.000	512.910	0.000	515.595	906.3 #	512.050	35.84	513.370	0.000	513.800	0.000
28	512.285	0.000	512.860	0.000	513.895	355.0	512.105	34.03	513.730	0.000	513.800	0.000
29	512.145	0.000	513.040	0.000	513.555	305.9 #	512.060	39.65	513.800	0.000	513.800	0.000
30	512.090	0.000	512.900	0.000	513.065	210.8	512.160	45.73 *	513.770	0.000	513.800	0.000
31			512.620	0.000	512.915	169.7			513.760	0.000		
<u>Ten-Daily Mean</u>												
I Ten-Daily			512.616	0.000	512.873	162.0	512.812	163.8	512.090	37.13	513.768	0.000
II Ten-Daily	511.570	0.000	513.789	0.000	514.207	496.3	512.180	47.70	511.902	21.45	513.800	0.000
III Ten-Daily	512.206	0.000	513.202	0.000	514.351	541.8	512.138	44.79	512.924	2.727	513.800	0.000
<u>Monthly</u>												
Min.	511.520	0.000	512.140	0.000	512.460	87.78	512.050	34.03	511.800	0.000	513.760	0.000
Max.	512.750	0.000	516.850	0.000	516.000	1050	514.285	490.2	513.800	47.61	513.800	0.000
Mean	511.994	0	513.202	0	513.828	404.6	512.377	85.42	512.325	19.86	513.789	0

Annual Runoff in MCM = 1358 Annual Runoff in mm =

Peak Observed Discharge = 1050 cumecs on 18/08/2018 Corres. Water Level :516 m

Lowest Observed Discharge = 0.000 cumecs on 16/06/2018 Corres. Water Level :511.52 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 2018 - 2019

Station Name : Mirawadi (MIRAWADI)

Division : Upper Krishna Divn, Pune

Local River : Mula

Sub-Division : Bhima SD, Sholapur

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	513.800	0.000	513.785	0.000	513.790	0.000	513.730	0.000	513.150	0.000	512.780	0.000
2	513.800	0.000	513.770	0.000	513.800	0.000	513.740	0.000	512.930	0.000	512.750	0.000
3	513.800	0.000	513.760	0.000	513.800	0.000	513.750	0.000	512.880	0.000	512.600	0.000
4	513.800	0.000	513.750	0.000	513.800	0.000	513.760	0.000	512.910	0.000	512.530	0.000
5	513.800	0.000	513.740	0.000	513.795	0.000	513.770	0.000	512.930	0.000	512.570	0.000
6	513.800	0.000	513.735	0.000	513.790	0.000	513.780	0.000	512.960	0.000	512.620	0.000
7	513.800	0.000	513.730	0.000	513.785	0.000	513.790	0.000	512.950	0.000	512.590	0.000
8	513.800	0.000	513.725	0.000	513.780	0.000	513.800	0.000	512.930	0.000	512.540	0.000
9	513.800	0.000	513.720	0.000	513.775	0.000	513.810	0.000	512.920	0.000	512.500	0.000
10	513.800	0.000	513.715	0.000	513.770	0.000	513.820	0.000	512.860	0.000	512.450	0.000
11	513.800	0.000	513.710	0.000	513.765	0.000	513.820	0.000	512.770	0.000	512.400	0.000
12	513.800	0.000	513.705	0.000	513.760	0.000	513.810	0.000	512.850	0.000	512.360	0.000
13	513.800	0.000	513.700	0.000	513.755	0.000	513.800	0.000	513.110	0.000	512.350	0.000
14	513.790	0.000	513.700	0.000	513.750	0.000	513.790	0.000	512.990	0.000	512.345	0.000
15	513.790	0.000	513.690	0.000	513.745	0.000	513.780	0.000	512.830	0.000	512.340	0.000
16	513.790	0.000	513.690	0.000	513.740	0.000	513.780	0.000	512.760	0.000	512.340	0.000
17	513.800	0.000	513.685	0.000	513.735	0.000	513.750	0.000	512.830	0.000	512.330	0.000
18	513.780	0.000	513.685	0.000	513.730	0.000	513.790	0.000	512.850	0.000	512.330	0.000
19	513.780	0.000	513.685	0.000	513.725	0.000	513.780	0.000	512.730	0.000	512.320	0.000
20	513.780	0.000	513.690	0.000	513.720	0.000	513.750	0.000	512.660	0.000	512.310	0.000
21	513.780	0.000	513.700	0.000	513.715	0.000	513.720	0.000	512.570	0.000	512.300	0.000
22	513.800	0.000	513.705	0.000	513.710	0.000	513.700	0.000	512.600	0.000	512.380	0.000
23	513.790	0.000	513.710	0.000	513.710	0.000	513.690	0.000	512.660	0.000	512.380	0.000
24	513.790	0.000	513.715	0.000	513.705	0.000	513.640	0.000	512.750	0.000	512.250	0.000
25	513.790	0.000	513.720	0.000	513.705	0.000	513.590	0.000	512.830	0.000	512.200	0.000
26	513.790	0.000	513.730	0.000	513.700	0.000	513.540	0.000	512.840	0.000	512.150	0.000
27	513.790	0.000	513.740	0.000	513.710	0.000	513.480	0.000	512.840	0.000	512.100	0.000
28	513.790	0.000	513.750	0.000	513.720	0.000	513.430	0.000	512.790	0.000	512.060	0.000
29	513.790	0.000	513.760	0.000			513.390	0.000	512.760	0.000	512.010	0.000
30	513.790	0.000	513.770	0.000			513.350	0.000	512.800	0.000	511.960	0.000
31	513.790	0.000	513.780	0.000			513.290	0.000			512.080	0.000
Ten-Daily Mean												
I Ten-Daily	513.800	0.000	513.743	0.000	513.788	0.000	513.775	0.000	512.942	0.000	512.593	0.000
II Ten-Daily	513.791	0.000	513.694	0.000	513.742	0.000	513.785	0.000	512.838	0.000	512.343	0.000
III Ten-Daily	513.790	0.000	513.735	0.000	513.709	0.000	513.529	0.000	512.744	0.000	512.170	0.000
Monthly												
Min.	513.780	0.000	513.685	0.000	513.700	0.000	513.290	0.000	512.570	0.000	511.960	0.000
Max.	513.800	0.000	513.785	0.000	513.800	0.000	513.820	0.000	513.150	0.000	512.780	0.000
Mean	513.794	0	513.724	0	513.749	0	513.691	0	512.841	0	512.362	0

Peak Computed Discharge = 988.6 cumecs on 22/08/2018

Corres. Water Level :515.83 m

Lowest Computed Discharge = 16.82 cumecs on 14/10/2018

Corres. Water Level :511.89 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

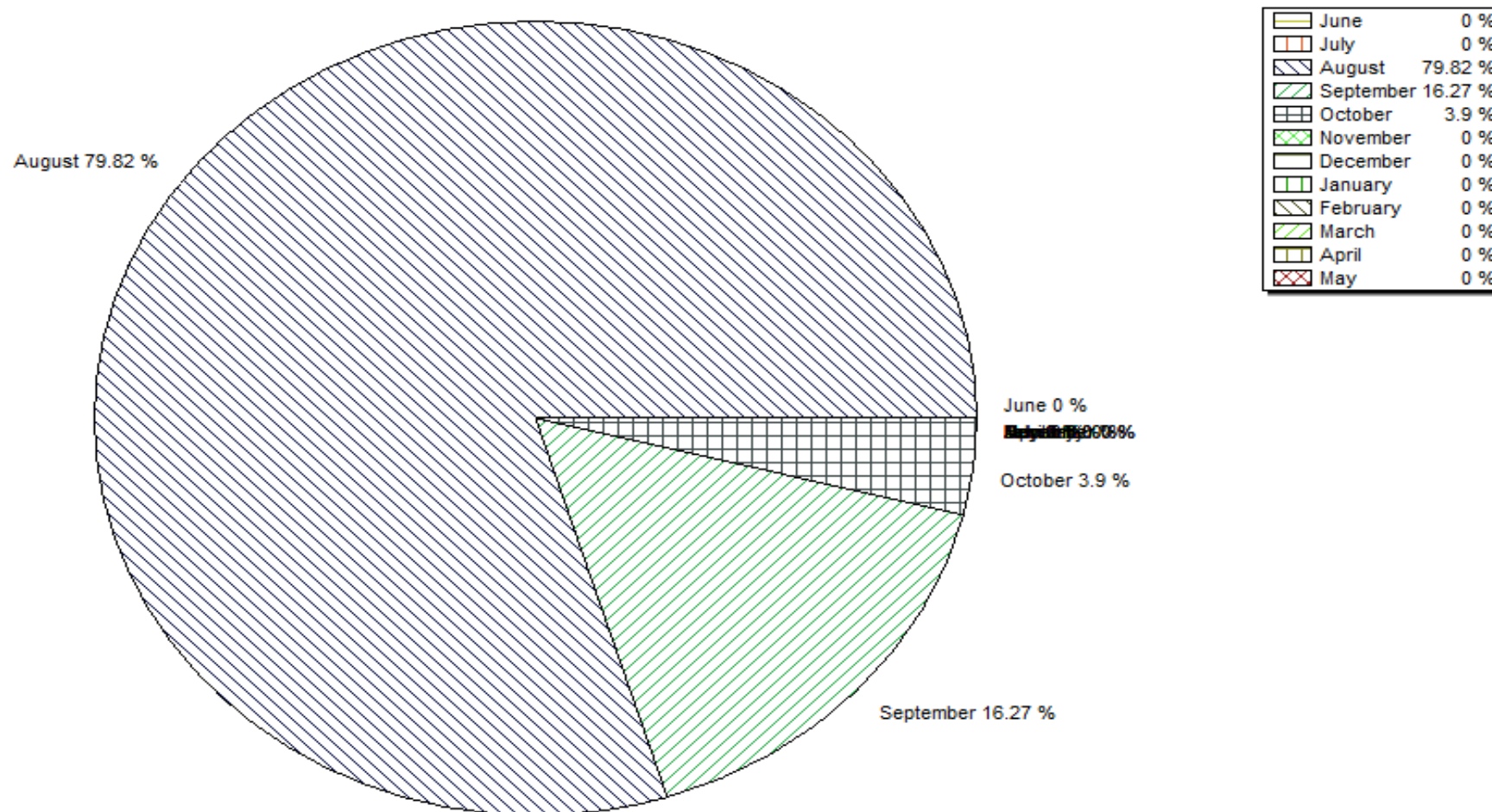
Monthly Runoff for the Year : 2018-2019

Station Name : Mirawadi (MIRAWADI)

Local River : Mula

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



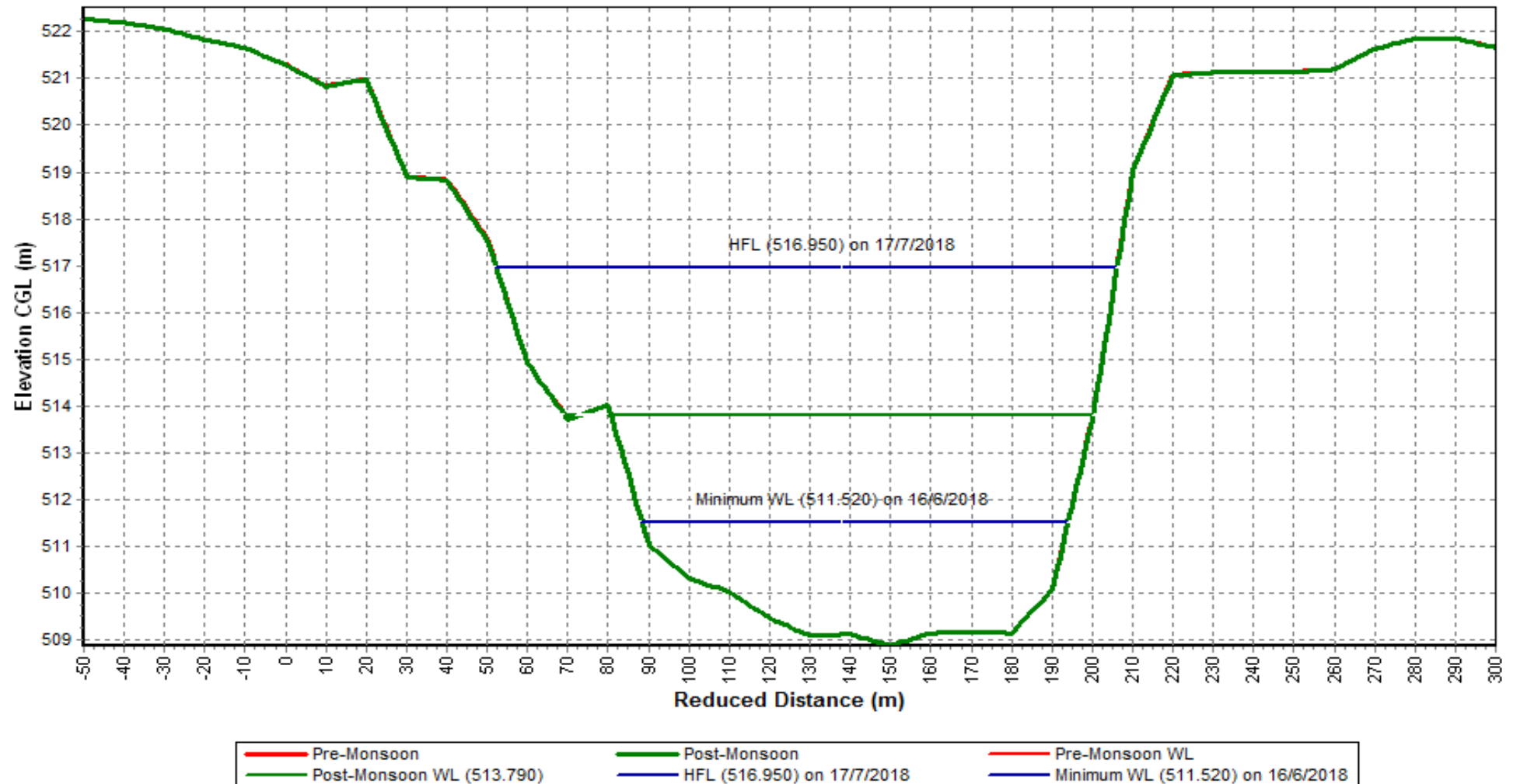
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Mirawadi (MIRAWADI)

Local River : Mula

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



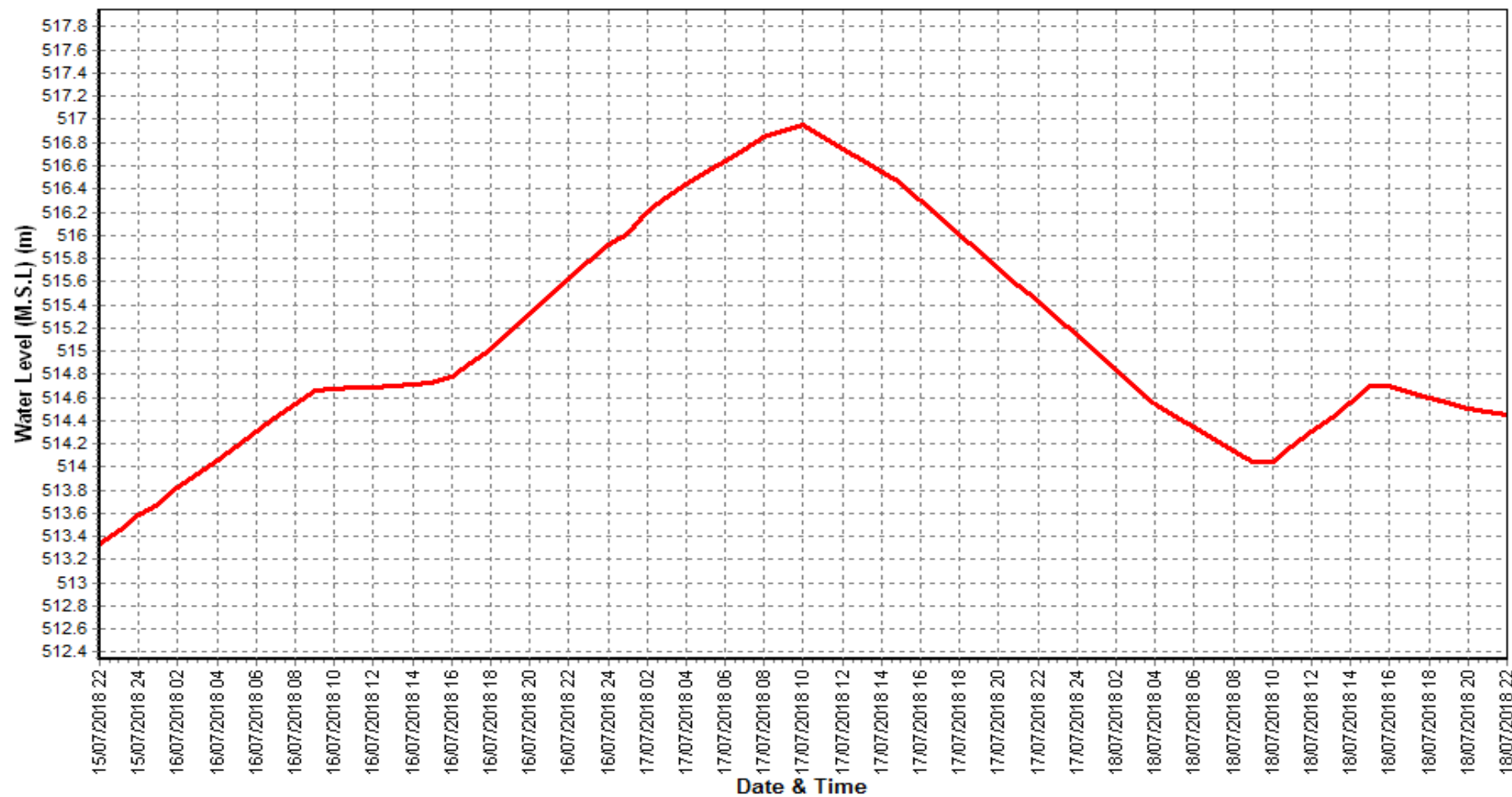
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Mirawadi (MIRAWADI)

Local River : Mula

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



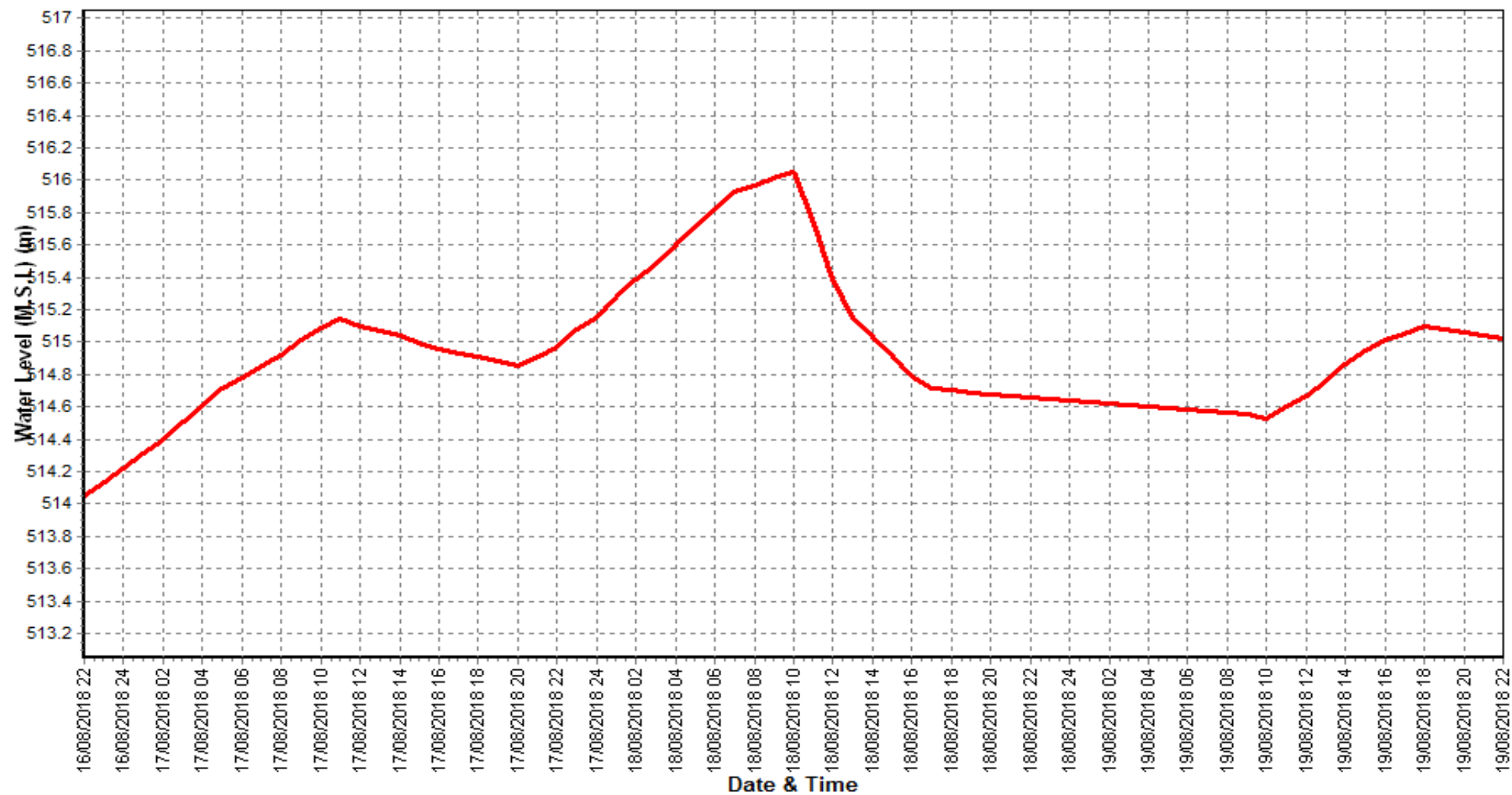
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Mirawadi (MIRAWADI)

Local River : Mula

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



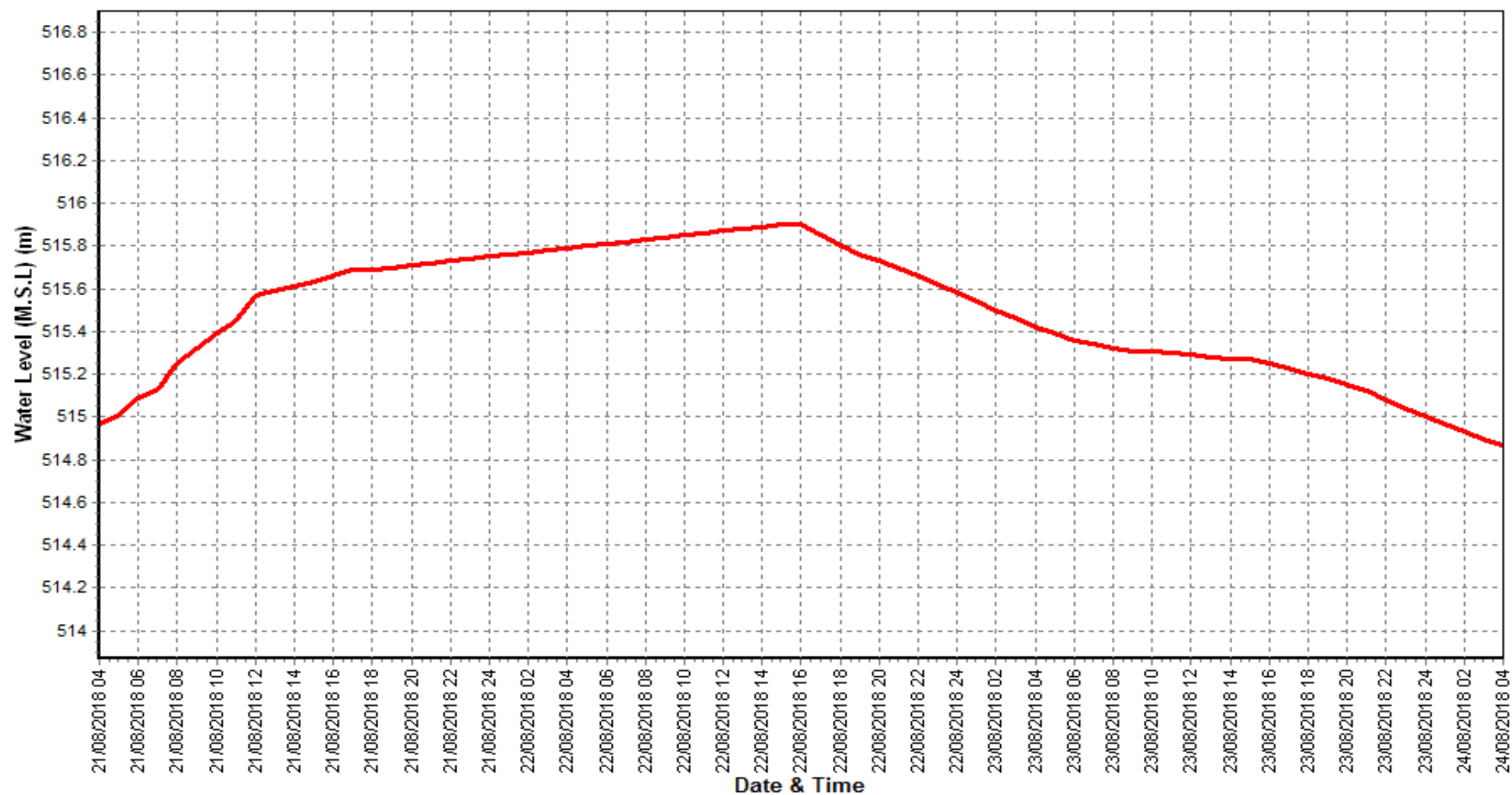
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : Mirawadi (MIRAWADI)

Local River : Mula

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



HISTORY SHEET

Water Year : 2018-2019

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 : Bhima SD, Sholapur

Drainage Area : 6251 Sq. Km. Bank :

Latitude : 18°33'30" Longitude : 74°22'30"

Zero of Gauge (m) : 85 (m.s.l) 01/06/2015

Opening Date Closing Date

Gauge : 28/11/2014 HFL During 2018-19 : 92.200 m

Discharge : 02/09/2015 Corres. Discharge :

Sediment : Date & Time of : 17/07/2018

Water Quality : occurrence : 15:00 Hrs

HFL Recorded so far in m : 94.10 dt 06-08-2016

Corresponding Discharge (cumecs) : 3736 *

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	3267	93.570	06/08/2016	0.000	89.250	04/01/2017
2017-2018	1821	92.200	23/07/2017	0.000	89.220	25/01/2018

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
Average		2307	14	2321	82	0	82
75% Dependable flow (MCM)				Sufficient data not available			
90 % Dependable flow (MCM)				Sufficient data not available			

Stage-Discharge Data for the period 2018 - 2019

Station Name : Paragaon (AKP00V9)

Division : Upper Krishna Divn, Pune

Local River : Bhima

Sub-Division : 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	87.690	0.000	87.120	0.000	87.580	121.0 *	88.010	177.3	87.020	25.99	86.600	0.000
2	87.750	0.000	87.190	0.000	87.420	100.9 *	87.760	146.8 *	87.010	25.37 *	86.600	0.000
3	87.470	0.000	87.120	0.000	87.440	103.3 *	87.610	125.1 *	86.990	22.13	86.700	0.000
4	87.420	0.000	87.060	0.000	87.580	121.0 *	89.315	529.0	87.280	76.10	86.760	0.000
5	87.360	0.000	87.020	0.000	88.180	221.0 *	88.795	394.6	87.210	60.81	86.850	0.000
6	87.310	0.000	86.980	0.000	88.280	241.8 *	88.075	195.1	87.110	51.82	86.900	0.000
7	87.270	0.000	88.050	195.8 *	88.100	209.1	87.805	150.2	87.050	33.60 *	86.940	0.000
8	87.200	0.000	88.960	420.5 *	88.030	182.5	87.480	101.5	87.020	25.57	87.220	0.000
9	87.130	0.000	88.660	333.3 *	87.890	162.6	87.360	93.97 *	86.990	19.37	87.390	0.000
10	87.200	0.000	88.180	221.0 *	87.700	126.2	87.220	60.97	86.970	15.83	87.660	0.000
11	87.210	0.000	88.280	241.8 *	87.800	153.4	87.200	57.35	86.950	13.46	87.920	0.000
12	87.140	0.000	88.450	280.3 *	88.020	190.2 *	87.110	51.72	86.930	6.395	87.990	0.000
13	87.030	0.000	88.920	408.0 *	89.135	452.9	87.010	28.97 *	86.910	0.000	88.200	0.000
14	86.990	0.000	88.900	401.9 *	89.625	624.9	86.960	25.52	86.900	0.000	88.600	0.000
15	86.970	0.000	88.930	411.1 *	89.840	764.0 *	87.030	31.47	86.860	0.000	88.770	0.000
16	86.950	0.000	89.360	559.4 *	89.245	485.7	86.980	18.83 *	86.880	0.000	88.830	0.000
17	86.990	0.000	92.030	2362 *	89.765	720.1	87.010	28.40	86.870	0.000	88.700	0.000
18	86.970	0.000	90.500	1122 *	90.475	1106	86.970	25.83	86.880	0.000	88.510	0.000
19	86.960	0.000	89.360	559.4 *	90.000	842.3 *	87.010	27.59	86.920	0.000	88.430	0.000
20	86.990	0.000	88.690	341.4 *	90.145	849.1	87.110	45.25 *	86.920	0.000	88.370	0.000
21	86.970	0.000	88.460	282.7 *	90.395	1046	87.120	51.83	86.930	0.000	88.470	0.000
22	86.990	0.000	88.270	239.7 *	91.350	1733 *	87.150	57.79	86.800	0.000	88.550	0.000
23	86.950	0.000	89.410	578.7 *	90.535	1179	87.170	56.34 *	86.710	0.000	88.570	0.000
24	87.040	0.000	88.730	352.4 *	90.205	944.3	87.140	53.91	86.580	0.000	88.520	0.000
25	87.060	0.000	88.330	252.7 *	89.205	495.2	87.040	32.97	86.540	0.000	88.500	0.000
26	87.010	0.000	88.380	264.0 *	89.500	614.6 *	87.020	26.05	86.500	0.000	88.570	0.000
27	86.950	0.000	88.160	217.0 *	90.275	1018	86.980	23.55	86.400	0.000	88.600	0.000
28	86.920	0.000	88.000	186.6 *	89.655	680.7	86.970	22.42	86.370	0.000	88.550	0.000
29	86.900	0.000	87.920	172.6 *	88.930	411.1 #	87.040	32.41	86.310	0.000	88.590	0.000
30	87.040	0.000	87.840	159.3 *	88.575	331.4	87.040	31.58 *	86.310	0.000	88.600	0.000
31			87.560	118.4 *	88.115	220.5			86.500	0.000		
Ten-Daily Mean												
I Ten-Daily	87.380	0.000	87.634	117.1	87.820	158.9	87.943	197.4	87.065	35.66	86.962	0.000
II Ten-Daily	87.020	0.000	89.342	668.7	89.405	618.8	87.039	34.09	86.902	1.986	88.432	0.000
III Ten-Daily	86.983	0.000	88.278	256.7	89.704	788.5	87.067	38.89	86.541	0.000	88.552	0.000
Monthly												
Min.	86.900	0.000	86.980	0.000	87.420	100.9	86.960	18.83	86.310	0.000	86.600	0.000
Max.	87.750	0.000	92.030	2362	91.350	1733	89.315	529.0	87.280	76.10	88.830	0.000
Mean	87.128	0	88.414	344.6	89.000	530.7	87.350	90.14	86.826	12.14	87.982	0

Annual Runoff in MCM = 2610 Annual Runoff in mm = 418

Peak Observed Discharge = 1179 cumecs on 23/08/2018 Corres. Water Level :90.535 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018 Corres. Water Level :87.69 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 2018 - 2019

Station Name : Paragaon (AKP00V9)

Division : Upper Krishna Divn, Pune

Local River : Bhima

Sub-Division : Bhima SD, Sholapur

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	88.650	0.000	89.150	0.000	89.100	0.000	88.460	0.000	88.010	0.000	86.590	0.000
2	88.740	0.000	89.170	0.000	89.140	0.000	88.420	0.000	87.980	0.000	86.620	0.000
3	88.740	0.000	89.170	0.000	89.160	0.000	88.380	0.000	88.000	0.000	86.600	0.000
4	88.700	0.000	89.150	0.000	89.150	0.000	88.330	0.000	88.200	0.000	86.660	0.000
5	88.640	0.000	89.140	0.000	89.150	0.000	88.280	0.000	88.230	0.000	86.700	0.000
6	88.620	0.000	89.130	0.000	89.150	0.000	88.240	0.000	88.200	0.000	86.780	0.000
7	88.620	0.000	89.130	0.000	89.130	0.000	88.200	0.000	88.140	0.000	86.800	0.000
8	88.760	0.000	89.150	0.000	89.110	0.000	88.000	0.000	88.100	0.000	86.820	0.000
9	88.800	0.000	89.320	0.000	89.150	0.000	87.720	0.000	88.080	0.000	86.800	0.000
10	88.820	0.000	89.350	0.000	89.200	0.000	87.650	0.000	88.050	0.000	86.800	0.000
11	88.860	0.000	89.380	0.000	89.200	0.000	87.600	0.000	88.030	0.000	86.730	0.000
12	88.870	0.000	89.360	0.000	89.210	0.000	87.600	0.000	88.000	0.000	86.700	0.000
13	88.850	0.000	89.360	0.000	89.220	0.000	87.500	0.000	87.930	0.000	86.710	0.000
14	88.850	0.000	89.350	0.000	89.210	0.000	87.330	0.000	87.870	0.000	86.560	0.000
15	88.840	0.000	89.350	0.000	89.210	0.000	87.210	0.000	87.850	0.000	86.380	0.000
16	88.800	0.000	89.330	0.000	89.200	0.000	87.190	0.000	87.830	0.000	85.910	0.000
17	88.790	0.000	89.280	0.000	89.200	0.000	87.170	0.000	87.810	0.000	85.890	0.000
18	88.900	0.000	89.250	0.000	89.000	0.000	87.150	0.000	87.800	0.000	85.860	0.000
19	89.020	0.000	89.250	0.000	88.850	0.000	87.140	0.000	87.850	0.000	85.800	0.000
20	89.080	0.000	89.240	0.000	88.830	0.000	87.100	0.000	87.830	0.000	85.780	0.000
21	89.190	0.000	89.220	0.000	88.810	0.000	87.080	0.000	87.800	0.000	85.730	0.000
22	89.170	0.000	89.200	0.000	88.810	0.000	87.000	0.000	87.850	0.000	85.590	0.000
23	89.190	0.000	89.200	0.000	88.750	0.000	87.000	0.000	87.780	0.000	85.300	0.000
24	89.190	0.000	89.200	0.000	88.730	0.000	87.050	0.000	87.650	0.000	85.200	0.000
25	89.220	0.000	89.190	0.000	88.710	0.000	87.120	0.000	87.350	0.000	85.150	0.000
26	89.220	0.000	89.190	0.000	88.650	0.000	87.160	0.000	86.900	0.000	85.100	0.000
27	89.220	0.000	89.180	0.000	88.480	0.000	87.860	0.000	86.850	0.000	85.060	0.000
28	89.210	0.000	89.160	0.000	88.460	0.000	87.990	0.000	86.760	0.000		0.000
29	89.200	0.000	89.120	0.000			88.000	0.000	86.590	0.000		0.000
30	89.180	0.000	89.120	0.000			87.970	0.000	86.500	0.000		0.000
31	89.150	0.000	89.100	0.000			88.020	0.000				0.000
Ten-Daily Mean												
I Ten-Daily	88.709	0.000	89.186	0.000	89.144	0.000	88.168	0.000	88.099	0.000	86.717	0.000
II Ten-Daily	88.886	0.000	89.315	0.000	89.113	0.000	87.299	0.000	87.880	0.000	86.232	0.000
III Ten-Daily	89.195	0.000	89.171	0.000	88.675	0.000	87.477	0.000	87.203	0.000	85.304	0.000
Monthly												
Min.	88.620	0.000	89.100	0.000	88.460	0.000	87.000	0.000	86.500	0.000	85.060	0.000
Max.	89.220	0.000	89.380	0.000	89.220	0.000	88.460	0.000	88.230	0.000	86.820	0.000
Mean	88.938	0	89.222	0	88.999	0	87.643	0	87.727	0	86.171	0

Peak Computed Discharge = 2362 cumecs on 17/07/2018

Corres. Water Level :92.03 m

Lowest Computed Discharge = 18.83 cumecs on 16/09/2018

Corres. Water Level :86.98 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 : 2018-2019

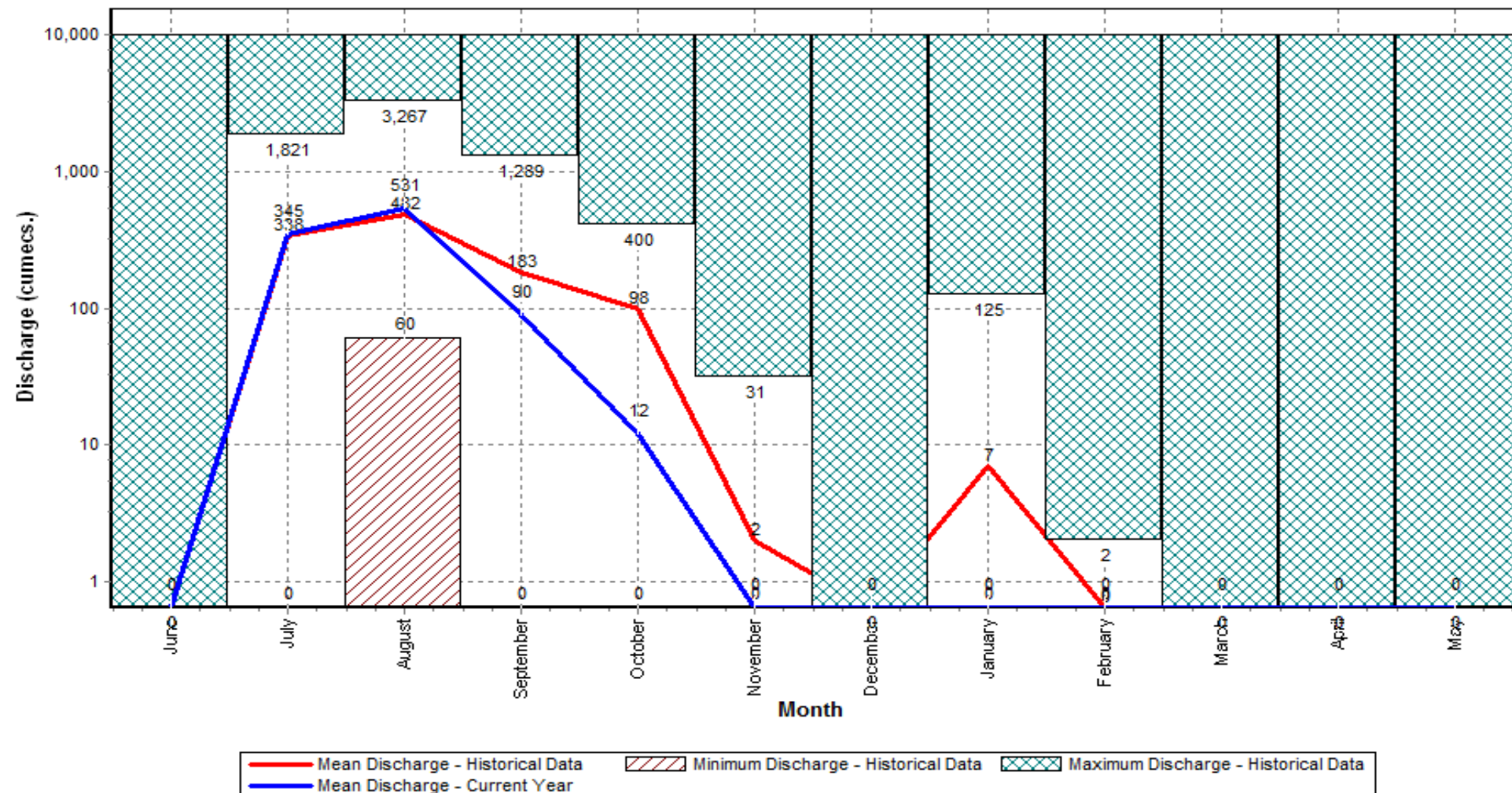
Station Name : Paragaon (AKP00V9)

Data considered : 2016-2019

Division : Upper Krishna Divn, Pune

Local River : Bhima

Sub-Division : Bhima SD, Sholapur



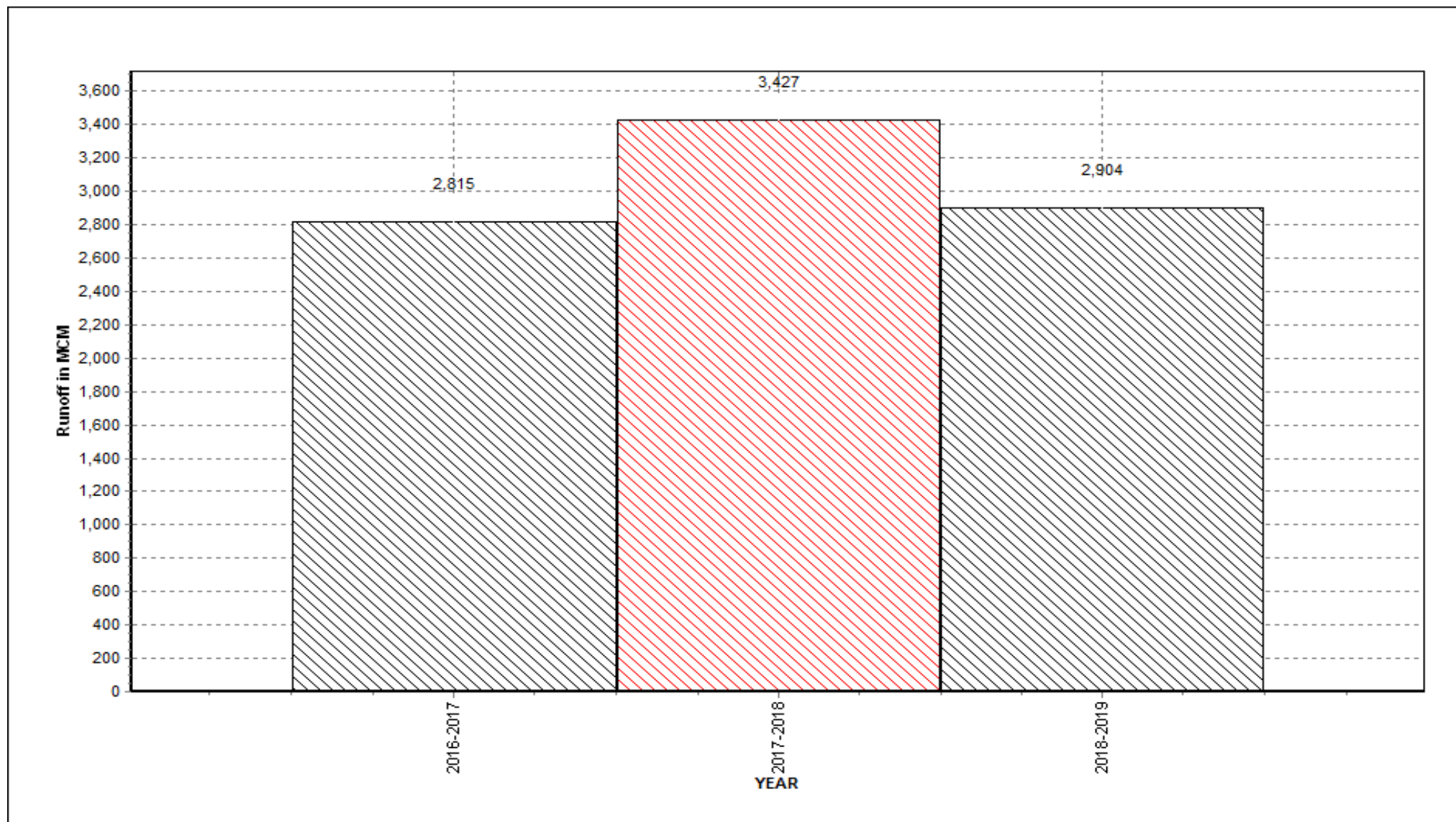
Annual Runoff Values for the period: 2016 - 2019

Station Name : Paragaon (AKP00V9)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



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

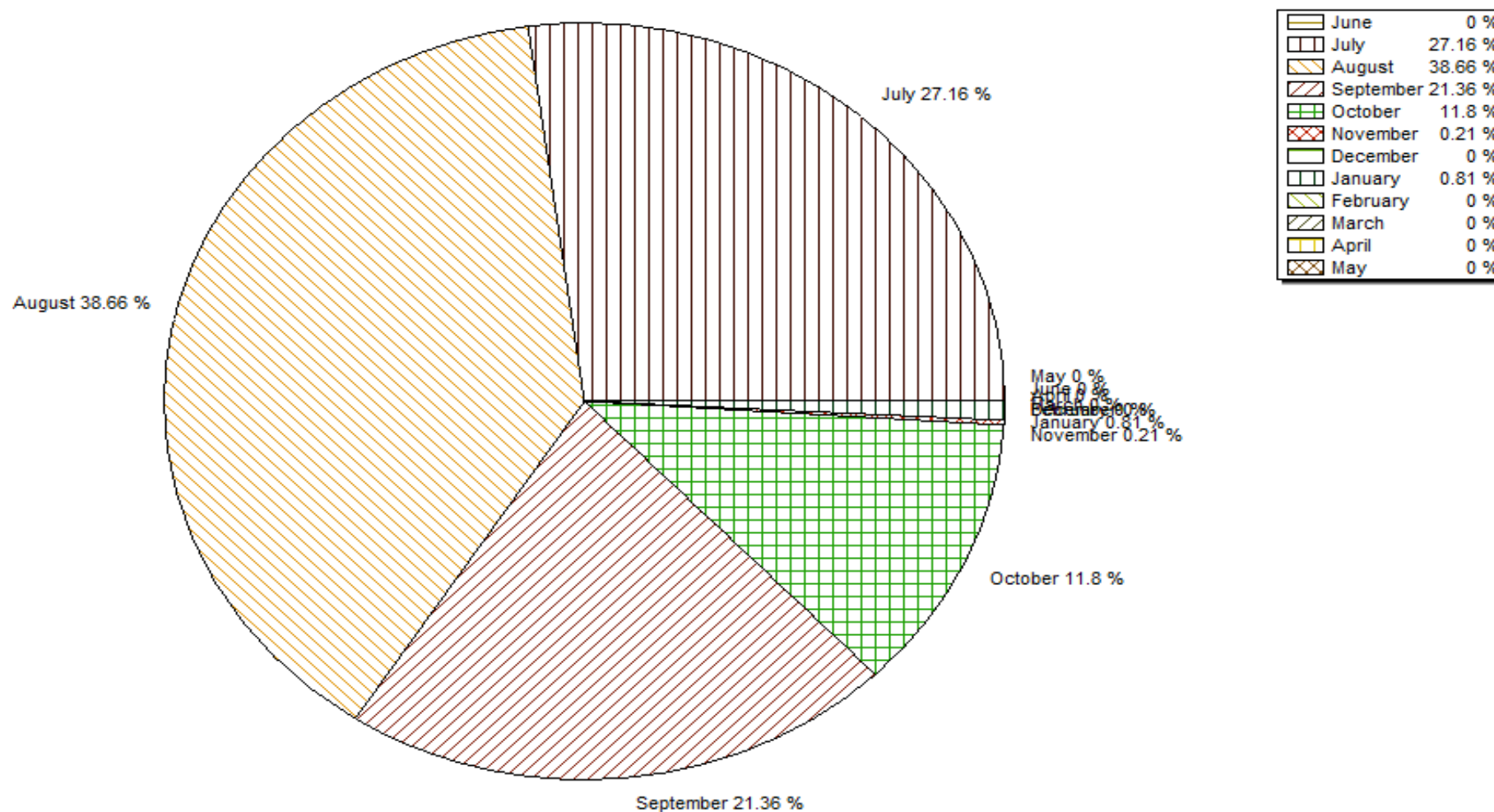
Monthly Average Runoff based on period : 2016-2018

Station Name : Paragaon (AKP00V9)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



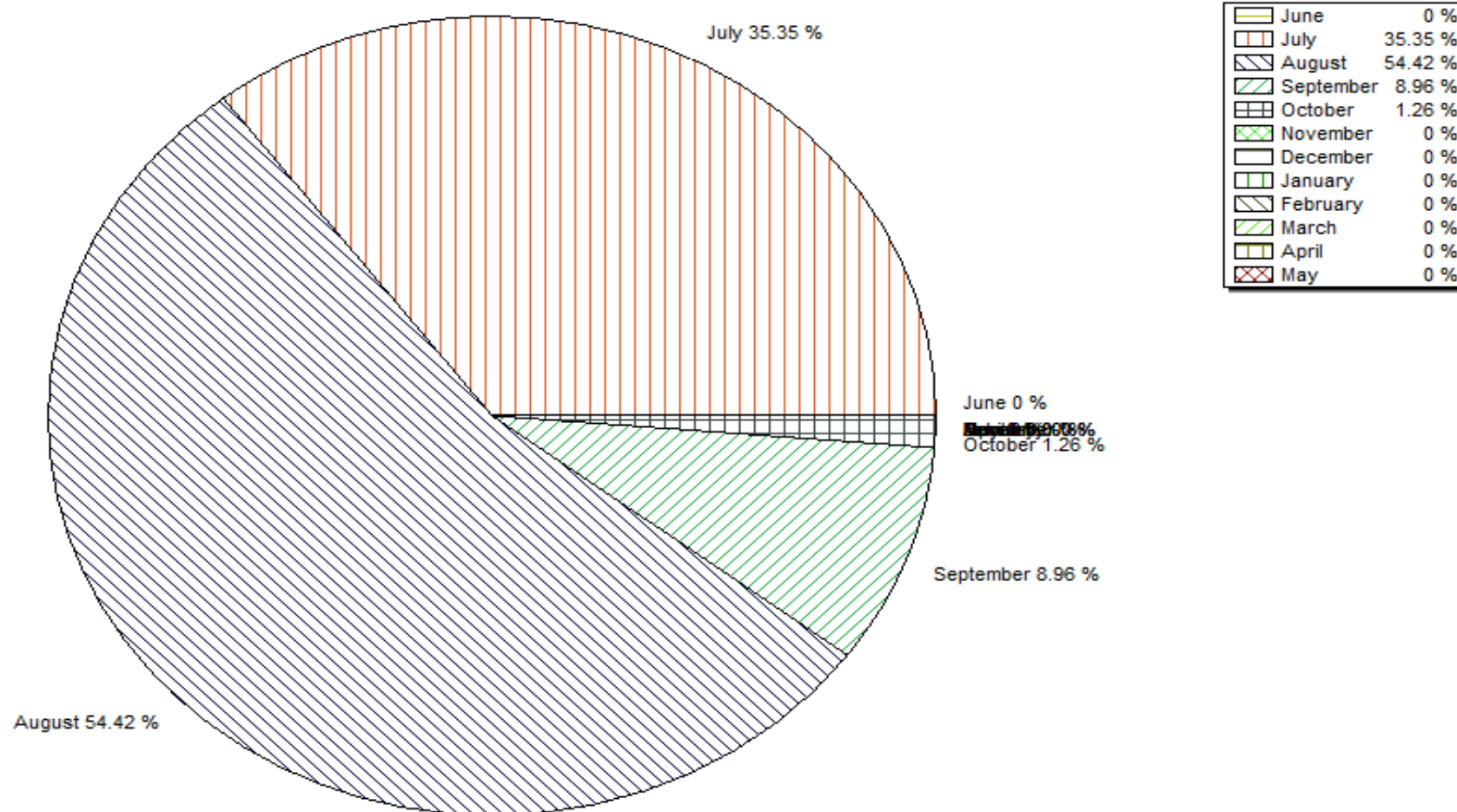
Monthly Runoff for the Year : 2018-2019

Station Name : Paragaon (AKP00V9)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



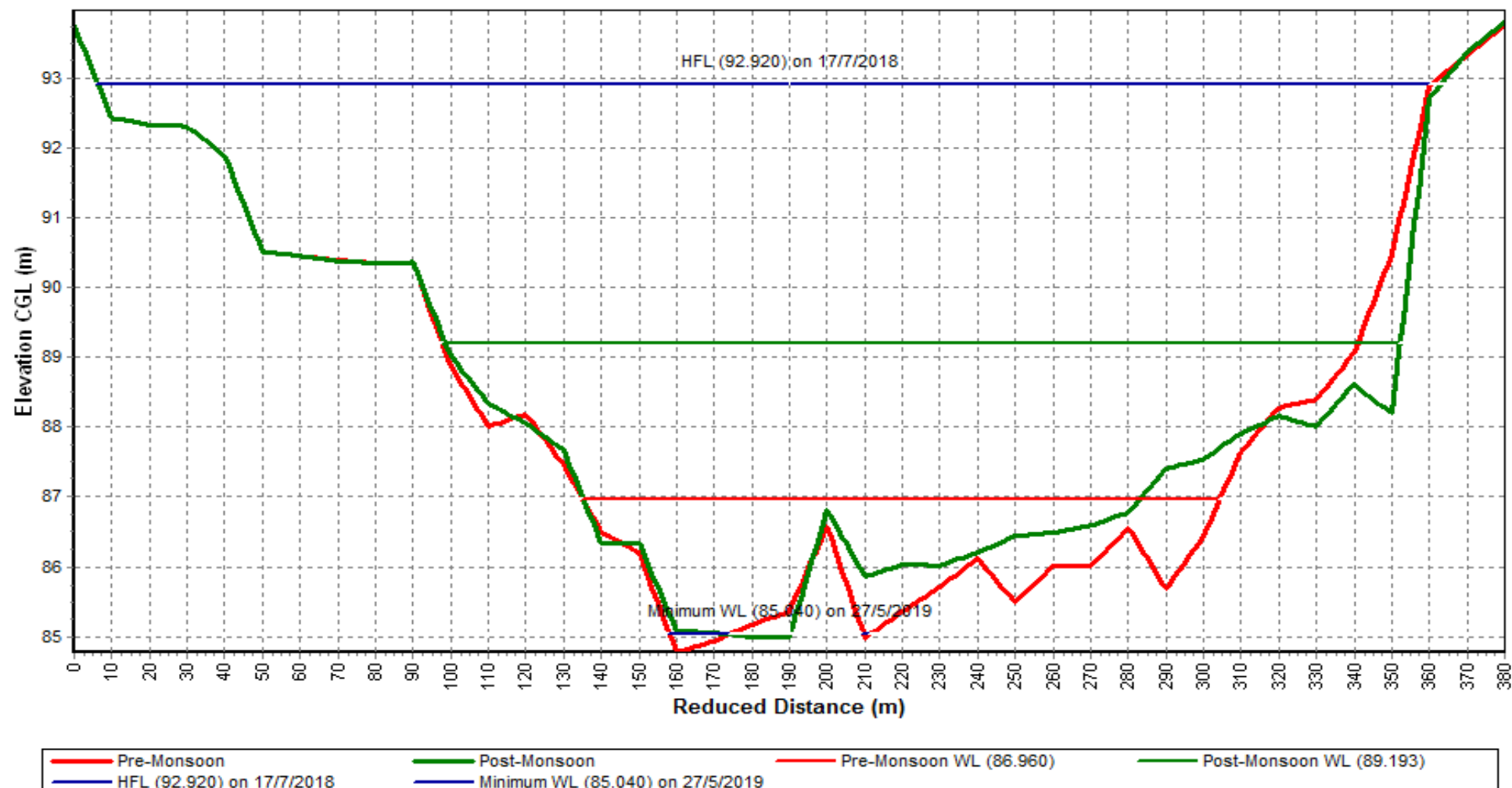
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Paragaon (AKP00V9)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



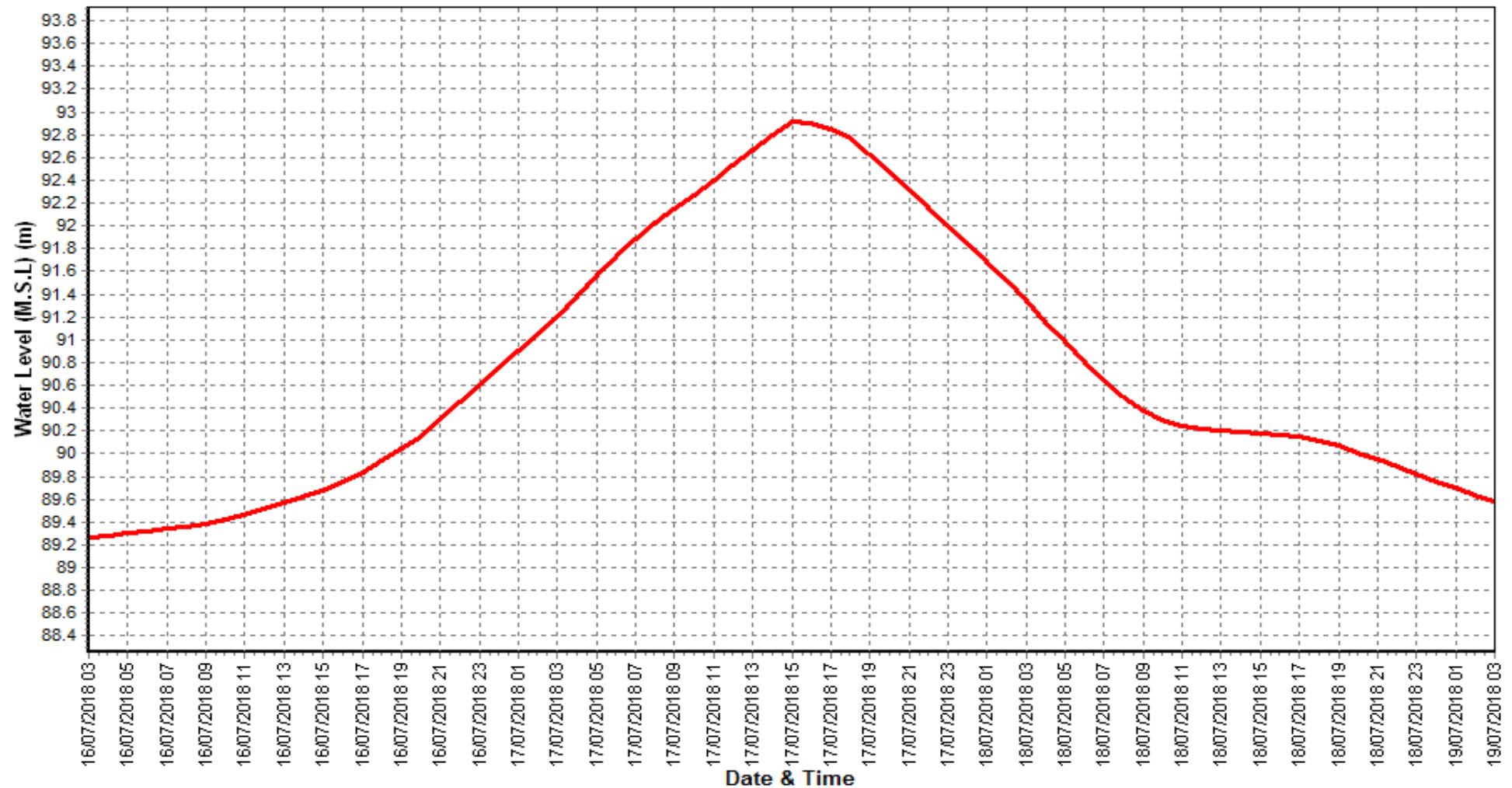
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Paragaon (AKP00V9)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



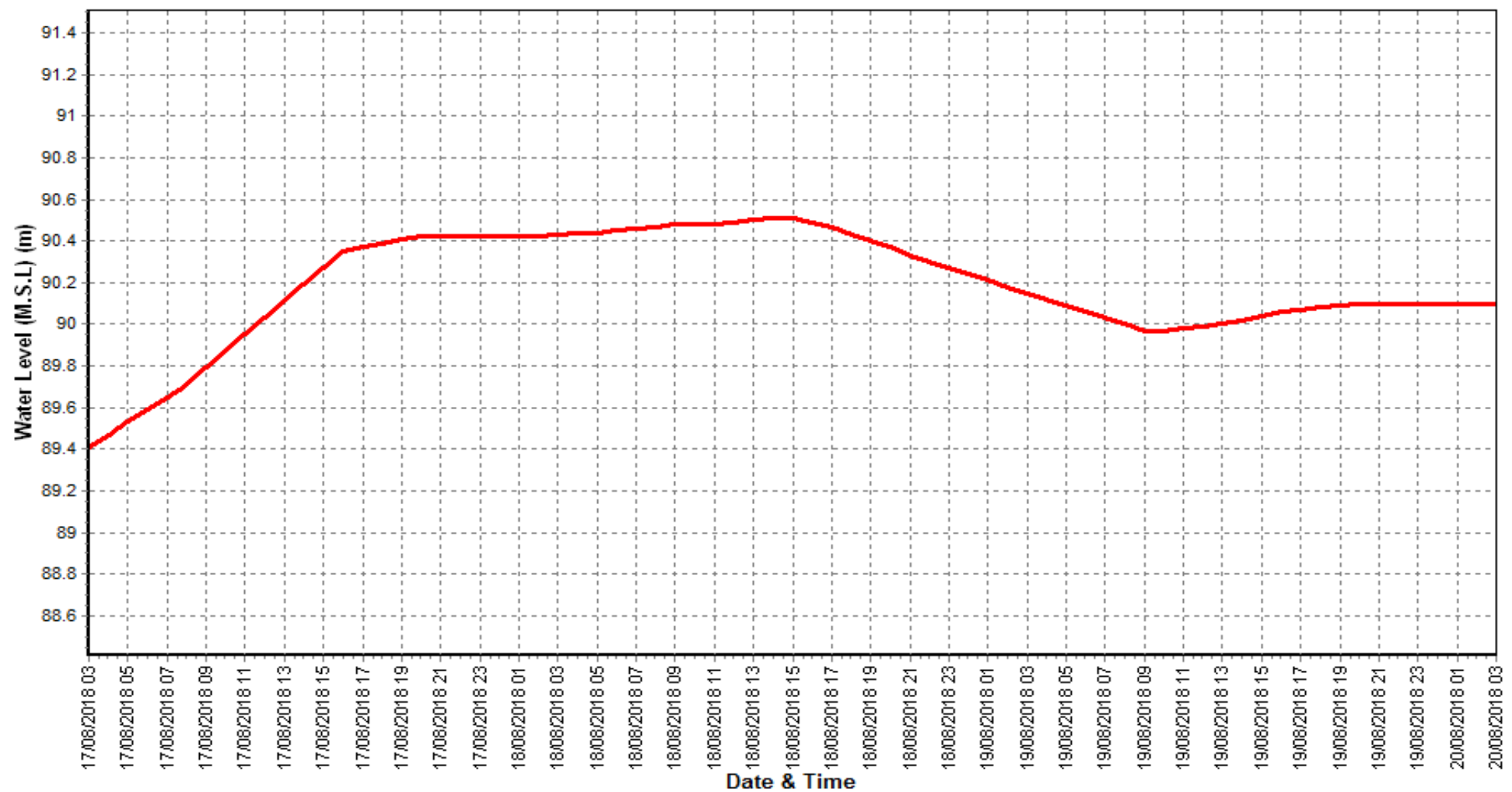
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : Paragaon (AKP00V9)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



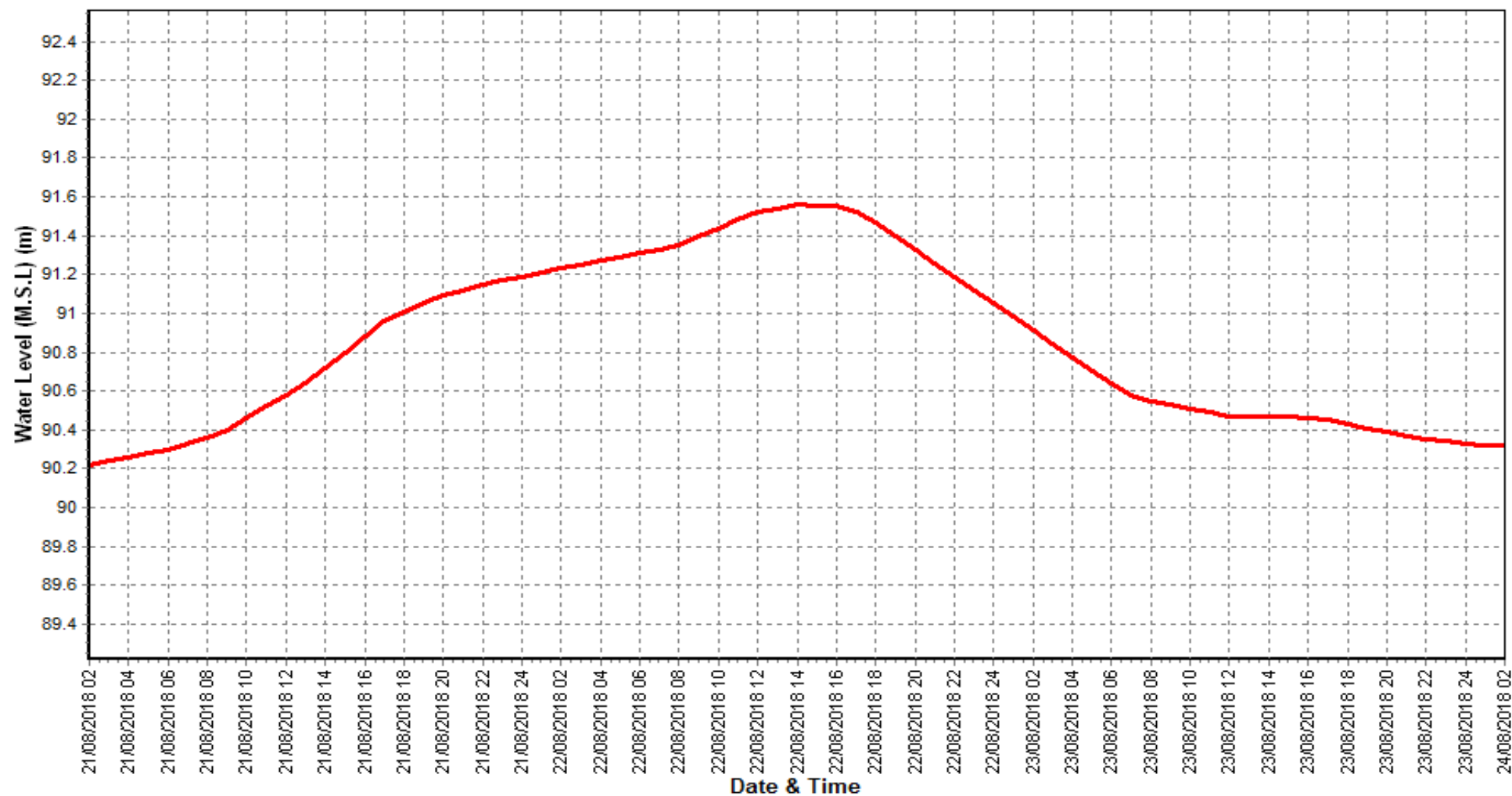
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Paragaon (AKP00V9)

Local River : Bhima

Division : Upper Krishna Divn, Pune

Sub-Division : Bhima SD, Sholapur



HISTORY SHEET

Water Year : 2018-2019

Site : Suddakallu **Code : SUDDAKALLU**

State : Andhra Pradesh District : Mahbubnagar

Basin : Krishna Independent River : Krishna

Tributary : Dindi Sub Tributary : -

Sub-Sub Tributary : - Local River : Dindi

Division : Lower Krishna Divn., Hyderabad Sub-Division : Middle Krishna SD 2 , Kurnool

Drainage Area : 2340 Sq. Km. Bank :

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 - 31/05/2018
01/06/2018

Opening Date Closing Date

Gauge : 20/11/2014 HFL During 2018-19 : 427.5 m

Discharge : 05/10/2017 Corres. Discharge : Dry bed

Sediment : Date & Time of occurrence : 01/06/2018
08:00 Hrs

Water Quality :

HFL Recorded so far in m : 98.670 dt 10-10-2017

Corresponding Discharge (cumecs) : 45.45 *

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

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
Average		17	0	17	1	0	1
75% Dependable flow (MCM)				Sufficient data not available			
90 % Dependable flow (MCM)				Sufficient data not available			

Stage-Discharge Data for the period 2018 - 2019

Station Name : Suddakallu (SUDDAKALLU)

Division : Lower Krishna Divn., Hyderabad

Local River : Dindi

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		0.000		0.000		0.000		0.000		0.000		0.000
2		0.000		0.000		0.000		0.000		0.000		0.000
3		0.000		0.000		0.000		0.000		0.000		0.000
4		0.000		0.000		0.000		0.000		0.000		0.000
5		0.000		0.000		0.000		0.000		0.000		0.000
6		0.000		0.000		0.000		0.000		0.000		0.000
7		0.000		0.000		0.000		0.000		0.000		0.000
8		0.000		0.000		0.000		0.000		0.000		0.000
9		0.000		0.000		0.000		0.000		0.000		0.000
10		0.000		0.000		0.000		0.000		0.000		0.000
11		0.000		0.000		0.000		0.000		0.000		0.000
12		0.000		0.000		0.000		0.000		0.000		0.000
13		0.000		0.000		0.000		0.000		0.000		0.000
14		0.000		0.000		0.000		0.000		0.000		0.000
15		0.000		0.000		0.000		0.000		0.000		0.000
16		0.000		0.000		0.000		0.000		0.000		0.000
17		0.000		0.000		0.000		0.000		0.000		0.000
18		0.000		0.000		0.000		0.000		0.000		0.000
19		0.000		0.000		0.000		0.000		0.000		0.000
20		0.000		0.000		0.000		0.000		0.000		0.000
21		0.000		0.000		0.000		0.000		0.000		0.000
22		0.000		0.000		0.000		0.000		0.000		0.000
23		0.000		0.000		0.000		0.000		0.000		0.000
24		0.000		0.000		0.000		0.000		0.000		0.000
25		0.000		0.000		0.000		0.000		0.000		0.000
26		0.000		0.000		0.000		0.000		0.000		0.000
27		0.000		0.000		0.000		0.000		0.000		0.000
28		0.000		0.000		0.000		0.000		0.000		0.000
29		0.000		0.000		0.000		0.000		0.000		0.000
30		0.000		0.000		0.000		0.000		0.000		0.000
31				0.000		0.000				0.000		
Ten-Daily Mean												
I Ten-Daily		0.000		0.000		0.000		0.000		0.000		0.000
II Ten-Daily		0.000		0.000		0.000		0.000		0.000		0.000
III Ten-Daily		0.000		0.000		0.000		0.000		0.000		0.000
Monthly												
Min.		0.000		0.000		0.000		0.000		0.000		0.000
Max.		0.000		0.000		0.000		0.000		0.000		0.000
Mean		0		0		0		0		0		0

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

Peak Observed Discharge = 0.000 cumecs on 01/06/2018

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018

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

Stage-Discharge Data for the period 2018 - 2019

Station Name : Suddakallu (SUDDAKALLU)

Division : Lower Krishna Divn., Hyderabad

Local River : Dindi

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		0.000		0.000		0.000		0.000		0.000		0.000
2		0.000		0.000		0.000		0.000		0.000		0.000
3		0.000		0.000		0.000		0.000		0.000		0.000
4		0.000		0.000		0.000		0.000		0.000		0.000
5		0.000		0.000		0.000		0.000		0.000		0.000
6		0.000		0.000		0.000		0.000		0.000		0.000
7		0.000		0.000		0.000		0.000		0.000		0.000
8		0.000		0.000		0.000		0.000		0.000		0.000
9		0.000		0.000		0.000		0.000		0.000		0.000
10		0.000		0.000		0.000		0.000		0.000		0.000
11		0.000		0.000		0.000		0.000		0.000		0.000
12		0.000		0.000		0.000		0.000		0.000		0.000
13		0.000		0.000		0.000		0.000		0.000		0.000
14		0.000		0.000		0.000		0.000		0.000		0.000
15		0.000		0.000		0.000		0.000		0.000		0.000
16		0.000		0.000		0.000		0.000		0.000		0.000
17		0.000		0.000		0.000		0.000		0.000		0.000
18		0.000		0.000		0.000		0.000		0.000		0.000
19		0.000		0.000		0.000		0.000		0.000		0.000
20		0.000		0.000		0.000		0.000		0.000		0.000
21		0.000		0.000		0.000		0.000		0.000		0.000
22		0.000		0.000		0.000		0.000		0.000		0.000
23		0.000		0.000		0.000		0.000		0.000		0.000
24		0.000		0.000		0.000		0.000		0.000		0.000
25		0.000		0.000		0.000		0.000		0.000		0.000
26		0.000		0.000		0.000		0.000		0.000		0.000
27		0.000		0.000		0.000		0.000		0.000		0.000
28		0.000		0.000		0.000		0.000		0.000		0.000
29		0.000		0.000				0.000		0.000		0.000
30		0.000		0.000				0.000		0.000		0.000
31		0.000		0.000				0.000				0.000
Ten-Daily Mean												
I Ten-Daily		0.000		0.000		0.000		0.000		0.000		0.000
II Ten-Daily		0.000		0.000		0.000		0.000		0.000		0.000
III Ten-Daily		0.000		0.000		0.000		0.000		0.000		0.000
Monthly												
Min.		0.000		0.000		0.000		0.000		0.000		0.000
Max.		0.000		0.000		0.000		0.000		0.000		0.000
Mean		0		0		0		0		0		0

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

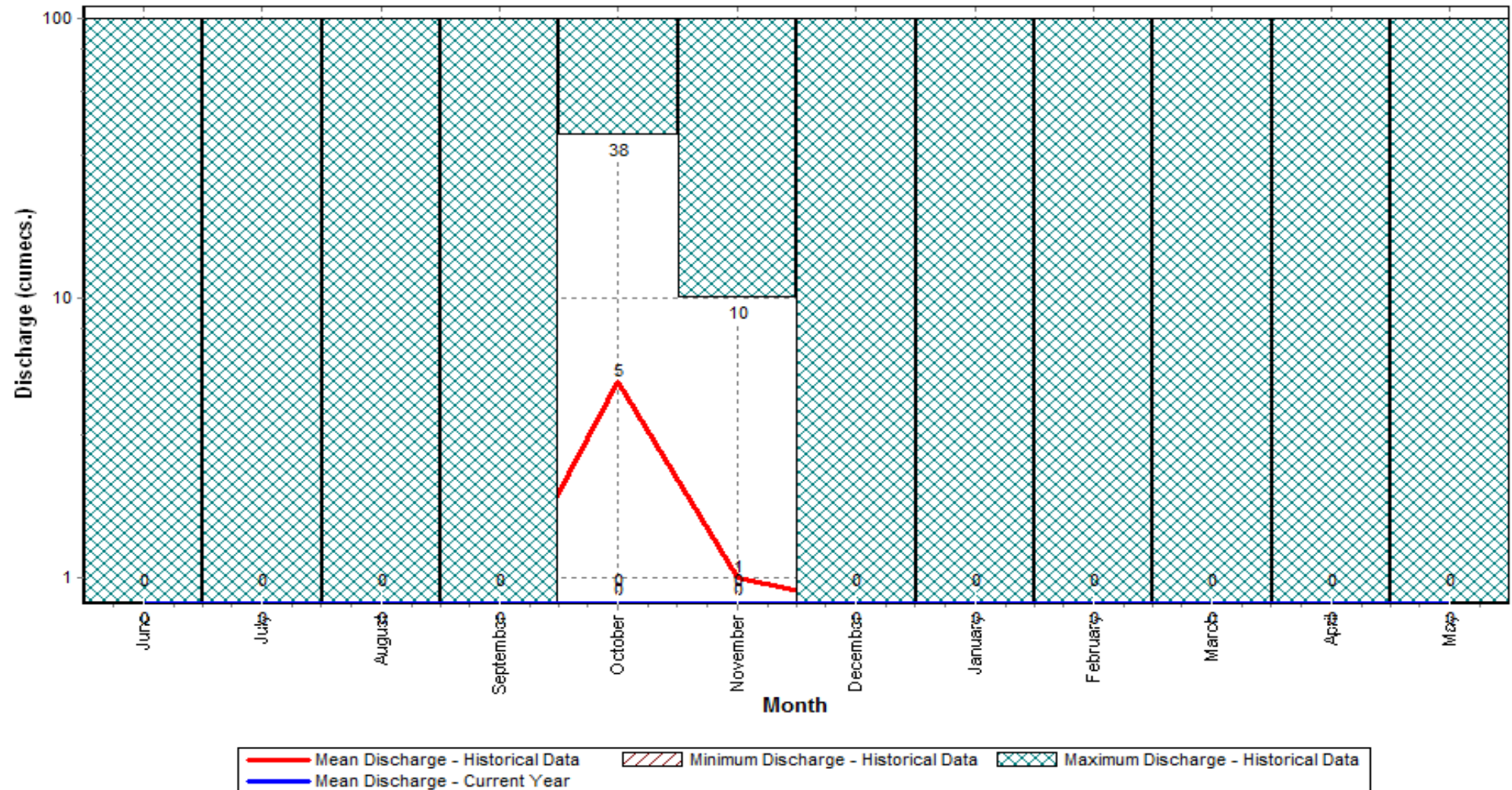
Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2018-2019

Station Name : Suddakallu (SUDDAKALLU)
Local River : Dindi

Data considered : 2016-2019

Division : Lower Krishna Divn., Hyderabad
Sub-Division : Middle Krishna SD 2 , Kurnool



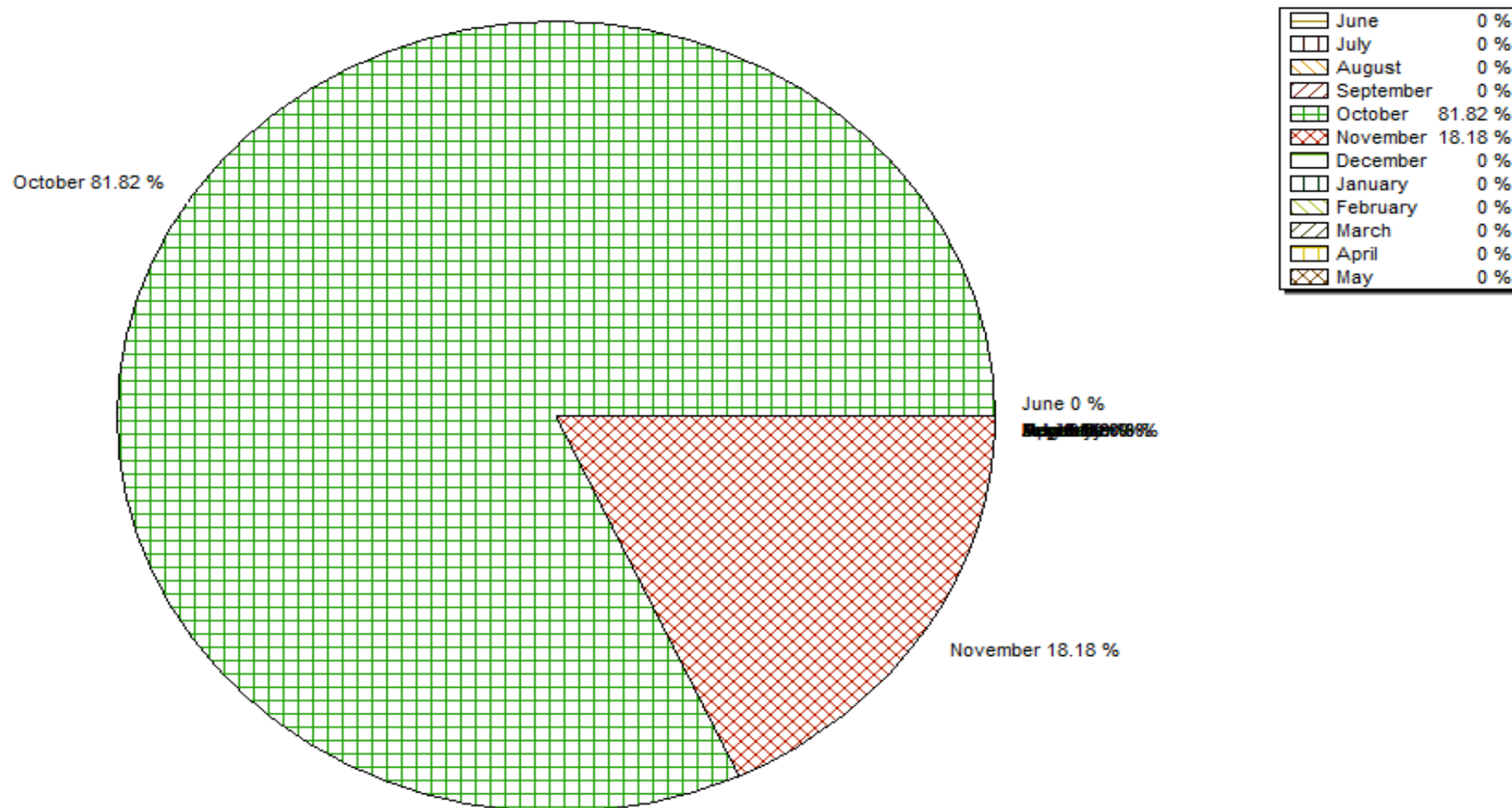
Monthly Average Runoff based on period : 2016-2018

Station Name : Suddakallu (SUDDAKALLU)

Local River : Dindi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



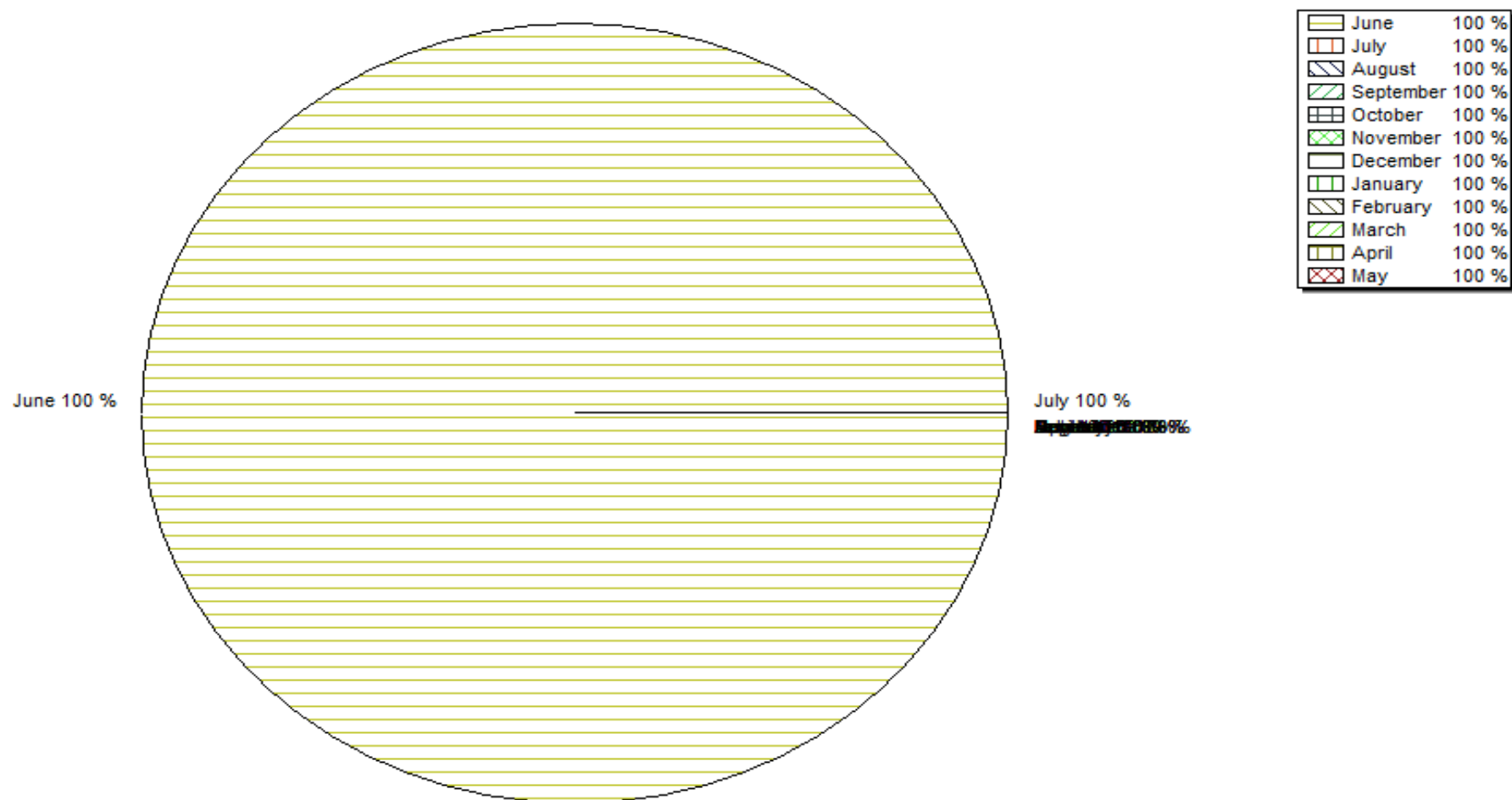
Monthly Runoff for the Year : 2018-2019

Station Name : Suddakallu (SUDDAKALLU)

Local River : Dindi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



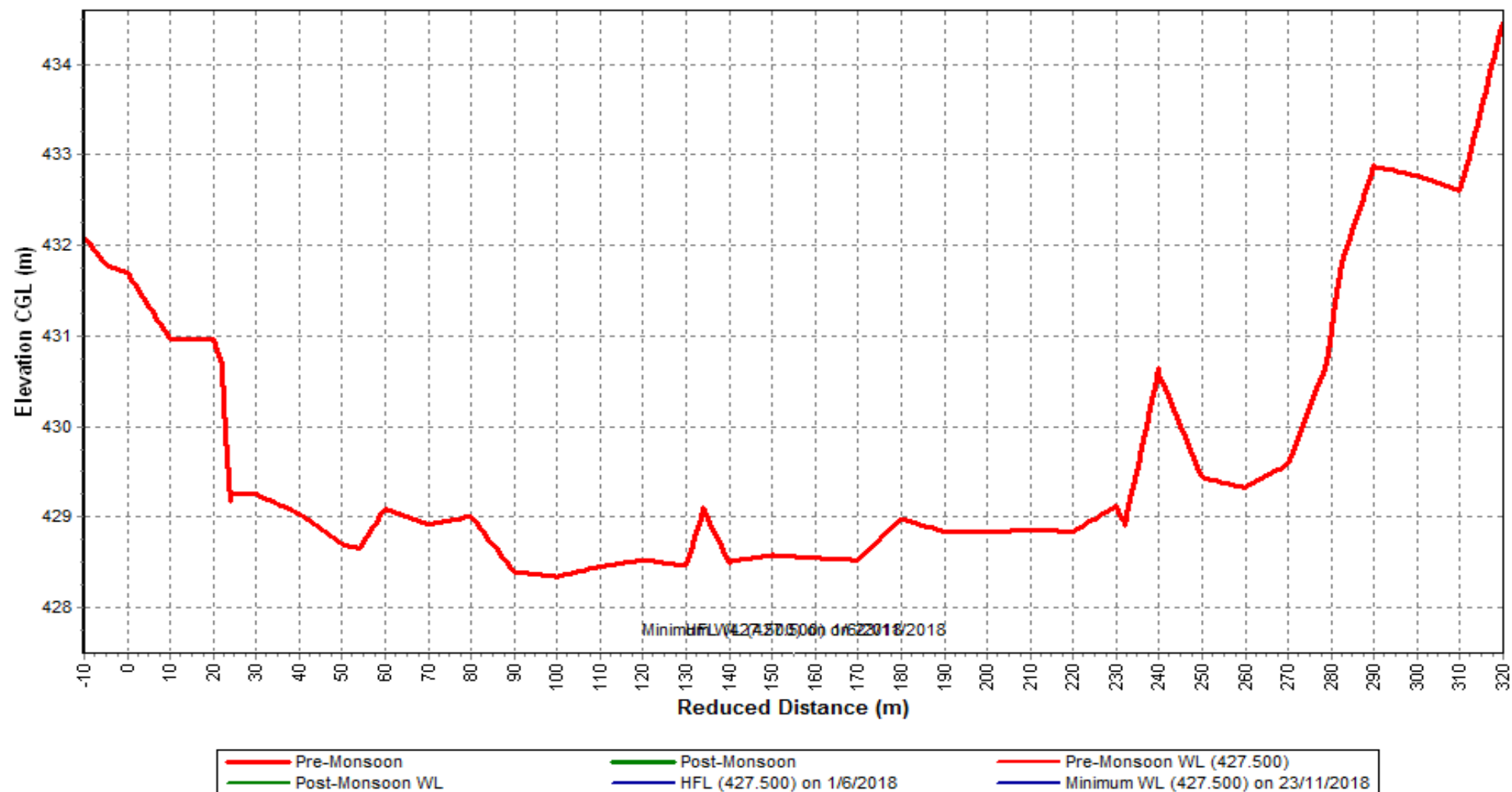
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Suddakallu (SUDDAKALLU)

Local River : Dindi

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



HISTORY SHEET

Water Year : 2018-2019

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 - 31/05/1981
01/06/1981

Opening Date

Closing Date

Gauge : 01/02/1976

Discharge : 01/02/1976

Sediment : 01/06/1976

Water Quality : 01/02/1976

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	6505	352.700	19/08/1982	1.210	345.500	08/05/1983
1983-1984	9510	353.860	02/07/1983	5.900	345.620	14/06/1983
1984-1985	6601	352.940	23/07/1984	13.40	345.790	29/05/1985
1985-1986	5487	352.570	06/08/1985	8.500	345.800	10/05/1986
1986-1987	5225	352.670	16/08/1986	5.500	345.745	02/05/1987
1987-1988	4741	351.975	11/07/1987	5.000	345.740	15/06/1987
1988-1989	8935	353.790	09/08/1988	7.236	345.740	29/05/1989
1989-1990	7764	353.865	30/07/1989	8.064	345.760	01/06/1989
1990-1991	7752	353.460	23/08/1990	9.147	345.870	12/05/1991
1991-1992	8748	354.040	03/08/1991	7.884	346.030	24/05/1992
1992-1993	4415	352.055	18/08/1992	0.855	345.770	16/05/1993
1993-1994	5411	352.660	20/10/1993	13.65	345.988	03/06/1993

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

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1994-1995	10126	355.120	21/07/1994	3.003	345.750	11/05/1995
1995-1996	3911	351.385	25/07/1995	1.847	345.660	11/05/1996
1996-1997	5342	352.870	08/10/1996	6.111	345.760	31/05/1997
1997-1998	8910	354.290	12/08/1997	3.343	345.650	24/05/1998
1998-1999	5464	352.810	15/10/1998	8.130	345.800	09/05/1999
1999-2000	7267	353.785	28/07/1999	4.176	345.760	21/05/2000
2000-2001	4831	352.400	17/07/2000	2.091	345.680	27/05/2001
2001-2002	4254	351.970	09/10/2001	1.130	345.650	15/07/2001
2002-2003	3916	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	5307	353.195	09/08/2004	5.675	345.910	23/07/2004
2005-2006	10459	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	8470	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	714.8	348.060	12/09/2015	0.000	345.230	24/03/2016
2016-2017	7054	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

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
Average		14649	595	14912	506	21	527
75% Dependable flow (MCM)				9961.331			
90 % Dependable flow (MCM)				4921.673			

Stage-Discharge Data for the period 2018 - 2019

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	345.320	0.000	345.380	0.000	346.730	206.6	349.980	2248	346.120	42.68	346.090	46.28
2	345.320	0.000	345.330	0.000	346.150	52.79	348.170	823.4 *	346.090	48.33 *	346.080	46.11
3	346.040	0.000	345.300	0.000	345.990	29.54	347.130	334.7	345.970	32.51 #	346.130	51.58
4	346.250	0.000	345.280	0.000	345.930	27.33	348.400	1012	345.890	23.71 #	346.280	79.78 *
5	345.870	0.000	345.280	0.000	345.960	31.34 *	347.715	661.3	346.000	28.71	346.180	62.24 #
6	345.740	0.000	345.270	0.000	346.560	140.5 #	347.650	491.2	346.000	36.17 #	346.160	59.00 #
7	345.690	0.000	345.300	0.000	346.740	188.6 #	347.170	352.9	346.130	54.29 *	346.170	60.61 *
8	345.690	0.000	345.520	0.000	348.340	1020	347.290	410.4	346.070	43.05	346.190	63.90 *
9	346.000	0.000	345.490	0.000	347.890	704.8	346.960	257.0 *	346.000	31.56	346.150	57.41 *
10	345.920	0.000	345.490	0.000	347.610	589.3	346.890	243.2	346.120	52.77 #	346.150	57.41 *
11	345.730	0.000	345.380	0.000	347.610	603.0	346.890	241.3	346.110	40.79	346.250	74.29 *
12	345.720	0.000	345.330	0.000	348.220	853.7 *	346.890	245.2	346.100	43.50	346.110	51.27 #
13	345.710	0.000	345.320	0.000	348.030	796.9	346.500	126.0 *	346.120	46.55	346.090	49.05
14	345.660	0.000	345.310	0.000	349.230	1753	346.240	72.50 #	346.100	49.79 *	346.090	48.33 #
15	345.480	0.000	345.280	0.000	350.620	3041	346.210	67.28 #	346.100	44.58	345.880	22.71 #
16	345.470	0.000	345.250	0.000	351.330	3819	346.080	42.22 *	346.100	43.29	345.840	18.92 #
17	345.450	0.000	345.200	0.000	351.940	4581	346.170	60.61 #	346.100	44.87	345.800	15.47 #
18	345.380	0.000	350.170	2660	351.310	3789	346.235	71.62 #	346.410	105.8 #	345.800	15.47 *
19	345.380	0.000	351.980	4642	351.500	3984	346.300	69.79	346.810	209.2 *	345.800	16.16
20	345.380	0.000	352.420	5513	350.840	3239	346.660	183.3	346.540	139.1	345.800	15.68
21	345.400	0.000	352.450	5555	352.010	4539	346.500	134.0	346.380	99.50 *	345.800	15.47 *
22	345.400	0.000	352.220	5239	352.260	5239	346.410	114.6	346.540	141.0	345.800	15.54
23	345.400	0.000	352.010	4614	352.260	5239	346.430	110.2 *	346.240	67.26	345.800	15.47 *
24	345.400	0.000	352.510	5556	351.600	3990	346.380	83.47	346.200	56.86	345.800	15.00
25	345.400	0.000	351.530	3923	350.300	2710	346.280	68.49	346.190	63.90 #	345.990	34.93 *
26	345.400	0.000	351.400	3845	350.865	3308	346.410	109.9	346.085	37.84	346.000	37.97
27	345.400	0.000	350.570	2842	351.520	4002	346.500	125.3	345.980	29.34	346.000	38.62
28	345.400	0.000	348.080	754.9	350.490	2766	346.450	113.5	345.880	22.71 *	345.910	27.61
29	345.400	0.000	348.050	752.8 *	348.420	994.8	346.320	77.38	346.000	36.17 #	345.850	23.46
30	345.400	0.000	347.270	333.4	350.690	3007	346.200	65.58 *	346.005	31.41	345.850	23.79
31			347.190	351.3	351.470	3890			346.065	43.53		
Ten-Daily Mean												
I Ten-Daily	345.784	0.000	345.364	0.000	346.790	299.0	347.736	683.5	346.039	39.38	346.158	58.43
II Ten-Daily	345.536	0.000	347.164	1281	350.063	2646	346.417	118.0	346.249	76.75	345.946	32.74
III Ten-Daily	345.400	0.000	350.298	3070	351.080	3608	346.388	100.2	346.142	57.23	345.880	24.79
Monthly												
Min.	345.320	0.000	345.200	0.000	345.930	27.33	346.080	42.22	345.880	22.71	345.800	15.00
Max.	346.250	0.000	352.510	5556	352.260	5239	349.980	2248	346.810	209.2	346.280	79.78
Mean	345.573	0	347.695	1503	349.368	2230	346.847	300.6	346.143	57.77	345.995	38.65

Annual Runoff in MCM = 11199 Annual Runoff in mm = 203

Peak Observed Discharge = 5556 cumecs on 24/07/2018 Corres. Water Level :352.51 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018 Corres. Water Level :345.32 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

Stage-Discharge Data for the period 2018 - 2019

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	345.850	23.19	345.360	0.000	344.700	0.000	345.010	0.000	346.130	52.95	345.230	0.000
2	345.850	19.84 *	345.360	0.000	344.640	0.000	344.640	0.000	345.650	9.675	345.230	0.000
3	345.850	22.96	345.360	0.000	344.590	0.000	344.930	0.000	345.570	6.515	345.230	0.000
4	345.850	23.28	345.350	0.000	344.530	0.000	344.790	0.000	345.410	1.639	345.230	0.000
5	345.850	22.71	346.950	0.000	344.500	0.000	344.690	0.000	345.240	0.000	345.210	0.000
6	345.850	23.08	346.370	0.000	344.450	0.000	344.640	0.000	345.220	0.000	345.210	0.000
7	345.850	22.51	345.810	0.000	344.440	0.000	344.540	0.000	345.200	0.000	345.190	0.000
8	345.850	22.85	345.670	0.000	344.390	0.000	344.500	0.000	345.180	0.000	345.160	0.000
9	345.850	19.84 *	345.550	0.000	344.370	0.000	346.610	200.0	345.140	0.000	345.160	0.000
10	345.850	22.37	345.450	0.000	344.350	0.000	346.340	79.81 *	345.110	0.000	345.140	0.000
11	345.850	22.58	345.410	0.000	344.320	0.000	345.830	20.03	345.100	0.000	346.600	185.7
12	345.850	22.17	345.360	0.000	346.510	108.8	345.620	7.523	345.090	0.000	346.510	107.6 *
13	345.850	21.97	345.350	0.000	346.400	85.82	345.500	3.191	345.090	0.000	346.230	66.12
14	345.850	21.72	345.340	0.000	345.950	31.47	345.240	0.000	345.070	0.000	345.950	33.31
15	345.850	21.98	345.340	0.000	345.710	12.99	345.230	0.000	345.060	0.000	345.650	10.24 #
16	345.850	19.84 *	345.340	0.000	345.540	0.000	345.200	0.000	345.050	0.000	345.510	5.588
17	345.850	21.19	345.340	0.000	345.450	0.000	345.140	0.000	345.030	0.000	345.370	0.938 #
18	345.740	10.96 #	345.340	0.000	345.340	0.000	345.080	0.000	345.030	0.000	345.320	0.341 *
19	345.610	0.000	345.340	0.000	345.240	0.000	345.040	0.000	345.020	0.000	345.290	0.128 *
20	345.570	0.000	345.330	0.000	345.900	32.06	345.000	0.000	345.010	0.000	345.260	0.000
21	345.630	0.000	345.290	0.000	345.760	16.32	344.990	0.000	345.010	0.000	345.240	0.000
22	345.570	0.000	345.270	0.000	345.550	5.720 #	344.840	0.000	346.715	188.2	345.220	0.000
23	345.520	0.000	345.240	0.000	345.400	1.464	344.720	0.000	346.140	56.86	345.210	0.000
24	345.510	0.000	345.200	0.000	345.310	0.000	344.620	0.000	345.630	9.224	345.210	0.000
25	345.510	0.000	345.110	0.000	345.240	0.000	344.500	0.000	345.480	3.358	345.200	0.000
26	345.520	0.000	345.080	0.000	345.230	0.000	344.460	0.000	345.395	1.352	345.170	0.000
27	345.470	0.000	344.990	0.000	345.140	0.000	344.430	0.000	345.380	1.094	345.150	0.000
28	345.450	0.000	344.940	0.000	345.110	0.000	344.370	0.000	345.360	0.794 *	345.140	0.000
29	345.410	0.000	344.840	0.000			344.360	0.000	345.310	0.773	345.130	0.000
30	345.380	0.000	344.810	0.000			344.290	0.000	345.240	0.000	345.120	0.000
31	345.360	0.000	344.730	0.000			346.640	198.2 *			345.100	0.000
Ten-Daily Mean												
I Ten-Daily	345.850	22.26	345.723	0.000	344.496	0.000	345.069	27.98	345.385	7.078	345.199	0.000
II Ten-Daily	345.787	16.24	345.349	0.000	345.636	27.11	345.288	3.074	345.055	0.000	345.769	41.00
III Ten-Daily	345.484	0.000	345.045	0.000	345.342	2.939	344.747	18.02	345.566	26.17	345.172	0.000
Monthly												
Min.	345.360	0.000	344.730	0.000	344.320	0.000	344.290	0.000	345.010	0.000	345.100	0.000
Max.	345.850	23.28	346.950	0.000	346.510	108.8	346.640	200.0	346.715	188.2	346.600	185.7
Mean	345.700	12.42	345.362	0	345.145	10.52	345.025	16.41	345.335	11.08	345.373	13.23

Peak Computed Discharge = 853.7 cumecs on 12/08/2018

Corres. Water Level :348.22 m

Lowest Computed Discharge = 0.128 cumecs on 19/05/2019

Corres. Water Level :345.29 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 : 2018-2019

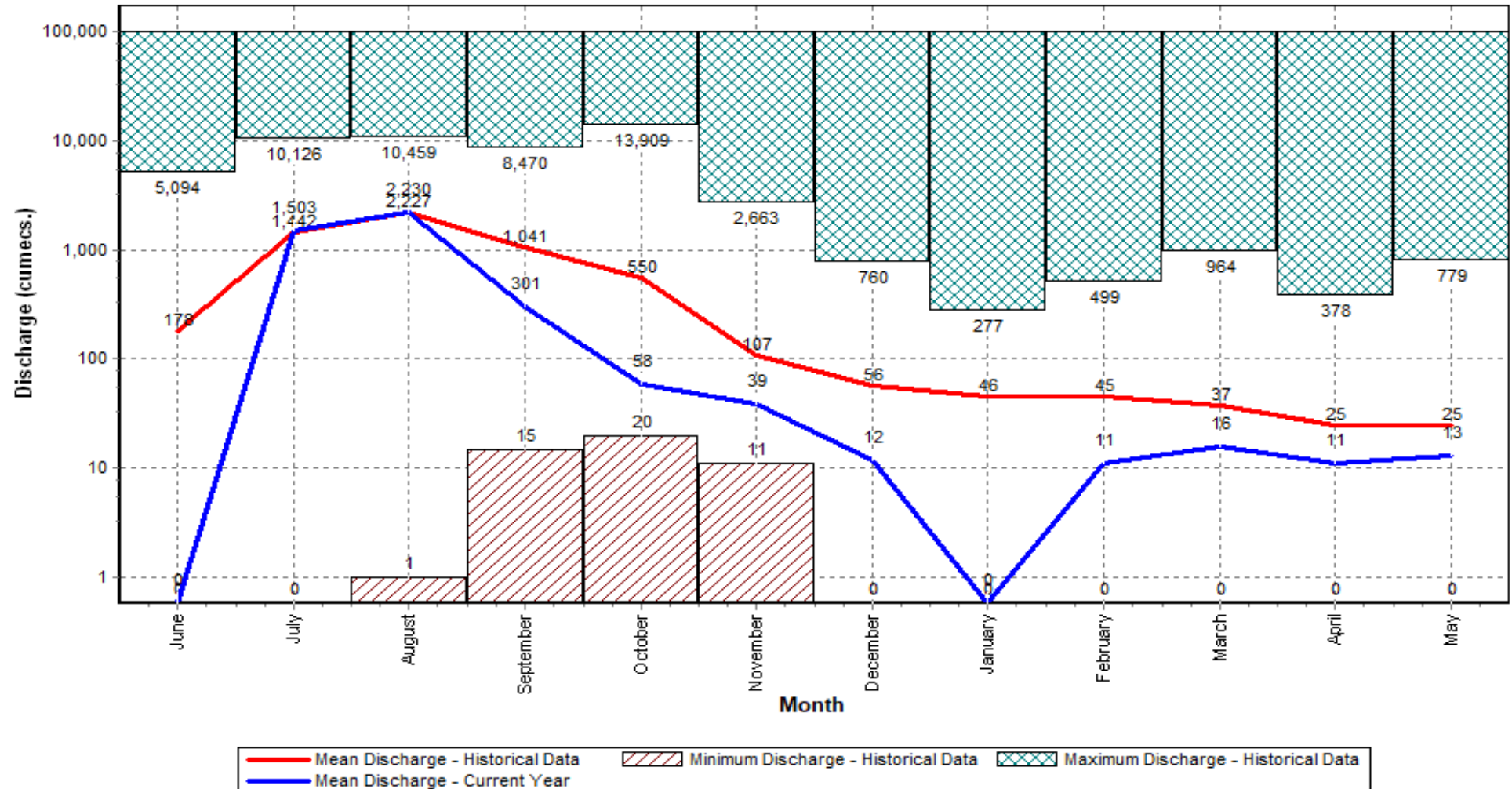
Station Name : Huvinhedigi (AK000N2)

Data considered : 1976-2019

Division : Lower Krishna Divn., Hyderabad

Local River : Krishna

Sub-Division : Middle Krishna SD 2 . Kurnool



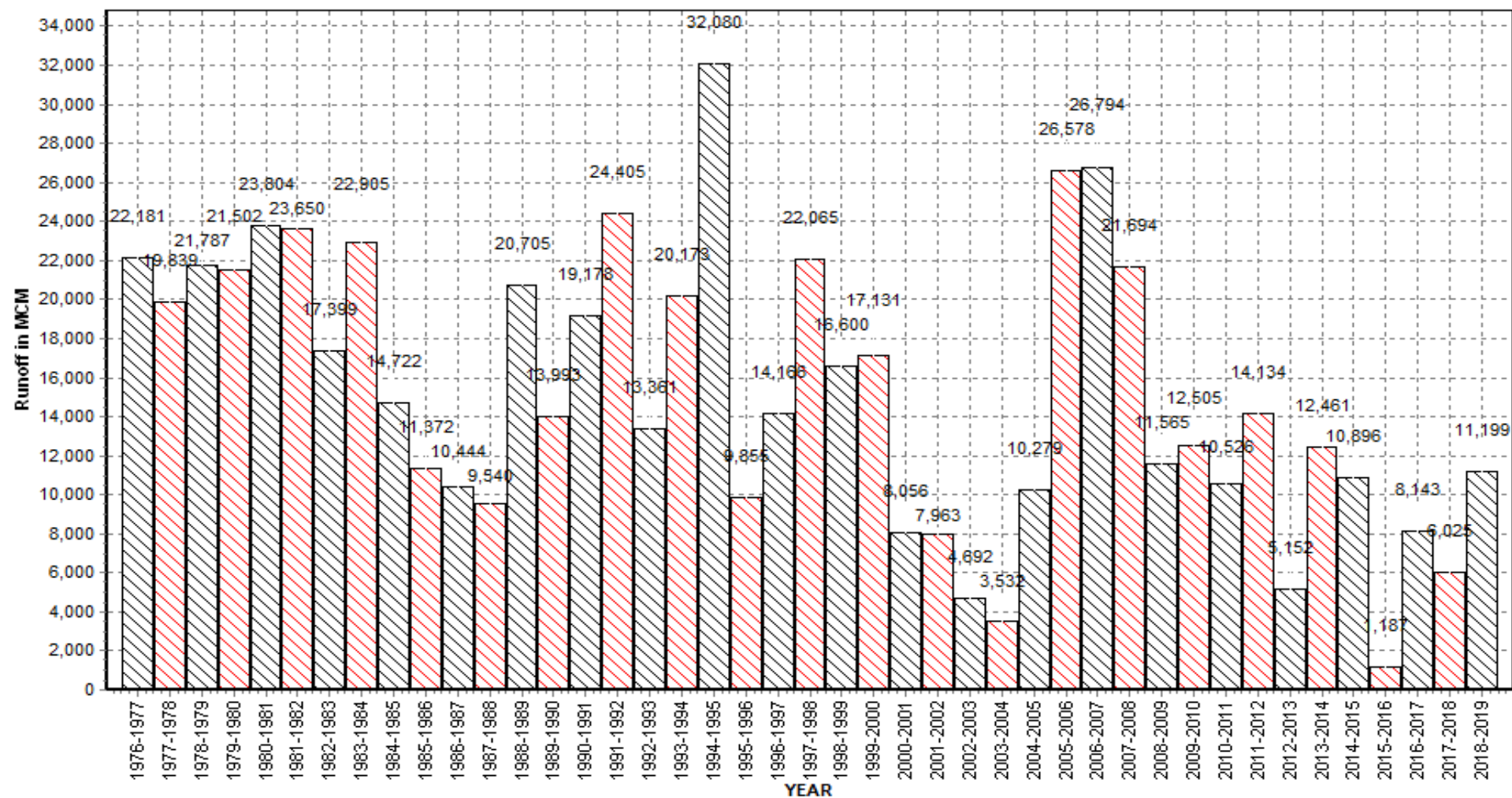
Annual Runoff Values for the period: 1976 - 2019

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

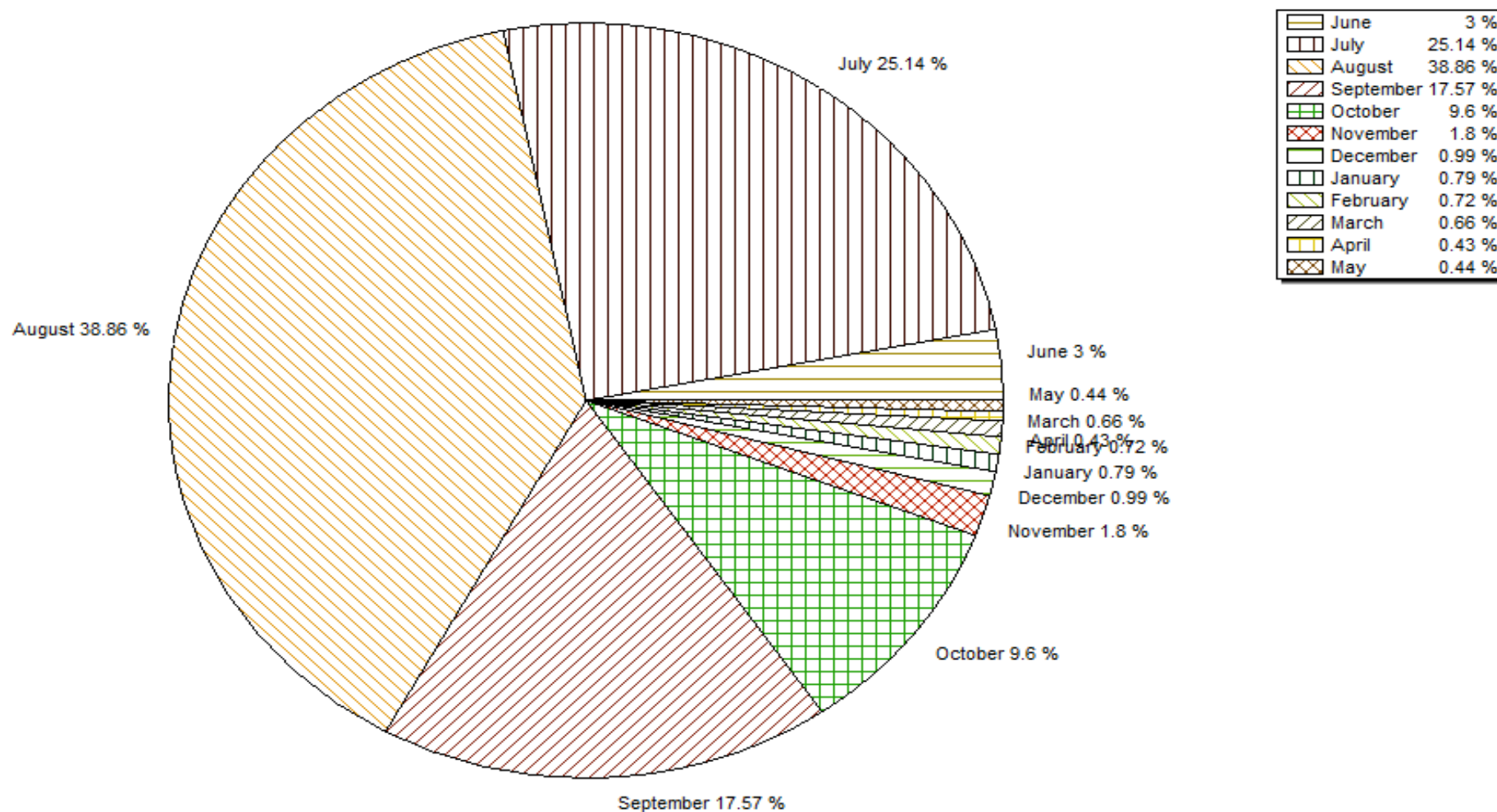
Monthly Average Runoff based on period : 1976-2018

Station Name : Huvinhedigi (AK000N2)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 . Kurnool



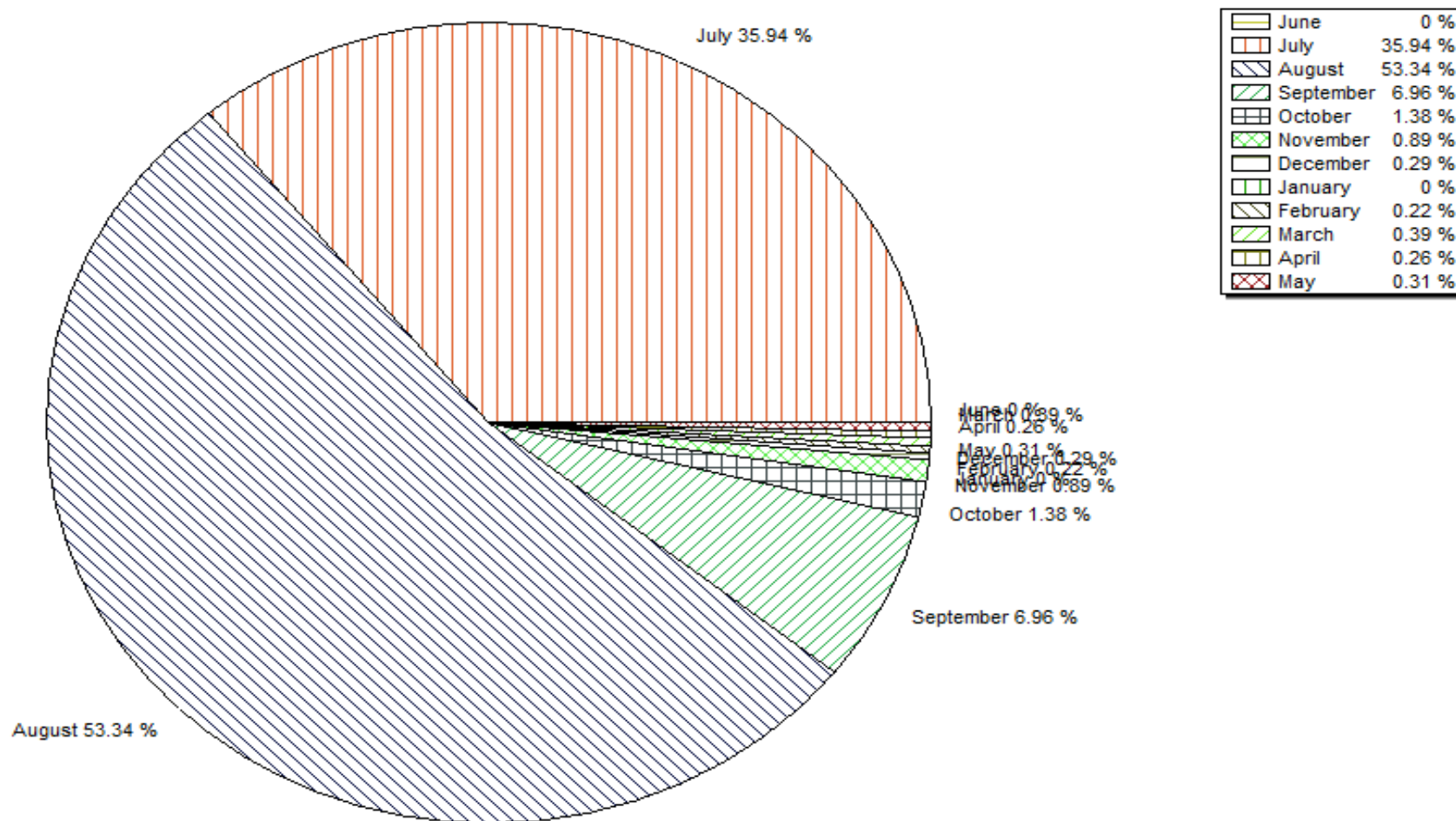
Monthly Runoff for the Year : 2018-2019

Station Name : Huvinhedigi (AK000N2)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



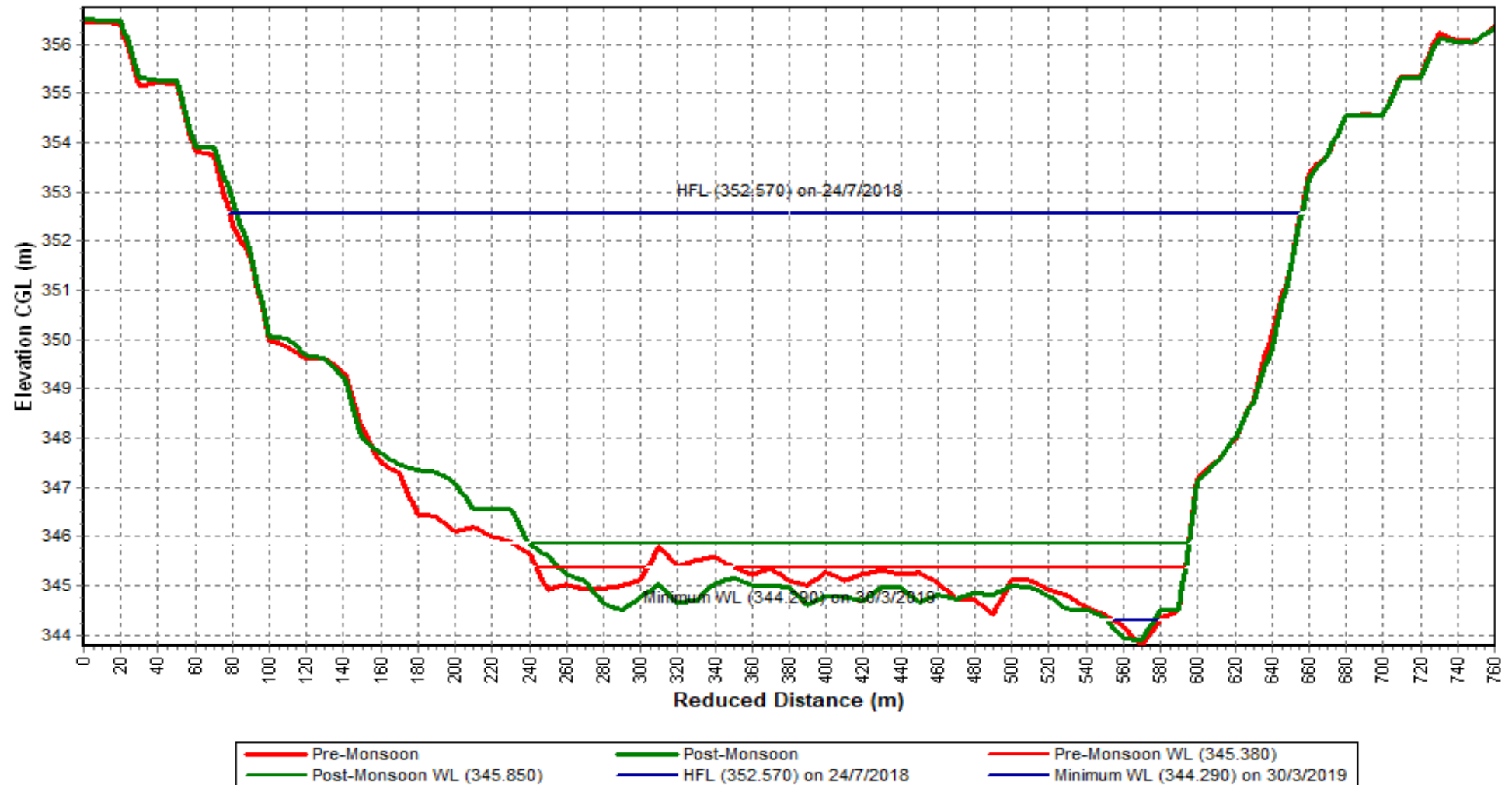
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Huvinhedigi (AK000N2)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



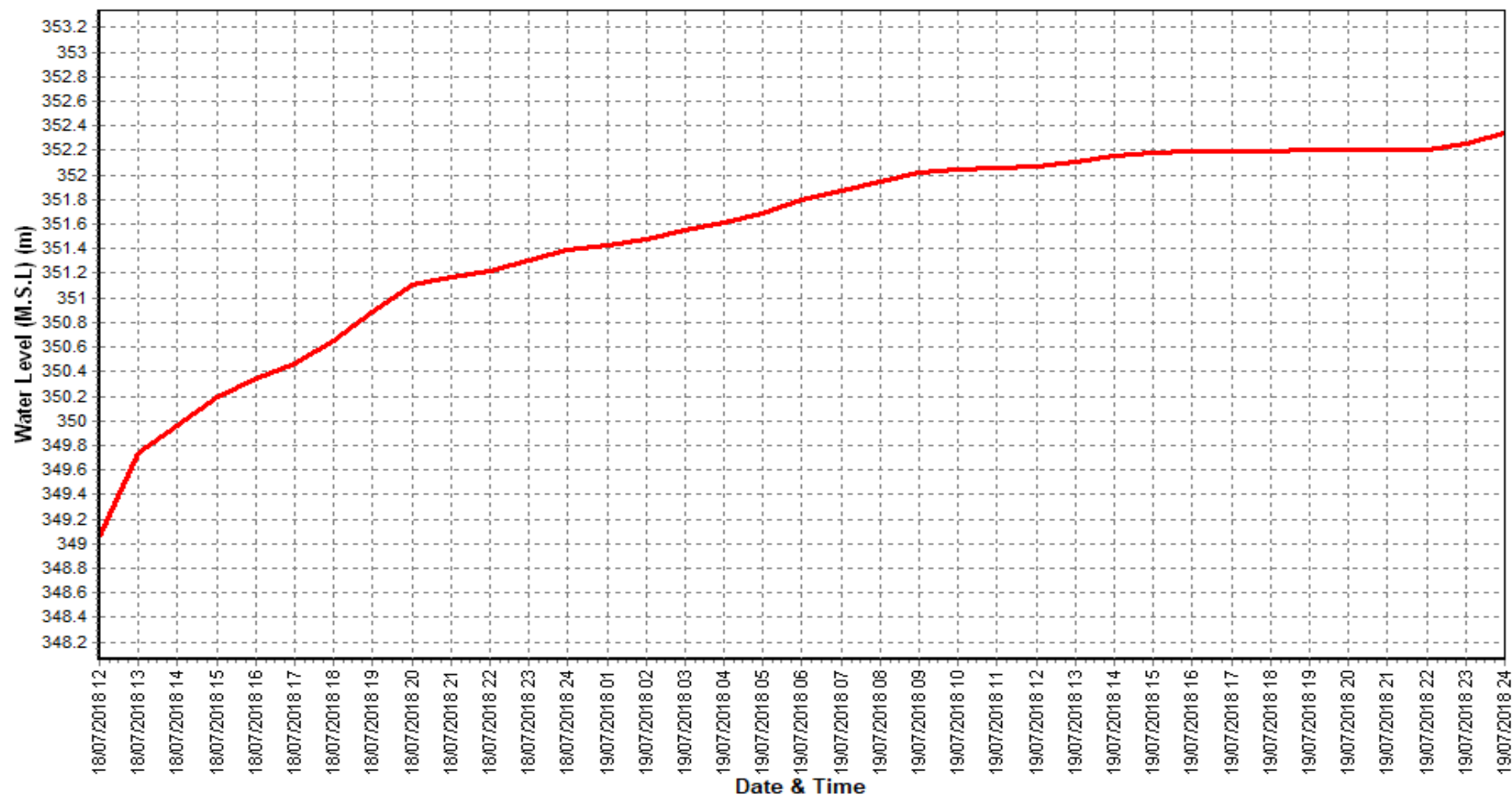
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : Huvinhedigi (AK000N2)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



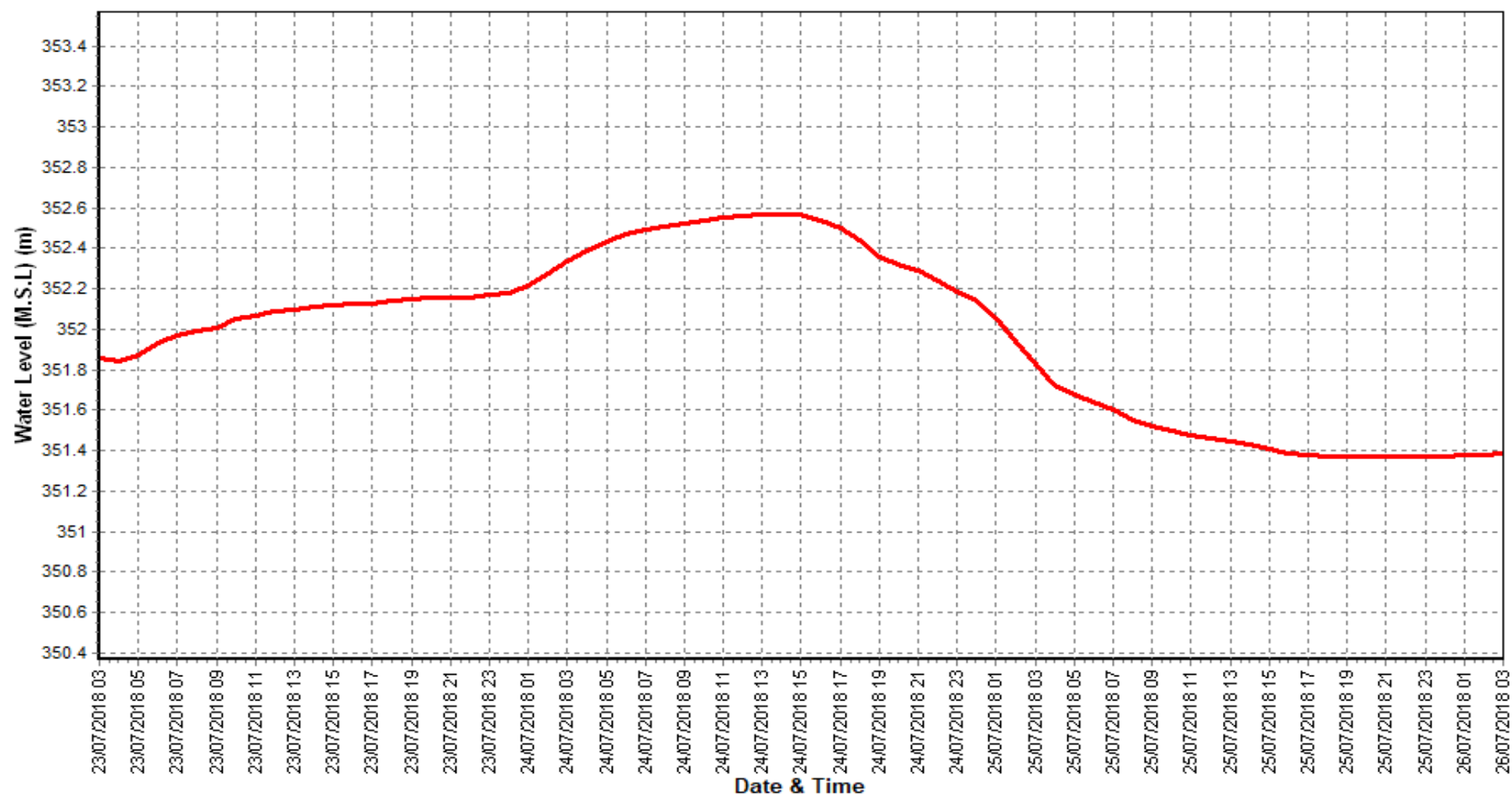
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Huvinhedigi (AK000N2)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



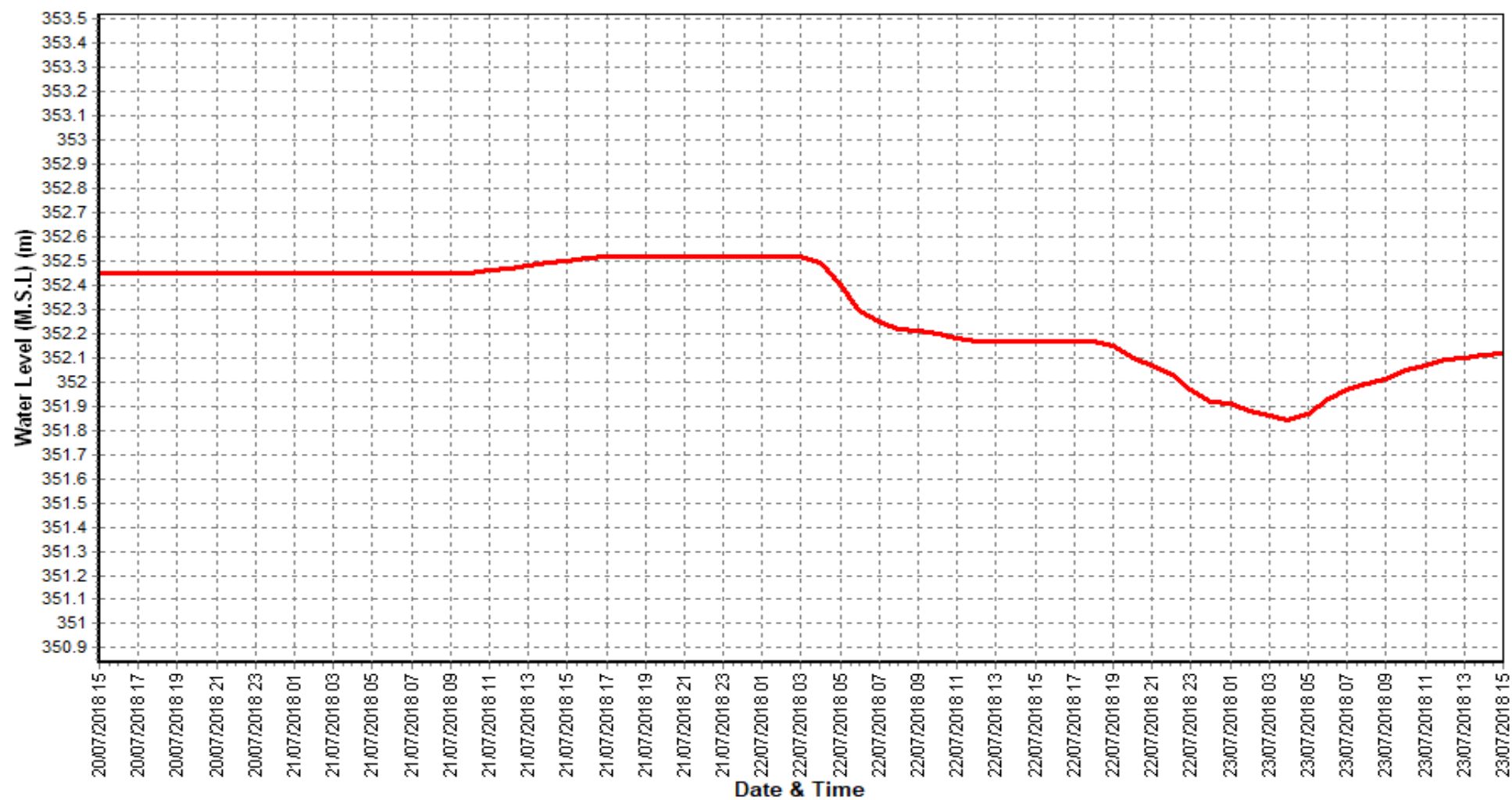
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Huvinhedigi (AK000N2)

Local River : Krishna

Division : Lower Krishna Divn., Hyderabad

Sub-Division : Middle Krishna SD 2 , Kurnool



HISTORY SHEET

Water Year : 2018-2019

Site : Talikot (Seasonal)

Code : AKQ00E2

State : Karnataka

District : Bijapur

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

Sediment :

Water Quality :

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	375.7	54.995	12/09/1996	0.000	50.095	31/03/1997
1997-1998	182.0	52.940	28/10/1997	0.000	50.150	30/04/1998
1998-1999	486.0	55.055	14/10/1998	0.000	50.365	18/07/1998
1999-2000	141.0	52.380	12/06/1999	0.000	50.130	23/03/2000
2000-2001	457.4	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	446.9	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	432.0	501.215	26/08/2010	0.000	497.720	10/06/2010
2011-2012	78.36	498.800	21/08/2011	0.000	497.070	26/06/2011
2012-2013	98.94	499.000	07/10/2012	0.000	496.990	05/07/2012
2013-2014	115.7	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	182.5	501.200	11/09/2015	0.000	497.370	27/06/2015
2016-2017	60.00	499.030	31/07/2016	0.000		03/10/2016
2017-2018	104.3	499.950	12/10/2017	0.000		05/08/2017

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		173	6	0	6
13	2007-2008	264		264	9	0	9
14	2008-2009	172		172	6	0	6
15	2009-2010	704		704	25	0	25
16	2010-2011	163		163	6	0	6
17	2011-2012	41		41	1	0	1
18	2012-2013	53		53	2	0	2
19	2013-2014	115		115	4	0	4
20	2014-2015	170		170	6	0	6
21	2015-2016	167		167	6	0	6
22	2016-2017	12		12	0	0	0
23	2017-2018	123		123	4	0	4
24	2018-2019	10		10	0	0	0
Average		194	8	197	7	0	7
75% Dependable flow (MCM)				82.76			
90 % Dependable flow (MCM)				24.08			

Stage-Discharge Data for the period 2018 - 2019

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	496.000	0.000	497.160	0.000	497.110	0.000	497.330	0.000	497.700	1.918	497.225	0.000
2	497.200	0.000	497.160	0.000	497.110	0.000	497.345	0.000	497.520	1.187	497.180	0.000
3	497.460	0.000	497.200	0.000	497.110	0.000	497.350	0.000	497.650	1.766 #		0.000
4	497.790	0.000	497.220	0.000	497.100	0.000	497.500	0.875	497.520	1.105		0.000
5	497.720	0.000	497.200	0.000		0.000	497.440	0.485	497.350	0.403		0.000
6	498.780	0.000	497.190	0.000		0.000	497.390	0.000	497.340	0.403		0.000
7	499.250	0.000	497.220	0.000		0.000	497.360	0.000	497.340	0.438 *		0.000
8	498.710	0.000	497.200	0.000		0.000	497.350	0.000	497.340	0.488		0.000
9	498.320	0.000	497.200	0.000		0.000	497.340	0.000	497.330	0.437		0.000
10	498.600	0.000	497.180	0.000		0.000	497.335	0.000	497.290	0.000		0.000
11	497.875	3.954	497.170	0.000		0.000	497.330	0.000	497.290	0.000		0.000
12	497.815	3.567	497.160	0.000		0.000	497.330	0.000	497.280	0.000		0.000
13	497.610	1.108	497.150	0.000		0.000	497.330	0.000	497.270	0.000		0.000
14	497.440	0.455 #	497.140	0.000		0.000	497.400	0.000	497.270	0.000		0.000
15	497.320	0.126 #	497.160	0.000		0.000	497.390	0.000	497.265	0.000		0.000
16	497.290	0.078 #	497.180	0.000		0.000	497.380	0.000	497.260	0.000		0.000
17	497.240	0.000	497.170	0.000		0.000	497.700	2.056 #	497.260	0.000		0.000
18	497.190	0.000	497.190	0.000	497.325	0.000	499.375	52.30	497.290	0.000		0.000
19	497.180	0.000	497.170	0.000	497.320	0.000	497.930	5.646	497.300	0.000		0.000
20	497.170	0.000	497.160	0.000	497.320	0.000	497.850	3.607 #	497.320	0.000		0.000
21	497.160	0.000	497.140	0.000	497.340	0.000	497.700	2.056 #	497.775	2.678		0.000
22	497.150	0.000	497.130	0.000	497.350	0.000	497.900	3.317	497.400	0.614 #		0.000
23	497.160	0.000	497.140	0.000	497.350	0.000	497.750	2.657	497.390	0.582 #		0.000
24	497.145	0.000	497.130	0.000	497.350	0.000	497.640	1.299	497.360	0.493 #		0.000
25	497.130	0.000	497.120	0.000	497.350	0.000	497.600	1.168	497.300	0.000		0.000
26	497.160	0.000	497.120	0.000	497.340	0.000	497.590	1.187	497.280	0.000		0.000
27	497.180	0.000	497.120	0.000	497.340	0.000	497.870	3.817	497.260	0.000		0.000
28	497.200	0.000	497.120	0.000	497.350	0.000	497.860	4.250	497.250	0.000		0.000
29	497.180	0.000	497.120	0.000	497.340	0.000	497.850	3.356	497.280	0.000		0.000
30	497.170	0.000	497.110	0.000	497.330	0.000	497.910	4.669	497.255	0.000		0.000
31			497.110	0.000	497.330	0.000			497.240	0.000		
Ten-Daily Mean												
I Ten-Daily	497.983	0.000	497.193	0.000	497.107	0.000	497.374	0.136	497.438	0.814	497.203	0.000
II Ten-Daily	497.413	0.929	497.165	0.000	497.322	0.000	497.702	6.361	497.280	0.000		0.000
III Ten-Daily	497.163	0.000	497.124	0.000	497.343	0.000	497.767	2.778	497.345	0.397		0.000
Monthly												
Min.	496.000	0.000	497.110	0.000	497.100	0.000	497.330	0.000	497.240	0.000	497.180	0.000
Max.	499.250	3.954	497.220	0.000	497.350	0.000	499.375	52.30	497.775	2.678	497.225	0.000
Mean	497.520	0.31	497.159	0	497.287	0	497.614	3.092	497.354	0.404	497.203	0

Annual Runoff in MCM = 10 Annual Runoff in mm = 4

Peak Observed Discharge = 52.30 cumecs on 18/09/2018 Corres. Water Level :499.375 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018 Corres. Water Level :496 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 : 2018-2019

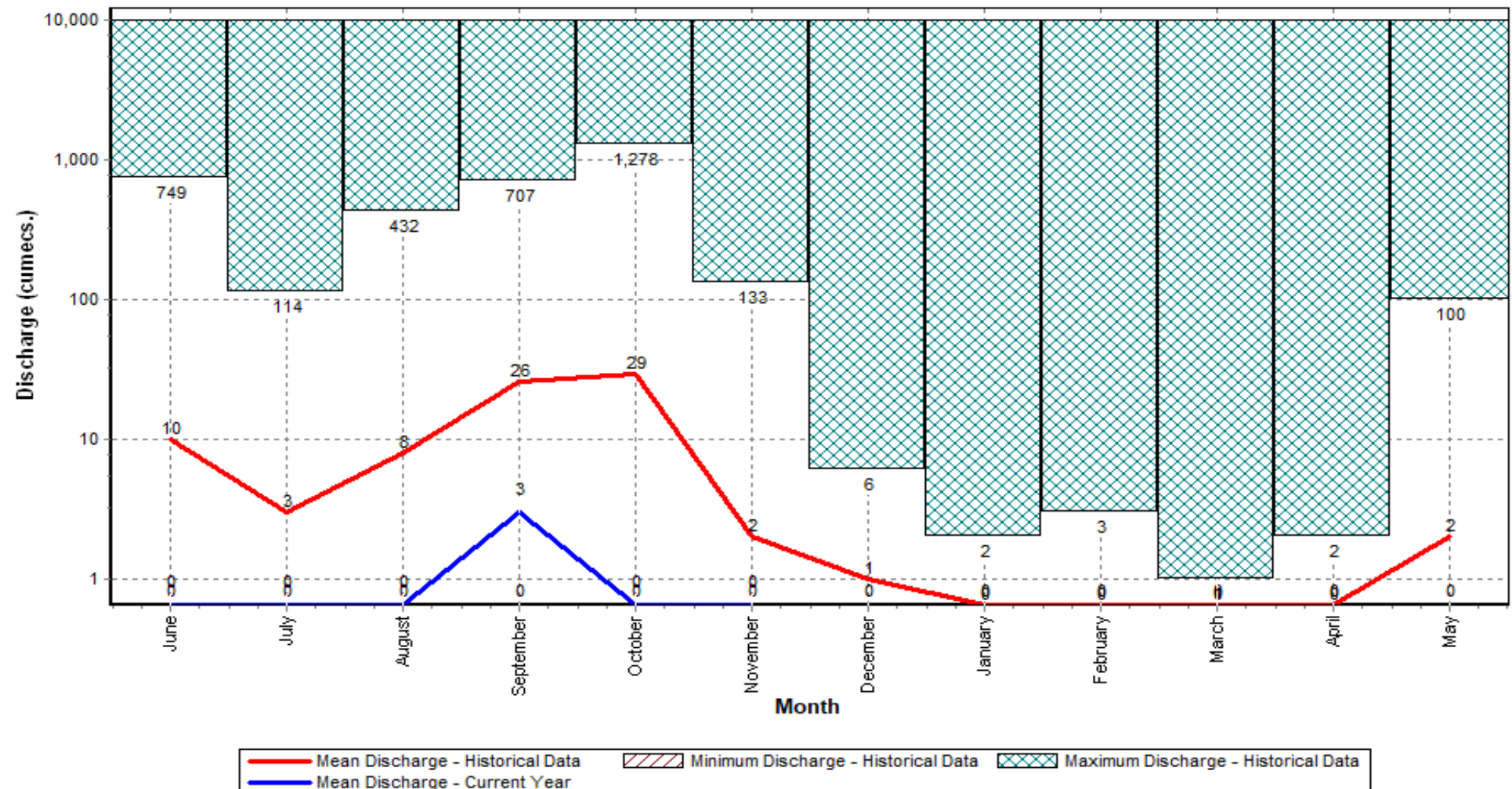
Station Name : Talikot (Seasonal) (AKQ00E2)

Data considered : 1996-2019

Division : Upper Krishna Divn, Pune

Local River : Don

Sub-Division : Middle Krishna SD 1, Bagalkot



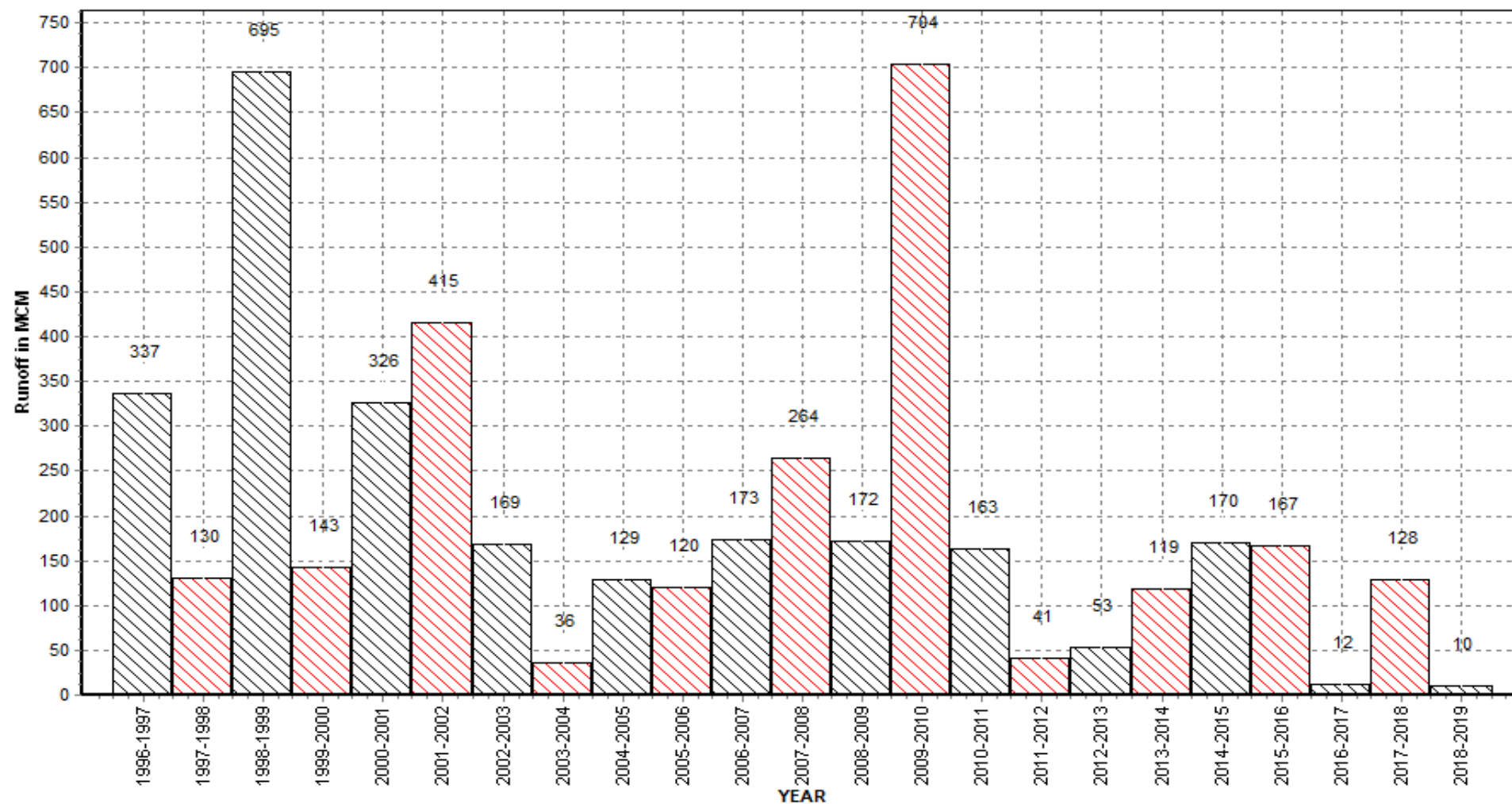
Annual Runoff Values for the period: 1996 - 2019

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

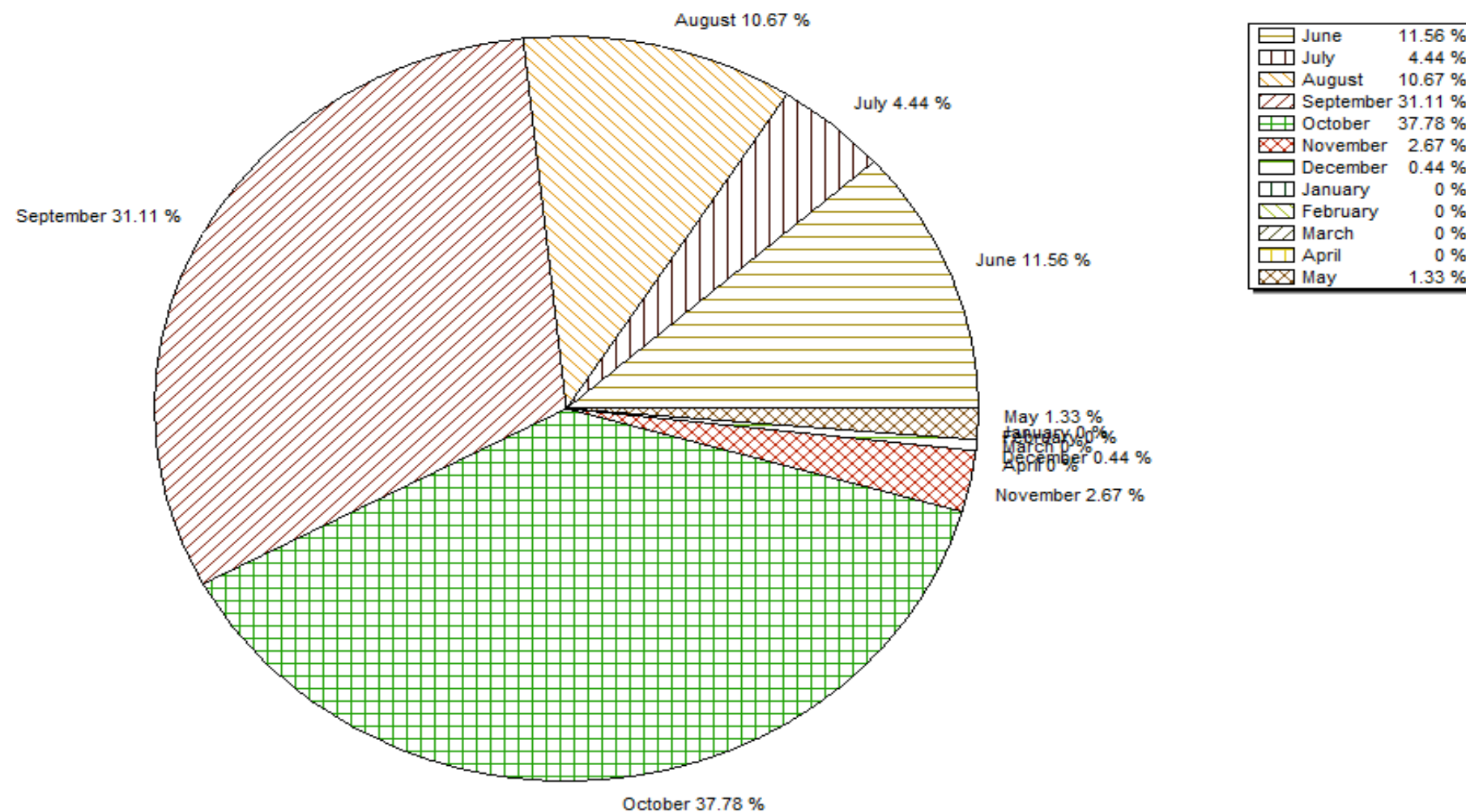
Monthly Average Runoff based on period : 1996-2018

Station Name : Talikot (Seasonal) (AKQ00E2)

Local River : Don

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



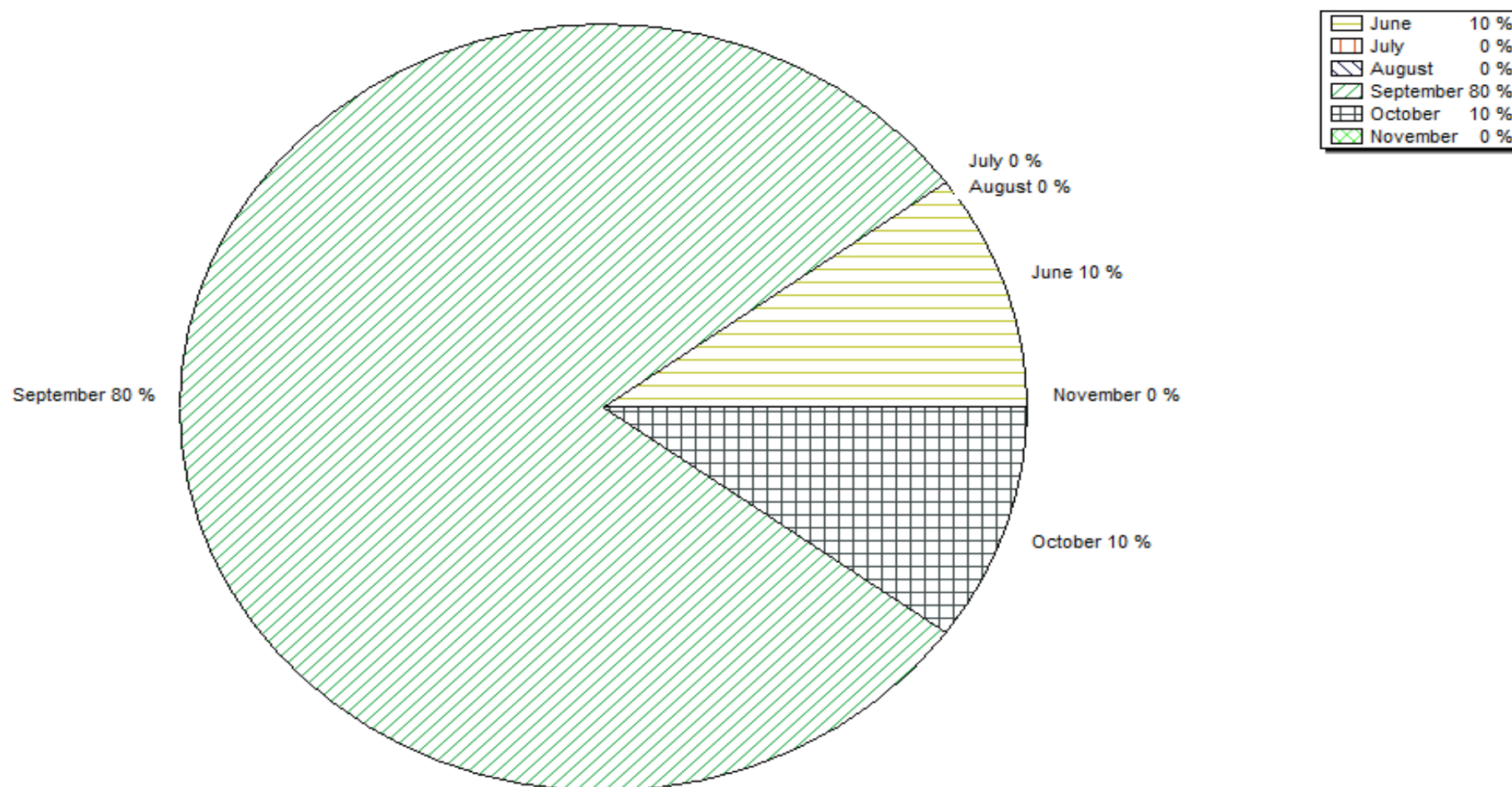
Monthly Runoff for the Year : 2018-2019

Station Name : Talikot (Seasonal) (AKQ00E2)

Local River : Don

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



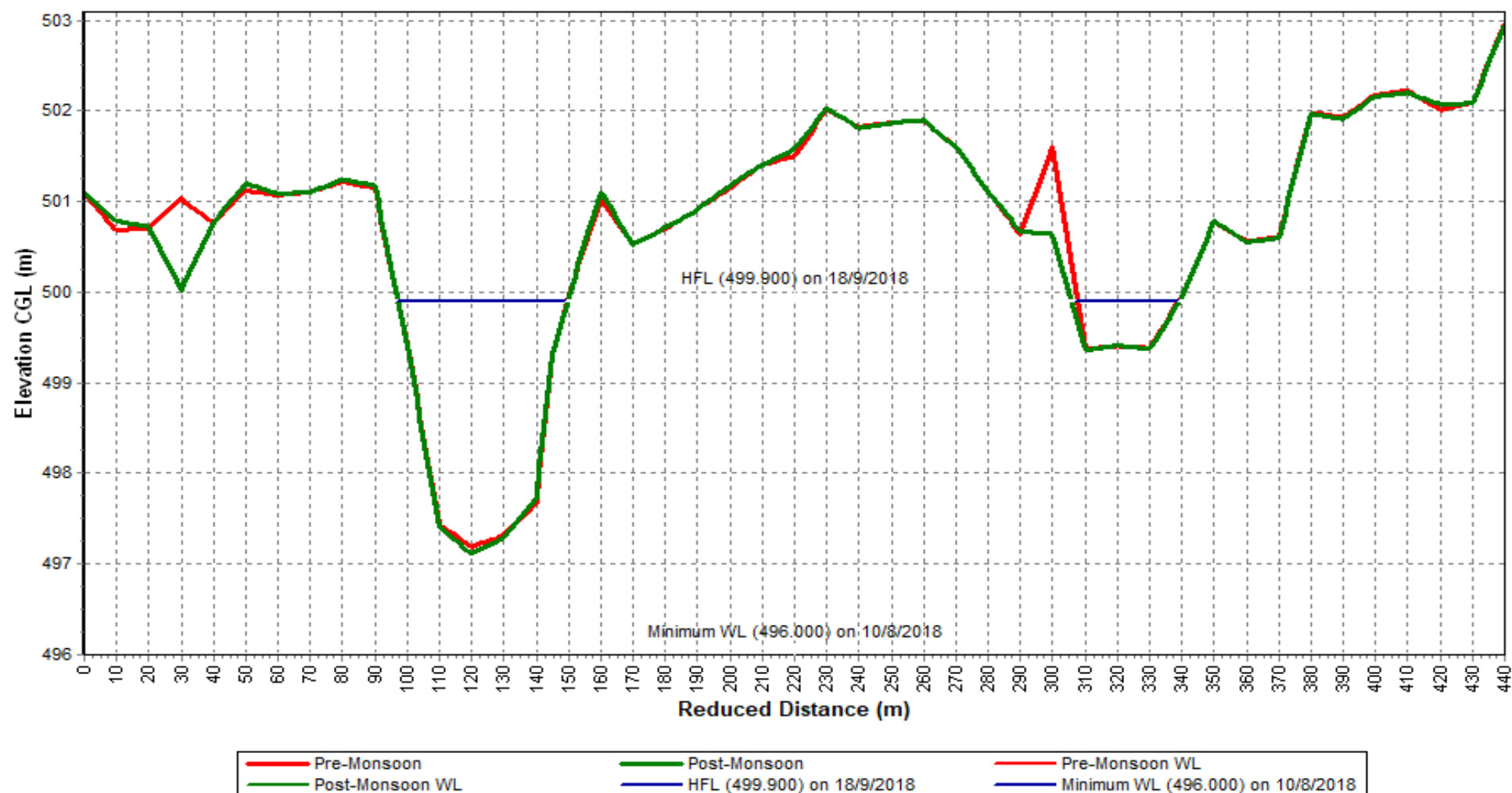
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Talikot (Seasonal) (AKQ00E2)

Local River : Don

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



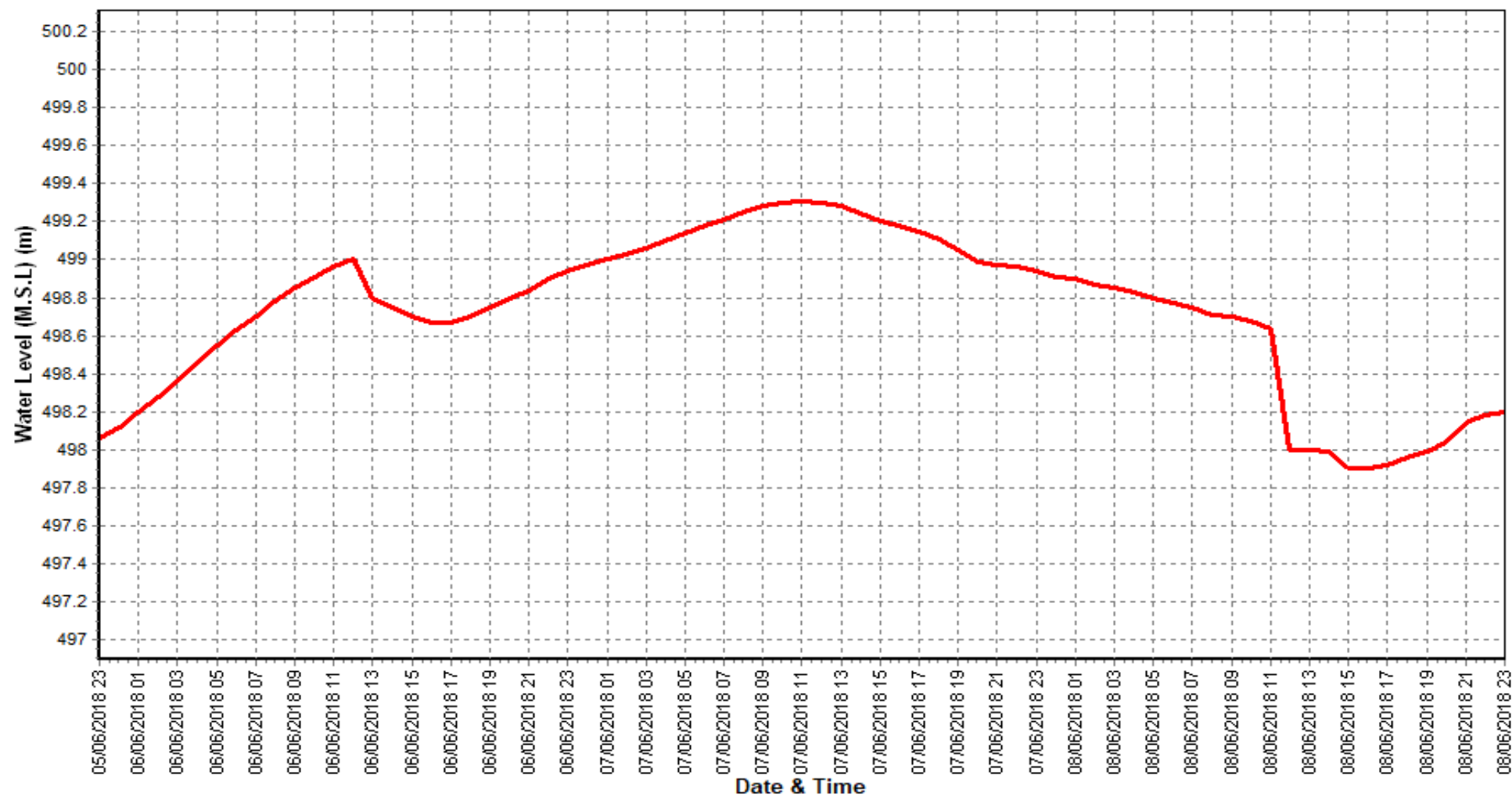
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Talikot (Seasonal) (AKQ00E2)

Local River : Don

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



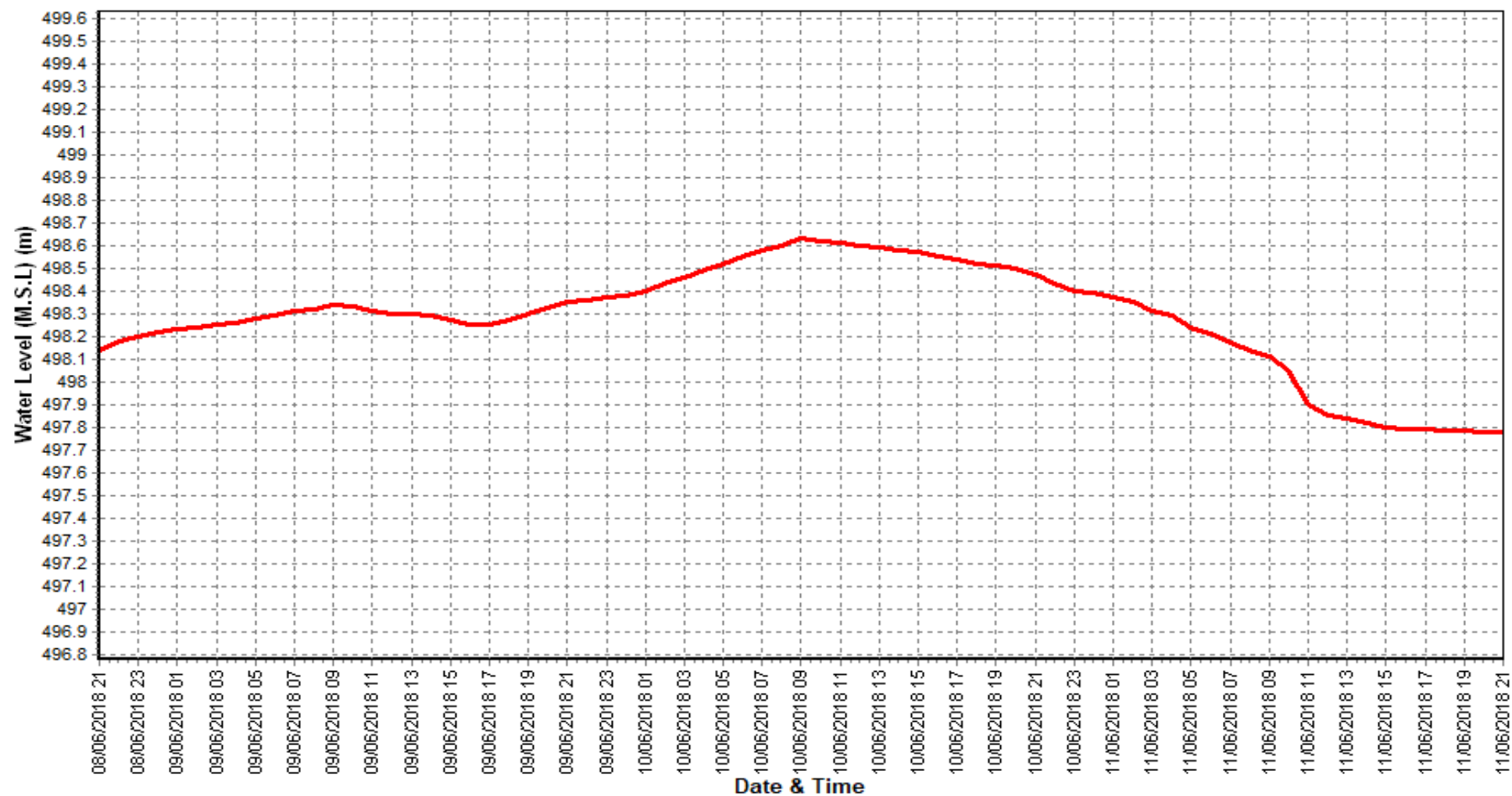
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : Talikot (Seasonal) (AKQ00E2)

Local River : Don

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



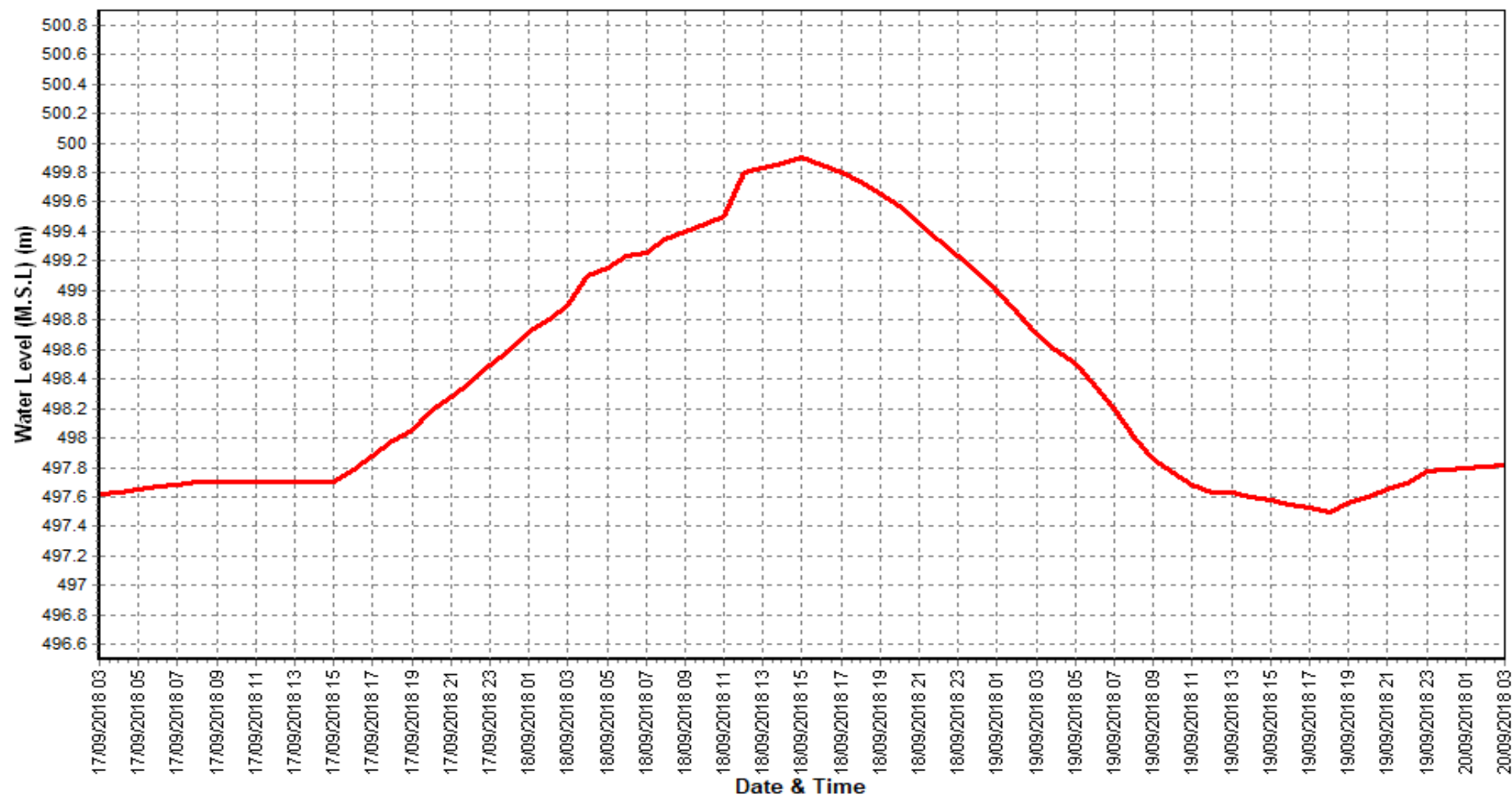
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Talikot (Seasonal) (AKQ00E2)

Local River : Don

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



HISTORY SHEET

Water Year : 2018-2019

Site : Cholachguda (Seasonal)

Code : AKS00H1

State : Karnataka

District : Bijapur

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	577.3	528.150	18/08/1983	1.400	523.765	02/06/1983
1984-1985	600.0	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	878.2	529.380	18/09/1988	0.000	523.740	27/07/1988
1989-1990	1298	531.155	20/09/1989	0.000		11/02/1990
1990-1991	145.5	526.250	23/05/1991	0.000		10/05/1991
1991-1992	1472	531.637	29/06/1991	0.000	523.670	27/04/1992
1992-1993	1814	535.600	18/11/1992	0.000	523.820	10/05/1993
1993-1994	1625	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	1240	530.700	03/10/1996	0.000	523.600	26/07/1996
1997-1998	1360	530.800	23/09/1997	0.000		23/07/1997
1998-1999	1173	530.590	16/10/1998	0.000		17/04/1999
1999-2000	582.0	529.100	15/10/1999	0.000		01/04/2000

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	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
2003-2004	747.0	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	2752	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	232.9	527.260	11/09/2011	0.000	523.610	04/08/2011
2012-2013	88.68	525.720	28/09/2012	0.000		02/11/2012
2013-2014	254.9	528.210	03/09/2013	0.000	523.640	09/08/2013
2014-2015	189.8	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	77.52	527.950	20/06/2016	0.000	523.120	30/10/2016
2017-2018	753.4	529.130	16/10/2017	0.000		02/08/2017

Annual Runoff of Malaprabha at Chalachguda

Sl. No.	Year	Annual Runoff (MCM)		Annual Runoff (TMC)	
		Monsoon	Annual	Monsoon	Annual
1	1982-1983	1496	24	53	1
2	1983-1984	1262	917	45	32
3	1984-1985	713	1676	25	59
4	1985-1986	333	1129	12	40
5	1986-1987	730	1535	26	54
6	1987-1988	676	2335	24	83
7	1988-1989	885	2755	31	97
8	1989-1990	663	397	23	14
9	1990-1991	304	180	11	6
10	1991-1992	1598	831	56	29
11	1992-1993	1056	735	37	26
12	1993-1994	1005	2722	36	96
13	1994-1995	1313	2832	46	100
14	1995-1996	868	428	31	15
15	1996-1997	1293	4357	46	154
16	1997-1998	986	366	35	13
17	1998-1999	1067	1390	38	49
18	1999-2000	893	1987	32	70
19	2000-2001	1006	1429	36	50
20	2001-2002	490	4796	17	169
21	2002-2003	365	805	13	28
22	2003-2004	305	1290	11	46
23	2004-2005	645	1748	23	62
24	2005-2006	1022	1213	36	43
25	2006-2007	784	4440	53	157
26	2007-2008	1596	4772	56	169
27	2008-2009	352	3583	12	127
28	2009-2010	1347	2046	48	72
29	2010-2011	533	937	19	33
30	2011-2012	392	975	14	34
31	2012-2013	64	2470	2	87
32	2013-2014	287	1981	10	70
33	2014-2015	305	3033	11	107
34	2015-2016	266	988	9	35
35	2016-2017	55	3011	2	106
36	2017-2018	696	1597	25	56
37	2018-2019	150	2945	5	104
Average		751	1910	27	67
75% Dependable flow (MCM)			342		
90 % Dependable flow (MCM)			243		

Stage-Discharge Data for the period 2018 - 2019

Station Name : Cholachguda (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	525.550	0.000	522.000	0.000		0.000	525.510	0.000	525.630	0.000	525.190	0.000
2	525.470	0.000	522.000	0.000		0.000	525.510	0.000	525.550	0.000	525.520	0.000
3	526.100	0.000	522.000	0.000		0.000	525.510	0.000	525.550	0.000	525.550	0.000
4	528.570	271.8	522.000	0.000		0.000	525.510	0.000	525.550	0.000	525.550	0.000
5	525.970	93.27 #	522.000	0.000		0.000	525.510	0.000	525.530	0.000	525.570	0.000
6	526.400	120.4	522.000	0.000		0.000	525.500	0.000	525.490	0.000	525.600	0.000
7	526.000	103.0	522.000	0.000		0.000	525.460	0.000	525.440	0.000	525.600	0.000
8	526.790	162.2	522.000	0.000		0.000	525.370	0.000	525.320	0.000	525.600	0.000
9	526.240	119.7	522.000	0.000		0.000	525.270	0.000	525.190	0.000	525.600	0.000
10	524.820	38.41 *	522.000	0.000		0.000	525.180	0.000	525.180	0.000	525.720	0.000
11	524.510	19.21	522.000	0.000		0.000	525.130	0.000	525.170	0.000	525.660	0.000
12	525.490	65.35	522.000	0.000		0.000	525.020	0.000	525.040	0.000	525.560	0.000
13	524.920	36.39	522.000	0.000	524.195	19.17	524.910	0.000	524.990	0.000	525.600	0.000
14	523.785	6.206	522.000	0.000	525.720	62.59	524.800	0.000	524.850	0.000	525.600	0.000
15	523.540	0.000	522.000	0.000	525.710	30.48 *	524.740	0.000	524.710	0.000	525.600	0.000
16	523.530	0.000	523.900	9.471	525.710	26.14	524.640	0.000	524.580	0.000	525.650	0.000
17	523.530	0.000	524.220	17.36	525.800	24.10	524.400	0.000	525.120	0.158 #	525.650	0.000
18	523.470	0.000	524.340	20.84	525.610	19.74 *	525.983	72.20	525.810	0.000	525.650	0.000
19	523.390	0.000	524.435	30.78	525.510	0.000	525.650	23.72 #	524.710	0.000	525.580	0.000
20	523.000	0.000	524.750	36.86	525.440	0.000	525.610	19.74 #	524.680	0.000	525.570	0.000
21	523.000	0.000	524.685	33.66	525.370	0.000	525.790	41.01 *	525.190	0.000	525.680	0.000
22	523.000	0.000	524.310	0.000	525.260	0.000	525.990	78.95	525.480	0.000	525.680	0.000
23	523.000	0.000	523.800	0.000	525.200	0.000	525.620	20.70 *	525.460	0.000	525.620	0.000
24	523.000	0.000	523.000	0.000	525.000	0.000	525.600	0.000	525.380	0.000	525.600	0.000
25	523.000	0.000	523.000	0.000	524.970	0.000	525.590	0.000	525.330	0.000	525.600	0.000
26	522.000	0.000	522.000	0.000	524.850	0.000	525.540	0.000	525.280	0.000	525.600	0.000
27	522.000	0.000	522.000	0.000	524.850	0.000	525.990	79.95	525.140	0.000	525.600	0.000
28	522.000	0.000	522.000	0.000	524.850	0.000	525.530	13.01 #	525.030	0.000	525.600	0.000
29	522.000	0.000	522.000	0.000	524.850	0.000	525.500	11.70	524.950	0.000	525.600	0.000
30	522.000	0.000	522.000	0.000	525.280	0.000	525.500	10.88 *	525.160	0.000	525.600	0.000
31			522.000	0.000	525.510	0.000			525.200	0.000		
Ten-Daily Mean												
I Ten-Daily	526.191	90.87	522.000	0.000		0.000	525.433	0.000	525.443	0.000	525.550	0.000
II Ten-Daily	523.917	12.72	523.164	11.53	525.462	18.22	525.088	11.57	524.966	0.016	525.612	0.000
III Ten-Daily	522.500	0.000	522.800	3.060	525.090	0.000	525.665	25.62	525.236	0.000	525.618	0.000
Monthly												
Min.	522.000	0.000	522.000	0.000	524.195	0.000	524.400	0.000	524.580	0.000	525.190	0.000
Max.	528.570	271.8	524.750	36.86	525.800	62.59	525.990	79.95	525.810	0.158	525.720	0.000
Mean	524.203	34.53	522.659	4.806	525.247	5.878	525.395	12.4	525.216	0.005	525.593	0

Annual Runoff in MCM = 150 Annual Runoff in mm = 16

Peak Observed Discharge = 271.8 cumecs on 04/06/2018 Corres. Water Level :528.57 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018 Corres. Water Level :525.55 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)

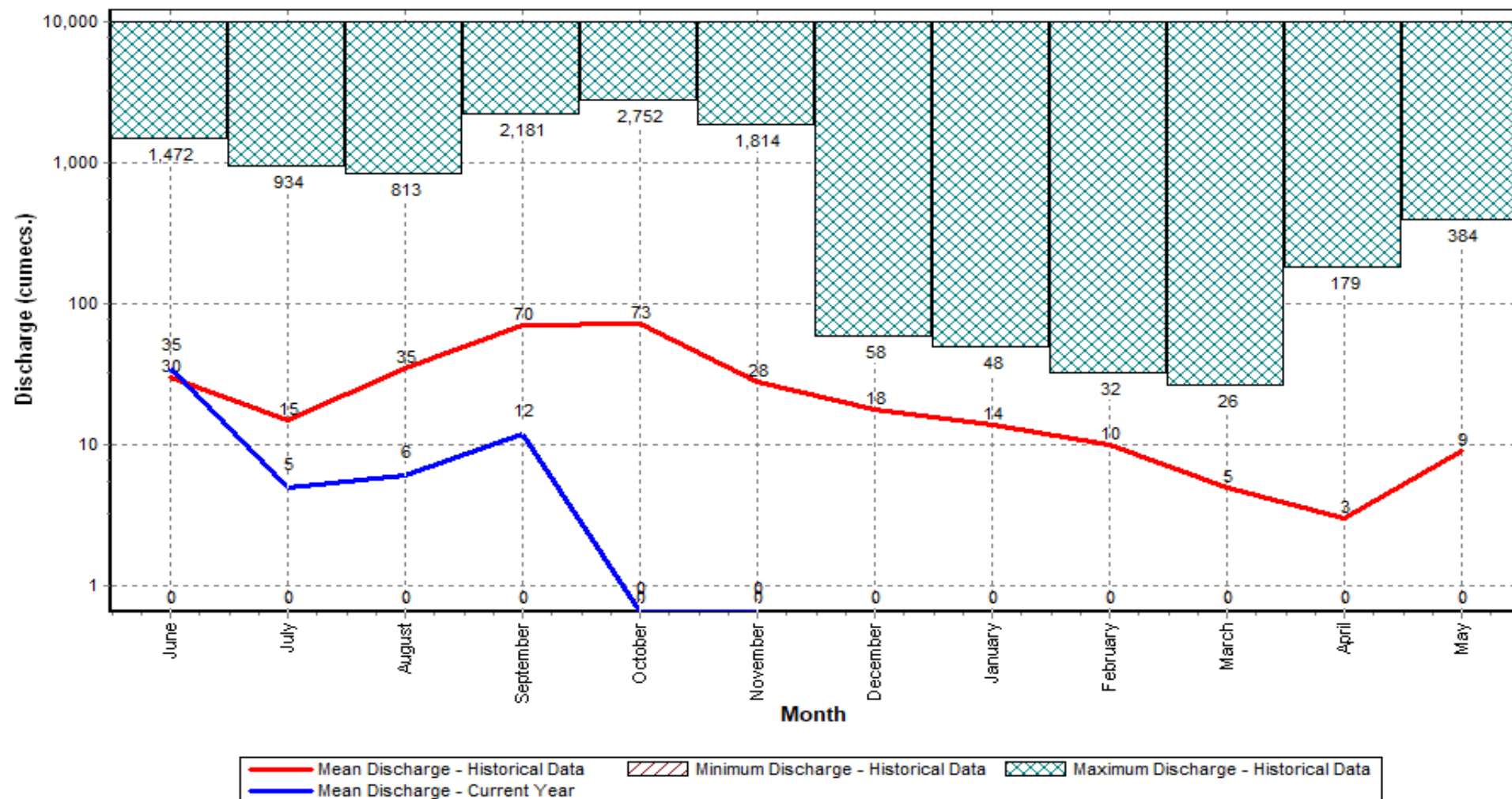
Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2018-2019

Station Name : Chalachguda (Seasonal) (AKS00H1)
Local River : Malaprabha

Data considered : 1982-2019

Division : Upper Krishna Divn, Pune
Sub-Division : Middle Krishna SD 1, Bagalkot



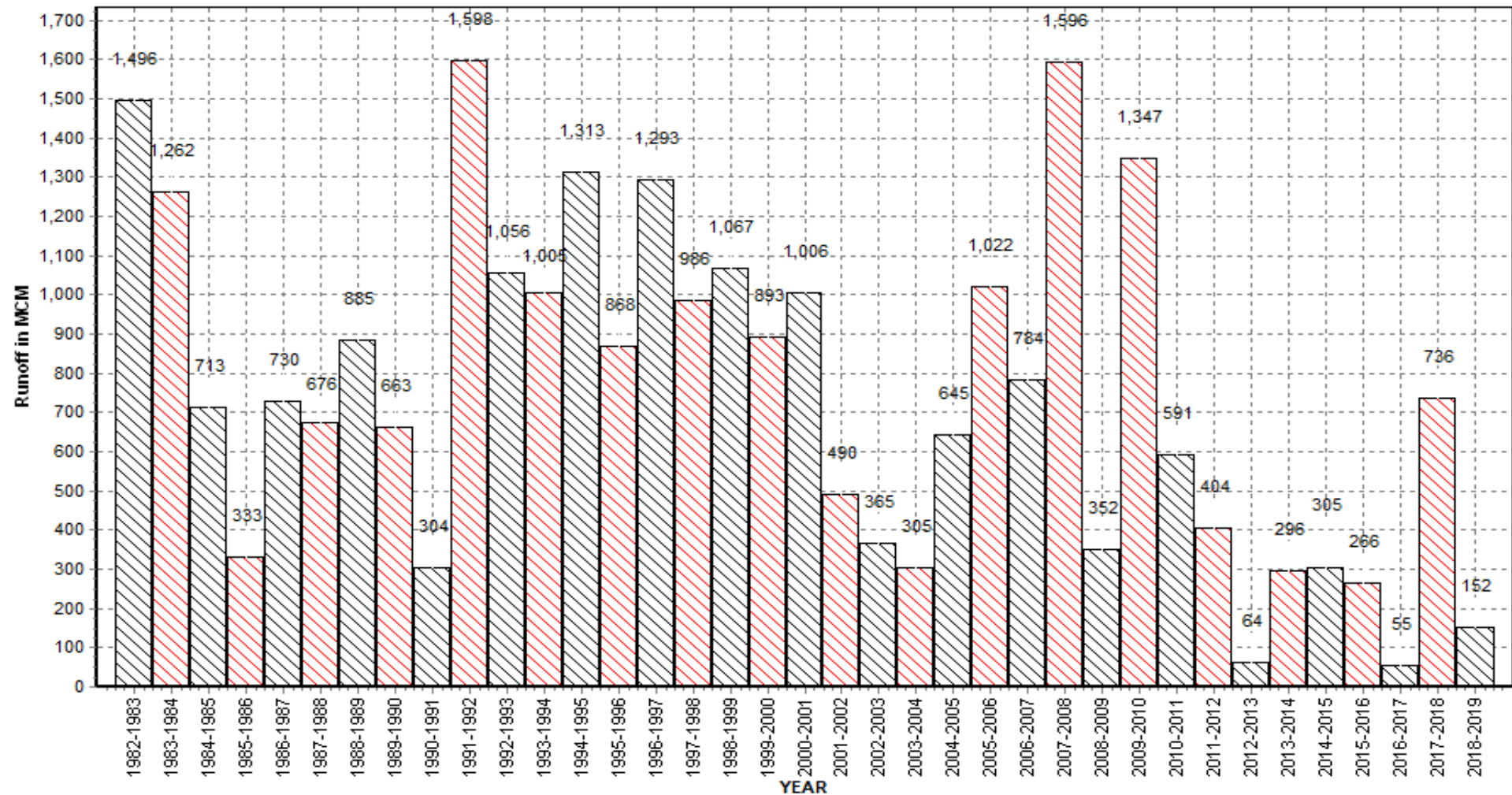
Annual Runoff Values for the period: 1982 - 2019

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

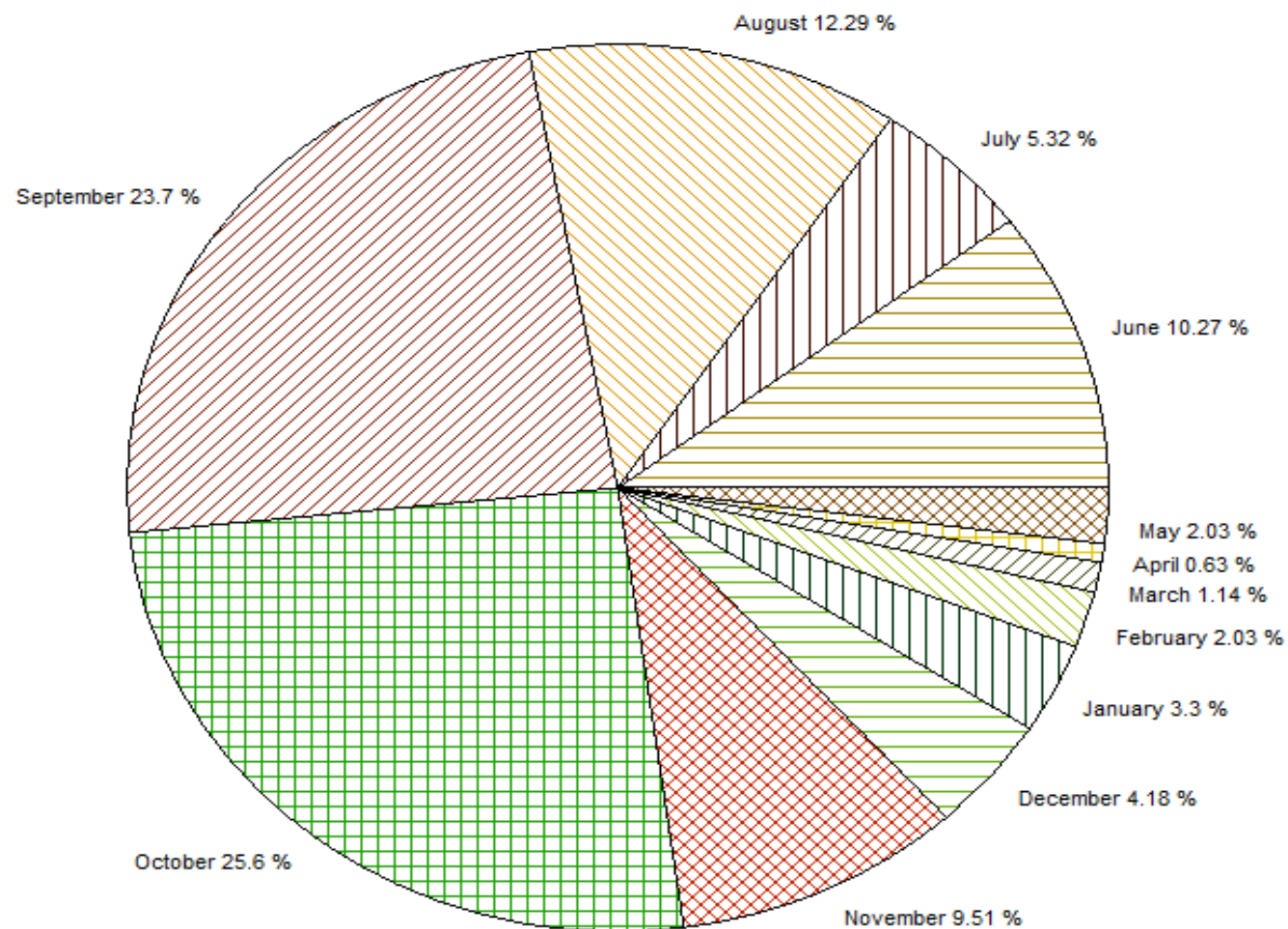
Monthly Average Runoff based on period : 1982-2018

Station Name : Chalachguda (Seasonal) (AKS00H1)

Local River : Malaprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



June	10.27 %
July	5.32 %
August	12.29 %
September	23.7 %
October	25.6 %
November	9.51 %
December	4.18 %
January	3.3 %
February	2.03 %
March	1.14 %
April	0.63 %
May	2.03 %

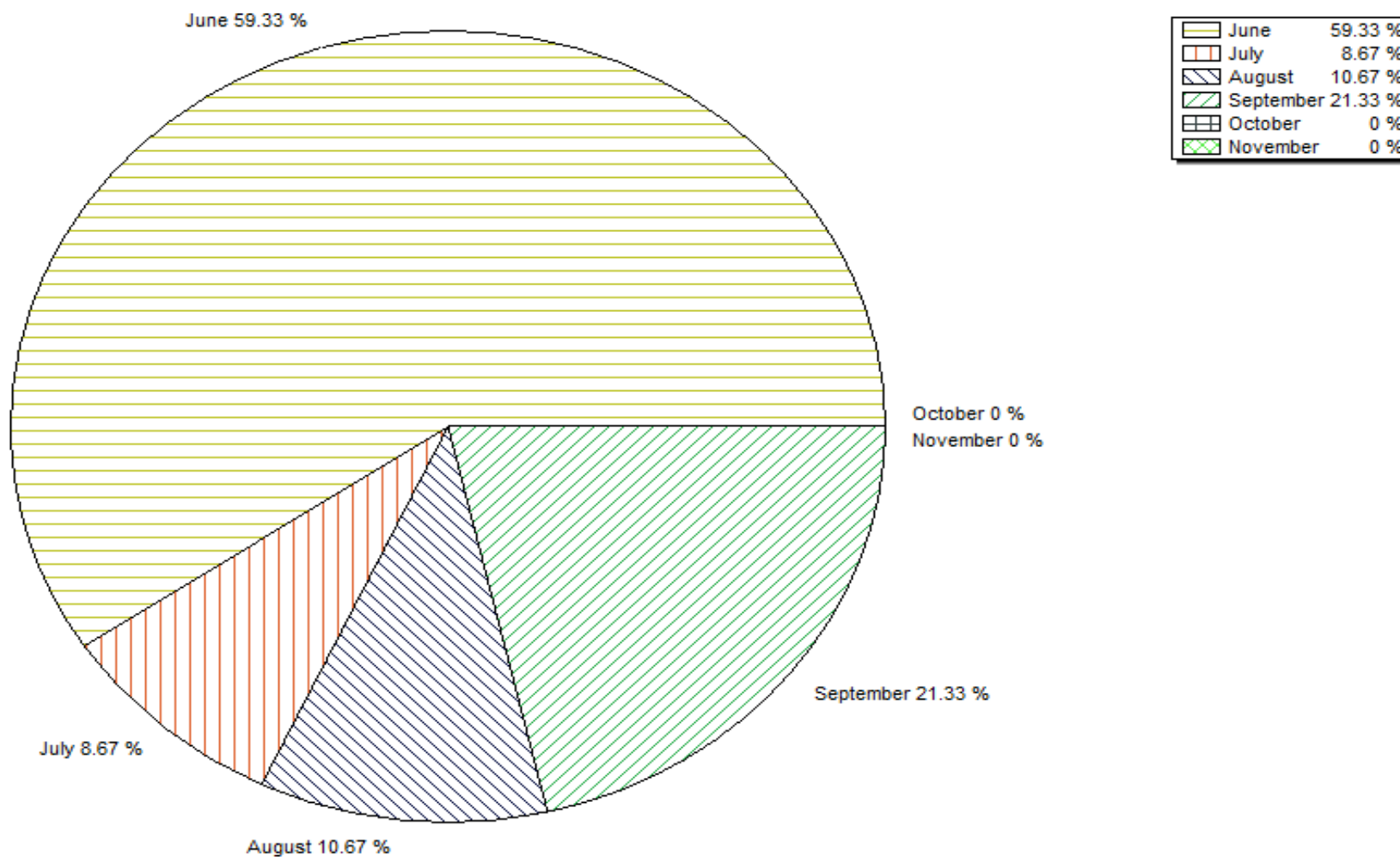
Monthly Runoff for the Year : 2018-2019

Station Name : Chalachguda (Seasonal) (AKS00H1)

Local River : Malaprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



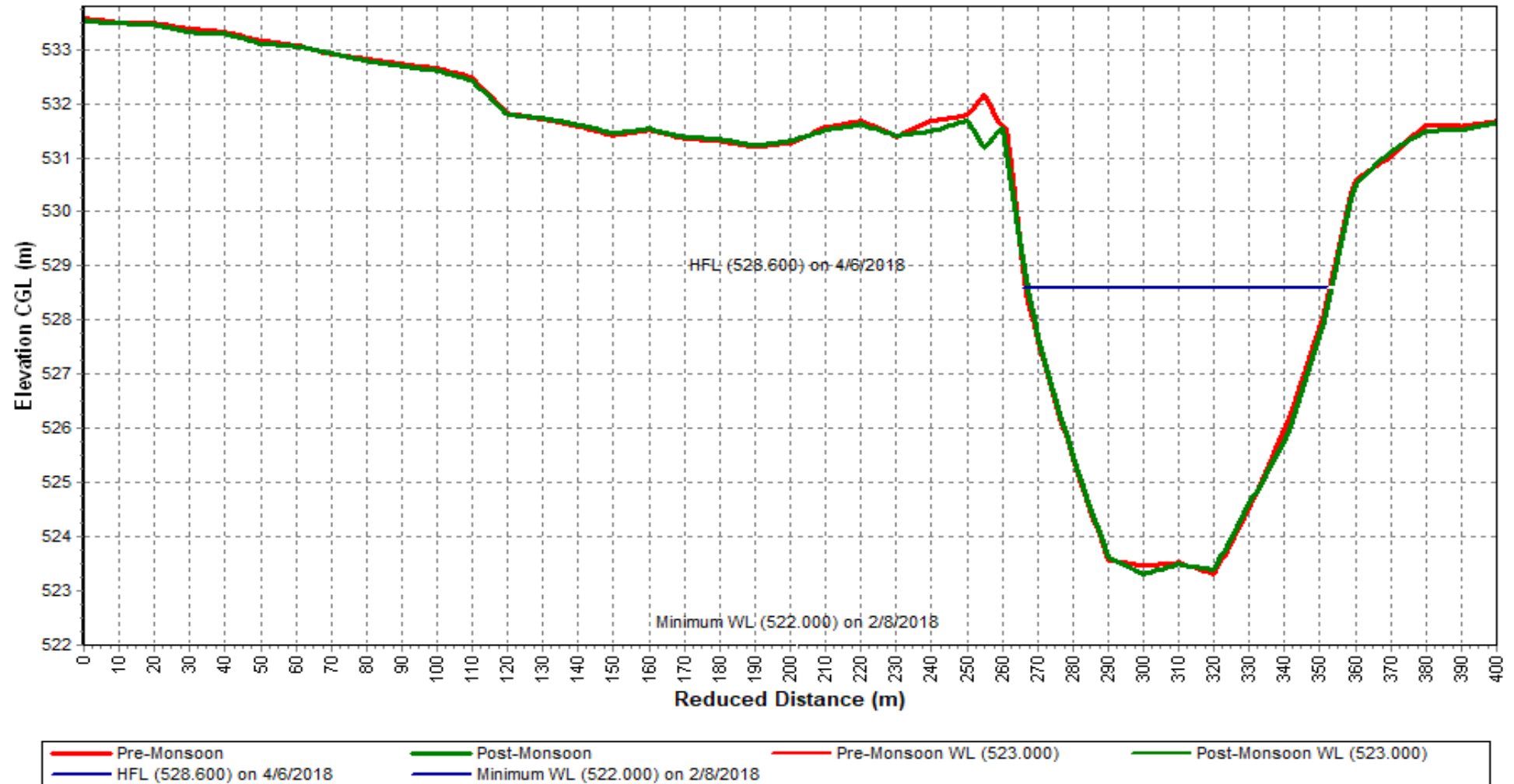
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Chalachguda (Seasonal) (AKS00H1)

Local River : Malaprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



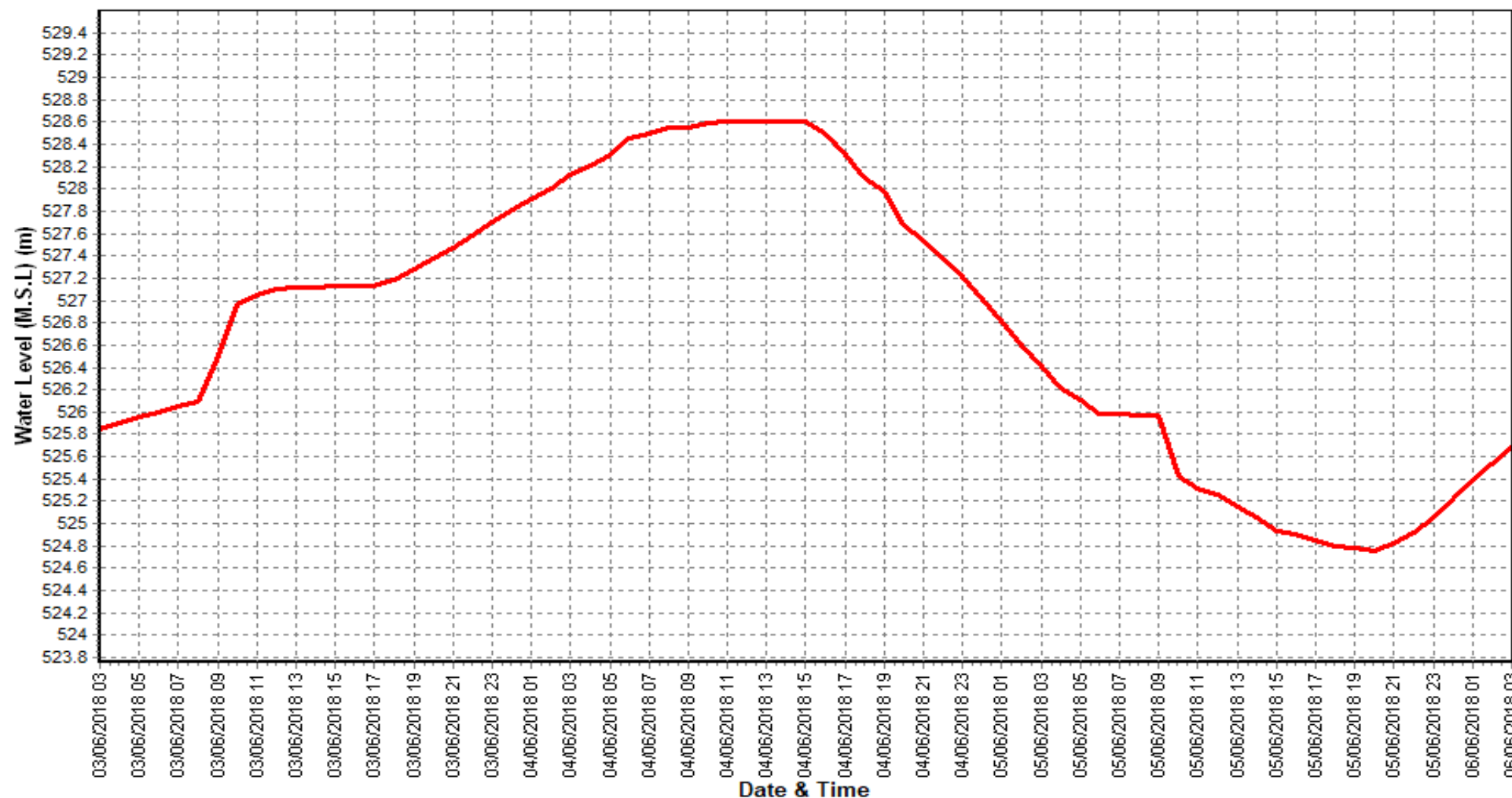
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Chalachguda (Seasonal) (AKS00H1)

Local River : Malaprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



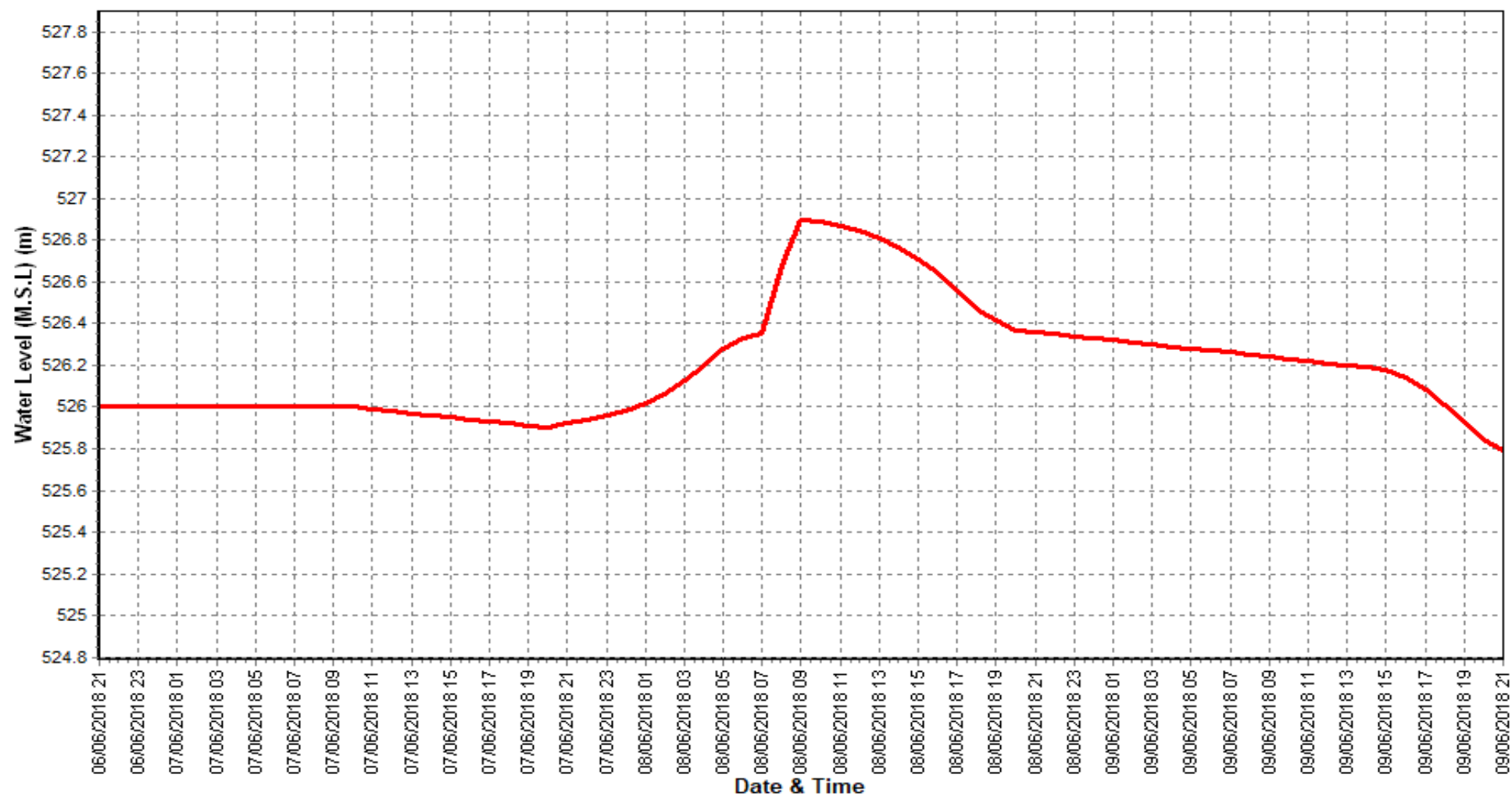
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Chalachguda (Seasonal) (AKS00H1)

Local River : Malaprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



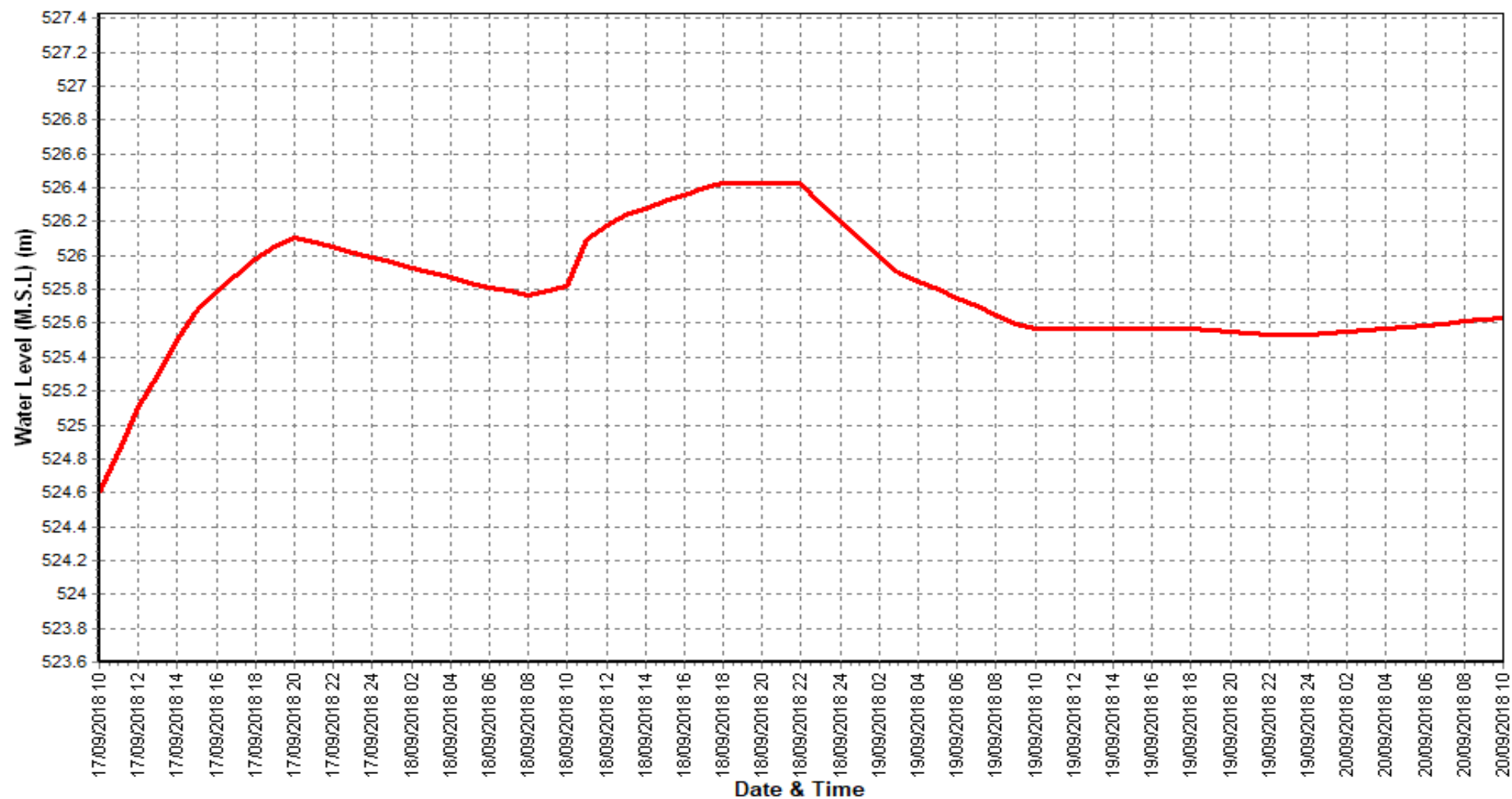
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : Chalachguda (Seasonal) (AKS00H1)

Local River : Malaprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1. Bagalkot



HISTORY SHEET

Water Year : 2018-2019

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)
530 (m.s.l)13/07/1998 - 31/05/2007
15/09/2015

Opening Date

Closing Date

Gauge : 13/07/2000

Discharge : 25/07/2000

Sediment : 08/09/2003

31/05/2006

Water Quality : 01/11/2000

31/05/2006

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	2100	532.340	06/08/2005	0.000	524.030	24/02/2006
2006-2007	1418	531.395	14/08/2006	0.000	525.100	20/02/2007
2015-2016	533.5	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

Annual Runoff of Ghataprabha 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				0	0	0
9	2008-2009				0	0	0
10	2009-2010				0	0	0
11	2010-2011				0	0	0
12	2011-2012				0	0	0
13	2012-2013				0	0	0
14	2013-2014				0	0	0
15	2014-2015				0	0	0
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
Average		1146	29	1172	23	1	24
75% Dependable flow (MCM)				362.51			
90 % Dependable flow (MCM)				107.73			

Stage-Discharge Data for the period 2018 - 2019

Station Name : Mudhol (MUDHOL)

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		0.000	531.250	0.000	532.270	0.000	534.655	172.2	532.925	60.38		0.000
2		0.000	531.900	0.000	532.170	0.000	534.675	176.4	532.570	45.62		0.000
3		0.000	531.740	0.000	532.000	12.58 #	534.135	113.9	532.625	48.54		0.000
4		0.000	531.290	0.000	531.620	3.151 *	533.690	99.95	532.495	44.29		0.000
5		0.000	530.150	0.000	532.220	18.01	532.935	54.99	532.285	29.33		0.000
6		0.000	530.000	0.000	532.035	17.06	532.430	29.31	532.075	18.92		0.000
7		0.000	530.000	0.000	532.020	13.20 #	532.250	21.26	531.845	11.49		0.000
8		0.000	533.550	72.80	533.575	99.38	532.060	14.46 #	531.670	7.772		0.000
9		0.000	533.925	94.19	533.750	96.56	532.065	14.67	531.405	4.750		0.000
10		0.000	533.605	78.32	533.720	107.6	531.950	9.741	531.470	5.268		0.000
11		0.000	533.390	76.34 #	533.630	98.74	531.845	16.75	531.290	3.142		0.000
12		0.000	533.720	75.89	533.435	97.78	531.790	12.61 #	531.260	2.823 #		0.000
13		0.000	534.330	138.7 #	534.590	158.3 #	531.620	7.766 *	530.710	0.000		0.000
14		0.000	534.875	179.7	535.800	286.5	531.605	6.843	530.320	0.000		0.000
15		0.000	534.780	173.2 *	536.860	365.5 *	531.540	6.113	530.000	0.000		0.000
16		0.000	535.080	232.0	537.050	379.6	531.460	4.575	530.000	0.000		0.000
17		0.000	535.810	276.1	537.525	394.3	531.325	1.557	530.000	0.000		0.000
18		0.000	536.365	348.8	537.590	430.5	531.090	0.000	530.000	0.000		0.000
19		0.000	536.740	353.2	537.745	457.2	530.750	0.000	531.430	4.816 #		0.000
20		0.000	536.445	293.5	538.100	509.2	530.680	0.000	531.905	14.67	530.560	0.080 #
21		0.000	534.900	175.3	538.090	476.9	530.300	0.000	532.130	0.000	533.070	58.93 #
22		0.000	534.460	148.4 #	536.910	370.8 *	530.000	0.000	531.720	0.000	533.250	69.17 #
23		0.000	534.795	183.9	537.105	357.5	530.000	0.000	531.440	0.000	533.380	77.13 #
24		0.000	535.035	204.9	537.395	411.7	530.000	0.000	531.230	0.000	533.580	0.000
25		0.000	534.880	209.9	537.190	346.9	531.390	2.738 #	530.810	0.000	533.780	0.000
26		0.000	534.600	171.5	536.005	251.9	532.050	28.06	530.500	0.000	533.780	0.000
27		0.000	534.280	117.6	534.770	191.4	532.585	45.51	530.000	0.000	534.850	0.000
28		0.000	534.000	115.3 #	534.535	171.2	532.890	62.29	530.000	0.000	534.940	0.000
29		0.000	533.590	88.46 *	535.685	268.1	532.815	60.13	530.000	0.000	534.840	0.000
30	532.000	12.49	533.160	47.39	536.440	340.6	532.860	52.52	530.000	0.000	534.680	0.000
31			532.600	33.27	535.375	251.6			530.000	0.000		
Ten-Daily Mean												
I Ten-Daily		0.000	531.741	24.53	532.538	36.76	533.085	70.69	532.136	27.64		0.000
II Ten-Daily		0.000	535.153	214.8	536.233	317.8	531.370	5.621	530.692	2.545	530.560	0.008
III Ten-Daily	532.000	1.249	534.209	136.0	536.318	312.6	531.489	25.13	530.712	0.000	534.015	20.52
Monthly												
Min.	532.000	0.000	530.000	0.000	531.620	0.000	530.000	0.000	530.000	0.000	530.560	0.000
Max.	532.000	12.49	536.740	353.2	538.100	509.2	534.675	176.4	532.925	60.38	534.940	77.13
Mean	532.000	0.416	533.718	125.4	535.071	225.3	531.981	33.81	531.165	9.736	533.701	6.844

Annual Runoff in MCM = 1086 Annual Runoff in mm = 161

Peak Observed Discharge = 509.2 cumecs on 20/08/2018 Corres. Water Level :538.1 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018

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 2018 - 2019

Station Name : Mudhol (MUDHOL)

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	534.540	0.000		0.000	532.680	0.000	534.640	0.000	530.890	0.000	533.890	21.14
2	534.290	0.000		0.000	532.520	0.000	534.350	0.000	530.310	0.000	534.740	0.000
3	533.860	0.000		0.000	532.410	0.000	534.250	0.000	530.000	0.000	534.400	0.000
4	533.585	0.000	531.830	15.35	532.220	0.000	533.820	0.000	530.000	0.000	533.960	0.000
5	533.385	0.000	534.615	16.66	532.100	0.000	533.480	0.000	530.000	0.000	533.470	0.000
6	533.115	0.000	535.060	0.000	531.960	0.000	533.360	0.000	530.000	0.000	532.840	0.000
7	532.850	0.000	535.160	0.000	531.630	0.000	532.935	0.000	530.000	0.000	532.265	0.000
8	532.620	0.000	535.040	0.000	531.370	0.000	532.555	0.000	530.000	0.000	531.805	0.000
9	532.450	0.000	534.785	0.000	531.100	0.000	532.320	0.000	530.000	0.000	531.430	0.000
10	532.300	0.000	535.310	0.000	531.040	0.000	532.165	0.000	530.000	0.000	530.840	0.000
11	532.110	0.000	535.260	0.000	530.680	0.000	531.710	0.000	530.000	0.000	530.000	0.000
12	532.000	0.000	535.050	0.000		0.000	531.430	0.000	530.000	0.000	530.000	0.000
13	531.795	0.000	535.160	0.000		0.000	531.110	0.000	530.000	0.000	530.000	0.000
14	531.605	0.000	535.120	0.000		0.000	530.790	0.000	530.000	0.000	530.000	0.000
15	531.430	0.000	535.040	0.000	532.010	0.000	530.210	0.000	530.000	0.000	530.000	0.000
16	531.350	0.000	535.110	0.000	534.540	0.000	530.000	0.000	530.000	0.000	530.000	0.000
17	531.100	0.000	534.950	0.000	535.190	0.000	530.000	0.000	530.000	0.000	530.000	0.000
18	530.975	0.000	534.800	0.000	535.190	0.000	530.000	0.000	530.000	0.000	530.000	0.000
19	530.900	0.000	534.560	0.000	535.145	0.000	532.835	0.000	530.000	0.000	530.000	0.000
20	530.750	0.000	534.510	0.000	535.120	0.000	533.485	0.000	530.000	0.000	530.000	0.000
21	530.520	0.000	534.160	0.000	535.110	0.000	533.365	0.000	530.000	0.000	530.000	0.000
22	530.150	0.000	534.065	0.000	535.190	0.000	533.275	0.000	530.000	0.000	530.000	0.000
23	530.000	0.000	533.975	0.000	535.220	0.000	533.155	0.000	530.000	0.000	530.000	0.000
24	530.000	0.000	533.790	0.000	535.200	0.000	534.185	0.000	530.000	0.000	530.000	0.000
25	530.000	0.000	533.705	0.000	535.050	0.000	533.665	0.000	530.000	0.000	530.000	0.000
26	530.000	0.000	533.580	0.000	534.900	0.000	533.245	0.000	530.000	0.000	530.000	0.000
27	530.000	0.000	533.390	0.000	534.650	0.000	532.975	0.000	530.000	0.000	530.000	0.000
28	530.000	0.000	533.260	0.000	534.640	0.000	532.560	0.000	530.000	0.000	530.000	0.000
29	530.000	0.000	533.110	0.000			532.035	0.000	533.245	54.91	533.965	0.000
30	530.000	0.000	533.010	0.000			531.680	0.000	533.278	57.92	534.045	0.000
31	530.000	0.000	532.950	0.000			531.335	0.000			533.710	0.000
Ten-Daily Mean												
I Ten-Daily	533.299	0.000	534.543	3.201	531.903	0.000	533.388	0.000	530.120	0.000	532.964	2.114
II Ten-Daily	531.401	0.000	534.956	0.000	533.982	0.000	531.157	0.000	530.000	0.000	530.000	0.000
III Ten-Daily	530.061	0.000	533.545	0.000	534.995	0.000	532.861	0.000	530.652	11.28	531.065	0.000
Monthly												
Min.	530.000	0.000	531.830	0.000	530.680	0.000	530.000	0.000	530.000	0.000	530.000	0.000
Max.	534.540	0.000	535.310	16.66	535.220	0.000	534.640	0.000	533.278	57.92	534.740	21.14
Mean	531.538	0	534.298	1.033	533.475	0	532.481	0	530.257	3.761	531.334	0.682

Peak Computed Discharge = 370.8 cumecs on 22/08/2018

Corres. Water Level :536.91 m

Lowest Computed Discharge = 3.151 cumecs on 04/08/2018

Corres. Water Level :531.62 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)

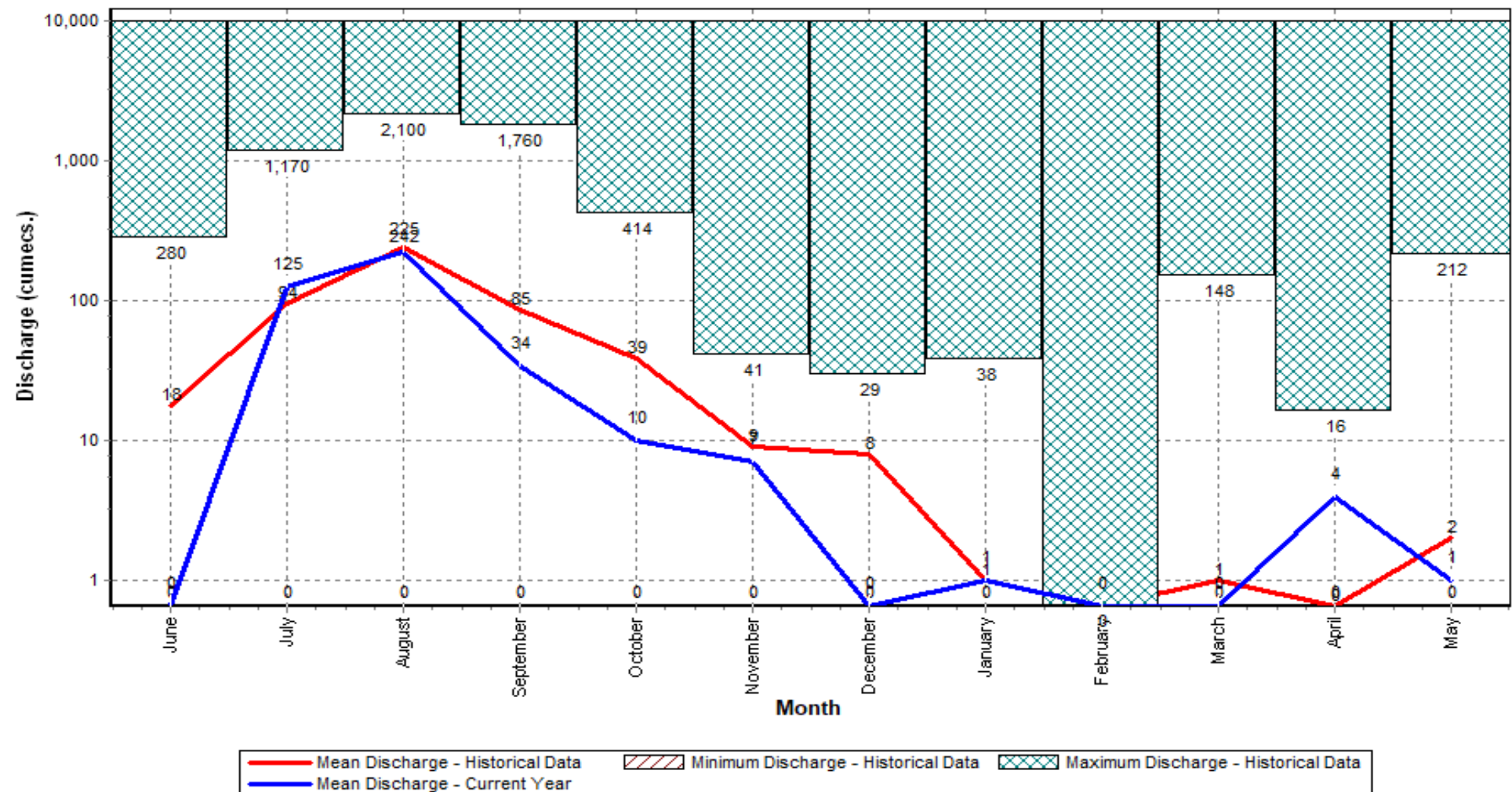
Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2018-2019

Station Name : Mudhol (MUDHOL)
Local River : Ghataprabha

Data considered : 2001-2019

Division : Upper Krishna Divn, Pune
Sub-Division : Middle Krishna SD 1, Bagalkot



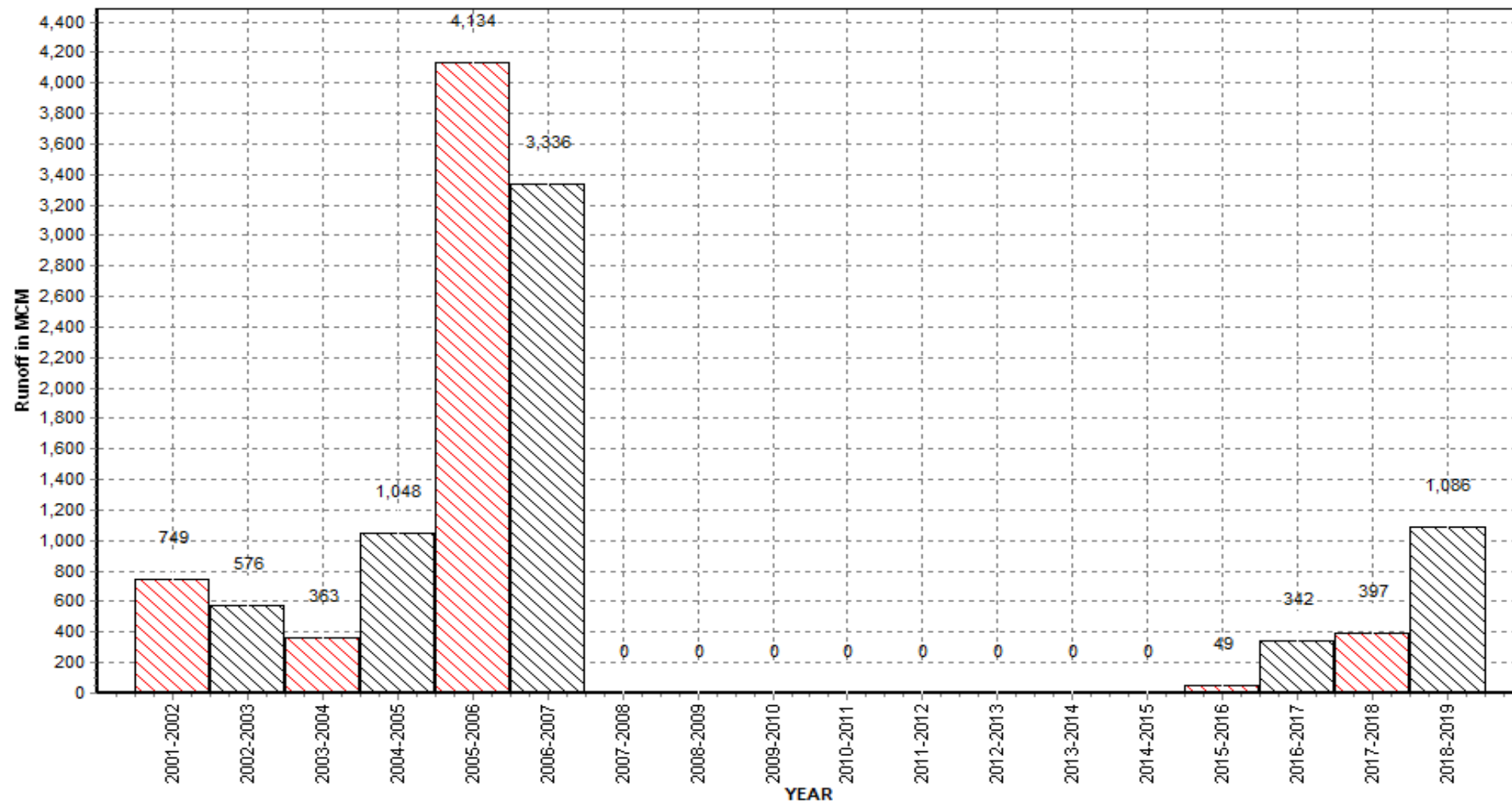
Annual Runoff Values for the period: 2001 - 2019

Station Name : Mudhol (MUDHOL)

Local River : Ghataprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot

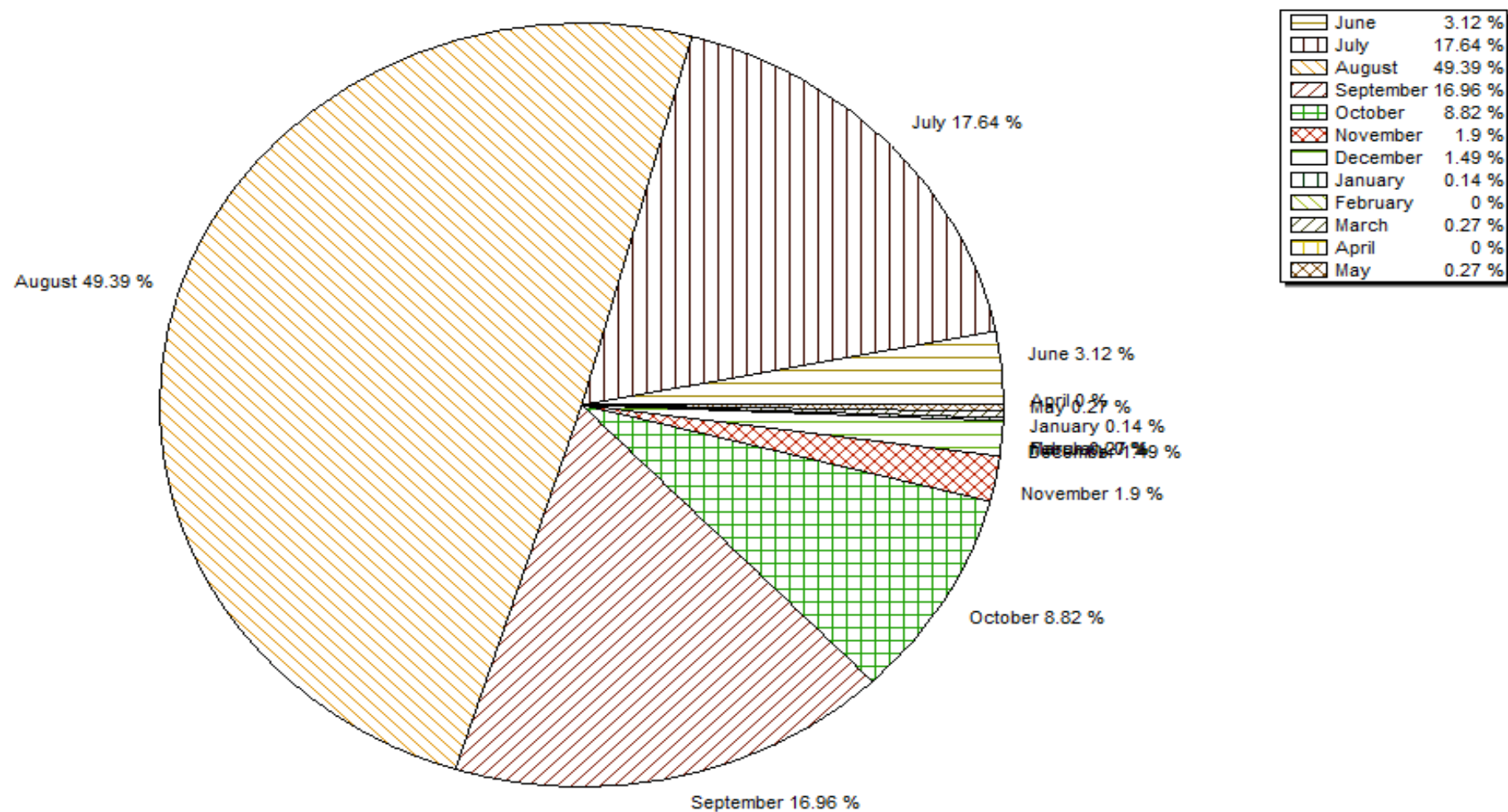


Note: Missing values have not been considered while arriving at Annual Runoff

Monthly Average Runoff based on period : 2001-2018

Station Name : Mudhol (MUDHOL)
Local River : Ghataprabha

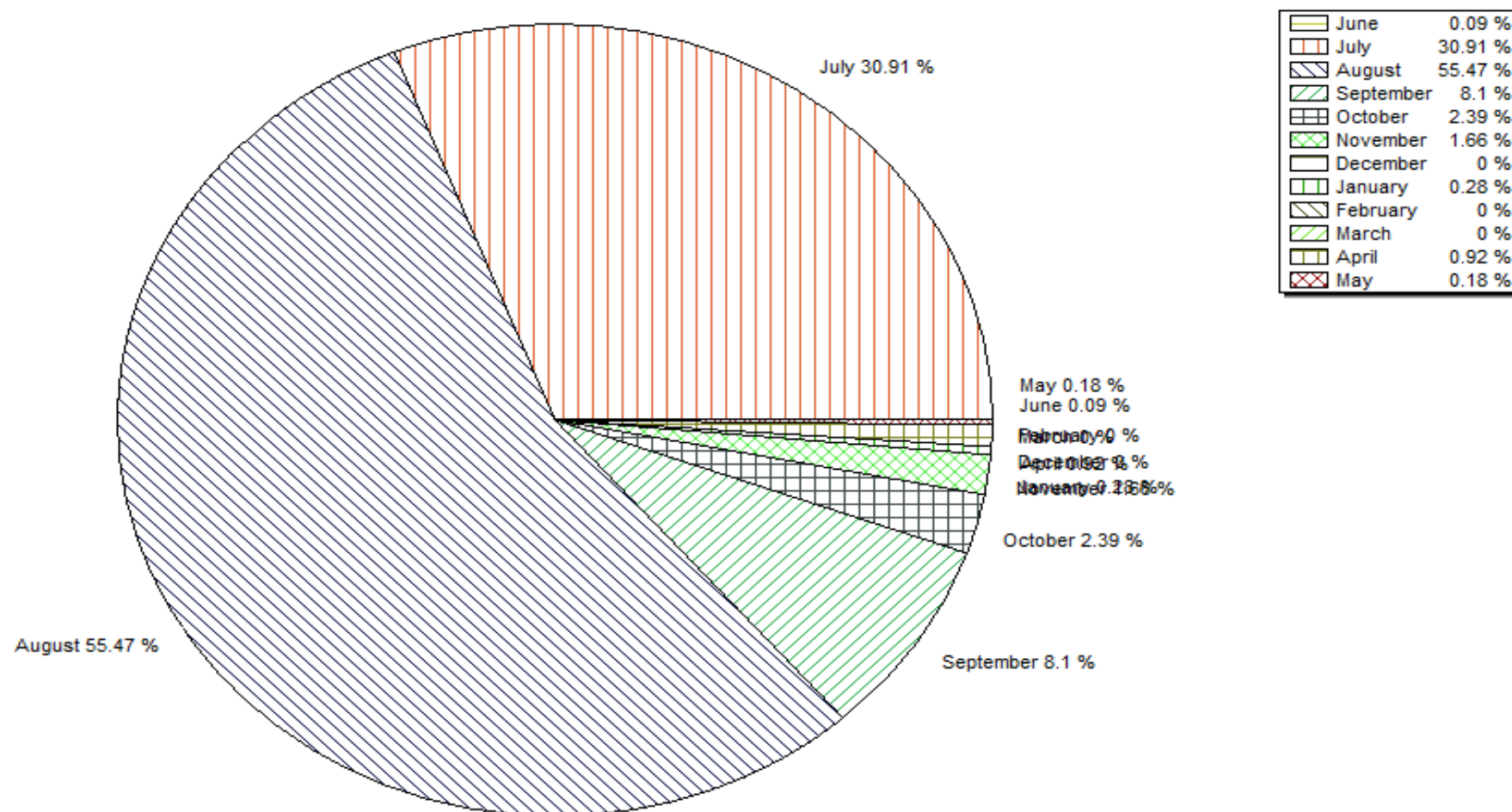
Division : Upper Krishna Divn, Pune
Sub-Division : Middle Krishna SD 1, Bagalkot



Monthly Runoff for the Year : 2018-2019

Station Name : Mudhol (MUDHOL)
Local River : Ghataprabha

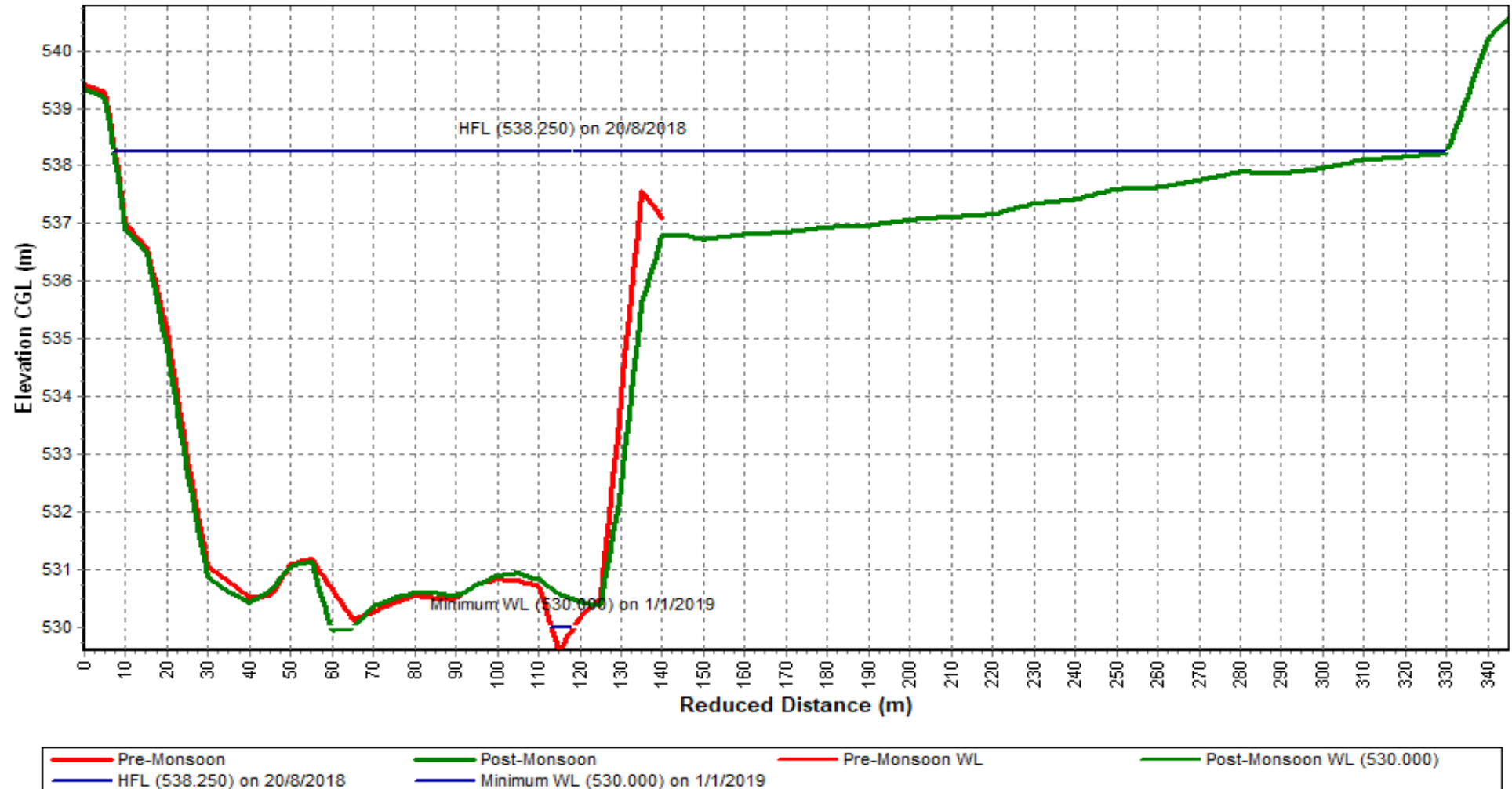
Division : Upper Krishna Divn, Pune
Sub-Division : Middle Krishna SD 1, Bagalkot



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Mudhol (MUDHOL)
Local River : Ghataprabha

Division : Upper Krishna Divn, Pune
Sub-Division : Middle Krishna SD 1, Bagalkot



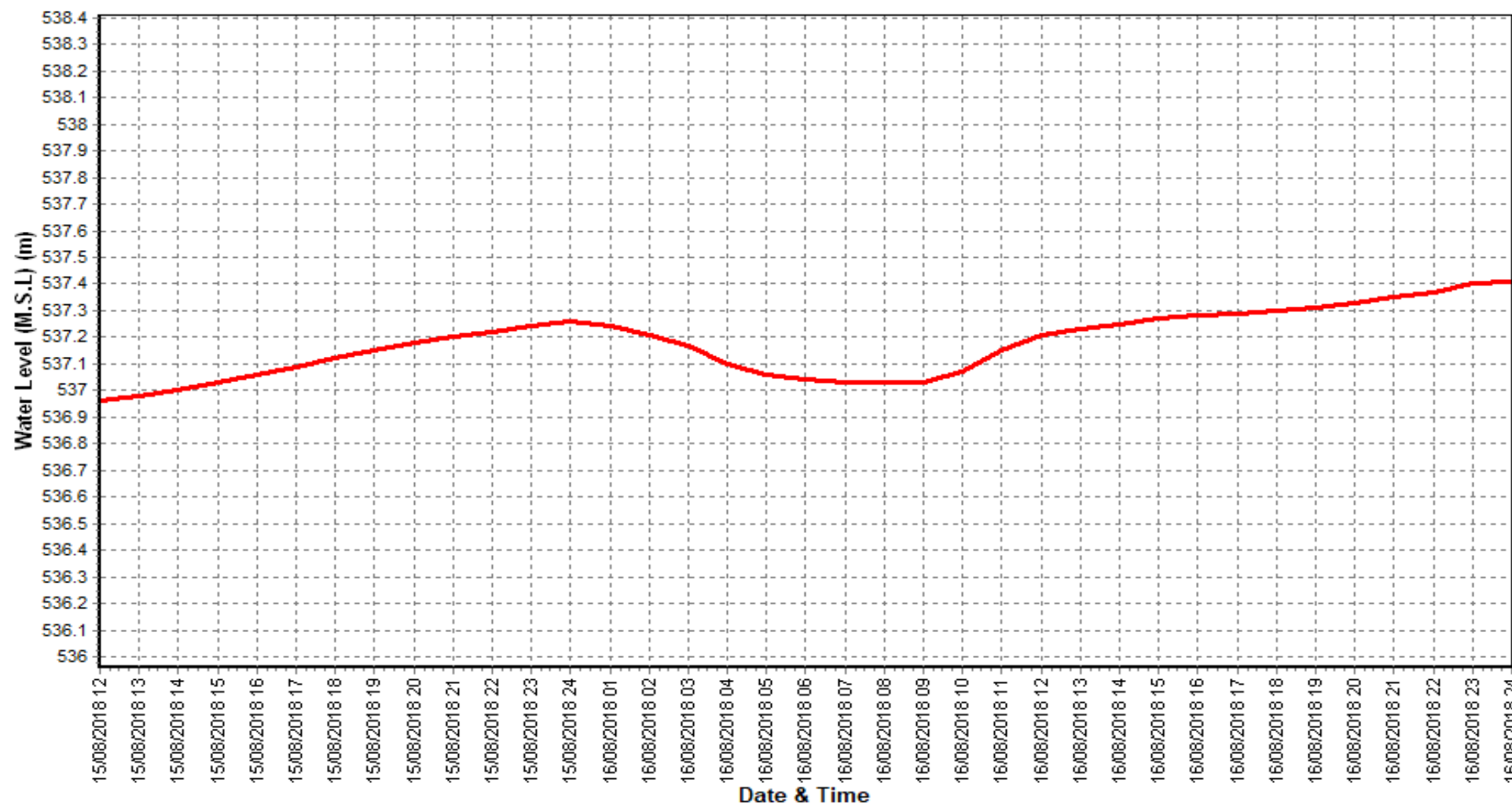
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : Mudhol (MUDHOL)

Local River : Ghataprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



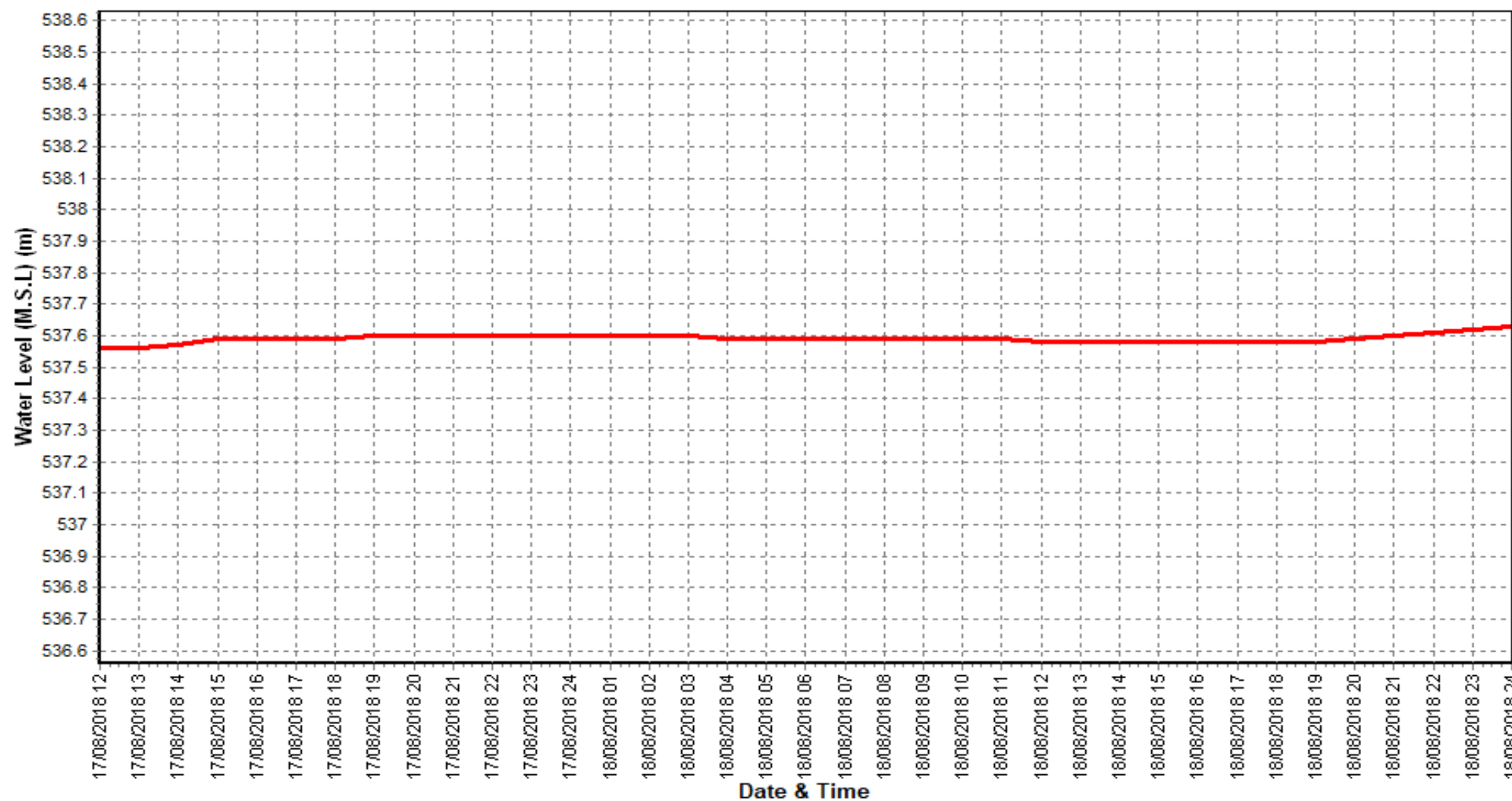
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Mudhol (MUDHOL)

Local River : Ghataprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



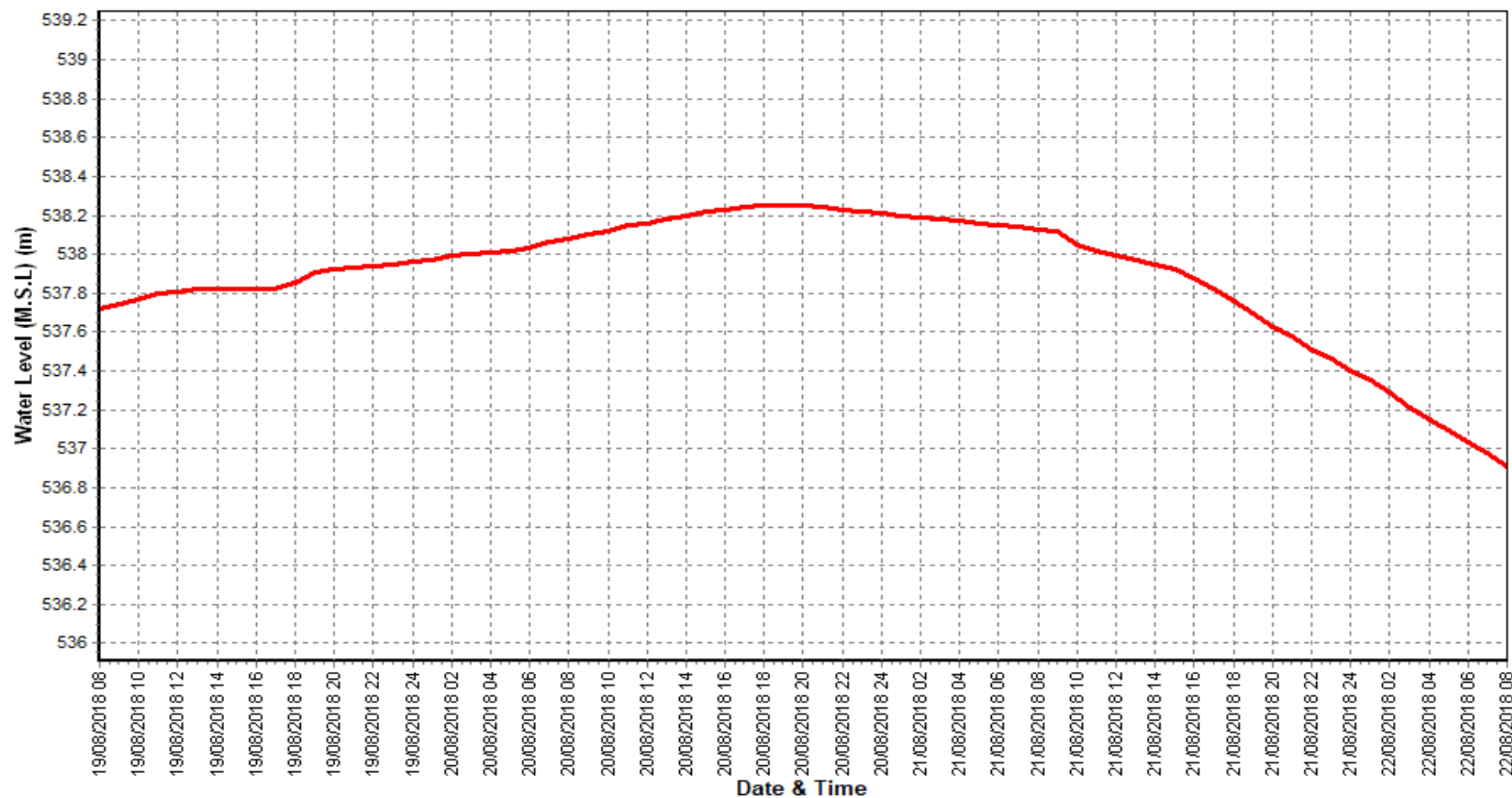
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Mudhol (MUDHOL)

Local River : Ghataprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1. Bagalkot



HISTORY SHEET

Water Year : 2018-2019

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	2271	544.389	08/07/1972	0.000	538.559	14/02/1973
1973-1974	1922	543.884	09/07/1973	0.000	538.570	26/01/1974
1974-1975	2150	544.254	07/07/1974	0.000	538.469	30/03/1975
1975-1976	3106	545.474	11/07/1975	0.000	538.604	24/04/1976
1976-1977	1702	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	1915	544.194	18/08/1978	0.200	538.554	13/03/1979
1979-1980	3147	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	1109	542.933	04/08/1981	3.000	538.734	12/06/1981
1982-1983	1669	543.969	15/08/1982	5.800	539.024	13/05/1983
1983-1984	2766	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	716.2	542.234	03/08/1985	1.300	538.779	17/06/1985
1986-1987	439.8	541.574	12/08/1986	5.600	539.004	12/10/1986
1987-1988	269.8	540.904	09/07/1987	1.244	538.724	16/03/1988
1988-1989	2064	544.809	06/08/1988	0.000	539.079	22/02/1989
1989-1990	1455	543.979	26/07/1989	0.000	539.084	24/03/1990

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

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
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
1993-1994	1444	544.160	14/08/1993	0.000	539.094	31/01/1994
1994-1995	4000	552.004	08/07/1994	0.000	539.054	12/02/1995
1995-1996	395.2	541.304	21/07/1995	0.000	539.104	10/01/1996
1996-1997	728.4	542.304	21/10/1996	0.000	539.084	10/03/1997
1997-1998	3375	546.154	08/08/1997	0.000	539.044	27/03/1998
1998-1999	404.0	541.549	03/07/1998	0.000	539.154	09/03/1999
1999-2000	1323	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	475.3	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	558.7	542.602	05/08/2004	0.000	538.950	25/01/2005
2005-2006	3245	546.400	23/09/2005	0.000	538.910	25/01/2006
2006-2007	1703	545.250	13/08/2006	6.340	538.610	20/06/2006
2007-2008	1991	545.820	08/08/2007	0.000	538.590	18/06/2007
2008-2009	1013	544.030	13/08/2008	0.000	538.820	12/06/2008
2009-2010	677.4	542.930	04/10/2009	0.000	539.045	30/06/2009
2010-2011	498.5	542.605	30/07/2010	0.000	539.410	15/06/2010
2011-2012	1123	544.650	04/09/2011	0.000	539.835	08/06/2011
2012-2013	328.6	541.620	05/08/2012	0.000	539.820	28/06/2012
2013-2014	621.3	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

Annual Runoff of Ghataprabha at Gokak Falls (Seasonal)

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1971-1972	1502	1	1503	53	0.035	53
2	1972-1973	1905	1	1906	67	0.031	67
3	1973-1974	2799	0	2799	99	0.000	99
4	1974-1975	2818	11	2829	100	0.391	100
5	1975-1976	3427	31	3458	121	1.085	122
6	1976-1977	2150	24	2174	76	0.859	77
7	1977-1978	2079	102	2181	73	3.609	77
8	1978-1979	2639	57	2696	93	2.014	95
9	1979-1980	2170	107	2277	77	3.781	80
10	1980-1981	3228	84	3312	114	2.959	117
11	1981-1982	2323	119	2441	82	4.194	86
12	1982-1983	1988	129	2117	70	4.551	75
13	1983-1984	3410	143	3553	121	5.036	126
14	1984-1985	1256	141	1398	44	4.995	49
15	1985-1986	873	145	1017	31	5.115	36
16	1986-1987	747	147	894	26	5.197	32
17	1987-1988	365	133	498	13	4.706	18
18	1988-1989	2142	129	2271	76	4.546	80
19	1989-1990	1178	52	1230	42	1.847	43
20	1990-1991	1410	112	1522	50	3.960	54
21	1991-1992	2103	16	2119	74	0.551	75
22	1992-1993	1290	0	1290	46	0.000	46
23	1993-1994	1703	11	1714	60	0.381	61
24	1994-1995	4280	20	4300	151	0.707	152
25	1995-1996	581	19	600	21	0.681	21
26	1996-1997	780	54	834	28	1.913	29
27	1997-1998	3042	79	3121	107	2.790	110
28	1998-1999	857	70	927	30	2.483	33
29	1999-2000	1948	85	2033	69	3.014	72
30	2000-2001	847	63	910	30	2.227	32
31	2001-2002	517	3	520	18	0.102	18
32	2002-2003	569	0	569	20	0.000	20
33	2003-2004	354	0	354	13	0.000	13
34	2004-2005	770	0	770	27	0.000	27
35	2005-2006	3999	0	3999	141	0.000	141
36	2006-2007	3087		3087	109	0.000	109
37	2007-2008	2239		2239	79	0.000	79
38	2008-2009	1428		1428	50	0.000	50
39	2009-2010	1233		1233	44	0.000	44
40	2010-2011	1389		1389	49	0.000	49
41	2011-2012	2376		2376	84	0.000	84
42	2012-2013	851		851	30	0.000	30
43	2013-2014	1746	0	1746	62	0.000	62
44	2014-2015	894		894	32	0.000	32
45	2015-2016	726		726	26	0.000	26
46	2016-2017	840		840	30	0.000	30
47	2017-2018	463		463	16	0.000	16
48	2018-2019	1306		1306	46	0.000	46
49	2018-2019	9104	576	9680	322	20	342
Average		1872	72	1926	66	2	68
75% Dependable flow (MCM)				894.161			
90 % Dependable flow (MCM)				564.204			

Stage-Discharge Data for the period 2018 - 2019

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	539.285	0.000	539.680	30.93 *	539.397	37.59	541.000	179.8	539.423	27.30	539.840	
2	539.240	0.000	539.267	6.600	539.280	29.23	540.530	138.9 *	539.450	31.17 *	539.740	3.583 #
3	539.360	0.000	539.318	7.513	539.290	28.70 *	540.325	117.0	539.440	33.55	539.780	4.898 #
4	539.340	0.000	539.450	15.17 *	539.258	26.94	539.905	94.81	539.413	25.87	539.725	3.143 *
5	539.790	0.000	539.263	5.795	539.240	25.52 *	539.600	50.89 *	539.298	15.30	539.730	3.287 #
6	539.795	0.000	539.160	2.619 #	539.284	25.30	539.240	10.08 #	539.294	13.45	539.680	1.797
7	539.845	0.000	540.670	139.0	539.880	90.87	539.100	2.570 #	539.240	10.08 *	539.650	1.383
8	539.980	0.000	540.465	117.3 *	540.395	111.5	539.330	17.65 #	539.245	11.22	539.825	6.625 *
9	539.750	0.000	540.353	117.5	540.400	111.4	539.280	13.18 *	539.315	13.65	539.730	3.287 #
10	539.825	0.000	540.220	110.9	540.345	123.6	539.300	17.99	539.240	10.08 *	539.890	9.586 #
11	539.900	0.000	540.020	62.50 #	540.350	120.0 *	539.358	17.04	539.247	10.30	539.810	6.019 *
12	538.990	0.000	540.605	129.9	540.420	126.1 *	539.270	12.36 #	539.280	13.18 *	539.930	9.928
13	539.000	4.014 #	540.995	192.6	542.065	428.1	539.260	11.57 *	539.240	10.08 *	539.885	9.100
14	538.910	2.524 #	541.000	201.8 *	542.335	512.7	539.210	8.039 #	539.315	16.24 *	539.870	9.630
15	539.222	10.47	541.180	234.6 *	542.410	457.4 *	539.210	8.039 #	539.258	8.176	539.875	10.75
16	539.300	11.12 *	541.700	344.0	543.460	651.2	539.270	12.36 *	539.240	7.417	539.890	11.46
17	539.300	11.12 *	542.020	414.4 *	542.650	527.4	539.277	9.102	539.244	8.950	539.860	8.149 *
18	539.312	11.81	542.310	490.6	543.480	662.5	539.210	7.525	539.260	8.717 *	539.930	11.68 *
19	539.253	8.487	542.095	443.7	543.920	854.4 *	539.200	8.134	539.300	11.39 *	539.930	11.68 #
20	539.260	9.988 #	540.850	179.4	542.085	441.9	539.230	9.217	539.227	6.960 #	539.960	13.26
21	539.259	8.972	540.540	124.8	541.220	210.0 *	539.280	13.18 *	539.080	1.279 *	539.970	11.38
22	538.980	3.656 #	540.620	139.8 *	542.530	620.0 *	539.270	12.36 #	539.132	2.787 #	539.245	11.04
23	538.880	2.097 *	541.210	216.2	542.455	502.9	539.480	35.17 *	539.172	4.294 #	539.260	10.36 *
24	538.960	3.314 *	540.805	163.9	542.025	422.6	539.303	15.97	539.230	7.640	539.380	15.04 #
25	538.820	1.295	540.693	134.3	541.305	226.5	539.295	14.44	539.258	7.070	539.260	10.36 *
26	538.750	0.000	540.410	115.5	541.020	203.5 *	539.320	16.70 *	539.275	9.351 #	539.260	10.36 *
27	538.680	0.000	540.225	116.5	540.670	123.8	539.300	14.88 #	539.745	70.84	539.280	9.891
28	539.038	5.231	539.900	93.39	541.265	218.2	539.495	37.27 #	539.790	78.79 *	538.990	3.331
29	540.130	74.67 #	539.715	64.60 *	541.965	415.9	539.580	50.33 #	539.275	9.677 #	538.940	2.266
30	539.950	55.24 #	539.683	58.32	541.430	238.9	539.240	10.08 *	539.850	7.697 #	538.935	2.282 #
31			539.240	25.52 #	540.680	125.3			539.780	5.146		
Ten-Daily Mean												
I Ten-Daily	539.621	0.000	539.784	55.33	539.677	61.06	539.761	64.28	539.336	19.17	539.759	4.177
II Ten-Daily	539.245	6.953	541.277	269.3	542.318	478.2	539.249	10.34	539.261	10.14	539.894	10.17
III Ten-Daily	539.145	15.45	540.276	113.9	541.506	300.7	539.356	22.04	539.417	18.60	539.252	8.630
Monthly												
Min.	538.680	0.000	539.160	2.619	539.240	25.30	539.100	2.570	539.080	1.279	538.935	1.383
Max.	540.130	74.67	542.310	490.6	543.920	854.4	541.000	179.8	539.850	78.79	539.970	15.04
Mean	539.337	7.467	540.441	145.1	541.178	280.6	539.456	32.22	539.340	16.05	539.635	7.778

Annual Runoff in MCM = 1306 Annual Runoff in mm = 471

Peak Observed Discharge = 662.5 cumecs on 18/08/2018 Corres. Water Level :543.48 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018 Corres. Water Level :539.285 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)

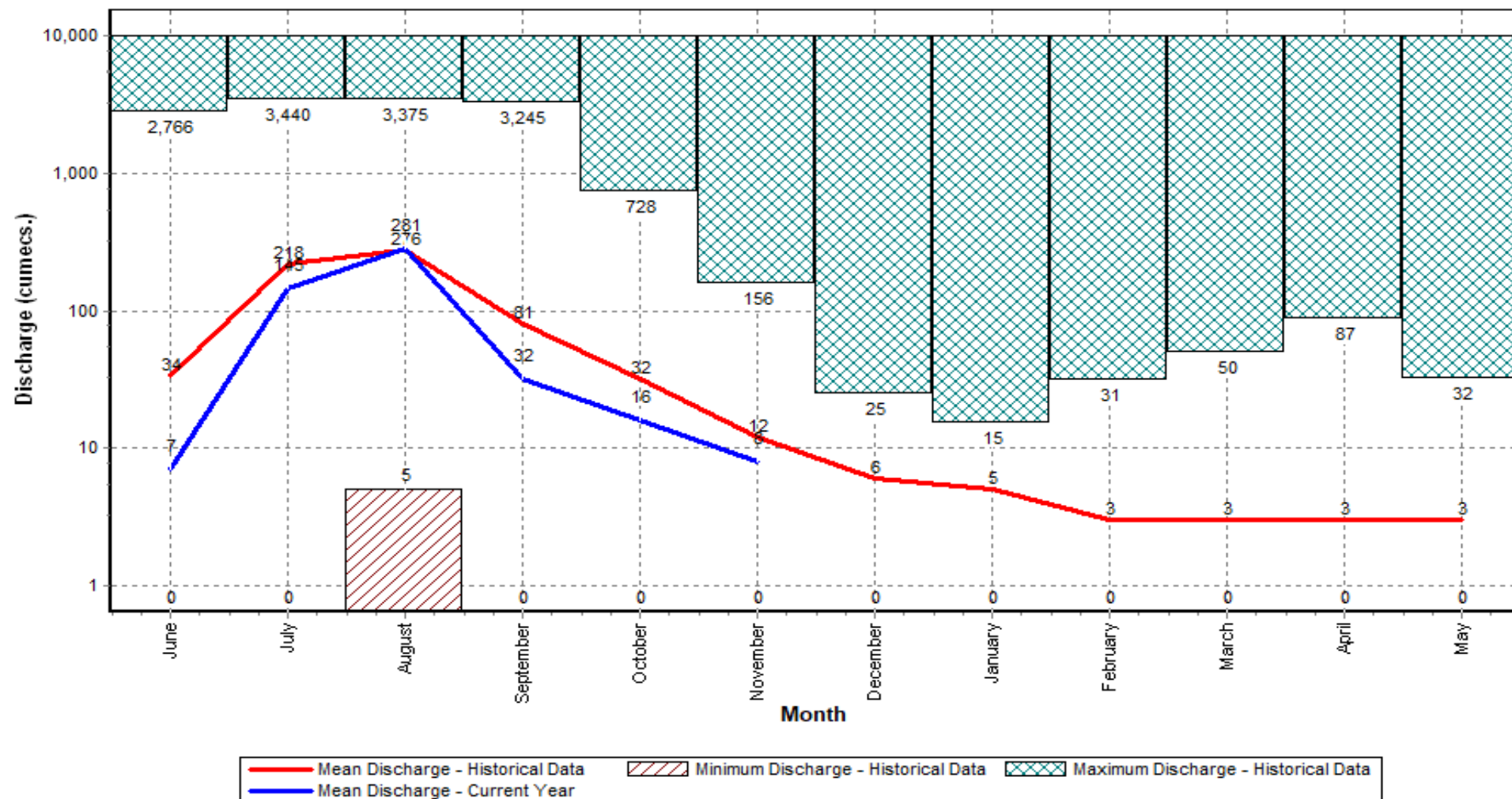
Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2018-2019

Station Name : Gokak Falls (Seasonal) (AKT00P9)
Local River : Ghataprabha

Data considered : 1972-2019

Division : Upper Krishna Divn, Pune
Sub-Division : Middle Krishna SD 1, Bagalkot



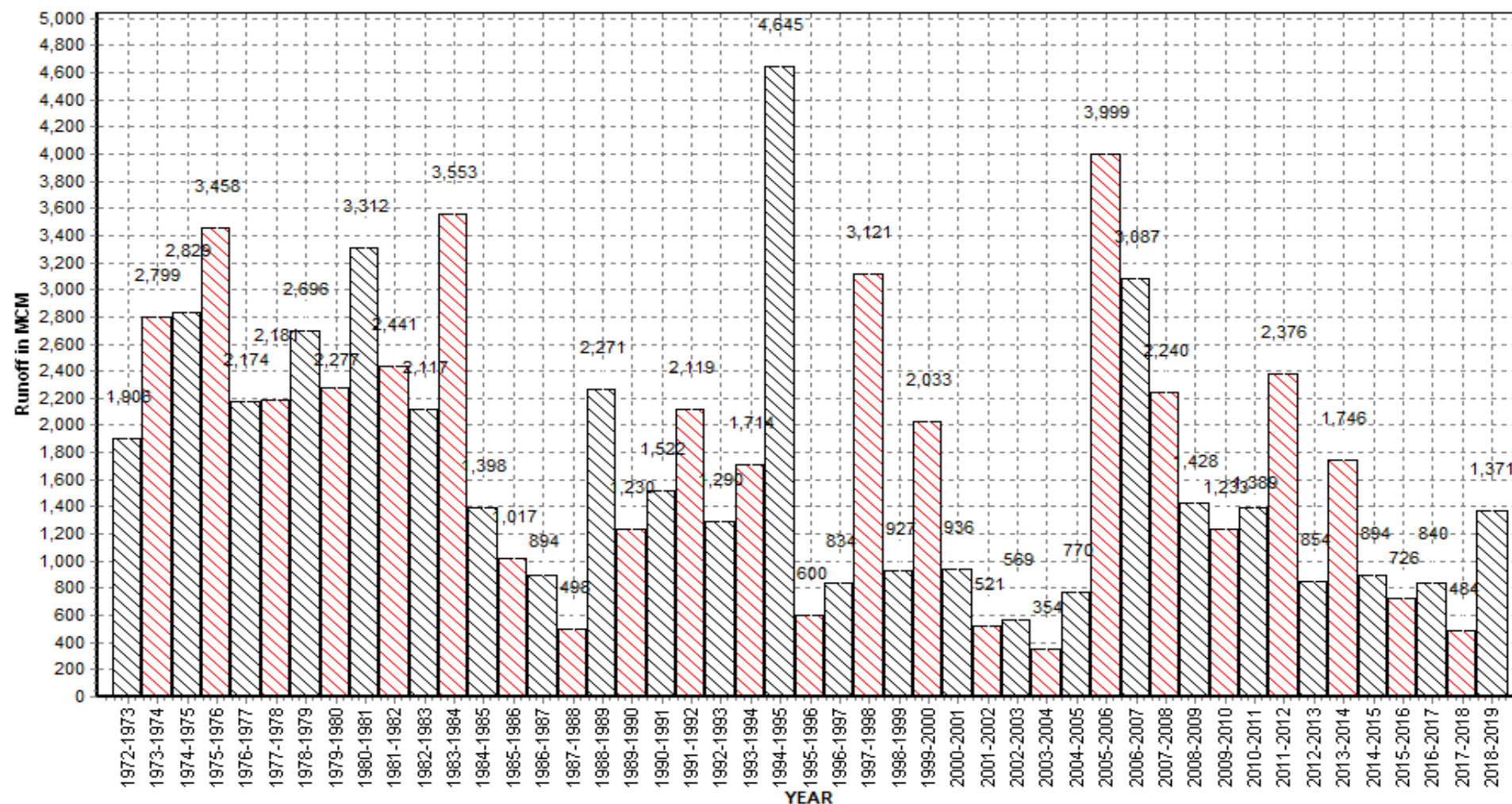
Annual Runoff Values for the period: 1972 - 2019

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

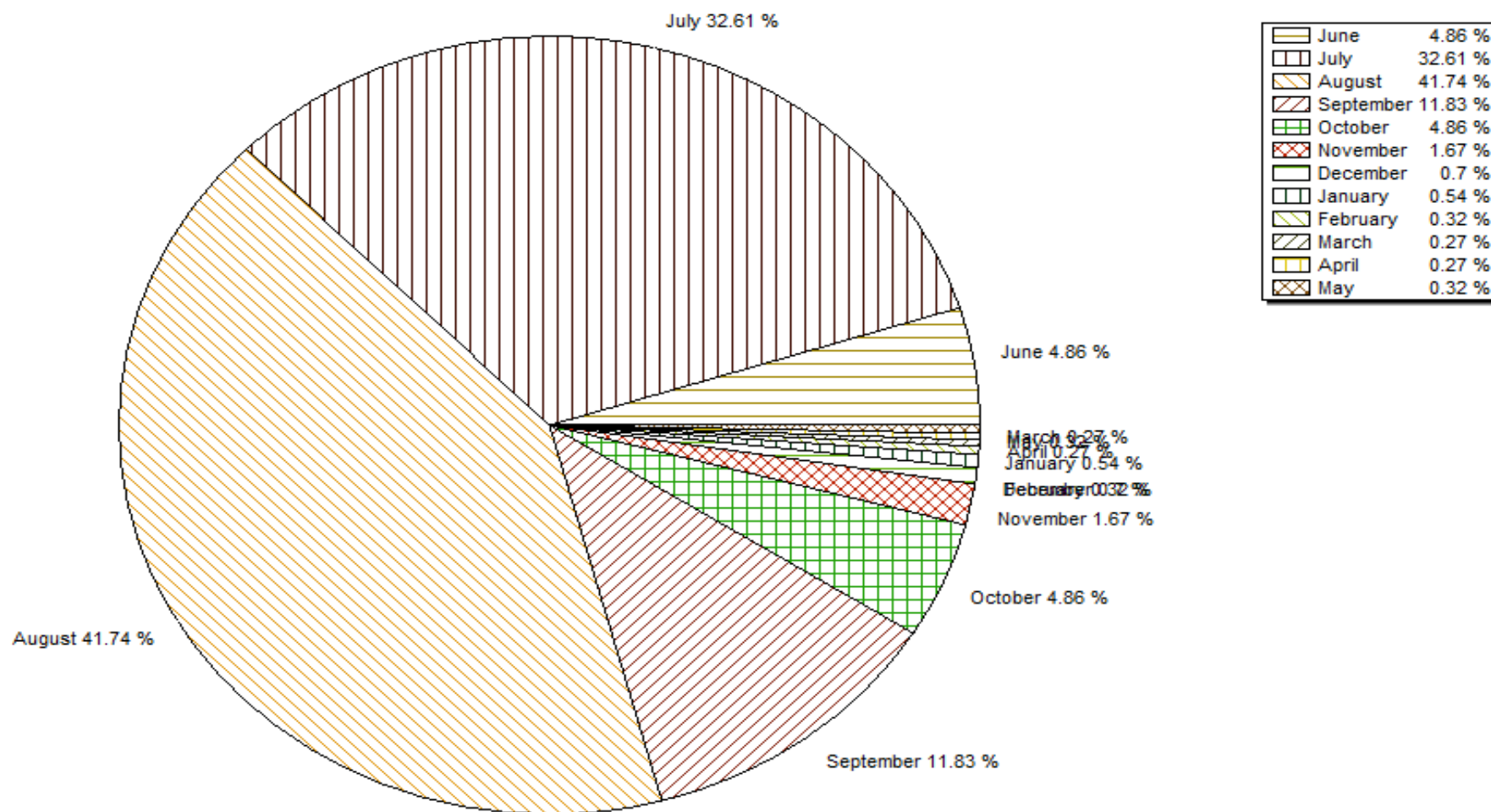
Monthly Average Runoff based on period : 1972-2018

Station Name : Gokak Falls (Seasonal) (AKT00P9)

Local River : Ghataprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



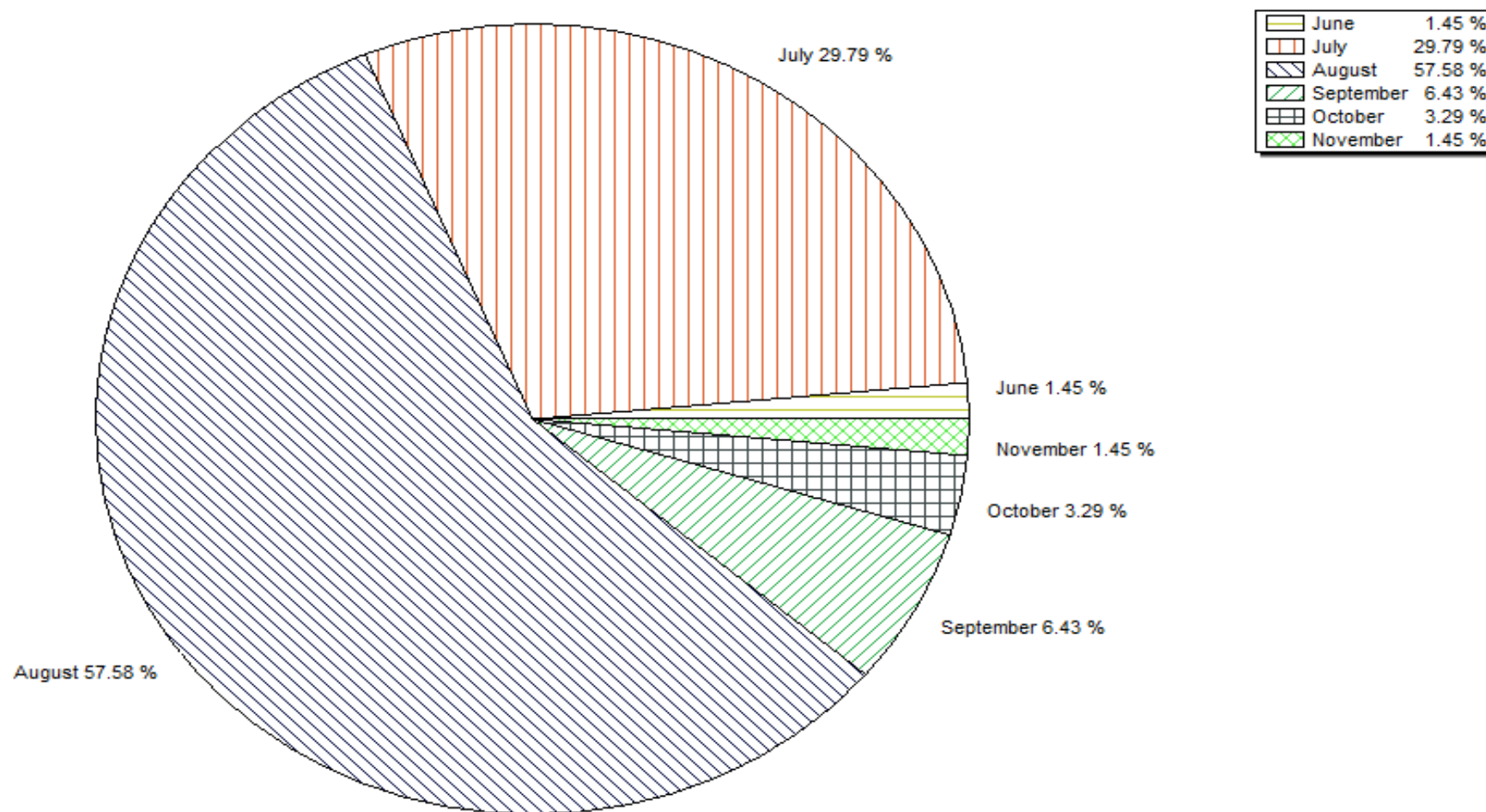
Monthly Runoff for the Year : 2018-2019

Station Name : Gokak Falls (Seasonal) (AKT00P9)

Local River : Ghataprabha

Division : Upper Krishna Divn, Pune

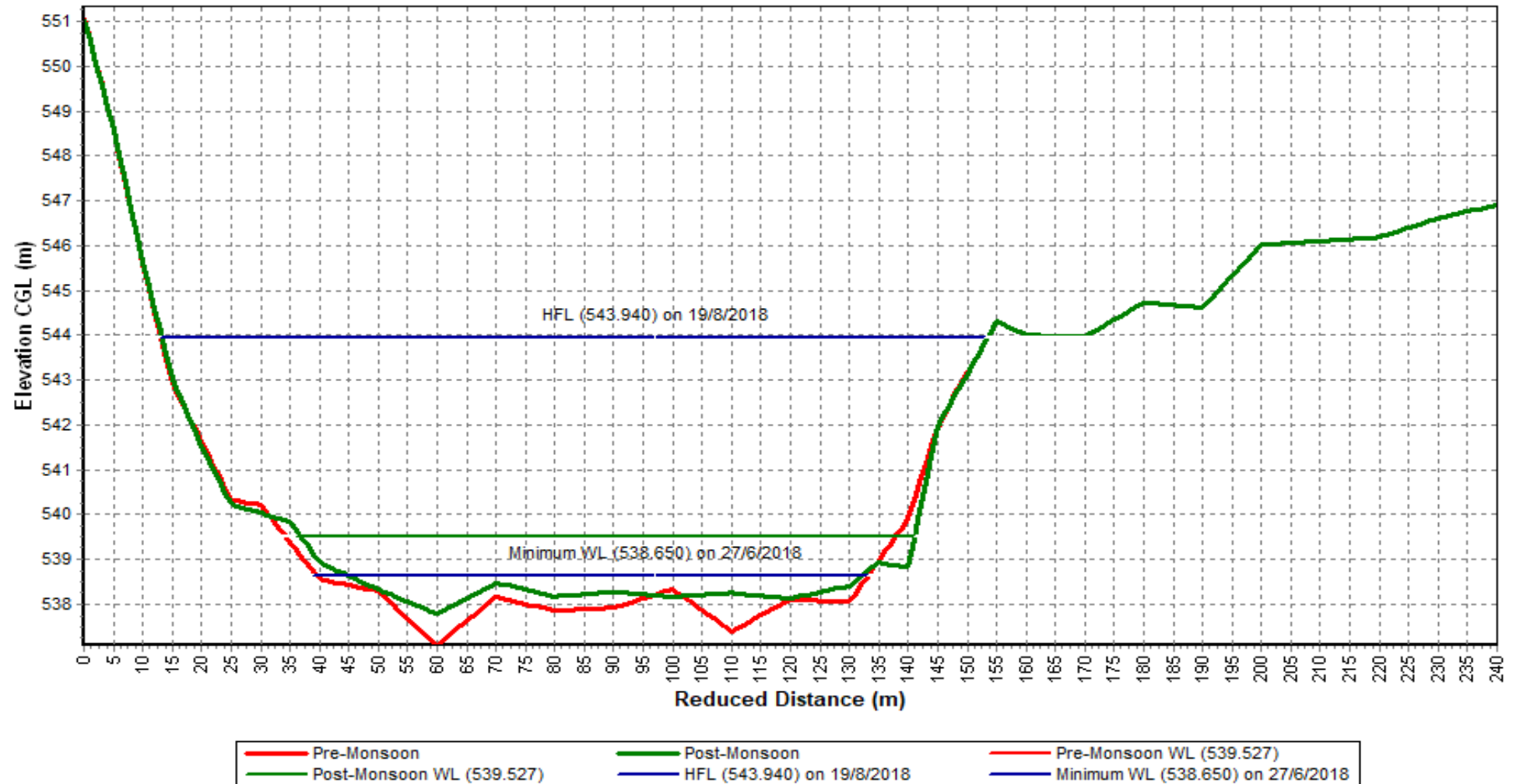
Sub-Division : Middle Krishna SD 1, Bagalkot



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Gokak Falls (Seasonal) (AKT00P9)
Local River : Ghataprabha

Division : Upper Krishna Divn, Pune
Sub-Division : Middle Krishna SD 1, Bagalkot



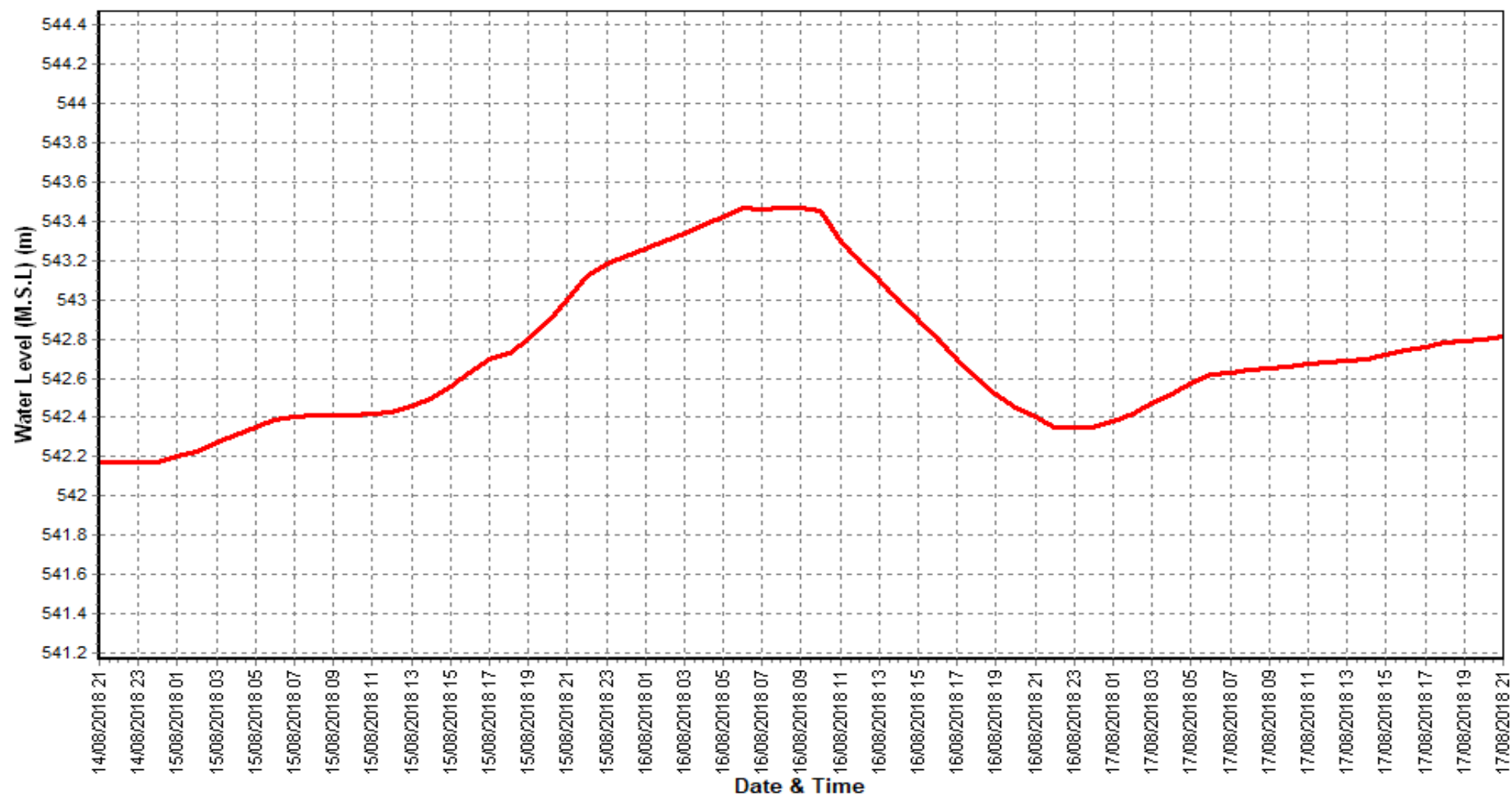
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Gokak Falls (Seasonal) (AKT00P9)

Local River : Ghataprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



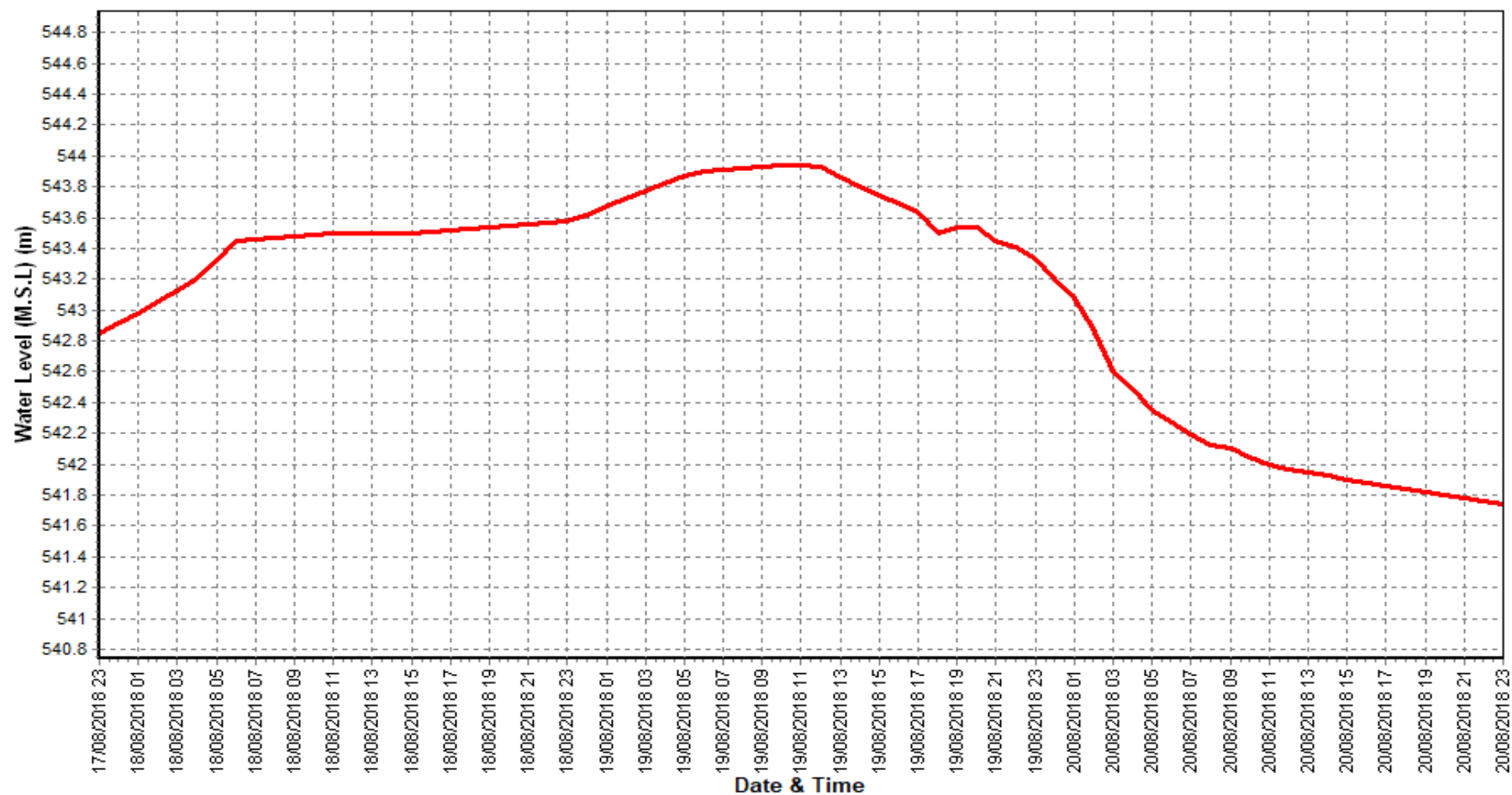
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Gokak Falls (Seasonal) (AKT00P9)

Local River : Ghataprabha

Division : Upper Krishna Divn, Pune

Sub-Division : Middle Krishna SD 1, Bagalkot



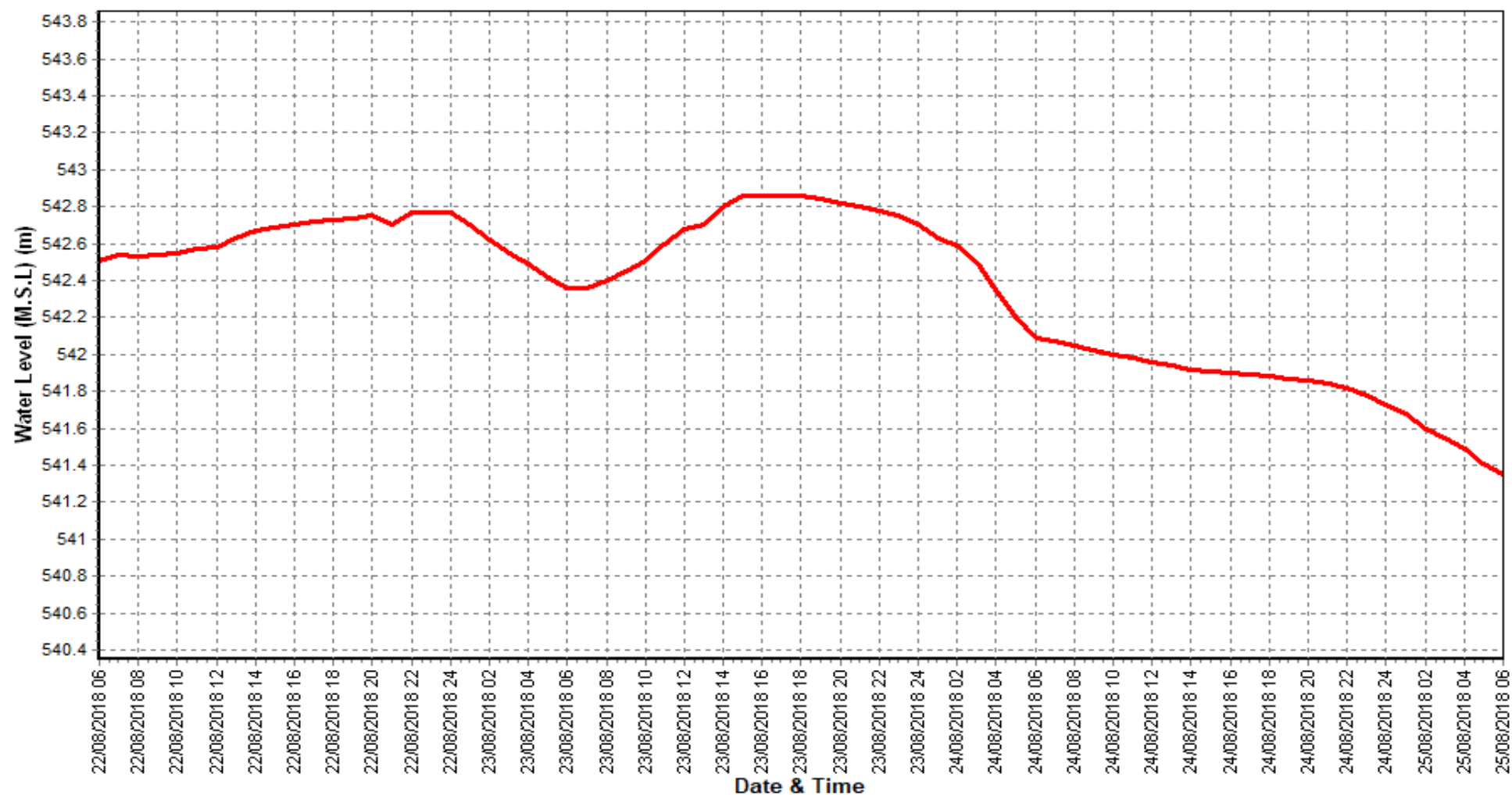
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

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	: 2018-2019
Site	: Sadalga (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 2, Miraj
Drainage Area	: 2322 Sq. Km.	Bank	: Right
Latitude	: 16°33'44"	Longitude	: 74°31'42"
Zero of Gauge (m)	: 522.976 (m.s.l) 526.16 (m.s.l) 525.16 (m.s.l)	01/01/1964 05/06/1964 26/04/1966	- 04/06/1964 - 25/04/1966
	Opening Date	Closing Date	
Gauge	: 05/06/1964	HFL During 2018-19	: 536.120 m
		Corres. Discharge	: 875 (Estimated)
Discharge	: 24/06/1969	Date & Time of occurrence	: 19/07/2018 : 13.00 hrs.
Sediment	:		
Water Quality	:		

HFL Recorded so far in m : 538.950 dt 29-06-1983

Corresponding Discharge (cumecs) : 2457 *

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	1190	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	1397	536.760	10/07/1973	0.000	527.550	25/01/1974
1974-1975	1304	536.483	07/07/1974	0.000	526.700	25/01/1975
1975-1976	1759	537.550	11/07/1975	0.000	529.515	26/01/1976
1976-1977	1103	536.804	02/08/1976	0.000	527.985	24/01/1977
1977-1978	1129	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	1103	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	1368	536.510	31/07/1982	0.000	526.660	25/01/1983

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	2457	538.950	29/06/1983	0.000		26/01/1984
1984-1985	1514	536.026	19/07/1984	0.000		25/01/1985
1985-1986	1421	536.472	03/08/1985	0.000		25/01/1986
1986-1987	1048	536.425	11/08/1986	0.000		25/01/1987
1987-1988	872.6	535.430	09/07/1987	0.000		26/01/1988
1988-1989	1810	537.300	20/07/1988	0.000		25/01/1989
1989-1990	2100	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	1379	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	1058	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	1180	536.480	03/10/1996	0.000	530.470	25/01/1997
1997-1998	1350	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	1135	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	827.9	535.750	13/08/2002	0.000	529.940	25/01/2003
2003-2004	537.7	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	891.2	536.685	02/07/2007	0.000	530.190	13/11/2007
2008-2009	1013	537.840	14/08/2008	0.000	528.260	07/11/2008
2009-2010	762.6	535.810	18/07/2009	0.000	529.795	25/11/2009
2010-2011	850.9	536.455	30/07/2010	0.000	528.750	26/11/2010
2011-2012	832.5	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	847.3	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	1761	536.920	14/07/2016	0.000	527.170	21/04/2017
2017-2018	716.4	535.235	22/07/2017	0.000	527.590	19/11/2017

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

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
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		2353	83		83
49	2017-2018	1900		1900	67		67
50	2018-2019	2636		2636	93		93
Average		2527		2527	89	0	89
75% Dependable flow (MCM)				1892			
90 % Dependable flow (MCM)				1430			

Stage-Discharge Data for the period 2018 - 2019

Station Name : Sadalga (Seasonal) (AKV00D3)

Division : Upper Krishna Divn, Pune

Local River : Dudhganga

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	528.240	0.000	530.330	107.9 *	530.270	88.88	532.760	352.6	529.475	44.09	527.890	0.000
2	527.980	0.000	529.940	56.25	530.185	87.63	531.890	241.0 *	529.450	42.98 *	527.790	0.000
3	528.740	0.000	529.650	43.92	530.080	74.29	530.900	140.6 *	529.395	42.90	527.750	0.000
4	529.000	0.000	529.630	41.57	530.050	71.39	530.600	142.0	529.160	20.76	527.710	0.000
5	529.120	0.000	530.140	84.61	530.250	101.7 *	530.470	124.9	529.000	19.42	527.600	0.000
6	529.230	36.08	531.705	227.5	531.295	202.2	530.260	98.20	528.880	11.53	527.540	0.000
7	529.070	29.80	532.335	291.6	530.990	178.4	530.120	88.98	528.680	14.72 *	527.560	0.000
8	528.800	17.58	532.500	331.4 *	531.250	213.8	530.070	79.99	528.450	11.59	527.660	0.000
9	528.470	7.569	532.740	408.1	531.375	234.9	529.890	66.49 *	528.210	5.244	527.860	0.000
10	528.510	8.587 *	533.010	449.0	531.660	239.1	529.710	55.02	528.060	5.074	527.950	0.000
11	530.350	102.5	533.050	455.0	531.575	218.2	529.570	45.79	528.210	5.321	528.260	0.000
12	529.785	53.33	533.560	522.7	531.730	240.5 *	529.420	34.43	527.990	0.000	528.070	0.000
13	529.500	43.23	534.360	539.0	532.740	330.2	529.290	35.73 *	528.050	0.000	527.970	0.000
14	529.155	26.45	534.840	671.4	533.330	442.8	529.170	31.62	527.990	0.000	527.890	0.000
15	528.905	25.14	534.850	666.6 *	533.910	526.7 *	529.060	23.25	527.740	0.000	527.820	0.000
16	528.780	17.19 *	534.820	665.7	534.210	597.1	528.860	19.65 *	527.550	0.000	527.780	0.000
17	528.410	6.057 *	535.260	724.1	534.490	617.0	528.570	13.35	527.580	0.000	527.720	0.000
18	528.400	13.20	535.860	828.6	534.730	667.3	528.490	8.283	527.590	0.000	527.720	0.000
19	528.725	18.56	536.120	876.6	534.950	682.2 *	528.440	10.99	528.200	0.000	527.790	0.000
20	528.620	11.15	535.920	825.1	535.120	721.2	528.460	10.66 *	528.530	0.000	528.450	0.000
21	528.590	10.98	535.470	742.2	535.100	596.8	528.610	15.07	528.720	0.000	528.680	0.000
22	528.455	8.000	535.080	702.6 *	535.010	691.6 *	529.000	21.48	528.690	4.104	528.780	0.000
23	528.490	8.716	534.870	677.7	535.030	700.0	529.020	25.06 *	528.460	0.000	528.770	0.000
24	528.290	3.523 *	534.700	663.1	534.890	681.6	528.920	18.06	528.290	0.000	528.970	0.000
25	528.360	8.277	534.500	622.6	534.460	628.2	528.905	33.92	528.360	0.000	528.750	0.000
26	530.050	96.60	534.240	603.9	533.800	511.1 *	528.860	22.00	528.320	0.000	528.720	0.000
27	530.940	187.6	533.870	500.8	533.150	405.9	530.220	110.2	528.320	0.000	528.650	0.000
28	530.750	160.8	533.470	464.9	533.220	414.7	529.880	66.47	528.200	0.000	528.600	0.000
29	531.080	200.3	532.740	362.2 *	533.500	531.7	529.450	49.72	528.060	0.000	528.300	0.000
30	530.830	157.8	530.700	146.5	533.440	508.2	529.680	54.61 *	528.060	0.000	528.190	0.000
31			530.380	112.6	533.200	364.2			527.970	0.000		
Ten-Daily Mean												
I Ten-Daily	528.716	9.962	531.198	204.2	530.741	149.2	530.667	139.0	528.876	21.83	527.731	0.000
II Ten-Daily	529.063	31.68	534.864	677.5	533.679	504.3	528.933	23.37	527.943	0.532	527.947	0.000
III Ten-Daily	529.583	84.26	533.638	509.0	534.073	548.6	529.255	41.66	528.314	0.373	528.641	0.000
Monthly												
Min.	527.980	0.000	529.630	41.57	530.050	71.39	528.440	8.283	527.550	0.000	527.540	0.000
Max.	531.080	200.3	536.120	876.6	535.120	721.2	532.760	352.6	529.475	44.09	528.970	0.000
Mean	529.121	41.97	533.246	465	532.871	405.5	529.618	68	528.375	7.346	528.106	0

Annual Runoff in MCM = 2636 Annual Runoff in mm = 1135

Peak Observed Discharge = 876.6 cumecs on 19/07/2018 Corres. Water Level :536.12 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018 Corres. Water Level :528.24 m

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

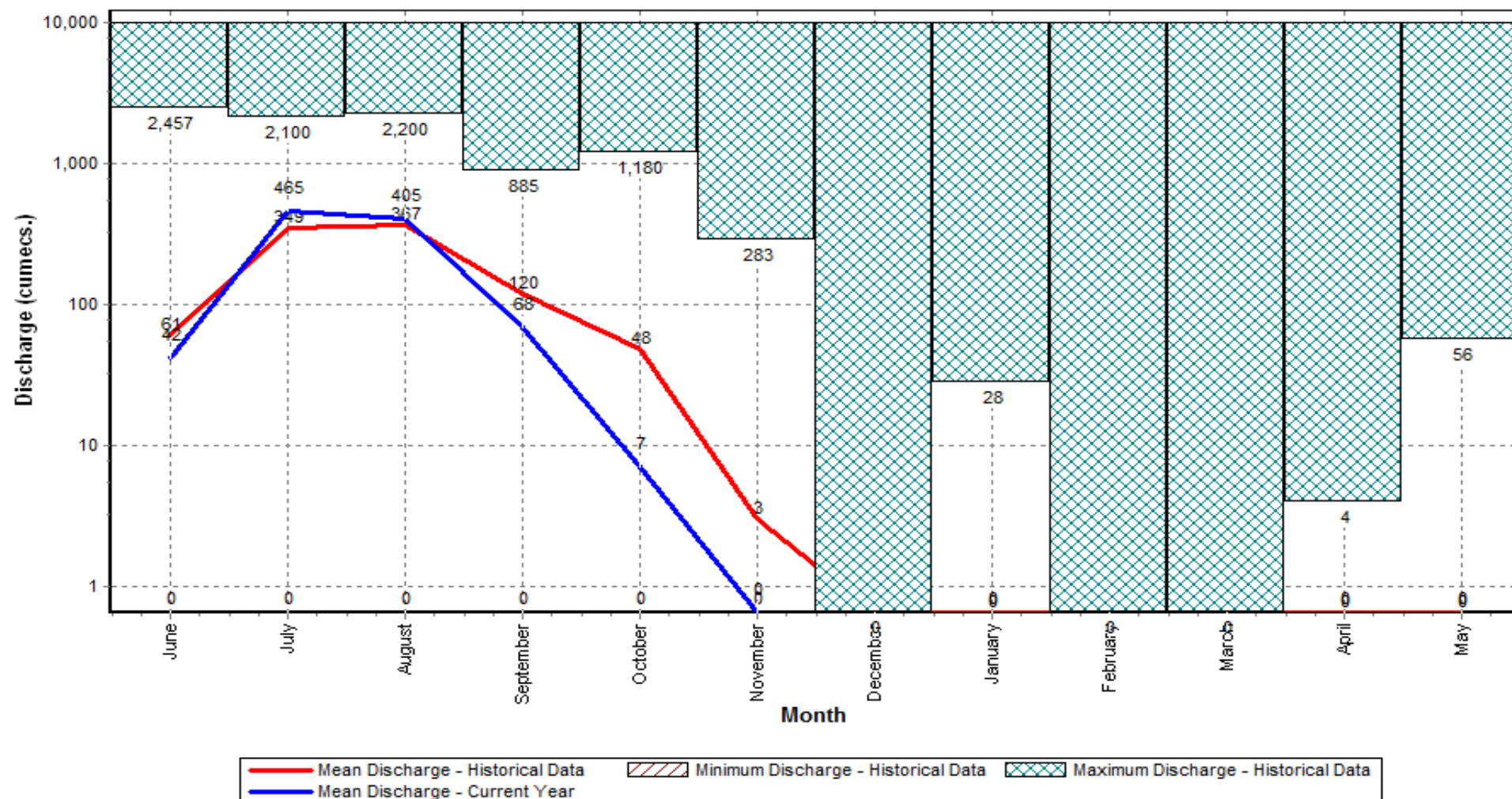
Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2018-2019

Station Name : Sadalga (Seasonal) (AKV00D3)
Local River : Dudhganga

Data considered : 1970-2019

Division : Upper Krishna Divn, Pune
Sub-Division : Upper Krishna SD 2, Miraj



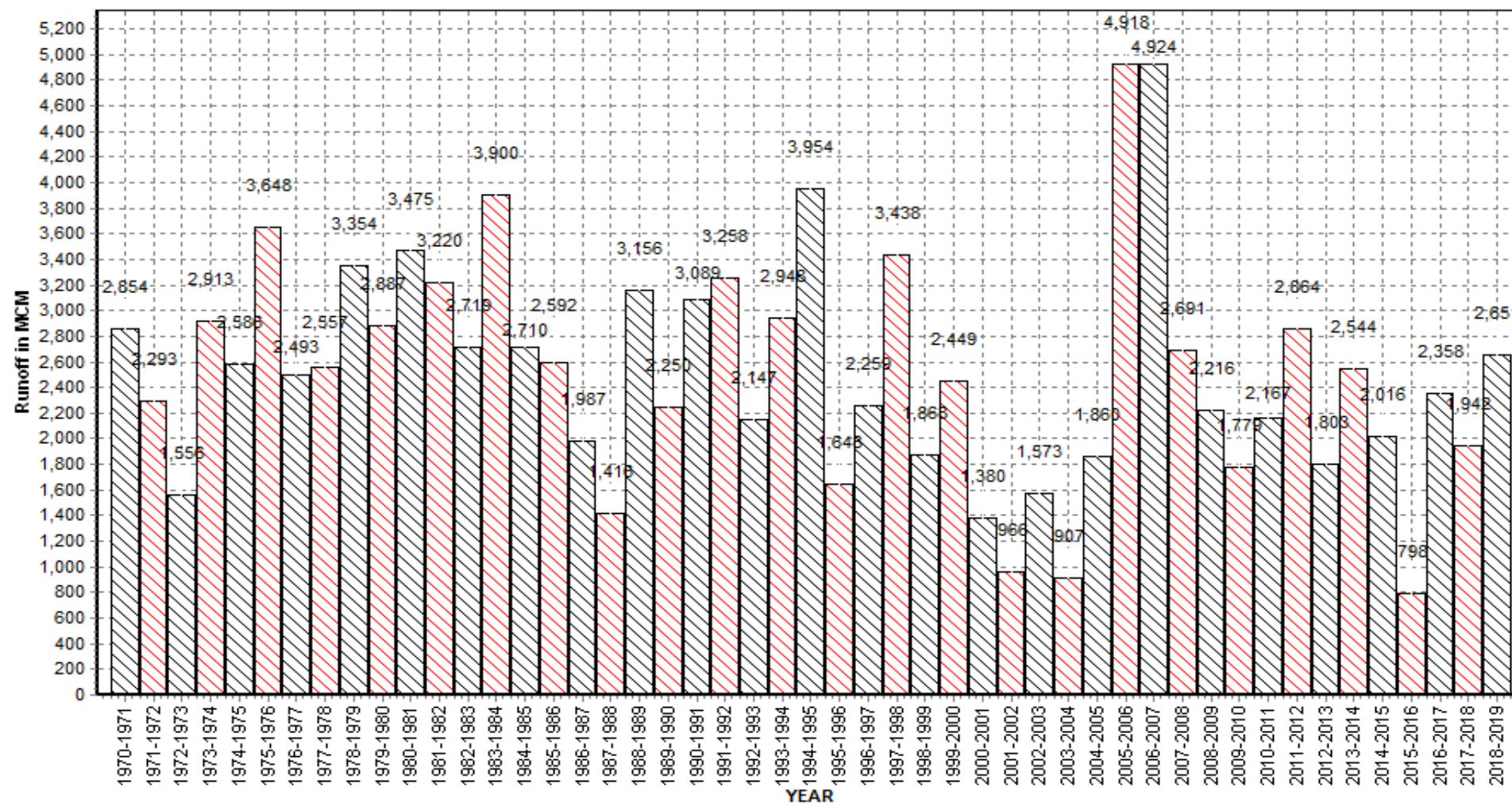
Annual Runoff Values for the period: 1970 - 2019

Station Name : Sadalga (Seasonal) (AKV00D3)

Local River : Dudhganga

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



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

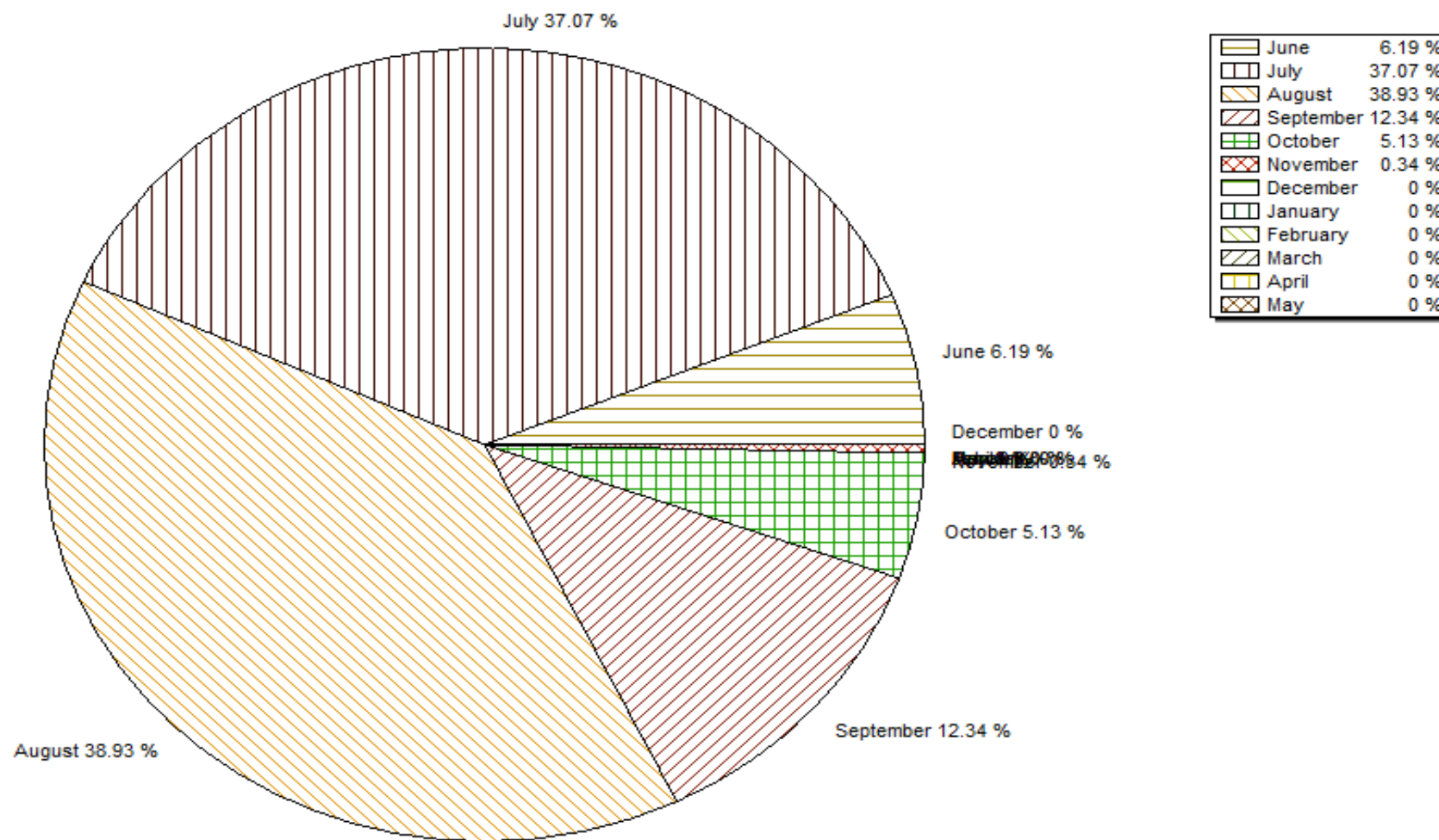
Monthly Average Runoff based on period : 1970-2018

Station Name : Sadalga (Seasonal) (AKV00D3)

Local River : Dudhganga

Division : Upper Krishna Divn, Pune

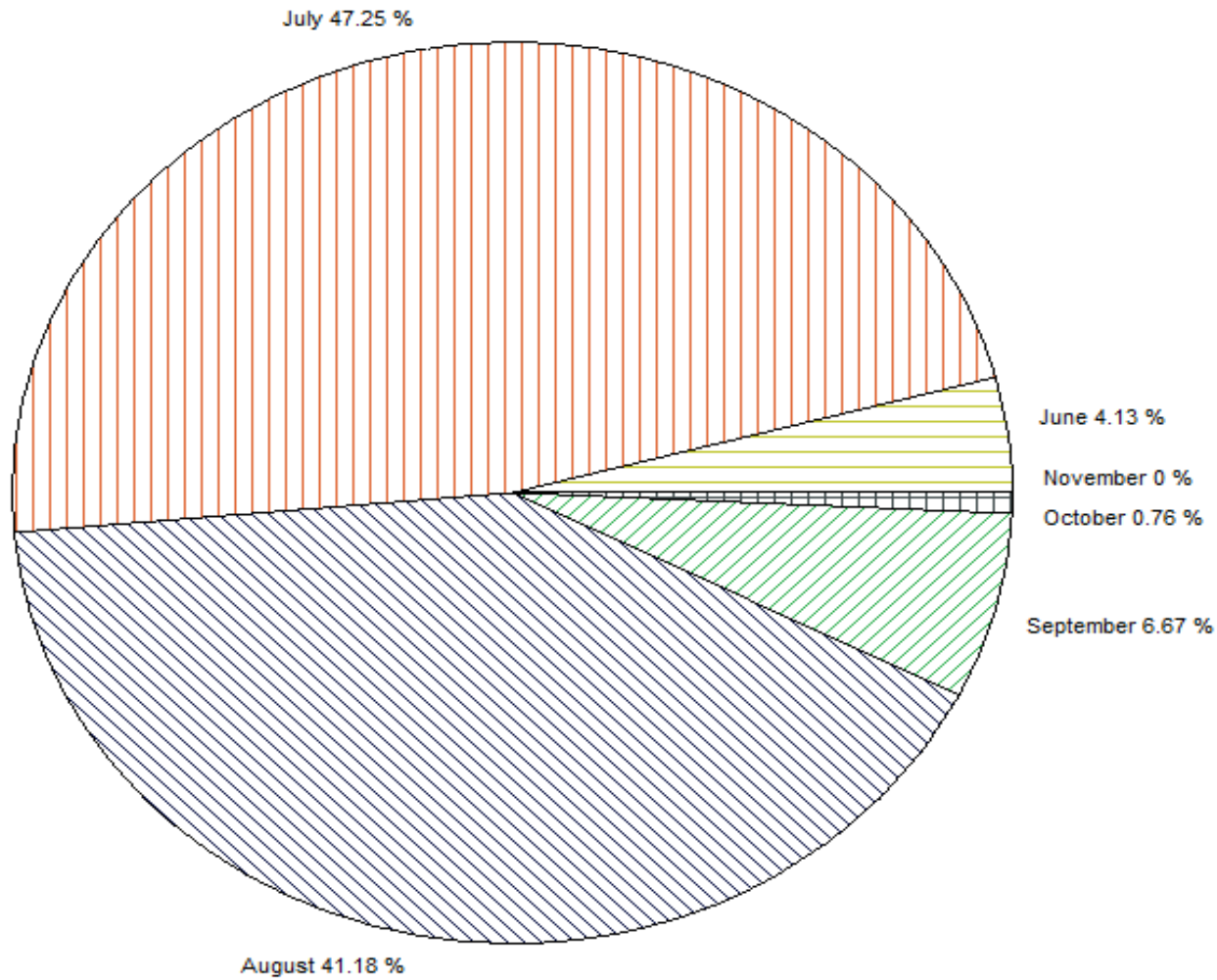
Sub-Division : Upper Krishna SD 2, Miraj



Monthly Runoff for the Year : 2018-2019

Station Name : Sadalga (Seasonal) (AKV00D3)
Local River : Dudhganga

Division : Upper Krishna Divn, Pune
Sub-Division : Upper Krishna SD 2, Miraj



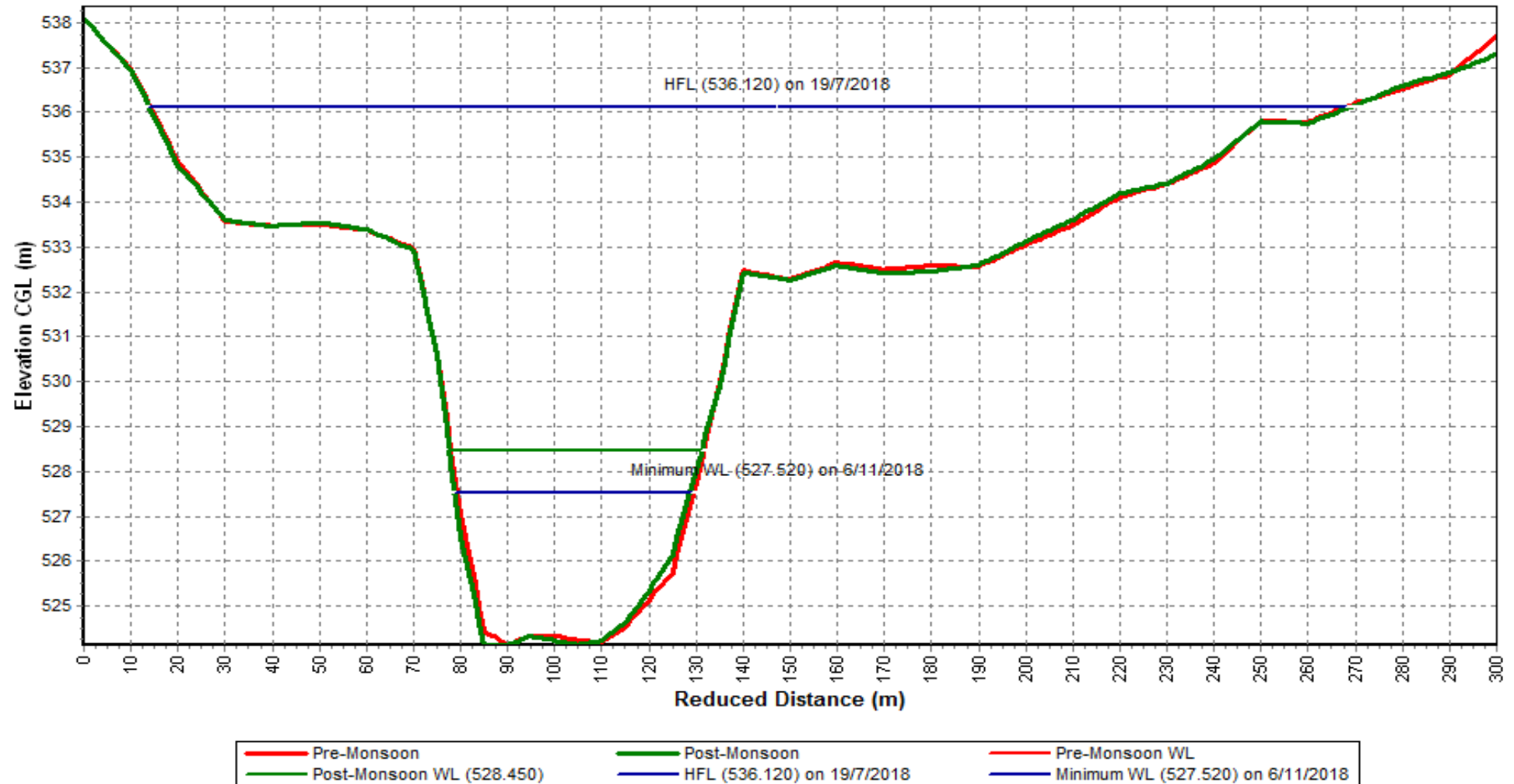
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Sadalga (Seasonal) (AKV00D3)

Local River : Dudhganga

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



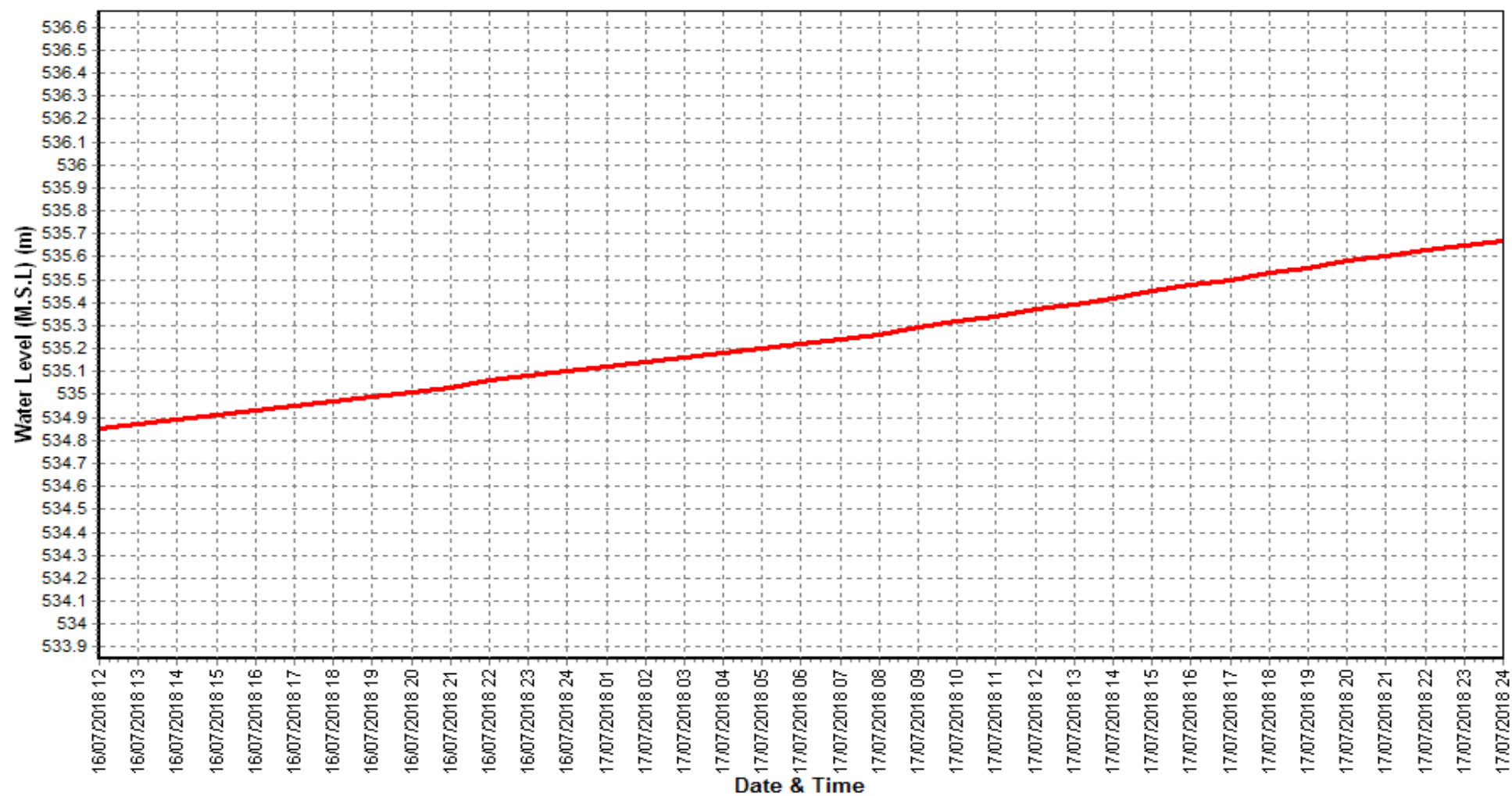
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Sadalga (Seasonal) (AKV00D3)

Local River : Dudhganga

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



Time Span: 72 Hrs

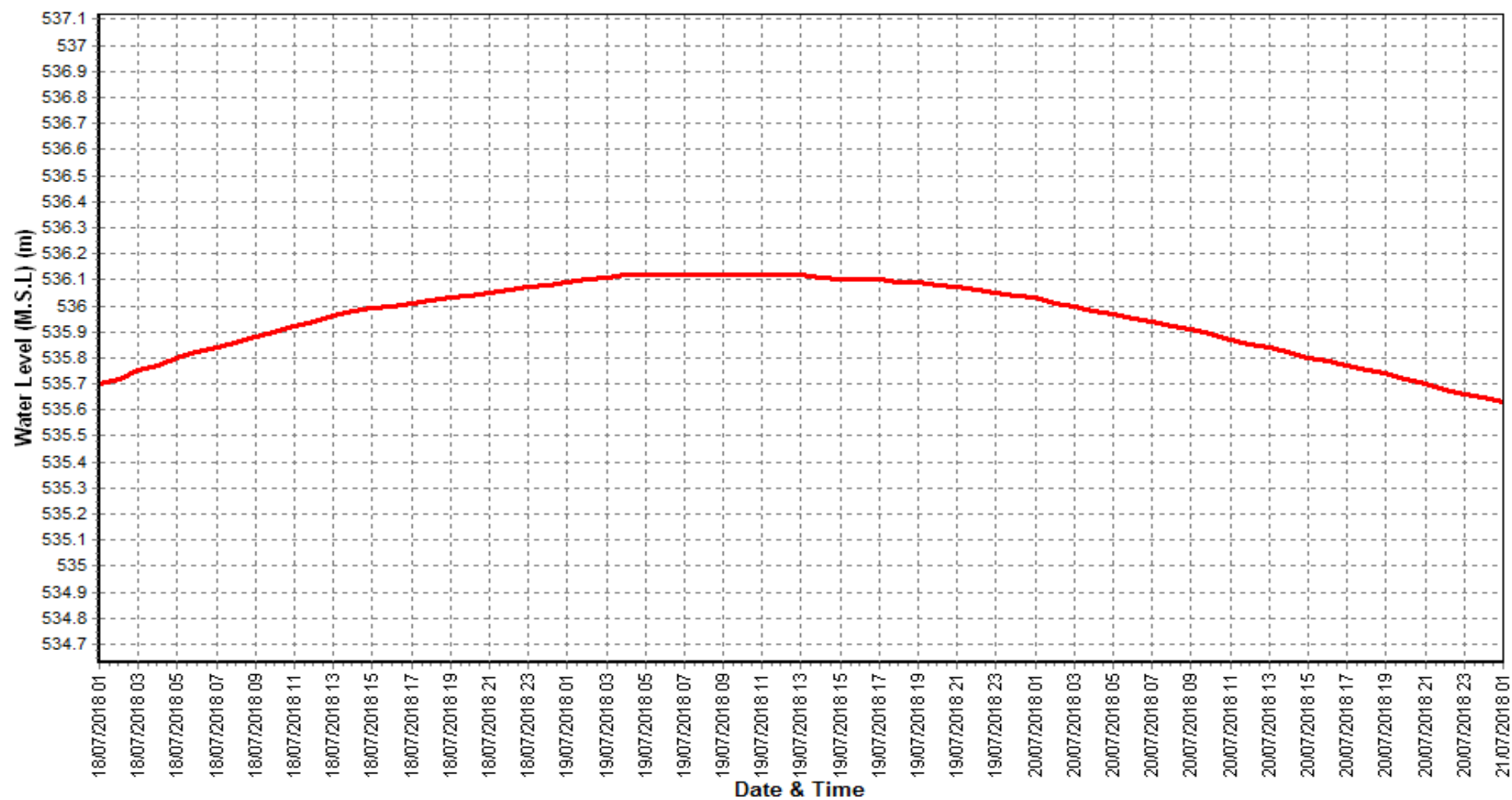
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Sadalga (Seasonal) (AKV00D3)

Local River : Dudhganga

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



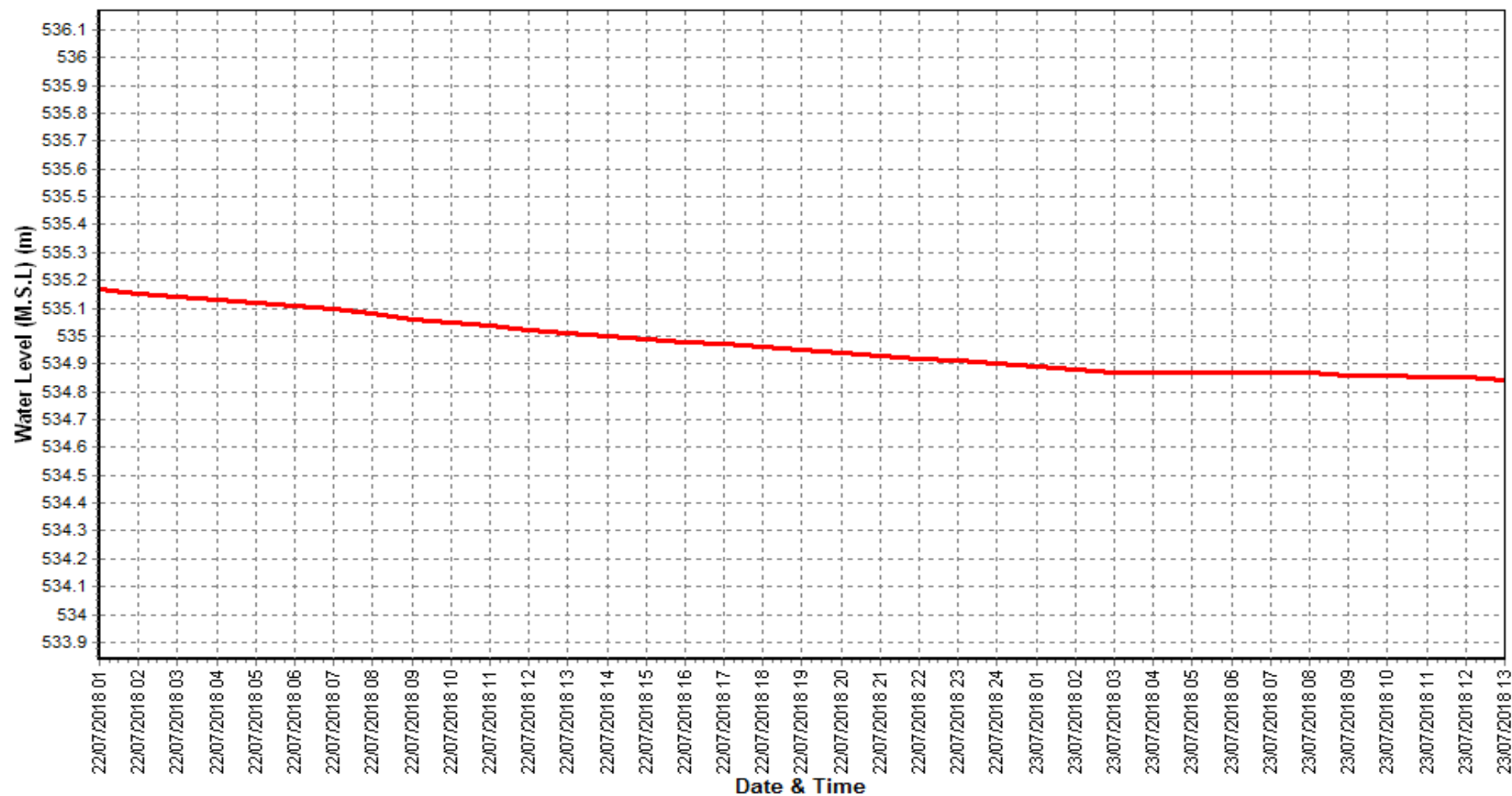
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : Sadalga (Seasonal) (AKV00D3)

Local River : Dudhganga

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



HISTORY SHEET

Water Year : 2018-2019

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 2, Miraj

Drainage Area : 2425 Sq. Km.

Bank : Right

Latitude : 16°40'31"

Longitude : 74°34'30"

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

01/01/1979

Opening Date

Closing Date

Gauge : 01/03/1979

HFL During 2018-19 : 536.480 m

Corres. Discharge : 2090 (Estimated)

Discharge : 22/08/1979

Date & Time of

occurrence : 20/07/2018

Sediment :

Water Quality :

HFL Recorded so far in m : 540.390 dt 06-08-2005

Corresponding Discharge (cumecs) : 3340 *

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	1545	536.875	18/08/1983	0.000	524.525	25/01/1984
1984-1985	1795	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	2050	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	2205	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

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	2680	538.600	17/07/1994	0.000	526.020	25/01/1995
1995-1996	1170	534.740	22/07/1995	0.000	523.310	26/01/1996
1996-1997	1900	536.180	30/07/1996	0.000	523.440	25/01/1997
1997-1998	3590	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	1540	536.700	24/07/1999	0.000	524.290	26/01/2000
2000-2001	890.0	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	725.3	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	3340	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	1821	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	1721	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	1286	533.560	26/06/2015	0.000	525.880	10/06/2015
2016-2017	2267	536.950	15/07/2016	0.000		06/06/2016
2017-2018	1542	534.615	22/07/2017	0.000	525.210	24/06/2017

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

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
28	2006-2007	8038	Site downgraded as Seasonal Site from 2006-07	8038	284	Site downgraded as Seasonal Site from 2006-07	284
29	2007-2008	5496		5496	194		194
30	2008-2009	4067		4067	144		144
31	2009-2010	3163		3163	112		112
32	2010-2011	3435		3435	121		121
33	2011-2012	4797		4797	170		170
34	2012-2013	3931		3931	139		139
35	2013-2014	5079		5079	179		179
36	2014-2015	4264		4264	151		151
37	2015-2016	1748		1748	62		62
38	2016-2017	4984		4984	176		176
39	2017-2018	4113		4113	145		145
40	2018-2019	5703		5703	202		202
Average		4210	1	4210	149	0	149
75% Dependable flow (MCM)				3167			
90 % Dependable flow (MCM)				2548			

Stage-Discharge Data for the period 2018 - 2019

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	524.650	0.000	530.750	588.3 *	528.660	243.1	531.070	535.3	525.910	59.87	525.580	0.000
2	524.610	0.000	529.090	317.4	528.470	271.9	530.120	433.9 *	525.700	49.99 *	525.460	0.000
3	524.500	0.000	528.090	220.9	529.420	372.2	529.280	333.3	525.600	42.68	525.310	0.000
4	524.380	0.000	527.580	228.7	529.220	342.2	528.860	296.2	525.480	36.37	525.190	0.000
5	524.450	0.000	528.635	278.4	530.480	541.6 *	528.780	266.2	525.390	30.19	525.050	0.000
6	524.690	0.000	531.890	716.5	532.360	831.3	528.440	243.8	525.290	23.77	524.910	0.000
7	526.050	69.78	532.650	933.7	531.950	700.3	528.120	229.6	525.120	16.21 *	524.830	0.000
8	525.810	46.66	532.210	877.7 *	530.760	516.8	527.870	207.1	524.970	10.16	524.540	0.000
9	525.290	30.37 *	532.010	654.0	530.300	448.8	527.700	177.9 *	525.380	30.20	524.340	0.000
10	525.270	30.35 *	532.195	839.9	530.690	510.0	527.085	125.5 #	525.510	40.00	524.230	0.000
11	526.520	90.24	532.300	858.4	530.450	477.7	526.820	120.3	525.570	0.000	524.310	0.000
12	526.810	103.4	532.770	973.1	530.230	500.1 *	526.520	99.20	525.560	0.000	524.280	0.000
13	526.210	75.51	533.500	1199	531.655	680.2	526.340	74.90 *	525.570	0.000	524.430	0.000
14	525.975	59.75	534.050	1362	532.580	833.5	526.250	76.60	525.570	41.11 *	524.670	0.000
15	525.885	52.92	534.340	1413 *	533.050	1072 *	526.040	65.24	525.510	0.000	525.650	0.000
16	525.700	29.26 *	534.500	1470	532.925	992.5	525.860	49.57 *	525.240	0.000	526.280	0.000
17	525.690	27.06 *	534.890	1555	532.810	882.6	525.655	43.24	525.140	0.000	526.270	0.000
18	525.890	52.90	535.550	1815	533.270	1127 *	525.745	46.05	525.150	0.000	526.210	0.000
19	526.460	87.05	536.010	1929 *	533.760	1254 *	525.680	42.63	525.080	0.000	526.150	0.000
20	526.480	92.87	536.430	2072 *	534.150	1370	525.440	31.92 *	526.200	0.000	525.990	0.000
21	526.350	84.20	536.430	2072 *	534.260	1301	525.140	18.22	526.540	123.6 *	525.910	0.000
22	526.490	97.90	535.970	1915 *	533.980	1280 *	525.540	33.84	526.450	114.5 #	525.950	0.000
23	526.385	83.51	535.480	1755	533.950	1337	525.660	40.65 *	526.380	0.000	525.970	0.000
24	526.540	93.51 *	534.950	1519	534.260	1412	525.450	30.41	526.340	0.000	525.840	0.000
25	526.560	95.76	534.210	1294	533.970	1270	525.240	22.25	526.250	0.000	525.740	0.000
26	528.200	249.2	533.360	1019	532.720	993.5 *	525.390	27.48	526.080	0.000	526.120	0.000
27	531.500	616.3	532.060	594.3	531.440	595.0	525.950	62.70	525.840	0.000	526.320	0.000
28	531.350	572.0	531.110	556.4	531.880	656.9	526.015	70.29	525.660	0.000	526.210	0.000
29	531.200	612.2	530.540	551.8 *	532.740	968.1	525.850	58.94	525.660	0.000	526.300	0.000
30	531.650	664.1	529.650	387.7	532.500	720.7	526.160	64.75 *	525.680	0.000	526.140	0.000
31			529.070	323.2	531.870	646.6			525.620	0.000		
Ten-Daily Mean												
I Ten-Daily	524.970	17.72	530.510	565.5	530.231	477.8	528.733	284.9	525.435	33.94	524.944	0.000
II Ten-Daily	526.162	67.09	534.434	1465	532.488	919.0	526.035	64.96	525.459	4.111	525.424	0.000
III Ten-Daily	528.622	316.9	532.984	1090	533.052	1016	525.640	42.95	526.045	21.64	526.050	0.000
Monthly												
Min.	524.380	0.000	527.580	220.9	528.470	243.1	525.140	18.22	524.970	0.000	524.230	0.000
Max.	531.650	664.1	536.430	2072	534.260	1412	531.070	535.3	526.540	123.6	526.320	0.000
Mean	526.585	133.9	532.654	1042	531.960	811.2	526.802	130.9	525.659	19.96	525.473	0

Annual Runoff in MCM = 5703 Annual Runoff in mm = 2352

Peak Observed Discharge = 1815 cumecs on 18/07/2018 Corres. Water Level :535.55 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018 Corres. Water Level :524.65 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

HISTOGRAM - HYDROGRAPH for Water Year : 2018-2019

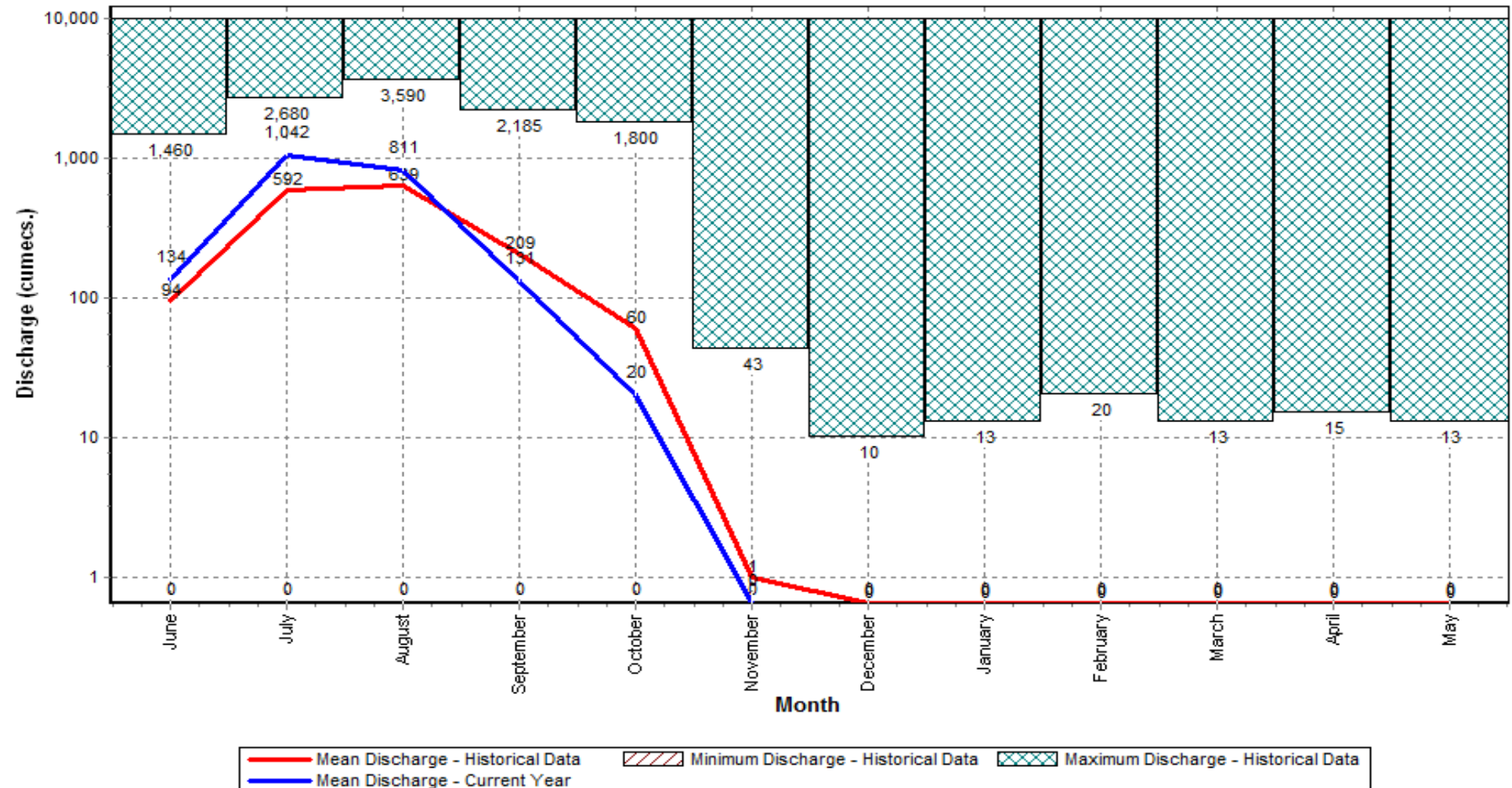
Station Name : Terwad (Seasonal) (AKW00A7)

Data considered : 1980-2019

Division : Upper Krishna Divn, Pune

Local River : Panchganga

Sub-Division : Upper Krishna SD 2, Miraj



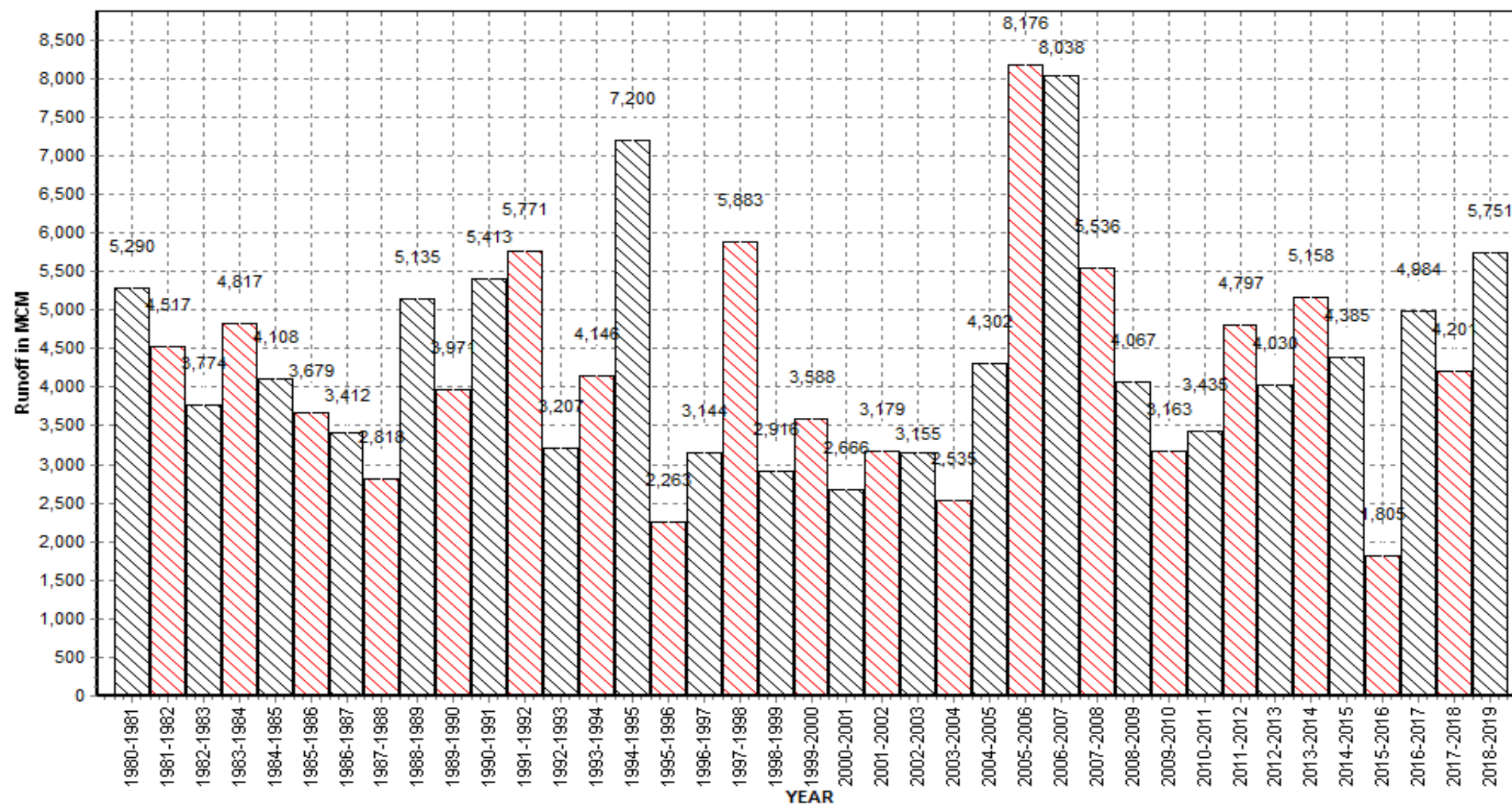
Annual Runoff Values for the period: 1980 - 2019

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

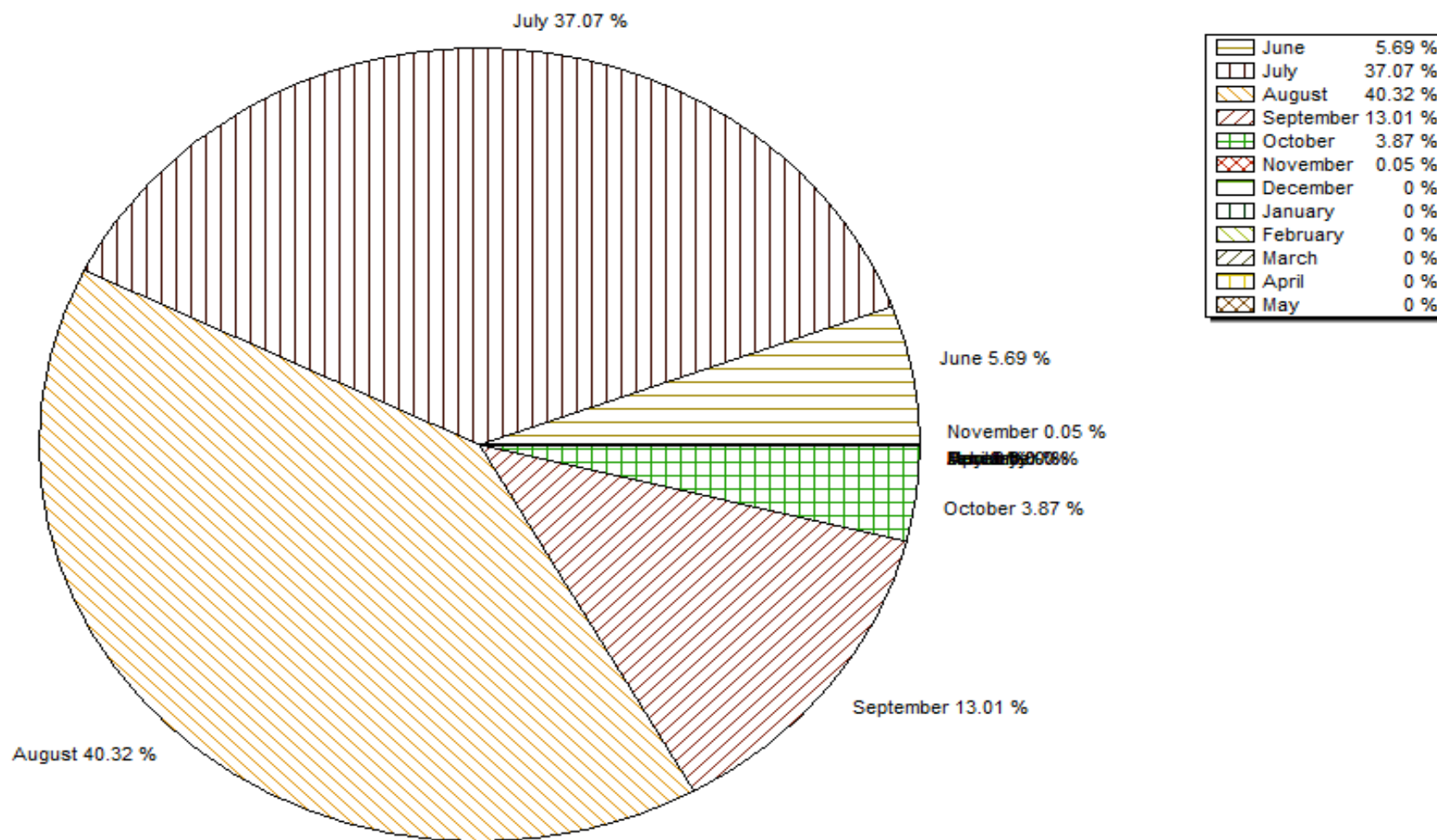
Monthly Average Runoff based on period : 1980-2018

Station Name : Terwad (Seasonal) (AKW00A7)

Local River : Panchganga

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



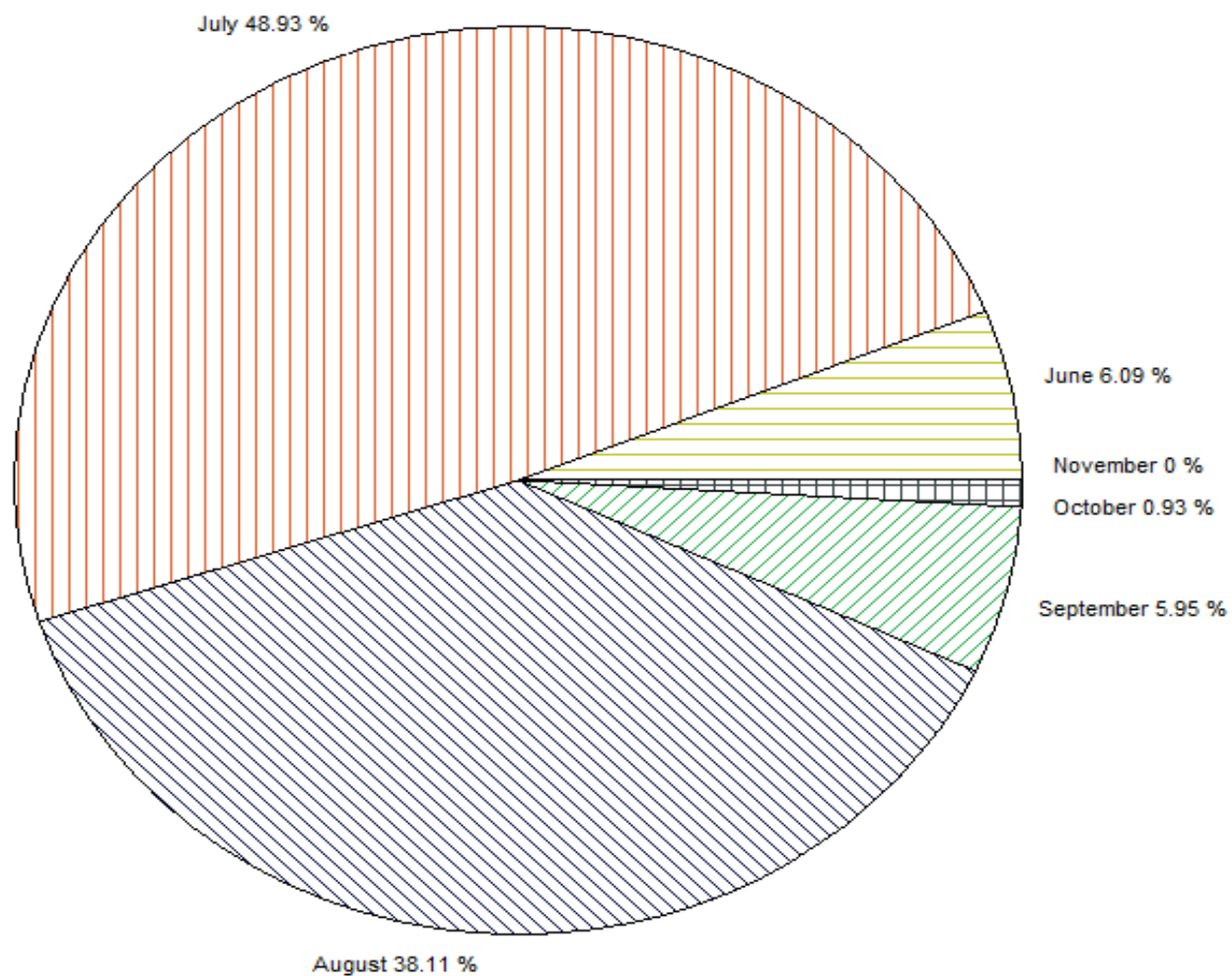
Monthly Runoff for the Year : 2018-2019

Station Name : Terwad (Seasonal) (AKW00A7)

Local River : Panchganga

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



June	6.09 %
July	48.93 %
August	38.11 %
September	5.95 %
October	0.93 %
November	0 %

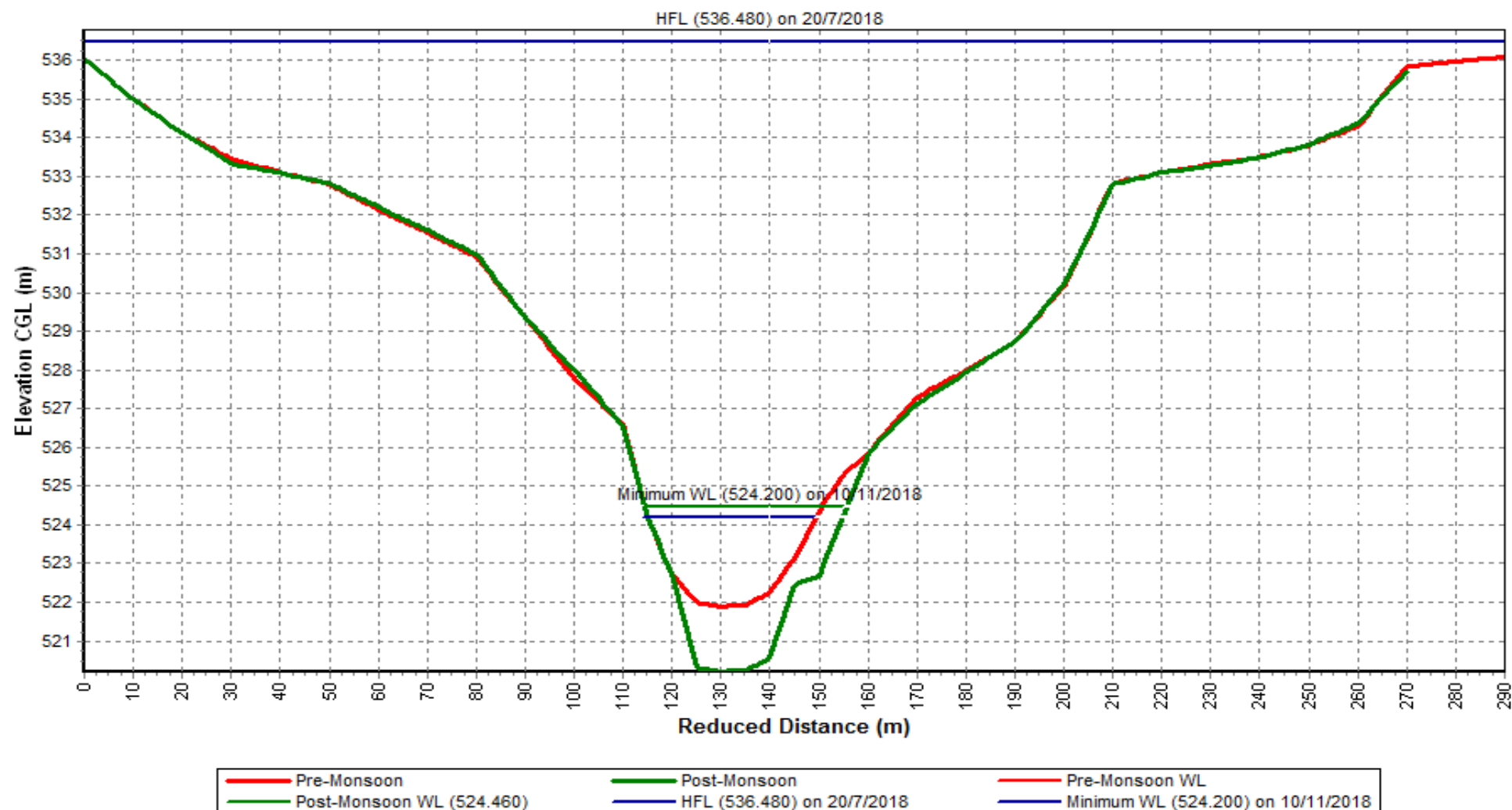
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Terwad (Seasonal) (AKW00A7)

Local River : Panchganga

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2. Miraj



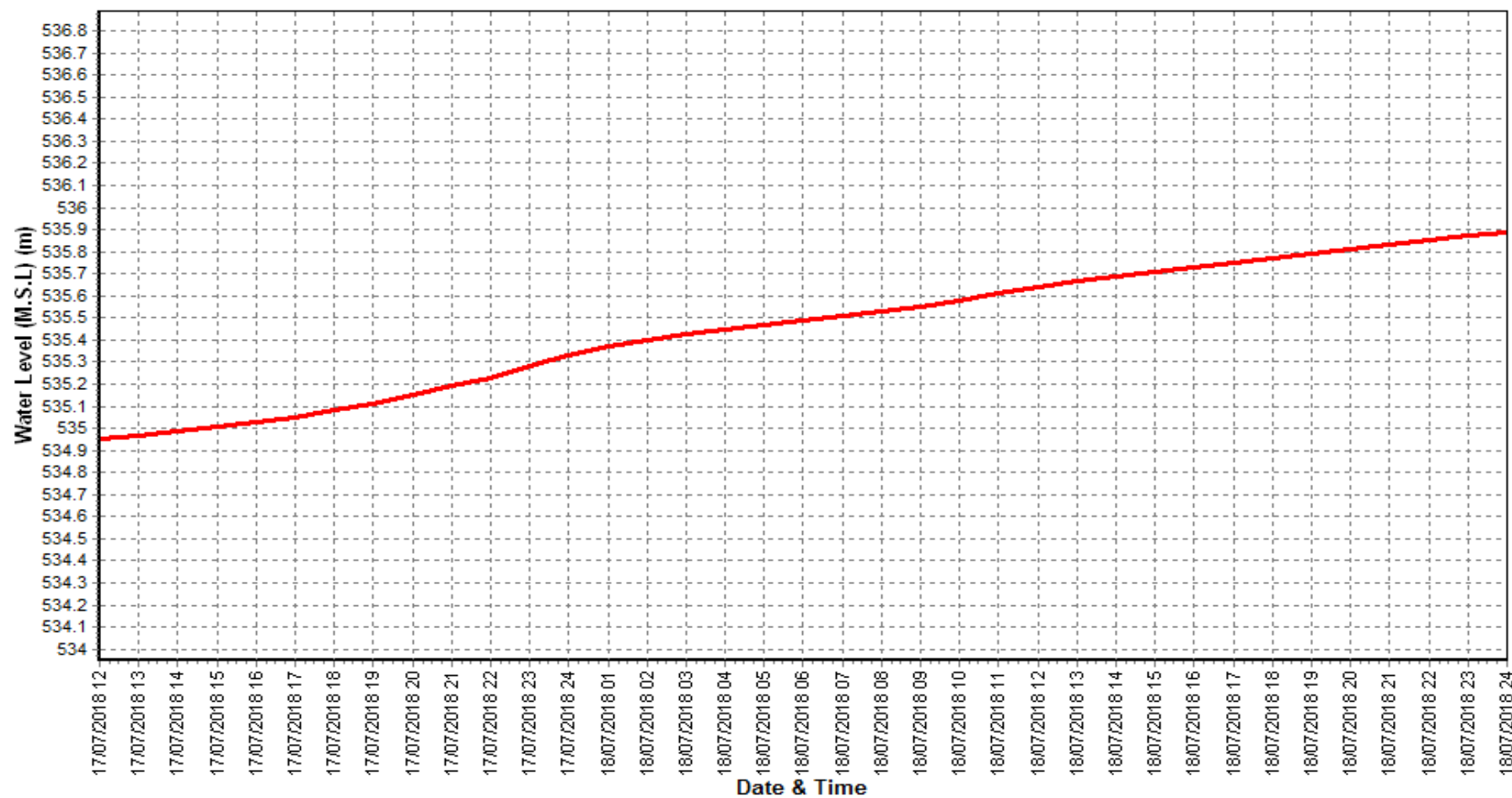
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Terwad (Seasonal) (AKW00A7)

Local River : Panchganga

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



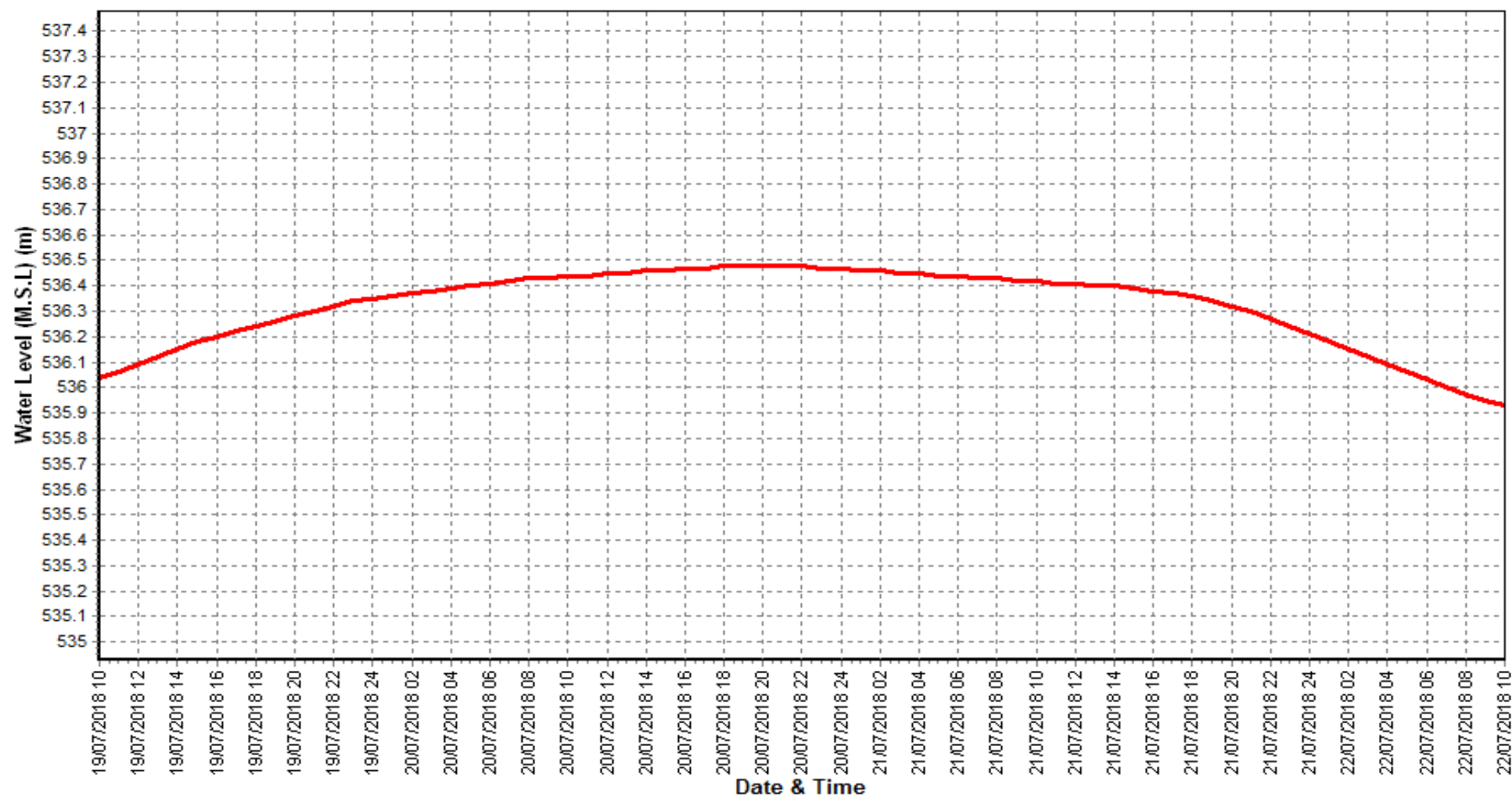
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Terwad (Seasonal) (AKW00A7)

Local River : Panchganga

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



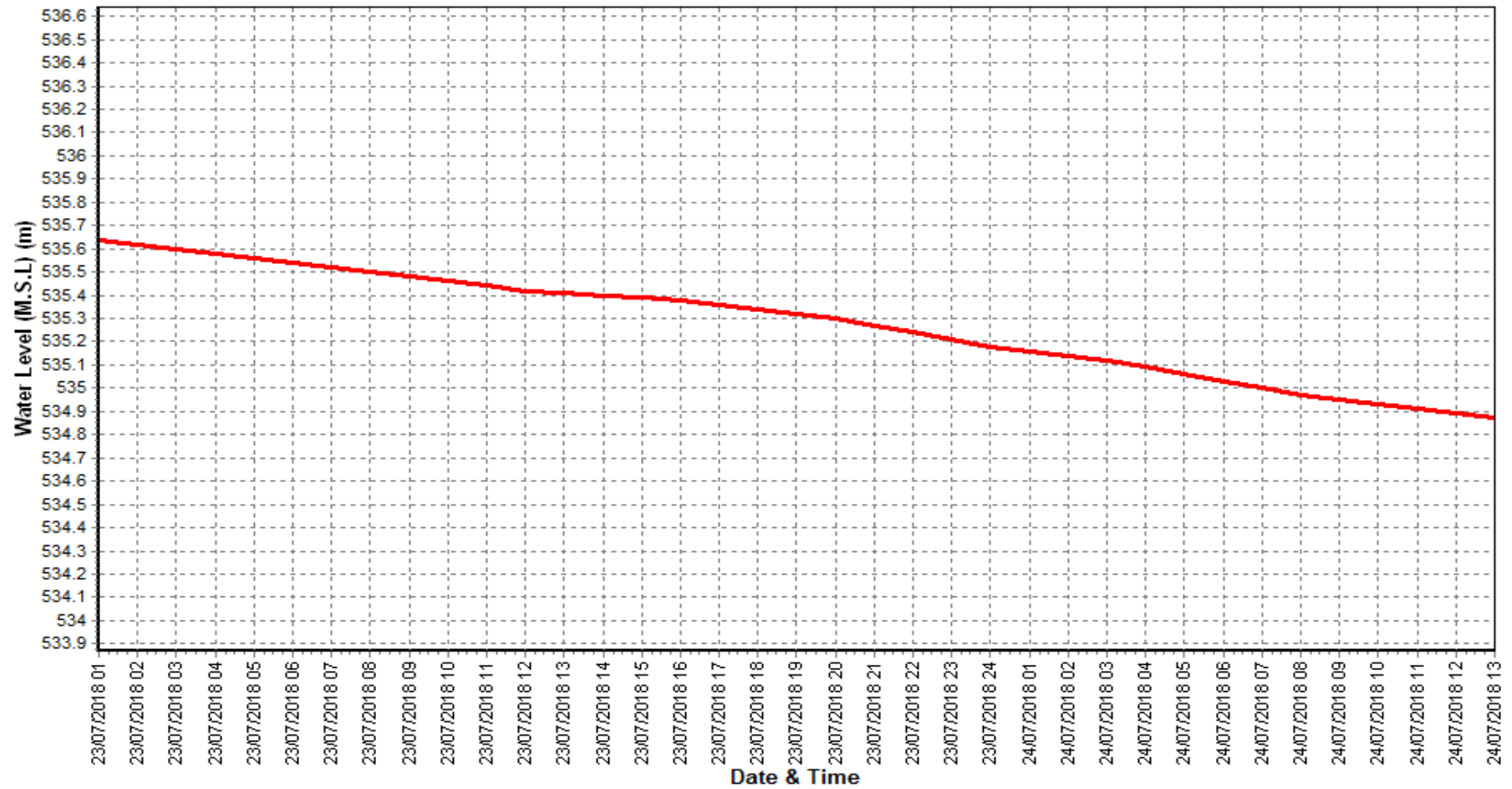
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : Terwad (Seasonal) (AKW00A7)

Local River : Panchganga

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



HISTORY SHEET

Water Year : 2018-2019

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 2, Miraj

Drainage Area : 15190 Sq. Km.

Bank : Right

Latitude : 16°41'01"

Longitude : 74°36'11"

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

20/05/1972

Opening Date

Closing Date

Gauge : 21/05/1972

HFL During 2018-19 : 534.675m

Discharge : 26/06/1972

Corres. Discharge : 4122 (Estimated)

Sediment : 06/08/2003

Date & Time of

occurrence : 19.00 hrs.

Water Quality : 01/07/2003

HFL Recorded so far in m : 539.760 dt 05-08-2005

Corresponding Discharge (cumecs) : 9798 *

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	4239	535.390	09/07/1972	0.000	520.505	12/01/1973
1973-1974	5659	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	6854	537.090	04/08/1976	0.000	520.875	18/02/1977
1977-1978	4953	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	6070	536.740	10/08/1979	0.000	522.240	16/02/1980
1980-1981	5175	535.951	08/07/1980	0.000	523.645	25/01/1981
1981-1982	5166	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	4427	535.270	21/07/1984	0.000	522.580	23/01/1985
1985-1986	4414	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

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	4870	536.415	05/08/1988	0.000	524.705	25/01/1989
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	5730	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	5000	535.590	06/10/1996	0.000	523.715	25/01/1997
1997-1998	6800	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	3725	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	10092	539.750	06/08/2005	0.000	523.005	25/01/2006
2006-2007	8819	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	5743	536.395	16/08/2008	0.000	523.785	25/01/2009
2009-2010	3782	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	4534	536.425	06/09/2011	0.000	522.475	23/02/2012
2012-2013	2681	531.110	07/09/2012	0.000	523.320	20/04/2013
2013-2014	5466	535.965	29/07/2013	0.000	524.305	24/11/2013
2014-2015	4197	533.870	02/08/2014	0.000	524.705	11/01/2015
2015-2016	2522	530.790	26/06/2015	0.000	523.225	18/07/2015
2016-2017	5411	535.105	13/07/2016	0.000	523.175	09/04/2017
2017-2018	3277	532.205	23/07/2017	0.000	524.075	22/05/2018

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
Average		11099	13	11112	392	0	393
75% Dependable flow (MCM)				8291			
90 % Dependable flow (MCM)				5339			

Stage-Discharge Data for the period 2018 - 2019

Station Name : Kurundwad (AK000V1)

Local River : Krishna

Division : Upper Krishna Divn, Pune

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	525.985	0.000	525.985	837.8 *	525.275	719.8	527.730	1339	524.770	0.000	524.575	0.000
2	523.025	0.000	525.030	527.4	524.915	628.2	526.675	1028 *	524.635	0.000	524.545	0.000
3	523.035	0.000	524.315	375.0	525.490	782.0	525.910	840.8	524.825	0.000	524.475	0.000
4	522.955	0.000	524.340	352.6	525.435	768.9	526.405	1032	524.775	0.000	524.425	0.000
5	522.775	0.000	525.085	587.7	526.275	916.2 *	526.775	1164	524.825	0.000	524.355	0.000
6	522.915	0.000	526.815	1056	528.165	1563	525.485	709.2	524.975	0.000	524.315	0.000
7	522.905	0.000	528.045	1457	527.805	1269	524.935	614.9	524.675	0.000	524.235	0.000
8	522.775	0.000	527.615	1310 *	526.830	1025	524.870	574.0	524.710	0.000	524.205	0.000
9	522.655	0.000	528.120	1506	526.355	817.0	524.705	523.6 *	524.805	0.000	524.145	0.000
10	522.755	0.000	528.355	1451	526.605	983.5	524.500	408.6	524.735	0.000	524.085	0.000
11	522.955	0.000	528.045	1481	526.555	958.0	524.015	295.6	524.635	0.000	524.025	0.000
12	523.090	138.9	528.325	1582	526.595	1006 *	524.130	180.3	524.645	0.000	523.945	0.000
13	522.785	0.000	529.645	2137	527.625	1374	524.455	468.6 *	524.665	0.000	523.915	0.000
14	522.655	0.000	531.160	2517	528.895	1689	524.690	0.000	524.675	0.000	523.875	0.000
15	522.445	0.000	531.695	2798 *	529.955	2114 *	524.745	0.000	524.665	0.000	523.845	0.000
16	522.205	0.000	531.705	2809	530.515	2399	524.695	0.000	524.625	0.000	523.815	0.000
17	522.085	0.000	532.625	3402	530.565	2352	524.695	0.000	524.645	0.000	523.795	0.000
18	522.135	0.000	533.925	3904	531.490	2774	524.685	0.000	524.655	0.000	523.765	0.000
19	522.245	0.000	534.435	4097	532.235	3024 *	524.685	0.000	524.655	0.000	523.735	0.000
20	522.185	0.000	534.635	4254	532.860	3296	524.665	0.000	524.625	0.000	523.705	0.000
21	522.105	0.000	534.625	4098 *	533.005	3240	524.645	0.000	524.645	0.000	523.855	0.000
22	522.505	0.000	534.305	3948 *	532.495	3135 *	524.735	0.000	524.645	0.000	523.915	0.000
23	522.750	138.6	533.835	3782	532.455	2999	524.725	0.000	524.655	0.000	524.005	0.000
24	522.575	221.1 *	533.225	3369	533.095	3345	524.610	0.000	524.655	0.000	524.205	0.000
25	522.325	134.0	532.525	3033	532.840	3133	524.685	0.000	524.675	0.000	524.435	0.000
26	522.745	108.1	531.345	2579	531.065	2542 *	524.815	0.000	524.695	0.000	524.585	0.000
27	525.285	310.8	529.230	1676	528.700	1762	524.875	0.000	524.705	0.000	524.665	0.000
28	526.225	864.5	527.785	1286	529.655	2065	524.715	0.000	524.685	0.000	524.685	0.000
29	525.650	1027	527.065	1142 *	531.265	2673	524.635	0.000	524.665	0.000	524.835	0.000
30	526.325	725.0	526.285	977.3	530.600	2374	524.925	0.000	524.635	0.000	524.785	0.000
31			525.640	806.2	529.065	1741			524.605	0.000		
Ten-Daily Mean												
I Ten-Daily	523.178	0.000	526.370	946.1	526.315	947.3	525.799	823.5	524.773	0.000	524.336	0.000
II Ten-Daily	522.479	13.89	531.620	2898	529.729	2099	524.546	94.46	524.649	0.000	523.842	0.000
III Ten-Daily	523.849	352.9	530.533	2427	531.295	2637	524.736	0.000	524.660	0.000	524.397	0.000
Monthly												
Min.	522.085	0.000	524.315	352.6	524.915	628.2	524.015	0.000	524.605	0.000	523.705	0.000
Max.	526.325	1027	534.635	4254	533.095	3345	527.730	1339	524.975	0.000	524.835	0.000
Mean	523.169	122.3	529.541	2101	529.183	1918	525.027	306	524.693	0	524.192	0

Annual Runoff in MCM = 11876 Annual Runoff in mm = 782

Peak Observed Discharge = 4254 cumecs on 20/07/2018 Corres. Water Level :534.635 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018 Corres. Water Level :525.985 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 2018 - 2019

Station Name : Kurundwad (AK000V1)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	524.715	0.000	523.825	0.000	522.355	0.000	521.805	0.000	522.085	0.000	522.575	0.000
2	524.695	0.000	523.805	0.000	522.295	0.000	522.615	0.000	522.105	0.000	522.575	0.000
3	524.675	0.000	523.745	0.000	522.295	0.000	522.625	0.000	522.255	0.000	522.555	0.000
4	524.685	0.000	523.715	0.000	522.235	0.000	522.655	0.000	522.475	0.000	522.495	0.000
5	524.615	0.000	523.665	0.000	522.175	0.000	522.755	0.000	522.505	0.000	522.425	0.000
6	524.575	0.000	523.645	0.000	522.135	0.000	522.805	0.000	522.615	0.000	522.315	0.000
7	524.545	0.000	523.605	0.000	522.085	0.000	522.845	0.000	522.605	0.000	522.225	0.000
8	524.505	0.000	523.575	0.000	522.065	0.000	522.885	0.000	522.575	0.000	522.215	0.000
9	524.475	0.000	523.525	0.000	522.125	0.000	522.915	0.000	522.595	0.000	522.065	0.000
10	524.445	0.000	523.475	0.000	522.145	0.000	522.895	0.000	522.625	0.000	522.165	0.000
11	524.435	0.000	523.435	0.000	522.225	0.000	522.905	0.000	522.725	0.000	522.095	0.000
12	524.425	0.000	523.375	0.000	522.375	0.000	522.925	0.000	522.775	0.000	522.075	0.000
13	524.405	0.000	523.285	0.000	522.465	0.000	522.905	0.000	522.785	0.000	521.945	0.000
14	524.395	0.000	523.275	0.000	522.505	0.000	522.895	0.000	522.725	0.000	522.255	0.000
15	524.355	0.000	523.215	0.000	522.565	0.000	522.855	0.000	522.605	0.000	522.275	0.000
16	524.325	0.000	523.175	0.000	522.575	0.000	522.825	0.000	522.555	0.000	522.255	0.000
17	524.285	0.000	523.115	0.000	522.565	0.000	522.625	0.000	522.325	0.000	522.205	0.000
18	524.255	0.000	523.075	0.000	522.525	0.000	522.505	0.000	522.105	0.000	522.115	0.000
19	524.225	0.000	523.045	0.000	522.525	0.000	522.445	0.000	522.055	0.000	522.005	0.000
20	524.195	0.000	523.005	0.000	522.495	0.000	522.355	0.000	521.995	0.000	521.855	0.000
21	524.305	0.000	522.955	0.000	522.475	0.000	522.285	0.000	522.015	0.000	521.725	0.000
22	524.175	0.000	522.925	0.000	522.445	0.000	522.255	0.000	522.085	0.000	521.655	0.000
23	524.145	0.000	522.875	0.000	522.545	0.000	522.195	0.000	522.305	0.000	521.575	0.000
24	524.115	0.000	522.835	0.000	522.525	0.000	522.185	0.000	522.715	0.000	521.575	0.000
25	524.085	0.000	522.775	0.000	522.445	0.000	522.245	0.000	522.775	0.000	521.555	0.000
26	524.055	0.000	522.735	0.000	522.445	0.000	522.365	0.000	522.615	0.000	521.485	0.000
27	524.035	0.000	522.665	0.000	522.445	0.000	522.395	0.000	522.455	0.000	521.415	0.000
28	523.995	0.000	522.605	0.000	522.465	0.000	522.365	0.000	522.385	0.000	521.355	0.000
29	523.945	0.000	522.545	0.000			522.315	0.000	522.285	0.000	521.375	0.000
30	523.895	0.000	522.460	0.000			522.225	0.000	522.405	0.000	521.375	0.000
31	523.865	0.000	522.405	0.000			522.145	0.000			521.405	0.000
Ten-Daily Mean												
I Ten-Daily	524.593	0.000	523.658	0.000	522.191	0.000	522.680	0.000	522.444	0.000	522.361	0.000
II Ten-Daily	524.330	0.000	523.200	0.000	522.482	0.000	522.724	0.000	522.465	0.000	522.108	0.000
III Ten-Daily	524.056	0.000	522.707	0.000	522.474	0.000	522.270	0.000	522.404	0.000	521.500	0.000
Monthly												
Min.	523.865	0.000	522.405	0.000	522.065	0.000	521.805	0.000	521.995	0.000	521.355	0.000
Max.	524.715	0.000	523.825	0.000	522.575	0.000	522.925	0.000	522.785	0.000	522.575	0.000
Mean	524.318	0	523.173	0	522.376	0	522.549	0	522.438	0	521.974	0

Peak Computed Discharge = 4098 cumecs on 21/07/2018

Corres. Water Level :534.625 m

Lowest Computed Discharge = 221.1 cumecs on 24/06/2018

Corres. Water Level :522.575 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 : 2018-2019

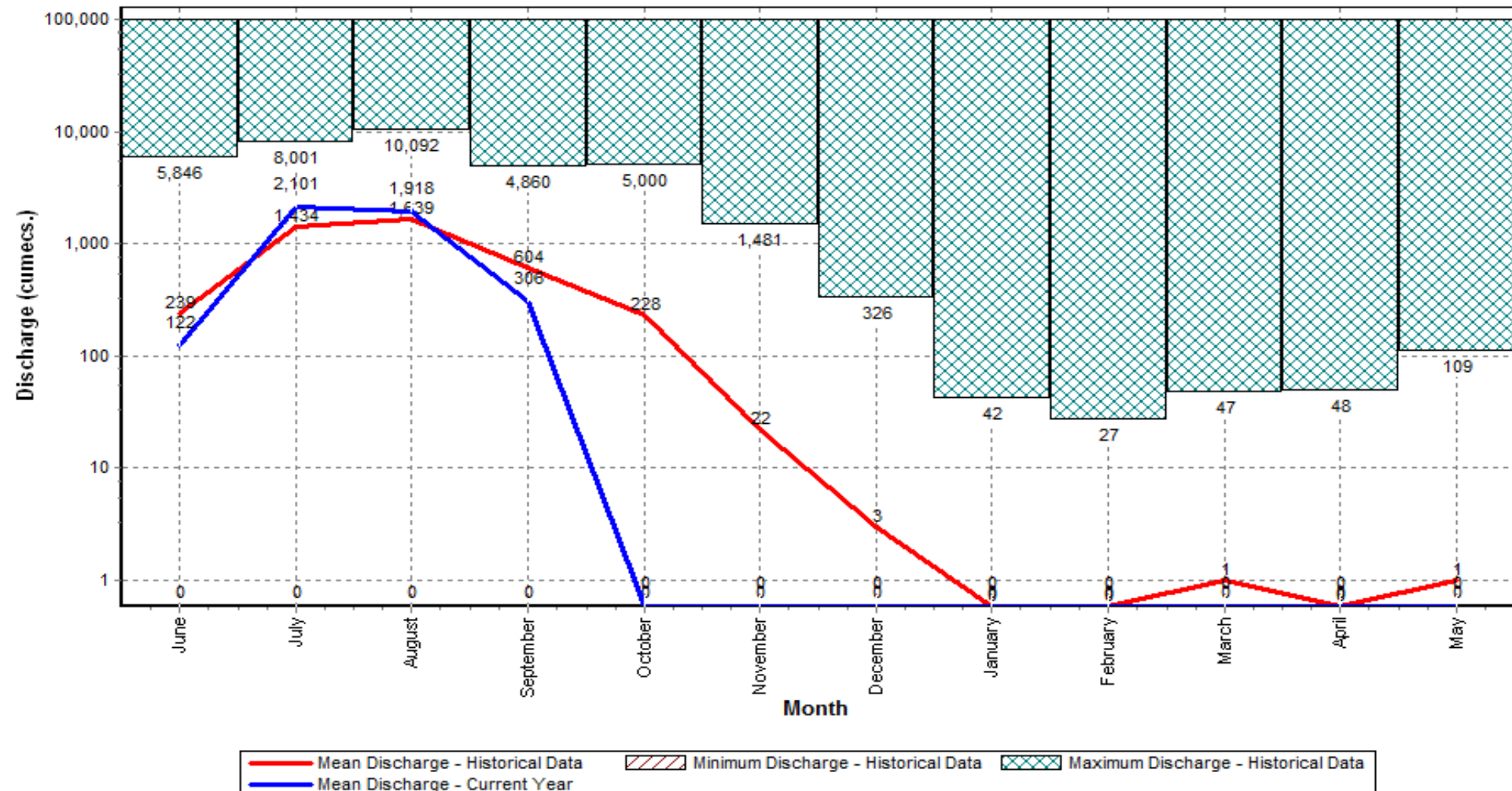
Station Name : Kurundwad (AK000V1)

Data considered : 1972-2019

Division : Upper Krishna Divn, Pune

Local River : Krishna

Sub-Division : Upper Krishna SD 2, Miraj



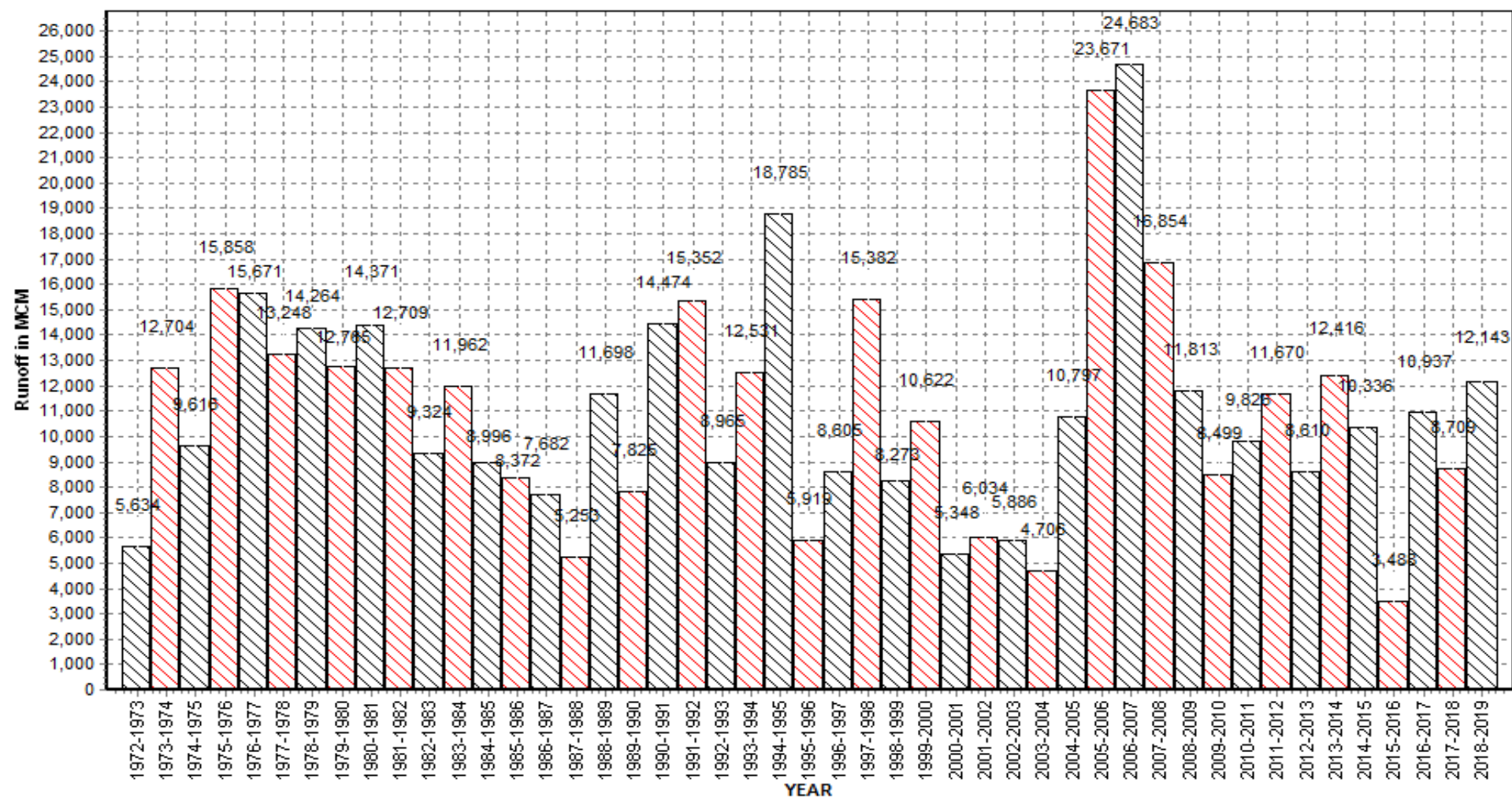
Annual Runoff Values for the period: 1972 - 2019

Station Name : Kurundwad (AK000V1)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



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

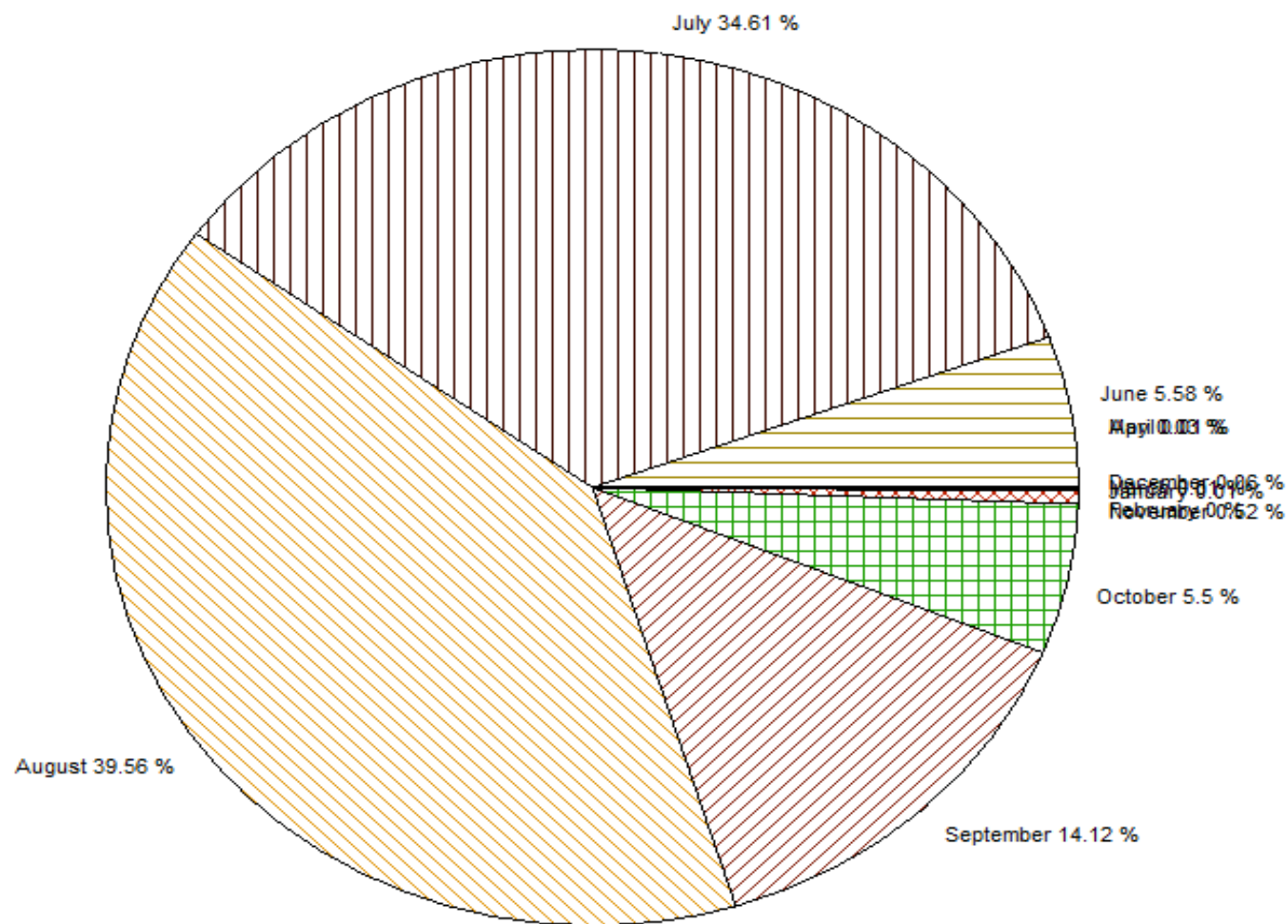
Monthly Average Runoff based on period : 1972-2018

Station Name : Kurundwad (AK000V1)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



June	5.58 %
July	34.61 %
August	39.56 %
September	14.12 %
October	5.5 %
November	0.52 %
December	0.06 %
January	0.01 %
February	0 %
March	0.01 %
April	0.01 %
May	0.03 %

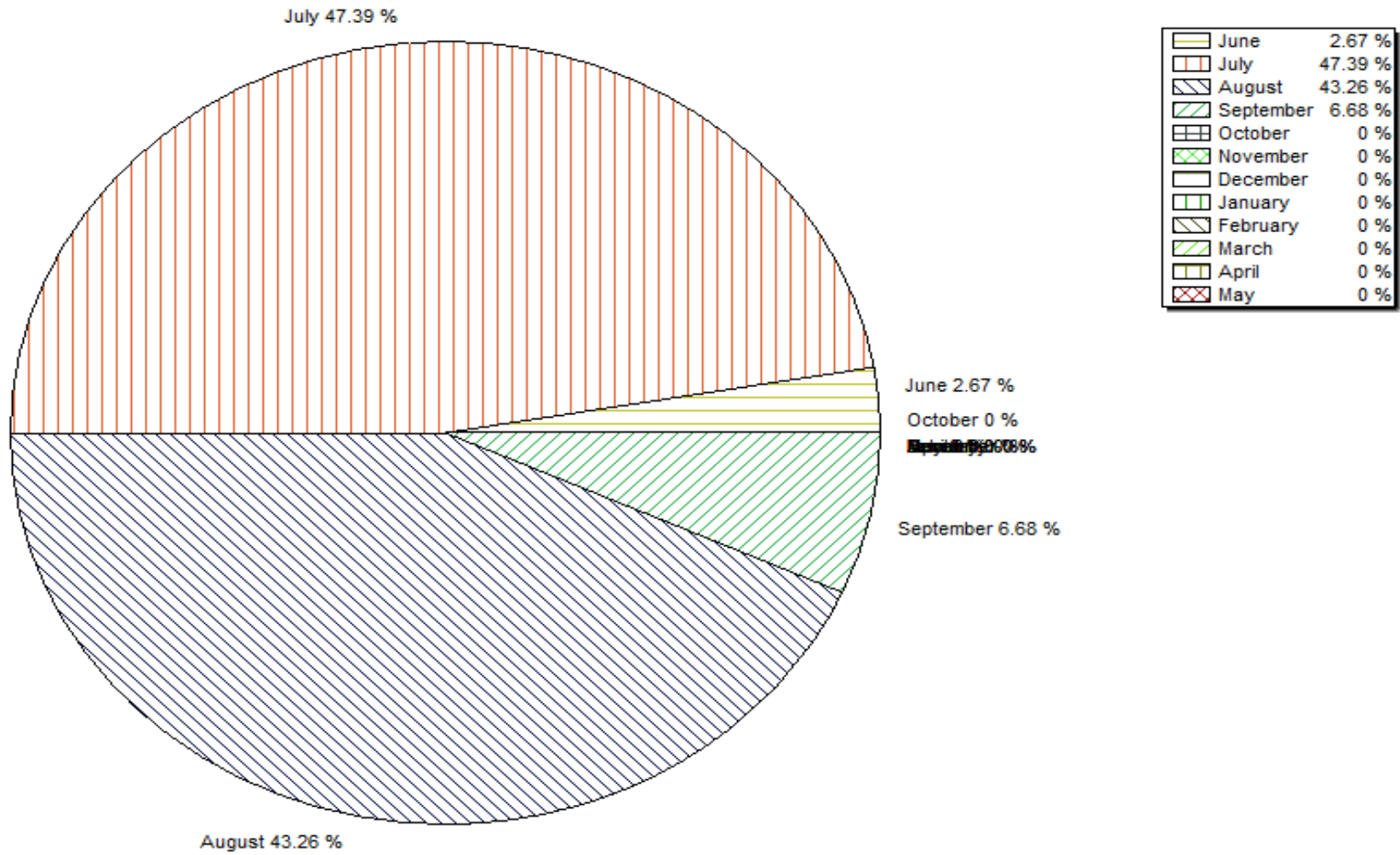
Monthly Runoff for the Year : 2018-2019

Station Name : Kurundwad (AK000V1)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



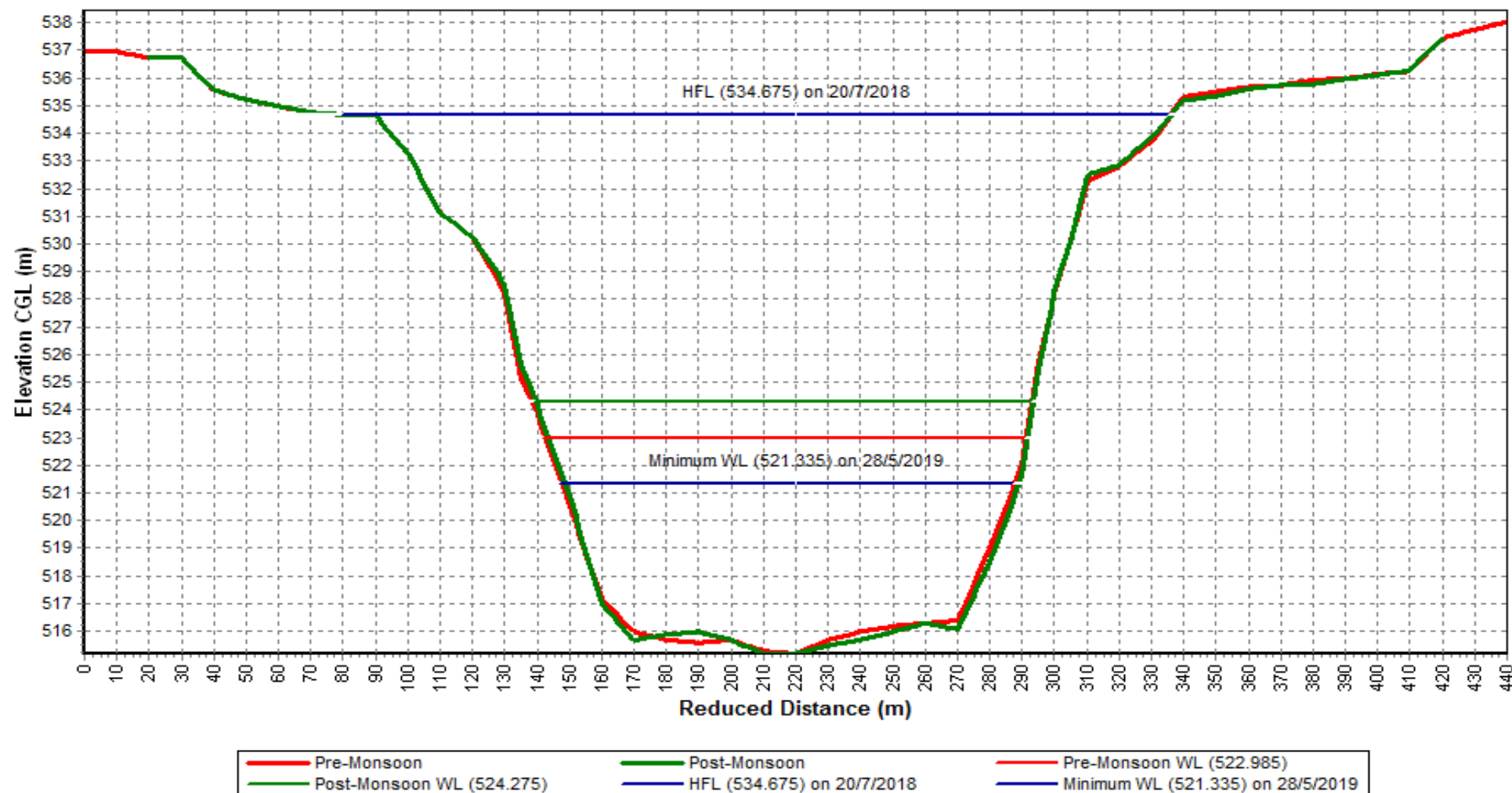
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Kurundwad (AK000V1)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



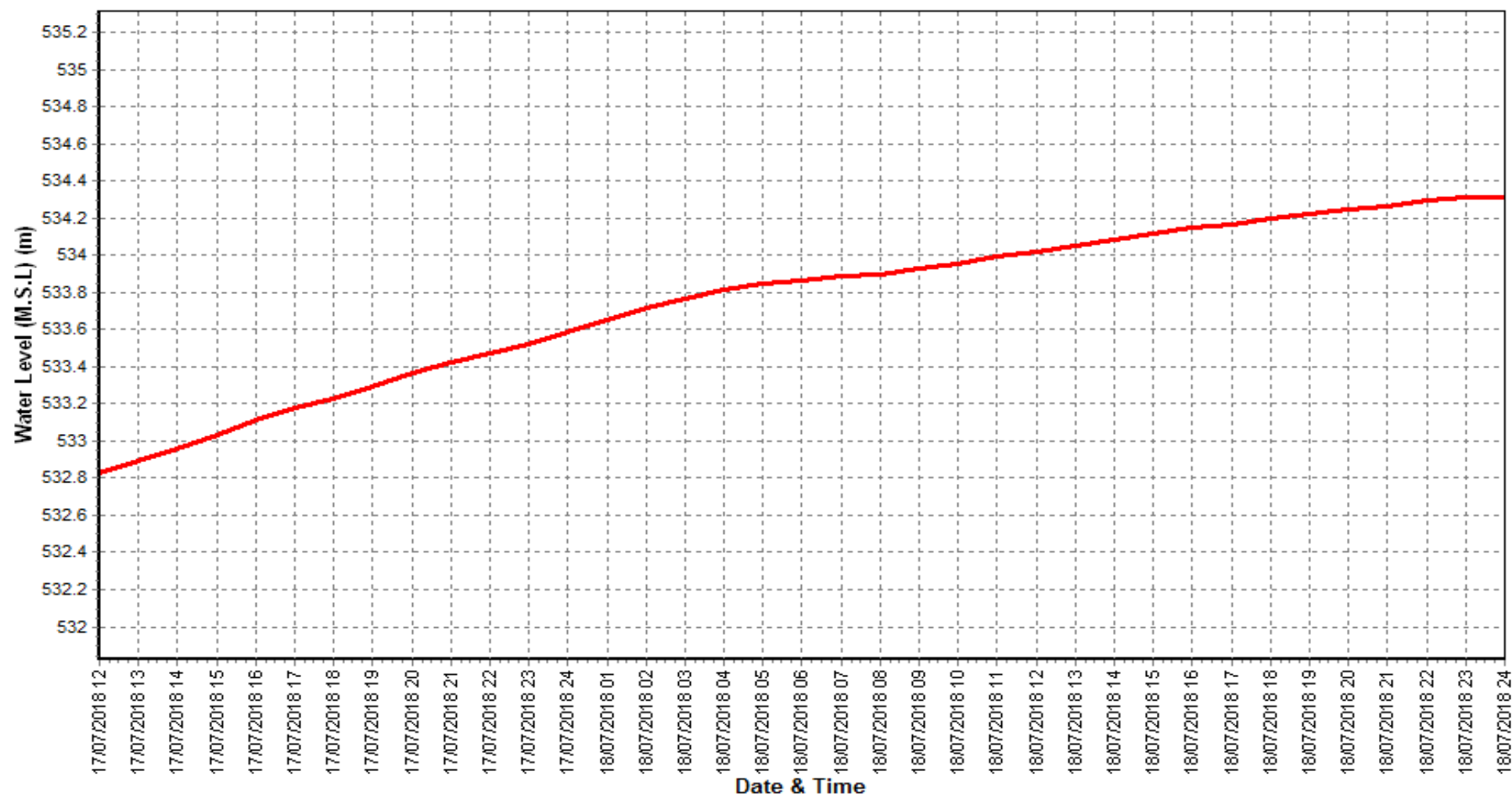
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Kurundwad (AK000V1)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



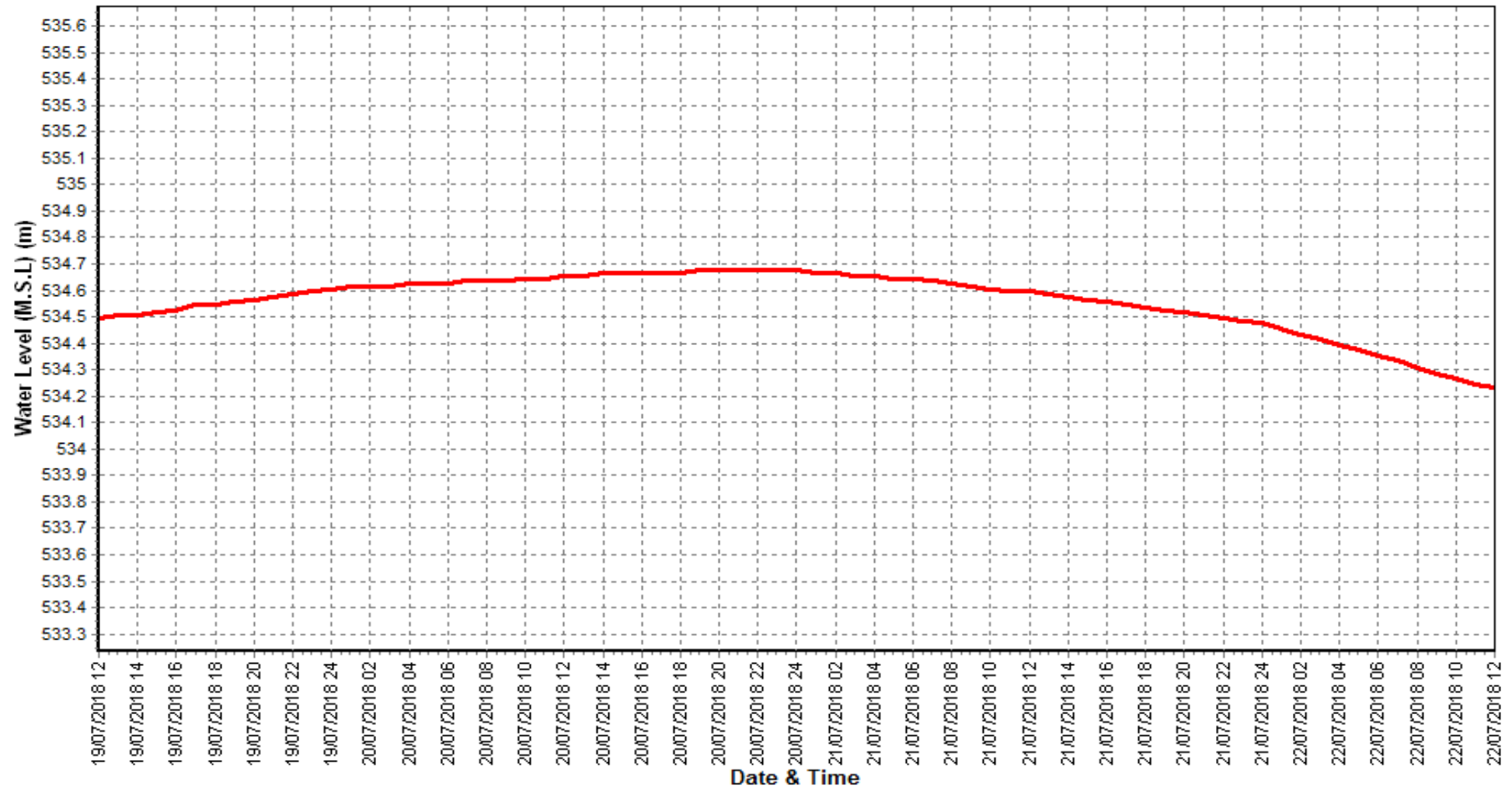
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Kurundwad (AK000V1)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



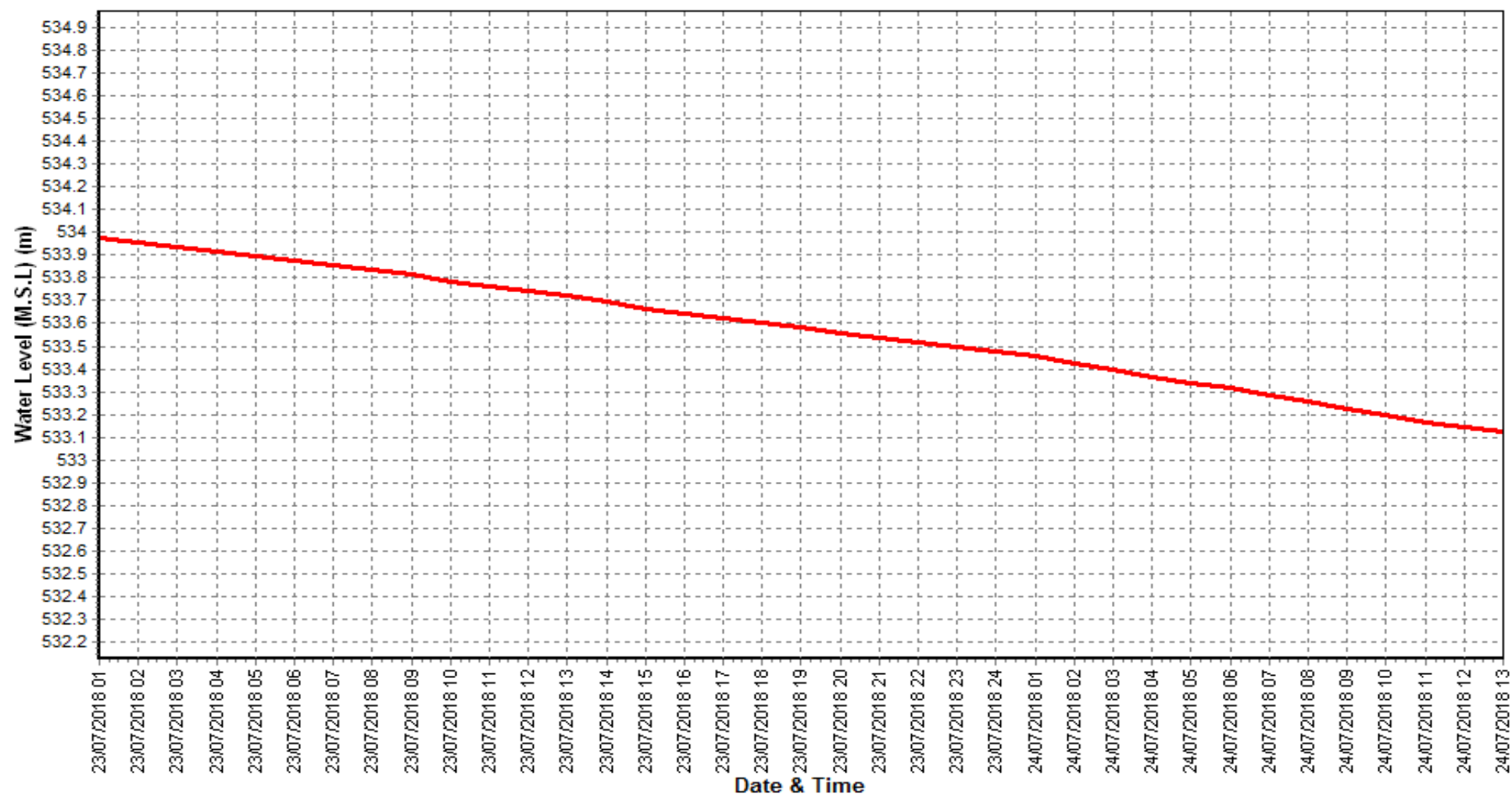
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : Kurundwad (AK000V1)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



HISTORY SHEET

Water Year : 2018-2019

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 2, Miraj

Drainage Area : 12660 Sq. Km.

Bank : Right

Latitude : 16°46'51"

Longitude : 74°37'59"

Zero of Gauge (m) : 523 (m.s.l)
523.225 (m.s.l)01/02/1969 - 31/12/1973
01/01/1974

Opening Date

Closing Date

Gauge : 12/01/1969

HFL During 2018-1 : 536.395m

Corres. Discharge : 3025 (Estimated)

Discharge : 12/01/1969

Date & Time of

occurrence : 20/07/2018

Sediment : 26/12/2014

Water Quality : 01/09/2014

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

Corresponding Discharge (cumecs) : 5272 *

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	3850	540.395	02/08/1969	0.000	525.245	04/03/1970
1970-1971	5079	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	3989	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	4890	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	3800	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

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	3345	538.615	18/08/1983	0.000	527.125	26/01/1984
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	6500	540.795	20/08/1990	0.000	527.975	25/01/1991
1991-1992	5938	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	3560	539.125	05/10/1996	0.000	524.635	25/01/1997
1997-1998	4780	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	9381	543.680	05/08/2005	0.000	526.520	25/01/2006
2006-2007	7505	542.125	12/08/2006	0.000	527.490	17/11/2006
2007-2008	3943	539.885	03/07/2007	0.000	526.125	12/11/2007
2008-2009	3357	538.345	15/08/2008	0.000	526.075	08/11/2008
2009-2010	2048	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	4097	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	4322	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

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		1438	51		51
49	2016-2017	7208		7208	255		255
50	2017-2018	3929		3929	139		139
51	2018-2019	7179		7179	254		254
Average		7285	10	7150	257	0	253
75% Dependable flow (MCM)				4811			
90 % Dependable flow (MCM)				2888			

Stage-Discharge Data for the period 2018 - 2019

Station Name : Arjunwad (Seasonal) (AK000V4)

Division : Upper Krishna Divn, Pune

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	528.305	0.000	528.355	272.1 *	529.075	405.6	530.055	487.0	529.275	123.8	528.485	0.000
2	528.445	0.000	527.735	177.7	528.790	324.8	529.605	517.7 *	529.085	89.87	528.325	0.000
3	528.625	0.000	527.375	130.4	529.305	451.1	529.325	480.5	529.065	81.11	527.965	0.000
4	528.555	0.000	527.265	112.3	529.075	427.0	530.235	754.4	529.115	54.92	527.575	0.000
5	528.605	0.000	527.890	176.2	529.925	592.0 *	530.345	791.7	529.495	84.16	527.255	0.000
6	528.145	0.000	529.505	512.6	530.375	782.9	529.065	399.7	529.655	248.3	527.065	0.000
7	527.975	0.000	530.045	673.9	529.915	559.3	528.765	316.9	529.315	135.8 *	526.755	0.000
8	527.485	0.000	529.745	549.6 *	529.535	533.9	528.750	324.1	529.105	172.7	526.585	0.000
9	527.285	0.000	530.250	744.2	529.335	498.5	528.255	255.6 *	529.020	155.4	526.265	0.000
10	527.375	0.000	530.055	540.1	529.545	543.8	528.355	265.4	528.980	92.20	526.455	0.000
11	527.395	0.000	530.145	663.5	529.445	500.1	527.805	181.2	528.865	91.25	527.075	0.000
12	527.325	0.000	530.250	652.9	529.725	545.0 *	527.375	122.9	528.845	79.08	528.045	0.000
13	527.205	0.000	531.285	1084	530.225	613.6	527.005	90.95	528.815	59.81	528.355	0.000
14	527.145	0.000	532.885	1151	530.895	897.9	526.545	67.35	528.725	59.80 *	528.595	0.000
15	526.955	0.000	533.195	1606 *	531.765	1106 *	526.315	32.56	528.625	29.68	528.505	0.000
16	526.735	0.000	533.045	1190	532.520	1350	526.545	49.55 *	528.475	0.000	528.395	0.000
17	526.185	0.000	534.275	1732	532.645	1455	526.965	67.54	528.515	0.000	528.405	0.000
18	525.515	0.000	535.995	2852	533.745	1865	527.485	23.32	528.395	0.000	528.345	0.000
19	525.385	0.000	536.335	3067	534.555	2159 *	528.045	58.72	528.305	0.000	528.275	0.000
20	525.435	0.000	536.365	3061	535.145	2687	528.330	79.10	528.235	0.000	528.355	0.000
21	526.455	0.000	536.285	3022	535.155	2746	528.645	94.77	528.025	0.000	528.615	0.000
22	527.035	0.000	535.915	2786 *	534.265	1706	529.025	73.72	527.935	0.000	528.935	0.000
23	527.420	151.9	535.445	2578	534.485	1787	528.965	84.83 *	528.025	0.000	529.095	0.000
24	527.055	95.48 *	534.865	2045	535.525	2056	528.905	57.21	528.475	0.000	528.965	0.000
25	526.685	48.07	534.085	1842	535.065	1515	528.945	84.82	528.585	0.000	528.825	0.000
26	526.710	65.61	533.170	1788	532.785	1454 *	529.125	101.7	528.695	0.000	528.765	0.000
27	528.080	258.6	530.720	738.2	530.805	562.7	529.015	121.1	528.655	0.000	528.675	0.000
28	528.765	322.8	530.140	686.1	532.635	1330	529.225	135.7	528.575	0.000	528.715	0.000
29	527.870	187.6	529.935	594.4 *	533.795	1928	529.195	130.3	528.495	0.000	528.615	0.000
30	528.225	306.6	529.645	519.9	532.645	1338	529.195	130.3 *	528.495	0.000	528.445	0.000
31			529.355	479.2	531.000	966.8			528.565	0.000		
Ten-Daily Mean												
I Ten-Daily	528.080	0.000	528.822	388.9	529.487	511.9	529.275	459.3	529.211	123.8	527.273	0.000
II Ten-Daily	526.528	0.000	533.378	1706	532.067	1318	527.242	77.32	528.580	31.96	528.235	0.000
III Ten-Daily	527.430	143.7	532.687	1553	533.469	1581	529.024	101.5	528.411	0.000	528.765	0.000
Monthly												
Min.	525.385	0.000	527.265	112.3	528.790	324.8	526.315	23.32	527.935	0.000	526.265	0.000
Max.	528.765	322.8	536.365	3067	535.525	2746	530.345	791.7	529.655	248.3	529.095	0.000
Mean	527.346	47.89	531.663	1227	531.732	1151	528.514	212.7	528.724	50.25	528.091	0

Annual Runoff in MCM = 7179 Annual Runoff in mm = 567

Peak Observed Discharge = 3067 cumecs on 19/07/2018 Corres. Water Level :536.335 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018 Corres. Water Level :528.305 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 : 2018-2019

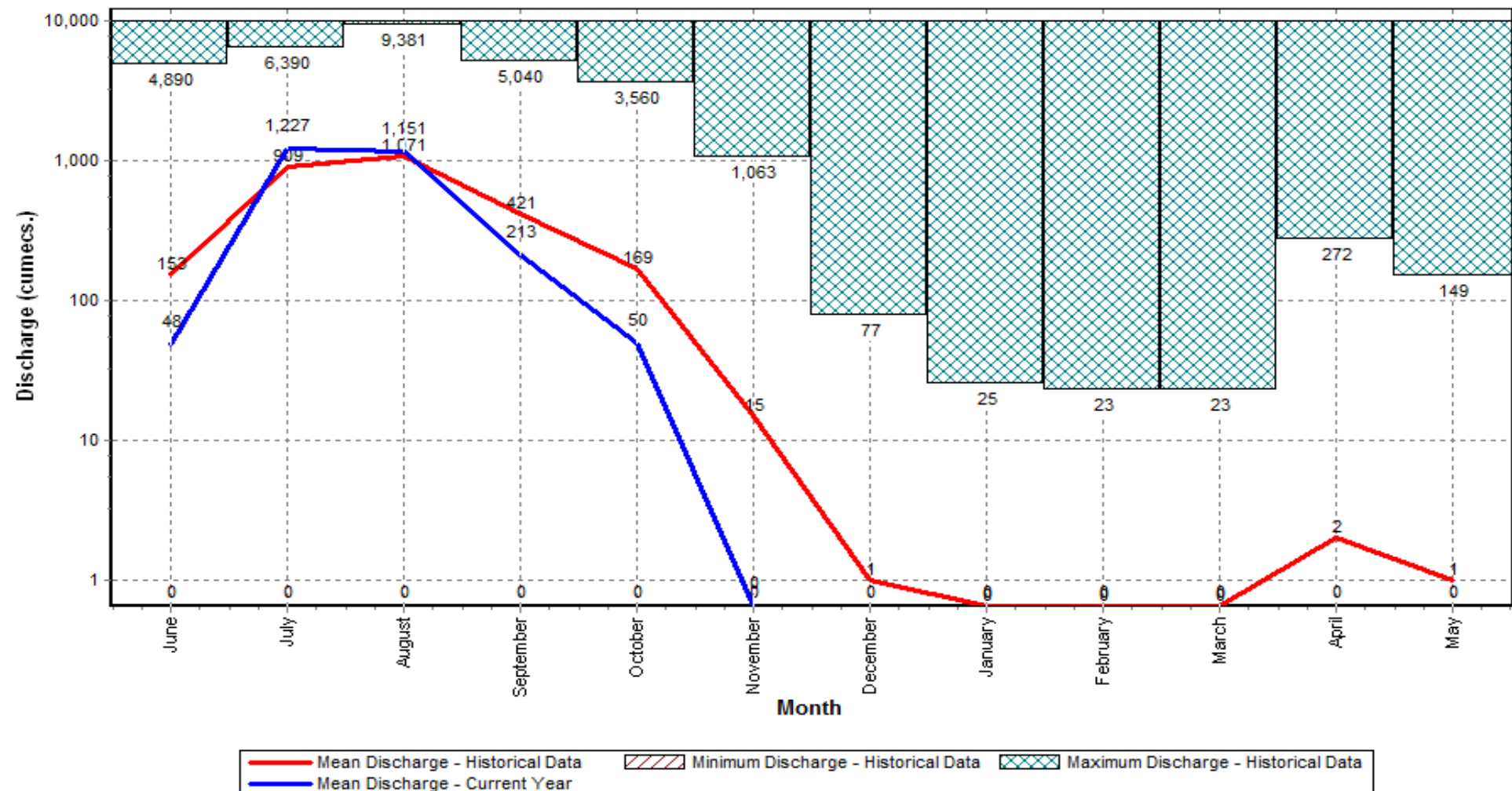
Station Name : Arjunwad (Seasonal) (AK000V4)

Data considered : 1969-2019

Division : Upper Krishna Divn, Pune

Local River : Krishna

Sub-Division : Upper Krishna SD 2, Miraj



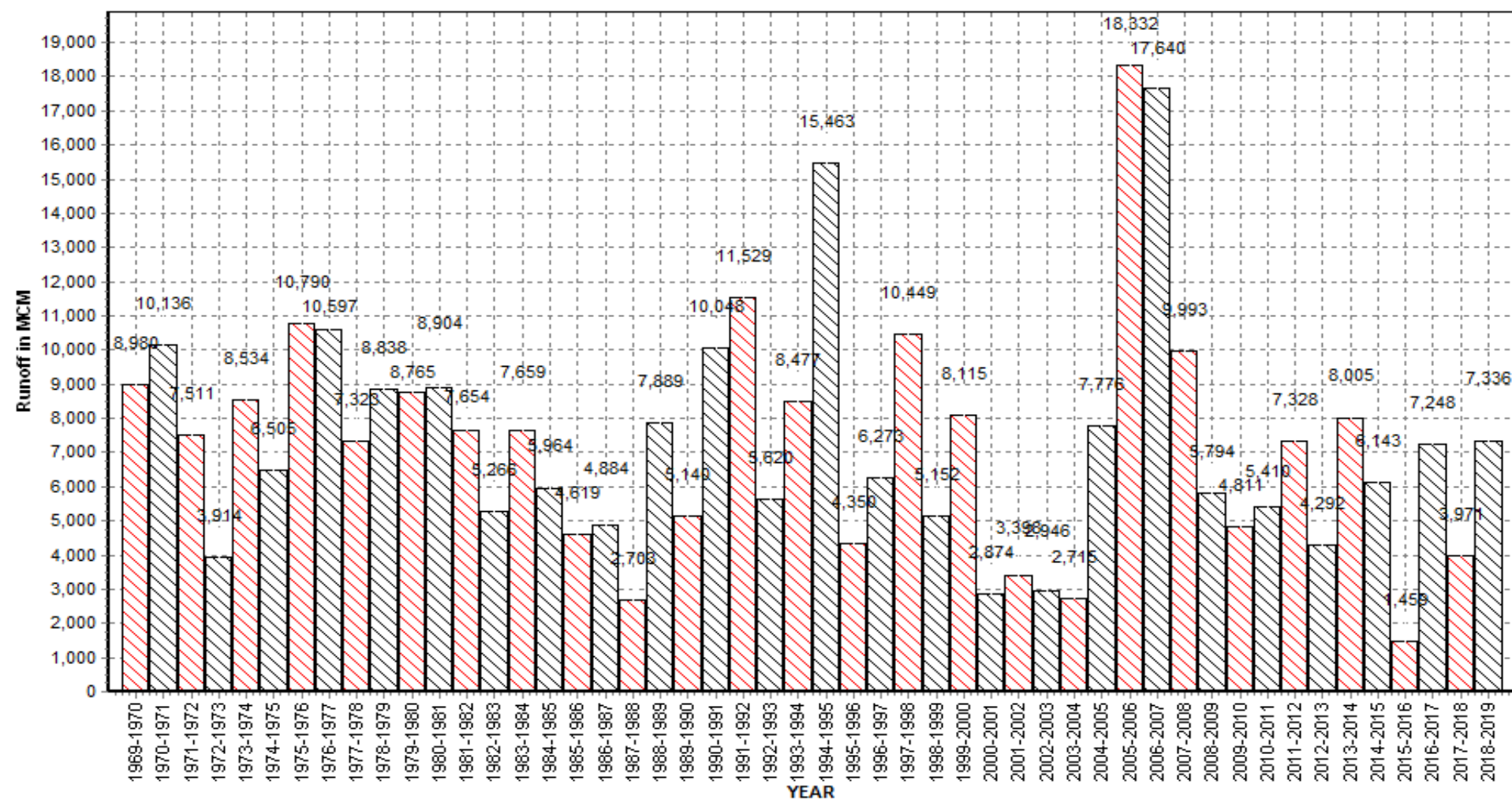
Annual Runoff Values for the period: 1969 - 2019

Station Name : Arjunwad (Seasonal) (AK000V4)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



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

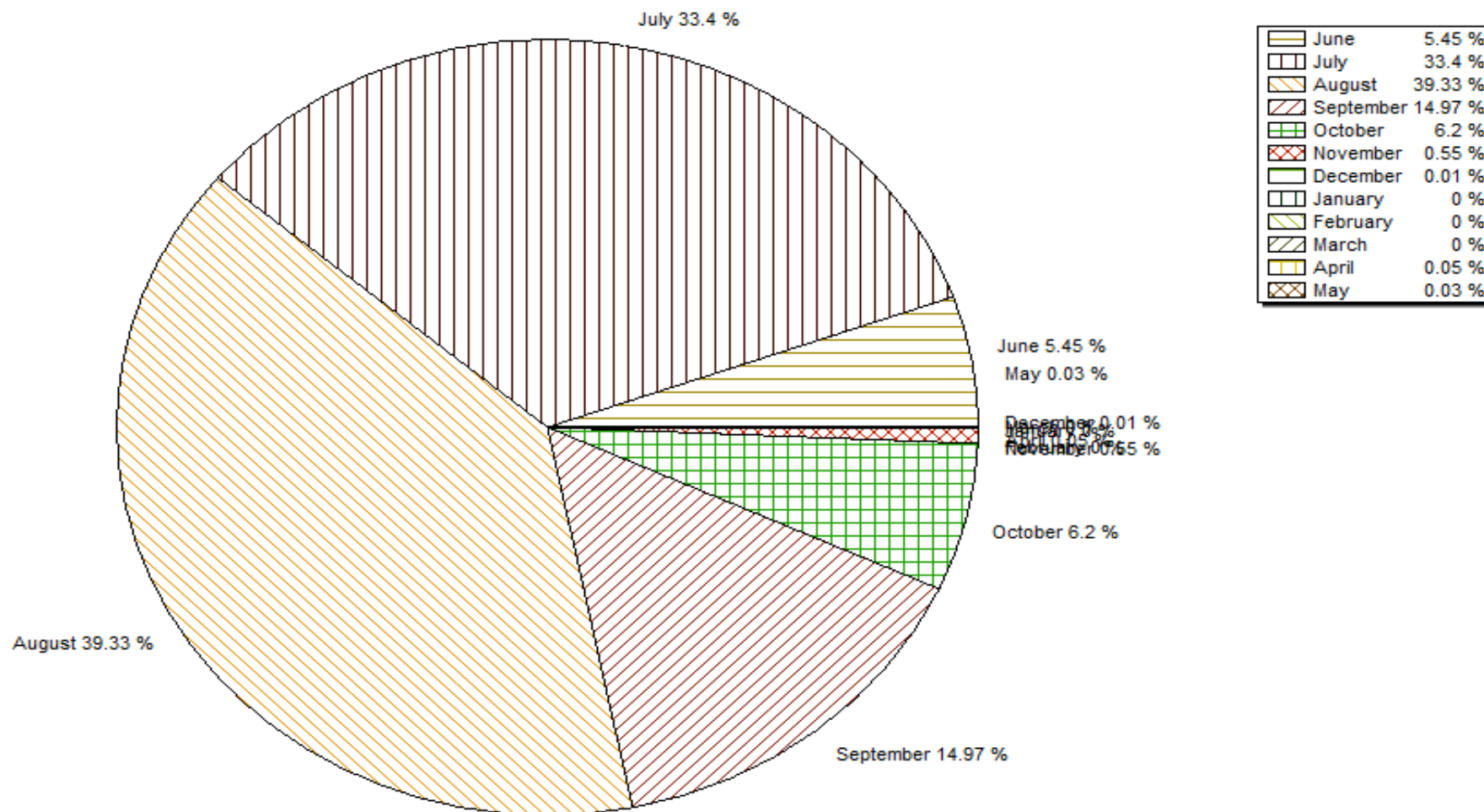
Monthly Average Runoff based on period : 1969-2018

Station Name : Arjunwad (Seasonal) (AK000V4)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



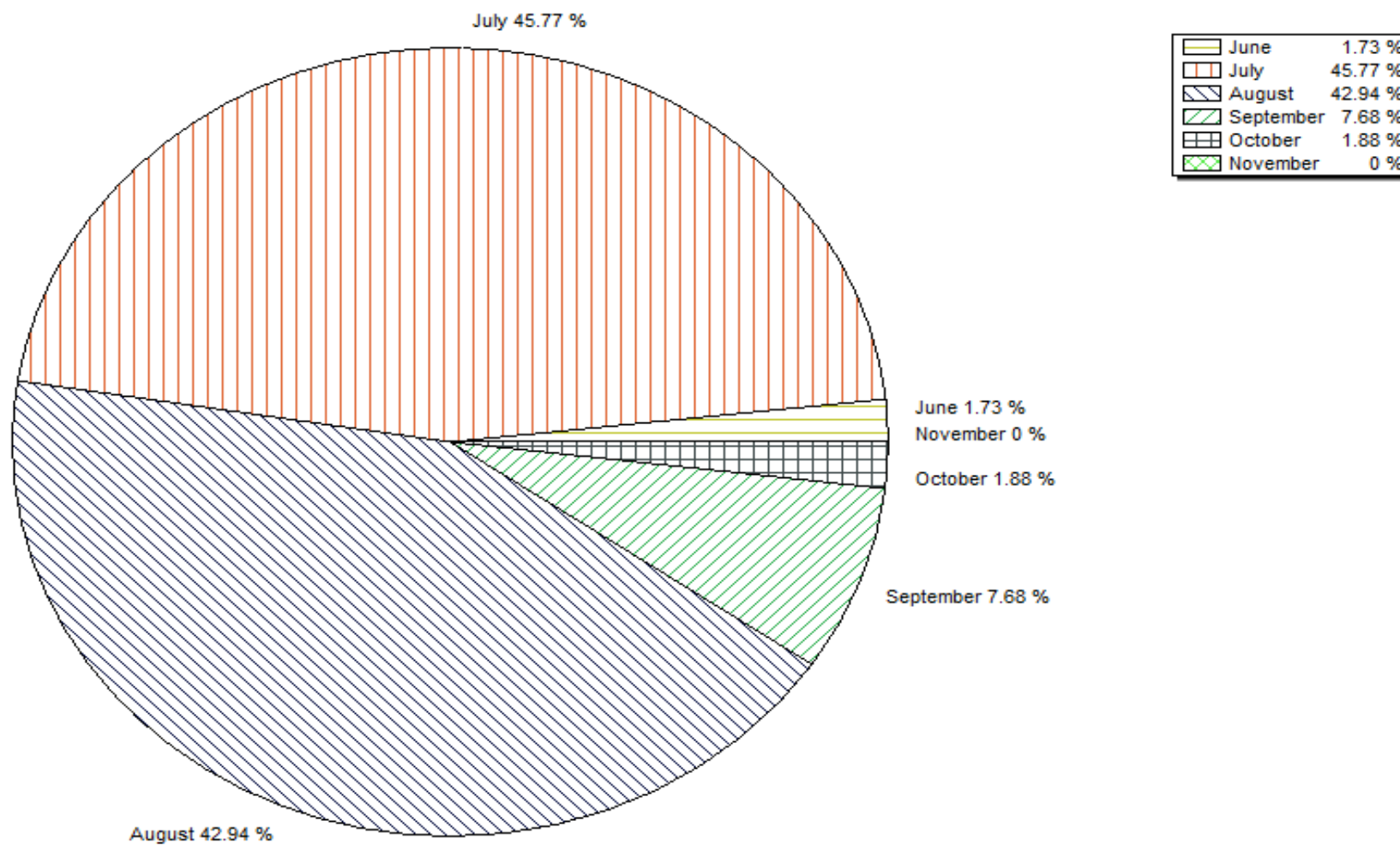
Monthly Runoff for the Year : 2018-2019

Station Name : Arjunwad (Seasonal) (AK000V4)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2. Miraj



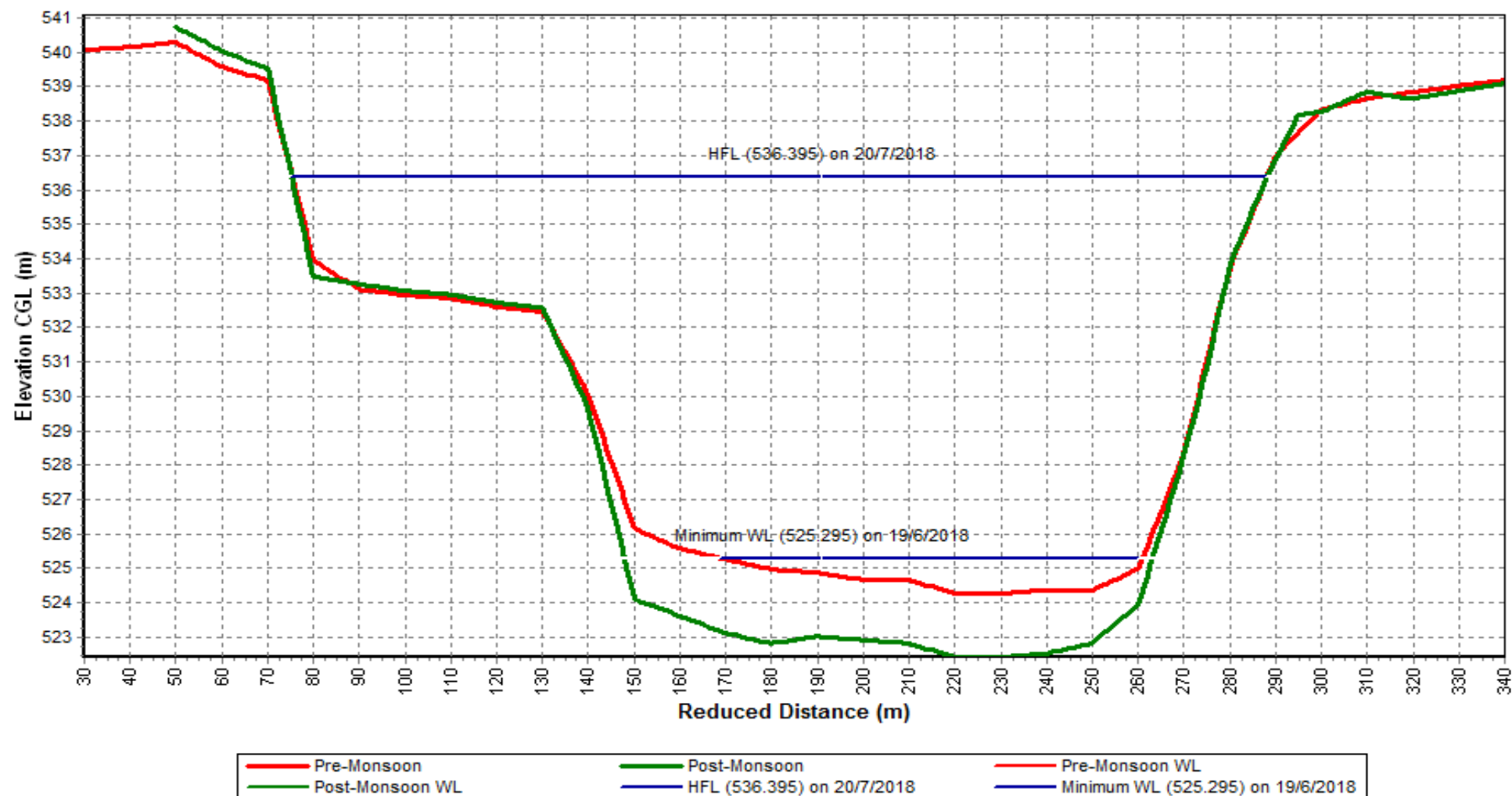
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Arjunwad (Seasonal) (AK000V4)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



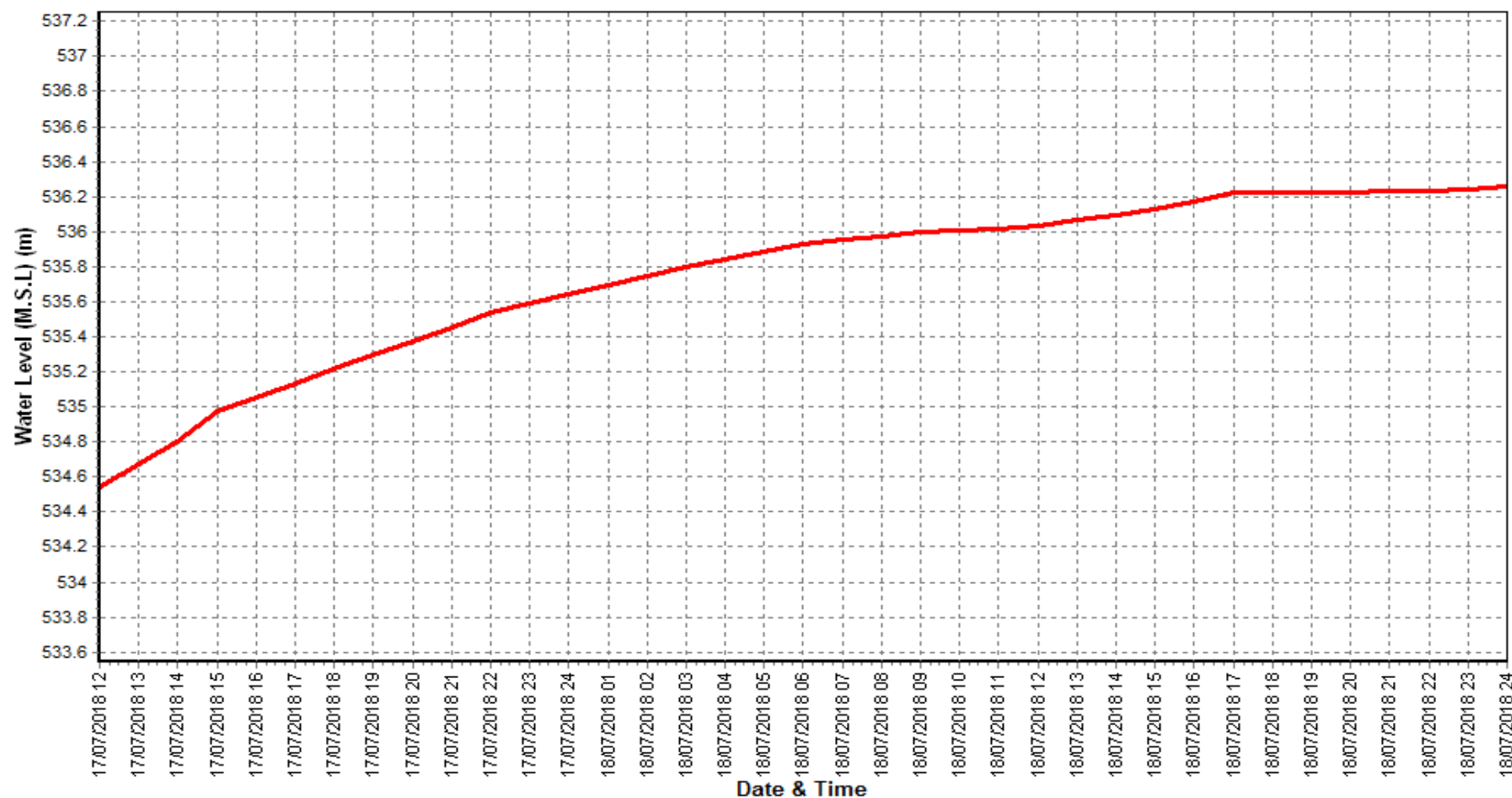
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Arjunwad (Seasonal) (AK000V4)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2. Miraj



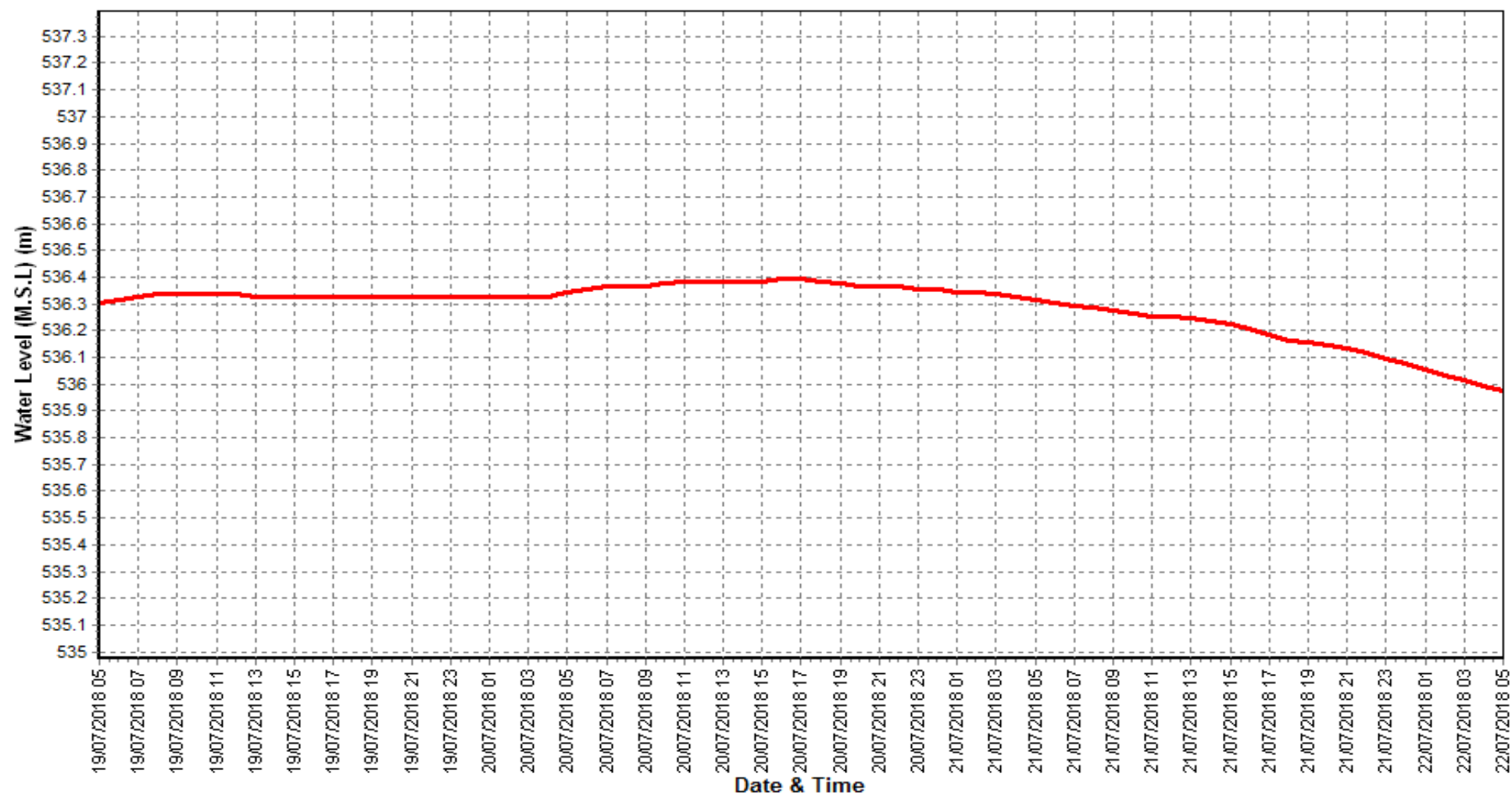
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Arjunwad (Seasonal) (AK000V4)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



Time Span: 72 Hrs

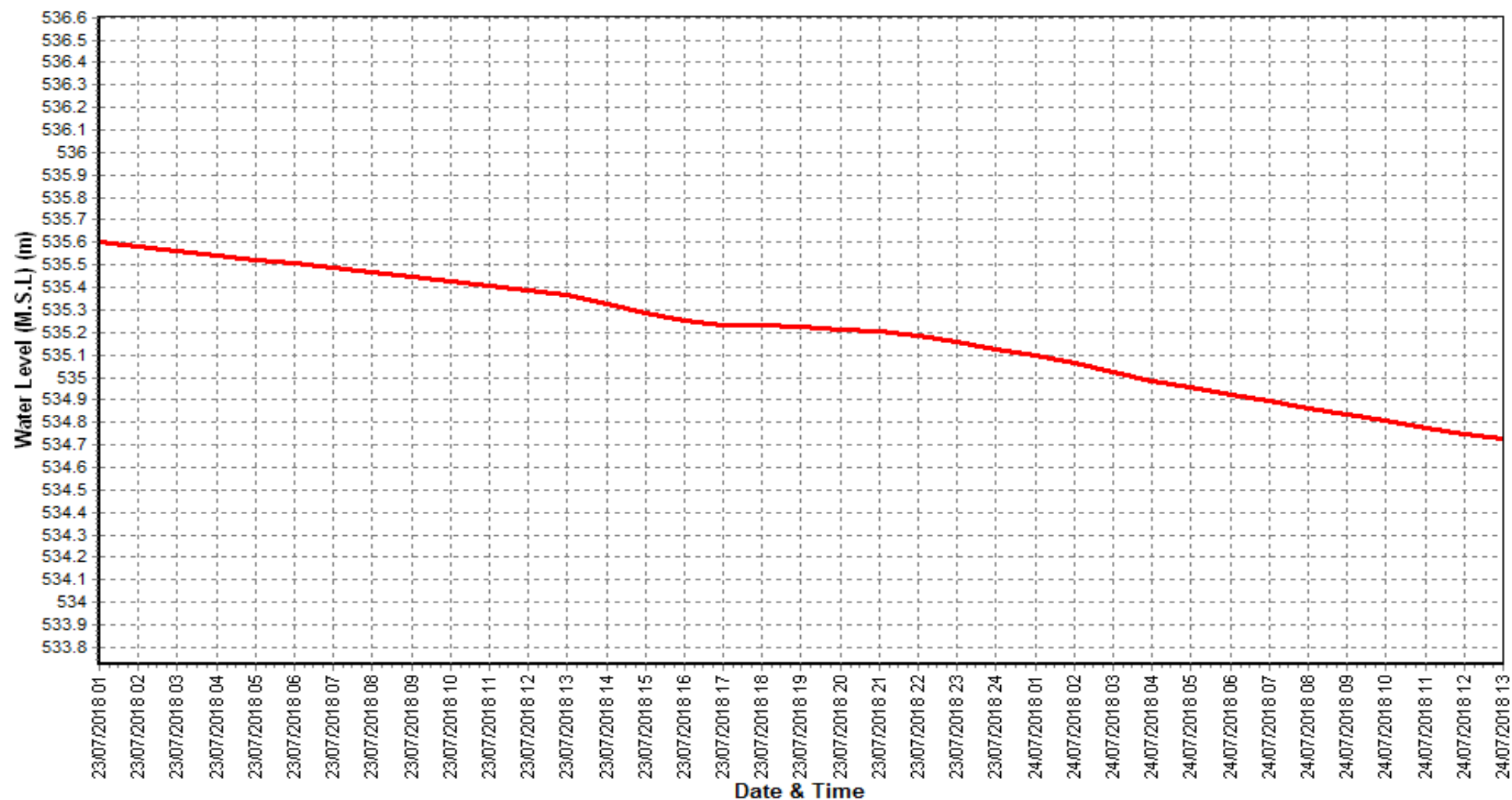
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : Arjunwad (Seasonal) (AK000V4)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



HISTORY SHEET

Water Year : 2018-2019

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 2, Miraj

Drainage Area : 1948 Sq. Km.

Bank : Left

Latitude : 16°51'18"

Longitude : 74°29'50"

Zero of Gauge (m) : 529.594 (m.s.l)
528.594 (m.s.l)01/09/1963 - 20/04/1966
21/04/1966

Opening Date

Closing Date

Gauge : 23/08/1963

HFL During 2017 : 540.144m

Corres. Discharge : 1375(Estimated)

Discharge : 01/12/1964

Date & Time of : 20/07/2018

occurrence : 02.00 hrs.

Sediment : 26/12/2014

Water Quality : 01/09/2014

HFL Recorded so far in m : 546.324 dt 05-08-2005

Corresponding Discharge (cumecs) : 3064 *

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	36.20	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	1068	539.704	03/08/1968	0.000	529.334	31/01/1969
1969-1970	1650	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		26/01/1972
1972-1973	1219	540.974	09/07/1972	0.000		25/01/1973
1973-1974	2250	543.279	09/07/1973	0.000	531.754	25/01/1974
1974-1975	1528	540.264	07/07/1974	0.000	530.124	25/01/1975
1975-1976	2050	543.414	12/07/1975	0.000	529.734	02/02/1976
1976-1977	2007	543.322	03/08/1976	0.000	529.794	25/01/1977
1977-1978	1548	541.003	09/07/1977	0.000	533.529	25/01/1978
1978-1979	1418	539.592	14/08/1978	0.000	531.894	25/01/1979

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

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1979-1980	1436	542.219	08/08/1979	0.000	533.429	26/01/1980
1980-1981	1747	542.485	04/07/1980	0.000	529.704	25/01/1981
1981-1982	1741	541.014	09/07/1981	0.000	532.254	25/01/1982
1982-1983	1472	540.077	31/07/1982	0.000	531.114	25/01/1983
1983-1984	1682	540.527	30/06/1983	0.000	530.414	26/01/1984
1984-1985	1715	541.232	20/07/1984	0.000		25/01/1985
1985-1986	1530	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		26/01/1988
1988-1989	2025	542.854	04/08/1988	0.000	530.264	25/01/1989
1989-1990	2412	543.424	27/07/1989	0.000	533.724	25/01/1990
1990-1991	1675	543.514	20/08/1990	0.000	534.444	25/01/1991
1991-1992	2081	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	2235	543.654	17/07/1994	0.000	534.194	25/01/1995
1995-1996	869.0	538.019	04/09/1995	0.000	532.719	26/01/1996
1996-1997	1610	541.614	05/10/1996	0.000	531.064	25/01/1997
1997-1998	1710	543.564	27/08/1997	0.000	533.534	25/01/1998
1998-1999	897.5	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	637.2	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		26/01/2004
2004-2005	1341	541.831	14/08/2004	0.000	532.584	25/01/2005
2005-2006	3064	546.324	05/08/2005	0.000	533.144	25/01/2006
2006-2007	2010	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	1403	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	1592	542.414	06/09/2011	0.000	532.434	27/10/2011
2012-2013	688.9	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	1115	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

Annual Runoff of Varna at Samdoli (Seasonal)							
Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
1	1964-1965		5	5		0	0
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

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
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
Average		2914	2	2809	103	0	99
75% Dependable flow (MCM)				1975			
90 % Dependable flow (MCM)				1384			

Stage-Discharge Data for the period 2018 - 2019

Station Name : Samdoli (Seasonal) (AKX00A7)

Local River : Varna

Division : Upper Krishna Divn, Pune

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	532.424	0.000	532.244	111.2 *	532.234	88.73	533.754	306.9	531.364	47.21	531.754	0.000
2	532.434	0.000	531.574	73.32	532.034	103.3	533.474	244.0 *	531.224	31.03	531.644	0.000
3	532.394	0.000	531.339	37.62	532.784	165.4	532.524	118.2	531.144	29.14	531.724	0.000
4	532.344	0.000	531.414	56.58	532.654	134.9	532.604	125.9	531.194	31.99	532.004	0.000
5	532.304	0.000	532.259	106.2	534.744	411.7 *	532.664	139.6	531.234	31.36	532.134	0.000
6	531.554	0.000	533.844	314.3	534.544	386.1	532.244	124.0	531.254	33.04	532.174	0.000
7	530.094	0.000	533.774	305.2	533.484	226.4	532.134	99.50	531.244	32.66 *	532.154	0.000
8	530.194	0.000	533.374	232.0 *	533.084	205.6	531.714	72.75	531.004	22.92	532.134	0.000
9	530.214	0.000	534.294	377.8	533.044	188.7	531.514	49.90 *	530.644	15.59	532.124	0.000
10	530.284	0.000	533.924	325.7	533.139	189.3	531.564	76.52	530.404	15.71	532.144	0.000
11	530.494	0.000	534.134	408.6	533.064	187.1	531.324	38.10	530.604	15.16	532.274	0.000
12	530.344	0.000	534.584	387.9	533.844	290.0 *	531.209	32.40	530.694	15.39	532.194	0.000
13	530.544	34.59	536.164	672.1	534.614	384.4	531.024	27.95	530.414	6.943	532.204	0.000
14	530.524	34.63	537.314	846.3	535.774	572.3	531.174	32.70	530.194	0.000	532.354	0.000
15	530.494	28.04	537.424	845.1 *	536.574	697.2 *	530.594	30.63	530.144	0.000	532.334	0.000
16	530.224	0.000 *	536.994	817.9	536.454	743.5	530.294	13.07 *	530.054	0.000	532.294	0.000
17	529.994	0.000 *	538.094	969.2	536.414	717.4	530.044	16.02	529.844	0.000	532.324	0.000
18	529.974	0.000	539.684	1262	537.244	910.6	531.194	31.87	529.774	0.000	532.404	0.000
19	529.994	0.000	540.094	1305	537.864	925.2 *	531.214	32.04	529.704	0.000	532.444	0.000
20	530.414	24.89	540.144	1321	538.694	1140	531.144	28.90	529.754	0.000	532.594	0.000
21	530.424	33.22	539.994	1351	538.744	1160	531.234	33.10	529.734	0.000	532.504	0.000
22	530.439	33.89	539.454	1233 *	538.034	959.0	531.334	38.52	529.714	0.000	532.544	0.000
23	530.542	32.55	538.464	1058	537.944	897.3	531.334	35.13 *	531.934	0.000	532.514	0.000
24	530.554	33.00 *	537.524	938.4	538.384	1034	531.204	30.33	532.224	33.59	532.444	0.000
25	530.544	32.73	536.814	669.9	537.914	911.8	531.234	32.25	532.004	21.55	532.284	0.000
26	531.549	47.51	536.044	427.3	536.444	675.4 *	531.594	76.67	532.104	23.70	532.244	0.000
27	532.994	220.0	533.859	234.0	533.824	266.1	531.474	67.93	532.024	21.66	532.044	0.000
28	532.324	143.8	533.434	165.0	535.594	498.9	531.634	62.15	531.974	15.46 *	531.934	0.000
29	532.239	103.3	533.154	206.4 *	537.044	835.7	531.544	56.28	531.944	20.04	531.834	0.000
30	532.694	166.0	532.824	134.7	536.144	682.3	531.564	41.99 *	531.984	15.48	531.694	0.000
31			532.534	115.4	535.074	455.8			531.839	11.54		
Ten-Daily Mean												
I Ten-Daily	531.424	0.000	532.804	194.0	533.174	210.0	532.419	135.7	531.071	29.06	531.999	0.000
II Ten-Daily	530.300	12.22	537.463	883.5	536.054	656.7	530.922	28.37	530.118	3.750	532.342	0.000
III Ten-Daily	531.430	84.60	535.827	593.9	536.831	761.5	531.415	47.44	531.589	14.82	532.204	0.000
Monthly												
Min.	529.974	0.000	531.339	37.62	532.034	88.73	530.044	13.07	529.704	0.000	531.644	0.000
Max.	532.994	220.0	540.144	1351	538.744	1160	533.754	306.9	532.224	47.21	532.594	0.000
Mean	531.051	32.27	535.380	558.3	535.401	549.8	531.585	70.51	530.947	15.84	532.182	0

Annual Runoff in MCM = 3278 Annual Runoff in mm = 1683

Peak Observed Discharge = 1351 cumecs on 21/07/2018 Corres. Water Level :539.994 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018 Corres. Water Level :532.424 m

HISTOGRAM - HYDROGRAPH for Water Year : 2018-2019

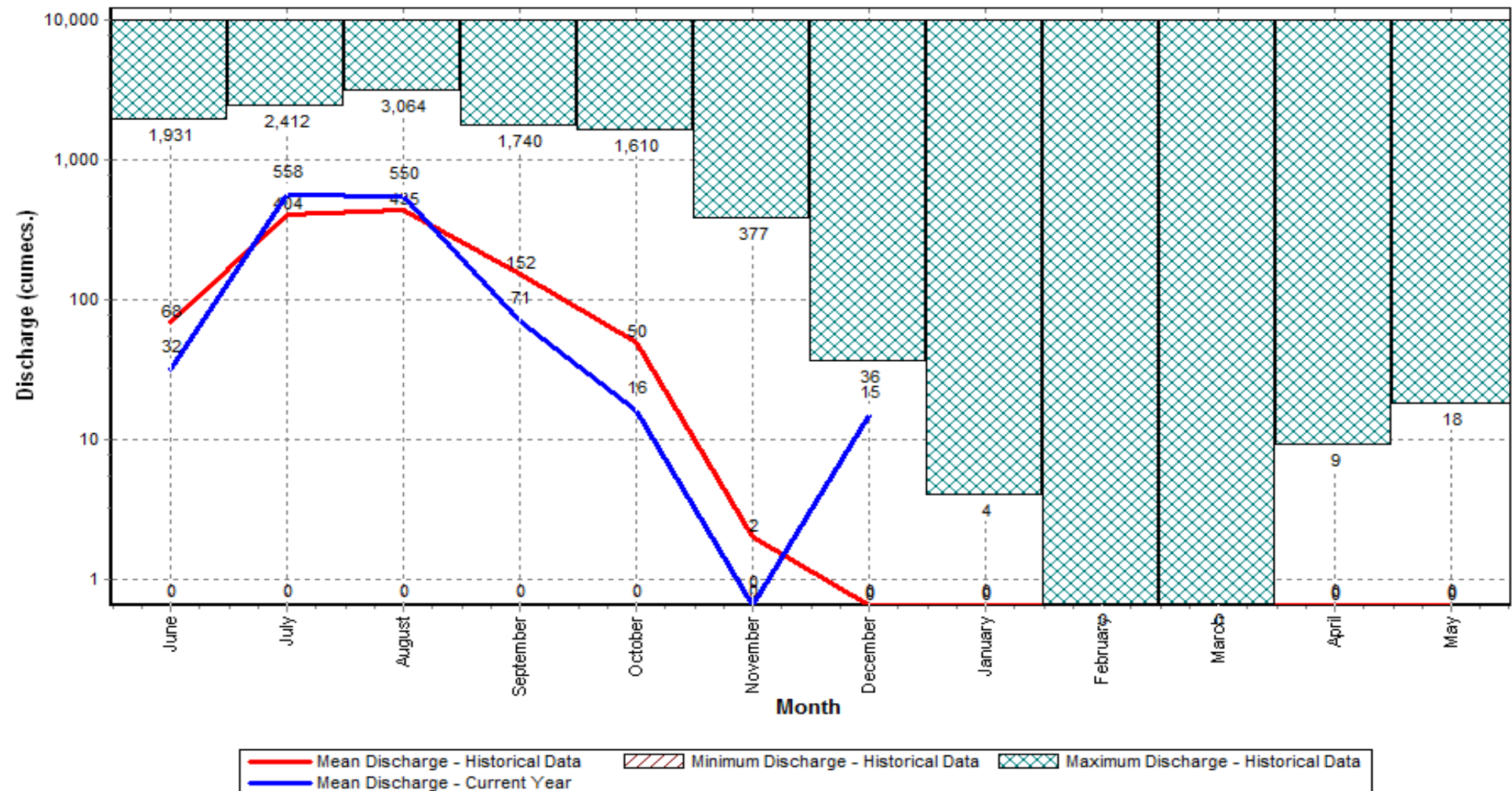
Station Name : Samdoli (Seasonal) (AKX00A7)

Data considered : 1965-2019

Division : Upper Krishna Divn, Pune

Local River : Varna

Sub-Division : Upper Krishna SD 2. Miraj



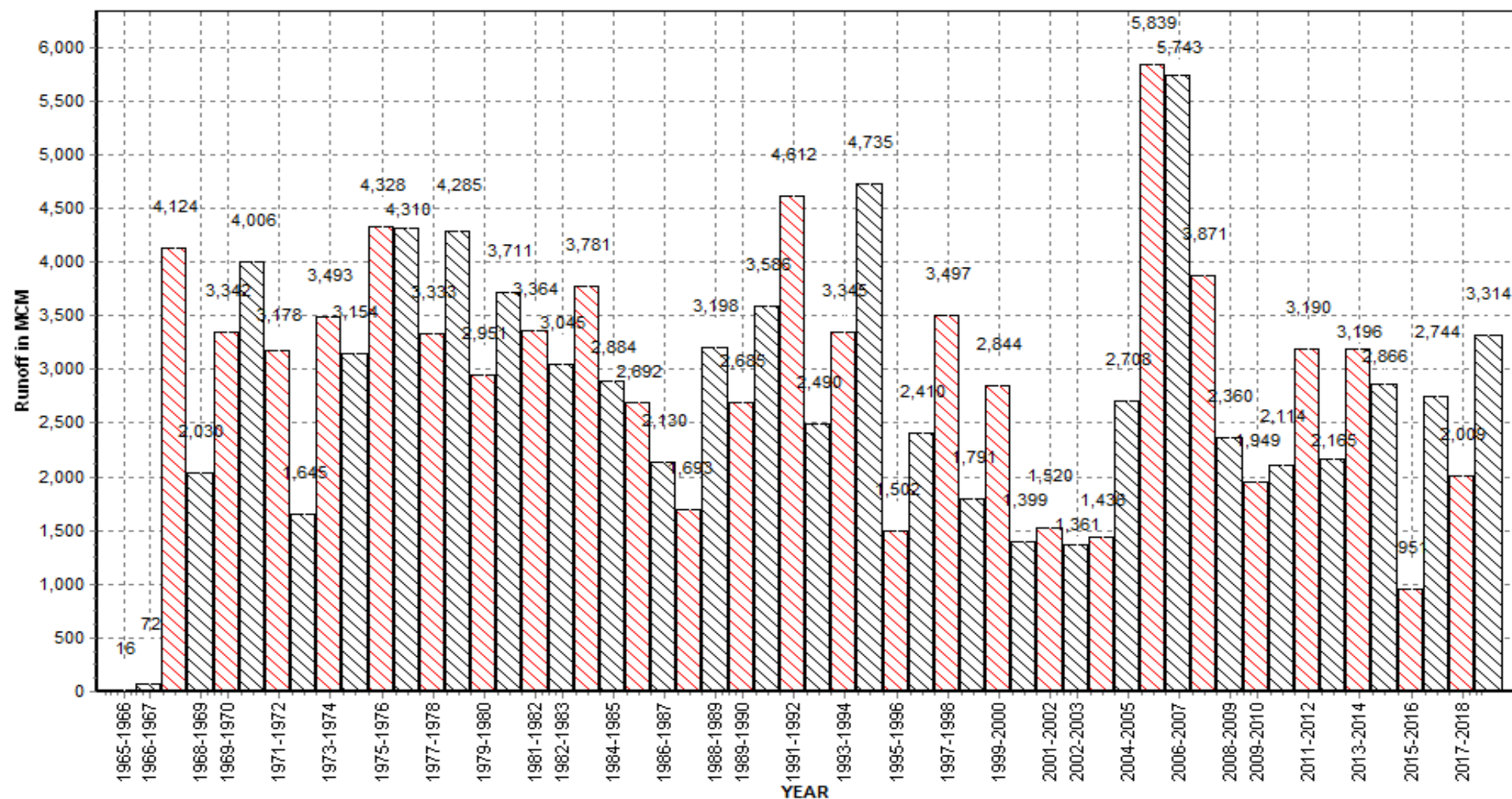
Annual Runoff Values for the period: 1965 - 2019

Station Name : Samdoli (Seasonal) (AKX00A7)

Local River : Varna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



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

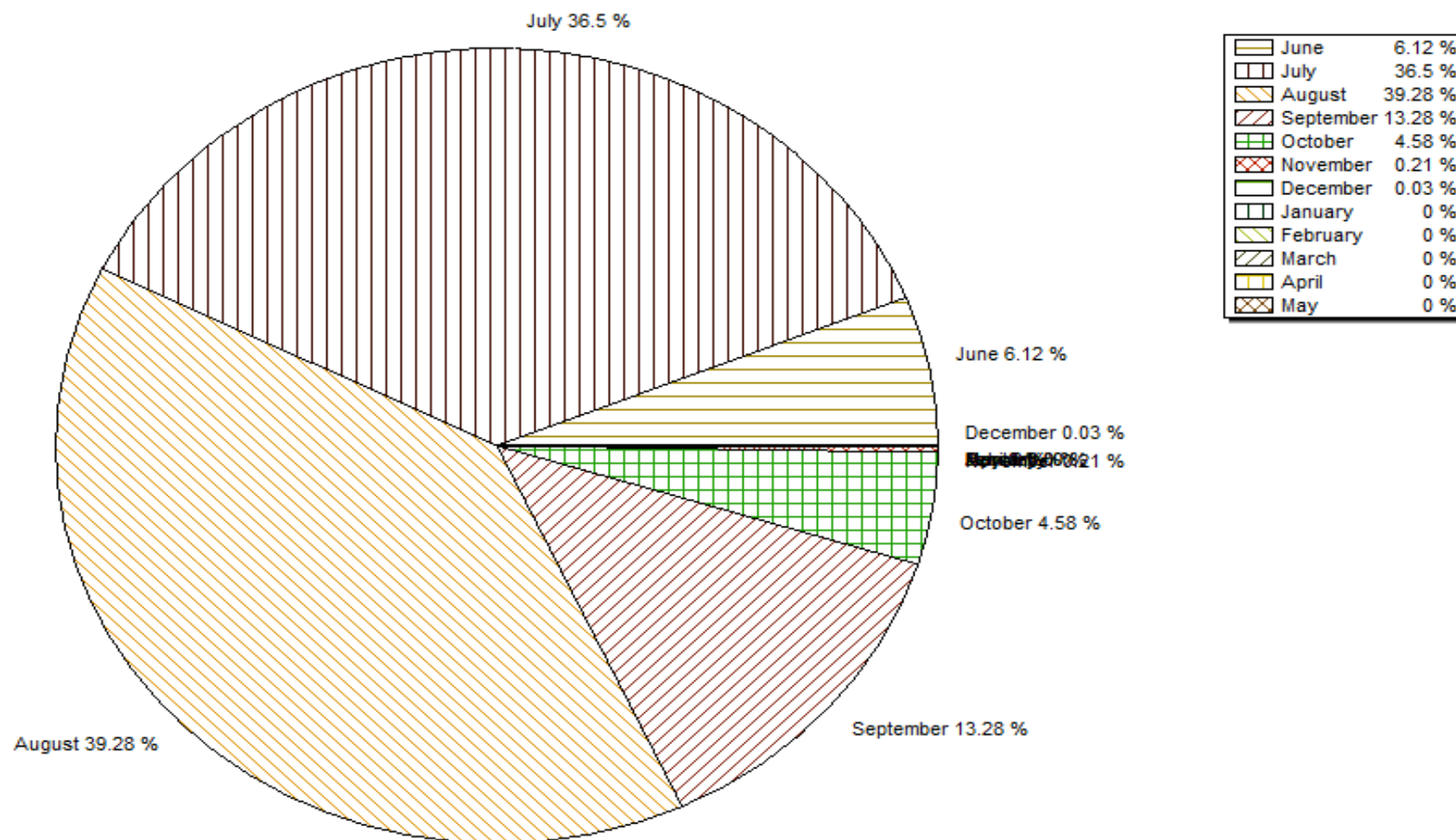
Monthly Average Runoff based on period : 1965-2018

Station Name : Samdoli (Seasonal) (AKX00A7)

Local River : Varna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



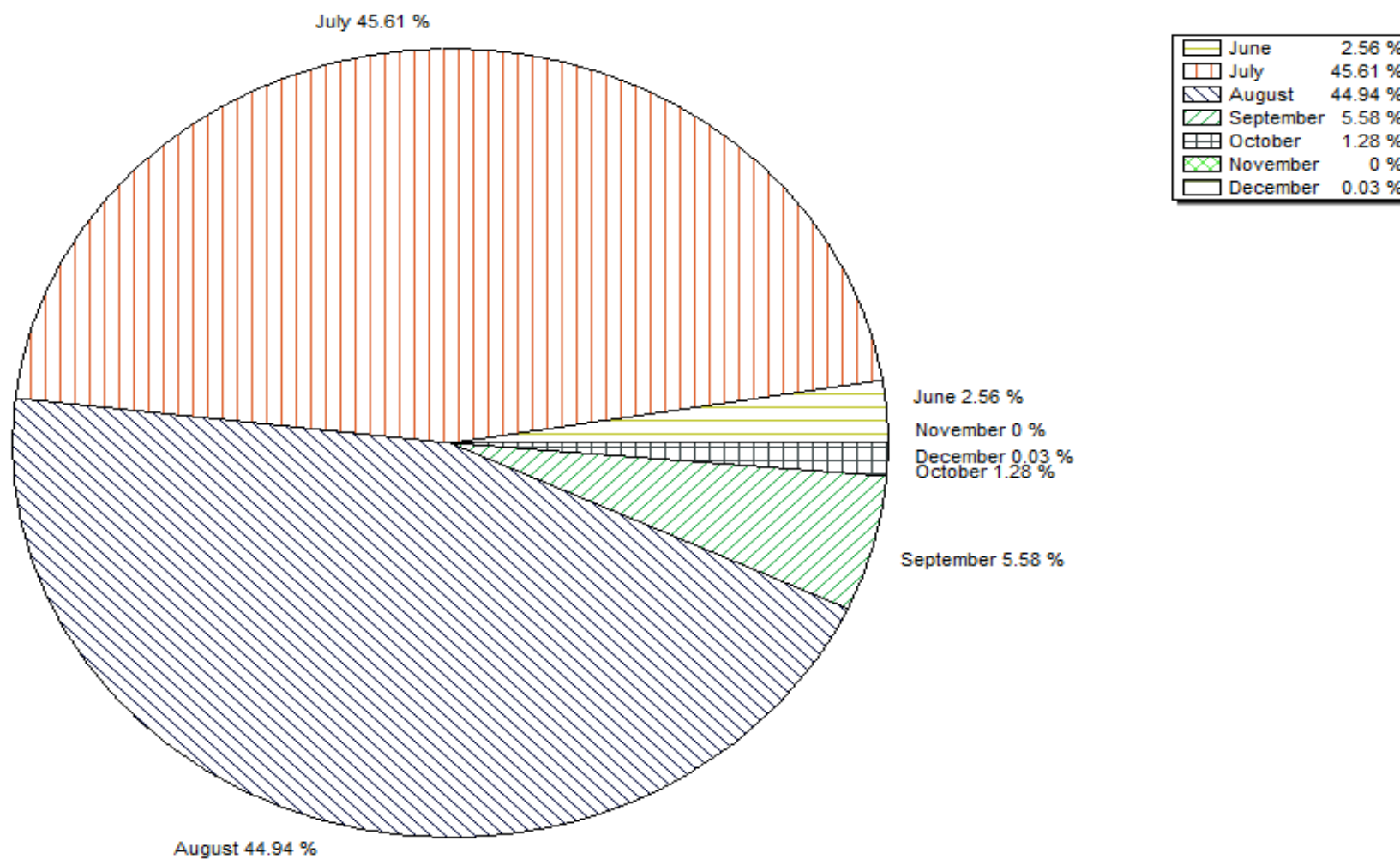
Monthly Runoff for the Year : 2018-2019

Station Name : Samdoli (Seasonal) (AKX00A7)

Local River : Varna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



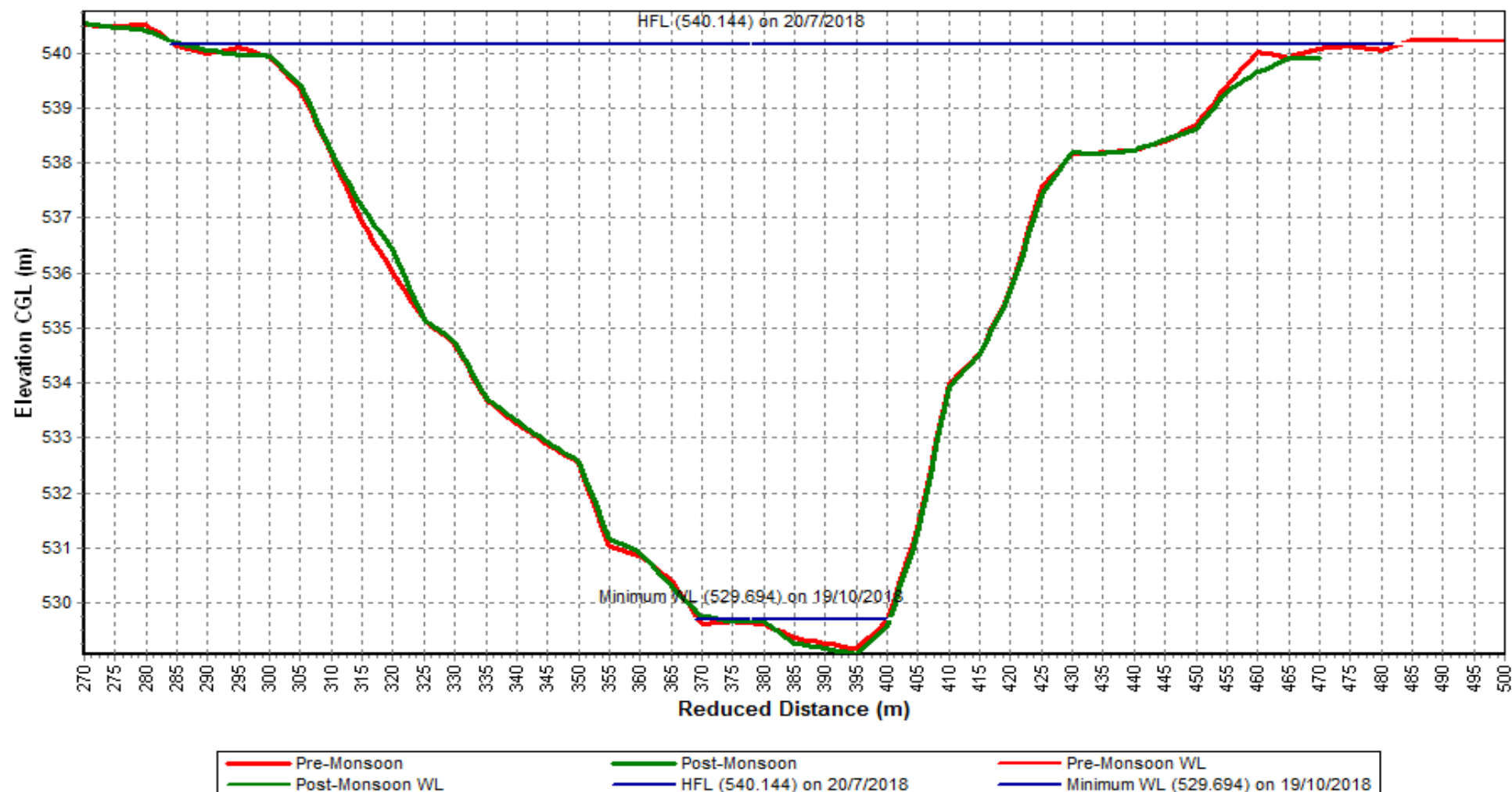
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Samdoli (Seasonal) (AKX00A7)

Local River : Varna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



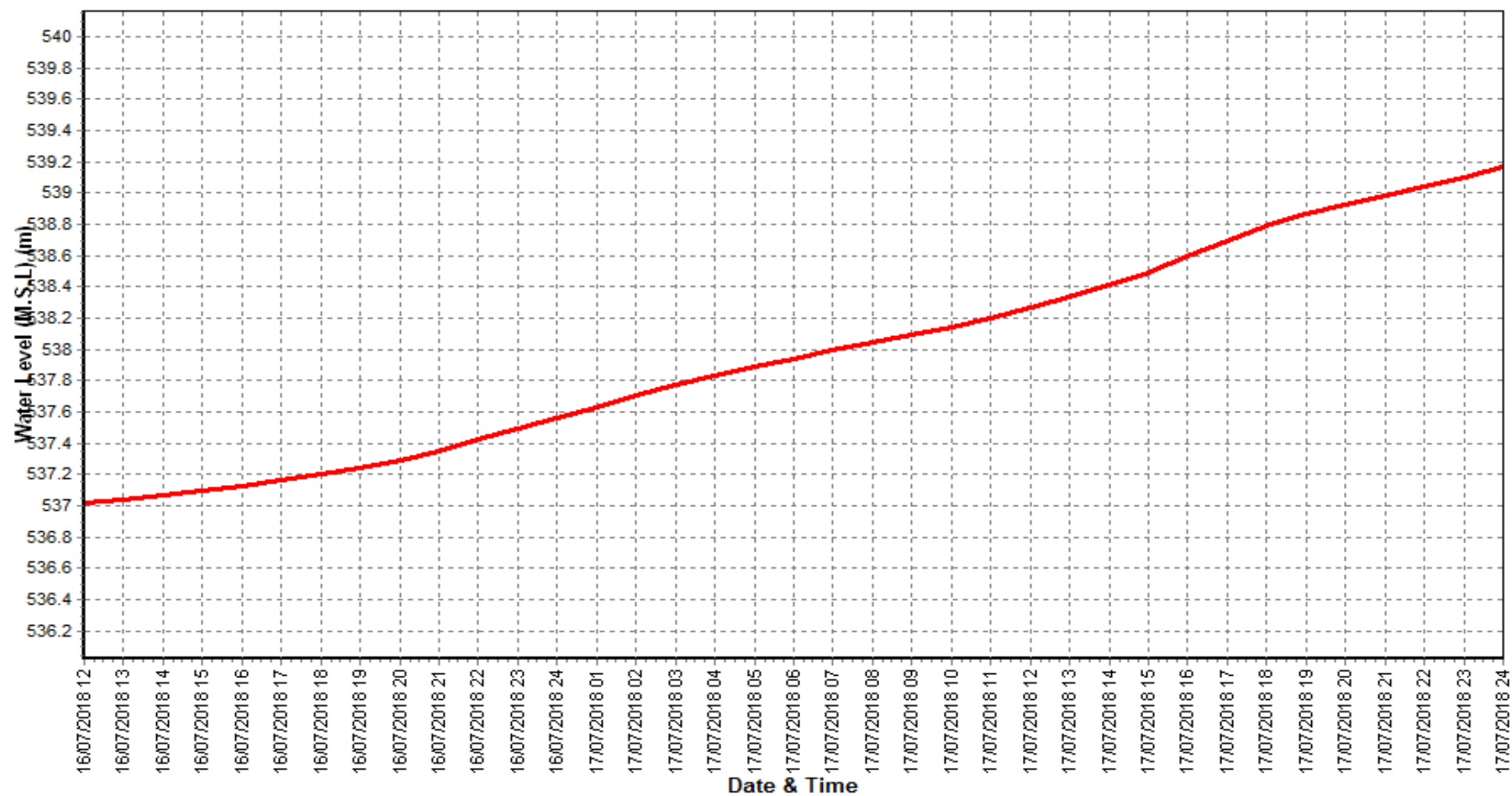
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : Samdoli (Seasonal) (AKX00A7)

Local River : Varna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



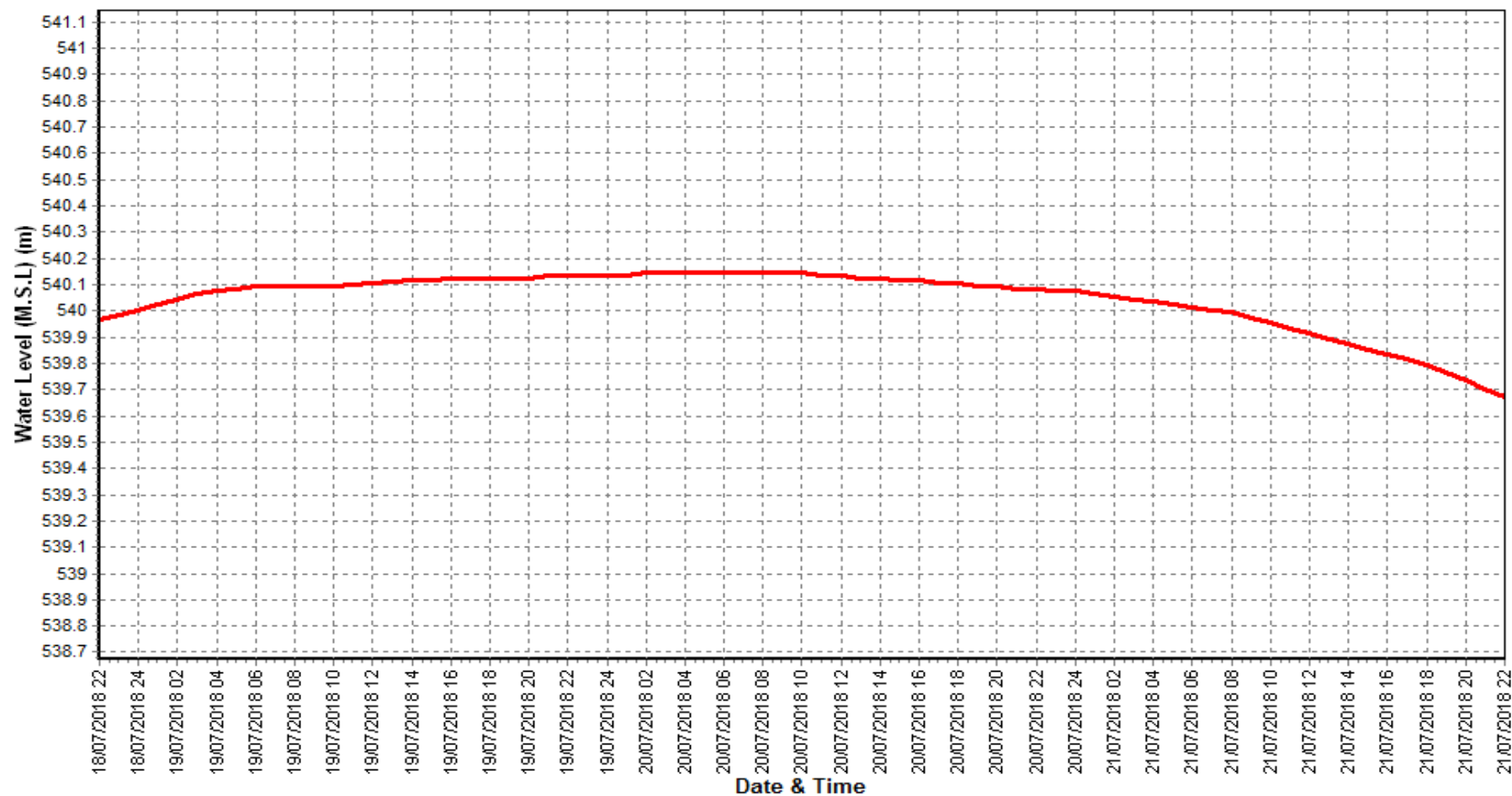
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Samdoli (Seasonal) (AKX00A7)

Local River : Varna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



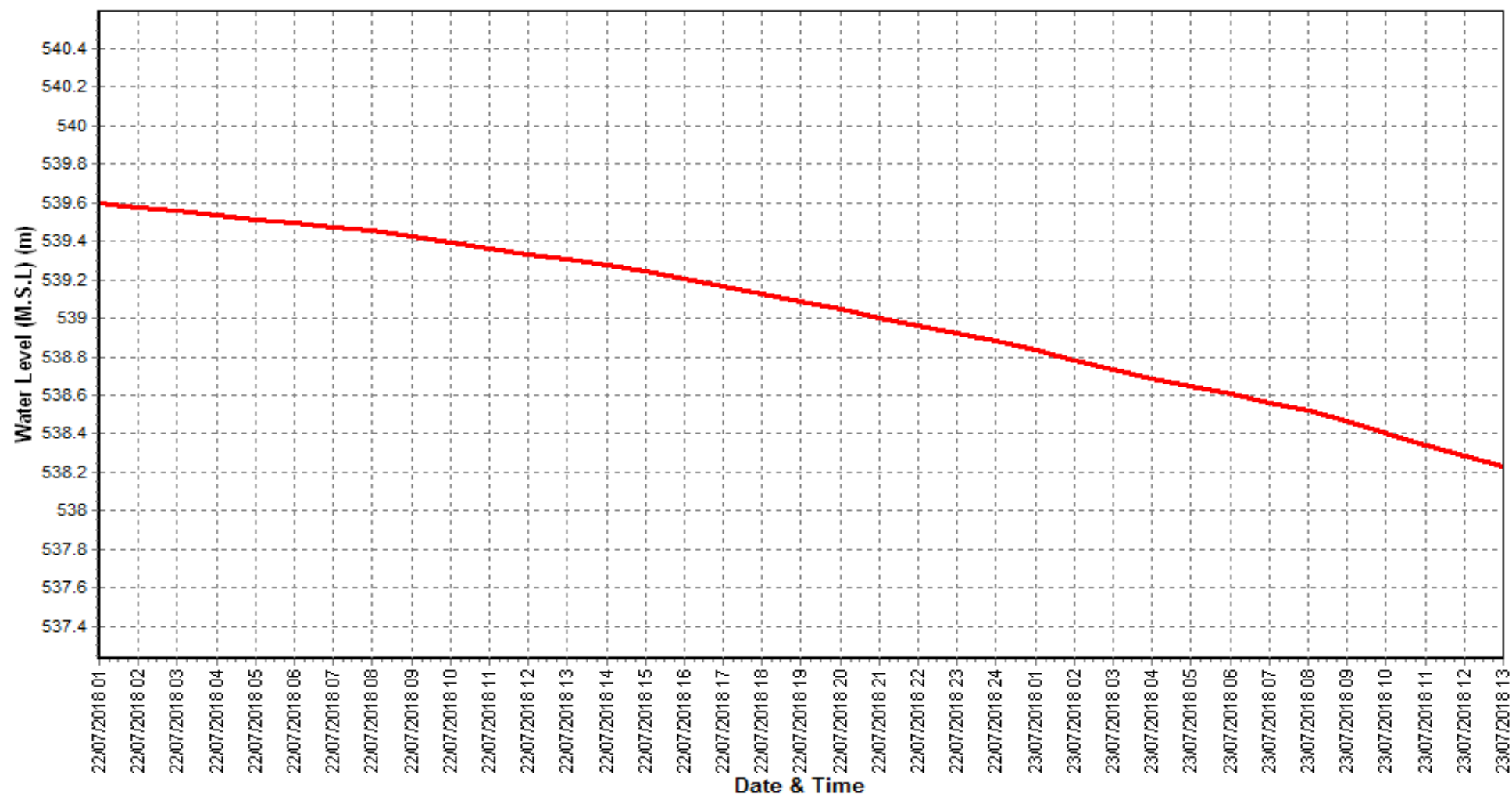
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Samdoli (Seasonal) (AKX00A7)

Local River : Varna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



HISTORY SHEET

		Water Year	: 2018-2019
Site	: Nandre	Code	: NANDRE
State	: Maharashtra	District	Sangli
Basin	: Krishna	Independent River	: Krishna
Tributary	: -	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Yerala
Division	: Upper Krishna Divn, Pune	Sub-Division	: Upper Krishna SD 2, Miraj
Drainage Area	: 3035 Sq. Km.	Bank	: Right
Latitude	: 16°56'58"	Longitude	: 74°31'45
Zero of Gauge (m)	: 526.500 m (m.s.l)	04/06/2018	-
		Opening Date	Closing Date
Gauge	: 19/06/2017	HFL During 2018-19	: 532.930 m
Discharge	: 07/08/2018	Corres. Discharge	: 151(Estimated)
Sediment	:	Date & Time of occurrence	: 24/08/2018 : 11.00 hrs.
Water Quality	:		
	0		
HFL Recorded so far in m : 532.930 dt 24-08-2018			
Corresponding Discharge (cumecs) : 151 *			

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
75% Dependable flow (MCM)				Sufficient data not available			
90 % Dependable flow (MCM)				Sufficient data not available			

Stage-Discharge Data for the period 2018 - 2019

Station Name : Nandre (NANDRE)

Division : Upper Krishna Divn, Pune

Local River : Yerala

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	
1	Discharge observation started wef 07/08/2018	Discharge observation started wef 07/08/2018	Discharge observation started wef 07/08/2018		527.610	0.000	528.270	0.000	527.575	2.105	
2					527.520	0.000	528.050	0.000	527.670	1.989	
3					527.510	0.000	527.960	0.000	527.630	2.253	
4					528.330	0.000	528.240	1.394	527.610	1.834	
5					529.570	0.000	528.660	17.17	527.530	1.024	
6					527.430	0.000	528.910	15.15	527.460	0.864	
7				527.670	0.000	527.400	0.000	528.740	12.59 *	527.405	0.512
8				527.668	0.000	527.380	0.000	528.610	13.82	527.420	0.826
9				527.580	0.000	527.390	0.000	528.415	13.97	527.800	0.611
10				527.580	0.000	527.350	0.000	528.358	11.94	527.410	0.508
11				527.535	0.000	527.300	0.000	528.295	10.69	527.830	3.134
12				527.500	0.000	527.320	0.000	528.060	8.562	528.220	2.388
13				527.590	0.000	527.340	0.000	528.030	6.884	527.840	2.906
14				527.828	0.000	527.320	0.000	527.990	4.314 *	527.750	2.242
15				528.080	0.000	527.310	0.000	527.845	3.903	527.610	0.570
16				530.130	0.000	527.305	0.000	527.720	3.271	527.345	0.779
17				529.755	0.000	527.310	0.000	527.830	4.313	527.410	0.534
18				531.370	0.000	527.330	0.000	527.700	3.482	527.330	0.699
19				531.560	0.000	527.320	0.000	527.865	4.483	527.310	0.645
20				532.020	0.000	527.330	0.000	527.900	4.707	527.550	4.259
21				531.938	0.000	527.350	0.000	527.920	3.773 *	527.850	4.931
22				531.495	0.000	527.540	0.000	527.990	5.014	528.700	12.03
23				531.165	0.000	527.480	0.000	527.945	4.804	528.660	11.49
24				532.870	0.000	527.420	0.000	527.920	3.856	528.490	9.370
25				532.545	0.000	527.640	0.000	527.940	4.807	528.410	8.381
26				529.500	0.000	527.460	0.000	528.050	8.367	528.500	6.614
27				528.315	0.000	527.470	0.000	528.080	8.589	528.380	5.116
28				531.310	0.000	527.960	0.000	528.100	5.242 *	528.295	4.798
29				531.710	0.000	528.150	0.000	528.028	6.190	528.200	3.699
30				530.600	0.000	528.150	0.000	527.940	4.767	528.010	3.994
31				527.900	0.000				527.850	3.551	
Ten-Daily Mean											
I Ten-Daily			527.624	0.000	527.749	0.000	528.421	8.603	527.551	1.253	
II Ten-Daily			529.337	0.000	527.318	0.000	527.923	5.461	527.620	1.816	
III Ten-Daily			530.850	0.000	527.662	0.000	527.978	5.360	528.349	7.042	
Monthly											
Min.			527.500	0.000	527.300	0.000	527.700	0.000	527.310	0.508	
Max.			532.870	0.000	529.570	0.000	528.910	17.17	528.700	12.03	
Mean			529.729	0	527.576	0	528.104	6.439	527.840	3.37	

Annual Runoff in MCM = 32 Annual Runoff in mm = 11

Peak Observed Discharge = 17.17 cumecs on 05/10/2018 Corres. Water Level :528.66 m

Lowest Observed Discharge = 0.000 cumecs on 07/08/2018 Corres. Water Level :527.67 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 2018 - 2019

Station Name : Nandre (NANDRE)

Division : Upper Krishna Divn, Pune

Local River : Yerala

Sub-Division : Upper Krishna SD 2, Miraj

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	527.950	4.043	527.390	0.385	527.600	3.515	527.490	0.000	527.310	0.000	527.450	0.000
2	527.750	3.800 *	527.380	0.000	527.550	2.511	527.400	0.000	527.310	0.000	527.380	0.000
3	527.650	3.000 #	527.350	0.000	527.500	1.470 *	527.350	0.000	527.310	0.000	527.300	0.000
4	527.600	2.900 #	527.350	0.000	527.500	1.471	527.350	0.000	527.310	0.000	527.280	0.000
5	527.570	1.721	527.350	0.000	527.470	1.293	527.350	0.000	527.700	0.000	527.280	0.000
6	527.570	1.711	527.350	0.000	527.470	1.257	527.350	0.000	527.950	0.000	527.280	0.000
7	527.540	1.529 #	527.340	0.000	527.500	1.470 #	527.350	0.000	527.750	0.000	527.340	0.000
8	527.540	1.529	527.340	0.000	527.600	3.200 #	527.340	0.000	527.650	0.000	527.360	0.000
9	527.560	1.800 *	527.340	0.000	527.650	3.850 #	527.340	0.000	527.600	0.000	527.320	0.000
10	527.570	1.842	527.340	0.000	527.590	0.000	527.340	0.000	527.480	0.000	527.330	0.000
11	527.580	2.321	527.340	0.000	527.500	0.000	527.340	0.000	527.300	0.000	527.360	0.000
12	527.580	2.136	527.340	0.000	527.430	0.000	527.330	0.000	527.300	0.000	527.340	0.000
13	527.450	0.740 #	527.340	0.000	527.400	0.000	527.330	0.000	527.250	0.000	527.350	0.000
14	527.450	0.740 #	527.340	0.000	527.400	0.000	527.330	0.000	527.350	0.000	527.340	0.000
15	527.450	0.740 #	527.340	0.000	527.390	0.000	527.330	0.000	527.430	0.000	527.350	0.000
16	527.440	0.710 *	527.340	0.000	527.370	0.000	527.330	0.000	527.440	0.000	527.330	0.000
17	527.440	0.710 #	527.350	0.000	527.370	0.000	527.330	0.000	527.800	0.000	527.350	0.000
18	527.510	1.100 #	527.350	0.000	527.370	0.000	527.330	0.000	527.750	0.000	527.360	0.000
19	528.510	1.100 #	527.350	0.000	527.370	0.000	527.330	0.000	527.640	0.000	527.370	0.000
20	527.550	1.776	527.345	0.000	527.360	0.000	527.325	0.000	527.640	0.000	527.350	0.000
21	527.450	0.740 #	527.340	0.000	527.450	0.000	527.320	0.000	527.640	0.000	527.330	0.000
22	527.450	0.740 #	527.340	0.000	527.450	0.000	527.310	0.000	527.640	0.000	527.350	0.000
23	527.450	0.740 *	527.340	0.000	527.470	0.000	527.305	0.000	527.590	0.000	527.330	0.000
24	527.450	0.740 #	527.340	0.000	527.740	0.000	527.305	0.000	527.580	0.000	527.330	0.000
25	527.440	0.710 #	527.340	0.000	527.740	0.000	527.305	0.000	527.450	0.000	527.360	0.000
26	527.440	0.710 #	527.350	0.000	527.740	0.000	527.300	0.000	527.470	0.000	527.350	0.000
27	527.440	0.710 #	527.350	0.000	527.730	0.000	527.300	0.000	527.320	0.000	527.350	0.000
28	527.550	1.570	527.400	0.000	527.600	0.000	527.310	0.000	527.490	0.000	527.340	0.000
29	527.460	0.788	527.470	1.230 #			527.310	0.000	527.400	0.000	527.330	0.000
30	527.420	0.700 *	528.000	4.254			527.310	0.000	527.300	0.000	527.330	0.000
31	527.390	0.642	527.700	3.470			527.310	0.000			527.350	0.000
Ten-Daily Mean												
I Ten-Daily	527.630	2.388	527.353	0.039	527.543	2.004	527.366	0.000	527.537	0.000	527.332	0.000
II Ten-Daily	527.596	1.207	527.344	0.000	527.396	0.000	527.331	0.000	527.490	0.000	527.350	0.000
III Ten-Daily	527.449	0.799	527.452	0.814	527.615	0.000	527.308	0.000	527.488	0.000	527.341	0.000
Monthly												
Min.	527.390	0.642	527.340	0.000	527.360	0.000	527.300	0.000	527.250	0.000	527.280	0.000
Max.	528.510	4.043	528.000	4.254	527.740	3.850	527.490	0.000	527.950	0.000	527.450	0.000
Mean	527.555	1.443	527.385	0.301	527.511	0.716	527.334	0	527.505	0	527.341	0

Peak Computed Discharge = 12.59 cumecs on 07/10/2018

Corres. Water Level :528.74 m

Lowest Computed Discharge = 0.699 cumecs on 18/11/2018

Corres. Water Level :527.33 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

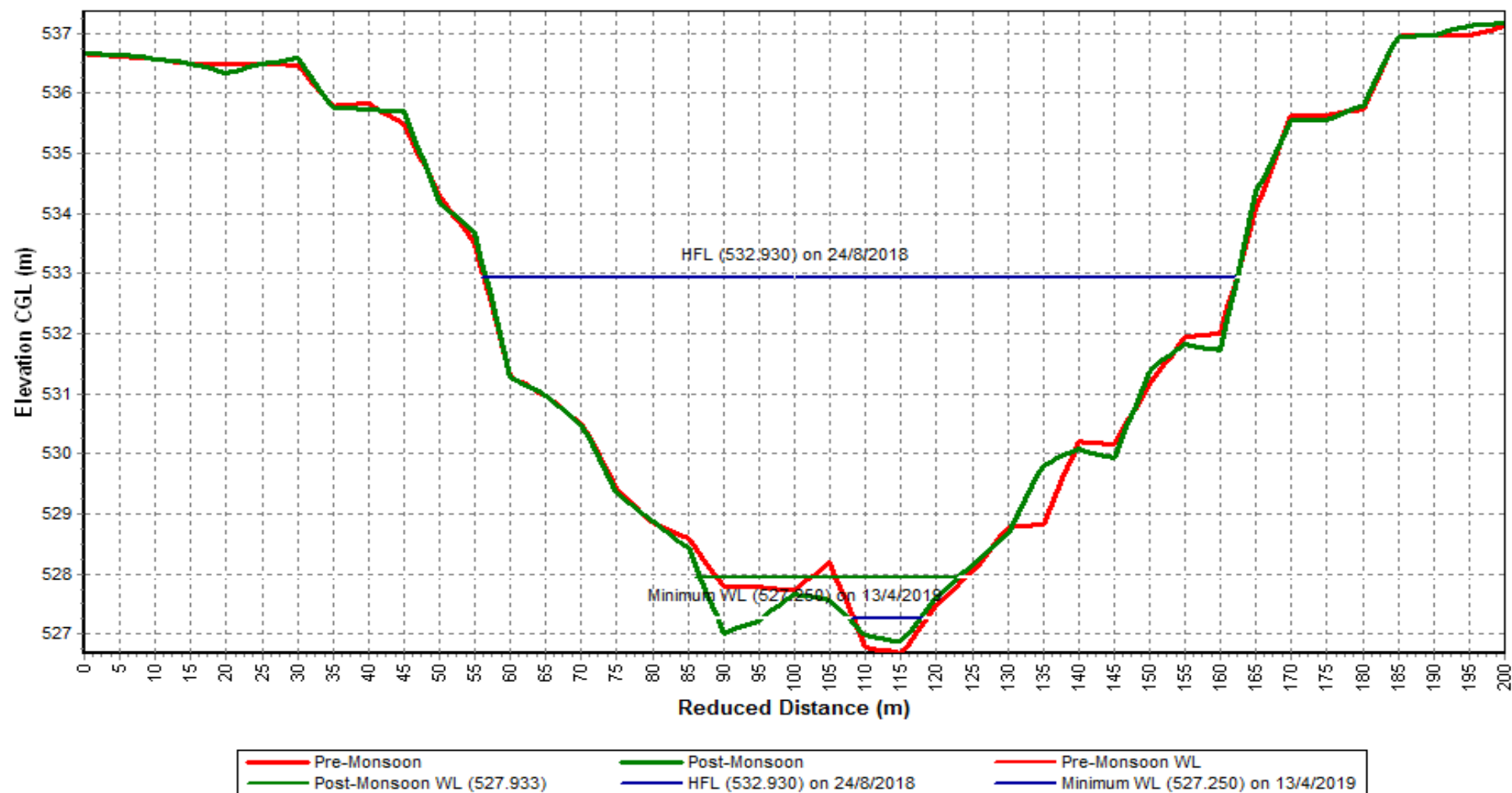
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Nandre (NANDRE)

Local River : Yerala

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



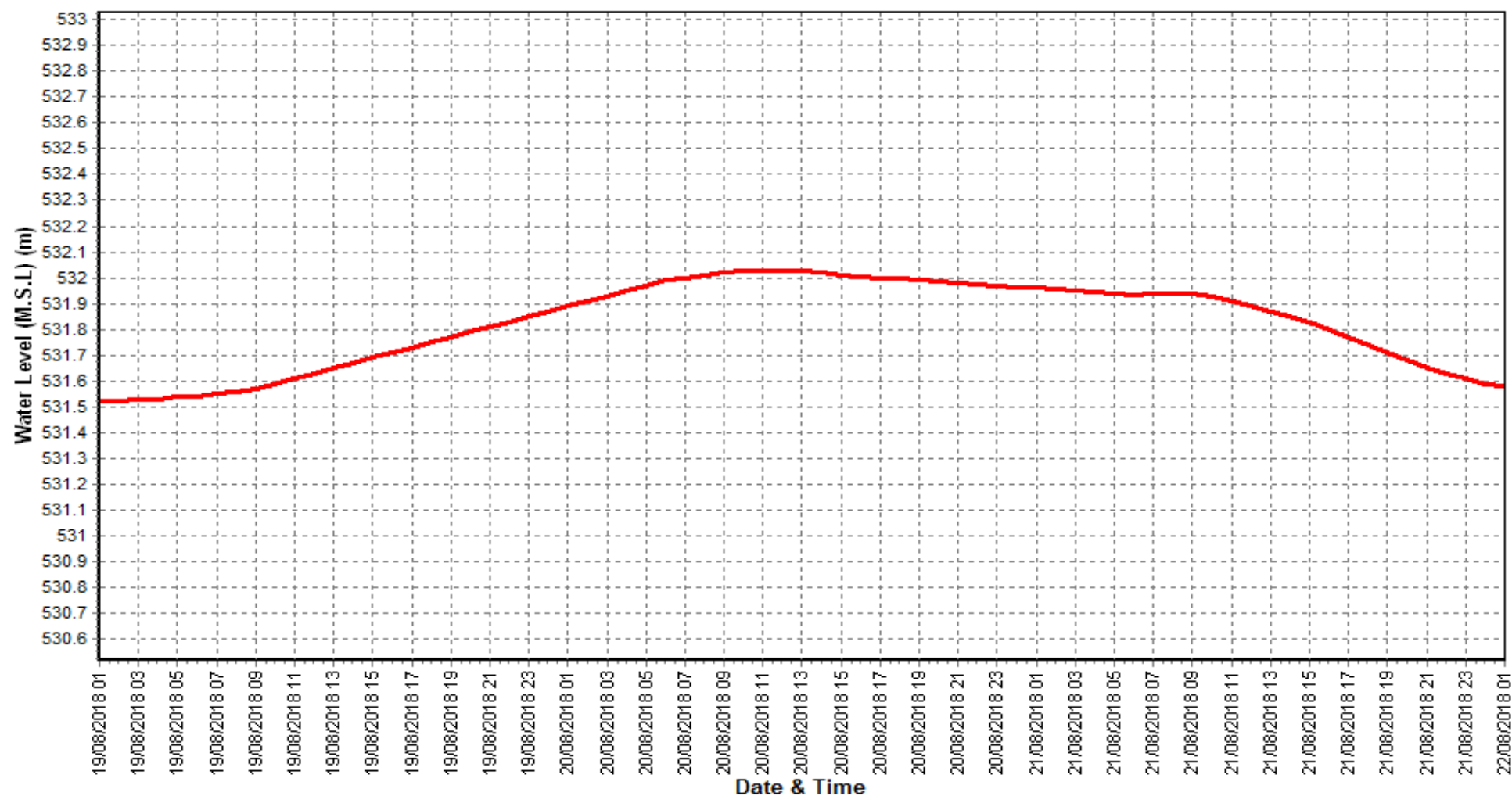
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Nandre (NANDRE)

Local River : Yerala

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2. Miraj



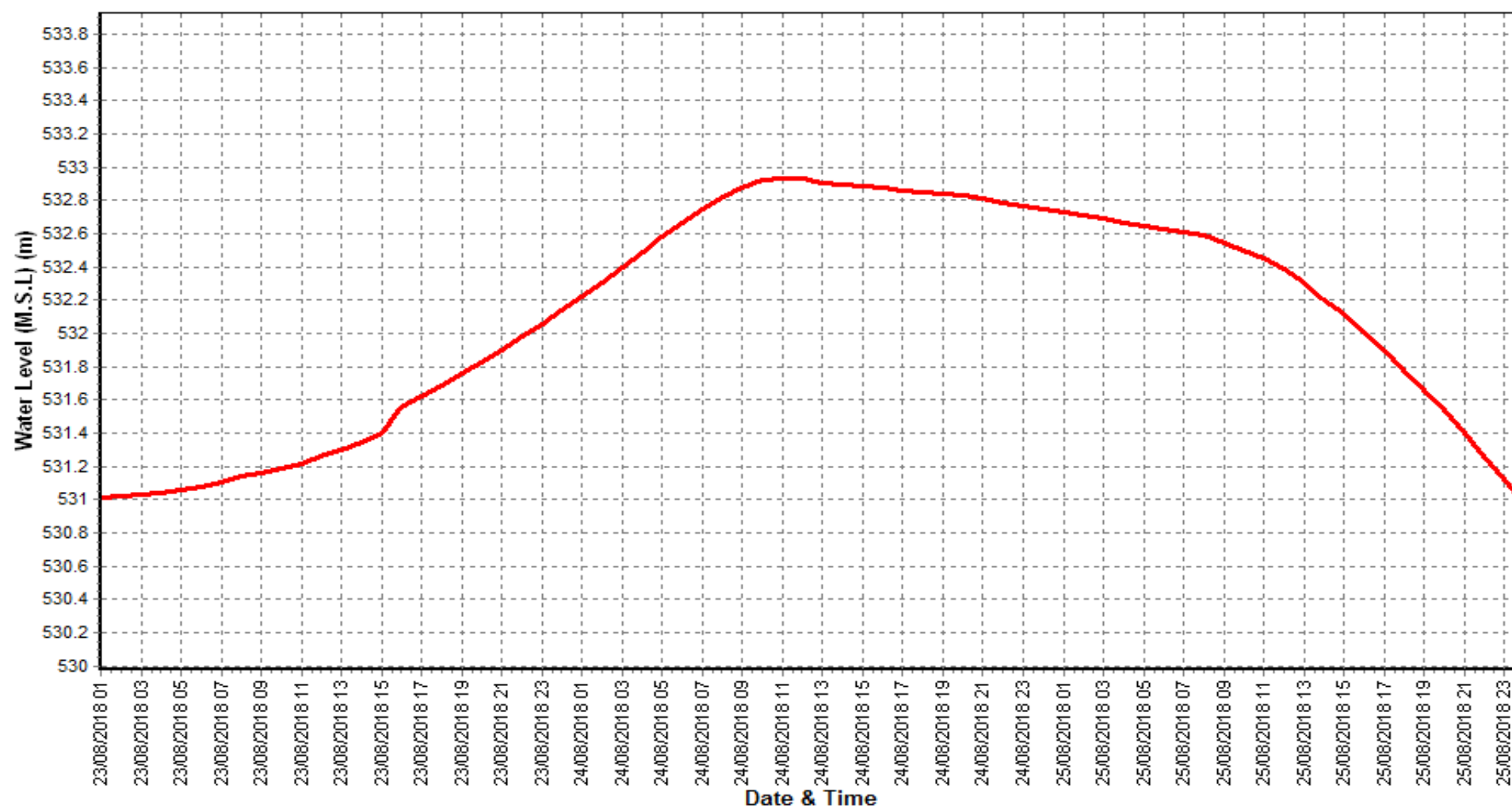
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Nandre (NANDRE)

Local River : Yerala

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2, Miraj



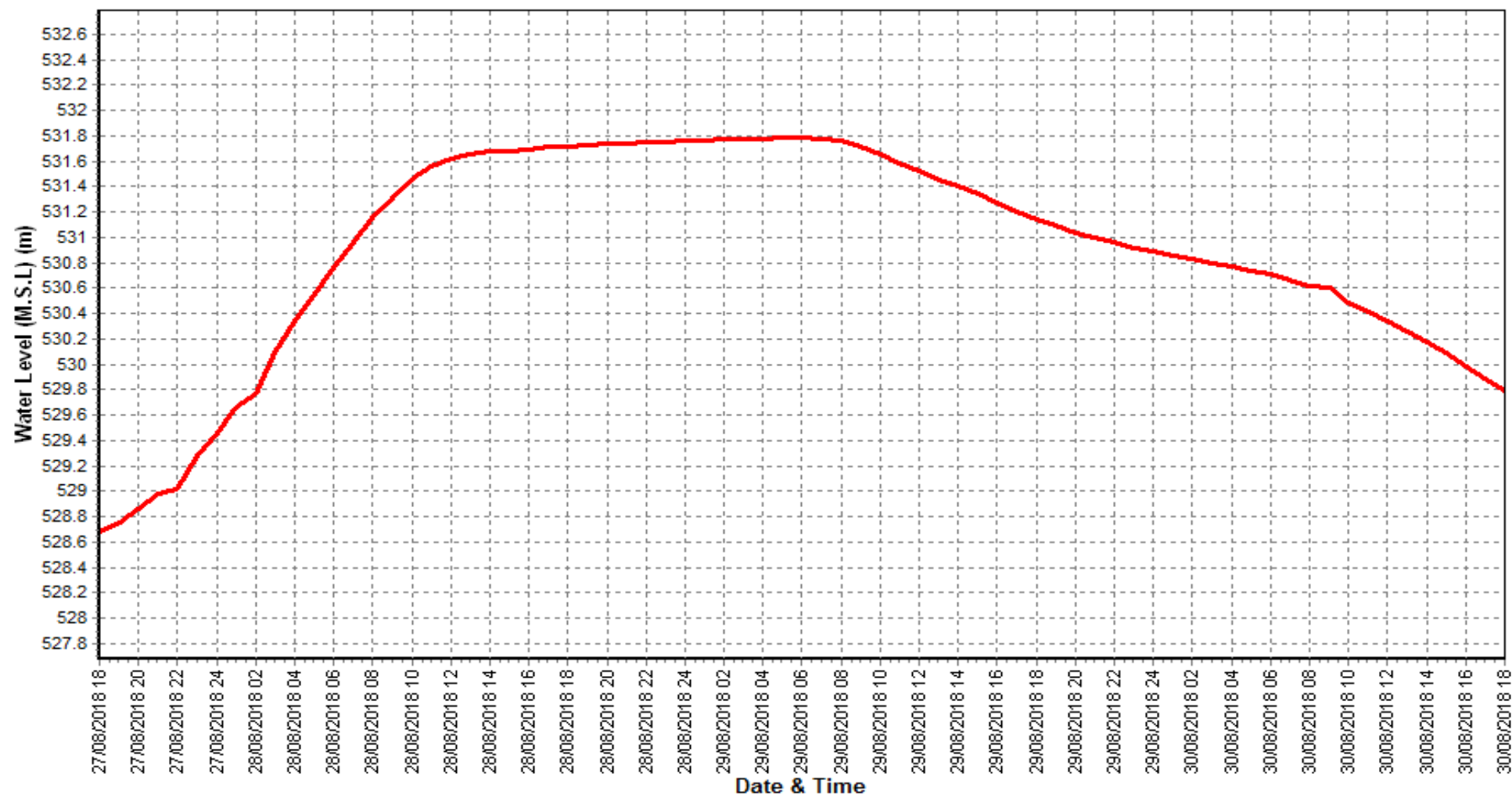
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : Nandre (NANDRE)

Local River : Yerala

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 2. Miraj



HISTORY SHEET

		Water Year	: 2018-2019
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 1, Kolhapur
Drainage Area	: 5462 Sq. Km.	Bank	: Right
Latitude	: 17°17'40"	Longitude	: 74°11'25"
Zero of Gauge (m)	: 549.962 (m.s.l) 549.915 (m.s.l)	01/06/1965 01/06/2004	- 31/05/2004
	Opening Date	Closing Date	
Gauge	: 25/12/1964	HFL During 2018-19	: 556.445m
Discharge	: 21/06/1965	Corres. Discharge	: 1131 (Estimated)
Sediment	: 22/06/1965	Date & Time of occurrence	: 23/08/2018 : 14.00 hrs.
Water Quality	: 01/09/1972		

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

Corresponding Discharge (cumecs) : 8938 *

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	4760	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	2428	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	3101	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	4562	561.735	02/08/1976	0.000	550.127	15/04/1977
1977-1978	3422	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

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	2848	560.077	06/08/1980	0.000	550.187	08/05/1981
1981-1982	1942	558.142	10/07/1981	0.000	550.192	01/06/1981
1982-1983	1261	556.727	14/08/1982	0.000	550.182	23/03/1983
1983-1984	1931	558.778	17/08/1983	0.000	550.127	19/12/1983
1984-1985	1797	558.250	19/07/1984	0.000	550.152	04/03/1985
1985-1986	1363	557.239	02/08/1985	0.000	550.202	27/03/1986
1986-1987	1801	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	3205	562.912	03/08/1988	0.000	550.152	12/01/1989
1989-1990	2904	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	2127	559.757	14/08/1992	0.000	550.042	25/12/1992
1993-1994	1812	558.702	19/06/1993	0.692	550.032	01/06/1993
1994-1995	3915	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	5954	563.922	24/08/1997	0.000		12/03/1998
1998-1999	1541	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	6312	564.815	03/08/2005	0.000	549.825	02/04/2006
2006-2007	6708	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	1262	556.770	06/08/2016	0.000	556.535	09/03/2017
2017-2018	1053	556.565	24/09/2017	0.000	556.855	24/04/2018

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

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
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
Average		3983	375	4359	141	13	154
75% Dependable flow (MCM)				2715			
90 % Dependable flow (MCM)				2274			

Stage-Discharge Data for the period 2018 - 2019

Station Name : Karad (AK000X6)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 1, Kolhapur

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	556.555	0.000	552.325	0.000	551.960	239.3	552.125	199.8	556.375	0.000	556.375	0.000
2	556.685	0.000	552.560	183.4	552.115	244.1	552.175	197.0 *	556.295	0.000	556.535	0.000
3	556.495	0.000	551.920	169.5 #	552.020	238.0	552.665	0.000	556.465	0.000	556.465	0.000
4	556.365	0.000	552.355	140.5	552.025	228.0	553.330	390.2	556.435	0.000	556.465	0.000
5	556.505	0.000	553.315	341.6	552.505	236.5 *	552.125	195.9	556.915	0.000	556.405	0.000
6	556.515	0.000	552.565	214.5	552.305	291.8	552.020	187.7	556.465	0.000	556.445	0.000
7	556.665	0.000	552.165	195.8 #	552.225	280.1	552.230	252.7	556.695	0.000	556.605	0.000
8	556.605	0.000	552.445	219.0 *	552.140	283.0	551.915	148.5	556.695	0.000	556.745	0.000
9	556.935	0.000	552.465	223.8	552.225	278.0	551.965	174.1 *	556.535	0.000	556.825	0.000
10	556.615	0.000	552.505	184.0	552.195	255.8	551.525	130.6	556.315	0.000	556.405	0.000
11	556.685	0.000	552.285	209.6 #	552.150	258.2	551.245	95.90	556.575	0.000	556.415	0.000
12	556.695	0.000	552.705	245.7	552.325	214.4 *	551.175	93.95	556.635	0.000	556.245	0.000
13	556.755	0.000	553.705	421.5 #	552.540	286.5	553.415	0.000	556.795	0.000	556.305	0.000
14	556.425	0.000	553.655	412.4 #	552.830	360.8	554.675	0.000	556.405	0.000	556.385	0.000
15	556.235	0.000	553.235	341.0 *	553.545	392.9 *	554.655	0.000	556.145	0.000	556.355	0.000
16	556.125	0.000	553.775	434.5 #	553.755	412.5	554.355	0.000	555.945	0.000	556.265	0.000
17	556.095	0.000	555.885	898.6	555.195	753.2 #	553.575	0.000	556.365	0.000	556.345	0.000
18	556.325	0.000	555.370	745.8	555.455	824.0 #	554.565	0.000	556.485	0.000	556.425	0.000
19	556.405	0.000	554.605	554.3	555.815	928.7 *	554.615	0.000	556.505	0.000	556.445	0.000
20	556.345	0.000	554.660	562.4	555.625	872.4 #	554.135	0.000	556.575	0.000	556.655	0.000
21	556.235	0.000	554.320	543.8 #	554.755	659.9	554.745	0.000	556.505	0.000	556.955	0.000
22	554.745	0.000	554.405	562.3 *	554.715	633.0 *	553.655	0.000	556.335	0.000	556.565	0.000
23	553.125	0.000	554.995	701.5 #	556.320	1089 #	553.765	0.000	556.365	0.000	556.595	0.000
24	553.015	0.000	554.995	701.5 #	556.075	1009 #	553.785	0.000	556.315	0.000	556.685	0.000
25	552.515	0.000	554.695	606.1	553.755	445.7	555.465	0.000	556.235	0.000	556.715	0.000
26	553.755	0.000	552.965	299.5 #	553.005	305.5 *	556.115	0.000	556.485	0.000	556.745	0.000
27	553.425	0.000	552.745	354.0	554.665	683.7	556.285	0.000	556.545	0.000	556.565	0.000
28	552.745	0.000	552.680	333.3	555.940	966.9 #	556.645	0.000	556.545	0.000	556.545	0.000
29	553.015	0.000	552.375	220.4 *	554.590	611.8	556.925	0.000	556.475	0.000	556.565	0.000
30	554.115	0.000	552.225	202.7 #	552.825	384.9	556.725	0.000	556.435	0.000	556.515	0.000
31			552.110	189.7 #	552.430	203.2			556.405	0.000		
Ten-Daily Mean												
I Ten-Daily	556.594	0.000	552.462	187.2	552.172	257.5	552.207	187.6	556.519	0.000	556.527	0.000
II Ten-Daily	556.409	0.000	553.988	482.6	553.923	530.4	553.641	18.99	556.443	0.000	556.384	0.000
III Ten-Daily	553.669	0.000	553.501	428.6	554.461	635.7	555.411	0.000	556.422	0.000	556.645	0.000
Monthly												
Min.	552.515	0.000	551.920	0.000	551.960	203.2	551.175	0.000	555.945	0.000	556.245	0.000
Max.	556.935	0.000	555.885	898.6	556.320	1089	556.925	390.2	556.915	0.000	556.955	0.000
Mean	555.557	0	553.323	368.2	553.549	479.7	553.753	68.88	556.460	0	556.519	0

Annual Runoff in MCM = 2449 Annual Runoff in mm = 448

Peak Observed Discharge = 1089 cumecs on 23/08/2018 Corres. Water Level :556.32 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018 Corres. Water Level :556.555 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 2018 - 2019

Station Name : Karad (AK000X6)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 1, Kolhapur

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	556.765	0.000	555.545	0.000	551.425	0.000	552.855	0.000	556.565	0.000	556.785	0.000
2	556.745	0.000	555.465	0.000	551.365	0.000	552.965	0.000	556.665	0.000	556.735	0.000
3	556.465	0.000	555.275	0.000	551.545	0.000	552.695	0.000	556.615	0.000	556.705	0.000
4	556.505	0.000	555.305	0.000	551.535	0.000	552.705	0.000	556.945	0.000	556.625	0.000
5	556.405	0.000	555.305	0.000	551.575	0.000	553.945	0.000	556.775	0.000	556.765	0.000
6	556.405	0.000	555.385	0.000	551.755	0.000	555.355	0.000	556.695	0.000	556.785	0.000
7	556.405	0.000	554.805	0.000	550.895	0.000	555.935	0.000	556.605	0.000	556.715	0.000
8	556.405	0.000	553.475	0.000	550.845	0.000	556.385	0.000	556.715	0.000	556.825	0.000
9	556.405	0.000	550.325	0.000	550.705	0.000	556.725	0.000	557.105	0.000	556.785	0.000
10	556.405	0.000	550.035	0.000	550.855	0.000	556.945	0.000	556.815	0.000	556.895	0.000
11	556.535	0.000	550.115	0.000	551.265	0.000	556.785	0.000	556.895	0.000	557.095	0.000
12	556.655	0.000	551.045	0.000	551.525	0.000	556.765	0.000	557.045	0.000	556.745	0.000
13	556.525	0.000	551.375	0.000	552.435	0.000	556.735	0.000	557.015	0.000	556.755	0.000
14	556.565	0.000	551.425	0.000	552.865	0.000	556.575	0.000	556.735	0.000	556.765	0.000
15	556.635	0.000	551.445	0.000	552.635	0.000	556.385	0.000	556.745	0.000	557.055	0.000
16	556.915	0.000	551.485	0.000	552.445	0.000	556.415	0.000	556.635	0.000	557.085	0.000
17	556.555	0.000	551.395	0.000	551.595	0.000	556.115	0.000	556.835	0.000	557.155	0.000
18	556.325	0.000	551.145	0.000	551.695	0.000	556.235	0.000	556.755	0.000	556.664	0.000
19	556.465	0.000	551.085	0.000	551.865	0.000	555.705	0.000	556.705	0.000	556.715	0.000
20	556.505	0.000	550.975	0.000	553.155	0.000	556.235	0.000	556.755	0.000	556.575	0.000
21	556.515	0.000	550.865	0.000	554.035	0.000	556.135	0.000	556.765	0.000	556.505	0.000
22	556.535	0.000	550.975	0.000	552.555	0.000	556.565	0.000	556.665	0.000	556.505	0.000
23	556.585	0.000	551.065	0.000	552.625	0.000	556.375	0.000	556.805	0.000	556.395	0.000
24	556.615	0.000	551.415	0.000	551.365	0.000	556.265	0.000	556.775	0.000	556.355	0.000
25	556.655	0.000	551.545	0.000	550.915	0.000	556.265	0.000	556.695	0.000	556.285	0.000
26	556.775	0.000	551.375	0.000	551.165	0.000	556.295	0.000	556.855	0.000	556.255	0.000
27	556.835	0.000	551.205	0.000	550.955	0.000	556.165	0.000	557.015	0.000	556.265	0.000
28	556.675	0.000	551.035	0.000	552.485	0.000	556.565	0.000	556.435	0.000	556.255	0.000
29	556.235	0.000	551.305	0.000			556.545	0.000	556.705	0.000	556.495	0.000
30	555.745	0.000	551.605	0.000			556.575	0.000	556.855	0.000	556.625	0.000
31	555.615	0.000	551.445	0.000			556.135	0.000			556.515	0.000
Ten-Daily Mean												
I Ten-Daily	556.491	0.000	554.092	0.000	551.250	0.000	554.651	0.000	556.750	0.000	556.762	0.000
II Ten-Daily	556.568	0.000	551.149	0.000	552.148	0.000	556.395	0.000	556.812	0.000	556.861	0.000
III Ten-Daily	556.435	0.000	551.258	0.000	552.013	0.000	556.353	0.000	556.757	0.000	556.405	0.000
Monthly												
Min.	555.615	0.000	550.035	0.000	550.705	0.000	552.695	0.000	556.435	0.000	556.255	0.000
Max.	556.915	0.000	555.545	0.000	554.035	0.000	556.945	0.000	557.105	0.000	557.155	0.000
Mean	556.496	0	552.137	0	551.789	0	555.818	0	556.773	0	556.667	0

Peak Computed Discharge = 928.7 cumecs on 19/08/2018

Corres. Water Level :555.815 m

Lowest Computed Discharge = 174.1 cumecs on 09/09/2018

Corres. Water Level :551.965 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 : 2018-2019

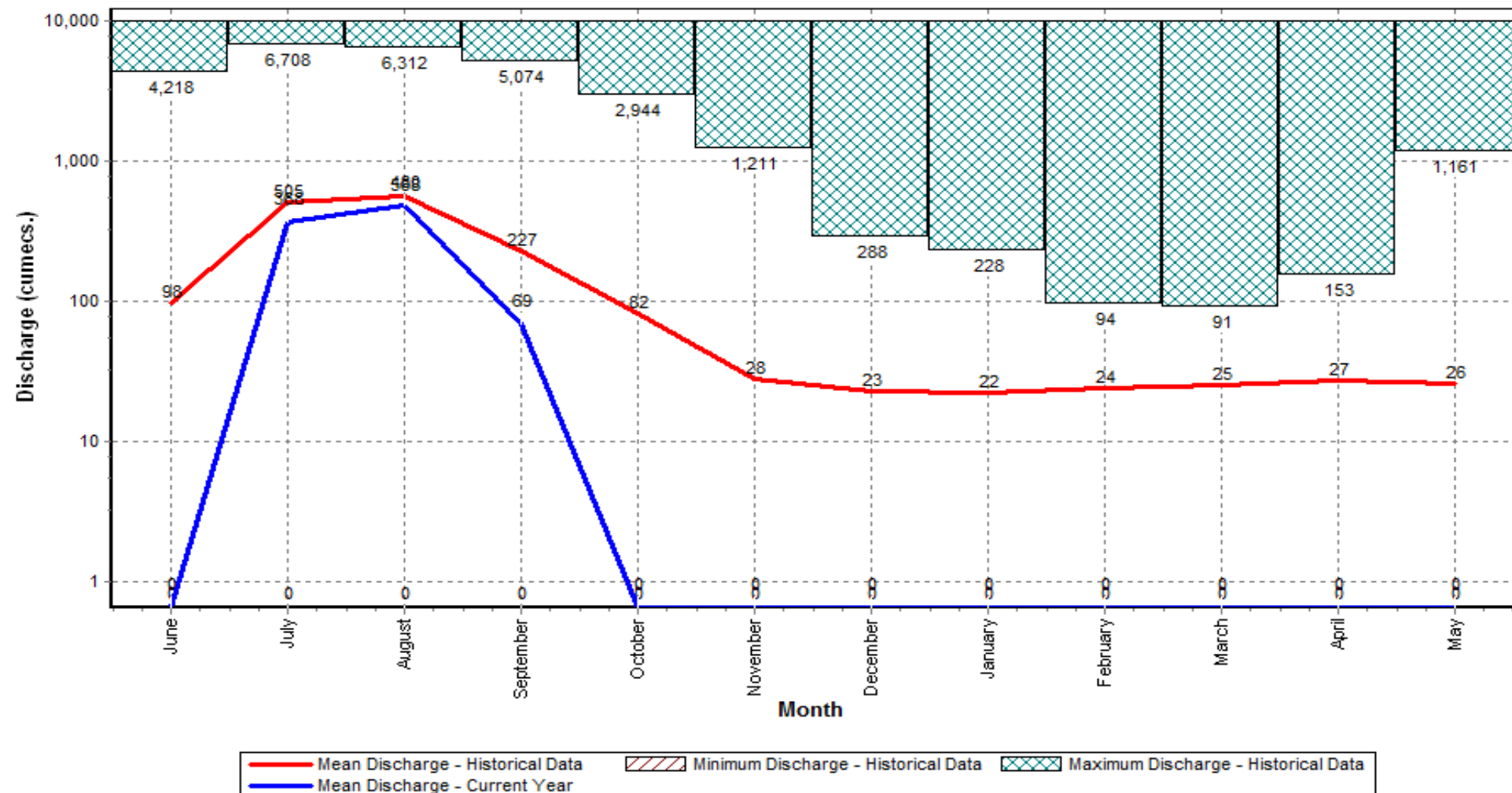
Station Name : Karad (AK000X6)

Data considered : 1965-2019

Division : Upper Krishna Divn, Pune

Local River : Krishna

Sub-Division : Upper Krishna SD 1, Kolhapur



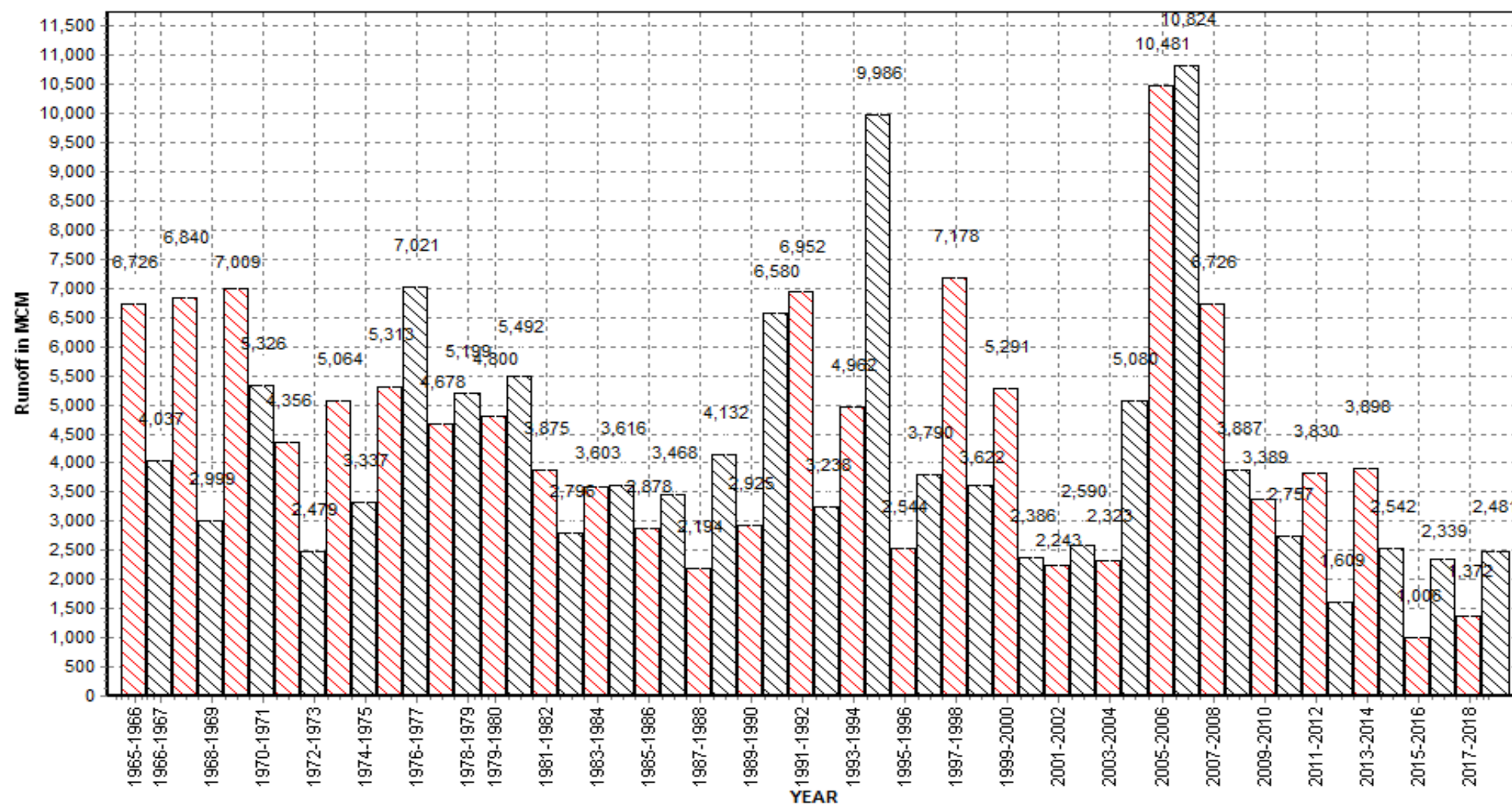
Annual Runoff Values for the period: 1965 - 2019

Station Name : Karad (AK000X6)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 1, Kolhapur



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

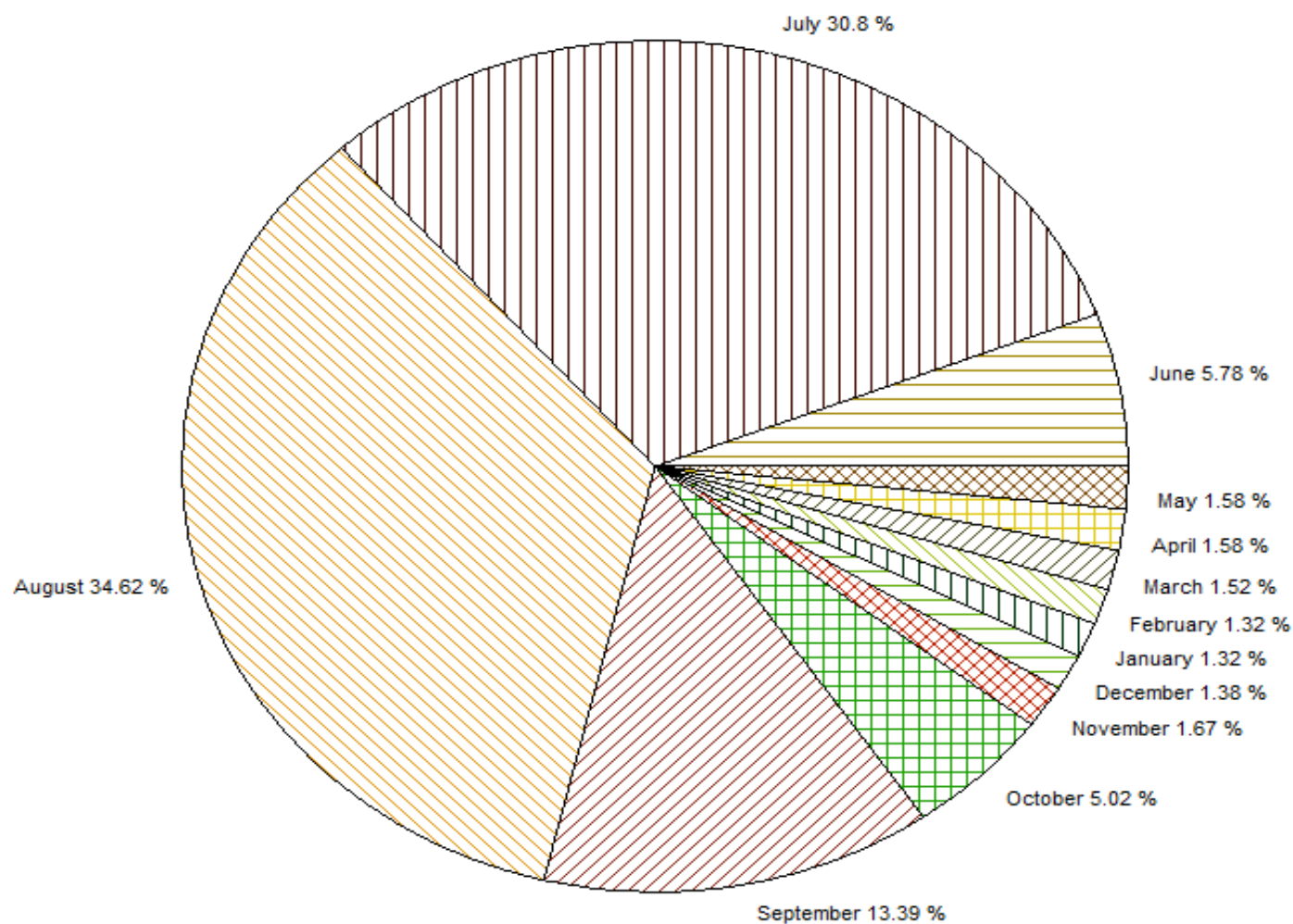
Monthly Average Runoff based on period : 1965-2018

Station Name : Karad (AK000X6)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 1, Kolhapur



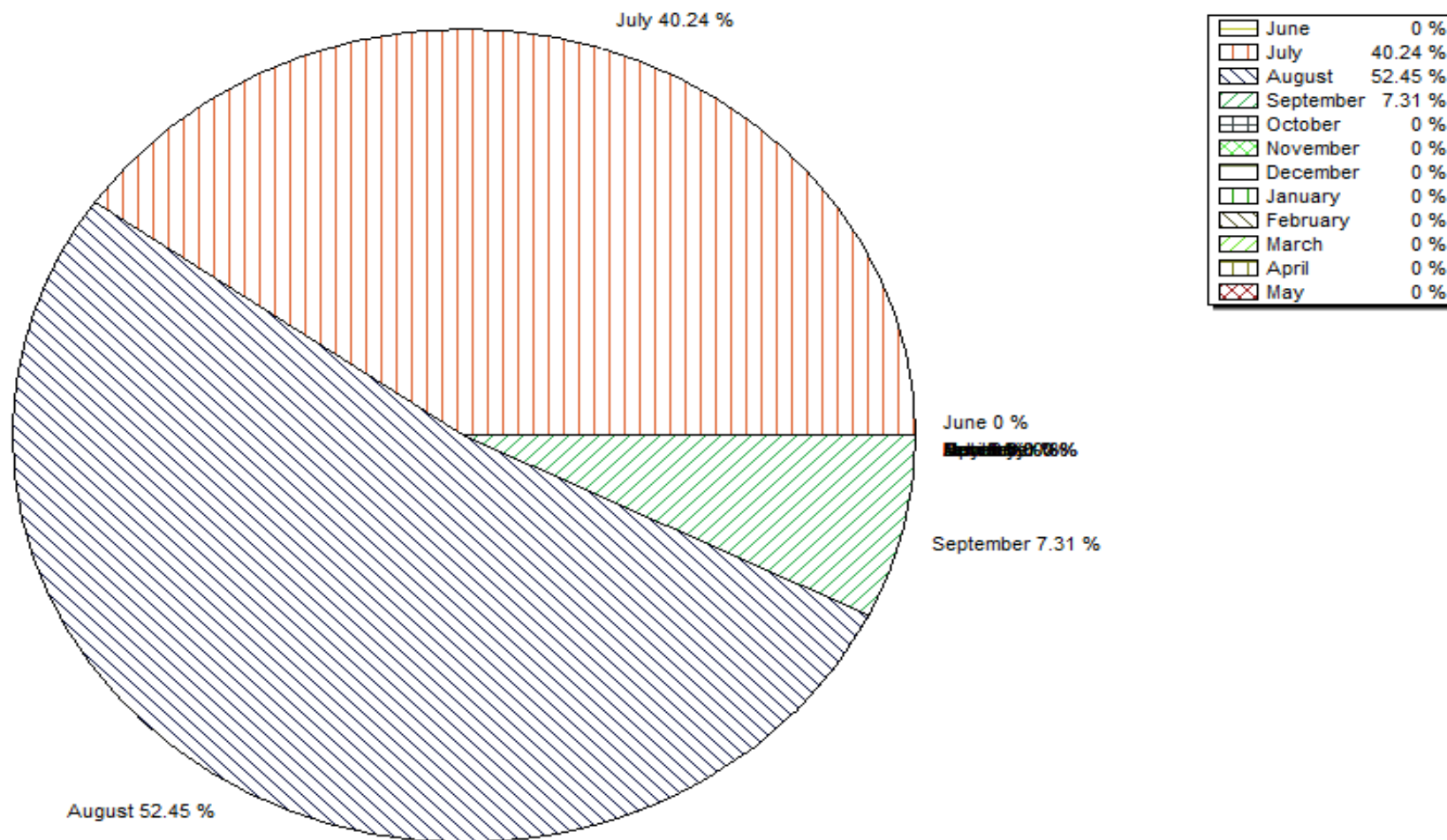
Monthly Runoff for the Year : 2018-2019

Station Name : Karad (AK000X6)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 1, Kolhapur



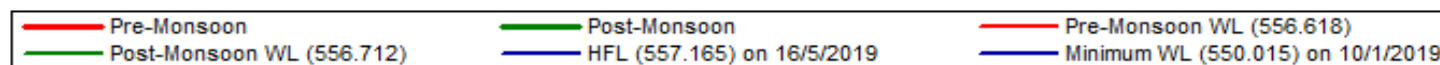
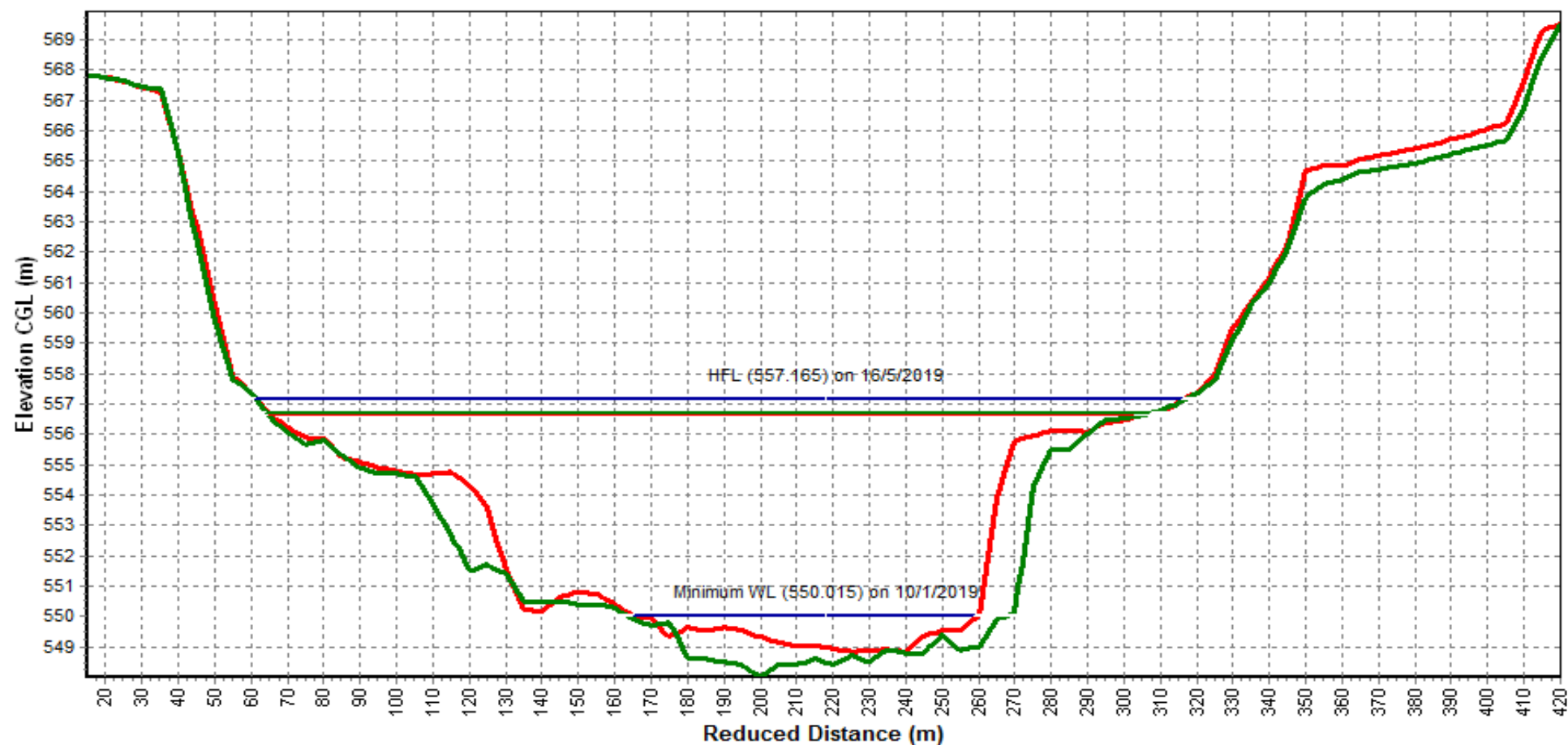
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Karad (AK000X6)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 1, Kolhapur



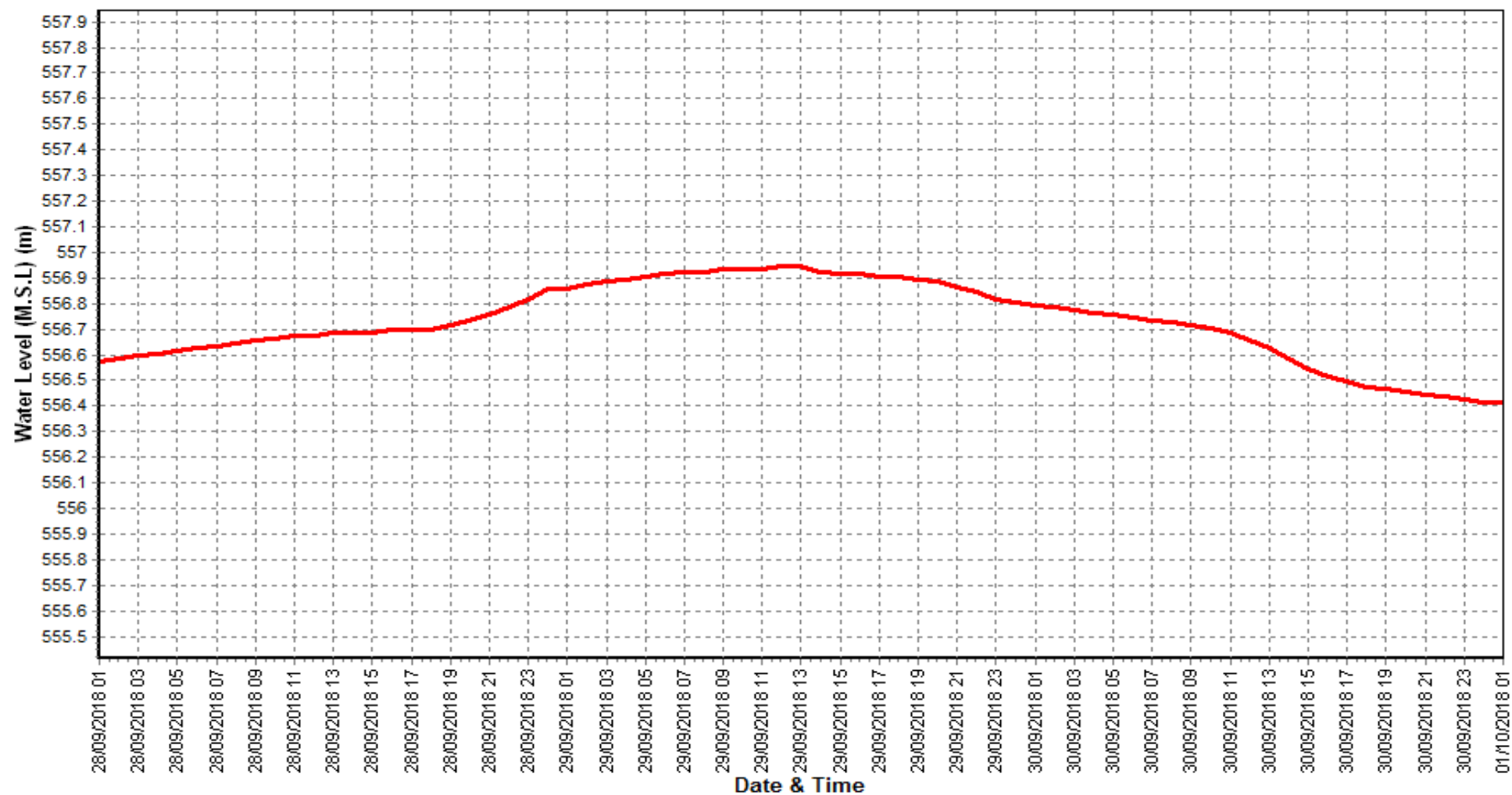
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : Karad (AK000X6)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 1, Kolhapur



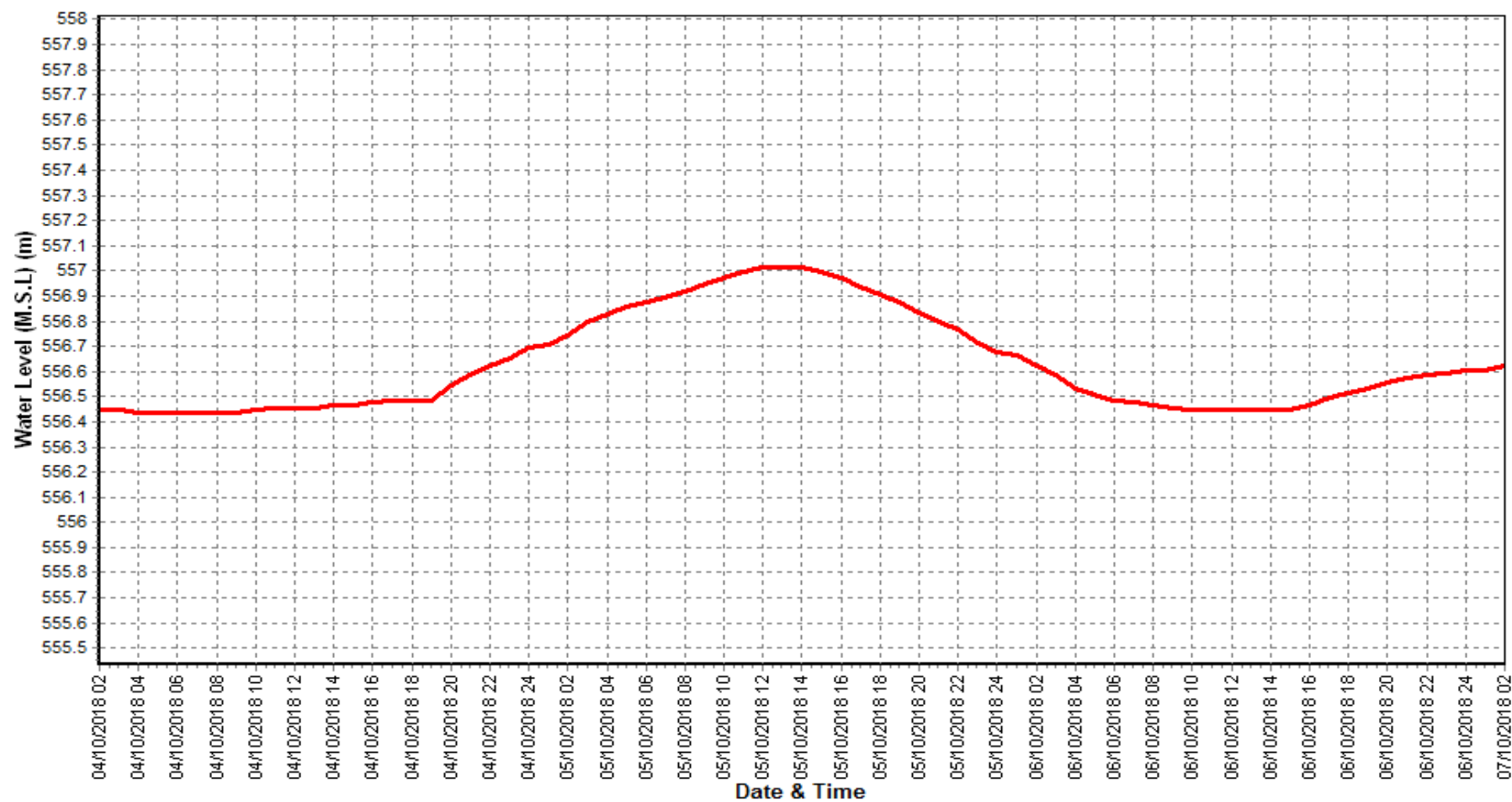
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Karad (AK000X6)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 1, Kolhapur



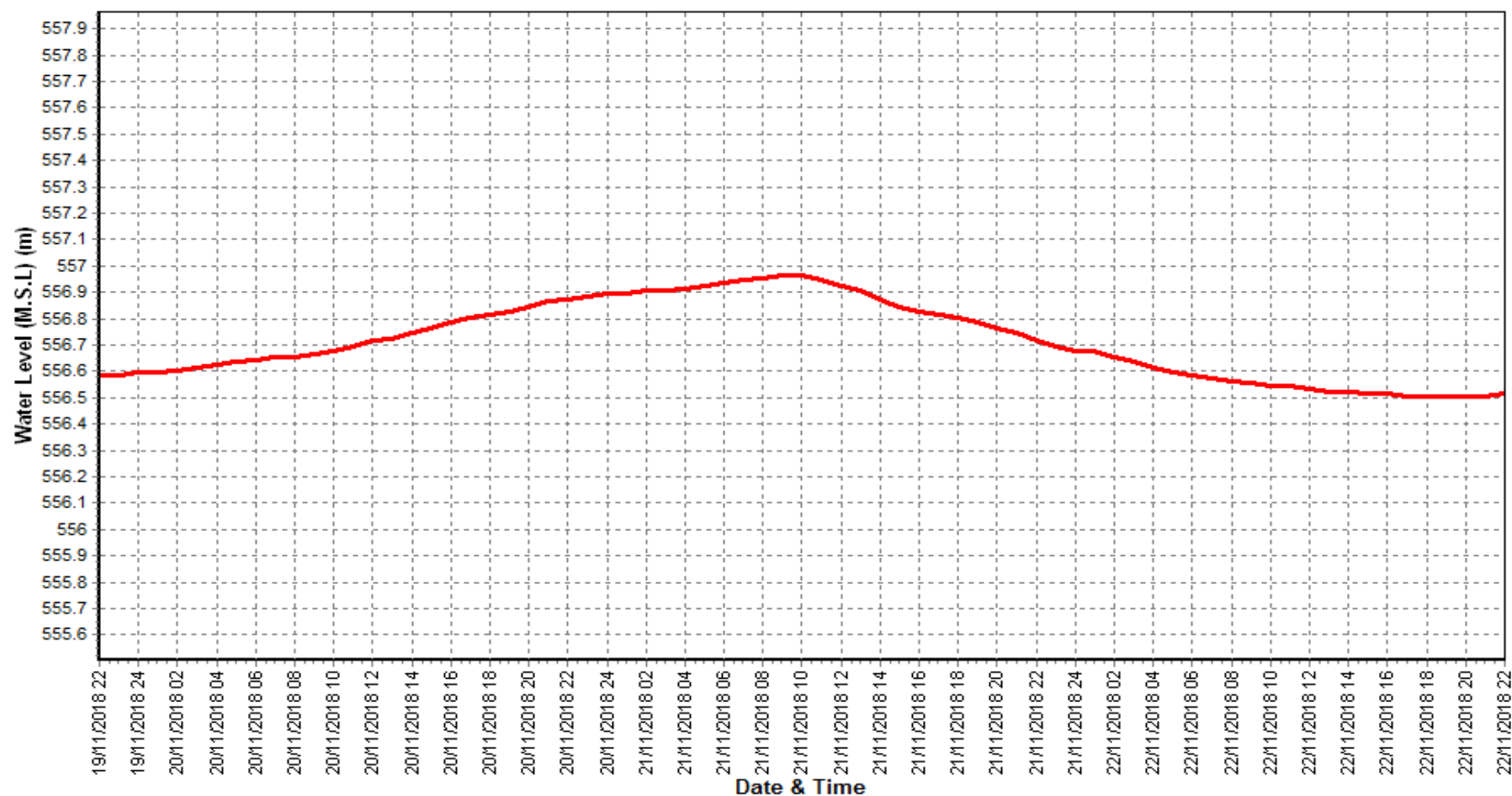
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Karad (AK000X6)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 1, Kolhapur



HISTORY SHEET

		Water Year : 2018-2019	
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 1, Kolhapur
Drainage Area	: 1890 Sq. Km.	Bank	: Left
Latitude	: 17°16'20"	Longitude	: 74°09'54"
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 2018-19	: 558.057 m
Discharge	: 01/01/1966	Corres. Discharge	: 1653 (Estimated)
Sediment	: 01/06/1974	Date & Time of occurrence	: 23/08/2018
Water Quality	: 01/06/1974		: 17.00 hrs.

HFL Recorded so far in m : 568.047 dt 06-06-1976

Corresponding Discharge (cumecs) : 4901 *

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	3830	563.617	28/07/1967	0.000	551.082	08/06/1967
1968-1969	757.4	557.117	07/08/1968	0.000	550.972	29/03/1969
1969-1970	1605	561.977	01/08/1969	0.100	550.862	23/05/1970
1970-1971	1492	558.977	21/08/1970	0.100	550.762	22/04/1971
1971-1972	1386	558.792	31/08/1971	0.000	550.747	21/04/1972
1972-1973	1523	558.687	08/07/1972	0.000	550.637	27/02/1973
1973-1974	1900	560.902	08/07/1973	0.000	550.752	05/04/1974
1974-1975	1583	559.897	05/07/1974	0.000	550.767	22/03/1975
1975-1976	1681	560.927	10/07/1975	0.000	550.712	18/05/1976
1976-1977	2780	563.480	07/06/1976	0.000	550.737	23/02/1977
1977-1978	1610	559.749	04/09/1977	0.000	550.797	10/05/1978
1978-1979	1576	559.436	02/09/1978	0.000	550.907	05/03/1979
1979-1980	1317	560.087	07/08/1979	0.000	550.870	13/03/1980
1980-1981	1868	561.004	06/08/1980	0.000	550.960	31/01/1981

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	1262	558.537	10/07/1981	0.000	550.867	23/06/1981
1982-1983	1156	558.512	29/07/1982	0.000	550.877	05/03/1983
1983-1984	1493	559.782	17/08/1983	0.000	551.097	01/01/1984
1984-1985	1334	559.057	18/07/1984	0.000	550.947	30/12/1984
1985-1986	1054	558.322	02/08/1985	0.000	550.957	12/02/1986
1986-1987	1284	558.882	30/06/1986	0.000	551.057	26/01/1987
1987-1988	1073	557.987	08/07/1987	0.000	550.677	24/01/1988
1988-1989	2590	563.237	03/08/1988	0.000	550.907	28/01/1989
1989-1990	1600	560.307	25/07/1989	0.000	550.977	14/01/1990
1990-1991	2530	563.227	18/08/1990	0.000	551.097	06/04/1991
1991-1992	1800	561.419	28/07/1991	0.000	551.124	07/12/1991
1992-1993	1238	559.912	14/08/1992	0.000	550.807	28/03/1993
1993-1994	1023	558.942	19/06/1993	0.000	551.125	12/06/1993
1994-1995	2675	563.077	03/09/1994	0.000	551.197	09/05/1995
1995-1996	772.1	557.627	20/07/1995	0.000	551.007	11/07/1995
1996-1997	1566	561.507	04/10/1996	0.000	550.947	09/05/1997
1997-1998	3529	564.697	24/08/1997	0.000	550.897	09/01/1998
1998-1999	828.0	558.457	09/07/1998	0.000	550.807	01/04/1999
1999-2000	1397	559.922	28/07/1999	0.000	551.067	28/02/2000
2000-2001	676.7	556.317	13/07/2000	0.421	550.927	12/12/2000
2001-2002	623.3	556.107	10/07/2001	0.000	550.917	10/01/2002
2002-2003	830.3	556.917	07/09/2002	0.000	550.807	28/04/2003
2003-2004	626.7	556.022	28/07/2003	0.000	550.777	10/03/2004
2004-2005	2716	563.077	13/08/2004	0.000	550.822	20/03/2005
2005-2006	4641	565.732	02/08/2005	0.000	550.977	15/05/2006
2006-2007	4973	566.937	30/07/2006	1.480	550.857	06/01/2007
2007-2008	2243	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	712.5	557.157	15/07/2009	0.000	551.727	16/02/2010
2010-2011	769.8	556.897	27/07/2010	0.000	553.657	08/02/2011
2011-2012	3125	564.337	04/09/2011	0.000	553.077	25/11/2011
2012-2013	723.6	556.440	06/09/2012	0.000	555.950	24/05/2013
2013-2014	1925	560.417	25/07/2013	0.000	552.637	14/05/2014
2014-2015	1047	558.037	24/07/2014	0.000	554.857	19/10/2014
2015-2016	235.7	553.682	25/07/2015	0.000	555.717	21/12/2015
2016-2017	1533	557.807	06/08/2016	0.000	554.847	28/11/2016
2017-2018	1196	557.257	29/08/2017	0.000	552.867	12/11/2017

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

Sl. No.	Year	Annual Runoff (MCM)			Annual Runoff (TMC)		
		Monsoon	Non Monsoon	Annual	Monsoon	Non Monsoon	Annual
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
Average		2470	310	2689	87	11	95
75% Dependable flow (MCM)				1814			
90 % Dependable flow (MCM)				1468			

Stage-Discharge Data for the period 2018 - 2019

Station Name : Warunji (AKZ00A7)

Local River : Koyna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 1, Kolhapur

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	556.577	0.000	552.977	115.6 *	553.202	173.1	553.262	146.6	556.427	0.000	556.427	0.000
2	556.717	0.000	552.892	120.9 #	553.552	231.4	553.327	165.9 *	556.337	0.000	556.527	0.000
3	556.687	0.000	552.587	67.74	553.237	190.1	554.347	361.0 *	556.497	0.000	556.487	0.000
4	556.377	0.000	552.982	113.3	553.257	187.5	555.282	536.2	556.477	0.000	556.477	0.000
5	556.497	0.000	553.617	203.6	553.897	266.1 *	553.377	180.8	556.927	0.000	556.447	0.000
6	556.537	0.000	553.972	295.1	553.577	252.3	553.217	145.5	556.467	0.000	556.492	0.000
7	556.677	0.000	553.512	194.3 #	553.467	211.6	553.502	162.1	556.737	0.000	556.587	0.000
8	556.597	0.000	553.957	230.0 *	553.417	174.6	553.247	153.6 *	556.727	0.000	556.757	0.000
9	556.897	0.000	553.917	290.2	553.492	213.0	553.297	161.2 *	556.537	0.000	556.837	0.000
10	556.647	0.000	554.032	319.3	553.517	226.1	552.822	93.85	556.367	0.000	556.437	0.000
11	556.707	0.000	553.747	253.1	553.437	180.3	552.247	27.52	556.617	0.000	556.367	0.000
12	556.707	0.000	554.427	344.7	553.657	221.2 *	552.157	22.57	556.677	0.000	556.337	0.000
13	556.747	0.000	555.467	555.1	553.872	287.4	553.567	0.000	556.817	0.000	556.347	0.000
14	556.477	0.000	555.407	523.5	554.357	382.3	554.387	0.000	556.447	0.000	556.407	0.000
15	556.247	0.000	555.037	533.1 *	555.497	665.4 *	554.417	0.000	556.207	0.000	556.367	0.000
16	556.127	0.000	555.642	683.3	555.742	759.0	553.987	0.000	556.007	0.000	556.417	0.000
17	556.107	0.000	557.332	1289	557.202	1273	553.667	0.000	556.417	0.000	556.377	0.000
18	556.327	0.000	556.947	1113	557.187	1312	554.257	0.000	556.527	0.000	556.307	0.000
19	556.417	0.000	556.292	859.2	557.327	1329 *	554.517	0.000	556.537	0.000	556.497	0.000
20	556.387	0.000	556.317	928.5	557.222	1327	553.907	0.000	556.607	0.000	556.687	0.000
21	556.237	0.000	555.952	759.2	555.742	764.9	554.537	0.000	556.557	0.000	556.727	0.000
22	554.717	0.000	556.147	876.1 *	556.437	979.0 *	553.747	0.000	556.377	0.000	556.527	0.000
23	553.087	0.000	556.532	1026	558.002	1628 #	553.857	0.000	556.397	0.000	556.517	0.000
24	552.867	0.000	556.587	1045	557.637	1448	553.917	0.000	556.337	0.000	556.717	0.000
25	552.657	0.000	556.027	785.8	554.882	476.1	555.537	0.000	556.287	0.000	556.767	0.000
26	553.667	0.000	553.927	272.0 #	554.057	298.3 *	556.147	0.000	556.507	0.000	556.737	0.000
27	553.497	0.000	553.762	237.4	555.967	770.9	556.317	0.000	556.547	0.000	556.587	0.000
28	553.027	0.000	553.672	210.6	557.507	1264	556.677	0.000	556.587	0.000	556.577	0.000
29	553.267	0.000	553.527	198.5 *	555.607	702.4	556.877	0.000	556.507	0.000	556.597	0.000
30	554.157	0.000	553.392	176.6	553.907	297.7	556.727	0.000	556.477	0.000	556.577	0.000
31			553.287	156.7	553.537	193.0			556.437	0.000		
Ten-Daily Mean												
I Ten-Daily	556.621	0.000	553.445	195.0	553.462	212.6	553.568	210.7	556.550	0.000	556.547	0.000
II Ten-Daily	556.425	0.000	555.661	708.2	555.550	773.6	553.711	5.009	556.486	0.000	556.411	0.000
III Ten-Daily	553.718	0.000	554.801	522.2	555.753	802.0	555.434	0.000	556.456	0.000	556.633	0.000
Monthly												
Min.	552.657	0.000	552.587	67.74	553.202	173.1	552.157	0.000	556.007	0.000	556.307	0.000
Max.	556.897	0.000	557.332	1289	558.002	1628	556.877	536.2	556.927	0.000	556.837	0.000
Mean	555.588	0	554.641	476.6	554.948	602.7	554.238	71.9	556.496	0	556.531	0

Annual Runoff in MCM = 3077 Annual Runoff in mm = 1628

Peak Observed Discharge = 1628 cumecs on 23/08/2018 Corres. Water Level :558.002 m

Lowest Observed Discharge = 0.000 cumecs on 01/06/2018 Corres. Water Level :556.577 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 2018 - 2019

Station Name : Warunji (AKZ00A7)

Local River : Koyna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 1, Kolhapur

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	556.787	0.000	555.437	0.000	552.107	0.000	552.757	0.000	556.627	0.000	556.757	0.000
2	556.737	0.000	555.307	0.000	552.117	0.000	552.797	0.000	556.757	0.000	556.777	0.000
3	556.477	0.000	555.217	0.000	552.077	0.000	552.157	0.000	556.627	0.000	556.737	0.000
4	556.587	0.000	555.127	0.000	552.087	0.000	552.737	0.000	556.637	0.000	557.357	0.000
5	556.427	0.000	555.027	0.000	552.137	0.000	554.087	0.000	556.837	0.000	556.937	0.000
6	556.607	0.000	555.107	0.000	552.187	0.000	554.147	0.000	556.887	0.000	556.827	0.000
7	556.437	0.000	554.887	0.000	552.097	0.000	555.557	0.000	556.727	0.000	556.767	0.000
8	556.437	0.000	553.837	0.000	552.077	0.000	556.457	0.000	556.637	0.000	556.747	0.000
9	556.277	0.000	551.337	0.000	551.287	0.000	556.757	0.000	557.057	0.000	556.847	0.000
10	556.437	0.000	551.657	0.000	551.247	0.000	556.997	0.000	557.137	0.000	556.817	0.000
11	556.537	0.000	551.637	0.000	551.237	0.000	556.817	0.000	556.917	0.000	556.907	0.000
12	556.667	0.000	551.657	0.000	551.237	0.000	556.647	0.000	557.037	0.000	556.867	0.000
13	556.547	0.000	551.657	0.000	551.237	0.000	556.757	0.000	557.007	0.000	556.807	0.000
14	556.537	0.000	551.687	0.000	552.767	0.000	556.587	0.000	556.837	0.000	556.787	0.000
15	556.697	0.000	551.687	0.000	552.387	0.000	556.447	0.000	556.787	0.000	557.037	0.000
16	556.737	0.000	551.737	0.000	551.817	0.000	556.457	0.000	556.707	0.000	557.087	0.000
17	556.587	0.000	551.727	0.000	551.757	0.000	556.477	0.000	556.677	0.000	557.137	0.000
18	556.497	0.000	552.097	0.000	551.787	0.000	556.277	0.000	556.757	0.000	556.717	0.000
19	556.497	0.000	552.077	0.000	551.887	0.000	556.217	0.000	556.847	0.000	556.687	0.000
20	556.527	0.000	552.057	0.000	553.037	0.000	556.337	0.000	556.827	0.000	556.617	0.000
21	556.547	0.000	552.047	0.000	554.517	0.000	556.187	0.000	556.817	0.000	556.557	0.000
22	556.437	0.000	552.057	0.000	552.677	0.000	556.617	0.000	556.707	0.000	556.547	0.000
23	556.607	0.000	552.097	0.000	552.767	0.000	556.387	0.000	556.747	0.000	556.427	0.000
24	556.657	0.000	552.077	0.000	552.257	0.000	556.307	0.000	556.767	0.000	556.417	0.000
25	556.637	0.000	552.127	0.000	552.057	0.000	556.607	0.000	556.737	0.000	556.337	0.000
26	556.827	0.000	552.087	0.000	552.097	0.000	556.357	0.000	556.847	0.000	556.257	0.000
27	556.867	0.000	552.057	0.000	551.937	0.000	556.237	0.000	556.907	0.000	556.327	0.000
28	556.907	0.000	552.067	0.000	551.837	0.000	556.157	0.000	556.977	0.000	556.357	0.000
29	556.237	0.000	552.137	0.000			556.647	0.000	556.777	0.000	556.587	0.000
30	556.017	0.000	552.127	0.000			556.587	0.000	556.837	0.000	556.687	0.000
31	556.097	0.000	552.137	0.000			556.467	0.000			556.537	0.000
Ten-Daily Mean												
I Ten-Daily	556.521	0.000	554.294	0.000	551.942	0.000	554.445	0.000	556.793	0.000	556.857	0.000
II Ten-Daily	556.583	0.000	551.802	0.000	551.915	0.000	556.502	0.000	556.840	0.000	556.865	0.000
III Ten-Daily	556.531	0.000	552.092	0.000	552.518	0.000	556.414	0.000	556.812	0.000	556.458	0.000
Monthly												
Min.	556.017	0.000	551.337	0.000	551.237	0.000	552.157	0.000	556.627	0.000	556.257	0.000
Max.	556.907	0.000	555.437	0.000	554.517	0.000	556.997	0.000	557.137	0.000	557.357	0.000
Mean	556.544	0	552.709	0	552.097	0	555.807	0	556.815	0	556.718	0

Peak Computed Discharge = 1329 cumecs on 19/08/2018

Corres. Water Level :557.327 m

Lowest Computed Discharge = 115.6 cumecs on 01/07/2018

Corres. Water Level :552.977 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)

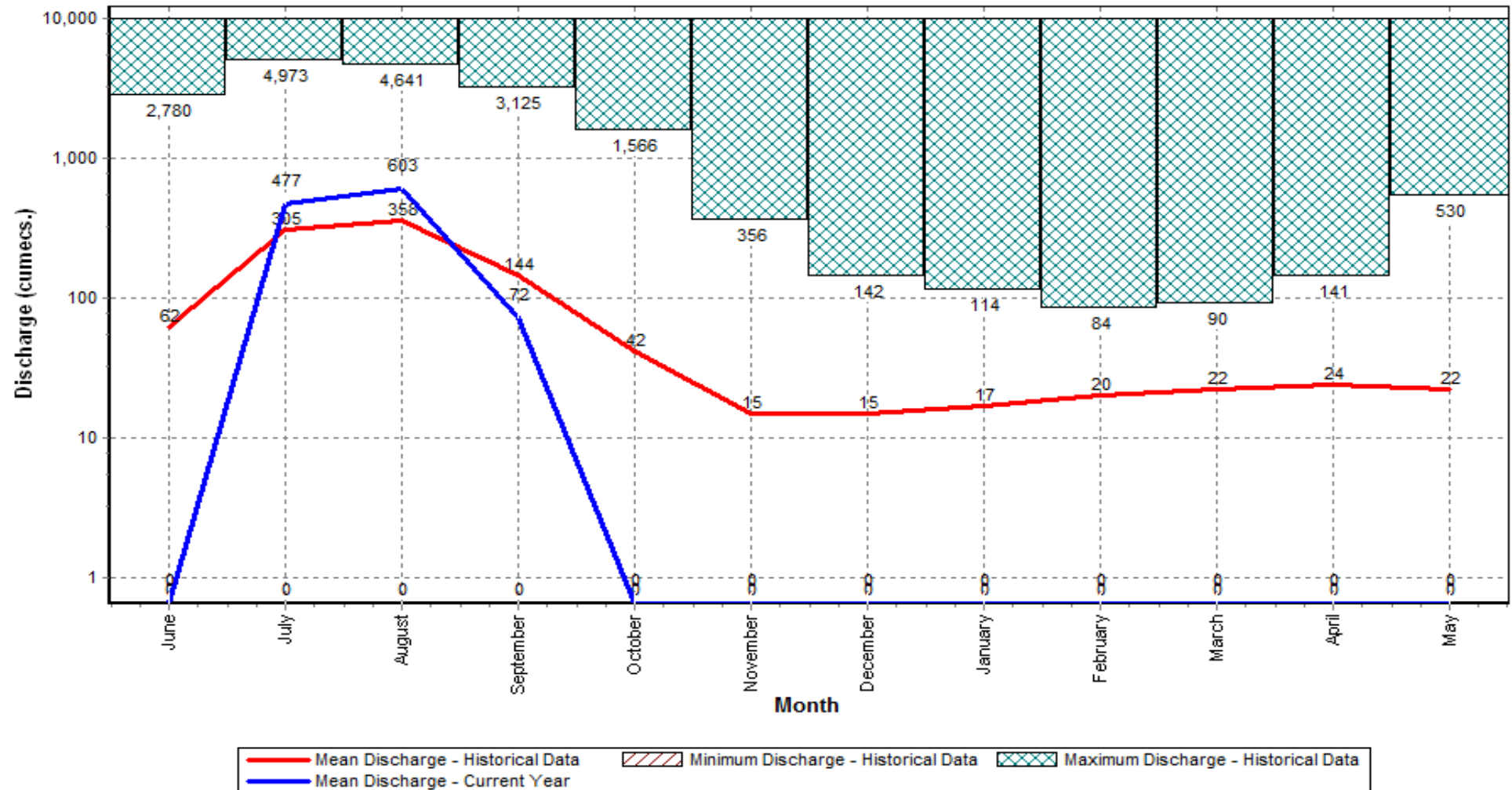
Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2018-2019

Station Name : Warunji (AKZ00A7)
Local River : Koyna

Data considered : 1967-2019

Division : Upper Krishna Divn, Pune
Sub-Division : Upper Krishna SD 1, Kolhapur



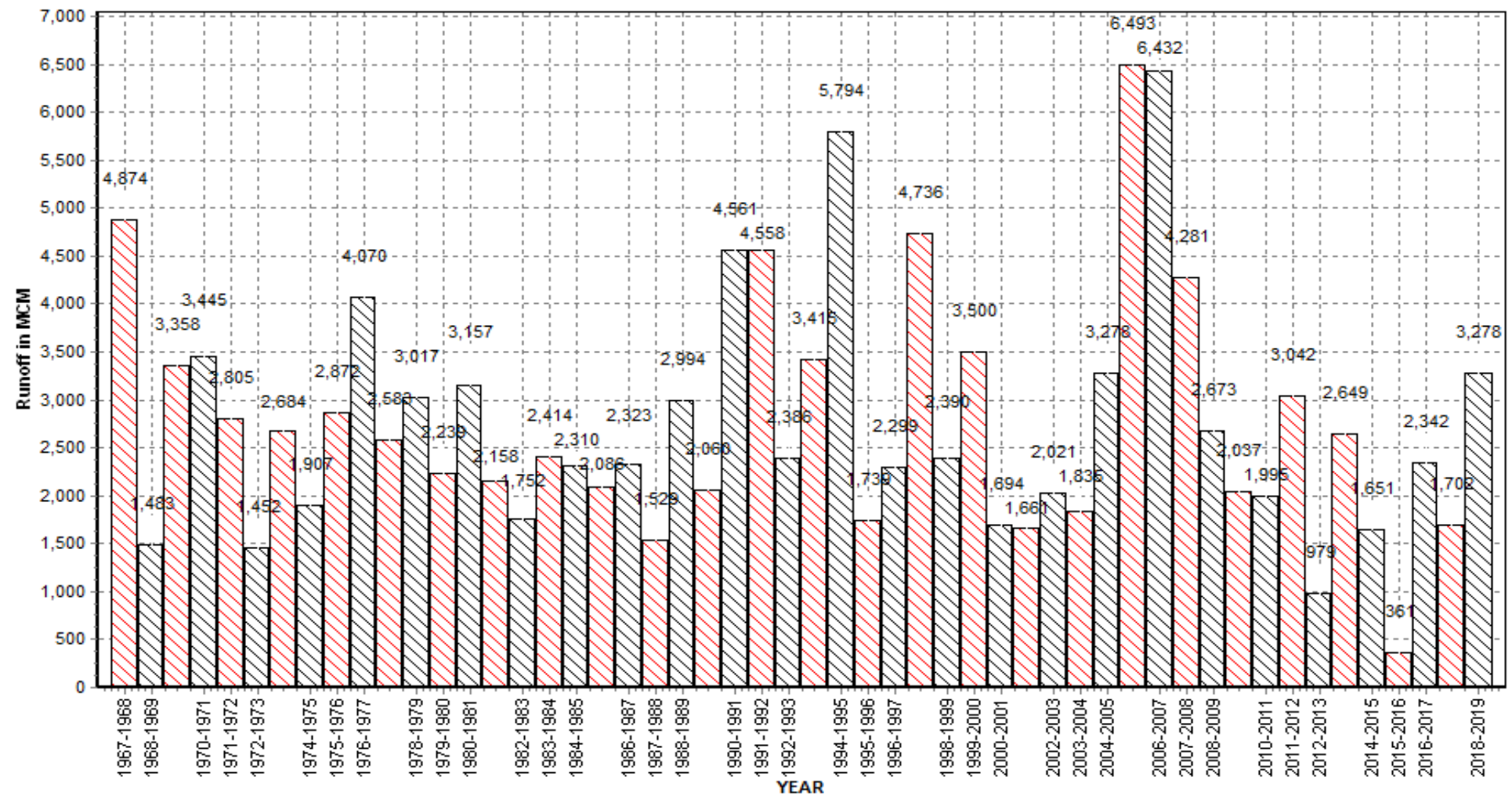
Annual Runoff Values for the period: 1967 - 2019

Station Name : Warunji (AKZ00A7)

Local River : Koyna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 1, Kolhapur



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

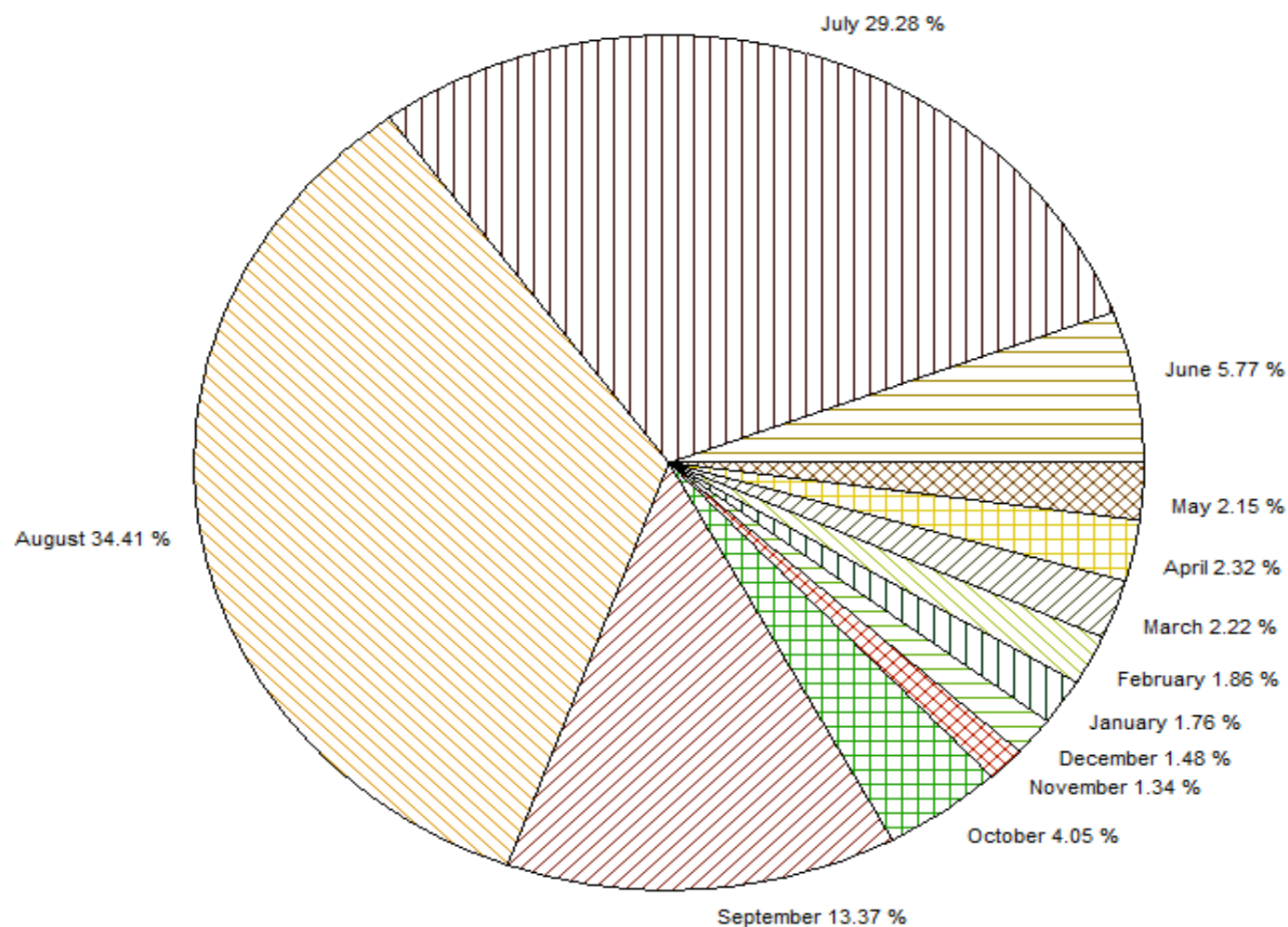
Monthly Average Runoff based on period : 1967-2018

Station Name : Warunji (AKZ00A7)

Local River : Koyna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 1, Kolhapur



June	5.77 %
July	29.28 %
August	34.41 %
September	13.37 %
October	4.05 %
November	1.34 %
December	1.48 %
January	1.76 %
February	1.86 %
March	2.22 %
April	2.32 %
May	2.15 %

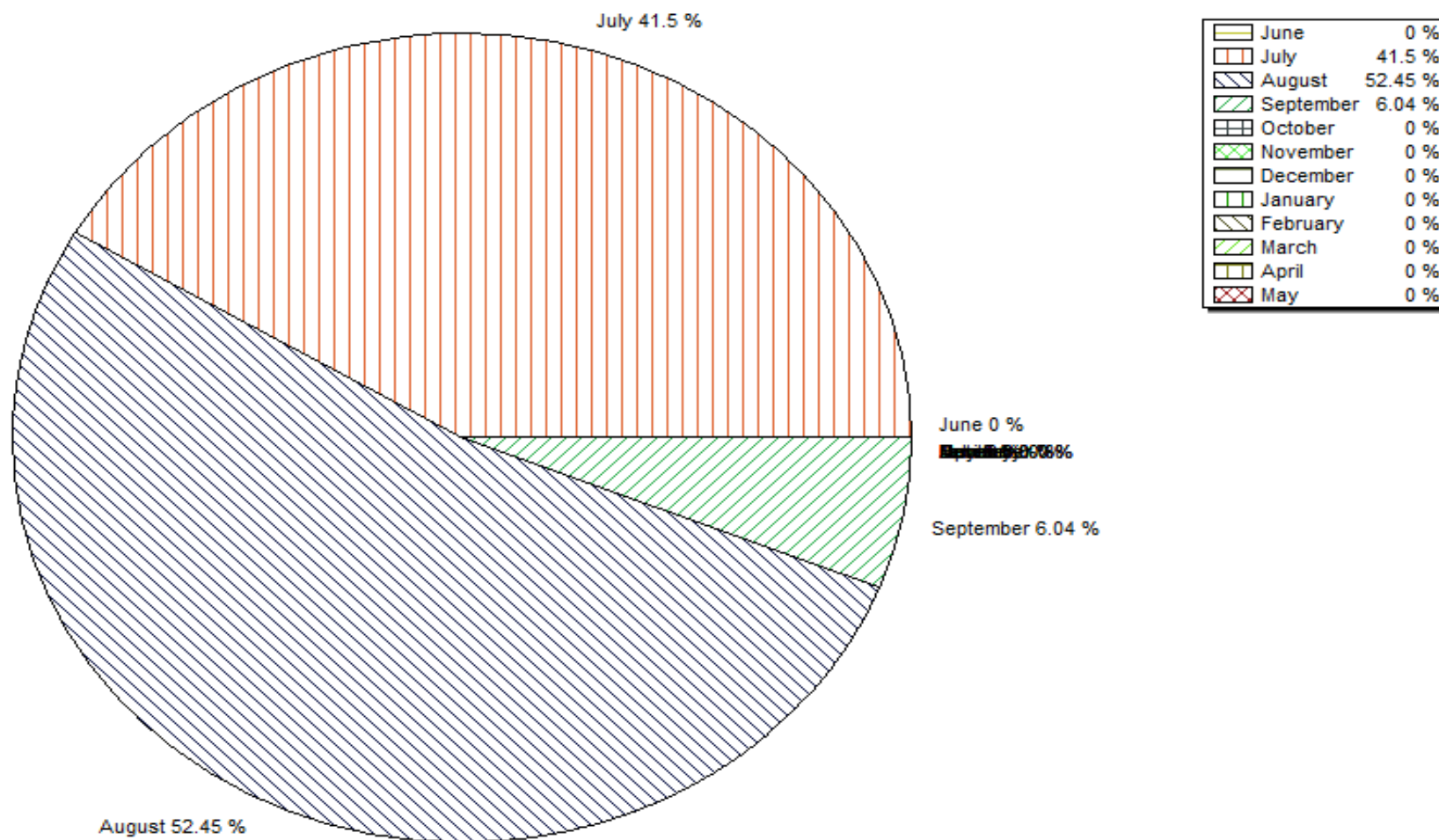
Monthly Runoff for the Year : 2018-2019

Station Name : Warunji (AKZ00A7)

Local River : Koyna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 1, Kolhapur



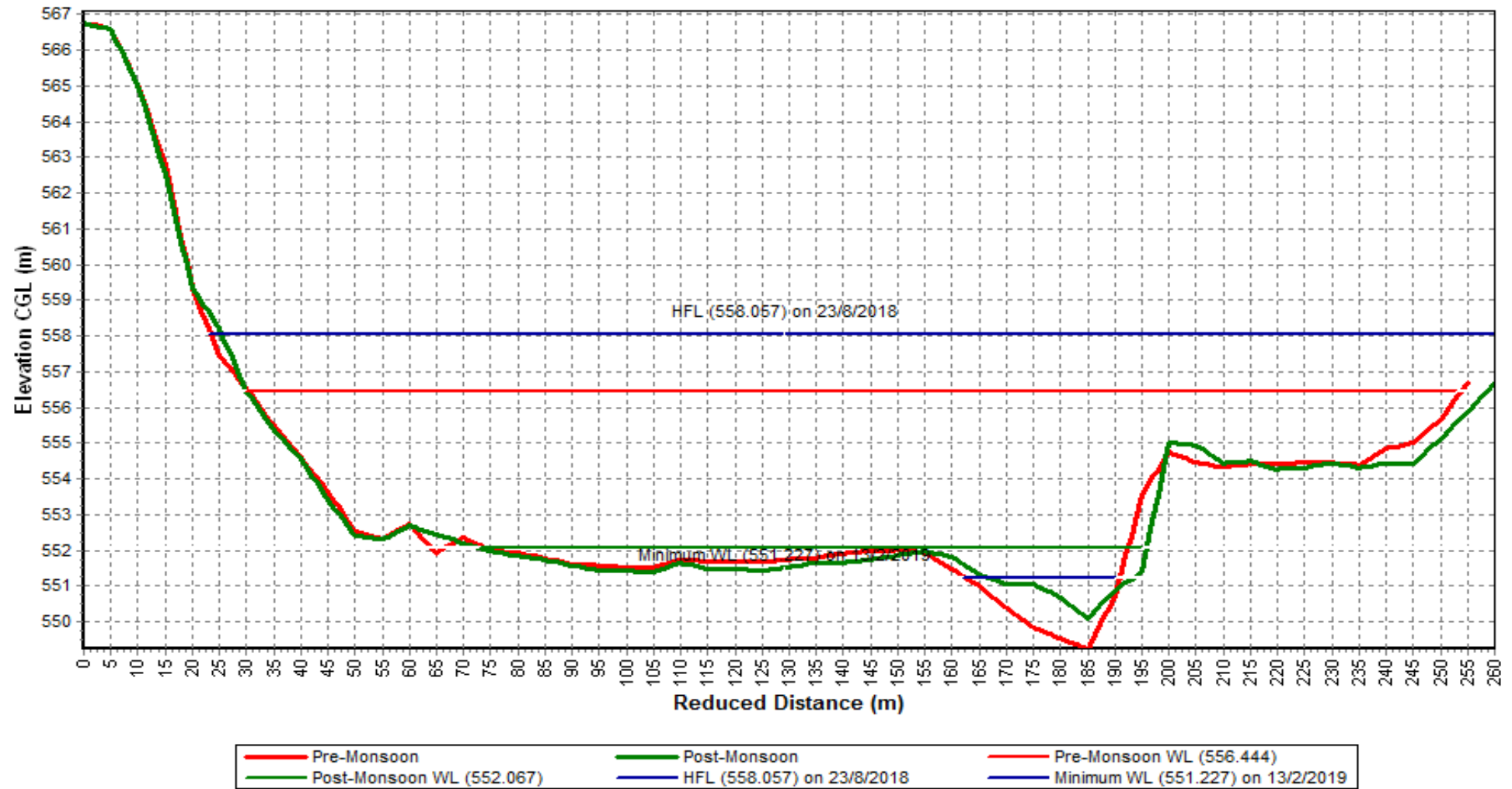
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Warunji (AKZ00A7)

Local River : Koyna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 1, Kolhapur



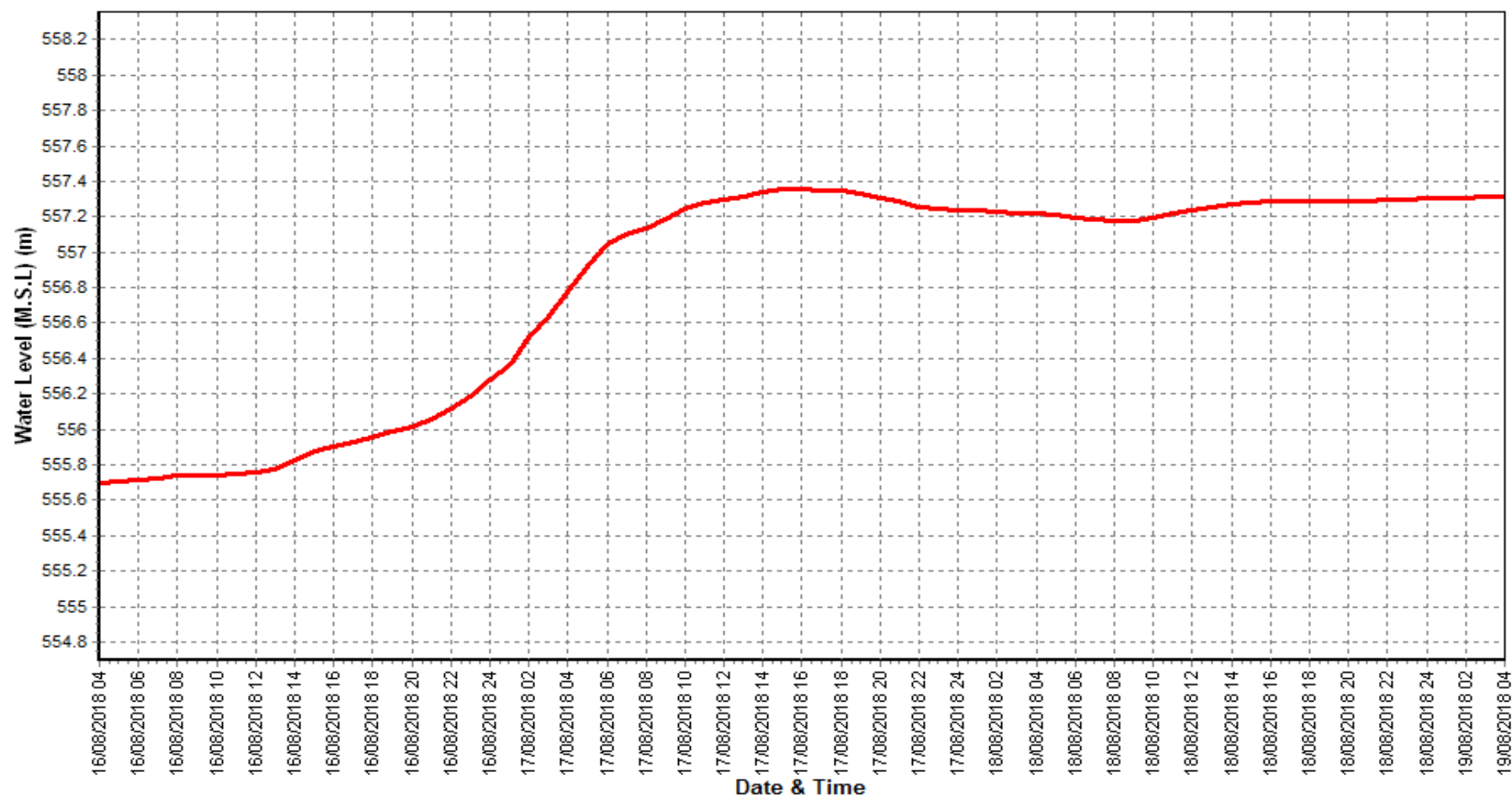
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : Warunji (AKZ00A7)

Local River : Koyna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 1, Kolhapur



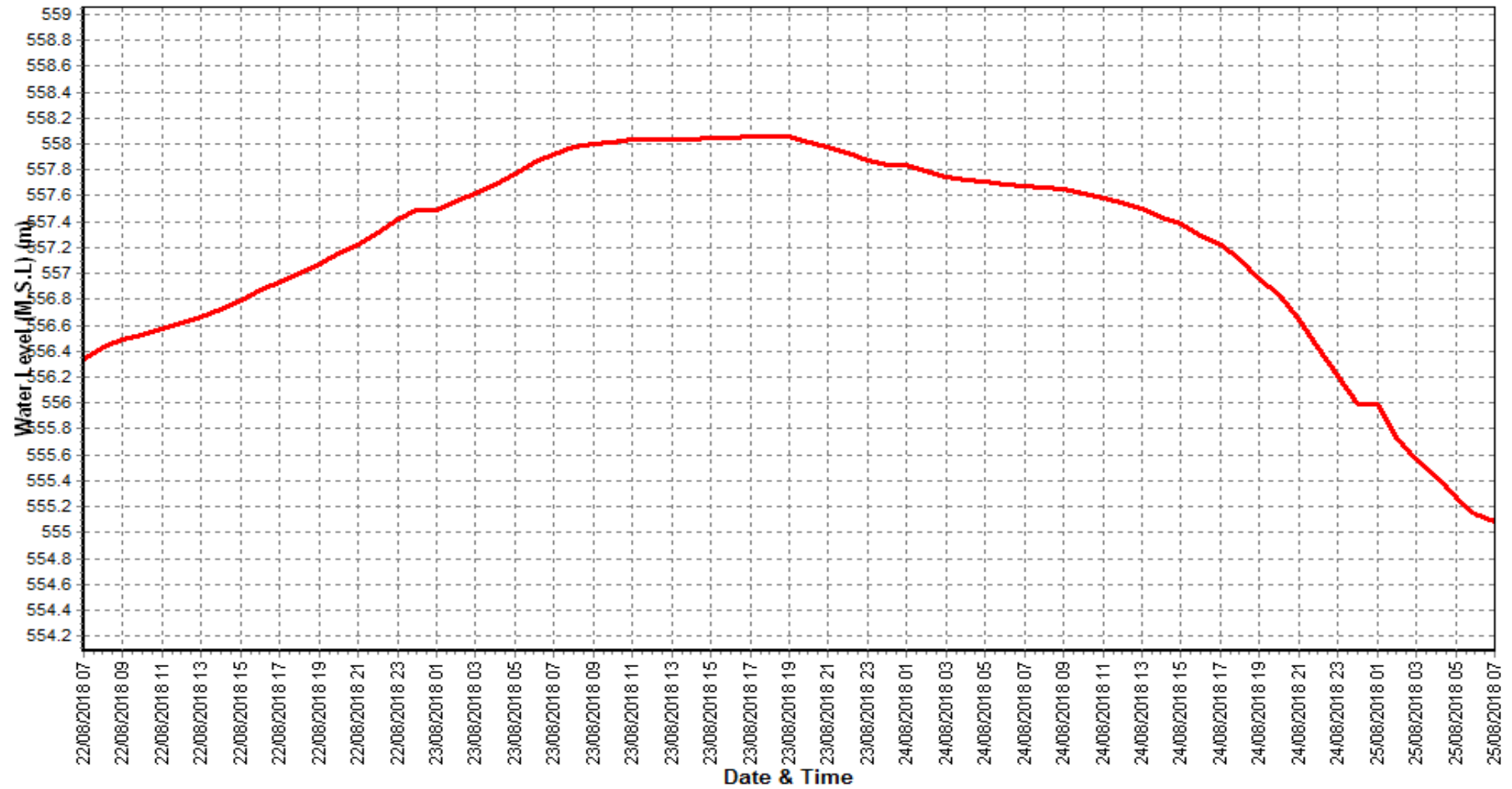
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Warunji (AKZ00A7)

Local River : Koyna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 1, Kolhapur



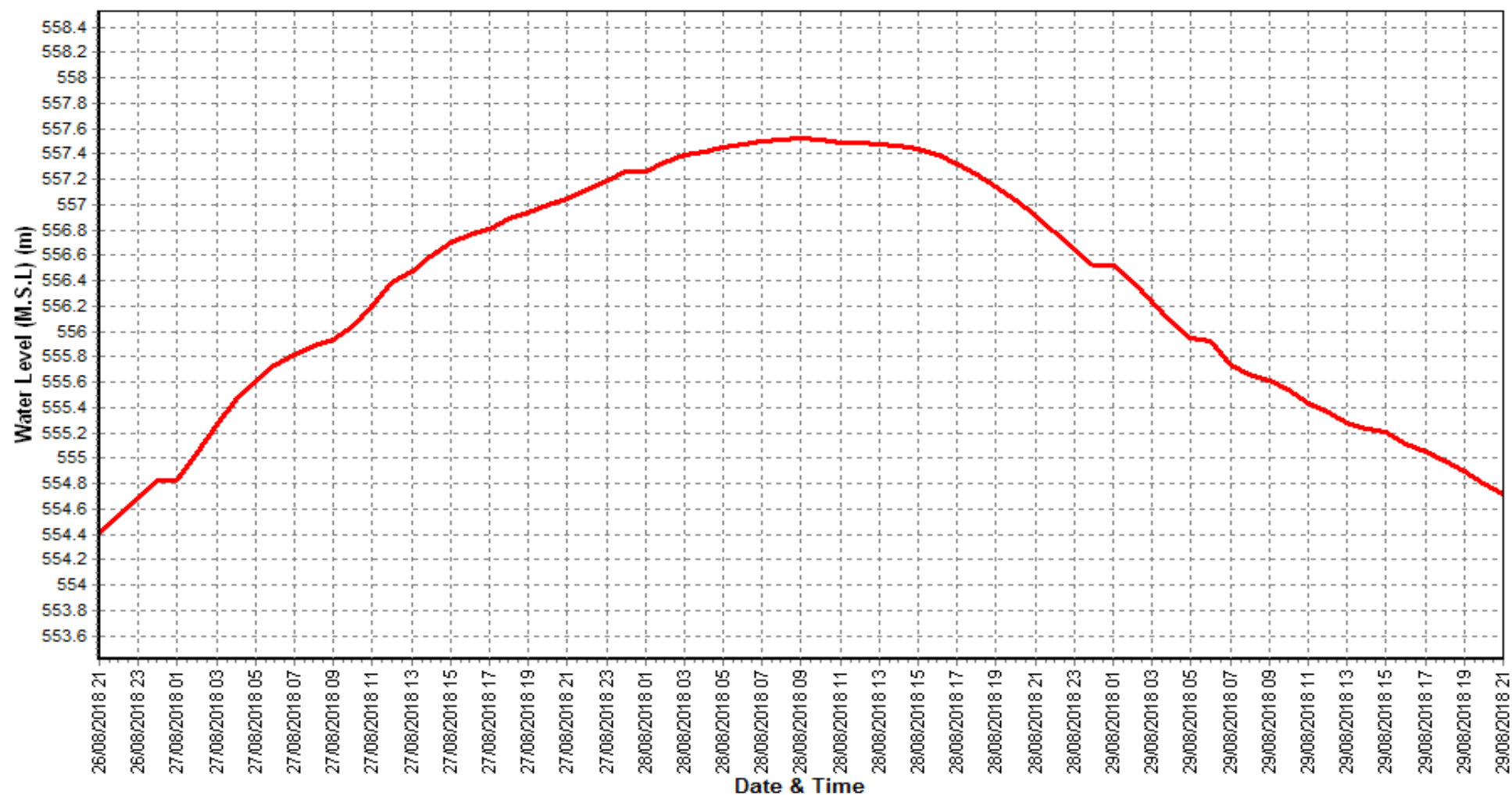
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Warunji (AKZ00A7)

Local River : Koyna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 1, Kolhapur



HISTORY SHEET

		Water Year	: 2018-2019
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 1, Kolhapur
Drainage Area	: 2303 Sq. Km.	Bank	: Right
Latitude	: 17°31'00"	Longitude	: 74°09'00"
Zero of Gauge (m)	: 584.000 (m.s.l)	04/06/2018	-
	Opening Date	Closing Date	
Gauge	: 01/08/2018	HFL During 2018-19	: 589.700 m
Discharge	: 07/08/2018	Corres. Discharge	: 370 (Estimated)
Sediment	:	Date & Time of occurrence	: 18/08/2018 : 19.00 hrs.
Water Quality	:		

HFL Recorded so far in m : 589.700 dt 18-08-2018
Corresponding Discharge (cumecs) : 370 *

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
75% Dependable flow (MCM)				Sufficient data not available			
90 % Dependable flow (MCM)				Sufficient data not available			

Stage-Discharge Data for the period 2018 - 2019

Station Name : Targaon (TARGAON)

Division : Upper Krishna Divn, Pune

Local River : Krishna

Sub-Division : Upper Krishna SD 1, Kolhapur

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	Discharge Observation started from: 07/08/2018				587.850	Not observed	587.770	39.82	587.520	26.99	587.258	12.84
2					587.820		587.785	41.66 *	587.500	22.50 *	587.230	10.83
3					587.765		587.765	40.09 *	587.500	28.20	587.230	10.79
4					587.660		587.825	47.06	587.535	27.84	587.280	12.19 *
5					587.560		587.840	45.24	587.980	50.96	587.295	14.14
6					587.520		587.820	40.80	587.700	35.22 *	587.320	15.94
7					587.510	37.97	587.720	36.55	587.630	30.39 *	587.290	12.58 *
8					587.493	35.65	587.730	32.46	587.570	0.000	587.285	12.65
9					587.480	32.73	587.550	25.37 *	587.530	0.100	587.260	12.09
10					587.460	29.96	587.450	14.93	587.490	25.16	587.250	11.06
11					587.500	37.11	587.365	14.34	587.455	0.000	587.160	7.447 *
12					587.545	25.07 *	587.370	13.75	587.405	19.21	586.970	1.936
13					587.593	48.30	587.330	14.22 *	587.360	16.77	586.960	1.848
14					587.793	79.23	587.305	9.925	587.320	13.80 *	586.975	2.458
15					587.875	49.18 *	587.280	7.538	587.250	10.33	587.125	6.608
16					587.945	43.03	587.215	9.572 *	587.230	9.400	587.130	7.174
17					587.870	44.23	587.180	6.545	587.245	11.78	587.230	0.000
18					589.380	296.1	587.210	6.809	587.240	10.37	587.580	0.000
19					589.595	356.7 *	587.220	9.376	587.270	11.81 *	587.980	0.000
20					589.148	244.1	587.270	11.81 *	587.275	12.75	588.330	0.000
21					588.960	185.2	587.280	11.83	587.255	11.25 *	588.610	0.000
22					588.730	160.4 *	587.350	16.02	587.235	10.30	588.660	0.000
23					589.390	270.8	587.335	14.43 *	587.220	10.03	588.830	0.000
24					589.020	223.3	587.290	12.22	587.245	10.73	589.140	0.000
25					588.370	105.0	587.355	16.14	587.250	10.84	589.130	0.000
26					588.165	78.57 *	587.355	16.66	587.285	12.66	589.080	0.000
27					588.720	160.6	587.510	28.64	587.290	14.49	589.120	0.000
28					589.395	302.7	587.480	25.49	587.280	12.19 *	589.110	0.000
29					589.235	270.7	587.700	35.37	587.220	10.48	589.075	0.000
30					588.030	71.74	587.580	27.19 *	587.230	10.47	588.970	0.000
31					587.800	41.67			587.255	11.61		
<u>Ten-Daily Mean</u>												
I Ten-Daily					587.612	13.63	587.726	36.40	587.596	24.74	587.270	12.51
II Ten-Daily					588.224	122.3	587.274	10.39	587.305	11.62	587.344	2.747
III Ten-Daily					588.711	170.1	587.424	20.40	587.251	11.37	588.973	0.000
<u>Monthly</u>												
Min.					587.460	0.000	587.180	6.545	587.220	0.000	586.960	0.000
Max.					589.595	356.7	587.840	47.06	587.980	50.96	589.140	15.94
Mean					588.199	104.2	587.474	22.39	587.380	15.76	587.862	5.087

Annual Runoff in MCM = 393 Annual Runoff in mm =

Peak Observed Discharge = 302.7 cumecs on 28/08/2018 Corres. Water Level :589.395 m

Lowest Observed Discharge = 0.000 cumecs on 01/08/2018 Corres. Water Level :587.85 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 2018 - 2019

Station Name : Targaon (TARGAON)

Division : Upper Krishna Divn, Pune

Local River : Krishna

Sub-Division : Upper Krishna SD 1, Kolhapur

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	588.930	0.000	588.720	0.000	588.745	0.000	587.680	0.000	587.950	0.000	587.730	0.000
2	589.000	0.000	588.680	0.000	588.760	0.000	587.620	0.000	588.000	0.000	587.600	0.000
3	588.985	0.000	588.600	0.000	588.710	0.000	587.570	0.000	588.030	0.000	587.500	0.000
4	588.975	0.000	588.550	0.000	588.670	0.000	587.500	0.000	588.030	0.000	587.400	0.000
5	588.990	0.000	588.450	0.000	588.650	0.000	587.420	0.000	588.035	0.000	587.320	0.000
6	588.980	0.000	588.300	0.000	588.580	0.000	587.380	0.000	588.060	0.000	587.250	0.000
7	588.970	0.000	588.100	0.000	588.560	0.000	587.340	0.000	588.000	0.000	587.210	0.000
8	588.970	0.000	587.960	0.000	588.550	0.000	587.460	0.000	587.900	0.000	587.160	0.000
9	588.970	0.000	587.960	0.000	588.520	0.000	587.460	0.000	587.775	0.000	587.130	0.000
10	588.975	0.000	588.250	0.000	588.480	0.000	587.420	0.000	587.630	0.000	587.140	0.000
11	589.020	0.000	588.520	0.000	588.430	0.000	587.320	0.000	587.560	0.000	587.110	0.000
12	589.060	0.000	588.650	0.000	588.380	0.000	587.270	0.000	587.500	0.000	587.070	0.000
13	589.120	0.000	588.500	0.000	588.330	0.000	587.235	0.000	587.440	0.000	587.000	0.000
14	589.070	0.000	588.350	0.000	588.260	0.000	587.230	0.000	587.440	0.000	586.980	0.000
15	589.010	0.000	588.240	0.000	588.170	0.000	587.250	0.000	587.520	0.000	586.960	0.000
16	588.980	0.000	588.050	0.000	588.120	0.000	587.250	0.000	587.680	0.000	586.970	0.000
17	588.960	0.000	587.950	0.000	588.100	0.000	587.230	0.000	587.840	0.000	587.120	0.000
18	588.990	0.000	587.910	0.000	588.040	0.000	587.190	0.000	588.000	0.000	587.090	0.000
19	589.010	0.000	588.020	0.000	588.000	0.000	587.120	0.000	588.120	0.000	587.010	0.000
20	588.990	0.000	588.120	0.000	588.000	0.000	587.060	0.000	588.250	0.000	586.990	0.000
21	588.980	0.000	588.200	0.000	587.990	0.000	587.080	0.000	588.240	0.000	586.970	0.000
22	588.990	0.000	588.240	0.000	587.960	0.000	587.000	0.000	588.165	0.000	586.950	0.000
23	589.000	0.000	588.320	0.000	587.930	0.000	586.980	0.000	588.100	0.000	586.930	0.000
24	588.990	0.000	588.460	0.000	587.920	0.000	587.000	0.000	588.020	0.000	586.910	0.000
25	588.970	0.000	588.520	0.000	587.850	0.000	586.990	0.000	587.970	0.000	586.950	0.000
26	588.960	0.000	588.580	0.000	587.800	0.000	587.080	0.000	587.910	0.000	586.940	0.000
27	588.960	0.000	588.660	0.000	587.760	0.000	587.210	0.000	587.850	0.000	586.930	0.000
28	588.940	0.000	588.640	0.000	587.720	0.000	587.300	0.000	587.850	0.000	586.950	0.000
29	588.900	0.000	588.610	0.000			587.420	0.000	587.920	0.000	586.950	0.000
30	588.820	0.000	588.660	0.000			587.630	0.000	587.820	0.000	586.960	0.000
31	588.800	0.000	588.740	0.000			587.740	0.000			587.000	0.000
Ten-Daily Mean												
I Ten-Daily	588.974	0.000	588.357	0.000	588.622	0.000	587.485	0.000	587.941	0.000	587.344	0.000
II Ten-Daily	589.021	0.000	588.231	0.000	588.183	0.000	587.216	0.000	587.735	0.000	587.030	0.000
III Ten-Daily	588.937	0.000	588.512	0.000	587.866	0.000	587.221	0.000	587.984	0.000	586.949	0.000
Monthly												
Min.	588.800	0.000	587.910	0.000	587.720	0.000	586.980	0.000	587.440	0.000	586.910	0.000
Max.	589.120	0.000	588.740	0.000	588.760	0.000	587.740	0.000	588.250	0.000	587.730	0.000
Mean	588.976	0	588.371	0	588.249	0	587.304	0	587.887	0	587.103	0

Peak Computed Discharge = 356.7 cumecs on 19/08/2018

Corres. Water Level :589.595 m

Lowest Computed Discharge = 7.447 cumecs on 11/11/2018

Corres. Water Level :587.16 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

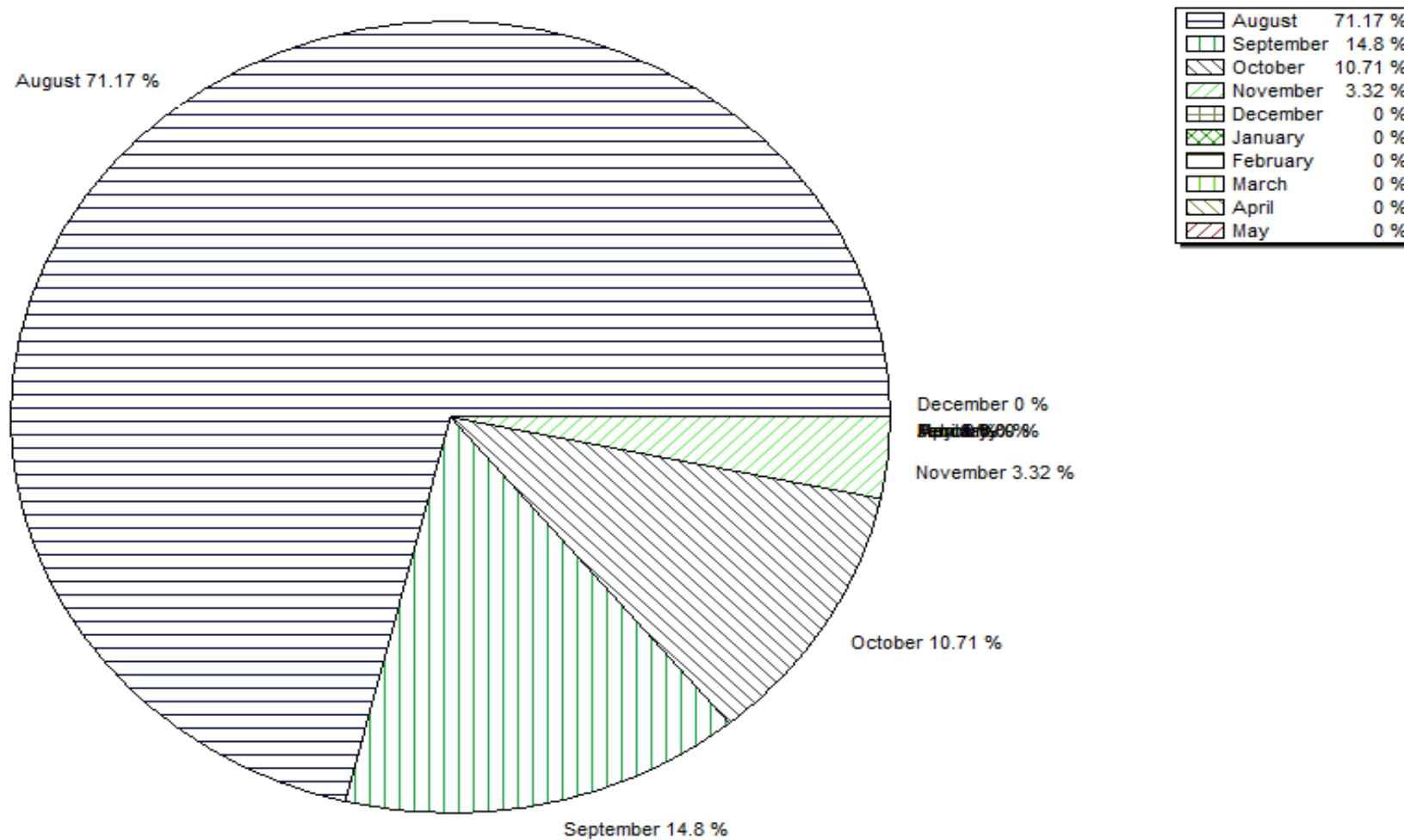
Monthly Runoff for the Year : 2018-2019

Station Name : Targaon (TARGAON)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 1, Kolhapur



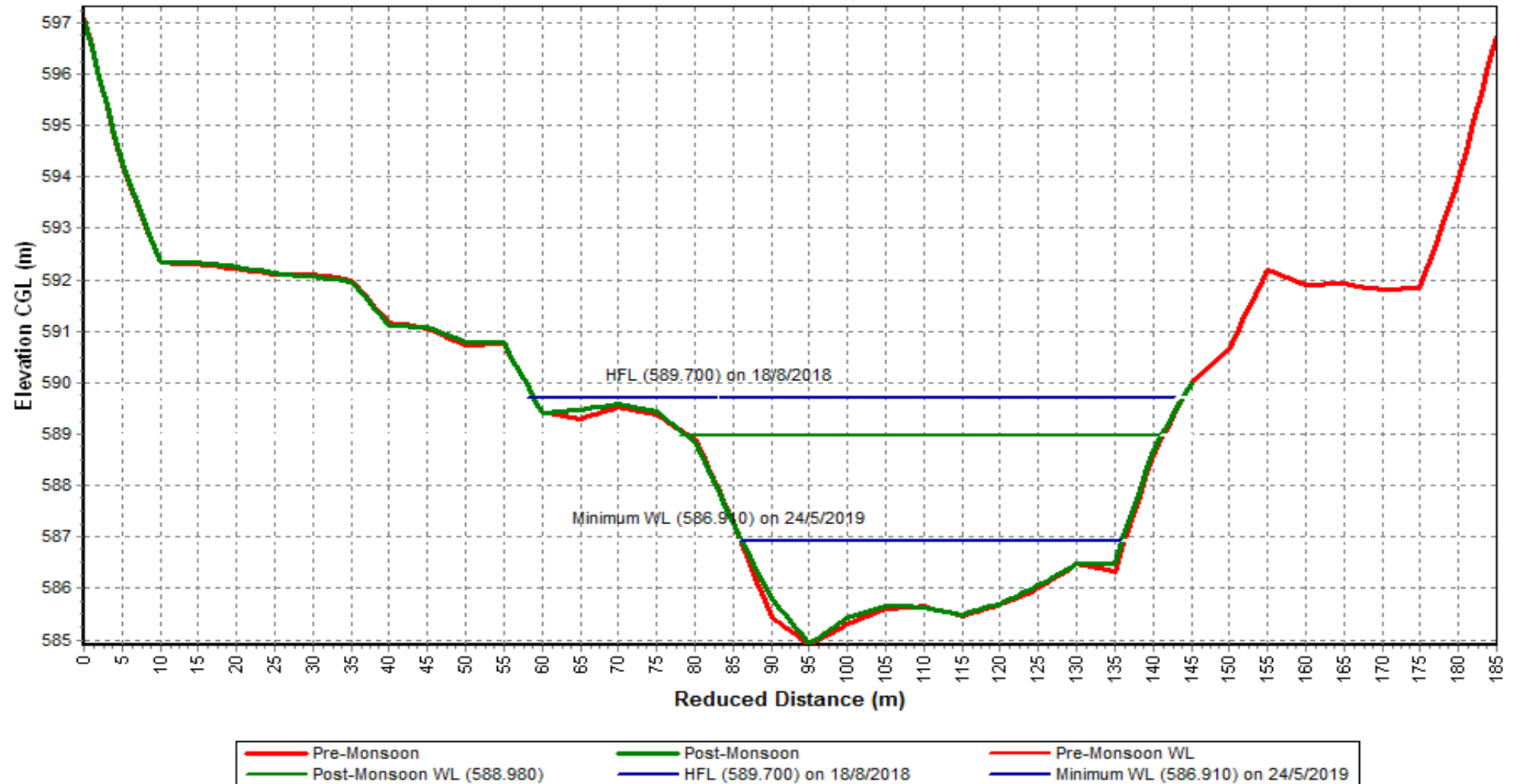
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2018-2019

Station Name : Targaon (TARGAON)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 1, Kolhapur



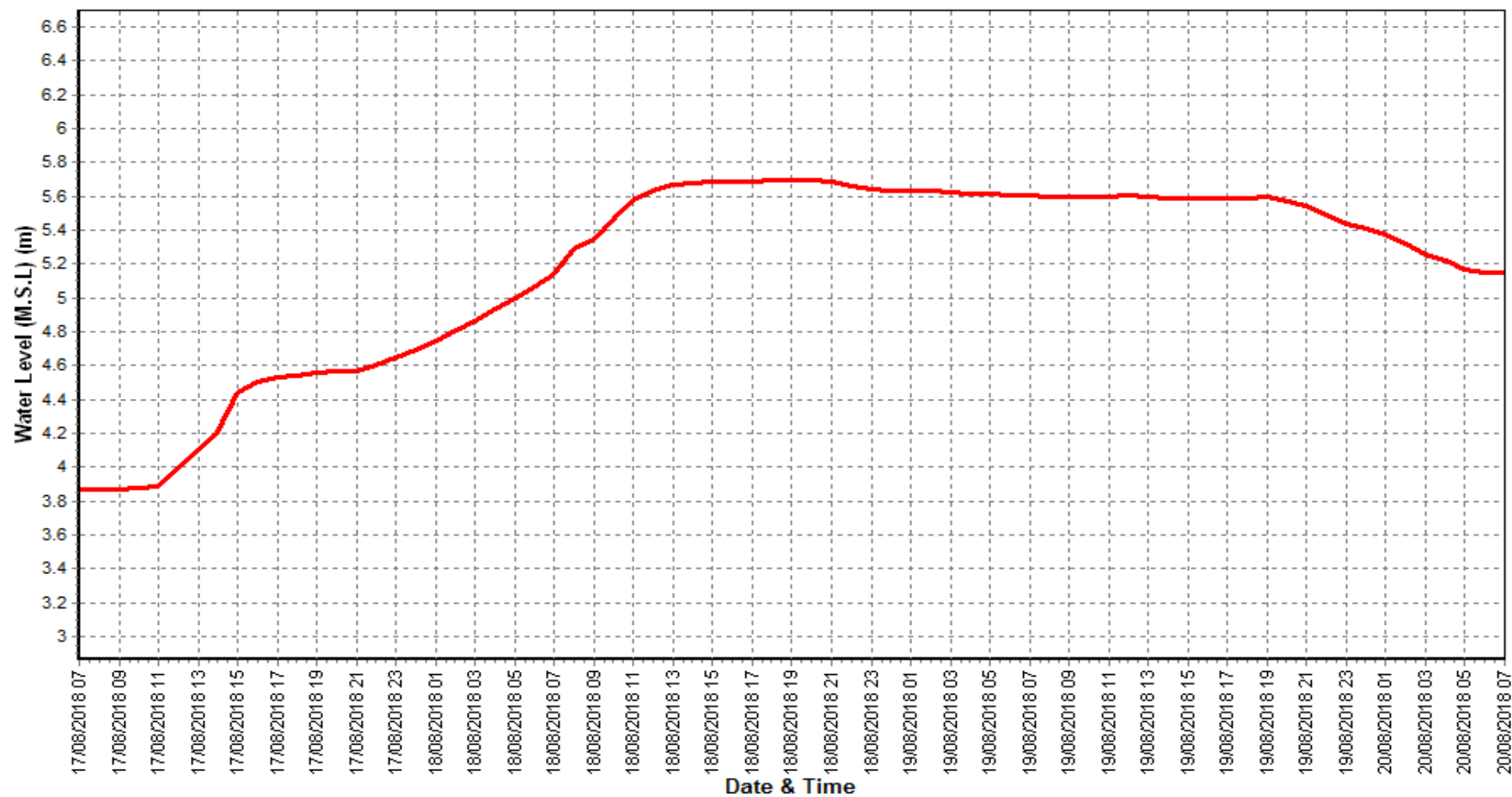
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2018-2019

Station Name : Targaon (TARGAON)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 1, Kolhapur



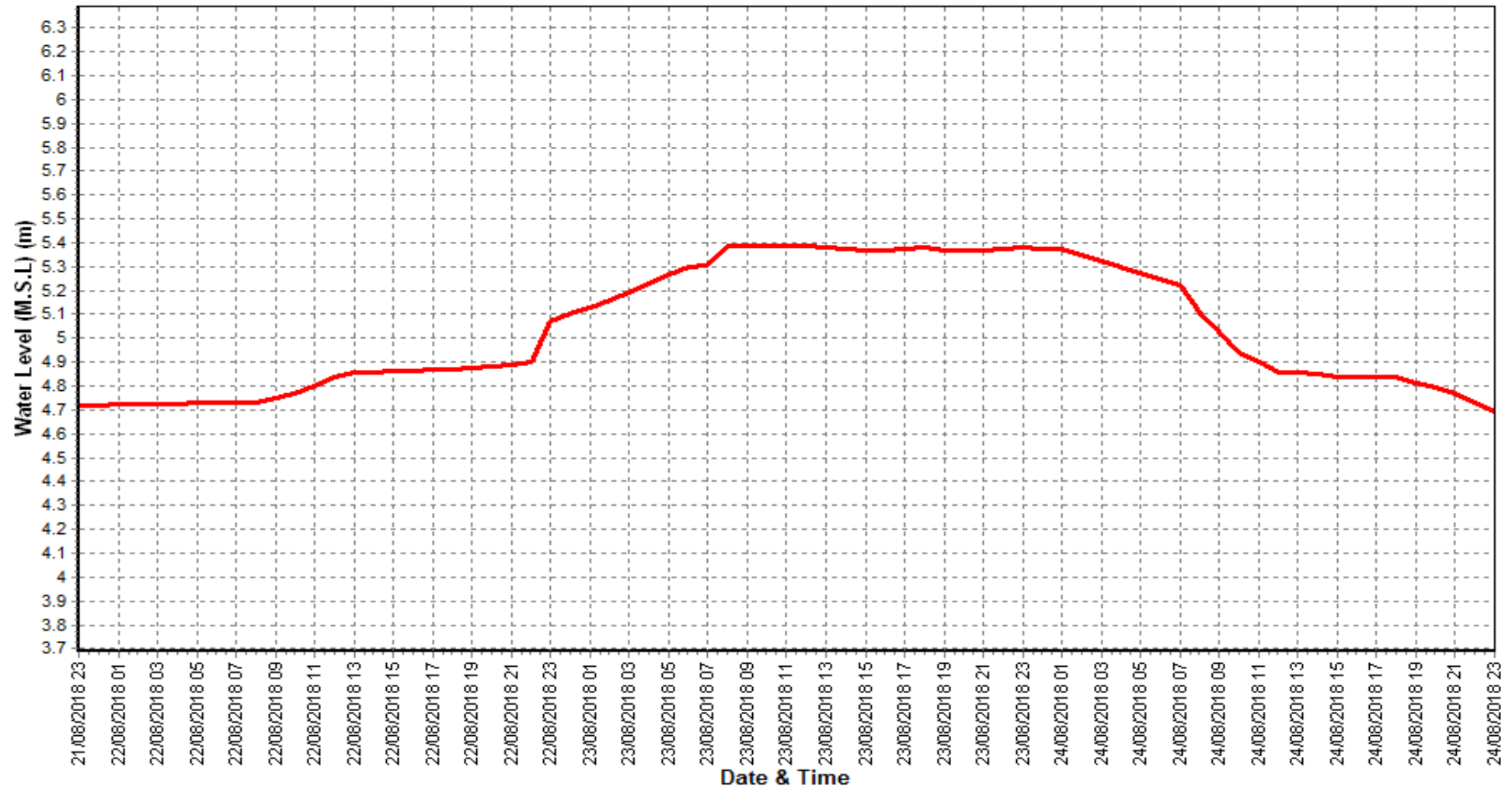
Time Span: 72 Hrs

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Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2018-2019

Station Name : Targaon (TARGAON)
Local River : Krishna

Division : Upper Krishna Divn, Pune
Sub-Division : Upper Krishna SD 1, Kolhapur



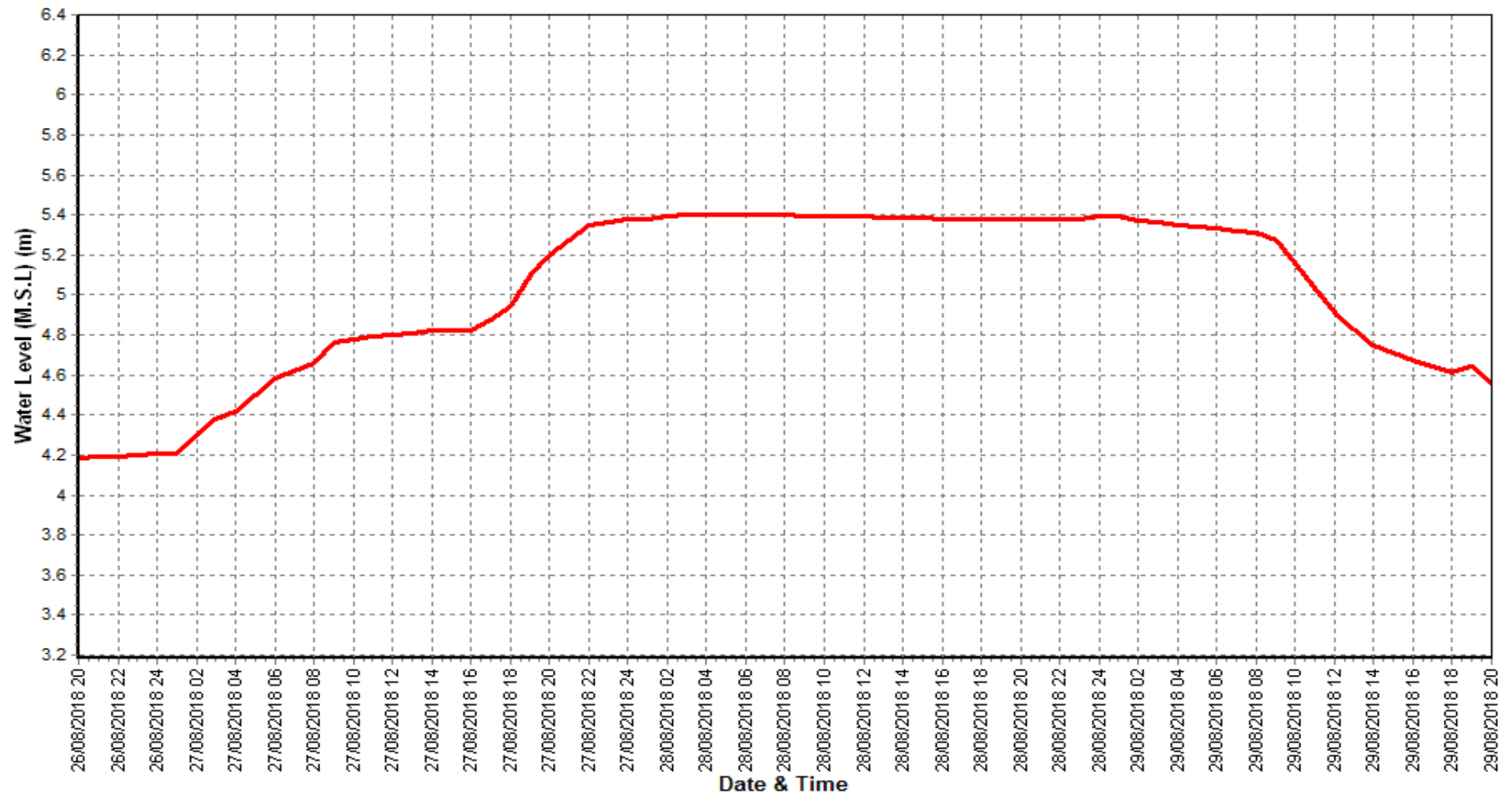
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2018-2019

Station Name : Targaon (TARGAON)

Local River : Krishna

Division : Upper Krishna Divn, Pune

Sub-Division : Upper Krishna SD 1, Kolhapur





कृष्णा एवं समन्वय परिमंडल / KRISHNA & CO-ORDINATION CIRCLE
हैदराबाद / HYDERABAD

अप्रैल-2020
April-2020