GOVERNMENT OF INDIA
CENTRAL WATER COMMISSION

Photo 1: River Muhuri at Belonia in Tripura on 20.08.2024

Photo 2: River Varahanadhi at Kumarapalayam in Tamilnadu on 02.12.2024

FLOOD FORECASTING AND WARNING NETWORK
PERFORMANCE APPRAISAL REPORT 2024

NEW DELHI - 110066 **May 2025**

Member(RM)
Central Water Commission
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PREFACE

Central Water Commission had started Flood Forecasting & Warning services in India in November, 1958 by setting up one forecasting station at Old Delhi Bridge, for the national capital, on the river Yamuna. Its network of Flood Forecasting and Warning Stations gradually extended throughout the country covering almost all the major inter-state flood prone river basins.

During 2024, the flood forecasting services are expanded to 340 stations which comprised of 200 level and 140 inflow forecast stations in 20 major river basins. It covered 22 States besides Union Territories of NCT Delhi, Jammu & Kashmir and Daman & Diu. The flood forecasting activities of the Commission are being performed every year from May to December through its 36 field Divisions which issue flood forecasts and warnings to the civil authorities of the states as well as to other organizations of the Central & State Governments, as and when the river water level touches or is expected to cross the warning level at the level flood forecasting stations and also monitors the flood situation and enters data in **http://india-water.gov.in/wims** website. During Flood Season 2024, level forecasts were issued for 142 stations out of 200 stations and inflow forecasts were issued for 83 reservoir/ dam/barrages out of 140 inflow stations. The inflow forecasts are formulated whenever the inflow into the reservoirs exceeds the threshold value fixed by the respective project authorities for reservoir regulation as well as flood moderation.

During the year 2024 flood season, 6 Flood Forecast stations flowed in Extreme Flood situation. Severe Flood situation was witnessed in 91 Flood Forecasting Stations and 50 Flood forecast stations witnessed Above Normal Flood Situation. The major flood events this year was the Extreme Floods witnessed in Assam and Bihar state.

During the year 2024, 10442 forecasts were issued out of which 9967 forecasts (95.45%) were found to be within the limits of accuracy. The number of level forecasts issued during the year 2024 were 7086 out of which 6790 (95.82%) was within the limit of accuracy of ± 0.15 m. The number of inflow forecasts issued were 3356 out of which 3177 (94.67%) was within limits of accuracy of ±20%. Daily Flood Situation Reports cum Advisories (DFSITREPcA) based on 7-day rainfall warning of IMD were issued on daily basis. Advisories about Extreme floods in Andhra Pradesh, Tamilnadu, Puducherry and Kerala were issued in DFSITREPcA for taking up relief and rescue operations in advance which were well appreciated by the beneficiaries at both National and State Levels.

Rainfall-Runoff advisories based on the satellite estimates of rainfall, AWS/ARG data of IMD/CWC as well as the rainfall forecast products of Weather Research and Forecast (WRF) model at a resolution of 0.25mx0.25m was continued in 2021 flood season and was put in Uniform Resource Locator(URL)http://120.57.32.251/. CWC wishes to place its acknowledgements for the services provided by IMD through its Hydromel & Numerical Weather Prediction and AWS Lab units in the Headquarters, Pune as well as various FMOs of IMD.

The level of performance achieved, has been possible as a result of the dedicated team work of the officers and staff manning the various activities of hydro-meteorological observations & flood forecasting and monitoring of the field offices.

Flood Forecast Monitoring (FFM) Directorate under FMO plays an important role in compiling the information received from various field offices at Headquarters and issues daily bulletins which are sent to all stakeholders. I wish to place on record my deep appreciations of the efforts put in by the officers and staff of FFM, FCA - 1 and FCA - 2 Directorates in carrying out the flood forecasting work with utmost devotion & dedication. The staff of FFM Directorate, along with other supporting staff from other Directorates/Wings during flood duties in the flood season of 2024 also deserves all appreciation in keeping the control room fully functional on all the weekdays, including holidays, Saturdays & Sundays. The control room was kept operational round the clock throughout the flood season.

It is hoped that the momentum gained in expanding the flood forecasting network, improving performance of the forecast and adopting various modernization including in the field of dissemination techniques will be further accelerated to achieve greater effectiveness of each and every forecast with the help of mathematical modelling supported by real-time data from telemetry.

Suggestions/ comments of the users of this report with a view to further enhance its usefulness are welcomed and will be incorporate in the next edition.

9/5/2025

(Anupam Prasad)
Member (RM)

New Delhi
May ,2025

CONTENTS

EXECUTIVE SUMMARY

0.1 METEOROLOGICAL SITUATION

During 2024, the performance of southwest monsoon is given as below.

- The southwest monsoon season rainfall over the country as a whole during 2024 was normal (108% of the Long Period Average (LPA)).

- The monthly rainfall over the country as a whole was less than LPA during the month of June (89% of LPA) and more than LPA during July (109% of LPA), August (115% of LPA) and September (112% of LPA).

- The homogeneous regions of Northwest India (107% of LPA) received normal monsoon rainfall, whereas Central India (119% of LPA), and South Peninsula (114% of LPA) received above normal monsoon rainfall. However, East & Northeast India (86% of LPA) received below-normal rainfall.

- Out of the total 36 meteorological sub-divisions, 2 sub-divisions (West Rajasthan and Saurashtra & Kutch) covering 9% of the total area of the country received large excess seasonal monsoon rainfall, 10 sub-divisions constituting 26% of the total area received excess rainfall, 21 sub-divisions covering 54% of the total area of the country received normal rainfall, and 3 sub-divisions (Arunachal Pradesh, Punjab, J & K and Ladakh) constituting 11% of the total area received deficient seasonal rainfall.

- During the season, 14 Low Pressure Systems including 7 Low Pressure Areas, 3 Depressions, 3 Deep Depressions and 1 Cyclonic Storm (ASNA) developed over the Indian region. During the season, the region witnessed formation of LPS on 62.6 days against the normal of about 57 days.

0.2 FLOOD SITUATION

Extreme flood situation was witnessed in 6 Flood Forecasting stations, Severe Flood situation was witnessed in 91 Flood Forecasting Stations and 50 Flood forecast stations witnessed Above Normal Flood Situation. No flood forecasts were issued for 115 flood forecasting stations which include 58 level forecasting stations and 57 inflow forecasting stations. Out of the 140 reservoirs in the network, inflow forecasts were issued at 83 reservoirs and in 57 reservoirs the inflows did not exceed the criteria for issuing inflow forecasts. The significant flood event of this year was the Extreme Floods witnessed in Assam and Bihar state.

0.3 FLOOD FORECASTING PERFORMANCE

10442 forecasts were issued during the year 2024, out of which 9967 forecasts (95.45%) were found to be within the limits of accuracy. 7086 level forecasts were issued during the year 2024 out of which 6790 (95.82%) were within the limit of accuracy of ±0.15 m. 3356 inflow forecasts were issued out of which 3177 (94.67%) were within limits of accuracy of ±20%. CWC

issued Daily Flood Situation Report cum Advisories (DFSITREPcA) during the monsoon season This contains the usual daily rainfall situation, rainfall forecast for the next 7 days, daily flood bulletin for the day and the flood situation and advisories for the next few days, GIS based Map indicating the districts alerted/affected by flood and reservoirs having inflow forecasts. Further, the reports were sent to all beneficiaries including State Governments through e-mail on a daily basis. In addition, long term i.e. 7 day advisory forecast was also disseminated through online portal in automated mode using IMD rainfall forecast and global GPM rainfall data.

SALIENT FEATURES OF FLOOD FORECASTING SYSTEM

The 'Salient Features' of Flood Forecasting and Warning System of the Central Water Commission are given in the table shown below:

1.	Establishment of 'First Scientific Flood Forecasting Unit' (F.F.U.) at Delhi in India	November, 1958
2.	Date of issue of first scientific flood forecast	25th July, 1959
3.	Name of first forecasting site and river	Delhi Railway Bridge (old) on River Yamuna
4.	Year of commencement of flood forecasting system on the inter-state rivers i.e. first national level expansion	1969
5.	No. of Chief Engineers' offices (including one CE, Flood Management, at CWC headquarters)	15
6.	No. of Superintending Engineers' offices (including one Flood Forecast Monitoring Directorate at CWC headquarter)	20
7.	No. of Flood Forecasting Divisions (As of 2024)	36
8.	No. of states including union territories covered under Flood Forecasting Programme	25
9.	No. of forecasting sites	338
10.	No. of gauge and gauge & discharge sites	1522+21(Under Review)
11.	No. of Telemetry Stations installed	1121
13.	No. of forecasts issued in flood season 2019	9754
14.	No. of forecasts issued in flood season 2020	11721
15.	No. of forecasts issued in flood season 2021	10617
16.	No. of forecasts issued in flood season 2022	11558
17.	No. of forecasts issued in flood season 2023	6339
18.	No. of forecasts issued in flood season 2024	10442

CHAPTER - 1

NATIONAL FLOOD FORECASTING NETWORK

1.1 FLOOD FORECASTING SERVICES

Flood causes considerable damage to human lives and property almost every year. About one third of total flood prone area (40 Mha assessed by the RBA) of the country has been provided with reasonable protection against flood of a low magnitude due to technological and economical constraints but there is no protection from floods of higher magnitude. Since the adoption of National Flood Policy by Government of India in 1954, it was realized that a total protection against flood by structural means alone is not possible and that optimum solution would consist of a mixture of structural and non-structural measures. Therefore, stress has been laid on non-structural measures like flood forecasting and warning, which is most important among such means to minimize the damage potential from floods. Accurate and timely flood forecasts and advance warning have, therefore, to be aimed for providing valuable time to the people and to civil authorities in taking preventive measures like evacuation, relief and rehabilitation measures, preparedness for flood fighting by engineering authorities, etc. and thus mitigating such loses from floods.

1.2 FLOOD FORECASTING NETWORK IN INDIA

Flood Forecasting has been recognized as the most important and cost effective non-structural measure for flood management. Recognizing this, flood forecasting of river Yamuna at Delhi was suggested by the Reddy Committee set up by the then Hon'ble Prime Minister, Govt. of India to manage floods in Delhi. Accordingly in the year 1958, CWC commenced the flood forecasting services in a small way by establishing a flood forecasting unit for issuing water level forecasts of the Yamuna for the National Capital, Delhi. On the recommendation of various committees/panels, a "Flood Forecast & Warning Organisation" was set up in CWC in 1969 to establish forecasting sites on inter-state rivers at various flood prone places in the country. 41 forecasting sites were added in 1969, with this, total number of forecasting sites aggregating to 43. Extension of the services followed from time to time. The year-wise positions of the number of flood forecasting sites till the flood season 2024 in the network of Central Water Commission are shown in the **Table -1.1** and **Fig 1.1.** The details of year wise expansion of Flood Forecasting Stations are shown in **Annex –I** (2017-2024).

Table - 1.1: Year-wise expansion of forecasting sites in CWC

Year	Cumulative No. of Flood Forecasting Sites
1958	01
1965	02
1969	43
1977	77
1980	84
1985	145
1987	147
1990	157
2001	159
2002	161
2003	166
2004	172

2005	173
2006	175
2015	176
2016	199
2017	226
2018	249
2019	325
2020	328
2021	331
2022	333
2023	338
2024	340

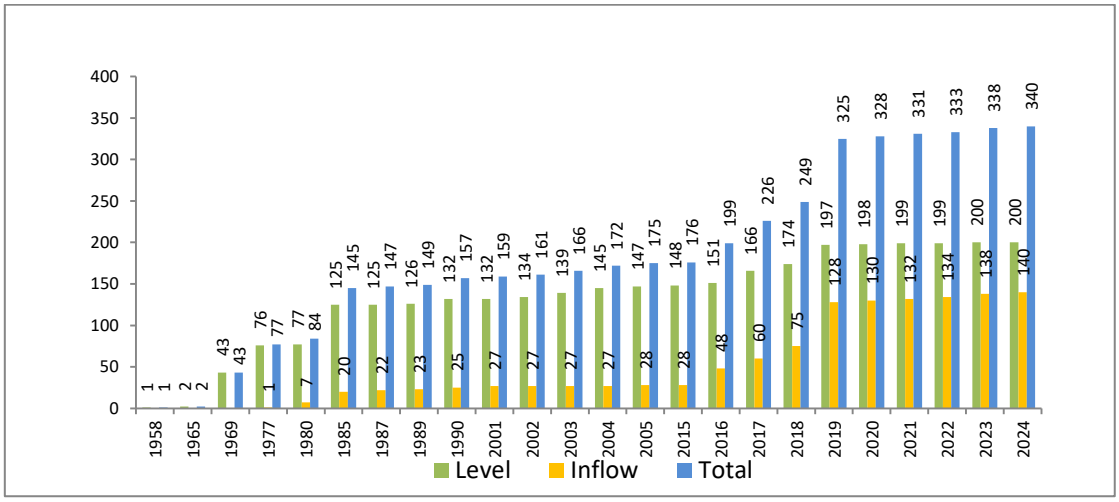
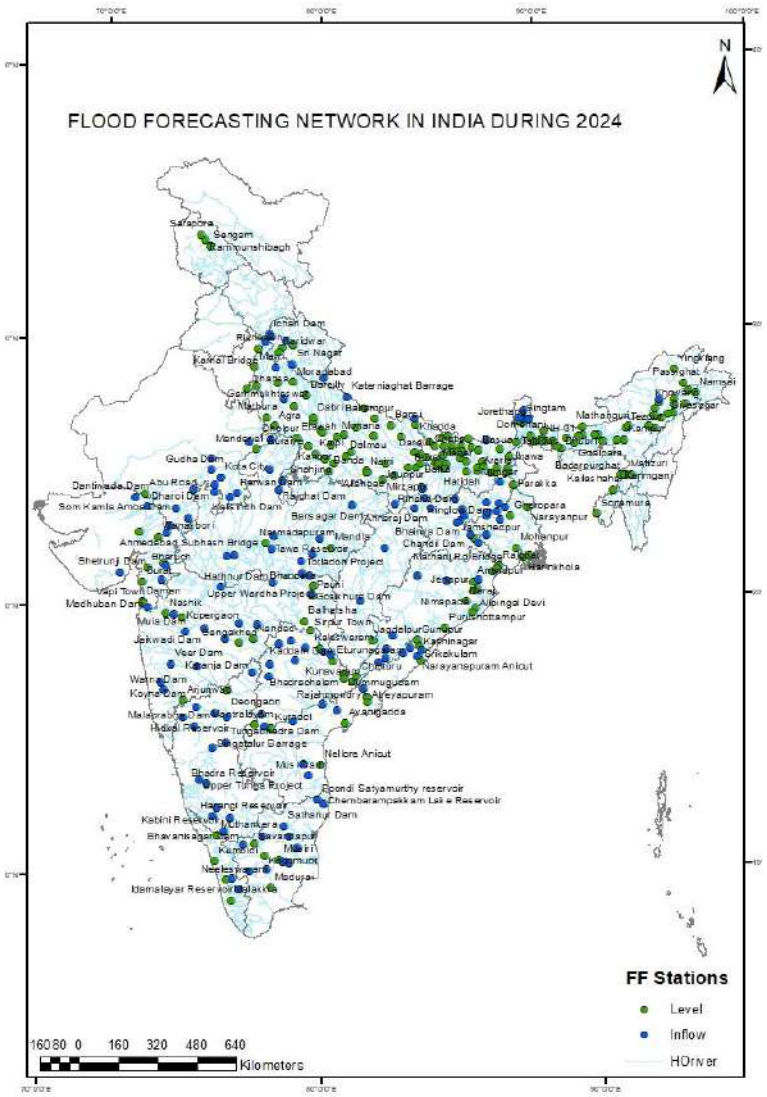


Fig 1.1: Year wise expansion of Flood Forecasting stations

The 'National Flood Forecasting and Warning Network' of Central Water Commission, which comprised of 340 flood forecasting sites including 140 inflow forecasting sites in flood season 2024 is shown in **Map - 1.** The number of flood forecasting sites on each of the major inter-state river systems is in the **Table - 1.2**.



Map - 1: Flood Forecasting Network in India

Table - 1.2: Flood forecasting sites in inter-state river systems

Sr. No.	Major Interstate River Systems	No. of FF stations		
		Level	Inflow	Total
1	Indus and its tributaries	3	0	**3**
2	Ganga & its tributaries	96	43	**139**
3	Brahmaputra & its tributaries	39	6	**45**
4	Barak System	6	0	**6**
5	Subarnarekha (including Burhabalang)	4	3	**7**
6	Brahmani & Baitarni	3	2	**5**
7	East Flowing (Mahanadi to Pennar)	4	4	**8**
8	Narmada	4	6	**10**
9	Tapi	1	2	**3**
10	Mahi	1	4	**5**

11	Sabarmati	1	1	**2**
12	Mahanadi	3	3	**6**
13	Godavari	18	26	**44**
14	Krishna	5	19	**24**
15	West Flowing Rivers (Kutch & Saurashtra)	1	2	**3**
16	West Flowing Rivers (Tapi to Tadri)	2	1	**3**
17	Cauvery and its tributaries	4	9	**13**
18	Pennar	1	1	**2**
19	East Flowing Rivers (Pennar to Kanyakumari)	1	6	**7**
20	West Flowing River (Tadri to Kanyakumari)	3	2	5
Total		**200**	**140**	**340**

The above flood forecasting network covers the following 22 states & 3 Union Territories (UTs). State/ UT wise distribution of flood forecasting stations is shown in **Table - 1.3.**

Table - 1.3: State/ UT wise Flood Forecasting Network in CWC

Sl. No.	Name of State/UT	Number of flood Forecasting Stations		
		Level	Inflow	Total
1	Andhra Pradesh	10	10	20
2	Arunachal Pradesh	3	1	4
3	Assam	30	0	30
4	Bihar	40	3	43
5	Chhattisgarh	1	2	3
6	Gujarat	6	8	14
7	Haryana	1	1	2
8	Himachal Pradesh	1	0	1
9	Jharkhand	2	15	17
10	Karnataka	1	14	15
11	Kerela	4	2	6
12	Madhya Pradesh	2	12	14
13	Maharashtra	8	14	22
14	Odisha	12	7	19
15	Rajasthan	4	11	15
16	Sikkim	3	5	8
17	Tamil Nadu	4	11	15
18	Telangana	5	10	15
19	Tripura	2	0	2
20	Uttar Pradesh	39	5	44
21	Uttarakhand	4	5	9
22	West Bengal	12	4	16
23	Daman & Diu	1	0	1
24	NCT of Delhi	2	0	2
25	Jammu & Kashmir	3	0	3
Total		**200**	**140**	**340**

Central Water Commission through its 29 flood forecasting Divisions issued forecasts to the various user agencies, which includes various civil/ engineering agencies of the States/Central Governments such as Irrigation/ Revenue/ Railways/public undertakings and Dam/Barrage Authorities/District Magistrates/Sub Divisional Officers besides the Defence Authorities involved in

the flood loss mitigation work. During the flood season, the Hon'ble Minister of Jal Shakti, Government of India, the Chairman and the Member (River Management) of Central Water Commission were also being apprised of the latest flood situations in the above river basins in the country.

1.3 CLASSIFICATIONS OF VARIOUS FLOOD SITUATIONS

The Central Water Commission has categorized various flood situations, for monitoring the floods in the country through its level flood forecasting network, into the following 3 different categories, depending upon the severity of floods i.e. based on floods magnitudes.

(i) ABOVE NORMAL FLOOD

The river stage is said to be in **'ABOVE NORMAL'** situation at any Hydrological Observation station when the water level of the river touches or crosses the warning level, but remains below the danger level of the forecasting site.

(ii) SEVERE FLOOD

If the water level of the river touches or crosses its danger level, but remains below the Highest Flood Level of the site (commonly known as 'HFL'), then the river is in a '**SEVERE FLOOD'** situation.

(iii) EXTREME FLOOD

The flood situation is said to be **'EXTREME FLOOD'** when the water level of the river touches or crosses the '**HIGHEST FLOOD LEVEL'** recorded so far at any water level station.

1.4 STANDARD OPERATING PROCEDURE (SOP) FOR FLOOD FORECASTING & WARNING

The basic activity of data collection, its transmission and dissemination of flood forecasts to the local administration is carried out by the field divisions of CWC. The modeling centres and Divisional Flood Control Rooms (DFCR) are located in the premises of the field divisions. The field divisions perform these activities as per existing Manual on Flood Forecasting which contains the following critical activities as the general SOPs:

1. Nomination of Nodal Officers of CWC for interaction with the Nodal Officers of concerned State Governments before monsoon every year.
2. Gearing up of flood forecasting network before monsoon every year.
3. Operation of Divisional Flood Control Room (DFCR) during monsoon every year.
4. Operation of Central Flood Control Room (CFCR) during monsoon every year.
5. Issue of flood forecasts to designated officers of concerned State and transmission thereof through FAX/ Telephone/ E-mail/ Special Messengers during monsoon every year.
6. Sending flood alerts through SMS/Whatsapp on Mobile Phones to the concerned officers of State/ Central Government during severe (6 hourly updates) and extreme (3 hourly updates) flood situations and uploading of Flood Forecasts and hourly water level data in CWC's Flood Forecasting Website as per Standard Operating procedure (SOP).

For the purpose of dissemination of alerts to PMO/Cabinet Secretariat, a uniform system has been devised by categorizing each type of alert in stages- Yellow, Orange and Red.

Categories of alerts for flood in respect of level forecasts is as indicated below.

Category	Description	Stage
III	Above Normal Flood (Water level between Warning level and Danger level)	Yellow
II	Severe Flood (Water level below HFL and above Danger Level)	Orange
I	Extreme Flood (Water Level equal and above Highest Flood Level - HFL)	Red

1.4.1 CAP ALERT THROUGH C-DOT IN ASSOCIATION WITH NDMA:

Common Alert Protocol (CAP) alerts are generated through an application developed by Centre for Development of Telematics (C-DoT) in association with NDMA. CAP alerts was first implemented during 2021 for Tamilnadu as a pilot project. In 2022 CAP alerts were issued pan India level through dedicated website https://platform.sachetdashboard.ndma.gov.in/. These alerts will be initially dispatched to the first beneficiary viz. SDMAs, who will in turn make understandable warnings to warn the general public. CWC (HQ) uploaded the alerts related to the level forecast to the dedicated website. In 2024, CWC disseminated 5740 CAP alerts to concerned SDMA's.

1.5 INFLOW FORECAST

Inflow Forecasts are issued for dams/reservoirs/barrages in various river basins in the country. The project authorities have identified the threshold inflow limits for issue of forecast considering various factors such as safety of the dam, status of reservoir, downstream channel/ canal requirements. The inflow in volume during the given duration indirectly indicates the possibility of accommodating the given volume, or otherwise, in the reservoir. The outflow pattern is decided keeping in view of the safety measures at the reservoir and the likely impact of the outflow from the reservoir to cause damages/ difficulties in the downstream areas giving due attention to the Emergency Action Plan (EAP) of the project. There is need for EAP for all reservoirs covering normal operational releases and high releases during floods.

The salient features of all Flood Forecasting Sites **is shown in Annex – II**. The basin-wise as well as state-wise details of level and inflow sites during the flood season 2024, is shown at**, Annex – III (A & B)** and **Annex – IV (A & B)** respectively.

1.6 DATA COMMUNICATION SYSTEM

Central Water Commission maintains Wireless Stations for near real–time data communication. These wireless sets work on pre-fixed schedules for receiving the vital hydro-meteorological data immediately after its observation. In addition, telephone/ mobile phone and internet are also used for dissemination of flood forecasts to user agencies.

Now under modernization program, satellite based Telemetry System has been installed at various stations for sensor based automatic data collection and satellite based communication.

The installation of Telemetry System for automatic sensor based data collection and satellite based data communication was initiated during IX Plan. At present, 1121 telemetry stations have been installed.

The telemetry data received was mainly used by the divisions for formulating flood forecast. The telemetry data is also directly transferred to WIMS as central repository. Expansion of telemetry network is shown in **Fig 1.2** and **Table - 1.4.**

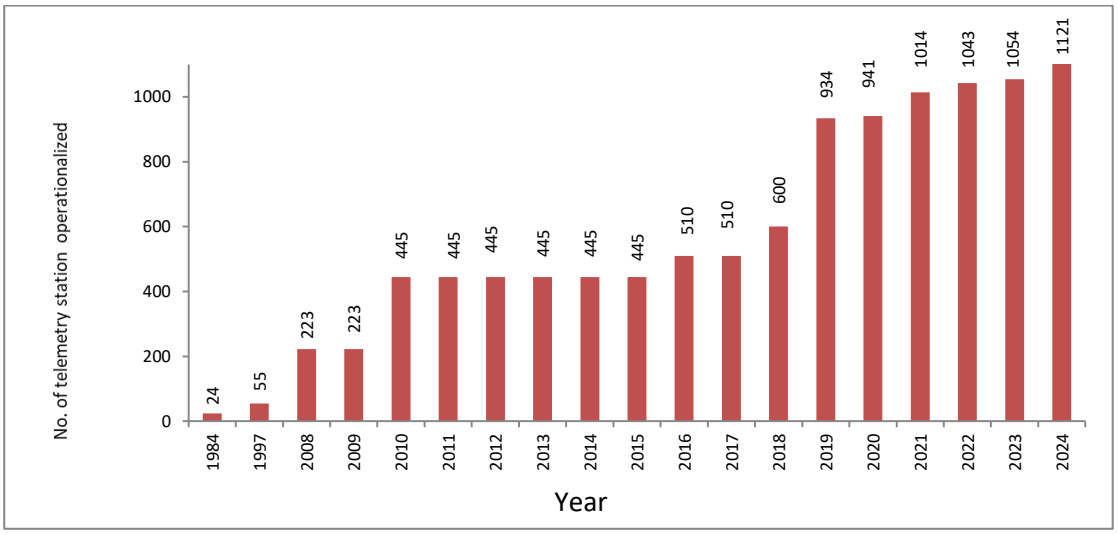


Fig. 1.2: Expansion of Telemetry Network

Table 1.4: TELEMETRY STATUS

Plan	No. of Stations with telemetry	Basins	No.
IX	55	Chambal	
		Upper Mahanadi Basin	
X	168	Godavari	63
		Krishna	41
		Brahmaputra	21
		Damodar	20
		Yamuna	15
		Mahanadi	8
XI	222	Indus	4
		Ganga	63
		Yamuna	25
		Narmada & Tapi	76
		Mahanadi	36
		Brahmaputra	14
		Godavari	4
XII	515	Brahmaputra	67
		Yamuna	51
		Godavari	25
		Pennar	5
		Krishna	15
		Eastern River	30
		Teesta	50
		Narmada	12
		Ganga	153
		Chenab	4
		Mahi Tapi	24
		Southern River	38

		Cauvery	32
		Wainganga	9
XIV	83 (Under 125)	Ganga	42
		Krishna	12
Earth Receiving Centre		: **3** (New Delhi, Jaipur, Burla)	
Modelling Centre		: **27** (Agra, Asansol, Bengaluru, Bhubaneshwar, Burla, Bhopal, Chennai, Haridwar, Dibrugarh, Gandhinagar, Gangtok, Guwahati, Hyderabad (2 Nos.- one each for Krishna and Godavari basins), Jaipur, Jalpaiguri, Nagpur, Two at Lucknow, Bhusawal, Maithon, New Delhi (2 Nos.- One each at headquarter and Yamuna basin), Patna, Shimla, Surat and Varanasi.	

1.7 DAMAGE DUE TO FLOODS/ HEAVY RAINS BETWEEN 1953 TO 2022

The damage due to floods for the entire country was Rs. 49618 Crore during the flood season 2021. The average annual damages to crops, houses and public utilities from the year 1953 to 2021 as reported by the States/ UTs are of the order of Rs. 7055 Crore. The maximum annual damage reported is Rs. 57291 Crore during 2015.

A comparative details showing the details of damages occurred during the flood season 2020 to 2022 on different accounts, received from the revenue authorities of the State Governments is given in the **Table - 1.5**.

Table 1.5: Damages occurred during flood season 2020 to 2021

Sl. No	Items	Flood Damages				Flood Damages (1953 - 2021)	
		2020	2021	2022* (updated till 13.06.2023)	Average (1953-2021)	Maximum	
						Year	Damage
1	Area affected (mha)	6.90	16.75	1.60	7.38	1978	17.50
2	Population affected (millions)	27.43	38.57	14.31	32.34	1978	70.45
3	Damage to Crops (mha)	6.55	7.79	5.47	4.11	2005	12.30
4	Damage to crops (Rs. Crore)	5626.02	22809.18	5954.74	2235.82	2021	22809.18
5	Damage to houses	237196	461205	270327	1202701	2015	3959191

	(numbers)						
6	Damage to houses (Rs. Crore)	272.10	3960.07	1685.33	883.74	2009	10809.80
7	Cattle lost (number)	47463	64880	60742	90548	1979	618248
8	Human lives lost (numbers)	1815	1371	668	1671	1977	11316
9	Damage to public Utilities (Rs. Crores)	5458.01	25243.61	5955.01	3759.32	2013	38937.84
10	Total damages to crops, houses & public utilities (Rs. crores)	21189.17	49617.62	25116.43	7054.74	2015	57291.10

* Flood damage statistics available for States included are Andhra Pradesh, Assam, Jharkhand, Kerala, Maharashtra, Odisha, and Meghalaya.

1.8 ANALYSIS OF PERFORMANCE OF FLOOD FORECASTING NETWORK

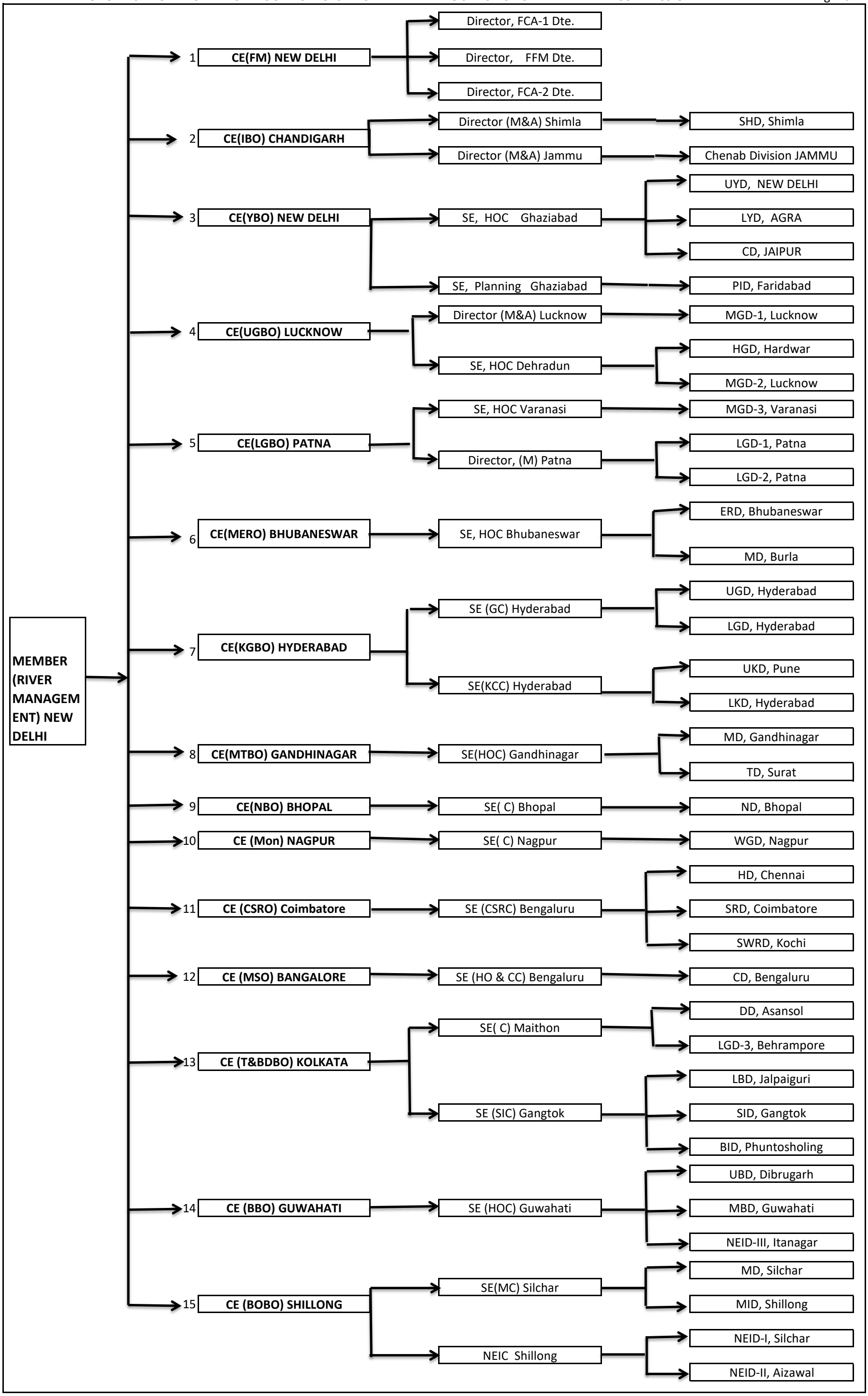
CWC carried out analysis and appraisal of the forecasting work, at the end of monsoon season. Based on this, measures for improvements are identified. A summary of the performance of the work carried out by the field divisions during the flood season 2024 has been presented in **Chapter - 4**. While the performance of the flood forecasting system is satisfactory, yet there is constant endeavor for improving the performance; especially for additional warning time as new technology and more data are becoming available.

1.9 ORGANISATIONAL SET-UP OF FLOOD FORECASTING NETWORK

The present organizational set-up of Flood-forecasting & Warning Establishment of Central Water Commission under the Member (River Management) is spread over regional offices of CWC each headed by a Chief Engineer. 20 Circle Offices and 36 Divisions in its field formations carry out flood forecasting activities. Chief Engineer (Flood Management) and Flood Forecast Monitoring Directorate monitor the Flood Forecasting activities at headquarters. CWC also issues flood bulletins at national level.

The organizational chart of Flood Forecasting and Warning set up of the Central Water Commission is given at **Fig. 1.3.** List of flood forecasting stations are in **Table - 1.6.**

ORGANISATIONAL CHART OF FLOOD FORECASTING AND WARNING SET UP OF CENTRAL WATER COMMISSION Fig-1.3



NOTE:- Chief Office-15, Directorate-3, Circle Office-20, Division Office-38(36 involved in Flood Forecasting & Monitoring)

Table 1.6: List of Flood Forecast Stations											
1	Sangam	60	Varanasi	119	Baltara	178	Teesta III HEP	237	Sardar Sarovar Dam	296	Malaprabha Dam
2	Rammunshibagh	61	Lucknow (Hanuman Setu)	120	Kursela	179	Rangit-III HEP Dam	238	Garudeswar	297	Narayanpur Dam
3	Safapora	62	Rae Bareilly	121	Sahibganj	180	Teesta V HEP	239	Bharuch	298	Vir Dam
4	Tehri Dam	63	Jaunpur	122	Taibpur	181	Singtam	240	Hathnur Dam	299	Ujni Dam
5	Srinagar	64	Ghazipur	123	Dhengraghat	182	Rongpo Dam	241	Ukai Dam	300	Deongaon Bridge
6	Ganganagar	65	Buxar	124	Jhawa	183	Rongli Dam	242	Surat	301	PD Jurala Project
7	Rishikesh	66	Ballia	125	Araria	184	Melli Bazar	243	Madhuban Dam	302	Upper Tunga
8	Haridwar	67	Banbasa Barrage	126	Farakka	185	Jorethang	244	Vapi	303	Bhadra Dam
9	Chaudhury Charan Singh Madhya Ganga Barrage	68	Katarniaghat Barrage	127	Massanjore Dam	186	Domohani Bridge	245	Daman	304	Tungabhadra Dam
10	Garhmukhteshwar	69	Elginbridge	128	Tilpara Barrage	187	Mekhliganj	246	Nasik	305	Singatlur Barrage
11	Narora Barrage	70	Ayodhya	129	Narayanpur	188	AP Ghat (Silchar)	247	N M D Weir	306	Mantralayam
12	Kachlabridge	71	Kakardhari	130	Sikatia Barrage	189	Matizuri	248	Kopergaon	307	Sunkesula Barrage
13	Fatehgarh	72	Balrampur	131	Gheropara	190	Badarpurghat	249	Mula Dam	308	Kurnool
14	Kalagarh Dam	73	Bansi	132	Tenughat Dam	191	Karimganj	250	Jaikwadi Dam	309	Srisailam Dam
15	Moradabad	74	Birdghat (Gorakhpur)	133	Tilaiya Dam	192	Kailashahar	251	Manjlegaon Dam	310	Musi Dam
16	Bareilly	75	Turtipar	134	Konar Dam	193	Sonamura	252	Gangakhed	311	Dr KLRS Pulichintala Dam
17	Dabri	76	Darauli	135	Panchet Dam	194	Getlasud Dam	253	Yeldari Barrage	312	Prakasam Barrage
18	Kannauj	77	Gangpur Siswan	136	Maithon Dam	195	Chandil Dam	254	Nanded	313	Avanigadda
19	Ankinghat	78	Chhappra	137	Durgapur Barrage	196	Galudih Barrage	255	Karanja Dam	314	Somasila Dam
20	Kanpur	79	Bansagar Dam	138	Sundar Dam	197	Jamshedpur	256	Singur Dam	315	Nellore
21	Dalmau	80	Rihand Dam	139	Harinkhola	198	Rajghat	257	Nizamsagar Dam	316	Poondi Reservoir
22	Phaphamau	81	Annaraj Dam	140	Hinglow Dam	199	Mathani Rd Bridge	258	Sriramsagar Dam	317	Chembarampakkam Lake
23	Juddo Dam	82	Bhirawa Dam	141	Kangsabati Dam	200	Govindpur (NH5 Road Bridge)	259	Kaddam Project	318	Sathanur Dam
24	Ichari Dam	83	Inderpuri Barrage	142	Mohanpur	201	Salandi Dam	260	Sripada Yellampally Project	319	Gomukhi Dam
25	Paonta Sahib	84	Inderpuri	143	Yingkiong	202	Anandpur	261	Upper Wainganga Project	320	Wellington Dam
26	Hathnikund Barrage	85	Koelwar	144	Pasighat	203	Akhuapada	262	Chaurai/Machchagora Rsvr	321	Harangi Dam
27	Karnal Bridge	86	Maner	145	Dholla Bazar	204	Rengali Dam	263	Bawanthadi Reservoir	322	Hemavathy Dam
28	Mawi	87	Patna (Dighaghat)	146	Dibrugarh	205	Jenapur	264	Totladoh Project	323	Muthankera
29	Dhansa	88	Gandak Barrage	147	Namsai	206	Ravi Shankar Dam	265	Bhandara	324	Kabini Dam
30	Delhi Railway Bridge	89	Khadda	148	Naharkatia	207	Bango Dam	266	Gosikhurd Dam	325	K R Sagar Dam
31	Mathura	90	Chatia	149	Chenimari (Khowang)	208	Hirakud Dam	267	Pauni	326	Mettur Dam

Table 1.6: List of Flood Forecast Stations											
32	Agra	91	Dumariaghat	150	Nanglamoraghat	209	Naraj	268	Upper Wardha Prjoject	327	Bhavanisagar Dam
33	Etawah	92	Rewaghat	151	Sivsagar	210	Alipingal	269	Issapur/Upper Penganga	328	Savandapur
34	Gandhisagar Dam	93	Hajipur	152	Neamatighat	211	Nimapara	270	Balharsha	329	Kodumudi
35	Rana Pratap Sagar Dam	94	Patna Gandhighat	153	Subansiri Lower Dam	212	Purushottampur	271	Sirpur Town	330	Kodaganar Dam
36	Kota Barrage	95	Amanat Dam	154	Chouldhuaghat	213	Gunupur	272	Mid Manair Dam	331	Musiri
37	Kota City	96	Batane Dam	155	NH Xing Ranganadi	214	Kashinagar	273	Kaleswaram	332	Upper Anicut
38	Bisalpur Dam	97	Sripalpur	156	Badatighat	215	Gotta Barrage	274	Laxmi Barrage	333	Grand Anicut
39	Kalisindh Dam	98	Hathidah	157	Golaghat	216	Thottapalli reservoir	275	U Indravati Project	334	Vaigai Dam
40	Parwan Dam	99	Munger	158	Numaligarh	217	Madduvalasa Rsvr	276	Jagdalpur	335	Madurai
41	Gambhiri Dam	100	Lalbeghiaghat	159	Jiabharali NT Road Crossing	218	Narayanpuram Anicut	277	PVN Rao Kanthapally Projct	336	Kumbidi
42	Panchana Dam	101	Ahirwalia	160	Tezpur	219	Srikakulam	278	Eturunagaram	337	Idduki Dam
43	Gudha Dam	102	Sikandarpur (Muzzafarpur)	161	Kampur	220	Dantiwada Dam	279	Dummagudem	338	Idamalayar Dam
44	Parwati Dam	103	Samastipur	162	Dharamtul	221	Abu Road	280	Bhadrachalam	339	Neeleswaram
45	Dholpur	104	Rosera	163	Guwahati	222	Dharoi Dam	281	Kolab Project	340	Malakkara
46	Manderial	105	Khagaria	164	Puthimari NH Crossing	223	Shetrunji Dam	282	Machkund Project		
47	Auraiya	106	Bhagalpur	165	Pagladiya NT Rd Crossing	224	Shubhash Bridge (Ahmedabad)	283	Balimela Project		
48	Kalpi	107	Kahalgaon	166	Mathanguri	225	Mahi Bajajsagar Dam	284	Chinturu		
49	Hamirpur	108	Kosi Barrage	167	Beki Road Bridge	226	Som Kamla Amba Dam	285	Kunavaram		
50	Rajghat Dam	109	Basua	168	Manas NH Crossing	227	Kadana Dam	286	Indirasagar		
51	Madikhera	110	Dheng Bridge	169	Goalpara	228	Panam Dam	287	Rajahmundry (Rly Bridge)		
52	Matatila Dam	111	Runisaidpur	170	Kokrajhar	229	Wanakbori Weir	288	Dowlaiswaram Barrage		
53	Mohana	112	Benibad	171	Dhubri	230	Mandla	289	Atreyapuram		
54	Shahjina	113	Kamtaul	172	Golokganj	231	Barna Dam	290	Koyna Dam		
55	Banda	114	Ekmighat	173	Tufanganj	232	Bargi Dam	291	Warna Dam		
56	Chillaghat	115	Hayaghat	174	NH 31 (Jaldhaka)	233	Tawa Dam	292	Arjunwad		
57	Naini	116	Jainagar	175	Hasimara	234	Hoshangabad	293	Hippargi Barrage		
58	Chhatnag (Allahabad)	117	Jhanjarpur	176	Ghugumari	235	Indira Sagar Dam	294	Hidkal Dam		
59	Mirzapur	118	Sonebarsa	177	Mathabanga	236	Omkareswar Dam	295	Almatti Dam		

CHAPTER – 2

ROLE OF INDIA METEOROLOGICAL DEPARTMENT IN FLOOD FORECAST ACTIVITIES

2.1 ROLE OF INDIA METEOROLOGICAL DEPARTMENT

India Meteorological Department (IMD) is the nodal agency for issuing river sub-basin-wise Quantitative Precipitation Forecast (QPF). Central Water Commission (CWC) is the nodal agency for issuing Flood Forecast in the country. Flood forecasting, therefore, is the joint responsibility of IMD & CWC and there is a close coordination between the two departments in this activity (fig. -2.1). Flood Meteorological Offices (FMOs) of IMD provide hydrometeorological support mainly in terms of river sub-basin-wise 'Quantitative Precipitation Forecast (QPF)' through QPF & Hydro-met Bulletins. QPF bulletins and Hydromet Bulletins are issued at 0930hrs IST and at 1230hrs IST respectively. This special river sub-basin-wise forecast for a lead time of 7-days (forecast for 5 days and outlook for subsequent 2 days) are issued daily during flood season. QPF bulletins are further modified in the evening, if situation demands. These Bulletins are also issued by concerned FMOs during cyclone period or when there is a chance of heavy rainfall which may lead to flood in non-flood season.

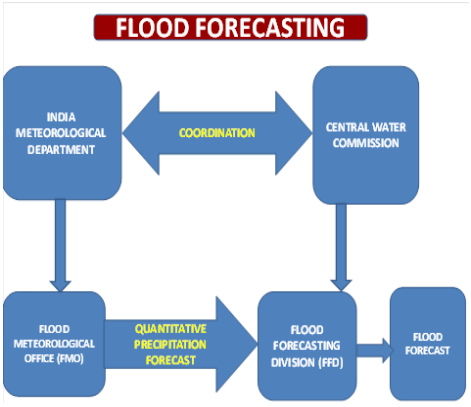


Fig.: 2.1 Coordination in Flood Forecast

The input of Hydro-met Bulletin are as follows;

a. Prevailing synoptic situations
b. River sub-basin wise QPF and probabilistic QPF for day-1, day-2, day-3, day-4 and day-5 for the categories as follows:
   i) 0 mm (ii) 0.1-10mm (iii) 11-25mm (iv) 26-50mm (v) 51-100mm (vi) >100mm
c. River sub-basin-wise outlook for the subsequent two days
d. River sub-basin-wise Heavy rainfall warnings
e. River sub-basin-wise Intensity and Spatial distribution of rainfall
f. Station-wise recorded significant rainfall
g. River sub-basin-wise past 24hrs realized rainfall

IMD has established 15 Flood Meteorological Offices (FMOs) at different parts of flood prone areas of the country which are located at Agra, Ahmedabad, Asansol, Bhubaneswar, DVC, Guwahati, Hyderabad, Jalpaiguri, Lucknow, New Delhi, Srinagar, Chennai, Bengaluru, Patna and Thiruvananthapuram (fig. 2.2). They cater to the river catchments of Yamuna, Narmada, Tapi, Ajoy, Mayurakshi and Kangsabati, Mahanadi, Brahmani and Subernarekha, Brahmaputra, Dhansiri and Barak, Godavari and Krishna, Cauvery, Teesta, Ganga and

Sharada, and Sahibi, Kosi, Baghmati, Gandak, etc. IMD also provides similar support to Damodar Valley Corporation (DVC) for the river basins viz., Barakar and Damodar. Flood Meteorological Offices of IMD provide hydrometeorological support to Flood Forecasting Divisions (FFDs) of Central Water Commission (CWC) to help them issue 'Flood warnings/Flood alerts'.

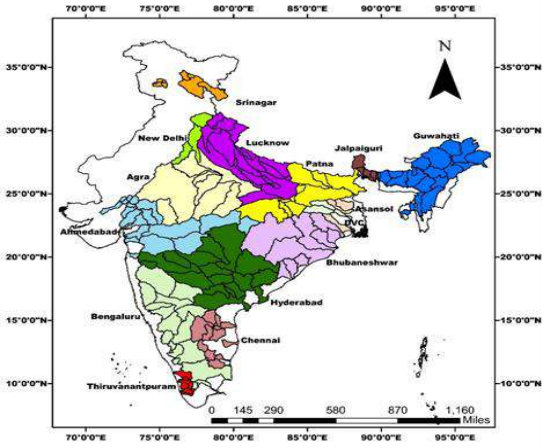


Fig.: 2.2 Flood Meteorological Offices

2.2 District-wise Rainfall Monitoring Scheme (DRMS)

The performance of monsoon rainfall over the country is monitored by evaluating the departures of area weighted total rainfall from the normal rainfall in respect of meteorological districts, sub-divisions, State and Country as a whole. IMD has categorized the rainfall as Large excess, Excess, Normal, Deficient and Large deficient according to the following criteria along with the color codes for graphical representation;

CATEGORY	% DEPARTURES OF RAINFALL	COLOUR CODE
Large Excess (LE or L. Excess)	> = 60%	
Excess (E)	>= 20% and <= 59%	
Normal (N)	>= - 19% and <= + 19%	
Deficient (D)	>= - 59% and <= - 20%	
Large Deficient (LD or L. Deficient)	>= - 99% and <= - 60%	
No Rain (NR)	= - 100%	
No Data (*)	Data Not Available	

2.3 SOUTH WEST MONSOON

India receives about 75% of its Annual rainfall during the Southwest monsoon season from June to September except over some portions of southeastern parts of Peninsular India where the main rains occur during the period of Northeast monsoon from October to

December, which overlap with the receding stage of the Southwest monsoon in October. Occasionally, cyclonic storms develop in the South Bay and move into the Peninsula producing heavy rains during Northeast monsoon season.

Southwest monsoon onsets over Kerala in the beginning of June and then advances further. During the season, spells of heavy, very heavy and extremely heavy rainfall occur across the country especially along the west coast of the Peninsula and on the southern slopes of Khasi and Jaintia hills in Northeast India.

In association with Depressions which occasionally form in the North Bay of Bengal and move west-northwestwards, heavy rains occur in the central parts of the country, Orissa, Gangetic West Bengal, Bihar, East and West Madhya Pradesh, East Rajasthan and Gujarat region.

A very important characteristic of southwest monsoon is the occurrence of "break". The break situations arise when the monsoon trough shifts to the foothills of Himalayas and are very important as these cause floods in the rivers rising from the Eastern Himalayas. Sometimes, the phenomenon of break sets in immediately after a monsoon depression and occurrence of associated intense rainfall activity takes place. These two causes occurring in succession serve to intensify the floods.

The whole of India has been divided into 36 meteorological subdivisions by India Meteorological Department (IMD) for the purpose of description of rainfall/monsoon activities and for forecasting purpose.

2.4 HIGHLIGHTS OF SOUTH-WEST MONSOON 2024

- The southwest monsoon season rainfall over the country as a whole during 2024 was normal (108% of the Long Period Average (LPA)).

- The monthly rainfall over the country as a whole was less than LPA during the month of June (89% of LPA) and more than LPA during July (109% of LPA), August (115% of LPA) and September (112% of LPA).

- The homogeneous regions of Northwest India (107% of LPA) received normal monsoon rainfall, whereas Central India (119% of LPA), and South Peninsula (114% of LPA) received above normal monsoon rainfall. However, East & Northeast India (86% of LPA) received below- normal rainfall.

- Out of the total 36 meteorological sub-divisions, 2 sub-divisions (West Rajasthan and Saurashtra & Kutch) covering 9% of the total area of the country received large excess seasonal monsoon rainfall, 10 sub-divisions constituting 26% of the total area received excess rainfall, 21 sub-divisions covering 54% of the total area of the country received normal rainfall, and 3 sub-divisions (Arunachal Pradesh, Punjab, J & K and Ladakh) constituting 11% of the total area received deficient seasonal rainfall.

- During the season, 14 Low Pressure Systems including 7 Low Pressure Areas, 3 Depressions, 3 Deep Depressions and 1 Cyclonic Storm (ASNA) developed over the Indian region. During the season, the region witnessed formation of LPS on 62.6 days against the normal of about 57 days.

Fig.2. 3 Sub-divisional rainfall map of 2024 monsoon season.

2.5 ONSET AND ADVANCE OF SOUTHWEST MONSOON 2024

Southwest monsoon current advanced to the south Andaman Sea and Nicobar Islands on 19th May, 3 days ahead of its normal date. It set in over Kerala on 30th May, 2 days earlier than its normal date. It covered the entire country by 2nd July, 6 days earlier than its normal date of 8th July. The onset and advance of the monsoon 2024 over the Indian subcontinent are depicted in Figure 2.4.

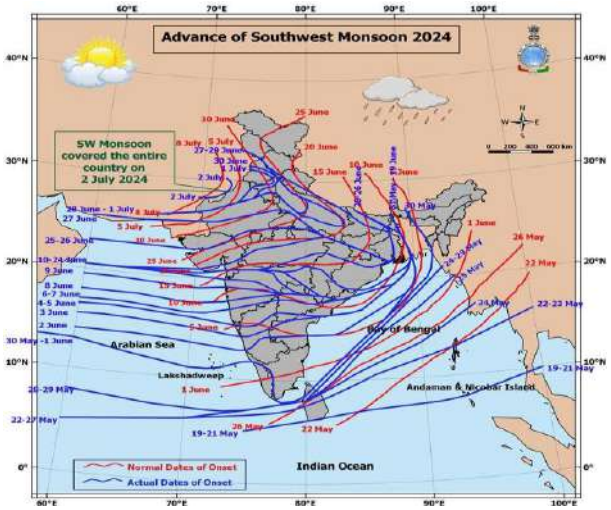


Fig.2.4 : Isochrones of the advance of southwest monsoon 2024

2.6 Synoptic Disturbances during SWM 2024

One cyclonic storm, three deep depression, three depressions, two well-marked low-pressure area, five low pressure areas formed during the monsoon season 2024.

Number of low pressure systems formed during SWM 2024

Month	L	WML	D	DD	CS	Total
June	1	0	0	0	0	1

July	1	1	1	0	0	3
August	2	1	1	1	1	6
September	1	0	1	2	0	3
Monsoon 2024	5	2	3	3	1	14

2.7 Withdrawal of the Southwest Monsoon

With reduction in the rainfall and formation of the anti-cyclonic circulation in lower troposphere, withdrawal of the SW-monsoon 2024 from northwest Indian region began on 23rd September against the normal date of 17th September. The SWM initially withdrew from parts of West Rajasthan and Kutch. However, further withdrawal was delayed by a week due to the north-westward movement of a low-pressure system that had developed over the Bay of Bengal. As moisture levels and rainfall activity reduced, the monsoon retreated from parts of Punjab, eastern Rajasthan, and Gujarat on 1st October 2024. With a continued reduction in rainfall activity across central and northern India, it withdrew from the entire western Himalayan region, parts of West Uttar Pradesh, and West Madhya Pradesh by 4th October. However, due to ongoing rainfall in the Gujarat region, the withdrawal was temporarily stalled there. Finally, as moisture levels decreased, monsoonal flow weakened, and rainfall activity subsided, the southwest monsoon retreated further from most parts of the Indo- Gangetic plains, central India, the majority of Gujarat, and the North Arabian Sea by 08th October. The SWM withdrew from the entire country on 15th October (Fig. 2.5).

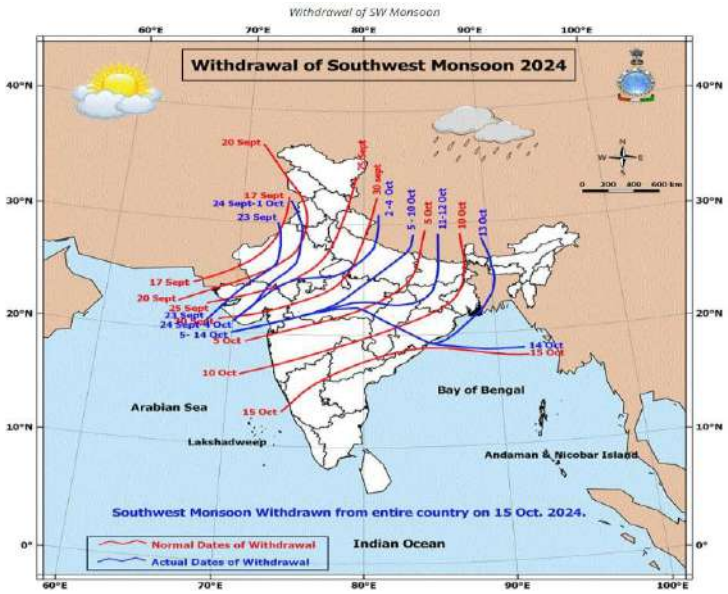


Fig. 2.5: Isochrones for withdrawal of Southwest Monsoon 2024

2.8 Conclusion

The southwest monsoon 2024 rainfall over the country as a whole during season was 108% of its long period average (LPA). Monthly rainfall over the country as a whole was 89% of LPA in June, 109% of LPA in July, 115% of LPA in August, and 112% of

LPA in September. The variations of the semi-permanent features of the SWM 2024 are in concurrence with the rainfall departures during the season.

The southwest monsoon advanced over the South Andaman Sea and Nicobar Islands on 19th May 2024, two days ahead of its normal onset date. It reached Kerala by 30th May 2024, 2 days earlier than the normal date of 1st June, and covered the entire country by 2nd July 2024, six days ahead of the normal date of 8th July. The withdrawal of the monsoon began from West Rajasthan on 23rd September, marking a delay of six days from the normal date. The SWM 2024 witnessed the one cyclonic storm, three deep depressions, three depressions, two well-marked low-pressure areas and five low pressure areas.

Monsoon withdrawal commenced from west Rajasthan on 23rd September (with a delay of 6 days). With establishment of an anti-cyclonic circulation over the central Indian region and by satisfying all the conditions necessary for withdrawal of the monsoon from the country, SWM was withdrawn from entire Rajasthan, western Himalayan region, Punjab, Haryana, Delhi, Most part of the Gujarat and some parts of the Uttar Pradesh, Madhya Pradesh, and Maharashtra as on 08th October 2024. The SWM withdrew from the entire country on 15th October.

2.9 Significant weather events during the season

The resultant weather which affected normal life and damage to property, excluding those from the lack of timely rains, are depicted in Fig. 2.6. High impact weather manifested as extremely heavy rainfall (rainfall amount ≥ 21cm during 24 hours) is also marked over the affected sub-divisions in the figure. A detailed analysis of some of these events is made in the subsequent chapters.

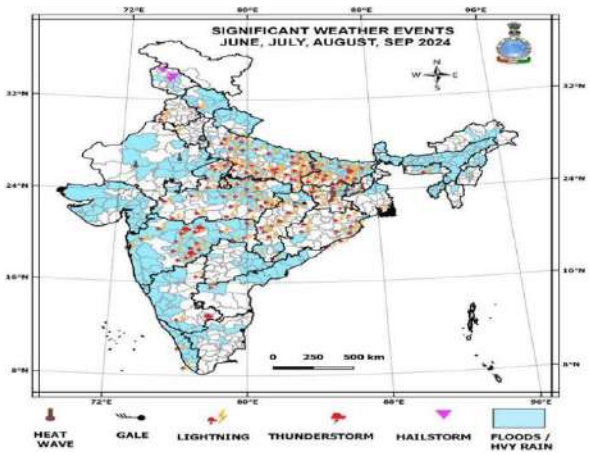


Fig. 2.6: Significant weather events during SWM season 2024 causing disastrous situations

2.9 RAINFALL DISTRIBUTION

The southwest monsoon season rainfall over the country as a whole during 2024 was 108% of LPA. Rainfall distribution was generally well-distributed over major parts of the country, except Arunachal Pradesh, Jammu and Kashmir & Ladakh and Punjab meteorological sub-divisions. The country as a whole, rainfall during the month

of July (109% of LPA), August (115% of LPA) & September (112% of LPA) was above normal, whereas rainfall during the month of June (89% of LPA) was below normal.

During the monsoon season, homogeneous regions of Central India (119% of LPA) and South Peninsula (114% of LPA) received above normal rainfall, Northwest India (107% of LPA) received normal rainfall, while East & Northeast India (86% of LPA) received below normal rainfall.

General Features (Rainfall):

For the country as a whole, seasonal rainfall at the end of the southwest monsoon season (June to September) was 934.8 mm, which is 108% of Long Period Average (LPA; 1971-2020) of 868.6 mm.

The four homogeneous regions received seasonal rainfall as follows:

i. East & Northeast India : 86% of LPA
ii. Northwest India : 107% of LPA
iii. Central India : 119% of LPA
iv. South Peninsula : 114% of LPA
v.

The country received monthly rainfall during the season as follows:

i. June : 89% of LPA
ii. July : 109% of LPA
iii. August: 115% of LPA
iv. September: 112% of LPA

2.11 INDIAN NORTHEAST MONSOON

The Indian southwest monsoon (SWM) season of June to September is the chief rainy season for India and about 75% of the country's annual rainfall is realised during this season. Subsequent to the withdrawal of SWM, the North East monsoon (NEM), a small scale monsoon confined to parts of southern peninsular India comprising of the meteorological sub-divisions of Tamil Nadu, Puducherry & Karaikal (TN), Kerala & Mahe (KER), Coastal Andhra Pradesh & Yanam (CAP), Rayalaseema (RYS) and South Interior Karnataka (SIK) occurs. For the subdivision of TN, the normal SWM seasonal rainfall realised is only about 36% (336.1 mm) of its annual rainfall (939.3 mm) as this subdivision comes under the rain-shadow region during the SWM. The northeast monsoon (NEM) season of October to December (OND) is the chief rainy season for this subdivision with 48% (443.3 mm) of its annual rainfall realised during this season and hence its performance is a key factor for this regional agricultural activity.

Further, the NEM season is also the primary cyclone season for the North Indian Ocean (NIO) basin comprising of the Bay of Bengal (BOB) and the Arabian Sea (AS) and cyclonic disturbances (CDs; low pressure systems (LPS) with maximum sustained surface wind speed (MSW) of 17 knots or more) forming over BOB and moving west/northwest-wards affect the coastal areas of southeastern peninsular India and also contribute significantly to NEM rainfall. As such, the NEM season assumes importance from the agricultural as well as cyclone disaster management perspectives.

Prior to the commencement of NEM rains, after the withdrawal of SWM upto 15°N, reversal of low level winds from southwesterly to northeasterly occurs. The normal date of setting in of easterlies over the southeastern peninsular India is 14th October. The normal date of onset of NEM over Coastal TN (CTN) and south CAP is 20th October.

The NEM rainfall is influenced by global climate parameters such as ENSO (El Nino/La Nina & Southern Oscillation Index), Indian Ocean Dipole (IOD) and Madden-Julian Oscillation (MJO). El Nino, positive IOD and MJO in phase 2-4 with amplitude greater than one are generally associated with good NEM rainfall.

2.12 Salient Features of NE Monsoon Season 2024

- Northeast Monsoon (October to December (OND)) season rainfall over the south Peninsular India consisting of five meteorological subdivisions (Tamil Nadu (Puducherry & Karaikkal), Coastal Andhra Pradesh & Yanam , Rayalaseema, Kerala & Mahe and South Interior Karnataka) was observed to be above normal (>112% of Long Period Average (LPA)).
- Out of the total 5 meteorological subdivisions, 3 subdivision received above normal seasonal rainfall ,1 subdivision received below normal rainfall and 1 subdivision received normal rainfall.
- October 2024 experienced heavy rainfall events primarily over Tamil Nadu and South Interior Karnataka. In November 2024, below-normal rainfall was recorded across all five subdivisions. In December 2024, extremely heavy rainfall events were observed across all five subdivisions.
- In the month of October, total of four Low Pressure Systems formed during the month. Out of which, two became depression, one Severe Cyclonic Storm and one Low Pressure Area. A total of 19 LPS days was observed during the month. During the month, it was back to back depressions over Arabian Sea (13-15 Oct) and Bay of Bengal (15-17 Oct) and formed and moved during the withdrawal phase of southwest monsoon. During November, there were two Low Pressure Systems (LPS) formed over Bay of Bengal (BoB): during November and one system intensified in to cyclonic storm “FENJAL” A feeble LPS for 2 days over Southwest Bay of Bengal off the Tamil Nadu coast during 12-13 November 2024 and the Cyclonic storm “FENGAL” (pronounced as FEINJAL) formed over Southwest Bay of Bengal - 25 Nov to 2 Dec 2024.During December one depression formed over Bay of Bengal during 20 -21 December (16 dec 2024 to 26 dec 2024 total low pressure days of this system). Besides this depression a well-marked low pressure area formed over Bay of Bengal during 7- 15 December.

Chapter -3

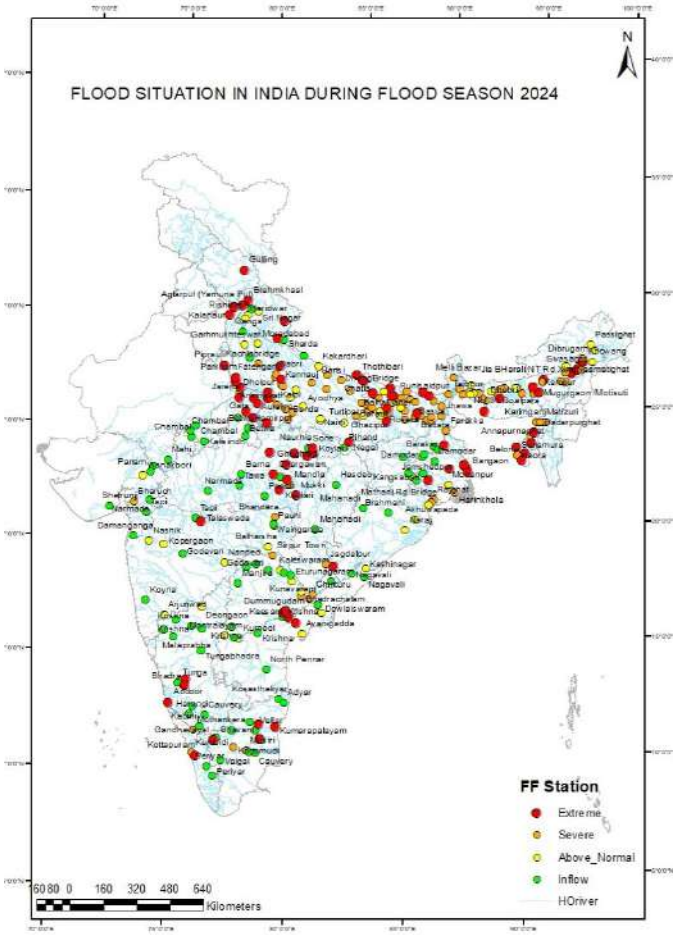
SIGNIFICANT FLOOD EVENTS

3.1 GENERAL

The Flood Forecasting Activity was expanded to 340 locations which includes 140 inflow forecasting sites. Desired hydro-meteorological data was observed/collected, during the flood season 2024 for these stations. Flood situation is monitored with respect to Warning Level (WL), Danger Level (DL) & previous Highest Flood Level (HFL).

3.2 AN OVERVIEW OF FLOOD EVENTS

Extreme flood situation (water level at or above previous HFL) were witnessed in 6 Flood Forecasting Stations in the State of Assam and Bihar. Severe flood events (water level at or above DL and below HFL) were witnessed in 91 stations and above normal floods (water level at or above WL and below DL) were witnessed at 50 stations and inflow forecasts were issued in 83 Stations. **Map 2** below shows the flood situation in the country during the year 2024.



Map 2: Flood situation in India during 2024

The number of stations flowed in Extreme, Severe, Above Normal Flood situation and the inflow Forecast issued during flood season 2024 are shown in **Fig 3.1.**

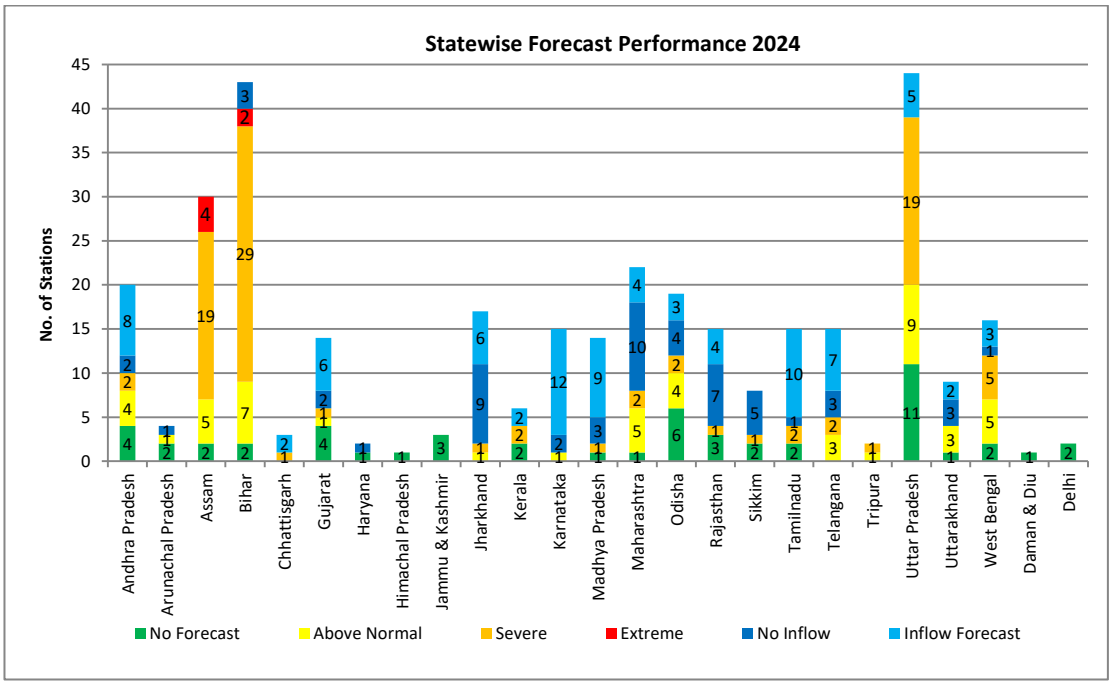


Fig 3.1 : Figure showing number of stations flowing in Extreme, Severe, Above Normal Flood situation and the inflow Forecast during flood season 2024.

State-wise flood situation, in terms of number of stations exceeding WL, DL, HFL and inflow exceeding threshold value at dams/barrages, has been tabulated in the following **Table 3.1**

Table 3.1

State/UT	Levels Exceeded				Inflow Exceeded	
	Below Warning Level	Above Normal	Severe Flood	Extreme Flood	No Inflow	Inflow Forecast
1	2	3	4	5	6	7
Andhra Pradesh	4	4	2	0	2	8
Arunachal Pradesh	2	1	0	0	1	0
Assam	2	5	19	4	0	0
Bihar	2	7	29	2	3	0
Chhattisgarh	0	0	1	0	0	2
Gujarat	4	1	1	0	2	6
Haryana	1	0	0	0	1	0
Himachal Pradesh	1	0	0	0	0	0
Jammu & Kashmir	3	0	0	0	0	0
Jharkhand	0	1	1	0	9	6
Kerala	2	0	2	0	0	2
Karnataka	0	1	0	0	2	12
Madhya Pradesh	1	0	1	0	3	9
Maharashtra	1	5	2	0	10	4

Odisha	6	4	2	0	4	3
Rajasthan	3	0	1	0	7	4
Sikkim	2	0	1	0	5	0
Tamilnadu	2	0	2	0	1	10
Telangana	0	3	2	0	3	7
Tripura	0	1	1	0	0	0
Uttar Pradesh	11	9	19	0	0	5
Uttarakhand	1	3	0	0	3	2
West Bengal	2	5	5	0	1	3
Daman & Diu	1	0	0	0	0	0
Delhi	2	0	0	0	0	0
Total	**53**	**50**	**91**	**6**	**57**	**83**

Basin wise information in terms of number of stations flowed in Extreme, Severe, Above Normal Flood situation and the inflow Forecast issued during flood season 2024 are shown in **Fig. 3.2.**

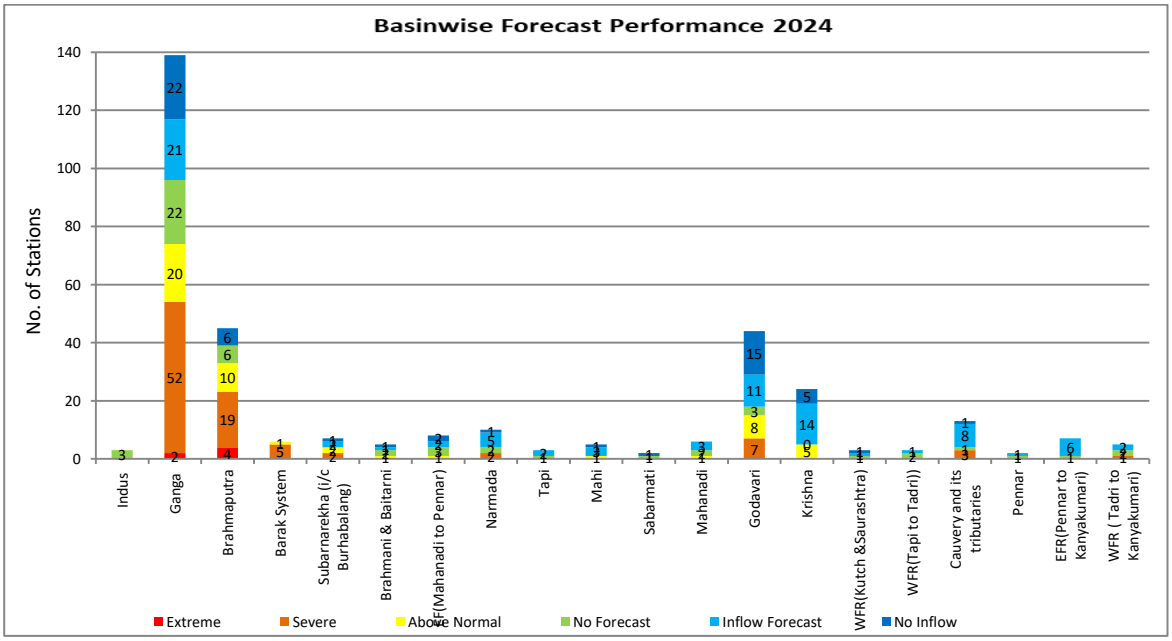


Fig 3.2 : Figure showing number of stations flowing in Extreme, Severe, Above Normal Flood situation and the inflow Forecast during flood season 2024 in different Basins

Basin-wise flood situation, in terms of number of stations in extreme, severe, above normal flood situation and inflow exceeding threshold value at dams/barrages, has been tabulated in the following **Table 3.2**

Table 3.2

Basin	**Level**				**Inflow**	
	Extreme Flood	**Severe Flood**	**Above Normal**	**Below WL**	**Inflow Forecast**	**No Inflow**
Indus	0	0	0	3	0	0
Ganga	2	52	20	22	21	22

Brahmaputra	4	19	10	6	0	6
Barak System	0	5	1	0	0	0
Subarnarekha (i/c Burhabalang)	0	2	2	0	2	1
Brahmani & Baitarni	0	0	1	2	1	1
EF(Mahanadi to Pennar)	0	0	1	3	2	2
Narmada	0	2	0	2	5	1
Tapi	0	0	0	1	2	0
Mahi	0	0	1	0	3	1
Sabarmati	0	0	0	1	0	1
Mahanadi	0	0	1	2	3	0
Godavari	0	7	8	3	11	15
Krishna	0	0	5	0	14	5
WFR(Kutch &Saurashtra)	0	0	0	1	1	1
WFR(Tapi to Tadri))	0	0	0	2	1	0
Cauvery and its tributaries	0	3	0	1	8	1
Pennar	0	0	0	1	1	0
EFR(Pennar to Kanyakumari)	0	0	0	1	6	0
WFR (Tadri to Kanyakumari)	0	1	0	2	2	0
	6	91	50	53	83	57

Details of flooding situation indicating districts affected and duration of different category of flood at a forecasting station during 2024 can be seen at **Annex – V**.

3.2.1 EXTREME FLOOD SITUATION

Extreme floods, exceeding previous highest flood levels (HFL), were observed in six sites namely **Sivsagar** in Sivasagar district, **Neamatighat** in Jorhat district, **Khowang** in Dibrugarh district and **Jia Bharali NT Road Crossing** in Sopnitpur district of Assam, **Dheng Bridge** in Sitamarhi district and **Runisaidpur** in Muzzafarpur district of Bihar during the year 2024.

73 Flood Monitoring Stations flowed in Extreme Flood Situation in Himachal Pradesh, Assam, Bihar, Kerala, Karnataka, Andhra Pradesh, Haryana, Maharashtra, Madhya Pradesh, Odisha, Rajasthan, Tamil Nadu, Tripura, Puducherry, Uttarakhand , Uttar Pradesh and West Bengal state.

Month wise number of flood forecast and monitoring stations witnessed Extreme Flood is shown in **Fig. 3.3**.

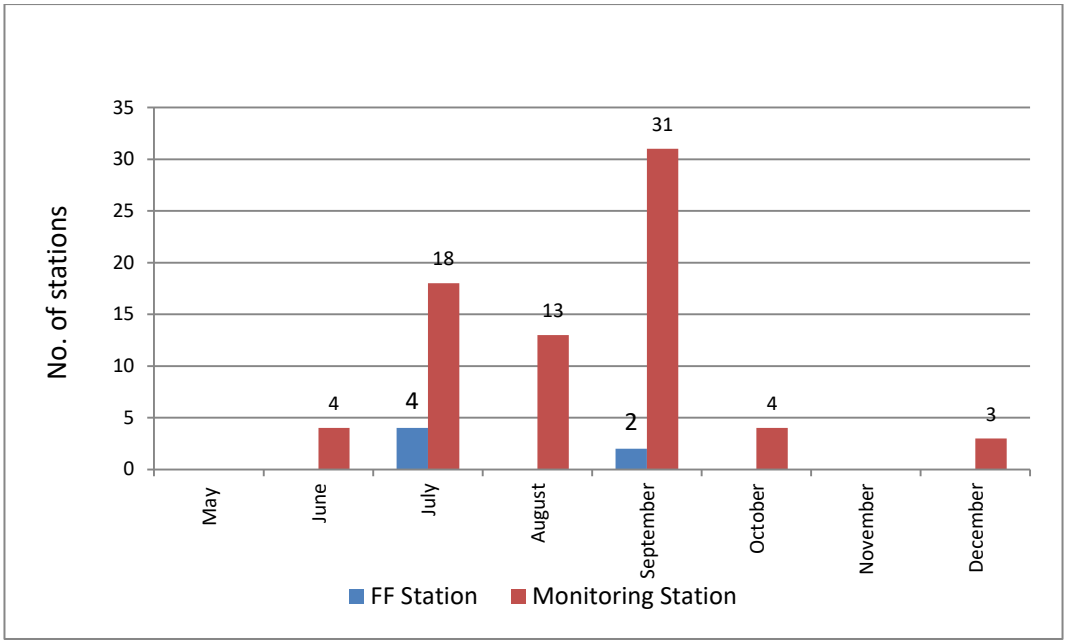


Fig. 3.3: Month wise number of flood forecasting/monitoring stations witnessed extreme floods during 2024

3.3 EXTREME FLOOD SITUATION (2019-2024)

It is observed that during the last 6 years extreme floods were witnessed in non-flood prone states such as Karnataka, Kerala, Maharashtra, Madhya Pradesh, Tamil Nadu in addition to existing flood prone states like Assam, Bihar, Odisha and Uttar Pradesh. **Fig 3.4** shows graph showing state wise extreme flood situation during the year 2019 to 2024.

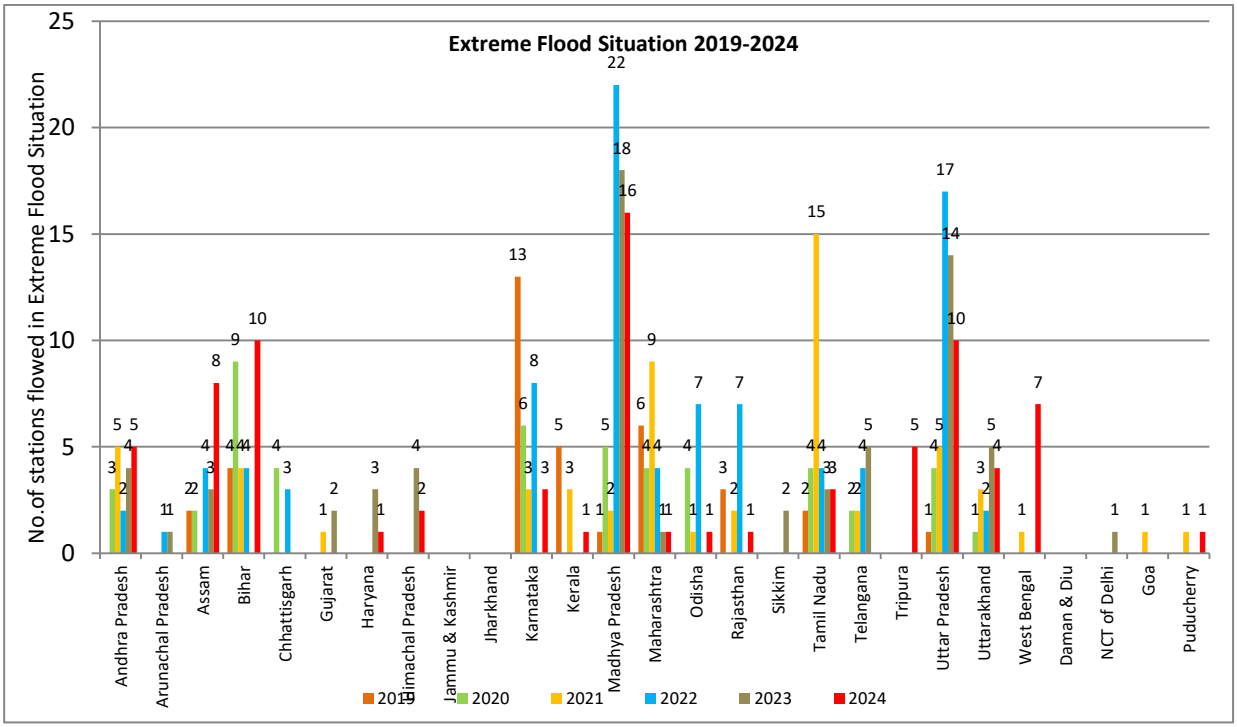


Fig. 3.4: State wise extreme flood situation during the years 2019 to 2024

3.4 MAJOR FLOOD EVENTS DURING LAST FEW YEARS

Year	States	Remarks
2011	**Odisha**	During the month of September Hirakud Dam received very heavy inflow and released huge quantum of water to downstream which causes unprecedented floods in delta area of Mahanadi.
2013	**Uttarakhand**	Very heavy to exceptionally very heavy rainfall recorded during the period 14th to 18th June 2013 in Uttarakhand due to cloudbursts which caused devastating floods and landslides. Due to this heavy rainfall, the glacier melts and Chorabari lake received large amount of water. This sudden increase of pressure broke the moraine embankment and the lake emptied in a few minutes, taking a large amount of debris and huge boulders along with water which led to heavy flood in Uttarakhand.
2014	**Jammu & Kashmir**	During the month of September extremely heavy rainfall occurred in Jhelum, Chenab and Tawi basin which causes the devastating flood.
2015	**Chennai**	During November heavy to very heavy rainfall occurred by NE monsoon system in Chennai due to which the lakes and reservoirs in Chennai got filled up and water was released from these reservoirs which leads to flood in Chennai.
2018	**Kerala**	During the Second and third week of August Kerala received extremely heavy rainfall. Due to back to back extremely heavy rainfall extreme flood situation occurred in Kerala.
2019	**Karnataka**	On first week of August Karnataka received 5 times more rainfall than the normal rainfall which causes intensified flood in Karnataka.
2020	**Assam**	During the month of July, Assam and Meghalaya received 30% more rainfall compared to normal rainfall. This excess rainfall causes flood in Assam.
2021	**Tamil Nadu , Andhra Pradesh**	Due to low pressure in Bay of Bengal occurred in November heavy to very heavy rainfall occurred in Andhra Pradesh. Due to this heavy rainfall Annamaya Dam receives high inflow and has breached. Overtopping and breach of Annamaya Dam leads to flood in the downstream areas.
2022	**Silchar(Assam)**	In the month of May 2022, parts of Silchar namely Rongpur and its adjacent areas were flooded due to heavy rainfall in the catchment area. Due to this river water overflowed the banks at many places and also overtopped some of the dykes of the Barak dyke system and flood water entered in some of the areas of Silchar. The dyke at Bethukandi which is located upstream of Annapurnaghat site was damaged and river water entered Silchar Town.
2023	**NCT Delhi, Sikkim Flood**	Very heavy rainfall occurred in Himalayan region upstream of Hathnikund Barrage during 9-11 July, 2023. The flow reached the Hathnikund Barrage on 11.07.2023 and Hathnikund Barrage passes peak discharge of 3.59 Lakh The high discharge downstream of Hathnikund Barrage created Flood situation in the river Yamuna. On 4 October 2023, due to heavy rains a Glacial Lake Outburst Flood (GLOF) occurred due to the breach of 'South Lhonak Lake' in the far north-western part of state of Sikkim and caused a devastating flood in river Teesta.
2024	**Tripura**	Due to Persistence of a Low Pressure Area over South Bangladesh and neighborhood from 18 to 22nd August and its intensification over the area led to incessant rains over Tripura and neighborhood resulting in flood situations in Gomti, Muhari rivers and other rivers in North and West Tripura.

CHAPTER - 4

FLOOD FORECAST PERFORMANCE

4.1 INTRODUCTION

A number of techniques are being utilised for formulation of river stage and inflow forecasts by Central Water Commission. While inflow forecast is being provided for assisting project authorities in reservoir regulation, the stage forecast is done for warning the civil and engineering authorities about the predicted water level well ahead of its occurrence. An accurate forecast is one where the forecast level and corresponding actual observed level exactly synchronize or have such a small difference that it can be taken as reasonably accurate. In an ideal situation, not only the forecast and the corresponding observed value of river stage/inflow should be the same but also the time of such occurrence should be the same as that predicted.

4.2 EVALUATION CRITERIA FOR STAGE/INFLOW FORECASTING

As per present practice, all the level and inflow forecasts are being judged by the single criteria of accuracy i.e. the actual level attained is within ±15cm of forecasted value for stage forecasts and the actual inflow/volume received in the dam/barrage is within ±20% of the forecasted value for inflow forecast.

The forecast of incoming flood gives the water level or inflow and 'time' of occurrences. It is also observed that in many cases the levels attained were found within permissible limit of accuracy but the time of occurrence was not the same.

4.3 FLOOD FORECASTING ACTIVITIES AND ITS ACCURACY

The flood forecasting activities like data collection, forecast formulation and its dissemination during 2024 covered various river basins and States. A total of 10442 forecast were issued during 2024. The performance of flood forecasting Division wise, Major Basin wise, State wise are given in **Annex -VI to VIII** and Flood forecasting performance for the period from 2000 to 2024 are given in **Annex -IX.**

4.3.1 RIVER BASIN-WISE DETAILS OF FLOOD FORECASTING ACTIVITES & ACCURACY OF FORECAST

The Basin-wise details of flood forecasting activity and accuracy of forecast was given in the **Table 4.1** and fig 4.1.

Table 4.1

Performance of Flood Forecasting Stations (Major Basinwise) in India during Flood Season 2024																
Sl. No	**Name of the Major River basin**	**Total no.of FF sites**			**No.of FF sites where no forecast was issued**			**Level Forecasts**			**Inflow Forecasts**			**Overall Forecasts**		
		Total no	**Level FF sites**	**Inflow FF sites**	**Total no**	**Level FF sites**	**Inflow FF sites**	**Total No.**	**Within limits**	**% of Accu-racy**	**Total No.**	**Within limits**	**% of Accu-racy**	**Total No.**	**Within limits**	**% of Accu-racy**
1	Indus and its tributaries	3	3	0	3	3	0	0	0	-	0	0	-	**0**	**0**	-
2	Ganga & tributaries	139	96	43	45	23	22	3938	3818	96.95	717	667	93.03	**4655**	**4485**	96.35
3	Brahmaputra	45	39	6	12	6	6	2316	2168	93.61	0	0	-	**2316**	**2168**	93.61
4	Barak and others	6	6	0	0	0	0	430	423	98.37	0	0	-	**430**	**423**	98.37

5	Subarnarekha including Burhabalang	7	4	3	1	0	1	54	51	94.44	16	16	100.00	**70**	**67**	95.71
6	Brahmani & Baitarni	5	3	2	3	2	1	3	3	100.00	30	27	90.00	**33**	**30**	90.91
7	East flowing rivers between Mahanadi and Pennar	8	4	4	5	3	2	2	1	50.00	3	3	100.00	**5**	**4**	80.00
8	Narmada	10	4	6	3	2	1	36	35	97.22	257	255	99.22	**293**	**290**	98.98
9	Tapi	3	1	2	1	1	0	0	0	-	200	198	99.00	**200**	**198**	99.00
10	Mahi	5	1	4	1	0	1	3	1	33.33	56	55	98.21	**59**	**56**	94.92
11	Sabarmati	2	1	1	2	1	1	0	0	-	0	0	-	**0**	**0**	-
12	Mahanadi	6	3	3	2	2	0	3	3	100.00	73	71	97.26	**76**	**74**	97.37
13	Godavari	44	18	26	20	5	15	208	203	97.60	286	282	98.60	**494**	**485**	98.18
14	Krishna	24	5	19	6	1	5	71	67	94.37	947	920	97.15	**1018**	**987**	96.95
15	West flowing rivers of Kutc and saurashtr including Lun	3	1	2	2	1	1	0	0	-	4	3	75.00	**4**	**3**	75.00
16	West Flowing rivers from Tapi to Tadri	3	2	1	2	2	0	0	0	-	23	23	100.00	**23**	**23**	100.00
17	Cauvery and tributaries	13	4	9	3	2	1	20	16	80.00	671	606	90.31	**691**	**622**	90.01
18	Pennr	2	1	1	1	1	0	0	0	-	31	23	74.19	**31**	**23**	74.19
19	East flowing rivers between Pennar and Kanyakumar	7	1	6	1	1	0	0	0	-	31	24	77.42	**31**	**24**	77.42
20	West Flowing river Tadri to Kanyakumar	5	3	2	2	2	0	2	1	50.00	11	4	36.36	**13**	**5**	38.46
Total		**340**	**200**	**140**	**115**	**58**	**57**	**7086**	**6790**	**95.82**	**3356**	**3177**	**94.67**	**10442**	**9967**	**95.45**

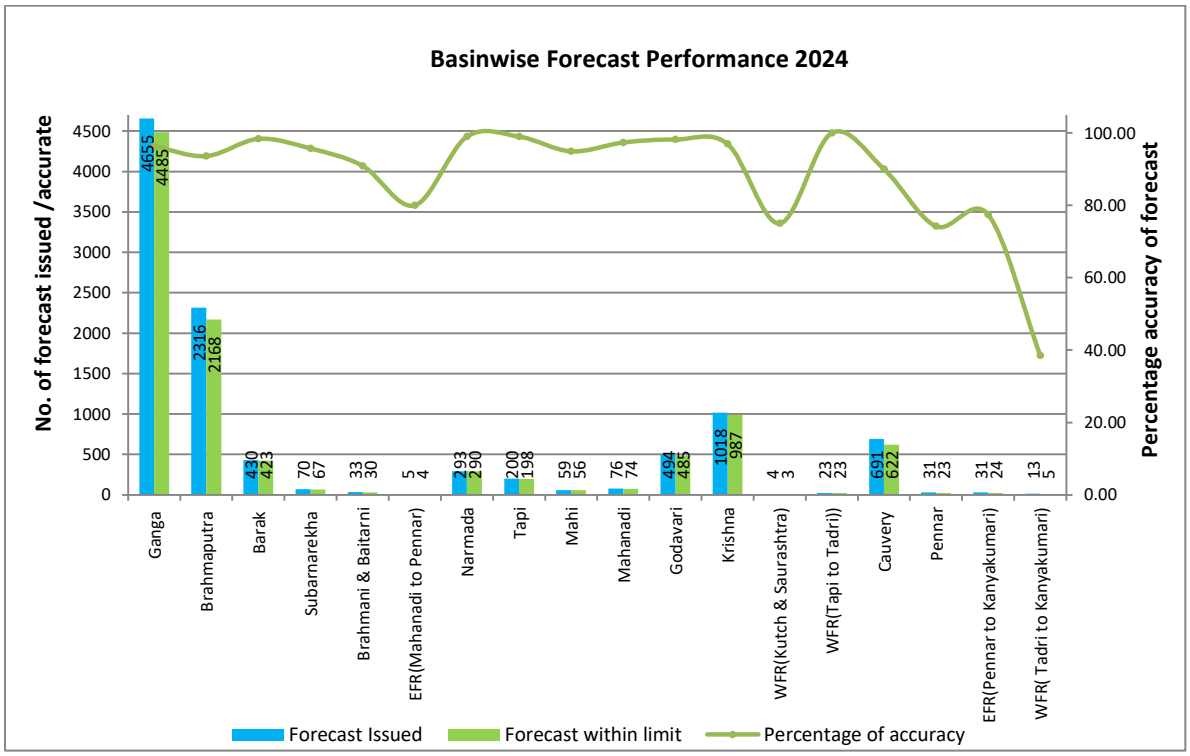


Fig 4.1: Basinwise Forecast performance during 2024

4.3.2 STATEWISE FLOOD FORECASTING PERFORMANCE

There are 22 states and 3 Union Territories of the Daman and Diu, Jammu & Kashmir and National Capital Territory of Delhi so far covered under the Flood Forecast and Warning Network of the Central Water Commission. The State-wise details of flood forecasting activity and accuracy of forecast was given in the **Table 4.2** and fig 4.2.

Performance of Flood Forecasting Stations (Statewise) in India during Flood Season 2024

Sl. No	Name of the Major River basin	Total no.of FF sites			No.of FF sites where no forecast was issued			Level Forecasts			Inflow Forecasts			Overall Forecasts		
		Total no	Level FF sites	Inflow FF sites	Total no	Level FF sites	Inflow FF sites	Total No.	Within limits	Accuracy (%)	Total No.	Within limits	Accuracy (%)	Total No.	Within limits	Accuracy (%)
1	Andhra Pradesh	20	10	10	7	5	2	159	152	95.60	465	456	98.06	624	608	97.44
2	Arunachal Pradesh	4	3	1	3	2	1	3	3	100.00	0	0	-	3	3	100.00
3	Assam	30	30	0	2	2	0	1798	1776	98.78	0	0	-	1798	1776	98.78
4	Bihar	43	40	3	5	2	3	2339	2241	95.81	0	0	-	2339	2241	95.81
5	Chattisgarh	3	1	2	0	0	0	8	8	100.00	8	7	87.50	16	15	93.75
6	Gujarat	14	6	8	6	4	2	12	9	75.00	348	343	98.56	360	352	97.78
7	Haryana	2	1	1	2	1	1	0	0	-	0	0	-	0	0	-
8	Himachal Pradesh	1	1	0	1	1	0	0	0	-	0	0	-	0	0	-
9	Jammu & Kashmir	3	3	0	3	3	0	0	0	-	0	0	-	0	0	-
10	Jharkhand	17	2	15	9	0	9	84	78	92.86	192	183	95.31	276	261	94.57
11	Karnataka	15	1	14	2	0	2	3	3	100.00	861	820	95.24	864	823	95.25
12	Kerala	6	4	2	3	3	0	2	1	50.00	11	4	36.36	13	5	38.46
13	Madhya Pradesh	14	2	12	4	1	3	27	27	100.00	146	134	91.78	173	161	93.06
14	Maharashtra	22	8	14	13	3	10	41	41	100.00	95	94	98.95	136	135	99.26
15	Odisha	19	12	7	10	6	4	59	58	98.31	97	93	95.88	156	151	96.79
16	Rajasthan	15	4	11	10	3	7	11	10	90.91	18	18	100.00	29	28	96.55
17	Sikkim	8	3	5	7	2	5	362	288	79.56	0	0	-	362	288	79.56
18	Tamilnadu	15	4	11	3	2	1	20	16	80.00	378	322	85.19	398	338	84.92
19	Telangana	15	5	10	3	0	3	68	66	97.06	243	239	98.35	311	305	98.07
20	Tripura	2	2	0	0	0	0	28	25	89.29	0	0	-	28	25	89.29
21	Uttar Pradesh	44	39	5	11	11	0	1343	1334	99.33	289	268	92.73	1632	1602	98.16
22	Uttarakhand	9	4	5	4	1	3	13	12	92.31	94	87	92.55	107	99	92.52
23	West Bengal	16	12	4	4	3	1	706	642	90.93	111	109	98.20	817	751	91.92
24	Daman n Diu	1	1	0	1	1	0	0	0	-	0	0	-	0	0	-
25	NCT, DELHI	2	2	0	2	2	0	0	0	-	0	0	-	0	0	-
Total		**340**	**200**	**140**	**115**	**58**	**57**	**7086**	**6790**	**95.82**	**3356**	**3177**	**94.67**	**10442**	**9967**	**95.45**

Table 4.2

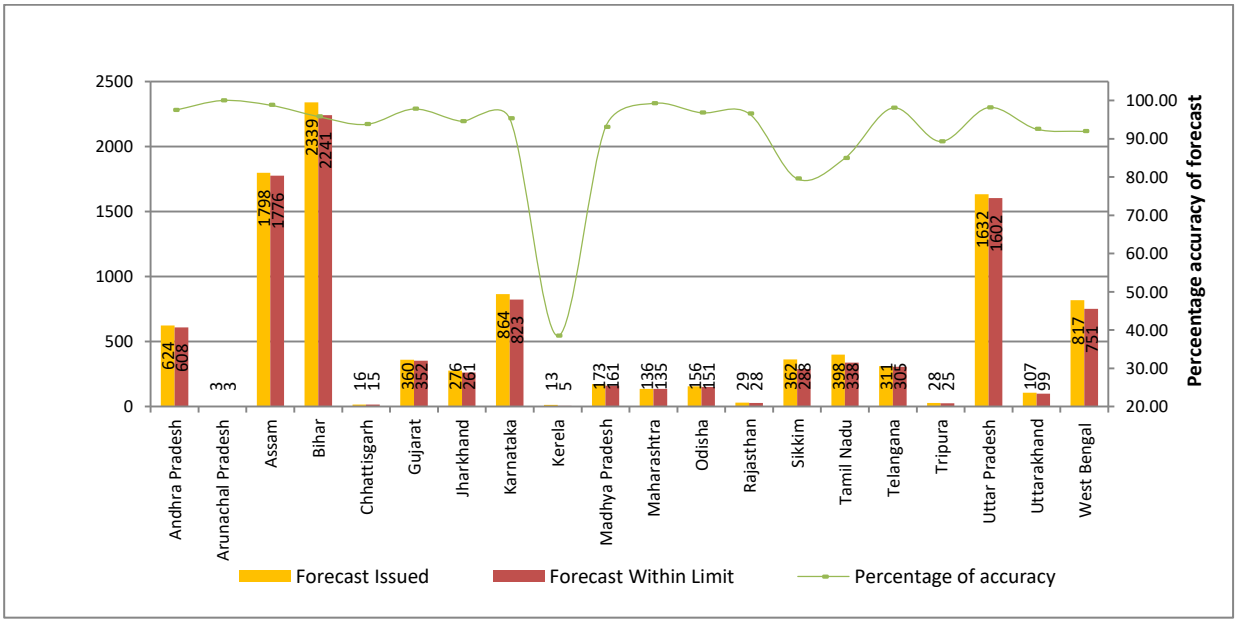


Fig. 4.2: State-wise Flood Forecast Performance during 2024

Details of Extreme flood events in the various river systems covered under the Flood Forecasting & Warning Network are given in **Annex–X** for the year 2024**.** Severe and Above Normal flood events are given at **Annex - XI to XIII,** for the year 2024.

4.4 AN OVERVIEW OF FLOOD FORECASTING PERFORMANCE

Central Water Commission has a flood forecasting network distributed over 20 major river systems The overall forecast performance was 95.45% for the country as a whole. Out of 340 sites, at 108 sites forecast performance was 100% accurate. The flood forecasting performance of the level forecasting as well as inflow forecasting sites from 2011 to 2024 is given in **Fig. 4.3.** Also, performance accuracy during 2024 of the sites where flood forecast was issued is attached as **Table 4.3**

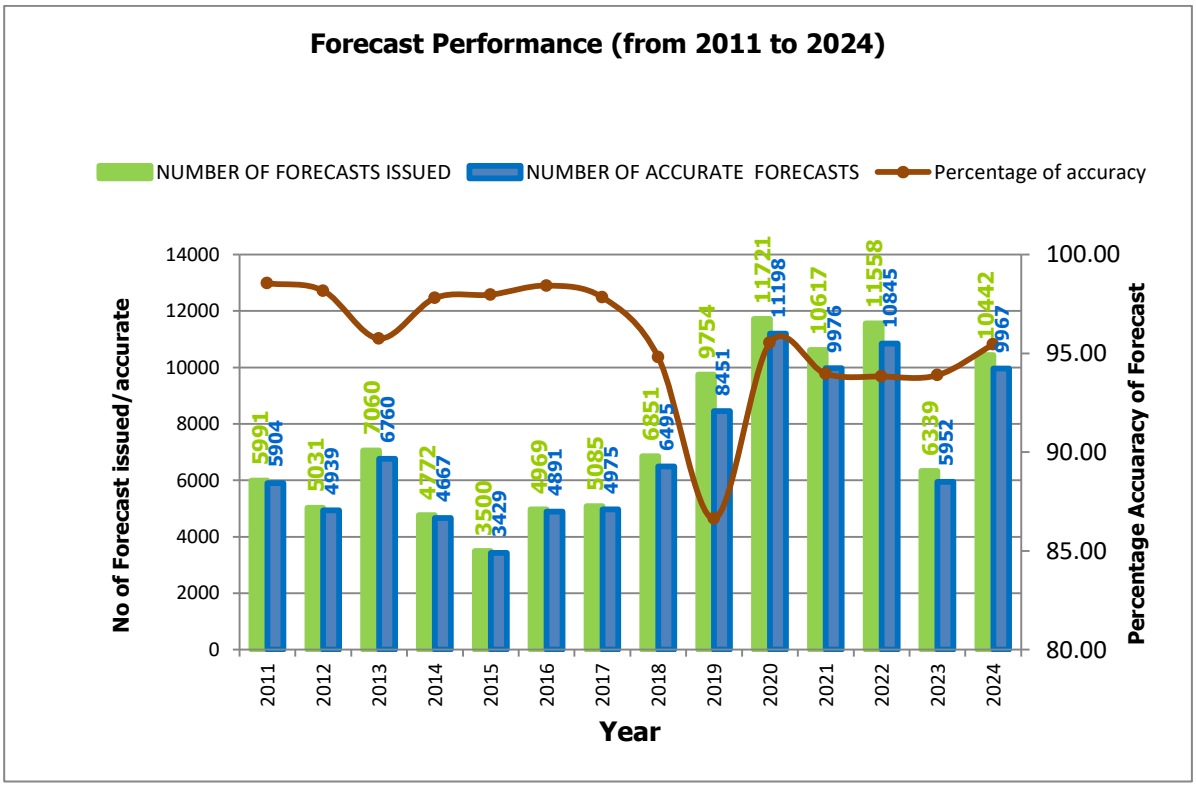


Fig. 4.3: Flood Forecast Performance from 2011 to 2024

Table 4.3: Performance accuracy during 2024 at flood forecasting sites of CWC

Sl. No.	Details	No. of Sites	%
1	Sites with performance accuracy between 0.0% to 25%	7	3.11%
2	Sites with performance accuracy between 25.1% to 50%	7	3.11%
3	Sites with performance accuracy between 50.1% to 75%	9	4.00%
4	Sites with performance accuracy between 75.1% to 99.99%	94	41.78%
5	Sites with 100% performance accuracy	108	48%
6	Total sites where forecasts were issued	**225**	**100%**

4.5 ACCURACY ANALYSIS REPORT:

Central Water Commission (CWC) through its field divisions collects hydrological and hydro-meteorological data on real–time basis during the flood season every year. Using these data, flood/inflow forecasts are formulated for 340 locations (200 Level and 140 Inflow Forecast Stations) and disseminated to various user agencies through Fax/e-mail/SMS and Website. In addition to the data collected from the network of CWC stations, the meteorological data and Quantitative Precipitation Forecast (QPF) received from India Meteorological Department are also utilised in formulation of flood forecast.

Under the conventional set up, the methodology used is generally either the basin persistence based mathematical/statistical techniques, co-axial graphs or mathematical models using rainfall data received from Indian Meteorological Department (IMD) or the rainfall data collected by CWC. The Level forecasts are issued whenever the water levels at CWC Flood Forecasting Station exceeds or expected to exceed the Warning Level (which is usually 1.0 m below the Danger Level but depends on the threat perception of the location) specified for the Flood Forecasting Station.

As per present practice, all the level and inflow forecasts are being judged by the single criteria of accuracy i.e. the actual level attained is within ±15cm of forecasted value for stage forecasts and the actual inflow/volume received in the dam/barrage is within ±20% of the forecasted value for inflow forecast.

Depending upon the above criteria the statewise last few years (2018-2024) accuracy performance report in tabular form is given below.

Table 4.4

Forecast Performance (2018-2024)

		Overall Forecast																					
Sl.N	State/Year	2018			2019			2020			2021			2022			2023			2024		
		Total No.	Within lim	Accuracy (	Total No.	Within lim	Accuracy (	Total No.	Within lim	Accuracy (	Total No.	Within lim	Accuracy (	Total No.	Within lim	Accuracy	Total No	Within lim	Accuracy (	Total N	Within	Accuracy
1	Andhra Prades	226	195	86.28319	717	429	59.83	756	689	91.14	734	678	92.37	1253	1168	93.22	140	132	94.29	624	608	97.44
2	Arunachal Prad	73	72	98.63014	30	30	100	130	129	99.23	49	49	100	0	0	-	7	7	100.00	3	3	100.00
3	Assam	2170	2156	99.35484	2183	2168	99.31	3094	3081	99.58	1419	1415	99.72	1831	1820	99.4	1664	1651	99.22	1798	1776	98.78
4	Bihar	1225	1213	99.02041	2186	2155	98.58	3223	3192	99.04	3317	3248	97.92	2429	2384	98.15	1180	1119	94.83	2339	2241	95.81
5	Chattisgarh	13	10	76.92308	43	34	79.07	17	14	82.35	0	0	-	28	23	82.14	1	0	0.00	16	15	93.75
6	Daman n Diu	0	0	-	1	1	100	0	0	-	0	0	-	0	0	-	0			0	0	-
7	Gujarat	19	17	89.47368	317	308	97.16	184	180	97.83	86	84	97.67	375	367	97.87	190	166	87.37	360	352	97.78
8	Haryana	1	1	100	2	2	100	0	0	-	0	0	-	1	0	0	2	2	100.00	0	0	-
9	Himachal Prad	0	0	-	4	2	50	0	0	-	0	0	-	1	0	0	2	0	0.00	0	0	-
10	Jammu & Kash	15	15	100	2	2	100	0	0	-	1	0	-	14	7	50	46	37	80.43	0	0	-
11	Jharkhand	153	152	99.34641	140	131	93.57	364	339	93.13	625	565	90.4	235	227	96.6	125	124	99.20	276	261	94.57
12	Karnataka	760	664	87.36842	1162	954	82.1	883	793	89.81	1012	933	92.19	1234	1154	93.52	356	336	94.38	864	823	95.25
13	Kerala		-	-	30	24	80	34	26	76.47	4	2	50	14	9	64.29	1	1	100.00	13	5	38.46
14	Madhya Prade	29	12	41.37931	356	91	25.56	235	190	80.85	55	44	80	181	153	84.53	85	69	81.18	173	161	93.06
15	Maharashtra	31	30	96.77419	277	198	71.48	153	136	88.89	147	122	82.99	303	261	86.14	105	76	72.38	136	135	99.26
16	NCT, DELHI	35	33	94.28571	7	6	85.71	0	0	-	27	19	70.37	43	29	67.44	57	39	68.42	0	0	-
17	Odisha	203	199	98.02956	233	216	92.7	266	239	89.85	200	170	85	280	252	90	133	116	87.22	156	151	96.79
18	Rajasthan	0	0	-	146	59	40.41	59	32	54.24	91	60	65.93	83	35	42.17	33	23	69.70	29	28	96.55
19	Sikkim	0	0	-	0	0	-	0	0	-	0	0	-	0	0	-	3	0	-	362	288	79.56
20	Tamilnadu	581	488	83.99312	571	538	94.22	445	370	83.15	634	486	76.66	905	777	85.86	324	282	87.04	398	338	84.92
21	Telangana	86	63	73.25581	219	113	51.6	335	310	92.54	323	302	93.5	700	655	93.57	228	215	94.30	311	305	98.07
22	Tripura	12	11	91.66667	0	0	-	0	0	-	0	0	-	4	4	100	2	1	50.00	28	25	89.29
23	Uttar Pradesh	866	840	96.99769	812	696	85.71	911	880	96.6	1370	1308	95.47	1261	1166	92.47	1060	1021	96.32	1632	1602	98.16
24	Uttarakhand	45	37	82.22222	11	6	54.55	22	21	95.45	35	25	71.43	14	9	64.29	85	74	87.06	107	99	92.52
25	West Bengal	308	287	93.18182	305	288	94.43	610	577	94.59	488	466	95.49	369	345	93.5	510	461	90.39	817	751	91.92
Total		6851	6495	94.80368	9754	8451	86.64	11721	11198	95.54	10617	9976	93.96	11558	10845	93.83	6339	5952	93.89	10442	9967	95.45

Reasons for Low accuracy:

1. There are mainly two types of sites :-
   (i) Located on flashy rivers. In flashy rivers, the rate of change in river level is sudden/abrupt and sharp in magnitude.
   (ii) Located on unflashy rivers. Here the rate of change in river level is not so sudden or sharp.

Applying the same criteria of accuracy to all the forecasting sites on main stream Ganga in Bihar and to the forecasting sites at Haridwar on Ganga in Uttarakhand is not logically correct. It is observed that in Bihar the rate of rise and fall in the level of river Ganga is very gentle and even and within 15cm only which is the permissible limit of deviation (Table 4.5). Whereas the rate of rise and fall at Haridwar is more than 15 cm. (Table 4.6) Similarly it is observed that the rate of rise and fall of Water Level at Anandpur on the river Baitarni in Odisha is more than 15 cm during forecast time (Table 4.7).

Rate of Rise and fall of Water Level at Dighaghat in Bihar

Table 4.5

Date and time	Water Level in m	Rate of Rise/Fall (cm/hr)
Event 1		
07/08/2023 01:00:00.00	48.42	0
07/08/2023 02:00:00.00	48.42	2
07/08/2023 03:00:00.00	48.44	0
07/08/2023 04:00:00.00	48.44	0
07/08/2023 05:00:00.00	48.44	1
07/08/2023 06:00:00.00	48.45	1
07/08/2023 07:00:00.00	48.46	1
07/08/2023 08:00:00.00	48.47	1
Event 2		
04/10/2023 00:00:00.00	47.27	-1
04/10/2023 01:00:00.00	47.26	0
04/10/2023 02:00:00.00	47.26	-1
04/10/2023 03:00:00.00	47.25	0
04/10/2023 04:00:00.00	47.25	-1
04/10/2023 05:00:00.00	47.24	0
04/10/2023 06:00:00.00	47.24	0
04/10/2023 07:00:00.00	47.24	-1
04/10/2023 08:00:00.00	47.23	0
04/10/2023 09:00:00.00	47.23	-1

Rate of Rise and fall of Water Level at Haridwar in Uttarakhand

Table 4.6

Date and time	Water Level in m	Rate of Rise/Fall (cm/hr)
Event 1		
13/08/2023 23:00:00.00	292.88	32
14/08/2023 00:00:00.00	293.2	42
14/08/2023 01:00:00.00	293.62	78

14/08/2023 02:00:00.00	294.4	24
14/08/2023 03:00:00.00	294.64	31
Event 2		
14/08/2023 16:00:00.00	295.32	-29
14/08/2023 17:00:00.00	295.03	-43
14/08/2023 18:00:00.00	294.6	-10
14/08/2023 19:00:00.00	294.5	-33
14/08/2023 20:00:00.00	294.17	-17
14/08/2023 21:00:00.00	294	-19

Rate of Rise and fall of Water Level at Anandpur in Odisha

Table 4.7

Date and time	Water Level in m	Rate of Rise/Fall (cm/hr)
Event 1		
03/08/2023 16:00:00.00	38.22	-27
03/08/2023 17:00:00.00	37.95	-23
03/08/2023 18:00:00.00	37.72	-17
03/08/2023 19:00:00.00	37.55	-15
03/08/2023 20:00:00.00	37.4	-14

Thus applying the same criteria (±15cm) on both types of sites is technically incorrect.

2. It is not appropriate to compare the forecast performance accuracy of statistically insignificant number of forecasts. For example, Chambal Division, Jaipur issued 11 no. of forecast and all is within permissible limit with 100% accuracy whereas in Lower Ganga Division-1, 1923 no. of forecast were issued for various sites under its jurisdiction in 2024 with 1849 no. within permissible limit with 96.15 % which is less than 100%. This indicates that where the no. of forecasts issued are statistically insignificant in such cases the concerned division is likely to gain or lose in accuracy with a large swing. Therefore, the accuracy percentage must be seen together with related no. of forecast.

3. Actual and forecasted rainfall received from by IMD is not so accurate, sometimes it varies largely, that resulted into the inaccurate level and inflow forecast. In addition, spatial and temporal distribution of rainfall of rainfall is not so sufficient to predict accurate catchment rainfall representation.

4. The absence of Rain gauge station in the intervening catchment between Base station and Forecast station due to which accounting accurate runoff from intervening catchment is very difficult.

5. Forecast at the sites located downstream of reservoir, also affected by the release from the dam. Mostly estimated release is not matching with the actual release from the dam.

CHAPTER – 5

Advisory Flood Forecast

5.1 BACKGROUND

CWC currently provides a 7-day advisory flood forecast on its web portal https://aff.india-water.gov.in/ using mathematical model on pan-India for 20 major river basins of the country, covering 200 water level and 138 reservoir inflow forecast stations. This marks a significant paradigm shift from the conventional Gauge-to-Gauge correlation to a more scientific modelling technique for flood forecasting. The system uses regularly calibrated basin models developed using MIKE-11 modelling software, while its real time operation is done in automatic manner by scheduling scripts written in Python and then using JavaScript for publishing the model outputs in web portal. The entire system is updated every three hours for all stations simultaneously.

The system utilizes both hydrologic (Rainfall-Runoff module) and hydrodynamic modelling (HD module techniques) in integrated manner in MIKE11 for real-time water level and inflow prediction in major rivers and reservoirs, respectively. The hydrological module is primarily used for hydrologic prediction i.e. various runoff components. The major inputs into this model are near real time satellite rainfall estimate, IMD daily real time gridded rainfall , which is used to do correction of satellite rainfall estimate on daily basis and IMD rainfall forecast from numerical model for next seven days from time of forecast. The hydrological models are instrumental in performing Rainfall-Runoff conversion at sub basin level, while the hydrodynamic model is used to simulate river flow/level along with structural operations to provide flood forecast for all Forecasting stations in real-time. This has resulted in substantially increasing the lead time to 7 days for all stations.

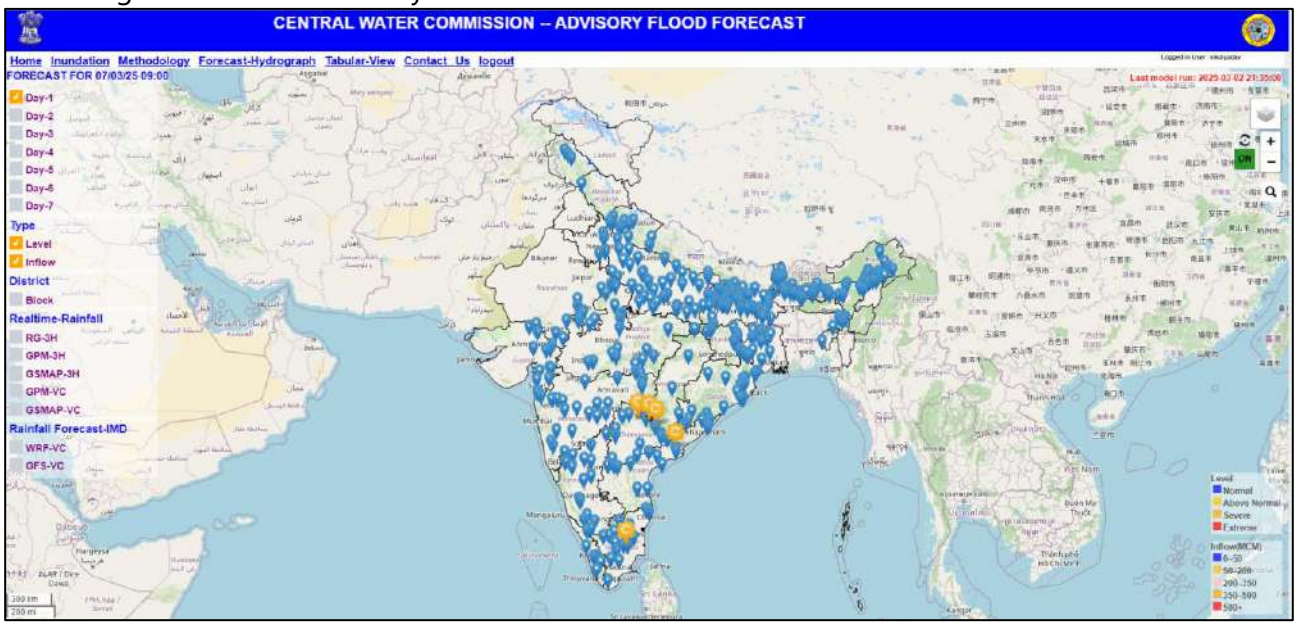


Fig 5.1 : Five day advisory flood forecast portal

5.2 Inputs for model

The 7 day advance advisory flood forecast is generated using reliable rainfall data products from various sources:

1. Near Real Time Rainfall data/ Satellite Estimates
    a. GsMaP (Global Satellite Mapping of Precipitation- JAXA product) at 10KM*10KM resolution at interval of 1 hour
    b. GPM (Global Precipitation Measurement- NASA & JAXA product) at 10KM*10KM resolution at interval of 30 minutes
    c. Daily Gridded Rainfall Dataset of all over India at 25KM*25KM resolution (past 24 hours accumulated rainfall based on observation stations)
2. Forecast data from IMD (Indian Meteorological Department):
    a. GFS (Global Forecast System) at 12.5KM*12.5KM degree resolution for next 10 days forecast period at interval of 3 hours
    b. WRF (Weather Research and Forecasting) at 3KM*3KM for next 3 days forecast period at interval of 1 hour

The process flow of various activities involved in forecast formulation is governed by various scripts that are scheduled to execute the required tasks seamlessly. These scripts are maintained & updated in house by CWC for smooth running of system. The datasets mentioned above are the major inputs to the system for real-time operation, and these datasets are received through API/FTP/SFTP mode, downloaded using Python, and processed into the required file formats for injection into the developed basin/sub-basin models. The hydrological data such as real-time water level and inflow/outflow are received from Water Information Management System (WIMS) through NWIC. Subsequently, all the river models run sequentially and generate results, which are then automatically displayed on the web portal

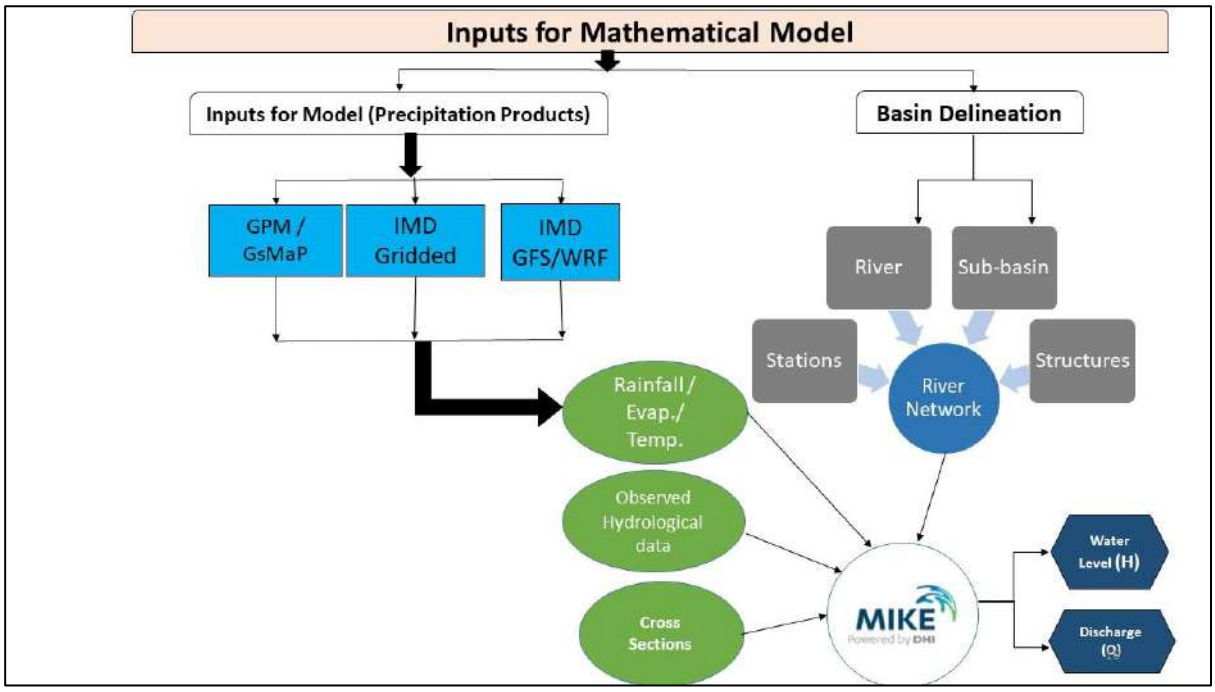


Fig 5.2 Inputs for Model

5.3 PERFORMANCE OF Advisory Flood Forecast System:

1. The Advisory Flood Forecast (AFF) System successfully provided 7-day flood forecasts for 200 water level stations and 140 reservoir inflow stations across 20 major river basins. The integration of hydrological and hydrodynamic models, along with satellite-based rainfall data and IMD forecasts, has significantly enhanced the system's ability to predict flood conditions in advance.
2. The forecast accuracy for each day of the 7-day forecast for all stations. For example, Day 1 accuracy was generally higher across most stations, while accuracy decreased progressively towards Day 7.
3. For Day 1 forecasts, many stations showed recall and precision values above 0.8, indicating that the system was able to predict the majority of critical flood conditions accurately.
4. The root mean square error values indicated the level of deviation between the predicted and observed values. Some of the stations had relatively low RMSE values, while some stations showed higher deviations.
5. The accuracy metrics for short-term forecasts (Day 1 to Day 3) were high, especially for critical flood categories such as Danger Level (DL) and Warning Level (WL).
6. Despite the overall success, the evaluation has identified several areas for improvement in the forecasting process:
7. The accuracy of the 7-day flood forecasts declines significantly beyond Day 3 based on the obtained values of the Root Mean Square Error (RMSE) and Mean Absolute Error (MAE) evaluations. For some stations, the Nash-Sutcliffe Efficiency (NSE) also showed lower values for long-term predictions.
8. The accuracy of the forecasts is heavily dependent on the quality of the input data, especially satellite-based rainfall estimates and ground observations. In cases where data was missing or inaccurate, the forecasts tended to have higher errors. This points to the need for improving data acquisition systems and ensuring the consistency and accuracy of real-time data inputs.
9. The model accuracy is being improved continuously by adopting techniques like bias correction i.e. being applied on both rainfall products & model output as well. Scientifically calibrating the model parameters, integrating the available additional hydrological & hydro-metrological data and enhancing the control strategies of the reservoir in the model is being implemented. The more advance techniques such as Data Assimilation and Flood Forecast module will also be explored.
10. Necessary steps will be taken to integrate the Nowcast product (very short range forecast i.e. upto 2-3 hours) of IMD will be integrated for further improvement of Day 1 forecast.
11. The system’s real-time automation, where models are updated every three hours and results are published on the AFF web portal, ensures that stakeholders have access to updated flood forecasts.

CHAPTER – 6

ANALYSIS OF FLOOD EVENTS IN INDIA

6.1 INTRODUCTION

In India about 80% of the annual rainfall occurs during the period of South- West monsoon from June to September except some portion of the south eastern part of peninsular India where the main rain occurs during the period of North East Monsoon from October to December.

The variation in rainfall pattern in India from one region to another is very vast. Generally, the normal annual rainfall in North Eastern region is very high compared to Western part of India. Main Flood prone basins are Ganga and Brahmaputra and the states affected are Assam, Bihar, Uttar Pradesh and West Bengal.

However, it is observed that during the last few years extreme floods were witnessed in non-flood prone states such as Karnataka, Kerala, Maharashtra, Madhya Pradesh, Tamilnadu in addition to existing flood prone states like Assam, Bihar, West Bengal and Uttar Pradesh. **Fig 6.1** and **Fig 6.2** shows graph showing state wise extreme and Severe flood situation during the year 2019 to 2024.

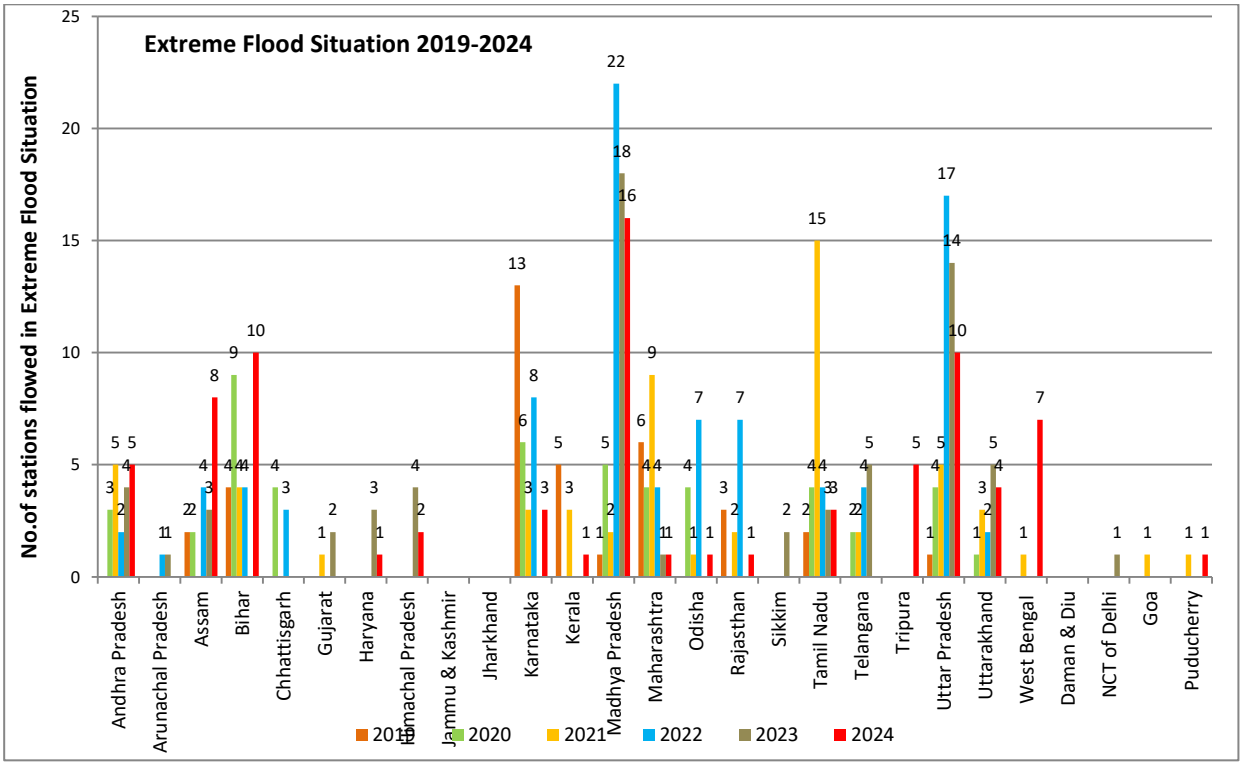


Fig. 6.1: State wise extreme flood situation during the years 2019 to 2024

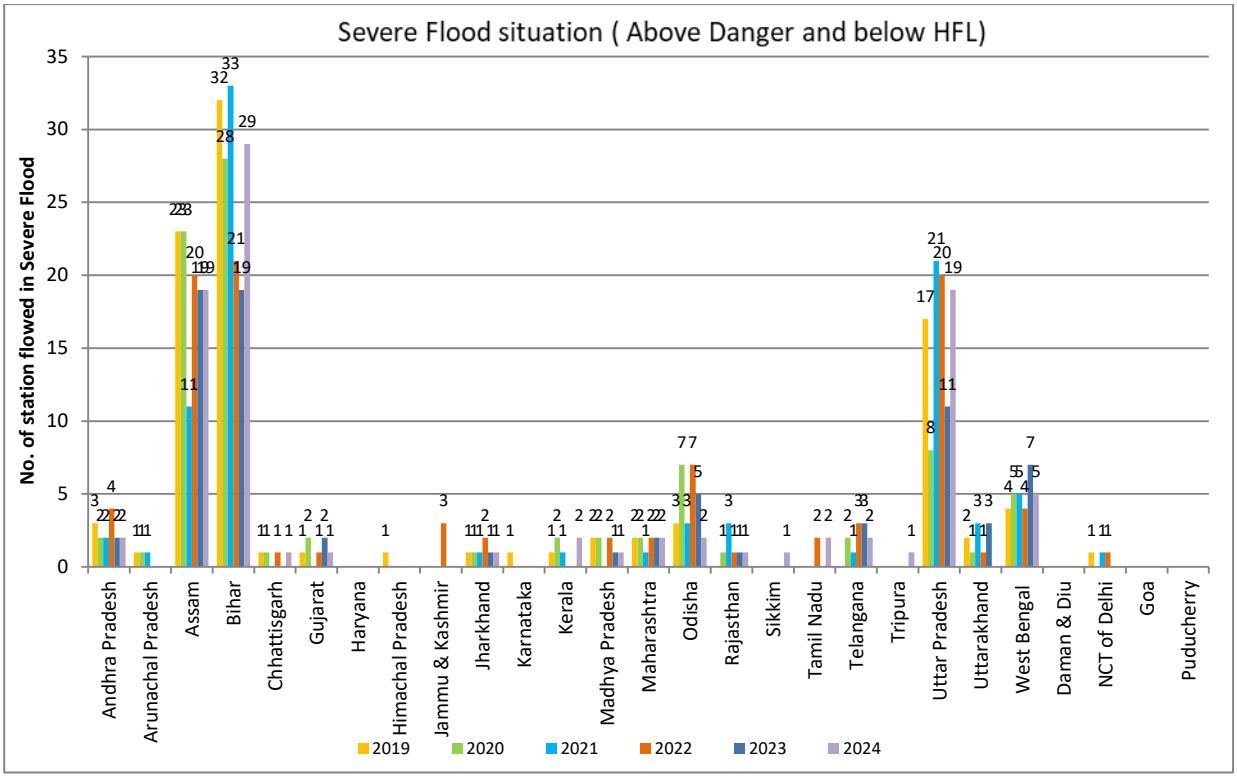


Fig. 6.2: State wise Severe flood situation during the years 2019 to 2024

6.2 STATE WISE FLOOD SITUATION IN INDIA DURING LAST FEW YEARS (2018-2024)

Under this section state-wise, no. of days on which river flowed in severe and extreme flood situation over various flood forecasting sites are presented.

6.2.1 ANDHRA PRADESH

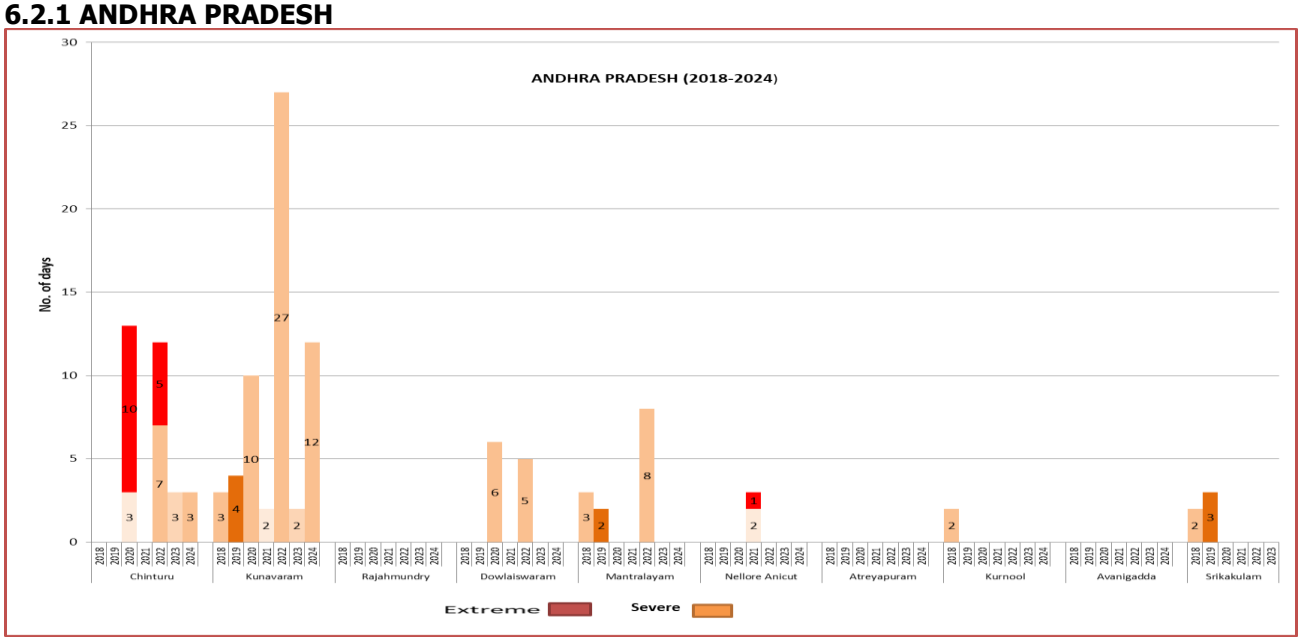
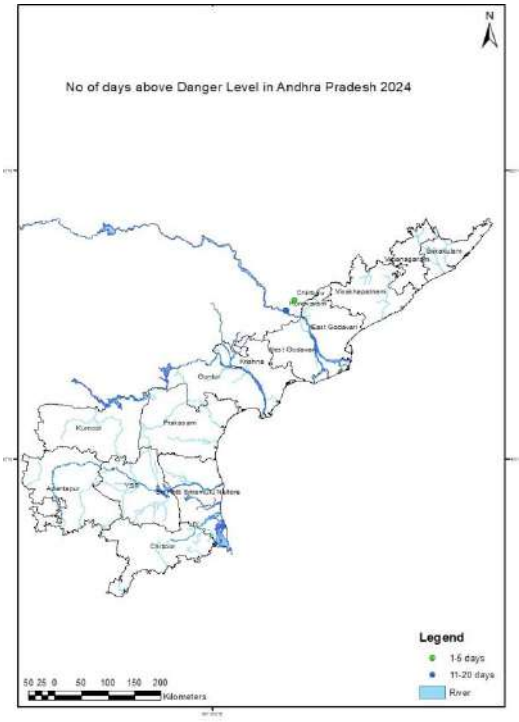


Fig 6.3

On analysis of 7 year extreme and severe situations it is observed that more no.of flood situations existed on Chinturu (on Sabari river) and Kunavaram sites over Godavari basin.

Flood situation in Andhra Pradesh during 2024 is shown in the **Map 6.1** given below.



Map 6.1

6.2.2 ARUNACHAL PRADESH

No CWC sites flowed in severe and extreme flood situations during last 5 years.

6.2.3 ASSAM

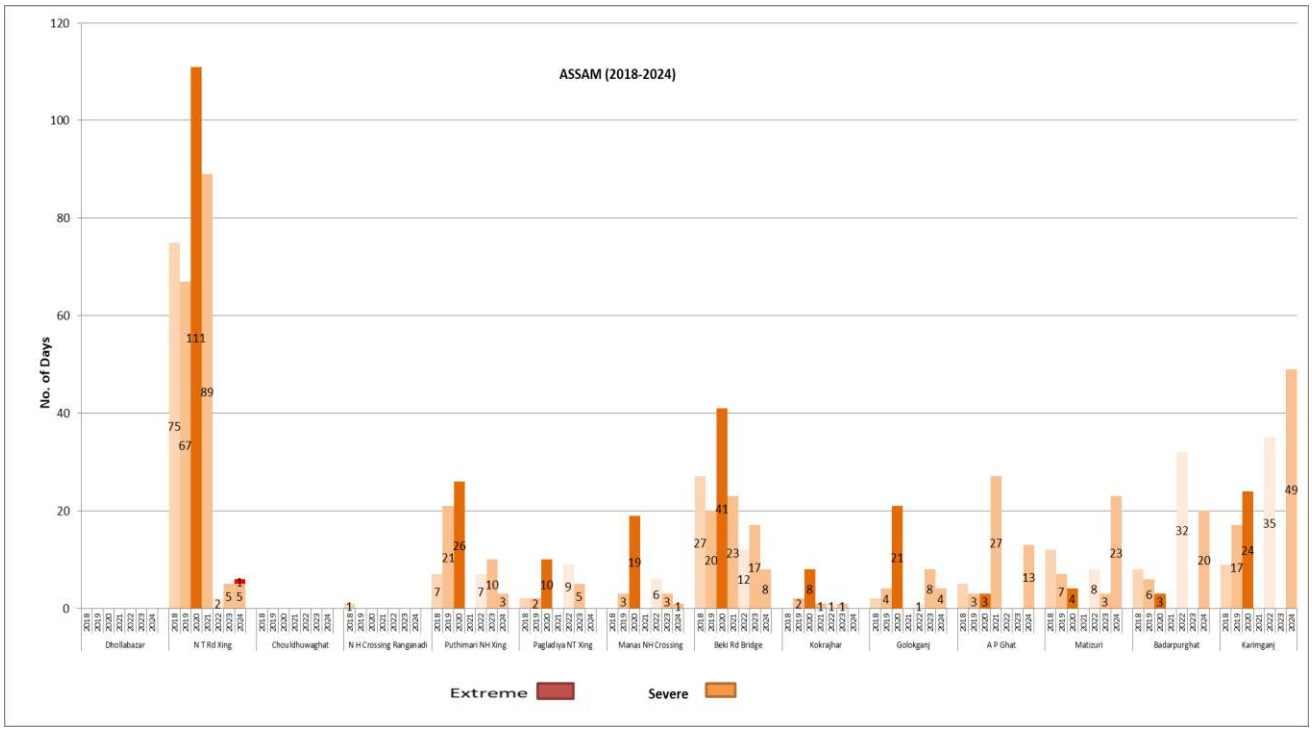


Fig 6.4(i)

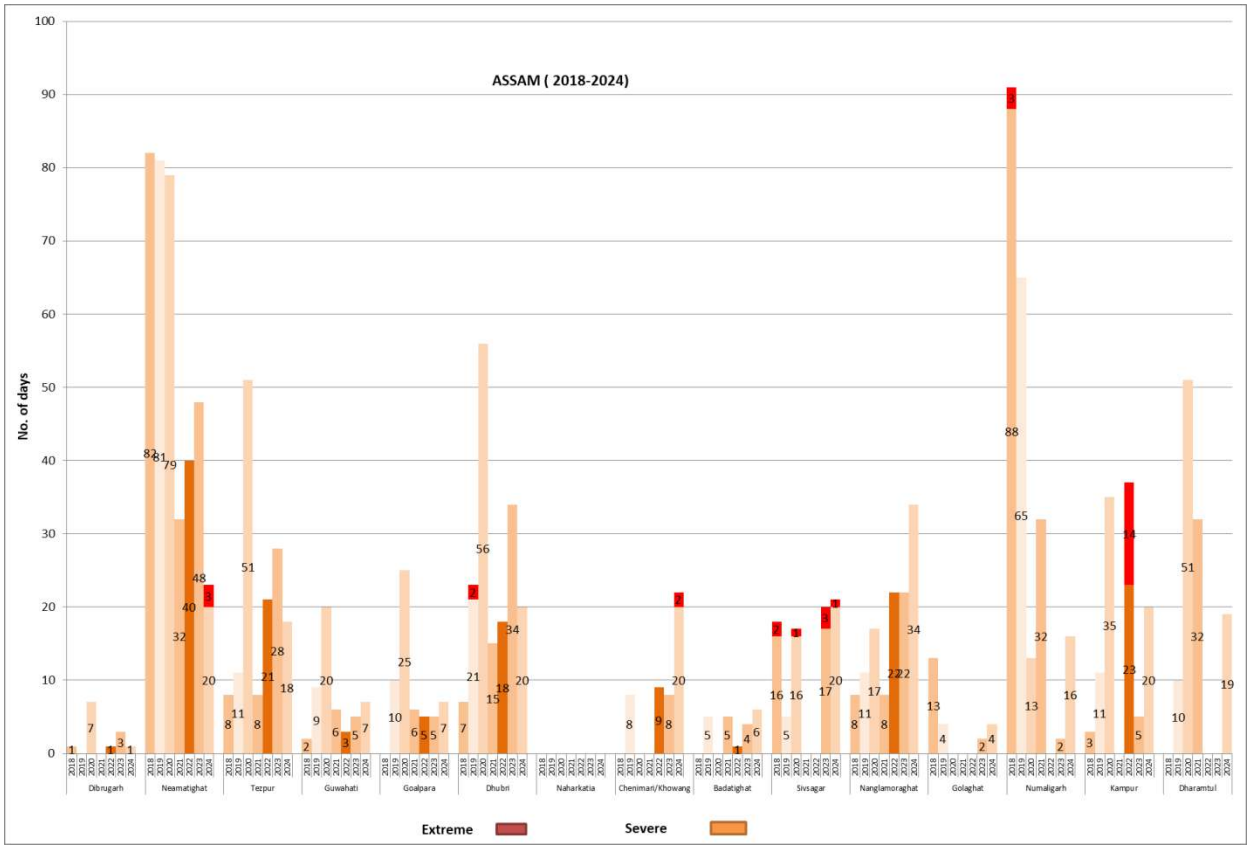
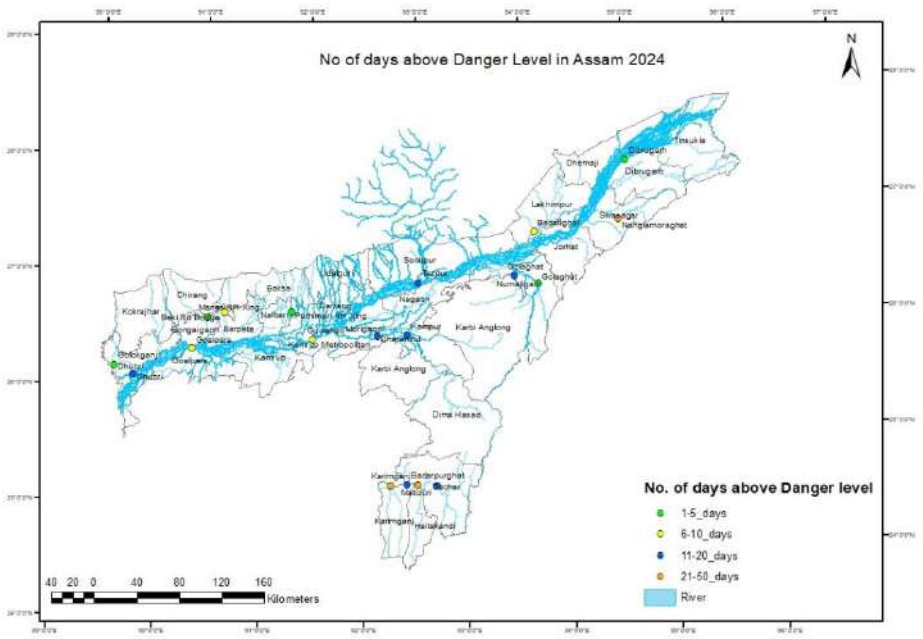


Fig 6.4(ii)

As per the plots more no.of severe and extreme flood situations occurred at sites

(1) NT Rd crossing Jiabharali over Jiabharali river, northern tributary of Brahamputra in Sonitpur district.
(2) Numaligh on Dhansiri river southern tributary of Brahamputra in Golaghat dist.
(3) Kampur and Dharamtul on Kopili river, southern tributary of Brahamputra in Nagaon and Marigaon districts respectively.
On Brahamputra main stem more no.of flood situations existed at sites Neamatighat (Jorhat dist.), Tezpur (Sonitpur dist.) and Dhubri (Dhubri dist.) in last few years.

Flood situation in Assam during 2024 is shown in the **Map 6.2** given below.



Map 6.2

6.2.4 BIHAR

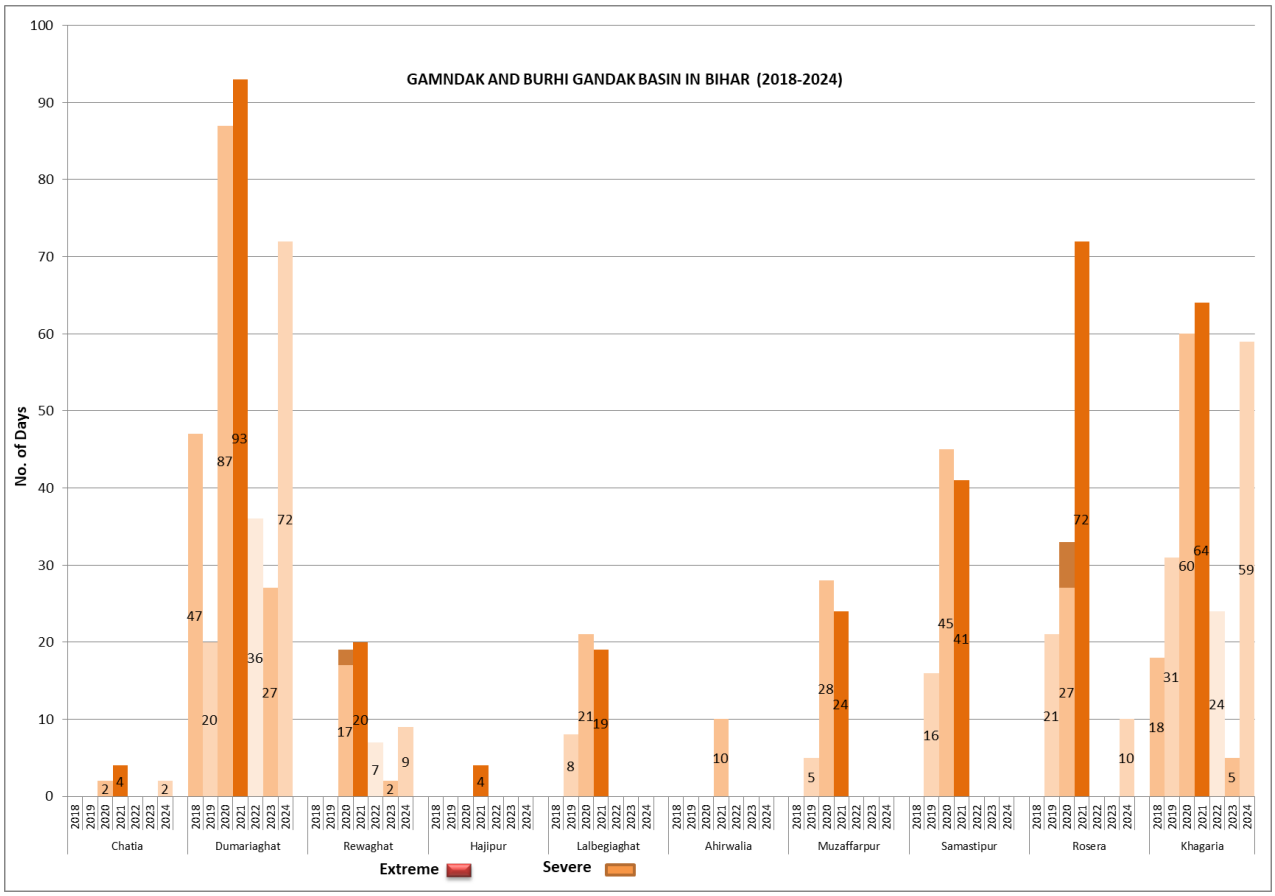


Fig 6.5(i)

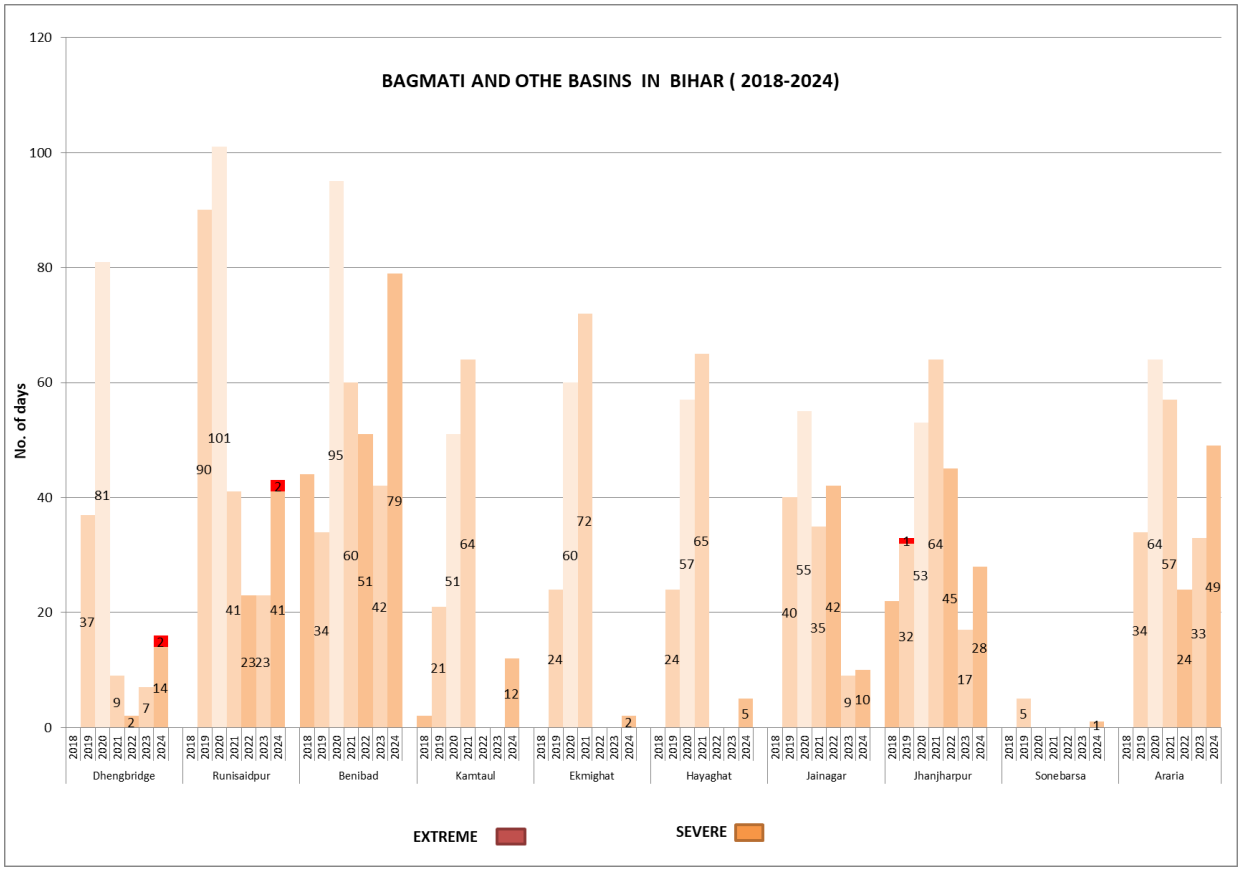


Fig 6.5(ii)

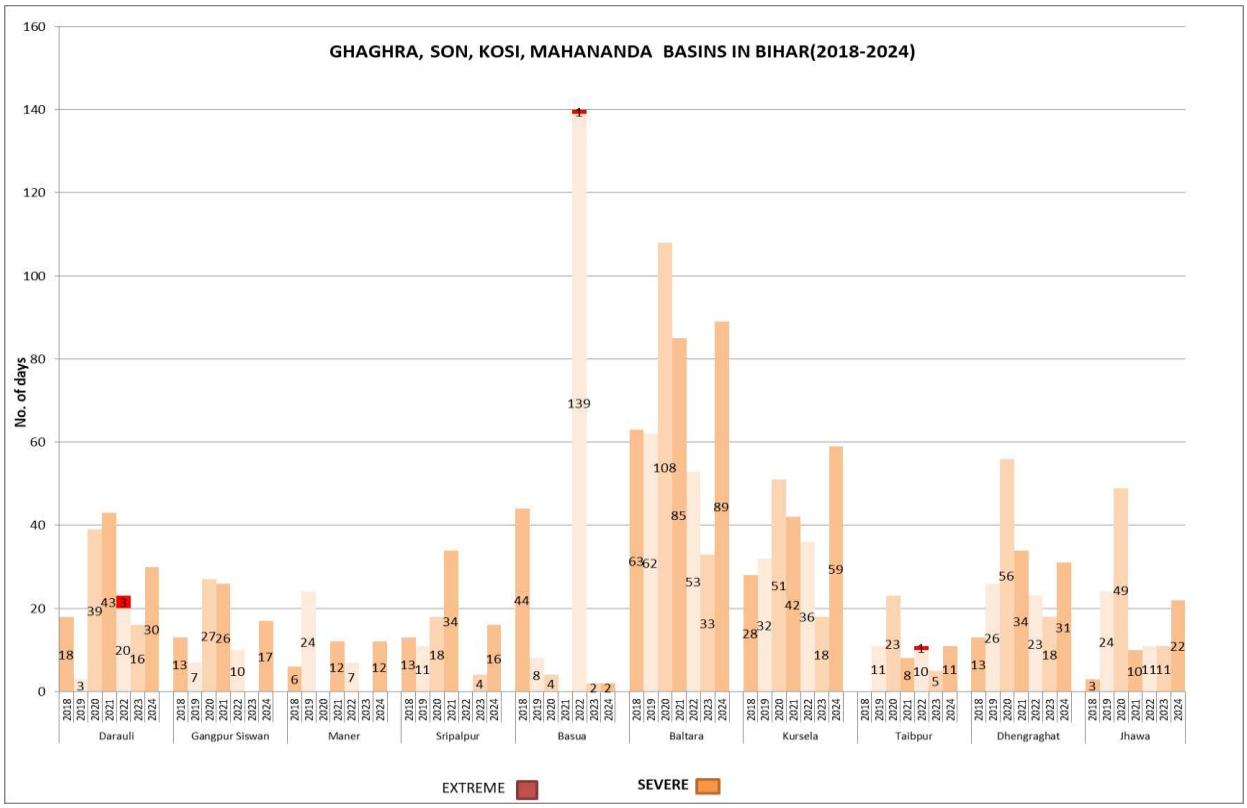


Fig 6.5(iii)

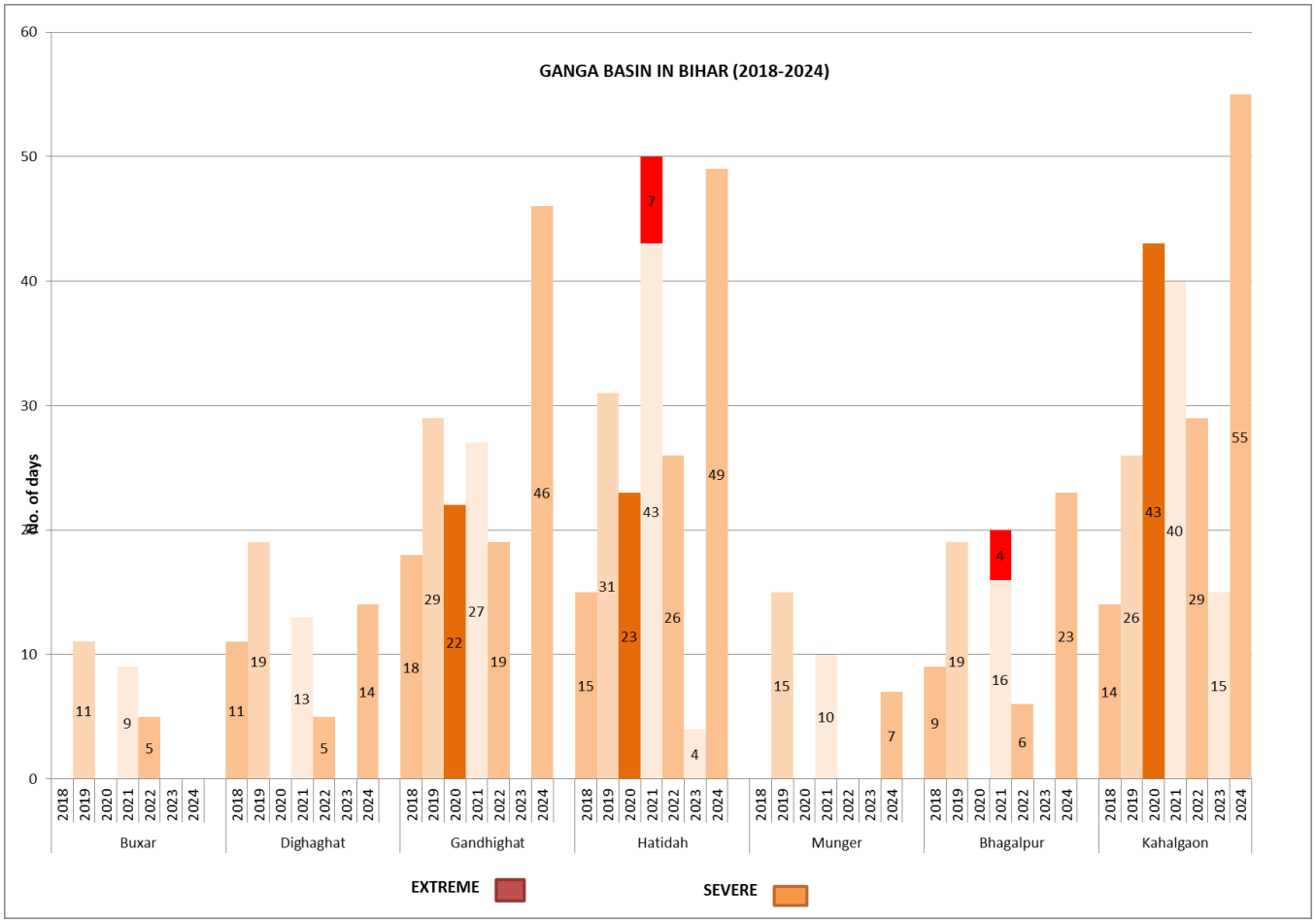
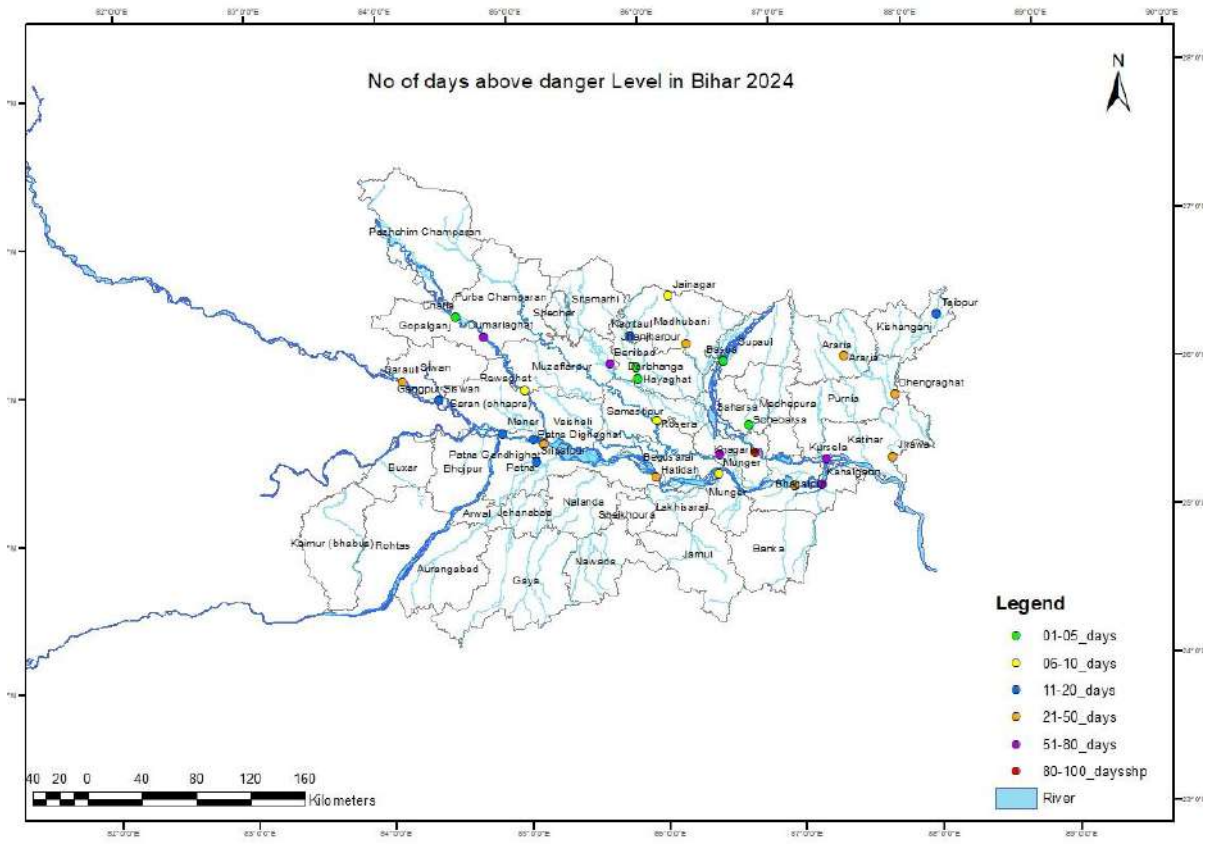


Fig 6.5(iv)

From the above given plots it is evident that more no.of flood situations occurs in northern tributaries of Ganga such as (1) Bagmati (sites Dhenbridge, Hayaghat, Runisaidpur, Benibad) in Sitamarhi, Dharbanga & Muzaffarpur districts; (2) river Adhwara (sites Sonebarsa, Kamtaul, Ekimghat) in Sitamarhi & Dharbanga districts; (3) rivers Kamala-balan (sites Jainagar & Jhanjharpur) in Madhubani district. Next frequent flooding's are found to occur in (1) main Kosi river (sites Basua & Baltara) in Supaul & Khagaria districts; (2) river Mahananda and its tributary Parman (sites Dhengraghat, Jhawa, Araria) in Purnea, Kathihar and Araria districts; (3) river Gandak (site Dumariaghat) in Gopalganj district; (4) river Burhi Gandak (sites Samastipur, Rosera, Khagaria) in Samastipur & Khagaria districts.

On main Ganga stem the state flood situations are comparatively less and more cases are found at sites Hatidah and Kahalgaon in Patna and Bhagalpur districts respectively.

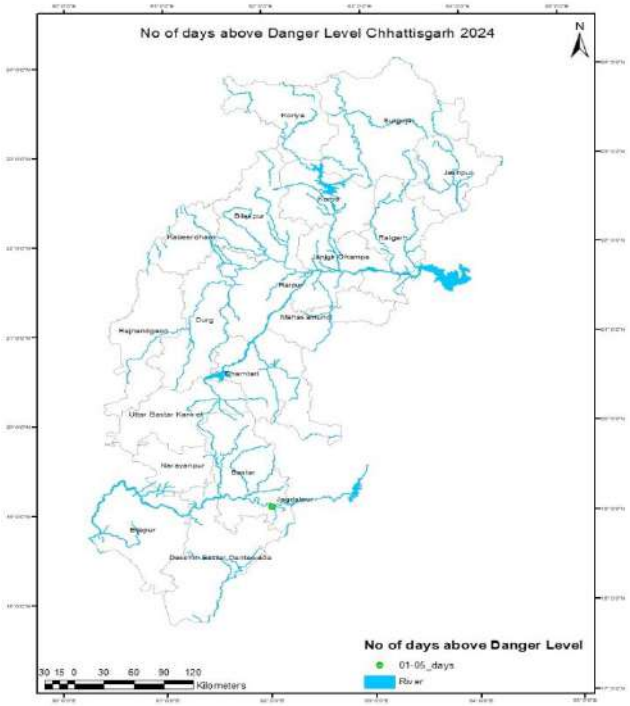
Flood situation in Bihar during 2024 is shown in the **Map 6.3** given below.



Map 6.3

6.2.5 CHHATTISGARH

CWC sites Jagdalpur on river Indravati flowed in severe flood situations for 2 days during 2024 only. No Extreme and Severe Flood witnessed during 2018-2023. Flood situation in Chhattisgarh during 2024 is shown in the **Map 6.4** given below.



Map 6.4

6.2.6 GUJARAT

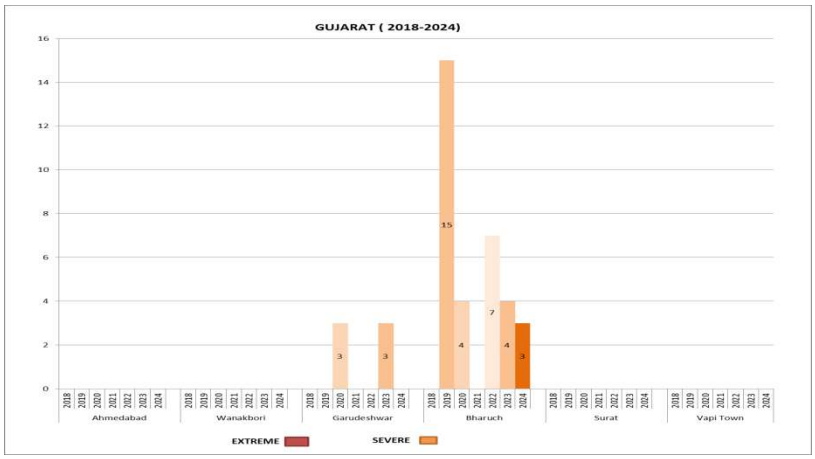
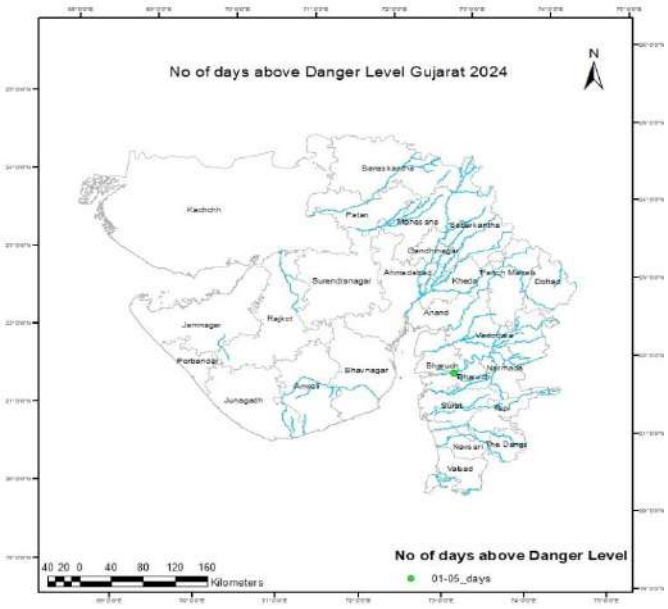


Fig 6.6

Flood situations in Gujarat are mainly confined to site Bharuch in Narmada basin situated downstream of Sardar Sarovar dam. The causative factors for floods are mainly releases from Sardar Sarovar and topography of the region.

Flood situation in Gujarat during 2024 is shown in the **Map 6.5** given below.



Map 6.5

6.2.7 JHARKHAND

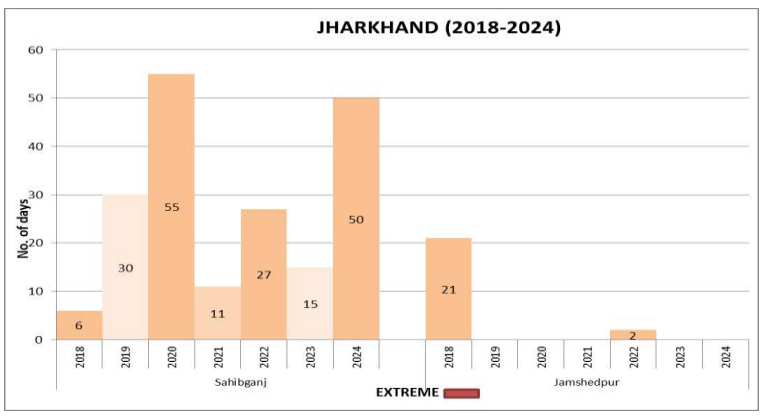
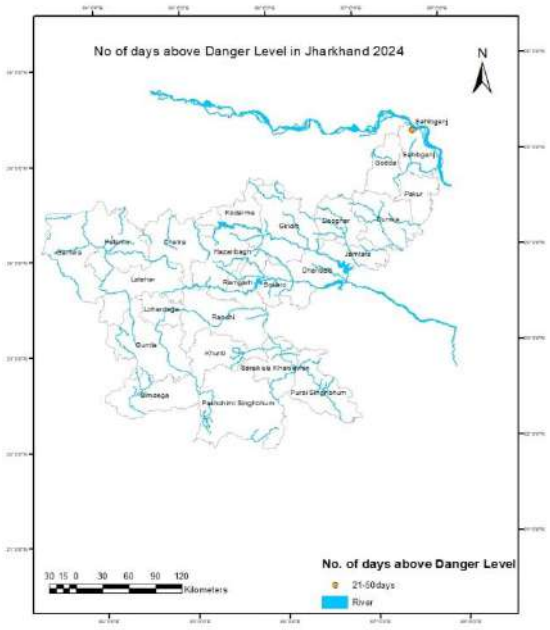


Fig 6.7

Main flood situations are reported on site Sahibganj in Sahibganj district on main Ganga. Flood situation in Jharkhand during 2024 is shown in the **Map 6.6** given below.



Map 6.6

6.2.8 KARNATAKA

Adequate flood levels forecasting sites are needed in Karnataka for depicting flood situations in Karnataka.

6.2.9 KERALA

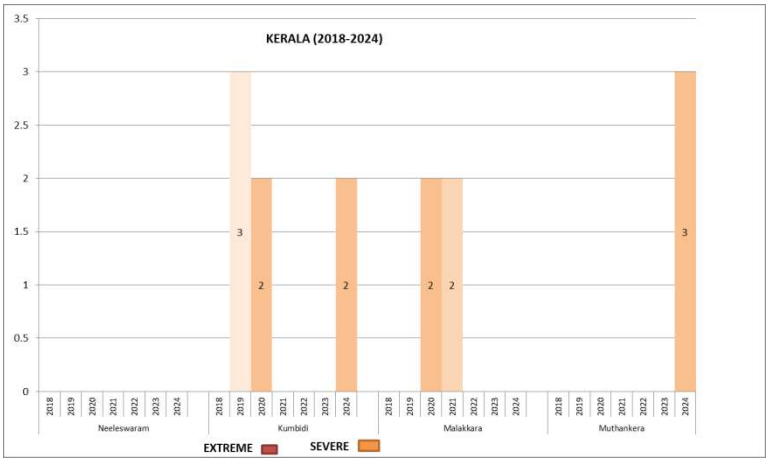
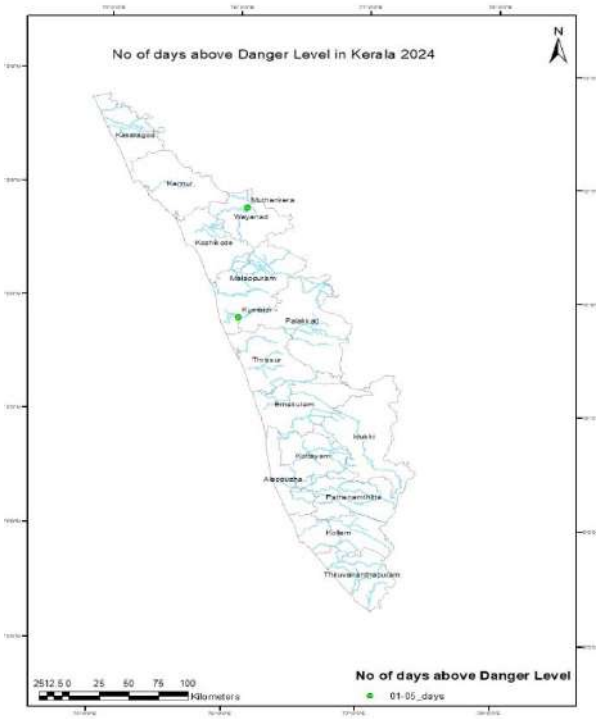


Fig 6.8

Kerala state flood forecasting sites were initialized after the devastating floods of 2018. As per observed scenario, flood situations occurred more in Kumbidi site on Bharathapuzha river and site Malakkara on Pamba river.

Flood situation in Kerala during 2024 is shown in the **Map 6.7** given below.



Map 6.7

6.2.10 MADHYA PRADESH

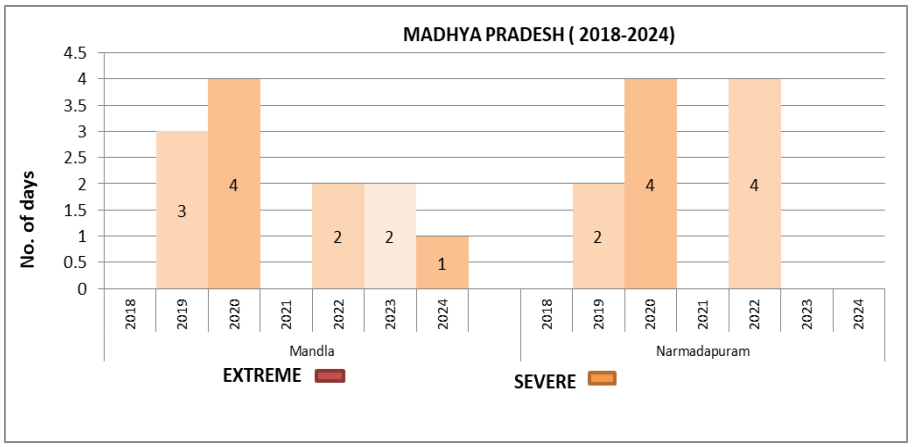
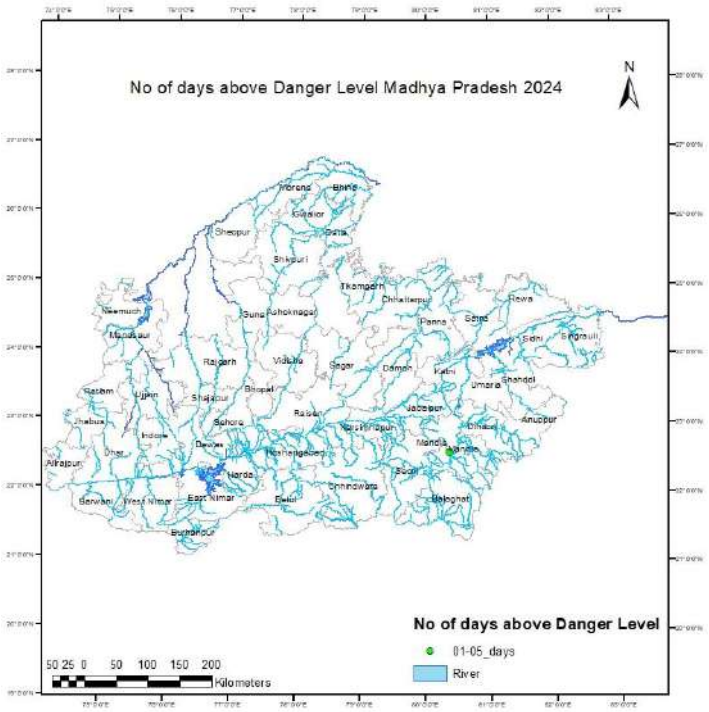


Fig 6.9

In Madhya Pradesh CWC has two level forecasting sites Mandla and Narmadapuram on main Narmada stem both the sites depicts more or less same flood situations in last few years.

Flood situation in Madhya Pradesh during 2024 is shown in the **Map 6.8** given below.



Map 6.8

6.2.11 MAHARASHTRA

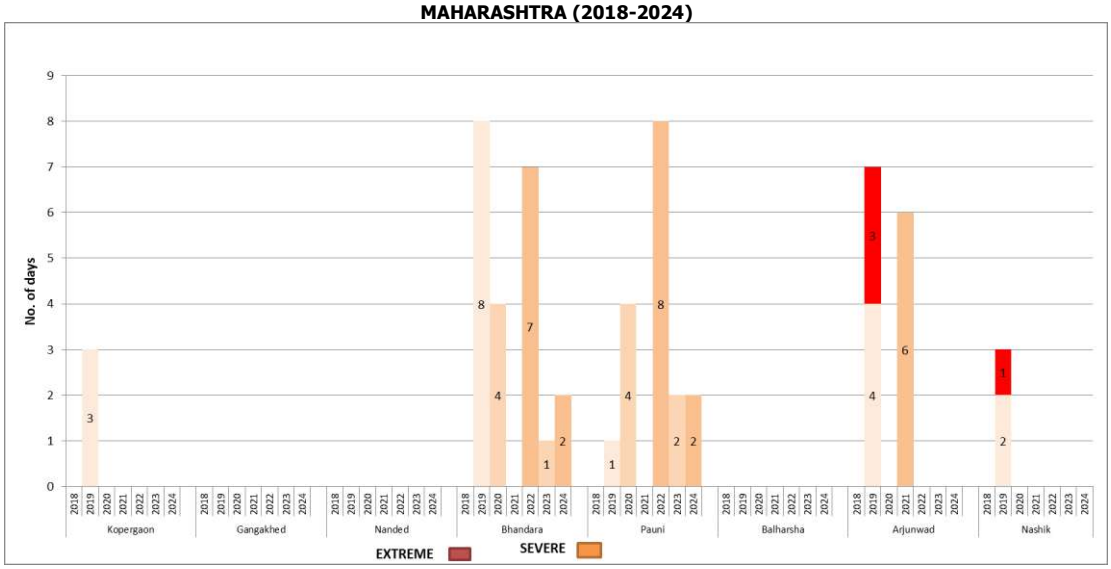
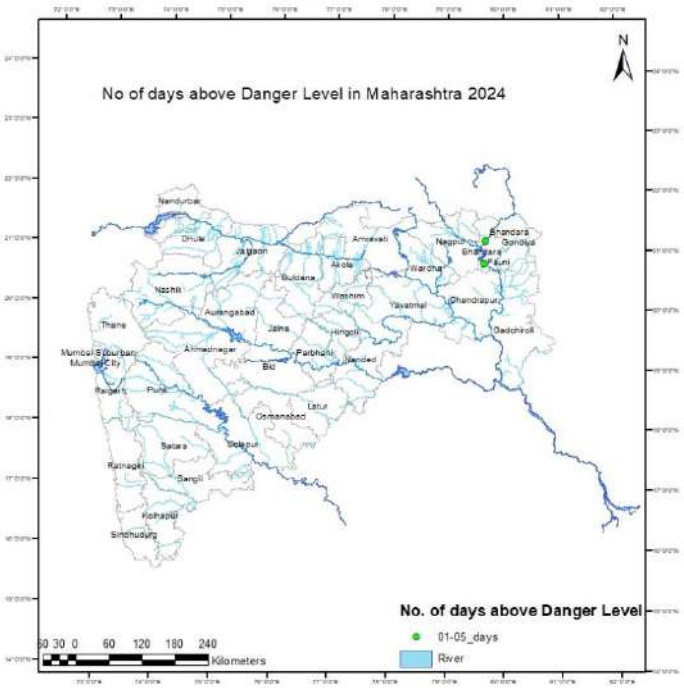


Fig 6.10

Floods situations are more frequent in Wainganga tributary of Godavari basin at sites Bhandara & Pauni in Bhandara district . In Krishna basin more flooding's occurred at Arjunwad site in Kolhapur district.

Flood situation in Maharashtra during 2024 is shown in the **Map 6.9** given below.



Map 6.9

6.2.12 ODISHA

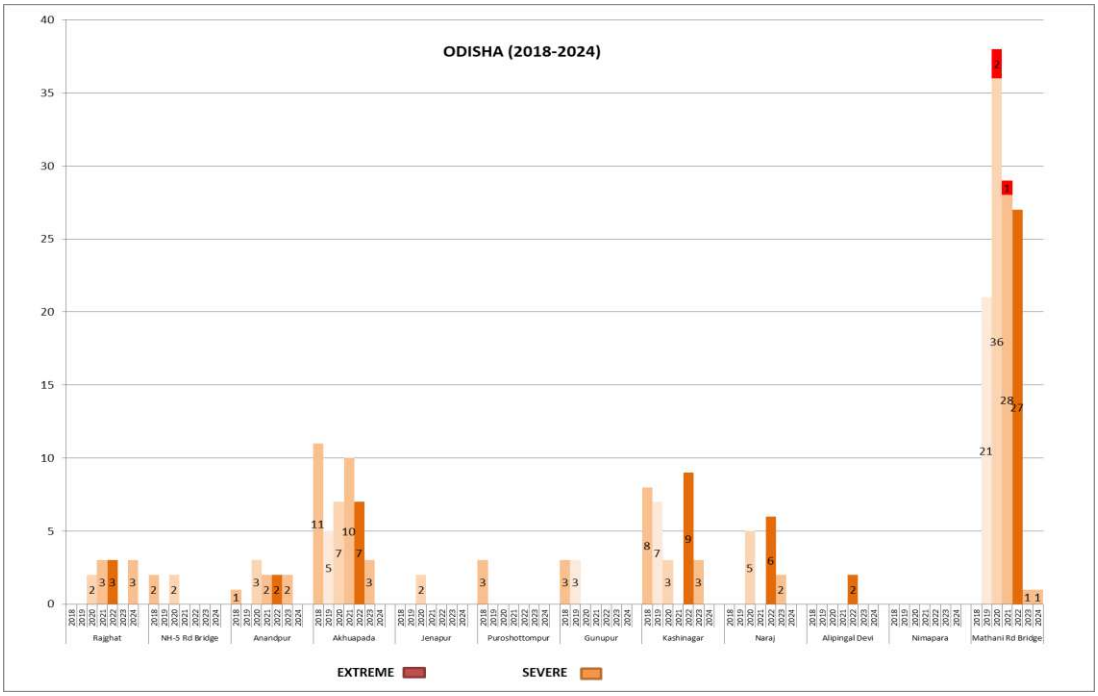
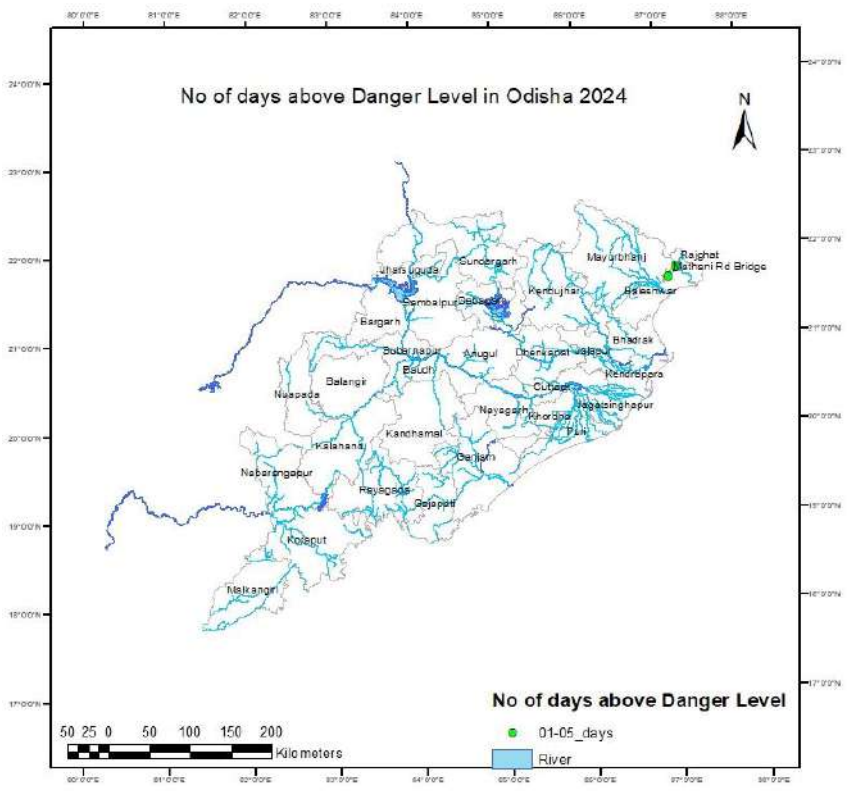


Fig 6.11

From the plots it is summarized that in Odisha most frequent flooding are reported from site Mathani Rd Bridge on Jalka river of Subarnarekha basin in Baleshwar district. Comparatively more cases also occur at sites Akhuapada (Bhadrak dist.) and Kashinagar (Gajapati dist.) in Baitarni and Vamsadhara rivers respectively.

Flood situation in Odisha during 2024 is shown in the **Map 6.10** given below.



Map 6.10

6.2.13 RAJASTHAN

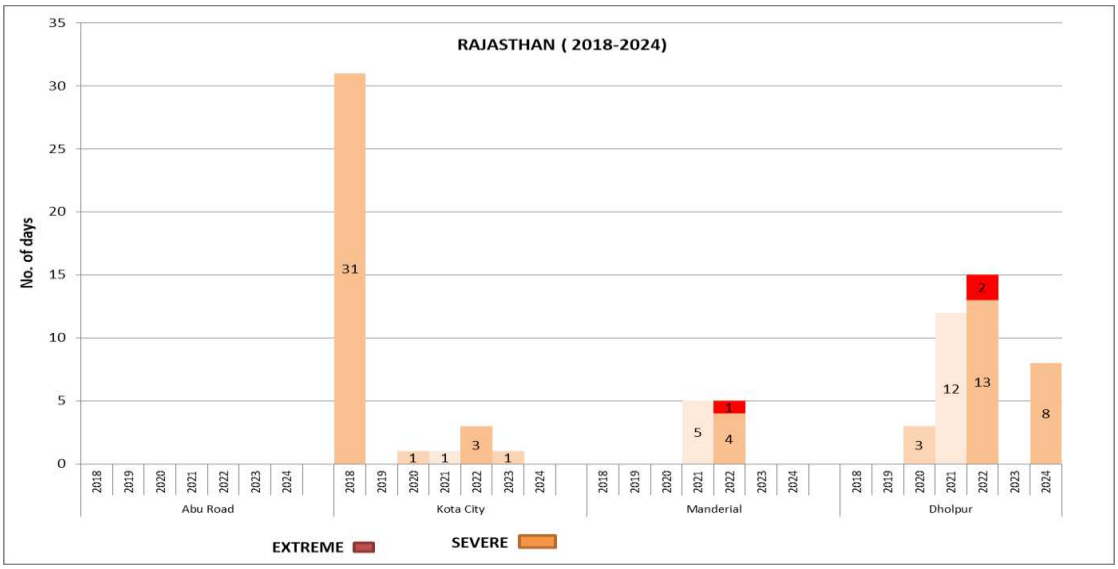
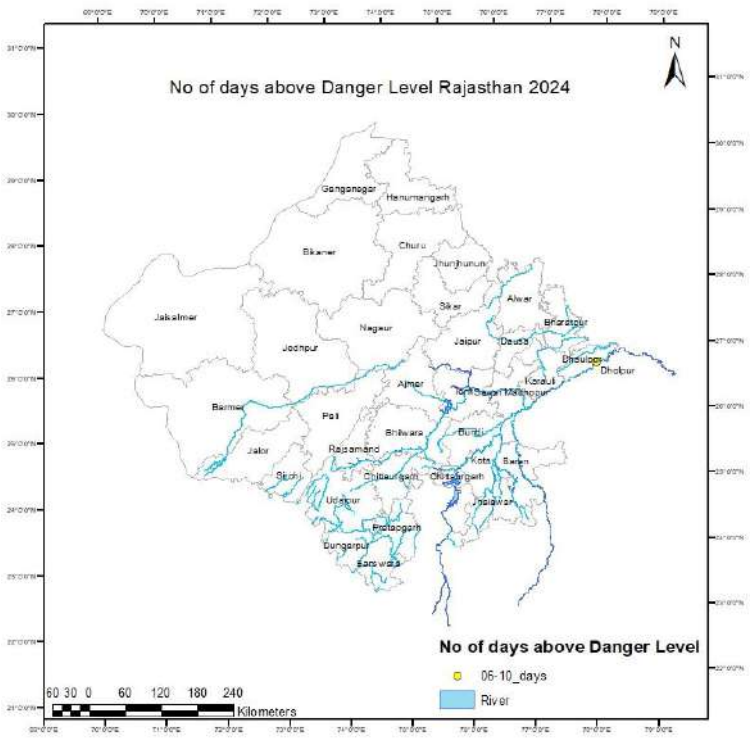


Fig 6.12

More frequent floods are found to occur on Chambal river at site Kota city (Kota district) and at Dholpur (Dholpur dist.). Manderial (Karauli dist.) site situated on Chambal River was initiated in 2021.

Flood situation in Rajasthan during 2024 is shown in the **Map 6.11** given below.

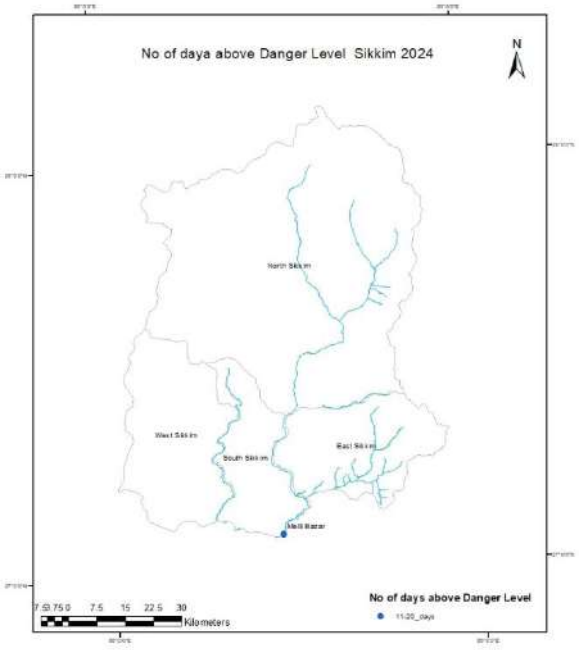


Map 6.11

6.2.14 SIKKIM

No significant flood occurred in Sikkim for the period from 2018 to 2022. During 2023 monsoon, on 4 October 2023, due to heavy rains a Glacial Lake Outburst Flood (GLOF) occurred due to the breach of 'South Lhonak Lake' in the far north-western part of state of Sikkim and caused a devastating flood in river Teesta. The Forecasting site Melli flowed above Danger Level for 12 days during 2024.

Flood situation in Sikkim during 2024 is shown in the **Map 6.12** given below.



Map 6.12

6.2.15 TAMILNADU

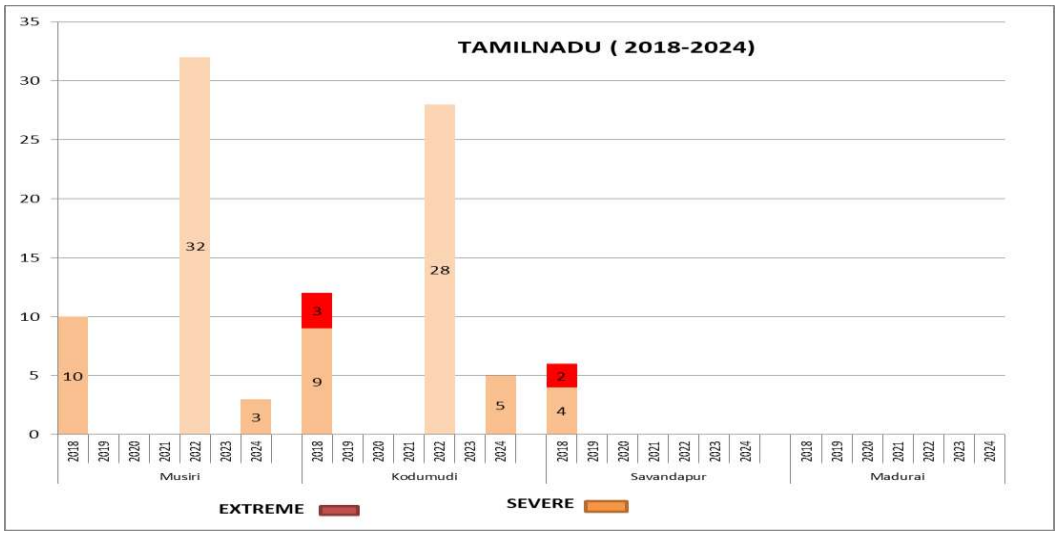
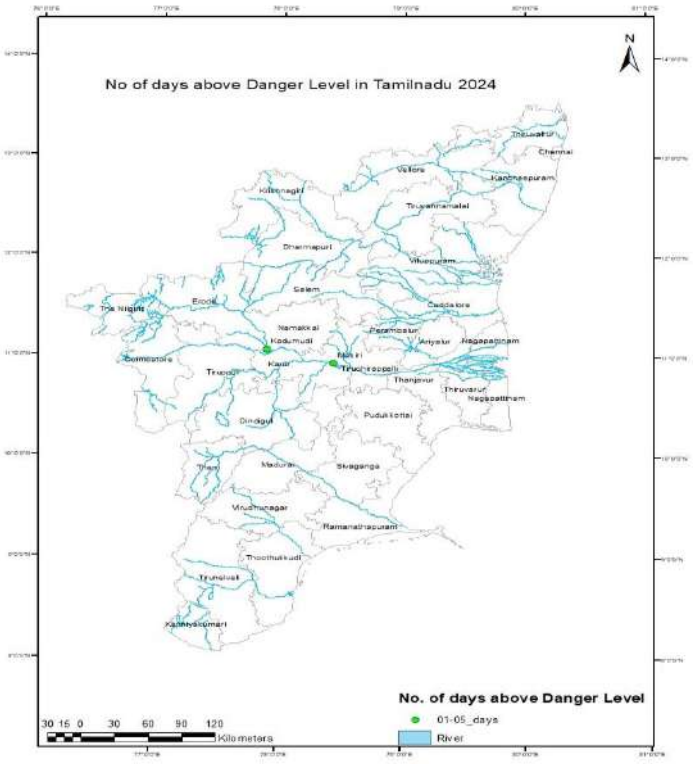


Fig 6.13

Figure reveals that more flood situations occur at two successive sites located on Cauvery river, Kodumudi (Erode dist.) and Musiri (Thiruchirapally dist.).

Flood situation in Tamilnadu during 2024 is shown in the **Map 6.13** given below.



Map 6.13

6.2.16 TELANGANA

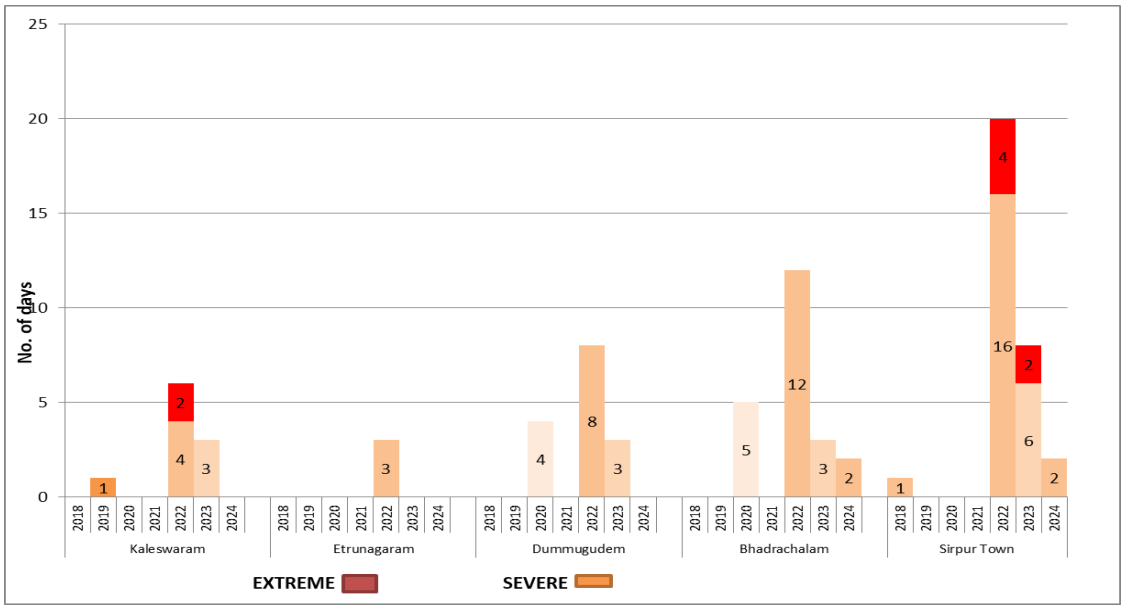
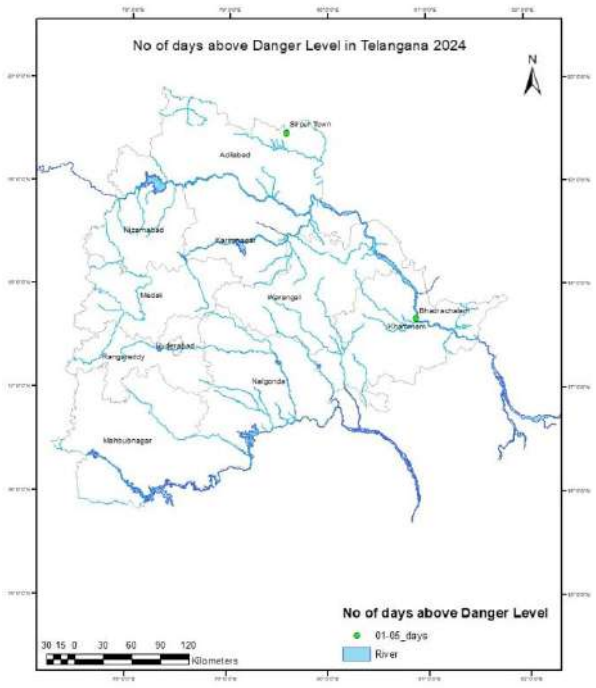


Fig 6.14

Figure shows that floods in Godavari are more frequent than in Krishna. Most flood situations occur on Wardha river (Godavari basin) at site Sirpur Town in Kumaram Bheem district. Flooding is also more in successive sites in Godavari main stem such as Dummagudem and Bhadrachalam both located in Bhadradri district.

Flood situation in Telangana during 2024 is shown in the **Map 6.14** given below.



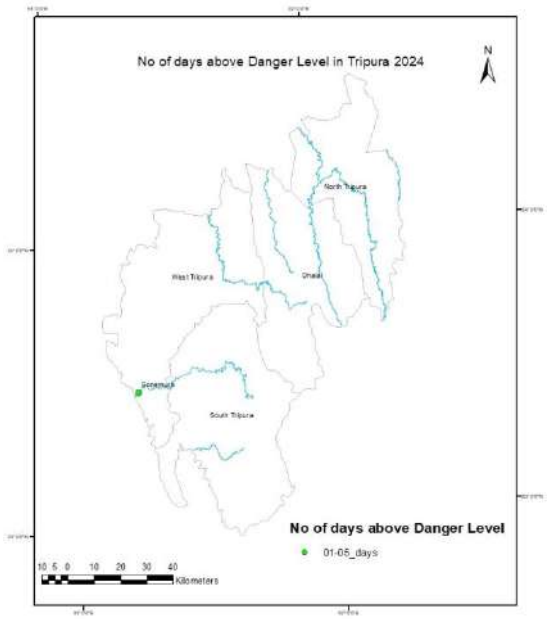
Map 6.14

6.2.17 TRIPURA

No significant flood occurred in Tripura during 2018-2023. During 2024 in the month of August Tripura has experienced a heavy rainfall due to a Low Pressure Area over South Bangladesh and neighborhood resulting in rising river water levels. 1 flood forecasting station Sonamura on the river

Gumti flowed in Severe Flood for 4 days.

Flood situation in Tripura during 2024 is shown in the **Map 6.15** is given below.



Map 6.15

6.2.18 UTTAR PRADESH

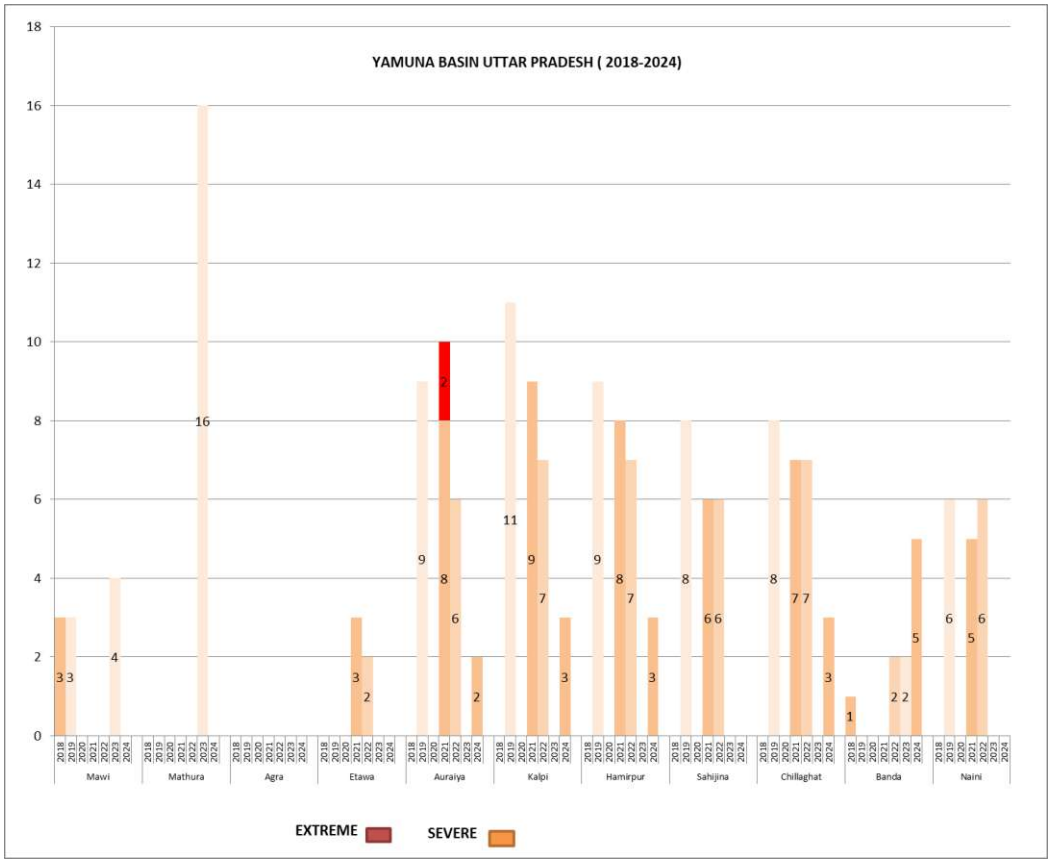


Fig 6.15 (i)

GANGA BASIN IN UTTAR PRADESH (2018-2024)

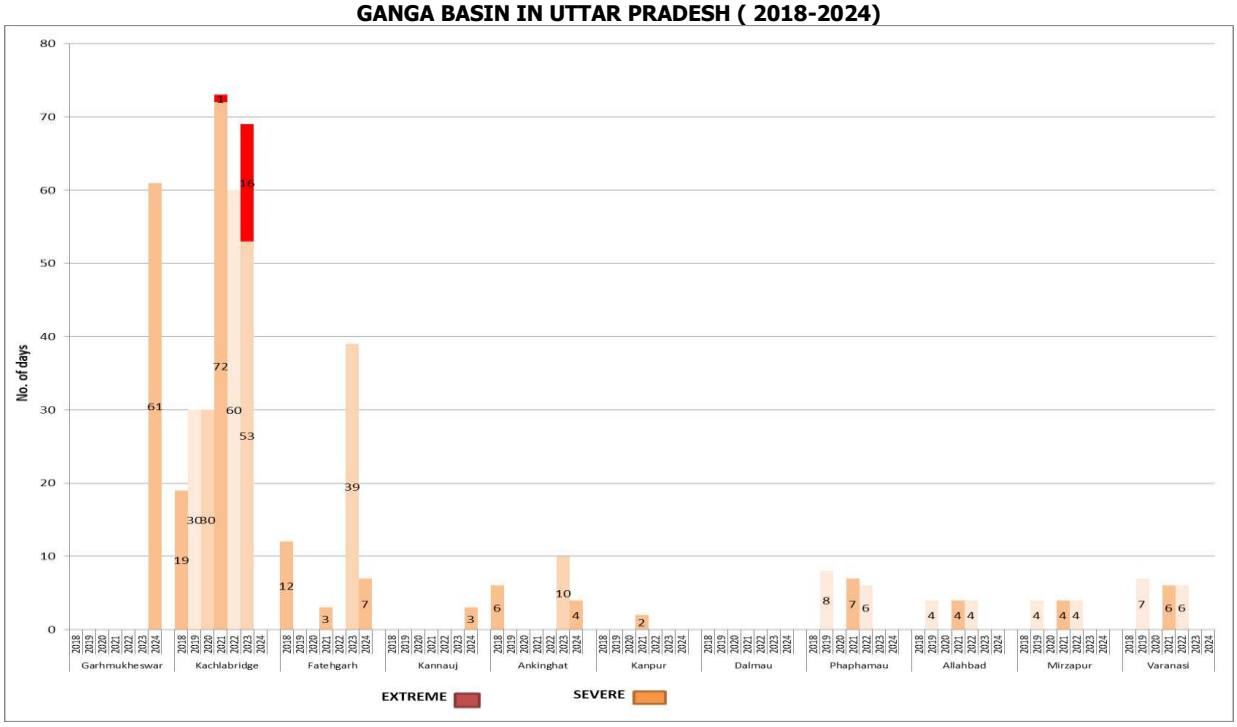


Fig 6.15 (ii)

UTTAR PRADESH (2018-2024)

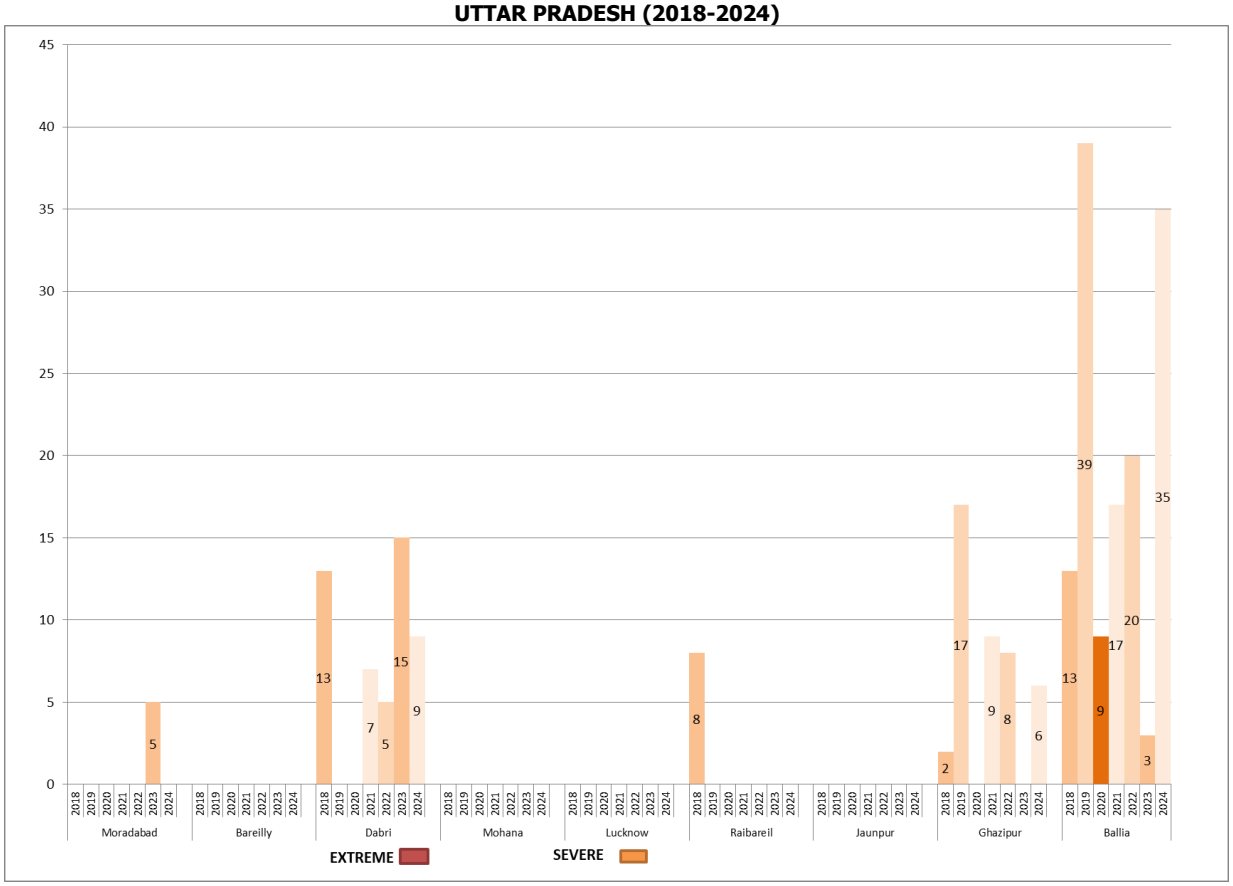


Fig 6.15 (iii)

UTTAR PRADESH (2018-2024)

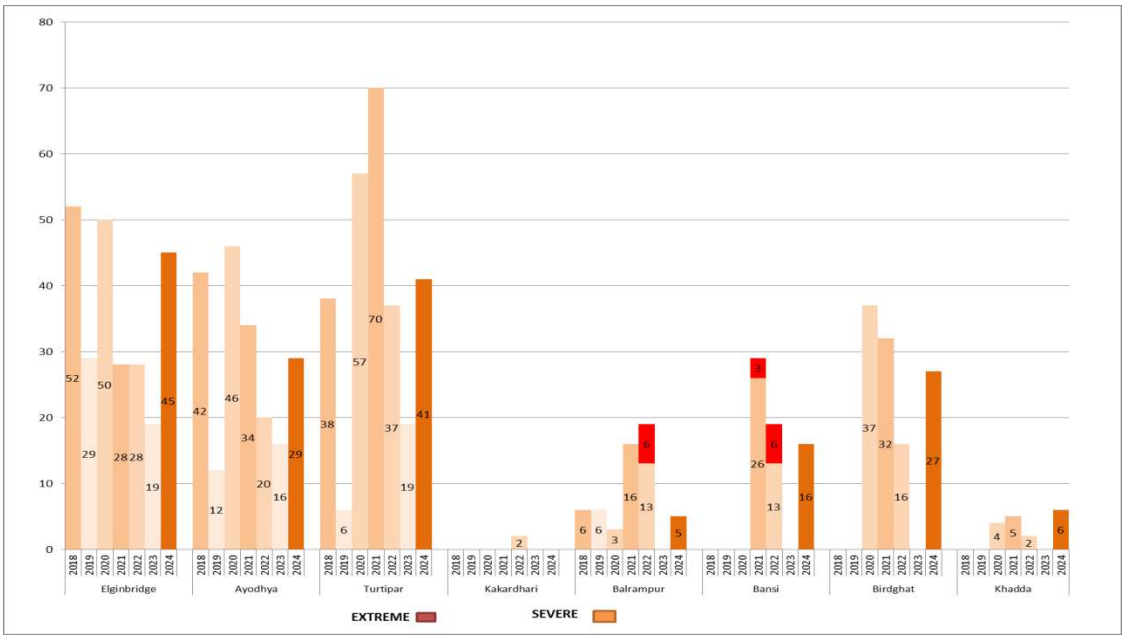
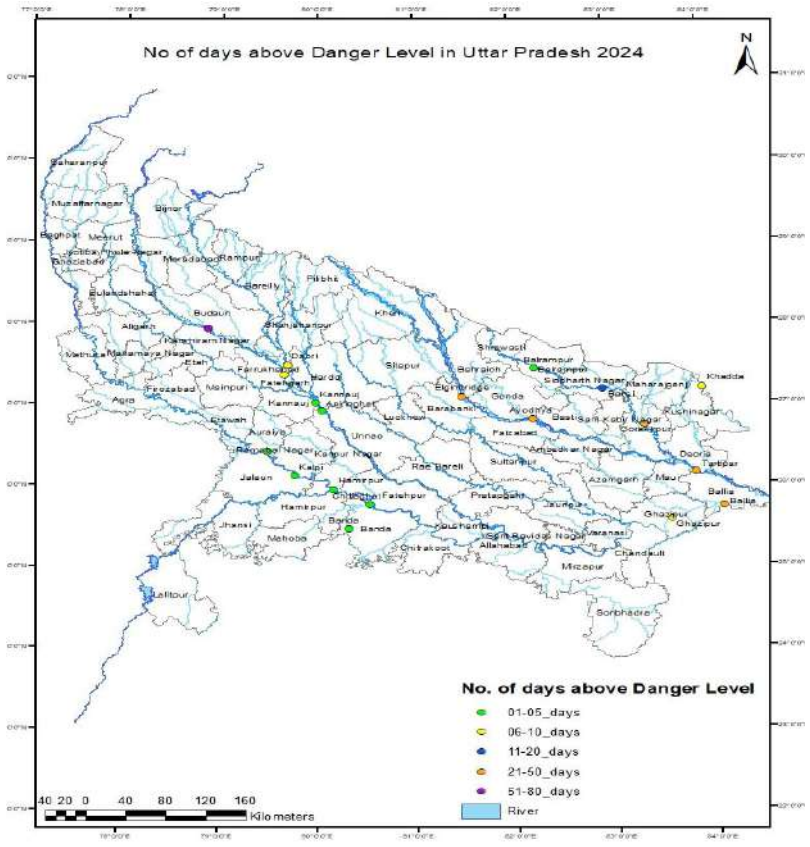


Fig 6.15 (iv)

Analysis show that more flooding happens in Ghagra river at sites Elginbridge (Barabanki dist.), Ayodhya (Ayodhya dist.) & Turtipar (Ballia dist.). In main Ganga stem, more flood situations are reported from sites Kachlabridge (Budaun dist.) & Ballia (Ballia dist.)

Flood situation in Uttar Pradesh during 2024 is shown in the **Map 6.16** given below.



Map 6.16

6.2.19 UTTARAKHAND

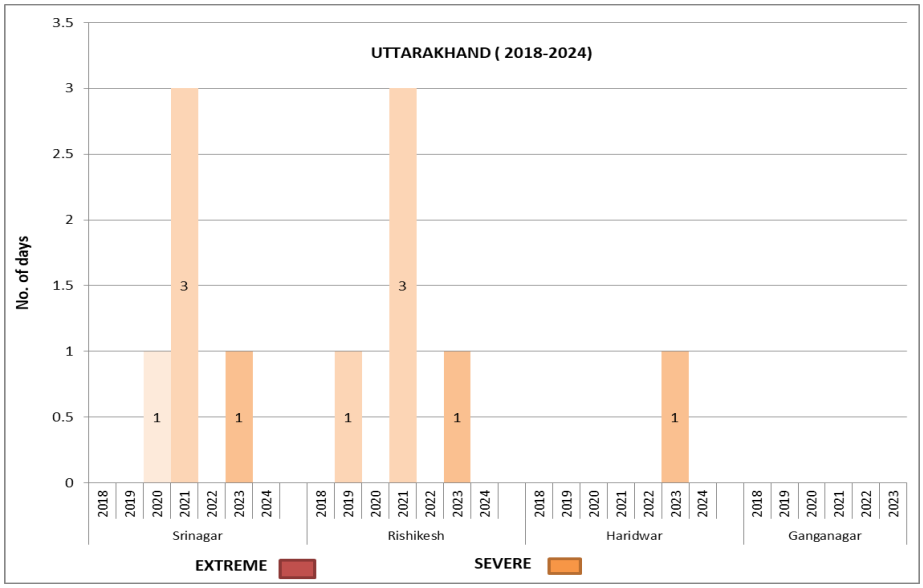


Fig 6.16

As per the analysis more no.of flood situations occur in upper Ganga and its tributary Alaknanda. Site Srinager on Alaknanda river (Pauri Garhwal dist.); Rishikesh (Dehradun dist.) and Haridwar (Haridwar dist.) on Upper Ganga are located sequentially in the basin and hence propagation of flood is clearly visible.

No Flood Forecasting station flowed in severe flood in Uttarakhand during 2024.

6.2.20 WEST BENGAL

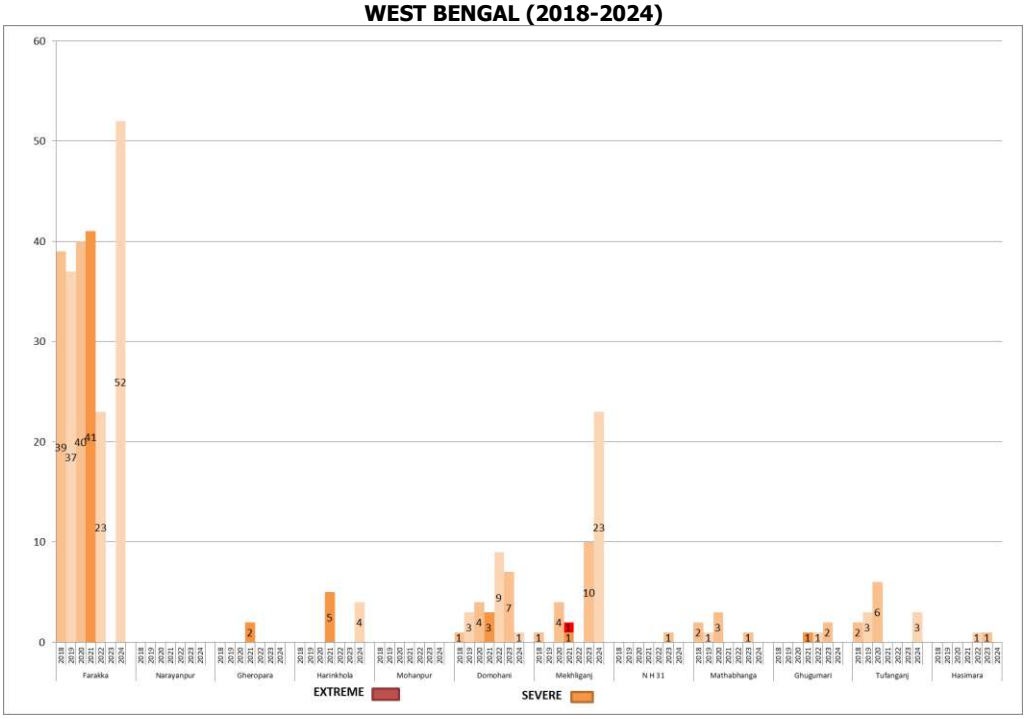
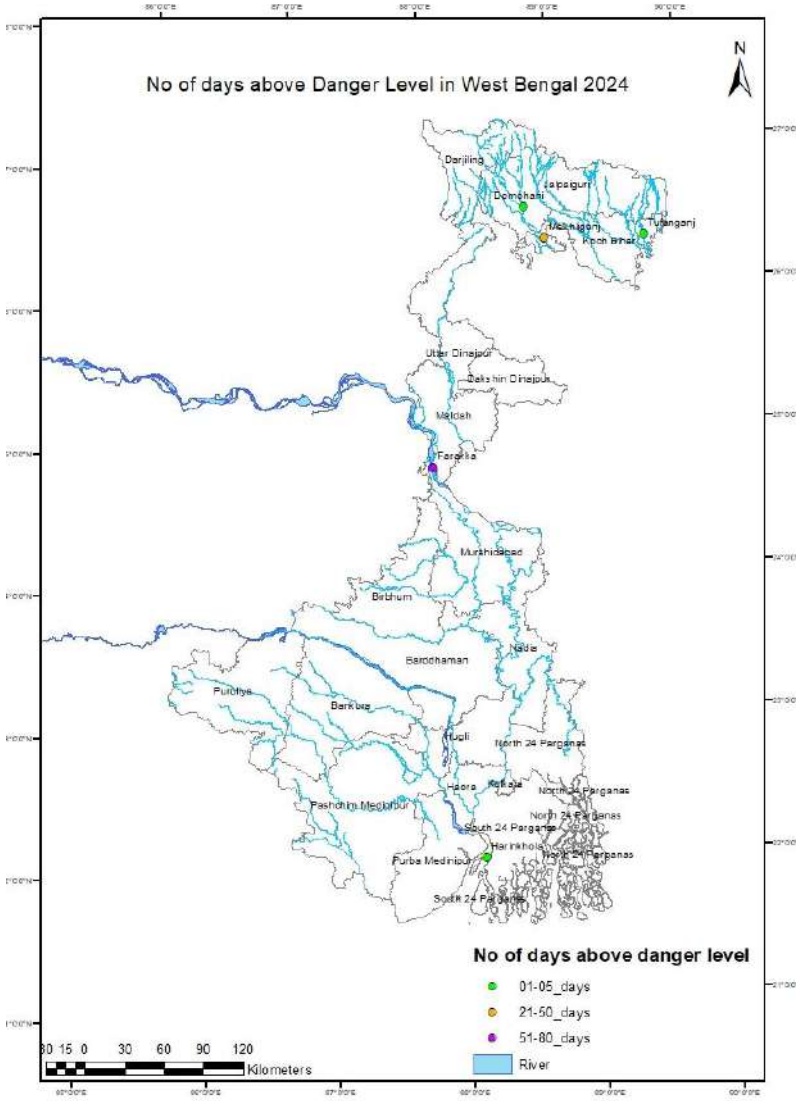


Fig 6.17

In West Bengal flooding is mainly confined to the tale end FF site Farkka (Murshidabad dist.)on river Ganga before the river enters Bangladesh.

Flood situation in West Bengal during 2024 is shown in the **Map 6.17** given below.



Map 6.17

6.2.21 NCT Delhi

No flood occurred in NCT Delhi for the period from 2018 to 2022. During monsoon season 2023 very heavy rainfall occurred in Himalayan region upstream of Hathnikund Barrage. The high discharge passed from Hathnikund Barrage created Flood situation in the downstream region of the Barrage in the river Yamuna. The site Delhi Railway Bridge was above Danger level for 23 days.

No Flood Forecasting station flowed in severe flood in NCT Delhi during 2024.

On viewing all the plots of various states in India it is summarized that

- Flood situation for more no.of days occured in Bihar, Uttar Pradesh and Assam.
- CWC flood level forecasting network is less representative of the flood situation in Peninsular India as the network is not wide compared to northern and eastern India. For that CWC is in a process of widening its network in the country.
- Analysis throws light to more frequent flooding rivers in various states but needs more critical analysis to conclude and comment on flooding pattern in the country.

CHAPTER - 7

RESPONSE FROM USER AGENCIES

7.1 GENERAL

Central Water Commission performs the Flood Forecasting and Warning job on flood prone interstate river basins in the country. It issues the forecast to the users such as various civil and engineering departments of the state and central governments including, railway, defense, revenues authorities, public sector undertakings besides National Disaster Management Cell in the Ministry of Home Affairs, who are responsible for taking timely flood fighting measures, rescue operations including shifting of flood affected people to safer places etc.

Though the various state government agencies in-charge of the flood management and relief operations generally do not give their views in writing on usefulness of the flood forecasting activities of CWC, yet some of them do write to the Central Water Commission conveying their views on the usefulness of the flood forecasts received by them.

7.2 APPRECIATION LETTERS RECEIVED DURING FLOOD SEASON 2024

Abstract of some of the messages received by our field unit during the flood season 2024 are given below:

7.2.1 Office of the Assistant Secretary, Tungabhadra Board, Tungabhadra Dam, Karnataka. (lr.No1818/SO(V)/2024-25 dt. 27.02.2025)

The Inflow Forecasts received from CWC during 2024 Flood season are very useful as inflow forecasts received are fairly accurate with the actual inflows at TB Dam. It is requested to continue issue inflow forecasts upto 30th November instead of stopping by 31st October

7.2.2 Office of the Superintending Engineer, Irrigation Circle, Kurnool, WRD Dept. Govt of Andhra Pradesh (Lr No. SE/IC/KNL/CWC Flood Forecast 2024-25/827M dated 13.12.2024).

The utility of forecast bulletins of Mantralayam CWC, is much benefitted to Water Resources Department in advance preparation of water control and water management and in depletion of water from Reservoirs early so that, the inflow water can be accommodated in the reservoirs/barrage. The forecast bulletin of Mantralayam helped a lot in gate operation of Sunkesula Barrage.

7.2.3 Office of the Engineer –in –Chief, Water Resoursces, Odisha, Bhubaneshwar. (No. CE, HH,GIS & CEM-FFFM-138/2024-34144 dated 21.11.2024).

The Flood Forecasts issued by CWC has been extremely useful for making decision regarding reservoir operation & effective Flood Management during monsoon 2024.

7.2.4 Office of the Chief Engineer, HPC & Hydel Projects, APGENCO, Vijayawada
(Lr No. CE(HPC& HP)/DEE(T)/F.Extt/D.No. 1392 dt. 10.12.2024)

The Service rendered by the Central Water Commission with regard to the Krishna Basin Flood Forecasting during monsoon 2024 is extraordinary and exemplary. The timely

forecast issued by the commission was very much useful in planning the remedial measures and generation through the units. The service was very commendable and appreciable for which APGENCO is always thankful.

7.2.5 Office of the Assistant Executive Engineer, Krishna Bhagya Jala Nigam Ltd. Vijaypura, Karnataka (Lr No. KBJNL/DSD-2/ PB-I/CWC Flood Feedback/2024-25 dt. 17.01.2025)

The Inflow Forecast received at Almatti Dam from CWC during monsoon 2024 are very much useful and is fairly accurate with respect to actual inflow.

Further it is requested to issue inflow forecast in future also for smooth flood regulation at Almatti Dam.

7.2.6 Office of the Assistant Engineer, WRD Department, Dam Section, Bhavanisagar, Tamilnadu (Lr No. F.9/Dam Section/2025 dt. 14.02.2025)

During the monsoon season 2024-25, the discharge and Warning data provided for Bhavanisagar Dam & Bhavani Basin was very useful for advance preparation in view of managing the flood effectively. The forecast data provided by CWC was found similar to the record. Therefore we look forward to receive data in future.

7.2.7 Office of the Executive Engineer, WRD Department, Mettur Dam Division, Tamilnadu (Lr No. DBvol-I/F-214/2025 dt. 28.01.2025)

During the monsoon season 2024-25, the Inflow Forecast data provided for Mettur Dam was a valuable tool for advance preparation in view of decision making managing the water effectively. The forecast data provided by CWC was found similar to the record. Therefore we look forward to receive data in future.

7.2.8 Office of the Assistant Engineer, WRD Department, Left Flank Section, Vaigai Dam, Tamilnadu (Lr No. F.15/AE/LF Section/2025 dt. 13.02.2025)

During the monsoon season 2024-25, the discharge and Warning data provided for Vaigai Dam & Vaigai Basin was very useful for advance preparation in view of managing the flood effectively. The forecast data provided by CWC was found similar to the record. Therefore we look forward to receive data in future.

7.2.9 Office of the Assistant Engineer, WRD Department, R C Section, Upper Anicut, Tamilnadu (Lr No. F.1/2024/AE(UA)/ dt. 15.02.2025)

I would like to extend our sincere appreciation for timely and accurate forecast data provided by Central Water Commission during the monsoon season for the year 2024-25.

The forecast you have shared have been have been invaluable in ensuring the safety and preparedness of our operation helping us make informed decisions that mitigate risks and optimize resources. We further look forward to receive data in future for better flood management.

7.2.10 Office of the Assistant Engineer, WRD Department, Grand Anicut Section, Kallanai (Lr No. F.34/2024/(GA)/Kallanai dt. 17.01.2025)

During the monsoon season 2024-25, the discharge and Warning data provided for Grand Anicut & Cauvery Basin was very useful for advance preparation in view of managing the flood effectively. The forecast data provided by CWC was found similar to the record. Therefore we look forward to receive data in future.

7.2.11 Office of the Executive Engineer, Irrigation Division No. 1, Govt of Telangana (Lr. no: EE/Div-1/IC Pochampad/DB/TOI/1277 dt 04/12/2024)

The Flood Forecasting service provided by Central Water Commission was enormously useful throughout the monsoon 2024. CWC's work is highly appreciated for communicating the timely forests for the effective flood management of Sri Ram Sagar Project.

With the help of CWC's daily flood bulletins, this office is timely alerting the downstream areas of the project and protecting the precious lives and property of the people.

7.2.12 Office of the District Collector,Bastar,Jagdalpur. (No. 1/Rev dt. 30.12.2024)

CWC have had communication and coordination with the District Flood Control Room by giving updates and forcasts on flood water level during the monsoon season 2024-25 of Indravati River and its tributaries.

7.2.13 Office of the Revenue Divisional Officer,Bhadrachalam, Telangana. (No. E/493/2024 dt. 12.12.2024)

Central Water Commission is providing us Flood Forecasting service to Bhadrachalam and Dummugudem town on river Godavari. Due to which this office is able to take timely action in evacuating the valunerable areas and able to save the lives of people and animals and also damages to property.

ANNEXURES - I to XIII

Details of New Flood Forecasting Stations included in last Five Years (2017-2024)

Year	New Station	Total No. of Station	Name of Station	State	District
1	2	3	4	5	6
2017	27	199 + 27=226	Kurnool Town	Andhra Pradesh	Kurnool
			Srikakulam	Andhra Pradesh	Srikakulam
			Namsai	Arunachal Pradesh	Lohit
			Choldhowaghat	Assam	Lakhimpur
			N H Crossing Ranganadi	Assam	Lakhimpur
			Dholla Bazaar	Assam	Tinsukia
			Kokrajhar	Assam	Kokrajhar
			Dumariaghat	Bihar	Gopalganj
			Ahirwalia	Bihar	Muzzafarpur
			Sangam	Jammu & Kashmir	Anantnag
			Safapora	Jammu & Kashmir	Bandipora
			Fathegarh	Uttar Pradesh	Farukkabad
			Dabri	Uttar Pradesh	Shahjahanpur
			Garhmuktheswar	Uttar Pradesh	Ghaziabad
			Kachla Bridge	Uttar Pradesh	Badaun
			Panam Dam	Gujarat	Panchmahal
			Upper Tunga	Karnataka	Shimoga
			Bhadra Dam	Karnataka	Chikmagaluru
			Rengali Dam	Odisha	Angul
			Mahi Bajajsagar Dam	Rajasthan	Banswara
			Som Kamla Amba Dam	Rajasthan	Udaipur
			Upper Anicut	Tamilnadu	Tiruchirapalli
			Gomukhi Dam	Tamilnadu	Villupuram
			Wellington Dam	Tamilnadu	Cuddalore
			Sathanur Dam	Tamilnadu	Thiruvannamalai
			Chembarampakkam Lake	Tamilnadu	Kanchipuram
			Banbasa	Uttarakhand	Champawat
2018	23	226+ 23 =249	Atreyapuram	Andhra Pradesh	East Godavari
			Karnal Bridge	Haryana	Karnal
			Paonta Sahib	Himachal Pradesh	Sirmaur
			Musiri(Srirangam)	Tamilnadu	Tiruchirapalli
			Kodumudi (Erode)	Tamilnadu	Erode
			Savandapur(Bhavani)	Tamilnadu	Erode
			Sirpur Town	Telangana	Adilabad
			Ganganagar	Uttarakhand	Rudraprayag
			Narayanapuram Anicut	Andhra Pradesh	Srikakulam
			Madduvalasa Reservoir	Andhra Pradesh	Srikakulam
			Tilaiya Dam	Jharkhand	Koderma
			Sikatia Barrage	Jharkhand	Dumka
			Konar Dam	Jharkhand	Hazaribagh
			Kalisindh Dam	Rajasthan	Jhalawar
			Parwan Dam	Rajasthan	Baran
			Gambhiri Dam	Rajasthan	Chittorgarh
			Panchana Dam	Rajasthan	Karauli
			Gudha Dam	Rajasthan	Bundi
			Parwati Dam	Rajasthan	Dholpur
			Kota Barrage	Rajasthan	Kota
			Rangit-III HEP Dam	Sikkim	South Sikkim
			Dharmanagri Barrage	Uttar Pradesh	Bijnor
			Kalagarh Dam	Uttarakhand	Pauri Garhwal
			Chinturu	Andhra Pradesh	East Godavari
			Avanigadda	Andhra Pradesh	Krishna

			Yingkiang	Arunachal Pradesh	Upper Siang
			Mathanguri	Assam	Baska
			Dheng Bridge	Bihar	Sitamarhi
			Sonebarsha	Bihar	Sitamarhi
			Jainagar	Bihar	Madhubani
			Runisaidpur	Bihar	Sitamarhi
			Araria	Bihar	Araria
			Taibpur	Bihar	Kishanganj
			Neeleswaram	Kerala	Ernakulam
			Kumbidi	Kerala	Palakkad
			Malakkara	Kerala	Pathanamthitta
			Nasik	Maharashtra	Nasik
			Mathani Road Bridge	Odisha	Balasore
			Abu Road	Rajasthan	Sirohi
			Kota City	Rajasthan	Kota
			Malli Bazaar	Sikkim	South Sikkim
			Joretahang(Rothak)	Sikkim	South Sikkim
			Singtam	Sikkim	East Sikkim
			Madurai	Tamilnadu	Madurai
			Kakardhari	Uttar Pradesh	Bahraich
			Hasimara	West Bengal	Coochbehar
			Indrapuri Barrage	Bihar	Garhwa
			Gandak Barrage	Bihar	West Champaran
			Kosi Barrage	Bihar	Bhimnagar
			Ravishankar Dam	Chattisgarh	Dhamtari
			Bango Dam	Chattisgarh	Korba
			Sardar Sarovar Dam	Gujarat	Ahmedabad
			Sundar Dam	Jharkhand	Hazaribagh
			Amanat Barage	Jharkhand	Dumka
			Annaraj Dam	Jharkhand	Hazaribagh
			Bhairwa Dam	Jharkhand	Hazaribagh
			Batane Dam	Jharkhand	Giridih
			Galudih Barrage	Jharkhand	Saraikela Kharaswan
			Getlasud Dam	Jharkhand	Ranchi
			Karanja Dam	Karnataka	Bidar
2019	76	249+76=325	Malaprabha Dam	Karnataka	Belgaum
			Hippargi Dam	Karnataka	Bagalkot
			Hidkal Dam	Karnataka	Belagavi
			Singatalur Barrage	Karnataka	Gadag
			Idduki Dam	Kerala	Idduki
			Idamalayar	Kerala	Ernakulam
			Rajghat Dam	Madhya Pradesh	Lalitpur
			Tawa Dam	Madhya Pradesh	Hoshangabad
			Bargi Dam	Madhya Pradesh	Jabalpur
			Barna Dam	Madhya Pradesh	Raisen
			Indira Sagar Dam	Madhya Pradesh	Khandwa
			Omkareshwar Dam	Madhya Pradesh	Khandwa
			Totladoh Project	Maharashtra	Nagpur
			Upper Wainganga Project	Madhya Pradesh	Balaghat
			Upper Wardha Project	Maharashtra	Amaravati
			Mula Dam	Maharashtra	Ahmednagar
			Issapur/Upper Penganga P	Maharashtra	Hingoli
			N M D Weir	Maharashtra	Nasik
			Yeldari Dam	Maharashtra	Parbhani
			Koyna Dam	Maharashtra	Satara
			Warana Dam	Maharashtra	Kolhapur
			Ujjani Dam	Maharashtra	Solapur
			Veer Dam	Maharashtra	Satara

			Manjlegaon	Maharashtra	Beed
			Salandi Dam	Odisha	Bhadrak
			Upper Indravathi Project	Odisha	Kalahandi
			Kolab Project	Odisha	Koraput
			Machhkund Project	Odisha	Koraput
			Balimela Project	Odisha	Malkangiri
			Rana Pratap Sagar	Rajasthan	Chittorgarh
			Teesta-III HEP Dam Chung	Sikkim	North Sikkim
			Teesta V HEP Dam Singta	Sikkim	North Sikkim
			Rongpo Dam	Sikkim	East Sikkim
			Rongli Dam	Sikkim	East Sikkim
			Kodaganar Dam	Tamilnadu	Dindugul
			Musi Project	Telangana	Nalgonda
			Matatilia Dam	Uttar Pradesh	Lalitpur
			Katerniaghat Dam	Uttar Pradesh	Bahraich
			Hinglow Dam	West Bengal	Bankura
2020	3	325+3=328	Dholpur	Rajasthan	Dholpur
			Indirasagar(Polavaram)	Andhra Pradesh	West Godavari
			Laxmi Barrage	Telangana	Bhupalpally
2021	3	328+3=331	Manderial	Rajasthan	Karauli
			Bawanthadi Reservoir	Madhya Pradesh	Balaghat
			Pench Reservoir/Chaurai/M	Madhya Pradesh	Chindwara
2022	2	331+2=333	Madikhera(Atal Sagar)	Madhya Pradesh	Shivpuri
			PVNR Kanthapally Project	Telangana	Warangal
2023	5	333+5=338	Muthankera	Kerala	Wayanad
			Subansiri Lower Dam	Arunachal Pradesh	Lower Subansiri
			Shetrunji Dam	Gujarat	Bhavnagar
			Ichari Dam	Uttarakhand	Dehradun
			Tehri Dam	Uttarakhand	Garhwal
2024	2	338+2=340	Mid Manair Dam	Telangana	Rajanna Sircilla
			Juddo Dam	Uttarakhand	Dehradun

Annex-II

Salient Features of Flood Forecasting Stations maintained by Central Water Commission

S.No	Name of FF Station/Type	River/Basin	Nearest Town/Vill/District/State	Lat (N)	Long (E)	Base Station (TT in hrs)	Div/Circle/ Orgn	Met Sub Division as per IMD	WL (m)	DL (m)	HFL		Mode of Data Collection	Methodology/ Model used for FF Formulation	Remarks
											(m)	Year			
1	Sangam	Jhelum/ Indus	Anantnag/Jammu and Kashmir	33.84	75.08		CD, Jammu / Dir (M), Jammu/ IBO	Jammu & Kashmir	1590.3	1592	1595	2014			
2	Rammunshibagh (Srinagar)	Jhelum/ Indus	Srinagar/Jammu and Kashmir	34.06	74.86	Sangam Khanabal Nunwan	CD, Jammu / Dir (M), Jammu/ IBO	Jammu & Kashmir	1585.53	1586.45	1588.99	2014	Telephone/ Mobile/ Telemtry	Rainfall Runoff Model	
3	Safapura	Jhelum/ Indus	Baramulla/Jammu and Kashmir	34.29	74.63		CD, Jammu / Dir (M), Jammu/ IBO	Jammu & Kashmir	1580	1580.8	1582.1	2014			
4	Srinagar	Alaknanda/Ganga	Srinagar/Pauri Garhwal/Uttrakhand	30.22	78.78	Rudrapryag(02) Joshimath(07) Nandkeshri(07) Karanparyag(04) Ganganagar(03)	HGD/HOC/UGBO	Uttarakhand	535.00	536.00	537.90	2013	Phone/Wireless/ Telemetry	Conventional	Lavel ff station
5	Ganganagar	Mandakini/Ganga	Ganganagar/Rudraparyag/Uttrakha nd	30.4	79.04	Ukhimath Gaurikund Gaundhar	HGD/HOC/UGBO	Uttarakhand	803.00	804.00	801.92	2015	Phone/Telemetry	Conventional	Rainfall based (Mathmatical Modelling)
6	Rishikesh	Ganga/Ganga	Rishikesh/Dehradun/Uttrakhand	30.11	78.31	Deoparyag(05) Marora(02)	HGD/HOC/UGBO	Uttarakhand	339.50	340.50	341.72	1995	Phone/Wireless/ Telemetry	Conventional	Lavel ff station
7	Hardwar	Ganga/Ganga	Haridwar/Uttrakhand	29.98	78.19	Deoparyag(05) Marora(03) Rishikesh(01)	HGD/HOC/UGBO	Uttarakhand	293.00	294.00	296.30	2010	Phone/Wireless/ Telemetry	Conventional	Lavel ff station
8	Dharmanagari Barrage	Ganga/Ganga	Bijnor/Uttar Pardesh	29.37	78.03	Haridwar (06)	HGD/HOC/UGBO	Uttar Pradesh	2000	3000	15855	2010	Phone/Telemetry	Conventional	Inflow FF Station
9	Garhmuktheswar	Ganga/Ganga	Gaziabad/UP	28.77	78.14	Daramnagri (36 Hrs.)	MGD2/HOCD/UGBO	IMD Lucknow	198.33	199.33	199.9	2010	By Phone	-	
10	Narora Barrage	Ganga/Ganga	Narora/ Bulanshahar/ Uttar Pradesh	28.19	78.40	Haridwar (40 Hrs.)	MGD2/HOCD/UGBO	IMD Lucknow	-	-	180.61	2010	Wireless/Mobile	Correlation Graph	
11	Kachlabridge	Ganga/Ganga	Budaun/UP	27.93	78.86	Garhmukteshwar (16 Hrs.)	MGD2/HOCD/UGBO	IMD Lucknow	161.00	162.00	162.79	2010	By Phone	-	
12	Fatehgarh	Ganga/Ganga	Farrukhabad/UP	27.39	79.62	Kachlabridge (24 Hrs.)	MGD2/HOCD/UGBO	IMD Lucknow	136.60	137.60	138.14	2010	Wireless/Mobile	Correlation Graph	
13	Kalagarh Dam	Ramganga/Ganga	Pauri/Garhwal/Uttarakhand	29.49	78.76	Bhikiasen Marchula	MGD2/HOCD/UGBO	IMD Lucknow	-	-	263.67	2010	Wireless/Mobile	Correlation Graph	
14	Moradabad	Ramganga/Ganga	Moradabad/Moradabad/Uttar Pradesh	28.83	78.80	Kalagarh (36 Hrs.)	MGD2/HOCD/UGBO	IMD Lucknow	189.60	190.60	192.88	2010	Wireless/Mobile	Correlation Graph	
15	Bareilly	Ramganga/Ganga	Bareilly/Bareilly/ Uttar pradesh	28.30	79.37	Moradabad (36 Hrs.)	MGD2/HOCD/UGBO	IMD Lucknow	162.07	163.07	162.88	1978	Wireless/Mobile	Correlation Graph	
16	Dabri	Ramganga/Ganga	Jalalabar/Shahjahanpur/UP	27.49	79.69	Bareilly (24 Hrs.)	MGD2/HOCD/UGBO	IMD Lucknow	136.30	137.30	139.70	1983	Wireless/Mobile	Correlation Graph	
17	Kannauj	Ganga/Ganga	Kannauj/Kannauj/ Uttar Pradesh	27.01	79.98	Narora (D/s) (48)	MGD2/HOCD/UGBO	IMD Lucknow	124.97	125.97	126.78	2010	Wireless	Conventional	
18	Ankinghat	Ganga/Ganga	Ankinghat/Kanpur/ Uttar Pradesh	26.93	80.03	Narora (D/s) (48) Bareilly (48) Fathegarh (12) Dabri (12)	MGD2/HOCD/UGBO	IMD Lucknow	123.00	124.00	124.49	2010	Wireless/ Telemetry	Conventional	
19	Kanpur	Ganga/Ganga	Kanpur/Kanpur/ Uttar Pradesh	26.47	80.38	Fathegarh (24) Dabri (24) Ankinghat (12)	MGD2/HOCD/UGBO	IMD Lucknow	112.00	113.00	114.08	2010	Wireless/ Telemetry	Conventional	
20	Dalmau	Ganga/Ganga	Rae-barerilly/ Rae-barerilly/ Uttar Pradesh	26.06	81.03	Ankninghat (28) Kanpur (16)	MGD2/HOCD/UGBO	IMD Lucknow	98.36	99.36	99.84	1973	Wireless/ Telemetry	Conventional	
21	Phaphamau	Ganga/Ganga	Allahabad/ Allahabad/ Uttar Pradesh	25.50	81.86	Kanpur (30) Chillaghat (24)	MGD3/HOCV/UGBO	East Uttar Prasdesh	83.73	84.73	87.98	1978	Wireless/ Telemetry	Conventional	

S.No	Name of FF Station/Type	River/Basin	Nearest Town/Vill/District/State	Lat (N)	Long (E)	Base Station (TT in hrs)	Div/Circle/ Orgn	Met Sub Division as per IMD	WL (m)	DL (m)	HFL		Mode of Data Collection	Methodology/ Model used for FF Formulation	Remarks
											(m)	Year			
22	Paonta Sahib	Yamuna/Ganga	Poanta/Sirmaur/ Himachal Pradesh	30.43	77.59	Naugaon (03-08) Jateon Barrage(giri) (03-08) Haripur(02-07) Dakpathar Barrage (1-1.5)	UYD/HOC/YBO	Himachal Pradesh	383.5	384.5	384.6	1995		3 days advisory Forecast (CWC BETA Model)	
23	Tajewala Barrage (Hathnikund Barrage)	Yamuna/Ganga	Yamunanagar/ Yamunanagar/ Haryana	30.31	77.58	Paonta (06)	UYD/HOCN/ YBO	Haryana Chandigarh& Delhi	1982.00				Wireless		Inflow Forecast Not in Operation
24	Karnal	Yamuna/Ganga	Shergarh Tapu/ Karnal/ Haryana	30.06	77.14	Kalanaur (07-28) hrs	UYD/HOC/YBO	Haryana	248.8	249.5	250.07	2013		Conventional	
25	Mawi	Yamuna/Ganga	Panipat/ Muzzafarpur/ Uttar Pradesh	29.38	77.15	Kalanur (06-36)	UYD/HOCN/ YBO	West Uttar Pradesh	231.00	231.50	232.75	2013	Wireless/ Telemetry	Conventional	
26	Dhansa Regulator	Sahibi/Yamuna/ Ganga	Delhi/Delhi/ NCT Delhi	28.53	76.87	Dadri (03-05) Masani (31-40)	UYD/HOCN/ YBO	Haryana Chandigarh& Delhi	211.44	212.44	213.58	1977	Wireless	Conventional	
27	Delhi Railway Bridge	Yamuna/Ganga	Delhi/Delhi/ NCT Delhi	28.66	77.25	Mawi (09-41)	UYD/HOCN/ YBO	Haryana Chandigarh& Delhi	204.50	205.33	207.49	1978	Wireless/ Telemetry	Conventional	
28	Mathura	Yamuna/Ganga	Mathura/Mathura/ Uttar Pradesh	27.51	77.69	Mohana (12-65)	UYD/HOCN/ YBO	West Uttar Pradesh	165.20	166.00	169.73	1978	Wireless/ Telemetry	Conventional	
29	Agra	Yamuna/Ganga	Agra/Agra/ Uttar Pradesh	27.19	78.03	Mathura (16-28)	LYD/HOCN/ YBO	West Uttar Pradesh	151.40	152.40	154.76	1978	Wireless/ Telemetry	Conventional	
30	Etawah	Yamuna/Ganga	Etawah/Etawah/ Uttar Pradesh	26.75	78.99	Agra (18-51)	LYD/HOCN/ YBO	West Uttar Pradesh	120.92	121.92	126.13	1978	Wireless/ Telemetry	Conventional	
31	Gandhisagar Dam	Chambal/Ganga	Gandhisagar Dam/Mandasur/ Madhya Pradesh	24.65	75.61	Tal (8)	CD/HOCN/ YBO	West Madhya Pradesh	399.90	399.90	399.90	2011	Telemetry	Mathematical	
32	Rana Pratap Sagar Dam	Chambal/Ganga	Chittorgarh/Rajasthan	24.91	75.58	Gandhisagar Dam (1)	CD Jaipur/HOC Noida/YBO ND							Mathematical	
33	Kota Barrage	Chambal/Ganga	Kota/Rajasthan	25.17	75.82	Rana Pratap Sagar Dam(1-1.25)	CD Jaipur/HOC Noida/YBO ND							Mathematical	
34	Kota City	Chambal/Ganga	Kota/Rajasthan	25.19	75.84	Immediate D/S of Kota Barrage	CD Jaipur/HOC Noida/YBO ND		239	242	248.68	2019		Mathematical	
35	Bisalpur Dam	Banas/Ganga	Deoli/Tonk/Rajasthan	25.92	75.45	Bigod(09-10)	CD Jaipur/HOC Noida/YBO ND	East Rajasthan	FRL-315.5					Rainfall Runoff Model	
36	Kalisindh Dam	Kalisindh/Ganga	Khanpur/Jhalawar/Rajasthan	24.48	76.22	Sarangpur(10-12)	CD Jaipur/HOC Noida/YBO ND		FRL-316						
37	Parwan Dam	Parwan/Ganga	Baran/Jhalawar//Rajasthan	24.62	76.51		CD Jaipur/HOC Noida/YBO ND		308.8						
38	Gambhiri Dam	Gambhiri/Ganga	Chittorgarh/Rajasthan	24.7	74.73		CD Jaipur/HOC Noida/YBO ND							Rainfall Runoff Model	
39	Panchana Dam	Chambal/Ganga	Mandrail/Karauli/Rajasthan	26.55	77.00		CD Jaipur/HOC Noida/YBO ND		258.62					Rainfall Runoff Model	
40	Gudha Dam	Mej/Ganga	Bundi/Rajasthan	25.48	75.46		CD Jaipur/HOC Noida/YBO ND		FRL-305.86					Rainfall Runoff Model	
41	Parwati Dam	Parwati/Ganga	Dholpur / Rajasthan	26.65	77.9		CD Jaipur/HOC Noida/YBO ND		FRL-308.15						
42	Auraiya	Yamuna/Ganga	Auraiya/Auraiya/ Uttar Pradesh	26.42	79.48	Etawah (21-24) Dhaulpur (15-36)	LYD/HOCN/ YBO	West Uttar Pradesh	112.00	113.00	118.51	2021	Wireless/ Telemetry	Conventional	
43	Kalpi	Yamuna/Ganga	Kalpi/Jalaun/ Uttar Pradesh	26.13	79.76	Etawah (21-27) Dhaulpur (15-42)	LYD/HOCN/ YBO	West Uttar Pradesh	107.00	108.00	112.98	1996	Wireless/ Telemetry	Conventional	
44	Hamirpur	Yamuna/Ganga	Hamirpur/Hamirpur/ Uttar Pradesh	25.96	80.16	Auraiya (15) Mohana (18-24)	LYD/HOCN/ YBO	East Uttar Prasdesh	102.63	103.63	108.59	1983	Wireless/ Telemetry	Conventional	
45	Rajghat Dam	Betwa/Yamuna/ Ganga	Chanderi/ Madhya Pradesh	24.76	78.23		LYD/HOCN/ YBO		FRL-371					Mathematical Model	
46	Matatila Dam	Betwa/Yamuna/ Ganga	Lalitpur/UttarPradesh	25.10	78.36		LYD/HOCN/ YBO	East Uttar Prasdesh	308.46	310.04				Mathematical Model	
47	Mohana	Betwa/Yamuna/ Ganga	Jhansi/Jhansi/ Uttar Pradesh	25.65	78.99	Garrouli (15-21) Nautghat (12-21)	LYD/HOCN/ YBO	East Uttar Prasdesh	121.66	122.66	133.35	1983	Wireless/ Telemetry	Conventional	

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											(m)	Year			
48	Sahjiana	Betwa/Yamuna/ Ganga	Hamirpur/Hamirpur/ Uttar Pradesh	25.95	80.15	Mohana (18-26)	LYD/HOCN/ YBO	East Uttar Prasdesh	103.54	104.54	108.67	1983	Wireless/ Telemetry	Conventional	
49	Banda	Ken/Yamuna/ Ganga	Banda/Banda/ Uttar Pradesh	25.48	80.31	Madla (12-30) Kaimaha (9-15)	LYD/HOCN/ YBO	East Uttar Prasdesh	103.00	104.00	113.29	2005	Wireless/ Telemetry	Conventional	
50	Chillaghat	Yamuna/Ganga	Banda/Banda/ Uttar Pradesh	25.77	80.53	Hamirpur (12) Banda (12) Sahijina(12)	LYD/HOCN/ YBO	East Uttar Prasdesh	99.00	100.00	105.16	1978	Wireless/ Telemetry	Conventional	
51	Naini	Yamuna/Ganga	Allahabad/ Allahabad/ Uttar Pradesh	25.42	81.84	Chillaghat (18-24)	LYD/HOCN/ YBO	East Uttar Prasdesh	83.74	84.74	87.99	1978	Wireless/ Telemetry	Conventional	
52	Dholpur	Chambal/Ganga	Dholpur / Rajasthan	26.65	77.9	Pali (18-24) Manderial(06-12)	LYD Agra/YBO		129.79	130.79	145.54	1996	Wireless/ Telemetry	Conventional	
53	Manderial	Chambal/Ganga	Karauli/Rajasthan	26.28	77.28	Pali (08)	CD Jaipur/HOC Noida/YBO ND		164.00	165	169.96	1996			
54	Allahabad (Chatnag)	Ganga/Ganga	Allahabad/ Allahabad/ Uttar Pradesh	25.40	81.91	Kanpur (30) Chillaghat (24)	MGD3/HOCV/UGBO	East Uttar Prasdesh	83.73	84.73	88.03	1978	Wireless/ Telemetry	Conventional	
55	Mirzapur	Ganga/Ganga	Mirzapur/Mirzapur/ Uttar Pradesh	25.15	82.53	Dalmau (28) Chillaghat (34)	MGD3/HOCV/UGBO	East Uttar Prasdesh	76.72	77.72	80.34	1978	Wireless/ Telemetry	Conventional	
56	Varanasi	Ganga/Ganga	Varanasi/Varanasi/ Uttar Pradesh	25.33	83.04	Kanpur (48) Hamirpur(48)	MGD3/HOCV/UGBO	East Uttar Prasdesh	70.26	71.26	73.90	1978	Wireless/ Telemetry	Conventional	
57	Hanuman Setu	Gomti/Ganga	Lucknow/Lucknow/ Uttar Pradesh	26.86	80.95	Bhatpurwaghat (48 hrs.)	M.G.Divn.-2 Lucknow/H.O.C.Dehradun/UGBO Lucknow	IMD Lucknow	108.50	109.50	110.85	1971	Wireless/Mobile	Correlation Graph	
58	Rae-Bareilly	Sai/Gomti/Ganga	Rae-bareilly/Rae-bareilly/Uttar Pradesh	26.20	81.25	Bani (48 hrs.)	M.G.Divn.-2 Lucknow/H.O.C.Dehradun/UGBO Lucknow	IMD Lucknow	100.00	101.00	104.81	1982	Wireless/Mobile	Correlation Graph	
59	Jaunpur	Gomti/Ganga	Jaunpur/Jaunpur/ Uttar Pradesh	25.75	82.67	Sultanpur (24)	MGD3/HOCV/UGBO	East Uttar Prasdesh	73.06	74.06	77.74	1971	Wireless/ Telemetry	Conventional	
60	Ghazipur	Ganga/Ganga	Ghazipur/ Ghazipur/ Uttar Pradesh	25.58	83.60	Allahabad (28) Sultanpur (30)	MGD3/HOCV/UGBO	East Uttar Prasdesh	62.10	63.10	65.22	1978	Wireless/ Telemetry	Conventional	
61	Buxar	Ganga/Ganga	Buxar/Buxar/Bihar	25.58	83.97	Allahabad (30)	LGD-II/HOCP/LGBO	Bihar	59.32	60.32	62.09	1948	Wireless/ Telemetry	Conventional	
62	Ballia	Ganga/Ganga	Ballia/ Ballia/ Uttar Pradesh	25.77	84.37	Varanasi (28) Jaunpur (28)	MGD3/HOCV/UGBO	East Uttar Prasdesh	56.62	57.62	60.39	2016	Wireless/ Telemetry	Conventional	
63	Banbasa Barrage	Ghaghra/Ganga	Champawat/Uttarakhand	28..99	80.1	Pancheshwar(18-24)	MGD-I/HOC Varanasi/UGBO Lucknow	West UP	FRL 222.96		223.3	2013		3 days advisory Forecast (CWC BETA Model)	
64	Katarniaghat Barrage	Ghaghra/Ganga	Bahraich / UttarPradesh	28.27	81.09		MGD-I/HOC Varanasi/UGBO Lucknow	West UP	FRL-136.8						
65	Elgin Bridge	Ghaghra/Ganga	Barabanki/Barabanki/ Uttar Pradesh	27.09	81.49	B K Ghat (30-36) Shardanagar (30-36)	MGD1/HOCV/UGBO	East Uttar Prasdesh	105.07	106.07	107.62	2014	Wireless/ Telemetry	Conventional	
66	Ayodhya	Ghaghra/Ganga	Ayodhya/Faizbad/ Uttara Pradesh	26.81	82.21	Elgin Bridge (18-24)	MGD1/HOCV/UGBO	East Uttar Prasdesh	91.73	92.73	94.01	2009	Wireless/ Telemetry	Conventional	
67	Kakardhari	Rapti/Ghaghra/ Ganga	Bahraich / UttarPradesh	27.89	81.77		MGD1/HOCV/UGBO	East Uttar Prasdesh	130.00	131.00	132.37	2014			
68	Balrampur	Rapti/Ghaghra/ Ganga	Balrampur/ Balrampur/ Uttar Pradesh	27.44	82.23	Kakardhari (18-24)	MGD1/HOCV/UGBO	East Uttar Prasdesh	103.62	104.62	105.54	2017	Wireless/ Telemetry	Conventional	
69	Bansi	Rapti/Ghaghra/ Ganga	Bansi/ Siddarthnagar/ Uttar Pradesh	27.18	82.94	Balrampur (18-24)	MGD1/HOCV/UGBO	East Uttar Prasdesh	83.90	84.90	85.95	2021	Wireless/ Telemetry	Conventional	
70	Gorakhpur (Birdghat)	Rapti/Ghaghra/ Ganga	Gorahpur/ Gorakhpur/ Uttar Pradesh	26.73	83.35	Bansi (18-24) Kakardhari (18-24)	MGD1/HOCV/UGBO	East Uttar Prasdesh	73.98	74.98	77.54	1998	Wireless/ Telemetry	Conventional	

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											(m)	Year			
71	Turtipar	Ghaghra/Ganga	Balthra/Ballia/ Uttar Pradesh	26.14	83.88	Ayodhya (30-36) Gorakhpur (Birdghat) (30-36)	MGD1/HOCV/UGBO	East Uttar Prasdesh	63.01	64.01	66.00	1998	Wireless/ Telemetry	Conventional	
72	Darauli	Ghaghra/Ganga	Darauli/Siwan/Bihar	26.07	84.13	Elgin Bridge (54) Gorakhpur (Birdghat) (28)	LGDII/HOCP/LGBO	Bihar	59.82	60.82	61.74	1998	Wireless	Conventional	
73	Gangpur Siswan	Ghaghra/Ganga	Siwan/Siwan/Bihar	25.91	84.39	Turtipar (20)	LGDII/HOCP/LGBO	Bihar	56.04	57.04	58.01	1983	Wireless	Conventional	
74	Chhapra	Ghaghra/Ganga	Chhapra/Saran/Bihar	25.76	84.79	Gangpur Siswan (16)	LGDII/HOCP/LGBO	Bihar	52.68	53.68	54.59	1982	Wireless	Conventional	
75	Bansagar Dam	Ganga/Ganga	Beohari/Shahdol/Madhya Pradesh	24.19	81.8		MGDIII/HOC Varanashi/UGBO	East Madhya Pradesh	FRL-341.65					Rainfall Runoff Model	
76	Rihand Dam	Rihand/ Ganga	Robertsganj/Sonbhadra/ Uttar Pradesh	24.21	83.02		MGDIII/HOC Varanashi/UGBO	East Uttar Pradesh	FRL-265.18					Rainfall Runoff Model	
77	Annaraj Dam	Khoranadi/Ganga	Bhadua / Hazaribagh/Jharkhand	24.06	83.8		LGDII/HOCP/LGBO		FRL-252.44						
78	Bhairawa Dam	Goda Nala /Ganga	Hazaribagh/Jharkhand	23.51	85.67		DD/HOCM/ LGBO		FRL-356.70						
79	Inderpuri Barrage	Sone/Ganga	Inderpuri/Garhwa/ Bihar	24.75	84.16		LGDII/HOCP/LGBO	Bihar	FRL-173.00						
80	Inderpuri	Sone/Ganga	Inderpuri/Rohtas/ Bihar	24.84	84.13	Chopan (12) Daltonganj (12)	LGDII/HOCP/LGBO	Bihar	107.20	108.20	108.85	1975	Wireless	Conventional	
81	Koelwar	Sone/Ganga	Koelwar/Bhojpur/ Bihar	25.57	84.79	Inderpuri (10-15) Japla	LGDII/HOCP/LGBO	Bihar	54.52	55.52	58.88	1971	Wireless	Conventional	
82	Maner	Sone/Ganga	Maner/Patna/Bihar	25.70	84.86	Gandhighat (6-8)	LGDII/HOCP/LGBO	Bihar	51.00	52.00	53.79	1976	Wireless	Conventional	
83	Patna (Dighaghat)	Ganga/Ganga	Patna/ Patna/ Bihar	25.64	85.10	Patna (Gandhighat) (04)	LGDII/HOCP/LGBO	Bihar	49.45	50.45	52.52	1975	Wireless	Conventional	
84	Gandak Barrage	Gandak/Ganga	West Champaran/Bihar	27.43	83.90		LGDI/HOCP/LGBO	Bihar	FRL-110.3						
85	Khadda	Gandak/Ganga	Deoria/Kushinagar/ Uttar Pradesh	27.23	83.87	Triveni (07)	LGD-I/MC/LGBO Patna	Bihar	95.00	96.00	97.50	2002	Wireless	Conventional	
86	Chatia	Gandak/Ganga	Ariraj West Champaran/ Motihari/ Bihar	26.50	84.54	Triveni (24)	LGD-I/MC/LGBO Patna	Bihar	68.15	69.15	70.04	2002	Wireless	Conventional	
87	Dumariaghat	Gandak/Ganga	Gopalganj/Bihar	26.35	84.76	Chatia(24)	LGD-I/MC/LGBO Patna	Bihar	61.22	62.22	64.36	2020	Wireless	Conventional	
88	Rewaghat	Gandak/Ganga	Muzzafarpur/Muzzafarpur/Bihar	25.99	85.05	Chatia (20)	LGDII/HOCP/LGBO	Bihar	53.41	54.41	55.46	2020	Wireless	Conventional	
89	Hazipur	Gandak/Ganga	Hazipur/Vaishali/ Bihar	25.69	85.20	Rewaghat (16)	LGDII/HOCP/LGBO	Bihar	49.32	50.32	50.93	1948	Wireless	Conventional	
90	Patna (Gandhighat)	Ganga/Ganga	Patna/ Patna/ Bihar	25.62	85.17	Buxar (24) Darauli (24) Rewaghat (24) Japla (24)	LGDII/HOCP/LGBO	Bihar	47.60	48.60	50.52	2016	Wireless/ Telemetry	Conventional	
91	Amanat Dam	Baranadi/Ganga	Hazaribagh/Jharkhand	24.01	84.47		LGDII/HOCP/LGBO		274.39						
92	Batane Dam	Punpun/Ganga	Chhatarpur/Palamu/Jharkhand	24.42	84.26		LGDII/HOCP/LGBO		FRL-232.85						
93	Sripalpur	Punpun/Ganga	Sripalpur/Patna/Bihar	25.50	85.11	Kinjer (24)	LGDII/HOCP/LGBO	Bihar	49.60	50.60	53.91	1976	Wireless	Conventional	

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											(m)	Year			
94	Hathidah	Ganga/Ganga	Hathidah/Patna/Bihar	25.37	85.99	Gandhighat (16)	LGDII/HOCP/LGBO	Bihar	40.76	41.76	43.52	2021	Wireless/ Telemetry	Conventional	
95	Munger	Ganga/Ganga	Munger/Munger/ Bihar	25.38	86.46	Gandhighat (24)	LGDII/HOCP/LGBO	Bihar	38.33	39.33	40.99	1976	Wireless/ Telemetry	Conventional	
96	Lalbeghiaghat	Burhi Gandak/ Ganga	Dhaka/Motihari/Bihar	26.65	85.03	Chainpatia (24)	LGDI/HOCP/LGBO	Bihar	62.20	63.20	67.09	1975	Wireless	Conventional	
97	Ahirwalia	Burhi Gandak/ Ganga	Chakia/Purba Champaren/Bihar	26.41	85.14	Lalbegiaghat(24)	LGD-I/MC/LGBO Patna	Bihar	58.62	59.62	61.17	2014			
98	Muzzafarpur (Sikandarpur)	Burhi Gandak/ Ganga	Sikandarpur/Muzzafarpur/Bihar	26.14	85.39	Ahirwala(S) (24)	LGDI/HOCP/LGBO	Bihar	51.53	52.53	54.29	1987	Wireless	Conventional	
99	Samastipur	Burhi Gandak/ Ganga	Samastipur/Samastipur/Bihar	25.86	85.79	Sikandarpur (20)	LGDI/HOCP/LGBO	Bihar	45.02	46.02	49.38	1987	Wireless	Conventional	
100	Rosera	Burhi Gandak/ Ganga	Rosera/Samastipur/ Bihar	25.74	86.02	Sikandarpur (28)	LGDI/HOCP/LGBO	Bihar	41.63	42.63	46.56	2020	Wireless	Conventional	
101	Khagaria	Burhi Gandak/ Ganga	Khagaria/Khagaria/ Bihar	25.75	86.48	Sikandarpur (24) Gandhighat (24)	LGDI/HOCP/LGBO	Bihar	35.58	36.58	39.22	1976	Wireless	Conventional	
102	Bhagalpur	Ganga/Ganga	Bhagalpur/Bhagalpur/Bihar	25.27	87.02	Gandhighat (32)	LGDII/HOCP/LGBO	Bihar	32.68	33.68	34.86	2021	Wireless/ Telemetry	Conventional	
103	Colgong/Kahalgaon	Ganga/Ganga	Colgong/Bhagalpur/ Bihar	25.27	87.23	Gandhighat (38)	LGDII/HOCP/LGBO	Bihar	30.09	31.09	32.87	2003	Wireless/ Telemetry	Conventional	
104	Kosi Barrage	Kosi/Ganga	Supaul/Supaul/Bihar	26.52	86.92		LGDI/HOCP/LGBO		FRL-74.69						
105	Basua	Kosi/Ganga	Supaul/Supaul/Bihar	26.10	86.58	Birpur (16)	LGDI/HOCP/LGBO	Bihar	46.75	47.75	49.24	2017	Wireless	Conventional	
106	Dheng Bridge	Bagmati/Ganga	Sitamarhi/Bihar	26.72	85.32	Karmaiya(Nepal) (24)	LGDI/HOCP/LGBO		70.00	71.00	73.00	2017			
107	Runisaidpur	Bagmati/Ganga	Sitamarhi/Bihar	26.34	85.49	Dheng Bridge(24)	LGDI/HOCP/LGBO		54.00	55.00	58.15	2017			
108	Benibad	Bagmati/Ganga	Benibad/Muzzafarpur/ Bihar	26.20	85.67	Runisaidpur (24)	LGDI/HOCP/LGBO	Bihar	47.68	48.68	50.01	2004	Wireless/ Telemetry	Conventional	
109	Kamtaul	Adhwara Group/Ganga	Kamtaul Market/Darbhanga/ Bihar	26.33	85.80	Sonebarsa (24)	LGDI/HOCP/LGBO	Bihar	49.00	50.00	52.99	1987	Wireless/ Telemetry	Conventional	
110	Ekmighat	Adhwara Group/Ganga	Laheria Seria/Darbhanga/ Bihar	26.12	85.88	Saulighat (24) Kamtaul(24)	LGDI/HOCP/LGBO	Bihar	45.94	46.94	49.52	2004	Wireless/ Telemetry	Conventional	
111	Hayaghat	Bagmati/Ganga	Hayaghat Papermill/Darbhanga/ Bihar	26.03	85.89	Benibad (24) Ekmighat (24)	LGDI/HOCP/LGBO	Bihar	44.72	45.72	48.96	1987	Wireless/ Telemetry	Conventional	
112	Jainagar	Kamlabalan/ Ganga	Madhubani/ Bihar	26.59	86.13	Sindhuli(Nepal) (08-28)	LGDI/HOCP/LGBO	Bihar	66.75	67.75	71.35	2016			
113	Jhanjharpur	Kamlabalan/ Ganga	Jhanjharpur/Madhubani/ Bihar	26.27	86.27	Jainagar (8-28)	LGDI/HOCP/LGBO	Bihar	49.00	50.00	53.11	2019	Wireless	Conventional	
114	Sonebarsa	Adhwara Group/Ganga	Sitamarhi/Bihar	26.85	85.85	Patharkot(Nepal) (24)	LGDI/HOCP/LGBO		80.85	81.85	83.20	1999			
115	Baltara	Kosi/Ganga	Choutham/Khagaria/ Bihar	25.54	86.72	Basua (24) Hayaghat (24)	LGDI/HOCP/LGBO	Bihar	32.85	33.85	36.40	1987	Wireless	Conventional	

Annex-II

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											(m)	Year			
116	Kursela	Kosi/Ganga	Kusela/Katihar/Bihar	25.42	87.23	Basua (24) Hathidah (24)	LGDI/HOCP/LGBO	Bihar	29.00	30.00	32.10	1982	Wireless	Conventional	
117	Sahibganj	Ganga/Ganga	Sahibganj/Sahibganj/Jharkhand	25.25	87.64	Munger (22)	LGDII/HOCP/LGBO	Jharkhand	26.25	27.25	30.91	1998	Wireless	Conventional	
118	Taibpur	Mahananda/ Ganga	Kishanganj/Bihar	26.36	88.17	Sonapur(16)	LGDI/HOCP/LGBO	Bihar	65.00	66.00	67.22	2016			
119	Dengraghat	Mahananda/ Ganga	Bayasi/Purnes/Bihar	25.85	87.81	Taibpur (24) Chargharia (24)	LGDI/HOCP/LGBO	Bihar	34.65	35.65	38.20	2017	Wireless	Conventional	
120	Jhawa	Mahananda/ Ganga	Jhawa/Katihar/Bihar	25.61	87.76	Dhengraghat (16) Araria (16)	LGDI/HOCP/LGBO	Bihar	30.40	31.40	34.07	2017	Wireless	Conventional	
121	Arraria	Parwan/Ganga	Arraria/Bihar	26.12	87.54	Bathnaha(16)	LGDI/HOCP/LGBO	Bihar	46.00	47.00	49.40	2017			
122	Farakka	Ganga/Ganga	Farakka/Murshidabad/ West Bengal	24.80	87.92	Munger (38) Baltara (30)	LGDI/HOCP/LGBO	Gangetic West Bengal	21.25	22.25	25.14	1998	Wireless	Conventional	
123	Massanjore Dam	Mayurakshi/Ganga	Massanjore Dam/ Santhal Parganas/ Jharkhand	24.11	87.31	Maharo (12-14)	DD/HOCM/ LGBO	Jharkhand	121.31		122.87	1999	Wireless/ Telemetry	Conventional	
124	Tilpara Barrage	Mayurakshi/Ganga	Tilpara Dam/Suri/ Birbhum/ West Bengal	23.95	87.53	Massanjore Dam (10-12) Tantoloi (10-12)	DD/HOCM/ LGBO	Gangetic West Bengal	62.79		67.05	1978	Wireless/ Telemetry	Conventional	
125	Narayanpur	Mayurakshi/ Ganga	Kandi/Murshidabad/ West Bengal	23.88	87.91	Tilpara Barrage (16-21)	DD/HOCM/ LGBO	Gangetic West Bengal	26.86	27.86	29.69	1995	Wireless	Conventional	
126	Sikatia Barrage	Ajoy/Ganga	Ausgram/Deoghar/Jharkhand	24.15	86.25		DD/HOCM/ LGBO								
127	Gheropara	Ajoy/Ganga	Khairasol/ Bhirbum/ West Bengal	23.62	87.70	Sikata Barrage (16-18)	DD/HOCM/ LGBO	Gangetic West Bengal	38.42	39.42	43.94	1978	Wireless	Conventional	
128	Tenughat Dam	Damodar/Ganga	Bokaro/Jharkhand	23.72	85.84	Hendgir (12-14)	DD/HOCM/ LGBO	Jharkhand	268.83				Wireless/ Telemetry	Conventional	
129	Tilaya Dam	Barakar/ Ganga	Koderma/Jharkhand	24.32	85.52		DD/HOCM/ LGBO								
130	Konar Dam	Konar/Ganga	Hazaribag/Jharkhand	23.93	85.76		DD/HOCM/ LGBO								
131	Panchet Dam	Damodar/Ganga	Panchet Dam/ Dhanbad/ Jharkhand	23.68	86.75	Tenughat Dam (12-14)	DD/HOCM/ LGBO	Jharkhand	132.59				Wireless/ Telemetry	Conventional	
132	Maithon Dam	Barakar/ Damodar	Maithon Dam/ Dhanbad/ Jharkhand	23.78	86.81	Barkisaraia (14-18)	DD/HOCM/ LGBO	Jharkhand	150.88				Wireless/ Telemetry	Conventional	
133	Durgapur Barrage	Damodar/Ganga	Durgapur/ Burdwan/ West Bengal	23.48	87.31	Panchet Dam (18-24) Maithon Dam (18-24)	DD/HOCM/ LGBO	Gangetic West Bengal	64.47				Wireless/ Telemetry	Conventional	
134	Sundar Dam	Anjanwa/ Ganga	Godda/Jharkhand	24.93	87.38		DD/HOCM/ LGBO		110.79						
135	Harinkhola	Mundeshwari/ West Benagl	Arambagh/Hooghly/ West Bengal	22.83	87.90	Durgapur Barrage (18-24)	DD/HOCM/ LGBO	Gangetic West Bengal	11.80	12.80	14.60	2017	Wireless/ Telemetry	Conventional	
136	Hinglow Dam	Kangsabati	Bankura/West Bengal	23.82	87.18		DD/HOCM/ LGBO	Gangetic West Bengal	97.84						
137	Kangsabati Dam	Kangsabati	Kangsabati Dam/Bankura West Bengal	22.96	86.75	Simulia (14-16)	DD/HOCM/ LGBO	Gangetic West Bengal	134.11		134.71	1978	Wireless	Conventional	
138	Mohanpur	Kangsabati/ Ganga	Medhinipur/ Medhinipur/ West Bengal	22.40	87.34	Kangsabati Dam (12-14)	DD/HOCM/ LGBO	Gangetic West Bengal	24.73	25.73	29.87	1978	Wireless	Conventional	
139	Yingkiang	Siang/ Brahmaputra	Upper Siang/Arunachal Pradesh	28.62	95.03	Tuting (06)	UBD/HOCG/ BBO	Assam and Meghalaya	303.00	304.00					
140	Passighat	Siang/ Brahmaputra	Passighat/ East Siang/ Arunachal Pradesh	28.06	95.33	Tuting (9)	UBD/HOCG/ BBO	Assam and Meghalaya	152.96	153.96	157.54	2000	Wireless	Conventional	
141	Dhollabazar	Lohit/Brahmaputra	Tinsukia/Assam	27.75	95.6	Tezu(09)	UBD/HOCG/ BBO	Assam & Meghalaya	127.27	128.27	130.07	2012			
142	Dibrugarh	Brahmaputra/ Brahmaputra	Dibrugarh/Dibrugarh/Assam	27.49	94.85	Passighat (12) Tezu (12)	UBD/HOCG/ BBO	Assam and Meghalaya	104.70	105.70	106.48	1998	Wireless/ Telemetry	Conventional	
143	Namsai	Nao Dehing/Brahmaput	Namsai/Lohit/Arunachal Pradesh	27.66	95.83	Miao(09) Motipur(09)	UBD/HOCG/ BBO	Arunachal Pradesh	144.8	145.8	146.6	1979			
144	Naharkatia	Buridehing/ Brahmaputra	Naharkatia/ Dibrugarh/ Assam	27.29	95.33	Margherita (12)	UBD/HOCG/ BBO	Assam and Meghalaya	119.40	120.40	122.69	1973	Wireless	Conventional	
145	Chenimari (Khowang)	Buridehing/ Brahmaputra	Khowang/ Dibrugarh/ Assam	27.31	94.88	Naharkatia (24)	UBD/HOCG/ BBO	Assam and Meghalaya	101.11	102.11	104.16	2015	Wireless	Conventional	

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											(m)	Year			
146	Nanglamoraghat	Desang/ Brahmaputra	Sibsagar/Sibsagar/ Assam	26.99	94.78	Dillighat (18)	UBD/HOCG/ BBO	Assam and Meghalaya	93.46	94.46	96.49	1998	Wireless	Conventional	
147	Sibsagar	Dikhow/ Brahmaputra	Sibsagar/Sibsagar/ Assam	26.98	94.58	Bihubar (09)	UBD/HOCG/ BBO	Assam and Meghalaya	91.40	92.40	94.24	2020	Wireless	Conventional	
148	Neamatighat	Brahmaputra/ Brahmaputra	Neamatighat/ Jorhat/ Assam	26.86	94.25	Dibrugarh (24) Chenimari (24)	UBD/HOCG/ BBO	Assam and Meghalaya	84.54	85.54	87.37	1991	Wireless/ Telemetry	Conventional	
149	Choldhowaghat	Subansiri/ Brahmaputra	Dhakuakhana/Lakhimpur/Assam	27.44	94.25	Daporizo(09)	UBD/HOCG/ BBO	Assam & Meghalaya	99.43	100.43	101.31	1972			
150	N.H.Xing Ranganadi	Ranganadi/Brahmaputra	Bihuparia/ Lakhimpur/ Assam	27.2	94.05	Yazali(09)	UBD/HOCG/ BBO	Assam & Meghalaya	93.81	94.81	95.92	1979			
151	Badatighat	Subansiri/ Brahmaputra	Bihuparia/ Lakhimpur/ Assam	26.95	93.96	Chouldhowaghat (18)	UBD/HOCG/ BBO	Assam and Meghalaya	81.53	82.53	86.21	1972	Wireless	Conventional	
152	Golaghat	Dhansisri (S)/ Brahmaputra	Golaghat/ Golaghat Assam	26.50	93.95	Bokajan (15) Gelabil (15)	UBD/HOCG/ BBO	Assam and Meghalaya	88.50	89.50	92.45	1986	Wireless	Conventional	
153	Numaligarh	Dhansisri (S)/ Brahmaputra	Numaligarh/ Golaghat/ Assam	26.63	93.73	Golaghat (12)	UBD/HOCG/ BBO	Assam and Meghalaya	77.42	78.42	80.16	2018	Wireless	Conventional	
154	N T Road Crossing	Jia- Bharali/ Brahmaputra	Balipara/Sonitpur/ Assam	26.81	92.88	Seppa (9)	UBD/HOCG/ BBO	Assam and Meghalaya	76.00	77.00	78.50	2007	Wireless	Conventional	
155	Tezpur	Brahmaputra/ Brahmaputra	Tezpur/ Sonitpur/ Assam	26.62	92.80	Neamatighat (24)	UBD/HOCG/ BBO	Assam and Meghalaya	64.23	65.23	66.59	1988	Wireless/ Telemetry	Conventional	
156	Kampur	Kopili/ Brahmaputra	Kampur/ Nagaon/ Assam	26.15	92.65	Kheronighat (24)	UBD/HOCG/ BBO	Assam and Meghalaya	59.50	60.50	61.79	2004	Wireless	Conventional	
157	Dharamtul	Kopili/ Brahmaputra	Dharamtul/Morigaon/Assam	26.17	92.36	Kampur (15)	UBD/HOCG/ BBO	Assam and Meghalaya	55.00	56.00	58.09	2004	Wireless	Conventional	
158	Guwahati D C Court	Brahmaputra/ Brahmaputra	Guwahati/Kamrup/ Assam	26.19	91.74	Tezpur (24)	MBD/HOCG/BBO	Assam and Meghalaya	48.68	49.68	51.46	2004	Wireless/ Telemetry	Conventional	
159	N H Crossing	Puthimari/ Brahmaputra	Rangia/ kamrup/ Assam	26.33	91.65	DRF (13)	MBD/HOCG/BBO	Assam and Meghalaya	50.81	51.81	55.08	2008	Wireless/ Telemetry	Conventional	
160	N T Road Crossing	Pagladiya/ Brahmaputra	Nalbari/Nalbari/ Assam	26.45	91.46	Melabazar (12)	MBD/HOCG/BBO	Assam and Meghalaya	51.75	52.75	55.45	2004	Wireless/ Telemetry	Conventional	
161	Mathanguri	Manas/ Brahmaputra	Baska/Assam	26.78	90.95		MBD/HOCG/BBO	Assam and Meghalaya	98.10	99.10	100.28	1973			
162	Road Bridge	Beki/ Brahmaputra	Sorbhog/ Barpeta/ Assam	26.49	90.91	Mathanguri (6) Kurijampa (12) (Bhutan)	MBD/HOCG/BBO	Assam and Meghalaya	44.10	45.10	46.20	2000	Wireless	Conventional	
163	N H Crossing	Manas/ Brahmaputra	Bijni/ Bongaigaon/ Assam	26.46	90.75	Panbari (6)	MBD/HOCG/BBO	Assam and Meghalaya	47.81	48.42	50.08	1984	Wireless	Conventional	
164	Goalpara	Brahmaputra/ Brahmaputra	Goalpara/ Goalpara/ Assam	26.20	90.65	Guwahati (24)	MBD/HOCG/BBO	Assam and Meghalaya	35.27	36.27	37.43	1954	Wireless/ Telemetry	Conventional	
165	Kokrajhar	Gaurang/ Brahmaputra	Kokrajhar/ Assam	26.61	90.25		MBD/HOCG/BBO	Assam & Meghalaya	41.85	42.85	43.6	2015			
166	Dhubri	Brahmaputra/ Brahmaputra	Dhubri/Dhubri/ Assam	26.01	89.99	Goalpara (12)	MBD/HOCG/BBO	Assam and Meghalaya	27.62	28.62	30.37	2019	Wireless/ Telemetry	Conventional	
167	Golokganj	Sankosh/ Brahmaputra	Golokganj/Dhubri/ Assam	26.11	89.82	Sankosh LRP (12) Barabisa (12)	LBD/SICG/T&BDBO	Assam and Meghalaya	28.94	29.94	30.95	2007	Wireless/ Telemetry	Conventional	
168	Tufangunj	Raidak -I	Tufangunj/ Coochbehar/ west Bengal	26.31	89.68	Chepan (12)	LBD/SICG/T&BDBO	Sub Himalayan West Bengal & Sikkim	34.22	35.30	36.50	2017	Wireless	Conventional	
169	N H 31	Jaldhaka/ Brahmaputra	Dhupguri/ Jalpaiguri/ West Bengal	26.57	88.94	Nagarakata (6) Diana (6) Murti (6)	LBD/SICG/T&BDBO	Sub Himalayan West Bengal & Sikkim	80.00	80.90	81.33	1972	Wireless	Conventional	
170	Hasimara	Torsa	Hasimara/Coochbehar/West Bengal	26.72	89.32	Dorokha (06)	LBD/SICG/T&BDBO	Sub Himalayan West Bengal & Sikkim	116.30	116.90	118.50	1996			
171	Ghughumari	Torsa	Coochbehar/Coochbehar/West Bengal	26.29	89.46	Hasimara (8)	LBD/SICG/T&BDBO	Sub Himalayan West Bengal & Sikkim	39.80	40.41	41.46	2000	Wireless	Conventional	

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172	Mathabhanga	Jaldhaka/ Brahmaputra	Mathabhanga/ Coochbehar/ West Bengal	26.32	89.23	N H 31 (6)	LBD/SICG/T&BDBO	Sub Himalayan West Bengal & Sikkim	47.70	48.20	49.85	2007	Wireless	Conventional	
173	Domohani Road Bridge	Teesta/Brahmaputra	Jalpaiguri/ Jalpaiguri/ West Bengal	26.56	88.76	Khanitar (10) Majhitar (10) Coronation (6) Gazoldoba (04) Chel (06) Neora (6)	LBD/SICG/T&BDBO	Sub Himalayan West Bengal & Sikkim	85.65	85.95	89.30	1968	Wireless	Conventional	
174	Mekhligunj	Teesta/Brahmaputra	Mekhligunj/ Coochbehar/ West Bengal	26.33	88.85	Domohani Rd Brdige (6)	LBD/SICG/T&BDBO	Sub Himalayan West Bengal & Sikkim	65.45	65.95	66.45	1996	Wireless	Conventional	
175	Teesta III HEP	Teesta/Brahmaputra	North Sikkim/Sikkim	27.59	88.64	Lachen (01-02)	SID/IC Gangtak/T&BDBO	Sub Himalayan West Bengal & Sikkim	1585.00					Rainfall Runoff Model	
176	Rangit-III HEP Dam	Teesta/Brahmaputra	Gyalshing/West Sikkim/Sikkim	27.29	88.29		SID/IC Gangtak/T&BDBO	Sub Himalayan West Bengal & Sikkim	640					Rainfall Runoff Model	
177	Teesta V HEP	Teesta/Brahmaputra	North Sikkim/Sikkim	27.38	88.5	Sankalan(01-02)	SID/IC Gangtak/T&BDBO	Sub Himalayan West Bengal & Sikkim	579					Rainfall Runoff Model	
178	Singtam	Teesta/Brahmaputra	East Sikkim/ Sikkim	27.23	88.49	Ranipool(1)	SID/IC Gangtak/T&BDBO	Sub Himalayan West Bengal & Sikkim	377.07	377.57	379.17			Rainfall Runoff Model	
179	Rangpo Dam	Rongpo/Teesta/Brahmaputra	East Sikkim/ Sikkim	27.23	88.7		SID/IC Gangtak/T&BDBO	Sub Himalayan West Bengal & Sikkim	913.8					Rainfall Runoff Model	
180	Rongli Dam	Rongli/Teesta/Brahmaputra	East Sikkim/ Sikkim	27.2	88.71		SID/IC Gangtak/T&BDBO	Sub Himalayan West Bengal & Sikkim	913.8					Rainfall Runoff Model	
181	Melli Bazar	Teesta/Brahmaputra	South Sikkim/Sikkim	27.09	88.45	Teesta V Dam(02)	SID/IC Gangtak/T&BDBO	Sub Himalayan West Bengal & Sikkim	223	224	225.25			Rainfall Runoff Model	
182	Rothak	Teesta/Brahmaputra	West Sikkim/Sikkim	27.17	88.29	Sagbari (01)	SID/IC Gangtak/T&BDBO	Sub Himalayan West Bengal & Sikkim	350.6	351.6	353.2			Rainfall Runoff Model	
183	Annapurnaghat (Silchar)	Barak/ Barak	Silchar/Silchar/ Assam	24.83	92.80	Chottabekra (18) Amraghat(18) Dhalai(18)	MID/MC/ BOBO	Assam and Meghalaya	18.83	19.83	21.84	1989	Wireless	Conventional	
184	Matizuri	Katakhal/Barak	Hailakhandi/ Hailakhandi/ Assam	24.85	92.61	Gharmura (12)	MID/MC/ BOBO	Assam and Meghalaya	19.27	20.27	22.73	2007	Wireless	Conventional	
185	Badarpurghat	Barak/Barak	Silchar/Cachar/ Assam	24.86	92.52	Annapurnaghat (9)	MID/MC/ BOBO	Assam and Meghalaya	15.85	16.85	18.48	2007	Wireless	Conventional	
186	Karimgunj	Kushiyara/Barak	Karimgunj/Karimgunj/Assam	24.87	92.36	Annapurnaghat (12)	MID/MC/ BOBO	Assam and Meghalaya	13.94	14.94	16.57	2010	Wireless	Conventional	
187	Kailashshar	Manu	Kailashshar/ North Tripura Tripura	24.32	91.99	Manughat (18-24)	MD/MC/ BOBO	NMMT	24.34	25.34	25.95	2018	Wirless	Conventional	
188	Sonamura	Gumti	Sonamura/ West Tripura/ Tripura	23.47	91.27	Amarpur (15-21)	MD/MC/ BOBO	NMMT	11.50	12.50	14.42	1993	Wireless	Conventional	
189	Getlasud Dam	Subarnarekha/ Subarnarekha	Ranchi/Jharkhand	23.45	85.55	Kanke Road Bridge/Bada Ghagara	ERD/HOCB/ MERO		590.06						
190	Chandil Dam	Subarnarekha/ Subarnarekha	Musabani/Purba singbhum/ Jharkhand	22.97	86.05	Muri(10-12)	ERD/HOCB/ MERO	Jharkhand		FRL-189				Rainfall Runoff Model	

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											(m)	Year			
191	Galudih Barrage	Subarnarekha/ Subarnarekha	SaraikelaKhara/Jharkhand	22.64	86.39	Jamshedpur	ERD/HOCB/ MERO		FRL-94.50						
192	Jamshedpur	Subarnarekha/ East Flowing Rivers	Chakulia/Purba singbhum/ Jharkhand	22.82	86.21	Adtiyapur/Chandil Dam (6-8)	ERD/HOCB/ MERO	Jharkhand	122.50	123.50	129.82	1973	Wireless/ Telemetry	Conventional	
193	Rajghat	Subarnarekha/ East Flowing Rivers	Jaleswar/Balasore/ Odisha	21.77	87.16	Jamsaloghat (16-24) Fekoghat (16-24)	ERD/HOCB/ MERO	Odisha	9.45	10.36	12.69	2008	Wireless/ Telemetry	Conventional	
194	Mathani Road Bridge	Subarnarekha/ East Flowing	Baleshwar/Odisha	21.66	87.06	Jalaka Rd Bridge at Sansa (06-08)	ERD/HOCB/ MERO	Odisha	5.50	5.50	7.31	2021			
195	N H 5 Road Bridge	Burhabalang/ East Flowing Rivers	Govindpur/ Balasore/ Odisha	21.55	86.92	Baripada (13-15)	ERD/HOCB/ MERO	Odisha	7.21	8.13	9.50	1973	Wireless	Conventional	
196	Salandi Dam	Baitarani/Brahmani-Baitarani	Kendujhar/Odisha	21.28	86.30	Bhejdihi	ERD/HOCB/ MERO		82.30						
197	Anandpur	Baitrani/East Flowing Rivers	Anandpur/ Keonjargarh/ Odisha	21.22	86.11	Swampatna (6-8)	ERD/HOCB/ MERO	Odisha	37.44	38.36	41.35	2011	Wireless/ Telemetry	Conventional/ Mathematical	
198	Akhuapada	Baitrani/East Flowing Rivers	Akhuapada/ Bhadrak/ Odisha	20.92	86.28	Swampatna(12-15) Anandpur (12-15)	ERD/HOCB/ MERO	Odisha	17.83	17.83	21.95	1960	Wireless/ Telemetry	Conventional	
199	Rengali Dam	Brahmani/Brahmani-Baitarani	Angul/Odisha	21.28	85.03	Panposh (10-12)	ERD/HOC/MERO Bhubaneshwar		FRL-123.5						
200	Jenapur Expressway	Brahmani/East Flowing Rivers	Jenapur/Jajpur/ odisha	20.88	86.01	Talcher (15-16) Altuma)15-16)	ERD/HOCB/ MERO	Odisha	22.00	23.00	24.78	1975	Wireless/ Telemetry	Conventional	
201	Ravi Shankar Dam	Mahanadi/ Mahanadi	Dhamtari/Chattisgarh	20.61	81.56		MD/HOCB/MERO		FRL-348.70						
202	Bango Dam	Hasdeo/ Mahanadi	Korba/Chattisgarh	22.59	82.57		MD/HOCB/MERO		FRL-359.66						
203	Hirakud	Mahanadi/ Mahanadi	Burla/ Sambalpur/ Odisha	21.52	83.85	Basantpur (24) Kurubata (24) Sundergarh (24) Kelo (6-18)	MahanadiDiv/HOCB/MERO	Odisha	192.02				Wireless/ Telemetry	Conventional/ Mathematical	
204	Naraj	Mahanadi/ Mahanadi	Cuttack/ Cuttack/Odisha	20.47	85.77	Tikarapara (18-20)	MahanadiDiv/HOCB/MERO	Odisha	25.41	26.41	27.61	1982	Wireless	Conventional/ Mathematical	
205	Alipingal	Devi/Mahanadi	Alipingal/Jagitsinghpur/ Odisha	20.07	86.17	Naraj (12)	MahanadiDiv/HOCB/MERO	Odisha	10.85	11.76	13.11	2011	Wireless/ Telemetry	Conventional	
206	Nimapara	Kushbhadra/ Mahanadi	Nimapara/Puri/ Odisha	20.06	86.01	Naraj (12)	MahanadiDiv/HOCB/MERO	Odisha	9.85	10.76	11.60	1982	Wireless/ Telemetry	Conventional	
207	Purushottampur	Rishikulya/ East Flowing Rivers	Purushottampur/ Ganjam/ Odisha	19.50	84.87	Sorada (14-20)	ERD/HOCB/ MERO	Odisha	15.83	16.83	19.65	1990	Wireless/ Telemetry	Conventional	
208	Gunupur	Vamshadara/East Flowing Rivers	Gunupur/Koraput/ Odisha	19.08	83.81	Gudari (03-05)	ERD/HOCB/ MERO	Odisha	83.00	84.00	88.75	1980	Wireless/ Telemetry	Conventional	
209	Kashinagar	Vamshadara/East Flowing Rivers	Kashinagar/Ganjam/ Odisha	18.85	83.87	Gunupur (04-07)	ERD/HOCB/ MERO	Odisha	54.10	54.60	58.93	1980	Wireless/ Telemetry	Conventional/ Mathematical	
210	Gotta Barrage	Vamsadhara/ East Flowing Rivers	Gotta Barrage/ Srikakulam/ Andhra Pradesh	18.69	83.96	Kashinagar(06-08)	ERD/HOCB/ MERO	Coastal Andhra Pradesh	34.84				Wireless/ Telemetry	Conventional	
211	Thotapalli Resvr system	Nagavali/ East Flowing River Basin	Parvathipuram/Vizianagaram/ Andhra Pradesh	18.78	83.49	Jaggaguda/Brahmnihalua	ERD/HOCB/ MERO		FRL-105.00					Rainfall Runoff Model	
212	Madduvalasa Reservoir	Nagavali/ East Flowing River Basin	Vizianagaram/Andhra Pradesh	18.63	83.22	Seethanagaram/Paradi Rd Bridge	ERD/HOC/MERO Bhubaneshwar	Coastal Andhra Pradesh	FRL-65.00						
213	Narayanpuram Anicut	Nagavali/ East Flowing River Basin	Srikakulam/ Andhra Pradesh	18.48	83.8	Thottapalli Barrage Madduvalasa Dam	ERD/HOC/MERO Bhubaneshwar	Coastal Andhra Pradesh	FRL - 32.77						
214	Srikakulam	Nagavali/ East Flowing River Basin	Srikakulam/ Andhra Pradesh	18.31	83.88	Narayanpuram Anicut(06-08)	ERD/HOCB/ MERO	Coastal Andhra Pradesh	10.17	10.8	14.53	12-05-1990			
215	Dantiwada Dam	Banas/ West Flowing Rivers	Dantiwada dam/Palanpur/ Banaskanta/ Gujarat	24.34	72.34	Sarotry (3-5) Chitrasani (2-5)	MD/HOCG/ MTBO	Gujarat	184.10				Wireless/ Telemetry	Conventional	
216	Abu Road	Banas/West Flowing River	Sirohi/Rajasthan	24.49	72.79	Swaroopganj Moras(RF) Mount Abu(RF)	MD Gandhinagar/HOC/MTBO Gandhinagar		258.00	259.00	265.40	1973	Wireless/ Telemetry	Conventional	

Annex-II

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											(m)	Year			
217	Dharoi Dam	Sabarmati/ West Flowing Rivers	Dharoi Dam/ Mehsana/ Gujarat	24.00	72.86	Kheroj (3-5) Harnav Weir (2-4)	MD/HOCG/ MTBO	Gujarat	189.59				Wireless/ Telemetry	Conventional	
218	Subash Bridge (Ahmedabad)	Sabarmati/ West Flowing Rivers	Ahmedabad/Ahmedabad/ Gujarat	23.06	72.59	Derol Bridge (04-06) Hatmati Weir (04-06)	MD/HOCG/ MTBO	Gujarat	44.09	45.34	47.45	2006	Wireless/ Telemetry	Conventional	
219	Mahi Bajajsagar Dam	Mahi/Mahi	Banswara/Rajasthan	23.62	74.54	Mataji (02-06) Borwa(03-07) Sohagpura(02-06)	MD/HOCG/ MTBO	Rajasthan	FRL-281.5				Wireless/ Telemetry	Conventional	
220	Som Kamla Amba Dam	Som/Mahi	Dungarpur/Rajasthan	23.97	74.03	Khandiovri(02-06) Amarpura(02-06)	MD/HOCG/ MTBO	Rajasthan	FRL-213.5				Wireless/ Telemetry	Conventional	
221	Kadana Dam	Mahi/ West Flowing Rivers	Kadana Dam/ Panchmahal/ Gujarat	23.31	73.83	Paderdibadi (05-06) Anas PH -II (03-06)	MD/HOCG/ MTBO	Gujarat		127.71	127.74	1989	Wireless/ Telemetry	Conventional	
222	Panam Dam	Panam/Mahi	Kalol/Panchmahal/Gujrat	23.05	73.71	Sant Road(02-06) Hadaf Dam(02-06)	MD/HOCG/ MTBO		FRL-127.41						
223	Wanakbori Weir	Mahi/ West Flowing River	Wanakbori/Kheda	22.94	73.42	Kadana Dam (04-09) Panam Dam (03-09)	MD/HOCG/ MTBO	Gujarat	71.93	74.98	76.10	2006	Wireless/ Telemetry	Conventional	
224	Mandla	Narmada/ Narmada	Mandla/Mandla/ Madhya Pradesh	22.59	80.37	Dindori (11) Mukki (12) Manot (03) Mohgaon (04)	ND/SECB/ NBO	East Madhya Pradesh	437.20	437.80	439.41	1974	Wireless	Conventional	
225	Barna Dam	Narmada/ Narmada	Raisen/Madhya Pradesh	23.05	78.06		ND/SECB/ NBO		348.55					Mathematical Model	
226	Bargi Dam	Narmada/ Narmada	Jabalpur/Madhya Pradesh	22.94	79.92	Mandla (06)	ND/SECB/ NBO		422.76					Mathematical Model	
227	Tawa Dam	Narmada/ Narmada	Hoshangabad/ Madhya Pradesh	22.56	77.97	Pachmarhi (06-08)	ND/SECB/ NBO		355.39					Mathematical Model	
228	Hoshangabad	Narmada/ Narmada	Hoshangabad/ Hoshangabad/ Madhya Pradesh	22.76	77.69	Bargi Dam (38) Barmanghat(22) Sandia (10-12) Tawa Dam (08)	ND/SECB/ NBO	West Madhya Pradesh	292.80	293.80	301.33	1972	Wireless	Conventional	
229	Indirasagar Dam	Narmada/ Narmada	Khandwa/Madhya Pradesh	22.28	76.47	Hoshangabad (12-14)	ND/SECB/ NBO		262.13					Mathematical Model	
230	Omkareshwar Dam	Narmada/ Narmada	Khandwa/Madhya Pradesh	22.24	76.16	Indirasagar Dam (06-08)	ND/SECB/ NBO		196.60					Mathematical Model	
231	Sardar Sarovar Dam	Narmada/ Narmada	Ahmedabad/ Gujarat	21.82	73.74		TD/HOCG/ MTBO		138.38						
232	Garudeshwar	Narmada/ Narmada	Garudeshwar/ Bharuch/Gujarat	21.89	73.65	Sardar sarovar dam (02)	TD/HOCG/ MTBO	Gujarat	30.48	31.09	41.65	1970	Wireless/ Telemetry	Conventional	
233	Bharuch	Narmada/ Narmada	Bharuch/Bharuch/ Gujarat	21.70	73.00	Sardar Sarovar Dam(08-12)	TD/HOCG/ MTBO	Gujarat	6.71	7.31	12.65	1970	Wireless/ Telemetry	Conventional	
234	Hathnur Dam	Tapi/ Tapi	Hathnur Dam/ Jalgaon/ Maharashtra	21.07	75.95	Burhanpur (05-06) Yerli (05-06)	TD/HOCG/ MTBO	Marathwada	212.02	214.00	214.00	1989	Wireless/ Telemetry	Conventional	
235	Ukai Dam	Tapi/ Tapi	Ukai Dam/ Surat/ Gujarat	21.25	73.59	Gidadhe (10-12) Sarangkheda (6-7)	TD/HOCG/ MTBO	Gujarat	105.16	105.16	105.51	1990	Wireless/ Telemetry	Conventional	
236	Surat	Tapi/ Tapi	Surat/Surat/Gujarat	21.20	72.82	Ukai Dam (06-08)	TD/HOCG/ MTBO	Gujarat	8.50	9.50	12.50	2006	Wireless/ Telemetry	Conventional	
237	Madhuban Dam	Damanganga/ West Flowing	Madhuban Dam/ Valsad/ Gujarat	20.19	73.06	Ozarkheda (2-3) Nanipalsan (2-3)	TD/HOCG/ MTBO	Gujarat	79.86	82.40	80.60	1993	Wireless/ Telemetry	Conventional	
238	Vapi Town	Damanganga/ West Flowing Rivers	Vapi Town/ Valsad/Gujarat	20.37	72.88	Madhuban Dam (02-03)	TD/HOCG/ MTBO	Gujarat	18.20	19.20	23.76	2004	Wireless/ Telemetry	Conventional	
239	Daman	Damanganga/ West Flowing	Daman/Daman/Diu	20.41	72.84	Madhuban Dam (03)	TD/HOCG/ MTBO	Gujarat	2.60	3.40	4.00	2004	Wireless/ Telemetry	Conventional	
240	Nasik	Godavari/ Godavari	Nasik/Maharashtra	20.00	73.80		UGD/GC/KGBO		558.10	559.60	563.51	2019			
241	NMD Weir	Godavari/ Godavari	Nasik/Maharashtra	19.45	74.33		UGD/GC/KGBO		533.50						
242	Kopergaon	Godavari/ Godavari	Kopergaon/Ahmednagar/Maharashtra	19.89	74.49	N M Weir (18)	LGD/GC/ KGBO	Marathwada	490.90	493.68	499.17	1969	Wireless/ Telemetry	Conventional	
243	Mula Dam	Mula/Godavari	Ahmadnagar/Maharashtra	19.35	74.60		UGD/GC/KGBO		552.30						
244	Jaikwadi Dam	Godavari/Godavari	Paithan/ Aurangabad/ Maharashtra	19.48	75.37	N M Weir (24) Pachegaon(24)	LGD/GC/ KGBO	Marathwada	463.91	465.58	464.69	1990	Wireless	Conventional	

Annex-II

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											(m)	Year			
245	Manjlegaon Dam	Sindhpana/ Godavari	Beed / Maharashtra	19.15	76.18		UGD/GC/KGBO								
246	Gangakhed	Godavari/ Godavari	Gangakhed/Parbhani/Maharashtra	18.98	76.75	Dhalegaon (18)	LGD/GC/ KGBO	Marathwada	374.00	375.00	377.57	1947	Wireless/ Telemetry	Conventional	
247	Yeldari Barrage	Puma/Godavari	Patbhani/Maharashtra	19.71	76.75		UGD/GC/KGBO		461.77						
248	Nanded	Godavari/ Godavari	Nanded/Nanded/ Maharastra	19.15	77.31	Gangakhed (12) Purna (12)	LGD/GC/ KGBO	Marathwada	353.00	354.00	357.10	2006	Wireless/ Telemetry	Conventional	
249	Karanja Dam	Karanja/Godavari	Bidar/Karnataka	17.88	77.31		UGD/GC/KGBO								
250	Singur Dam	Manjira/ Godavari	Singur Dam/ Medak/ Andhra Pradesh	17.75	77.93	Saigaon (24) Karanja(24)	LGD/GC/ KGBO	Telangana	523.60				Wireless	Conventional	
251	Nizamsagar Dam	Manjira/ Godavari	Nizamsagar dam/ Nizamabad/ Andhra Pradesh	18.22	77.96	Singur Dam (24)	LGD/GC/ KGBO	Telangana	428.24				Wireless	Conventional	
252	Sriramsagar	Godavari/Godavari	Pochampad/ Nizamabad/ Andhra Pradesh	18.97	78.34	Nanded (24) Nizamsagar (24) Degloor (24) Bhainsa(24)	LGD/GC/ KGBO	Telangana	332.54	333.15	332.72	1990	Wireless	Conventional	
253	Kaddam Dam	Godavari/Godavari	Kaddam/Adilabad/Telengana	19.1	78.79		UGD/GC/KGBO		FRL-213.21					Rainfall Runoff Model	
254	Sripada Yellampalli project.	Godavari/Godavari	Karimnagar/ Telengana	18.84	79.36		UGD/GC/KGBO		FRL-148					Rainfall Runoff Model	
255	Upper Wainganga Project	Wainganga/ Godavari	Balaghat/Madhya Pradesh	22.37	79.66	Bakhari (05-30)	WD Nagpur/CC Nagpur/ MCO Nagpur		FRL-519.38						
256	Totladoh Project	Pench	Nagpur/Madhya Pradesh	21.65	79.23	Kokiwada(06-31)	WD Nagpur/CC Nagpur/ MCO Nagpur		FRL-490.00						
257	Bawanthadi Reservoir	Bawanthri	Balaghat/Madhya Pradesh	21.54	79.54		WD Nagpur/CC Nagpur/ MCO Nagpur		FRL-344.4						
258	Pench Reservoir/Chaurai Dam	Pench	Chindwara	21.65	79.23		WD Nagpur/CC Nagpur/ MCO Nagpur		FRL-625.75						
259	Bhandara	Wainganga/ Godavari	Bhandara/Bhandara/Maharashtra	21.15	79.66	Balaghat (158) Rajegaon (18)	WD Nagpur/CC Nagpur/ MCO Nagpur	Vidharbha	245.50	245.70	250.90	2005	Wireless/ Telemetry	Conventional	
260	Gosikhurd Dam	Godavari/Godavari	Pauni/Bhandara/ Maharashtra	20.87	79.6	Kumhari(22-60) Rajegaon(22-60) Satrapur(11-40)	WD Nagpur/CC Nagpur/ MCO Nagpur	Vidharbha	FRL-245.50					Rainfall Runoff Model	
261	Pauni	Wainganga/ Godavari	Pauni/Bhandara/ Maharashtra	20.79	79.65	Bhandara (03-06)	WD Nagpur/CC Nagpur/ MCO Nagpur	Vidharbha	226.73	227.73	237.12	1994	Wireless/ Telemetry	Conventional	
262	Upper Wardha Project	Wardha/Godavari	Amaravati/Maharashtra	21.27	78.05		WD Nagpur/CC Nagpur/ MCO Nagpur		FRL-342.50					Rainfall Runoff Model	
263	Issapur/Upper Penganga/SSP	Penganga	Hingoli/Maharashtra	19.71	77.45	Kanhargaon(11-40)	WD Nagpur/CC Nagpur/ MCO Nagpur		FRL-441.00						
264	Balharsha	Wardha/Godavari	Balharsha/Chandrapur/ Maharashtra	19.82	79.37	Ghugus (12) P G Bridge (18)	WD Nagpur/CC Nagpur/ MCO Nagpur	Vidharbha	171.50	174.00	176.45	1986	Wireless/ Telemetry	Conventional	
265	Sirpur Town	Wardha/Godavari	Chandrapur/Maharashtra	19.56	79.61	Ghugus (15) P.G.Bridge(21)	WD Nagpur/CC Nagpur/ MCO Nagpur		159.95	160.95	161.34	2018			
266	Kaleswaram	Godavari/ Godavari	Bhopalpally/Telangana	18.82	79.91	Mancherial (18) Tekra (18)	LGD/GC/ KGBO	Telangana	103.50	104.75	107.05	1986	Wireless/ Telemetry	Conventional	
267	Upper Indravati Project	Indravathi/ Godavari	Kalahandi/Odisha	19.27	82.82		LGD/GC/ KGBO		FRL-642.00						
268	Jagdalpur	Indravathi/ Godavari	Jagdalpur/ Bastar/ Chhatisgarh	19.09	82.03	Nowrangpur (15-18) Kosagumda (15-18)	LGD/GC/ KGBO	Chhatisgarh	539.50	540.80	544.68	1973	Wireless/ Telemetry	Conventional	

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											(m)	Year			
269	Eturunagaram	Godavari/ Godavari	Eturunagaram/ Warangal/ Andhra Pradesh	18.32	80.46	Kaleswaram (12-18) Pathagudem (12-18)	LGD/GC/ KGBO	Telangana	73.32	75.82	77.66	1990	Wireless/ Telemetry	Conventional	
270	Dummagudem	Godavari/ Godavari	Dummagudem/ Khammam/ Andhra Pradesh	17.85	80.88	Perur (12-15)	LGD/GC/ KGBO	Telangana	53.00	55.00	60.25	1986	Wireless/ Telemetry	Conventional	
271	Bhadrachalam	Godavari/ Godavari	Bhadrachalam/ Khammam/ Andhra Pradesh	17.67	80.88	Perur (15-18)	LGD/GC/ KGBO	Telangana	45.72	48.77	55.66	1986	Wireless/ Telemetry	Conventional	
272	Kolab Project	Kolab/Godavari	Koraput/Odisha	18.78	82.60		LGD/GC/ KGBO		FRL-858.00						
273	Machkund Project	Machkund	Koraput/Odisha	18.45	82.54		LGD/GC/ KGBO		FRL-838.20						
274	Balimela Project	Balimela	Malkangiri/Odisha	18.30	82.25		LGD/GC/ KGBO		FRL-462.07						
275	Chinturu	Sabri/Godavari	East Godavari/Andhra Pradesh	17.82	81.39	Sukma(06)	LGD/GC/ KGBO		41.50	43.00	44.91	18-08-2018		3 days advisory Forecast (CWC BETA Model)	
276	Kunavaram	Godavari/ Godavari	Kunavaram/ Khammam/ Andhra Pradesh	17.57	81.25	Perur (12-18)	LGD/GC/ KGBO	Telangana	37.74	39.24	51.30	1986	Wireless	Conventional	
277	Rajahmundry GNV Railway Bridge	Godavari/ Godavari	Rajahmundry/ East Godavari/ Andhra Pradesh	17.01	81.77	Koida (15-18)	LGD/GC/ KGBO	Coastal Andhra Pradesh	17.68	19.51	20.48	1986	Wireless/ Telemetry	Conventional	
278	Dowlaiswaram	Godavari/ Godavari	Dowlaiswaram/ East Godavari/ Andhra Pradesh	16.94	81.78	Koida (15-21)	LGD/GC/ KGBO	Coastal Andhra Pradesh	14.25	16.08	18.36	1986	Wireless/ Telemetry	Conventional	
279	Atreyapuram	Godavari/Godavari	Atreyapuram/East Godavari/Andhra Pradesh	16.81	81.81	Dowlaisweram(3)	LGD Hyd/GC/KGBO	Coastal Andhra Pradesh	13.5	15	14.16	2020		3 days advisory Forecast (CWC BETA Model)	
280	Koyna Dam	Koyna	Satara/Maharashtra	17.4	73.75	Mahabaleshwar(12) Nawaja(01-05) Koyna (01-05)	UKD/KCC/KGBO		FRL-659.43				Phone	Rainfall Runoff Model/Correlation/3 day Advisory	
281	Warana Dam	Warana	Kolhapur/Maharashtra	17.13	73.85	Warana (01-05)	UKD/KCC/KGBO		FRL-626.90				Phone	Rainfall Runoff Model/Correlation/3 day Advisory	
282	Arjunwad	Krishna/Krishna	Arjunwad/ Kolhapur/ Maharashtra	16.78	74.63	Kowad (24) Samdoli (12)	UKD/KCC/ KGBO		539.20	540.70	544.35	2019	Phone	Conventional	
283	Hippargi Barrage	Krishna/Krishna	Bagalkot/Karnataka	16.55	75.16	Kurunwad(16-27) Sadalga(16-27)	UKD/KCC/KGBO		FRL-531.40				Phone	Conventional	
284	Hidkal Dam	Ghatprabha/Krishna	Belagavi/Karnataka	16.14	74.64		CD Bang/MSO		FRL-662.94						
285	Almatti Dam	Krishna/ krishna	Almatti Dam/**Bagalkot**/ Karnataka	16.33	75.88	Kurundwad (33-54) Sadalga (33-54) Gokak (21-30)	LKD/KCC/ KGBO	North Interior Karnataka	519.60				Wireless	Conventional	
286	Malaprabha Dam	Malaprabha	Belgum/Karnataka	15.82	75.09		CD Bang/MSO		FRL-633.83						
287	Narayanpur Dam	Krishna/ krishna	Narayanpur Dam/ Yadgir/ Karnataka	16.20	76.36	Almatti Dam (09-18) Cholachguda(12-24)	LKD/KCC/ KGBO	North Interior Karnataka	492.25				Wireless	Conventional	
288	Veer Dam	Nira/Krishna	Satara/Maharashtra	18.12	74.09	Niradeoghar(12) Bhatgar(12)	UKD/KCC/KGBO		FRL-579.85				Phone	Rainfall Runoff Model/Correlation/3 day Advisory	
289	Ujjani Dam	Bhima/ Krishna	Solapur/Maharashtra	18.07	75.12	Phulgaon(24) Dhond(12)	UKD/KCC/KGBO		FRL-496.83				Phone	Rainfall Runoff Model/Correlation/3 day Advisory	
290	Deongaon Bridge	Bhima/ Krishna	Afzalpur/ Gulbarga/ Karnataka	17.17	76.33	Takli (12-27) Wadakbal (15-27)	LKD/KCC/ KGBO	North Interior Karnataka	402.00	404.50	409.00	2020	Wireless/ Telemetry	Conventional	
291	Priyadharshini Jurala Project	Krishna/ krishna	Mahbubnagar/ Telangana	16.33	77.70	Huvinhedgi (12-30) Yadgir (09-30) Deosugur (03-06)	LKD/KCC/ KGBO	Telangana	318.52				Wireless	Conventional	

Annex-II

S.No	Name of FF Station/Type	River/Basin	Nearest Town/Vill/District/State	Lat (N)	Long (E)	Base Station (TT in hrs)	Div/Circle/ Orgn	Met Sub Division as per IMD	WL (m)	DL (m)	HFL		Mode of Data Collection	Methodology/ Model used for FF Formulation	Remarks
											(m)	Year			
292	Upper Tunga	Tungabhadra/ Krishna	Shimoga/Krishna	13.84	75.52		CD Bangluru/C&SRC/ C&SRO Coimbtore	South interior Karnataka, Shimoga	FRL-588.24						
293	Bhadra Dam	Tungabhadra/ Krishna	Tarikere/Chikmagalur/Karnataka	13.7	75.63		CD Bangluru/C&SRC/ C&SRO Coimbtore	Coastal Karnataka, Lakkavalli	FRL-657.75						
294	Tungabhadra Dam	Tungabhadra/ Krishna	Hospet/ Bellary/ Karnataka	15.26	76.34	Harlahalli (12-27) Marol (12-27)	LKD/KCC/ KGBO	South Interior Karnataka	497.74				Wireless	Conventional	
295	Singatlur Barrage	Tungabhadra/Krishna	Gadag/Karnataka	15.03	75.83	Harlahalli(10-20) Marol(02-08)	LKD/KCC/ KGBO		FRL-507.00				Phone	Conventional	
296	Mantralayam	Tungabhadra	Mantralayam/ Kurnool/ Andhra Pradesh	15.95	77.43	Ollenur (18-30) T Ramapuram (09-18)	LKD/KCC/ KGBO	Rayalaseema	310.00	312.00	318.77	2009	Wireless/ Telemetry	Conventional	
297	Sunkesula Barrage	Tungabhadra/Krishna	C.Belagal/Kurnool/ Andhra Pradesh	15.88	77.83	Mantralayam (06-09)	LKD/KCC/ KGBO	Rayalaseema	FRL-292.00					Conventional	
298	Kurnool	Tungabhadra/ Krishna	Kurnool/Kurnool/ Andhra Pradesh	15.82	78.03	Mantralayam(06-15) Sunkesula Barrage (03-12)	LKD/KCC/ KGBO	Rayalaseema	273	274	281.23	02.10.09	Wireless	Conventional	
299	Srisailam Dam	Krishna/ krishna	Srisailam/ Kurnool/ Andhra Pradesh	16.08	78.90	Mantralayam (12-30) Krishna Agraharam (09-24)	LKD/KCC/ KGBO	Coastal Andhra Pradesh	269.75				Wireless	Conventional	
300	Musi Dam	Musi/Krishna	Nalgonda/Telengana	17.23	79.52	Valigonda(10-18) Anantaram(06-12)	LKD/KCC/ KGBO		FRL-196.60				Phone	Conventional	
301	Dr KLRS Pulichintala Dam	Krishna/Krishna	Bellamkonda/Guntur/Andhra Pradesh	16.75	80.05	NS Dam Release(09-24) Halia(03-06) Dhmercherla(06-12)	LKD/KCC/ KGBO	Coastal Andhra Pradesh	FRL-53.34					Conventional	
302	Prakasam Barrage	Krishna/ krishna	Vijayawada/ Krishna/ Andhra Pradesh	16.53	80.61	Wadenapalli (09-21) Madhira (09-15) Polampally (06-18) Paleru Bridge (09-18)	LKD/KCC/ KGBO	Coastal Andhra Pradesh	17.31				Wireless	Conventional	
303	Avanigadda	Krishna/ krishna	Krishna/Andhra Pradesh	16.02	80.91	Prakasam Barrage (03-09) Vijayawada	LKD/KCC/ KGBO	Coastal Andhra Pradesh	9.00	11.00	11.57	2009	Telemetry	Conventional	
304	Somasila Dam	Pennar/Pennar	Ozili//Nellore/ Andhra Pradesh	14.48	79.3		HD/ C&SRC Bangalore/ C & SRO Coimbtore.	Coastal Andhra Pradesh	FRL-100.58					Rainfall Runoff Model	
305	Nellore Anicut	North Pennar	Nellore/ Nellore/ Andhra Pradesh	14.47	79.99	Chennur (18) Nandipally (18) Somasila Project (09)	HD/SR	Coastal Andhra Pradesh	15.91	17.28	19.57	2021	Wireless	Conventional	
306	Poondi Satyamurthy Dam	Kosasthalaiyar/ EFRB Pennar-Cauvery	Thiruvallur/ Tamilnadu	13.18	79.86		HD / C & SRC / C & SRO	Tamilnadu & Puducherry	FRL-42.67					Rainfall Runoff Model	
307	Chembarampakkam	Adyar/EFRB Pennar Cauvery	Chenglepet/Kancheepuram/ Tamilnadu	13.01	80.08		HD Chennai/C&SRC Bangaluru/C & SRO Coimbtore	Tamilnadu & Puducherry	26.03						
308	Sathnur Dam	Ponnaiyar/ EFRB Pennar-Cauvery	Chengam/Thiruvannamalai/ Tamilnadu	12.2	78.59		HD Chennai/C&SRC Bangaluru/C & SRO Coimbtore	Tamilnadu & Puducherry	FRL-222.2						
309	Gomukhi	Vellar/EFRB Pennar Cauvery	Kallakurichi/Villupuram/Tamilnadu	11.8	78.81		HD Chennai/C&SRC Bangaluru/C & SRO Coimbtore		FRL-183.18						
310	Wellington Dam	Vellar/EFRB Pennar Cauvery	Thittakudi/Cuddalore/Tamilnadu	11.4	79.09		HD Chennai/C&SRC Bangaluru/C & SRO Coimbtore		FRL-72.54						
311	Harangi Dam	Cauvery/Cauvery	Somwarpet/ Kodagu/ Karnataka	12.49	75.9		CD Banglore / C&SRC Bangalore/ C & SRO Coimbtore.	Coastal Andhra Pradesh	FRL-871.42					Rainfall Runoff Model	

S.No	Name of FF Station/Type	River/Basin	Nearest Town/Vill/District/State	Lat (N)	Long (E)	Base Station (TT in hrs)	Div/Circle/ Orgn	Met Sub Division as per IMD	WL (m)	DL (m)	HFL		Mode of Data Collection	Methodology/ Model used for FF Formulation	Remarks
											(m)	Year			
312	Hemavathy Dam	Cauvery/Cauvery	Channaryapatra/Hassan/Karnataka	12.82	76.05		CD Banglore / C&SRC Bangalore/ C & SRO Coimbtore.	Coastal Andhra Pradesh	FRL-890.63					Rainfall Runoff Model	
313	Kabini Dam	Cauvery/Cauvery	Heggadevanakote/Mysore/Karnataka	11.84	76.33		CD Banglore / C&SRC Bangalore/ C & SRO Coimbtore.	South Interior Karnataka	FRL-696.16					Rainfall Runoff Model	
314	Krishnaraj sagar	Cauvery/Cauvery	Srirangapatna/Mandya/Karnataka	12.45	76.57		CD Banglore / C&SRC Bangalore/ C & SRO Coimbtore.	South Interior Karnataka	FRL-752.49					Rainfall Runoff Model	
315	Mettur Dam	Cauvery/Cauvery	Mettur/Salem/Tamilnadu	11.8	77.8		SRD/C & SRC / C & SRO	Tamilnadu & Puducherry	FRL-240.79					Rainfall Runoff Model	
316	Bhawanisagar Dam	Bhavani/Cauvery	Sathyamangalam/Erode/Tamilnadu	11.47	77.1		SRD/C & SRC / C & SRO	Tamilnadu & Puducherry	FRL-280.42					Rainfall Runoff Model	
317	Savandapur	Bhavani/Cauvery	Gobichettipalayam/Tamilnadu	11.52	77.51		SRD Coim/C&SRC Bang/C & SRO Coimb		184.5	185.5	187.75	2018			
318	Kodumudi	Cauvery/Cauvery	Erode/Erode/Tamilnadu	11.08	77.89		SRD Coim/C&SRC Bang/C & SRO Coimb	Tamilnadu and Puducherry	125.5	126.5	128.14	2018			
319	Kodaganar Dam	Kodaganar/Cauvery	Dindugul/Tamilnadu	10.59	77.97		SRD Coim/C&SRC Bang/C & SRO Coimb	Tamilnadu and Puducherry	FRL-200.25						
320	Musiri	Cauvery/Cauvery	Musiri/Tiruchirapalli/Tamilnadu	10.93	78.43		SRD Coim/C&SRC Bang/C & SRO Coimb	Tamilnadu and Puducherry	82.12	83.12	86.98	2005			
321	Upper Anicut	Cauvery/Cauvery	Thiruchirapalli/ Tamilnadu	10.88	78.57		SRD Coim/C&SRC Bang/C & SRO Coimb		FRL-74.40						
322	Grand Annicut	Cauvery/Cauvery	Thanjavur/ Tamilnadu	10.83	78.81		SRD/C & SRC / C & SRO	Tamilnadu & Puducherry	FRL-59.21					Rainfall Runoff Model	
323	Vaigai Dam	Vaigai/EFR South of Cauvery	Andipatti/ Theni/ Tamilnadu	10.5	77.33		SRD/C & SRC / C & SRO	Tamilnadu & Puducherry	FRL-279.2					Rainfall Runoff Model	
324	Madurai	Vaigai/EFR South of Cauvery	Madurai/Tamilnadu	9.93	78.11		SRD/C & SRC / C & SRO	Tamilnadu & Puducherry	131.5	132.5	134.76	1997			
325	Kumbidi	Bharathapuzha/WFR Tapi to Tadri	Palakkad/Kerala	10.85	76.02		SWRD/CSRO		8.2	9.2	11.27	2018			
326	Idduki Dam	Periyar/WFR Tadri to Kanyakumari	Idduki/Kerala	9.84	76.97		SWRD/CSRO		FRL-732.62						
327	Edamalayar Dam	Edamalayar/WFR Tadri to Kanyakumari	Ernakulam/Kerala	10.22	76.7		SWRD/CSRO		FRL-169.00						
328	Neeleswaram	Periyar/WFR Tadri to Kanyakumari	Ernakulam/Kerala	10.18	76.49		SWRD/CSRO		9	10	12.4	2018			
329	Malakkara	Pamba/WFR Tadri to Kanyakumari	Pathanamthitta	9.32	76.66		SWRD/CSRO		6	7	9.58	2018			
330	Polavaram	Godavari/Godavari	West Godavari/ Andhra Pradesh	17.29	81.64		LGD Hyd/GC/KGBO								
331	Laxmi Barrage	Godavari/Godavari	Bhupalpally/Telangana	18.7	80.08		UGD/GC/KGBO		100						
332	PVNR Kanthapally Project	Godavari/Godavari	Warangal/Telangana	18.58	80.39		UGD/GC/KGBO		FRL-83.00						
333	Madikhera(Atal Sagar)	Sindh/Ganga	Shivpuri/Madhya Pradesh	25.55	77.85		LYD/HOCN/ YBO		FRL-346.25						

Annex-II

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											(m)	Year			
334	Muthankera	Kabini/Cauvery	Waynad/Kerala	11.8	76.08		CD Banglore / C&SRC Bangalore/ C & SRO Coimbtore.		710.3	711.25	713.89	11-07-1905			
335	Subansiri Lower Dam	Subansiri/ Brahmaputra	Lower Subansiri/Arunachal Pradesh	27.55	94.26		UBD/HOCG/ BBO								
336	Shetrunji Dam	Shetrunji/WFR (Kutch & Saurashtra)	Bhavnagar/Gujarat	21.47	71.88		MD Gandhinagar/HOC /MTBO Gandhinagar		FRL-55.53						
337	Ichari Dam	Tons/Ganga	Dehradun/Uttarakhand	30.61	77.79		UYD/HOCN/ YBO		FRL-644.75						
338	Tehri Dam	Bhagirathi/Ganga	Garhwal/Uttarakhand	30.37	78.48		HGD/HOC/UGBO		FRL-830						
339	Judddo Dam	Yamuna/Ganga	Dehradun/Uttarakhand	30.51	77.88		UYD/HOCN/ YBO		FRL-631.5						
340	Mid Manair Dam	Maner/Godavari	Rajanna Sircilla/Telangana	18.39	78.96		UGD/GC/KGBO		FRL-318						

Basinwise -Riverwise- Flood Forecasting Information in India during Flood Season 2024												
Sl.No.	Name of the river	Name of FF site	Name of State	Warning Level (m)	Danger level (m)	Highest Flood Level		Maximum Level -2024				
						Level (m)	Date/ Month/ Year	Level (m)	Date and Time DD/MM/YY)	No.of Forecasts issued	No.of Forecasts within limits	Percent-age of accuracy
1	2	3	4	5	6	7	8	9	10	11	12	13.00
	1. Indus Basin											
1	Jhelum	Sangam	Jammu & Kashmir	1591.20	1592.42	1595.37	07-09-2014	**1589.27**	**01/05/2024 00**	0	0	-
2	Jhelum	Rammunshibagh	Jammu & Kashmir	1585.48	1586.40	1589.00	08-09-2014	**1585.15**	**01/05/2024 00**	0	0	-
3	Jhelum	Safapora	Jammu & Kashmir	1580.52	1581.28	1582.15	1996	**1580.03**	**01/05/2024 00**	0	0	-
	2 a. Ganga Basin											
4	Alaknanda	Srinagar	Uttarakhand	535.00	536.00	537.90	17-06-2013	**535.30**	**01/08/2024 02**	1	1	100.00
5	Mandakini	Ganganagar	Uttarakhand	803.00	804.00	808.00	17/06/2013	**801.5**	**31/07/2024 23**	0	0	-
6	Ganga	Rishikesh	Uttarakhand	339.50	340.50	341.72	05-09-1995	**340.06**	**23/08/2024 13**	6	6	100.00
7	Ganga	Haridwar	Uttarakhand	293.00	294.00	296.30	19-09-2010	**293.70**	**23/08/2024 13**	6	5	83.33
8	Ganga	Garhmuktheswar	Uttar Pradesh	198.33	199.33	199.90	23-09-2010	**198.76**	**04/09/2024 19**	71	71	100.00
9	Ganga	Kachla Bridge	Uttar Pradesh	161.00	162.00	162.91	20/07/2023	**162.63**	**17/09/2024 07**	229	227	99.13
10	Ganga	Fathegarh	Uttar Pradesh	136.60	137.60	138.14	26-09-2010	**137.73**	**18/09/2024 04**	67	66	98.51
11	Ramganga	Moradabad	Uttar Pradesh	189.60	190.60	192.88	21-09-2010	**190.24**	**16/09/2024 05**	17	17	100.00
12	Ramganga	Bareilly	Uttar Pradesh	162.07	163.07	162.82	22-09-2010	**161.75**	**17/09/2024 05**	0	0	-
13	Ganga	Dabri	Uttar Pradesh	136.30	137.30	139.70	28-09-1983	**138.09**	**20/09/2024 05**	42	42	100.00
14	Ganga	Kannauj	Uttar Pradesh	124.97	125.97	126.78	27-09-2010	**126**	**20/09/2024 05**	11	11	100.00
15	Ganga	Ankinghat	Uttar Pradesh	123.00	124.00	124.49	28-09-2010	**124.09**	**20/09/2024 02**	31	31	100.00
16	Ganga	Kanpur	Uttar Pradesh	113.00	114.00	114.08	29-09-2010	**113.15**	**21/09/2024 05**	20	20	100.00
17	Ganga	Dalmau	Uttar Pradesh	98.36	99.36	99.84	03-08-1973	**99.15**	**23/09/2024 06**	9	9	100.00
18	Ganga	Phaphamau	Uttar Pradesh	83.73	84.73	87.98	08-09-1978	**84.07**	**16/09/2024 08**	4	4	100.00
19	Yamuna	Paonta Sahib	Himachal Pradesh	383.50	384.50	384.60	05-09-1995	**381.3**	**02/09/2024 11**	0	0	-
20	Yamuna	Karnal Bridge	Haryana	248.80	249.50	250.07	17-06-2013	**247.66**	**12/08/2024 02**	0	0	-
21	Yamuna	Mawi	Uttar Pradesh	231.00	231.50	232.75	18-06-2013	**229.81**	**12/08/2024 15**	0	0	-
22	Sahibi	Dhansa	NCT Delhi	211.44	212.44	213.58	06-08-1977	**210.65**	**15/09/2024 08**	0	0	-
23	Yamuna	Delhi Rly Bridge	NCT Delhi	204.50	205.33	208.66	13/08/2023	**204.38**	**13/08/2024 03**	0	0	-
24	Yamuna	Mathura	Uttar Pradesh	165.20	166.00	169.73	08-09-1978	**165.17**	**18/09/2024 19**	0	0	-
25	Yamuna	Agra	Uttar Pradesh	151.40	152.40	154.76	09-09-1978	**149.74**	**12/09/2024 14**	0	0	-
26	Yamuna	Etawa	Uttar Pradesh	120.92	121.92	126.13	11-09-1978	**120.79**	**15/09/2024 14**	0	0	-
27	Chambal	Manderial	Rajasthan	164.00	165.00	170.05	25/08/2022	**161.05**	**13/09/2024 06**	0	0	-
28	Chambal	Dholpur	Rajasthan	129.79	130.79	146.57	25/08/2022	**134.67**	**13/09/2024 12**	11	10	90.91
29	Chambal	Kota City	Rajasthan	239.00	242.00	248.68	16-09-2019	**237.8**	**29/09/2024 19**	0	0	-
30	Yamuna	Auraiya	Uttar Pradesh	112.00	113.00	118.51	06-08-2021	**113.6**	**15/09/2024 01**	4	4	100.00
31	Yamuna	Kalpi	Uttar Pradesh	107.00	108.00	112.98	25-08-1996	**108.89**	**15/09/2024 01**	3	3	100.00
32	Yamuna	Hamirpur	Uttar Pradesh	102.63	103.63	108.59	12-09-1983	**104**	**14/09/2024 05**	4	4	100.00
33	Betwa	Mohana	Uttar Pradesh	121.66	122.66	132.16	05-09-1978	**122.3**	**12/09/2024 18**	1	1	100.00
34	Betwa	Sahjina	Uttar Pradesh	103.54	104.54	108.95	06-09-1978	**103.45**	**13/09/2024 22**	0	0	-
35	Ken	Banda	Uttar Pradesh	103.00	104.00	113.29	07-07-2005	**106.75**	**06/08/2024 08**	5	5	100.00
36	Yamuna	Chilaghat	Uttar Pradesh	99.00	100.00	105.16	06-09-1978	**100.07**	**14/09/2024 11**	5	5	100.00

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Sl.No.	Name of the river	Name of FF site	Name of State	Warning Level (m)	Danger level (m)	Highest Flood Level		Maximum Level -2024		No.of Forecasts issued	No.of Forecasts within limits	Percent-age of accuracy
						Level (m)	Date/ Month/ Year	Level (m)	Date and Time DD/MM/YY)			
1	2	3	4	5	6	7	8	9	10	11	12	13.00
37	Yamuna	Naini	Uttar Pradesh	83.74	84.74	87.99	08-09-1978	83.91	16/09/2024 12	3	3	100.00
38	Ganga	Allahabad Chhatnag	Uttar Pradesh	83.73	84.73	88.03	08-09-1978	83.41	16/09/2024 11	0	0	-
39	Ganga	Mirzapur	Uttar Pradesh	76.72	77.72	80.34	09-09-1978	76.54	16/09/2024 21	0	0	-
40	Ganga	Varanasi	Uttar Pradesh	70.26	71.26	73.90	09-09-1978	70.83	17/09/2024 07	5	5	-
41	Gomati	Lucknow	Uttar Pradesh	108.50	109.50	110.85	10-09-1971	105.87	07/08/2024 04	0	0	-
42	SAI	Raibareli	Uttar Pradesh	100.00	101.00	104.81	17-09-1982	98.65	29/08/2024 20	0	0	-
43	Gomati	Jaunpur	Uttar Pradesh	73.07	74.07	77.74	22-09-1971	71.3	28/09/2024 06	0	0	-
44	Ganga	Ghazipur	Uttar Pradesh	62.10	63.10	65.22	09-09-1978	63.67	17/09/2024 23	12	12	100.00
45	Ganga	Buxar	Bihar	59.32	60.32	62.09	01-08-1948	60.3	17/09/2024 21	12	10	83.33
46	Ganga	Ballia	Uttar Pradesh	56.62	57.62	60.39	25-08-2016	59.81	19/09/2024 08	52	52	100.00
47	Ghaghra	Elgin Bridge	Uttar Pradesh	105.07	106.07	107.62	18-08-2014	107.01	16/09/2024 01	110	109	99.09
48	Ghaghra	Ayodhya	Uttar Pradesh	91.73	92.73	94.01	11-10-2009	93.32	16/09/2024 12	101	101	100.00
49	Rapti	Kakardhari	Uttar Pradesh	130.00	131.00	132.37	15-08-2014	130.36	07/07/2024 16	2	2	100.00
50	Rapti	Balrampur	Uttar Pradesh	103.62	104.62	106.07	10-10-2022	105.26	09/07/2024 12	42	41	97.62
51	Rapti	Bansi	Uttar Pradesh	83.90	84.90	86.27	16/10/2022	85.39	13/07/2024 15	68	68	100.00
52	Rapti	Gorakpur_Birdghat	Uttar Pradesh	73.98	74.98	77.54	23-08-1998	75.99	16/07/2024 04	68	68	100.00
53	Ghaghra	Turtipar	Uttar Pradesh	63.01	64.01	66.00	28-08-1998	64.81	26/08/2024 11	111	110	99.10
54	Ghaghra	Darauli	Bihar	59.82	60.82	61.82	15/10/2022	61.41	26/08/2024 15	93	92	98.92
55	Ghaghra	Gangpur Siswan	Bihar	56.04	57.04	58.26	17-08-1980	57.67	20/09/2024 01	55	54	98.18
56	Ghaghra	Chhapra	Bihar	52.68	53.68	54.59	03-09-1982	53.45	19/09/2024 18	5	5	100.00
57	Sone	Inderpuri	Bihar	107.20	108.20	108.85	23-08-1975	105.35	18/09/2024 17	0	0	-
58	Sone	Koelwar	Bihar	54.52	55.52	58.88	20-07-1971	55	19/09/2024 06	4	4	100.00
59	Sone	Maner	Bihar	51.00	52.00	53.79	10-09-1976	53.29	20/09/2024 06	42	39	92.86
60	Ganga	Patna Dighaghat	Bihar	49.45	50.45	52.52	23-08-1975	51.76	20/09/2024 06	50	47	94.00
61	Gandak	Khadda	Uttar Pradesh	95.00	96.00	97.50	23-07-2002	96.54	29/09/2024 06	246	243	98.78
62	Gandak	Chatia	Bihar	68.15	69.15	70.04	26-07-2002	69.3	01/10/2024 06	5	4	80.00
63	Gandak	Dumariaghat	Bihar	61.22	62.22	64.36	24-07-2020	64	01/10/2024 04	117	111	94.87
64	Gandak	Rewaghat	Bihar	53.41	54.41	55.46	24-07-2020	55.38	02/10/2024 04	37	37	100.00
65	Gandak	Hazipur	Bihar	49.32	50.32	50.93	18/08/1948	50.21	20/09/2024 05	15	15	100.00
66	Ganga	Patna Gandhighat	Bihar	47.60	48.60	50.52	20-08-2016	50.28	20/09/2024 05	69	66	95.65
67	PunPun	Sripalpur	Bihar	49.60	50.60	53.91	18-09-1976	51.92	20/09/2024 03	28	23	82.14
68	Ganga	Hathidah	Bihar	40.76	41.76	43.52	16-08-2021	43.41	21/09/2024 09	69	66	95.65
69	Ganga	Munger	Bihar	38.33	39.33	40.99	19-09-1976	39.95	22/09/2024 01	45	44	97.78
70	Burhi Gandak	Lalbeghiaghat	Bihar	62.20	63.20	67.09	30-07-1975	62.8	05/10/2024 14	10	9	90.00
71	Burhigandak	Ahirwalia	Bihar	58.62	59.62	61.17	02-06-2014	57.99	06/10/2024 10	0	0	-
72	Burhi Gandak	Muzaffarpur	Bihar	51.53	52.53	54.29	15-08-1987	51.97	09/10/2024 15	9	8	88.89
73	Burhi Gandak	Samastipur	Bihar	45.02	46.02	49.38	15-08-1987	45.46	10/10/2024 23	8	8	100.00
74	Burhi Gandak	Rosera	Bihar	41.63	42.63	46.56	02-08-2020	43.27	11/10/2024 16	17	15	88.24
75	Burhi Gandak	Khagaria	Bihar	35.58	36.58	39.22	16/08/1976	38.82	22/09/2024 15	76	76	100.00
76	Ganga	Bhagalpur	Bihar	32.68	33.68	34.86	18-08-2021	34.66	22/09/2024 19	56	54	96.43

Basinwise -Riverwise- Flood Forecasting Information in India during Flood Season 2024												
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						Level (m)	Date/ Month/ Year	Level (m)	Date and Time DD/MM/YY)	No.of Forecasts issued	No.of Forecasts within limits	Percent-age of accuracy
1	2	3	4	5	6	7	8	9	10	11	12	13.00
77	Ganga	Kahalgaon	Bihar	30.09	31.09	32.87	17-09-2003	32.58	23/09/2024 15	82	79	96.34
78	Kosi	Basua	Bihar	46.75	47.75	49.24	08-02-2022	48.57	29/09/2024 15	177	172	97.18
79	Bagmati	Dheng Bridge	Bihar	70.00	71.00	73.00	13-08-2017	**73.47**	**29/09/2024 00**	132	115	87.12
80	Bagmati	Runisaidpur	Bihar	54.00	55.00	58.15	14-08-2017	**58.34**	**29/09/2024 23**	123	103	83.74
81	Bagmati	Benibad	Bihar	47.68	48.68	50.01	12-07-2004	49.99	02/10/2024 17	108	107	99.07
82	Adhwara Group	Kamtaul	Bihar	49.00	50.00	52.99	12-08-1987	50.82	06/10/2024 08	23	23	100.00
83	Adhwara Group	Ekmighat	Bihar	45.94	46.94	49.52	12-07-2004	46.95	08/10/2024 05	15	15	100.00
84	Bagmati	Hayaghat	Bihar	44.72	45.72	48.96	14-08-1987	45.78	06/10/2024 16	13	13	100.00
85	Kamla Balan	Jainagar	Bihar	67.50	68.50	71.35	01-08-1965	69.7	29/09/2024 02	105	104	99.05
86	Kamla Balan	Jhanjharpur	Bihar	49.50	50.50	53.11	14-07-2019	52.28	29/09/2024 19	209	208	99.52
87	Adhwara	Sonebarsha	Bihar	80.85	81.85	83.20	03-07-1999	82.25	29/09/2024 13	4	3	75.00
88	Kosi	Baltara	Bihar	32.85	33.85	36.40	15-08-1987	35.79	01/10/2024 12	119	108	90.76
89	Kosi	Kursela	Bihar	29.00	30.00	32.10	07-09-1982	31.25	24/09/2024 09	91	89	97.80
90	Ganga	Sahibgunj	Jharkhand	26.25	27.25	30.91	20/08/1998	28.42	24/09/2024 16	81	78	96.30
91	Mahananda	Taibpur	Bihar	65.00	66.00	67.26	29/06/2022	66.81	29/09/2024 05	44	44	100.00
92	Mahananda	Dhengraghat	Bihar	34.65	35.65	38.20	14-08-2017	37.22	29/09/2024 06	51	51	100.00
93	Mahananda	Jhawa	Bihar	30.40	31.40	34.07	14-08-2017	32.59	30/09/2024 23	90	89	98.89
94	Parwan	Araria	Bihar	46.00	47.00	49.40	14-08-2017	48.34	30/09/2024 18	131	131	100.00
95	Ganga	Farakka	West Bengal	21.25	22.25	25.14	07-09-1998	23.53	24/09/2024 06	143	135	94.41
96	Mayurakshi	Narayanpur	West Bengal	26.99	27.99	29.69	27-09-1995	25.27	03/08/2024 21	0	0	-
97	Ajoy	Gheropara	West Bengal	38.42	39.42	43.94	27-09-1978	37.60	17/09/2024 16	0	0	-
98	Mundeshwari	Harinkhola	West Bengal	11.80	12.80	14.60	28-07-2017	14.44	18/09/2024 15	8	8	100.00
99	Kangsabati	Mohanpur	West Bengal	24.73	25.73	29.62	02-09-1978	25.4	18/09/2024 01	0	0	-
	2 b Brahmaputra Basin											
100	Siang	Yingkiang	Arunachal Pradesh	303.00	304.00	274.48		271.75	29/06/2024 03	0	0	-
101	siang	Passighat	Arunachal Pradesh	152.96	153.96	157.54	11-06-2000	153.1	29/06/2024 04	3	3	100.00
102	Lohit	Dholla Bazaar	Assam	127.27	128.27	130.07	22-09-2012	127.43	30/06/2024 03	1	0	0.00
103	Brahmaputra	Dibrugrah	Assam	104.70	105.70	106.48	03-09-1998	105.8	30/06/2024 19	122	121	99.18
104	Noa-Dehing	Namsai	Arunachal Pradesh	144.80	145.80	146.60	07-10-1979	144.75	01/05/2024 20	0	0	-
105	Burhidihing	Naharkatia	Assam	119.40	120.40	122.69	17-06-1973	119.89	02/07/2024 07	4	4	-
106	Burhidihing	Khwong	Assam	101.11	102.11	104.16	02-09-2015	104.23	03/07/2024 02	39	39	100.00
107	Desang	Nanglamoraghat	Assam	93.46	94.46	96.49	06-09-1998	96.19	04/07/2024 09	89	88	98.88
108	Dikhow	Shivsagar	Assam	91.40	92.40	94.34	11-08-2023	94.35	02/07/2024 16	98	98	100.00
109	Brahmaputra	Neamatighat	Assam	84.54	85.54	87.37	11-07-1991	87.47	01/07/2024 02	86	86	100.00
110	Subansiri	Choldhowaghat	Assam	99.43	100.43	101.31	27-07-1972	97.13	01/07/2024 09	0	0	-

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						Level (m)	Date/ Month/ Year	Level (m)	Date and Time DD/MM/YY)			
1	2	3	4	5	6	7	8	9	10	11	12	13.00
111	Ranganadi	N H Crossing Ranganad	Assam	93.81	94.81	95.92	02-07-1979	94.55	02/07/2024 01	13	10	76.92
112	Subansiri	Badatighat	Assam	81.53	82.53	86.21	28-07-1972	83.35	02/07/2024 00	36	36	100.00
113	Dhansiri (S)	Golaghat	Assam	88.50	89.50	92.45	11-10-1986	89.94	31/07/2024 21	25	25	100.00
114	Dhansiri (S)	Numaligarh	Assam	77.42	78.42	80.16	02-08-2018	78.95	01/08/2024 13	119	119	100.00
115	Jiabharali	Jiabharali_NTX	Assam	77.00	78.00	78.50	26-07-2007	78.5	01/07/2024 06	159	156	98.11
116	Brahmaputra	Tezpur	Assam	64.23	65.23	66.59	27-08-1988	66.23	02/07/2024 15	51	50	98.04
117	Kopilli	Kampur	Assam	59.50	60.50	62.20	18/06/2022	62.1	31/05/2024 12	49	49	100.00
118	Kopilli	Dharmatul	Assam	55.00	56.00	58.09	21-07-2004	56.6	04/07/2024 17	73	73	100.00
119	Brahmaputra	Guwahati	Assam	48.68	49.68	51.46	21-07-2004	50.84	03/07/2024 15	24	24	100.00
120	Puthimari	Puthimari _NHX	Assam	51.31	52.31	55.08	31-08-2008	52.53	01/07/2024 14	13	12	92.31
121	Pagladiya	Pagladia_NTX	Assam	51.75	52.75	55.45	08-07-2004	52.55	01/07/2024 09	17	17	100.00
122	Manas	Mathanguri	Assam	98.10	99.10	100.28	13-10-1973	95.93	30/06/2024 07	0	0	-
123	Beki	Beki NHX	Assam	44.10	45.10	46.20	04-08-2000	45.50	06/07/20245 18	108	108	100.00
124	Manas	Manas NHX	Assam	47.81	48.42	50.08	15-09-1984	48.57	16/06/2024 17	17	16	94.12
125	Brahmaputra	Goalpara	Assam	35.27	36.27	37.43	31-07-1954	36.93	04/07/2024 06	28	28	100.00
126	Gaurang	Kokrajhar	Assam	41.85	42.85	43.60	20-08-2015	42.74	02/07/2024 07	28	28	100.00
127	Brahmaputra	Dhubri	Assam	27.62	28.62	30.37	18-07-2019	29.95	04/07/2024 13	111	111	100.00
128	Sankosh	Golakganj	Assam	28.94	29.94	30.95	08-09-2007	30.42	07/07/2024 09	86	80	93.02
129	Raidak-I	Tufanganj	West Bengal	34.22	35.30	36.50	12-08-2017	35.81	07/07/2024 15	30	20	66.67
130	Jaldhaka	NH-31	West Bengal	80.00	80.90	81.33	28-08-1972	80.84	09/07/2024 15	133	117	87.97
131	Torsa	Hasimara	West Bengal	116.30	116.90	118.50	13-07-1996	116.4	30/06/2024 08	1	0	0.00
132	Torsa	Ghughumari	West Bengal	39.80	40.41	41.46	03-08-2000	40.14	13/07/2024 00	25	20	80.00
133	Jaldhaka	Mathabhanga	West Bengal	47.70	48.20	49.85	07-09-2007	47.9	06/07/2024 05	5	4	80.00
134	Tista	Domohani	West Bengal	85.65	85.95	89.30	14-10-1968	86.13	28/09/2024 18	21	17	80.95
135	Tista	Mekhliganj	West Bengal	65.45	65.95	66.62	20-10-2021	66.28	06/07/2024 13	340	321	94.41
136	Teesta	Malli Bazaar	Sikkim	226.00	227.00	280.00	10-04-2023	227.72	20/06/2024 13	362	288	79.56
137	Teesta	Joretahang(Rothak)	Sikkim	363.98	364.98	365.98		361.95	28/09/2024 08	0	0	-
138	Teesta	Singtam	Sikkim	354.59	355.09	356.09		353.45	11/06/2024 06	0	0	-
	2 c Barak & Others											
139	Barak	APGhat	Assam	18.83	19.83	21.84	01-08-1989	21.54	31/05/2024 01	62	61	98.39
140	Katakhal	Matizuri	Assam	19.27	20.27	22.73	10-09-2007	22.69	30/05/2024 09	58	56	96.55
141	Kushiyara	Karimganj	Assam	13.94	14.94	16.57	10-06-2010	16.51	30/05/2024 17	169	168	99.41
142	Barak	Badarpurghat	Assam	15.85	16.85	18.48	11-09-2007	18.15	31/08/2024 05	113	113	100.00
143	Manu	Kailashar	Tripura	24.34	25.34	25.65	13-06-2018	25.05	21/08/2024 18	5	4	80.00
144	Gumti	Sonamura	Tripura	11.50	13.50	14.47	24-07-1993	14.27	23/08/2024 08	23	21	91.30
	3. Godavari Basin											
145	Godavari	Nasik	Maharashtra	558.10	559.60	563.51	04-08-2019	558.11	24/08/2024 22	1	1	100.00
146	Godavari	Kopergaon	Maharashtra	490.90	493.68	499.17	01-08-1969	492.1	26/08/2024 17	12	12	100.00
147	Godavari	Gangakhed	Maharashtra	374.00	375.00	377.57	01-08-1947	373.74	03/09/2024 05	0	0	-

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						Level (m)	Date/ Month/ Year	Level (m)	Date and Time DD/MM/YY)	No.of Forecasts issued	No.of Forecasts within limits	Percent-age of accuracy
1	2	3	4	5	6	7	8	9	10	11	12	13.00
148	Godavari	Nanded	Maharashtra	351.00	354.00	357.10	06-08-2006	**353.64**	**03/09/2024 05**	5	5	100.00
149	Wainganga	Bhandara	Maharashtra	245.50	245.70	250.90	16-09-2005	**248.1**	**12/09/2024 11**	0	0	-
150	Wainganga	Pauni	Maharashtra	226.73	227.73	237.12	07-09-1994	**228.40**	**12/09/2024 06**	0	0	-
151	Wardha	Balharsha	Maharashtra	171.50	174.00	176.45	14-08-1986	**172.12**	**02/09/2024 20**	2	2	100.00
152	Wardha	Sirpur Town	Telangana	159.95	160.95	162.74	29/07/2023	161.16	03/09/2024 08	4	4	100.00
153	Godavari	Kaleswaram	Telangana	103.50	104.75	108.19	15/07/2022	**103.68**	**22/07/2024 15**	2	2	100.00
154	Indravati	Jagdalpur	Chhatisgarh	539.50	540.80	544.68	09-07-1973	**541.04**	**10/09/2024 22**	8	8	100.00
155	Godavari	Eturunagaram	Telangana	73.33	75.83	77.66	24-08-1990	**74.63**	**27/07/2024 03**	15	15	100.00
156	Godavari	Dummagudam	Telangana	53.00	55.00	60.25	15-08-1986	**54.63**	**27/07/2024 20**	15	14	93.33
157	Godavari	Bhadrachalam	Telangana	45.72	48.77	55.66	16-08-1986	**49.04**	**28/07/2024 00**	32	31	96.88
158	Sabari	Chinturu	Andhra Pradesh	40.50	42.00	50.42	16/08/1986	**42.95**	**28/07/2024 15**	22	21	95.45
159	Godavari	Kunavaram	Andhra Pradesh	36.74	38.24	51.30	16-08-1986	**42.68**	**28/07/2024 13**	52	51	98.08
160	Godavari	Rajamundry	Andhra Pradesh	17.68	19.51	20.48	16-08-1986	**17.46**	**29/07/2024 03**	0	0	-
161	Godavari	Dowalaiswaram	Andhra Pradesh	14.25	16.08	18.36	16-08-1986	**15.49**	**28/07/2024 20**	38	37	97.37
162	Godavari	Atreyapuram	Andhra Pradesh	13.50	15.00	15.86	16/08/1986	**12.33**	**29/07/2024 04**	0	0	-
	4. Krishna Basin											
163	Krishna	Arjunwad	Maharashtra	539.20	540.70	544.35	09-08-2019	**539.78**	**01/08/2024 14**	21	21	100.00
164	Bhima	Deongaon	Karnataka	402.00	404.50	409.00	18-10-2020	**402.2**	**08/08/2024 05**	3	3	100.00
165	Tungabhadra	Mantralayam	Andhra Pradesh	310.00	312.00	318.77	02-10-2009	**311.88**	**03/08/2024 02**	41	37	90.24
166	Tungabhadra	Kurnool	Andhra Pradesh	273.00	274.00	281.23	02-10-2009	**273.1**	**03/08/2024 23**	0	0	-
167	Krishna	Avanigadda	Andhra Pradesh	9.00	11.00	11.87	05-10-2009	10.3	02/09/2024 21	6	6	100.00
	5. Cauvery Basin											
168	Cauvery	Musiri	Tamilnadu	82.11	83.11	86.98	25-11-2005	**84.10**	**02/08/2024 07**	12	11	91.67
169	Cauvery	Kodumudi	Tamilnadu	125.50	126.50	128.14	17-08-2018	**127.24**	**02/08/2024 12**	8	5	62.50
170	Bhavani	Savandapur	Tamilnadu	184.50	185.50	187.75	17-08-2018	**184**	**18/10/2024 23**	0	0	-
171	Kabini	Muthankera	Kerala	710.3	711.25	713.89	09-08-2019	**711.73**	**19/07/2024 02**	0	0	-
	6. Subarnarekha											
172	Subernarekna	Jamshedpur	Jharkhand	122.50	123.50	129.82	12-10-1973	**123.08**	**17/09/2024 12**	3	0	0.00
173	Subernarekna	Rajghat	Odisha	9.45	10.36	12.69	19-06-2008	**11.61**	**18/09/2024 11**	5	5	100.00
174	Jalaka	Mathani Road Bridge	Odisha	6.00	6.50	7.31	22-09-2021	6.83	17/09/2024 06	39	39	100.00
175	Burhabalang	NH_5 _Road Bridge	Odisha	7.21	8.13	9.50	12-10-1973	**7.84**	**26/10/2024 14**	7	7	100.00
	7. Brahmani and Baitarani											
176	Baitarni	Anandpur	Odisha	37.44	38.36	41.35	23-09-2011	**37.4**	**16/09/2024 23**	0	0	-
177	Baitarni	Akhuapada	Odisha	17.83	18.33	21.95	16-08-1960	**18.26**	**17/09/2024 06**	3	3	100.00
178	Brahmani	Jenapur	Odisha	22.00	23.00	24.78	20-08-1975	**20.88**	**30/09/2024 07**	0	0	-
	8. Mahanadi Basin											
179	Mahanadi	Naraj	Odisha	25.41	26.41	27.61	31-08-1982	**25.75**	**09/08/2024 00**	3	3	100.00
180	Mahanadi	Alipingal Devi	Odisha	10.85	11.76	13.11	11-09-2011	**8.27**	**09/08/2024 08**	0	0	-
181	Mahanadi	Nimapara	Odisha	9.85	10.76	11.60	31-08-1982	**5.3**	**10/08/2024 09**	0	0	-
	9. Pennar Basin											

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						Level (m)	Date/ Month/ Year	Level (m)	Date and Time DD/MM/YY)			
1	2	3	4	5	6	7	8	9	10	11	12	13.00
182	Pennar	Nellore	Andhra Pradesh	15.91	17.28	18.70	20-11-2021	10.33	24/11/2024 00	0	0	-
	10. Mahi Basin											
183	Mahi	Wanakbori	Gujarat	71.93	74.98	76.10	12-08-2006	72.54	27/08/2024 05	3	1	33.33
	11. Sabarmati Basin											
184	Sabarmati	Ahmedabad	Gujarat	44.09	45.34	47.45	19-08-2006	41.84	30/12/2024 13	0	0	-
	12. Narmada Basin											
185	Naramada	Mandla	Madhya Pradesh	437.00	437.80	439.40	15-07-1974	438.74	11/09/2024 10	27	27	100.00
186	Naramada	Narmadapuram	Madhya Pradesh	292.83	293.83	301.33	27-08-1972	291.95	13/09/2024 19	0	0	-
187	Naramada	Garudeswar	Gujarat	30.48	31.09	41.65	06-09-1970	22.65	27/08/2024 09	0	0	-
188	Naramada	Bharuch	Gujarat	6.71	7.31	12.65	07-09-1970	8.12	27/08/2024 13	9	8	88.89
	13. Tapi Basin											
189	Tapi	Surat	Gujarat	8.50	9.50	12.50	09-08-2006	7.5	26/08/2024 13	0	0	-
	14. West Flowing rivers from Tapi to Tadri											
190	Damanganga	Vapi Town	Gujarat	18.20	19.20	23.76	03-08-2004	16.6	05/08/2024 01	0	0	-
191	Damanganga	Daman	Daman & Diu	2.60	3.40	4.00	03-08-2004	2.10	23/07/2024 16	0	0	-
	16. East flowing rivers between Mahanadi and Pennar											
192	Rushikuluya	Purushottampur	Odisha	15.83	16.83	19.65	04-11-1990	13.60	10/09/2024 09	0	0	-
193	Vamsadhara	Gunupur	Odisha	83.00	84.00	88.75	17-09-1980	82.63	10/09/2024 05	0	0	-
194	Vamsadhara	Kashinagar	Odisha	54.10	54.60	58.93	18-09-1980	54.50	10/09/2024 11	2	1	50.00
195	Nagavali	Srikakulam	Andhra Pradesh	10.17	10.80	14.53	12-05-1990	10.15	08/09/2024 20	0	0	-
	17 East flowing rivers between Pennar and Kanyakumari											
196	Vaigai	Madurai	Tamilnadu	131.50	132.50	134.76	17-11-1997	131.29	15/12/2024 17	0	0	-
	18. West flowing rivers of Kutch and Saurashtra including Luni											
197	Banas	Abu Road	Rajasthan	258.00	259.00	265.40	31-08-1973	255.40	27/08/2024 19	0	0	-
	19. West Flowing River Tadri to Kanyakumari											
198	Periyar	Neeleswaram	Kerala	9.00	10.00	12.40	15-08-2018	8.03	30/07/2024 10	0	0	-
199	Bharathapuzha	Kumbidi	Kerala	8.20	9.20	11.27	17-08-2018	10.37	31/07/2024 01	2	1	50.00
200	Pamba	Malakkara	Kerala	6.00	7.00	9.58	16-08-2018	5.46	16/07/2024 10	0	0	-
								Total Level Forecasts		***7086***	***6790***	95.82
								Total Inflow Forecasts		**3356**	**3177**	94.67
								Total Forecasts		**10442**	**9967**	95.45

Basinwise -Riverwise- Flood Forecasting Information in India during Flood Season 2024									
Sl.No.	Name of the river	Name of FF site	Name of State	FRL/PL (m)	Maximum Level 2024				
					Level (m)	Date and Time DD/MM/YY)	No.of Forecasts issued	No.of Forecasts within limits	Percent-age of accuracy
1	2	3	4	5	6		7	8	9
	1. Indus Basin								
	2 a. Ganga Basin								
1	Ganga	Choudhury CharanSingh Madhya Ganga Barrage	Uttar Pradesh	220.45	**219.9**	**14/09/2024 18**	151	142	94.04
2	Ganga	Narora Barrage	Uttar Pradesh	179.07	**179.07**	**01/05/2024 08**	39	39	100.00
3	Tons	Ichari Dam	Uttarakhand	644.75	**644.75**	**06/07/2024 02**	0	0	-
4	Bhagirathi	Tehri Dam	Uttarakhand	830	**829.88**	**05/10/2024 15**	77	70	90.91
5	Yamuna	Juddo Dam	Uttarakhand	631.5	**643.38**	**22/11/2024 18**	0	0	-
6	Ramganga	Kalagarh Dam	Uttarakhand	365.3	**360.62**	**02/12/2024 08**	0	0	-
7	Yamuna	Tajewala Weir	Haryana	334	**335.02**	**26/09/2024 06**	0	0	-
8	Chambal	Gandhisagar Dam	Madhya Pradesh	399.9	**399.9**	**19/10/2024 08**	4	4	100.00
9	Chambal	Rana Pratap Sagar	Rajasthan	352.81	**352.82**	**07/10/2024 08**	1	1	100.00
10	Chambal	Kota Barrage	Rajasthan	260.3	**260.48**	**28/05/2024 08**	1	1	100.00
11	Banas	Bisalpur Dam	Rajasthan	315.50	**315.5**	**07/09/2024 08**	0	0	-
12	Kalisindh	Kalisindh Dam	Rajasthan	316	**315.92**	**25/09/2024 08**	5	5	100.00
13	Parwan	Parwan Dam	Rajasthan	308.8	-	-	0	0	-
14	Gambhiri	Gambhiri Dam	Rajasthan	431.90	**432.21**	**05/09/2024 08**	0	0	-
15	Gambhiri	Panchana Dam	Rajasthan	258.62	**258.45**	**30/09/2024 08**	0	0	-
16	Mej	Gudha Dam	Rajasthan	305.87	**306.09**	**07/09/2024 08**	0	0	-
17	Parwati	Parwati Dam	Rajasthan	308.15	-	-	0	0	-
18	Betwa	Rajghat Dam	Madhya Pradesh	371	**371**	**16/09/2024 06**	16	14	87.50
19	Betwa	Matatilia Dam	Uttar Pradesh	308.46	**308.45**	**16/09/2024 08**	13	10	76.92
20	Sharda	Banbasa	Uttarakhand	222.96	**222.80**	**29/07/2024 03**	17	17	100.00
21	Ghaghra	Katerniaghat Dam	Uttar Pradesh	136.8	**137.90**	**06/10/2024 06**	69	68	98.55
22	Sone	Bansagar Dam	Madhya Pradesh	341.65	**341.64**	**19/09/2024 08**	18	10	55.56
23	Sindh	Madikhera(Atal Sagar)	Madhya Pradesh	346.25	346.25	15/09/2024 08	2	1	50.00
24	Rihand	Rihand Dam	Uttar Pradesh	265.18	**265.75**	**18/09/2024 08**	17	9	52.94

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25	Khoranadi	Annaraj Dam	Jharkhand	252.44	-	-	0	0	-
26	Goda Nala	Bhairwa Dam	Jharkhand	356.70	-	-	0	0	-
27	Sone	Indrapuri Barrage	Bihar	173	-	-	0	0	-
28	Gandak	Gandak Barrage	Bihar	110.3	**110.61**	**29/09/2024 08**	0	0	-
29	Baranadi	Amanat Barage	Jharkhand	274.39	-	-	0	0	-
30	Jamunia	Batane Dam	Jharkhand	232.85	-	-	0	0	-
31	Kosi	Kosi Barrage	Bihar	74.69	**76.08**	**29/09/2024 08**	0	0	-
32	Mayurakshi	Massanjore Dam	Jharkhand	121.31	**119.42**	**30/09/2024 13**	7	7	100.00
33	Mayurakshi	Tilpara Barrage	West Bengal	62.79	**62.667**	**28/08/2024 17**	4	4	100.00
34	Ashra nadi	Sikatia Barrage	Jharkhand	165.22	**161.62**	**17/09/2024 03**	0	0	-
35	Damodar	Tenughat Dam	Jharkhand	268.83	**262.8**	**03/08/2024 16**	43	38	88.37
36	Barakar	Tilaiya Dam	Jharkhand	372.46	**369.85**	**13/10/2024 06**	0	0	-
37	Konar	Konar Dam	Jharkhand	427.93	**427.421**	**17/09/2024 06**	0	0	-
38	Damodar	Panchet Dam	Jharkhand	132.59	**129.61**	**17/09/2024 17**	78	77	98.72
39	Barakar	Maithon Dam	Jharkhand	150.88	**150.7**	**17/09/2024 07**	48	45	93.75
40	Damodar	Durgapur Barrage	West Bengal	64.47	**64.64**	**03/12/2024 21**	77	77	100.00
41	Anjanwa	Sundar Dam	Jharkhand	110.795	-	-	0	0	-
42	Kangsabati	Hinglow Dam	West Bengal	97.84	**96.44**	**23/09/2024 06**	0	0	-
43	Kangsabati	Kangsabati Dam	West Bengal	134.11	**133.65**	**20/09/2024 12**	30	28	93.33
	2 b Brahmaputra Basin								
44	Subansiri	Subansiri Lower	Arunachal Pradesh	-	-	-			-
45	Teesta	Teesta-III HEP Dam Cl	Sikkim	1585	-	-	0	0	-
46	Teesta	Teesta V HEP Dam Si	Sikkim	579	-	-	0	0	-
47	Rongpo	Rongpo Dam	Sikkim	913.8	**911.38**	**18/05/2024 19**	0	0	-
48	Rongli	Rongli Dam	Sikkim	913.8	**910.25**	**03/09/2024 16**	0	0	-
49	Rangit	Rangit-III HEP Dam	Sikkim	640	**639.92**	**21/12/2024 09**	0	0	-
	2 c Barak & Others								
	3. Godavari Basin								
50	Godavari	N M D Weir	Maharashtra	533.50	**535.51**	**19/07/2024 21**	0	0	-
51	Mula	Mula Dam	Maharashtra	552.3	**563.52**	**08/06/2024 06**	0	0	-
52	Godavari	Jaikwadi Dam	Maharashtra	463.91	**463.906**	**13/10/2024 23**	8	8	100.00
53	Sindhpana	Manjlegaon	Maharashtra	431.80	**431.16**	**31/10/2024 06**	0	0	-
54	Puma	Yeldari Dam	Maharashtra	461.77	**545.5**	**13/07/2024 06**	0	0	-
55	Karanja	Karanja Dam	Karnataka	584.15	**584.13**	**07/09/2024 08**	0	0	-

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56	Manjira	Singur Dam	Telangana	523.6	532.59	15/10/2024 15	0	0	-
57	Manjira	Nizamsagar Dam	Telangana	428.24	429.74	25/10/2024 23	1	0	0.00
58	Godavari	Sriram Sagar	Telangana	332.54	332.537	11/09/2024 06	13	13	100.00
59	Kaddamvagu	Kaddam Dam	Telangana	213.21	213.42	26/09/2024 00	1	1	100.00
60	Godavari	Sripada Yellampally Da	Telangana	148.00	148	13/09/2024 06	15	13	86.67
61	Wainganga	Upper Wainganga Proj	Madhya Pradesh	519.38	519.4	10/10/2024 08	0	0	-
62	Pench	Totladoh Project	Maharashtra	490	490	11/09/2024 08	0	0	-
63	Wainganga	Goshikhurd Dam	Maharashtra	245.5	244.9	11/11/2024 08	10	10	100.00
64	Wardha	Upper Wardha Project	Maharashtra	342.5	342.5	21/09/2024 08	0	0	-
65	Penganga	Issapur/Upper Pengan	Maharashtra	441	441	15/09/2024 20	0	0	-
66	Godavari	Laxmi Barrage	Telangana	100.00	97.2	27/07/2024 00	72	72	100.00
67	Maner	Mid Manair Dam	Telangana	318.00	317.72	11/10/2024 06	0	0	
68	Indravathi	Upper Indravathi Proje	Odisha	642	637.12	27/09/2024 10	0	0	-
69	Kolab	Kolab Project	Odisha	858	857.16	14/09/2024 14	0	0	-
70	Machhkund	Machhkund Project	Odisha	838.2	838.078	09/09/2024 11	0	0	-
71	Sileru	Balimela Project	Odisha	462.07	837.18	30/11/2024 18	2	2	-
72	Godavari	Indirasagar(Polavaram	Andhra Pradesh	-	24.817	28/07/2024 17	85	85	100.00
73	Pench	Pench Reservoir/Chau	Madhya Pradesh	625.75	625.75	24/09/2024 08	1	0	-
74	Bawanthri	Bawanthadi Reservoir	Madhya Pradesh	344.4	344.3	28/09/2024 14	0	0	-
75	Godavari	PVNR Kanthapally Pro	Telangana	83	84.2	27/07/2024 06	78	78	100.00
	4. Krishna Basin								
76	Krishna	Hippargi Dam	Karnataka	524.87	527.87	06/11/2024 08	37	37	100.00
77	Ghataprabha	Hidkal Dam	Karnataka	662.94	662.94	15/08/2024 06	62	57	91.94
78	Krishna	Alamati Dam	Karnataka	519.6	519.60	17/08/2024 01	40	40	100.00
79	Malaprabha	Malaprabha Dam	Karnataka	633.83	633.91	05/12/2024 06	40	33	82.50
80	Krishna	Narayanpur Dam	Karnataka	492.25	492.41	16/12/2024 18	84	84	100.00
81	Nira	Veer Dam	Maharashtra	579.85	579.85	10/08/2024 08	0	0	-
82	Bhima	Ujjani Dam	Maharashtra	496.83	497.33	14/10/2024 08	0	0	-
83	Krishna	Priyadarshini	Telangana	318.51	318.51	20/09/2024 17	63	62	98.41
84	Tunga	Upper Tunga	Karnataka	588.24	588.24	26/06/2024 06	121	114	94.21
85	Bhadra	Bhadra Dam	Karnataka	657.75	657.76	15/10/2024 06	68	63	92.65
86	Tungabhadra	Tungabhadra Dam	Karnataka	497.74	497.74	09/08/2024 20	85	84	98.82
87	Krishna	Singatalur Barrage	Karnataka	507	507.55	04/12/2024 08	0	0	-
88	Tungabhadra	Sunkesula Barrage	Andhra Pradesh	292	292.00	24/06/2024 08	97	97	100.00

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89	Krishna	Srisailam Dam	Andhra Pradesh	269.75	**269.75**	**28/08/2024 06**	73	73	100.00
90	Musi	Musi Project	Telangana	196.60	**196.54**	**28/11/2024 08**	0	0	-
91	Krishna	Dr K L R S Pulichintala	Andhra Pradesh	53.34	**53.34**	**19/08/2024 08**	91	90	98.90
92	Koyna	Koyna Dam	Maharashtra	659.43	**659.43**	**04/09/2024 08**	1	1	100.00
93	Warana	Warana Dam	Maharashtra	626.9	**626.9**	**25/09/2024 08**	0	0	-
94	Krishna	Prakasham Barrage	Andhra Pradesh	17.39	**21.19**	**02/09/2024 12**	85	85	100.00
	5. Cauvery Basin								
95	Harangi	Harangi Dam	Karnataka	871.42	**871.35**	**10/09/2024 08**	26	23	88.46
96	Hemavathy	Hemavathy Dam	Karnataka	890.63	**890.63**	**13/10/2024 08**	86	81	94.19
97	Kabini	Kabini Dam	Karnataka	696.16	**696.16**	**30/07/2024 06**	69	68	95.10
98	Cauvery	Krishnarajasagar	Karnataka	752.49	**752.49**	**25/07/2024 08**	143	136	88.78
99	Cauvery	Mettur Dam	Tamilnadu	240.79	**240.92**	**13/08/2024 08**	98	87	88.78
100	Bhavani	Bhavanisagar Dam	Tamilnadu	280.42	**278.78**	**15/12/2024 08**	33	28	84.85
101	Kodaganar	Kodaganar Dam	Tamilnadu	200.25	**200.02**	**13/12/2024 06**	0	0	-
102	Cauvery	Grand Anicut	Tamilnadu	59.21	**59.21**	**01/05/2024 06**	106	91	85.85
103	Cauvery	Upper Anicut	Tamilnadu	74.40	**75.98**	**02/08/2024 06**	110	92	83.64
	6. Subarnarekha								
104	Subarnarekha	Getlasud Dam	Jharkhand	590.06	590.24	17/09/2024 08	0	0	-
105	Subernarekna	Chandil Dam	Jharkhand	189	**183.56**	**18/09/2024 08**	6	6	100.00
106	Subarnarekha	Galudih Barrage	Jharkhand	94.5	**92.9**	**05/10/2024 08**	10	10	100.00
	7. Brahmani and Baitarani								
107	Salandi	Salandi Dam	Odisha	82.3	**76.1**	**31/10/2024 08**	0	0	-
108	Brahmani	Rengali Dam	Odisha	123.5	**123.84**	**28/09/2024 08**	30	27	90.00
	8. Mahanadi Basin								
109	Mahanadi	Ravishankar Dam	Chattisgarh	348.7	**348.65**	**10/09/2024 18**	5	5	100.00
110	Hasdeo	Bango Dam	Chattisgarh	359.66	**358.43**	**25/08/2024 08**	3	2	66.67
111	Mahanadi	Hirakud Dam	Odisha	192.02	**192.02**	**21/09/2024 09**	65	64	98.46
	9. Pennar Basin								
112	North Pennar	Somasila Dam	Andhra Pradesh	100.58	**99.94**	**02/12/2024 06**	31	23	74.19
	10. Mahi Basin								
113	Mahi	Mahi Bajajsagar Dam	Rajasthan	281.5	**281.5**	**26/10/2024 08**	11	11	100.00
114	Som Kamla	Som Kamla Amba Dan	Rajasthan	213.5	**213.8**	**22/11/2024 08**	0	0	-
115	Mahi	Kadana Dam	Gujarat	127.71	**127.71**	**20/09/2024 15**	25	24	96.00
116	Panam	Panam Dam	Gujarat	127.41	**133.84**	**13/11/2024 18**	20	20	100.00

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	11. Sabarmati Basin								
117	Sabarmati	Dharoi Dam	Gujarat	189.59	**189.07**	**28/10/2024 22**	0	0	-
	12. Narmada Basin								
118	Narmada	Barna Dam	Madhya Pradesh	348.55	**348.66**	**28/09/2024 08**	7	7	100.00
119	Narmada	Bargi Dam	Madhya Pradesh	422.76	**423.50**	**11/09/2024 17**	22	22	100.00
120	Narmada	Tawa Dam	Madhya Pradesh	355.39	**355.55**	**21/10/2024 07**	11	11	100.00
121	Narmada	Indira Sagar Dam	Madhya Pradesh	262.13	**262.13**	**12/09/2024 04**	65	65	100.00
122	Narmada	Omkareshwar Dam	Madhya Pradesh	196.6	**196.6**	**30/07/2024 00**	0	0	-
123	Narmada	Sardar Sarovar Dam	Gujarat	138.38	**138.68**	**01/10/2024 08**	152	150	98.68
	13. Tapi Basin								
124	Tapi	Hatnur Dam	Maharashtra	212.02	**214.14**	**12/10/2024 12**	76	75	98.68
125	Tapi	Ukai Dam	Gujarat	105.16	**105.16**	**01/10/2024 08**	124	123	99.19
	14. West Flowing rivers from Tapi to Tadri								
126	Damanganga	Madhuban Dam	Gujarat	79.86	**79.89**	**27/10/2024 04**	23	23	100.00
	16. East flowing rivers between Mahanadi and Pennar								
127	Vamsadhara	Gotta Barrage	Andhra Pradesh	34.84	**38.1**	**04/07/2024 08**	0	0	-
128	Nagavali	Thottapalli Reservoir S	Andhra Pradesh	105	**104.6**	**27/06/2024 08**	0	0	-
129	Suwarnamukhi	Madduvalasa Reservoi	Andhra Pradesh	65	**64.86**	**20/10/2024 08**	1	1	100.00
130	Nagavali	Narayanapuram Anicut	Andhra Pradesh	32.77	**29.50**	**09/09/2024 08**	2	2	100.00
	17 East flowing rivers between Pennar and Kanyakumari								
131	Kosasthaliyar	Poondi Satyamurthy re	Tamilnadu	42.67	**42.66**	**13/12/2024 06**	4	2	50.00
132	Adyar	Chembarampakkam	Tamilnadu	26.03	**25.81**	**13/12/2024 06**	1	1	100.00
133	South Pennar	Sathnur Dam	Tamilnadu	222.2	**280.43**	**20/09/2024 06**	4	3	75.00
134	Gomukhinadi	Gomukhi Dam	Tamilnadu	183.18	**189.16**	**20/09/2024 06**	1	0	0.00
135	Periyar Odai	Wellington Dam	Tamilnadu	72.54	**71.86**	**14/12/2024 06**	1	0	0.00
136	Vaigai	Vaigai Dam	Tamilnadu	279.20	**277.42**	**31/12/2024 06**	20	18	90.00
	18. West flowing rivers of Kutch and Saurashtra including Luni								
137	Shetrunji	Shetrunji Dam	Gujarat	55.54	**55.53**	**30/09/2024 05**	4	3	75.00
138	Banas	Dantiwada Dam	Gujarat	184.1	**185.54**	**28/11/2024 13**	0	0	-
	19. West Flowing River Tadri to Kanyakumari								
139	Periyar	Idduki Dam	Kerala	732.43	**725.14**	**10/11/2024 16**	5	2	40.00
140	Edamalayar	Idamalayar	Kerala	169	**163.31**	**23/11/2024 13**	6	2	33.33
				Total Inflow Forecasts			***3356***	***3177***	**94.67**
				Total Level Forecasts			**7086**	**6790**	**95.82**
				Total Forecasts			**10442**	**9967**	**95.45**

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Annex IV(A)

Statewise Flood Forecasting Information In India during Flood Season 2024

Sl. No.	Name of the river	Name of FF site	Warning Level (m)	Danger level (m)	Highest Flood Level		Maximum Level -2024		No.of Forecasts issued	No.of Forecasts within limits	Percent-age of accuracy
					Level (m)	Date/ Month/ Year	Level (m)	Date and Time DD/MM/YY)			
1	2	3	4	5	6	7	8	9	10	11	12
	Andhra Pradesh										
1	Sabari	Chinturu	40.50	42.00	50.42	16/08/1986	42.95	28/07/2024 15	22	21	95.45
2	Godavari	Kunavaram	36.74	38.24	51.30	16-08-1986	42.68	28/07/2024 13	52	51	98.08
3	Godavari	Rajahmundry	17.68	19.51	20.48	16-08-1986	17.46	29/07/2024 03	0	0	-
4	Godavari	Dowlaiswaram	14.25	16.08	18.36	16-08-1986	15.49	28/07/2024 20	38	37	97.37
5	Tungabhadra	Mantralayam	310.00	312.00	318.77	02-10-2009	311.88	03/08/2024 02	41	37	90.24
6	Pennar	Nellore Anicut	15.91	17.28	18.70	20-11-2021	10.33	24/11/2024 00	0	0	-
7	Godavari	Atreyapuram	13.50	15.00	15.86	16/08/1986	12.33	29/07/2024 04	0	0	-
8	Tungabhadra	Kurnool Town	273.00	274.00	281.23	02-10-2009	273.1	03/08/2024 23	0	0	-
9	Krishna	Avanigadda	9.00	11.00	11.87	05-10-2009	10.3	02/09/2024 21	6	6	100.00
10	Nagavali	Srikakulam	10.17	10.80	14.53	12-05-1990	10.15	08/09/2024 20	0	0	-
	Assam										
11	Brahmaputra	Dibrugarh	104.70	105.70	106.48	03-09-1998	105.8	30/06/2024 19	122	121	99.18
12	Brahmaputra	Neamatighat	84.54	85.54	87.37	11-07-1991	87.47	01/07/2024 02	86	86	100.00
13	Brahmaputra	Tezpur	64.23	65.23	66.59	27-08-1988	66.23	02/07/2024 15	51	50	98.04
14	Brahmaputra	Guwahati	48.68	49.68	51.46	21-07-2004	50.84	03/07/2024 15	24	24	100.00
15	Brahmaputra	Goalpara	35.27	36.27	37.43	31-07-1954	36.93	04/07/2024 06	28	28	100.00
16	Brahmaputra	Dhubri	27.62	28.62	30.37	18-07-2019	29.95	04/07/2024 13	111	111	100.00
17	Buridehing	Naharkatia	119.40	120.40	122.69	17-06-1973	119.89	02/07/2024 07	4	4	-
18	Buridehing	Khowang	101.11	102.11	104.16	02-09-2015	104.23	03/07/2024 02	39	39	100.00
19	Desang	Nanglamoraghat	93.46	94.46	96.49	06-09-1998	96.19	04/07/2024 09	89	88	98.88
20	Dikhow	Shivsagar	91.40	92.40	94.34	11-08-2023	94.35	02/07/2024 16	98	98	100.00
21	Subansiri	Badatighat	81.53	82.53	86.21	28-07-1972	83.35	02/07/2024 00	36	36	100.00
22	Dhansiri (S)	Golaghat	88.50	89.50	92.45	11-10-1986	89.94	31/07/2024 21	25	25	100.00
23	Dhansiri (S)	Numaligarh	77.42	78.42	80.16	02-08-2018	78.95	01/08/2024 13	119	119	100.00
24	Jiabharali	Jia-Bharali NT Road Crossing	77.00	78.00	78.50	26-07-2007	78.5	01/07/2024 06	159	156	98.11
25	Kopili	Kampur	59.50	60.50	62.20	18/06/2022	62.1	31/05/2024 12	49	49	100.00
26	Kopili	Dharamtul	55.00	56.00	58.09	21-07-2004	56.6	04/07/2024 17	73	73	100.00
27	Puthimari	Puthimari NH Crossing	51.31	52.31	55.08	31-08-2008	52.53	01/07/2024 14	13	12	92.31
28	Pagladiya	Pagladiya NT Road Crossing	51.75	52.75	55.45	08-07-2004	52.55	01/07/2024 09	17	17	100.00
29	Beki	Beki NH Crossing	44.10	45.10	46.20	04-08-2000	45.50	06/07/20245 18	108	108	100.00
30	Manas	Manas NH Crossing	47.81	48.42	50.08	15-09-1984	48.57	16/06/2024 17	17	16	94.12
31	Manas	Mathanguri	98.10	99.10	100.28	13-10-1973	95.93	30/06/2024 07	0	0	-
32	Sankosh	Golokganj	28.94	29.94	30.95	08-09-2007	30.42	07/07/2024 09	86	80	93.02
33	Barak	AP Ghat	18.83	19.83	21.84	01-08-1989	21.54	31/05/2024 01	62	61	98.39
34	Katakhal	Matizuri	19.27	20.27	22.73	10-09-2007	22.69	30/05/2024 09	58	56	96.55
35	Kushiyara	Karimganj	13.94	14.94	16.57	10-06-2010	16.51	30/05/2024 17	169	168	99.41
36	Barak	Badarpurghat	15.85	16.85	18.48	11-09-2007	18.15	31/08/2024 05	113	113	100.00
37	Subansiri	Choldhowaghat	99.43	100.43	101.31	27-07-1972	97.13	01/07/2024 09	0	0	-
38	Ranganadi	N H Crossing Ranganadi	93.81	94.81	95.92	02-07-1979	94.55	02/07/2024 01	13	10	76.92
39	Lohit	Dholla Bazaar	127.27	128.27	130.07	22-09-2012	127.43	30/06/2024 03	1	0	0.00

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Statewise Flood Forecasting Information In India during Flood Season 2024

Sl. No.	Name of the river	Name of FF site	Warning Level (m)	Danger level (m)	Highest Flood Level		Maximum Level -2024		No.of Forecasts issued	No.of Forecasts within limits	Percent-age of accuracy
					Level (m)	Date/ Month/ Year	Level (m)	Date and Time DD/MM/YY)			
1	2	3	4	5	6	7	8	9	10	11	12
40	Gaurang	Kokrajhar	41.85	42.85	43.60	20-08-2015	42.74	02/07/2024 07	28	28	100.00
	Arunachal Pradesh										
41	Noa-Dehing	Namsai	144.80	145.80	146.60	07-10-1979	144.75	01/05/2024 20	0	0	-
42	Siang	Yingkiang	303.00	304.00	274.48		271.75	29/06/2024 03	0	0	-
43	Siang	Passighat	152.96	153.96	157.54	11-06-2000	153.1	29/06/2024 04	3	3	100.00
	Bihar										
44	Ganga	Buxar	59.32	60.32	62.09	01-08-1948	60.3	17/09/2024 21	12	10	83.33
45	Ganga	Patna Dighaghat	49.45	50.45	52.52	23-08-1975	51.76	20/09/2024 06	50	47	94.00
46	Ganga	Patna Gandhighat	47.60	48.60	50.52	20-08-2016	50.28	20/09/2024 05	69	66	95.65
47	Ganga	Hathidah	40.76	41.76	43.52	16-08-2021	43.41	21/09/2024 09	69	66	95.65
48	Ganga	Munger	38.33	39.33	40.99	19-09-1976	39.95	22/09/2024 01	45	44	97.78
49	Ganga	Bhagalpur	32.68	33.68	34.86	18-08-2021	34.66	22/09/2024 19	56	54	96.43
50	Ganga	Kahalgaon	30.09	31.09	32.87	17-09-2003	32.58	23/09/2024 15	82	79	96.34
51	Ghaghra	Darauli	59.82	60.82	61.82	15/10/2022	61.41	26/08/2024 15	93	92	98.92
52	Ghaghra	Gangpur Siswan	56.04	57.04	58.26	17-08-1980	57.67	20/09/2024 01	55	54	98.18
53	Ghaghra	Chhappra	52.68	53.68	54.59	03-09-1982	53.45	19/09/2024 18	5	5	100.00
54	Gandak	Chatia	68.15	69.15	70.04	26-07-2002	69.3	01/10/2024 06	5	4	80.00
55	Gandak	Rewaghat	53.41	54.41	55.46	24-07-2020	55.38	02/10/2024 04	37	37	100.00
56	Gandak	Hazipur	49.32	50.32	50.93	18/08/1948	50.21	20/09/2024 05	15	15	100.00
57	Burhi Gandak	Lalbeghiaghat	62.20	63.20	67.09	30-07-1975	62.8	05/10/2024 14	10	9	90.00
58	Burhi Gandak	Muzzafarpur Sikandarpur	51.53	52.53	54.29	15-08-1987	51.97	09/10/2024 15	9	8	88.89
59	Burhi Gandak	Samastipur	45.02	46.02	49.38	15-08-1987	45.46	10/10/2024 23	8	8	100.00
60	Burhi Gandak	Rosera	41.63	42.63	46.56	02-08-2020	43.27	11/10/2024 16	17	15	88.24
61	Burhi Gandak	Khagaria	35.58	36.58	39.22	16/08/1976	38.82	22/09/2024 15	76	76	100.00
62	Bagmati	Benibad	47.68	48.68	50.01	12-07-2004	49.99	02/10/2024 17	108	107	99.07
63	Bagmati	Hayaghat	44.72	45.72	48.96	14-08-1987	45.78	06/10/2024 16	13	13	100.00
64	Bagmati	Dheng Bridge	70.00	71.00	73.00	13-08-2017	**73.47**	**29/09/2024 00**	132	115	87.12
65	Adhwara Group	Kamtaul	49.00	50.00	52.99	12-08-1987	50.82	06/10/2024 08	23	23	100.00
66	Adhwara Group	Ekmighat	45.94	46.94	49.52	12-07-2004	46.95	08/10/2024 05	15	15	100.00
67	Adhwara	Sonebarsha	80.85	81.85	83.20	03-07-1999	82.25	29/09/2024 13	4	3	75.00
68	Kamla Balan	Jainagar	67.50	68.50	71.35	01-08-1965	69.7	29/09/2024 02	105	104	99.05
69	Bagmati	Runisaidpur	54.00	55.00	58.15	14-08-2017	**58.34**	**29/09/2024 23**	123	103	83.74
70	Parwan	Araria	46.00	47.00	49.40	14-08-2017	48.34	30/09/2024 18	131	131	100.00
71	Kamla Balan	Jhanjarpur	49.50	50.50	53.11	14-07-2019	52.28	29/09/2024 19	209	208	99.52
72	Kosi	Basua	46.75	47.75	49.24	08-02-2022	48.57	29/09/2024 15	177	172	97.18
73	Kosi	Baltara	32.85	33.85	36.40	15-08-1987	35.79	01/10/2024 12	119	108	90.76
74	Kosi	Kursela	29.00	30.00	32.10	07-09-1982	31.25	24/09/2024 09	91	89	97.80
75	Mahananda	Dhengraghat	34.65	35.65	38.20	14-08-2017	37.22	29/09/2024 06	51	51	100.00
76	Mahananda	Jhawa	30.40	31.40	34.07	14-08-2017	32.59	30/09/2024 23	90	89	98.89

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Sl. No.	Name of the river	Name of FF site	Warning Level (m)	Danger level (m)	Highest Flood Level		Maximum Level -2024		No.of Forecasts issued	No.of Forecasts within limits	Percent-age of accuracy
					Level (m)	Date/ Month/ Year	Level (m)	Date and Time DD/MM/YY)			
1	2	3	4	5	6	7	8	9	10	11	12
77	Mahananda	Taibpur	65.00	66.00	67.26	29/06/2022	66.81	29/09/2024 05	44	44	100.00
78	Gandak	Dumariaghat	61.22	62.22	64.36	24-07-2020	64	01/10/2024 04	117	111	94.87
79	Burhigandak	Ahirwalia	58.62	59.62	61.17	02-06-2014	57.99	06/10/2024 10	0	0	-
80	Sone	Inderpuri	107.20	108.20	108.85	23-08-1975	105.35	18/09/2024 17	0	0	-
81	Sone	Koelwar	54.52	55.52	58.88	20-07-1971	55	19/09/2024 06	4	4	100.00
82	Sone	Maner	51.00	52.00	53.79	10-09-1976	53.29	20/09/2024 06	42	39	92.86
83	PunPun	Sripalpur	49.60	50.60	53.91	18-09-1976	51.92	20/09/2024 03	28	23	82.14
	Chhattisgarh										
84	Indravathi	Jagdalpur	539.50	540.80	544.68	09-07-1973	541.04	10/09/2024 22	8	8	100.00
	Daman & Diu										
85	Damanganga	Daman	2.60	3.40	4.00	03-08-2004	2.10	23/07/2024 16	0	0	-
	Gujarat										
86	Sabarmati	Ahmedabad Shubhash	44.09	45.34	47.45	19-08-2006	41.84	30/12/2024 13	0	0	-
87	Mahi	Wanakbori	71.93	74.98	76.10	12-08-2006	72.54	27/08/2024 05	3	1	33.33
88	Narmada	Garudeswar	30.48	31.09	41.65	06-09-1970	22.65	27/08/2024 09	0	0	-
89	Narmada	Bharuch	6.71	7.31	12.65	07-09-1970	8.12	27/08/2024 13	9	8	88.89
90	Tapi	Surat	8.50	9.50	12.50	09-08-2006	7.5	26/08/2024 13	0	0	-
91	Damanganga	Vapi Town	18.20	19.20	23.76	03-08-2004	16.6	05/08/2024 01	0	0	-
	Haryana										
92	Yamuna	Karnal Bridge	248.80	249.50	250.07	17-06-2013	247.66	12/08/2024 02	0	0	-
	Himachal Pradesh										
93	Yamuna	Paonta Sahib	383.50	384.50	384.60	05-09-1995	381.3	02/09/2024 11	0	0	-
	Jammu & Kashmir										
94	Jhelum	Rammunshibagh	1585.48	1586.40	1589.00	08-09-2014	1585.15	01/05/2024 00	0	0	-
95	Jhelum	Sangam	1591.20	1592.42	1595.37	07-09-2014	1589.27	01/05/2024 00	0	0	-
96	Jhelum	Safapora	1580.52	1581.28	1582.15	1996	1580.03	01/05/2024 00	0	0	-
	Jharkhand										-
97	Ganga	Sahibganj	26.25	27.25	30.91	20/08/1998	28.42	24/09/2024 16	81	78	96.30
98	Subarnarekha	Jamshedpur	122.50	123.50	129.82	12-10-1973	123.08	17/09/2024 12	3	0	0.00
	Karnataka										
99	Bhima	Deongaon	402.00	404.50	409.00	18-10-2020	402.2	08/08/2024 05	3	3	100.00
	Kerala										
100	Periyar	Neeleswaram	9.00	10.00	12.40	15-08-2018	8.03	30/07/2024 10	0	0	-
101	Bharathapuzha	Kumbidi	8.20	9.20	11.27	17-08-2018	10.37	31/07/2024 01	2	1	50.00

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Sl. No.	Name of the river	Name of FF site	Warning Level (m)	Danger level (m)	Highest Flood Level		Maximum Level -2024		No.of Forecasts issued	No.of Forecasts within limits	Percent-age of accuracy
					Level (m)	Date/ Month/ Year	Level (m)	Date and Time DD/MM/YY)			
1	2	3	4	5	6	7	8	9	10	11	12
102	Pamba	Malakkara	6.00	7.00	9.58	16-08-2018	5.46	16/07/2024 10	0	0	-
103	Kabini	Muthankera	710.3	711.25	713.89	09-08-2019	711.73	19/07/2024 02	0	0	-
	Madhya Pradesh										
104	Naramada	Mandla	437.00	437.80	439.40	15-07-1974	438.74	11/09/2024 10	27	27	100.00
105	Naramada	Narmadapuram	292.83	293.83	301.33	27-08-1972	291.95	13/09/2024 19	0	0	-
	Maharashtra										
106	Godavari	Kopergaon	490.90	493.68	499.17	01-08-1969	492.1	26/08/2024 17	12	12	100.00
107	Godavari	Gangakhed	374.00	375.00	377.57	01-08-1947	373.74	03/09/2024 05	0	0	-
108	Godavari	Nanded	351.00	354.00	357.10	06-08-2006	353.64	03/09/2024 05	5	5	100.00
109	Wainganga	Bhandara	245.50	245.70	250.90	16-09-2005	248.1	12/09/2024 11	0	0	-
110	Wainganga	Pauni	226.73	227.73	237.12	07-09-1994	228.40	12/09/2024 06	0	0	-
111	Wardha	Balharsha	171.50	174.00	176.45	14-08-1986	172.12	02/09/2024 20	2	2	100.00
112	Krishna	Arjunwad	539.20	540.70	544.35	09-08-2019	539.78	01/08/2024 14	21	21	100.00
113	Godavari	Nasik	558.10	559.60	563.51	04-08-2019	558.11	24/08/2024 22	1	1	100.00
	NCT Delhi										
114	Yamuna	Delhi Rly Bridge	204.50	205.33	208.66	13/08/2023	204.38	13/08/2024 03	0	0	-
115	Sahibi	Dhansa	211.44	212.44	213.58	06-08-1977	210.65	15/09/2024 08	0	0	-
	Odisha										
116	Subarnarekha	Rajghat	9.45	10.36	12.69	19-06-2008	11.61	18/09/2024 11	5	5	100.00
117	Burhabalang	NH_5 _Road Bridge	7.21	8.13	9.50	12-10-1973	7.84	26/10/2024 14	7	7	100.00
118	Baitarni	Anandpur	37.44	38.36	41.35	23-09-2011	37.4	16/09/2024 23	0	0	-
119	Baitarni	Akhuapada	17.83	18.33	21.95	16-08-1960	18.26	17/09/2024 06	3	3	100.00
120	Brahmani	Jenapur	22.00	23.00	24.78	20-08-1975	20.88	30/09/2024 07	0	0	-
121	Rishikulya	Purushottampur	15.83	16.83	19.65	04-11-1990	13.60	10/09/2024 09	0	0	-
122	Vamsadhara	Gunupur	83.00	84.00	88.75	17-09-1980	82.63	10/09/2024 05	0	0	-
123	Vamsadhara	Kashinagar	54.10	54.60	58.93	18-09-1980	54.50	10/09/2024 11	2	1	50.00
124	Mahanadi	Naraj	25.41	26.41	27.61	31-08-1982	25.75	09/08/2024 00	3	3	100.00
125	Mahanadi	Alipingal Devi	10.85	11.76	13.11	11-09-2011	8.27	09/08/2024 08	0	0	-
126	Mahanadi	Nimapara	9.85	10.76	11.60	31-08-1982	5.3	10/08/2024 09	0	0	-
127	Jalaka	Mathani Road Bridge	6.00	6.50	7.31	22-09-2021	6.83	17/09/2024 06	39	39	100.00
	Rajasthan										
128	Chambal	Manderial	164.00	165.00	170.05	25/08/2022	161.05	13/09/2024 06	0	0	-
129	Chambal	Dholpur	129.79	130.79	146.57	25/08/2022	134.67	13/09/2024 12	11	10	90.91
130	Chambal	Kota City	239.00	242.00	248.68	16-09-2019	237.8	29/09/2024 19	0	0	-
131	Banas	Abu Road	258.00	259.00	265.40	31-08-1973	255.40	27/08/2024 19	0	0	-
	Sikkim										
132	Teesta	Malli Bazaar	226.00	227.00	280.00	10-04-2023	227.72	20/06/2024 13	362	288	79.56
133	Teesta	Joretahang(Rothak)	363.98	364.98	365.98		361.95	28/09/2024 08	0	0	-
134	Teesta	Singtam	354.59	355.09	356.09		353.45	11/06/2024 06	0	0	-

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Sl. No.	Name of the river	Name of FF site	Warning Level (m)	Danger level (m)	Highest Flood Level		Maximum Level -2024		No.of Forecasts issued	No.of Forecasts within limits	Percent-age of accuracy
					Level (m)	Date/ Month/ Year	Level (m)	Date and Time DD/MM/YY)			
1	2	3	4	5	6	7	8	9	10	11	12
	Tamilnadu										
135	Cauvery	Musiri(Srirangam)	82.11	83.11	86.98	25-11-2005	84.10	02/08/2024 07	12	11	91.67
136	Cauvery	Kodumudi (Erode)	125.50	126.50	128.14	17-08-2018	127.24	02/08/2024 12	8	5	62.50
137	Bhavani	Savandapur(Bhavani)	184.50	185.50	187.75	17-08-2018	184	18/10/2024 23	0	0	-
138	Vaigai	Madurai	131.50	132.50	134.76	17-11-1997	131.29	15/12/2024 17	0	0	-
	Telangana										
139	Godavari	Kaleswaram	103.50	104.75	108.19	15/07/2022	103.68	22/07/2024 15	2	2	100.00
140	Godavari	Eturunagaram	73.33	75.83	77.66	24-08-1990	74.63	27/07/2024 03	15	15	100.00
141	Godavari	Dummagudem	53.00	55.00	60.25	15-08-1986	54.63	27/07/2024 20	15	14	93.33
142	Godavari	Bhadrachalam	45.72	48.77	55.66	16-08-1986	49.04	28/07/2024 00	32	31	96.88
143	Wardha	Sirpur Town	159.95	160.95	162.74	29/07/2023	161.16	03/09/2024 08	4	4	100.00
	Tripura										
144	Manu	Kailashahar	22.10	24.00	25.65	13-06-2018	25.05	21/08/2024 18	5	4	80.00
145	Gumti	Sonamura	11.50	13.50	14.47	24-07-1993	14.27	23/08/2024 08	23	21	91.30
	Uttar Pradesh										
146	Ganga	Kannauj	124.97	125.97	126.78	27-09-2010	126	20/09/2024 05	11	11	100.00
147	Ganga	Ankinghat	123.00	124.00	124.49	28-09-2010	124.09	20/09/2024 02	31	31	100.00
148	Ganga	Kanpur	113.00	114.00	114.08	29-09-2010	113.15	21/09/2024 05	20	20	100.00
149	Ganga	Dalmau	98.36	99.36	99.84	03-08-1973	99.15	23/09/2024 06	9	9	100.00
150	Ganga	Phaphamau	83.73	84.73	87.98	08-09-1978	84.07	16/09/2024 08	4	4	100.00
151	Ganga	Allahabad Chhatnag	83.73	84.73	88.03	08-09-1978	83.41	16/09/2024 11	0	0	-
152	Ganga	Mirzapur	76.72	77.72	80.34	09-09-1978	76.54	16/09/2024 21	0	0	-
153	Ganga	Varanasi	70.26	71.26	73.90	09-09-1978	70.83	17/09/2024 07	5	5	100.00
154	Ganga	Ghazipur	62.10	63.10	65.22	09-09-1978	63.67	17/09/2024 23	12	12	100.00
155	Ganga	Ballia	56.62	57.62	60.39	25-08-2016	59.81	19/09/2024 08	52	52	100.00
156	Ramganga	Moradabad	189.60	190.60	192.88	21-09-2010	190.24	16/09/2024 05	17	17	100.00
157	Ramganga	Bareilly	162.07	163.07	162.82	22-09-2010	161.75	17/09/2024 05	0	0	-
158	Yamuna	Mawi	231.00	231.50	232.75	18-06-2013	229.81	12/08/2024 15	0	0	-
159	Yamuna	Mathura	165.20	166.00	169.73	08-09-1978	165.17	18/09/2024 19	0	0	-
160	Yamuna	Agra	151.40	152.40	154.76	09-09-1978	149.74	12/09/2024 14	0	0	-
161	Yamuna	Etawah	120.92	121.92	126.13	11-09-1978	120.79	15/09/2024 14	0	0	-
162	Yamuna	Auraiya	112.00	113.00	118.51	06-08-2021	113.6	15/09/2024 01	4	4	100.00
163	Yamuna	Kalpi	107.00	108.00	112.98	25-08-1996	108.89	15/09/2024 01	3	3	100.00
164	Yamuna	Hamirpur	102.63	103.63	108.59	12-09-1983	104	14/09/2024 05	4	4	100.00
165	Yamuna	Chillaghat	99.00	100.00	105.16	06-09-1978	100.07	14/09/2024 11	5	5	100.00
166	Yamuna	Naini	83.74	84.74	87.99	08-09-1978	83.91	16/09/2024 12	3	3	100.00
167	Betwa	Mohana	121.66	122.66	132.16	05-09-1978	122.3	12/09/2024 18	1	1	100.00
168	Ken	Banda	103.00	104.00	113.29	07-07-2005	106.75	06/08/2024 08	5	5	100.00
169	Gomati	Lucknow HanumanSetu	108.50	109.50	110.85	10-09-1971	105.87	07/08/2024 04	0	0	-
170	Gomati	Jaunpur	73.07	74.07	77.74	22-09-1971	71.3	28/09/2024 06	0	0	-
171	SAI	Rae-Bareli	100.00	101.00	104.81	17-09-1982	98.65	29/08/2024 20	0	0	-
172	Ghaghra	Elgin Bridge	105.07	106.07	107.62	18-08-2014	107.01	16/09/2024 01	110	109	99.09
173	Ghaghra	Ayodhya	91.73	92.73	94.01	11-10-2009	93.32	16/09/2024 12	101	101	100.00
174	Ghaghra	Turtipar	63.01	64.01	66.00	28-08-1998	64.81	26/08/2024 11	111	110	99.10
175	Rapti	Balrampur	103.62	104.62	106.07	10-10-2022	105.26	09/07/2024 12	42	41	97.62
176	Rapti	Bansi	83.90	84.90	86.27	16/10/2022	85.39	13/07/2024 15	68	68	100.00
177	Rapti	Gorakhpur Birdghat	73.98	74.98	77.54	23-08-1998	75.99	16/07/2024 04	68	68	100.00
178	Rapti	Kakardhari	130.00	131.00	132.37	15-08-2014	130.36	07/07/2024 16	2	2	100.00
179	Gandak	Khadda	95.00	96.00	97.50	23-07-2002	96.54	29/09/2024 06	246	243	98.78

Annex IV(A)

Statewise Flood Forecasting Information In India during Flood Season 2024

Sl. No.	Name of the river	Name of FF site	Warning Level (m)	Danger level (m)	Highest Flood Level		Maximum Level -2024		No.of Forecasts issued	No.of Forecasts within limits	Percent-age of accuracy
					Level (m)	Date/ Month/ Year	Level (m)	Date and Time DD/MM/YY)			
1	2	3	4	5	6	7	8	9	10	11	12
180	Ganga	Fathegarh	136.60	137.60	138.14	26-09-2010	137.73	18/09/2024 04	67	66	98.51
181	Ganga	Dabri	136.30	137.30	139.70	28-09-1983	138.09	20/09/2024 05	42	42	100.00
182	Ganga	Garhmuktheswar	198.33	199.33	199.90	23-09-2010	198.76	04/09/2024 19	71	71	100.00
183	Ganga	Kachla Bridge	161.00	162.00	162.91	20/07/2023	162.63	17/09/2024 07	229	227	99.13
184	Betwa	Shahjina	103.54	104.54	108.95	06-09-1978	103.45	13/09/2024 22	0	0	-
	Uttarakhand										
185	Mandakini	Ganganagar	803.00	804.00	808.00	17/06/2013	801.5	31/07/2024 23	0	0	-
186	Alaknanda	Srinagar	535.00	536.00	537.90	17-06-2013	535.30	01/08/2024 02	1	1	100.00
187	Ganga	Rishikesh	339.50	340.50	341.72	05-09-1995	340.06	23/08/2024 13	6	6	100.00
188	Ganga	Haridwar	293.00	294.00	296.30	19-09-2010	293.70	23/08/2024 13	6	5	83.33
	West Bengal										
189	Ganga	Farakka	21.25	22.25	25.14	07-09-1998	23.53	24/09/2024 06	143	135	94.41
190	Mayurakshi	Narayanpur	26.99	27.99	29.69	27-09-1995	25.27	03/08/2024 21	0	0	-
191	Ajoy	Gheropara	38.42	39.42	43.94	27-09-1978	37.60	17/09/2024 16	0	0	-
192	Mundeswari	Harinkhola	11.80	12.80	14.60	28-07-2017	14.44	18/09/2024 15	8	8	100.00
193	Kangsabati	Mohanpur	24.73	25.73	29.62	02-09-1978	25.4	18/09/2024 01	0	0	-
194	Raidak-I	Tufanganj	34.22	35.30	36.50	12-08-2017	35.81	07/07/2024 15	30	20	66.67
195	Torsa	Hasimara	116.30	116.90	118.50	13-07-1996	116.4	30/06/2024 08	1	0	0.00
196	Torsa	Ghugumari	39.80	40.41	41.46	03-08-2000	40.14	13/07/2024 00	25	20	80.00
197	Jaldhaka	NH-31	80.00	80.90	81.33	28-08-1972	80.84	09/07/2024 15	133	117	87.97
198	Jaldhaka	Mathabanga	47.70	48.20	49.85	07-09-2007	47.9	06/07/2024 05	5	4	80.00
199	Tista	Domohani	85.65	85.95	89.30	14-10-1968	86.13	28/09/2024 18	21	17	80.95
200	Tista	Mekhliganj	65.45	65.95	66.62	20-10-2021	66.28	06/07/2024 13	340	321	94.41
							Total Level Forecasts		**7086**	**6790**	**95.82**
							Total Inflow Forecast		**3356**	**3177**	**94.67**
							Total Forecast		**10442**	**9967**	**95.45**

Statewise Flood Forecasting Information In India during Flood Season 2024

Sl. No.	Name of the river	Name of FF site	FRL/PL (m)	Maximum Level (m)	Date and Time DD/MM/YY)	No.of Forecasts issued	No.of Forecasts within limits	Percent-age of accuracy
1	2	3	4	5	6	7	8	9
	Andhra Pradesh							
1	Godavari	Indirasagar(Polavaram)	-	**24.817**	**28/07/2024 17**	85	85	100.00
2	Tungabhadra	Sunkesula Barrage	292	**292.00**	**24/06/2024 08**	97	97	100.00
3	Krishna	Srisailam Dam	269.75	**269.75**	**28/08/2024 06**	73	73	100.00
4	Krishna	Dr K L R S Pulichintala Dam	53.34	**53.34**	**19/08/2024 08**	91	90	98.90
5	Krishna	Prakasham Barrage	17.39	**21.19**	**02/09/2024 12**	85	85	100.00
6	North Pennar	Somasila Dam	100.58	**99.94**	**02/12/2024 06**	31	23	74.19
7	Vamsadhara	Gotta Barrage	34.84	**38.1**	**04/07/2024 08**	0	0	-
8	Nagavali	Thottapalli Reservoir Scheme	105	**104.6**	**27/06/2024 08**	0	0	-
9	Suwarnamukhi	Madduvalasa Reservoir	65	**64.86**	**20/10/2024 08**	1	1	100.00
10	Nagavali	Narayanapuram Anicut	32.77	**29.50**	**09/09/2024 08**	2	2	100.00
	Assam							
	Arunachal Pradesh							
11	Subansiri	Lower Subansiri Dam	-	-	-	0	0	-
	Bihar							
12	Sone	Indrapuri Barrage	173	-	-	0	0	-
13	Gandak	Gandak Barrage	110.3	**110.61**	**29/09/2024 08**	0	0	-
14	Kosi	Kosi Barrage	74.69	**76.08**	**29/09/2024 08**	0	0	-
	Chhattisgarh							
15	Mahanadi	Ravishankar Dam	348.7	**348.65**	**10/09/2024 18**	5	5	100.00
16	Hasdeo	Bango Dam	359.66	**358.43**	**25/08/2024 08**	3	2	66.67
	Daman & Diu							
	Gujarat							
17	Mahi	Kadana Dam	127.71	**127.71**	**20/09/2024 15**	25	24	96.00
18	Panam	Panam Dam	127.41	**133.84**	**13/11/2024 18**	20	20	100.00
19	Sabarmati	Dharoi Dam	189.59	**189.07**	**28/10/2024 22**	0	0	-
20	Narmada	Sardar Sarovar Dam	138.38	**138.68**	**01/10/2024 08**	152	150	98.68
21	Tapi	Ukai Dam	105.16	**105.16**	**01/10/2024 08**	124	123	99.19
22	Damanganga	Madhuban Dam	79.86	**79.89**	**27/10/2024 04**	23	23	100.00

23	Banas	Dantiwada Dam	55.54	55.53	30/09/2024 05	4	3	75.00
24	Shetrunji	Shetrunji Dam	184.1	185.54	28/11/2024 13	0	0	-
	Haryana							
25	Yamuna	Tajewala Weir	334	335.02	26/09/2024 06	0	0	-
	Himachal Pradesh							
	Jammu & Kashmir							
	Jharkhand							
26	Khoranadi	Annaraj Dam	252.44	-	-	0	0	-
27	Goda Nala	Bhairwa Dam	356.70	-	-	0	0	-
28	Baranadi	Amanat Barage	274.39	-	-	0	0	-
29	Jamunia	Batane Dam	232.85	-	-	0	0	-
30	Mayurakshi	Massanjore Dam	121.31	119.42	30/09/2024 13	7	7	100.00
31	Ashra nadi	Sikatia Barrage	165.22	161.62	17/09/2024 03	0	0	-
32	Damodar	Tenughat Dam	268.83	262.8	03/08/2024 16	43	38	88.37
33	Barakar	Tilaiya Dam	372.46	369.85	13/10/2024 06	0	0	-
34	Konar	Konar Dam	427.93	427.421	17/09/2024 06	0	0	-
35	Damodar	Panchet Dam	132.59	129.61	17/09/2024 17	78	77	98.72
36	Barakar	Maithon Dam	150.88	150.7	17/09/2024 07	48	45	93.75
37	Anjanwa	Sundar Dam	110.795	-	-	0	0	-
38	Subarnarekha	Getlasud Dam	590.06	590.24	17/09/2024 08	0	0	-
39	Subernarekna	Chandil Dam	189	183.56	18/09/2024 08	6	6	100.00
40	Subarnarekha	Galudih Barrage	94.5	92.9	05/10/2024 08	10	10	100.00
	Karnataka							
41	Karanja	Karanja Dam	584.15	584.13	07/09/2024 08	0	0	-
42	Krishna	Hippargi Dam	524.87	527.87	06/11/2024 08	37	37	100.00
43	Ghataprabha	Hidkal Dam	662.94	662.94	15/08/2024 06	62	57	91.94
44	Krishna	Alamati Dam	519.6	519.60	17/08/2024 01	40	40	100.00
45	Malaprabha	Malaprabha Dam	633.83	633.91	05/12/2024 06	40	33	82.50
46	Krishna	Narayanpur Dam	492.25	492.41	16/12/2024 18	84	84	100.00
47	Tunga	Upper Tunga	588.24	588.24	26/06/2024 06	121	114	94.21
48	Bhadra	Bhadra Dam	657.75	657.76	15/10/2024 06	68	63	92.65
49	Tungabhadra	Tungabhadra Dam	497.74	497.74	09/08/2024 20	85	84	98.82
50	Krishna	Singatalur Barrage	507	507.55	04/12/2024 08	0	0	-
51	Harangi	Harangi Dam	871.42	871.35	10/09/2024 08	26	23	88.46

52	Hemavathy	Hemavathy Dam	890.63	**890.63**	**13/10/2024 08**	86	81	94.19
53	Kabini	Kabini Dam	696.16	**696.16**	**30/07/2024 06**	69	68	95.10
54	Cauvery	Krishnarajasagar	752.49	**752.49**	**25/07/2024 08**	143	136	88.78
	Kerala							
55	Periyar	Idduki Dam	732.43	**725.14**	**10/11/2024 16**	5	2	40.00
56	Edamalayar	Idamalayar	169	**163.31**	**23/11/2024 13**	6	2	33.33
	Madhya Pradesh							
57	Chambal	Gandhisagar Dam	399.9	**399.9**	**19/10/2024 08**	4	4	100.00
58	Betwa	Rajghat Dam	371	**371**	**16/09/2024 06**	16	14	87.50
59	Sone	Bansagar Dam	341.65	**341.64**	**19/09/2024 08**	18	10	55.56
60	Sindh	Madikhera(Atal Sagar)	346.25	346.25	15/09/2024 08	2	1	50.00
61	Wainganga	Upper Wainganga Project/SS	519.38	**519.4**	**10/10/2024 08**	0	0	-
62	Pench	Pench Reservoir/Chaurai/Ma	625.75	**625.75**	**24/09/2024 08**	1	0	-
63	Bawanthri	Bawanthadi Reservoir	344.4	**344.3**	**28/09/2024 14**	0	0	-
64	Narmada	Barna Dam	348.55	**348.66**	**28/09/2024 08**	7	7	100.00
65	Narmada	Bargi Dam	422.76	**423.50**	**11/09/2024 17**	22	22	100.00
66	Narmada	Tawa Dam	355.39	**355.55**	**21/10/2024 07**	11	11	100.00
67	Narmada	Indira Sagar Dam	262.13	**262.13**	**12/09/2024 04**	65	65	100.00
68	Narmada	Omkareshwar Dam	196.6	**196.6**	**30/07/2024 00**	0	0	-
	Maharashtra							
69	Godavari	N M D Weir	533.50	**535.51**	**19/07/2024 21**	0	0	-
70	Mula	Mula Dam	552.3	**563.52**	**08/06/2024 06**	0	0	-
71	Godavari	Jaikwadi Dam	463.91	**463.906**	**13/10/2024 23**	8	8	100.00
72	Sindhpana	Manjlegaon	431.80	**431.16**	**31/10/2024 06**	0	0	-
73	Puma	Yeldari Dam	461.77	**545.5**	**13/07/2024 06**	0	0	-
74	Pench	Totladoh Project	490	**490**	**11/09/2024 08**	0	0	-
75	Wainganga	Goshikhurd Dam	245.5	**244.9**	**11/11/2024 08**	10	10	100.00
76	Wardha	Upper Wardha Project	342.5	**342.5**	21/09/2024 08	0	0	-
77	Penganga	Issapur/Upper Penganga Pro	441	**441**	**15/09/2024 20**	0	0	-
78	Nira	Veer Dam	579.85	**579.85**	**10/08/2024 08**	0	0	-
79	Bhima	Ujjani Dam	496.83	**497.33**	**14/10/2024 08**	0	0	-
80	Koyna	Koyna Dam	659.43	**659.43**	**04/09/2024 08**	1	1	100.00
81	Warana	Warana Dam	626.9	**626.9**	**25/09/2024 08**	0	0	-
82	Tapi	Hatnur Dam	212.02	**214.14**	**12/10/2024 12**	76	75	98.68
	NCT Delhi							
	Odisha							

83	Indravathi	Upper Indravathi Project	642	**637.12**	**27/09/2024 10**	0	0	-
84	Kolab	Kolab Project	858	**857.16**	**14/09/2024 14**	0	0	-
85	Machhkund	Machhkund Project	838.2	**838.078**	**09/09/2024 11**	0	0	-
86	Balimela	Balimela Project	462.07	**837.18**	**30/11/2024 18**	2	2	-
87	Salandi	Salandi Dam	82.3	**76.1**	**31/10/2024 08**	0	0	-
88	Brahmani	Rengali Dam	123.5	**123.84**	**28/09/2024 08**	30	27	90.00
89	Mahanadi	Hirakud Dam	192.02	**192.02**	**21/09/2024 09**	65	64	98.46
	Rajasthan							
90	Chambal	Rana Pratap Sagar	352.81	**352.82**	**07/10/2024 08**	1	1	100.00
91	Chambal	Kota Barrage	260.3	**260.48**	**28/05/2024 08**	1	1	100.00
92	Banas	Bisalpur Dam	315.50	**315.5**	**07/09/2024 08**	0	0	-
93	Kalisindh	Kalisindh Dam	316	**315.92**	**25/09/2024 08**	5	5	100.00
94	Parwan	Parwan Dam	308.8	-	-	0	0	-
95	Gambhiri	Gambhiri Dam	431.90	**432.21**	**05/09/2024 08**	0	0	-
96	Gambhiri	Panchana Dam	258.62	**258.45**	**30/09/2024 08**	0	0	-
97	Mej	Gudha Dam	305.87	**306.09**	**07/09/2024 08**	0	0	-
98	Parwati	Parwati Dam	308.15	-	-	0	0	-
99	Mahi	Mahi Bajajsagar Dam	281.5	**281.5**	**26/10/2024 08**	11	11	100.00
100	Som Kamla	Som Kamla Amba Dam	213.5	**213.8**	**22/11/2024 08**	0	0	-
	Sikkim							
101	Teesta	Teesta-III HEP Dam Chungta	1585	-	-	0	0	-
102	Teesta	Teesta V HEP Dam Singtam	579	-	-	0	0	-
103	Rongpo	Rongpo Dam	913.8	**911.38**	**18/05/2024 19**	0	0	-
104	Rongli	Rongli Dam	913.8	**910.25**	**03/09/2024 16**	0	0	-
105	Rangit	Rangit-III HEP Dam	640	**639.92**	**21/12/2024 09**	0	0	-
	Tamilnadu							
106	Cauvery	Mettur Dam	240.79	**240.92**	**13/08/2024 08**	98	87	88.78
107	Bhavani	Bhavanisagar Dam	280.42	**278.78**	**15/12/2024 08**	33	28	84.85
108	Kodaganar	Kodaganar Dam	200.25	**200.02**	**13/12/2024 06**	0	0	-
109	Cauvery	Grand Anicut	59.21	**59.21**	**01/05/2024 06**	106	91	85.85
110	Cauvery	Upper Anicut	74.40	**75.98**	**02/08/2024 06**	110	92	83.64
111	Kosasthaliyar	Poondi Satyamurthy reservoi	42.67	**42.66**	**13/12/2024 06**	4	2	50.00
112	Adyar	Chembarampakkam	26.03	**25.81**	**13/12/2024 06**	1	1	100.00
113	South Pennar	Sathnur Dam	222.2	**280.43**	**20/09/2024 06**	4	3	75.00
114	Gomukhinadi	Gomukhi Dam	183.18	**189.16**	**20/09/2024 06**	1	0	0.00

115	Periyar Odai	Wellington Dam	72.54	71.86	14/12/2024 06	1	0	0.00
116	Vaigai	Vaigai Dam	279.20	277.42	31/12/2024 06	20	18	90.00
	Telangana							
117	Manjira	Singur Dam	523.6	532.59	15/10/2024 15	0	0	-
118	Manjira	Nizamsagar Dam	428.24	429.74	25/10/2024 23	1	0	0.00
119	Godavari	Sriram Sagar	332.54	332.537	11/09/2024 06	13	13	100.00
120	Kaddamvagu	Kaddam Dam	213.21	213.42	26/09/2024 00	1	1	100.00
121	Godavari	Sripada Yellampally Dam	148.00	148	13/09/2024 06	15	13	86.67
122	Godavari	Laxmi Barrage	100.00	97.2	27/07/2024 00	72	72	100.00
123	Maner	Mid Manair Dam	318.00	317.72	11/10/2024 06	0	0	
124	Godavari	PVNR Kanthapally Project	83	84.2	27/07/2024 06	78	78	100.00
125	Krishna	Priyadarshini	318.51	318.51	20/09/2024 17	63	62	98.41
126	Musi	Musi Project	196.60	196.54	28/11/2024 08	0	0	-
	Tripura							
	Uttar Pradesh							
127	Ganga	Choudhury Charan Singh MC	220.45	219.9	14/09/2024 18	151	142	94.04
128	Ganga	Narora Barrage	179.07	179.07	01/05/2024 08	39	39	100.00
129	Betwa	Matatilia Dam	308.46	308.45	16/09/2024 08	13	10	76.92
130	Ghaghra	Katerniaghat Dam	136.8	137.90	06/10/2024 06	69	68	98.55
131	Rihand	Rihand Dam	265.18	265.75	18/09/2024 08	17	9	52.94
	Uttarakhand							
132	Ramganga	Kalagarh Dam	365.3	360.62	02/12/2024 08	0	0	-
133	Sharda	Banbasa	222.96	222.80	29/07/2024 03	17	17	100.00
134	Tons	Ichari Dam	644.75	644.75	06/07/2024 02	0	0	-
135	Bhagirathi	Tehri Dam	830	829.88	05/10/2024 15	77	70	90.91
136	Yamuna	Juddo Dam	631.5	643.38	22/11/2024 18	0	0	-
	West Bengal							
137	Mayurakshi	Tilpara Barrage	62.79	62.667	28/08/2024 17	4	4	100.00
138	Damodar	Durgapur Barrage	64.47	64.64	03/12/2024 21	77	77	100.00
139	Kangsabati	Hinglow Dam	97.84	96.44	23/09/2024 06	0	0	-
140	Kangsabati	Kangsabati Dam	134.11	133.65	20/09/2024 12	30	28	93.33
			Total Inflow Forecast			**3356**	**3177**	**94.67**
			Total Level Forecast			**7086**	**6790**	**95.82**
			Total Forecast			**10442**	**9967**	**95.45**

Extreme Flood

S. No.	State	District	River	Station	Period	
					From	To
Sl No.	State	District	River	Station	Period	
					From	To
1	Assam	Jorhat	Brahmaputra	Neamatighat	30-06-2024	02-07-2024
2		Sonitpur	Jiabharali	Jia-Bharali NT Road Crossing	01-07-2024	01-07-2024
3		Sivasagar	Dikhow	Sivasagar	02-07-2024	02-07-2024
4		Dibrugarh	Buridehing	Khowang	02-07-2024	03-07-2024
5	Bihar	Sitamarhi	Bagmati	Dheng Bridge	28-09-2024	29-09-2024
6		Muzzafarpur	Bagmati	Runisaidpur	29-09-2024	30-09-2024

Severe Flood

S. No.	State	District	River	Station
1	Assam	Karimganj	Kushiyara	Karimganj
2		Karimganj	Barak	Badarpurghat
3		Cachar	Barak	Annapurna Ghat
4		Nagaon	Kopili	Kampur
5		Hailakandi	Katakhal	Matizuri
6		Morigaon	Kopili	Dharamtul
7		Dibrugarh	Brahmaputra	Dibrugarh
8		Kamrup	Brahmaputra	Guwahati DC Court
9		Goalpara	Brahmaputra	Goalpara
10		Dhubri	Brahmaputra	Dhubri
11		Kamrup	Puthimari	Puthimari N H
12		Barpeta	Beki	Beki Rd Bridge
13		Sonitpur	Brahmaputra	Tezpur
14		Lakhimpur	Subansiri	Badatighat
15		Sivasagar	Desang	Nanglamoraghat
16		Golaghat	Dhansiri(s)	Numaligarh
17		Golaghat	Dhansiri(s)	Golaghat
18		Dhubri	Sankosh	Golokganj
19		Bongaigaon	Manas	Manas NH Xing
20		Purnea	Mahananda	Dhengraghat
21		Kishanganj	Mahananda	Taibpur
22		Madhubani	Kamla	Jainagar
23		Katihar	Mahananda	Jhawa
24		Madhubani	Kamlabalan	Jhanjharpur

25		Araria	Parman	Araria
26		Khagaria	Kosi	Baltara
27		Muzzafarpur	Gandak	Rewaghat
28		Siwan	Ghaghra	Darauli
29		Gopalganj	Gandak	Dumariaghat
30		Adhwara	Sitamarhi	Sonebarsa
31		Muzzafarpur	Bagmati	Benibad
32		Supaul	Kosi	Basua
33		Darbhanga	Adhwara gr.	Kamtaul
34	Bihar	Katihar	Kosi	Kursela
35		Bhagalpur	Ganga	Bhagalpur
36		Siwan	Ghagra	Gangpur Siswan
37		Patna	Ganga	Dighaghat
38		Patna	Sone	Maner
39		Patna	Ganga	Gandhighat
40		Bhagalpur	Ganga	Kahalgaon
41		Patna	Ganga	Hatidah
42		Khagaria	Burhi Gandak	Khagaria
43		Khagaria	Burhi Gandak	Rosera
44		East Champaran	Gandak	Chatia
45		Darbhanga	Bagmati	Hayaghat
46		Darbhanga	Adhwara Group	Ekmighat
47		Munger	Ganga	Munger
48		Patna	Punpun	Sripalpur
49	Sikkim	Namchi	Teesta	Melli
50		Murshidabad	Ganga	Farakka
51		Coochbehar	Teesta	Mekhliganj
52	West Bengal	Coochbehar	Raidak-I	Tufanganj
53		Jalpaiguri	Tista	Domohani
54		Hoogly	Mundeswari	Harinkhola
55		Barabanki	Ghaghra	Elginbridge
56		Siddharthnagar	Rapti	Bansi
57		Gorakhpur	Rapti	Birdghat
58		Balrampur	Rapti	Balrampur
59		Ayodhya	Ghaghra	Ayodhya
60		Ballia	Ghaghra	Turtipar
61		Budaun	Ganga	Kachlabridge
62		Kushinagar	Gandak	Khadda
63		Ballia	Ganga	Ballia
64	Uttar Pradesh	Banda	Ken	Banda
65		Ghazipur	Ganga	Ghazipur
66		Shahjahanpur	Ganga	Dabri
67		Farukkabad	Ganga	Fathegarh
68		Kanpur	Ganga	Ankinghat

69		Kannauj	Ganga	Kannauj
70		Auraiya	Yamuna	Auraiya
71		Hamirpur	Yamuna	Hamirpur
72		Jalaun	Yamuna	Kalpi
73		Banda	Yamuna	Chillaghat
74	Kerala	Palakkad	Bharathapuzha	Kumbidi
75		Wayanad	Kabini	Muthankera
76	Andhra Pradesh	Alluri Sitharama Raju	Godavari	Kunavaram
77		Alluri Sitharama Raju	Sabri	Chinturu
78	Telangana	Kumuram	Wardha	Sirpur T
79		Bhadradri	Godavari	Bhadrachalam
80	Maharashtra	Bhandara	Wainganga	Bhandara
81		Bhandara	Wainganga	Pauni
82	Tamilnadu	Erode	Cauvery	Kodumudi
83		Tiruchirapally	Cauvery	Musiri
84	Tripura	Sipahijala	Gumti	Sonamura
85	Jharkhand	Sahibganj	Ganga	Sahibganj
86	Odisha	Balasore	Jalaka	Mathani Road Bridge
87		Balasore	Subarnarekha	Rajghat
88	Madhya Pradesh	Mandla	Narmada	Mandla
89	Rajasthan	Dholpur	Chambal	Dholpur
90	Gujarat	Bharuch	Narmada	Bharuch
91	Chhattisgarh	Bastar	Indravathi	Jagdalpur

Above Normal Flood

S. No.	State	District	River	Station
1	Arunachal Pradesh	East Siang	Siang	Passighat
2	Assam	Lakhimpur	Ranganadi	Ranganadi NT Rd Crossing
3		Tinsukia	Lohit	Dhollabazar
4		Dibrugarh	Buridehing	Naharkatia
5		Nalbari	Pagladiya	Pagladiya NT Rd Crossing
6		Kokrajhar	Gaurang	Kokrajhar
7	West	Alipurduar	Torsa	Hasimara

8		Coochbehar	Torsa	Ghugumari
9		Coochbehar	Jaldhaka	Mathabhanga
10		Jalpaiguri	Jaldhaka	NH 31
11		Medinipur	Kongsabati	Mohanpur
12	Bihar	Buxar	Ganga	Buxar
13		Saran	Ghaghra	Chhapra
14		Vaishali	Gandak	Hajipur
15		Muzaffarpur	Burhi Gandak	Muzaffarpur Sikandarpur
16		East Champaran	Burhi Gandak	Lalbegiaghat
17		Samastipur	Burhi Gandak	Samastipur
18		Patna	Sone	Koelwar
19	Uttar Pradesh	Moradabad	Ramganga	Moradabad
20		Ghaziabad	Ganga	Garhmukhteshwar
21		Kanpur	Ganga	Kanpur
22		Bahraich	Rapti	Kakardhari
23		Jalaun	Betwa	Mohana
24		Prayagraj	Yamuna	Naini
25		Rae-Bareilly	Ganga	Dalmau
26		Prayagraj	Ganga	Phaphamau
27		Varanasi	Ganga	Varanasi
28	Uttarakhand	Pauri Garhwal	Alaknanda	Srinagar
29		Haridwar	Ganga	Haridwar
30		Dehradun	Ganga	Rishikesh
31	Maharashtra	Kolhapur	Krishna	Arjunwad
32		Ahmednagar	Godavari	Kopergaon
33		Nashik	Godavari	Nashik
34		Chandrapur	Wardha	Bamni(Balharsha)
35		Nanded	Godavari	Nanded
36	Odisha	Balasore	Burhabalang	Govindpur (NH5 Rd Bridge)
37		Cuttack	Mahanadi	Naraj
38		Bhadrak	Baitarani	Akhuapada
39		Gajapati	Vamsadhara	Kashinagar
40	Telangana	Kothagudem	Godavari	Dummagudem
41		Mulugu	Godavari	Eturunagaram
42		Bhopalpalli	Godavari	Kaleswaram
43	Andhra Pradesh	East Godavari	Godavari	Dowlaiswaram
44		Kurnool	Tungabhadra	Kurnool
45		Kurnool	Tungabhadra	Mantralayam
46		Krishna	Krishna	Avanigadda
47	Tripura	Unakoti	Manu	Kailashahar
48	Karnataka	Kalaburagi	Bhima	Deongaon Bridge
49	Gujarat	Mahisagar	Mahi	Wanakbori
50	Jharkhand	Purba	Subarnarekha	Jamshedpur

Annex VI

Performance of Flood Forecasting Stations (Divisionwise) in India during Flood Season 2024

Sl. No	Division	Level Forecasts only					Inflow Forecasts only					Total Forecast Stations				
		Stns.	F/c issued for	Level Forecast	Level Forecast Within Limit	Accuracy	Stns.	F/c issued for	Inflow Forecast	Inflow Forecast Within Limit	Accuracy	Stns.	F/c issued for	Total	Within Limit	Accuracy
1	Himalayan Ganga Divn, Dehradun	4	3	13	12	92.31	2	2	228	212	92.98	6	5	241	224	92.95
2	Middle Ganga Division 1, Lucknow	7	7	502	499	99.40	2	2	86	85	98.84	9	9	588	584	99.32
3	Middle Ganga Division 2, Lucknow	12	9	497	494	99.40	2	1	39	39	100.00	14	10	536	533	99.44
4	Middle Ganga Division 3, Varanasi	7	4	73	73	100.00	2	2	35	19	54.29	9	6	108	92	85.19
5	Lower Ganga Division I, Patna	25	24	1923	1849	96.15	2	0	0	0	-	27	24	1923	1849	96.15
6	Lower Ganga Division 2, Patna	18	17	886	848	95.71	4	0	0	0	-	22	17	886	848	95.71
7	Upper Yamuna Divn, Delhi	6	0	0	0	-	3	0	0	0	-	9	0	0	0	-
8	Chambal Division, Jaipur	2	0	0	0	-	10	4	11	11	100.00	12	4	11	11	100.00
9	Lower Yamuna Divn, Agra	11	8	36	35	97.22	3	3	31	25	80.65	14	11	67	60	89.55
10	Damodar Divn, Asansol	4	1	8	8	100.00	13	7	287	276	96.17	17	8	295	284	96.27
11	Upper Brahmaputra Divn, Dibrugarh	19	16	967	957	98.97	1	0	0	0	-	20	16	967	957	98.97
12	Middle Brahmaputra Divn, Guwahati	9	8	346	344	99.42	0	0	0	0	-	9	8	346	344	99.42
13	Meghna Division Silchar	2	2	28	25	89.29	0	0	0	0	-	2	2	28	25	89.29
14	Meghna Investigation Divn , Shillong	4	4	402	398	99.00	0	0	0	0	-	4	4	402	398	99.00
15	Lower Brahmaputra Divn, Jalpaiguri	8	8	641	579	90.33	0	0	0	0	-	8	8	641	579	90.33
16	Eastern Rivers Divn, Bhubaneswar	11	6	59	55	93.22	9	5	49	46	93.88	20	11	108	101	93.52
17	Mahanadi Divn, Burla	3	1	3	3	100.00	3	3	73	71	97.26	6	4	76	74	97.37
18	Lower Godavari Divn, Hyderabad	10	8	184	179	97.28	5	2	87	87	100.00	15	10	271	266	98.15
19	Upper Godavari Division	4	3	18	18	100.00	14	7	188	185	98.40	18	10	206	203	98.54
20	Lower Krishna Divn, Hyderabad	4	3	50	46	92.00	11	9	655	652	99.54	15	12	705	698	99.01
21	Mahi Divn, Gandhinagar	3	1	3	1	33.33	7	4	60	58	96.67	10	5	63	59	93.65
22	Tapi Divn,Surat	5	1	9	8	88.89	4	4	375	371	98.93	9	5	384	379	98.70
23	Narmada Divn, Bhopal	2	1	27	27	100.00	5	4	105	105	100.00	7	5	132	132	100.00
24	Chenab Divn. Jammu	3	0	0	0	-	0	0	0	0	-	3	0	0	0	#DIV/0!
25	Southern River Divn. Coimbtr.	4	2	20	16	80.00	6	5	367	316	86.10	10	7	387	332	85.79
26	Hydrology Divn. Chennai	1	0	0	0	-	6	6	42	29	69.05	7	6	42	29	69.05
27	Cauvery Divn. Bangalore	1	0	0	0	-	8	8	615	575	93.50	9	8	615	575	93.50
28	UKD Pune	1	1	21	21	100.00	4	1	1	1	100.00	5	2	22	22	100.00
29	WGD Nagpur	4	2	6	6	100.00	7	2	11	10	90.91	11	4	17	16	94.12
30	SWRD, Kochi	3	1	2	1	50.00	2	2	11	4	36.36	5	3	13	5	38.46
31	SID Gangtak	3	1	362	288	79.56	5	0	0	0	-	8	1	362	288	79.56
Total		**200**	**142**	**7086**	**6790**	**95.82**	**140**	**83**	**3356**	**3177**	**94.67**	**340**	**225**	**10442**	**9967**	**95.45**

Performance of Flood Forecasting Stations (Major Basinwise) in India during Flood Season 2024

Sl. No	Name of the Major River basin	Total no.of FF sites			No.of FF sites where no forecast was issued			Level Forecasts			Inflow Forecasts			Overall Forecasts		
		Total no	Level FF sites	Inflow FF sites	Total no	Level FF sites	Inflow FF sites	Total No.	Within limits	% of Accu-racy	Total No.	Within limits	% of Accu-racy	Total No.	Within limits	% of Accu-racy
1	Indus and its tributaries	3	3	0	3	3	0	0	0	-	0	0	-	**0**	**0**	-
2	Ganga & tributaries	139	96	43	45	23	22	3938	3818	96.95	717	667	93.03	**4655**	**4485**	96.35
3	Brahmaputra	45	39	6	12	6	6	2316	2168	93.61	0	0	-	**2316**	**2168**	93.61
4	Barak and others	6	6	0	0	0	0	430	423	98.37	0	0	-	**430**	**423**	98.37
5	Subarnarekha including Burhabalang	7	4	3	1	0	1	54	51	94.44	16	16	100.00	**70**	**67**	95.71
6	Brahmani and Baitarni	5	3	2	3	2	1	3	3	100.00	30	27	90.00	**33**	**30**	90.91
7	East flowing rivers between Mahanadi and Pennar	8	4	4	5	3	2	2	1	50.00	3	3	100.00	**5**	**4**	80.00
8	Narmada	10	4	6	3	2	1	36	35	97.22	257	255	99.22	**293**	**290**	98.98
9	Tapi	3	1	2	1	1	0	0	0	-	200	198	99.00	**200**	**198**	99.00
10	Mahi	5	1	4	1	0	1	3	1	33.33	56	55	98.21	**59**	**56**	94.92
11	Sabarmati	2	1	1	2	1	1	0	0	-	0	0	-	**0**	**0**	-
12	Mahanadi	6	3	3	2	2	0	3	3	100.00	73	71	97.26	**76**	**74**	97.37
13	Godavari	44	18	26	20	5	15	208	203	97.60	286	282	98.60	**494**	**485**	98.18
14	Krishna	24	5	19	6	1	5	71	67	94.37	947	920	97.15	**1018**	**987**	96.95
15	West flowing rivers of Kutch and saurashtra including Luni	3	1	2	2	1	1	0	0	-	4	3	75.00	**4**	**3**	75.00
16	West Flowing rivers from Tapi to Tadri	3	2	1	2	2	0	0	0	-	23	23	100.00	**23**	**23**	100.00
17	Cauvery and tributaries	13	4	9	3	2	1	20	16	80.00	671	606	90.31	**691**	**622**	90.01
18	Pennr	2	1	1	1	1	0	0	0	-	31	23	74.19	**31**	**23**	74.19
19	East flowing rivers between Pennar and Kanyakumari	7	1	6	1	1	0	0	0	-	31	24	77.42	**31**	**24**	77.42
20	West Flowing river Tadri to Kanyakumari	5	3	2	2	2	0	2	1	50.00	11	4	36.36	**13**	**5**	38.46
Total		**340**	**200**	**140**	**115**	**58**	**57**	**7086**	**6790**	**95.82**	**3356**	**3177**	**94.67**	**10442**	**9967**	**95.45**

Performance of Flood Forecasting Stations (Statewise) in India during Flood Season 2024

Annex VIII

Sl. No	Name of the Major River basin	Total no.of FF sites			No.of FF sites where no forecast was issued			Level Forecasts			Inflow Forecasts			Overall Forecasts		
		Total no	Level FF sites	Inflow FF sites	Total no	Level FF sites	Inflow FF sites	Total No.	Within limits	Accuracy (%)	Total No.	Within limits	Accuracy (%)	Total No.	Within limits	Accuracy (%)
1	Andhra Pradesh	20	10	10	7	5	2	159	152	95.60	465	456	98.06	624	608	97.44
2	Arunachal Pradesh	4	3	1	3	2	1	3	3	100.00	0	0	-	3	3	100.00
3	Assam	30	30	0	2	2	0	1798	1776	98.78	0	0	-	1798	1776	98.78
4	Bihar	43	40	3	5	2	3	2339	2241	95.81	0	0	-	2339	2241	95.81
5	Chattisgarh	3	1	2	0	0	0	8	8	100.00	8	7	87.50	16	15	93.75
6	Gujarat	14	6	8	6	4	2	12	9	75.00	348	343	98.56	360	352	97.78
7	Haryana	2	1	1	2	1	1	0	0	-	0	0	-	0	0	-
8	Himachal Pradesh	1	1	0	1	1	0	0	0	-	0	0	-	0	0	-
9	Jammu & Kashmir	3	3	0	3	3	0	0	0	-	0	0	-	0	0	-
10	Jharkhand	17	2	15	9	0	9	84	78	92.86	192	183	95.31	276	261	94.57
11	Karnataka	15	1	14	2	0	2	3	3	100.00	861	820	95.24	864	823	95.25
12	Kerala	6	4	2	3	3	0	2	1	50.00	11	4	36.36	13	5	38.46
13	Madhya Pradesh	14	2	12	4	1	3	27	27	100.00	146	134	91.78	173	161	93.06
14	Maharashtra	22	8	14	13	3	10	41	41	100.00	95	94	98.95	136	135	99.26
15	Odisha	19	12	7	10	6	4	59	58	98.31	97	93	95.88	156	151	96.79
16	Rajasthan	15	4	11	10	3	7	11	10	90.91	18	18	100.00	29	28	96.55
17	Sikkim	8	3	5	7	2	5	362	288	79.56	0	0	-	362	288	79.56
18	Tamilnadu	15	4	11	3	2	1	20	16	80.00	378	322	85.19	398	338	84.92
19	Telangana	15	5	10	3	0	3	68	66	97.06	243	239	98.35	311	305	98.07
20	Tripura	2	2	0	0	0	0	28	25	89.29	0	0	-	28	25	89.29
21	Uttar Pradesh	44	39	5	11	11	0	1343	1334	99.33	289	268	92.73	1632	1602	98.16
22	Uttarakhand	9	4	5	4	1	3	13	12	92.31	94	87	92.55	107	99	92.52
23	West Bengal	16	12	4	4	3	1	706	642	90.93	111	109	98.20	817	751	91.92
24	Daman n Diu	1	1	0	1	1	0	0	0	-	0	0	-	0	0	-
25	NCT, DELHI	2	2	0	2	2	0	0	0	-	0	0	-	0	0	-
Total		**340**	**200**	**140**	**115**	**58**	**57**	**7086**	**6790**	**95.82**	**3356**	**3177**	**94.67**	**10442**	**9967**	**95.45**

Annex-IX

FLOOD FORECASTING PERFORMANCE FROM 2000 TO 2024

Year	No.of Level Forecasts issued			No.of Inflow Forecasts issued			Total No.of Forecasts issued		
	Total	Within +/-15 cm of deviation from actual	Accuracy (%)	Total	Within +/- 20% cumec of deviation from actual	Accuracy (%)	Total	Within +/- 15 cm or +/- 20% cumec of deviation from actual	Accuracy (%)
2000	5622	5504	97.90	821	747	90.99	6443	6251	97.02
2001	4606	4533	98.42	857	809	94.40	5463	5342	97.79
2002	3618	3549	98.09	623	602	96.63	4241	4151	97.88
2003	5989	5789	96.66	611	586	95.91	6600	6375	96.59
2004	4184	4042	96.61	705	654	92.77	4889	4696	96.05
2005	4323	4162	96.28	1295	1261	97.37	5618	5423	96.53
2006	5070	4827	95.21	1593	1550	97.30	6663	6377	95.71
2007	6516	6339	97.28	1707	1651	96.72	8223	7990	97.17
2008	5670	5551	97.90	1021	1003	98.24	6691	6554	97.95
2009	3343	3298	98.65	667	629	94.30	4010	3927	97.93
2010	6491	6390	98.44	1028	988	96.11	7519	7378	98.12
2011	4848	4795	98.91	1143	1109	97.03	5991	5904	98.55
2012	4200	4136	98.47	831	803	96.63	5031	4939	98.17
2013	5741	5471	95.30	1319	1289	97.73	7060	6760	95.75
2014	3884	3804	97.94	888	863	97.18	4772	4667	97.80
2015	3500	3429	97.97	572	562	98.25	4072	3991	98.01
2016	4969	4891	98.43	1270	1057	83.23	6239	5948	95.34
2017	5085	4975	97.84	1212	926	76.40	6297	5901	93.71
2018	4969	4871	98.03	1882	1624	86.29	6851	6495	94.80
2019	6004	5773	96.15	3750	2678	71.41	9754	8451	86.64
2020	8243	8133	98.67	3478	3065	88.13	11721	11198	95.54
2021	6670	6456	96.79	3947	3520	89.18	10617	9976	93.96
2022	6779	6476	95.53	4779	4369	91.42	11558	10845	93.83
2023	4567	4336	94.94	1772	1616	91.20	6339	5952	93.89
2024	7086	6790	95.82	3356	3177	94.67	10442	9967	95.45
Average	5279	5133	97.23	1645	1486	90.33	6924	6618	95.58

Annex-X

Extreme flood events in India under CWC FF & W Network - 2024 flood season										
Sl. No	River	Station	State	Danger level in metres	Existing Highest Flood Level (HFL)		New HFL		Duration	
					Level in metres	Date of occurrence	Level	Date and Time of Occurrence	From	To
1	Brahmaputra	Neamatighat	Assam	85.54	87.37	11-07-1991	87.47	01/07/2024 02	30/06/2024 15	02/07/2024 00
2	Jiabharali	Jia-Bharali NT Road Crossing	Assam	78.00	78.50	26-07-2007	78.50	01/07/2024 06	01/07/2024 06	01/07/2024 07
3	Dikhow	Sivasagar	Assam	92.40	94.34	11-08-2023	94.35	02/07/2024 16	02/07/2024 15	02/07/2024 22
4	Buridehing	Khowang	Assam	102.11	104.16	02-09-2015	104.23	03/07/2024 02	02/07/2024 19	03/07/2024 12
5	Bagmati	Dheng Bridge	Bihar	71.00	73.00	13-08-2017	73.47	29/09/2024 00	28/09/2024 19	29/09/2024 05
6	Bagmati	Runisaidpur	Bihar	55.00	58.15	14-08-2017	58.34	29/09/2024 23	29/09/2024 21	30/09/2024 03

Annex XI

Above Normal and Severe flood events on main Ganga and its tributaries- 2024 flood season

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2024		Flood period above warning level			Flood period above danger level		
						Level in metres	Date	From	To	No.of days	From	To	No.of days
1	Alaknanda	Srinagar	Uttarakhand	535.00	536.00	535.30	01/08/2024 02	01/08/2024 02	01/08/2024 03	1	-	-	-
2	Ganga	Rishikesh	Uttarakhand	339.50	340.50	340.06	23/08/2024 13	26/07/2024 16	26/07/2024 19	1	-	-	-
								01/08/2024 09	01/08/2024 13	1	-	-	-
								11/08/2024 10	11/08/2024 13	1	-	-	-
								23/08/2024 12	23/08/2024 18	1	-	-	-
								14/09/2024 03	14/09/2024 10	1	-	-	-
3	Ganga	Haridwar	Uttarakhand	293.00	294.00	293.70	23/08/2024 13	26/07/2024 14	26/07/2024 17	1	-	-	-
								01/08/2024 08	01/08/2024 11	1	-	-	-
								11/08/2024 09	11/08/2024 16	1	-	-	-
								23/08/2024 12	23/08/2024 16	1	-	-	-
								14/09/2024 03	14/09/2024 10	1	-	-	-
4	Mandakini	Ganganagar	Uttarakhand	803.00	804.00	801.5	31/07/2024 23	-	-	-	-	-	-
5	Ganga	Kannauj	Uttar Pradesh	124.97	125.97	126	20/09/2024 05	15/09/2024 19	25/09/2024 18	11	19/09/2024 22	21/09/2024 08	3
6	Ganga	Ankinghat	Uttar Pradesh	123.00	124.00	124.09	20/09/2024 02	14/07/2024 07	17/07/2024 11	4	19/09/2024 09	22/09/2024 05	4
								11/08/2024 22	19/08/2024 03	9	-	-	-
								27/08/2024 09	31/08/2024 00	5	-	-	-
								13/09/2024 03	26/09/2024 15	14	-	-	-
7	Ganga	Kanpur	Uttar Pradesh	113.00	114.00	113.15	21/09/2024 05	20/09/2024 05	23/09/2024 09	4	-	-	-
8	Ganga	Dalmau	Uttar Pradesh	98.36	99.36	99.15	23/09/2024 06	18/09/2024 16	26/09/2024 20	9	-	-	-
9	Ganga	Phphamau	Uttar Pradesh	83.73	84.73	84.07	16/09/2024 08	15/09/2024 03	19/09/2024 00	5	-	-	-
10	Ganga	Allahabad Chhatnag	Uttar Pradesh	83.73	84.73	83.41	16/09/2024 11	-	-	-	-	-	-
11	Ganga	Mirzapur	Uttar Pradesh	76.72	77.72	76.54	16/09/2024 21	-	-	-	-	-	-
12	Ganga	Varanasi	Uttar Pradesh	70.26	71.26	70.83	17/09/2024 07	15/09/2024 13	19/09/2024 18	5	-	-	-
13	Ganga	Ghazipur	Uttar Pradesh	62.10	63.10	63.67	17/09/2024 23	08/08/2024 14	10/08/2024 23	3	15/09/2024 23	20/09/2024 20	6
								14/09/2024 23	23/09/2024 13	10	-	-	-
14	Ganga	Buxar	Bihar	59.32	60.32	60.3	17/09/2024 21	08/08/2024 21	10/08/2024 23	3	-	-	-
								15/09/2024 04	23/09/2024 13	9	-	-	-
15	Ganga	Ballia	Uttar Pradesh	56.62	57.62	59.81	19/09/2024 08	07/08/2024 03	07/09/2024 12	31	08/08/2024 00	15/08/2024 23	8
								14/09/2024 19	04/10/2024 04	21	18/08/2024 16	25/08/2024 06	8
								-	-	-	29/08/2024 13	04/09/2024 00	7
								-	-	-	15/09/2024 02	26/09/2024 17	12
16	Ganga	Patna Dighaghat	Bihar	49.45	50.45	51.76	20/09/2024 06	31/07/2024 15	31/07/2024 15	1	10/08/2024 00	14/08/2024 19	5
								06/08/2024 06	05/09/2024 20	31	16/09/2024 21	24/09/2024 18	9
								15/09/2024 11	28/09/2024 07	14	-	-	-
								29/09/2024 07	05/10/2024 07	7	-	-	-
17	Ganga	Patna Gandhighat	Bihar	47.60	48.60	50.28	20/09/2024 05	14/07/2024 14	15/07/2024 21	2	08/08/2024 01	04/09/2024 22	28
								31/07/2024 15	31/07/2024 15	1	15/09/2024 13	26/09/2024 05	12
								05/08/2024 06	10/10/2024 17	67	29/09/2024 19	04/10/2024 05	6
18	Ganga	Hathidah	Bihar	40.76	41.76	43.41	21/09/2024 09	31/07/2024 15	31/07/2024 15	1	31/07/2024 15	31/07/2024 15	1
								05/08/2024 23	12/10/2024 20	69	08/08/2024 23	06/09/2024 00	30
								13/10/2024 00	13/10/2024 20	1	16/09/2024 11	27/09/2024 19	12
								-	-	-	30/09/2024 00	05/10/2024 11	6
19	Ganga	Munger	Bihar	38.33	39.33	39.95	22/09/2024 01	10/08/2024 18	06/09/2024 01	28	19/09/2024 14	25/09/2024 09	7
								17/09/2024 08	28/09/2024 12	12	-	-	-
								30/09/2024 09	05/10/2024 20	6	-	-	-
20	Ganga	Bhagalpur	Bihar	32.68	33.68	34.66	22/09/2024 19	09/08/2024 08	12/09/2024 04	35	12/08/2024 01	12/08/2024 23	1
								17/09/2024 08	08/10/2024 23	22	13/08/2024 01	19/08/2024 04	7
								-	-	-	24/08/2024 15	29/08/2024 06	6
								-	-	-	19/09/2024 03	27/09/2024 08	9
21	Ganga	Colgong/ Kahalgaon	Bihar	30.09	31.09	32.58	23/09/2024 15	14/07/2024 09	20/07/2024 14	7	08/08/2024 13	09/09/2024 04	33
								24/07/2024 13	28/07/2024 06	5	17/09/2024 21	08/10/2024 21	22
								03/08/2024 17	16/10/2024 08	75	-	-	-
22	Ganga	Sahibganj	Jharkhand	26.25	27.25	28.42	24/09/2024 16	14/07/2024 12	20/07/2024 20	7	10/08/2024 00	08/09/2024 20	30
								24/07/2024 09	28/07/2024 00	5	19/09/2024 05	08/10/2024 21	20
								04/08/2024 13	15/10/2024 03	73	-	-	-
23	Ganga	Farakka	West Bengal	21.25	22.25	23.53	24/09/2024 06	15/07/2024 10	20/07/2024 22	6	10/08/2024 20	08/09/2024 13	30
								07/08/2024 09	15/10/2024 05	70	19/09/2024 11	10/10/2024 06	22
24	Ramganga	Moradabad	Uttar Pradesh	189.60	190.60	190.24	16/09/2024 05	08/07/2024 06	10/07/2024 09	3	-	-	-
								24/08/2024 11	26/08/2024 00	3	-	-	-
								14/09/2024 05	17/09/2024 21	4	-	-	-

Above Normal and Severe flood events on main Ganga and its tributaries- 2024 flood season

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2024		Flood period above warning level			Flood period above danger level		
						Level in metres	Date	From	To	No.of days	From	To	No.of days
25	Ramganga	Bareilly	Uttar Pradesh	162.07	163.07	161.75	17/09/2024 05	-	-	-	-	-	-
26	Yamuna	Mawi	Uttar Pradesh	231.00	231.50	229.81	12/08/2024 15	-	-	-	-	-	-
27	Yamuna	Delhi Rly Bridge	NCT Delhi	204.50	205.33	204.38	13/08/2024 03	-	-	-	-	-	-
28	Yamuna	Mathura	Uttar Pradesh	165.20	166.00	165.17	18/09/2024 19	-	-	-	-	-	-
29	Yamuna	Agra	Uttar Pradesh	151.40	152.40	149.74	12/09/2024 14	-	-	-	-	-	-
30	Yamuna	Etawa	Uttar Pradesh	120.92	121.92	120.79	15/09/2024 14	-	-	-	-	-	-
31	Yamuna	Auraiya	Uttar Pradesh	112.00	113.00	113.6	15/09/2024 01	13/09/2024 20	16/09/2024 01	4	14/09/2024 02	15/09/2024 12	2
32	Yamuna	Kalpi	Uttar Pradesh	107.00	108.00	108.89	15/09/2024 01	13/09/2024 18	16/09/2024 11	4	14/09/2024 01	15/09/2024 22	3
33	Yamuna	Hamirpur	Uttar Pradesh	102.63	103.63	104	14/09/2024 05	13/09/2024 13	16/09/2024 08	4	13/09/2024 23	15/09/2024 11	3
34	Yamuna	Chilaghat	Uttar Pradesh	99.00	100.00	100.07	14/09/2024 11	13/09/2024 16	16/09/2024 01	4	14/09/2024 05	14/09/2024 17	3
35	Yamuna	Naini	Uttar Pradesh	83.74	84.74	83.91	16/09/2024 12	15/09/2024 14	17/09/2024 10	3	-	-	-
36	Sahibi	Dhansa	NCT Delhi	211.44	212.44	210.65	15/09/2024 08	-	-	-	-	-	-
37	Betwa	Mohana	Uttar Pradesh	121.66	122.66	122.3	12/09/2024 18	12/09/2024 15	13/09/2024 00	2	-	-	-
38	Betwa	Sahjina	Uttar Pradesh	103.54	104.54	103.45	13/09/2024 22	-	-	-	-	-	-
39	Ken	Banda	Uttar Pradesh	103.00	104.00	106.75	06/08/2024 08	05/08/2024 07	07/08/2024 03	3	05/08/2024 10	06/08/2024 23	2
								12/09/2024 16	14/09/2024 08	3	12/09/2024 20	14/09/2024 06	3
40	Gomati	Lucknow	Uttar Pradesh	108.50	109.50	105.87	07/08/2024 04	-	-	-	-	-	-
41	Gomati	Jaunpur	Uttar Pradesh	73.07	74.07	71.3	28/09/2024 06	-	-	-	-	-	-
42	SAI	Raibareli	Uttar Pradesh	100.00	101.00	98.65	29/08/2024 20	-	-	-	-	-	-
43	Ghaghra	Elginbridge	Uttar Pradesh	105.07	106.07	107.01	16/09/2024 01	04/07/2024 22	06/07/2024 04	3	08/07/2024 11	12/07/2024 22	5
								07/07/2024 10	07/10/2024 09	93	20/07/2024 11	23/07/2024 21	4
								-	-	-	24/07/2024 07	24/07/2024 22	1
								-	-	-	01/08/2024 18	02/08/2024 07	2
								-	-	-	08/08/2024 08	15/08/2024 20	8
								-	-	-	19/08/2024 21	29/08/2024 03	11
								-	-	-	04/09/2024 07	07/09/2024 01	4
								-	-	-	13/09/2024 10	19/09/2024 14	7
								-	-	-	28/09/2024 14	30/09/2024 11	3
44	Ghaghra	Ayodhya	Uttar Pradesh	91.73	92.73	93.32	16/09/2024 12	08/07/2024 06	05/10/2024 06	90	09/07/2024 14	13/07/2024 11	5
								-	-	-	21/07/2024 00	22/07/2024 09	2
								-	-	-	08/08/2024 22	15/08/2024 12	8
								-	-	-	21/08/2024 19	28/08/2024 00	8
								-	-	-	14/09/2024 03	19/09/2024 19	6
45	Ghaghra	Turtipar	Uttar Pradesh	63.01	64.01	64.81	26/08/2024 11	08/07/2024 03	25/09/2024 13	80	10/07/2024 21	15/07/2024 10	6
								27/09/2024 18	13/10/2024 08	17	22/07/2024 02	24/07/2024 23	3
								-	-	-	10/08/2024 04	17/08/2024 14	8
								-	-	-	21/08/2024 04	31/08/2024 15	11
								-	-	-	15/09/2024 14	21/09/2024 15	7
								-	-	-	29/09/2024 10	04/10/2024 00	6
46	Ghaghra	Darauli	Bihar	59.82	60.82	61.41	26/08/2024 15	09/07/2024 11	25/09/2024 16	79	12/07/2024 15	14/07/2024 03	3
								28/09/2024 11	12/10/2024 02	15	10/08/2024 16	18/08/2024 05	9
								13/10/2024 00	13/10/2024 02	1	21/08/2024 17	31/08/2024 13	11
								-	-	-	16/09/2024 06	22/09/2024 04	7
47	Ghaghra	Gangpur Siswan	Bihar	56.04	57.04	57.67	20/09/2024 01	11/07/2024 01	15/07/2024 20	2	12/08/2024 20	16/08/2024 06	5
								22/07/2024 15	22/07/2024 23	1	25/08/2024 06	30/08/2024 07	6
								23/07/2024 15	25/07/2024 00	3	17/09/2024 12	22/09/2024 02	6
								09/08/2024 07	04/09/2024 22	27	-	-	-
								07/09/2024 07	11/09/2024 08	5	-	-	-
								16/09/2024 00	23/09/2024 22	8	-	-	-
								29/09/2024 19	07/10/2024 02	9	-	-	-

Above Normal and Severe flood events on main Ganga and its tributaries- 2024 flood season

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2024		Flood period above warning level			Flood period above danger level		
						Level in metres	Date	From	To	No.of days	From	To	No.of days
48	Ghaghra	Chhapra	Bihar	52.68	53.68	53.45	19/09/2024 18	17/09/2024 21	22/09/2024 18	6	-	-	-
49	Rapti	Balrampur	Uttar Pradesh	103.62	104.62	105.26	09/07/2024 12	06/07/2024 15	14/07/2024 20	9	07/07/2024 15	11/07/2024 02	5
								01/08/2024 07	02/08/2024 12	2	-	-	-
								07/08/2024 16	08/08/2024 06	2	-	-	-
								10/08/2024 16	11/08/2024 10	2	-	-	-
								11/08/2024 18	12/08/2024 05	1	-	-	-
								18/08/2024 09	26/08/2024 12	9	-	-	-
								13/09/2024 07	15/09/2024 12	3	-	-	-
								29/09/2024 00	02/10/2024 01	4	-	-	-
50	Rapti	Bansi	Uttar Pradesh	83.90	84.90	85.39	13/07/2024 15	07/07/2024 17	19/07/2024 01	13	11/07/2024 21	17/07/2024 02	7
								02/08/2024 12	03/08/2024 06	2	22/08/2024 06	27/08/2024 18	6
								10/08/2024 22	14/08/2024 06	5	01/10/2024 04	03/10/2024 16	3
								18/08/2024 23	30/08/2024 10	13	-	-	-
								15/09/2024 01	16/09/2024 16	2	-	-	-
								29/09/2024 09	06/10/2024 01	8	-	-	-
51	Rapti	Birdghat	Uttar Pradesh	73.98	74.98	75.99	16/07/2024 04	07/07/2024 12	23/07/2024 22	17	11/07/2024 03	21/07/2024 12	11
								19/08/2024 06	30/08/2024 19	12	21/08/2024 11	27/08/2024 04	7
								28/09/2024 21	10/10/2024 22	13	30/09/2024 12	08/10/2024 15	9
52	Sone	Inderpuri	Bihar	107.20	108.20	105.35	18/09/2024 17	-	-	-	-	-	-
53	Sone	Koelwar	Bihar	54.52	55.52	55	19/09/2024 06	18/09/2024 15	21/09/2024 12	4	-	-	-
54	Sone	Maner	Bihar	51.00	52.00	53.29	20/09/2024 06	08/08/2024 21	05/09/2024 01	29	11/08/2024 19	12/08/2024 10	2
								15/09/2024 18	26/09/2024 14	12	13/08/2024 00	13/08/2024 10	1
								01/10/2024 03	03/10/2024 01	3	16/09/2024 23	24/09/2024 00	9
55	PunPun	Sripalpur	Bihar	49.60	50.60	51.92	20/09/2024 03	05/08/2024 17	06/08/2024 18	2	09/08/2024 08	09/08/2024 17	1
								08/08/2024 10	17/08/2024 16	10	11/08/2024 02	14/08/2024 13	4
								24/08/2024 07	02/09/2024 05	10	25/08/2024 16	29/08/2024 23	5
								17/09/2024 06	24/09/2024 01	8	17/09/2024 17	22/09/2024 16	6
56	Yamuna	Karnal Bridge	Haryana	248.80	249.50	247.66	12/08/2024 02	-	-	-	-	-	-
57	Yamuna	Paonta Sahib	Himachal Pradesh	383.50	384.50	381.3	02/09/2024 11	-	-	-	-	-	-
58	Gandak	Khadda	Uttar Pradesh	95.00	96.00	96.54	29/09/2024 06	30/06/2024 05	30/06/2024 09	1	06/07/2024 22	07/07/2024 22	2
								01/07/2024 22	04/07/2024 20	4	12/07/2024 20	13/07/2024 00	2
								05/07/2024 22	14/09/2024 08	72	28/09/2024 13	29/09/2024 23	2
								15/09/2024 15	17/09/2024 19	3	-	-	-
								25/09/2024 15	25/09/2024 18	1	-	-	-
								27/09/2024 15	04/10/2024 21	8	-	-	-
59	Ganga	Fathegarh	Uttar Pradesh	136.60	137.60	137.73	18/09/2024 04	09/07/2024 07	11/07/2024 05	3	16/09/2024 23	22/09/2024 06	7
								24/07/2024 07	26/07/2024 09	3	-	-	-
								29/07/2024 02	01/09/2024 13	35	-	-	-
								05/09/2024 16	27/09/2024 17	23	-	-	-
								29/09/2024 17	01/10/2024 15	3	-	-	-
60	Ganga	Dabri	Uttar Pradesh	136.30	137.30	138.09	20/09/2024 05	10/07/2024 09	20/07/2024 12	11	12/07/2024 18	15/07/2024 10	3
								10/08/2024 13	14/08/2024 21	5	17/09/2024 14	22/09/2024 04	6
								25/08/2024 20	30/08/2024 20	6	-	-	-
								15/09/2024 10	25/09/2024 20	11	-	-	-
61	Ganga	Garhmuktheswar	Uttar Pradesh	198.33	199.33	198.76	04/09/2024 19	07/07/2024 11	09/07/2024 05	3	-	-	-
								21/07/2024 18	21/07/2024 23	1	-	-	-
								22/07/2024 02	22/07/2024 18	1	-	-	-
								23/07/2024 06	23/07/2024 19	1	-	-	-
								26/07/2024 05	18/08/2024 21	24	-	-	-
								19/08/2024 07	19/08/2024 14	1	-	-	-
								20/08/2024 15	23/08/2024 06	4	-	-	-
								24/08/2024 11	27/08/2024 10	4	-	-	-
								28/08/2024 01	28/08/2024 05	1	-	-	-
								03/09/2024 14	20/09/2024 11	18	-	-	-
62	Ganga	Kachla Bridge	Uttar Pradesh	161.00	162.00	162.63	17/09/2024 07	07/07/2024 20	31/10/2024 23	117	08/07/2024 06	09/07/2024 20	2
								-	-	-	22/07/2024 18	24/07/2024 23	3
								-	-	-	27/07/2024 13	08/08/2024 01	13
								-	-	-	09/08/2024 00	19/08/2024 10	11
								-	-	-	21/08/2024 23	29/08/2024 10	9
								-	-	-	04/09/2024 10	24/09/2024 19	21
								-	-	-	28/09/2024 14	29/09/2024 23	2

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Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2024		Flood period above warning level			Flood period above danger level		
						Level in metres	Date	From	To	No.of days	From	To	No.of days
63	Gandak	Chatia	Bihar	68.15	69.15	69.3	01/10/2024 06	14/07/2024 16	15/07/2024 22	2	30/09/2024 20	01/10/2024 11	2
								30/09/2024 06	03/10/2024 07	4	-	-	-
64	Gandak	Rewaghat	Bihar	53.41	54.41	55.38	02/10/2024 04	04/07/2024 23	05/07/2024 09	2	10/07/2024 01	10/07/2024 12	1
								07/07/2024 21	18/07/2024 18	12	14/07/2024 01	16/07/2024 12	3
								21/07/2024 01	22/07/2024 06	2	01/09/2024 05	01/09/2024 05	1
								23/07/2024 00	23/07/2024 06	1	30/09/2024 06	03/10/2024 12	4
								08/08/2024 13	10/08/2024 16	3	-	-	-
								11/08/2024 09	14/08/2024 13	4	-	-	-
								15/08/2024 08	16/08/2024 19	2	-	-	-
								21/08/2024 19	27/08/2024 16	7	-	-	-
								01/09/2024 05	01/09/2024 05	1	-	-	-
								07/09/2024 21	10/09/2024 05	4	-	-	-
								28/09/2024 23	04/10/2024 22	7	-	-	-
65	Gandak	Hazipur	Bihar	49.32	50.32	50.21	20/09/2024 05	10/08/2024 21	14/08/2024 12	5	-	-	-
								23/08/2024 05	24/08/2024 05	2	-	-	-
								01/09/2024 05	01/09/2024 05	1	-	-	-
								16/09/2024 23	24/09/2024 06	9	-	-	-
								30/09/2024 22	03/10/2024 12	4	-	-	-
66	Burhi Gandak	Lalbeghiaghat	Bihar	62.20	63.20	62.8	05/10/2024 14	30/09/2024 18	09/10/2024 13	10	-	-	-
67	Burhi Gandak	Muzaffarpur (Sikandarpur)	Bihar	51.53	52.53	51.97	09/10/2024 15	04/10/2024 11	12/10/2024 17	9	-	-	-
68	Burhi Gandak	Samastipur	Bihar	45.02	46.02	45.46	10/10/2024 23	07/10/2024 00	14/10/2024 09	8	-	-	-
69	Burhi Gandak	Rosera	Bihar	41.63	42.63	43.27	11/10/2024 16	18/07/2024 11	20/07/2024 06	3	06/10/2024 04	15/10/2024 20	10
								28/08/2024 06	29/08/2024 06	2	-	-	-
								03/10/2024 07	17/10/2024 00	15	-	-	-
70	Burhi Gandak	Khagaria	Bihar	35.58	36.58	38.82	22/09/2024 15	15/07/2024 06	19/07/2024 04	5	09/08/2024 10	11/09/2024 01	34
								06/08/2024 11	17/10/2024 02	73	16/09/2024 19	10/10/2024 18	25
71	Bagmati	Benibad	Bihar	47.68	48.68	49.99	02/10/2024 17	29/06/2024 17	30/06/2024 13	2	02/07/2024 16	04/07/2024 13	3
								01/07/2024 09	05/07/2024 18	5	07/07/2024 13	17/07/2024 12	11
								07/07/2024 11	19/07/2024 20	13	24/07/2024 17	26/07/2024 07	3
								20/07/2024 03	19/09/2024 05	31	29/07/2024 18	30/07/2024 16	2
								26/09/2024 16	27/09/2024 19	2	31/07/2024 20	17/08/2024 06	18
								28/09/2024 10	23/10/2024 05	26	18/08/2024 21	30/08/2024 01	13
								-	-	-	02/09/2024 04	10/09/2024 16	9
								-	-	-	15/09/2024 19	16/09/2024 14	2
								-	-	-	17/09/2024 02	17/09/2024 23	1
								-	-	-	28/09/2024 14	14/10/2024 01	17
72	Bagmati	Hayaghat	Bihar	44.72	45.72	45.78	06/10/2024 16	02/10/2024 10	14/10/2024 22	13	06/10/2024 04	10/10/2024 13	5
73	Adhwara Group	Kamtaul	Bihar	49.00	50.00	50.82	06/10/2024 08	03/07/2024 21	06/07/2024 05	4	15/07/2024 02	16/07/2024 01	2
								12/07/2024 03	18/07/2024 18	7	01/10/2024 00	10/10/2024 04	10
								30/09/2024 07	12/07/2024 22	13	-	-	-
74	Adhwara Group	Ekmighat	Bihar	45.94	46.94	46.95	08/10/2024 05	02/10/2024 00	16/10/2024 09	15	08/10/2024 03	09/10/2024 08	2
75	Kamla Balan	Jhanjharpur	Bihar	49.50	50.50	52.28	29/09/2024 19	20/06/2024 20	21/06/2024 15	2	21/06/2024 00	21/06/2024 07	1
								27/06/2024 00	28/06/2024 20	2	27/06/2024 04	27/06/2024 10	1
								29/06/2024 06	06/07/2024 06	8	01/07/2024 18	01/07/2024 21	1
								07/07/2024 05	08/07/2024 22	2	02/07/2024 06	03/07/2024 14	2
								09/07/2024 16	21/07/2024 20	13	09/07/2024 20	15/07/2024 19	7
								22/07/2024 07	23/07/2024 03	2	31/07/2024 21	01/08/2024 14	2
								31/07/2024 16	03/08/2024 08	4	02/08/2024 13	02/08/2024 21	1
								04/08/2024 10	04/08/2024 18	1	07/08/2024 15	08/08/2024 03	2
								06/08/2024 17	24/08/2024 21	19	12/08/2024 18	13/08/2024 07	2
								30/08/2024 12	31/08/2024 11	2	05/09/2024 13	06/09/2024 12	2
								02/09/2024 17	03/09/2024 07	2	07/09/2024 12	07/09/2024 17	1
								04/09/2024 09	09/09/2024 07	6	15/09/2024 12	15/09/2024 17	1
								15/092024 07	17/09/2024 12	3	28/09/2024 02	02/10/2024 07	5
								27/09/2024 14	08/10/2024 19	12	-	-	-
								09/10/2024 12	11/10/2024 14	3	-	-	-
								15/10/2024 14	16/10/2024 07	2	-	-	-
76	Kosi	Basua	Bihar	46.75	47.75	48.57	29/09/2024 15	18/06/2024 09	22/06/2024 16	5	29/09/2024 06	30/09/2024 12	2
								27/06/2024 08	29/08/2024 09	64	-	-	-
								31/08/2024 10	31/08/2024 15	1	-	-	-
								02/09/2024 11	11/09/2024 23	10	-	-	-
								12/09/2024 08	14/09/2024 17	3	-	-	-

Annex XI

Above Normal and Severe flood events on main Ganga and its tributaries- 2024 flood season

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2024		Flood period above warning level			Flood period above danger level		
						Level in metres	Date	From	To	No.of days	From	To	No.of days
								16/09/2024 08	18/09/2024 06	3	-	-	-
								27/09/2024 17	02/10/2024 14	6	-	-	-
								21/06/2024 15	23/06/2024 19	3	02/07/2024 20	05/07/2024 21	4
								27/06/2024 13	20/10/2024 16	116	07/07/2024 11	01/09/2024 21	57
	Kosi	Baltara	Bihar	32.85	33.85	35.79	01/10/2024 12	-	-	-	02/09/2024 23	12/09/2024 12	11
								-	-	-	14/09/2024 12	14/09/2024 21	1
								-	-	-	18/09/2024 06	18/09/2024 08	1
								-	-	-	28/09/2024 08	12/10/2024 16	15
78	Kosi	Kursela	Bihar	29.00	30.00	31.25	24/09/2024 09	13/07/2024 18	30/07/2024 00	18	08/08/2024 17	12/09/2024 01	36
								02/08/2024 12	15/10/2024 04	75	17/09/2024 12	09/10/2024 07	23
								18/06/2024 17	24/06/2024 04	7	19/06/2024 11	22/06/2024 07	4
								26/06/2024 11	21/07/2024 03	26	27/06/2024 13	28/06/2024 23	2
79	Mahananda	Dhengraghat	Bihar	34.65	35.65	37.22	29/09/2024 06	07/08/2024 13	14/08/2024 05	8	30/06/2024 01	30/06/2024 11	1
								26/09/2024 21	09/10/2024 07	14	01/07/2024 06	04/07/2024 13	4
								-	-	-	06/07/2024 16	16/07/2024 03	11
								-	-	-	27/09/2024 15	05/10/2024 18	9
								20/06/2024 07	23/06/2024 11	4	20/06/2024 17	21/06/2024 04	2
80	Mahananda	Jhawa	Bihar	30.40	31.40	32.59	30/09/2024 23	27/06/2024 09	21/07/2024 02	25	02/07/2024 07	03/07/2024 01	2
								08/08/2024 21	13/08/2024 15	6	07/07/2024 22	15/07/2024 23	9
								27/09/2024 16	10/10/2024 05	14	28/09/2024 10	06/10/2024 15	9
								27/06/2024 21	29/06/202411	3	04/07/2024 11	04/07/2024 22	1
								30/06/20245 17	21/10/2024 14	114	07/07/2024 03	31/07/2024 19	25
								-	-	-	01/08/2024 07	04/08/2024 08	4
								-	-	-	05/08/2024 09	05/08/2024 22	1
81	Gandak	Dumariaghat	Bihar	61.22	62.22	64	01/10/2024 04	-	-	-	07/08/2024 11	17/08/2024 08	11
								-	-	-	18/08/2024 05	29/08/2024 18	12
								-	-	-	02/09/2024 13	05/09/2024 06	4
								-	-	-	06/09/2024 06	10/09/2024 13	5
								-	-	-	28/09/2024 11	06/10/2024 08	9
82	Burhigandak	Ahirwalia	Bihar	58.62	59.62	57.99	06/10/2024 10	-	-	-	-	-	-
83	Mayurakshi	Narayanpur	West Bengal	26.86	27.86	25.27	03/08/2024 21	-	-	-	-	-	-
84	Ajoy	Gheropara	West Bengal	38.42	39.42	37.60	17/09/2024 16	-	-	-	-	-	-
85	Mundeshwari	Harinkhola	West Bengal	11.80	12.80	14.44	18/09/2024 15	04/08/2024 15	07/08/2024 01	4	17/09/2024 11	20/09/2024 08	4
								16/09/2024 23	21/09/2024 02	6	-	-	-
86	Kangsabati	Mohanpur	West Bengal	24.73	25.73	25.4	18/09/2024 01	17/09/2024 18	18/09/2024 18	2	-	-	-
								26/06/2024 20	27/06/2024 06	2	07/07/2024 02	07/07/2024 13	1
								28/06/2024 16	29/06/2024 01	2	12/07/2024 15	12/07/2024 21	1
								30/06/2024 07	30/06/2024 17	1	31/07/2024 21	31/07/2024 22	1
								01/07/2024 11	04/07/2024 04	4	02/08/2024 09	02/08/2024 12	1
								06/07/2024 17	08/07/2024 18	3	06/08/2024 12	06/08/2024 15	1
								09/07/2024 07	10/07/2024 07	2	07/08/2024 01	07/08/2024 09	1
								11/07/2024 05	15/07/2024 17	5	21/08/2024 15	21/08/2024 18	1
								19/07/2024 09	20/07/2024 07	2	27/09/2024 23	01/10/2024 20	5
								23/07/2024 05	25/07/2024 20	3	04/10/2024 09	04/10/2024 17	1
								26/07/2024 06	26/07/2024 23	1	05/10/2024 07	05/10/2024 16	1
87	Bagmati	Dheng Bridge	Bihar	70.00	71.00	73.47	29/09/2024 00	28/07/2024 14	04/08/2024 09	8	-	-	-
								06/08/2024 08	16/08/2024 11	11	-	-	-
								17/08/2024 06	17/08/2024 15	1	-	-	-
								18/08/2024 04	26/08/2024 19	9	-	-	-
								27/08/2024 04	28/08/2024 20	2	-	-	-
								30/08/2024 07	31/08/2024 04	2	-	-	-
								01/09/2024 06	03/09/2024 16	3	-	-	-
								04/09/2024 05	08/09/2024 17	5	-	-	-
								15/09/2024 05	15/09/2024 15	1	-	-	-
								16/09/2024 05	17/09/2024 00	2	-	-	-
								27/09/2024 15	08/10/2024 06	12	-	-	-
								09/10/2024 07	09/10/2024 14	1	-	-	-
88	Adhwara	Sonebarsha	Bihar	80.85	81.85	82.25	29/09/2024 13	09/07/2024 19	10/07/2024 02	2	29/09/2024 07	29/09/2024 21	1
								28/09/2024 21	30/09/2024 14	3	-	-	-
								20/06/2024 11	21/06/2024 05	2	20/06/2024 14	20/06/2024 18	1
								26/06/2024 16	27/06/2024 06	2	02/07/2024 09	02/07/2024 14	1
								30/06/2024 17	04/07/2024 07	5	09/07/2024 16	13/07/2024 07	5
								06/07/2024 20	08/07/2024 03	3	31/07/2024 12	31/07/2024 18	1

Above Normal and Severe flood events on main Ganga and its tributaries- 2024 flood season

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2024		Flood period above warning level			Flood period above danger level		
						Level in metres	Date	From	To	No.of days	From	To	No.of days
89	Kamla Balan	Jainagar	Bihar	67.50	68.50	69.7	29/09/2024 02	09/07/2024 11	16/07/2024 05	8	28/09/2024 08	29/09/2024 23	2
								31/07/2024 09	01/08/2024 17	2	-	-	-
								02/08/2024 05	02/08/2024 22	1	-	-	-
								06/08/2024 08	08/08/2024 22	3	-	-	-
								12/08/2024 06	13/08/2024 22	2	-	-	-
								14/08/2024 04	15/08/2024 09	2	-	-	-
								18/08/2024 06	18/08/2024 17	1	-	-	-
								20/08/2024 11	20/08/2024 21	1	-	-	-
								23/08/2024 08	23/08/2024 09	1	-	-	-
								30/08/2024 06	30/08/2024 10	1	-	-	-
								04/09/2024 07	04/09/2024 15	1	-	-	-
								05/09/2024 07	06/09/2024 22	2	-	-	-
								07/09/2024 05	07/09/2024 21	1	-	-	-
								15/09/2024 07	15/09/2024 15	1	-	-	-
								27/09/2024 11	03/10/2024 21	7	-	-	-
								04/10/2024 17	05/10/2024 12	2	-	-	-
								09/10/2024 12	09/10/2024 22	1	-	-	-
								15/10/2024 06	15/10/2024 18	1	-	-	-
90	Bagmati	Runisaidpur	Bihar	54.00	55.00	**58.34**	**29/09/2024 23**	29/06/2024 07	03/07/2024 13	5	02/07/2024 03	03/07/2024 04	2
								07/07/2024 04	16/07/2024 09	10	07/07/2024 06	08/07/2024 13	2
								20/07/2024 09	20/07/2024 14	1	11/07/2024 13	11/07/2024 20	1
								23/07/2024 22	24/07/2024 21	2	12/07/2024 04	15/07/2024 08	4
								25/07/2024 03	25/07/2024 09	1	31/07/2024 17	03/08/2024 22	4
								28/07/2024 22	30/07/2024 08	3	06/08/2024 19	09/08/2024 13	4
								31/07/2024 10	05/08/2024 05	6	12/08/2024 05	13/08/2024 18	2
								06/08/2024 16	16/08/2024 13	11	15/08/2024 01	15/08/2024 09	1
								18/08/2024 13	29/08/2024 00	12	18/08/2024 21	19/08/2024 10	2
								01/09/2024 18	09/09/2024 06	9	21/08/2024 18	23/08/2024 18	3
								15/09/2024 11	16/09/2024 04	2	27/08/2024 11	28/08/2024 03	2
								28/09/2024 01	09/10/2024 09	12	02/09/2024 07	03/09/2024 02	2
								-	-	-	07/09/2024 04	08/09/2024 02	2
								-	-	-	28/09/2024 05	07/10/2024 03	10
91	Parwan	Araria	Bihar	46.00	47.00	48.34	30/09/2024 18	19/06/2024 20	22/07/2024 09	34	21/06/2024 15	24/06/2024 19	4
								07/08/2024 09	21/08/2024 08	15	26/06/2024 21	02/07/2024 12	7
								24/08/2024 08	24/08/2024 13	1	03/07/2024 02	19/07/2024 12	17
								06/09/2024 06	08/09/2024 13	3	08/08/2024 04	13/08/2024 12	6
								27/09/2024 09	12/10/2024 22	16	15/08/2024 11	17/08/2024 20	3
								-	-	-	27/09/2024 15	08/10/2024 02	12
92	Mahananda	Taibpur	Bihar	65.00	66.00	66.81	29/09/2024 05	18/06/2024 09	21/06/2024 07	4	20/06/2024 02	20/06/2024 09	1
								25/06/2024 17	27/06/2024 14	3	30/06/2024 17	01/07/2024 10	2
								28/06/2024 16	03/07/2024 23	6	02/07/2024 15	03/07/2024 06	2
								06/07/2024 00	13/07/2024 23	8	07/07/2024 13	07/07/2024 20	1
								27/09/2024 11	30/09/2024 09	4	08/07/2024 01	08/07/2024 10	1
								-	-	-	09/07/2024 15	10/07/2024 10	2
								-	-	-	28/09/2024 04	29/09/2024 11	2
93	Chambal	Kota City	Rajasthan	239.00	242.00	237.8	29/09/2024 19	-	-	-	-	-	-
94	Rapti	Kakardhari	Uttar Pradesh	130.00	131.00	130.36	07/07/2024 16	07/07/2024 08	08/07/2024 10	2	-	-	-
95	Chambal	Dholpur	Rajasthan	129.79	130.79	134.67	13/09/2024 12	05/08/2024 17	07/08/2024 15	3	05/08/2024 19	07/08/2024 04	3
								16/08/2024 17	17/08/2024 23	2	16/08/2024 21	17/08/2024 12	2
								12/09/2024 19	15/09/2024 03	4	12/09/2024 20	14/09/2024 21	3
96	Chambal	Manderial	Rajasthan	164.00	165.00	161.05	13/09/2024 06	-	-	-	-	-	-

Annex XII

Above Normal and Severe flood events on main Brahamaputra and its tributaries- 2024 flood season

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2024		Flood period above warning level			Flood period above danger level		
						Level in metres	Date	From	To	No.of days	From	To	No.of days
1	Siang	Yingkiang	Arunachal Pradesh	303.00	304.00	271.75	29/06/2024 03	-	-	-	-	-	-
2	Siang	Passighat	Arunachal Pradesh	152.96	153.96	153.1	29/06/2024 04	29/06/2024 03	29/06/2024 15	1	-	-	-
								30/06/2024 06	30/06/2024 09	1	-	-	-
3	Noa-Dehing	Namsai	Arunachal Pradesh	144.80	145.80	144.75	01/05/2024 20	-	-	-	-	-	-
4	Brahmaputra	Dibrugarh	Assam	104.70	105.70	105.8	30/06/2024 19	29/05/2024 10	31/05/2024 21	3	30/06/2024 00	01/07/2024 00	1
								01/06/2024 20	03/06/2024 14	3	-	-	-
								17/06/2024 09	17/06/2024 11	1	-	-	-
								18/06/2024 05	22/06/2024 09	5	-	-	-
								28/06/2024 18	03/07/2024 02	6	-	-	-
								04/07/2024 13	28/07/2024 17	25	-	-	-
								29/07/2024 07	30/07/2024 16	2	-	-	-
								04/08/2024 10	17/08/2024 02	14	-	-	-
								04/10/2024 11	08/10/2024 22	5	-	-	-
								11/10/2024 23	14/10/2024 01	4	-	-	-
5	Brahmaputra	Neamatighat	Assam	84.54	85.54	87.47	01/07/2024 02	04/05/2024 06	04/05/2024 20	1	29/06/2024 12	16/07/2024 16	18
								30/05/2024 08	07/06/2024 08	9	11/08/2024 19	12/08/2024 00	2
								15/06/2024 04	18/08/2024 19	65	-	-	-
								05/10/2024 13	09/10/2024 18	5	-	-	-
								13/10/2024 00	15/10/2024 06	3	-	-	-
6	Brahmaputra	Tezpur	Assam	64.23	65.23	66.23	02/07/2024 15	29/06/2024 18	03/08/2024 02	36	30/06/2024 14	04/07/2024 22	5
								06/08/2024 15	16/08/2024 11	11	05/07/2024 11	17/07/2024 02	13
								07/10/2024 09	09/10/2024 02	3	-	-	-
7	Brahmaputra	Guwahati	Assam	48.68	49.68	50.84	03/07/2024 15	01/07/2024 06	20/07/2024 12	20	02/07/2024 08	05/07/2024 16	4
								26/07/2024 13	27/07/2024 12	2	08/07/2024 00	10/07/2024 13	3
								13/08/2024 18	14/08/2024 17	2	-	-	-
8	Brahmaputra	Goalpara	Assam	35.27	36.27	36.93	04/07/2024 06	01/07/2024 09	29/07/2024 05	29	02/07/2024 18	06/07/2024 22	5
								-	-	-	10/07/2024 15	11/07/2024 00	2
9	Brahmaputra	Dhubri	Assam	27.62	28.62	29.95	04/07/2024 13	18/06/2024 12	03/08/2024 05	47	02/07/2024 01	21/07/2024 21	20
								09/08/2024 18	17/08/2024 17	9	-	-	-
								10/10/2024 18	12/10/2024 00	3	-	-	-
10	Buridehing	Naharkatia	Assam	119.40	120.40	119.89	02/07/2024 07	01/07/2024 10	03/07/2024 00	3	-	-	-
11	Buridehing	Chenimari/Khwong	Assam	101.11	102.11	104.23	03/07/2024 02	01/05/2024 22	03/05/2024 21	3	30/06/2024 19	16/07/2024 04	17
								30/05/2024 18	31/05/2024 19	2	12/08/2024 08	14/08/2024 10	3
								30/06/2024 03	18/07/2024 05	19	-	-	-
								23/07/2024 19	25/07/2024 17	3	-	-	-
								05/08/2024 15	06/08/2024 13	2	-	-	-
								09/08/2024 20	17/08/2024 03	9	-	-	-
								07/10/2024 05	07/10/2024 19	1	-	-	-
12	Subansiri	Badatighat	Assam	81.53	82.53	83.35	02/07/2024 00	29/06/2024 22	17/07/2024 09	19	30/06/2024 10	03/07/2024 11	4
								-	-	-	07/07/2024 09	08/07/2024 17	2
13	Dikhow	Sivasagar	Assam	91.40	92.40	94.35	02/07/2024 16	23/06/2024 13	24/06/2024 20	2	29/06/2024 13	09/07/2024 19	11
								28/06/2024 19	11/07/2024 17	14	15/07/2024 17	15/07/2024 22	1
								13/07/2024 11	19/07/2024 04	7	22/07/2024 15	26/07/2024 05	5
								21/07/2024 14	27/07/2024 06	7	08/08/2024 12	10/08/20245 13	3
								07/08/2024 10	07/08/2024 23	1	-	-	-
								08/08/2024 02	14/08/2024 02	7	-	-	-
14	Desang	Nanglamoraghat	Assam	93.46	94.46	96.19	04/07/2024 09	15/06/2024 04	20/06/2024 14	6	30/06/2024 18	21/07/2024 07	22
								24/06/2024 11	25/06/2024 22	2	22/07/2024 23	26/07/2024 20	5
								29/06/2024 20	27/07/2024 14	29	12/08/2024 00	18/08/2024 09	7
								09/08/2024 22	10/08/2024 09	2	-	-	-
								11/08/2024 04	19/08/2024 04	9	-	-	-

Above Normal and Severe flood events on main Brahamaputra and its tributaries- 2024 flood season

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2024		Flood period above warning level			Flood period above danger level		
						Level in metres	Date	From	To	No.of days	From	To	No.of days
15	Dhansiri(S)	Golaghat	Assam	88.50	89.50	89.94	31/07/2024 21	02/07/2024 19	06/07/2024 06	5	31/07/2024 06	01/08/2024 12	2
								30/07/2024 21	02/08/2024 16	4	09/08/2024 01	10/08/2024 12	2
								07/08/2024 08	12/08/2024 07	6	-	-	-
								21/08/2024 01	21/08/2024 23	1	-	-	-
16	Dhansiri(S)	Numaligarh	Assam	77.42	78.42	78.95	01/08/2024 13	28/06/2024 23	14/07/2024 22	17	02/07/2024 07	08/07/2024 03	7
								16/07/2024 18	19/07/2024 21	4	31/07/2024 04	03/08/2024 09	4
								20/07/2024 08	14/08/2024 23	26	08/08/2024 15	12/08/2024 16	5
								21/08/2024 02	23/08/2024 20	3	-	-	-
								24/08/2024 11	29/08/2024 01	6	-	-	-
								31/08/2024 14	02/09/2024 01	3	-	-	-
								05/09/2024 06	07/09/2024 05	3	-	-	-
								07/09/2024 18	08/09/2024 08	1	-	-	-
								10/09/2024 14	11/09/2024 13	2	-	-	-
17	Kopili	Kampur	Assam	59.50	60.50	62.1	31/05/2024 12	29/05/2024 07	07/06/2024 18	10	29/05/2024 09	06/06/2024 16	9
								16/06/2024 13	24/06/2024 06	9	16/06/2024 23	22/06/2024 07	7
								02/07/2024 06	07/07/2024 07	6	02/07/2024 07	05/07/2024 19	4
								21/08/2024 13	23/08/2024 07	3	-	-	-
18	Kopili	Dharamtul	Assam	55.00	56.00	56.6	04/07/2024 17	29/05/202415	10/06/2024 15	13	01/06/2024 13	08/06/2024 03	8
								17/06/2024 09	27/06/2024 11	11	20/06/2024 09	22/06/2024 08	3
								02/07/2024 05	15/07/2024 03	14	02/07/2024 18	09/07/2024 11	8
								23/08/2024 01	23/08/2024 19	1	-	-	-
19	Jiabharali	NT.Rd.X-ing	Assam	77.00	78.00	78.5	01/07/2024 06	28/05/2024 22	29/05/2024 04	2	30/06/2024 05	30/06/2024 16	1
								30/05/2024 09	30/05/2024 13	1	01/07/2024 04	02/07/2024 12	2
								01/06/2024 14	05/06/2024 14	5	05/07/2024 06	05/07/2024 13	1
								20/06/2024 08	20/06/2024 14	1	06/07/2024 07	06/07/2024 08	1
								25/06/2024 06	16/07/2024 00	22	-	-	-
								17/07/2024 07	20/07/2024 20	4	-	-	-
								21/07/2024 10	21/07/2024 20	1	-	-	-
								22/07/2024 06	26/07/2024 18	5	-	-	-
								27/07/2024 09	27/07/2024 12	1	-	-	-
								28/07/2024 14	28/07/2024 19	1	-	-	-
								05/08/2024 16	05/08/2024 19	1	-	-	-
								06/08/2024 16	07/08/2024 06	2	-	-	-
								08/08/2024 07	14/08/2024 06	7	-	-	-
								04/10/2024 06	14/10/2024 21	11	-	-	-
								16/10/2024 11	16/10/2024 16	1	-	-	-
								19/10/2024 12	19/10/2024 17	1	-	-	-
20	Subansiri	Choldhowaghat	Assam	99.43	100.43	97.13	01/07/2024 09	-	-	-	-	-	-
21	Ranganadi	N H Crossing Ranganadi	Assam	93.81	94.81	94.55	02/07/2024 01	28/05/2024 20	29/05/2024 03	2	-	-	-
								30/06/2024 10	02/07/2024 18	3	-	-	-
								06/07/2024 06	06/07/2024 12	1	-	-	-
								22/07/2024 07	22/07/2024 11	1	-	-	-
								04/10/2024 13	05/10/2024 03	2	-	-	-
22	Lohit	Dholla Bazaar	Assam	127.27	128.27	127.43	30/06/2024 03	29/06/2024 23	30/06/2024 05	2	-	-	-
23	Puthimari	Puthimari _NHX	Assam	51.31	52.31	52.53	01/07/2024 14	19/06/2024 13	20/06/2024 08	2	29/06/2024 23	30/06/2024 00	1
								29/06/2024 19	03/07/2024 12	5	01/07/2024 11	01/07/2024 17	1
								05/07/2024 13	06/07/2024 02	2	02/07/2024 05	02/07/2024 12	1
24	Pagladia	Pagladia_NTX	Assam	51.75	52.75	52.55	01/07/2024 09	16/06/2024 12	17/06/2024 07	2	-	-	-
								18/06/2024 16	20/06/2024 09	3	-	-	-
								29/06/2024 14	30/06/2024 18	2	-	-	-
								01/07/2024 07	02/07/2024 16	2	-	-	-
								05/07/2024 10	05/07/2024 20	1	-	-	-

Above Normal and Severe flood events on main Brahamaputra and its tributaries- 2024 flood season

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2024		Flood period above warning level			Flood period above danger level		
						Level in metres	Date	From	To	No.of days	From	To	No.of days
25	Barak	APGhat	Assam	18.83	19.83	21.54	31/05/2024 01	29/05/2024 09	04/06/2024 01	6	29/05/2024 15	02/06/2024 15	4
								19/06/2024 08	21/06/2024 05	3	02/07/2024 20	06/07/2024 19	5
								24/06/2024 09	24/06/2024 17	1	07/08/2024 20	10/08/2024 11	4
								01/07/2024 16	13/07/2024 05	13	-	-	-
								15/07/2024 09	15/07/2024 18	1	-	-	-
								06/08/2024 21	11/08/2024 17	6	-	-	-
								21/08/2024 13	23/08/2024 10	3	-	-	-
								24/08/2024 19	26/08/2024 17	3	-	-	-
26	Katakhal	Matizuri	Assam	19.27	20.27	22.69	30/05/2024 09	28/05/2024 17	02/06/2024 07	6	28/05/2024 23	01/06/2024 16	5
								19/06/2024 06	21/06/2024 11	3	19/06/2024 20	20/06/2024 14	2
								22/06/2024 18	24/06/2024 01	3	02/07/2024 09	06/07/2024 07	5
								02/07/2024 06	07/07/2024 02	6	21/08/2024 07	25/08/2024 16	5
								17/08/2024 13	18/08/2024 11	2	28/08/2024 21	31/08/2024 02	4
								20/08/2024 21	27/08/2024 07	8	02/09/2024 01	03/09/2024 01	2
								28/08/2024 18	04/09/2024 05	8	-	-	-
27	Barak	Badarpurghat	Assam	15.85	16.85	18.15	31/08/2024 05	29/05/2024 09	07/06/2024 01	10	29/05/2024 15	03/06/2024 06	6
								16/06/2024 15	18/07/2024 19	3	19/06/2024 13	21/06/2024 08	3
								06/08/2024 23	13/08/2024 05	8	02/07/2024 00	09/07/2024 01	8
								20/08/2024 19	28/08/2024 05	9	08/08/2024 04	10/08/2024 11	3
								29/08/2024 07	29/08/2024 16	1	-	-	-
28	Kushiyara	Karimganj	Assam	13.94	14.94	16.51	30/05/2024 17	29/05/2024 06	11/06/2024 04	14	29/05/2024 13	06/06/2024 18	9
								15/06/2024 13	24/07/2024 14	40	18/06/2024 01	27/06/2024 11	10
								06/08/2024 11	06/09/2024 19	32	30/06/2024 01	30/06/2024 16	1
								-	-	-	01/07/2024 12	14/07/2024 03	14
								-	-	-	15/07/2024 10	17/07/2024 07	3
								-	-	-	07/08/2024 11	11/08/2024 17	5
								-	-	-	21/08/2024 08	27/08/2024 17	7
29	Manu	Kailashar	Tripura	24.34	25.34	25.05	21/08/2024 18	20/08/2024 23	22/08/2024 19	3	-	-	-
30	Gumti	Sonamura	Tripura	11.50	13.50	14.27	23/08/2024 08	20/08/2024 10	21/08/2024 23	2	23/08/2024 00	26/08/2024 15	4
								23/08/2024 00	31/08/2024 08	9	-	-	-
31	Manas	Mathanguri	Assam	98.10	99.10	95.93	30/06/2024 07	-	-	-	-	-	-
32	Manas	Manas NH- Crossing	Assam	47.81	48.42	48.57	16/06/2024 17	16/06/2024 06	18/06/2024 22	3	16/06/2024 12	16/06/2024 23	1
								19/06/2024 12	20/06/2024 11	2	-	-	-
								05/07/2024 18	06/07/2024 03	2	-	-	-
33	Beki	Beki Rd. Bridge	Assam	44.10	45.10	45.50	06/07/20245 18	19/06/2024 15	19/06/2024 22	1	30/06/2024 07	01/07/2024 08	2
								25/06/2024 11	30/07/2024 01	36	02/07/2024 08	02/07/2024 20	1
								03/08/2024 13	03/08/2024 17	1	03/07/2024 14	03/07/2024 17	1
								04/08/2024 10	04/08/2024 16	1	04/07/2024 12	04/07/2024 14	1
								06/08/2024 06	15/08/2024 03	10	05/07/2024 09	07/07/2024 18	3
								08/09/2024 19	09/09/2024 00	2	-	-	-
								25/09/2024 14	26/09/2024 01	2	-	-	-
								27/09/2024 11	29/09/2024 17	3	-	-	-
								04/10/2024 11	07/10/2024 07	4	-	-	-
								12/10/2024 10	12/10/2024 13	1	-	-	-
34	Gaurang	Kokrajhar	Assam	41.85	42.85	42.74	02/07/2024 07	17/06/2024 12	20/06/2024 21	4	-	-	-
								30/06/2024 13	03/07/2024 07	4	-	-	-
								05/07/2024 08	07/07/2024 17	3	-	-	-
								09/07/2024 13	11/07/2024 09	3	-	-	-
								12/07/2024 10	13/07/2024 04	2	-	-	-
								10/10/2024 06	10/10/2024 15	1	-	-	-

Above Normal and Severe flood events on main Brahamaputra and its tributaries- 2024 flood season

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2024		Flood period above warning level			Flood period above danger level		
						Level in metres	Date	From	To	No.of days	From	To	No.of days
35	Sankosh	Golokganj	Assam	28.94	29.94	30.42	07/07/2024 09	18/06/2024 07	22/06/2024 00	5	05/07/2024 23	08/07/2024 21	4
								28/06/2024 06	28/06/2024 17	1	-	-	-
								30/06/2024 06	23/07/2024 16	24	-	-	-
								24/07/2024 09	25/07/2024 02	2	-	-	-
								07/08/2024 07	17/08/2024 13	11	-	-	-
								28/09/2024 09	30/09/2024 15	3	-	-	-
								05/10/2024 15	07/10/2024 04	3	-	-	-
36	Teesta	Domohani	W.B.	85.65	85.95	86.13	28/09/2024 18	30/06/2024 07	30/06/2024 17	1	28/09/2024 01	28/09/2024 23	1
								05/07/2024 17	05/07/2024 23	1	-	-	-
								07/07/2024 12	07/07/2024 22	1	-	-	-
								10/07/2024 00	10/07/2024 04	1	-	-	-
								28/07/2024 11	28/07/2024 16	1	-	-	-
								03/08/2024 09	03/08/2024 11	1	-	-	-
								04/08/2024 07	04/08/2024 10	1	-	-	-
								06/08/2024 07	06/08/2024 14	1	-	-	-
								07/08/2024 11	07/08/2024 18	1	-	-	-
								05/09/2024 13	05/09/2024 19	1	-	-	-
								26/09/2024 18	26/09/2024 22	1	-	-	-
								27/09/2024 05	29/09/2024 10	3	-	-	-
								03/10/2024 12	03/10/2024 13	1	-	-	-
								05/10/2024 07	05/10/2024 11	1	-	-	-
37	Teesta	Mekhliganj	W.B.	65.45	65.95	66.28	06/07/2024 13	29/05/2024 18	30/05/2024 07	2	20/06/2024 13	20/06/2024 21	1
								13/06/2024 16	20/07/2024 13	38	25/06/2024 16	25/06/2024 22	1
								21/07/2024 23	24/07/2024 04	4	29/06/2024 12	29/06/2024 22	1
								28/07/2024 14	29/07/2024 18	2	30/06/2024 03	30/06/2024 23	1
								30/07/2024 09	30/07/2024 20	1	02/07/2024 09	02/07/2024 22	1
								31/07/2024 05	31/07/2024 23	1	03/07/2024 03	03/07/2024 11	1
								01/08/2024 05	01/08/2024 23	1	05/07/2024 15	05/07/2024 23	1
								02/08/2024 07	28/08/2024 23	27	06/07/2024 07	08/07/2024 13	3
								30/08/2024 07	30/08/2024 10	1	09/07/2024 07	09/07/2024 23	1
								01/09/2024 11	03/09/2024 03	3	10/07/2024 02	10/07/2024 16	1
								04/09/2024 18	07/09/2024 05	4	13/07/2024 07	13/07/2024 10	1
								10/09/2024 12	10/09/2024 18	1	28/07/2024 23	29/07/2024 02	2
								26/09/2024 07	08/10/2024 03	13	06/08/2024 11	07/08/2024 23	2
								11/10/2024 08	11/10/2024 20	1	08/08/2024 15	08/08/2024 22	1
								12/10/2024 10	12/10/2024 19	1	09/08/2024 10	09/08/2024 21	1
								-	-	-	10/08/2024 09	10/08/2024 15	1
								-	-	-	27/09/2024 08	29/09/2024 14	3
								13/06/2024 14	13/06/2024 19	1	-	-	-
								14/06/2024 06	14/06/2024 15	1	-	-	-
								15/06/2024 15	15/06/2024 17	1	-	-	-
								16/06/2024 11	16/06/2024 22	1	-	-	-
								17/06/2024 13	18/06/2024 06	2	-	-	-
								19/06/2024 07	21/06/2024 01	3	-	-	-
								22/06/2024 07	22/06/2024 14	1	-	-	-
								24/06/2024 08	24/06/2024 15	1	-	-	-
								25/06/2024 05	25/06/2024 21	1	-	-	-
								28/06/2024 07	28/06/2024 14	1	-	-	-
								29/06/2024 07	29/06/2024 20	1	-	-	-
								30/06/2024 05	03/07/2024 19	1	-	-	-
								04/07/2024 07	04/07/2024 19	1	-	-	-
								05/07/2024 05	08/07/2024 17	4	-	-	-
								09/07/2024 08	11/07/2024 23	3	-	-	-

Above Normal and Severe flood events on main Brahamaputra and its tributaries- 2024 flood season

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2024		Flood period above warning level			Flood period above danger level		
						Level in metres	Date	From	To	No.of days	From	To	No.of days
38	Jaldhaka	N H 31	W.B.	80.00	80.90	80.84	09/07/2024 15	12/07/2024 04	13/07/2024 22	2	-	-	-
								14/07/2024 05	14/07/2024 22	1	-	-	-
								15/07/2024 05	15/07/2024 22	1	-	-	-
								16/07/2024 05	17/07/2024 11	2	-	-	-
								18/07/2024 05	19/07/2024 15	2	-	-	-
								22/07/2024 10	22/07/2024 23	1	-	-	-
								05/08/2024 07	05/08/2024 12	1	-	-	-
								07/08/2024 12	07/08/2024 18	1	-	-	-
								08/08/2024 06	09/08/2024 18	2	-	-	-
								10/08/2024 10	10/08/2024 19	1	-	-	-
								12/08/2024 06	12/08/2024 08	1	-	-	-
								13/08/2024 06	13/08/2024 08	1	-	-	-
								27/09/2024 17	29/09/2024 22	3	-	-	-
								02/10/2024 08	02/10/2024 22	1	-	-	-
								04/10/2024 06	05/10/2024 05	2	-	-	-
								10/10/2024 07	10/10/2024 15	1	-	-	-
								11/10/2024 06	11/10/2024 21	1	-	-	-
7	Jaldhaka	Mathabhanga	W.B.	47.70	48.20	47.9	06/07/2024 05	19/06/2024 19	20/06/2024 03	2	-	-	-
								06/07/2024 00	06/07/2024 14	1	-	-	-
40	Torsa	Ghughumari	W. B.	39.80	40.41	40.14	13/07/2024 00	18/06/2024 07	18/06/2024 09	1	-	-	-
								19/06/2024 12	20/06/2024 11	2	-	-	-
								21/06/2024 00	21/06/2024 07	1	-	-	-
								30/06/2024 00	30/06/2024 19	1	-	-	-
								02/07/2024 12	02/07/2024 20	1	-	-	-
								05/07/2024 08	07/07/2024 10	3	-	-	-
								09/07/2024 18	10/07/2024 05	2	-	-	-
								12/07/2024 12	14/07/2024 00	3	-	-	-
								28/09/2024 15	29/09/2024 03	2	-	-	-
41	Radak-I	Tufanganj	W. B.	34.22	35.30	35.81	07/07/2024 15	16/06/2024 20	21/06/2024 16	6	06/07/2024 10	08/07/2024 10	3
								02/07/2024 20	03/07/2024 09	2	-	-	-
								05/07/2024 15	14/07/2024 15	10	-	-	-
42	Teesta	Malli Bazaar	Sikkim	223.00	224.00	227.72	20/06/2024 13	29/05/2024 01	29/05/2024 14	1	13/06/2024 09	13/06/2024 10	1
								01/06/2024 08	01/06/2024 10	1	19/06/2024 22	21/06/2024 10	3
								13/06/2024 06	15/06/2024 15	3	30/06/2024 01	30/06/2024 09	1
								17/06/2024 06	17/06/2024 09	1	03/07/2024 01	03/07/2024 08	1
								18/06/2024 03	18/06/2024 06	1	12/07/2024 10	13/07/2024 05	2
								19/06/2024 10	22/06/2024 18	4	15/07/2024 08	15/07/2024 12	1
								25/06/2024 05	27/06/2024 20	3	18/07/2024 09	18/07/2024 15	1
								28/06/2024 02	11/07/2024 22	14	28/09/2024 01	29/09/2024 07	2
								12/07/2024 05	17/07/2024 22	6	-	-	-
								18/07/2024 02	20/07/2024 20	3	-	-	-
								21/07/2024 12	21/07/2024 12	1	-	-	-
								22/07/2024 03	29/07/2024 14	8	-	-	-
								30/07/2024 04	30/07/2024 06	1	-	-	-
								31/07/2024 06	31/07/2024 06	1	-	-	-
								02/08/2024 02	02/08/2024 08	1	-	-	-
								06/08/2024 07	06/08/2024 13	1	-	-	-
								07/08/2024 07	09/08/2024 11	3	-	-	-
								10/08/2024 05	10/08/2024 09	1	-	-	-
								11/08/2024 06	11/08/2024 10	1	-	-	-
								13/08/2024 06	13/08/2024 08	1	-	-	-
								14/08/2024 07	14/08/2024 11	1	-	-	-
								15/08/2024 08	15/08/2024 09	1	-	-	-
								27/09/2024 19	29/09/2024 13	3	-	-	-
43	Teesta	Joretahang(Rothak)	Sikkim	363.98	364.98	361.95	28/09/2024 08	-	-	-	-	-	-
44	Teesta	Singtam	Sikkim	354.59	355.09	353.45	11/06/2024 06	-	-	-	-	-	-
45	Torsa	Hasimara	West Bengal	116.30	116.90	116.4	30/06/2024 08	30/06/2024 07	30/06/2024 11	1	-	-	-

Annex XIII

Above Normal and Severe flood events on various river systems (excluding Ganga and Brahmaputra basins)- 2024 flood season

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2024		Flood period above warning level			Flood period above danger level		
						Level in metres	Date/T	From	To	No. of days	From	To	No. of days
1	Jhelum	Rammunshibagh	Jammu & Kashmir	1585.48	1586.40	1585.15	01/05/2024 00	-	-	-	-	-	-
2	Jhelum	Sangam	Jammu & Kashmir	1591.20	1592.42	1589.27	01/05/2024 00	-	-	-	-	-	-
3	Jhelum	Safapora	Jammu & Kashmir	1580.05	1581.30	1580.03	01/05/2024 00	-	-	-	-	-	-
4	Subernarekna	Jamshedpur	Jharkhand	122.50	123.50	123.08	17/09/2024 12	17/09/2024 01	17/09/2024 18	1	-	-	-
5	Subernarekna	Rajghat	Odisha	9.45	10.36	11.61	18/09/2024 11	16/09/2024 18	20/09/2024 16	5	17/09/2024 10	19/09/2024 23	3
6	Burhabalang	NH_5 _Road Bridge	Odisha	7.21	8.13	7.84	26/10/2024 14	16/09/2024 15	18/09/2024 02	3	-	-	-
								26/10/2024 04	27/10/2024 19	2	-	-	-
7	Baitarni	Anandpur	Odisha	37.44	38.36	37.4	16/09/2024 23	-	-	-	-	-	-
8	Baitarni	Akhuapada	Odisha	17.83	18.33	18.26	17/09/2024 06	17/09/2024 01	17/09/2024 23	1	-	-	-
						18.26	17/09/2024 06	18/09/2024 02	18/09/2024 13	1	-	-	-
9	Brahmani	Jenapur	Odisha	22.00	23.00	20.88	30/09/2024 07	-	-	-	-	-	-
10	Rushikuluya	Purushottampur	Odisha	15.83	16.83	13.60	10/09/2024 09	-	-	-	-	-	-
11	Vamsadhara	Gunupur	Odisha	83.00	84.00	82.63	10/09/2024 05	-	-	-	-	-	-
12	Vamsadhara	Kashinagar	Odisha	54.10	54.60	54.50	10/09/2024 11	10/09/2024 09	10/09/2024 15	1	-	-	-
13	Jalaka	Mathani Road Bridge	Odisha	6.00	6.50	**6.83**	**17/09/2024 06**	30/07/2024 08	03/08/2024 02	5	01/08/2024 14	01/08/2024 20	1
								21/08/2024 08	21/08/2024 13	1	16/09/2024 12	19/09/2024 00	4
								16/09/2024 12	19/09/2024 21	4	-	-	-
								26/09/2024 07	29/09/2024 10	4	-	-	-
								26/10/2024 08	26/10/2024 16	1	-	-	-
14	Mahanadi	Naraj	Odisha	25.41	26.41	25.75	09/08/2024 00	08/08/2024 07	09/08/2024 14	2	-	-	-
15	Mahanadi	Alipingal Devi	Odisha	10.85	11.76	8.27	09/08/2024 08	-	-	-	-	-	-
16	Mahanadi	Nimapara	Odisha	9.85	10.76	5.3	10/08/2024 09	-	-	-	-	-	-
17	Godavari	Atreyapuram	Andhra Pradesh	13.50	15.00	12.33	29/07/2024 04	-	-	-	-	-	-
18	Godavari	Kopergaon	Maharashtra	490.90	493.68	492.1	26/08/2024 17	04/08/2024 03	06/08/2024 02	3	-	-	-
								25/08/2024 17	27/08/2024 23	3	-	-	-
19	Godavari	Gangakhed	Maharashtra	374.00	375.00	373.74	03/09/2024 05	-	-	-	-	-	-
20	Godavari	Nanded	Maharashtra	351.00	354.00	353.64	03/09/2024 05	02/09/2024 12	04/09/2024 05	3	-	-	-
21	Godavari	Kaleswaram	Telangana	103.50	104.75	103.68	22/07/2024 15	22/07/2024 10	23/07/2024 00	2	-	-	-
22	Godavari	Eturunagaram	Telangana	73.32	75.82	74.63	27/07/2024 03	22/07/2024 04	23/07/2024 20	2	-	-	-
								24/07/2024 17	28/07/2024 09	5	-	-	-
								10/09/2024 02	11/09/2024 14	2	-	-	-
23	Godavari	Dummagudam	Telangana	53.00	55.00	54.63	27/07/2024 20	22/07/2024 11	24/07/2024 00	3	-	-	-
								25/07/2024 09	25/07/2024 23	1	-	-	-
								26/07/2024 19	28/07/2024 13	3	-	-	-
								10/09/2024 12	11/09/2024 15	2	-	-	-
24	Godavari	Bhadrachalam	Telangana	45.72	48.77	49.04	28/07/2024 00	21/07/2024 19	29/07/2024 19	9	27/07/2024 16	28/07/2024 07	2
								30/07/2024 08	01/08/2024 06	3	-	-	-
								04/09/2024 13	06/09/2024 10	3	-	-	-
								10/09/2024 09	12/09/2024 09	3	-	-	-

Annex XIII

Above Normal and Severe flood events on various river systems (excluding Ganga and Brahmaputra basins)- 2024 flood season

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2024		Flood period above warning level			Flood period above danger level		
						Level in metres	Date/T	From	To	No. of days	From	To	No. of days
25	Wardha	Sirpur Town	Telangana	159.95	160.95	161.16	03/09/2024 08	25/07/2024 19	26/07/2024 10	2	02/09/2024 21	03/09/2024 18	2
								02/09/2024 06	04/09/2024 05	3	-	-	-
26	Godavari	Kunavaram	Andhra Pradesh	36.74	38.24	42.68	28/07/2024 13	21/07/2024 08	02/08/2024 16	13	21/07/2024 21	01/08/2024 19	12
								08/08/2024 17	08/08/2024 22	1	05/09/2024 08	07/09/2024 04	3
								04/09/2024 12	07/09/2024 16	4	10/09/2024 09	13/09/2024 17	4
								10/09/2024 04	15/09/2024 02	6	-	-	-
27	Godavari	Rajamundry	Andhra Pradesh	17.68	19.51	17.46	29/07/2024 03	-	-	-	-	-	-
28	Godavari	Dowalaiswaram	Andhra Pradesh	14.25	16.08	15.49	28/07/2024 20	22/07/2024 07	02/08/2024 00	12	-	-	-
								05/09/2024 23	07/09/2024 07	3	-	-	-
								10/09/2024 19	13/09/2024 23	4	-	-	-
29	Wainganga	Bhandara	Maharashtra	245.50	245.70	248.1	12/09/2024 11	24/07/2024 03	25/07/2024 03	2	24/07/2024 05	25/07/2024 02	2
								11/09/2024 05	13/09/2024 03	3	11/09/2024 06	13/09/2024 03	3
30	Wainganga	Pauni	Maharashtra	226.73	227.73	228.40	12/09/2024 06	11/09/2024 11	13/09/2024 04	3	11/09/2024 21	12/09/2024 19	2
31	Wardha	Balharsha	Maharashtra	171.50	174.00	172.12	02/09/2024 20	02/09/2024 06	03/09/2024 08	2	-	-	-
32	Indravati	Jagdalpur	Chhatisgarh	539.50	540.80	541.04	10/09/2024 22	20/07/2024 12	21/07/2024 17	2	10/09/2024 12	11/09/2024 06	2
								10/09/2024 02	11/09/2024 21	2			-
33	Krishna	Arjunwad	Maharashtra	539.20	540.70	539.78	01/08/2024 14	27/07/2024 04	04/08/2024 23	9	-	-	-
								06/08/2024 00	06/08/2024 04	1	-	-	-
34	Bhima	Deongaon	Karnataka	402.00	404.50	402.2	08/08/2024 05	08/08/2024 02	08/08/2024 17	1	-	-	
								29/08/2024 01	30/08/2024 23	2	-	-	-
35	Tungabhadra	Mantralayam	Andhra Pradesh	310.00	312.00	311.88	03/08/2024 02	26/07/2024 19	30/07/2024 20	5	-	-	-
								01/08/2024 03	06/08/2024 10	6	-	-	-
								12/08/2024 06	17/08/2024 03	6	-	-	-
								21/08/2024 04	21/08/2024 21	1	-	-	-
								13/10/2024 13	15/10/2024 10	3	-	-	-
								19/10/2024 11	20/10/2024 15	2	-	-	-
								23/10/2024 04	25/10/2024 12	3	-	-	-
36	Tungabhadra	Kurnool	Andhra Pradesh	273.00	274.00	273.1	03/08/2024 23	02/08/2024 03	04/08/2024 05	3	-	-	-
37	Nagavali	Srikakulam	Andhra Pradesh	10.17	10.80	10.15	08/09/2024 20	-	-	-	-	-	-
38	Pennar	Nellore	Andhra Pradesh	15.91	17.28	10.33	24/11/2024 00	-	-	-	-	-	-
39	Sabarmati	Ahmedabad Shubhash Bridge	Gujarat	44.09	45.34	41.84	30/12/2024 13	-	-	-	-	-	-
40	Mahi	Wanakbori	Gujarat	71.93	74.98	72.54	27/08/2024 05	27/08/2024 00	27/08/2024 07	1	-	-	-
41	Naramada	Mandla	Madhya Pradesh	437.00	437.80	438.74	11/09/2024 10	01/08/2024 13	01/08/2024 19	1	04/08/2024 06	04/08/2024 18	1
								03/08/2024 23	05/08/2024 04	3	11/09/2024 04	11/09/2024 23	1
								10/09/2024 21	12/09/2024 10	3	-	-	-
42	Naramada	Narmadapuram	Madhya Pradesh	292.83	293.83	291.95	13/09/2024 19	-	-	-	-	-	-
43	Naramada	Garudeswar	Gujarat	30.48	31.09	22.65	27/08/2024 09	-	-	-	-	-	-
44	Naramada	Bharuch	Gujarat	6.70	7.32	8.12	27/08/2024 13	26/08/2024 09	28/08/2024 15	3	26/08/2024 15	28/08/2024 04	3
45	Tapi	Surat	Gujarat	8.50	9.50	7.5	26/08/2024 13	-	-	-	-	-	-

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Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2024		Flood period above warning level			Flood period above danger level		
						Level in metres	Date/T	From	To	No. of days	From	To	No. of days
46	Damanganga	Vapi Town	Gujarat	18.20	19.20	16.6	05/08/2024 01	-	-	-	-	-	-
47	Damanganga	Daman	Dadra & Nagar Have	2.60	3.40	2.10	23/07/2024 16	-	-	-	-	-	-
48	Cauvery	Musiri	Tamilnadu	82.12	83.12	84.10	02/08/2024 07	31/07/2024 19	07/08/2024 02	8	01/08/2024 08	03/08/2024 23	3
49	Cauvery	Kodumudi	Tamilnadu	125.50	126.50	127.24	02/08/2024 12	31/07/2024 01	04/08/2024 06	5	31/08/2024 18	03/08/2024 06	5
50	Bhavani	Savandapur	Tamilnadu	184.50	185.50	184	18/10/2024 23	-	-	-	-	-	-
51	Sabari	Chinturu	Andhra Pradesh	40.50	42.00	42.95	28/07/2024 15	22/07/2024 09	25/07/2024 02	4	27/07/2024 22	29/07/2024 07	3
								27/07/2024 05	29/07/2024 22	3	10/09/2024 21	12/09/2024 05	3
								09/09/2024 21	12/09/2024 21	4	-	-	-
52	Krishna	Avanigadda	Andhra Pradesh	9.00	11.00	10.3	02/09/2024 21	01/09/2024 22	04/09/2024 16	4	-	-	-
53	Periyar	Neeleswaram	Kerala	9.00	10.00	8.03	30/07/2024 10	-	-	-	-	-	-
54	Bharathapuzha	Kumbidi	Kerala	8.20	9.20	10.37	31/07/2024 01	30/07/2024 10	01/08/2024 05	3	30/07/2024 14	31/07/2024 17	2
55	Pamba	Malakkara	Kerala	6.00	7.00	5.46	16/07/2024 10	-	-	-	-	-	-
56	Kabini	Muthankera	Kerala	710.3	711.25	711.73	19/07/2024 02	27/06/2024 02	28/06/2024 01	2	18/07/2024 05	20/07/2024 19	3
								16/07/2024 04	22/07/2024 03	7	30/07/2024 15	01/08/2024 20	3
								26/07/2024 20	28/07/2024 14	3	-	-	-
								29/07/2024 14	03/08/2024 11	5	-	-	-
57	Godavari	Nasik	Maharashtra	558.10	559.60	558.11	24/08/2024 22	24/08/2024 22	25/08/2024 04	2	-	-	-
58	Banas	Abu Road	Rajasthan	258.00	259.00	255.40	27/08/2024 19	-	-	-	-	-	-
59	Vaigai	Madurai	Tamilnadu	131.50	132.50	131.29	15/12/2024 17	-	-	-	-	-	-