



GOVERNMENT OF INDIA
Ministry of Jal Shakti
Department of Water Resources
River Development and Ganga Rejuvenation

Report on Water Quality Hot-spots in Rivers of India (8 th Edition)

(January - December 2025)



Central Water Commission
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Water, the world's most valuable natural resource, is essential for the survival of all living organisms on the earth. With population growth, industrial development, urbanisation & agricultural activities, the demand & consumption for freshwater is rising. This has caused increased utilisation of water from rivers, lakes and other water sources affecting the diversity of flora and fauna. Further, after utilisation by industries, agriculture, human settlements etc., the effluent/discharge is generally poorer in quality/quantity than the original intake. This necessitates creation of treatment facilities, defining standards of effluent discharge, and foremost continuous monitoring of water quality of rivers and other water sources.

Since 1963, Central Water Commission has been involved in water quality monitoring. Central Water Commission has been monitoring the water quality at 788 (as on January, 2025) stations across various rivers and 90 water bodies (as on January, 2025) in India.

This report, now in its eighth edition, aims to provide insights into the water quality scenario based on standards set by the Ministry of Environment, Forest and Climate Change (MoEFCC), the Central Pollution Control Board (CPCB) and Bureau of Indian Standards (BIS). Previous editions were published in August 2011, November 2017, November 2021, August 2024 (2 nos.), November 2024 and May 2025. This eighth edition is based on the seasonal average values (Pre-monsoon, Monsoon and Post-monsoon) observed during January-December, 2025 at monitoring stations across India. It is our earnest hope that the findings presented herein will serve as a useful resource for developing strategies and implementing effective remedial measures.

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Water in its purest form on Earth, comes from rain and snow. This water is available first in the form of surface water through rivers and Lakes. Thus, we can say the journey of water on Earth starts in the shape of surface runoff. This surface water forms the lifeline of almost all the human activities as also most of nature's activities. It is the surface water which percolates down and recharges the aquifers and becomes part of Ground Water. Due to the fast pace of industrialization and urbanization, a lot of effluent and sewage is being generated, for a major portion of which there are no effluent treatments. This has resulted in discharge of this sewage into the rivers untreated or only partially treated. Rivers are our lifeline and we all have the responsibility of preserving it, to make our development and consequently quality of life sustainable. Pollution of rivers does not mean that they are polluted from its source to mouth, but there are stretches in some rivers which are polluted and actions are being taken by the Government to bring these stretches to acceptable conditions.

Central Water Commission has been monitoring the quality of river water at 788 stations on different rivers & 90 water bodies, all over India. It all started with the aim of monitoring the water quality parameters for agricultural purposes, but later on many more parameters were added and at present it covers more or less the entire spectrum of water quality. This is the Seventh Edition of Hot spots report and it is based on the seasonal average values observed during January-December, 2025 covering 774 WQ monitoring stations of CWC.

I would like to place on record my appreciation of Sh. Altaf Hussain, Deputy Director, RDC-II Dte, Dr. Jakir Hussain, Research Officer, RDC-II Dte; Dr. Sandeep Kumar Shukla, Research Officer, RDC-II Dte; for excellently bringing out Eighth Edition of this publication. I also appreciate the sampling, testing and compilation work done by scientific officers of CWC.

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Water is one of the most important and a basic natural resource on the Earth and it sustain lives of all organism of the Earth. Only 2.5% of surface water is fresh water. The rest is sea water and is undrinkable. Out of the 2.5%, over 1.75 % is locked as frozen form and thus remaining 0.75 % of all the water is available for human consumption. Central Water Commission, an apex engineering Organization under the Ministry of Water Resources, River Development and Ganga Rejuvenation is playing an active role not only for water resource development but also in field of water quality.

CWC is monitoring the water quality of rivers since 1960's. Its water quality network consists of 788 water quality stations (as on January, 2025) along with 90 water bodies and a 3-tier laboratory system of 465 Level-I, 19 Level-II and 5 Level-III laboratories across the country. Water quality monitoring in Indian rivers is gaining importance in present day context with increasing urbanization, rapid industrialization and rising standards of living. The present 8th edition of the Report "Water Quality Hot spots in Rivers of India" is based on the seasonal average values observed for 13 parameters (pH, Electrical Conductivity (EC), Fluoride (F^-), Ammonia as N (NH_3-N), Nitrate as N (NO_3-N), Chloride (Cl^-), Total Hardness (TH), Boron (B), Sodium Adsorption Ratio (SAR), Dissolved Oxygen (DO), Biochemical Oxygen Demand (BOD), Total Coliform (TC) and Faecal Coliform (FC)) during January-December 2025 at monitoring stations across India. The report brings out the identified locations having concentration of these parameters above the acceptable limits.

I appreciate the hard work done by Sh. Rajat Sharma, Senior Research Assistant (Lead Author) of River Data Compilation-2 Directorate & my appreciation to all field Chief Engineers of CWC for collection and submission of water quality data to River Data Compilation-2 Directorate and thus paving way to publish such a useful report.

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EXECUTIVE SUMMARY

The assessment of water quality is an essential measure within environmental monitoring. When water quality is poor, it affects not only the aquatic life but also the surrounding ecosystems. Rivers are unquestionably important parts of the hydrological cycle, mainly because they are fluxes of water and not reservoirs of water. Rivers, along with water, drag off sediments and other suspended materials (biotic and abiotic) that ultimately will reach all the other aquatic environments. The present study (8th Edition) is based on the data of 13 water quality parameters covering 774 water quality monitoring stations in 2025. The eight parameters — pH, dissolved oxygen (DO), biochemical oxygen demand (BOD), total coliform bacteria (TC), free ammonia (NH₃-N), electrical conductivity (EC), boron (B), sodium adsorption ratio (SAR) are important for classification based on the uses defined by the Central Pollution Control Board (CPCB). Fluoride (F⁻), Chloride (Cl⁻), Total Hardness (TH) and Nitrate (NO₃⁻-N) are among the parameters defined by the Bureau of Indian Standards (BIS: 10500:2012) for drinking water. Faecal Coliform (FC) is based on the primary water quality criteria for bathing water listed in the Gazette Notification issued by the Ministry of Environment, Forest and Climate Change (MoEFCC) in 2000. These samples were analyzed at 24 water quality laboratories of CWC. The analysis results are compared with the prescribed limits of CPCB designated best uses, BIS 10500:2012 and MoEFCC standards to find out the hot spot in Indian River in absence of any river specific standards. The parameter-wise summary of the analysis results is given below:

pH

The recommended acceptable pH limit for drinking water sources varies depending on the classification: Class A (without conventional treatment but after disinfection), Class B (outdoor bathing organized) and Class D (Propagation of Wildlife and Fisheries). In 2025, a total of 21,013 river water samples were analyzed with 546 samples (2.59%) found to exceed the acceptable pH limit. Eleven (11) water quality monitoring stations on 10 rivers exceeded the acceptable pH limit.

Acceptable Limit of Designated Best Uses of Water by CPCB (Class A, B, D)	pH 6.5 – 8.5
No of Samples Tested	21013
No. of samples where pH value found beyond acceptable limit	546
No. of Monitoring stations where average (pre-monsoon/, monsoon / post monsoon) pH value found beyond acceptable limit	11
No. of rivers/basins where pH value found beyond acceptable limit	10/06

The absolute values of pH of the samples ranged from 4.26 to 9.37 throughout January to December 2025. The lowest pH value (4.26) was observed at the Kharkhana water quality monitoring station on the Myntdu River in February 2025. The highest pH value (9.37) was observed at the Jagdalpur water quality monitoring station on the Wardha River in April 2025.

Electrical Conductivity (EC)

The recommended acceptable limit of electrical conductivity as 2250 µS/cm is mentioned in "Designated Best Uses of Water" by CPCB only in Class E- Irrigation, Industrial Cooling, and Controlled Waste Disposal. In 2025, a total of 20,919 river water samples were analyzed with 101 samples (0.48%) found to exceed the acceptable electrical conductivity limit. Seven (07) water quality monitoring stations on 07 rivers exceeded the acceptable electrical conductivity limit (CPCB Class E).

Acceptable Limit of Designated Best Uses of Water by CPCB (Class E)	EC < 2250 µS/cm
No of Samples Tested	20919
No. of samples where electrical conductivity found above acceptable limit	101
No. of Monitoring stations where average (pre-monsoon/monsoon/post-monsoon) electrical conductivity found above acceptable limit	07
No. of rivers/basins where EC value found beyond acceptable limit	07/05

The absolute values of electrical conductivity range were from 16.78 to 11,850 $\mu\text{S}/\text{cm}$ in 2025. The lowest electrical conductivity (16.78 $\mu\text{S}/\text{cm}$) was observed at the at the Upper Rimbi water quality monitoring station on the Rimbi khola River during July 2025. The highest electrical conductivity (16300 $\mu\text{S}/\text{cm}$) was observed at the Durvesh water quality monitoring station on the Vaitarna River during March 2025.

Ammonia as N ($\text{NH}_3\text{-N}$)

The recommended acceptable limit of ammonia as N ($\text{NH}_3\text{-N}$) as 1.2 mg/L is mentioned in "Designated Best Uses of Water" by CPCB only in Class D- Propagation of wild life and fisheries. In 2025, a total of 16,907 river water samples were analyzed with 834 samples (4.93%) found to exceed the acceptable limit. Thirty-six (36) water quality monitoring stations on 17 rivers exceeded the acceptable ammonia limit (CPCB Class D).

Acceptable Limit of Designated Best Uses of Water by CPCB (Class D)	$\text{NH}_3\text{-N} < 1.2$ mg/L
No of Samples Tested	16907
No. of samples where ammonia found above acceptable limit	834
No. of Monitoring stations where average (pre-monsoon/monsoon/post-monsoon) ammonia found above acceptable limit	36
No. of rivers/basins where ammonia value found beyond acceptable limit	17/10

The absolute values of ammonia concentration of the samples ranged from 0.00 to 73.34 throughout January to December 2025. The highest ammonia concentration 73.34 mg/L was observed at KT (Satrapur) water quality monitoring station on the Kanhan River during May 2025.

Fluoride (F^-)

Bureau of Indian Standard (10500:2012) has recommended the acceptable limit of 1.5 mg/ for fluoride. In 2025, a total of 19,191 river water samples were analyzed and 89 samples (0.46%) found to exceed the acceptable limit of BIS 10500:2012. Two (02) water quality monitoring station on 02 river exceeded the acceptable fluoride limit of BIS 10500:2012.

Acceptable Limit as BIS 10500: 2012	$\text{F}^- < 1.5$ mg/L
No of Samples Tested	19191
No. of samples where fluoride found above acceptable limit	89
No. of Monitoring stations where average (pre-monsoon/monsoon/post-monsoon) fluoride found above acceptable limit	02
No. of rivers/basins where fluoride value found beyond acceptable limit	02/02

The absolute values of fluoride concentration range were from 0.00 to 10.5 mg/L in 2025. The highest fluoride concentration (10.5 mg/L) was observed at the Lingdem Hot Spring water quality monitoring station on the Talang Chu River during November 2025.

Total Hardness (TH)

BIS (Bureau of Indian Standard) 10500:2012) has recommended an acceptable limit of 600 mg/L of total hardness in drinking water. In 2025, a total of 20,372 river water samples were analyzed and 17 samples (0.08%) found to exceed the acceptable limit. One (01) water quality monitoring station on 01 river exceeded the acceptable total hardness limit of BIS 10500:2012.

Acceptable Limit as BIS 10500: 2012	TH < 600 mg/L
No of Samples Tested	20372
No. of samples where total hardness found above acceptable limit	17
No. of Monitoring stations where average (pre-monsoon/monsoon/post-monsoon) total hardness found above acceptable limit	01
No. of rivers/basins where pH value found beyond acceptable limit	01/01

The absolute values of total hardness concentration range were from 5 to 1454 mg/L in year 2025. The lowest hardness concentration (5 mg/L) was observed at the Kokrajhar water quality monitoring station on the Gaurang River during February 2025. The highest

hardness concentration (1454 mg/L) was observed at the Durvesh water quality monitoring station on the Vaitarna River during March, 2025.

Chloride (Cl⁻)

BIS (Bureau of Indian Standard) 10500:2012) has recommended an acceptable limit of 1000 mg/L of chloride in drinking water. In 2025, a total of 21,012 river water samples were analyzed and 09 samples (0.043%) found to exceed the acceptable limit.

The absolute values of chloride concentration range were from 0.50 to 3954.81 mg/L in 2025. The highest chloride concentration (3954.81 mg/L) was observed at the Durvesh water quality monitoring station on the Vaitarna River during March 2025.

Acceptable Limit as BIS 10500: 2012	Cl ⁻ < 1000 mg/L
No of Samples Tested	21012
No. of samples where chloride found above acceptable limit	09
No. of Monitoring stations where average (pre-monsoon/monsoon/post-monsoon) chloride found above acceptable limit	00
No. of rivers/basins where chloride value found beyond acceptable limit	0/0

Boron(B)

The recommended acceptable limit of boron as 2.0 mg/L is mentioned in "Designated Best Uses of Water" by CPCB only in Class E-Irrigation, Industrial Cooling, and Controlled Waste Disposal. In 2025, a total of 15,804 river water samples were analysed with 10 (0.06%) found exceed the acceptable limit (CPCB-Class E).

The absolute values of boron concentration of the samples ranged from 0.00 to 3.91 throughout January to December 2025. The highest boron concentration 3.91 mg/L was observed at Lingdem HS water quality monitoring station on the Talangchu River during October 2025. The average values of water quality monitoring stations during the pre-monsoon/monsoon/post-monsoon seasons of 2025 have been found to be within the acceptable limit for boron.

Acceptable Limit of Designated Best Uses of Water by CPCB (Class E)	B < 2.0 mg/L
No of Samples Tested	15804
No. of samples where ammonia found above acceptable limit	10
No. of Monitoring stations where average (pre-monsoon/monsoon/post-monsoon) ammonia found above acceptable limit	00
No. of rivers/basins where Boron value found beyond acceptable limit	0/0

Nitrate as N (NO₃⁻-N)

Bureau of Indian Standard (10500:2012) has recommended that the acceptable limit for nitrate is 45 mg/L or 10.17 mg/L as NO₃⁻ – N in drinking water. In 2025, a total of 15,601 river water samples were analyzed and 240 samples (1.53%) found to exceed the acceptable limit. Seventeen (17) water quality monitoring stations on 14 rivers exceeded the acceptable nitrate limit of BIS 10500:2012.

Acceptable Limit as BIS 10500: 2012	NO ₃ ⁻ – N < 10.17 mg/L
No of Samples Tested	15,601
No. of samples where nitrate found above acceptable limit	240
No. of Monitoring stations where average (pre-monsoon/monsoon/post-monsoon) nitrate found above acceptable limit	17
No. of rivers/basins where nitrate value found beyond acceptable limit	14/03

The absolute values of nitrate concentration range was from 0.00 to 64.7 mg/L in year 2025. The highest nitrate concentration (64.7 mg/L) was observed at the T. Bekuppe water quality monitoring station on the Arkavathi River during February 2025.

Dissolved Oxygen (DO)

The recommended acceptable limit of dissolved oxygen as < 5.0 mg/L is mentioned in "Designated Best Uses of Water" by CPCB only in Class B- outdoor bathing (organised). In 2025, a total of 19,209 river water samples were analyzed and 2833 samples (14.74%) found to exceed the acceptable limit. One hundred eleven (111) water quality monitoring stations on eighty (80) rivers exceeded the acceptable limit of dissolved oxygen (CPCB - Class B).

Acceptable Limit of Designated Best Uses of Water by CPCB (Class B)	DO > 5.0 mg/L
No of Samples Tested	19209
No. of samples where dissolved oxygen found above acceptable limit	2833
No. of Monitoring stations where average (pre-monsoon/monsoon/post-monsoon) dissolved oxygen found above acceptable limit	111
No. of rivers/basins where pH value found beyond acceptable limit	80/13

The absolute values of dissolved oxygen concentration range were from 0 to 13.42 mg/L in 2025. The highest DO concentration (13.42 mg/L) was observed at the Koteswar water quality monitoring station on the Bhagirathi River during December 2025. The zero DO concentration was observed for 278 water samples during the 2025 on twenty-two (22) water quality stations on 9 rivers across India during 2025.

Bio-chemical Oxygen Demand (BOD)

The recommended acceptable limit of biochemical oxygen demand as > 3.0 mg/L is mentioned in "Designated Best Uses of Water" by CPCB only in Class B- outdoor bathing (organised). In 2025, a total of 17,924 river water samples were analyzed and 4077 samples (22.74%) found to exceed the acceptable limit. One hundred fifty (150) water quality monitoring stations on sixty-seven (67) rivers exceeded the acceptable biochemical oxygen demand (CPCB-Class B).

Acceptable Limit of Designated Best Uses of Water by CPCB (Class B)	BOD < 3.0 mg/L
No of Samples Tested	17924
No. of samples where BOD found above acceptable limit	4077
No. of Monitoring stations where average (pre-monsoon/monsoon/post-monsoon) BOD found above acceptable limit	150
No. of rivers/basins where pH value found beyond acceptable limit	67/12

The absolute values of BOD concentration range were from 0.00 to 145.20 mg/L in year 2025. The highest BOD concentration (145.20 mg/L) was observed at the Singasadanapalli water quality monitoring station on the Ponnaiyar River during February 2025.

Total Coliform (TC)

The recommended acceptable limit of total coliforms as > 500 MPN/100 ml is mentioned in "Designated Best Uses of Water" by CPCB only in Class B- outdoor bathing (organised). In 2025, a total of 6805 river water samples were analyzed and 6311 samples (92.72%) found to exceed the acceptable limit. Four hundred

Acceptable Limit of Designated Best Uses of Water by CPCB (Class B)	TC < 500 MPN/100ml
No of Samples Tested	6805
No. of samples where total coliform found above acceptable limit	6311
No. of Monitoring stations where average (pre-monsoon/monsoon/post-monsoon) total coliform found above acceptable limit	416
No. of rivers/basins where pH value found beyond acceptable limit	220/12

sixteen (416) water quality monitoring stations on two hundred twenty (220) rivers exceeded the acceptable total coliform (CPCB-Class B).

The absolute values of total coliform concentration range were from 20 to 13,00,00,00 MPN/100 ml in year 2025. The highest total coliform level (13,00,00,00 MPN/100 ml) was observed at Noida water quality monitoring station on the Hindon River during March & April, 2025.

Faecal Coliform (FC)

Primary Water Quality Criteria for Bathing water (MoEF & CC) Gazette Notification, 2000 recommended acceptable limit of faecal coliform as > 500 MPN/100 ml. In 2025, a total of 6781 river water samples were analyzed and 5136 samples (75.74%) found to exceed the acceptable limit. Three hundred forty-seven (347) water quality monitoring stations on one hundred sixty-six (166) rivers exceeded the acceptable total coliform (CPCB-Class B).

Primary Water Quality Criteria for Bathing water (MoEF & CC) Gazette Notification, 2000	FC < 500 MPN/ 100ml
No of Samples Tested	6781
No. of samples where faecal coliform found above acceptable limit	5136
No. of Monitoring stations where faecal coliform found above acceptable limit	347
No. of rivers/basins where pH value found beyond acceptable limit	166/11

The absolute values of faecal coliform concentration range were from 20 to 49,00,000 MPN/100ml in May, 2025. The highest faecal coliform value (49,00,000 MPN/100ml) was observed at the Delhi Railway Bridge water quality monitoring station on the Yamuna during May, 2025.

Sodium Adsorption Ratio (SAR)

The recommended acceptable limit of SAR as 26 is mentioned in "Designated Best Uses of Water" by CPCB only in Class E- Irrigation, Industrial Cooling, and Controlled Waste Disposal. In 2025, a total of 18,910 river water samples were analysed, all the samples found within the acceptable limit as per the CPCB, Class E.

Acceptable Limit of Designated Best Uses of Water by CPCB (Class E)	SAR < 26
No of Samples Tested	18910
No. of samples where SAR found above acceptable limit	00
No. of Monitoring stations where SAR found above acceptable limit	00
No. of rivers/basins where pH value found beyond acceptable limit	0/0

The absolute values of SAR range were from 0.02 to 17.24 in year 2025. The highest SAR value (17.24) was observed at Vautha water quality monitoring station on the Sabarmati River during August, 2025. The average values of water quality monitoring stations during the pre-monsoon/monsoon/post-monsoon seasons of 2025 have been found to be within the acceptable limit for SAR.

1.INTRODUCTION**1.1 Water Quality & its Importance**

Water quality, in general, can be defined as the suitability of water to sustain various uses or processes. Any particular use will have specific requirements for the physical, chemical, or biological characteristics of water. The term is most frequently employed by reference to a set of standards against which compliance, generally achieved through water treatment, can be assessed. The most common standards used to monitor and assess water quality convey the health of ecosystems, the safety of human contact, the extent of water pollution, and the condition of drinking water. Water quality significantly impacts water supply and often determines supply options. The parameters for water quality are determined by the intended use. Work in the area of water quality tends to be focused on water that is treated for potability, industrial/domestic use, or restoration (of an environment/ecosystem, generally for the health of human/aquatic life).

The composition of surface and underground waters depends on natural factors (geological, topographical, meteorological, hydrological, and biological) in the drainage basin and varies with seasonal differences in runoff volumes, weather conditions and water levels. Large natural variations in water quality may, therefore, be observed even when only a single watercourse is involved. Human intervention also has significant effects on water quality. Some of these effects result from hydrological changes, such as the construction of dams, draining of wetlands, and diversion of flow. More obvious are the polluting activities, such as the discharge of domestic, industrial, urban, and other wastewaters into the watercourse (whether intentional or accidental) and the spreading of chemicals on agricultural land in the drainage basin. Water quality is influenced by a wide range of natural factors. The most important of these natural influences are geological, hydrological and climatic, as they affect the quantity and quality of water available.

The water quality of Indian rivers is of considerable importance, as these waters serve various purposes, including drinking for domestic and residential water supplies, agriculture (irrigation), hydroelectric power plants, tourism, recreation, and other human or economic uses of water.

The monitoring of river water quality is a crucial aspect of restoring water quality. One of the primary objectives of river water quality monitoring is to evaluate the suitability of river water for drinking purposes, irrigation, outdoor bathing and the propagation of wildlife and fisheries. The physical and chemical quality of river water plays a key role in determining its fitness

for drinking. Therefore, the suitability of river water for potable uses, particularly in terms of its chemical quality, must be assessed based on vital characteristics. The Bureau of Indian Standards (BIS), formerly known as the Indian Standard Institute (ISI), has outlined quality standards for drinking water in its document IS 10500:2012 serving as a reference for determining the suitability of river water.

Monitoring and assessing water quality are essential for comprehending the extent and magnitude of the water quality challenge. Unlike water quantity, monitoring water quality is a complex process. Managing the water quality of rivers is a challenging task, with various manmade and natural factors likely to increase complexity in the future. One significant reason is the introduction and use of numerous new chemicals each year in agriculture, chemical industries, pharmaceutical industries etc. The large quantity of these new chemicals, along with the difficulty in quantifying many of them due to certain limitations, makes it challenging to reliably assess the health and environmental consequences. This complexity is further compounded by the continuous introduction of new chemicals, making it difficult to predict the long-term impact on water quality and associated ecosystems.

1.2 Water Quality Hot Spots

As per the Guidelines for Water Quality Monitoring, 2017, a 'Hotspot' is defined as a location or monitoring station where the concentration of a particular parameter exceeds the permissible limits prescribed by the water quality standards in the BIS code IS 10500:2012. In this report, a 'Hotspot' is determined based on the location or Monitoring station where the concentration of a specific parameter surpasses the permissible limits set by the drinking water quality standards in the BIS code IS 10500:2012, 'Designated Best Use Water Quality Criteria' established by the Central Pollution Control Board (CPCB) and Primary Water Quality Criteria for Bathing Water mentioned in the Ministry of Environment, Forest and Climate Change (MoEFCC) Gazette Notification, 2000. The report incorporates data covering 774 water quality monitoring stations in year 2025 of the Central Water Commission (CWC), covering significant rivers in India.

It is based on the average values observed during Pre-monsoon (January to May), Monsoon (June to October) and Post-monsoon (November to December) seasons for the year 2025. River water quality has been evaluated based on 13 parameters: pH, Electrical Conductivity (EC), Fluoride (F^-), Ammonia as N (NH_3-N), Nitrate as N (NO_3^-N), Chloride (Cl^-), Total Hardness (TH), Boron (B), Sodium Adsorption Ratio (SAR), Dissolved Oxygen (DO), Biochemical Oxygen Demand (BOD), Total Coliform (TC) and Faecal Coliform (FC). These parameters are crucial in defining the quality of surface water in rivers. Therefore, the presence of these parameters in river water beyond the permissible limits is considered as river water quality hotspots.

2.INDIAN WATER RESOURCES SCENARIO**2.1 River Basins of India**

India-WRIS under its publication “River Basin Atlas of India”, October 2012 has standardized the river basins of India. The country is classified into 25 river basins and 101 sub-basins under India-WRIS project based on digital elevation model.

These 25 basins are:

- (1) Indus (Up to Border) Basin.
- (2a) Ganga; (2b) Brahmaputra; (2c) Barak and Others Basin.
- (3) Godavari Basin.
- (4) Krishna Basin.
- (5) Cauvery Basin.
- (6) Subarnarekha Basin.
- (7) Brahmani and Baitarni Basin.
- (8) Mahanadi Basin.
- (9) Pennar Basin.
- (10) Mahi Basin.
- (11) Sabarmati Basin.
- (12) Narmada Basin.
- (13) Tapi Basin.
- (14) West flowing rivers South of Tapi Basin.
- (15) East flowing rivers between Mahanadi and Godavari Basin.
- (16) East flowing rivers between Godavari and Krishna Basin.
- (17) East flowing rivers between Krishna and Pennar Basin.
- (18) East flowing rivers between Pennar and Cauvery Basin.
- (19) East flowing rivers South of Cauvery Basin.
- (20) West flowing rivers of Kutch and Saurashtra including Luni Basin.
- (21) Minor rivers draining into Bangladesh Basin.
- (22) Minor rivers draining into Myanmar Basin.
- (23) Area of North Ladakh not draining into Indus Basin.
- (24) Drainage area of Andaman & Nicobar Islands.
- (25) Drainage area of Lakshdweep Islands.



Fig 1- Indian River Basins

2.2 Indian River System

The Indian River Systems can be divided into four categories:- the Himalayan, the Rivers traversing the Deccan Plateau, the Coastal and those in the inland drainage basin .

The Himalayan Rivers are perennial as they are fed by melting glaciers every summer. During the monsoon, these Rivers assume alarming proportions. Swollen with rainwater, they often inundate villages and towns in their path. The Gangetic basin is the largest River system in India, draining almost a quarter of the country.

The Rivers of the Indian peninsular plateau are mainly fed by rain. During summer, their flow is greatly reduced, and some of the tributaries even dry up, only to be revived in the monsoon. The Godavari basin in the peninsula is the largest in the country, spanning an area of almost one-tenth of the country. The Rivers Narmada and Tapi flow almost parallel to each other but empty themselves in opposite directions. The two Rivers make the valley rich in alluvial soil and teak forests cover much of the land. While coastal River's gush down the peaks of the Western Ghats into the Arabian Sea in torrents during the rains, their flow slow down after the monsoon. Streams like the Sambhar in western Rajasthan are mainly seasonal in character, draining into the inland basins and salt lakes. In the Rann of Kutch, the only River that flows through the salt desert is the Luni.

2.2.1 Indus system

This comprises the river Indus and its tributaries like the Jhelum, Chenab, Ravi, Beas and Sutlej. These originate in the North and generally flow in a West or South-West direction to eventually flow into Arabian Sea through Pakistan.

2.2.2 Ganga-Brahmaputra-Meghna system

The main river Ganga and its tributaries like the Yamuna, Sone, Gandak, Kosi and many others; similarly, main rivers Brahmaputra, Meghna and their tributaries. All these eventually flow into Bay of Bengal, through Bangladesh. Some of the tributaries of these rivers are larger than other independent rivers. e.g. Yamuna, a tributary of Ganga, has a larger catchment area than the Tapi, a small peninsula river.

2.2.3 Rivers of Rajasthan and Gujarat

Mahi, Sabarmati, Luni etc. These are rivers of arid regions, they carry relatively little flow, some of them flow to Arabian Sea through Gujarat while some are land-locked and their flow is lost through percolation and evaporation in the vast arid regions.

2.2.4 East Flowing Peninsular Rivers

The important members of this group are: Damodar, Mahanadi, Brahmani, Baitarani, Subarnarekha, Krishna, Godavari and Cauvery. They all flow into Bay of Bengal at various places along the Eastern Coast of India.

2.2.5 West Flowing Peninsular Rivers

Narmada and Tapi rivers originate in Central India and flow in a western direction to meet Arabian Sea south of Gujarat.

2.2.6 Western Coast Rivers

There are large number of rivers in the Western Coast - i.e. coastal Maharashtra and Karnataka, and entire Kerala. These rivers are small in length but carry a significant amount of water due to very high rainfall in Western Ghats. They drain only 3% of the India's land area but carry 11% of India's water resources.

Sources:

1. River Basin Atlas of India, October 2012- Jointly developed by CWC and ISRO.
2. India Water Resources Information System.

The more details may be assessed by clicking the links given below:
(https://indiawris.gov.in/downloads/RiverBasinAtlas_Full.pdf)

3. HYDROCHEMISTRY

Hydrochemistry is an interdisciplinary science that deals with the chemistry of water in the natural environment. Professional fields such as chemical hydrology, aqueous chemistry, hydrochemistry, water chemistry and hydro-geochemistry are all more or less synonyms. The classical use of chemical characteristics in chemical hydrology is to provide information about the regional distribution of water qualities.

Main areas of work are the chemical characterization of the water (which is highly dependent on the regional and geochemical event units), the determination of water-chemical parameters and the assessment of anthropogenic and other influences on the water quality.

At the same time, hydrochemistry can also be of immense help in yielding information about the environment through which water has circulated. It is essential to study the entire system like atmospheric water (rainwater), surface water and ground water simultaneously in evaluating their hydrochemistry and pollution effect.

3.1 Chemistry of Rainwater

The atmosphere is composed of water vapors, dust particles and various gaseous components such as N_2 , O_2 , CO_2 , CH_4 , CO , SO_2 , NO_2 etc. Pollutants in the atmosphere can be transported through long distances by the wind. These pollutants are mostly washed down by precipitation and partly as dry fall out. Composition of rainwater is determined by the source of water vapors and by the ion, which are taken up during transport through the atmosphere. In general, chemical composition of rainwater shows that rainwater is slightly mineralized with specific electrical conductance (EC) generally below $50 \mu S/cm$, chloride (Cl^-) below 5 mg/l and HCO_3^- below 10 mg/l . Among the cations, concentration of Ca , Mg , Na & K vary considerably but the total cations content is generally below 15 mg/l except in samples contaminated with dust. The concentration of sulphates and nitrates in rainwater may be high in areas near industrial hubs.

3.2 Chemistry of Surface Water

Surface water is found extremely variable in its chemical composition due to variations in relative contributions of ground water and surface water sources. The possible causes and consequences of changes in climate, land use and industrial, urban and agricultural pollution can be expected to be indicated by changes in the physical and chemical composition of water in rivers and streams. The mineral content in river water usually bears an inverse relationship to discharge. The mineral content of river water tends to

increase from source to mouth, although the increase may not be continuous or uniform. Other factors like discharge of city wastewater, industrial waste and mixing of waters can also affect the nature and concentration of minerals in surface water. Among anions, bicarbonates are the most important and constitute over 50% of the total anions in terms of milli equivalent per litre (meq/l). In case of cations, alkaline earths or normally calcium predominates but with increasing salinity the hydro chemical facies tend to change to mixed cations or even to Na- HCO_3 type.

3.3 Chemistry of Ground Water

The downward percolating water is not inactive, and it is enriched in CO_2 . It can also act as a strong weathering agent apart from general solution effect. Consequently, the chemical composition of ground water will vary depending upon several factors like frequency of rain, which will leach out the salts, time of stay of rain water in the root-zone and intermediate zone, presence of organic matter etc. It may also be pointed out that the water front does not move in a uniform manner as the soil strata are generally quite heterogeneous. The movement of percolating water through larger pores is much more rapid than through the finer pores. The overall effect of all these factors is that the composition of ground water varies from time to time and from place to place.

Before reaching the saturated zone, percolating water is charged with oxygen and carbon dioxide and is most aggressive in the initial stages. This water gradually loses its aggressiveness, as free CO_2 associated with the percolating water gets gradually exhausted through interaction of water with minerals.

The oxygen present in this water is used for the oxidation of organic matter that subsequently generates CO_2 to form H_2CO_3 . This process goes on until oxygen is fully consumed.

Apart from these reactions, there are several other reactions including microbiological mediated reactions, which tend to alter the chemical composition of the percolating water. For example, the bicarbonate present in most waters is derived mostly from CO_2 that has been extracted from the air and liberated in the soil through biochemical activity.

Some rocks serve as sources of chloride and sulphate through direct solution. The circulation of sulphur, however, may be greatly influenced by biologically mediated oxidation and reduction reactions. Chloride circulation may be a significant factor influencing the anion content in natural water.

4. RIVER WATER POLLUTION

The World Health Organisation (WHO) says that polluted water is water whose composition has been changed to the extent that it is unusable. In other words, it is toxic water that cannot be drunk or used for essential purposes like agriculture and which also causes diseases like diarrhoea, cholera, dysentery, typhoid and many more.

River Water pollution occurs when pollutants are discharged directly or indirectly into rivers without adequate treatment of harmful compounds. River Water pollution affects humans, plants and organisms living in these rivers. Water pollutants are damaging not only the individual species and populations, but also the natural biological communities. Moving water dilutes and decomposes pollutants more rapidly than standing water.

The primary reasons for river water pollution are because of three major sources of pollution i.e. industry, agriculture and domestic situated along the rivers. Industries and cities have been located along rivers historically, because rivers provide transportation and have traditionally been a convenient place to discharge waste. Agricultural activities have tended to be concentrated near rivers, because river floodplains are exceptionally fertile due to the many nutrients that are deposited in the soil when the river overflows.

4.1 Sources of Pollution

4.1.1. Point source pollution

Point source pollution refers to the pollution entering the water way through a discrete conveyance like pipes, channels etc., from source such as industry.

4.1.2 Non- point source pollution

Non-point source pollution refers to the pollution that does not enter the water way through a discrete source but accumulative in nature. The pollutants are collected in small amounts from over a large area. These pollutants are:

- Natural contaminants such as dry leaves, dead insects and animals, bird droppings etc.
- Agricultural contaminants such as agricultural runoff containing fertilizers, pesticides etc. The fertilizers and pesticides can be washed through the soil by rain, to end up in rivers.

- Industrial contaminants such as industrial runoff containing industrial wastes.
- Microbial contaminants such as faecal & total coliform.
- Human added contaminants such as organic matter through domestic discharges.

If large amounts of fertilizers or farm waste drain into a river the concentration of nitrate and phosphate in the water increases considerably. Algae use these substances to grow and multiply rapidly turning the water green. This massive growth of algae, called eutrophication, leads to pollution. When the algae die they are broken down by the action of the bacteria which quickly multiply, using up all the oxygen in the water which leads to the death of many animals.

Chemical waste products from industries are discharged in to rivers. Such pollutants include cyanide, zinc, lead, copper, cadmium and mercury. These substances may enter the water in such high concentrations that fish and other animals are killed immediately. Sometimes the pollutants enter a food chain and accumulate until they reach toxic levels, eventually killing birds, fish and mammals.

Factories use water from rivers to power machinery or to cool down machinery. Dirty water containing chemicals is put back in to the rivers. Water used for cooling is warmer than the river itself. Raising the temperature of the water, lowers the level of dissolved oxygen and upsets the balance of life in the water. People sometimes carelessly throw rubbish directly into rivers.

4.2 Effects of Environmental factors on River water quality

River water quality is highly variable by nature due to environmental conditions such as basin lithology, vegetation and climate. In small watersheds spatial variations extend over orders of magnitude for most major elements and nutrients, while this variability is an order of magnitude lower for major basins. Standard river water for use as reference is therefore not applicable. As a consequence, natural waters can possibly be unfit for various human uses, even including drinking.

There are three major natural sources of dissolved and soluble matter carried by rivers: the atmospheric inputs of material, the degradation of terrestrial organic matter and the weathering of surface rocks. These substances generally transit through soil and porous rocks and finally reach the rivers. On their way, they are affected by numerous processes such as recycling in terrestrial biota, recycling and storage in soils, exchange between dissolved and particulate matter, loss of volatile substances to the atmosphere, production and degradation of aquatic plants within rivers and

lakes etc. As a result of these multiple sources and pathways, the concentrations of elements and compounds found in rivers depend on physical factors (climate, relief), chemical factors (solubility of minerals) and biological factors (uptake by vegetation, degradation by bacteria). The most important environmental factors controlling river chemistry are:

- Occurrence of highly soluble (halite, gypsum) or easily weathered (calcite, dolomite, pyrite, olivine) minerals.
- Distance to the marine environment which controls the exponential decrease of ocean aerosols input to land (Na^+ , Cl^- , SO_4^{2-} , and Mg^{2+}).
- Aridity (precipitation/runoff ratio) which determines the concentration of dissolved substances resulting from the two previous processes.
- Terrestrial primary productivity which governs the release of nutrients (C, N, Si, K).
- Ambient temperature which controls, together with biological soil activity, the weathering reaction kinetics.

5. WATER QUALITY MONITORING BY CWC

Central Water Commission (CWC) is playing an important role in the field of water quality monitoring of river water and is observing water quality at various rivers since 1960's. As on January, 2025, CWC is observing water quality at 788 key locations in different rivers across the country: 678 on Hydrological Observation network and 110 Water Quality Sampling stations (WQSS). In addition, CWC has started monitoring of water quality of water bodies across India since 01.03.2023. Till date, 90 water bodies have been identified for water quality monitoring purpose across various states of the country (Figure 2).

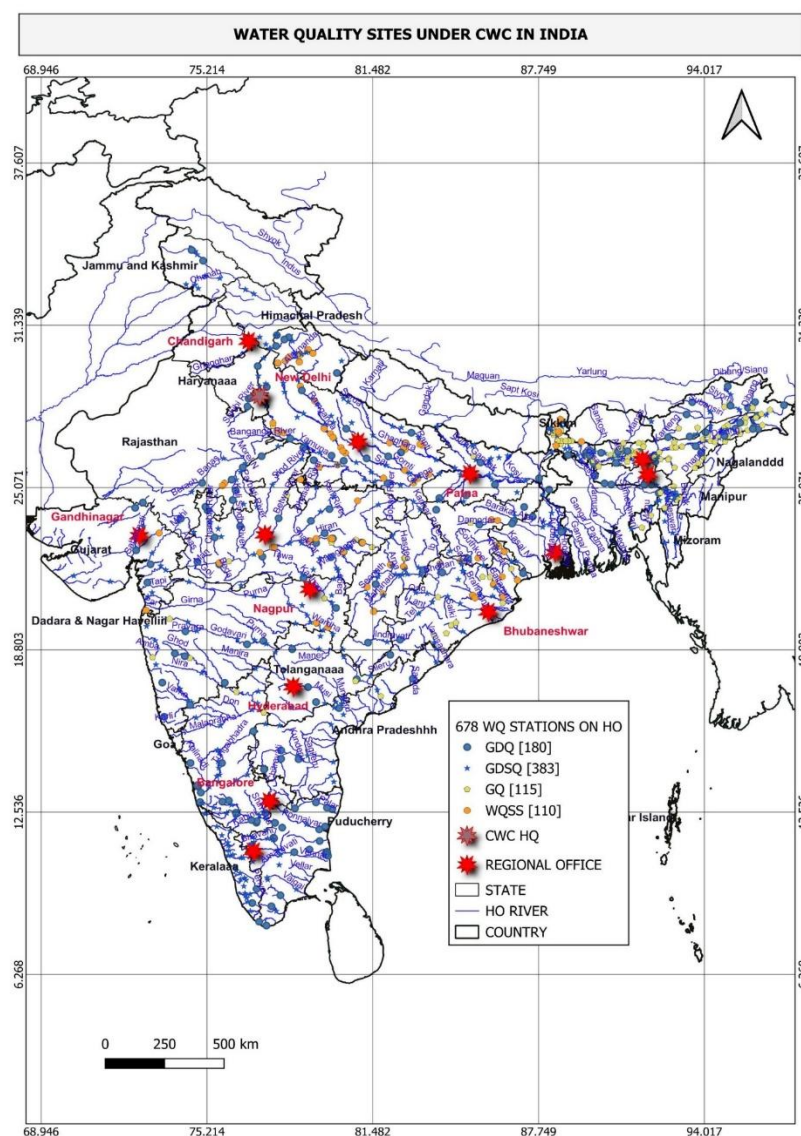


Figure 2: Water quality network of CWC

The details of distribution of WQ monitoring stations among different states and organisations/basins of CWC are given in the tables and figures given below.

Table 1: State-wise distribution of Water Quality Monitoring stations of CWC

S.No.	Name of State	GDQ	GDSQ	GQ	WQSS	Water Bodies	Grand Total
1	Andhra Pradesh	5	14	2	-	7	28
2	Arunachal Pradesh	11	9	10	-	3	32
3	Assam	20	26	54	-	11	111
4	Bihar	6	22	1	-	2	31
5	Chhattisgarh	3	18	2	9	4	36
6	Delhi	1	2	-	3	3	9
7	Gujarat	4	9	-	2	6	21
8	Haryana	3	1	-	-	-	4
9	Himachal Pradesh	-	6	-	-	1	7
10	Jammu & Kashmir	2	7	-	-	2	11
11	Jharkhand	6	6	1	7	2	22
12	Karnataka	15	25	2	-	4	46
13	Kerala	2	24	-	-	3	29
14	Madhya Pradesh	18	26	4	12	2	62
15	Maharashtra	12	30	4	6	10	62
16	Manipur	-	-	1	-	-	1
17	Meghalaya	5	3	1	-	2	11
18	Mizoram	-	5	-	-	-	5
19	Odisha	5	22	9	14	4	54
20	Puducherry	3	-	-	-	-	3
21	Rajasthan	8	8	-	2	1	19
22	Sikkim	-	11	5	6	1	23
23	Tamil Nadu	21	21	-	-	5	47
24	Telangana	4	8	1	-	4	17
25	Tripura		3	2	-	1	5
26	Uttar Pradesh	13	48	4	30	6	101
27	Uttarakhand	5	8	1	15	3	32
28	West Bengal	8	21	11	4	3	47
Grand Total		788				90	878

Figure 3: State-wise distribution of Water Quality Monitoring stations monitored by CWC

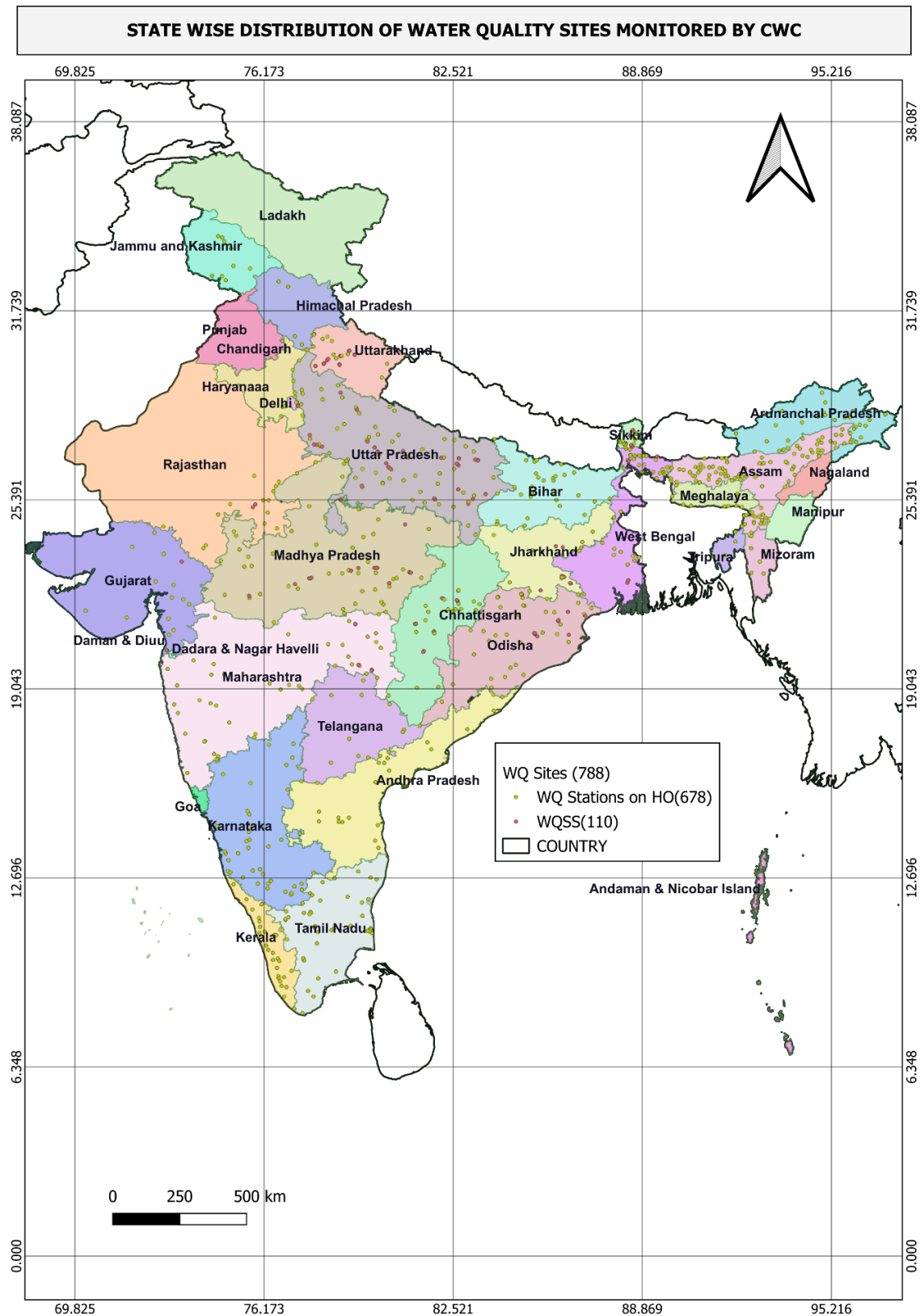


Table 2: Organisation-wise distribution of Water Quality Monitoring stations of CWC

S.No.	Organization	GDQ	GDSQ	GQ	WQSS	Water Bodies	Grand Total
1	Barak and Other Basins Organization, Shillong	7	22	8	-	4	40
2	Brahmaputra Basin Organization, Guwahati	28	24	59	-	13	123
3	Cauvery and Southern Rivers Organization, Coimbatore	35	53	-	-	11	99
4	Indus Basin Organization, Chandigarh	2	9	-	-	3	14
5	Krishna & Godavari Basin Organization, Hyderabad	18	35	7	-	15	75
6	Lower Ganga Basin Organization, Patna	9	33	1	6	5	54
7	Monitoring Central Organization, Nagpur	4	20	1	6	5	36
8	Mahanadi & Eastern Rivers Organization, Bhubaneswar	7	43	12	28	7	97
9	Monitoring South Organization, Bengaluru	9	19	-	-	3	31
10	Mahi & Tapi Basin Organization, Gandhinagar	6	15	-	2	6	29
11	Narmada Basin Organization, Bhopal	8	9	4	11	1	33
12	Teesta & Bhagirathi Damodar Basin Organization, Kolkata	14	32	18	12	6	82
13	Upper Ganga Basin Organization, Lucknow	6	31	2	33	5	77
14	Yamuna Basin Organization, New Delhi	27	38	3	12	6	86
	Grand Total		788			90	878

Figure 4: Organisation-wise distribution of water quality Monitoring stations monitored by CWC.

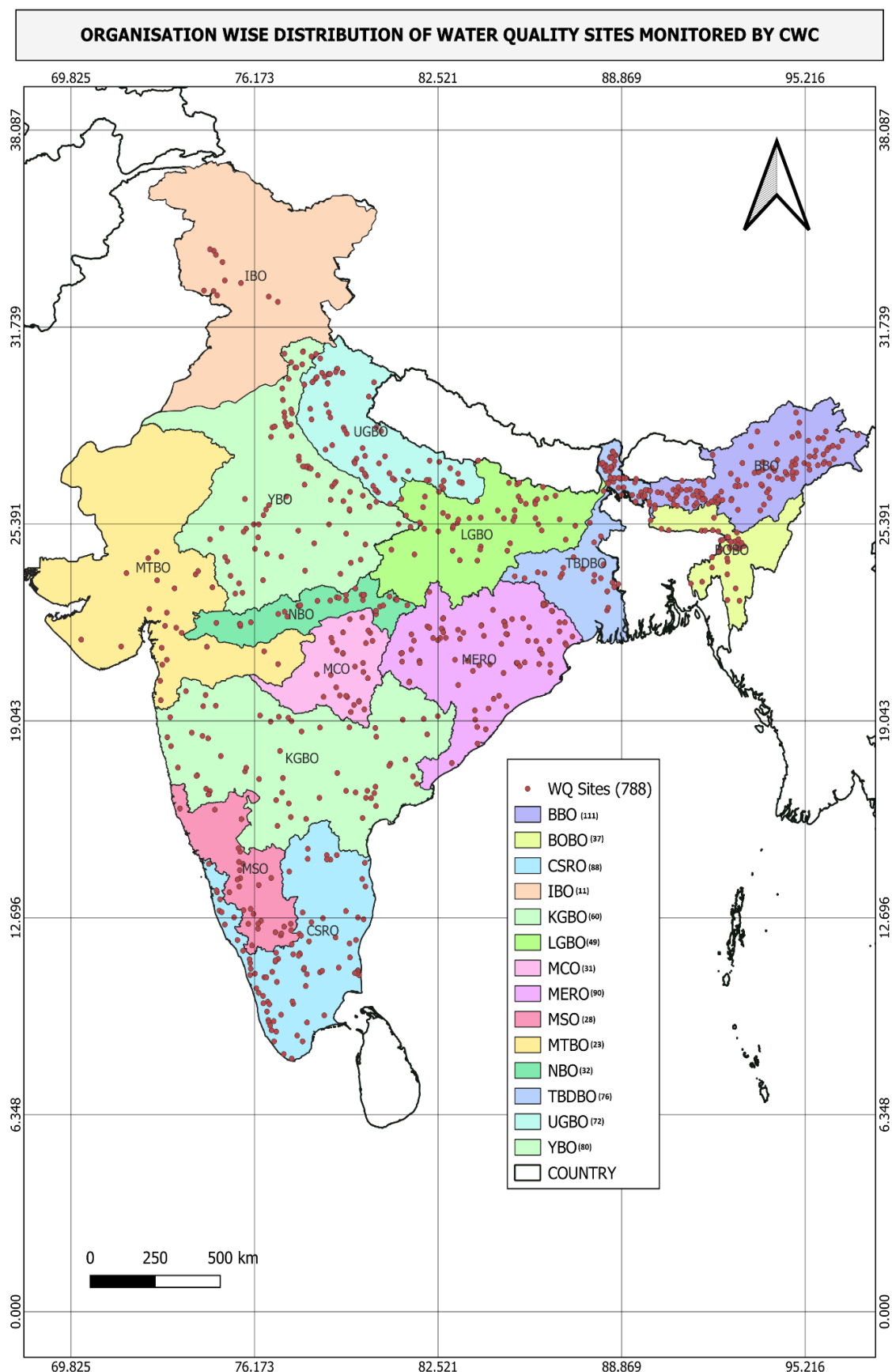
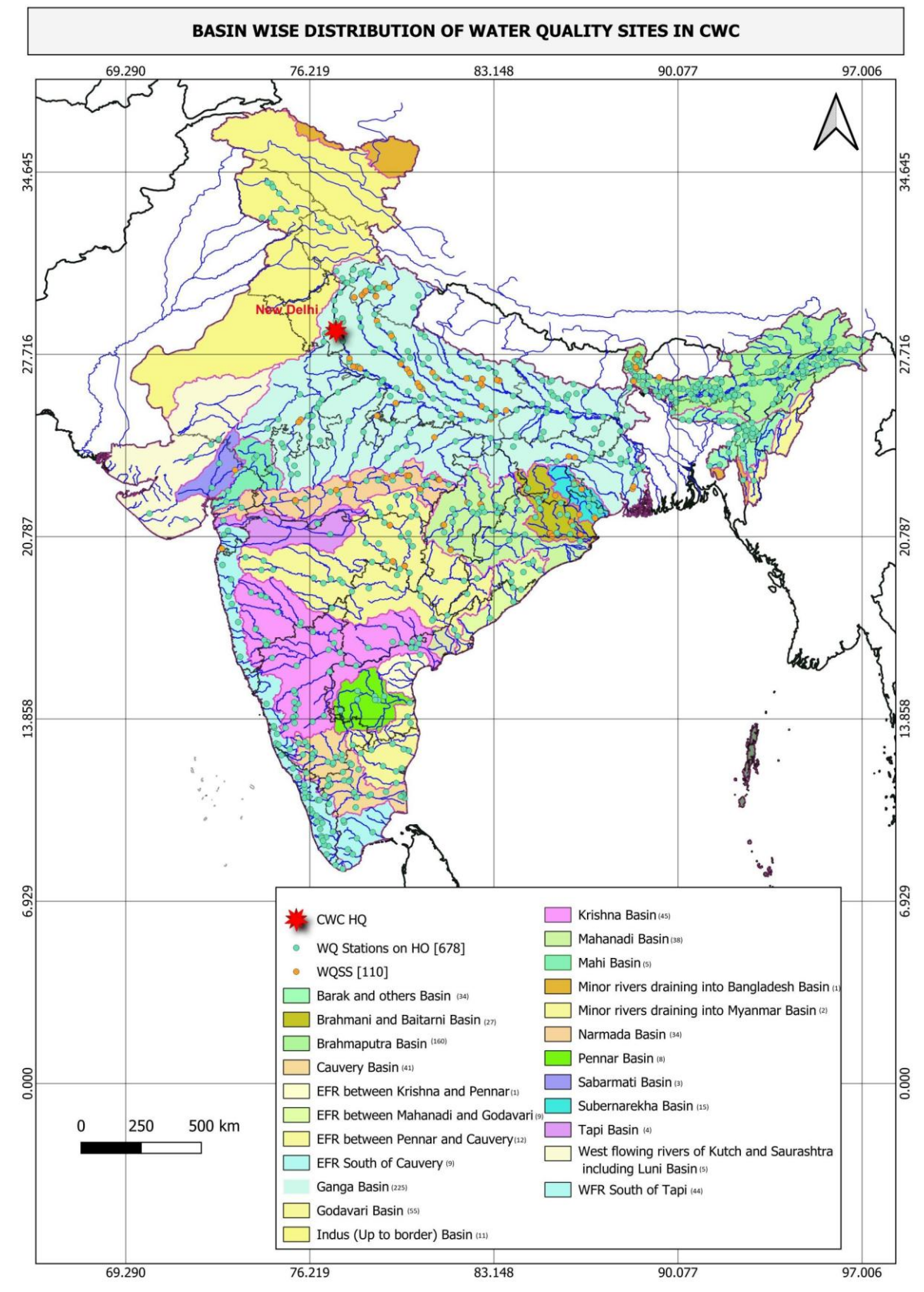


Table 3: Basin-wise water-quality Monitoring stations monitored by CWC

S.No.	Basins	GDQ	GDSQ	GQ	WQSS	Water Bodies	Grand Total
1	Barak & Other Basin	7	19	8	-	2	35
2	Brahmani & Baitarni Basin	1	11	3	12	1	28
3	Brahmaputra Basin	34	43	76	7	18	177
4	Cauvery Basin	20	22	-	-	3	45
5	EFR b/w Pennar and Cauvery	7	5	-	-	5	17
6	EFR Between Krishna & Pennar	-	1	-	-	-	1
7	EFR Between Mahanadi & Godavari	1	3	5	-	1	10
8	EFR South of Cauvery Basin	2	4	-	-	-	6
9	Ganga Basin	50	115	7	56	19	247
10	Godavari Basin	12	33	4	6	14	69
11	Indus Basin	2	9	-	-	3	14
12	Krishna Basin	10	31	3	-	6	50
13	Mahanadi Basin	3	22	3	10	4	42
14	Mahi Basin	2	3	-	-	-	5
15	Narmada Basin	8	11	4	11	3	37
16	Pennar Basin	4	4	-	-	2	10
17	Rivers Draining into Bangladesh Basin	-	1	-	-	-	1
18	Rivers Draining into Myanmar Basin	-	2	-	-	-	2
19	Sabarmati Basin	1	1	-	1	2	5
20	Subarnarekha Basin	2	6	1	6	1	16
21	Tapi Basin	1	3	-	-	2	6
22	WFR of Kutch & Saurashtra including Luni Basin	2	3	-	-	-	5
23	WFR South of Tapi Basin	11	31	1	1	4	48
Grand Total		788				90	878

Figure 5: Map showing the basin-wise distribution of water quality Monitoring stations monitored by CWC.



The water quality samples collected at these monitoring stations are analysed at laboratories of CWC. At present, CWC follows a three-tier laboratory system which consists of Level I, II and III types of laboratories for providing analytical facilities for the analysis of river water samples collected from water quality monitoring stations covering all the important river basins of India.

The three-tier laboratory system consists of:

1. **Level-I Laboratories:** 465 level-I laboratories located at field water quality monitoring stations on various rivers of India for monitoring of 14 in-situ parameters: Colour, Odour, Temperature pH, Electrical Conductivity and Dissolved Oxygen (a map showing 465 Level-I labs can be seen at figure-6).
2. **Level-II Laboratories:** 20 level-II laboratories located at division offices to analyse 32 physico-chemical and bacteriological parameters of river water.
3. **Level-III Laboratories:** 5 regional labs located at New Delhi, Varanasi, Hyderabad, Coimbatore and Guwahati for analysis of 56 parameters including trace & toxic metals and pesticides.

Out of 25 level-II/III laboratories of CWC, 22 laboratories of CWC have got accreditation by National Accreditation Board for Testing and Calibration Laboratories (NABL) in the field of testing in accordance with Standard ISO/IEC 17025:2017. A map showing level-II/III labs can be seen at figure-7. The details of monitoring parameters in each level labs are depicted in table-4.

Table 4: List of Water Quality Parameters monitored by CWC

Sl.No.	Level-I (465 Labs)	Level-II (19 Labs)	Level-III (05 Labs)
1	Temperature	Temperature	Temperature
2	Colour and Intensity	pH	pH
3	Odour	Electrical Conductivity	Electrical Conductivity
4	pH	Dissolved Oxygen (DO)	Dissolved Oxygen (DO)
5	Electrical Conductivity	Turbidity	Turbidity
6	Dissolved Oxygen	Biochemical Oxygen Demand (BOD)	Biochemical Oxygen Demand (BOD)
7	Weather	Chemical Oxygen Demand (COD)	Chemical Oxygen Demand (COD)
8	Depth of main stream/depth of water table	Total Dissolved Solids (TDS)	Total Dissolved Solids (TDS)
9	Visible effluent discharge	Sodium	Sodium
10	Human activities Around station	Calcium	Calcium
11	Station details	Magnesium	Magnesium
12	Velocity	Potassium	Potassium
13	Discharge	Phenolphthalein Alkalinity (Carbonate)	Phenolphthalein Alkalinity (Carbonate)
14	Water Level	Total Alkalinity	Total Alkalinity
15		Chloride	Chloride
16		Sulphate	Sulphate
17		Fluoride	Fluoride
18		Boron	Boron
19		Ammoniacal Nitrogen	Ammoniacal Nitrogen
20		Nitrate	Nitrate
21		Nitrite	Nitrite
22		Phosphate	Phosphate
23		Silicate	Silicate
24		Total Coliform MPN/100 ml	Total Coliform MPN/100 ml
25		Faecal Coliform MPN/100 ml	Faecal Coliform MPN/100 ml
26		E. Coli	E. Coli
27		Faecal Streptococci	Faecal Streptococci
28		Hardness	Hardness
29		NO ₂ +NO ₃	NO ₂ +NO ₃
30		Sodium Adsorption Ratio	Sodium Adsorption Ratio
31		% Sodium	% Sodium
32		Residual Sodium Carbonate	Residual Sodium Carbonate
33			Arsenic
34			Cadmium
35			Chromium
36			Copper
37			Iron
38			Lead
39			Nickel
40			Mercury
41			Zinc
42			Alpha BHC
43			Beta BHC
44			Gama BHC (Lindane)
45			OP DDT
46			PP-DDT
47			Alpha Endosulphan
48			Beta Endosulphan
49			Aldrin
50			Dieldrin
51			Carbaryl (Carbamate)
52			Malathion
53			Methyl Parathion
54			Anilophos
55			Chloropyriphos
56			2-4 D

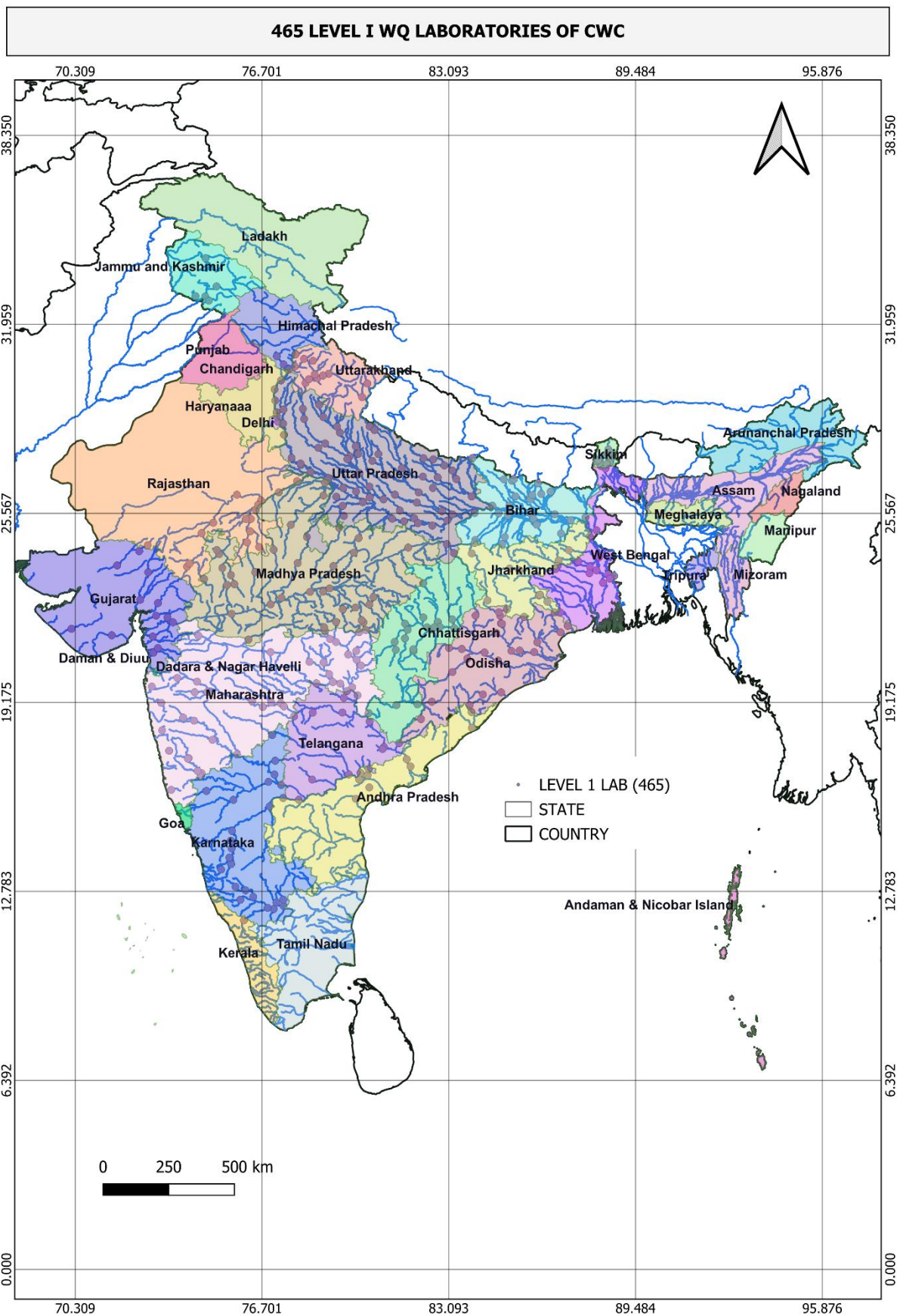


Figure 6: Level-I Water quality laboratories of CWC

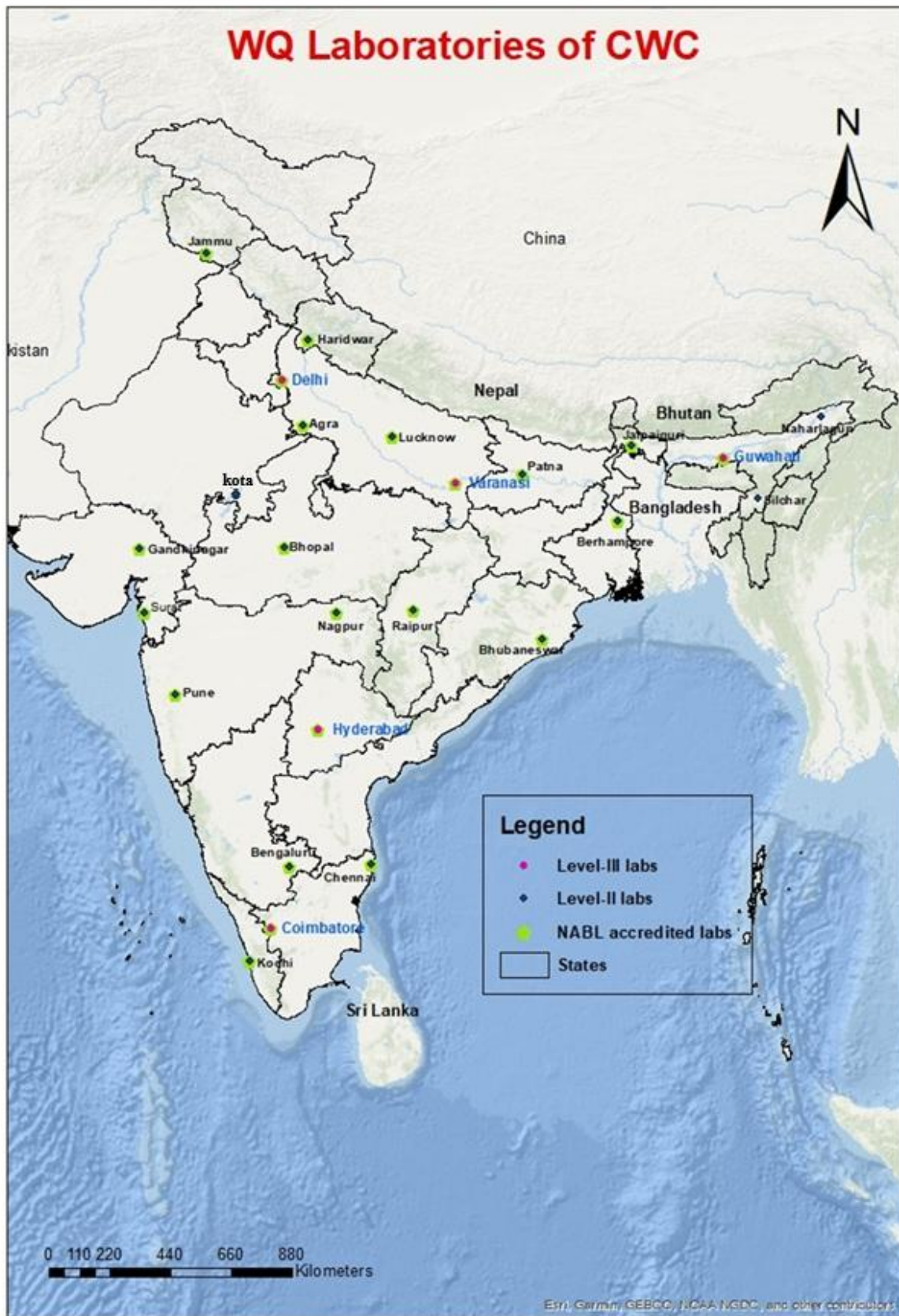


Figure 7: Level-II/III Water quality laboratories of CWC

6.1 River Water Quality Hot Spots in India

The river water quality monitoring is most essential aspect of restoring the water quality. One of the main objectives of the river water quality monitoring is to assess the suitability of river water for drinking purposes, irrigation, outdoor bathing and propagation of wildlife, fisheries. The physical and chemical quality of river water is important in deciding its suitability as a source of drinking water after treatment/bathing etc. As such the suitability of river water for potable uses with regard to its chemical quality has to be deciphered and defined on the basis of some vital characteristics of the water. River water quality is very important for aspect in India. The physico-chemical parameters like pH, Electrical Conductivity (EC), Fluoride (F^-), Ammonia as N (NH_3-N), Nitrate as N ($NO_3^- - N$), Chloride (Cl^-), Total Hardness (TH), Boron (B), Sodium Adsorption Ratio (SAR), Dissolved Oxygen (DO), Biochemical Oxygen Demand (BOD), Total Coliform (TC) and Faecal Coliform (FC) are important constituents defining the quality of river water in surface water. Therefore, presence of these parameters in river water beyond the value for permissible limit has been considered as river water quality hot spots. The best use classification is essential, for maintaining the quality of river water of the particular stretch. The study is based on average values of 13 parameters observed during Pre-monsoon (January to May), Monsoon (June to October) and Post-monsoon (November to December) seasons for the year 2025.

In this study identification of hot spot in Indian river w.r.t. pH, Electrical Conductivity (EC), Ammonia as N (NH_3-N), Boron (B), Sodium Adsorption Ratio (SAR), Dissolved Oxygen (DO), Biochemical Oxygen Demand (BOD) and Total Coliform (TC) parameters are done based on Class B, D & E of Designated best uses of water by Central Pollution Control Board (CPCB) (Table.4). In addition to above parameters, hotspots identification in Indian River w.r.t. Fluoride (F^-), Nitrate as N ($NO_3^- - N$), Chloride (Cl^-), Total Hardness (TH) parameters are done based on BIS (Bureau of Indian Standards) IS 10500: 2012 (Table.5) for drinking water as a benchmark in absence of any standard for these parameters for drinking waters. Faecal Coliform (FC) is based on the Primary Water Quality Criteria for Bathing Water mentioned in the Ministry of Environment, Forest and Climate Change (MoEFCC) Gazette Notification, 2000.

6.2 Study Area

A total number of 774 water quality monitoring stations in year 2025 covering all the important rivers of country were studied for water quality hotspots in rivers of India.

The coverage of WQ monitoring stations with respect to various parameters are given as shown below:

- (A) For pH, Electrical Conductivity and Chloride in figure-8.
- (B) For Ammonia-N in figure-9.
- (C) For Fluoride in figure-10.
- (D) For Total Hardness (T.H.) in figure-11.
- (E) For Boron in figure-12.
- (F) For Nitrate-N in figure-13.
- (G) For Dissolved Oxygen (D.O.) in figure-14.
- (H) For Biochemical Oxygen Demand (B.O.D.) in figure-15.
- (I) For Total Coliform and Faecal Coliform in figure-16.
- (J) For Sodium Absorption Ratio (S.A.R.) in figure-17.

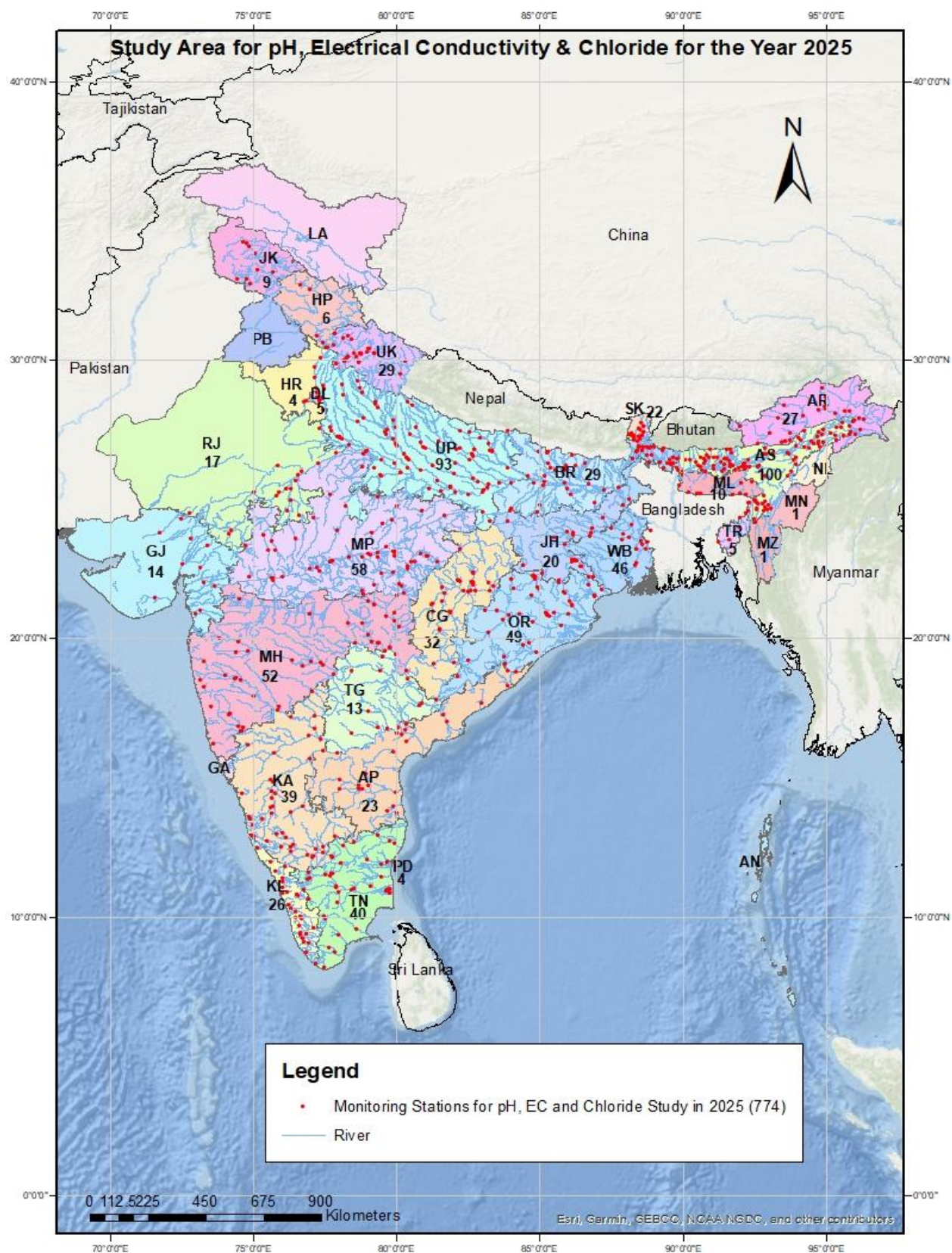


Fig 8: Study area of 774 Water Quality (WQ) Monitoring stations on important rivers of India in year 2025 (For pH, Electrical Conductivity & Chloride)

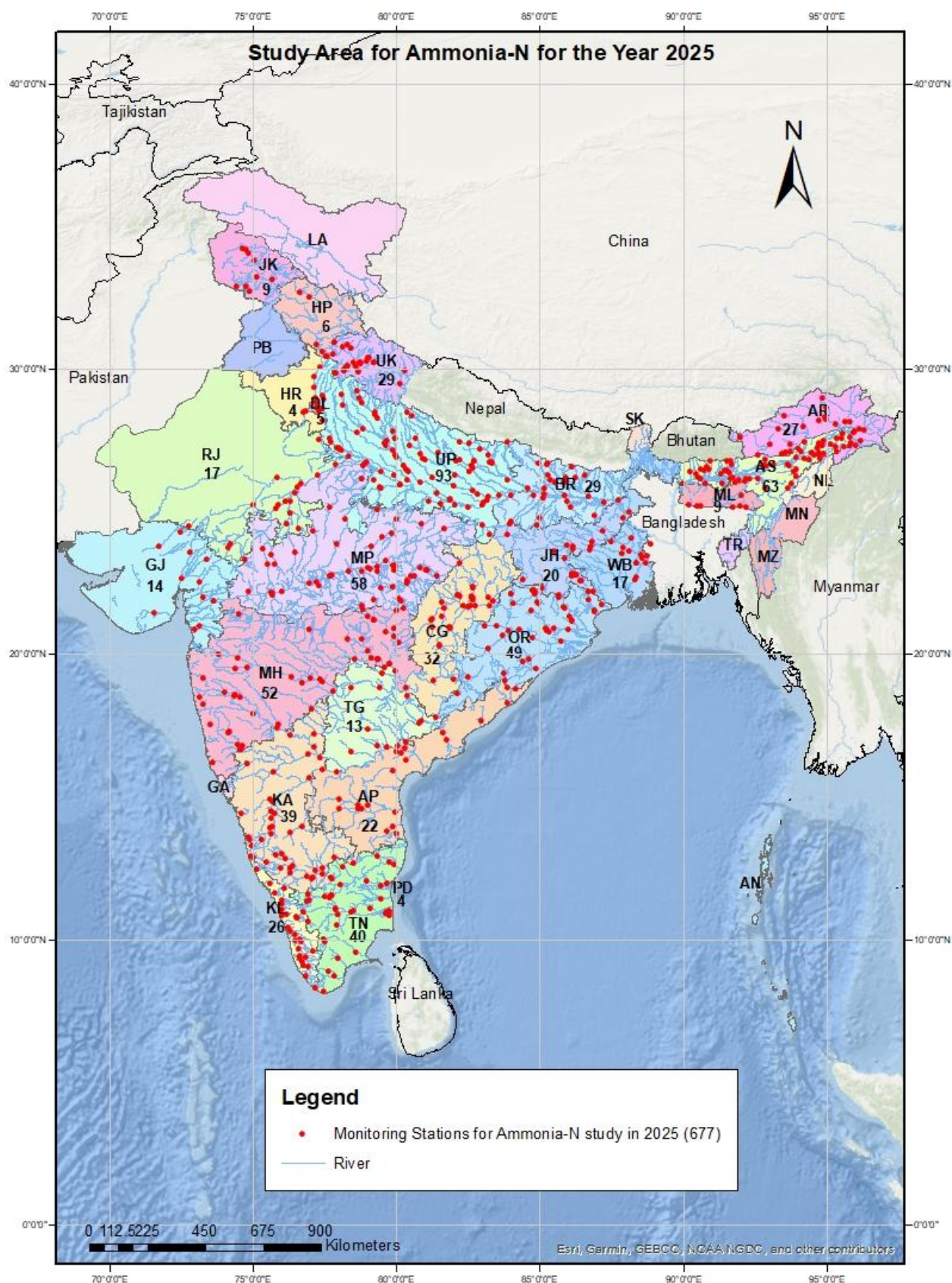


Fig 9: Study area of 769 Water Quality (WQ) Monitoring stations on important rivers of India in year 2025 for Ammonia-N

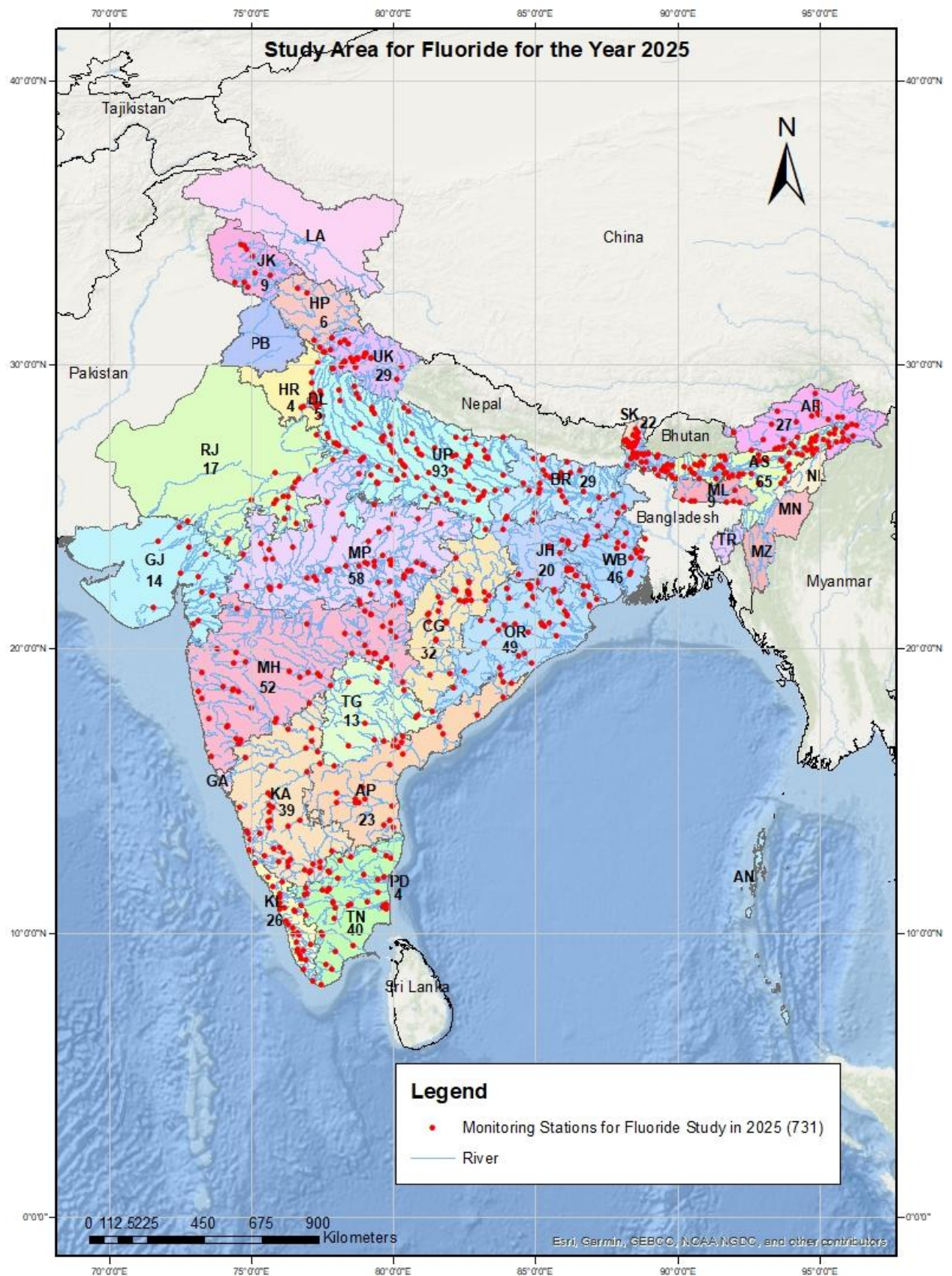


Fig 10: Study area of 731 Water Quality (WQ) Monitoring stations on important rivers of India in year 2025 for Fluoride

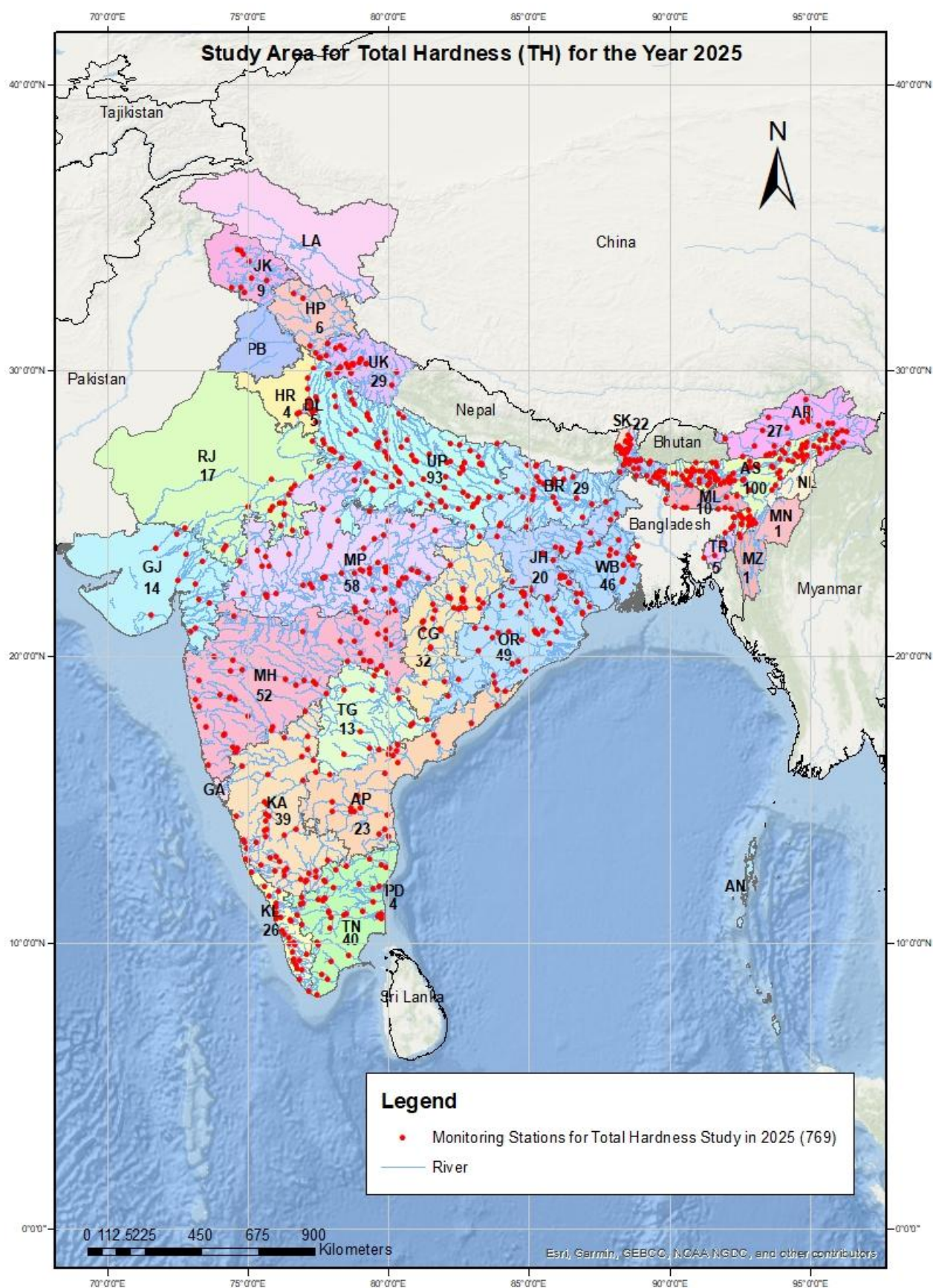


Fig 11: Study area of 769 Water Quality (WQ) Monitoring stations on important rivers of India in year 2025 for Total Hardness (TH)

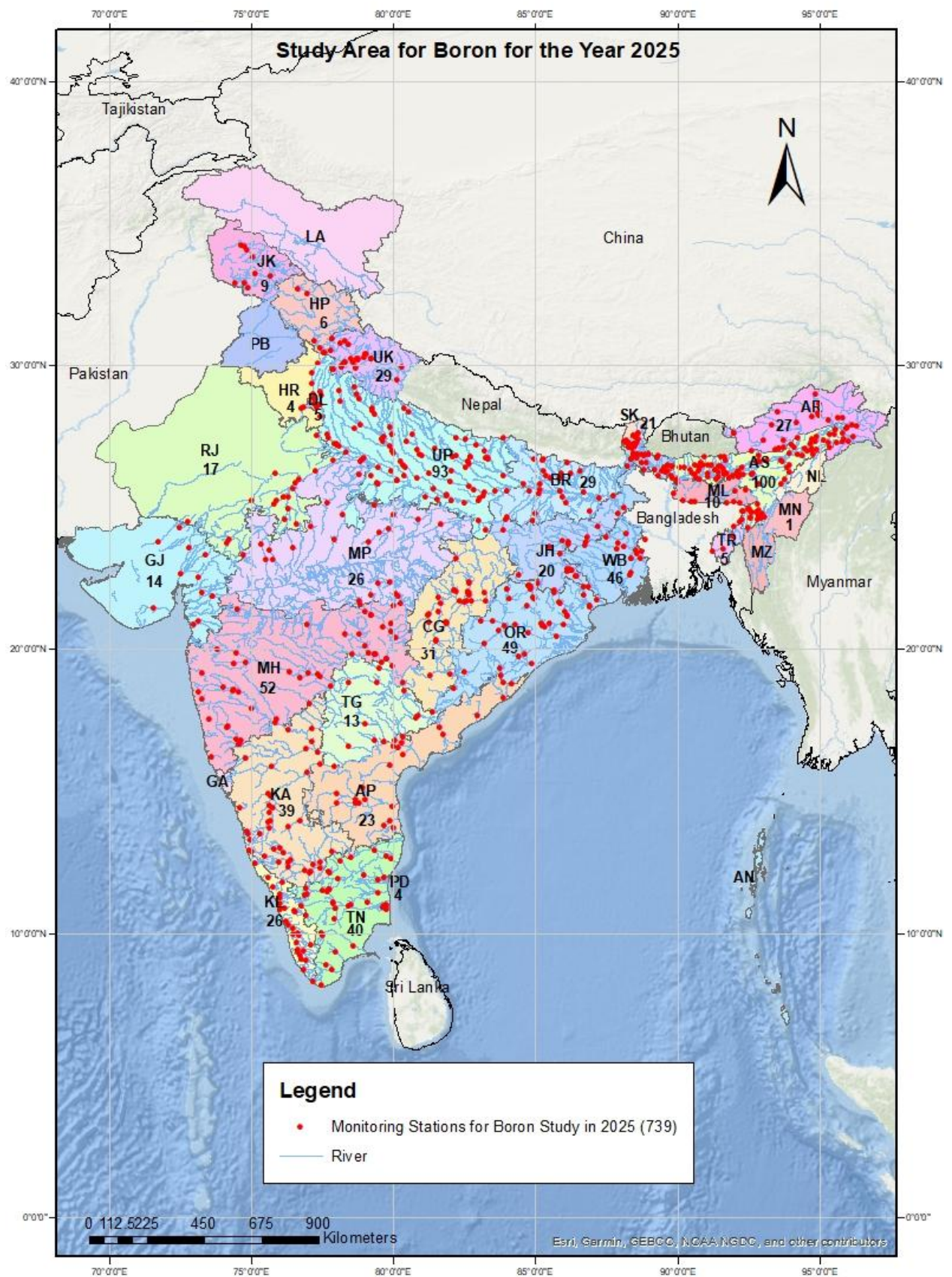


Fig 12: Study area of 739 Water Quality (WQ) Monitoring stations on important rivers of India in year 2025 for Boron

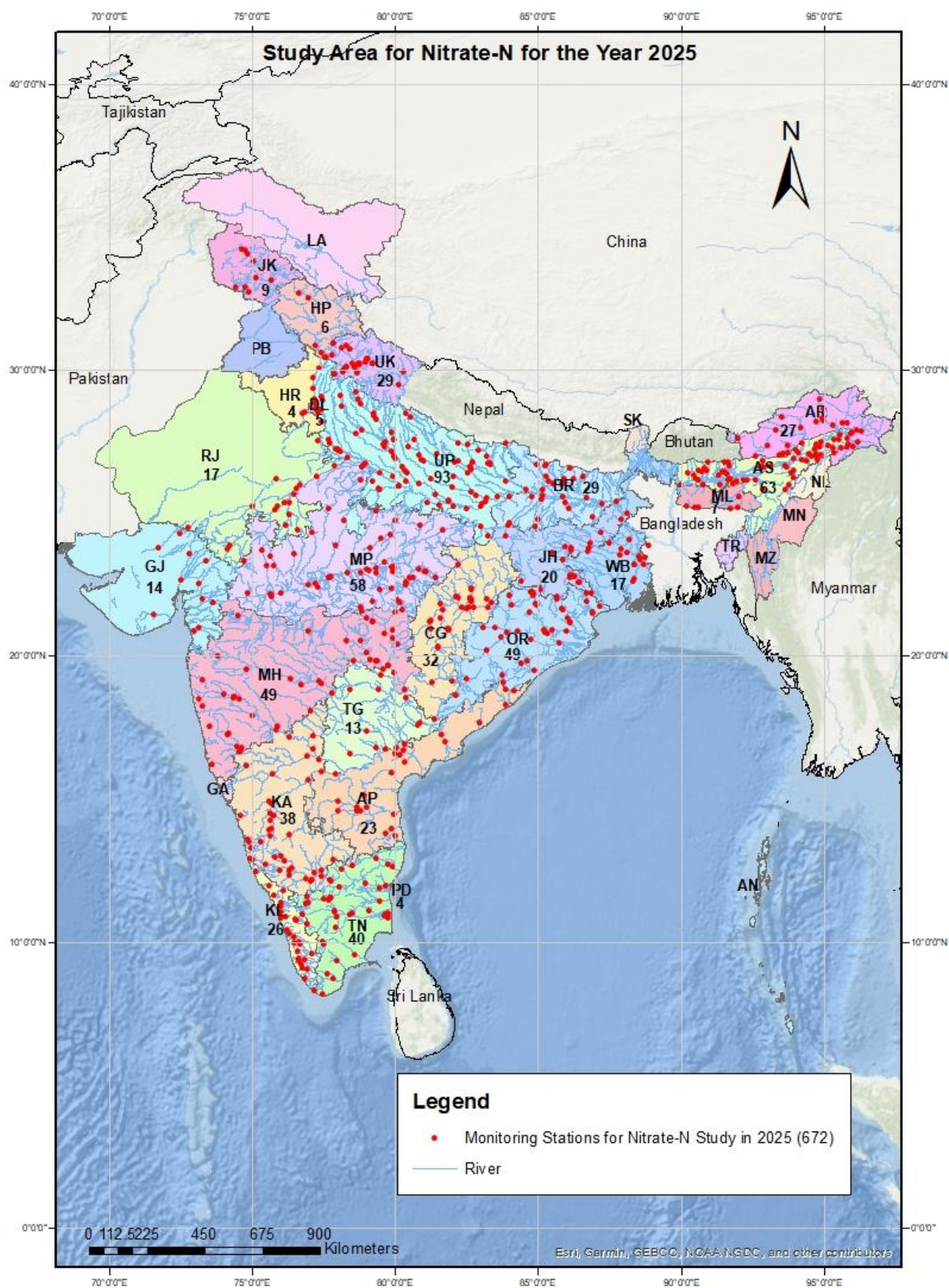


Fig 13: Study area of 672 Water Quality (WQ) Monitoring stations on important rivers of India in year 2025 for Nitrate-N

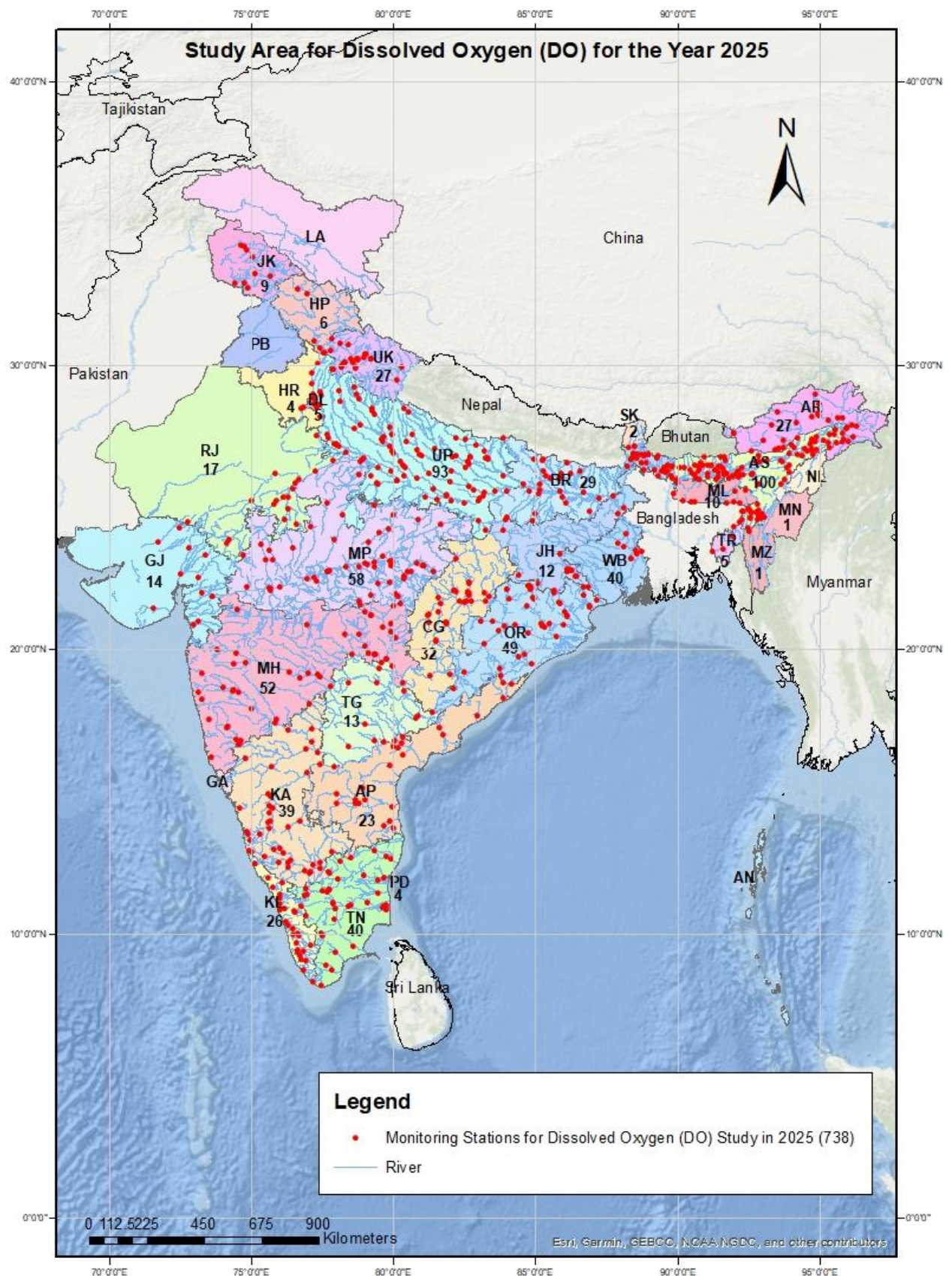


Fig 14: Study area of 738 Water Quality (WQ) Monitoring stations on important rivers of India in year 2025 for Dissolved Oxygen (DO)

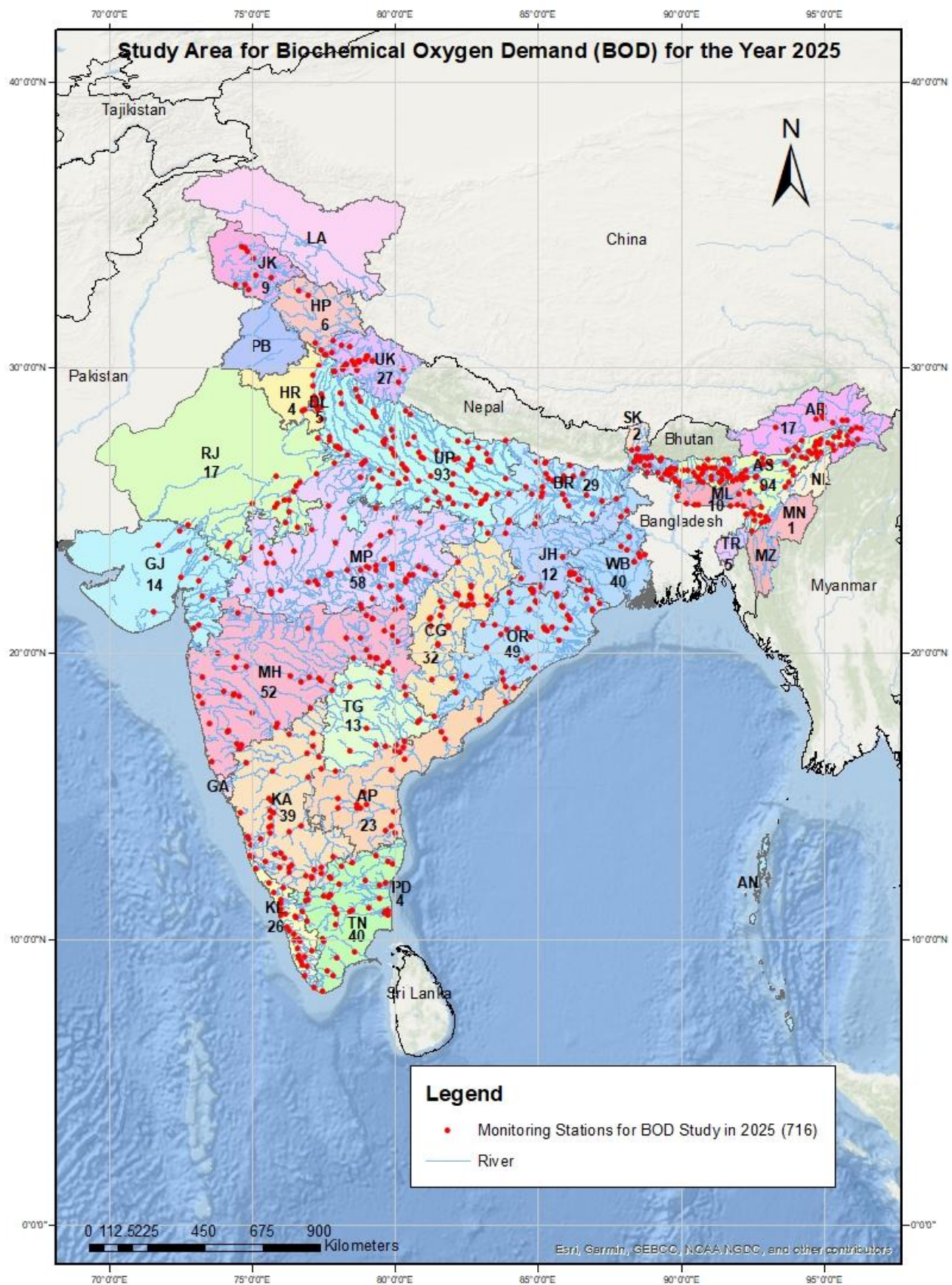


Fig 15: Study area of 716 Water Quality (WQ) Monitoring stations on important rivers of India in year 2025 for Biochemical Oxygen Demand

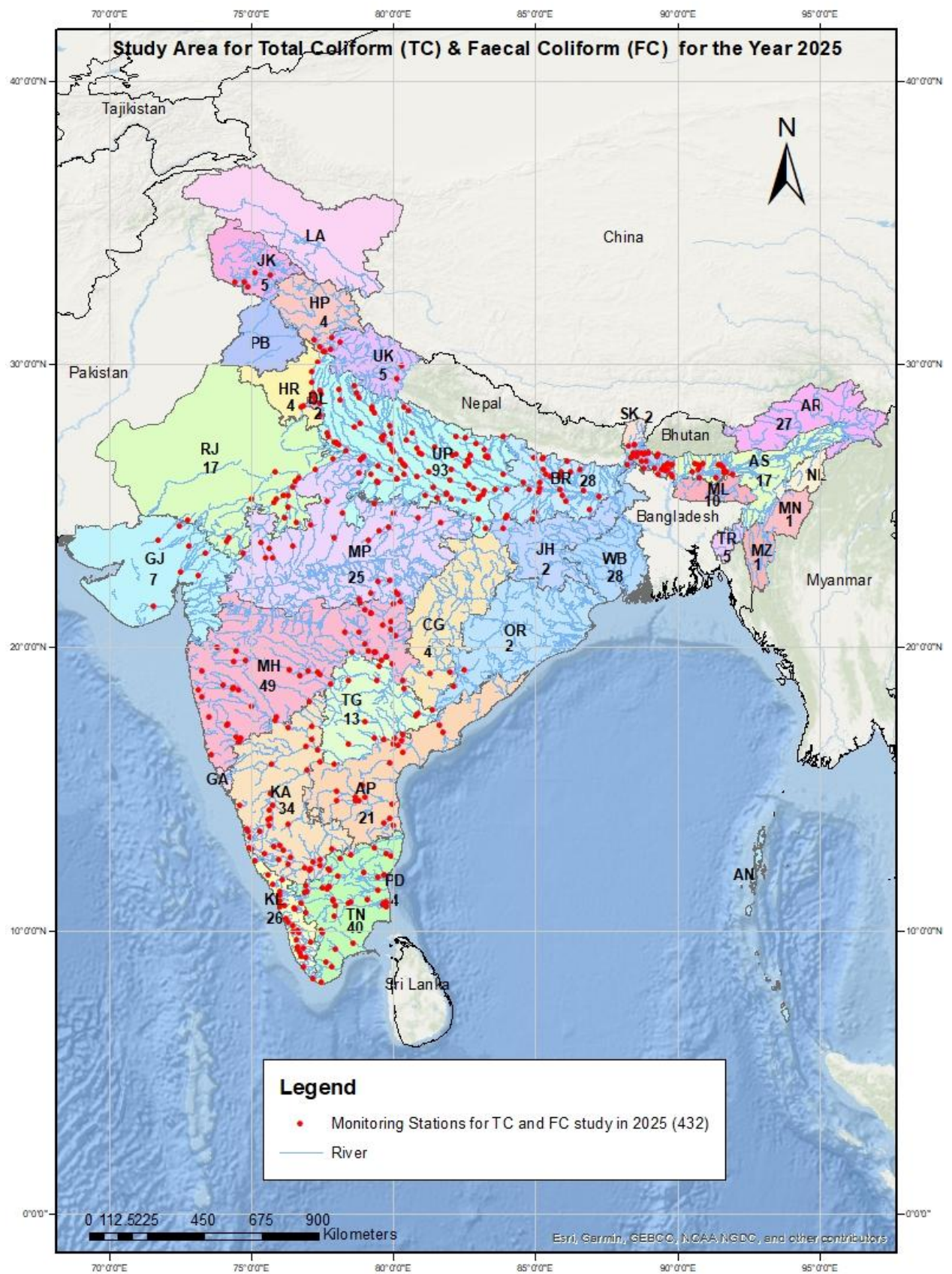


Fig 16: Study area of 432 Water Quality (WQ) Monitoring stations on important rivers of India in year 2025 for TC & FC

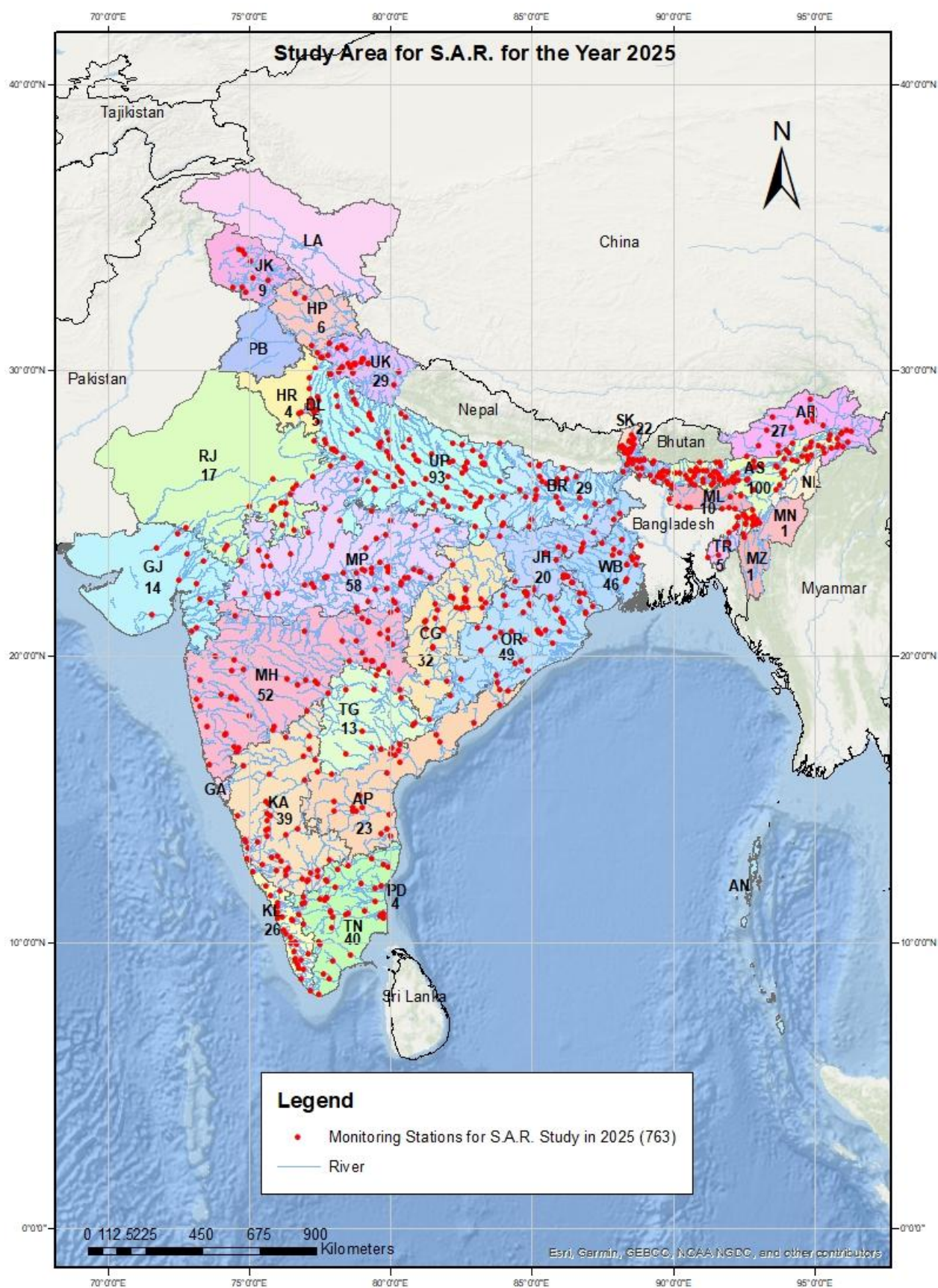


Fig 17: Study area of 763 Water Quality (WQ) Monitoring stations on important rivers of India in year 2025 for S.A.R

Water Quality Standard in India

Central Pollution Control Board (CPCB) has identified water quality requirements in terms of certain chemical characteristics, known as primary water quality criteria (Table 5). Based on this classification, the natural water has been categorized as Class-A Drinking Water Source without conventional treatment but after disinfection; Class-B Outdoor bathing (Organized); Class-C Drinking water source after conventional treatment and disinfection; Class-D Propagation of Wild life and Fisheries; Class-E Irrigation, Industrial Cooling, Controlled Waste disposal. Further BIS vide its document BIS 10500:2012 has recommended water quality standards for drinking water (Table 6).

Table 5: Designated Best Uses of Water by CPCB

Designated Best Use	Class	Criteria
Drinking Water Source without conventional treatment but after disinfection	A	1. Total Coliforms Organism MPN/100 ml shall be 50 or less 2. pH between 6.5 and 8.5 3. Dissolved Oxygen 6 mg/L or more 4. Biochemical Oxygen Demand 5 days 20 °C, 2 mg/L or less
Outdoor bathing (Organised)	B	1. Total Coliforms Organism MPN/100 ml shall be 500 or less 2. pH between 6.5 and 8.5 3. Dissolved Oxygen 5 mg/l or more 4. Biochemical Oxygen Demand 5 days 20 °C, 3 mg/L or less
Drinking water source after conventional treatment and disinfection	C	1. Total Coliforms Organism MPN/100ml shall be 5000 or less 2. pH between 6 and 9 3. Dissolved Oxygen 4 mg/L or more 4. Biochemical Oxygen Demand 5 days 20 °C, 3mg/L or less
Propagation of Wild life and Fisheries	D	1. pH between 6.5 and 8.5 2. Dissolved Oxygen 4 mg/l or more 3. Free Ammonia (as N) 1.2 mg/L or less
Irrigation, Industrial Cooling, Controlled Waste disposal	E	1. pH between 6.0 and 8.5 2. Electrical Conductivity at 25 °C micro mhos/cm, maximum 2250 3. Sodium absorption Ratio Max. 26 4. Boron Max. 2 mg/L
	Below -E	Not meeting any of the A, B, C, D & E criteria

Table 6: Drinking Water Quality Standards, BIS: 10500, 2012

S. No.	Characteristic	Requirement (Acceptable Limit)	Permissible limit in the absence of Alternate source
Essential Characteristics			
1	Colour, Hazen units, Max	5	15
2	Odour	Agreeable	Agreeable
3	Taste	Agreeable	Agreeable
4	Turbidity NTU, Max	1	5
5	pH Value	6.5 -8.5	No relaxation
6	Total Hardness (as CaCO ₃) mg/L, Max.	200	600
7	Iron (as Fe), mg/L, Max	1.0	No relaxation
8	Chlorides (as Cl), mg/L, Max	250	1000
9	Residual free chlorine, mg/L, Minimum	0.2	1.0
Desirable Characteristics			
10	Total Dissolved solids, mg/L, Max	500	2000
11	Calcium (as Ca) mg/L, Max.	75	200
12	Magnesium (as Mg) mg/L, Max	30	100
13	Copper (as Cu), mg/L, Max	0.05	1.5
14	Manganese (as Mn) mg/L, Max	0.1	0.3
15	Sulphates (as SO ₄) mg/L, Max	200	400
16	Nitrate (as NO ₃) mg/L, Max.	45	No relaxation
17	Fluorides (as F), mg/L, Max	1.0	1.5
18	Ammonia (as total ammonia-N) mg/L	0.5	No relaxation
19	Mercury (as Hg), mg/L, Max	0.001	No relaxation
20	Cadmium (as Cd), mg/L, Max	0.003	No relaxation
21	Selenium (as Se), mg/L, Max	0.01	No relaxation
22	Total Arsenic (as As), mg/L, Max	0.01	No relaxation
23	Cyanides (as CN), mg/L, Max	0.05	No relaxation
24	Lead (as Pb), mg/L, Max	0.01	No relaxation
25	Zinc (as Zn), mg/L, Max	5	15
26	Anionic detergents (as MBAS), mg/L, Max	0.2	1
27	Total Chromium (as Cr), mg/L, Max	0.05	No relaxation
28	Polynuclear aromatic hydrocarbons (as PAH), mg/L, Max	-	-
29	Mineral oil, mg/L, Max	0.5	No relaxation
30	Pesticides mg/L, Max	Absent	0.001
33	Alkalinity mg/L, Max	200	600
34	Aluminum (as Al) mg/L, Max	0.03	0.2
35	Boron mg/L, Max	0.5	1.0

MINISTRY OF ENVIRONMENT AND FORESTS NOTIFICATION
New Delhi, the 25th September, 2000

Primary Water Quality Criteria for Bathing Waters:

In a water body or its part, water is subjected to several types of uses. Depending on the types of uses and activities, water quality criteria have been specified to determine its suitability for a particular purpose. Among the various types of uses there is one use that demands highest level of water quality or purity and that is termed as Designated Best Use in that stretch of water body. Based on this, water quality requirements have been specified for different uses in terms of primary water quality criteria. The primary water quality criteria for bathing water are specified along with the rationale.

Table 7: Primary Water Quality Criteria for Bathing Water
(Water used for organised outdoor bathing)

CRITERIA		RATIONALE
1. Faecal Coliform MPN/100 ml	500 (desirable) 2500 (Maximum Permissible)	To ensure low sewage contamination. Faecal coliform and faecal streptococci are considered as they reflect the bacterial pathogenicity. The desirable and permissible limits are suggested to allow for fluctuation in environmental conditions such as seasonal change, changes in flow conditions etc.
2. Faecal Streptococci MPN/100 ml	100 (desirable) 500 (Maximum Permissible)	
2. pH	Between 6.5 -8.5	The range provides protection to the skin and delicate organs like eyes, nose, ears etc. which are directly exposed during outdoor bathing.
3. Dissolved Oxygen	5 mg/1 or more	The minimum dissolved oxygen concentration of 5 mg/1 ensures reasonable freedom from oxygen consuming organic pollution immediately upstream which is necessary for preventing production of anaerobic gases (obnoxious gases) from sediment.
4. Biochemical Oxygen demand 3-day, 27°C	3 mg/1 or less	The Biochemical Oxygen Demand of 3 mg/1 or less of the water ensures reasonable freedom from oxygen demanding pollutants and prevent production of obnoxious gases.

6.3 Water Quality Parameters

6.3.1 pH

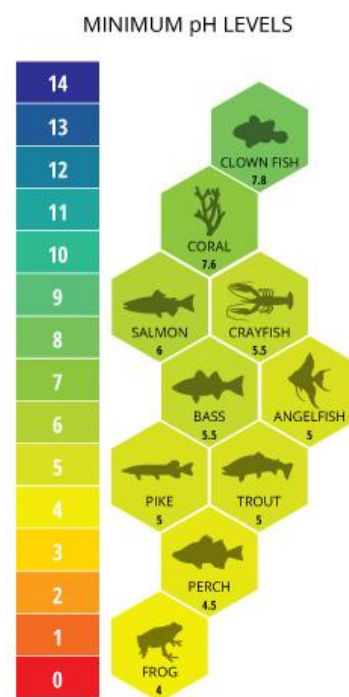
The term pH stands for the power of hydrogen, and it is a measure of the acidity or alkalinity of a solution. The numerical value of pH is determined by the molar concentration of hydrogen ions (H^+) present in the solution. The pH scale ranges from 1 to 14, where water with a pH of 7 is considered neutral, pH values below 7 are acidic, and pH values above 7 are considered basic or alkaline (Langland & Cronin, 2003). pH value done by taking the negative logarithm of the H^+ concentration ($-\log(H^+)$).

$$pH = -\log_{10}[H^+] \text{ or } \log[1/H^+]$$

pH in water can be influenced by various factors, both natural and man-made. Natural changes in pH occur due to interactions with surrounding rock, particularly carbonate forms, and other materials. Precipitation, especially acid rain, and discharges from wastewater or mining operations can also cause fluctuations in pH levels. Additionally, the concentration of carbon dioxide (CO_2) in water can influence pH levels (Hickin, 1995).

The pH of water is important because it affects the health of aquatic organisms and the solubility and toxicity of chemicals and heavy metals in the water. Most aquatic creatures prefer a pH range of 6.5-9.0, though some can live in water with pH levels outside of this range. If the pH of water is too high or too low, the aquatic organisms living within it will die (EPA, 2012).

Humans can tolerate a wider range of pH levels than aquatic organisms, but there are still concerns. pH values greater than 11 can cause skin and eye irritations, as does a pH below 4. A pH value below 2.5 will cause irreversible damage to skin and organ linings. Lower pH levels increase the risk of mobilized toxic metals that can be absorbed, even by humans, and levels above 8.0 cannot be effectively disinfected with chlorine, causing other indirect risks. In addition, pH levels outside of 6.5-9.5 can damage and corrode pipes and other systems, further increasing heavy metal toxicity (Fink, 2005). Therefore, it is important to maintain the pH levels of water within the recommended range of 6.5-8.5, as per CPCB's designated best uses of water (Class A and B).



6.3.2 Electrical Conductivity (EC)

Conductivity is a measure of water's ability to conduct an electrical flow, and it is directly related to the concentration of ions present in the water (Wetzel, 2001). These ions come from dissolved salts and inorganic materials like alkalis, chlorides, sulfides, and carbonate compounds. The more ions present in the water, the higher its conductivity (Langland & Cronin, 2003). Conversely, the fewer the ions in the water, the lower its conductivity. Compounds that dissolve into ions are known as electrolytes (Palermo, 2008).

Salinity and conductivity have a strong correlation, and conductivity is used in algorithms to estimate salinity and TDS, both of which affect water quality and aquatic life. Salinity is specifically important because it affects dissolved oxygen solubility. The higher the salinity level, the lower the dissolved oxygen concentration (DWFS, 2014). Temperature affects conductivity by increasing ionic mobility and the solubility of salts and minerals. This can be seen in diurnal variations as a body of water warms up due to sunlight, and conductivity increases, and then cools down at night, decreasing conductivity NSIDC. (2014).

Heavy rainfall or other severe weather events can contribute to flooding, and the effect on conductivity depends on the water body and surrounding soil. In areas with dry and wet seasons, conductivity usually drops overall during the wet season due to the addition of the water source though the overall conductivity is lower for the season, there are often conductivity spikes as water initially enters a floodplain. If a floodplain contains nutrient-rich or mineralized soil, previously dry salt ions can enter solution as it is flooded, raising the conductivity of water (Sallenave, 2011). A sudden increase or decrease in conductivity in a body of water can indicate pollution. Agricultural runoff or a sewage leak will increase conductivity due to the additional chloride, phosphate, and nitrate ions. In both cases, the additional dissolved solids will have a negative impact on water quality (ESCT, 2013).

Most aquatic species have adapted to specific salinity levels, and salinity values outside of a normal range can result in fish kills due to changes in dissolved oxygen concentrations, osmosis regulation, and TDS toxicity (McManus & Woodson, 2012; Beskenis, 2006; Guiry, 2014).

6.3.3 Ammonia (NH₃)

Ammonia is a commonly found pollutant in aquatic environments around the world (CEPA, 1999; Camargo & Alonso, 2006). Ammonia occurs naturally in water bodies, arising from the microbiological decomposition of nitrogenous compounds in organic matter. Fish and other aquatic organisms also excrete

ammonia. Ammonia may also be discharged directly into water bodies by some industrial processes or as a component of domestic sewage or animal slurry. Ammonia can also arise in waters from the decay of discharged organic waste. Natural (unpolluted) waters contain relatively small amounts of ammonia, usually $< 0.02\text{mg/L}$ as N. The presence of ammonia in freshwater has been associated with the acidification of rivers and lakes, eutrophication, and direct toxicity to aquatic organisms (CEPA, 1999; Camargo & Alonso, 2006; Baker et al., 1991). Ammonia exists in aqueous solutions in two forms, ionized (NH_4^+) and unionized (NH_3) and the unionized fraction is toxic to freshwater fish at very low concentration. The relative proportions of ionized and unionized ammonia in water depend on temperature and pH and to a lesser extent on salinity. The concentration of unionized ammonia becomes greater with increasing temperatures and pH and with decreasing salinity.

The toxicity of this compound on aquatic organisms will depend on the chemical form of ammonia, pH, and temperature. Furthermore, it will depend on the time of exposure (Francis-Floyd, 2009). This compound damages the gills, liver, kidney, spleen and other organ tissues of fish, therefore causing breathing difficulties (Benli et al., 2008; Schram et al., 2010). This may lead to physiological alterations and, eventually, exhaustion or death (Schram et al., 2010). Ammonia can cause cell damage and can also affect the antioxidant defence system, thus altering the levels of oxidative stress in fish (EPA, 2013; Sinha et al., 2014). Ammonia can also alter fish behaviour. Fish exposure to sub-lethal concentrations of ammonia can reduce swimming activity (Wicks et al., 2002), foraging behaviour (Tudorache, 2008), and the ability to flee from predators (Tudorache, 2008; McKenzie, 2009).

6.3.4 Fluoride (F^-)

Fluoride is a natural element that is commonly found in water sources, soil, and various foods. It is the 13th most abundant element, commonly occurring in the minerals fluor spar (CaF_2), cryolite (Na_3AlF_6) and fluorapatite ($3\text{Ca}_3(\text{PO}_4)_2 \cdot \text{Ca}(\text{F}, \text{Cl})_2$) while industrial wastes, use of extensive fertilizers and brick kilns are examples of the anthropogenic sources (Cotton & Wilkinson, 1988; Mackay & Mackay, 1989).

Fluoride is beneficial for dental health because it helps strengthen tooth enamel and makes teeth more resistant to acid attacks from bacteria and sugars. However, excessive fluoride intake can lead to health issues (CPHA, 1979). The maximum permissible limit of Fluoride as per IS 10500-2012 for drinking water is 1.5 mg/L . Excessive exposure to fluoride during tooth development, especially in childhood, can lead to a cosmetic issue known as

dental fluorosis. This condition results in changes in tooth enamel color and, in more severe cases, pitting or mottling of the teeth. Prolonged exposure to very high levels of fluoride, usually through drinking water with concentrations well above recommended levels, can lead to skeletal fluorosis. This condition affects the bones and joints and can cause pain and limited mobility (Hussain et al., 2010).

6.3.5 Total Hardness (TH)

The definition of water hardness is based on the measured content of divalent metal cations, with dissolved calcium (Ca^{++}) and magnesium (Mg^{++}) being the two primary divalent cations found in most waters. In natural water sources, calcium and magnesium are typically bound to bicarbonate, sulfate or chloride. The main sources of water hardness are sedimentary rocks, seepage and runoff from soils. Generally, hard waters originate from areas with thick topsoil and limestone formations, with groundwater tending to be harder than surface water. The two main industrial sources of water hardness are the inorganic chemical and mining industries. (Sawyer & McCarty, 1967; Biesecker & George, 1972).

To classify water hardness, general guidelines are as follows: 0 to 60 mg/L as CaCO_3 is considered soft water; 61 to 120 mg/L as moderately hard water; 120 to 180 mg/L as hard water; and more than 180 mg/L as very hard water.

The hardness of water is harmful to the boilers and hot water pipes as the deposition of salts occur, which can reduce their efficiency. The hard water is not good for washing as it is difficult for hard water to form lather with soap (Ramya et al 2015). The World Health Organisation states that hard water has no known adverse health effects (Akram, 2018). There are no serious health effects associated with drinking hard water. However solid water acts as a dietary supplement as it contains calcium and magnesium that strengthens bones and teeth (Sengupta, 2013). Hard water contains high concentration of dissolved minerals therefore millions of people think that these dissolved minerals have positive effects on the health of its drinkers ((Sawyer & McCarty, 1967; Biesecker & George, 1972).

6.3.6 Chloride (Cl^-)

Chloride (Cl^-) ion is a major inorganic anion found in water and wastewater, occurring naturally in all types of water. It is widely distributed in nature, mainly as the sodium (NaCl) and potassium (KCl) salts, and constitutes about 0.05% of the lithosphere (NRCC, 1977). The greatest amount of chloride found in the environment is in the oceans. The salty taste produced by chloride concentrations is variable and dependent on the chemical

composition of water. The presence of chloride in river water can be attributed to various sources, such as the dissolution of salts in soil, discharge of effluents from chemical industries, sewage discharge, contamination from refuse leachates, and sea water intrusion in coastal areas. Each of these sources leads to local contamination of river water. Chloride concentration serves as an indicator of sewage pollution in fresh water regions, with the discharge of domestic sewage being the most significant source of chlorides in the waters.

Chloride is an essential element and the main extracellular anion in the body. It is a highly mobile ion involved in maintaining proper osmotic pressure, water balance, and acid–base balance. Small amounts of chlorides are required for normal cell functions in plant and animal life. Fish and aquatic communities cannot survive in high levels of chlorides. The World Health Organization (WHO), Bureau of Indian Standard, and other regulatory bodies provide guidelines for safe levels of chloride in drinking water, typically below 250 milligrams per liter (mg/L) (WHO, 1979).

High chloride concentrations in water can affect the aesthetic quality of the water, imparting a salty taste. While this doesn't pose a direct health risk, it can lead to consumer dissatisfaction with the water's taste and smell. Individuals with certain health conditions, such as hypertension (high blood pressure) or cardiovascular diseases, may need to monitor their salt intake, including chloride. High chloride levels in water can contribute to increased sodium intake. Excessive chloride in water can have negative effects on aquatic ecosystems, particularly in freshwater environments, and can harm aquatic life, including fish and other organisms sensitive to changes in water quality (CNHW, 1983).

6.3.7 Boron (B)

Boron is a naturally occurring element found in the earth's crust and found in fruits, vegetables, and water sources. It binds to oxygen, forming borates, and is released into the environment through natural processes and human-made activities. Boron is essential for plant growth, but the required amount is relatively low. If boron exceeds a specific tolerance level, it may lead to injury. The range between boron deficiency and toxicity for many crops is narrow. To sustain an adequate supply of boron, at least 0.02 ppm of boron in irrigation water may be necessary, while boron levels should be lower than 0.3 ppm to avoid toxicity. Higher boron concentrations may require an evaluation of the intended crop's boron tolerance. Boron toxicity is not a widespread issue, but it can be a crucial parameter for assessing irrigation water quality. Plants grown in soils high in lime may tolerate higher boron levels than those grown in non-calcareous soils. Boron is weakly adsorbed by

soils, meaning its root-zone concentration may not directly vary with the degree of boron concentration in irrigation water during plant growth. Symptoms of boron injury may include leaf 'burning,' chlorosis, and necrosis, although some boron-sensitive species may not exhibit obvious symptoms.

6.3.8 Nitrate (NO_3^-)

Nitrate is a compound that can be found in the environment naturally and synthetically under various conditions. The amount of nitrogen present or both nitrogen and oxygen are used to measure nitrate in drinking water, which is the principal form of combined nitrogen that is present in natural waters. It serves as a nutrient that stimulates plant growth. However, excessive amounts of nitrogen may lead to the proliferation of macrophytes or phytoplankton. Nitrates can be contributed to freshwater through the discharge of sewage and industrial waste, as well as run-off from agricultural fields. Nitrate is the final product of the oxidation of ammonia. Effluents such as sewage contain high levels of ammonia, which can increase nitrate concentrations in receiving waters. High levels of nitrate in river waters may indicate pollution, even though this form of nitrogen can be used as a source of nutrients for plants and encourage plant proliferation (Hamzaraj et al., 2014).

The standard for nitrate in drinking water is 10.16 mg/L nitrate as N (NO_3^- -N) or 45 mg/L nitrate (NO_3^-). Nitrate in drinking water can cause Methemoglobinemia or blue baby syndrome, which is a significant health problem associated with nitrate.

6.3.9 Dissolved Oxygen (DO)

The amount of gaseous oxygen dissolved in water is known as dissolved oxygen, which enters the river water through diffusion from the atmosphere and as a by-product of aquatic plants' photosynthesis (Wetzel, 2001). The presence of dissolved oxygen in the aquatic habitat is crucial for the survival of organisms living in water bodies, including fish and invertebrates. Animals require oxygen to survive, and fish, for instance, can't survive for long in water with less than 5 mg/L of dissolved oxygen (EPA, 2014). Most aquatic plants, fish and zooplankton need oxygen in water in order to breathe. Good oxygen levels are critical for the health of a river system. Slow flowing, polluted river water is often associated with low oxygen conditions, which cannot support much life.

The low level of dissolved oxygen in water indicates contamination and is an important factor in determining water quality, pollution control, and treatment processes. The level of dissolved oxygen in natural and wastewater depends on the physical, chemical, and biochemical activities

occurring in water bodies. Oxygen is considered poorly soluble in water, and its solubility is related to temperature and pressure. The introduction of organic waste, especially domestic and animal sewage, industrial waste from paper mills, leather manufacturing, slaughterhouse sewage, and crop wastewater, significantly reduces the DO in river water. The wastes from these industries cause oxygen demand, and they're broken down and decomposed by bacteria into oxygen. Most oxygen-demanding waste is organic.

Low oxygen in water can be fatal to fish and other organisms living in water. A minimum of about 4 mg/L of DO is required for the survival of living organisms in water. Oxygen-depleting substances reduce the available DO. During the summer months, the rate of biological oxidation is significantly increased, yet the DO concentration is at its minimum due to higher temperatures. The DO concentration, temperature, and photosynthesis rate are interdependent and vary diurnally. The decrease in the DO concentration during nights due to the inhibition of photosynthetic activity and the increase in DO concentration due to active photosynthesis of microalgae during the daytime have been observed (Saba et al., 2017).

6.3.10 Biochemical oxygen Demand (BOD)

Biochemical Oxygen Demand (BOD) is a crucial parameter that quantifies the amount of dissolved oxygen required by aerobic biological organisms to break down organic materials within a river water sample (Armiento, 2016). Diverse sources contribute to BOD, encompassing municipal and industrial wastewater discharges, agricultural runoff, and leachate from landfills. Within rivers, oxygen consumption arises from a combination of aquatic animal respiration, decomposition processes, and various chemical reactions. Wastewater discharged from sewage treatment plants often contains organic substances, which are decomposed by microorganisms, consuming oxygen in the process. Additionally, stormwater runoff from farmland or urban streets, feedlots, and malfunctioning septic systems can introduce oxygen-consuming wastewater.

Several factors influence BOD, including the type and quantity of organic material present, temperature, pH, dissolved oxygen concentration, and the presence of bacteria.

CPCB has recommended a concentration of 3.0 mg/l of biochemical oxygen demand for outdoor bathing. Water having above 3.0 mg/l BOD concentration is not suitable for outdoor bathing. In pristine conditions, rivers generally exhibit a 5-day carbonaceous BOD below 1 mg/L. In moderately polluted scenarios, BOD values fall within the range of 2 to 8

mg/L. Rivers cross the threshold into severe pollution when BOD values exceed 8 mg/L (Grover and Wats, 2013).

The impact of high BOD on the aquatic ecosystem is significant because it can lead to the death of aquatic life. The high levels of BOD can deplete the dissolved oxygen levels in the water, which can cause fish and other aquatic life to suffocate. Additionally, the high levels of BOD can cause the water to become cloudy and murky, making it difficult for aquatic life to thrive.

6.3.11 Total Coliforms (TC) and Faecal Coliforms (FC)

Coliforms are one of the most useful indicator organisms which are easily detectable. Total Coliforms represent a group of 16 species of bacteria that are found in soil, vegetation, animal wastes and human sewage. Their presence gives an idea about the pollution level of the water bodies. Coliforms are called indicators because their presence give an indication of the possibility of presence of other microorganisms including harmful pathogens. Faecal coliforms represent a sub category of TC with 6 species including the harmful *E. coli* bacteria. These are determined by the Most Probable Number (MPN) method. MPN method is a statistical, multi-step assay consisting of presumptive, confirmed and completed phases.

6.3.12 Sodium Absorption Ratio (S.A.R.)

The sodium adsorption ratio (SAR) is a crucial parameter for managing soil quality in agriculture. It determines the suitability of irrigation water by analysing the concentrations of different cations, including the primary alkaline and earth alkaline cations in the water. The SAR indicates the relative proportion of sodium to other cations in the water, which affects the soil structure's potential for degradation. If the soil contains excessive sodium, it can lead to sodicity, causing soil structure degradation and higher erosion rates. The SAR value is significant as it predicts the potential for sodium accumulation in the soil. Higher SAR values indicate a higher risk of soil problems due to sodium accumulation, such as decreased permeability and soil structure degradation. Sodic soils, resulting from excessive sodium, can also lead to poor water infiltration, drainage problems, and decreased crop yields (Laxmi et al., 2022).

7.1 Results and Comparison with Hot Spots reported in 2023

7.1.1 pH

The pH value is expressed as the ratio of $[H^+]$ to $[OH^-]$ (hydroxide ion concentration). The Bureau of Indian Standards (BIS) recommends a desirable pH range of 6.5 to 8.5 for drinking water. This limit is also set by the Central Pollution Control Board (CPCB) for various water classes: Class A (drinking water source after disinfection), Class B (organized outdoor bathing) and Class D (wildlife propagation, all defined within the 6.5 to 8.5 range. Water samples from various monitoring stations across different rivers in India were analyzed for pH during the pre-monsoon, monsoon, and post-monsoon seasons, and the data were compared to the CPCB's recommended pH limits.

pH values across various monitored sites during the pre-monsoon, monsoon, and post-monsoon seasons show significant variability. This indicates diverse environmental conditions and potential anthropogenic influences. During the study period, 11 water quality stations covering major river basins, including the Ganga Basin, Barak & Other Basin, Krishna Basin, Cauvery Basin, Mahi Basin and West Flowing Rivers South of Tapi Basin, recorded pH values beyond the permissible limit.

During the pre-monsoon season, pH values ranged from 4.39 at Kharkhana (Myntdu River, Meghalaya) to 8.63 at Barod (Kalisindh River, Rajasthan). Additional elevated pH values were observed at Deosugur (Krishna River, Karnataka) – 8.56, Khanpur (Mahi River, Gujarat) – 8.55, and Vijayawada (Krishna River, Andhra Pradesh) – 8.53, indicating alkaline conditions. Conversely, slightly acidic conditions were recorded at Thumpamon (Pampa/Achankovil, Kerala) – 6.48, and strongly acidic conditions at Kharkhana. In total, six stations exceeded the permissible pH range, either below 6.5 or above 8.5.

In the monsoon season, pH values showed relatively moderated variation, ranging from 5.18 at Kharkhana (Myntdu River, Meghalaya) to 8.53 at Hogenakkal (Chinnar River, Tamil Nadu). Therriaghat (Umsohryngkew River, Meghalaya) recorded 6.49, slightly below the acceptable threshold. During this season, three stations exceeded the prescribed limits.

During the post-monsoon season, pH values ranged from 4.60 at Kharkhana (Myntdu River, Meghalaya) to 8.51 at Khanpur (Mahi River, Gujarat). Slightly acidic values were also observed at Umkhen II (6.15) and Umsiang

(6.21) in Meghalaya. While most stations remained within the acceptable range, five stations recorded pH values outside the prescribed limits, predominantly in the Barak & Other Basin.

Comparison between 2023 -2025:

The comparison of pH hot spots from 2023 to 2025 reveals notable seasonal variations across the Pre-Monsoon, Monsoon, and Post-Monsoon periods.

YEAR	Total No. of Hotspots found	Number of Hot-Spots found for pH		
		Pre-Monsoon	Monsoon	Post-Monsoon
2023	23	20	14	11
2024	30	20	10	08
2025	11	06	03	05

During the pre-monsoon season, 20 pH hot spots were recorded in 2023, which remained unchanged in 2024. However, in 2025, the number significantly declined to 6, indicating a substantial reduction of 70% compared to 2023 and 2024.

In the monsoon season, the number of hot spots decreased from 14 in 2023 to 10 in 2024, representing a reduction of approximately 28.6%. A further marked decline was observed in 2025, with only 3 hot spots reported, reflecting a 70% decrease compared to 2024.

During the post-monsoon season, hot spots reduced from 11 in 2023 to 8 in 2024, indicating a decrease of approximately 27.3%. In 2025, 5 hot spots were identified, showing a further reduction of 37.5% compared to 2024 and 54.5% compared to 2023.

Overall, while 2024 showed a slight increase in total hot spots compared to 2023, a significant declining trend is observed in 2025 across all seasons, suggesting an overall improvement in pH compliance levels during the study period.

The hot spot study and GIS map for pH parameter are given below in Table 8 and figure 18.

Table 8: Monitoring stations having pH value above 8.5 & below 6.5 in River Water in 2025

S.No .	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
1	Barod	Kalisindh	CD Jaipur	Rajasthan	Kota	8.63	-	*
2	Byrnihat	Umtrew	MID, Shillong	Meghalaya	Ri-Bhoi	-	-	6.31
3	Deosugur	Krishna	LKD, Hyderabad	Karnataka	Raichur	8.56	-	-
4	Hogenakkal	Chinnar	SRD, Coimbatore	Tamil Nadu	Dharmapuri	*	8.53	*
5	Khanpur	Mahi	MD, Gandhinagar	Gujarat	Anand	8.55	-	8.51
6	Kharkhana	Myntdu	MID, Shillong	Meghalaya	East Jaintia Hills	4.39	5.18	4.60
7	Therriaghat	Umsohryngkew	MID, Shillong	Meghalaya	East Khasi Hills	-	6.49	-
8	Thumpamon	Pampa/Achankovil	SWRD, Kochi	Kerala	Pathanamthitta	6.48	-	-
9	Umkhen II	Umkhen	MID, Shillong	Meghalaya	East Khasi Hills	-	-	6.15
10	Umsiang	Umsiang	MID, Shillong	Meghalaya	RI-BHOI District	-	-	6.21
11	Vijayawada	Krishna	LKD, Hyderabad	Andhra Pradesh	NTR	8.53	-	-

(-) means No Hotspot.

(*) means Data not available/ river dry.

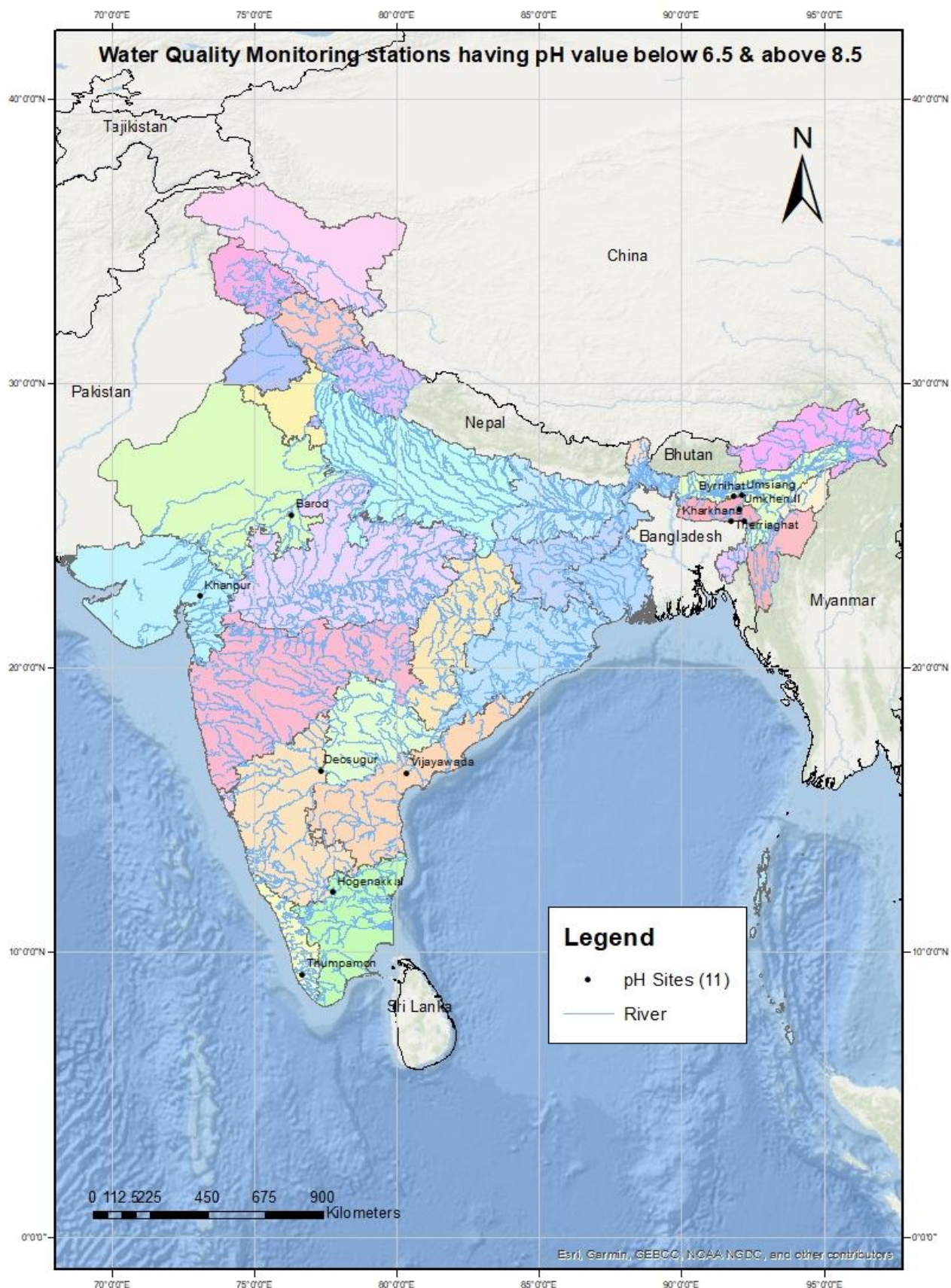


Figure 18: Water Quality Monitoring stations having pH value below 6.5 & above 8.5 (2025)

7.1.2 Electrical Conductivity (EC)

Conductivity is a measure of water's ability to conduct an electrical flow, and it is directly related to the concentration of ions present in the water (Wetzel, 2001). The conductivity measurement is directly affected by the number of dissolved ions in the solution. These ions come from dissolved salts and inorganic materials like alkalis, chlorides, sulfides, and carbonate compounds. The more ions present in the water, the higher its conductivity (Langland & Cronin, 2003). Conversely, the fewer the ions in the water, the lower its conductivity.

Bureau of Indian Standards (BIS) has set a recommended drinking water standard for total dissolved solids (TDS) at 500 mg/l (equivalent to about 750 $\mu\text{S}/\text{cm}$ at 25°C). This limit can be increased to a TDS of 2000 mg/l (about 3000 $\mu\text{S}/\text{cm}$ at 25°C) if no alternative source is available. Additionally, the Central Pollution Control Board (CPCB) has specified a maximum of 2250 $\mu\text{S}/\text{cm}$ at 25°C for class-E irrigation, industrial cooling, and controlled waste disposal.

Electrical conductivity (EC) values recorded across the monitored water quality stations during the pre-monsoon, monsoon and post-monsoon seasons indicate considerable spatial variation, reflecting differences in hydrological conditions, catchment characteristics, and possible anthropogenic inputs. The acceptable limit for electrical conductivity is 2250 $\mu\text{S}/\text{cm}$. During the study period, seven (07) water quality monitoring stations recorded EC values exceeding the prescribed limit in one or more seasons.

The maximum conductivity value of 4411 $\mu\text{S}/\text{cm}$ was observed at Ballarsha Paper Mill (B.P.M (Bamni)) on Wardha River during the pre-monsoon season, while the minimum reported value among available data was 2253 $\mu\text{S}/\text{cm}$ Vautha (Sabarmati River, Gujarat) during the pre-monsoon season (among stations exceeding limits).

During the pre-monsoon season, conductivity values ranged from 2253 $\mu\text{S}/\text{cm}$ at Vautha (Sabarmati River) to 4411 $\mu\text{S}/\text{cm}$ at Ballarsha Paper Mill (B.P.M (Bamni)) (Wardha River). In total, six (06) stations exceeded the permissible limit during the pre-monsoon season. Elevated EC values during this period can be attributed to reduced river discharge, higher evaporation rates, and concentration of dissolved salts under low-flow conditions.

During the monsoon season, at Ballarsha Paper Mill (B.P.M (Bamni)), conductivity decreased from 4411 $\mu\text{S}/\text{cm}$ (pre-monsoon) to 3048 $\mu\text{S}/\text{cm}$, indicating a significant dilution effect due to rainfall and increased river discharge.

In the post-monsoon season, conductivity values ranged from 3053 $\mu\text{S}/\text{cm}$ at Luwara (Shetrunji River) to 3406 $\mu\text{S}/\text{cm}$ at Ballarsha Paper Mill (B.P.M (Bamni)) (Wardha River) among the stations exceeding limits. During the post-monsoon season, only two (02) monitoring stations recorded electrical conductivity (EC) values exceeding the acceptable limit.

Comparison between 2023 to 2025:

The comparison of electrical conductivity hot spots between 2023, 2024 & 2025 reveals significant trends across the different seasons: Pre-Monsoon, Monsoon and Post-Monsoon.

YEAR	Total No. of Hotspots found	Number of Hot-Spots found for Electrical Conductivity		
		Pre-Monsoon	Monsoon	Post-Monsoon
2023	06	05	05	04
2024	11	08	05	05
2025	07	06	01	02

During the pre-monsoon season, 5 electrical conductivity (EC) hot spots were recorded in 2023, which increased to 8 in 2024, indicating a rise of 60%. However, in 2025, the number declined to 6, showing a reduction of 25% compared to 2024, although it still remained higher than the 2023 level.

In the monsoon season, the number of hot spots remained unchanged at 5 in both 2023 and 2024. A significant improvement was observed in 2025, with only 1 hot spot reported, reflecting a substantial reduction of 80% compared to both previous years.

During the post-monsoon season, hot spots slightly increased from 4 in 2023 to 5 in 2024, representing an increase of 25%. In 2025, the number decreased to 2, indicating a reduction of 60% compared to 2024 and 50% compared to 2023. Notably, during the post-monsoon season, only two (02) stations recorded EC values above the acceptable limit.

Overall, the total number of EC hot spots increased from 6 in 2023 to 11 in 2024, showing a rising trend. However, a marked improvement was observed in 2025, with the total number reducing to 7, representing a decrease of 36.4% compared to 2024. The overall trend indicates significant improvement in EC compliance in 2025, particularly during the monsoon and post-monsoon seasons.

The hot spot study and GIS map for EC parameter are given below in Table 9 and figure 19.

Table 9: Monitoring stations having Electrical Conductivity (EC) >2250 μ S/cm in River Water 2025

S.No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
1	Ballarsha paper mill (B.P.M (Bamni))	Godavari/Pra nhita/Wardha	WD, Nagpur	Maharashtra	Chandrapur	4411	3048	3406
2	Durvesh	Vaitarna	TD, Surat	Maharashtra	Palghar	3091	-	-
3	Elunuthimangalam	Noyyal	SRD, Coimbatore	Tamil Nadu	Erode	2723	-	-
4	Lakshmanapatti	Kodaganar	SRD, Coimbatore	Tamil Nadu	Dindigul	3190	*	*
5	Luwara	Shetrunji	MD, Gandhinagar	Gujarat	Bhavnagar	*	-	3053
6	Varanavasi	Marudaiyar	SRD, Coimbatore	Tamil Nadu	Perambalur	2995	*	-
7	Vautha	Sabarmati	MD, Gandhinagar	Gujarat	Ahmedabad	2253	-	-

(-) means No Hotspot;

(*) means Data not available/ river dry.

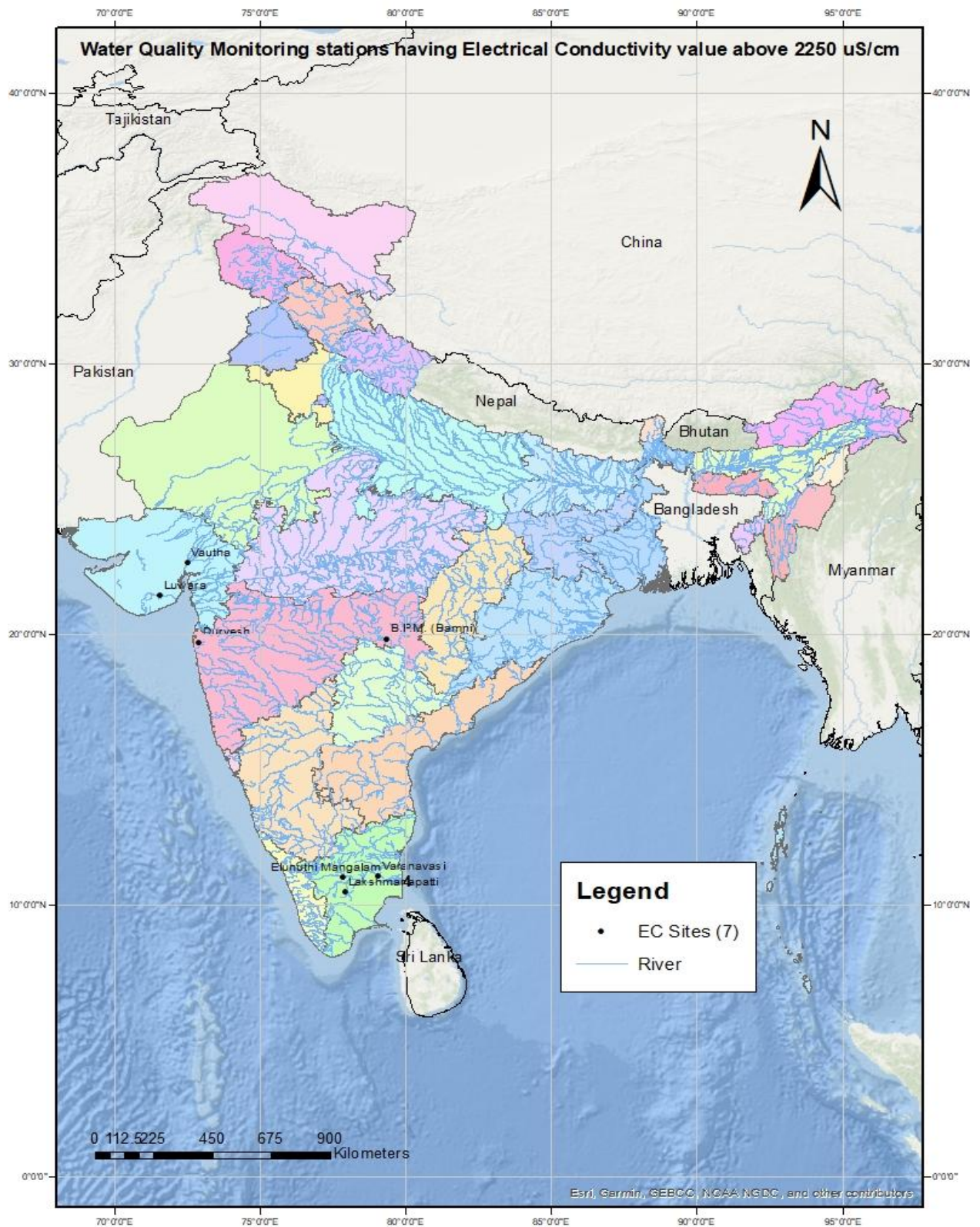


Figure 19: Water Quality Monitoring stations having electrical Conductivity value greater than 2250 μ mhos/cm (2025)

7.1.3 Ammonia as N ($\text{NH}_3\text{-N}$)

The primary agricultural sources include leaching of ammonia-rich fertilizer and transport to surface water and livestock waste. The limit prescribed by CPCB for Ammonia (as N) in class-D: Propagation of Wild life and Fisheries is 1.2 mg/l or less.

Ammonia levels as N during the pre-monsoon, monsoon and post-monsoon seasons show significant variability across the monitored sites. In 2025, across all stations, the maximum value of 32.39 was recorded at Satrapur Kanhan Town (Kanhan, Maharashtra) during the pre-monsoon season, followed closely by Singasadanapalli (Ponnaiyar River, Tamil Nadu) with 31.84 (pre-monsoon) and 33.82 (post-monsoon). The minimum value of 1.25 was observed at RSP-II (Brahmani River, Odisha) during the monsoon season.

During the pre-monsoon season, concentrations were generally high at several monitoring stations, particularly along the Yamuna River stretch in Uttar Pradesh and Delhi. Elevated values were recorded at Mohna (14.28), Delhi Railway Bridge (13.54), T. Bekuppe (13.81), Gokul Barrage (12.38), Kailash Mandir, Agra U/S (12.72), Vrindawan Bridge (12.01) and Yamuna Expressway Road Bridge, Etamadpur (12.98). Extremely high concentrations were observed at Satrapur Kanhan Town (32.39) on the Godavari sub-basin and Singasadanapalli (31.84) on the Ponnaiyar River. These elevated levels during the pre-monsoon period may be attributed to reduced river discharge, higher evaporation rates, and the accumulation of pollutants due to limited dilution capacity under low-flow conditions.

During the monsoon season, most stations exhibited a noticeable decline in concentrations, indicating the strong dilution effect of rainfall and increased river discharge. For instance, Delhi Railway Bridge showed a substantial decrease from 13.54 to 3.61, while Mohna declined from 14.28 to 5.24. Similarly, Satrapur Kanhan Town (K.T (Satrapur)) reduced significantly from 32.39 to 9.04, and RSP (Brahmani River) decreased from 17.28 to 7.71. Many stations in the Yamuna basin demonstrated marked reductions during this period. However, Singasadanapalli (24.66) and T. Bekuppe (11.42) continued to exhibit relatively elevated values even during the monsoon, suggesting persistent pollutant loading or upstream anthropogenic influences. The lowest monsoon values were observed at RSP-II (1.25), Pingalwada (1.38) and Gummanur (1.46), indicating comparatively better water quality at these locations during high-flow conditions.

In the post-monsoon season, a partial rebound in concentrations was observed at several stations as river flows gradually stabilized and dilution

effects diminished. Satrapur Kanhan Town (K.T (Satrapur)) increased sharply from 9.04 during the monsoon to 22.76, while Singasadanapalli rose from 24.66 to 33.82. Chilla Gaon showed an increase from 4.82 to 8.48, and Okhla Barrage rose from 4.82 to 8.48. Despite this rebound, many Yamuna basin stations recorded moderate values compared to the pre-monsoon season, suggesting some improvement following monsoon flushing. The lowest post-monsoon concentrations were observed at Etawah (1.35), RSP-I (1.57) and Patharidih (2.21), indicating relatively better water quality conditions at these sites during this period.

Comparison between 2023 to 2025:

During the three-year assessment period (2023–2025), elevated ammonia (NH₃-N) concentrations above the prescribed threshold of 1.2 mg/L were observed across multiple rivers stretches, indicating sustained organic pollution and untreated sewage discharge in several basins.

During the pre-monsoon season, 33 ammonia-N hot spots were recorded in 2023, which slightly decreased to 32 in 2024, indicating a marginal reduction of about 3.0%. In 2025, the number further declined to 31, showing a gradual reduction of 3.1% compared to 2024 and 6.1% compared to 2023.

In the monsoon season, the number of hot spots remained constant at 32 in both 2023 and 2024. However, a noticeable improvement was observed in 2025, with the number decreasing to 28, reflecting a reduction of 12.5% compared to the previous two years.

YEAR	Total No. of Hotspots found	Number of Hot-Spots found for Ammonia-N		
		Pre-Monsoon	Monsoon	Post-Monsoon
2023	42	33	32	21
2024	47	32	32	36
2025	36	31	28	24

During the post-monsoon season, hot spots increased significantly from 21 in 2023 to 36 in 2024, representing a sharp rise of approximately 71.4%. In 2025, the number reduced to 24, indicating a decrease of 33.3% compared to 2024, although it still remained higher than the 2023 level by about 14.3%.

Overall, the total number of ammonia hot spots increased from 42 in 2023 to 47 in 2024, indicating a worsening trend. However, a notable improvement was observed in 2025, with the total number decreasing to 36, representing a reduction of 23.4% compared to 2024 and 14.3% compared to 2023. The overall trend suggests gradual improvement in ammonia-N

levels in 2025, although seasonal fluctuations, particularly during the post-monsoon period.

The hot spot study and GIS map for ammonia-N (NH₃-N) are given below in Table 10 and figure 20.

Table 10: Monitoring stations having Ammonia as N (NH₃-N) > 1.2 mg/l in River Water in 2025

S. No	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
1	Agra (Jawahar Bridge)	Yamuna	LYD, Agra	Uttar Pradesh	Agra	11.29	2.10	4.95
2	Agra (Poiyaghat)	Yamuna	LYD, Agra	Uttar Pradesh	Agra	11.70	2.30	4.62
3	Baghpat	Yamuna	UYD, Delhi	Uttar Pradesh	Baghpat	1.64	-	-
4	Baleni	Hindon	UYD, Delhi	Uttar Pradesh	Baghpat	3.13	1.90	2.20
5	Ballarsha paper mill (B.P.M (Bamni))	Godavari/Pranhita/Wardha	WD, Nagpur	Maharashtra	Chandrapur	6.39	1.56	-
6	Bokaro DN	Damodar	DD, Asansol	Jharkhand	Bokaro	5.61	1.47	-
7	Bokaro UP	Damodar	DD, Asansol	Jharkhand	Bokaro	5.53	1.56	-
8	Chilla Gaon	Hindon Cut	UYD, Delhi	Delhi	East Delhi	9.72	4.82	8.48
9	Delhi Railway Bridge (DRB)	Yamuna	UYD, Delhi	Delhi	North Delhi	13.54	3.61	6.43
10	Desangpani	Desang	UBD, Dibrugarh	Assam	Charaideo	-	-	3.70
11	Dhansa	Sahibi	UYD, Delhi	Haryana	Jhajar	*	1.81	*
12	Dillighat	Desang	UBD, Dibrugarh	Assam	Dibrugarh	1.44	-	-
13	Etawah	Yamuna	LYD, Agra	Uttar Pradesh	Etawah	5.16	-	1.35
14	Galeta	Hindon	UYD, Delhi	Uttar Pradesh	Meerut	5.76	2.49	4.76
15	Gokul barrage Mathura D/S	Yamuna	UYD, Delhi	Uttar Pradesh	Mathura	12.38	4.28	5.94
16	Gummanur	Ponnaiyar	SRD, Coimbatore	Tamil Nadu	Krishnagiri	3.42	1.46	4.05
17	Kailash Mandir, Agra (U/S)	Yamuna	LYD, Agra	Uttar Pradesh	Agra	12.72	1.90	4.64
18	Kalindi Kunj	Agra Canal	UYD, Delhi	Delhi	East Delhi	10.80	4.65	8.10
19	Mohna	Yamuna	UYD, Delhi	Haryana	Faridabad	14.28	5.24	6.55
20	Motinaroli	Kim	TD, Surat	Gujarat	Surat	3.15	-	-
21	Noida	Hindon	UYD, Delhi	Uttar Pradesh	Gautam Budh Nagar	9.59	5.18	7.86
22	Okhla barrage	Yamuna	UYD, Delhi	Delhi	South Delhi	12.11	4.74	8.38
23	Palla	Yamuna	UYD, Delhi	Delhi	North West Delhi	1.80	-	-
24	Patharidih	Mahanadi/Seonath/Kharun	MD, Burla	Chhattisgarh	Raipur	-	-	2.21
25	Pingalwada	Dhadar	TD, Surat	Gujarat	Vadodara	5.70	1.38	-
26	Pupunki	Damodar	DD, Asansol	Jharkhand	Bokaro	2.30	-	-
27	RSP	Brahamani	ERD, Bhubaneswar	Odisha	Sundergarh	17.28	7.71	3.45
28	RSP-I	Brahamani	ERD, Bhubaneswar	Odisha	Sundergarh	2.82	1.75	1.57

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
			war					
29	RSP-II	Brahamani	ERD, Bhubaneswar	Odisha	Sundergarh	-	1.25	-
30	Satrapur Kanhan Town (K.T (Satrapur))	Godavari/Pranhita/Wainganga/Kanhan	WD, Nagpur	Maharashtra	Nagpur	32.39	9.04	22.76
31	Singasadanapalli	Ponnaiyar	SRD, Coimbatore	Tamil Nadu	Krishnagiri	31.84	24.66	33.82
32	T. Bekuppe	Cauvery/Arkavathi	CD, Bengaluru	Karnataka	Ramanagara	13.81	11.42	*
33	Ujjain	Shipra	CD Jaipur	Madhya Pradesh	Ujjain	*	2.14	3.46
34	Vautha	Sabarmati	MD, Gandhinagar	Gujarat	Ahmedabad	5.85	4.23	3.51
35	Vrindawan Bridge (Mathura U/S)	Yamuna	UYD, Delhi	Uttar Pradesh	Mathura	12.01	4.29	5.98
36	Yamuna Expressway Road Bridge, Etamadpur (Agra D/S)	Yamuna	LYD, Agra	Uttar Pradesh	Agra	12.98	2.36	4.82

(-) means No Hotspot

(*) means Data not available/ river dry.

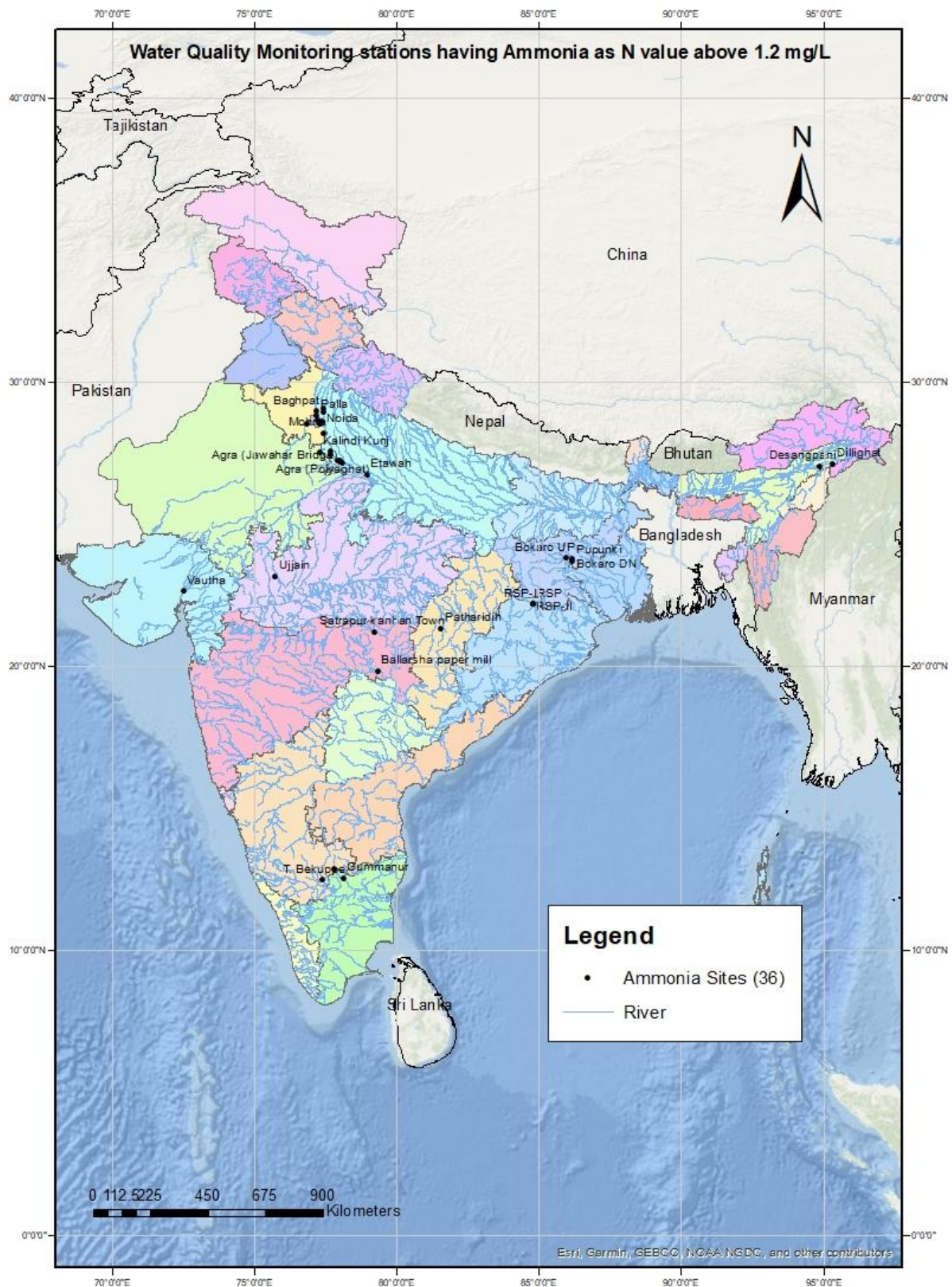


Figure 20: Water Quality monitoring stations having ammonia as N value above 1.2 mg/L (2025)

7.1.4 Fluoride (F⁻)

BIS has recommended 1.0 mg/l of F as desirable concentration of fluoride in drinking water, which can be extended to 1.5 mg/l of fluoride in case no alternative source of water is available.

During the pre-monsoon, monsoon and post monsoon seasons, the fluoride concentrations observed at only two (02) water quality monitoring at Lingdem Hot Spring (Talang Chu River) and Tadipatri (Pennar) stations exceeded the acceptable limit. At Lingdem HS (Sikkim), the recorded values were 6.36 during pre-monsoon, 5.33 during monsoon and 7.96 during post-monsoon.

A decline was observed from pre-monsoon to monsoon, likely due to dilution from increased rainfall during the monsoon period. At Tadipatri (Andhra Pradesh) on the Pennar River, only for the post-monsoon season, exceeded the fluoride concentration.

Comparison between 2023 to 2025:

During the three-year assessment period (2023–2025), fluoride concentrations exceeding the permissible limit were observed at selected water quality monitoring stations, showing a fluctuating but overall improving trend observed.

In 2023, six (06) monitoring stations—Kamalapuram (Papagani River), Lakshmanapatti (Kodaganar River), Lingdem (HS) (Talangchu River), R.S.P (Brahmani River), R.S.P-1 (Brahmani River) and Tadipatri (Pennar River)—exceeded the acceptable fluoride limits. This indicated localized geogenic influence and possible groundwater–surface water interaction in certain basins. In 2024, a significant improvement was observed, with only one (01) station, namely Lingdem Hot Spring (Talangchu River), recording fluoride concentrations above the permissible threshold.

The comparison of fluoride hot spots between 2023 to 2025 reveals significant trends across the different seasons: Pre-Monsoon, Monsoon and Post-Monsoon.

YEAR	Total No. of Hotspots found	Number of Hot-Spots Found for fluoride		
		Pre-Monsoon	Monsoon	Post-Monsoon
2023	06	05	01	02
2024	01	01	01	00
2025	02	01	01	02

During 2023 to 2025, one water quality monitoring station was consistently identified: at Lingdem Hot Spring (Talang Chu River). The presence of fluoride in this location, Talang Chu (hot spring), is likely due to the leaching of fluoride-bearing minerals from rocks.

During the pre-monsoon season, 5 fluoride hot spots were recorded in 2023. This number showed a substantial decline to 1 in 2024, indicating a reduction of 80%. In 2025, the number remained unchanged at 1, maintaining the improved condition achieved in 2024.

In the monsoon season, only 1 hot spot was observed consistently in 2023, 2024, and 2025, indicating no variation and a stable trend over the study period.

During the post-monsoon season, 2 hot spots were identified in 2023, while no hot spots were reported in 2024, indicating complete compliance (100% reduction). However, in 2025, the number increased again to 2, returning to the 2023 level and indicating a re-emergence of fluoride contamination during this season.

Overall, the total number of fluoride hot spots showed a significant decline from 6 in 2023 to 1 in 2024, representing a reduction of approximately 83.3%. In 2025, the total slightly increased to 2, indicating a rise of 100% compared to 2024, though still considerably lower than the 2023 level (66.7% reduction). The overall trend suggests substantial improvement in fluoride levels after 2023, with generally low and stable occurrences, except for a minor increase observed in the post-monsoon season of 2025.

The hot spot study and GIS map for F⁻ parameter are given below in Table 11 and figure 21.

Table 11: Monitoring stations having Fluoride (F⁻) concentration above 1.5 mg/l in River Water in 2025

S.No	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
1	Lingdem HS	Teesta/Talangchu	SID, Gangtok	Sikkim	Mangan	6.36	5.33	7.96
2	Tadipatri	Pennar	HD, Chennai	Andhra Pradesh	Anantapur	-	-	1.73

(*) means Data not available/ river dry.

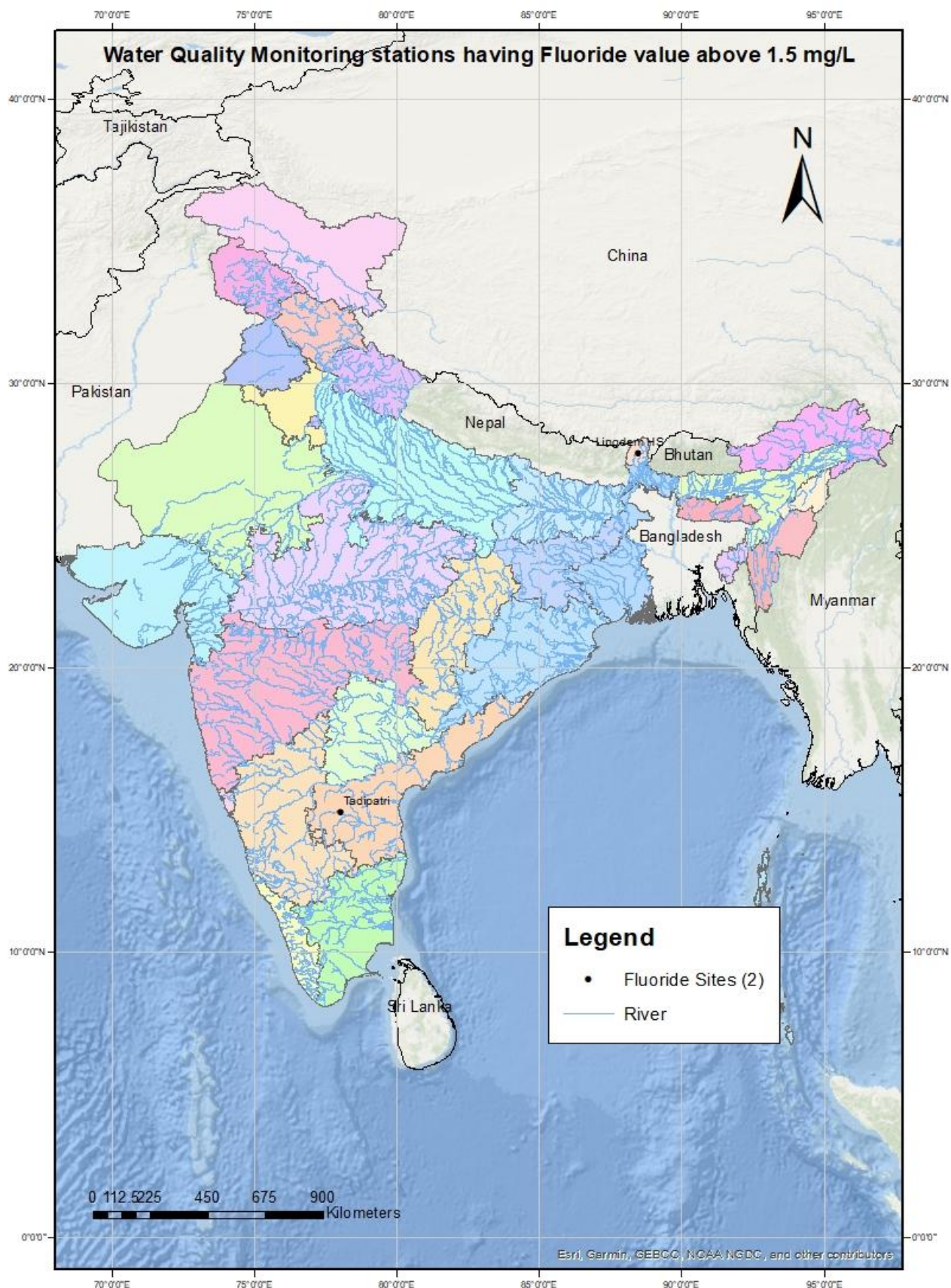


Figure 21: Water Quality Monitoring stations having fluoride value above 1.5 mg/L (2025)

7.1.5 Total Hardness

The acceptable limit for Total Hardness as per *Indian Standard Drinking Water Specification, IS 10500:2012* is 200 mg/L, and the permissible limit in the absence of an alternate source is 600 mg/L.

During the 2025, water quality at Lakshmanapatti on the Kodaganar River (Dindigul district, Tamil Nadu) exceeded the acceptable hardness limit during the pre-monsoon season. A hardness value of 603.2 mg/L was recorded during this period, which is marginally above the permissible limit of 600 mg/L. The elevated hardness level observed during the pre-monsoon season may be attributed to reduced river discharge, increased evaporation and higher concentration of dissolved minerals such as calcium and magnesium, which are the primary contributors to hardness in water.

Comparison between 2023 to 2025:

Total Hardness concentrations (as per BIS 10500:2012; acceptable limit 200 mg/L and permissible limit 600 mg/L in the absence of an alternate source) across the years 2023 to 2025 indicates fluctuating but overall improving trends in hardness exceedances.

In 2023, three (03) water quality monitoring stations—B.P.M. (Bamni) on the Wardha River (Maharashtra), Lakshmanapatti on the Kodaganar River (Tamil Nadu) and Luwara on the Shetrunji River (Gujarat)—recorded total hardness values above the permissible limit during one or more seasons (pre-monsoon, monsoon, and post-monsoon).

In 2024, the number of hotspots increased to four (04) stations, with Dhansa on the Sahibi River emerging as an additional hotspot along with the three recurring stations from 2023. This reflects a marginal deterioration in hardness conditions compared to 2023.

However, in 2025, a substantial improvement was observed, with only one (01) station Lakshmanapatti (Kodaganar River) exceeding the permissible hardness limit, indicating a marked reduction in spatial extent of hardness-related concerns.

The data presented summarizes the number of hot-spots identified for total hardness across different seasons for the years 2023 to 2025. The results are detailed in the table below:

YEAR	Total No. of Hotspots found	Number of Hot-Spots found for Total Hardness		
		Pre-Monsoon	Monsoon	Post-Monsoon
2023	03	03	01	02
2024	04	02	03	00
2025	01	01	00	00

During the pre-monsoon season, 3 total hardness hot spots were recorded in 2023, which decreased to 2 in 2024, indicating a reduction of 33.3%. A further improvement was observed in 2025, with only 1 hot spot reported, reflecting a reduction of 50% compared to 2024 and 66.7% compared to 2023. In the monsoon season, 1 hot spot was identified in 2023, which increased to 3 in 2024, indicating a significant rise of 200%. However, in 2025, no hot spots were reported, showing complete compliance and a 100% reduction compared to 2024. During the post-monsoon season, 2 hot spots were recorded in 2023, while no hot spots were observed in both 2024 and 2025, indicating sustained complete compliance (100% reduction) during this period.

Overall, the total number of total hardness hot spots increased slightly from 3 in 2023 to 4 in 2024, showing a temporary rise. However, a marked improvement was observed in 2025, with only 1 hot spot recorded, representing a reduction of 75% compared to 2024 and 66.7% compared to 2023.

The hot spot study and GIS map for total hardness (TH) parameter are given below in Table 12 and figure 22.

Table 12: Monitoring stations having Total hardness (TH) concentration above 600 mg/l in River Water in 2025

S.No	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
1	Lakshmanapatti	Kodaganar	SRD, Coimbatore	Tamil Nadu	Dindigul	603.2	-	-

(-) means No Hotspot.

(*) means Data not available/ river dry.

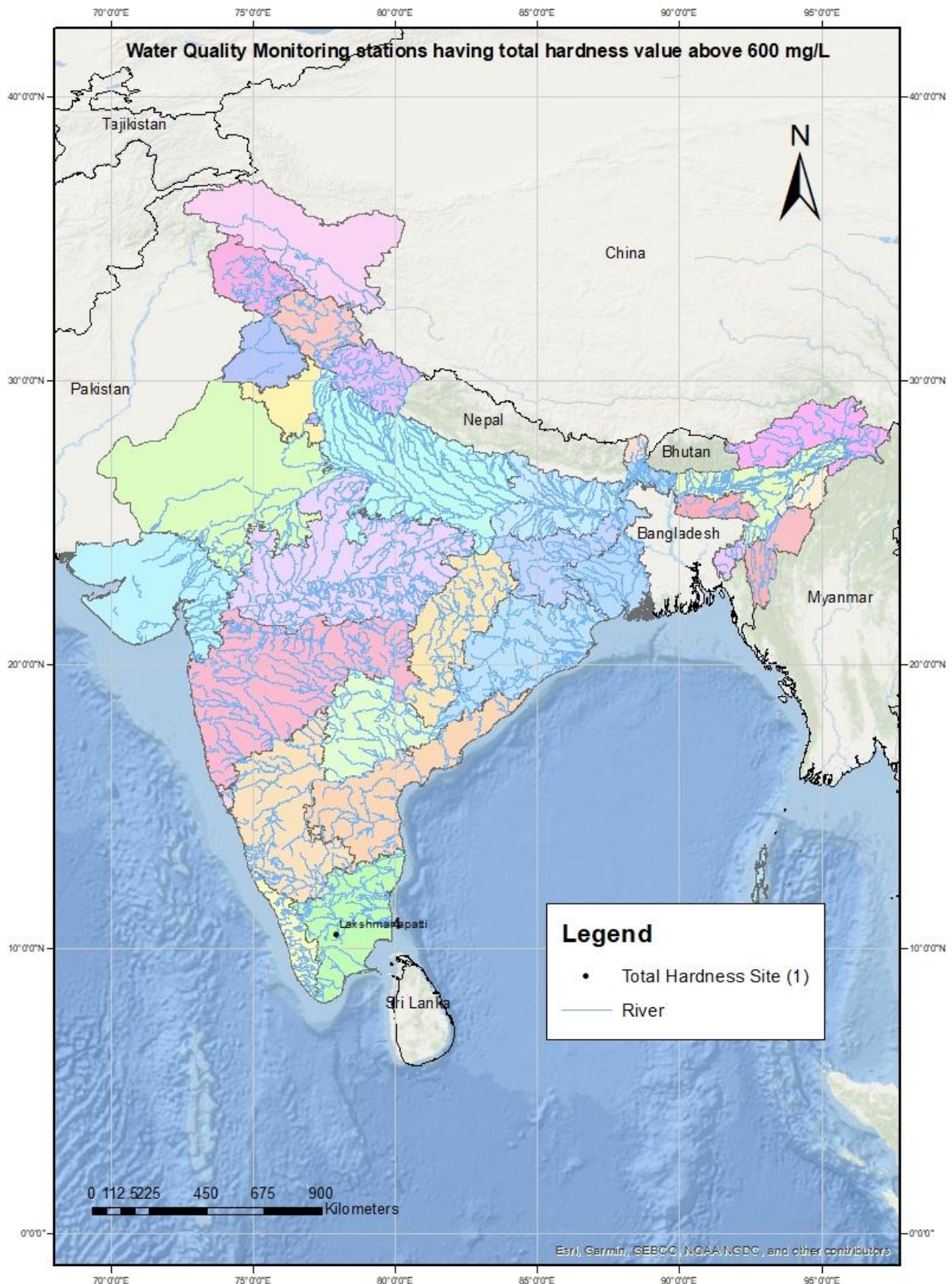


Figure 22: Water Quality Monitoring stations having total hardness value above 600 mg/L (2025)

7.1.6 Chloride (Cl⁻)

Chloride is a major inorganic anion present in both water and wastewater. It occurs naturally in all types of water, and the salty taste it imparts varies depending on the overall chemical composition of the water. According to the Indian Standard Drinking Water Specification (IS 10500:2012), the acceptable limit for chloride is 250 mg/L, while the permissible limit in the absence of an alternate source is 1000 mg/L.

Study area chloride data indicates that during the pre-monsoon, monsoon, and post-monsoon seasons of 2025, all stations reported average chloride concentrations within the permissible limits. In 2024, however, only one (01) water quality monitoring station Luwara on the Shetrunji River (Gujarat) exceeded the permissible limit of 1000 mg/L.

Comparison between 2023 to 2025:

The comparison of chloride hot spots between 2023 to 2025 reveals significant trends across the different seasons: Pre-Monsoon, Monsoon and Post-Monsoon.

In 2023, three (03) water quality monitoring stations—Durvesh (Vaitarna River), Lakshmanapatti (Kodaganar River) and Luwara (Shetrunji River)—recorded chloride concentrations exceeding the permissible limit of 1000 mg/L. Seasonal distribution indicates that exceedances were most prominent during the pre-monsoon season (2 stations), followed by monsoon (2 stations) and post-monsoon (1 station). The elevated chloride levels during pre-monsoon can be attributed to reduced river discharge, evaporation effects and concentration of dissolved salts. In 2024, the number of hotspots reduced significantly to only one (01) station, namely Luwara (Shetrunji River, Gujarat), which recorded exceedance during the pre-monsoon season only. No exceedances were observed during the monsoon or post-monsoon seasons in 2024, indicating improved water quality conditions and effective dilution during high-flow periods.

In 2025, no chloride hotspots were reported in any season, reflecting complete compliance with the permissible limit across all monitored stations. This represents a substantial improvement compared to both 2023 and 2024.

YEAR	Total No. of Hotspots found	Number of Hot-Spots found for Chloride		
		Pre-Monsoon	Monsoon	Post-Monsoon
2023	03	02	02	01
2024	01	01	00	00
2025	00	00	00	00

During the pre-monsoon season, 2 chloride hot spots were recorded in 2023, which decreased to 1 in 2024, indicating a reduction of 50%. In 2025, no hot spots were reported, reflecting complete compliance and a 100% reduction compared to both 2023 and 2024. In the monsoon season, 2 hot spots were identified in 2023, while no hot spots were observed in 2024 and 2025, indicating complete compliance (100% reduction) sustained over two consecutive years. During the post-monsoon season, 1 hot spot was recorded in 2023, which reduced to zero in 2024 and remained at zero in 2025, indicating continued full compliance with permissible limits. Overall, the total number of chloride hot spots decreased from 3 in 2023 to 1 in 2024, representing a reduction of 66.7%. In 2025, no chloride hot spots were reported in any season, reflecting complete compliance with the permissible limit across all monitored stations.

7.1.7 Boron (B)

Boron is a chemical element that is found in the earth's crust and is crucial for various natural and industrial processes. It is naturally present in fruits, vegetables, and water sources, often forming compounds known as borates. These compounds, including borax and boric acid, are widely used in the manufacturing of glass, ceramics, soaps, detergents, cosmetics, medications, and pesticides. Boron is typically a minor component of river water. It is considered an essential micronutrient for plants and also shows indications of being vital for animals and humans. Boron enters the environment through natural processes such as weathering of soils and rocks, as well as human activities like glass manufacturing and coal-burning power plants.

The Central Pollution Control Board (CPCB) sets a limit of 2 mg/l for boron in specific classes, including irrigation and industrial cooling. The limit prescribed by CPCB for Boron (B) in class-E: Irrigation, Industrial Cooling, Controlled Waste disposals is not greater than 2 mg/l. Monitoring stations during pre-monsoon, monsoon and post-monsoon seasons consistently report average boron values within the permissible limit, highlighting efforts to manage and control boron levels in various water sources.

7.1.8 Nitrate as N (NO_3^- -N)

Nitrate as N concentration showed significant variation across different seasons at the monitored sites. During the pre-monsoon season, high concentrations were recorded at Bendrahalli (39.62) and Kokkedoddy (39.33) in the Cauvery basin, followed closely by T. Bekuppe (38.36). Other notable elevated values included Chalachagudda (23.50) in the Krishna basin and Byaladahalli (18.00). Moderate levels were observed at Akkihebbal (13.53), K. M. Vadi (14.74), Kollegal (13.13) and T. Narasipur (13.56). The high pre-monsoon concentrations may be attributed to reduced river discharge, higher evaporation rates and accumulation of pollutants under low-flow conditions.

In the monsoon season, mixed trends were observed. Some stations showed a reduction in concentration, indicating dilution effects due to increased rainfall and discharge i.e. Bendrahalli decreased from 39.62 to 24.20, and T. Bekuppe reduced from 38.36 to 34.15. However, certain stations exhibited an increase during monsoon, such as Byaladahalli, which rose from 18.00 to 26.55 and Thimmanahalli, which increased from 10.57 to 18.63. Kokkedoddy recorded the highest monsoon value of 40.05, indicating persistent pollutant loading despite seasonal dilution.

During the post-monsoon at Gummanur (Ponnaiyar River), concentrations declined progressively from 16.42 (pre-monsoon) to 15.26 (monsoon) and further to 11.42 (post-monsoon), indicating gradual improvement following monsoon flushing. In contrast, Valigonda (Musi River, Telangana) recorded an increase from 10.41 (pre-monsoon) to 16.40 (post-monsoon), suggesting localized post-monsoon inputs or reduced dilution after flow stabilization.

Overall, the results suggest that the Cauvery and Krishna basin stations, particularly Bendrahalli, Kokkedoddy, and T. Bekuppe, consistently recorded higher concentrations across seasons, indicating sustained anthropogenic or geogenic influences.

Comparison between 2023 to 2025:

The comparative assessment of nitrate-nitrogen (NO_3 -N) hotspots from 2023 to 2025 indicates a declining overall trend in the number of affected stations, though seasonal patterns show notable shifts.

In 2023, a total of 42 water quality monitoring stations across 27 rivers exceeded the prescribed nitrate concentration. The lowest hotspot concentration of 10.30 mg/L was recorded at Jamtara (River Ajoy), while the highest concentration of 23.04 mg/L was observed at Hanskhali (River Churni/Bhagirathi). The affected rivers included Ajoy, Arkavathy, Badanadi, Bhagirathi, Bhima, Brahmani, Churni/Bhagirathi, Edduvagu, Feeder Canal,

Ganga, Garga, Gomti, Hoogly/Bhagirathi, Jalangi/Bhagirathi, Kharkai, Krishna, Mathabhanga/Bhagirathi, Munneru, Musi, Ponnaiyar, Purna, Ramganga, Rushikulya, Sarada, Subarnarekha, Sukheta, and Wyra. This widespread distribution indicates extensive nutrient enrichment, likely due to agricultural runoff, domestic sewage discharge, and urban effluents.

In 2024, the number of nitrate hotspots reduced significantly to 22 stations across 21 rivers, including Hemavathi, Suvarnavathi, Haridra, Malaprabha, Ghataprabha, Ponnaiyar, Tungabhadra, Cauvery (Lakshmanthirtha, Vedavathi, Arkavathi, Kabini, Shimsha), Kumudvathi, Wyra, Bhima, Varada, Edduvagu, Purna, Musi, and Krishna. This represents a reduction of approximately 48% compared to 2023, suggesting improvement in overall nitrate levels.

The comparison of nitrate-nitrogen (N) hot-spots between 2023 and 2025 highlights significant trends across different seasons, summarized in the table below:

YEAR	Total No. of Hotspots found	Number of Hot-Spots found for Nitrate-N		
		Pre-Monsoon	Monsoon	Post-Monsoon
2023	42	01	35	18
2024	22	06	05	17
2025	17	14	14	02

During the pre-monsoon season, 1 nitrate–nitrogen (NO_3^- -N) hot spot was recorded in 2023, which increased to 6 in 2024, indicating a six-fold rise. In 2025, the number further increased to 14, showing a substantial escalation (over 1300% increase compared to 2023). This trend indicates a growing concern of nitrate accumulation during the dry period.

In the monsoon season, 35 hot spots were identified in 2023, which sharply decreased to 5 in 2024, indicating a reduction of about 85.7%. However, in 2025, the number increased again to 14, reflecting a resurgence of nitrate contamination, though still lower than the 2023 level.

During the post-monsoon season, 18 hot spots were recorded in 2023, which slightly decreased to 17 in 2024, indicating a marginal reduction of about 5.6%. In 2025, the number dropped drastically to 2, reflecting a significant reduction of about 88.9% compared to 2023 and 88.2% compared to 2024.

Overall, the total number of nitrate–nitrogen hot spots decreased from 42 in 2023 to 22 in 2024, representing a reduction of approximately 47.6%. In 2025, the total further reduced to 17, indicating an overall reduction of about 59.5% compared to 2023 and 22.7% compared to 2024.

The hot spot study and GIS map for nitrate as N (NO_3^- -N) are given below in Table 13 and figure 23.

Table 13: Monitoring stations having Nitrate as N (NO_3^- -N) > 10.17 mg/l (45mg/l as Nitrate) in River Water in 2025

S.No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
1	Akkihebbal	Cauvery/ Hemavathi	CD, Bengaluru	Karnataka	Mandya	13.53	11.61	*
2	Bendrahalli	Cauvery/Suvarnavathi	CD, Bengaluru	Karnataka	Chamaraja Nagar	39.62	24.20	*
3	Byaladahalli	Krishna/Tungabhadra/Haridra	CD, Bengaluru	Karnataka	Davanagere	18.00	26.55	*
4	Cholachagudda	Krishna/Malaprabha	CD, Bengaluru	Karnataka	Bagalkot	23.50	*	*
5	Gokak Falls	Krishna/Ghataprabha	CD, Bengaluru	Karnataka	Belgaum	*	13.61	*
6	Gummanur	Ponnaiyar	SRD, Coimbatore	Tamil Nadu	Krishnagiri	16.42	15.26	11.42
7	Haralahalli	Krishna/Tungabhadra	CD, Bengaluru	Karnataka	Haveri	11.30	-	*
8	Honnali	Krishna/Tungabhadra	CD, Bengaluru	Karnataka	Davanagere	7.47	13.94	*
9	K. M. Vadi	Cauvery/Lakshmant hirtha	CD, Bengaluru	Karnataka	Mysore	14.74	12.53	*
10	Kokkedoddy	Cauvery/Arkavathi	CD, Bengaluru	Karnataka	Ramanagara	39.33	40.05	*
11	Kollegal	Cauvery	CD, Bengaluru	Karnataka	Chamaraja Nagar	13.13	14.39	*
12	Kuppelur	Krishna/Tungabhadra/Kumudavathi	CD, Bengaluru	Karnataka	Haveri	*	13.44	*
13	M. H. Halli	Cauvery/Hemavathi	CD, Bengaluru	Karnataka	Hassan	-	11.33	*
14	T. Bekuppe	Cauvery/Arkavathi	CD, Bengaluru	Karnataka	Ramanagara	38.36	34.15	*
15	T. Narasipur	Cauvery/Kabini	CD, Bengaluru	Karnataka	Mysore	13.56	14.33	*
16	Thimmanahalli	Cauvery/Hemavathi /Yagachi	CD, Bengaluru	Karnataka	Hassan	10.57	18.63	*
17	Valigonda	Musi	LKD, Hyderabad	Telangana	Yadadri Bhuvanagiri	10.41	-	16.40

(-) means No Hotspot

(*) means Data not available/ river dry.

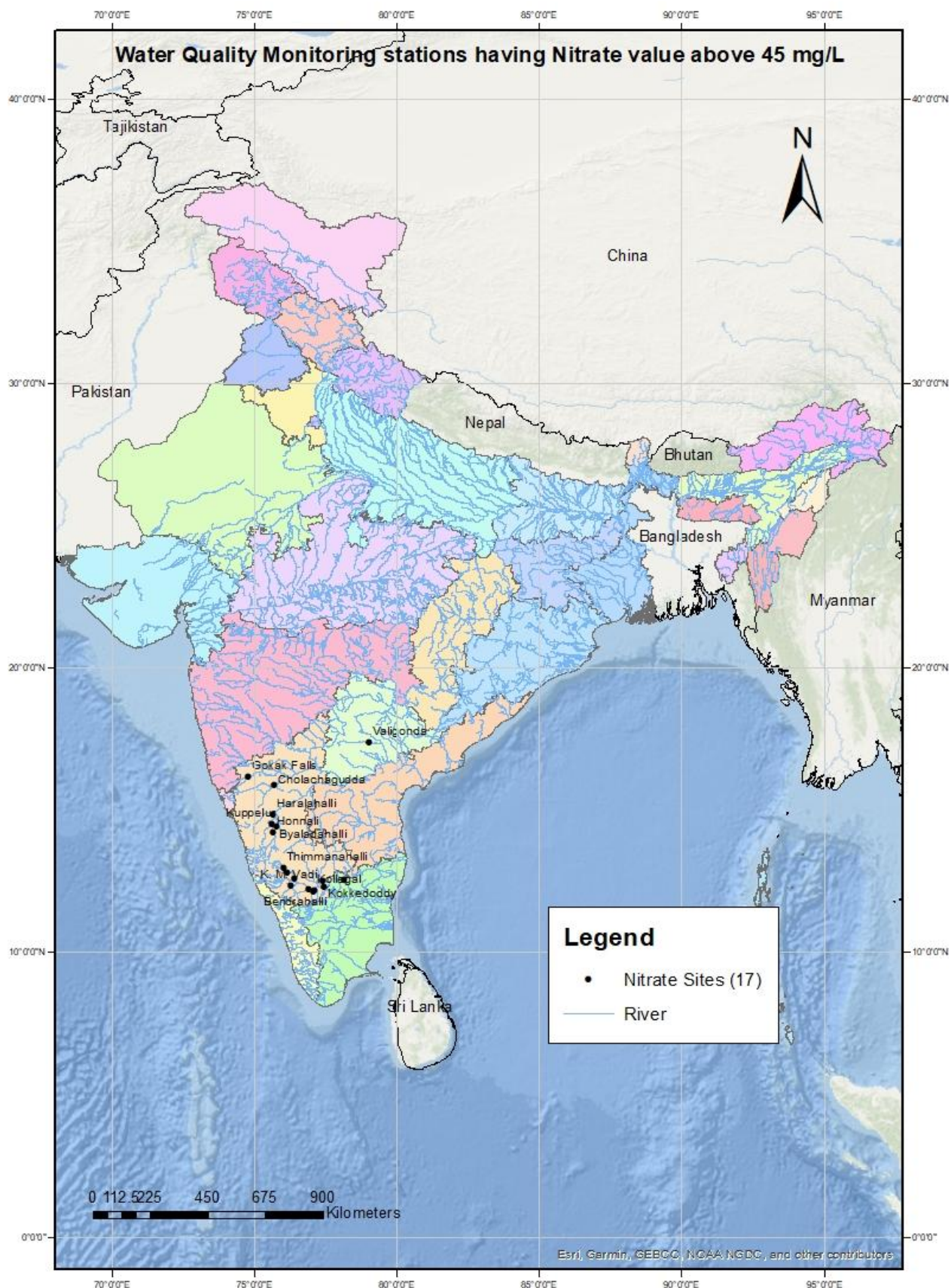


Figure 23: Water Quality Monitoring stations having nitrate value above 45 mg/L (10.16 mg/L as Nitrate-N) (2025)

7.1.9 Dissolved Oxygen (DO)

Dissolved oxygen (DO) is a critical factor in maintaining the health of aquatic ecosystems, serving as a primary indicator when assessing the suitability of river water to support aquatic life. CPCB has recommended 5.0 mg/l or more concentration of dissolved oxygen for outdoor bathing in Class B. Water having DO below 5.0 mg/l concentration is not suitable for out-door bathing. Water bodies having DO levels below 5.0 mg/L are considered unsuitable for such designated use and may indicate organic pollution, sewage discharge, or high biological oxygen demand.

During the 2025, one hundred eleven (111) monitoring stations recorded DO concentrations below the prescribed limit of 5.0 mg/L. A total of eighty (80) distinct rivers were found to have DO values below 5.0 mg/L. These include major river systems such as the Yamuna, Ganga (including Gomti, Ramganga, Ghaghra, Kali, Sai and other tributaries), Godavari (including Pranhita, Wardha, Manjira and associated tributaries), Krishna (including Bhima and Panchaganga), Cauvery (including Nattar, Vanjiyar, Noolar, Arkavathi, Shimsha, Arasalar and others), as well as rivers such as Kharkai, Sarada, Palar, Uttangan, Ulhas, Hindon, Bhagirathi, Subarnarekha, Brahmani, Sahibi, Noyyal, Mahanadi, Rushikulya, Vamsadhara, Vaippar, Sagileru, Varahanadhi, Shipra, Musi, Dindi, Vaigai, Dhadar, Nagavali, Sina, Sabarmati, Swarnamukhi and others. The widespread occurrence across multiple river basins highlights significant oxygen stress in diverse hydrological regions. The seventeen (17) states and union territories reported DO concentrations below 5.0 mg/L. These include Jharkhand, Uttar Pradesh, Andhra Pradesh, Puducherry, Tamil Nadu, Maharashtra, Bihar, West Bengal, Odisha, Delhi, Haryana, Chhattisgarh, Telangana, Madhya Pradesh, Karnataka, Gujarat and Uttarakhand.

Based on the monitored data from 111 water quality stations across multiple river basins, a large number of stations recorded DO concentrations below the prescribed limit of 5.0 mg/L during one or more seasons, indicating widespread oxygen depletion in several stretches.

During the pre-monsoon season, a substantial number of stations recorded DO levels below 5.0 mg/L. Extremely low DO values were observed at Delhi Railway Bridge (0.00 mg/L), Roorkee U/S and D/S (0.00 mg/L), Singasadanapalli (0.00 mg/L), Chilla Gaon (0.43 mg/L), Okhla Barrage (0.41 mg/L), and Satrapur Kanhan Town (K.T (Satrapur))(0.27 mg/L). Several Yamuna basin stations such as Agra (Jawahar Bridge – 2.73 mg/L), Agra (Poiyaghat – 1.62 mg/L), Mohna (0.50 mg/L), and Vrindawan Bridge (2.14 mg/L) also recorded critically low DO levels. The low pre-monsoon DO concentrations can be attributed to reduced river flow, higher temperature,

increased microbial activity and accumulation of untreated sewage and industrial effluents.

During the monsoon season, DO levels showed slight improvement at certain stations due to dilution effects from increased rainfall and river discharge. However, many stations continued to record values below 5.0 mg/L. For instance, Adityapur (4.50 mg/L), Ballarsha Paper Mill (B.P.M (Bamni)) (4.05 mg/L), Banpur (1.90 mg/L), Delhi Railway Bridge (3.12 mg/L), Chilla Gaon (2.38 mg/L), Noida (1.05 mg/L) and Okhla Barrage (3.26 mg/L) remained below the standard. In contrast, some upstream or less polluted stations such as Roorkee U/S (0.54 mg/L though still below 5), Hayaghat (4.96 mg/L), Sorada (4.99 mg/L), Vapi (4.99 mg/L) approached but did not meet the minimum requirement. Overall, although monsoon dilution reduced pollutant concentration in some stretches, widespread sub-optimal DO levels persisted, indicating continuous organic loading and non-point source runoff.

In the post-monsoon season, partial stabilization was observed at several stations; however, DO concentrations at many locations remained below 5.0 mg/L. Stations such as Agra (Poiyaghat – 4.72 mg/L), Ballarsha Paper Mill (B.P.M (Bamni)) (4.53 mg/L), Bareilly (4.54 mg/L), Raebareli (4.55 mg/L), Valigonda (4.58 mg/L), Wadakbal (4.50 mg/L) and Sevanur (4.69 mg/L) showed moderate recovery but still did not meet the prescribed criteria. Certain stations continued to exhibit critically low values, including Roorkee U/S and D/S (0.00 mg/L), Noida (1.25 mg/L), Mohna (1.17 mg/L) and Chilla Gaon (1.38 mg/L). The persistence of low DO in the Yamuna and Hindon river stretches indicates sustained anthropogenic pressure, particularly from urban wastewater discharge.

Comparison between 2023 to 2025:

The comparison of dissolved oxygen (DO) hotspots for the years 2023, 2024 and 2025 indicates notable seasonal and inter-annual variations in the occurrence of oxygen-deficient river stretches (DO < 5.0 mg/L). The trends across different seasons, summarized in the table below:

YEAR	Total No. of Hotspots found	Number of Hot-Spots found for Dissolved Oxygen		
		Pre-Monsoon	Monsoon	Post-Monsoon
2023	115	86	99	62
2024	156	98	102	57
2025	111	63	94	53

During the pre-monsoon season, 86 dissolved oxygen (DO) hot spots were recorded in 2023, which increased to 98 in 2024, indicating a rise of about

14%. In 2025, the number decreased significantly to 63, reflecting a reduction of approximately 26.7% compared to 2023 and 35.7% compared to 2024, indicating improvement in DO levels during this period.

In the monsoon season, 99 hot spots were identified in 2023, which slightly increased to 102 in 2024, indicating a marginal rise of about 3%. In 2025, the number decreased to 94, showing a reduction of about 5.1% compared to 2023 and 7.8% compared to 2024, suggesting a modest improvement.

During the post-monsoon season, 62 hot spots were recorded in 2023, which decreased to 57 in 2024, indicating a reduction of about 8.1%. In 2025, the number further declined to 53, reflecting a total reduction of approximately 14.5% compared to 2023 and 7.0% compared to 2024, showing consistent improvement.

Overall, the total number of DO hot spots increased from 115 in 2023 to 156 in 2024, representing a rise of about 35.7%, indicating deterioration in water quality during 2024. However, in 2025, the total number decreased to 111, reflecting an improvement of about 28.8% compared to 2024 and a slight reduction of about 3.5% compared to 2023.

The hot spot study and GIS map for dissolved oxygen (DO) parameter are given below in Table 14 and figure 24.

Table 14: Monitoring stations having Dissolved Oxygen (DO) < 5.0 mg/l in River Water in 2025

S.No	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
1	Adityapur	Kharkai	ERD, Bhubaneswar	Jharkhand	Purba Singhbhum	2.47	4.50	3.87
2	Agra (Jawahar Bridge)	Yamuna	LYD, Agra	Uttar Pradesh	Agra	2.73	2.61	-
3	Agra (Poiyaghat)	Yamuna	LYD, Agra	Uttar Pradesh	Agra	1.62	2.42	4.72
4	Anakapalle	Sarada	ERD, Bhubaneswar	Andhra Pradesh	Visakhapatnam	-	4.88	4.95
5	Annavasal	Cauvery/Nattar	HD, Chennai	Puducherry	Karaikal	*	4.38	-
6	Arcot	Palar	HD, Chennai	Tamil Nadu	Ranipet	-	3.00	-
7	Arjunwad (seasonal)	Krishna	UKD, Pune	Maharashtra	Kolhapur	4.86	-	-
8	Arnota	Uttangan	LYD, Agra	Uttar Pradesh	Agra	*	-	3.82
9	Bachhwara	Ganga/Baya	LGD-1, Patna	Bihar	Begusarai	4.58	4.64	-
10	Badlapur	Ulhas	UKD, Pune	Maharashtra	Thane	4.99	-	4.52
11	Baghpat	Yamuna	UYD, Delhi	Uttar Pradesh	Baghpat	4.44	-	-
12	Baleni	Hindon	UYD, Delhi	Uttar Pradesh	Baghpat	1.02	2.28	1.09
13	Ballarsha paper mill	Godavari/Pranhita/Wardha	WD, Nagpur	Maharashtra	Chandrapur	3.37	4.05	4.53
14	Banpur	Bhagirathi/Mat habhang	LGD-3, Berhampore	West Bengal	Nadia	1.21	1.90	3.97
15	Bareilly	Ganga/Ramgan	MGD-II, Lucknow	Uttar Pradesh	Bareilly	-	4.44	4.54

S.No	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
16	Baridhi	Subarnarekha	ERD, Bhubaneswar	Jharkhand	Paschim Singhbhum	-	4.85	-
17	Basti	Ganga/Ghaghra /Kwano	MGD-I, Lucknow	Uttar Pradesh	Basti	3.67	4.11	-
18	Basti D/S	Ganga/Ghaghra /Kwano	MGD-I, Lucknow	Uttar Pradesh	Basti	3.24	3.34	-
19	Basti U/S	Ganga/Ghaghra /Kwano	MGD-I, Lucknow	Uttar Pradesh	Basti	4.03	4.51	-
20	Bido	Brahamani	ERD, Bhubaneswar	Odisha	Dhenkanal	-	4.56	-
21	Chapra	Bhagirathi/Jalan gi	LGD-3, Berhampore	West Bengal	Nadia	-	3.52	-
22	Chilla Gaon	Hindon Cut	UYD, Delhi	Delhi	East Delhi	0.43	2.38	1.38
23	Dabri	Ganga/Ramgan ga	MGD-II, Lucknow	Uttar Pradesh	Shahjahanpur	-	4.90	-
24	Dadri	Sahibi	UYD, Delhi	Haryana	Dadri	*	3.96	*
25	Delhi Railway Bridge (DRB)	Yamuna	UYD, Delhi	Delhi	North Delhi	0.00	3.12	1.83
26	Dhaneta	Ganga/Ramgan ga/Kichha(Gaul a)	MGD-II, Lucknow	Uttar Pradesh	Bareilly	4.23	-	4.19
27	Dhansa	Sahibi	UYD, Delhi	Haryana	Jhijjar	*	2.39	*
28	Ekmighat	Ganga/Kosi/Bag mat i/AdhwaraGrou p	LGD-1, Patna	Bihar	Darbhanga	-	4.36	-
29	Elunuthimang alam	Noyyal	SRD, Coimbatore	Tamil Nadu	Erode	-	4.99	-
30	English Bazar	Padma/Mahana nda	LGD-3, Berhampore	West Bengal	Malda	-	4.81	-
31	Etawah	Yamuna	LYD, Agra	Uttar Pradesh	Etawah	3.25	3.61	4.33
32	Farakka (HR)	Bhagirathi/FeederCanal	LGD-3, Berhampore	West Bengal	Murshidabad	-	-	4.47
33	Galeta	Hindon	UYD, Delhi	Uttar Pradesh	Meerut	0.14	1.23	0.54
34	Gatora-2	Mahanadi/Seon ath/Arpa	MD, Burla	Chhattisgarh	Bilaspur	-	-	4.65
35	Gokul barrage Mathura D/S	Yamuna	UYD, Delhi	Uttar Pradesh	Mathura	2.76	3.54	4.04
36	Gomtinagar	Ganga/Gomti	MGD-II, Lucknow	Uttar Pradesh	Lucknow	2.05	2.69	3.46
37	Gopurajapura m	Cauvery/Puravi daiyanar	HD, Chennai	Tamil Nadu	Nagapattinam	-	4.09	-
38	Gummanur	Ponnaiyar	SRD, Coimbatore	Tamil Nadu	Krishnagiri	3.00	3.48	3.63
39	Halia	Krishna/Halia	LKD, Hyderabad	Telangana	Nalgonda	3.91	4.80	-
40	Hanskhali	Bhagirathi/Chur ni	LGD-3, Berhampore	West Bengal	Nadia	2.65	1.75	4.20
41	Hayaghat	Ganga/Kosi/Bag mati	LGD-1, Patna	Bihar	Darbhanga	-	4.96	-
42	Irrukkankudi	Vaippar	SRD, Coimbatore	Tamil Nadu	Virudhunagar	3.19	*	*
43	Kailash Mandir, Agra (U/S)	Yamuna	LYD, Agra	Uttar Pradesh	Agra	1.94	3.18	-
44	Kakarghatti	Ganga/Kosi/Bag mat i/Jivach	LGD-1, Patna	Bihar	Darbhanga	4.80	4.50	-
45	Kalasapadu	Sagileru	HD, Chennai	Andhra Pradesh	Kadapa	*	2.00	4.73
46	Kalindi Kunj	Agra Canal	UYD, Delhi	Delhi	East Delhi	0.36	2.66	2.27
47	Kannapoor	Cauvery/Vanjiyar	HD, Chennai	Puducherry	Karaikal	4.40	2.84	4.90
48	Kannauj	Ganga/Kali	MGD-II, Lucknow	Uttar Pradesh	Kannauj	4.63	4.70	3.49
49	Kasganj	Ganga/Kali	MGD-II, Lucknow	Uttar Pradesh	Kasganj	3.01	4.10	-

S.No	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
50	Kashinagar	Vamsadhara	ERD, Bhubaneswar	Odisha	Gajapati	-	4.99	-
51	Kodumudi	Cauvery	SRD, Coimbatore	Tamil Nadu	Erode	4.82	-	-
52	Korba-1	Mahanadi/Hasdeo	MD, Burla	Chhattisgarh	Korba	-	4.64	-
53	Kudalaiyathur	Vellar	HD, Chennai	Tamil Nadu	Cuddalore	-	-	4.30
54	Kulpatanga	Kharkai	ERD, Bhubaneswar	Jharkhand	Purba Singhbhum	3.26	4.53	3.72
55	Kumarapalayam	Varahanadhi	HD, Chennai	Puducherry	Puducherry	-	4.60	4.34
56	Lucknow	Ganga/Gomti	MGD-II, Lucknow	Uttar Pradesh	Lucknow	2.00	2.65	2.19
57	Madhabarida	Badanadi	ERD, Bhubaneswar	Odisha	Ganjam	*	*	4.80
58	Mahidpur	Shipra	CD Jaipur	Madhya Pradesh	Ujjain	*	4.58	*
59	Malkhed	Krishna/Bhima/Kagna	LKD, Hyderabad	Karnataka	Kalaburagi	-	4.98	-
60	Mehandipur	Ganga	MGD-II, Lucknow	Uttar Pradesh	Kannauj	-	-	4.96
61	Menangudi	Cauvery/Noolar	HD, Chennai	Tamil Nadu	Thiruvarur	-	4.23	-
62	Mohna	Yamuna	UYD, Delhi	Haryana	Faridabad	0.50	2.26	1.17
63	Moradabad (R)	Ganga/Ramganga	MGD-II, Lucknow	Uttar Pradesh	Moradabad	4.46	4.95	-
64	Munugodu	Yedduvagu	LKD, Hyderabad	Andhra Pradesh	Palnadu	-	4.67	-
65	Nallathur	Cauvery/Nandalur	HD, Chennai	Puducherry	Karaikal	*	3.63	-
66	Nanded	Godavari	UGD, Hyderabad	Maharashtra	Nanded	4.48	-	-
67	Nandipalli	Pennar/Sagileru	HD, Chennai	Andhra Pradesh	Kadapa	-	4.54	-
68	Naraj	Mahanadi	ERD, Bhubaneswar	Odisha	Cuttack	4.66	-	-
69	Nasik	Godavari	UGD, Hyderabad	Maharashtra	Nasik	1.56	3.93	4.49
70	Noida	Hindon	UYD, Delhi	Uttar Pradesh	Gautam Budh Nagar	0.57	1.05	1.25
71	Okhla barrage	Yamuna	UYD, Delhi	Delhi	South Delhi	0.41	3.26	1.40
72	Paramkudi	Vaigai	SRD, Coimbatore	Tamil Nadu	Ramanathapuram	-	4.38	-
73	Pargaon	Bhima	UKD, Pune	Maharashtra	Pune	*	4.61	*
74	Phulgaon	Bhima	UKD, Pune	Maharashtra	Pune	*	4.92	*
75	Pingalwada	Dhadar	TD, Surat	Gujarat	Vadodara	1.84	2.41	1.44
76	Porakudi	Cauvery/Arasalar	HD, Chennai	Tamil Nadu	Nagapattinam	*	4.35	-
77	Purashottampur	Rushikulya	ERD, Bhubaneswar	Odisha	Ganjam	-	4.86	4.88
78	Purna	Godavari/Purna	UGD, Hyderabad	Maharashtra	Parbhani	*	4.89	-
79	Raebareli	Ganga/Gomti/Sai	MGD-II, Lucknow	Uttar Pradesh	Raebareli	2.50	2.99	4.55
80	Rahu	Mulamutha	UKD, Pune	Maharashtra	Pune	*	3.94	*
81	Rajahmundry	Godavari	LGD, Hyderabad	Andhra Pradesh	EastGodavari	-	4.77	-
82	Roorkee D/S	Ganga/Banganga/Solani	HGD, Haridwar	Uttarakhand	Haridwar	0.00	0.49	0.00
83	Roorkee U/S	Ganga/Banganga/Solani	HGD, Haridwar	Uttarakhand	Haridwar	0.00	0.54	0.00
84	RSP	Brahamani	ERD, Bhubaneswar	Odisha	Sundergarh	1.75	2.38	2.45
85	RSP-I	Brahamani	ERD, Bhubaneswar	Odisha	Sundergarh	3.70	4.46	4.30
86	RSP-II	Brahamani	ERD, Bhubaneswar	Odisha	Sundergarh	4.78	4.64	-
87	Saloor	Godavari/Manjira	UGD, Hyderabad	Telangana	Nizamabad	-	3.57	-

S.No	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
88	Satrapur kanhan Town	Godavari/Pranhta/Wainganga/Kanhan	WD, Nagpur	Maharashtra	Nagpur	0.27	0.97	0.47
89	Sevanur	Chittar	SRD, Coimbatore	Tamil Nadu	Erode	4.80	4.48	4.69
90	Shahjahanpur	Ganga/Deoha(Garra)/Khannaut	MGD-II, Lucknow	Uttar Pradesh	Shahjahanpur	3.94	4.83	-
91	Singasadanapalli	Ponnaiyar	SRD, Coimbatore	Tamil Nadu	Krishnagiri	0.00	0.00	0.00
92	Singavaram	Pennar/Chittravathi	HD, Chennai	Andhra Pradesh	Anantapur	*	4.41	4.25
93	Sitapur	Ganga/Gomti/Sarayan	MGD-II, Lucknow	Uttar Pradesh	Sitapur	2.90	4.44	-
94	Sorada	Rushikulya	ERD, Bhubaneswar	Odisha	Ganjam	-	4.99	-
95	Srikakulam	Nagavali	ERD, Bhubaneswar	Andhra Pradesh	Srikakulam	-	4.96	-
96	Suddakallu	Dindi	LKD, Hyderabad	Telangana	Mahaboob Nagar	-	4.48	-
97	T. Bekuppe	Cauvery/Arkavathi	CD, Bengaluru	Karnataka	Ramanagara	3.27	3.20	4.38
98	T. K. Halli	Cauvery/Shimsha	CD, Bengaluru	Karnataka	Mandya	3.75	-	-
99	Tadipatri	Pennar	HD, Chennai	Andhra Pradesh	Anantapur	3.40	-	-
100	Terwad	Panchaganga	UKD, Pune	Maharashtra	Kolhapur	*	4.65	*
101	Thengudi	Cauvery/Thirumalaairajanar	HD, Chennai	Tamil Nadu	Thiruvallur	4.41	3.20	-
102	Thevur	Sarabanga	SRD, Coimbatore	Tamil Nadu	Salem	4.16	2.86	4.03
103	Ujjain	Shipra	CD Jaipur	Madhya Pradesh	Ujjain	*	3.98	3.57
104	Valigonda	Musi	LKD, Hyderabad	Telangana	Yadadri Bhuvanagiri	1.87	2.53	4.58
105	Vapi	Vapi	TD, Surat	Gujarat	Valsad	-	4.99	-
106	Vautha	Sabarmati	MD, Gandhinagar	Gujarat	Ahmedabad	0.00	2.24	0.84
107	Verupakshapuram	Swarnamukhi	HD, Chennai	Andhra Pradesh	Chittoor	*	4.18	4.63
108	Vrindawan Bridge(Mathura U/S)	Yamuna	UYD, Delhi	Uttar Pradesh	Mathura	2.14	3.49	3.30
109	Wadakbal	Sina	UKD, Pune	Maharashtra	Solapur	4.69	4.17	4.50
110	Wadenapalli	Krishna	LKD, Hyderabad	Telangana	Suryapet	4.62	-	-
111	Yamuna Expressway Road Bridge, Etamadpur (Agra D/S)	Yamuna	LYD, Agra	Uttar Pradesh	Agra	2.95	2.61	-

(-) means No Hotspot

(*) means Data not available/ river dry.

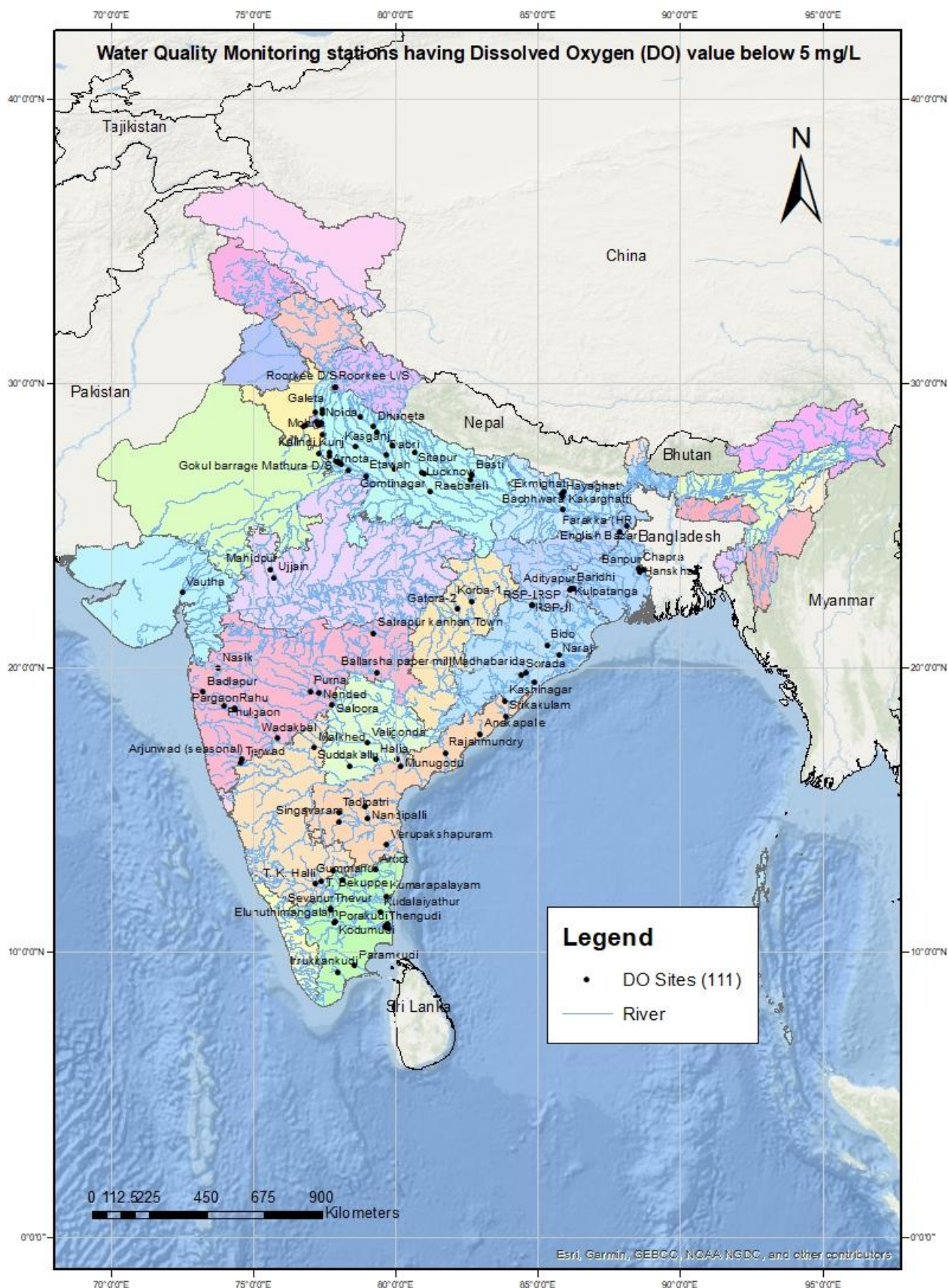


Figure 24: Water Quality Monitoring stations having Dissolved Oxygen (DO) below 5.0 mg/L (2025)

7.1.10 Biochemical Oxygen Demand (BOD)

Biochemical Oxygen Demand (BOD) is a critical indicator of organic pollution in river water. Elevated BOD values reflect high concentrations of biodegradable organic matter, primarily originating from untreated sewage, industrial discharge, and surface runoff. As per CPCB criteria, BOD levels exceeding 3 mg/L indicate organic pollution stress and reduced suitability of water for bathing and aquatic life propagation.

During the pre-monsoon season, the highest Biochemical Oxygen Demand (BOD) concentrations were recorded at several monitoring stations, indicating severe organic pollution under low-flow conditions. Exceptionally high BOD values were observed at Singasadanapalli on the Ponnaiyar River (Tamil Nadu) with 89.60 mg/L, followed by Satrapur Kanhan Town (K.T (Satrapur)) in the Godavari basin (Maharashtra) at 60.67 mg/L and Etawah on the Yamuna River (Uttar Pradesh) at 52.73 mg/L. Other critically polluted locations included Agra (Jawahar Bridge) on the Yamuna (51.39 mg/L), Yamuna Expressway, Agra downstream (47.32 mg/L), Kailash Mandir, Agra U/S (46.48 mg/L), Delhi Railway Bridge (39.89 mg/L), Noida on the Hindon River (37.29 mg/L) and Gummanur on the Ponnaiyar River (37.07 mg/L). The Yamuna and Hindon river stretch in Uttar Pradesh and Delhi exhibited particularly elevated BOD levels, reflecting substantial domestic sewage and industrial effluent discharge. Similarly, the Godavari basin in Maharashtra and the Ponnaiyar basin in Tamil Nadu showed significant organic loading during this season.

During the monsoon season, BOD concentrations declined at several locations due to dilution from increased river flows; however, many stations continued to exhibit high values. Notably, Singasadanapalli (Ponnaiyar) recorded 57.41 mg/L and Satrapur Kanhan Town (K.T (Satrapur)) (Godavari basin) recorded 53.08 mg/L, indicating persistent pollution despite seasonal flow augmentation. Elevated values were also observed at Galeta on the Hindon River (25.38 mg/L) and Noida (26.80 mg/L). The Yamuna stretch at Agra continued to show BOD levels ranging between 15–23 mg/L, while Kannauj (Ganga/Kali) recorded 16.91 mg/L and Raebareli (Ganga/Gomti/Sai) recorded 16.08 mg/L. Although monsoon flows provided partial dilution, stormwater runoff carrying municipal waste, untreated sewage and agricultural residues contributed to sustained organic pollution across several river basins.

In the post-monsoon season, partial improvement was observed at some monitoring stations; however, several river stretches continued to exhibit alarmingly high BOD concentrations. The highest value during this period was recorded at Singasadanapalli (Ponnaiyar) with 93.68 mg/L, representing

the maximum observed across all seasons. Satrapur Kanhan Town (K.T (Satrapur)) (Godavari basin) remained critically polluted at 50.00 mg/L, while Galeta (Hindon) recorded 33.70 mg/L. Elevated BOD levels were also observed at Roorkee downstream (Ganga) with 23.27 mg/L, the Yamuna stretch at Agra and Mathura (16–25 mg/L), and Vautha on the Sabarmati River (18.24 mg/L). The continued presence of high BOD levels during the post-monsoon season indicates ongoing discharge of untreated wastewater and inadequate pollution control measures in these regions.

Comparison between 2023 to 2025:

The comparison of Biochemical Oxygen Demand (BOD) hot-spots between 2023 to 2025 illustrates significant trends in water quality across different seasonal periods. The data is summarized in the following table:

YEAR	Total No. of Hotspots found	Number of Hot-Spots found for Biochemical Oxygen Demand		
		Pre-Monsoon	Monsoon	Post-Monsoon
2023	152	108	132	102
2024	146	107	103	87
2025	150	107	118	103

During the pre-monsoon season, 108 biochemical oxygen demand (BOD) hot spots were recorded in 2023, which slightly decreased to 107 in 2024, indicating a marginal reduction of about 0.9%. In 2025, the number remained at 107, showing stability and no significant change compared to 2024, and an overall reduction of about 0.9% compared to 2023.

In the monsoon season, 132 hot spots were identified in 2023, which decreased significantly to 103 in 2024, indicating a reduction of about 22.0%. However, in 2025, the number increased again to 118, reflecting a rise of about 14.6% compared to 2024, though still about 10.6% lower than 2023 levels.

During the post-monsoon season, 102 hot spots were recorded in 2023, which decreased to 87 in 2024, indicating a reduction of about 14.7%. In 2025, the number increased to 103, showing a rise of about 18.4% compared to 2024 and slightly exceeding the 2023 level by about 1.0%, indicating a rebound in BOD contamination.

Overall, the total number of BOD hot spots decreased from 152 in 2023 to 146 in 2024, representing a reduction of about 3.9%. However, in 2025, the total increased to 150, reflecting a rise of about 2.7% compared to 2024 and approaching the 2023 level (only about 1.3% lower). This indicates that while some improvement was observed in 2024, the condition slightly

deteriorated again in 2025, particularly during the monsoon and post-monsoon seasons, suggesting the need for strengthened pollution control measures.

The hot spot study and GIS map for biochemical oxygen demand (BOD) are given below in Table 15 and figure 25.

Table 15: Monitoring stations having biochemical oxygen Demand (BOD) > 3.0 mg/l in River Water in 2025

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
1	Adityapur	Kharkai	ERD, Bhubaneswar	Jharkhand	Purba Singhbhum	32.38	11.47	7.57
2	Agra (Jawahar Bridge)	Yamuna	LYD, Agra	Uttar Pradesh	Agra	51.39	22.96	20.93
3	Agra (Poiyaghat)	Yamuna	LYD, Agra	Uttar Pradesh	Agra	43.30	20.96	16.07
4	Akbarpur	Chhoti sarju	MGD-III, Varanasi	Uttar Pradesh	Ambedkar Nagar	3.36	3.21	3.22
5	Allahabad	Ganga	MGD-III, Varanasi	Uttar Pradesh	Allahabad	3.02	-	-
6	Ankinghat	Ganga	MGD-II, Lucknow	Uttar Pradesh	Kanpur Nagar	3.68	3.97	3.60
7	Arnota	Uttangan	LYD, Agra	Uttar Pradesh	Agra	*	4.10	-
8	Ashti (AHL) Papermill	Godavari/Prahnita/Wainganga	WD, Nagpur	Maharashtra	Gadchiroli	3.44	*	*
9	Auraiya	Yamuna	LYD, Agra	Uttar Pradesh	Auraiya	9.85	5.79	6.60
10	Ayodhya	Ganga/Ghaghara	MGD-I, Lucknow	Uttar Pradesh	Ayodhya	3.14	4.16	3.30
11	Badlapur	Ulhas	UKD, Pune	Maharashtra	Thane	-	-	3.01
12	Baghpat	Yamuna	UYD, Delhi	Uttar Pradesh	Baghpat	7.70	4.68	-
13	Baleni	Hindon	UYD, Delhi	Uttar Pradesh	Baghpat	30.76	18.26	25.69
14	Ballarsha paper mill	Godavari/Prahnita/Wardha	WD, Nagpur	Maharashtra	Chandrapur	27.87	21.91	13.83
15	Balrampur	Ganga/Ghaghara/Rapti	MGD-I, Lucknow	Uttar Pradesh	Balrampur	3.05	4.20	3.33
16	Baluaghat	Ganga	MGD-III, Varanasi	Uttar Pradesh	Varanasi	3.07	-	-
17	Bamni (ballarsha)	Godavari/Prahnita/Wardha	WD, Nagpur	Maharashtra	Chandrapur	3.80	-	-
18	Bamni U/S	Godavari/Prahnita/Wardha	WD, Nagpur	Maharashtra	Chandrapur	5.71	-	-
19	Banda	Ken	LYD, Agra	Uttar Pradesh	Banda	-	-	4.09
20	Bangapani	Ganga/Ghaghara/Sharda/Gauriganga	MGD-I, Lucknow	Uttarakhand	Pithoragarh	-	4.05	4.15
21	Banpur	Bhagirathi/Mathabhanga	LGD-3, Berhampore	West Bengal	Nadia	4.53	3.33	-
22	Bansi	Ganga/Ghaghara/Rapti	MGD-I, Lucknow	Uttar Pradesh	Siddharthnagar	3.07	3.72	3.32
23	Bareilly	Ganga/Ramganga	MGD-II, Lucknow	Uttar Pradesh	Bareilly	10.20	14.79	7.23
24	Basantpur (Ganga)	Ganga	MGD-II, Lucknow	Uttar Pradesh	Bijnaur	3.92	3.60	3.38
25	Basti	Ganga/Ghaghara/Kwano	MGD-I, Lucknow	Uttar Pradesh	Basti	13.65	15.16	8.98
26	Basti D/S	Ganga/Ghaghara/Kwano	MGD-I, Lucknow	Uttar Pradesh	Basti	17.06	19.42	10.49
27	Basti U/S	Ganga/Ghaghara/Kwano	MGD-I, Lucknow	Uttar Pradesh	Basti	10.87	12.91	6.39
28	Bhind	Kunwari	LYD, Agra	Madhya Pradesh	Bhind	3.72	4.16	4.36
29	Bhitora	Ganga	MGD-II, Lucknow	Uttar Pradesh	Fatehpur	7.20	3.74	3.43

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
30	Birdghat	Ganga/Ghaghra/Rapti	MGD-I, Lucknow	Uttar Pradesh	Gorakhpur	5.18	4.27	3.61
31	Bithoor	Ganga	MGD-II, Lucknow	Uttar Pradesh	Kanpur	4.69	4.03	3.78
32	Buxar	Ganga	LGD-2, Patna	Bihar	Buxar	3.13	-	-
33	Chandrika Devi	Ganga/Gomti	MGD-II, Lucknow	Uttar Pradesh	Lucknow	5.87	9.85	4.38
34	Chilla Gaon	Hindon Cut	UYD, Delhi	Delhi	East Delhi	34.00	17.75	23.80
35	Coronation	Brahmaputra/Teesta	LBD, Jalpaiguri	West Bengal	Darjeeling	-	*	3.10
36	Dabri	Ganga/Ramganga	MGD-II, Lucknow	Uttar Pradesh	Shahjahanpur	7.67	9.61	7.15
37	Dadri	Sahibi	UYD, Delhi	Haryana	Dadri	*	8.86	*
38	Dameracherla	Krishna/Musi	LKD, Hyderabad	Telangana	Nalgonda	-	3.24	-
39	Delhi Railway Bridge (DRB)	Yamuna	UYD, Delhi	Delhi	North Delhi	39.89	17.59	20.70
40	Dhalegaon	Godavari	UGD, Hyderabad	Maharashtra	Parbhani	-	3.18	*
41	Dhaneta	Ganga/Ramganga/Kichha(Gaula)	MGD-II, Lucknow	Uttar Pradesh	Bareilly	10.18	6.86	7.82
42	Dhansa	Sahibi	UYD, Delhi	Haryana	Jhajar	*	10.11	*
43	Dhareri	Chambal	CD Jaipur	Madhya Pradesh	Ujjain	*	3.76	*
44	Dholpur	Chambal	LYD, Agra	Rajasthan	Dholpur	3.15	3.66	3.51
45	Domohani	Brahmaputra/Teesta	LBD, Jalpaiguri	West Bengal	Jalpaiguri	-	3.10	-
46	Ekmighat	Ganga/Kosi/Bagmati/Adhwaragroup	LGD-1, Patna	Bihar	Darbhanga	3.11	-	-
47	Elgin Bridge	Ganga/Ghaghra	MGD-I, Lucknow	Uttar Pradesh	Barabanki	-	3.68	3.93
48	Etawah	Yamuna	LYD, Agra	Uttar Pradesh	Etawah	52.73	15.80	18.77
49	Faizabad U/S	Ganga/Ghaghra	MGD-I, Lucknow	Uttar Pradesh	Ayodhya	3.65	4.05	3.19
50	Fatehgarh	Ganga	MGD-II, Lucknow	Uttar Pradesh	Farrukhabad	3.58	3.93	3.09
51	Galeta	Hindon	UYD, Delhi	Uttar Pradesh	Meerut	38.42	25.38	33.70
52	Garhakota	Sonar	LYD, Agra	Madhya Pradesh	Sagar	*	-	6.55
53	Garhmukteshwar	Ganga	MGD-II, Lucknow	Uttar Pradesh	Hapur	3.67	3.94	3.25
54	Ghat	Ganga/Ghaghra/Sharda/Saryu	MGD-I, Lucknow	Uttarakhand	Pithoragarh	-	4.07	3.89
55	Ghazipur	Ganga	MGD-III, Varanasi	Uttar Pradesh	Ghazipur	3.02	-	-
56	Gokul barrage Mathura D/S	Yamuna	UYD, Delhi	Uttar Pradesh	Mathura	27.22	13.86	13.85
57	Gomtinagar	Ganga/Gomti	MGD-II, Lucknow	Uttar Pradesh	Lucknow	17.11	22.88	17.17
58	Gorakhpur D/S	Ganga/Ghaghra/Rapti	MGD-I, Lucknow	Uttar Pradesh	Gorakhpur	6.36	4.62	3.58
59	Gorakhpur U/S	Ganga/Ghaghra/Rapti	MGD-I, Lucknow	Uttar Pradesh	Gorakhpur	4.21	4.07	3.26
60	Gummanur	Ponnaiyar	SRD, Coimbatore	Tamil Nadu	Krishnagiri	37.07	24.00	36.06
61	Halia	Krishna/Halia	LKD, Hyderabad	Telangana	Nalgonda	-	3.32	-
62	Hamirpur	Yamuna	LYD, Agra	Uttar Pradesh	Hamirpur	5.79	3.54	4.61
63	Hathikhana	Ganga	MGD-II, Lucknow	Uttar Pradesh	Fatehgarh	6.68	6.89	*
64	Jajmau	Ganga	MGD-II, Lucknow	Uttar Pradesh	Kanpur	6.21	4.39	3.74
65	Jaunpur	Gomti	MGD-III, Varanasi	Uttar Pradesh	Jaunpur	3.24	3.03	3.11
66	Jhansi-Mirzapur Highway	Betwa	LYD, Agra	Uttar Pradesh	Hamirpur	-	-	3.23

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
	Road Bridge (Sahijana D/S)							
67	Kabirganj	Ganga/Ghaghra/Sharda	MGD-I, Lucknow	Uttar Pradesh	Pilibhit	-	3.82	4.00
68	Kachhlabridge	Ganga	MGD-II, Lucknow	Uttar Pradesh	Badaun	-	4.19	3.12
69	Kailash Mandir, Agra (U/S)	Yamuna	LYD, Agra	Uttar Pradesh	Agra	46.48	22.41	25.65
70	Kakarghatti	Ganga/Kosi/Bagmati/Jivach	LGD-1, Patna	Bihar	Darbhanga	3.06	-	-
71	Kalindi Kunj	Agra Canal	UYD, Delhi	Delhi	East Delhi	39.01	18.07	22.21
72	Kalpi	Yamuna	LYD, Agra	Uttar Pradesh	Jalaun	5.86	-	3.70
73	Kannapoor	Cauvery/Vanjayar	HD, Chennai	Puducherry	Karaikal	-	3.38	-
74	Kannauj	Ganga/Kali	MGD-II, Lucknow	Uttar Pradesh	Kannauj	11.64	16.91	15.13
75	Kanpur	Ganga	MGD-II, Lucknow	Uttar Pradesh	Kanpur	5.13	4.25	3.79
76	Kasganj	Ganga/Kali	MGD-II, Lucknow	Uttar Pradesh	Kasganj	15.40	16.09	9.74
77	Katriumrauli	Ganga	MGD-II, Lucknow	Uttar Pradesh	Kannauj	6.53	3.99	4.71
78	Kazipura	Ganga/Ramganga	MGD-II, Lucknow	Uttar Pradesh	Moradabad	5.07	6.67	3.99
79	Keolari	Godavari/Prahnita/Wainganga	WD, Nagpur	Madhya Pradesh	Seoni	3.16	3.16	-
80	Kudalaiyathur	Vellar	HD, Chennai	Tamil Nadu	Cuddalore	-	-	3.60
81	Kulpatanga	Kharkai	ERD, Bhubaneswar	Jharkhand	Purba Singhbhum	27.70	8.45	6.67
82	Kurundwad	Krishna	UKD, Pune	Maharashtra	Kolhapur	*	-	3.32
83	Lalpur	Sengar	LYD, Agra	Uttar Pradesh	Kanpur Dehat	-	3.34	-
84	Lucknow	Ganga/Gomti	MGD-II, Lucknow	Uttar Pradesh	Lucknow	15.56	21.11	14.51
85	Mahidpur	Shipra	CD Jaipur	Madhya Pradesh	Ujjain	*	4.90	*
86	Maighat	Gomti	MGD-III, Varanasi	Uttar Pradesh	Jaunpur	3.16	3.01	3.06
87	Mawi	Yamuna	UYD, Delhi	Uttar Pradesh	Muzaffar Nagar	5.11	-	-
88	Mehandipur	Ganga	MGD-II, Lucknow	Uttar Pradesh	Kannauj	7.60	3.95	5.78
89	Mirzapur	Ganga	MGD-III, Varanasi	Uttar Pradesh	Mirzapur	3.06	-	-
90	Mohana	Betwa	LYD, Agra	Uttar Pradesh	Hamirpur	-	3.19	3.63
91	Mohna	Yamuna	UYD, Delhi	Haryana	Faridabad	30.59	17.24	25.42
92	Moradabad (R)	Ganga/Ramganga	MGD-II, Lucknow	Uttar Pradesh	Moradabad	13.49	17.75	5.80
93	Motinaroli	Kim	TD, Surat	Gujarat	Surat	-	-	3.19
94	Mungoli Township	Godavari/Prahnita/Wardha/Penganga	WD, Nagpur	Maharashtra	Yavatmal	3.05	-	-
95	Nasik	Godavari	UGD, Hyderabad	Maharashtra	Nasik	14.60	7.99	-
96	Neemsar	Ganga/Gomti	MGD-II, Lucknow	Uttar Pradesh	Sitapur	3.98	6.37	5.21
97	Noida	Hindon	UYD, Delhi	Uttar Pradesh	Gautam Budh Nagar	37.29	26.80	24.27
98	Okhla barrage	Yamuna	UYD, Delhi	Delhi	South Delhi	32.79	16.48	18.83
99	Orai-Rath Marg, Chikasi (Sahijana U/S)	Betwa	LYD, Agra	Uttar Pradesh	Jalaun	-	-	3.17
100	P G Bridge	Godavari/Prahnita/Wardha/Penganga	WD, Nagpur	Maharashtra	Yavatmal	3.50	-	-
101	Paliakalan	Ganga/Ghaghra	MGD-I, Lucknow	Uttar Pradesh	Lakhimpur	-	3.60	3.25

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
		ra/Sharda			Kheri			
102	Pargaon	Bhima	UKD, Pune	Maharashtra	Pune	*	5.50	*
103	Parmarthghat	Ganga	MGD-II, Lucknow	Uttar Pradesh	Kanpur	4.61	4.14	3.80
104	Parsohanghat	Ganga/Ghaghra/Rapti/Burhi Rapti	MGD-I, Lucknow	Uttar Pradesh	Siddharthnagar	3.69	3.81	4.00
105	Patala	Godavari/Prahnita/Wardha	WD, Nagpur	Maharashtra	Chandrapur	3.12	-	-
106	Phulgaon	Bhima	UKD, Pune	Maharashtra	Pune	*	3.29	*
107	Pingalwada	Dhadar	TD, Surat	Gujarat	Vadodara	13.85	7.99	9.61
108	Pratapgarh	Sai	MGD-III, Varanasi	Uttar Pradesh	Pratapgarh	3.26	3.09	3.10
109	Raebareli	Ganga/Gomti/Sai	MGD-II, Lucknow	Uttar Pradesh	Raebareli	11.93	16.08	11.77
110	Rahu	Mulamutha	UKD, Pune	Maharashtra	Pune	*	7.93	*
111	Rajapur	Yamuna	LYD, Agra	Uttar Pradesh	Prayagraj	3.67	-	-
112	Ramakona	Godavari/Prahnita/Wainganga/Kanhan	WD, Nagpur	Madhya Pradesh	Chhindawara	3.28	-	-
113	Rangpo	Brahmaputra/Teesa/Rangpochu	LBD, Jalpaiguri	West Bengal	Kalimpong	3.16	-	-
114	Regauli	Ganga/Ghaghra/Rapti	MGD-I, Lucknow	Uttar Pradesh	Gorakhpur	3.73	4.44	3.32
115	Roorkee D/S	Ganga/Banganga/Solani	HGD, Haridwar	Uttarakhand	Haridwar	24.83	13.99	23.27
116	Roorkee U/S	Ganga/Banganga/Solani	HGD, Haridwar	Uttarakhand	Haridwar	22.34	11.23	21.27
117	RSP	Brahamani	ERD, Bhubaneswar	Odisha	Sundergarh	31.74	33.32	31.20
118	RSP-I	Brahamani	ERD, Bhubaneswar	Odisha	Sundergarh	19.98	4.07	15.10
119	RSP-II	Brahamani	ERD, Bhubaneswar	Odisha	Sundergarh	9.67	-	-
120	Sahijana	Betwa	LYD, Agra	Uttar Pradesh	Hamirpur	-	-	3.49
121	Saidpur	Ganga	MGD-III, Varanasi	Uttar Pradesh	Ghazipur	3.13	-	-
122	Sakmur	Godavari/Prahnita/Wardha	WD, Nagpur	Maharashtra	Chandrapur	-	3.57	-
123	Salebardi	Godavari/Prahnita/Wainganga/Chulband	WD, Nagpur	Maharashtra	Bhandara	-	4.38	-
124	Saloor	Godavari/Manjira	UGD, Hyderabad	Telangana	Nizamabad	-	4.68	-
125	Samdoli	Varna	UKD, Pune	Maharashtra	Sangli	-	-	3.11
126	Satrapur kanhan Town	Godavari/Prahnita/Wainganga/Kanhan	WD, Nagpur	Maharashtra	Nagpur	60.67	53.08	50.00
127	Seohara	Ganga/Ramganga	MGD-II, Lucknow	Uttar Pradesh	Bijnaur	5.80	6.84	3.59
128	Shahjahanpur	Ganga/Deoha (Garra)/Khanaut	MGD-II, Lucknow	Uttar Pradesh	Shahjahanpur	8.81	7.68	5.21
129	Singasadanapalli	Ponnaiyar	SRD, Coimbatore	Tamil Nadu	Krishnagiri	89.60	57.41	93.68
130	Sitapur	Ganga/Gomti/Sarayan	MGD-II, Lucknow	Uttar Pradesh	Sitapur	12.73	12.09	5.77
131	Suddakallu	Dindi	LKD, Hyderabad	Telangana	Mahaboob Nagar	-	3.41	-
132	Sultanpur	Gomti	MGD-III, Varanasi	Uttar Pradesh	Sultanpur	3.18	3.04	3.08
133	T. Bekuppe	Cauvery/Arkavathi	CD, Bengaluru	Karnataka	Ramanagara	11.45	3.52	6.34

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
134	T. K. Halli	Cauvery/Shimsha	CD, Bengaluru	Karnataka	Mandya	4.20	-	-
135	Tanda D/S	Ganga/Ghaghra	MGD-I, Lucknow	Uttar Pradesh	Ambedkar Nagar	4.85	4.31	3.63
136	Tanda U/S	Ganga/Ghaghra	MGD-I, Lucknow	Uttar Pradesh	Basti	3.37	3.75	3.30
137	Terwad	Panchaganga	UKD, Pune	Maharashtra	Kolhapur	*	3.58	*
138	Thevur	Sarabenga	SRD, Coimbatore	Tamil Nadu	Salem	-	5.07	-
139	Tiharkheda	Ganga/Ramganga	MGD-II, Lucknow	Uttar Pradesh	Bareilly	7.28	8.43	6.87
140	Todarpur	Ganga/Deoha (Garra)/Sukhetta	MGD-II, Lucknow	Uttar Pradesh	Hardoi	8.20	7.92	4.51
141	Turtipar	Ganga/Ghaghra	MGD-I, Lucknow	Uttar Pradesh	Ballia	3.39	4.10	3.83
142	Udi	Chambal	LYD, Agra	Uttar Pradesh	Etawah	-	4.27	3.75
143	Ujjain	Shipra	CD Jaipur	Madhya Pradesh	Ujjain	*	11.23	10.33
144	Valigonda	Musi	LKD, Hyderabad	Telangana	Yadadri Bhuvanagiri	20.52	6.06	3.42
145	Vautha	Sabarmati	MD, Gandhinagar	Gujarat	Ahmedabad	21.64	12.16	18.24
146	Vijayawada	Krishna	LKD, Hyderabad	Andhra Pradesh	NTR	-	3.09	-
147	Vrindawan Bridge (Mathura U/S)	Yamuna	UYD, Delhi	Uttar Pradesh	Mathura	28.41	15.07	16.46
148	Wadakbal	Sina	UKD, Pune	Maharashtra	Solapur	-	5.60	3.57
149	Wadenapalli	Krishna	LKD, Hyderabad	Telangana	Suryapet	-	3.03	-
150	Yamuna Expressway Road Bridge, Etamadpur (Agra D/S)	Yamuna	LYD, Agra	Uttar Pradesh	Agra	47.32	22.17	23.75

(-) means No Hotspot

(*) means Data not available/ river dry.

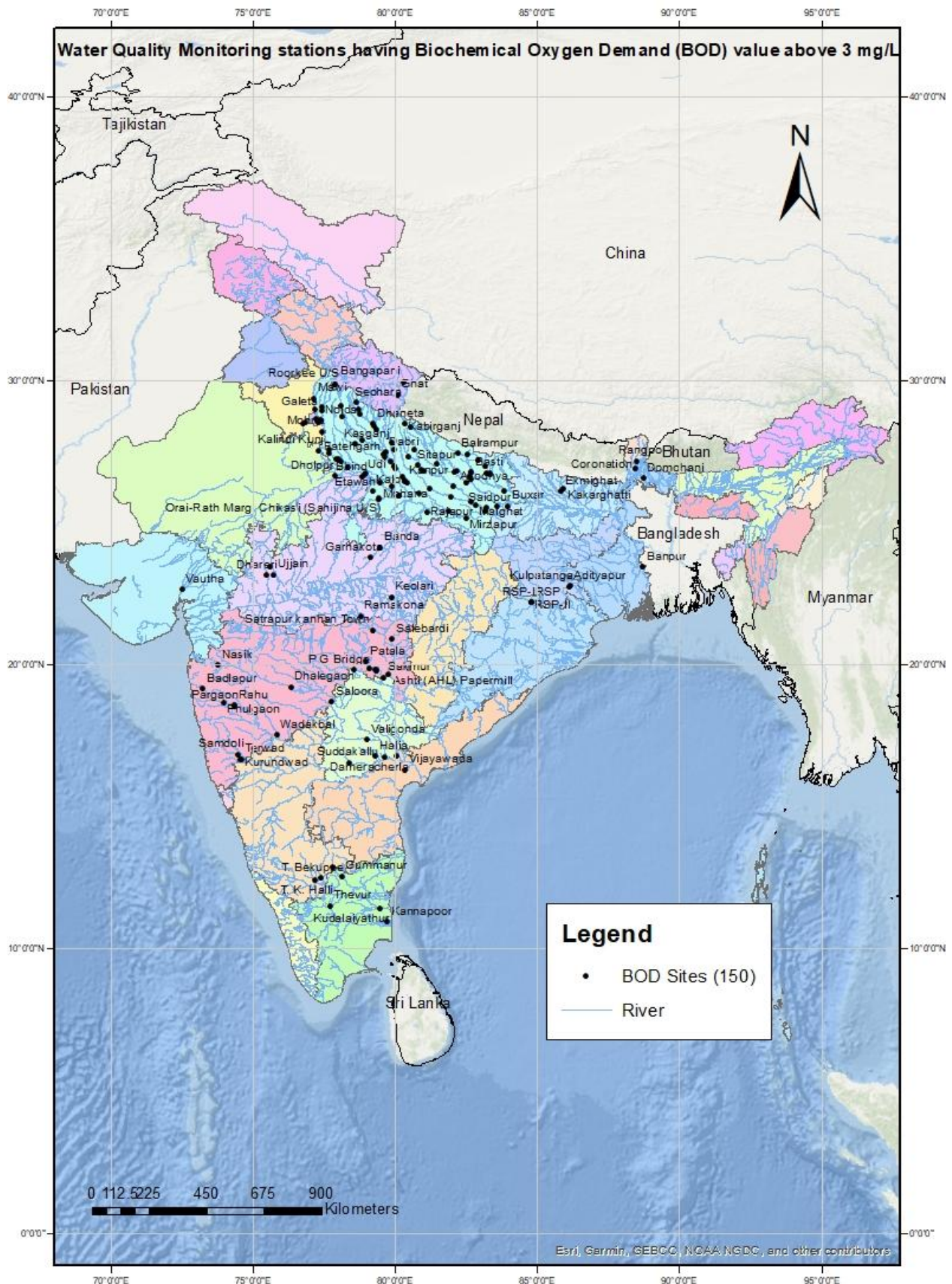


Figure 25: Water Quality Monitoring stations having Biochemical Oxygen Demand (BOD) above 3.0 mg/L (2025)

7.1.11 Total Coliform (TC)

The coliform group primarily consists of species from genera such as *Citrobacter*, *Enterobacter*, *Escherichia*, *Klebsiella*, including fecal coliforms. Although coliform organisms may not be directly linked to the presence of viruses in drinking water, the coliform test remains essential for monitoring the microbial quality of public water supplies. This bacterial group is present in large numbers throughout all seasons, possibly attributed to the addition of sewage and various forms of waste, higher concentrations of suspended particles and the dark coloration of receiving water.

The present assessment revealed that 416 water quality monitoring stations covering 220 rivers across 23 states recorded total coliform concentrations exceeding the permissible limit of 500 MPN/100 mL during the study period. These rivers span a wide geographical distribution and include major river systems and their tributaries such as Ganga, Yamuna, Godavari, Krishna, Cauvery, Brahmaputra (Teesta, Rangit, Rangpo chu), Sabarmati, Mahi, Narmada tributaries, Chambal, Betwa, Ken, Kosi, Ghaghra, Gomti, Ramganga, Rapti, Sharda, Saryu, Kali, Gandak, Burhi Gandak, Bagmati, Kamla Balan, Son, Sone, Tons, Tawi, Chenab, Indravati, Indravathi, Sabari, Wainganga, Wardha, Pranhita, Purna, Manjira, Musi, Bhima, Tungabhadra, Panchaganga, Ulhas, Vaigai, Vaippar, Vellar, Palar, Pennar, Ponnaiyar, Noyyal, Bhavani, Kabini, Hemavathi, Shimsha, Arkavathi, Suvarnavathi, Yagachi, Vedavathi, Bhadra, Tunga, Kallada, Periyar, Bharathapuzha, Chaliyar, Chalakudy, Meenachil, Muvattupuzha, Pamba, Vamanapuram, Valapattanam, Kadalundi, Gurupur, Netravathi, Aghanashini, Kaliyar, Kallada, Swarnamukhi, Sagileru, Varahanadhi, Nandalar, Nattar, Vanjiyar, Puravidaiyanar, Thirumalairajanar, Sarabenga, Suruliyar, Tamarabarani (Tambraparani), Dindi, Yedduvagu, Wyra, Kagna, Kinnerasani, Kunderu, Gundlakamma, Pench, Penganga, Kichha (Gaula), North Koel, Kanhar, Lalbekia, Tiljuga, Sripalpur, Sukheta, Khannaut, Khobragarhi, and many others.

The widespread exceedance of the permissible limit (500 MPN/100 mL) indicates significant microbiological contamination across both major rivers and smaller tributaries. Highly populated river basins such as the Ganga–Yamuna system (including Gomti, Ghaghra, Rapti, Ramganga, Kali, Sai, Sarayan, Burhi Rapti, and others) showed persistent total coliform contamination, reflecting heavy domestic sewage discharge, inadequate wastewater treatment infrastructure, and urban runoff. Similarly, the Godavari basin (including Wainganga, Wardha, Pranhita, Manjira, Purna, Penganga, Indravati, Sabari) and the Krishna basin (including Bhima, Tungabhadra, Musi, Panchaganga, Vedavathi, Hagari, Munneru, Paleru)

exhibited elevated TC levels, particularly in stretches downstream of urban and industrial centers.

Southern river systems such as the Cauvery basin (including Arkavathi, Shimsha, Hemavathi, Kabini, Noolar, Nattar, Vanjiyar, Thirumalairajanar, Lakshmanthirtha) and Ponnaiyar basin (including Chinnar, Papagni, Palar, Cheyyar) also recorded significant exceedances, indicating increasing anthropogenic pressure. Western and coastal rivers including Sabarmati, Mahi, Shetrunji, Watrak, Vashishti, Ulhas, Bharathapuzha, Periyar, Chalakudy, Chaliyar, Gurupur, Netravathi, Valapattanam, and Kadalundi demonstrated microbiological contamination linked to urban settlements and inadequate sanitation coverage.

Seasonally, the monsoon period generally recorded the highest number of hot-spots, likely due to stormwater runoff, overflow of sewer networks, and transport of faecal matter from open defecation areas and livestock fields into rivers. However, significant contamination during the pre-monsoon season reflects reduced dilution capacity under low-flow conditions, while the persistence of high counts in the post-monsoon period suggests continuous discharge of untreated wastewater.

During the pre-monsoon season, TC concentrations exhibited extremely wide variation, primarily due to low-flow conditions and reduced dilution capacity in rivers. The observed concentrations ranged from a minimum of 637 MPN/100 mL at Triveni (Ganga/Gandak, Bihar) to an alarming maximum of 6,053,333 MPN/100 mL at Noida on the Hindon River (Uttar Pradesh). Severely polluted stretches were observed along the Yamuna River, particularly at Agra (Jawahar Bridge: 276,333 MPN/100 mL; Poiyaghat: 310,667 MPN/100 mL) and Vrindavan Bridge Mathura U/S (268,667 MPN/100 mL). Exceptionally high values were also recorded at the Delhi Railway Bridge (Yamuna, Delhi: 4,980,000 MPN/100 mL), Galeta (Hindon, UP: 1,505,333 MPN/100 mL), Mohna (Yamuna, Haryana: 1,686,667 MPN/100 mL), Cholachagudda (Krishna/Malaprabha, Karnataka: 1,600,000 MPN/100 mL), T.K. Halli (Cauvery/Shimsha, Karnataka: 1,600,000 MPN/100 mL), and Singasadanapalli (Ponnaiyar, Tamil Nadu: 2,955,556 MPN/100 mL). Major river systems including the Ganga, Yamuna, Godavari, Krishna, Cauvery, Sabarmati, Chambal, and Brahmaputra tributaries recorded persistently elevated TC levels. The high concentrations during this period reflect heavy discharge of untreated domestic sewage, industrial effluents and the limited self-purification capacity of rivers under lean flow conditions.

In the monsoon season, TC concentrations showed mixed trends. Although increased river discharge provided dilution at certain locations, many sites experienced elevated contamination due to stormwater runoff, overflow of sewer networks, and wash-off from contaminated land surfaces. The observed monsoon range extended from 519 MPN/100 mL at Gopurajapuram (Cauvery/Puravidaiyanar, Tamil Nadu) to 3,749,333 MPN/100 mL at Noida (Hindon, Uttar Pradesh). Very high values were again observed at Singasadanapalli (Ponnaiyar, TN: 3,467,273 MPN/100 mL), Delhi Railway Bridge (Yamuna, Delhi: 2,017,800 MPN/100 mL), Galeta (Hindon, UP: 1,230,667 MPN/100 mL), Vrindawan Bridge (Yamuna, UP: 340,000 MPN/100 mL), Vautha (Sabarmati, Gujarat: 291,733 MPN/100 mL), Karad (Krishna, Maharashtra: 116,154 MPN/100 mL) and Dadri (Sahibi, Haryana: 73,818 MPN/100 mL). Urban-impacted basins such as the Yamuna–Hindon system (Delhi–UP), Sabarmati (Gujarat), Krishna (Maharashtra–Karnataka), and Godavari (Maharashtra–Telangana) remained severely contaminated. Monsoon runoff likely contributed additional microbial load from open defecation areas, livestock zones, and agricultural fields.

During the post-monsoon season, faecal contamination persisted across many river stretches, indicating continuous wastewater discharge even after peak rainfall subsided. Concentrations ranged from a minimum of 532 MPN/100 mL at Sulurpet (Kalingi, Andhra Pradesh) to a maximum of 4,223,333 MPN/100 mL at Singasadanapalli (Ponnaiyar, Tamil Nadu). Critical hotspots included Noida (Hindon, UP: 1,190,000 MPN/100 mL), Vrindawan Bridge (Yamuna, UP: 668,333 MPN/100 mL), Mohna (Yamuna, Haryana: 605,000 MPN/100 mL), Delhi Railway Bridge (Yamuna, Delhi: 528,833 MPN/100 mL), Vautha (Sabarmati, Gujarat: 240,000 MPN/100 mL), Gokul Barrage (Yamuna, UP: 580,000 MPN/100 mL) and Ujjain (Shipra, Madhya Pradesh: 49,000 MPN/100 mL). River systems such as the Yamuna, Hindon, Ponnaiyar, Sabarmati, Krishna, Godavari, Ganga, Chambal and Brahmaputra tributaries continued to exceed the permissible limit of 500 MPN/100 mL, highlighting inadequate sewage treatment and poor compliance with effluent discharge standards.

Comparison between 2023 to 2025:

The comparison of total coliform hot-spots between 2023 to 2025 illustrates significant trends in water quality across different seasonal periods. The data is summarized in the following table:

YEAR	Total No. of Hotspots found	Number of Hot-Spots found for Total Coliforms		
		Pre-Monsoon	Monsoon	Post-Monsoon
2023	277	199	258	215
2024	378	227	359	317
2025	416	338	374	268

The comparison of total coliform (TC) hotspots from 2023 to 2025 reveals substantial variation in microbiological contamination across different seasons. The data indicate a rising trend from 2023 to 2024, followed by a further increase in 2025, reflecting expanding total coliform contamination concerns in multiple river basins.

During the pre-monsoon season, 199 total coliform hot spots were recorded in 2023, which increased to 227 in 2024, indicating a rise of about 14.1%. In 2025, the number further increased sharply to 338, reflecting a substantial increase of about 69.8% compared to 2023 and 48.9% compared to 2024, indicating significant deterioration in microbial water quality during the dry period.

In the monsoon season, 258 hot spots were identified in 2023, which increased markedly to 359 in 2024, indicating a rise of about 39.1%. In 2025, the number further increased to 374, reflecting an overall increase of about 45.0% compared to 2023 and 4.2% compared to 2024, indicating sustained and widespread contamination during the monsoon period.

During the post-monsoon season, 215 hot spots were recorded in 2023, which increased significantly to 317 in 2024, indicating a rise of about 47.4%. In 2025, the number decreased to 268, reflecting a reduction of about 15.5% compared to 2024, but still remaining higher than 2023 by about 24.7%, indicating partial improvement but continued concern.

Overall, the total number of total coliform hot spots increased from 277 in 2023 to 378 in 2024, representing a rise of about 36.5%. In 2025, the total further increased to 416, reflecting an overall increase of about 50.2% compared to 2023 and 10.1% compared to 2024. This consistent upward trend across all seasons indicates a significant deterioration in microbial water quality,

The hot spot study and GIS map for total coliform (TC) parameter are given below in Table 16 and figure 26.

Table 16: Monitoring stations having Total Coliform (TC) > 500 MPN/100 mL in River Water in 2025

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
1	A.B. Road Crossing	Parwati	CD Jaipur	Madhya Pradesh	Guna	*	34364	*
2	A.P. Puram	Chittar	SRD, Coimbatore	Tamil Nadu	Tirunelveli	*	*	3300
3	Abu Road	Banas	MD, Gandhinagar	Rajasthan	Sirohi	*	6375	10800
4	Addoor	Gurupur	SWRD, Kochi	Karnataka	Dakshina Kannada	*	1216	*
5	Agra (Jawahar Bridge)	Yamuna	LYD, Agra	Uttar Pradesh	Agra	276333	259333	306667
6	Agra (Poiyaghat)	Yamuna	LYD, Agra	Uttar Pradesh	Agra	310667	306667	253333
7	Aheri Gudem Bridge	Godavari/Pranhi ta	WD, Nagpur	Maharashtra	Gadchiroli	3710	5462	1185
8	Akbarpur	Chhoti sarju	MGD-III, Varanasi	Uttar Pradesh	Ambedkar Nagar	4008	5520	4200
9	Akhnoor	Chenab	CD, Jammu	Jammu & Kashmir	Jammu	1983	*	*
10	Akkihebbal	Cauvery/ Hemavathi	CD, Bengaluru	Karnataka	Mandya	255000	*	*
11	Aklara	Parwan	CD Jaipur	Rajasthan	Jhalawar	*	34909	*
12	Alandurai	Noyyal	SRD, Coimbatore	Tamil Nadu	Coimbatore	*	6117	15950
13	Alladupalli	Pennar/Kunderu	HD, Chennai	Andhra Pradesh	Kadapa	1590	2496	5747
14	Allahabad	Ganga	MGD-III, Varanasi	Uttar Pradesh	Allahabad	6267	7353	6917
15	Ambarampalaya m	Aliyar	SRD, Coimbatore	Tamil Nadu	Coimbatore	10767	7336	8683
16	Ambari	Brahmaputra/To rsa/Kaljana	LBD, Jalpaiguri	West Bengal	Coochbehar	2400	2950	*
17	Ambasamudram	Vaigai	SRD, Coimbatore	Tamil Nadu	Theni	3300	13000	5100
18	Ankinghat	Ganga	MGD-II, Lucknow	Uttar Pradesh	Kanpur Nagar	2300	2850	*
19	Annavasal	Cauvery/Nattar	HD, Chennai	Puducherry	Karaikal	*	1109	710
20	Arangaly	Periyar/Chalaku dy	SWRD, Kochi	Kerala	Thrissur	*	1180	2400
21	Arcot	Palar	HD, Chennai	Tamil Nadu	Ranipet	4600	6933	597
22	Arjunwad (seasonal)	Krishna	UKD, Pune	Maharashtra	Kolhapur	5720	72447	2700
23	Arnota	Uttangan	LYD, Agra	Uttar Pradesh	Agra	*	9900	5950
24	Ashramam	Pazhayar	SWRD, Kochi	Tamil Nadu	Kanyakumari	2367	1750	2950
25	Ashti	Godavari/Pranhi ta/Wainganga	WD, Nagpur	Maharashtra	Gadchiroli	3579	3683	1453
26	Ashti (AHL) Papermill	Godavari/Pranhi ta/Wainganga	WD, Nagpur	Maharashtra	Gadchiroli	5540	*	*
27	Ashti D/S	Godavari/Pranhi ta/Wainganga	WD, Nagpur	Maharashtra	Gadchiroli	8240	*	*
28	Auraiya	Yamuna	LYD, Agra	Uttar Pradesh	Auraiya	109080	30200	10050
29	Avaramkuppam	Palar	SRD, Coimbatore	Tamil Nadu	Vellore	*	9820	6980
30	Avershe	Sita	SWRD, Kochi	Karnataka	Udupi	*	943	*
31	Ayilam	Vamanapuram	SWRD, Kochi	Kerala	Thiruvananthapuram	1700	1033	2050
32	Ayodhya	Ganga/Ghaghra	MGD-I, Lucknow	Uttar Pradesh	Ayodhya	2633	2567	2600
33	Azmabad	Ganga	LGD-2, Patna	Bihar	Bhagalpur	4675	3360	*
34	Bachhwara	Ganga/Baya	LGD-1, Patna	Bihar	Begusarai	4493	4080	*
35	Badlapur	Ulhas	UKD, Pune	Maharashtra	Thane	83733	49286	82500
36	Baghpat	Yamuna	UYD, Delhi	Uttar Pradesh	Baghpat	35200	57667	83667
37	Bairgania	Ganga/Kosi/Ba gmat i/Lalbekia	LGD-1, Patna	Bihar	Sitamarhi	-	2640	*
38	Bakhari	Godavari/Pranhi	WD, Nagpur	Madhya	Seoni	4559	2734	2504

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
		ta/Wainganga		Pradesh				
39	Baladoba	Brahmaputra/Sankosh	LBD, Jalpaiguri	Assam	Dhubri	*	3800	700
40	Baleni	Hindon	UYD, Delhi	Uttar Pradesh	Baghpat	1001333	591333	645000
41	Ballarsha paper mill	Godavari/Pranhi ta/Wardha	WD, Nagpur	Maharashtra	Chandrapur	12429	4681	8200
42	Balrampur	Ganga/Ghaghra/Rapti	MGD-I, Lucknow	Uttar Pradesh	Balrampur	2300	2433	2100
43	Baltara	Ganga/Kosi	LGD-1, Patna	Bihar	Khagaria	2093	1876	*
44	Baluaghat	Ganga	MGD-III, Varanasi	Uttar Pradesh	Varanasi	5246	7680	7317
45	Bamni (ballarsha)	Godavari/Pranhi ta/Wardha	WD, Nagpur	Maharashtra	Chandrapur	5636	4006	6440
46	Bamni U/S	Godavari/Pranhi ta/Wardha	WD, Nagpur	Maharashtra	Chandrapur	8186	5455	3437
47	Banda	Ken	LYD, Agra	Uttar Pradesh	Banda	3140	5953	7200
48	Bangapani	Ganga/Ghaghra/Sharda/Gauriga nga	MGD-I, Lucknow	Uttarakhand	Pithoragarh	1150	1433	1200
49	Banjari	Ganga/Sone	LGD-2, Patna	Bihar	Rohtas	1700	2572	*
50	Banka	Ganga/Chandan	LGD-2, Patna	Bihar	Banka	2632	1288	*
51	Bansi	Ganga/Ghaghra/Rapti	MGD-I, Lucknow	Uttar Pradesh	Siddharthnagar	1700	2400	1700
52	Bantwal	Netravathi	SWRD, Kochi	Karnataka	Dakshina Kannada	*	1248	*
53	Baranwada	Ganga/Yamuna/C hambal/Banas	CD, Jaipur	Rajasthan	Sawai-madhopur	30733	32133	38167
54	Bardoh (Chhapriyal)	Chenab/Manaw ar Tawi	CD, Jammu	Jammu & Kashmir	Jammu	1950	*	*
55	Bareilly	Ganga/Ramgan ga	MGD-II, Lucknow	Uttar Pradesh	Bareilly	21500	20000	*
56	Barobisha	Brahmaputra/Sankosh/Raidak-II	LBD, Jalpaiguri	West Bengal	Alipurduar	1700	6167	*
57	Barod	Kalisindh	CD Jaipur	Rajasthan	Kota	33600	28750	*
58	Basantpur (Ganga)	Ganga	MGD-II, Lucknow	Uttar Pradesh	Bijnaur	3218	3233	*
59	Basoda	Betwa	LYD, Agra	Madhya Pradesh	Vidisha	4293	4977	4900
60	Basti	Ganga/Ghaghra/Kwano	MGD-I, Lucknow	Uttar Pradesh	Basti	4700	4700	3300
61	Basti D/S	Ganga/Ghaghra/Kwano	MGD-I, Lucknow	Uttar Pradesh	Basti	4800	4800	3700
62	Basti U/S	Ganga/Ghaghra/Kwano	MGD-I, Lucknow	Uttar Pradesh	Basti	4367	4100	3250
63	Bawapuram	Krishna/Tungab hadra	LKD, Hyderabad	Andhra Pradesh	Kurnool	15325	2404	1588
64	Belne Bridge	Gad	CD, Bengaluru	Maharashtra	Sindudurg	60000	*	*
65	Bendrahalli	Cauvery/Suvarnavathi	CD, Bengaluru	Karnataka	Chamaraja Nagar	995000	*	*
66	Bhadana Village D/s of Kota City	Chambal	CD Jaipur	Rajasthan	Kota	*	34250	36000
67	Bhadrachalam	Godavari	LGD, Hyderabad	Telangana	Bhadradi Kothagudem	9840	3339	5100
68	Bhatpalli	Godavari/Pranhi ta/Peddavagu	WD, Nagpur	Telangana	Kumuram Bheem Asifabad	3053	5812	4333
69	Bhind	Kunwari	LYD, Agra	Madhya Pradesh	Bhind	5391	3431	4817
70	Bhitora	Ganga	MGD-II, Lucknow	Uttar Pradesh	Fatehpur	6300	7700	*
71	Bigod	Banas	CD Jaipur	Rajasthan	Bhilwara	*	27417	34833
72	Biligundulu	Cauvery	SRD, Coimbatore	Tamil Nadu	Krishnagiri	785	2167	1497
73	Birdghat	Ganga/Ghaghra/Rapti	MGD-I, Lucknow	Uttar Pradesh	Gorakhpur	25667	20000	15500

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
74	Bithoor	Ganga	MGD-II, Lucknow	Uttar Pradesh	Kanpur	3850	4700	4000
75	Buxar	Ganga	LGD-2, Patna	Bihar	Buxar	5622	5220	*
76	Byaladahalli	Krishna/Tungabhadra/Haridra	CD, Bengaluru	Karnataka	Davanagere	76000	*	*
77	Champasari	Ganga/Mahananda	LBD, Jalpaiguri	West Bengal	Darjeeling	140000	42750	54000
78	Chandrika Devi	Ganga/Gomti	MGD-II, Lucknow	Uttar Pradesh	Lucknow	4900	5250	4000
79	Chel	Brahmaputra/Testa/Chel	LBD, Jalpaiguri	West Bengal	Jalpaiguri	2200	-	2400
80	Chengalpet	Palar	HD, Chennai	Tamil Nadu	Chengalpet	2286	1627	1190
81	Chennur	Pennar	HD, Chennai	Andhra Pradesh	Kadapa	1878	2324	580
82	Chepan	Brahmaputra/Torsa/Raidak-I	LBD, Jalpaiguri	West Bengal	Alipurduar	-	1200	-
83	Chindnar	Godavari/Indravati	LGD, Hyderabad	Chhattisgarh	Dantewada	6927	5373	3132
84	Chitrasani	Balaram	MD, Gandhinagar	Gujarat	Banaskantha	*	8522	*
85	Cholachagudda	Krishna/Malprabha	CD, Bengaluru	Karnataka	Bagalkot	1600000	*	*
86	Chopan	Sone	MGD-III, Varanasi	Uttar Pradesh	Sonebhadra	1854	2720	1700
87	Dabri	Ganga/Ramganga	MGD-II, Lucknow	Uttar Pradesh	Shahjahanpur	21000	22000	*
88	Dadri	Sahibi	UYD, Delhi	Haryana	Dadri	*	73818	*
89	Dameracherla	Krishna/Musi	LKD, Hyderabad	Telangana	Nalgonda	18220	4207	1642
90	Delhi Railway Bridge (DRB)	Yamuna	UYD, Delhi	Delhi	North Delhi	4980000	2017800	528833
91	Deongaon bridge	Krishna/Bhima	LKD, Hyderabad	Karnataka	Bijapur	*	3200	*
92	Deosugur	Krishna	LKD, Hyderabad	Karnataka	Raichur	11629	4013	2267
93	Derol Bridge	Sabarmati	MD, Gandhinagar	Gujarat	Sabarkantha	7700	8723	11667
94	Dhalegaon	Godavari	UGD, Hyderabad	Maharashtra	Parbhani	11143	5600	*
95	Dhamkund	Chenab	CD, Jammu	Jammu & Kashmir	Ramban	1817	*	*
96	Dhaneta	Ganga/Ramganga/Kichha(Gaula)	MGD-II, Lucknow	Uttar Pradesh	Bareilly	15500	14000	*
97	Dhansa	Sahibi	UYD, Delhi	Haryana	Jhajar	*	54545	*
98	Dhareri	Chambal	CD Jaipur	Madhya Pradesh	Ujjain	*	36000	*
99	Dheng Bridge	Ganga/Kosi/Bagmati	LGD-1, Patna	Bihar	Sitamarhi	4300	2582	*
100	Dholpur	Chambal	LYD, Agra	Rajasthan	Dholpur	4273	6027	5900
101	Dhond	Bhima	UKD, Pune	Maharashtra	Pune	*	32333	*
102	Diana	Brahmaputra/Jaldhaka/Diana	LBD, Jalpaiguri	West Bengal	Jalpaiguri	*	1200	*
103	Dobhi	Ganga/Phalgu	LGD-2, Patna	Bihar	Gaya	5250	1920	*
104	Domohani	Brahmaputra/Testa	LBD, Jalpaiguri	West Bengal	Jalpaiguri	4000	4450	1300
105	Duddhi	Kanhar	MGD-III, Varanasi	Uttar Pradesh	Sonebhadra	2262	2900	2400
106	Ekmighat	Ganga/Kosi/Bagmati/Adhwara Group	LGD-1, Patna	Bihar	Darbhanga	1727	3420	*
107	Elgin Bridge	Ganga/Ghaghra	MGD-I, Lucknow	Uttar Pradesh	Barabanki	2300	2233	2200
108	Elunuthimangalam	Noyyal	SRD, Coimbatore	Tamil Nadu	Erode	6900	14082	14617
109	Erinjipuzha	Payaswani	SWRD, Kochi	Kerala	Kasargod	1433	900	*
110	Etawah	Yamuna	LYD, Agra	Uttar Pradesh	Etawah	366000	222000	281667

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
111	Faizabad U/S	Ganga/Ghaghra	MGD-I, Lucknow	Uttar Pradesh	Ayodhya	3350	3950	2850
112	Fatehgarh	Ganga	MGD-II, Lucknow	Uttar Pradesh	Farrukhabad	3833	3033	*
113	G R Bridge	Godavari	UGD, Hyderabad	Maharashtra	Parbhani	22429	9950	2200
114	Gaisabad	Bearma	LYD, Agra	Madhya Pradesh	Damoh	*	3500	3667
115	Galeta	Hindon	UYD, Delhi	Uttar Pradesh	Meerut	1505333	1230667	1316667
116	Gandhavayal	Gandhayar	SRD, Coimbatore	Tamil Nadu	Coimbatore	35100	5600	8083
117	Gandhighat	Ganga	LGD-2, Patna	Bihar	Patna	3700	3446	*
118	Gandlapet	Godavari/Pedda vagu	UGD, Hyderabad	Telangana	Nizamabad	*	2600	4100
119	Ganguwala	Bata	UYD, Delhi	Himachal Pradesh	Sirmaur	20267	29067	212833
120	Garhakota	Sonar	LYD, Agra	Madhya Pradesh	Sagar	*	3555	4133
121	Garhmukteshwar	Ganga	MGD-II, Lucknow	Uttar Pradesh	Hapur	1250	1967	*
122	Garhwa	Ganga/Sone/ NorthKoel	LGD-2, Patna	Jharkhand	Palamu	2682	2646	*
123	Garrauli	Dhasan	LYD, Agra	Madhya Pradesh	Chhatarpur	3633	5380	7433
124	Gaya	Ganga/Phalgu	LGD-2, Patna	Bihar	Gaya	1900	2324	*
125	Gazaldoba	Brhamaputra/Teesta	LBD, Jalpaiguri	West Bengal	Jalpaiguri	9000	1700	1700
126	Ghat	Ganga/Ghaghra/ Sharda/Saryu	MGD-I, Lucknow	Uttarakhand	Pithoragarh	855	1167	920
127	Ghazipur	Ganga	MGD-III, Varanasi	Uttar Pradesh	Ghazipur	5146	6500	6033
128	Ghugumari	Brahmaputra/Torsa	LBD, Jalpaiguri	West Bengal	Coochbehar	3400	1500	*
129	Gokul barrage Mathura D/S	Yamuna	UYD, Delhi	Uttar Pradesh	Mathura	305333	346000	580000
130	Golokganj	Brahmaputra/Sankosh	LBD, Jalpaiguri	Assam	Dhubri	*	3550	3500
131	Gomtinagar	Ganga/Gomti	MGD-II, Lucknow	Uttar Pradesh	Lucknow	150000	155000	120000
132	Gopurajapuram	Cauvery/Puravi daiyanar	HD, Chennai	Tamil Nadu	Nagapattinam	1100	519	712
133	Gorakhpur D/S	Ganga/Ghaghra/ Rapti	MGD-I, Lucknow	Uttar Pradesh	Gorakhpur	26000	21000	17000
134	Gorakhpur U/S	Ganga/Ghaghra/ Rapti	MGD-I, Lucknow	Uttar Pradesh	Gorakhpur	20667	17000	12000
135	Gummanur	Ponnaiyar	SRD, Coimbatore	Tamil Nadu	Krishnagiri	10544	7391	16033
136	Halady	Haladi	SWRD, Kochi	Karnataka	Udupi	1733	1168	*
137	Halia	Krishna/Halia	LKD, Hyderabad	Telangana	Nalgonda	10790	3286	6263
138	Hamirpur	Yamuna	LYD, Agra	Uttar Pradesh	Hamirpur	29447	26560	11733
139	Haralahalli	Krishna/Tungabhadra	CD, Bengaluru	Karnataka	Haveri	285000	*	*
140	Hariharapura	Krishna/Tungabhadra/Tunga	CD, Bengaluru	Karnataka	Chikamagaluru	131250	*	*
141	Haripur	Tons	UYD, Delhi	Uttarakhand	Dehradun	20733	22933	23000
142	Hasimara	Brahmaputra/Torsa	LBD, Jalpaiguri	West Bengal	Alipurduar	700	2945	*
143	Hathidah	Ganga	LGD-2, Patna	Bihar	Patna	3800	3750	*
144	Hathikhana	Ganga	MGD-II, Lucknow	Uttar Pradesh	Fatehgarh	7000	8900	*
145	Hayaghat	Ganga/Kosi/Bagmati	LGD-1, Patna	Bihar	Darbhanga	7033	3406	*
146	Hivra	Godavari/Pranhi ta/Wardha	WD, Nagpur	Maharashtra	Wardha	4317	2133	1233
147	Hogenakkal	Chinnar	SRD, Coimbatore	Tamil Nadu	Dharmapuri	*	12700	*
148	Holehonnur	Krishna/Tungabhadra/Bhadra	CD, Bengaluru	Karnataka	Shimoga	131000	*	*

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
149	Honnali	Krishna/Tungabhadra	CD, Bengaluru	Karnataka	Davanagere	188000	*	*
150	Huvinhedgi	Krishna	LKD, Hyderabad	Karnataka	Raichur	9664	5027	2350
151	Irrukkankudi	Vaippar	SRD, Coimbatore	Tamil Nadu	Virudhunagar	10138	*	*
152	Jagdalpur	Indravathi	LGD, Hyderabad	Chhattisgarh	Bastar	13538	6033	3848
153	Jaigaon	Brahmaputra/Torsa	LBD, Jalpaiguri	West Bengal	Alipurduar	1100	1500	*
154	Jainagar	Ganga/Kosi/Bagmati/KamlaBalan	LGD-1, Patna	Bihar	Madhubani	1823	3820	*
155	Jajmau	Ganga	MGD-II, Lucknow	Uttar Pradesh	Kanpur	13000	14000	9400
156	Jaldhaka NH-31	Brahmaputra/Jaldhaka	LBD, Jalpaiguri	West Bengal	Jalpaiguri	7000	2200	-
157	Jammu Tawi (Sidhra)	Chenab/Tawi	CD, Jammu	Jammu & Kashmir	Jammu	2033	*	*
158	Japla	Ganga/Sone	LGD-2, Patna	Jharkhand	Palamu	1446	1266	*
159	Jaunpur	Gomti	MGD-III, Varanasi	Uttar Pradesh	Jaunpur	4323	5720	4500
160	Jhalawar	Kalisindh	CD Jaipur	Rajasthan	Jhalawar	*	32182	*
161	Jhanjharpur	Ganga/Kosi/Bagmati/KamlaBalan	LGD-1, Patna	Bihar	Madhubani	4700	5060	*
162	Jhansi-Mirzapur Highway Road Bridge (Sahijana D/S)	Betwa	LYD, Agra	Uttar Pradesh	Hamirpur	3800	4080	5783
163	K. M. Vadi	Cauvery/Lakshmantirtha	CD, Bengaluru	Karnataka	Mysore	1047500	*	*
164	Kabirganj	Ganga/Ghaghra/Sharda	MGD-I, Lucknow	Uttar Pradesh	Pilibhit	1400	1800	2000
165	Kachhlabridge	Ganga	MGD-II, Lucknow	Uttar Pradesh	Badaun	1550	1900	*
166	Kailash Mandir, Agra (U/S)	Yamuna	LYD, Agra	Uttar Pradesh	Agra	258000	302667	376667
167	Kakarghatti	Ganga/Kosi/Bagmati/Jivach	LGD-1, Patna	Bihar	Darbhanga	2350	2900	*
168	Kalampur	Muvattupuzha/Kaliyar	SWRD, Kochi	Kerala	Ernakulam	1833	970	2400
169	Kalanaur	Yamuna	UYD, Delhi	Uttar Pradesh	Saharanpur	28933	35929	39833
170	Kalasapadu	Sagileru	HD, Chennai	Andhra Pradesh	Kadapa	*	785	-
171	Kalloppara	Pampa/Manimala	SWRD, Kochi	Kerala	Pathanamthitta	*	1070	2450
172	Kalpi	Yamuna	LYD, Agra	Uttar Pradesh	Jalaun	30433	22307	9650
173	Kamalapuram	Pennar/Papagni	HD, Chennai	Andhra Pradesh	Kadapa	*	602	-
174	Kamalpur	Banas	MD, Gandhinagar	Gujarat	Banaskantha	*	11000	*
175	Kannapoor	Cauvery/Vanjigar	HD, Chennai	Puducherry	Karaikal	940	803	1323
176	Kannauj	Ganga/Kali	MGD-II, Lucknow	Uttar Pradesh	Kannauj	9150	7350	*
177	Kanpur	Ganga	MGD-II, Lucknow	Uttar Pradesh	Kanpur	4700	5550	6300
178	Kanti	Ganga/BurhiGandak	LGD-1, Patna	Bihar	Muzaffarpur	4493	1510	*
179	Karad	Krishna	UKD, Pune	Maharashtra	Satara	*	116154	*
180	Karathodu	Kadalundi	SWRD, Kochi	Kerala	Malappuram	1700	1147	3500
181	Karnal	Yamuna	UYD, Delhi	Haryana	Karnal	31067	40143	37333
182	Kasganj	Ganga/Kali	MGD-II, Lucknow	Uttar Pradesh	Kasganj	11000	12000	*
183	Katriumrauli	Ganga	MGD-II, Lucknow	Uttar Pradesh	Kannauj	8400	8900	*
184	Kazipura	Ganga/Ramganga	MGD-II, Lucknow	Uttar Pradesh	Moradabad	18500	19000	*

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
185	Keesara	Krishna/Munneru	LKD, Hyderabad	Andhra Pradesh	NTR	13280	1948	830
186	Kellodu	Krishna/Tungabhadra/Vedavathi	CD, Bengaluru	Karnataka	Chitradurga	540000	*	*
187	Keolari	Godavari/Pranhi ta/Wainganga	WD, Nagpur	Madhya Pradesh	Seoni	2753	5502	3467
188	Khanitar	Brahmaputra/Teesta	LBD, Jalpaiguri	Sikkim	Pakyong	700	2800	*
189	Khanpur	Mahi	MD, Gandhinagar	Gujarat	Anand	7764	7587	8167
190	Khatoli	Parwati	CD Jaipur	Rajasthan	Kota	34833	32462	45833
191	Kidangoor	Meenachil	SWRD, Kochi	Kerala	Kottayam	1320	1300	2950
192	Kodumudi	Cauvery	SRD, Coimbatore	Tamil Nadu	Erode	1889	4500	6300
193	Koelwar	Ganga/Sone	LGD-2, Patna	Bihar	Bhojpur	1756	2600	*
194	Kokiwada	Godavari/Pranhi ta/Wainganga/Ka nhan/Pench	WD, Nagpur	Madhya Pradesh	Chhindawara	3612	2260	1643
195	Kokkedoddy	Cauvery/Arkavathi	CD, Bengaluru	Karnataka	Ramanagara	1070000	*	*
196	Kollegal	Cauvery	CD, Bengaluru	Karnataka	Chamaraja Nagar	272500	*	*
197	Konta	Sabari	LGD, Hyderabad	Chhattisgarh	Sukama	7360	3642	2650
198	Kopergaon	Godavari	UGD, Hyderabad	Maharashtra	Ahmednagar	*	10723	2800
199	Kora	Rind	LYD, Agra	Uttar Pradesh	Fatehpur	4140	2833	3633
200	Kota-By Pass Hanging Road Bridge U/S of Kota City	Chambal/Parwati	CD Jaipur	Rajasthan	Kota	*	28167	36000
201	Kudalaiyathur	Vellar	HD, Chennai	Tamil Nadu	Cuddalore	-	1100	5250
202	Kudige	Cauvery	CD, Bengaluru	Karnataka	Kodagu	462500	*	*
203	Kuldahbridge	Sone	MGD-III, Varanasi	Madhya Pradesh	Sidhi	3000	3080	2650
204	Kumarapalayam	Varahanadhi	HD, Chennai	Puducherry	Puducherry	1867	840	956
205	Kumbidi	Bharathapuzha	SWRD, Kochi	Kerala	Palakkad	1100	985	2400
206	Kumhari	Godavari/Pranhi ta/Wainganga	WD, Nagpur	Madhya Pradesh	Balaghat	2043	3269	1027
207	Kuniyil	Chaliyar	SWRD, Kochi	Kerala	Malappuram	1850	1036	2450
208	Kurundwad	Krishna	UKD, Pune	Maharashtra	Kolhapur	*	56667	9000
209	Kuttyadi	Kuttyadi	SWRD, Kochi	Kerala	Kozhikode	1967	1046	2600
210	Kuzhithurai	Tamarabarani	SWRD, Kochi	Tamil Nadu	Kanyakumari	2850	1550	3900
211	Lakhisarai	Ganga/Kiul	LGD-2, Patna	Bihar	Lakhisarai	925	3156	*
212	Lakhoura	Ganga/Burhi Gandak/Tiyar	LGD-1, Patna	Bihar	East Champaran	3533	1154	*
213	Lakkavalli	Krishna/Tungabhadra/Bhadra	CD, Bengaluru	Karnataka	Chikmagalur	752500	*	*
214	Lakshmanapatti	Kodaganar	SRD, Coimbatore	Tamil Nadu	Dindigul	3889	*	*
215	Lalgañj	Ganga/Gandak	LGD-2, Patna	Bihar	Vaishali	1596	1678	*
216	Lalpur	Sengar	LYD, Agra	Uttar Pradesh	Kanpur Dehat	3132	5767	7283
217	Lodhikheda	Godavari/Pranhi ta/Wainganga/Ka nhan/Jam	WD, Nagpur	Madhya Pradesh	Chhindawara	4090	4691	8133
218	Lucknow	Ganga/Gomti	MGD-II, Lucknow	Uttar Pradesh	Lucknow	78333	77000	70000
219	Luwara	Shetrunji	MD, Gandhinagar	Gujarat	Bhavnagar	*	7815	7267
220	M. H. Halli	Cauvery/Hemavathi	CD, Bengaluru	Karnataka	Hassan	107000	*	*
221	Madamon	Pamba	SWRD, Kochi	Kerala	Pathanamthitta	2100	1300	2400

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
222	Madhira	"Krishna/Munneru						
/Wyra"	LKD, Hyderabad	Telangana	Khammam	8680	3614	1400		
223	Madla	Ken	LYD, Agra	Madhya Pradesh	Panna	*	2700	3767
224	Magaral	Palar/Cheyyar	HD, Chennai	Tamil Nadu	Kancheepuram	1208	748	-
225	Magardharra	Godavari/Pranhi ta/Wainganga	WD, Nagpur	Madhya Pradesh	Balaghat	1485	2853	4470
226	Mahalgao	Godavari/Pranhi ta/Wainganga	WD, Nagpur	Maharashtra	Gondia	3880	3485	5545
227	Mahidpur	Shipra	CD Jaipur	Madhya Pradesh	Ujjain	*	32000	*
228	Maighat	Gomti	MGD-III, Varanasi	Uttar Pradesh	Jaunpur	4246	6500	4550
229	Majitar	Brahmaputra/Te esta/Rangit	LBD, Jalpaiguri	Sikkim	Namchi	1400	-	*
230	Malakkara	Pamba	SWRD, Kochi	Kerala	Pathanamthitta	2100	865	2600
231	Malkhed	Krishna/Bhima/ Kagna	LKD, Hyderabad	Karnataka	Kalaburagi	29188	2139	2267
232	Manakkad	Thodupuzha	SWRD, Kochi	Kerala	Idukki	1533	*	*
233	Mancherial	Godavari	UGD, Hyderabad	Telangana	Mancherial	35533	3667	5783
234	Mandawara	Chambal	CD Jaipur	Rajasthan	Kota	28933	30067	43333
235	Manderial	Chambal	CD Jaipur	Rajasthan	Karauli	33267	30600	35000
236	Mangaon	Savitri/kal	UKD, Pune	Maharashtra	Raigad	*	63400	*
237	Manjhi	Ganga/Ghaghra	LGD-2, Patna	Bihar	Saran	1570	1466	*
238	Mankara	Bharathapuzha	SWRD, Kochi	Kerala	Palakkad	2325	*	2100
239	Mantralayam	Krishna/Tungab hadra	LKD, Hyderabad	Andhra Pradesh	Kurnool	10367	2285	1167
240	Marella	Gundlakamma	LKD, Hyderabad	Andhra Pradesh	Prakasam	13856	1648	1172
241	Mataji	Mahi	MD, Gandhinagar	Madhya Pradesh	Ratlam	7118	6792	10133
242	Mathabhanga	Brahmaputra/Jal dhaka	LBD, Jalpaiguri	West Bengal	Coochbehar	1400	1300	16000
243	Matigara	Ganga/Mahanan d a/Balason	LBD, Jalpaiguri	West Bengal	Darjeeling	10000	8275	28000
244	Mawi	Yamuna	UYD, Delhi	Uttar Pradesh	Muzaffar Nagar	31200	42933	49833
245	Mehandipur	Ganga	MGD-II, Lucknow	Uttar Pradesh	Kannauj	4467	4500	*
246	Mejaroad	Tons	MGD-III, Varanasi	Uttar Pradesh	Allahabad	3015	3780	3017
247	Mekhliganj	Brahmaputra/Te esta	LBD, Jalpaiguri	West Bengal	Coochbehar	2400	2200	16000
248	Menangudi	Cauvery/Noolar	HD, Chennai	Tamil Nadu	Thiruvavur	-	1356	3908
249	Mirzapur	Ganga	MGD-III, Varanasi	Uttar Pradesh	Mirzapur	4946	5620	4833
250	Mohana	Betwa	LYD, Agra	Uttar Pradesh	Hamirpur	3973	4333	6133
251	Mohna	Yamuna	UYD, Delhi	Haryana	Faridabad	1686667	1035333	605000
252	Moradabad (R)	Ganga/Ramgan ga	MGD-II, Lucknow	Uttar Pradesh	Moradabad	22000	21500	*
253	Mungoli Township	Godavari/Pranhi ta/Wardha/Peng a nga	WD, Nagpur	Maharashtra	Yavatmal	2619	3787	4900
254	Munugodu	Yedduvagu	LKD, Hyderabad	Andhra Pradesh	Palnadu	10107	2151	892
255	Muradpur	Vashishti	UKD, Pune	Maharashtra	Ratnagiri	*	68725	*
256	Murappanadu	Tambraparani	SRD, Coimbatore	Tamil Nadu	Tuticorin	5356	5240	4460
257	Murti	Brahmaputra/Jal dhaka/Murti	LBD, Jalpaiguri	West Bengal	Jalpaiguri	*	945	*

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
258	Musiri	Cauvery	SRD, Coimbatore	Tamil Nadu	Thiruchirappalli	3789	7455	7750
259	Muthenkera	Cauvery/Kabini	CD, Bengaluru	Kerala	Wayanad	126000	*	*
260	Nagothane	Amba	UKD, Pune	Maharashtra	Raigad	*	12269	*
261	Nagrakata	Brahmaputra/Jaldhaka	LBD, Jalpaiguri	West Bengal	Jalpaiguri	*	940	*
262	Naidupet	Swarnamukhi	HD, Chennai	Andhra Pradesh	Nellore	1178	2585	6941
263	Nallamaranpatty	Amaravathi	SRD, Coimbatore	Tamil Nadu	Karur	5533	6175	2250
264	Nallathur	Cauvery/Nandalur	HD, Chennai	Puducherry	Karaikal	*	1275	663
265	Nanded	Godavari	UGD, Hyderabad	Maharashtra	Nanded	11571	11650	1100
266	Nandgaon	Godavari/Pranhit/Wardha/Wuna	WD, Nagpur	Maharashtra	Wardha	3021	3003	5183
267	Nandipalli	Pennar/Sagileru	HD, Chennai	Andhra Pradesh	Kadapa	1209	-	675
268	Nasik	Godavari	UGD, Hyderabad	Maharashtra	Nasik	80247	13480	8600
269	Naugaon	Yamuna	UYD, Delhi	Uttarakhand	Uttarakashi	18333	24533	22800
270	Neeleeswaram	Periyar	SWRD, Kochi	Kerala	Ernakulam	1267	900	2400
271	Neemsar	Ganga/Gomti	MGD-II, Lucknow	Uttar Pradesh	Sitapur	2400	2600	2100
272	Nellipally	Kallada	SWRD, Kochi	Kerala	Kollam	1600	1100	2950
273	Nellore	Pennar	HD, Chennai	Andhra Pradesh	Nellore	*	1312	1502
274	Neora	Brahmaputra/Teesa/Naora	LBD, Jalpaiguri	West Bengal	Jalpaiguri	2400	1300	-
275	Nirmali	Ganga/Kosi/Bagmati/Tiljuga	LGD-1, Patna	Bihar	Supaul	3093	5660	*
276	Noida	Hindon	UYD, Delhi	Uttar Pradesh	Gautam Budh Nagar	6053333	3749333	1190000
277	Noukaghat	Mahananda	LBD, Jalpaiguri	West Bengal	Jalpaiguri	22000	13850	35000
278	Nowrangpur	Indravathi	LGD, Hyderabad	Odisha	Nowrangpur	10420	6740	2150
279	Odenturai	Kallar	SRD, Coimbatore	Tamil Nadu	Coimbatore	7478	12000	5600
280	Orai-Rath Marg, Chikasi (Sahijina U/S)	Betwa	LYD, Agra	Uttar Pradesh	Jalaun	3540	6013	6667
281	P G Bridge	Godavari/Pranhit/Wardha/Penganga	WD, Nagpur	Maharashtra	Yavatmal	2433	1896	3022
282	Pachawali	Sindh	LYD, Agra	Madhya Pradesh	Shivpuri	*	3227	3950
283	Pachegaon	Godavari/Pravara	UGD, Hyderabad	Maharashtra	Ahmednagar	*	9936	4100
284	Paderdibadi	Mahi	MD, Gandhinagar	Rajasthan	Dungarpur	5427	7213	10400
285	Palakadavu	Karuvannur	SWRD, Kochi	Kerala	Thrissur	*	1400	*
286	Paleru Bridge	Krishna/Paleru	LKD, Hyderabad	Andhra Pradesh	NTR	26057	2891	1717
287	Pali	Chambal	CD Jaipur	Rajasthan	Sawai-madhopur	29600	29600	35333
288	Paliakalan	Ganga/Ghaghra/Sharda	MGD-I, Lucknow	Uttar Pradesh	Lakhimpur Kheri	2150	2233	2100
289	Palla	Yamuna	UYD, Delhi	Delhi	North West Delhi	376667	185067	96167
290	Paramkudi	Vaigai	SRD, Coimbatore	Tamil Nadu	Ramanathapuram	4267	3400	3300
291	Pargaon	Bhima	UKD, Pune	Maharashtra	Pune	*	33523	*
292	Parmarthghat	Ganga	MGD-II, Lucknow	Uttar Pradesh	Kanpur	4000	4700	4600
293	Parsohanghat	Ganga/Ghaghra/Rapti/Burhi Rapti	MGD-I, Lucknow	Uttar Pradesh	Siddharthnagar	2200	2800	2200

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
294	Patala	Godavari/Pranhi ta/Wardha	WD, Nagpur	Maharashtra	Chandrapur	5734	4207	3450
295	Patansaongi	Godavari/Pranhi ta/Wainganga/K a nghan/Chandrabh aga	WD, Nagpur	Maharashtra	Nagpur	9767	5083	7750
296	Pathagudem	Indravathi	LGD, Hyderabad	Chhattisgarh	Dantewara	8240	6033	4965
297	Pattazhy	Kallada	SWRD, Kochi	Kerala	Kollam	1147	945	1950
298	Pauni	Godavari/Pranhi ta/Wainganga	WD, Nagpur	Maharashtra	Bhandara	5297	6840	3138
299	Perumannu	Valapattanam	SWRD, Kochi	Kerala	Kannur	1633	1200	2450
300	Perur	Godavari	UGD, Hyderabad	Telangana	Mulugu	9567	4260	4017
301	Phulgaon	Bhima	UKD, Pune	Maharashtra	Pune	*	23917	*
302	Poanta	Yamuna	UYD, Delhi	Himachal Pradesh	Simaur	28133	31733	33000
303	Polavaram	Godavari	LGD, Hyderabad	Andhra Pradesh	WestGodavar i	8247	4553	3383
304	Porakudi	Cauvery/Arasal ar	HD, Chennai	Tamil Nadu	Nagapattinam	*	1328	856
305	Pratapgarh	Sai	MGD-III, Varanasi	Uttar Pradesh	Pratapgarh	3546	4940	4267
306	Pratappur	Yamuna	LYD, Agra	Uttar Pradesh	Chitrakoot	9587	12347	8533
307	Pratapur	Godavari	UGD, Hyderabad	Maharashtra	Ahmednagar	*	11492	5700
308	Premnagar	Chenab	CD, Jammu	Jammu & Kashmir	Doda	1557	*	*
309	Pudur	Bharathapuzha/ Kannadipuzha	SWRD, Kochi	Kerala	Palakkad	1800	1300	*
310	Pulamanthole	Bharathapuzha/ Pulanthodu	SWRD, Kochi	Kerala	Palakkad	1533	1210	2250
311	Pulikukku	Netravathi/Kum aradhara	SWRD, Kochi	Karnataka	Dakshina Kannada	2367	1285	*
312	Purna	Godavari/Purna	UGD, Hyderabad	Maharashtra	Parbhani	*	7660	1400
313	Raebareli	Ganga/Gomti/S ai	MGD-II, Lucknow	Uttar Pradesh	Raebareli	3900	3450	3200
314	Rahu	Mulamutha	UKD, Pune	Maharashtra	Pune	*	22792	*
315	Rajahmundry	Godavari	LGD, Hyderabad	Andhra Pradesh	EastGodavari	7920	5120	6850
316	Rajapur	Yamuna	LYD, Agra	Uttar Pradesh	Prayagraj	13527	11613	9033
317	Rajegaon	Godavari/Pranhi ta/Wainganga/B a gh	WD, Nagpur	Madhya Pradesh	Balaghat	1347	3744	2277
318	Rajghat (Agra)	Betwa	LYD, Agra	Uttar Pradesh	Lalitpur	5077	3740	4917
319	Ramakona	Godavari/Pranhi ta/Wainganga/K a nghan	WD, Nagpur	Madhya Pradesh	Chhindawara	2780	4558	6100
320	Ramamangalam	Muvattupuzha	SWRD, Kochi	Kerala	Ernakulam	1425	1098	2950
321	Rangeli	Som	MD, Gandhinagar	Rajasthan	Dungarpur	7127	6413	*
322	Rangpo	Brahmaputra/Te es ta/Rangpochu	LBD, Jalpaiguri	West Bengal	Kalimpong	2800	5400	*
323	Regauli	Ganga/Ghaghra/ Rapti	MGD-I, Lucknow	Uttar Pradesh	Gorakhpur	4450	4000	2400
324	Renukaji	Giri	UYD, Delhi	Himachal Pradesh	Sirmaur	24067	26267	22500
325	Sahijana	Betwa	LYD, Agra	Uttar Pradesh	Hamirpur	3047	4333	7750
326	Saidpur	Ganga	MGD-III, Varanasi	Uttar Pradesh	Ghazipur	3985	6200	5000
327	Saigaon	Godavari/Manji ra	UGD, Hyderabad	Karnataka	Bidar	*	3743	*
328	Sakhra (Wadsa)	Godavari/Pranhi ta/Wainganga	WD, Nagpur	Maharashtra	Gadchiroli	4264	4298	2950
329	Sakleshpur	Cauvery/Hemav athi	CD, Bengaluru	Karnataka	Hassan	227500	*	*

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
330	Sakmur	Godavari/Pranhi ta/Wardha	WD, Nagpur	Maharashtra	Chandrapur	1326	6229	1150
331	Sakra	Ganga/BurhiGandak	LGD-1, Patna	Bihar	Muzaffarpur	3633	2560	*
332	Salebardi	Godavari/Pranhi ta/Wainganga/Chulband	WD, Nagpur	Maharashtra	Bhandara	-	4001	4720
333	Saloor	Godavari/Manjira	UGD, Hyderabad	Telangana	Nizamabad	16000	7786	10117
334	Samdoli	Varna	UKD, Pune	Maharashtra	Sangli	7333	24040	22000
335	Sangam (LGD)	Kinnerasani	LGD, Hyderabad	Telangana	BhadradiKot hagudem	10669	3599	3548
336	Sangod	Parwan	CD Jaipur	Rajasthan	Kota	*	32818	*
337	Sankosh LRP	Brahmaputra/Sankosh	LBD, Jalpaiguri	West Bengal	Alipurduar	800	1085	-
338	Santheguli	Aghanashini	SWRD, Kochi	Karnataka	Uttara Kannada	2000	1056	1700
339	Saradaput	Sabari	LGD, Hyderabad	Odisha	Malkangiri	8940	4893	3817
340	Sarangpur	Kalisindh	CD Jaipur	Madhya Pradesh	Rajgarh	*	32500	*
341	Sarati	Nira	UKD, Pune	Maharashtra	Pune	*	8593	*
342	Satna	Tons	MGD-III, Varanasi	Madhya Pradesh	Satna	2546	4440	3383
343	Satrapur	Godavari/Pranhi ta/Wainganga/Kanhan	WD, Nagpur	Maharashtra	Nagpur	2240	3866	7022
344	Satrapur kanhan Town	Godavari/Pranhi ta/Wainganga/Kanhan	WD, Nagpur	Maharashtra	Nagpur	16000	11905	13667
345	Satrapur U/S	Godavari/Pranhi ta/Wainganga/Kanhan	WD, Nagpur	Maharashtra	Nagpur	4100	5046	7367
346	Savandapur	Bhavani	SRD, Coimbatore	Tamil Nadu	Erode	4411	4691	9550
347	Seohara	Ganga/Ramgan ga	MGD-II, Lucknow	Uttar Pradesh	Bijnaur	15500	18500	*
348	Seondha	Sindh	LYD, Agra	Madhya Pradesh	Datia	3593	5029	4500
349	Sevanur	Chittar	SRD, Coimbatore	Tamil Nadu	Erode	6400	7650	13283
350	Sevoke	Brahmaputra/Te esta	LBD, Jalpaiguri	West Bengal	Darjeeling	*	10700	9200
351	Shahjahanpur	Ganga/Deoha(Garra)/Khannaut	MGD-II, Lucknow	Uttar Pradesh	Shahjahanpur	19333	20500	13000
352	Shahzadpur	Ganga	MGD-III, Varanasi	Uttar Pradesh	Kaushambi	3892	5340	4750
353	Shaladang	Brahmaputra/Torsa/Kaljani	LBD, Jalpaiguri	West Bengal	Coochbehar	1100	3350	*
354	Shastri Bridge	Ganga	MGD-III, Varanasi	Uttar Pradesh	Allahabad	4754	5320	4617
355	Shimoga	Krishna/Tungab hadra/Tunga	CD, Bengaluru	Karnataka	Shimoga	120667	*	*
356	Sikandarpur	Ganga/BurhiGandak	LGD-1, Patna	Bihar	Muzaffarpur	850	728	*
357	Singasadanapalli	Ponnaiyar	SRD, Coimbatore	Tamil Nadu	Krishnagiri	2955556	3467273	4223333
358	Singavaram	Pennar/Chitravathi	HD, Chennai	Andhra Pradesh	Anantapur	*	1361	915
359	Singimari	Brahmaputra/Jaldhaka	LBD, Jalpaiguri	West Bengal	Coochbehar	800	2200	790
360	Sitapur	Ganga/Gomti/Sarayan	MGD-II, Lucknow	Uttar Pradesh	Sitapur	1550	1833	*
361	Sonapur (LBD)	Ganga/Mahananda	LBD, Jalpaiguri	West Bengal	North Dinajpur	3500	9385	22000
362	Sripalpur	Ganga/Sripalpur	LGD-2, Patna	Bihar	Patna	3960	4460	*
363	Suddakallu	Dindi	LKD, Hyderabad	Telangana	Mahaboob Nagar	8260	2687	2580
364	Suldaguri	Brahmaputra/Torsa	LBD, Jalpaiguri	West Bengal	Coochbehar	2200	8850	*

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
365	Sultanpur	Gomti	MGD-III, Varanasi	Uttar Pradesh	Sultanpur	4277	6720	5050
366	Sulurpet	Kalingi	HD, Chennai	Andhra Pradesh	Nellore	2050	-	532
367	T. Bekuppe	Cauvery/Arkavathi	CD, Bengaluru	Karnataka	Ramanagara	1430000	*	*
368	T. K. Halli	Cauvery/Shimsa	CD, Bengaluru	Karnataka	Mandya	1600000	*	*
369	T. Narasipur	Cauvery/Kabini	CD, Bengaluru	Karnataka	Mysore	116500	*	*
370	T.Ramapuram	Krishna/Tungabhadra/Hagari	LKD, Hyderabad	Karnataka	Bellary	9486	3717	4808
371	Tadipatri	Pennar	HD, Chennai	Andhra Pradesh	Anantapur	5400	940	1645
372	Takli	Krishna/Bhima	UKD, Pune	Maharashtra	Solapur	*	29680	*
373	Tal	Chambal	CD Jaipur	Madhya Pradesh	Ratlam	*	30286	*
374	Tanda D/S	Ganga/Ghaghra	MGD-I, Lucknow	Uttar Pradesh	Ambedkar Nagar	*	5850	3200
375	Tanda U/S	Ganga/Ghaghra	MGD-I, Lucknow	Uttar Pradesh	Basti	*	5300	2400
376	Tandalaiputhur	Ayyar	SRD, Coimbatore	Tamil Nadu	Thiruchirappalli	5660	*	*
377	Terwad	Panchaganga	UKD, Pune	Maharashtra	Kolhapur	*	39400	*
378	Thengudi	Cauvery/Thirumalairajanar	HD, Chennai	Tamil Nadu	Thiruvavur	817	1680	3698
379	Thengumarahada	Bhavani/Moyar	SRD, Coimbatore	Tamil Nadu	Nilgiris	3189	3382	3800
380	Theni	Suruliyar	SRD, Coimbatore	Tamil Nadu	Theni	11422	5573	5333
381	Thevur	Sarabenga	SRD, Coimbatore	Tamil Nadu	Salem	5440	24150	8850
382	Thimmanahalli	"Cauvery/Hemavathi						
383	Thoppur	Thoppaiyar	SRD, Coimbatore	Tamil Nadu	Salem	7000	*	*
384	Thottathinkadavu	Iruvazhinjipuzha	SWRD, Kochi	Kerala	Kozhikode	1767	1064	2350
385	Thumpamon	Pampa/Achankovil	SWRD, Kochi	Kerala	Pathanamthitta	1500	1020	2450
386	Tiharkheda	Ganga/Ramganga	MGD-II, Lucknow	Uttar Pradesh	Bareilly	20500	19000	*
387	Todarpur	Ganga/Deoha(Garra)/Sukheta	MGD-II, Lucknow	Uttar Pradesh	Hardoi	13000	15000	11000
388	Tonk	Banas	CD Jaipur	Rajasthan	Tonk	*	23455	*
389	Triveni	Ganga/Gandak	LGD-I, Patna	Bihar	West Champaran	637	1880	*
390	Tufanganj	Brahmaputra/Torsa/Raidak-I	LBD, Jalpaiguri	West Bengal	Coochbehar	*	1570	-
391	Tuini	Tons	UYD, Delhi	Uttarakhand	Dehradun	16200	17071	23000
392	Turtipar	Ganga/Ghaghra	MGD-I, Lucknow	Uttar Pradesh	Ballia	14000	10650	*
393	Udi	Chambal	LYD, Agra	Uttar Pradesh	Etawah	4173	4067	6817
394	Ujjain	Shipra	CD Jaipur	Madhya Pradesh	Ujjain	*	44400	49000
395	Urachikottai	Cauvery	SRD, Coimbatore	Tamil Nadu	Erode	8633	6700	2675
396	V.S. Bridge	Ganga	MGD-III, Varanasi	Uttar Pradesh	Varanasi	4385	4720	4883
397	Valigonda	Musi	LKD, Hyderabad	Telangana	Yadadri Bhuvanagiri	40216	3557	1767
398	Vandiperiyar	Periyar	SWRD, Kochi	Kerala	Idukki	1533	940	2600
399	Varanasi	Ganga	MGD-III, Varanasi	Uttar Pradesh	Varanasi	5407	6707	6467
400	Varanavasi	Marudaiyar	SRD, Coimbatore	Tamil Nadu	Perambalur	7900	*	7900
401	Vautha	Sabarmati	MD, Gandhinagar	Gujarat	Ahmedabad	282667	291733	240000

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
402	Vazhavachanur	Ponnaiyar	HD, Chennai	Tamil Nadu	Thiruvannamalai	2534	1812	-
403	Verupakshapuram	Swarnamukhi	HD, Chennai	Andhra Pradesh	Chittoor	*	6519	1017
404	Vijayawada	Krishna	LKD, Hyderabad	Andhra Pradesh	NTR	13600	1997	1283
405	Villupuram	Ponnaiyar	HD, Chennai	Tamil Nadu	Villupuram	1820	905	-
406	Vrindawan Bridge(Mathura U/S)	Yamuna	UYD, Delhi	Uttar Pradesh	Mathura	268667	340000	668333
407	Wadakbal	Sina	UKD, Pune	Maharashtra	Solapur	35000	40733	18600
408	Wadenapalli	Krishna	LKD, Hyderabad	Telangana	Suryapet	9620	3103	1467
409	Wairagarh	Godavari/Pranhi ta/pip/Khobragar r hi	WD, Nagpur	Maharashtra	Gadchiroli	8070	4869	2383
410	Warunji	Koyna	UKD, Pune	Maharashtra	Satara	*	35085	*
411	Watrak Nr Vautha	Sabarmati/Watrak	MD, Gandhinagar	Gujarat	Ahmedabad	*	9311	*
412	Yadgir	Krishna/Bhima	LKD, Hyderabad	Andhra Pradesh	Yadgir	*	2819	2033
413	Yamuna Expressway Road Bridge, Etamadpur (Agra D/S)	Yamuna	LYD, Agra	Uttar Pradesh	Agra	266667	255333	296667
414	Yashwant Nagar	Giri	UYD, Delhi	Himachal Pradesh	Simaur	27800	28500	31667
415	Yelli	Godavari	UGD, Hyderabad	Maharashtra	Nanded	10329	5850	1700
416	Yennehole	Swarna	SWRD, Kochi	Karnataka	Udupi	1633	1054	1700

(-) means No Hotspot.

(*) means river dry/data not available.

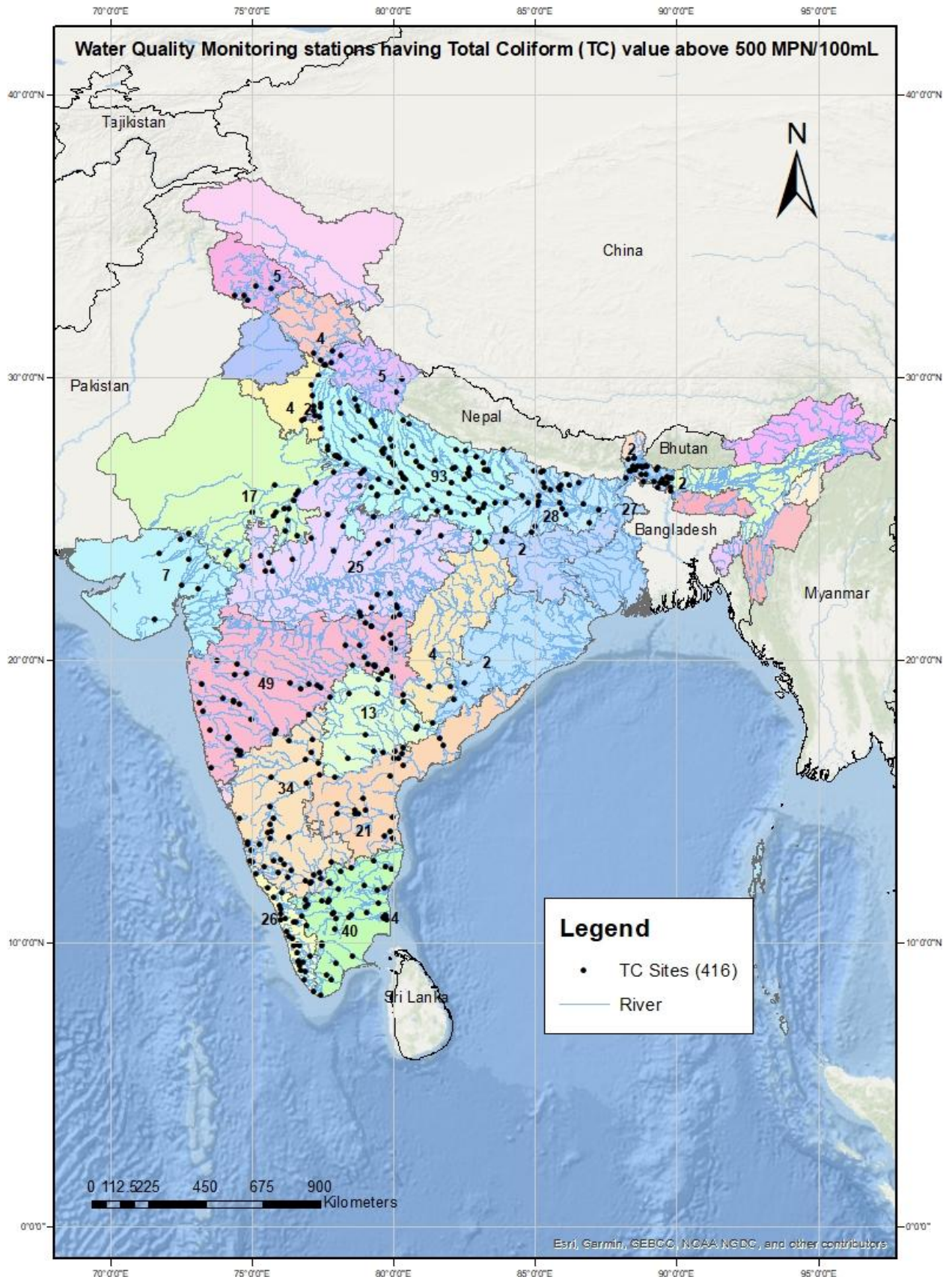


Figure 26: Water Quality Monitoring stations having Total Coliform (TC) above 500 MPN/100ml (2025)

7.1.12 Faecal Coliform (FC)

The present assessment revealed that 347 water quality monitoring stations covering 166 rivers across 22 states recorded faecal coliform (FC) concentrations exceeding the permissible limit of 500 MPN/100 mL during the study period. This widespread exceedance indicates significant microbiological contamination across diverse river basins of the country, reflecting substantial anthropogenic pressure and inadequate wastewater management.

The affected rivers span a wide geographical distribution and include major river systems and their tributaries such as the Ganga and its tributaries (Gomti, Ghaghra, Rapti, Ramganga, Sharda, Sarayan, Sai, Kwan, Burhi Rapti, Burhi Gandak, Gandak, Kamla Balan, Kiul, Tiljuga, Lalbekia, Sripalpur, Tiya, Phalgu, Mahananda, Kosi, Adhwara Group); the Yamuna basin (Hindon, Chambal, Betwa, Ken, Sindh, Tons, Rind, Uttanga, Parwati, Parwan, Kali, Sengar); the Godavari basin (Pranhita, Wainganga, Wardha, Penganga, Purna, Manjira, Pravara, Indravathi, Sabari, Kinnerasani, Peddavagu, Jam); the Krishna basin (Bhima, Tungabhadra, Musi, Munneru, Hagari, Malaprabha, Ghataprabha tributaries, Vedavathi, Paleru, Panchaganga, Koyna, Dindi); the Cauvery basin (Hemavathi, Shimsha, Arkavathi, Kabini, Lakshmanthirtha, Suvarnavathi, Yagachi, Thirumalairajanar, Arasalar); and other important rivers including Sabarmati, Mahi, Banas, Shetrunji, Watrak, Ulhas, Vashishti, Varna, Sina, Shipra, Som, Sonar, Sone, Teesta, Torsa, Sankosh, Raidak-II, Rangpochu, Chenab, Tawi, Bhadra, Bhavani, Noyyal, Palar, Ponnaiyar, Vaigai, Vaippar, Tambraparani, Suruliyar, Marudaiyar, Kodaganar, Kaljani, Jaldhaka, Gandhayar, Gad, Balaram, Bagh, Bearma, Bata, Baya, and others.

The widespread exceedance of FC levels across both major rivers and smaller tributaries highlights the pervasive nature of faecal contamination. Highly populated and urbanized basins such as the Ganga–Yamuna system, Godavari, and Krishna recorded numerous hotspot stations, indicating continuous discharge of untreated or partially treated domestic sewage. Industrial clusters and urban centers located along rivers such as Sabarmati, Musi, Hindon, Yamuna, and Ulhas further contribute to microbial loading. In southern basins including Cauvery, Ponnaiyar, Vaigai, and Tambraparani, elevated FC concentrations reflect growing urbanization, inadequate sewerage networks, and runoff from agricultural and livestock areas.

During the pre-monsoon season, contamination levels were generally higher due to lean flow conditions and limited dilution. The observed values ranged from approximately 517 MPN/100 mL at Premnagar on the Chenab River (Jammu & Kashmir) to an extremely high concentration of about 1,617,333 MPN/100 mL at the Delhi Railway Bridge on the Yamuna River. Exceptionally elevated levels were recorded throughout the Yamuna basin, particularly at Delhi Railway Bridge (1,617,333 MPN/100 mL), Noida on the Hindon River (1,516,000 MPN/100 mL), Vrindavan Bridge at Mathura U/S (87,267 MPN/100 mL) and multiple locations along the Agra stretch, including Jawahar Bridge, Poiyaghat and Etamadpur, where values exceeded 100,000 MPN/100mL. Very high concentrations were also observed at Singasadanapalli on the Ponnaiyar River in Tamil Nadu (1,207,778 MPN/100 mL), Mohna on the Yamuna in Haryana (387,867 MPN/100 mL), Vautha on the Sabarmati River in Gujarat (48,200 MPN/100 mL), Lucknow on the Ganga/Gomti system in Uttar Pradesh (45,333 MPN/100 mL) and Nasik on the Godavari River in Maharashtra (29,113 MPN/100 mL). These elevated levels indicate intense discharge of untreated sewage and industrial waste under reduced flow conditions. Major affected basins included the Yamuna–Hindon system, Ganga, Godavari, Krishna, Cauvery, Sabarmati, and Chambal.

In the monsoon season, dilution from increased river discharge led to some reduction in concentrations at certain stations; however, many urban and industrial stretches continued to exhibit high contamination due to stormwater runoff and overflow of sewage systems. The observed range during monsoon extended from approximately 507 MPN/100 mL at Marella in the Krishna basin (Andhra Pradesh) to about 900,000 MPN/100 mL at Noida on the Hindon River (Uttar Pradesh). Notable high values were recorded at Noida (Hindon, 900,000 MPN/100 mL), Singasadanapalli (Ponnaiyar, 564,545 MPN/100 mL), Delhi Railway Bridge (Yamuna, 638,133 MPN/100 mL), Vrindavan Bridge (Yamuna, 172,067 MPN/100 mL), Lucknow (Ganga/Gomti, 47,500 MPN/100 mL), Karad (Krishna, 46,077 MPN/100 mL) and Dadri (Sahibi, 29,991 MPN/100 mL). Although upstream and less densely populated stretches such as parts of the Chenab and Brahmaputra tributaries showed comparatively lower values, major urban basins—particularly Yamuna, Hindon, Sabarmati, Krishna, and Godavari—remained critically impacted.

Post-monsoon observations indicate persistent faecal contamination in several river stretches, suggesting continuous discharge of wastewater even after the peak rainfall period. The observed range varied from approximately 502 MPN/100 mL at Thengumarahada on the Bhavani/Moyar system (Tamil

Nadu) to about 881,667 MPN/100 mL at Singasadanapalli on the Ponnaiyar River. Major hotspots included Singasadanapalli (881,667 MPN/100 mL), Noida on the Hindon (318,333 MPN/100 mL), Vrindavan Bridge on the Yamuna (225,000 MPN/100 mL), Mohna on the Yamuna (215,000 MPN/100 mL), Yamuna Expressway downstream of Agra (151,667 MPN/100 mL), Ujjain on the Shipra River (22,000 MPN/100 mL) and Vautha on the Sabarmati (46,000 MPN/100 mL). Although some reduction was observed compared to monsoon peaks, the sustained high values indicate inadequate sewage treatment capacity and poor compliance with effluent discharge standards.

Overall, the seasonal pattern demonstrates that pre-monsoon conditions result in the highest concentration spikes due to limited dilution and concentrated pollutant loads. During the monsoon, partial dilution occurs in some basins; however, increased runoff and sewer overflow contribute additional microbial contamination. Post-monsoon data reveal continued high contamination in major urban stretches, indicating persistent wastewater inflow. The most critically impacted river systems across seasons include the Yamuna–Hindon system (Delhi, Uttar Pradesh, Haryana), the Ponnaiyar basin (Tamil Nadu), the Sabarmati basin (Gujarat), the Krishna basin (Maharashtra, Karnataka, Andhra Pradesh, Telangana), the Godavari basin (Maharashtra, Telangana, Chhattisgarh), the Ganga main stem and its tributaries (Uttar Pradesh, Bihar, West Bengal), and the Chambal and Betwa stretches (Madhya Pradesh, Rajasthan, Uttar Pradesh).

Comparison between 2023 to 2025:

The comparison of faecal coliform hot-spots between 2023 to 2025 highlights significant trends in water quality across different seasonal periods. The data is summarized in the following table:

YEAR	Total No. of Hotspots found	Number of Hot-Spots found for Faecal Coliforms		
		Pre-Monsoon	Monsoon	Post-Monsoon
2023	257	184	238	181
2024	322	201	310	261
2025	347	273	303	205

During the pre-monsoon season, 184 faecal coliform hot spots were recorded in 2023, which increased to 201 in 2024, indicating a rise of about 9.2%. In 2025, the number further increased sharply to 273, reflecting a substantial increase of about 48.4% compared to 2023 and 35.8%

compared to 2024, indicating significant deterioration in microbial water quality during the dry period.

In the monsoon season, 238 hot spots were identified in 2023, which increased markedly to 310 in 2024, indicating a rise of about 30.3%. In 2025, the number slightly decreased to 303, reflecting a marginal reduction of about 2.3% compared to 2024, but still remaining about 27.3% higher than 2023 levels, indicating persistently high contamination during the monsoon period.

During the post-monsoon season, 181 hot spots were recorded in 2023, which increased significantly to 261 in 2024, indicating a rise of about 44.2%. In 2025, the number decreased to 205, reflecting a reduction of about 21.5% compared to 2024, but still remaining about 13.3% higher than 2023, indicating partial improvement but continued concern.

Overall, the total number of faecal coliform hot spots increased from 257 in 2023 to 322 in 2024, representing a rise of about 25.3%. In 2025, the total further increased to 347, reflecting an overall increase of about 35.0% compared to 2023 and 7.8% compared to 2024. This consistent upward trend indicates deterioration in microbial water quality, particularly during the pre-monsoon and monsoon seasons.

The hot spot study and GIS map for faecal coliform (FC) are given below in Table 17 and figure 27.

Table 17: Monitoring stations having Faecal Coliforms (FC) > 500 MPN in River Water in 2025

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
1	A.B.Road Crossing	Parwati	CD Jaipur	Madhya Pradesh	Guna	*	15436	*
2	Abu Road	Banas	MD, Gandhinagar	Rajasthan	Sirohi	*	2900	3940
3	Agra (Jawahar Bridge)	Yamuna	LYD, Agra	Uttar Pradesh	Agra	114533	139867	138333
4	Agra (Poiyaghat)	Yamuna	LYD, Agra	Uttar Pradesh	Agra	104400	167667	135000
5	Aheri Gudem Bridge	Godavari/Pra nhita	WD, Nagpur	Maharashtra	Gadchiroli	1144	2046	-
6	Akbarpur	Chhoti sarju	MGD-III, Varanasi	Uttar Pradesh	Ambedkar Nagar	1992	2640	2000
7	Akhnoor	Chenab	CD, Jammu	Jammu & Kashmir	Jammu	675	*	*
8	Akkihebbal	Cauvery/ Hemavathi	CD, Bengaluru	Karnataka	Mandya	6925	*	*
9	Aklera	Parwan	CD Jaipur	Rajasthan	Jhalawar	*	13945	*
10	Alandurai	Noyyal	SRD, Coimbatore	Tamil Nadu	Coimbatore	*	772	925
11	Allahabad	Ganga	MGD-III, Varanasi	Uttar Pradesh	Allahabad	3400	3747	3600

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
12	Ambarampalayam	Aliyar	SRD, Coimbatore	Tamil Nadu	Coimbatore	1027	798	837
13	Ambari	Brahmaputra /Torsa/Kaljani	LBD, Jalpaiguri	West Bengal	Coochbehar	-	720	*
14	Ambasamudram	Vaigai	SRD, Coimbatore	Tamil Nadu	Theni	615	780	688
15	Ankinghat	Ganga	MGD-II, Lucknow	Uttar Pradesh	Kanpur Nagar	1233	1500	*
16	Arcot	Palar	HD, Chennai	Tamil Nadu	Ranipet	-	766	-
17	Arjunwad (seasonal)	Krishna	UKD, Pune	Maharashtra	Kolhapur	1553	29893	1700
18	Arnota	Uttangan	LYD, Agra	Uttar Pradesh	Agra	*	5340	3400
19	Ashti	Godavari/Pra nhita/Wainganga	WD, Nagpur	Maharashtra	Gadchiroli	956	1318	753
20	Ashti (AHL) Papermill	Godavari/Pra nhita/Wainganga	WD, Nagpur	Maharashtra	Gadchiroli	2440	*	*
21	Ashti D/S	Godavari/Pra nhita/Wainganga	WD, Nagpur	Maharashtra	Gadchiroli	3166	*	*
22	Auraiya	Yamuna	LYD, Agra	Uttar Pradesh	Auraiya	61168	18107	4283
23	Ayodhya	Ganga/Ghaghara	MGD-I, Lucknow	Uttar Pradesh	Ayodhya	1267	1700	1700
24	Azmabad	Ganga	LGD-2, Patna	Bihar	Bhagalpur	2400	1572	*
25	Bachhwara	Ganga/Baya	LGD-1, Patna	Bihar	Begusarai	2550	1056	*
26	Badlapur	Ulhas	UKD, Pune	Maharashtra	Thane	33933	19657	40250
27	Baghpat	Yamuna	UYD, Delhi	Uttar Pradesh	Baghpat	14247	19307	24500
28	Bairgania	Ganga/Kosi/B agmati/Lalbekia	LGD-1, Patna	Bihar	Sitamarhi	-	1682	*
29	Bakhari	Godavari/Pra nhita/Wainganga	WD, Nagpur	Madhya Pradesh	Seoni	1702	924	796
30	Baladoba	Brahmaputra /Sankosh	LBD, Jalpaiguri	Assam	Dhubri	*	845	-
31	Baleni	Hindon	UYD, Delhi	Uttar Pradesh	Baghpat	206000	146000	171667
32	Ballarsha paper mill	Godavari/Pra nhita/Wardha	WD, Nagpur	Maharashtra	Chandrapur	4431	1747	3550
33	Balrampur	Ganga/Ghaghara/Rapti	MGD-I, Lucknow	Uttar Pradesh	Balrampur	1200	1300	1300
34	Baltara	Ganga/Kosi	LGD-1, Patna	Bihar	Khagaria	1027	1036	*
35	Baluaghat	Ganga	MGD-III, Varanasi	Uttar Pradesh	Varanasi	2508	4040	3517
36	Bamni (ballarsha)	Godavari/Pra nhita/Wardha	WD, Nagpur	Maharashtra	Chandrapur	2048	1240	2697
37	Bamni U/S	Godavari/Pra nhita/Wardha	WD, Nagpur	Maharashtra	Chandrapur	2019	1267	1882
38	Banda	Ken	LYD, Agra	Uttar Pradesh	Banda	1846	3567	3950
39	Bangapani	Ganga/Ghaghara/Sharda/Ga uriganga	MGD-I, Lucknow	Uttarakhand	Pithoragarh	585	810	920
40	Banjari	Ganga/Sone	LGD-2, Patna	Bihar	Rohtas	1192	1120	*
41	Banka	Ganga/Chandan	LGD-2, Patna	Bihar	Banka	1066	886	*
42	Bansi	Ganga/Ghaghara/Rapti	MGD-I, Lucknow	Uttar Pradesh	Siddharthnagar	850	1200	805
43	Baranwada	Ganga/Yamuna/C hambal/Banas	CD, Jaipur	Rajasthan	Sawai-madhopur	11320	12073	13167

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
44	Bardoh (Chhapriyal)	Chenab/Manawar Tawi	CD, Jammu	Jammu & Kashmir	Jammu	787	*	*
45	Bareilly	Ganga/Ramganga	MGD-II, Lucknow	Uttar Pradesh	Bareilly	13000	11000	*
46	Barobisha	Brahmaputra/Sankosh/Raidak-II	LBD, Jalpaiguri	West Bengal	Alipurduar	-	537	*
47	Barod	Kalisindh	CD Jaipur	Rajasthan	Kota	11240	8975	*
48	Basantpur (Ganga)	Ganga	MGD-II, Lucknow	Uttar Pradesh	Bijnaur	1509	2167	*
49	Basoda	Betwa	LYD, Agra	Madhya Pradesh	Vidisha	2200	2769	2225
50	Basti	Ganga/Ghaghra/Kwano	MGD-I, Lucknow	Uttar Pradesh	Basti	1700	2067	1100
51	Basti D/S	Ganga/Ghaghra/Kwano	MGD-I, Lucknow	Uttar Pradesh	Basti	2067	2200	1200
52	Basti U/S	Ganga/Ghaghra/Kwano	MGD-I, Lucknow	Uttar Pradesh	Basti	1833	2100	1090
53	Bawapuram	Krishna/Tungabhadra	LKD, Hyderabad	Andhra Pradesh	Kurnool	4880	731	842
54	Belne Bridge	Gad	CD, Bengaluru	Maharashtra	Sindudurg	1128	*	*
55	Bendrahalli	Cauvery/Suvarnavathi	CD, Bengaluru	Karnataka	Chamaraja Nagar	46125	*	*
56	Bhadana Village D/s of Kota City	Chambal	CD Jaipur	Rajasthan	Kota	*	15750	15500
57	Bhadrachalam	Godavari	LGD, Hyderabad	Telangana	Bhadradi Kothagudem	2459	1221	780
58	Bhatpalli	Godavari/Prahnita/Peddavagu	WD, Nagpur	Telangana	Kumuram Bheem Asifabad	1444	1591	1567
59	Bhind	Kunwari	LYD, Agra	Madhya Pradesh	Bhind	2500	2108	2483
60	Bhitaure	Ganga	MGD-II, Lucknow	Uttar Pradesh	Fatehpur	3700	3450	*
61	Bigod	Banas	CD Jaipur	Rajasthan	Bhilwara	*	12075	12000
62	Birdghat	Ganga/Ghaghra/Rapti	MGD-I, Lucknow	Uttar Pradesh	Gorakhpur	12667	11000	6050
63	Bithoor	Ganga	MGD-II, Lucknow	Uttar Pradesh	Kanpur	2150	2600	2200
64	Buxar	Ganga	LGD-2, Patna	Bihar	Buxar	3222	2540	*
65	Byaladahalli	Krishna/Tungabhadra/Haridra	CD, Bengaluru	Karnataka	Davanagere	2665	*	*
66	Champasari	Ganga/Mahanda	LBD, Jalpaiguri	West Bengal	Darjeeling	21500	7725	11000
67	Chandrika Devi	Ganga/Gomti	MGD-II, Lucknow	Uttar Pradesh	Lucknow	3300	3200	2700
68	Chindnar	Godavari/Indravati	LGD, Hyderabad	Chhattisgarh	Dantewada	2900	1727	902
69	Chitrasani	Balaram	MD, Gandhinagar	Gujarat	Banaskantha	*	3467	*
70	Cholachagudda	Krishna/Malaprabha	CD, Bengaluru	Karnataka	Bagalkot	14000	*	*
71	Chopan	Sone	MGD-III, Varanasi	Uttar Pradesh	Sonebhadra	952	1282	1018
72	Dabri	Ganga/Ramganga	MGD-II, Lucknow	Uttar Pradesh	Shahjahanpur	14000	11000	*
73	Dadri	Sahibi	UYD, Delhi	Haryana	Dadri	*	29991	*
74	Dameracherla	Krishna/Musi	LKD, Hyderabad	Telangana	Nalgonda	4871	835	950
75	Delhi Railway Bridge (DRB)	Yamuna	UYD, Delhi	Delhi	North Delhi	1617333	638133	200500
76	Deongaon bridge	Krishna/Bhima	LKD, Hyderabad	Karnataka	Bijapur	*	883	*

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
77	Deosugur	Krishna	LKD, Hyderabad	Karnataka	Raichur	5129	1533	1080
78	Derol Bridge	Sabarmati	MD, Gandhinagar	Gujarat	Sabarkantha	2678	3100	3367
79	Dhalegaon	Godavari	UGD, Hyderabad	Maharashtra	Parbhani	3771	1567	*
80	Dhamkund	Chenab	CD, Jammu	Jammu & Kashmir	Ramban	528	*	*
81	Dhaneta	Ganga/Ramganga/Kichha(Gaula)	MGD-II, Lucknow	Uttar Pradesh	Bareilly	9300	9300	*
82	Dhansa	Sahibi	UYD, Delhi	Haryana	Jhajar	*	20091	*
83	Dhareri	Chambal	CD Jaipur	Madhya Pradesh	Ujjain	*	18200	*
84	Dheng Bridge	Ganga/Kosi/Bagmati	LGD-1, Patna	Bihar	Sitamarhi	2950	1422	*
85	Dholpur	Chambal	LYD, Agra	Rajasthan	Dholpur	2433	3173	3183
86	Dhond	Bhima	UKD, Pune	Maharashtra	Pune	*	15000	*
87	Dobhi	Ganga/Phalgu	LGD-2, Patna	Bihar	Gaya	2750	736	*
88	Domohani	Brahmaputra/Teesta	LBD, Jalpaiguri	West Bengal	Jalpaiguri	1000	715	-
89	Duddhi	Kanhar	MGD-III, Varanasi	Uttar Pradesh	Sonebhadra	1095	1322	1173
90	Ekmighat	Ganga/Kosi/Bagmati/Adhwaragroup	LGD-1, Patna	Bihar	Darbhanga	943	2092	*
91	Elgin Bridge	Ganga/Ghaghara	MGD-I, Lucknow	Uttar Pradesh	Barabanki	1167	1200	1100
92	Elunuthimangalam	Noyyal	SRD, Coimbatore	Tamil Nadu	Erode	983	1342	1233
93	Etawah	Yamuna	LYD, Agra	Uttar Pradesh	Etawah	106667	117000	143167
94	Faizabad U/S	Ganga/Ghaghara	MGD-I, Lucknow	Uttar Pradesh	Ayodhya	1700	1950	1250
95	Fatehgarh	Ganga	MGD-II, Lucknow	Uttar Pradesh	Farrukhabad	2100	1567	*
96	G R Bridge	Godavari	UGD, Hyderabad	Maharashtra	Parbhani	6500	1548	1300
97	Gaisabad	Bearma	LYD, Agra	Madhya Pradesh	Damoh	*	2264	2433
98	Galeta	Hindon	UYD, Delhi	Uttar Pradesh	Meerut	248667	219333	340000
99	Gandhavayal	Gandhayar	SRD, Coimbatore	Tamil Nadu	Coimbatore	1833	-	518
100	Gandhighat	Ganga	LGD-2, Patna	Bihar	Patna	2228	1678	*
101	Gandlapet	Godavari/Peddavagu	UGD, Hyderabad	Telangana	Nizamabad	*	893	998
102	Ganguwala	Bata	UYD, Delhi	Himachal Pradesh	Sirmaur	8773	13100	68167
103	Garhakota	Sonar	LYD, Agra	Madhya Pradesh	Sagar	*	1881	2333
104	Garhmukteshwar	Ganga	MGD-II, Lucknow	Uttar Pradesh	Hapur	855	1233	*
105	Garhwa	Ganga/Sone/NorthKoel	LGD-2, Patna	Jharkhand	Palamu	1398	802	*
106	Garrauli	Dhasan	LYD, Agra	Madhya Pradesh	Chhatarpur	2227	2940	2967
107	Gaya	Ganga/Phalgu	LGD-2, Patna	Bihar	Gaya	990	1056	*
108	Gazaldoba	Brahmaputra/Teesta	LBD, Jalpaiguri	West Bengal	Jalpaiguri	1700	-	-
109	Ghat	Ganga/Ghaghara/Sharda/Saryu	MGD-I, Lucknow	Uttarakhand	Pithoragarh	-	580	-
110	Ghazipur	Ganga	MGD-III, Varanasi	Uttar Pradesh	Ghazipur	2400	3460	3017

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
111	Ghugumari	Brahmaputra /Torsa	LBD, Jalpaiguri	West Bengal	Coochbehar	1100	-	*
112	Gokul barrage Mathura D/S	Yamuna	UYD, Delhi	Uttar Pradesh	Mathura	117067	168067	195000
113	Golokganj	Brahmaputra /Sankosh	LBD, Jalpaiguri	Assam	Dhubri	*	580	790
114	Gomtinagar	Ganga/Gomti	MGD-II, Lucknow	Uttar Pradesh	Lucknow	79000	73500	63000
115	Gorakhpur D/S	Ganga/Ghaghra/Rapti	MGD-I, Lucknow	Uttar Pradesh	Gorakhpur	15000	13000	6100
116	Gorakhpur U/S	Ganga/Ghaghra/Rapti	MGD-I, Lucknow	Uttar Pradesh	Gorakhpur	11000	11000	4250
117	Gummanur	Ponnaiyar	SRD, Coimbatore	Tamil Nadu	Krishnagiri	971	1069	1043
118	Halia	Krishna/Halia	LKD, Hyderabad	Telangana	Nalgonda	3840	784	-
119	Hamirpur	Yamuna	LYD, Agra	Uttar Pradesh	Hamirpur	15307	12693	5467
120	Haralahalli	Krishna/Tungabhadra	CD, Bengaluru	Karnataka	Haveri	5033	*	*
121	Hariharapura	Krishna/Tungabhadra/Tunga	CD, Bengaluru	Karnataka	Chikamagaluru	20170	*	*
122	Haripur	Tons	UYD, Delhi	Uttarakhand	Dehradun	7360	9660	6983
123	Hasimara	Brahmaputra /Torsa	LBD, Jalpaiguri	West Bengal	Alipurduar	-	915	*
124	Hathidah	Ganga	LGD-2, Patna	Bihar	Patna	2244	1510	*
125	Hathikhana	Ganga	MGD-II, Lucknow	Uttar Pradesh	Fatehgarh	3150	4350	*
126	Hayaghat	Ganga/Kosi/Bagmati	LGD-1, Patna	Bihar	Darbhanga	4167	1456	*
127	Hivra	Godavari/Prahnita/Wardha	WD, Nagpur	Maharashtra	Wardha	888	1110	590
128	Holehonnur	Krishna/Tungabhadra/Bhadra	CD, Bengaluru	Karnataka	Shimoga	2338	*	*
129	Honnali	Krishna/Tungabhadra	CD, Bengaluru	Karnataka	Davanagere	1783	*	*
130	Huvinhedgi	Krishna	LKD, Hyderabad	Karnataka	Raichur	3107	1813	1367
131	Irrukkankudi	Vaippar	SRD, Coimbatore	Tamil Nadu	Virudhunagar	794	*	*
132	Jagdapur	Indravathi	LGD, Hyderabad	Chhattisgarh	Bastar	3700	1683	1398
133	Jaigaon	Brahmaputra /Torsa	LBD, Jalpaiguri	West Bengal	Alipurduar	-	595	*
134	Jainagar	Ganga/Kosi/Bagmati/KamlaBalan	LGD-1, Patna	Bihar	Madhubani	753	2132	*
135	Jajmau	Ganga	MGD-II, Lucknow	Uttar Pradesh	Kanpur	6250	7300	4700
136	Jaldhaka NH-31	Brahmaputra /Jaldhaka	LBD, Jalpaiguri	West Bengal	Jalpaiguri	1500	-	-
137	Jammu Tawi (Sidhra)	Chenab/Tawi	CD, Jammu	Jammu & Kashmir	Jammu	860	*	*
138	Japla	Ganga/Sone	LGD-2, Patna	Jharkhand	Palamu	826	596	*
139	Jaunpur	Gomti	MGD-III, Varanasi	Uttar Pradesh	Jaunpur	2069	2740	2050
140	Jhalawar	Kalisindh	CD Jaipur	Rajasthan	Jhalawar	*	12755	*
141	Jhanjharpur	Ganga/Kosi/Bagmati/KamlaBalan	LGD-1, Patna	Bihar	Madhubani	2550	2262	*
142	Jhansi-Mirzapur Highway Road Bridge (Sahijana D/S)	Betwa	LYD, Agra	Uttar Pradesh	Hamirpur	2413	2287	3067

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
143	K. M. Vadi	Cauvery/Lakshmantirtha	CD, Bengaluru	Karnataka	Mysore	45800	*	*
144	Kabirganj	Ganga/Ghaghara/Sharda	MGD-I, Lucknow	Uttar Pradesh	Pilibhit	665	647	-
145	Kachhlabridge	Ganga	MGD-II, Lucknow	Uttar Pradesh	Badaun	855	1160	*
146	Kailash Mandir, Agra (U/S)	Yamuna	LYD, Agra	Uttar Pradesh	Agra	120733	176600	143333
147	Kakarghatti	Ganga/Kosi/Bhagirathi/Jivach	LGD-1, Patna	Bihar	Darbhanga	650	1736	*
148	Kalanaur	Yamuna	UYD, Delhi	Uttar Pradesh	Saharanpur	11067	14486	15833
149	Kalpi	Yamuna	LYD, Agra	Uttar Pradesh	Jalaun	19680	12893	3433
150	Kamalpur	Banas	MD, Gandhinagar	Gujarat	Banaskantha	*	3900	*
151	Kannauj	Ganga/Kali	MGD-II, Lucknow	Uttar Pradesh	Kannauj	4250	4000	*
152	Kanpur	Ganga	MGD-II, Lucknow	Uttar Pradesh	Kanpur	2750	3000	4000
153	Kanti	Ganga/Burhi Gandak	LGD-1, Patna	Bihar	Muzaffarpur	2043	866	*
154	Karad	Krishna	UKD, Pune	Maharashtra	Satara	*	46077	*
155	Karnal	Yamuna	UYD, Delhi	Haryana	Karnal	11360	16086	14050
156	Kasganj	Ganga/Kali	MGD-II, Lucknow	Uttar Pradesh	Kasganj	9200	8267	*
157	Katriumrauli	Ganga	MGD-II, Lucknow	Uttar Pradesh	Kannauj	3200	4000	*
158	Kazipura	Ganga/Ramganga	MGD-II, Lucknow	Uttar Pradesh	Moradabad	11500	11100	*
159	Keesara	Krishna/Muneru	LKD, Hyderabad	Andhra Pradesh	NTR	3180	546	-
160	Kellodu	Krishna/Tungabhadra/Vedavathi	CD, Bengaluru	Karnataka	Chitradurga	14000	*	*
161	Keolari	Godavari/Prahnita/Wainganga	WD, Nagpur	Madhya Pradesh	Seoni	1180	1968	1405
162	Khanitar	Brahmaputra/Teesta	LBD, Jalpaiguri	Sikkim	Pakyong	-	790	*
163	Khanpur	Mahi	MD, Gandhinagar	Gujarat	Anand	3257	3493	3200
164	Khatoli	Parwati	CD Jaipur	Rajasthan	Kota	10733	12892	15667
165	Kodumudi	Cauvery	SRD, Coimbatore	Tamil Nadu	Erode	-	745	582
166	Koelwar	Ganga/Sone	LGD-2, Patna	Bihar	Bhojpur	932	1352	*
167	Kokiwada	Godavari/Prahnita/Wainganga/Kanhana/Pench	WD, Nagpur	Madhya Pradesh	Chhindawara	927	598	565
168	Kokkedoddy	Cauvery/Arkavathi	CD, Bengaluru	Karnataka	Ramanagara	13950	*	*
169	Kollegal	Cauvery	CD, Bengaluru	Karnataka	Chamaraja Nagar	6200	*	*
170	Konta	Sabari	LGD, Hyderabad	Chhattisgarh	Sukama	2508	1323	1000
171	Kopergaon	Godavari	UGD, Hyderabad	Maharashtra	Ahmednagar	*	3568	1300
172	Kora	Rind	LYD, Agra	Uttar Pradesh	Fatehpur	2287	1779	2367
173	Kota-By Pass Hanging Road Bridge U/S of Kota City	Chambal/Parwati	CD Jaipur	Rajasthan	Kota	*	14008	15000
174	Kudige	Cauvery	CD, Bengaluru	Karnataka	Kodagu	8775	*	*

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
175	Kuldahbridge	Sone	MGD-III, Varanasi	Madhya Pradesh	Sidhi	1410	1582	1288
176	Kumhari	Godavari/Pra nhita/Wainga nga	WD, Nagpur	Madhya Pradesh	Balaghat	949	1673	668
177	Kurundwad	Krishna	UKD, Pune	Maharashtra	Kolhapur	*	18980	3300
178	Lakhisarai	Ganga/Kiul	LGD-2, Patna	Bihar	Lakhisarai	-	1090	*
179	Lakhoura	Ganga/Burhi Gandak/Tiyar	LGD-1, Patna	Bihar	East Champaran	2033	682	*
180	Lakkavalli	Krishna/Tung abhadra/Bhadra	CD, Bengaluru	Karnataka	Chikmagalur	22950	*	*
181	Lakshmanapat ti	Kodaganar	SRD, Coimbatore	Tamil Nadu	Dindigul	622	*	*
182	Lalganj	Ganga/Ganda k	LGD-2, Patna	Bihar	Vaishali	852	1076	*
183	Lalpur	Sengar	LYD, Agra	Uttar Pradesh	Kanpur Dehat	2019	3227	3500
184	Lodhikheda	Godavari/Pra nhita/Wainga nga/Ka nhan/Jam	WD, Nagpur	Madhya Pradesh	Chhindawara	1591	1590	3533
185	Lucknow	Ganga/Gomti	MGD-II, Lucknow	Uttar Pradesh	Lucknow	45333	47500	40000
186	Luwara	Shetrunji	MD, Gandhinagar	Gujarat	Bhavnagar	*	3323	3167
187	M. H. Halli	Cauvery/Hem avathi	CD, Bengaluru	Karnataka	Hassan	1190	*	*
188	Madhira	Krishna/Mun neru /Wyra	LKD, Hyderabad	Telangana	Khammam	2874	697	675
189	Madla	Ken	LYD, Agra	Madhya Pradesh	Panna	*	1682	2233
190	Magardharra	Godavari/Pra nhita/Wainga nga	WD, Nagpur	Madhya Pradesh	Balaghat	709	889	2152
191	Mahalgao	Godavari/Pra nhita/Wainga nga	WD, Nagpur	Maharashtra	Gondia	973	1144	2623
192	Mahidpur	Shipra	CD Jaipur	Madhya Pradesh	Ujjain	*	14329	*
193	Maighat	Gomti	MGD-III, Varanasi	Uttar Pradesh	Jaunpur	2123	3220	2000
194	Malkhed	Krishna/Bhim a/Kagna	LKD, Hyderabad	Karnataka	Kalaburagi	6860	751	1167
195	Mancherial	Godavari	UGD, Hyderabad	Telangana	Mancherial	9600	1184	2015
196	Mandawara	Chambal	CD Jaipur	Rajasthan	Kota	11940	12447	18667
197	Manderial	Chambal	CD Jaipur	Rajasthan	Karauli	12587	11567	13700
198	Mangaon	Savitri/kal	UKD, Pune	Maharashtra	Raigad	*	25367	*
199	Manjhi	Ganga/Ghagh ra	LGD-2, Patna	Bihar	Saran	1096	994	*
200	Mantralayam	Krishna/Tung abhadra	LKD, Hyderabad	Andhra Pradesh	Kurnool	3482	873	783
201	Marella	Gundlakamm a	LKD, Hyderabad	Andhra Pradesh	Prakasam	4956	507	758
202	Mataji	Mahi	MD, Gandhinagar	Madhya Pradesh	Ratlam	3273	3183	3083
203	Mathabhanga	Brahmaputra /Jaldhaka	LBD, Jalpaiguri	West Bengal	Coochbehar	-	-	1400
204	Matigara	Ganga/Maha nand a/Balason	LBD, Jalpaiguri	West Bengal	Darjeeling	2500	2048	7000
205	Mawi	Yamuna	UYD, Delhi	Uttar Pradesh	Muzaffar Nagar	13013	16333	18833

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
206	Mehandipur	Ganga	MGD-II, Lucknow	Uttar Pradesh	Kannauj	2033	2200	*
207	Mejaroad	Tons	MGD-III, Varanasi	Uttar Pradesh	Allahabad	1508	1906	1367
208	Mekhliganj	Brahmaputra /Teesta	LBD, Jalpaiguri	West Bengal	Coochbehar	-	-	2200
209	Mirzapur	Ganga	MGD-III, Varanasi	Uttar Pradesh	Mirzapur	2392	2600	2300
210	Mohana	Betwa	LYD, Agra	Uttar Pradesh	Hamirpur	2287	2693	3467
211	Mohna	Yamuna	UYD, Delhi	Haryana	Faridabad	387867	312000	215000
212	Moradabad (R)	Ganga/Ramganga	MGD-II, Lucknow	Uttar Pradesh	Moradabad	12500	15000	*
213	Mungoli Township	Godavari/Pra nhita/Wardha /Penga nga	WD, Nagpur	Maharashtra	Yavatmal	719	1064	2050
214	Munugodu	Yedduvagu	LKD, Hyderabad	Andhra Pradesh	Palnadu	3275	1202	517
215	Muradpur	Vashishti	UKD, Pune	Maharashtra	Ratnagiri	*	18742	*
216	Murappanadu	Tambraparani	SRD, Coimbatore	Tamil Nadu	Tuticorin	611	721	528
217	Musiri	Cauvery	SRD, Coimbatore	Tamil Nadu	Thiruchirapalli	860	918	832
218	Muthenkera	Cauvery/Kabi ni	CD, Bengaluru	Kerala	Wayanad	1600	*	*
219	Nagothane	Amba	UKD, Pune	Maharashtra	Raigad	*	4100	*
220	Naidupet	Swarnamukhi	HD, Chennai	Andhra Pradesh	Nellore	-	646	-
221	Nallamaranpat ty	Amaravathi	SRD, Coimbatore	Tamil Nadu	Karur	670	1008	-
222	Nanded	Godavari	UGD, Hyderabad	Maharashtra	Nanded	4414	1300	-
223	Nandgaon	Godavari/Pra nhita/Wardha /Wunn a	WD, Nagpur	Maharashtra	Wardha	1031	856	2467
224	Nasik	Godavari	UGD, Hyderabad	Maharashtra	Nasik	29113	5447	3383
225	Naugaon	Yamuna	UYD, Delhi	Uttarakhand	Uttarakashi	6613	10407	7580
226	Neemsar	Ganga/Gomti	MGD-II, Lucknow	Uttar Pradesh	Sitapur	1700	1400	-
227	Nirmali	Ganga/Kosi/B agmat i/Tiljuga	LGD-1, Patna	Bihar	Supaul	833	1972	*
228	Noida	Hindon	UYD, Delhi	Uttar Pradesh	Gautam Budh Nagar	1516000	900000	318333
229	Noukaghat	Mahananda	LBD, Jalpaiguri	West Bengal	Jalpaiguri	5000	2250	7000
230	Nowrangpur	Indravathi	LGD, Hyderabad	Odisha	Nowrangpur	3307	2161	845
231	Odenthurai	Kallar	SRD, Coimbatore	Tamil Nadu	Coimbatore	922	925	668
232	Orai-Rath Marg, Chikasi (Sahijina U/S)	Betwa	LYD, Agra	Uttar Pradesh	Jalaun	2193	3240	4650
233	P G Bridge	Godavari/Pra nhita/Wardha /Penga nga	WD, Nagpur	Maharashtra	Yavatmal	1250	785	1667
234	Pachawali	Sindh	LYD, Agra	Madhya Pradesh	Shivpuri	*	1982	1900
235	Pachegaon	Godavari/Pra vara	UGD, Hyderabad	Maharashtra	Ahmednagar	*	2570	1000
236	Paderdibadi	Mahi	MD, Gandhinagar	Rajasthan	Dungarpur	2707	2987	4083
237	Paleru Bridge	Krishna/Paler u	LKD, Hyderabad	Andhra Pradesh	NTR	7068	707	867
238	Pali	Chambal	CD Jaipur	Rajasthan	Sawai-madhopur	11760	11940	11900

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
239	Paliakalan	Ganga/Ghaghra/Sharda	MGD-I, Lucknow	Uttar Pradesh	Lakhimpur Kheri	535	993	680
240	Palla	Yamuna	UYD, Delhi	Delhi	North West Delhi	116600	71267	26833
241	Paramkudi	Vaigai	SRD, Coimbatore	Tamil Nadu	Ramanathapuram	903	680	-
242	Pargaon	Bhima	UKD, Pune	Maharashtra	Pune	*	8846	*
243	Parmarthghat	Ganga	MGD-II, Lucknow	Uttar Pradesh	Kanpur	2650	2500	2600
244	Parsohanghat	Ganga/Ghaghra/Rapti/Burhi Rapti	MGD-I, Lucknow	Uttar Pradesh	Siddharthnagar	1250	1167	930
245	Patala	Godavari/Prahnita/Wardha	WD, Nagpur	Maharashtra	Chandrapur	1972	1120	1267
246	Patansaongi	Godavari/Prahnita/Wainga nga/Ka nhan/Chandrabhaga	WD, Nagpur	Maharashtra	Nagpur	2244	1267	3050
247	Pathagudem	Indravathi	LGD, Hyderabad	Chhattisgarh	Dantewara	2593	1525	1295
248	Pauni	Godavari/Prahnita/Wainga nga	WD, Nagpur	Maharashtra	Bhandara	1727	2726	1670
249	Perur	Godavari	UGD, Hyderabad	Telangana	Mulugu	2333	1526	1278
250	Phulgaon	Bhima	UKD, Pune	Maharashtra	Pune	*	13267	*
251	Poanta	Yamuna	UYD, Delhi	Himachal Pradesh	Simaur	12353	13647	11017
252	Polavaram	Godavari	LGD, Hyderabad	Andhra Pradesh	WestGodavari	2010	1081	1108
253	Porakudi	Cauvery/Arasalar	HD, Chennai	Tamil Nadu	Nagapattinam	*	-	522
254	Pratapgarh	Sai	MGD-III, Varanasi	Uttar Pradesh	Pratapgarh	1769	2540	2183
255	Pratappur	Yamuna	LYD, Agra	Uttar Pradesh	Chitrakoot	4493	6987	3883
256	Pratapur	Godavari	UGD, Hyderabad	Maharashtra	Ahmednagar	*	3641	1495
257	Premnagar	Chenab	CD, Jammu	Jammu & Kashmir	Doda	517	*	*
258	Purna	Godavari/Purna	UGD, Hyderabad	Maharashtra	Parbhani	*	1628	-
259	Raebareli	Ganga/Gomti/Sai	MGD-II, Lucknow	Uttar Pradesh	Raebareli	2100	1900	1300
260	Rahu	Mulamutha	UKD, Pune	Maharashtra	Pune	*	5433	*
261	Rajahmundry	Godavari	LGD, Hyderabad	Andhra Pradesh	EastGodavari	2289	1457	1515
262	Rajapur	Yamuna	LYD, Agra	Uttar Pradesh	Prayagraj	4933	6260	3617
263	Rajegaon	Godavari/Prahnita/Wainga nga/Ba gh	WD, Nagpur	Madhya Pradesh	Balaghat	-	1544	740
264	Rajghat (Agra)	Betwa	LYD, Agra	Uttar Pradesh	Lalitpur	2315	2100	2067
265	Ramakona	Godavari/Prahnita/Wainga nga/Ka nhan	WD, Nagpur	Madhya Pradesh	Chhindawara	1360	1005	1914
266	Rangeli	Som	MD, Gandhinagar	Rajasthan	Dungarpur	2867	2980	*
267	Rangpo	Brahmaputra/Tees ta/Rangpoch u	LBD, Jalpaiguri	West Bengal	Kalimpong	800	1100	*
268	Regauli	Ganga/Ghaghra/Rapti	MGD-I, Lucknow	Uttar Pradesh	Gorakhpur	2100	2200	615
269	Renukaji	Giri	UYD, Delhi	Himachal Pradesh	Sirmaur	8620	10347	10000

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
270	Sahijana	Betwa	LYD, Agra	Uttar Pradesh	Hamirpur	1846	2940	4000
271	Saidpur	Ganga	MGD-III, Varanasi	Uttar Pradesh	Ghazipur	1900	2920	2500
272	Saigaon	Godavari/Ma njira	UGD, Hyderabad	Karnataka	Bidar	*	874	*
273	Sakhra (Wadsa)	Godavari/Pra nhita/Wainga nga	WD, Nagpur	Maharashtra	Gadchiroli	1221	1209	1178
274	Sakleshpur	Cauvery/Hem avathi	CD, Bengaluru	Karnataka	Hassan	12150	*	*
275	Sakmur	Godavari/Pra nhita/Wardha	WD, Nagpur	Maharashtra	Chandrapur	567	1289	595
276	Sakra	Ganga/Burhi Gandak	LGD-1, Patna	Bihar	Muzaffarpur	1287	932	*
277	Salebardi	Godavari/Pra nhita/Wainga nga/Ch ulband	WD, Nagpur	Maharashtra	Bhandara	-	1535	2515
278	Saloor	Godavari/Ma njira	UGD, Hyderabad	Telangana	Nizamabad	4450	1868	3383
279	Samdoli	Varna	UKD, Pune	Maharashtra	Sangli	2133	5993	8000
280	Sangam (LGD)	Kinnerasani	LGD, Hyderabad	Telangana	BhadradiKotha gudem	3915	1472	717
281	Sangod	Parwan	CD Jaipur	Rajasthan	Kota	*	13091	*
282	Saradaput	Sabari	LGD, Hyderabad	Odisha	Malkangiri	2288	1175	1177
283	Sarangpur	Kalisindh	CD Jaipur	Madhya Pradesh	Rajgarh	*	15200	*
284	Sarati	Nira	UKD, Pune	Maharashtra	Pune	*	4293	*
285	Satna	Tons	MGD-III, Varanasi	Madhya Pradesh	Satna	1248	2160	1500
286	Satrapur	Godavari/Pra nhita/Wainga nga/Ka nhan	WD, Nagpur	Maharashtra	Nagpur	900	1885	2722
287	Satrapur kanhan Town	Godavari/Pra nhita/Wainga nga/Ka nhan	WD, Nagpur	Maharashtra	Nagpur	8271	4588	4483
288	Satrapur U/S	Godavari/Pra nhita/Wainga nga/Ka nhan	WD, Nagpur	Maharashtra	Nagpur	1319	1538	2583
289	Savandapur	Bhavani	SRD, Coimbatore	Tamil Nadu	Erode	679	508	915
290	Seohara	Ganga/Ramga nga	MGD-II, Lucknow	Uttar Pradesh	Bijnaur	10600	10150	*
291	Seondha	Sindh	LYD, Agra	Madhya Pradesh	Datia	2364	2614	2617
292	Sevanur	Chittar	SRD, Coimbatore	Tamil Nadu	Erode	940	698	783
293	Sevoke	Brahmaputra /Teesta	LBD, Jalpaiguri	West Bengal	Darjeeling	*	1750	1700
294	Shahjahanpur	Ganga/Deoha (Garra)/Khan naut	MGD-II, Lucknow	Uttar Pradesh	Shahjahanpur	13000	9400	6800
295	Shahzadpur	Ganga	MGD-III, Varanasi	Uttar Pradesh	Kaushambi	1900	2620	2400
296	Shastri Bridge	Ganga	MGD-III, Varanasi	Uttar Pradesh	Allahabad	2600	2680	2467
297	Shimoga	Krishna/Tung abhadr a/Tunga	CD, Bengaluru	Karnataka	Shimoga	8267	*	*
298	Sikandarpur	Ganga/Burhi Gandak	LGD-1, Patna	Bihar	Muzaffarpur	560	-	*
299	Singasadanapa Ili	Ponnaiyar	SRD, Coimbatore	Tamil Nadu	Krishnagiri	1207778	564545	881667
300	Singimari	Brahmaputra /Jaldhaka	LBD, Jalpaiguri	West Bengal	Coochbehar	-	700	-

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
301	Sitapur	Ganga/Gomti /Sarayan	MGD-II, Lucknow	Uttar Pradesh	Sitapur	780	927	*
302	Sonapur (LBD)	Ganga/Mahana nd a	LBD, Jalpaiguri	West Bengal	North Dinajpur	700	1783	4900
303	Sripalpur	Ganga/Sripal pur	LGD-2, Patna	Bihar	Patna	2160	2588	*
304	Suddakallu	Dindi	LKD, Hyderabad	Telangana	Mahaboob Nagar	3110	1102	1336
305	Suldaguri	Brahmaputra /Torsa	LBD, Jalpaiguri	West Bengal	Coochbehar	-	1265	*
306	Sultanpur	Gomti	MGD-III, Varanasi	Uttar Pradesh	Sultanpur	1954	3280	2300
307	T. Bekuppe	Cauvery/Arka vathi	CD, Bengaluru	Karnataka	Ramanagara	103000	*	*
308	T. K. Halli	Cauvery/Shim sha	CD, Bengaluru	Karnataka	Mandya	110000	*	*
309	T. Narasipur	Cauvery/Kabi ni	CD, Bengaluru	Karnataka	Mysore	1043	*	*
310	T.Ramapuram	Krishna/Tung abha dra/Hagari	LKD, Hyderabad	Karnataka	Bellary	3436	1098	1475
311	Takli	Krishna/Bhim a	UKD, Pune	Maharashtra	Solapur	*	6960	*
312	Tal	Chambal	CD Jaipur	Madhya Pradesh	Ratlam	*	14429	*
313	Tanda D/S	Ganga/Ghagh ra	MGD-I, Lucknow	Uttar Pradesh	Ambedkar Nagar	*	2750	1100
314	Tanda U/S	Ganga/Ghagh ra	MGD-I, Lucknow	Uttar Pradesh	Basti	*	2200	855
315	Terwad	Panchaganga	UKD, Pune	Maharashtra	Kolhapur	*	7560	*
316	Thengudi	Cauvery/Thir umalairajanar	HD, Chennai	Tamil Nadu	Thiruvavur	-	-	528
317	Thengumarah ada	Bhavani/Moy ar	SRD, Coimbatore	Tamil Nadu	Nilgiris	-	555	502
318	Theni	Suruliyar	SRD, Coimbatore	Tamil Nadu	Theni	1151	646	653
319	Thevur	Sarabenga	SRD, Coimbatore	Tamil Nadu	Salem	692	1184	1027
320	Thimmanahalli	Cauvery/Hem avathi /Yagachi	CD, Bengaluru	Karnataka	Hassan	983	*	*
321	Thoppur	Thoppaiyar	SRD, Coimbatore	Tamil Nadu	Salem	680	*	*
322	Tiharkheda	Ganga/Ramga nga	MGD-II, Lucknow	Uttar Pradesh	Bareilly	11000	11100	*
323	Todarpur	Ganga/Deoha (Garra)/Sukhe ta	MGD-II, Lucknow	Uttar Pradesh	Hardoi	8400	9300	6800
324	Tonk	Banas	CD Jaipur	Rajasthan	Tonk	*	9245	*
325	Triveni	Ganga/Ganda k	LGD-1, Patna	Bihar	West Champaran	-	1148	*
326	Tuini	Tons	UYD, Delhi	Uttarakhand	Dehradun	6027	6086	7700
327	Turtipar	Ganga/Ghagh ra	MGD-I, Lucknow	Uttar Pradesh	Ballia	7900	6900	*
328	Udi	Chambal	LYD, Agra	Uttar Pradesh	Etawah	2453	2447	3333
329	Ujjain	Shipra	CD Jaipur	Madhya Pradesh	Ujjain	*	18380	22000
330	Urachikottai	Cauvery	SRD, Coimbatore	Tamil Nadu	Erode	887	655	-
331	V.S. Bridge	Ganga	MGD-III, Varanasi	Uttar Pradesh	Varanasi	2054	2480	2450
332	Valigonda	Musi	LKD, Hyderabad	Telangana	Yadadri Bhuvanagiri	12822	606	983
333	Varanasi	Ganga	MGD-III, Varanasi	Uttar Pradesh	Varanasi	2547	3360	3183

S. No.	Water Quality Stations	River/ Reservoir	Division	State	District	Pre Monsoon	Monsoon	Post Monsoon
334	Varanavasi	Marudaiyar	SRD, Coimbatore	Tamil Nadu	Perambalur	637	*	1100
335	Vautha	Sabarmati	MD, Gandhinagar	Gujarat	Ahmedabad	48200	95667	46000
336	Verupakshapuram	Swarnamukhi	HD, Chennai	Andhra Pradesh	Chittoor	*	624	-
337	Vijayawada	Krishna	LKD, Hyderabad	Andhra Pradesh	NTR	6740	-	642
338	Vrindawan Bridge(Mathura U/S)	Yamuna	UYD, Delhi	Uttar Pradesh	Mathura	87267	172067	225000
339	Wadakbal	Sina	UKD, Pune	Maharashtra	Solapur	13000	12413	5900
340	Wadenapalli	Krishna	LKD, Hyderabad	Telangana	Suryapet	3165	1127	892
341	Wairagarh	Godavari/Pra nhita/pip/Kho bragar hi	WD, Nagpur	Maharashtra	Gadchiroli	1805	1118	988
342	Warunji	Koyna	UKD, Pune	Maharashtra	Satara	*	17085	*
343	Watrak Nr Vautha	Sabarmati/W atrak	MD, Gandhinagar	Gujarat	Ahmedabad	*	3433	*
344	Yadgir	Krishna/Bhim a	LKD, Hyderabad	Andhra Pradesh	Yadgir	*	842	1310
345	Yamuna Expressway Road Bridge, Etamadpur (Agra D/S)	Yamuna	LYD, Agra	Uttar Pradesh	Agra	106933	132067	151667
346	Yashwant Nagar	Giri	UYD, Delhi	Himachal Pradesh	Simaur	7873	11479	10967
347	Yelli	Godavari	UGD, Hyderabad	Maharashtra	Nanded	3900	1830	-

(-) means No Hotspot.

(*) means river dry/data not available.

7.1.13 Sodium Adsorption Ratio (SAR)

Sodium adsorption ratio (SAR) is an irrigation water quality parameter used in the management of sodium-affected soils. It is an indicator of the suitability of water for use in agricultural irrigation, as determined from the concentrations of the main alkaline and earth alkaline cations present in the water. It is also a standard diagnostic parameter for the sodicity hazard of a soil as determined from analysis of pore water extracted from the soil. SAR is a measure of the amount of sodium (Na^+) relative to calcium (Ca^{2+}) and magnesium (Mg^{2+}) in the water extracted from a saturated soil paste.

Soils that have values for sodium adsorption ratio of 13 or more may have an increased dispersion of organic matter and clay particles, reduced saturated hydraulic conductivity and aeration, and a general degradation of soil structure.

SAR allows assessment of the state of flocculation or of dispersion of clay aggregates in a soil. Sodium and potassium ions facilitate the dispersion of clay particles while calcium and magnesium promote their flocculation. The behaviour of clay aggregates influences the soil structure and affects the permeability of the soil whose directly depends on the water infiltration rate. It is important to accurately know the nature and the concentrations of cations at which the flocculation occurs: critical flocculation concentration (CFC). The SAR parameter is also used to determine the stability of colloids in suspension in water.

Although SAR is only one factor in determining the suitability of water for irrigation, in general, the higher the sodium adsorption ratio, the less suitable the water is for irrigation. Irrigation using water with high sodium adsorption ratio may require soil amendments to prevent long-term damage to the soil.

In 2023-2025, the pre-monsoon, monsoon, and post-monsoon seasons consistently demonstrated that the average values of SAR (Sodium Adsorption Ratio) at all water quality monitoring stations remained within the permissible limit of Class E, as designated by the Central Pollution Control Board (CPCB) for the best uses of water. This observation indicates that the levels of sodium relative to other ions in the water were within the acceptable range, suggesting no significant deterioration in water quality with respect to SAR during these periods.

COMPARISON STUDY (PARAMETER VALUES) - HOT SPOTS IN (JANUARY-DECEMBER 2024) WITH (JANUARY-DECEMBER 2025)

Comparison has been done among the water quality hotspots observed for the period January-December 2024 with the average values of pre-monsoon, monsoon and post monsoon from January-December, 2025 of 11 parameters (pH, EC, DO, BOD, TC, FC, Fluoride, Nitrate as N, Chloride, Total Hardness and Ammonia as N). The summary is as under:

8.1 pH

The comparison of pH hotspots at various river water quality monitoring stations during 2024 and 2025 reveals notable changes in the water quality status across different regions of the country. The analysis was carried out for pre-monsoon (Pre-M), monsoon (M), and post-monsoon (Post-M) seasons to understand seasonal variability and identify hotspot conditions. The classification was based on the acceptable pH range of 6.5–8.5, where values beyond this range are considered hotspots. The results presented in Table 19 indicate that a large number of monitoring stations exhibited improvement or maintained values within the acceptable range during 2025 compared to 2024.

Overall, a majority of stations showed No Hot Spot (NoHS) conditions in 2025, indicating stabilization of pH levels within permissible limits. Monitoring stations such as Aklera (Parwan River), Baranwada (Banas River), Bawapuram (Tungabhadra River), Bhadrachalam (Godavari River), Jaunpur and Maighat (Gomti River), Malkhed (Bhima River), Mandawara and Manderial (Chambal River), Nutanhath (Ajay River), Padardibadi (Mahi River), Pali (Chambal River), Perur and Saloor (Godavari River), Suddakallu (Dindi River), and Pratapgarh (Sai River) consistently demonstrated NoHS conditions. This suggests that these river stretches maintained stable acid–base balance, possibly due to natural buffering capacity, adequate dilution, or reduced pollutant inputs.

Several stations exhibited improvement trends, transitioning from hotspot conditions in 2024 to acceptable levels in 2025. For instance, Vijayawada (Krishna River) and Barod (Kalisindh River) showed improvement, although Barod still reflected Improved but Hotspot (IBHS) conditions during the pre-monsoon season. Such changes indicate partial recovery, likely influenced by

increased flow, dilution during monsoon, or improved pollution management practices.

A few stations displayed New Hot Spot (NHS) conditions in 2025. These include Deosugur (Krishna River) during the pre-monsoon season, Khanpur (Mahi River) during pre- and post-monsoon seasons, Hogenakkal (Chinnar River) during the monsoon season, and stations in Meghalaya such as Byrnihat (Umtrew River), Umkhen II (Umkhen River), Umsiang (Umsiang River), and Therriaghat (Umsohryngkew River). The emergence of these hotspots may be attributed to localized anthropogenic activities, seasonal variations, agricultural runoff, or changes in hydrological conditions affecting river chemistry.

One station, Kharkhana (Myntdu River) in Meghalaya, showed deterioration (D) during both pre-monsoon and monsoon seasons, where pH values moved further away from the acceptable range, indicating strong acidic conditions. Although some improvement was observed during the post-monsoon season (IBHS), the station remained a hotspot. Such acidic conditions may be linked to natural geological formations, high organic matter decomposition, or mining-related activities prevalent in the region.

Seasonal analysis indicates that the pre-monsoon period recorded several improvements, with many stations shifting from slightly alkaline hotspot conditions in 2024 to NoHS in 2025. During the monsoon season, most stations remained within acceptable limits due to dilution effects and increased river discharge, reducing the concentration of pollutants. In the post-monsoon season, continued NoHS conditions at several stations such as Bawapuram, Jaunpur, Padardibadi, and Mantralayam indicate stabilization of river water quality following monsoon flushing.

Overall, the comparative analysis demonstrates that most river stretches maintained or improved their pH status during 2025, reflecting relatively stable water quality conditions in terms of acid–base balance. However, the occurrence of a few new and persistent hotspots highlights the need for localized monitoring and management to address region-specific pollution sources and environmental pressures.

Table 19: Comparison of pH Hot Spots during year 2024 with 2025

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
1	Aklera	Parwan	Rajasthan	*	8.62	*	*	8.17	*	*	NoHS	*
2	Baranwada	Banas	Rajasthan	*	8.51	-	8.25	8.26	-	*	NoHS	NoHS
3	Barod	Kalisindh	Rajasthan	8.89	8.65	8.72	8.63	8.28	*	IBHS	NoHS	*
4	Bawapuram	Tungabhadra	Andhra Pradesh	-	-	8.51	-	-	8.37	NoHS	NoHS	NoHS
5	Bhadrachalam	Godavari	Telangana	8.53	-	8.51	8.41	-	8.35	NoHS	NoHS	NoHS
6	Byrnihat	Umtrew	Meghalaya	-	-	7.07	-	-	6.31	NoHS	NoHS	NHS
7	Chittorgarh	Gambhiri	Rajasthan	*	8.56	*	*	*	*	*	*	*
8	Deosugur	Krishna	Karnataka	8.34	-	-	8.56	-	-	NHS	NoHS	NoHS
9	Gandlapet	Peddavagu	Telangana	8.63	-	-	*	-	-	*	NoHS	NoHS
10	Hogenakkal	Chinnar	Tamil Nadu	*	7.78	8.25	*	8.53	*	*	NHS	*
11	Jaunpur	Gomti	Uttar Pradesh	-	-	8.64	-	-	8.19	NoHS	NoHS	NoHS
12	Jhalawar	Kalisindh	Rajasthan	*	8.55	*	*	8.34	*	*	NoHS	*
13	Kamalpur	Banas	Gujarat	*	8.55	*	*	8.28	*	*	NoHS	*
14	Khanpur	Mahi	Gujarat	8.48	-	8.49	8.55	-	8.51	NHS	NoHS	NHS
15	Kharkhana	Myntdu	Meghalaya	4.97	6.19	4.57	4.39	5.18	4.60	D	D	IBHS
16	Khatoli	Parwati	Rajasthan	-	8.54	-	-	8.33	-	NoHS	NoHS	NoHS
17	Maighat	Gomti	Uttar Pradesh	8.52	-	8.60	8.20	-	8.18	NoHS	NoHS	NoHS
18	Malkhed	Bhima	Karnataka	8.59	-	-	8.36	-	-	NoHS	NoHS	NoHS
19	Mancherial	Godavari	Telangana	8.58	-	-	8.38	-	-	NoHS	NoHS	NoHS
20	Mandawara	Chambal	Rajasthan	8.61	8.67	-	8.50	8.34	-	NoHS	NoHS	NoHS
21	Manderial	Chambal	Rajasthan	8.59	-	-	8.38	-	-	NoHS	NoHS	NoHS
22	Mantralayam	Tungabhadra	Andhra Pradesh	*	-	8.56	8.41	-	8.32	*	NoHS	NoHS
23	Munugodu	Edduvagu	Andhra Pradesh	8.56	-	-	8.30	-	-	NoHS	NoHS	NoHS
24	Nutanhat	Ajay	West Bengal	8.51	-	-	8.23	-	-	NoHS	NoHS	NoHS
25	Padardibadi	Mahi	Rajasthan	-	-	8.57	-	-	8.39	NoHS	NoHS	NoHS
26	Palakkadavu	Karuvannur	Kerala	6.43	-	-	*	-	*	*	NoHS	*
27	Pali	Chambal	Rajasthan	8.72	8.60	-	8.50	8.27	-	NoHS	NoHS	NoHS
28	Perur	Godavari	Telangana	8.51	-	-	8.40	-	-	NoHS	NoHS	NoHS
29	Pratapgarh	Sai	Uttar Pradesh	8.63	-	-	8.18	-	-	NoHS	NoHS	NoHS
30	Purna	Purna	Maharashtra	8.71	-	-	*	-	-	*	NoHS	NoHS
31	Saloor	Godavari	Telangana	8.60	-	-	8.32	-	-	NoHS	NoHS	NoHS
32	Suddakallu	Dindi	Telangana	8.69	-	-	8.31	-	-	NoHS	NoHS	NoHS
33	Therriaghat	Umsohryngkew	Meghalaya	-	7.07	-	-	6.49	-	NoHS	NHS	NoHS

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
34	Thumpamon	Pampa/Achankovil	Kerala	6.63	-	-	6.48	-	-	NHS	NoHS	NoHS
35	Umkhen II	Umkhen	Meghalaya	-	-	7.03	-	-	6.15	NoHS	NoHS	NHS
36	Umsiang	Umsiang	Meghalaya	-	-	7.05	-	-	6.21	NoHS	NoHS	NHS
37	Vijayawada	Krishna	Andhra Pradesh	8.67	-	-	8.53	-	-	IBHS	NoHS	NoHS
38	Wairagarh	Wainganga	Maharashtra	6.20	-	-	7.90	-	-	NoHS	NoHS	NoHS

(-) means No Hotspot

(*) means Data not available/ river dry.

	No Hot Spot (NoHS)		Deteriorate (D)		New Hotspot (NHS)		Improved but Hotspot (IBHS)
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8.2 Electrical Conductivity (EC)

The comparison of Electrical Conductivity (EC) hotspots at various river water quality monitoring stations during 2024 and 2025 provides important insights into the changes in ionic concentration and salinity levels across different river stretches. The assessment was carried out for pre-monsoon (Pre-M), monsoon (M), and post-monsoon (Post-M) seasons to capture seasonal variations. Higher EC values indicate elevated dissolved salts and ionic content, which may arise from natural processes as well as anthropogenic activities such as industrial discharge, agricultural runoff, and wastewater inputs. The results presented in Table 20 indicate mixed trends, with several stations showing improvement, while a few exhibited persistent or emerging hotspot conditions.

Overall, a number of monitoring stations demonstrated No Hot Spot (NoHS) conditions during 2025, indicating that EC levels were reduced to acceptable limits. Stations such as Dhalegaon (Godavari River), T. Ramapuram (Hagari River), Thevur (Sarabanga River), and Vautha (Sabarmati River) showed consistent improvement across seasons, suggesting effective dilution, reduced pollutant load, or improved water management practices. Similarly, Dadri and Dhansa (Sahibi River) showed improvement during the monsoon season, reflecting the influence of increased river flow and dilution.

Some stations exhibited Improved but Hotspot (IBHS) conditions, indicating reduction in EC levels compared to 2024, but still remaining above acceptable limits. B.P.M. (Bamni) on the Wardha River consistently showed IBHS status across all three seasons, suggesting gradual improvement but

persistent high ionic load, possibly due to continuous anthropogenic inputs. Elunuthimangalam (Noyyal River) also showed IBHS during the pre-monsoon season, followed by improvement to NoHS in subsequent seasons, indicating seasonal recovery.

A few stations showed New Hot Spot (NHS) conditions in 2025. For instance, Durvesh (Vaitarna River) and Varanavasi (Marudaiyar River) exhibited NHS conditions during the pre-monsoon season, indicating an increase in dissolved salts compared to 2024. Such increases may be linked to reduced flow conditions, concentration effects, or increased discharge of effluents and agricultural runoff during dry periods.

Certain locations indicated deterioration (D) in water quality. Lakshmanapatti (Kodaganar River) showed deterioration during the pre-monsoon season, with EC values increasing further beyond acceptable limits. Similarly, Luwara (Shetrunji River) exhibited deterioration during the post-monsoon season, indicating rising salinity or pollutant load. These trends may be attributed to intensified anthropogenic activities, evaporation effects, or reduced flushing capacity of the river systems.

Seasonal analysis reveals that pre-monsoon conditions generally recorded higher EC values due to low flow and concentration of dissolved ions, resulting in hotspot or IBHS conditions at several stations. During the monsoon season, most stations showed improvement or NoHS status due to dilution from increased rainfall and river discharge. In the post-monsoon season, mixed trends were observed, with some stations maintaining improved conditions while others showed localized deterioration, possibly due to accumulation of dissolved solids after monsoon runoff.

Overall, the comparative analysis indicates that while many river stretches showed improvement in EC levels during 2025, a few stations continue to exhibit persistent or emerging hotspot conditions. This highlights the need for targeted management strategies to control sources of salinity and dissolved pollutants, particularly in regions showing consistent or deteriorating trends.

Table 20: Comparison of EC Hot Spots during year 2024 with 2025

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
1	B.P.M. (Bamni)	Wardha	Maharashtra	5110	4142	3507	4411	3048	3406	IBHS	IBHS	IBHS
2	Dadri	Sahibi	Haryana	*	2407	*	*	811	*	*	NoHS	*

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
3	Dhalegaon	Godavari	Maharashtra	2810	-	816	1001	-	*	NoHS	NoHS	*
4	Dhansa	Sahibi	Haryana	*	2776	*	*	1978	*	*	NoHS	*
5	Durvesh	Vaitarna	Maharashtra	462	-	-	3091	-	-	NHS	NoHS	NoHS
6	Elunuthimangalam	Noyyal	Tamil Nadu	3336	2618	2335	2723	1912	1553	IBHS	NoHS	NoHS
7	Lakshmanapatti	Kodaganar	Tamil Nadu	2639	3010	3098	3190	*	*	D	*	*
8	Luwara	Shetrunji	Gujarat	8576	-	2382	*	-	3053	*	NoHS	D
9	T.Ramapuram	Hagari	Karnataka	2590	-	-	1162	-	-	NoHS	NoHS	NoHS
10	Thevur	Sarabenga	Tamil Nadu	2457	-	-	1515	-	-	NoHS	NoHS	NoHS
11	Varanavasi	Marudaiyar	Tamil Nadu	1247	*	2586	2995	*	1846	NHS	*	NoHS
12	Vautha	Sabarmati	Gujarat	2415	-	-	2253	-	-	IBHS	NoHS	NoHS

(-) means No Hotspot.

(*) means Data not available/ river dry.

	No Hot Spot (NoHS)		Deteriorate (D)		New Hotspot (NHS)		Improved but Hotspot (IBHS)
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8.3 Ammonia (NH₃-N)

The comparison of Ammonia (NH₃-N) hotspots at various river water quality monitoring stations during 2024 and 2025 highlights significant trends in organic pollution and nutrient loading across different regions. The assessment was carried out for pre-monsoon (Pre-M), monsoon (M), and post-monsoon (Post-M) seasons to capture seasonal variability. Elevated ammonia concentrations generally indicate contamination from untreated sewage, industrial effluents, and agricultural runoff. The results presented in Table 21 reveal a mixed pattern, with several stations showing improvement, while many others continue to exhibit persistent or emerging hotspot conditions.

Overall, a number of monitoring stations demonstrated No Hot Spot (NoHS) conditions during 2025, indicating reduction of ammonia levels to acceptable limits. Stations such as Auraiya (Yamuna River), Basoda (Betwa River),

Gomlai (Brahmani River), Gomti Nagar and Lucknow (Gomti River), Kalampur (Kaliyar River), Kalpi and Kasganj (Yamuna/Kali Rivers), and Mawi (Yamuna River) showed consistent NoHS conditions across seasons. Additionally, stations like Baghpat, Motinaroli, and Palla exhibited improvement from hotspot conditions in 2024 to NoHS in 2025, indicating effective dilution, improved wastewater management, or reduced pollutant input.

Several stations exhibited Improved but Hotspot (IBHS) conditions, reflecting reduction in ammonia levels but still exceeding acceptable limits. Prominent examples include Agra (Jawahar Bridge), Delhi Railway Bridge, Gokul Barrage Mathura, Mohna, Okhla Barrage, Vrindawan Bridge, and Yamuna Expressway Bridge along the Yamuna River stretch. Similarly, B.P.M. (Bamni) on the Wardha River and K.T. (Satrapur) on the Kanhan River consistently showed IBHS conditions, indicating gradual improvement but persistent organic pollution load, likely due to continuous discharge of untreated or partially treated wastewater.

A number of stations showed New Hot Spot (NHS) conditions in 2025. These include Baghpat (Yamuna River) during pre-monsoon, Baleni (Hindon River) during post-monsoon, Dhansa (Sahibi River), Dillighat (Desang River), Motinaroli (Kim River), Palla (Yamuna River), and Patharidih (Mahanadi basin) during post-monsoon. The emergence of these hotspots suggests increasing anthropogenic pressures, such as domestic sewage discharge, agricultural runoff, or localized pollution sources.

Some stations exhibited deterioration (D), where ammonia concentrations increased further in 2025. Notably, Agra (Poiyaghat), Chilla Gaon (Hindon Cut), Galeta (Hindon River), Gummanur (Ponnaiyar River), Noida (Hindon River), R.S.P (Brahmani River), Singasadanapalli (Ponnaiyar River), and Vautha (Sabarmati River) showed deterioration in one or more seasons. These trends indicate worsening water quality, possibly due to increased wastewater discharge, reduced flow conditions, or ineffective pollution control measures.

Seasonal analysis indicates that the pre-monsoon season recorded higher ammonia concentrations at several stations due to low flow and concentration effects, resulting in widespread IBHS and NHS conditions. During the monsoon season, many stations showed improvement or reduction in hotspot intensity due to dilution and increased river discharge. However, some stations such as Baleni, Galeta, and R.S.P still exhibited deterioration, suggesting strong and continuous pollution inputs. In the post-monsoon season, mixed trends were observed, with several stations improving to NoHS, while others such as Baleni, Noida, and Singasadanapalli

showed deterioration or new hotspot conditions, possibly due to accumulation of pollutants after monsoon runoff.

Overall, the comparative analysis indicates that although some river stretches showed improvement in ammonia levels during 2025, a significant number of stations continue to exhibit persistent or emerging hotspot conditions. The widespread presence of IBHS and NHS categories highlights ongoing challenges related to sewage management, industrial discharge, and nutrient pollution. This underscores the need for strengthened pollution control measures, improved wastewater treatment infrastructure, and continuous monitoring to mitigate ammonia contamination in river systems.

Table 21: Comparison of Ammonia (NH₃-N) Hot Spots during year 2024 with 2025

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
1	Agra (Jawahar Bridge)	Yamuna	Uttar Pradesh	11.71	4.13	7.61	11.29	2.10	4.95	IBHS	IBHS	IBHS
2	Agra (Poiyaghat)	Yamuna	Uttar Pradesh	11.03	2.95	6.60	11.70	2.30	4.62	D	IBHS	IBHS
3	Auraiya	Yamuna	Uttar Pradesh	1.46	-	-	0.42	-	-	NoHS	NoHS	NoHS
4	B.P.M. (Bamni)	Wardha	Maharashtra	8.38	2.77	4.39	6.39	1.56	1.15	IBHS	IBHS	NoHS
5	Baghpat	Yamuna	Uttar Pradesh	1.05	-	2.50	1.64	-	0.88	NHS	NoHS	NoHS
6	Baleni	Hindon	Uttar Pradesh	4.35	1.31	0.86	3.13	1.90	2.20	IBHS	D	NHS
7	Basoda	Betwa	Madhya Pradesh	-	-	1.34	-	-	0.19	NoHS	NoHS	NoHS
8	Bokaro (Down)	Garga	Jharkhand	11.31	4.15	2.28	5.61	1.47	0.50	IBHS	IBHS	NoHS
9	Bokaro (Up)	Garga	Jharkhand	11.21	4.18	2.28	5.53	1.56	0.93	IBHS	IBHS	NoHS
10	Chilla Gaon	Hindon Cut	Delhi	8.30	7.19	7.29	9.72	4.82	8.48	D	IBHS	D
11	Delhi Railway Bridge	Yamuna	Delhi	15.56	7.24	10.62	13.54	3.61	6.43	IBHS	IBHS	IBHS
12	Desangpani	Desang	Assam	-	*	*	-	0.49	3.70	NoHS	*	*
13	Dhansa	Sahibi	Haryana	*	0.61	*	*	1.81	*	*	NHS	*
14	Dillighat	Desang	Assam	0.09	*	*	1.44	0.53	0.39	NHS	*	*
15	Dudhnoi	Dudhnai	Assam	-	1.44	-	-	0.08	-	NoHS	NoHS	NoHS
16	Etawah	Yamuna	Uttar Pradesh	6.34	1.62	3.80	5.16	0.33	1.35	IBHS	NoHS	IBHS
17	Galeta	Hindon	Uttar Pradesh	6.69	2.09	3.11	5.76	2.49	4.76	IBHS	D	D
18	Gokul barrage Mathura D/S	Yamuna	Uttar Pradesh	15.17	5.51	11.38	12.38	4.28	5.94	IBHS	IBHS	IBHS
19	Gomlai	Brahamani	Odisha	-	-	1.62	-	-	0.33	NoHS	NoHS	NoHS
20	Gomti Nagar	Gomti	Uttar Pradesh	1.48	-	-	0.61	-	-	NoHS	NoHS	NoHS
21	Gummanur	Ponnaiyar	Tamil Nadu	4.64	1.86	3.06	3.42	1.46	4.05	IBHS	IBHS	D
22	Hathikhana	Ganga	Uttar Pradesh	1.33	-	-	0.27	-	*	NoHS	NoHS	*
23	K.T.(Satrapur)	Kanhan	Maharashtra	36.83	18.90	25.02	32.39	9.04	22.76	IBHS	IBHS	IBHS
24	Kailash Mandir, Agra (U/S)	Yamuna	Uttar Pradesh	11.84	3.14	8.19	12.72	1.90	4.64	D	IBHS	IBHS

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
25	Kalampur	Kaliyar	Kerala	-	-	5.03	-	-	0.03	NoHS	NoHS	NoHS
26	Kalindi Kunj	Agra Canal	Delhi	14.80	7.33	8.75	10.80	4.65	8.10	IBHS	IBHS	IBHS
27	Kalpi	Yamuna	Uttar Pradesh	-	1.31	-	-	0.13	-	NoHS	NoHS	NoHS
28	Kasganj	Kali	Uttar Pradesh	1.90	-	-	0.55	-	-	NoHS	NoHS	NoHS
29	Lucknow	Gomti	Uttar Pradesh	1.40	-	-	0.43	-	-	NoHS	NoHS	NoHS
30	Mawi	Yamuna	Uttar Pradesh	-	-	1.30	-	-	0.76	NoHS	NoHS	NoHS
31	Mohna	Yamuna	Haryana	15.49	7.87	10.76	14.28	5.24	6.55	IBHS	IBHS	IBHS
32	Motinaroli	Kim	Gujarat	1.17	-	1.74	3.15	-	0.17	NHS	NoHS	NoHS
33	Noida	Hindon	Uttar Pradesh	14.42	7.49	4.25	9.59	5.18	7.86	IBHS	IBHS	D
34	Okhla barrage	Yamuna	Delhi	13.80	8.49	8.84	12.11	4.74	8.38	IBHS	IBHS	IBHS
35	Palla	Yamuna	Delhi	0.86	1.21	2.56	1.80	0.56	1.06	NHS	NoHS	NoHS
36	Pargaon	Bhima	Maharashtra	*	1.94	*	*	0.39	*	*	NoHS	*
37	Patharidih	Mahanadi/Seonath/Kharun	Chhattisgarh	-	-	0.15	-	-	2.21	NoHS	NoHS	NHS
38	Pinglwada	Dhadhar	Gujarat	4.62	2.50	2.54	5.70	1.38	0.87	D	IBHS	NoHS
39	Pupunki	Damodar	Jharkhand	*	-	-	2.30	-	-	*	NoHS	NoHS
40	R.S.P	Brahamani	Odisha	9.69	5.06	12.06	17.28	7.71	3.45	D	D	IBHS
41	R.S.P-I	Brahamani	Odisha	4.08	6.01	5.14	2.82	1.75	1.57	IBHS	IBHS	IBHS
42	R.S.P-II	Brahamani	Odisha	2.14	5.45	2.06	0.78	1.25	0.68	NoHS	IBHS	NoHS
43	Rahu	Bhima	Maharashtra	*	3.19	*	*	0.59	*	*	NoHS	*
44	Singasadanapalli	Ponnaiyar	Tamil Nadu	25.48	32.41	28.98	31.84	24.66	33.82	D	IBHS	D
45	Sonamura	Gumti	Assam	2.59	0.05	0.06	*	*	*	*	*	*
46	T. Bekuppe	Arkavathy	Karnataka	*	16.46	12.86	13.81	11.42	*	*	IBHS	*
47	Ujjain	Shipra	Madhya Pradesh	*	3.58	4.96	*	2.14	3.46	*	IBHS	IBHS
48	Vautha	Sabarmati	Gujarat	4.94	5.14	4.85	5.85	4.23	3.51	D	IBHS	IBHS
49	Vrindawan Bridge (Mathura U/S)	Yamuna	Uttar Pradesh	15.83	5.61	11.15	12.01	4.29	5.98	IBHS	IBHS	IBHS
50	Wadakbal	Sina	Maharashtra	*	-	-	0.93	-	-	*	NoHS	NoHS
51	Yamuna Expressway Road Bridge, Etamadpur (Agra D/S)	Yamuna	Uttar Pradesh	13.19	4.77	6.24	12.98	2.36	4.82	IBHS	IBHS	IBHS

(-) means No Hotspot

(*) means Data not available/ river dry.

	No Hot Spot (NoHS)		Deteriorate (D)		New Hotspot (NHS)		Improved but Hotspot (IBHS)
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8.4 Fluoride (F⁻)

During 2024, only one (01) monitoring station, namely Lingdem HS (Talanchu/Hot Spring) in Sikkim, recorded fluoride concentrations above the acceptable limit (≤ 1.50 mg/L) during the pre-monsoon and monsoon seasons. The fluoride levels at this station were 5.17 mg/L (Pre-M) and 5.01 mg/L (M), which exceeded the permissible limit and indicated the presence of a fluoride hotspot. At Tadipatri (Pennar River, Andhra Pradesh), fluoride concentration during the monsoon season (0.86 mg/L) remained within the acceptable limit, and therefore no hotspot was observed.

In 2025, the fluoride hotspot was again observed at Lingdem HS (Talanchu/Hot Spring) during the pre-monsoon and monsoon seasons, where the fluoride concentrations increased to 6.36 mg/L (Pre-M) and 5.33 mg/L (M), respectively. These values were higher than those recorded in 2024 and remained significantly above the permissible limit. The post-monsoon value in 2025 (7.96 mg/L) also indicated a very high fluoride concentration; however, comparison could not be made because post-monsoon data for 2024 were not available.

In both 2024 and 2025, one water quality monitoring station, namely Lingdem HS (Talanchu/Hot Spring), was commonly identified as a fluoride hotspot. The consistently high fluoride levels at this location are likely associated with geogenic sources, particularly the dissolution and leaching of fluoride-bearing minerals in the hot spring system.

During the pre-monsoon season, one monitoring station on one river, namely Lingdem HS (Talanchu/Hot Spring), showed deterioration (D) in 2025 as compared to 2024, as fluoride concentration increased while remaining above the permissible limit. During the monsoon season, one monitoring station on one river, namely Tadipatri (Pennar River), demonstrated No Hotspot (NoHS) in 2025 as compared to 2024, as fluoride concentrations remained within the acceptable limit in both years. However, Lingdem HS (Talanchu/Hot Spring) showed deterioration (D) during this season due to an increase in fluoride concentration while continuing to remain a hotspot. During the post-monsoon season, comparison could not be performed for both stations due to the absence of data in 2024, and therefore the status was marked as data not available (*).

Overall, the comparison indicates that Lingdem HS (Talanchu/Hot Spring) remains the only persistent fluoride hotspot, with a deteriorating trend between 2024 and 2025, whereas Tadipatri (Pennar River) maintained fluoride concentrations within acceptable limits during the monsoon season.

Table 24: Comparison of Fluoride (F⁻) Hot Spots during year 2024 with 2025

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
1	Lingdem HS	Hot Spring/Talanchu	Sikkim	5.17	5.01	*	6.36	5.33	7.96	D	D	*
2	Tadipatri	Pennar	Andhra Pradesh	*	-	*	1.37	-	1.73	*	NoHS	*

(-) means No Hotspot

(*) means Data not available/ river dry.

	No Hot Spot (NoHS)		Deteriorate (D)		New Hotspot (NHS)		Improved but Hotspot (IBHS)
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8.5 Total Hardness (TH)

The comparison of Total Hardness (TH) hotspots at selected river water quality monitoring stations during 2024 and 2025 provides insights into the variation of calcium and magnesium concentrations in river systems. Total hardness is an important indicator of water quality, reflecting the presence of dissolved minerals, which may originate from natural geological formations as well as anthropogenic sources such as industrial discharge and agricultural runoff. The assessment was carried out for pre-monsoon (Pre-M), monsoon (M), and post-monsoon (Post-M) seasons to evaluate seasonal variability. The results presented in Table 22 indicate limited hotspot occurrence, with most stations showing improvement or maintaining acceptable levels during 2025.

Overall, most monitoring stations exhibited No Hot Spot (NoHS) conditions during 2025, indicating that total hardness levels were within acceptable limits. Stations such as B.P.M. (Bamni) on the Wardha River and Dhansa on the Sahibi River showed consistent improvement across available seasons, shifting from elevated hardness levels in 2024 to NoHS conditions in 2025. This improvement may be attributed to dilution effects, reduced mineral load, or improved water management practices.

Luwara (Shetrunji River) also demonstrated NoHS conditions in 2025 compared to elevated hardness levels in 2024, indicating a reduction in dissolved mineral content. Such improvement suggests effective natural dilution or changes in upstream inputs influencing water chemistry.

However, one station, Lakshmanapatti (Kodaganar River), showed a New Hot Spot (NHS) condition during the pre-monsoon season of 2025, where total hardness increased further compared to 2024 values. This indicates

localized deterioration in water quality, possibly due to increased leaching of minerals, industrial discharge, or reduced flow conditions leading to concentration effects.

Seasonal analysis indicates that pre-monsoon conditions generally exhibited higher hardness values due to lower flow and higher concentration of dissolved minerals. During the monsoon season, available data suggests improvement at stations such as Dhansa and B.P.M. (Bamni), likely due to dilution from rainfall and increased river discharge. Limited data for the post-monsoon season restricts detailed interpretation; however, available observations indicate stable or improved conditions.

Overall, the comparative analysis suggests that total hardness is not a major concern at most monitored locations during 2025, as the majority of stations fall under NoHS category. Only isolated instances of emerging hotspots were observed, highlighting the need for continued monitoring at specific locations to prevent further deterioration and to manage localized sources of mineral enrichment.

Table 22 Comparison of Hot Spots Total Hardness (TH) during year 2024 with 2025

S.No.	Water Quality Stations	River/Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
1	B.P.M. (Bamni)	Wardha	Maharashtra	635.7	647.5	-	526.3	460.2	-	NoHS	NoHS	NoHS
2	Dhansa	Sahibi	Haryana	*	626.2	*	*	439.3	*	*	NoHS	*
3	Lakshmanapatti	Kodaganar	Tamil Nadu	510.5	603.9	574.7	603.2	*	*	NHS	*	*
4	Luwara	Shetrunji	Gujarat	838.6	-	-	*	-	-	*	NoHS	NoHS

(-) means No Hotspot; (*) means Data not available/ river dry.

	No Hot Spot (NoHS)		Deteriorate (D)		New Hotspot (NHS)		Improved but Hotspot (IBHS)
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8.6 Chloride (Cl⁻)

The comparison of Chloride (Cl⁻) concentrations at identified water quality monitoring stations during the Pre-monsoon (Pre-M), Monsoon (M), and Post-monsoon (Post-M) seasons for the years 2024 and 2025. Chloride concentration is an important indicator of salinity and anthropogenic contamination, often associated with industrial effluents, sewage discharge, agricultural runoff, and seawater intrusion in coastal regions.

The data show that the monitoring station Luwara on the Shetrunji River in Gujarat (Bhavnagar district) recorded a high chloride concentration of 2613.3 mg/L during the Pre-monsoon season of 2024, which exceeded the acceptable limits and therefore was categorized as a hotspot. However,

during the monsoon and post-monsoon seasons of 2024, no hotspot conditions were recorded at this station. In 2025, the chloride concentration during the Pre-monsoon and monsoon season was within the acceptable limit.

Table 23: Comparison of Chloride (Cl⁻) Hot Spots during year 2024 with 2025

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
1	Luwara	Shetrunji	Gujarat	2613.3	-	-	*	-	-	*	NoHS	NoHS

(-) means No Hotspot.

	No Hot Spot (NoHS)		Deteriorate (D)		New Hotspot (NHS)		Improved but Hotspot (IBHS)
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8.7 Nitrate as N (NO₃⁻-N):

The comparison of Nitrate as Nitrogen (NO₃⁻-N) hotspots at various river water quality monitoring stations during 2024 and 2025 highlights significant trends in nutrient enrichment and pollution across river systems. Nitrate contamination is primarily associated with agricultural runoff, use of fertilizers, domestic sewage, and organic waste decomposition. The assessment was carried out for pre-monsoon (Pre-M), monsoon (M), and post-monsoon (Post-M) seasons to understand seasonal variations. The results presented in Table 25 indicate that a considerable number of stations showed emerging hotspot conditions in 2025, particularly across river stretches in Karnataka.

A large number of monitoring stations exhibited New Hot Spot (NHS) conditions in 2025, especially during the monsoon season. Stations such as Akkihebbal (Hemavathi River), Bendrahalli (Suvarnavathi River), Byaladahalli (Haridra River), Gokak (Ghataprabha River), Honnali (Tungabhadra River), K.M. Vadi (Lakshmanthirtha River), Kollegal (Cauvery River), Kuppellur (Kumudvathi River), M.H. Halli (Hemavathi River), T. Narasipur (Kabini River), and Thimmanahalli (Yagachi River) showed NHS conditions. This widespread emergence of hotspots suggests increasing nutrient loading, likely driven by intensified agricultural activities, fertilizer application, and surface runoff during rainfall events.

Some stations demonstrated No Hot Spot (NoHS) conditions, indicating nitrate levels remained within acceptable limits. Stations such as Madhira (Wyra River), Malkhed (Bhima River), Munugodu (Yedduvagu), Vijayawada (Krishna River), and Marol (Varada River) showed improvement or stable

conditions. These observations may reflect better nutrient management practices, dilution effects, or lower anthropogenic pressure in these regions.

A few stations exhibited deterioration (D), indicating an increase in nitrate concentrations beyond acceptable levels in 2025. Notably, Gummanur (Ponnaiyar River), Kokkedoddy (Arkavathi River), and T. Bekuppe (Arkavathi River) showed deterioration trends. These increases may be attributed to excessive fertilizer usage, leaching of nitrates into river systems, and reduced assimilation capacity of aquatic ecosystems.

Some stations showed Improved but Hotspot (IBHS) conditions, such as Gummanur (Ponnaiyar River) during the post-monsoon season and Valigonda (Musii River) during the monsoon season. These trends indicate partial reduction in nitrate levels but still above acceptable limits, suggesting ongoing nutrient stress.

Seasonal analysis indicates that the monsoon season recorded the highest number of NHS conditions, likely due to runoff carrying fertilizers and organic matter from agricultural fields into river systems. The pre-monsoon season showed relatively fewer hotspots due to lower runoff but still reflected concentration effects in some locations. During the post-monsoon season, mixed trends were observed, with some stations showing improvement due to dilution and flushing, while others maintained elevated nitrate levels.

Overall, the comparative analysis indicates that nitrate pollution is emerging as a significant concern in several river stretches, particularly in agriculturally intensive regions. The widespread occurrence of NHS and deterioration trends highlights the need for improved nutrient management practices, controlled fertilizer application, and effective monitoring to prevent further degradation of water quality.

Table 25: Comparison of Hot Spots Nitrate as N (NO₃⁻-N) during year 2024 with 2025

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
1	Akkihebbal	Hemavathi	Karnataka	*	7.85	10.6	13.53	11.61	*	*	NHS	*
2	Bendrahalli	Suvarnavathi	Karnataka	*	9.69	18.28	39.62	24.2	*	*	NHS	*
3	Byaladahalli	Haridra	Karnataka	*	8.24	10.55	18	26.55	*	*	NHS	*
4	Cholachagudda	Malaprabha	Karnataka	*	26.03	28.17	23.5	*	*	*	*	*

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
5	Gokak	Ghataprabha	Karnataka	*	9.37	22.97	*	13.61	*	*	NHS	*
6	Gummanur	Ponnaiyar	Tamil Nadu	14.13	12.62	12.54	16.42	15.26	11.42	D	D	IBHS
7	Haralahalli	Tungabhadra	Karnataka	*	-	14.63	11.3	-	*	*	NoHS	*
8	Honnali	Tungabhadra	Karnataka	*	4.73	6.74	7.47	13.94	*	*	NHS	*
9	K M Vadi	Lakshmanthirtha	Karnataka	*	8.6	13.15	14.74	12.53	*	*	NHS	*
10	Kellodu	Vedavathi	Karnataka	*	9.41	16.47	8.25	*	*	*	*	*
11	Kokkedoddy	Arkavathi	Karnataka	*	38.2	38.53	39.33	40.05	*	*	D	*
12	Kollegal	Cauvery	Karnataka	*	6.96	12	13.13	14.39	*	*	NHS	*
13	Kuppellur	Kumudvathi	Karnataka	*	9.05	18.58	*	13.44	*	*	NHS	*
14	M. H. Halli	Hemavathi	Karnataka	*	7.57	7.48	7.44	11.33	*	*	NHS	*
15	Madhira	Wyra	Telangana	10.57	-	-	8.05	-	-	NoHS	NoHS	NoHS
16	Malkhed	Bhima	Karnataka	10.19	-	-	8.09	-	-	NoHS	NoHS	NoHS
17	Marol	Varada	Karnataka	*	-	19.17	8.64	-	*	*	NoHS	*
18	Munugodu	Yedduvagu	Andhra Pradesh	12.45	-	-	9.56	-	-	NoHS	NoHS	NoHS
19	Purna	Purna	Maharashtra	10.48	4.71	3.09	*	*	*	*	*	*
20	T Bekuppe	Arkavathy	Karnataka	*	18.88	23.53	38.36	34.15	*	*	D	*
21	T K Halli	Shimsha	Karnataka	*	8.5	11.42	9.35	*	*	*	*	*
22	T. Narasipur	Kabini	Karnataka	*	8.08	14.73	13.56	14.33	*	*	NHS	*
23	Thimmanahalli	Yagachi	Karnataka	*	8.71	8.89	10.57	18.63	*	*	NHS	*
24	Valigonda	Musi	Telangana	*	13.01	24.26	10.41	2.71	16.4	*	NoHS	IBHS
25	Vijayawada	Krishna	Andhra Pradesh	10.35	-	-	5.04	-	-	NoHS	NoHS	NoHS

(-) means No Hotspot

(*) means Data not available/ river dry.

	No Hot Spot (NoHS)		Deteriorate (D)		New Hotspot (NHS)		Improved but Hotspot (IBHS)
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8.8 Dissolved Oxygen (DO):

Dissolved Oxygen (DO) is a key indicator of river water quality, reflecting the ecological health of aquatic ecosystems. As per the adopted criteria, DO values ≥ 5.0 mg/L are considered within the acceptable limit, whereas

values < 5.0 mg/L indicate Hot Spot conditions. A comparative assessment of DO concentrations during 2024 and 2025 was carried out for 186 water quality monitoring stations across several rivers and states in India during pre-monsoon, monsoon and post-monsoon seasons.

During the pre-monsoon season of 2025, a substantial number of monitoring stations recorded DO values ≥ 5.0 mg/L, indicating improvement in water quality compared to 2024. Several stations such as Alladupalli (Kunderu River), Altuma (Ramial River), Anandapur (Baitarani River), Bhitaura (Ganga River), Bawapuram (Tungabhadra River), Bendrahalli (Suvarnavathi River), Garrauli (Dhasan River), Govindpur (Burhabalanga River), Kalpi (Yamuna River), and Mohana (Betwa River) exhibited No Hot Spot (NoHS) conditions in 2025. In contrast, some locations such as Adityapur (Kharkai River), Lucknow (Gomti River), Nasik (Godavari River), Rai Bareli (Sai River), and Kulpatanga (Kharkai River) showed deterioration (D) in pre-monsoon DO levels compared with the previous year. Furthermore, a few stations like Baghpat (Yamuna River), Kasganj (Kali River), and Kailash Mandir (Yamuna River) emerged as New Hotspots (NHS) due to a decline of DO below the permissible limit in 2025.

During the monsoon season, many stations demonstrated improved oxygen levels due to enhanced river discharge and dilution effects. Stations such as Alladupalli (Kunderu River), Altuma (Ramial River), Auraiya (Yamuna River), Bawapuram (Tungabhadra River), Bendrahalli (Suvarnavathi River), Govindpur (Burhabalanga River), and Kalpi (Yamuna River) recorded No Hot Spot (NoHS) status in 2025. However, some stations including Adityapur (Kharkai River), Anakapalle (Sarada River), Bareilly (Ramganga River), Nasik (Godavari River), and Kannauj (Kali River) exhibited New Hotspot (NHS) conditions during the monsoon period. A number of stations such as B.P.M. (Bamni) (Wardha River), Gummanur (Ponnaiyar River), Okhla Barrage (Yamuna River), and Valigonda (Musli River) showed Improved but Hotspot (IBHS) conditions, indicating improvement in DO levels but still remaining below the acceptable limit.

During the post-monsoon season, the number of monitoring stations recording No Hot Spot (NoHS) conditions increased considerably due to relatively stable hydrological conditions and improved aeration of river systems. Stations such as Auraiya (Yamuna River), Anandapur (Baitarani River), Bhitaura (Ganga River), Govindpur (Burhabalanga River), Kalpi (Yamuna River), Mohana (Betwa River), Panposh (Brahmani River), and Tikarapada (Mahanadi River) demonstrated satisfactory DO levels. Nevertheless, some stations including Adityapur (Kharkai River), Badlapur

(Ulhas River), Kulpatanga (Kharkai River), Kumarapalayam (Varahanadhi River), and Kannapoor (Cauvery River) continued to exhibit New Hotspot (NHS) conditions. A few locations such as Baleni (Hindon River), Chilla Gaon (Hindon Cut), Gokul Barrage (Yamuna River), and Valigonda (Musi River) showed IBHS conditions, indicating gradual recovery but still remaining below the acceptable DO threshold.

Overall, the comparative assessment indicates that a large number of monitoring stations showed improvement in DO levels during 2025, particularly during the monsoon and post-monsoon seasons. However, persistent hotspots and deteriorating trends at certain locations such as Delhi Railway Bridge (Yamuna River), RSP (Brahmani River), Galeta (Hindon River), and Lucknow (Gomti River) highlight continued pressures from urban sewage discharge, industrial effluents, and reduced environmental flows. The presence of new hotspots at several monitoring stations also indicates emerging water quality concerns that require targeted management interventions.

Table 26: Comparison of Hot Spots Dissolved Oxygen (DO) during year 2024 with 2025

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
1	A.B.Road Crossing	Parwati	Madhya Pradesh	*	4.3	*	*	5.78	*	*	NoHS	*
2	A.P. Puram	Chittar	Tamil Nadu	2.6	*	-	*	*	-	*	*	NoHS
3	Adityapur	Kharkai	Jharkhand	4.2	5	5.3	2.47	4.5	3.87	D	NHS	NHS
4	Agra (Jawahar Bridge)	Yamuna	Uttar Pradesh	4	3.1	3.7	2.73	2.61	6.28	D	D	NoHS
5	Agra (Poiyaghat)	Yamuna	Uttar Pradesh	3.3	3	2.9	1.62	2.42	4.72	D	D	IBHS
6	Alladupalli	Kunderu	Andhra Pradesh	-	4.9	-	-	-	-	NoHS	NoHS	NoHS
7	Altuma	Ramial	Odisha	4.8	-	-	5.87	-	-	NoHS	NoHS	NoHS
8	Anakapalle	Sarada	Andhra Pradesh	4.5	5	6.4	5.01	4.88	4.95	NoHS	NHS	NHS
9	Anandapur	Baitarani	Odisha	4.8	-	-	6.02	-	-	NoHS	NoHS	NoHS
10	Annavasal	Cauvery/Nattar	Puducherry	*	5.4	-	*	4.38	-	*	NHS	NoHS
11	Aradei	Aradei	Odisha	4.3	-	-	5.86	-	-	NoHS	NoHS	NoHS
12	Arcot	Palar	Tamil Nadu	-	3.9	4.6	-	3	5.93	NoHS	D	NoHS
13	Arjunwad (seasonal)	Krishna	Maharashtra	*	-	-	4.86	-	-	*	NoHS	NoHS
14	Arnota	Uttangan	Uttar Pradesh	*	-	*	*	-	3.82	*	NoHS	*

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
15	Auraiya	Yamuna	Uttar Pradesh	-	4.2	-	-	5.34	-	NoHS	NoHS	NoHS
16	B.P.M. (Bamni)	Wardha	Maharashtra	3	3.6	4.4	3.37	4.05	4.53	IBHS	IBHS	IBHS
17	Bachhwara	Baya	Bihar	*	5.3	4.8	4.58	4.64	6.01	*	NHS	NoHS
18	Badlapur	Ulhas	Maharashtra	6.4	-	5	5	-	4.52	NoHS	NoHS	NHS
19	Baghpat	Yamuna	Uttar Pradesh	5.2	-	-	4.44	-	-	NHS	NoHS	NoHS
20	Baleni	Hindon	Uttar Pradesh	0.8	1.2	1	1.02	2.28	1.09	IBHS	IBHS	IBHS
21	Balighat	Burhabalanga	Odisha	4.5	5	-	5.51	5.44	-	NoHS	NoHS	NoHS
22	Banpur	Mathabhanga	West Bengal	*	*	*	1.21	1.9	3.97	*	*	*
23	Bareilly	Ramganga	Uttar Pradesh	-	4.7	6.1	-	4.44	4.54	NoHS	D	NHS
24	Baridhi	Subarnarekha	Jharkhand	-	5.2	-	-	4.85	-	NoHS	NHS	NoHS
25	Baripada	Burhabalanga	Odisha	4.6	4.8	-	5.48	5.82	-	NoHS	NoHS	NoHS
26	Basti	Kwano	Uttar Pradesh	4.1	3.1	-	3.67	4.11	-	D	IBHS	NoHS
27	Basti D/S	Kwano	Uttar Pradesh	4.5	2.8	-	3.24	3.34	-	D	IBHS	NoHS
28	Basti U/S	Kwano	Uttar Pradesh	6	4.3	-	4.03	4.51	-	NHS	IBHS	NoHS
29	Bawapuram	Tungabhadra	Andhra Pradesh	2.9	-	-	6.21	-	-	NoHS	NoHS	NoHS
30	Bendrahalli	Suvarnavathi	Karnataka	4.9	-	-	6.03	-	-	NoHS	NoHS	NoHS
31	Bhind	Kunwari	Madhya Pradesh	-	4.4	-	-	6.19	-	NoHS	NoHS	NoHS
32	Bhitora	Ganga	Uttar Pradesh	3.8	5	-	5.78	6.3	-	NoHS	NoHS	NoHS
33	Bido	Brahamani	Odisha	4.2	5.3	-	5.73	4.56	-	NoHS	NHS	NoHS
34	Bolani	Brahamani	Odisha	4.4	4.8	-	5.66	5.25	-	NoHS	NoHS	NoHS
35	Bonaigarh	Brahamani	Odisha	4.2	-	-	5.93	-	-	NoHS	NoHS	NoHS
36	Champua	Baitarani	Odisha	4.6	-	-	5.55	-	-	NoHS	NoHS	NoHS
37	Chandrika Devi	Gomti	Uttar Pradesh	-	4.5	-	-	5.76	-	NoHS	NoHS	NoHS
38	Chapra	Jalangi	West Bengal	*	*	*	7.36	3.52	7.75	*	*	*
39	Chilla Gaon	Hindon Cut	Delhi	0.3	0.4	0.7	0.43	2.38	1.38	IBHS	IBHS	IBHS
40	Chittorgarh	Gambhiri	Rajasthan	*	3.7	*	*	*	*	*	*	*
41	Dabri	Ramganga	Uttar Pradesh	3.7	3.4	-	5.18	4.9	-	NoHS	IBHS	NoHS
42	Dadri	Sahibi	Haryana	*	2	*	*	3.96	*	*	IBHS	*
43	Dameracherla	Musi	Telangana	2.4	4.4	4.9	6.6	6.33	6.56	NoHS	NoHS	NoHS
44	Daund	Bhima	Maharashtra	*	4.7	*	*	5.12	*	*	NoHS	*
45	Delhi Railway Bridge	Yamuna	Delhi	0.1	1.4	0.3	0	3.12	1.83	D	IBHS	IBHS
46	Deongaon Bridge	Bhima	Karnataka	*	-	4.6	*	-	*	*	NoHS	*
47	Deosugur	Musi	Karnataka	5	-	-	5.28	-	-	NoHS	NoHS	NoHS
48	Dhaneta	Baigul/Kicha	Uttar Pradesh	5.3	4.8	3.7	4.23	5.62	4.19	NHS	NoHS	IBHS
49	Dhansa	Sahibi	Haryana	*	3.2	*	*	2.39	*	*	D	*

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
50	Domuhani	Subarnarekha	Jharkhand	4.9	-	-	5.23	-	-	NoHS	NoHS	NoHS
51	Ekmighat	AdhwaraGroup	Bihar	-	5.4	-	-	4.36	-	NoHS	NHS	NoHS
52	Elunuthimangalam	Noyyal	Tamil Nadu	-	6.4	-	-	4.99	-	NoHS	NHS	NoHS
53	English Bazar	Mahananda	West Bengal	*	*	*	6.68	4.81	6.68	*	*	*
54	Etawah	Yamuna	Uttar Pradesh	4	2.7	4.6	3.25	3.61	4.33	D	IBHS	D
55	Farakka (HR)	Ganga	West Bengal	*	*	*	7.74	6.29	4.47	*	*	*
56	Galeta	Hindon	Uttar Pradesh	0.7	1.4	0	0.14	1.23	0.54	D	D	IBHS
57	Garrauli	Dhasan	Madhya Pradesh	-	5	-	-	6.74	-	NoHS	NoHS	NoHS
58	Gatora-1	Arpa	Chhattisgarh	5	-	-	5.61	-	-	NoHS	NoHS	NoHS
59	Gatora-2	Arpa	Chhattisgarh	4.9	-	5.8	5.34	-	4.65	NoHS	NoHS	NHS
60	GH.Rd.Bridge	Subarnarekha	Jharkhand	5	-	-	6.01	-	-	NoHS	NoHS	NoHS
61	Gokul barrage Mathura D/S	Yamuna	Uttar Pradesh	2	2.6	2	2.76	3.54	4.04	IBHS	IBHS	IBHS
62	Gomlai	Brahamani	Odisha	4.9	-	-	5.95	-	-	NoHS	NoHS	NoHS
63	Gomti Nagar	Gomti	Uttar Pradesh	2.2	1.9	3.3	2.05	2.69	3.46	D	IBHS	IBHS
64	Gopiballavpur	Subarnarekha	West Bengal	4.4	5	-	5.82	5.63	-	NoHS	NoHS	NoHS
65	Gopurajapuram	Puravidaiyanar	Tamil Nadu	-	3.9	4.5	-	4.09	5.98	NoHS	IBHS	NoHS
66	Govindpur(NH-5)	Burhabalanga	Odisha	4.7	-	-	5.43	-	-	NoHS	NoHS	NoHS
67	Gudari	Vamsadhara	Odisha	4.4	-	-	5.6	-	-	NoHS	NoHS	NoHS
68	Gummanur	Ponnaiyar	Tamil Nadu	3	2.3	3.6	3	3.48	3.63	IBHS	IBHS	IBHS
69	Gunupur	Vamsadhara	Odisha	3.9	-	-	5.44	-	-	NoHS	NoHS	NoHS
70	Halia	Halia	Telangana	*	4.4	4.6	3.91	4.8	6.28	*	IBHS	NoHS
71	Hanskhal	Churni	West Bengal	*	*	*	2.65	1.75	4.2	*	*	*
72	Hathikhana	Ganga	Uttar Pradesh	4.8	-	5	5.7	-	*	NoHS	NoHS	*
73	Hayaghat	Bagmati	Bihar	-	5.3	-	-	4.96	-	NoHS	NHS	NoHS
74	Hogenakkal	Chinnar	Tamil Nadu	*	4.6	5.9	*	6.71	*	*	NoHS	*
75	Huvinhedgi	Krishna	Karnataka	5	-	-	5.71	-	-	NoHS	NoHS	NoHS
76	Indupur	Brahamani	Odisha	3.9	*	*	*	*	*	*	*	*
77	Irrukkankudi	Vaippar	Tamil Nadu	4	*	3.2	3.19	*	*	D	*	*
78	Jamshedpur	Subarnarekha	Jharkhand	4.9	4.7	-	5.42	5.49	-	NoHS	NoHS	NoHS
79	Jamsolaghat	Subarnarekha	Odisha	4.1	5	-	5.92	5.51	-	NoHS	NoHS	NoHS
80	Jaraikela	Koel	Odisha	4.4	4.9	-	5.82	5.84	-	NoHS	NoHS	NoHS
81	K M Vadi	Lakshmanthir	Karnataka	3.5	-	-	6.01	-	-	NoHS	NoHS	NoHS
82	K.T.(Satrapur)	Kanhan	Maharashtra	0.2	0.9	0.2	0.27	0.97	0.47	IBHS	IBHS	IBHS

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
83	Kailash Mandir (Agra U/S)	Yamuna	Uttar Pradesh	4.9	2.6	3.1	1.94	3.18	5.61	D	IBHS	NoHS
84	Kakarghatti	Jivach	Bihar	6.6	5.8	-	4.8	4.5	-	NHS	NHS	NoHS
85	Kalasapadu	Sagileru	Andhra Pradesh	*	*	*	*	2	4.73	*	*	*
86	Kalindi Kunj	Agra Canal	Delhi	0.3	0.3	0.3	0.36	2.66	2.27	IBHS	IBHS	IBHS
87	Kalpi	Yamuna	Uttar Pradesh	-	5	-	-	6.33	-	NoHS	NoHS	NoHS
88	Kannapoor	Cauvery/Vanjiyar	Puducherry	*	*	*	4.4	2.84	4.9	*	*	*
89	Kannauj	Kali	Uttar Pradesh	6.4	5.4	4.4	4.63	4.7	3.49	NHS	NHS	D
90	Kasganj	Kali	Uttar Pradesh	5.2	2.6	3.4	3.01	4.1	5.02	NHS	IBHS	NoHS
91	Kashinagar	Vamsadhara	Odisha	4.3	5.2	-	5.27	4.99	-	NoHS	NHS	NoHS
92	Keesara	Munneru	Andhra Pradesh	*	4.8	-	6.4	6.82	-	*	NoHS	NoHS
93	Kenduapada	Kanijhari	Odisha	4.9	-	-	*	-	-	*	NoHS	NoHS
94	Keonjhar	Aradei	Odisha	3.7	*	*	—	—	—	*	*	*
95	Kodumudi	Cauvery	Tamil Nadu	4.6	-	-	4.82	-	-	IBHS	NoHS	NoHS
96	Kopergaon	Godavari	Maharashtra	*	4.5	*	*	5.74	6.48	*	NoHS	*
97	Kora	Rind	Uttar Pradesh	-	4.8	-	-	5.69	-	NoHS	NoHS	NoHS
98	Korba-1	Hasdeo	Chhattisgarh	-	5.9	-	-	4.64	-	NoHS	NHS	NoHS
99	Kudalaiyathur	Vellar	Tamil Nadu	*	*	5.6	6	5.2	4.3	*	*	NHS
100	Kulpatanga	Kharkai	Jharkhand	3.8	5.2	5.6	3.26	4.53	3.72	D	NHS	NHS
101	Kumarapalayam	Varahanadhi	Puducherry	-	*	5.9	-	4.6	4.34	NoHS	*	NHS
102	Lalpur	Sengar	Uttar Pradesh	-	4.1	-	-	5.98	-	NoHS	NoHS	NoHS
103	Lucknow	Gomti	Uttar Pradesh	2.5	2.1	2.4	2	2.65	2.19	D	IBHS	D
104	Lupungdhi	Subarnarekha	Jharkhand	4.3	-	-	5.53	-	-	NoHS	NoHS	NoHS
105	Madhabarida	Badanadi	Odisha	5.1	*	*	*	*	4.8	*	*	*
106	Madhira	Wyra	Telangana	-	4.7	-	-	6.59	-	NoHS	NoHS	NoHS
107	Mahidpur	Shipra	Madhya Pradesh	*	4.3	*	*	4.58	*	*	IBHS	*
108	Malkhed	Bhima	Karnataka	-	5.2	-	-	4.98	-	NoHS	NHS	NoHS
109	Mangaon	Kal	Maharashtra	*	-	4.6	*	-	*	*	NoHS	*
110	Mehandipur	Ganga	Uttar Pradesh	-	-	6	-	-	4.96	NoHS	NoHS	NHS
111	Meliaputty	Mahendratana	Andhra Pradesh	4.5	4.6	*	*	*	6	*	*	*
112	Menangudi	Cauvery/Noolar	Tamil Nadu	5.1	4.1	3.7	5	4.23	5.45	NoHS	IBHS	NoHS
113	Mohana	Betwa	Uttar Pradesh	-	4.8	-	-	6.06	-	NoHS	NoHS	NoHS
114	Mohna	Yamuna	Haryana	0.2	1.8	0.2	0.5	2.26	1.17	IBHS	IBHS	IBHS

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
115	Moradabad	Ramganga	Uttar Pradesh	3	3.7	-	4.46	4.95	-	IBHS	IBHS	NoHS
116	Munugodu	Yedduvagu	Andhra Pradesh	4.8	5.3	-	5.28	4.67	-	NoHS	NHS	NoHS
117	Murappanadu	Tambraparani	Tamil Nadu	4.9	-	-	5.75	-	-	NoHS	NoHS	NoHS
118	Muri	Subarnarekha	Jharkhand	4.4	-	-	5.44	-	-	NoHS	NoHS	NoHS
119	Nallathur	Cauvery/Nandalar	Puducherry	5.3	6	4.3	*	3.63	5.85	*	NHS	NoHS
120	Nanded	Godavari	Maharashtra	1.1	3.1	-	4.48	6.03	-	IBHS	NoHS	NoHS
121	Nandipalli	Pennar/Sagileru	Andhra Pradesh	-	4.9	4.9	-	4.54	5.43	NoHS	D	NoHS
122	Naraj	Mahanadi	Odisha	*	*	*	4.66	5.52	6.22	*	*	*
123	Nasik	Godavari	Maharashtra	2.9	2.6	1.9	1.56	3.93	4.49	D	IBHS	IBHS
124	Neemsar	Gomti	Uttar Pradesh	-	4.5	-	-	5.36	-	NoHS	NoHS	NoHS
125	Noida	Hindon	Uttar Pradesh	0	0.9	0.8	0.57	1.05	1.25	IBHS	IBHS	IBHS
126	Okhla barrage	Yamuna	Delhi	0.3	0.6	0.4	0.41	3.26	1.4	IBHS	IBHS	IBHS
127	Orai-Rath Marg (Chikasi U/S)	Betwa	Uttar Pradesh	-	5	-	-	6.3	-	NoHS	NoHS	NoHS
128	Paleru Bridge	Krishna	Andhra Pradesh	*	3.8	4.8	6.1	6.04	6.6	*	NoHS	NoHS
129	Palla	Yamuna	Delhi	-	4.4	-	-	5.98	-	NoHS	NoHS	NoHS
130	Panposh	Brahamani	Odisha	4.8	-	-	5.49	-	-	NoHS	NoHS	NoHS
131	Panposh-I	Sankh	Odisha	4.9	-	-	5.89	-	-	NoHS	NoHS	NoHS
132	Panposh-II	Koel	Odisha	4.9	4.7	-	5.59	5.71	-	NoHS	NoHS	NoHS
133	Paramkudi	Vaigai	Tamil Nadu	3.9	4.9	-	5.72	4.38	-	NoHS	D	NoHS
134	Pargaon	Bhima	Maharashtra	*	4.4	*	*	4.61	*	*	IBHS	*
135	Parsohan ghat	Burhi Rapti	Uttar Pradesh	-	4.5	-	-	6.4	-	NoHS	NoHS	NoHS
136	Peralam	Cauvery/Vanjigar	Tamil Nadu	5.2	3.5	3.2	*	*	*	*	*	*
137	Phulgaon	Bhima	Maharashtra	*	5.4	*	*	4.92	*	*	NHS	*
138	Pingalwada	Dhadhar	Gujarat	1.5	0.5	0.5	1.84	2.41	1.44	IBHS	IBHS	IBHS
139	Porakudi	Cauvery/Arasalar	Tamil Nadu	5.1	4.4	-	*	4.35	-	*	D	NoHS
140	Purashottampur	Rushikulya	Odisha	4.3	5.3	6.3	5.55	4.86	4.88	NoHS	NHS	NHS
141	Purna	Purna	Maharashtra	5.5	5.2	-	*	4.89	-	*	NHS	NoHS
142	Purunagarh	Baliapatana	Odisha	4.4	4.7	-	5.22	5.29	-	NoHS	NoHS	NoHS
143	Rahu	Bhima	Maharashtra	*	3.4	*	*	3.94	*	*	IBHS	*
144	Rai Bareli	Sai	Uttar Pradesh	3.6	2.8	5.1	2.5	2.99	4.55	D	IBHS	NHS
145	Rajahmundry	Godavari	Andhra Pradesh	-	5.6	-	-	4.77	-	NoHS	NHS	NoHS

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
146	Rajghat	Subarnarekha	Odisha	4.4	4.6	-	5.92	5.88	-	NoHS	NoHS	NoHS
147	Rajghat (Agra)	Betwa	Uttar Pradesh	4.7	-	-	6.16	-	-	NoHS	NoHS	NoHS
148	Roorkee D/S	Saloni	Uttarakhand	0.2	0.1	0	0	0.49	0	D	IBHS	D
149	Roorkee U/S	Saloni	Uttarakhand	0.2	0.1	0	0	0.54	0	D	IBHS	D
150	RSP	Brahamani	Odisha	3.4	4.2	4.4	1.75	2.38	2.45	D	D	D
151	RSP-I	Brahamani	Odisha	4.9	5.1	5.3	3.7	4.46	4.3	D	NHS	NHS
152	RSP-II	Brahamani	Odisha	4.5	5	-	4.78	4.64	-	IBHS	IBHS	NoHS
153	Saigaon	Manjera	Karnataka	*	4.6	7	*	5.24	*	*	NoHS	*
154	Salooru	Manjira	Telangana	-	4.8	-	-	3.57	-	NoHS	D	NoHS
155	Sevanur	Chittar	Tamil Nadu	*	3.5	4.2	4.8	4.48	4.69	*	IBHS	IBHS
156	Shahjahanpur	Khannaut	Uttar Pradesh	4	3.6	4.7	3.94	4.83	5.85	D	IBHS	NoHS
157	Shimoga	Tunga	Karnataka	5	-	-	6.75	-	-	NoHS	NoHS	NoHS
158	Singasadanapalli	Ponnaiyar	Tamil Nadu	0	0	0	0	0	0	D	D	D
159	Singavaram	Pennar/Chitra vathi	Andhra Pradesh	*	4.8	*	*	4.41	4.25	*	D	*
160	Sitapur	Sarayan	Uttar Pradesh	4.8	3.5	-	2.9	4.44	-	D	IBHS	NoHS
161	Sorada	Rushikulya	Odisha	4.4	5.1	-	5.33	4.99	-	NoHS	NHS	NoHS
162	Srikakulam	Nagavali	Andhra Pradesh	4.3	5	4.9	5.72	4.96	5.25	NoHS	NHS	NoHS
163	Suddakallu	Dindi	Telangana	-	4.5	-	-	4.48	-	NoHS	D	NoHS
164	Swampatana	Baitarani	Odisha	4.8	-	-	*	-	-	*	NoHS	NoHS
165	T Bekuppe	Arkavathy	Karnataka	2	2.4	3.5	3.27	3.2	4.38	IBHS	IBHS	IBHS
166	T. K. Halli	Shimsha	Karnataka	*	5	-	3.75	5.52	-	*	NoHS	NoHS
167	Tadipatri	Pennar	Andhra Pradesh	*	4.3	*	3.4	5.2	5.9	*	NoHS	*
168	Talcher	Brahamani	Odisha	4.7	-	-	5.82	-	-	NoHS	NoHS	NoHS
169	Terwad	Panchganga	Maharashtra	*	3.9	3.6	*	4.65	*	*	IBHS	*
170	Thengudi	Cauvery/Thiru malairajanar	Tamil Nadu	5.2	4.4	4.2	4.41	3.2	5.68	NHS	D	NoHS
171	Thevur	Sarabenga	Tamil Nadu	5	2.3	4	4.16	2.86	4.03	NHS	IBHS	IBHS
172	Tiharkhera	Ramganga	Uttar Pradesh	-	4	3.4	-	5.4	5.11	NoHS	NoHS	NoHS
173	Tikarapada	Mahanadi	Odisha	4.2	-	-	5.78	-	-	NoHS	NoHS	NoHS
174	Tilga	Sankh	Jharkhand	4.4	-	-	5.89	-	-	NoHS	NoHS	NoHS
175	Tondarpur	Sukheta	Uttar Pradesh	4.5	3	4.8	5.6	5.29	6.43	NoHS	NoHS	NoHS
176	Udi	Chambal	Uttar Pradesh	-	4.3	-	-	6.6	-	NoHS	NoHS	NoHS
177	Ujjain	Shipra	Madhya Pradesh	*	3.5	5.1	*	3.98	3.57	*	IBHS	NHS
178	Valigonda	Musi	Telangana	0.6	0.9	1	1.87	2.53	4.58	IBHS	IBHS	IBHS
179	Vapi	Daman Ganga	Gujarat	-	5.3	-	-	4.99	-	NoHS	NHS	NoHS

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
180	Vautha	Sabarmati	Gujarat	0	0.7	0.2	0	2.24	0.84	IBHS	IBHS	IBHS
181	Vazhavachanur	Ponnaiyar	Tamil Nadu	-	4.4	-	-	5.87	-	NoHS	NoHS	NoHS
182	Verupakshapuram	Swarnamukhi	Andhra Pradesh	*	*	*	*	4.18	4.63	*	*	*
183	Vrindawan Bridge (Mathura U/S)	Yamuna	Uttar Pradesh	1	2.3	1.8	2.14	3.49	3.3	IBHS	IBHS	IBHS
184	Wadakbal	Sina	Maharashtra	*	4.5	3.5	4.69	4.17	4.5	*	D	IBHS
185	Wadenapalli	Krishna	Telangana	5.7	-	-	4.62	-	-	NHS	NoHS	NoHS
186	Yamuna Expressway Road Bridge, Etamadpur (Agra D/S)	Yamuna	Uttar Pradesh	5	3.1	3.8	2.95	2.61	5.89	NHS	D	NoHS

(-) means No Hotspot

(*) means Data not available/ river dry.

	No Hot Spot (NoHS)		Deteriorate (D)		New Hotspot (NHS)		Improved but Hotspot (IBHS)
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8.9 Biochemical Oxygen Demand (BOD):

The comparison of Biochemical Oxygen Demand (BOD) hotspots at various river water quality monitoring stations during 2024 and 2025 provides critical insights into the organic pollution load and biodegradation processes in river systems. Elevated BOD levels indicate high organic matter content, typically arising from untreated sewage, industrial effluents, and agricultural runoff, which in turn leads to depletion of dissolved oxygen. The assessment was carried out for pre-monsoon (Pre-M), monsoon (M), and post-monsoon (Post-M) seasons to capture seasonal variability. The results presented in Table 27 indicate widespread hotspot occurrence, with mixed trends of improvement, deterioration, and emergence of new hotspots across the country.

Overall, the analysis of hotspot categories shows that Improved but Hotspot (IBHS) conditions constitute a significant proportion of stations (approximately 35–40%), indicating that although BOD levels have reduced compared to 2024, they still remain above acceptable limits. Several stations along highly polluted river stretches such as the Yamuna (Delhi Railway Bridge, Okhla Barrage, Vrindawan Bridge, Agra stretch), Hindon

(Baleni, Noida), and Wardha (B.P.M. Bamni) consistently fall under this category, reflecting persistent organic pollution despite partial improvement.

The No Hot Spot (NoHS) category accounts for a substantial share (around 30–35%) of the monitoring stations, indicating that many river stretches maintained acceptable BOD levels during 2025. Stations such as Aradei (Odisha), Burhanpur (Tapi River), Bairstonia (Bihar), Mandawara (Chambal River), Nanded (Godavari River), and several stations across southern and eastern India fall under this category. These observations suggest relatively lower organic pollution load and better assimilation capacity in these river systems.

The New Hot Spot (NHS) category is also prominent, contributing to approximately 20–25% of the observations, indicating emerging organic pollution at several locations. Stations such as Adityapur (Kharkai River), Kulpatanga (Kharkai River), RSP (Brahmani River), Balrampur (Ghaghra/Rapti), and several stretches of the Ganga basin exhibited NHS conditions. This trend reflects increasing anthropogenic pressure, possibly due to untreated sewage discharge, industrial growth, and inadequate wastewater treatment.

The Deterioration (D) category accounts for a smaller but significant proportion (around 10–15%), indicating worsening BOD levels in 2025. Stations such as Agra (Jawahar Bridge), Agra (Poityaghat), Bareilly (Ramganga River), Basti (Kwano River), Gomti Nagar (Gomti River), Kannauj (Kali River), and RSP locations in Odisha exhibited deterioration across seasons. These trends highlight severe organic pollution and increasing stress on river ecosystems.

Seasonal analysis indicates that the pre-monsoon season recorded the highest BOD concentrations at several stations due to low flow conditions and accumulation of organic pollutants. During the monsoon season, partial improvement was observed at many stations due to dilution, although several locations continued to show IBHS and NHS conditions, indicating continuous pollutant input. In the post-monsoon season, mixed trends were observed, with some stations improving to NoHS status, while others showed persistent or new hotspot conditions due to residual organic load.

Overall, the comparative analysis indicates that BOD remains a major concern across many river stretches in India. While a considerable number of stations show improvement or acceptable conditions, the dominance of IBHS and the significant presence of NHS and deterioration trends highlight ongoing challenges related to organic pollution. Strengthening sewage treatment infrastructure, controlling industrial discharge, and improving river

flow management are essential to reduce BOD levels and restore ecological health of river systems.

Table 27: Comparison of Hot Spots Biochemical Oxygen Demand (BOD) during year 2024 with 2025

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
1	A.B.Road Crossing	Parwati	Madhya Pradesh	*	4.95	*	*	2.45	*	*	NoHS	*
2	A.P.M. (Ashti)	Godavari/Pranhita/Wainganga	Maharashtra	2.76	2.66	2.90	3.44	*	*	NHS	*	*
3	Adityapur	Kharkai	Jharkhand	1.45	2.30	2.02	32.38	11.47	7.57	NHS	NHS	NHS
4	Agra (Jawahar Bridge)	Yamuna	Uttar Pradesh	18.74	13.97	23.68	51.39	22.96	20.93	D	D	IBHS
5	Agra (Poiyaghat)	Yamuna	Uttar Pradesh	20.71	21.61	20.00	43.30	20.96	16.07	D	IBHS	IBHS
6	Akbarpur	Chhoti sarju	Uttar Pradesh	3.97	3.49	3.76	3.36	3.21	3.22	IBHS	IBHS	IBHS
7	Allahabad	Ganga	Uttar Pradesh	3.56	3.24	3.24	3.02	2.80	2.80	IBHS	NoHS	NoHS
8	Ankinghat	Ganga	Uttar Pradesh	5.93	2.94	3.39	3.68	3.97	3.60	IBHS	NHS	D
9	AP Puram	Chittar	Tamil Nadu	6.71	*	-	*	*	-	*	*	NoHS
10	Aradei	Aradei	Odisha	-	-	3.05	-	-	1.90	NoHS	NoHS	NoHS
11	Arnota	Uttangan	Uttar Pradesh	*	2.38	*	*	4.10	1.33	*	NHS	*
12	Auraiya	Yamuna	Uttar Pradesh	13.35	3.55	7.56	9.85	5.79	6.60	IBHS	D	IBHS
13	Ayodhya	Ganga/Ghaghra	Uttar Pradesh	-	2.02	1.72	-	4.16	3.30	NoHS	NHS	NHS
14	B.P.M. (Bamni)	Wardha	Maharashtra	41.36	26.43	25.27	27.87	21.91	13.83	IBHS	IBHS	IBHS
15	Badlapur	Ulhas	Maharashtra	-	-	2.35	-	-	3.01	NoHS	NoHS	NHS
16	Baghpat	Yamuna	Uttar Pradesh	17.60	2.42	-	7.70	4.68	-	IBHS	NHS	NoHS
17	Bairgania	Lalbekia	Bihar	3.51	-	-	1.62	-	-	NoHS	NoHS	NoHS
18	Baleni	Hindon	Uttar Pradesh	46.22	33.00	34.24	30.76	18.26	25.69	IBHS	IBHS	IBHS
19	Balrampur	Ganga/Ghaghra/Rapti	Uttar Pradesh	2.29	2.47	1.93	3.05	4.20	3.33	NHS	NHS	NHS
20	Baluaghat	Ganga	Uttar Pradesh	3.43	3.09	3.23	3.07	2.86	2.90	IBHS	NoHS	NoHS
21	Bamni (Nagpur)	Wardha	Maharashtra	3.63	-	3.27	3.80	-	1.83	D	NoHS	NoHS
22	Banda	Ken	Uttar Pradesh	-	-	3.11	-	-	4.09	NoHS	NoHS	D
23	Bangapani	Ganga/Ghaghra/Sharda/Gauriganga	Uttarakhand	-	1.96	1.89	-	4.05	4.15	NHS	NHS	NHS

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
24	Banka	Chandan	Bihar	-	3.14	-	-	1.28	-	NoHS	NoHS	NoHS
25	Banpur	Bhagirathi/Mathabhanga	West Bengal	*	*	*	4.53	3.33	1.30	*	*	*
26	Bansi	Rapti	Uttar Pradesh	2.30	5.38	2.25	3.07	3.72	3.32	NHS	IBHS	NHS
27	Bareilly	Ramganga	Uttar Pradesh	8.58	12.48	6.73	10.20	14.79	7.23	D	D	D
28	Basantpur (Ganga)	Ganga	Uttar Pradesh	2.85	1.85	2.00	3.92	3.60	3.38	NHS	NHS	NHS
29	Basti	Kwano	Uttar Pradesh	9.58	11.65	5.95	13.65	15.16	8.98	D	D	D
30	Basti D/S	Kwano	Uttar Pradesh	12.66	13.45	6.61	17.06	19.42	10.49	D	D	D
31	Basti U/S	Kwano	Uttar Pradesh	6.57	9.50	4.59	10.87	12.91	6.39	D	D	D
32	Bhadana Village D/s of Kota City	Chambal	Rajasthan	*	3.89	*	*	1.99	1.18	*	NoHS	*
33	Bhind	Kunwari	Madhya Pradesh	1.30	1.87	3.49	3.72	4.16	4.36	NHS	NHS	D
34	Bhitora	Ganga	Uttar Pradesh	10.43	6.15	4.48	7.20	3.74	3.43	IBHS	IBHS	IBHS
35	Birdghat	Rapti	Uttar Pradesh	2.65	3.55	2.03	5.18	4.27	3.61	NHS	D	NHS
36	Bithoor	Ganga	Uttar Pradesh	4.08	2.85	2.96	4.69	4.03	3.78	D	NHS	NHS
37	Burhanpur	Tapi	Madhya Pradesh	3.95	-	-	1.68	-	-	NoHS	NoHS	NoHS
38	Buxar	Ganga	Bihar	2.91	-	-	3.13	-	-	NHS	NoHS	NoHS
39	Chandrika Devi	Gomti	Uttar Pradesh	4.14	5.89	3.31	5.87	9.85	4.38	D	D	D
40	Chilla Gaon	Hindon Cut	Delhi	54.21	39.84	36.61	34.00	17.75	23.80	IBHS	IBHS	IBHS
41	Chittorgarh	Gambhiri	Rajasthan	*	9.92	*	*	*	*	*	*	*
42	Cholachagudda	Malaprabha	Karnataka	*	3.01	-	1.94	1.93	-	*	NoHS	NoHS
43	Coronation	Brahmaputra/Teesta	West Bengal	-	1.03	*	-	*	3.10	NoHS	*	*
44	Dabri	Ramganga	Uttar Pradesh	11.81	10.76	8.38	7.67	9.61	7.15	IBHS	IBHS	IBHS
45	Dadri	Sahibi	Haryana	*	16.72	*	*	8.86	*	*	IBHS	*
46	Dameracherla	Krishna/Musi	Telangana	-	2.41	-	-	3.24	-	NoHS	NHS	NoHS
47	Daund	Bhima	Maharashtra	*	7.19	*	*	2.56	*	*	NoHS	*

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
48	Delhi Railway Bridge	Yamuna	Delhi	68.14	38.81	42.52	39.89	17.59	20.70	IBHS	IBHS	IBHS
49	Dhalegaon	Godavari	Maharashtra	-	2.12	2.05	-	3.18	*	NoHS	NHS	*
50	Dhaneta	Baigul/Kicha	Uttar Pradesh	10.87	7.23	15.07	10.18	6.86	7.82	IBHS	IBHS	IBHS
51	Dhansa	Sahibi	Haryana	*	24.67	*	*	10.11	*	*	IBHS	*
52	Dhareri	Chambal	Madhya Pradesh	*	4.41	*	*	3.76	*	*	IBHS	*
53	Dhengbridge	Bagmati	Bihar	-	3.07	3.11	-	2.81	1.90	NoHS	NoHS	NoHS
54	Dholpur	Chambal	Rajasthan	2.39	2.16	2.86	3.15	3.66	3.51	NHS	NHS	NHS
55	Dobhi	Phalgu	Bihar	3.53	-	-	2.91	-	-	NoHS	NoHS	NoHS
56	Domohani	Brahmaputra/Teesta	West Bengal	-	2.13	-	-	3.10	-	NoHS	NHS	NoHS
57	Ekmighat	Ganga/Kosi/Bagmati/AdhwaraGroup	Bihar	2.30	-	-	3.11	-	-	NHS	NoHS	NoHS
58	Elgin Bridge	Ganga/Ghaghra	Uttar Pradesh	-	2.41	1.91	-	3.68	3.93	NoHS	NHS	NHS
59	Elunuthimangalam	Noyyal	Tamil Nadu	3.01	-	-	1.08	-	-	NoHS	NoHS	NoHS
60	Etawah	Yamuna	Uttar Pradesh	25.43	18.08	19.26	52.73	15.80	18.77	D	IBHS	IBHS
61	Faizabad U/S	Ganga/Ghaghra	Uttar Pradesh	2.45	2.05	1.64	3.65	4.05	3.19	NHS	NHS	NHS
62	Fatehgarh	Ganga	Uttar Pradesh	7.14	3.65	3.41	3.58	3.93	3.09	IBHS	D	IBHS
63	Galeta	Hindon	Uttar Pradesh	66.04	28.94	43.75	38.42	25.38	33.70	IBHS	IBHS	IBHS
64	Garhakota	Sonar	Madhya Pradesh	*	-	*	*	-	6.55	*	NoHS	*
65	Garhmukteshwar	Ganga	Uttar Pradesh	3.66	3.26	2.31	3.67	3.94	3.25	D	D	NHS
66	Garrauli	Dhasan	Madhya Pradesh	-	3.41	-	-	1.93	-	NoHS	NoHS	NoHS
67	Gaya	Phalgu	Bihar	3.24	-	-	2.59	-	-	NoHS	NoHS	NoHS
68	Ghat	Ganga/Ghaghra/Sharda/Saryu	Uttarakhand	-	2.53	1.84	-	4.07	3.89	NoHS	NHS	NHS
69	Ghazipur	Ganga	Uttar Pradesh	3.87	3.53	3.32	3.02	2.81	2.89	IBHS	NoHS	NoHS
70	Gokul barrage Mathura D/S	Yamuna	Uttar Pradesh	40.50	28.72	32.31	27.22	13.86	13.85	IBHS	IBHS	IBHS

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
71	Gomti Nagar	Gomti	Uttar Pradesh	16.11	19.88	15.26	17.11	22.88	17.17	D	D	D
72	Gopurajapuram	Cauvery/Puravidaiyanar	Tamil Nadu	-	3.36	-	-	2.13	-	NoHS	NoHS	NoHS
73	Gorakhpur D/S	Rapti	Uttar Pradesh	3.99	5.47	2.13	6.36	4.62	3.58	D	IBHS	NHS
74	Gorakhpur U/S	Rapti	Uttar Pradesh	3.02	3.67	1.50	4.21	4.07	3.26	D	D	NHS
75	Aheri Gudam Bridge	Pranhita	Maharashtra	3.73	-	-	2.17	-	-	NoHS	NoHS	NoHS
76	Gummanur	Ponnaiyar	Tamil Nadu	36.78	25.53	30.39	37.07	24.00	36.06	D	IBHS	D
77	Halia	Krishna/Halia	Telangana	*	1.53	-	1.94	3.32	-	*	NHS	NoHS
78	Hamirpur	Yamuna	Uttar Pradesh	6.11	1.76	5.06	5.79	3.54	4.61	IBHS	NHS	IBHS
79	Hathikhana	Ganga	Uttar Pradesh	9.09	5.04	4.82	6.68	6.89	*	IBHS	D	*
80	Irrukkankudi	Vaippar	Tamil Nadu	4.27	*	3.58	1.90	*	*	NoHS	*	*
81	Jajmau	Ganga	Uttar Pradesh	6.22	4.83	3.03	6.21	4.39	3.74	IBHS	IBHS	D
82	Jaunpur	Gomti	Uttar Pradesh	3.96	3.43	3.49	3.24	3.03	3.11	IBHS	IBHS	IBHS
83	Jhansi-Mirzapur Highway Road Bridge (Sahijana D/S)	Betwa	Uttar Pradesh	-	-	2.28	-	-	3.23	NoHS	NoHS	NHS
84	K M Vadi	Cauvery/Lakshmanthirth	Karnataka	6.52	-	-	1.86	-	-	NoHS	NoHS	NoHS
85	K.T.(Satrapur)	Kanhan	Maharashtra	70.00	50.71	63.33	60.67	53.08	50.00	IBHS	D	IBHS
86	Kabirganj	Ganga/Ghaghra/Sharda	Uttar Pradesh	-	1.93	2.02	-	3.82	4.00	NoHS	NHS	NHS
87	Kachhlabridge	Ganga	Uttar Pradesh	4.32	2.88	2.03	2.87	4.19	3.12	NoHS	NHS	NHS
88	Kailash Mandir, Agra (U/S)	Yamuna	Uttar Pradesh	22.19	23.05	20.16	46.48	22.41	25.65	D	IBHS	D
89	Kakarghatti	Ganga/Kosi/Bagmat i/Jivach	Bihar	2.09	-	-	3.06	-	-	NHS	NoHS	NoHS
90	Kalindi Kunj	Agra Canal	Delhi	55.05	46.44	37.89	39.01	18.07	22.21	IBHS	IBHS	IBHS
91	Kalpi	Yamuna	Uttar Pradesh	5.78	2.46	5.91	5.86	3.00	3.70	D	NoHS	IBHS

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
92	Kannapoor	Cauvery/Vanjiyar	Puducherry	*	*	*	2.40	3.38	2.13	*	*	*
93	Kannauj	Kali	Uttar Pradesh	5.82	7.31	8.11	11.64	16.91	15.13	D	D	D
94	Kanpur	Ganga	Uttar Pradesh	3.55	3.59	2.43	5.13	4.25	3.79	D	D	NHS
95	Kasganj	Kali	Uttar Pradesh	10.13	15.73	11.92	15.40	16.09	9.74	D	D	IBHS
96	Katri Umrauli	Ganga	Uttar Pradesh	4.61	3.57	4.16	6.53	3.99	4.71	D	D	D
97	Kazipura	Ramganga	Uttar Pradesh	3.75	5.68	5.90	5.07	6.67	3.99	D	D	IBHS
98	Keolari	Wainganga	Madhya Pradesh	2.95	3.03	3.00	3.16	3.16	1.87	NHS	D	NoHS
99	Koggedoddi	Arkavathi	Karnataka	-	4.50	-	-	1.91	-	NoHS	NoHS	NoHS
100	Kota-By Pass Hanging Road Bridge U/S of Kota City	Chambal	Rajasthan	*	3.14	*	*	2.23	1.44	*	NoHS	*
101	Kudalaiyathur	Vellar	Tamil Nadu	*	*	1.33	0.80	0.80	3.60	NoHS	NoHS	NHS
102	Kudlur	Palar	Tamil Nadu	*	3.20	0.78	*	*	*	*	*	*
103	Kulpatanga	Kharkai	Jharkhand	1.19	2.54	2.14	27.70	8.45	6.67	NHS	NHS	NHS
104	Kurundwad	Krishna	Maharashtra	*	3.83	1.10	*	1.10	3.32	*	NoHS	NHS
105	Lalpur	Sengar	Uttar Pradesh	-	2.40	-	-	3.34	-	NoHS	NHS	NoHS
106	Lucknow	Gomti	Uttar Pradesh	18.09	17.22	15.76	15.56	21.11	14.51	IBHS	D	IBHS
107	Madla	Ken	Madhya Pradesh	*	-	3.38	*	-	1.84	*	NoHS	NoHS
108	Mahidpur	Shipra	Madhya Pradesh	*	8.44	*	*	4.90	*	*	IBHS	*
109	Maighat	Gomti	Uttar Pradesh	3.21	2.90	3.24	3.16	3.01	3.06	IBHS	NHS	IBHS
110	Mandawara	Chambal	Rajasthan	13.00	-	-	1.90	-	-	NoHS	NoHS	NoHS
111	Mawi	Yamuna	Uttar Pradesh	22.98	-	-	5.11	-	-	IBHS	NoHS	NoHS
112	Mehandipur	Ganga	Uttar Pradesh	5.40	5.30	5.22	7.60	3.95	5.78	D	IBHS	D
113	Mirzapur	Ganga	Uttar Pradesh	3.68	3.33	3.49	3.06	2.81	2.85	IBHS	NoHS	NoHS
114	Mohana	Betwa	Uttar Pradesh	-	1.26	2.12	-	3.19	3.63	NoHS	NHS	NHS

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
115	Mohna	Yamuna	Haryana	48.93	24.85	24.27	30.59	17.24	25.42	IBHS	IBHS	D
116	Moradabad	Ramganga	Uttar Pradesh	16.62	13.32	6.97	13.49	17.75	5.80	IBHS	D	IBHS
117	Motinaroli	Kim	Gujarat	-	-	1.41	-	-	3.19	NoHS	NoHS	NHS
118	Mungoli Township	Godavari/Pranhita/Wardha/Penganga	Maharashtra	2.91	-	-	3.05	-	-	NHS	NoHS	NoHS
119	Mushal	Baitarani	Odisha	3.11	-	-	2.18	-	-	NoHS	NoHS	NoHS
120	Naidupet	Swarnamukhi	Andhra Pradesh	-	3.10	-	-	1.99	-	NoHS	NoHS	NoHS
121	Nallamaranpatty	Amaravathi	Tamil Nadu	3.29	-	-	2.32	-	-	NoHS	NoHS	NoHS
122	Nanded	Godavari	Maharashtra	5.53	4.49	3.83	2.10	2.12	2.95	NoHS	NoHS	NoHS
123	Nasik	Godavari	Maharashtra	2.43	2.05	8.10	14.60	7.99	2.83	NHS	NHS	NoHS
124	Neemsar	Gomti	Uttar Pradesh	4.96	5.74	3.04	3.98	6.37	5.21	IBHS	D	D
125	Noida	Hindon	Uttar Pradesh	65.62	52.92	37.75	37.29	26.80	24.27	IBHS	IBHS	IBHS
126	Okhla barrage	Yamuna	Delhi	57.94	33.33	37.64	32.79	16.48	18.83	IBHS	IBHS	IBHS
127	Orai-Rath Marg, Chikasi (Sahijina U/S)	Betwa	Uttar Pradesh	-	-	2.02	-	-	3.17	NoHS	NoHS	NHS
128	P G Bridge	Godavari/Pranhita/Wardha/Penganga	Maharashtra	1.97	-	3.17	3.50	-	1.33	NHS	NoHS	NoHS
129	Paleru Bridge	Krishna	Andhra Pradesh	*	-	3.46	2.70	-	2.20	*	NoHS	NoHS
130	Paliakalan	Sharda	Uttar Pradesh	3.22	2.26	1.38	2.97	3.60	3.25	NoHS	NHS	NHS
131	Palla	Yamuna	Delhi	18.23	8.59	-	2.28	2.16	-	NoHS	NoHS	NoHS
132	Paramakudi	Vaigai	Tamil Nadu	6.37	-	-	0.88	-	-	NoHS	NoHS	NoHS
133	Pargaon	Bhima	Maharashtra	*	7.81	*	*	5.50	*	*	IBHS	*
134	Parmarth ghat	Ganga	Uttar Pradesh	4.05	3.34	3.47	4.61	4.14	3.80	D	D	D
135	Parsohan ghat	Burhi Rapti	Uttar Pradesh	3.57	6.38	3.50	3.69	3.81	4.00	D	IBHS	D
136	Patala	Wardha	Maharashtra	3.28	-	-	3.12	-	-	IBHS	NoHS	NoHS

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
137	Pauni	Wainganga	Maharashtra	3.71	-	-	2.24	-	-	NoHS	NoHS	NoHS
138	Phulgaon	Bhima	Maharashtra	*	2.40	*	*	3.29	*	*	NHS	*
139	Pingalwada	Dhadhar	Gujarat	13.73	15.08	18.45	13.85	7.99	9.61	D	IBHS	IBHS
140	Pratapgarh	Sai	Uttar Pradesh	4.05	3.51	3.80	3.26	3.09	3.10	IBHS	IBHS	IBHS
141	Purna	Purna	Maharashtra	2.43	-	3.48	*	-	2.99	*	NoHS	NoHS
142	Raebareli	Ganga/Gomti/Sai	Uttar Pradesh	10.67	13.33	5.51	11.93	16.08	11.77	D	D	D
143	Rahu	Bhima	Maharashtra	*	11.21	*	*	7.93	*	*	IBHS	*
144	Rai Bareli	Sai	Uttar Pradesh	10.67	13.33	5.51	11.93	16.08	11.77	D	D	D
145	Rajapur	Yamuna	Uttar Pradesh	2.44	-	3.69	3.67	-	1.94	NHS	NoHS	NoHS
146	Ramakona	Godavari/Pranhita/Wainganga/Kanhan	Madhya Pradesh	1.68	-	-	3.28	-	-	NHS	NoHS	NoHS
147	Rangpo	Brahmaputra/Tees ta/Rangpochu	West Bengal	1.97	-	-	3.16	-	-	NHS	NoHS	NoHS
148	Regauli	Rapti	Uttar Pradesh	2.34	3.64	1.57	3.73	4.44	3.32	NHS	D	NHS
149	Roorkee D/S	Saloni	Uttarakhand	27.50	20.87	18.00	24.83	13.99	23.27	IBHS	IBHS	D
150	Roorkee U/S	Saloni	Uttarakhand	24.67	17.40	14.67	22.34	11.23	21.27	IBHS	IBHS	D
151	RSP	Brahamani	Odisha	0.97	2.11	2.08	31.74	33.32	31.20	NHS	NHS	NHS
152	RSP-I	Brahamani	Odisha	2.10	2.51	1.96	19.98	4.07	15.10	NHS	NHS	NHS
153	RSP-II	Brahamani	Odisha	1.88	-	-	9.67	-	-	NHS	NoHS	NoHS
154	Sahijana	Betwa	Uttar Pradesh	-	-	2.60	-	-	3.49	NoHS	NoHS	NHS
155	Saidpur	Ganga	Uttar Pradesh	3.25	-	3.30	3.13	-	2.90	IBHS	NoHS	NoHS
156	Sakhara	Wainganga	Maharashtra	3.39	-	-	2.45	-	-	NoHS	NoHS	NoHS
157	Sakmur	Godavari/Pranhita/Wardha	Maharashtra	-	2.26	-	-	3.57	-	NoHS	NHS	NoHS
158	Salebardi	Godavari/Pranhita/Wainganga/Chulband	Maharashtra	-	2.18	-	-	4.38	-	NoHS	NHS	NoHS
159	Saloor	Godavari/Manjira	Telangana	-	1.87	-	-	4.68	-	NoHS	NHS	NoHS
160	Samdoli	Varna	Maharashtra	*	-	1.45	1.22	-	3.11	*	NoHS	NHS

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
161	Satna	Tons	Madhya Pradesh	3.46	3.16	3.44	2.96	2.88	2.91	NoHS	NoHS	NoHS
162	Seohara	Ramganga	Uttar Pradesh	4.29	5.69	5.76	5.80	6.84	3.59	D	D	IBHS
163	Shahjahanpur	Khannaut	Uttar Pradesh	10.33	11.54	6.63	8.81	7.68	5.21	IBHS	IBHS	IBHS
164	Shastri Bridge	Ganga	Uttar Pradesh	3.76	3.41	3.30	2.99	2.71	2.89	NoHS	NoHS	NoHS
165	Shimoga	Tunga	Karnataka	3.03	-	*	0.48	-	0.90	NoHS	NoHS	*
166	Singasadanapalli	Ponnaiyar	Tamil Nadu	61.17	70.96	66.43	89.60	57.41	93.68	D	IBHS	D
167	Sitapur	sarayan	Uttar Pradesh	10.83	12.42	5.36	12.73	12.09	5.77	D	IBHS	D
168	Sripalpur	Punpun	Bihar	3.21	-	2.80	2.48	-	2.35	NoHS	NoHS	NoHS
169	Suddakallu	Dindi	Telangana	-	2.12	-	-	3.41	-	NoHS	NHS	NoHS
170	Sultanpur	Gomti	Uttar Pradesh	3.36	3.06	3.62	3.18	3.04	3.08	IBHS	IBHS	IBHS
171	T. Bekuppe	Arkavathy	Karnataka	8.50	7.38	9.38	11.45	3.52	6.34	D	IBHS	IBHS
172	T K Halli	Shimsha	Karnataka	*	3.20	-	4.20	1.53	-	*	NoHS	NoHS
173	T. K. Halli	Cauvery/Shimsha	Karnataka	*	3.20	-	4.20	1.53	-	*	NoHS	NoHS
174	Tanda D/S	Ghaghra	Uttar Pradesh	3.37	2.93	1.91	4.85	4.31	3.63	D	NHS	NHS
175	Tanda U/S	Ganga/Ghaghra	Uttar Pradesh	2.36	1.82	1.91	3.37	3.75	3.30	NHS	NHS	NHS
176	Terwad	Panchganga	Maharashtra	*	5.28	6.80	*	3.58	*	*	IBHS	*
177	Thevur	Sarabenga	Tamil Nadu	4.74	6.12	-	1.50	5.07	-	NoHS	IBHS	NoHS
178	Tiharkheda	Ganga/Ramganga	Uttar Pradesh	8.50	15.88	9.11	7.28	8.43	6.87	IBHS	IBHS	IBHS
179	Todarpur	Ganga/Deoha(Garra)/Sukheta	Uttar Pradesh	10.18	10.62	5.76	8.20	7.92	4.51	IBHS	IBHS	IBHS
180	Turtipar	Ganga/Ghaghra	Uttar Pradesh	2.09	2.01	1.37	3.39	4.10	3.83	NHS	NHS	NHS
181	U/S (Bamni)	Wardha	Maharashtra	3.61	3.46	3.60	5.71	2.79	1.80	D	NoHS	NoHS
182	U/S (Satrapur)	Kanhan	Maharashtra	4.53	-	-	1.91	-	-	NoHS	NoHS	NoHS
183	Udi	Chambal	Uttar Pradesh	2.91	2.81	5.51	2.37	4.27	3.75	NoHS	NHS	IBHS
184	Ujjain	Shipra	Madhya Pradesh	*	13.42	2.80	*	11.23	10.33	*	IBHS	NHS
185	Urachikottai	Cauvery	Tamil Nadu	5.53	-	-	2.13	-	-	NoHS	NoHS	NoHS

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
186	V.S. Bridge	Ganga	Uttar Pradesh	3.81	3.61	3.26	2.96	2.76	2.84	NoHS	NoHS	NoHS
187	Valigonda	Musi	Telangana	11.18	13.89	49.24	20.52	6.06	3.42	D	IBHS	IBHS
188	Varanasi	Ganga	Uttar Pradesh	3.47	3.01	3.35	2.94	2.78	2.92	NoHS	NoHS	NoHS
189	Vautha	Sabarmati	Gujarat	23.66	18.05	19.83	21.64	12.16	18.24	IBHS	IBHS	IBHS
190	Vijayawada	Krishna	Andhra Pradesh	-	2.40	-	-	3.09	-	NoHS	NHS	NoHS
191	Vrindawan Bridge (Mathura U/S)	Yamuna	Uttar Pradesh	35.77	30.87	33.52	28.41	15.07	16.46	IBHS	IBHS	IBHS
192	Wadakbal	Sina	Maharashtra	*	5.24	1.70	0.72	5.60	3.57	*	D	NHS
193	Wadenapalli	Krishna	Telangana	-	1.71	-	-	3.03	-	NoHS	NHS	NoHS
194	Watrak Nr Vautha	Watrak	Gujarat	*	3.80	*	*	1.49	*	*	NoHS	*
195	Yamuna Expressway Road Bridge, Etamadpur (Agra D/S)	Yamuna	Uttar Pradesh	22.01	21.68	24.16	47.32	22.17	23.75	D	D	IBHS
196	Yashwant Nagar	Giri	Himachal Pradesh	6.34	-	-	1.51	-	-	NoHS	NoHS	NoHS

(-) means No Hotspot

(*) means Data not available/ river dry.

	No Hot Spot (NoHS)		Deteriorate (D)		New Hotspot (NHS)		Improved but Hotspot (IBHS)
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8.10 Total Coliform (TC):

The comparison of Total Coliform (TC) concentrations between 2024 and 2025 across water quality monitoring stations in India provides insights into the spatial and seasonal changes in microbial contamination of river water. Total Coliform values exceeding 500 MPN/100 ml were considered hotspots, while values ≤ 500 MPN/100 ml indicated No Hot Spot (NoHS). Based on the comparison between the two years, the stations were categorized into No Hot Spot (NoHS), New Hotspot (NHS), Deteriorating (D), and Improving but Hot Spot (IBHS) during pre-monsoon (Pre-M), monsoon (M), and post-monsoon (Post-M) seasons. The results presented in Table 28 indicate widespread hotspot conditions across the country, with varying degrees of improvement, persistence, and deterioration.

Overall, the analysis indicates that Improved but Hotspot (IBHS) conditions dominate the dataset, accounting for approximately 45–50% of the monitoring stations, making it the largest category. This suggests that although coliform levels have decreased at many locations compared to 2024, they still remain above acceptable limits. Major river stretches such as the Yamuna (Delhi, Agra, Mathura), Hindon, Wardha, and several stretches of the Ganga basin consistently fall under this category, indicating persistent faecal contamination despite partial improvement.

No Hot Spot (NoHS) category constitutes a smaller proportion (around 10–15%), indicating that only a limited number of stations achieved acceptable coliform levels during 2025. Stations in relatively less polluted or upstream regions, particularly in parts of Assam, Uttarakhand, and some southern rivers, fall under this category. This reflects relatively lower anthropogenic pressure and better natural self-purification capacity in these river stretches.

Deterioration (D) category is significantly represented, accounting for approximately 20–25% of the stations, indicating worsening microbiological water quality in 2025. Stations such as Allahabad (Ganga), Vautha (Sabarmati), Lucknow (Gomti), Basti region (Kwano), and several locations in Tamil Nadu, Gujarat, and Uttar Pradesh showed increasing coliform levels. These trends point toward rising sewage discharge, inadequate sanitation infrastructure, and increased human activities along riverbanks.

New Hot Spot (NHS) category accounts for around 15–20% of the observations, indicating emergence of faecal contamination at previously non-hotspot locations. Stations such as Aheri Gudem Bridge (Godavari basin), Alladupalli (Pennar basin), Menangudi (Cauvery basin), and several locations in Andhra Pradesh, Tamil Nadu, and Bihar fall into this category.

This reflects expanding anthropogenic pressure and insufficient wastewater treatment coverage.

Seasonal analysis indicates that the monsoon season shows mixed trends, with some reduction in coliform levels due to dilution, but also increased contamination at certain locations due to runoff carrying faecal matter into rivers. The pre-monsoon season often records higher concentrations due to low flow conditions and accumulation of pollutants. In the post-monsoon season, several stations continue to exhibit IBHS and D conditions, indicating persistent contamination even after flushing effects.

Overall, the comparative analysis indicates that microbiological pollution remains one of the most critical water quality concerns, with the dominance of IBHS and significant presence of D and NHS categories. Although some improvement is observed, the limited number of NoHS stations highlights the need for urgent intervention. Strengthening sewage treatment infrastructure, improving sanitation practices, and controlling direct discharge of waste into rivers are essential to reduce coliform contamination and safeguard public health.

Table 28: Comparison of Hot Spots Total Coliform (TC) during year 2024 with 2025

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
1	A.B.Road Crossing	Parwati	Madhya Pradesh	*	174700	*	*	34364	*	*	IBHS	*
2	A.P. Puram	Chittar	Tamil Nadu	7950	*	4900	*	*	3300	*	*	IBHS
3	A.P.M. (Ashti)	Wainganga	Maharashtra	10160	5907	8605	5540	*	*	IBHS	*	*
4	Abu Road	Banas	Rajasthan	*	7988	8200	*	6375	10800	*	IBHS	D
5	Addoor	Gurupur	Karnataka	*	910	940	*	1216	*	*	D	*
6	Agra (Jawahar Bridge)	Yamuna	Uttar Pradesh	293333	327500	333333	276333	259333	306667	IBHS	IBHS	IBHS
7	Agra (Poiyaghat)	Yamuna	Uttar Pradesh	330833	353333	445000	310667	306667	253333	IBHS	IBHS	IBHS
8	Aheri Gudem Bridge	Godavari/Pranhita	Maharashtra	307	1354	2400	3710	5462	1185	NHS	D	IBHS
9	Aie NH Xing	Aie	Assam	3000	371	210	50	*	*	NoHS	NoHS	*
10	Akbarpur	Chhoti sarju	Uttar Pradesh	5433	3673	4383	4008	5520	4200	IBHS	D	IBHS
11	Akhnoor	Chenab	Jammu & Kashmir	*	154	305	1983	*	*	*	*	*
12	Akkihebbal	Hemavathi	Karnataka	303500	430600	188667	255000	*	*	IBHS	*	*
13	Aklara	Parwan	Rajasthan	*	33000	*	*	34909	*	*	D	*
14	Alandurai	Noyyal	Tamil Nadu	*	18963	*	*	6117	15950	*	IBHS	*
15	Alladupalli	Pennar/Kunderu	Andhra Pradesh	360	1727	1767	1590	2496	5747	NHS	D	D
16	Allahabad	Ganga	Uttar Pradesh	5687	4733	4800	6267	7353	6917	D	D	D
17	Ambarampalayam	Aliyar	Tamil Nadu	17120	19000	23167	10767	7336	8683	IBHS	IBHS	IBHS
18	Ambari	Torsa	West Bengal	*	*	*	2400	2950	*	*	*	*
19	Ambasamudram	Vaigai	Tamil Nadu	11700	44500	8683	3300	13000	5100	IBHS	IBHS	IBHS
20	Ankinghat	Ganga	Uttar Pradesh	2700	2300	2100	2300	2850	*	IBHS	D	*
21	Annavasal	Cauvery / Nattar	Puducherry	*	360	330	*	1109	710	*	NHS	NHS
22	Arangaly	Chalakudy	Kerala	*	*	1250	*	1180	2400	*	*	D

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
23	Arcot	Palar	Tamil Nadu	2243	7389	5200	4600	6933	597	D	IBHS	IBHS
24	Arjunwad	Krishna	Maharashtra	*	31000	21833	5720	72447	2700	*	D	IBHS
25	Arnota	Uttangan	Uttar Pradesh	*	4700	*	*	9900	5950	*	D	*
26	Ashramam	Pazhayar	Tamil Nadu	*	2233	2850	2367	1750	2950	*	IBHS	D
27	Ashti	Wainganga	Maharashtra	2322	3988	7350	3579	3683	1453	D	IBHS	IBHS
28	Auraiya	Yamuna	Uttar Pradesh	143627	180444	10533	109080	30200	10050	IBHS	IBHS	IBHS
29	Avaramkuppam	Palar	Tamil Nadu	*	9450	35000	*	9820	6980	*	D	IBHS
30	Avershe	Seetha	Karnataka	*	690	1750	*	943	*	*	D	*
31	Ayilam	Vamanapuram	Kerala	*	790	1350	1700	1033	2050	*	D	D
32	Ayodhya	Ghaghra	Uttar Pradesh	3100	2500	*	2633	2567	2600	IBHS	D	*
33	Azamabad	Ganga	Bihar	582	2784	2840	4675	3360	*	D	D	*
34	B.P.M. (Bamni)	Wardha	Maharashtra	16000	13615	11172	12429	4681	8200	IBHS	IBHS	IBHS
35	Bachhwara	Baya	Bihar	*	*	*	4493	4080	*	*	*	*
36	Badlapur	Ulhas	Maharashtra	107333	87333	60000	83733	49286	82500	IBHS	IBHS	D
37	Baghpat	Yamuna	Uttar Pradesh	282786	83533	47167	35200	57667	83667	IBHS	IBHS	D
38	Bairgania	Ganga / Kosi	Bihar	*	*	*	450	2640	*	*	*	*
39	Bakhari	Wainganga	Madhya Pradesh	784	4209	4122	4559	2734	2504	D	IBHS	IBHS
40	Baladoba	Sankosh	Assam	*	*	*	*	3800	700	*	*	*
41	Baleni	Hindon	Uttar Pradesh	1181429	426667	1798333	1001333	591333	645000	IBHS	D	IBHS
42	Balrampur	Rapti	Uttar Pradesh	2200	2250	2400	2300	2433	2100	D	D	IBHS
43	Baltara	Kosi	Bihar	*	*	*	2093	1876	*	*	*	*
44	Baluaghat	Ganga	Uttar Pradesh	6940	6100	5900	5246	7680	7317	IBHS	D	D
45	Bamni (ballarsha)	Wardha	Maharashtra	16000	13615	11172	5636	4006	6440	IBHS	IBHS	IBHS
46	Bamni (Nagpur)	Wardha	Maharashtra	1611	5646	10367	5636	4006	6440	D	IBHS	IBHS
47	Bamni U/S	Wardha	Maharashtra	7287	9931	7328	8186	5455	3437	D	IBHS	IBHS

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
48	Banda	Ken	Uttar Pradesh	5000	5800	6767	3140	5953	7200	IBHS	D	D
49	Bangapani	Gauri Ganga	Uttarakhand	940	880	1100	1150	1433	1200	D	D	D
50	Banjari	Sone	Bihar	*	5067	3800	1700	2572	*	*	IBHS	*
51	Banka	Chandan	Bihar	*	2650	1650	2632	1288	*	*	IBHS	*
52	Bansi	Rapti	Uttar Pradesh	1400	1850	2100	1700	2400	1700	D	D	IBHS
53	Bantwal	Netravathi	Karnataka	*	1147	1200	*	1248	*	*	D	*
54	Baranwada	Banas	Rajasthan	*	92091	40333	30733	32133	38167	*	IBHS	IBHS
55	Bardoh (Chhapriyal)	Chenab	Jammu & Kashmir	*	190	250	1950	*	*	*	*	*
56	Bareilly	Ramganga	Uttar Pradesh	*	33000	21000	21500	20000	*	*	IBHS	*
57	Barobisha	Sankosh	West Bengal	*	*	*	1700	6167	*	*	*	*
58	Barod	Kalisindh	Rajasthan	44545	63400	77667	33600	28750	*	IBHS	IBHS	*
59	Basantpur (Ganga)	Ganga	Uttar Pradesh	*	4350	4700	3218	3233	*	*	IBHS	*
60	Basoda	Betwa	Madhya Pradesh	5373	4733	3117	4293	4977	4900	IBHS	D	D
61	Basti	Kwano	Uttar Pradesh	*	7800	*	4700	4700	3300	*	IBHS	*
62	Basti D/S	Kwano	Uttar Pradesh	*	9200	*	4800	4800	3700	*	IBHS	*
63	Basti U/S	Kwano	Uttar Pradesh	*	6800	*	4367	4100	3250	*	IBHS	*
64	Bawapuram	Tungabhadra	Andhra Pradesh	1400	5871	11967	15325	2404	1588	D	IBHS	IBHS
65	Beki Road Bridge	Beki	Assam	3500	565	80	20	*	*	NoHS	*	*
66	Belne Bridge	Gad	Maharashtra	182600	349857	188667	60000	*	*	IBHS	*	*
67	Bendrahalli	Suvarnavathi	Karnataka	706667	444000	1033333	995000	*	*	D	*	*
68	Bhadana Village D/s of Kota City	Chambal	Rajasthan	*	75286	*	*	34250	36000	*	IBHS	*
69	Bhadrachalam	Godavari	Telangana	1753	4767	8440	9840	3339	5100	D	IBHS	IBHS
70	Bhatpalli	Peddavagu	Telangana	2115	7238	6372	3053	5812	4333	D	IBHS	IBHS
71	Bhind	Kunwari	Madhya Pradesh	4700	5914	6700	5391	3431	4817	IBHS	IBHS	IBHS

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
72	Bhitora	Ganga	Uttar Pradesh	7000	*	7800	6300	7700	*	IBHS	*	*
73	Bigod	Banas	Rajasthan	*	38600	45600	*	27417	34833	*	IBHS	IBHS
74	Biligundulu	Cauvery	Tamil Nadu	7940	11933	12070	785	2167	1497	IBHS	IBHS	IBHS
75	Birdghat	Rapti	Uttar Pradesh	4850	26500	*	25667	20000	15500	D	IBHS	*
76	Bithoor	Ganga	Uttar Pradesh	4700	7700	5800	3850	4700	4000	IBHS	IBHS	IBHS
77	Buxar	Ganga	Bihar	507	2756	2450	5622	5220	*	D	D	*
78	Byaladahalli	Tungabhadra	Karnataka	*	505000	148333	76000	*	*	*	*	*
79	Chaklagaon	Manas NH Xing	Assam	3400	493	97	96	*	*	NoHS	*	*
80	Champasari	Mahananda	West Bengal	*	*	*	140000	42750	54000	*	*	*
81	Chandrika Devi	Gomti	Uttar Pradesh	4900	3650	4700	4900	5250	4000	IBHS	D	IBHS
82	Changsari	Kurijali	Assam	-	1097	1822	-	*	*	NoHS	*	*
83	Chel	Chel	West Bengal	*	*	*	2200	400	2400	*	*	*
84	Chengalpet	Palar	Tamil Nadu	2033	3625	1683	2286	1627	1190	D	IBHS	IBHS
85	Chennur	Pennar	Andhra Pradesh	*	2075	2067	1878	2324	580	*	D	IBHS
86	Chepan	Raidak	West Bengal	*	*	*	500	1200	170	*	*	*
87	Chindnar	Indravathi	Chhattisgarh	2136	4127	7933	6927	5373	3132	D	D	IBHS
88	Chitrasani	Balaram	Gujarat	*	7750	*	*	8522	*	*	D	*
89	Chittorgarh	Gambhiri	Rajasthan	*	170000	*	*	*	*	*	*	*
90	Cholachagudda	Malaprabha	Karnataka	*	11580000	1446667	1600000	*	*	*	*	*
91	Chopan	Sone	Uttar Pradesh	2375	1249	1280	1854	2720	1700	IBHS	D	D
92	Chunchanakatte	Cauvery	Karnataka	920000	309333	232000	*	*	*	*	*	*
93	D/S (Ashti)	Wainganga	Maharashtra	5407	2801	4278	8240	*	*	D	*	*
94	Dabri	Ramganga	Uttar Pradesh	*	22000	20000	21000	22000	*	*	D	*
95	Dadri	Sahibi	Haryana	*	107250	*	*	73818	*	*	IBHS	*
96	Dameracherla	Musi	Telangana	1400	7550	13733	18220	4207	1642	D	IBHS	IBHS

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
97	Daund	Bhima	Maharashtra	*	76357	*	*	32333	*	*	IBHS	*
98	Delhi Railway Bridge	Yamuna	Delhi	15492857	6066667	5666667	4980000	2017800	528833	IBHS	IBHS	IBHS
99	Deongaon Bridge	Bhima	Karnataka	*	6338	12600	*	3200	*	*	IBHS	*
100	Deosugur	Musi	Karnataka	1667	4407	10517	11629	4013	2267	D	IBHS	IBHS
101	Derol Bridge	Sabarmati	Gujarat	10050	7411	8400	7700	8723	11667	IBHS	D	D
102	Dhalegaon	Godavari	Maharashtra	1550	5785	9700	11143	5600	*	D	IBHS	*
103	Dhaneta	Kicha	Uttar Pradesh	*	20000	21000	15500	14000	*	*	IBHS	*
104	Dhansa	Sahibi	Haryana	*	464167	*	*	54545	*	*	IBHS	*
105	Dhareri	Chambal	Madhya Pradesh	*	1200000	*	*	36000	*	*	IBHS	*
106	Dholpur	Chambal	Rajasthan	10108	3978	5233	4273	6027	5900	IBHS	D	D
107	Dobhi	Phalgu	Bihar	*	2850	4800	5250	1920	*	*	IBHS	*
108	Domohani	Teesta	West Bengal	*	*	*	4000	4450	1300	*	*	*
109	Duddhi	Kanhar	Uttar Pradesh	2149	1467	1837	2262	2900	2400	D	D	D
110	Dudhnoi	Dudhnai	Assam	-	1188	760	-	*	*	NoHS	*	*
111	Ekmighat	Bagmati	Bihar	*	*	*	1727	3420	*	*	*	*
112	Elgin bridge	Ghaghra	Uttar Pradesh	1520	2250	*	2300	2233	2200	D	IBHS	*
113	Elunuthimangalam	Noyyal	Tamil Nadu	13985	34693	23467	6900	14082	14617	IBHS	IBHS	IBHS
114	Erinjipuzha	Payaswini	Kerala	*	827	1095	1433	900	*	*	D	*
115	Etawah	Yamuna	Uttar Pradesh	666167	142889	445000	366000	222000	281667	IBHS	D	IBHS
116	Faizabad U/S	Ghaghra	Uttar Pradesh	*	2700	*	3350	3950	2850	*	D	*
117	Fatehgarh	Ganga	Uttar Pradesh	2250	3850	*	3833	3033	*	D	IBHS	*
118	G R Bridge	Godavari	Maharashtra	1258	5808	7900	22429	9950	2200	D	D	IBHS
119	Gaisabad	Bearma	Madhya Pradesh	*	6600	3967	*	3500	3667	*	IBHS	IBHS
120	Galeta	Hindon	Uttar Pradesh	13842857	1526667	5450000	1505333	1230667	1316667	IBHS	IBHS	IBHS
121	Gandhavayal	Gandhayar	Tamil Nadu	11463	18993	20333	35100	5600	8083	D	IBHS	IBHS

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
122	Gandhighat	Ganga	Bihar	1110	3447	2767	3700	3446	*	D	IBHS	*
123	Gandlapet	Peddavagu	Telangana	1666	6310	10700	*	2600	4100	*	IBHS	IBHS
124	Ganguwala	Bata	Himachal Pradesh	28857	35200	29833	20267	29067	212833	IBHS	IBHS	D
125	Ganod	Bhadar	Gujarat	*	10830	4983	*	*	*	*	*	*
126	Garhakota	Sonar	Madhya Pradesh	*	17000	*	*	3555	4133	*	IBHS	*
127	Garhmukteshwar	Ganga	Uttar Pradesh	1150	1467	1300	1250	1967	*	D	D	*
128	Garhwa	North Koel	Jharkhand	*	2283	1900	2682	2646	*	*	D	*
129	Garrauli	Dhasan	Madhya Pradesh	5271	4560	2530	3633	5380	7433	IBHS	D	D
130	Gaya	Phalgu	Bihar	*	2667	1900	1900	2324	*	*	IBHS	*
131	Gazaldoba	Teesta	West Bengal	*	*	*	9000	1700	1700	*	*	*
132	Ghat	Sarju	Uttarakhand	700	785	920	855	1167	920	D	D	D
133	Ghazipur	Ganga	Uttar Pradesh	7253	4660	6033	5146	6500	6033	IBHS	D	D
134	Ghugumari	Torsa	West Bengal	*	*	*	3400	1500	*	*	*	*
135	Gokak	Ghataprabha	Karnataka	280000	4733333	542333	*	*	*	*	*	*
136	Gokul barrage Mathura D/S	Yamuna	Uttar Pradesh	7764286	5400000	1850000	305333	346000	580000	IBHS	IBHS	IBHS
137	Golokganj	Sankosh	Assam	*	*	*	*	3550	3500	*	*	*
138	Gomti Nagar	Gomti	Uttar Pradesh	170000	125000	140000	150000	155000	120000	IBHS	D	IBHS
139	Gopurajapuram	Cauvery	Tamil Nadu	607	302	445	1100	519	712	D	NHS	NHS
140	Gorakhpur D/S	Rapti	Uttar Pradesh	*	36000	*	26000	21000	17000	*	IBHS	*
141	Gorakhpur U/S	Rapti	Uttar Pradesh	*	26500	*	20667	17000	12000	*	IBHS	*
142	Gummanur	Ponnaiyar	Tamil Nadu	14613	43286	5400	10544	7391	16033	IBHS	IBHS	D
143	Guwahati D.C. Court	Brahmaputra	Assam	-	1908	572	-	*	*	NoHS	*	*
144	Halady	Halady	Karnataka	*	1333	1950	1733	1168	*	*	IBHS	*
145	Halia	Halia	Telangana	*	10913	9700	10790	3286	6263	*	IBHS	IBHS

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
146	Hamirpur	Yamuna	Uttar Pradesh	68345	35200	7867	29447	26560	11733	IBHS	IBHS	D
147	Haralahalli	Tungabhadra	Karnataka	580000	364667	159667	285000	*	*	IBHS	*	*
148	Hariharapura	Tunga	Karnataka	314533	594667	390667	131250	*	*	IBHS	*	*
149	Haripur	Tons	Uttarakhand	19929	28667	15667	20733	22933	23000	D	IBHS	D
150	Hasimara	Torsa	West Bengal	*	*	*	700	2945	*	*	*	*
151	Hathidah	Ganga	Bihar	895	3299	3617	3800	3750	*	D	D	*
152	Hathikhana	Ganga	Uttar Pradesh	*	5833	6300	7000	8900	*	*	D	*
153	Hayaghat	Bagmati	Bihar	*	*	*	7033	3406	*	*	*	*
154	Hivra	Wardha	Maharashtra	1861	5500	4885	4317	2133	1233	D	IBHS	IBHS
155	Hogenakkal	Chinnar	Tamil Nadu	*	19500	14000	*	12700	*	*	IBHS	*
156	Holehonnur	Bhadra	Karnataka	310000	522667	159667	131000	*	*	IBHS	*	*
157	Honnali	Tungabhadra	Karnataka	235800	329333	402000	188000	*	*	IBHS	*	*
158	Huvinhedgi	Krishna	Karnataka	2025	5850	10333	9664	5027	2350	D	IBHS	IBHS
159	Irrukkankudi	Vaippar	Tamil Nadu	26271	*	8950	10138	*	*	IBHS	*	*
160	Jagdapur	Indravathi	Chhattisgarh	1871	4660	10200	13538	6033	3848	D	D	IBHS
161	Jaigaon	Torsa	West Bengal	*	*	*	1100	1500	*	*	*	*
162	Jainagar	Kamlabalan	Bihar	*	*	*	1823	3820	*	*	*	*
163	Jajmau	Ganga	Uttar Pradesh	13000	15000	12000	13000	14000	9400	IBHS	IBHS	IBHS
164	Jaldhaka NH-31	Jaldhaka	West Bengal	*	*	*	7000	2200	490	*	*	*
165	Jammu Tawi (Sidhra)	Tawi	Jammu & Kashmir	*	175	280	2033	*	*	*	*	*
166	Japla	Sone	Jharkhand	*	2333	1240	1446	1266	*	*	IBHS	*
167	Jaunpur	Gomti	Uttar Pradesh	5833	4587	4433	4323	5720	4500	IBHS	D	D
168	Jhalawar	Kalisindh	Rajasthan	*	36100	*	*	32182	*	*	IBHS	*
169	Jhanjharpur	Kosi	Bihar	*	*	*	4700	5060	*	*	*	*
170	Jhansi-Mirzapur Highway Road Bridge	Betwa	Uttar Pradesh	4264	4000	2800	3800	4080	5783	IBHS	D	D

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
	(Sahijina D/S)											
171	K M Vadi	Lakshmanthirth	Karnataka	704000	7669333	1196667	1047500	*	*	IBHS	*	*
172	K.T. (Satrapur)	Kanhan	Maharashtra	16000	13338	13917	16000	11905	13667	IBHS	IBHS	IBHS
173	Kabirganj	Sharda	Uttar Pradesh	*	1350	*	1400	1800	2000	*	D	*
174	Kachhlabridge	Ganga	Uttar Pradesh	1250	1550	1700	1550	1900	*	D	D	*
175	Kailash Mandir, Agra (U/S)	Yamuna	Uttar Pradesh	338333	246667	408333	258000	302667	376667	IBHS	D	IBHS
176	Kakarghatti	Bagmati	Bihar	*	*	*	2350	2900	*	*	*	*
177	Kalampur	Kaliyar	Kerala	*	960	1550	1833	970	2400	*	D	D
178	Kalanaur	Yamuna	Uttar Pradesh	47786	29067	32167	28933	35929	39833	IBHS	D	D
179	Kalasapadu	Sagileru	Andhra Pradesh	*	*	*	*	785	176	*	*	*
180	Kallooppa	Manimala	Kerala	*	635	1020	*	1070	2450	*	D	D
181	Kalpi	Yamuna	Uttar Pradesh	73800	63300	6600	30433	22307	9650	IBHS	IBHS	D
182	Kamalapuram	Papagni	Andhra Pradesh	*	330	*	*	602	441	*	NHS	*
183	Kamalpur	Banas	Gujarat	*	6475	*	*	11000	*	*	D	*
184	Kannapoor	Vanjiyar	Puducherry	*	*	*	940	803	1323	*	*	*
185	Kannauj	Kali	Uttar Pradesh	*	11000	9300	9150	7350	*	*	IBHS	*
186	Kanpur	Ganga	Uttar Pradesh	9400	9400	9300	4700	5550	6300	IBHS	IBHS	IBHS
187	Kanti	Burhi Gandak	Bihar	*	*	*	4493	1510	*	*	*	*
188	Karad	Krishna	Maharashtra	*	44800	9000	*	116154	*	*	D	*
189	Karathodu	Kadalundi	Kerala	*	820	1450	1700	1147	3500	*	D	D
190	Karnal	Yamuna	Haryana	158857	26600	28167	31067	40143	37333	IBHS	D	D
191	Kasganj	Kali	Uttar Pradesh	*	17000	14000	11000	12000	*	*	IBHS	*
192	Katriumrauli	Ganga	Uttar Pradesh	*	9300	6800	8400	8900	*	*	IBHS	*
193	Kazipura	Ramganga	Uttar Pradesh	*	20000	*	18500	19000	*	*	IBHS	*

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
194	Keesara	Munneru	Andhra Pradesh	*	8580	5400	13280	1948	830	*	IBHS	IBHS
195	Kellodu	Vedavathi	Karnataka	1600000	708778	623333	540000	*	*	IBHS	*	*
196	Keolari	Wainganga	Madhya Pradesh	1219	5366	6767	2753	5502	3467	D	D	IBHS
197	Khanitar	Teesta	Sikkim	*	*	*	700	2800	*	*	*	*
198	Khanpur	Mahi	Gujarat	8713	8560	7867	7764	7587	8167	IBHS	IBHS	D
199	Khatoli	Parwati	Rajasthan	44909	67091	65500	34833	32462	45833	IBHS	IBHS	IBHS
200	Khudrakhowa	Manas NH Xing	Assam	16000	560	47	25	*	*	NoHS	*	*
201	Kidangoor	Meenachil	Kerala	*	1733	1500	1320	1300	2950	*	IBHS	D
202	Kodumudi	Cauvery	Tamil Nadu	10107	14373	7917	1889	4500	6300	IBHS	IBHS	IBHS
203	Koelwar	Sone	Bihar	*	3100	2300	1756	2600	*	*	IBHS	*
204	Koggedoddi	Arkavathi	Karnataka	1411933	6294667	177333	1070000	*	*	IBHS	*	*
205	Kokiwada	Pench	Madhya Pradesh	2854	3800	908	3612	2260	1643	D	IBHS	D
206	Kokkedoddy	Arkavathi	Karnataka	1411933	6294667	177333	1070000	*	*	IBHS	*	*
207	Kollegal	Cauvery	Karnataka	220375	448500	252000	272500	*	*	D	*	*
208	Konta	Sabari	Chhattisgarh	1853	5514	8060	7360	3642	2650	D	IBHS	IBHS
209	Kopergaon	Godavari	Maharashtra	*	8822	*	*	10723	2800	*	D	*
210	Kora	Rind	Uttar Pradesh	4432	4057	3500	4140	2833	3633	IBHS	IBHS	D
211	Kota-By Pass Hanging Road Bridge U/S of Kota City	Chambal	Rajasthan	*	75333	*	*	28167	36000	*	IBHS	*
212	Kudalaiyathur	Vellar	Tamil Nadu	*	*	287	330	1100	5250	*	*	NHS
213	Kudige	Cauvery	Karnataka	451333	4720000	1070000	462500	*	*	D	*	*
214	Kudlur	Palar	Tamil Nadu	*	16500	2700	*	*	*	*	*	*
215	Kuldahbridge	Sone	Madhya Pradesh	3440	1893	2133	3000	3080	2650	IBHS	D	D
216	Kulsi	Kulsi	Assam	1300	1798	120	30	*	*	NoHS	*	*

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
217	Kumarapalayam	Varahanadhi	Puducherry	785	*	890	1867	840	956	D	*	D
218	Kumbidi	Bharatapuzha	Kerala	*	620	1020	1100	985	2400	*	D	D
219	Kumhari	Wainganga	Madhya Pradesh	475	3938	3137	2043	3269	1027	NHS	IBHS	IBHS
220	Kuniyil	Chaliyar	Kerala	*	810	1550	1850	1036	2450	*	D	D
221	Kuppellur	Kumudvathi	Karnataka	*	409000	465333	*	*	*	*	*	*
222	Kurundwad	Krishna	Maharashtra	*	21143	17000	*	56667	9000	*	D	IBHS
223	Kuttiyadi	Kuttiyadi	Kerala	*	1500	1950	1967	1046	2600	*	IBHS	D
224	Kuzhithurai	Thamarabarani	Tamil Nadu	*	2000	2450	2850	1550	3900	*	IBHS	D
225	Lakhsarai	Kiul	Bihar	*	3933	450	925	3156	*	*	IBHS	*
226	Lakhoura	Burhi Gandak	Bihar	*	*	*	3533	1154	*	*	*	*
227	Lakkavalli	Bhadra	Karnataka	182867	272667	555333	752500	*	*	D	*	*
228	Lakshmanapatti	Kodaganar	Tamil Nadu	8950	22225	8783	3889	*	*	IBHS	*	*
229	Lalganj	Gandak	Bihar	*	2900	1700	1596	1678	*	*	IBHS	*
230	Lalpur	Sengar	Uttar Pradesh	7082	12680	3717	3132	5767	7283	IBHS	IBHS	D
231	Lodhikheda	Wainganga / Kanhan	Madhya Pradesh	7013	5946	5988	4090	4691	8133	IBHS	IBHS	D
232	Lucknow	Gomti	Uttar Pradesh	77667	55500	70000	78333	77000	70000	D	D	D
233	Luwara	Shetrunji	Gujarat	11811	7064	6550	*	7815	7267	*	D	D
234	M H Halli	Hemavathy	Karnataka	236286	430333	114667	107000	*	*	IBHS	*	*
235	Madamon	Pampa	Kerala	*	1280	1550	2100	1300	2400	*	D	D
236	Madhira	Munneru	Telangana	2200	7660	11467	8680	3614	1400	D	IBHS	IBHS
237	Madla	Ken	Madhya Pradesh	*	3680	4300	*	2700	3767	*	IBHS	IBHS
238	Magaral	Palar/Cheyyar	Tamil Nadu	1550	330	1400	1208	748	192	IBHS	NHS	NoHS
239	Magardhara	Wainganga	Maharashtra	446	3614	4100	1485	2853	4470	NHS	IBHS	D
240	Mahalgaoon	Wainganga	Maharashtra	1980	3281	1165	3880	3485	5545	D	D	D
241	Mahidpur	Shipra	Madhya	*	164500	*	*	32000	*	*	IBHS	*

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
			Pradesh									
242	Maighat	Gomti	Uttar Pradesh	4713	4093	4767	4246	6500	4550	IBHS	D	IBHS
243	Majitar	Rangit	Sikkim	*	*	*	1400	320	*	*	*	*
244	Malakkara	Pampa	Kerala	*	993	1450	2100	865	2600	*	IBHS	D
245	Malkhed	Bhima	Karnataka	1857	6392	10517	29188	2139	2267	D	IBHS	IBHS
246	Manakkad	Thodupuzha	Kerala	*	787	1300	1533	*	*	*	*	*
247	Manas NH Xing	Manas	Assam	9000	1740	883	90	*	*	NoHS	*	*
248	Mancherial	Godavari	Telangana	1834	5536	9200	35533	3667	5783	D	IBHS	IBHS
249	Mandawara	Chambal	Rajasthan	63071	50400	80333	28933	30067	43333	IBHS	IBHS	IBHS
250	Manderial	Chambal	Rajasthan	55929	49400	60500	33267	30600	35000	IBHS	IBHS	IBHS
251	Mangaon	Kal	Maharashtra	*	21646	8000	*	63400	*	*	D	*
252	Manjhi	Ghaghra	Bihar	*	4750	1700	1570	1466	*	*	IBHS	*
253	Mankara	Bharatapuzha	Kerala	*	1900	2300	2325	*	2100	*	*	IBHS
254	Mantralayam	Tungabhadra	Andhra Pradesh	*	7492	8117	10367	2285	1167	*	IBHS	IBHS
255	Marella	Gundakamma	Andhra Pradesh	*	9500	5400	13856	1648	1172	*	IBHS	IBHS
256	Marol	Varada	Karnataka	*	1108333	793333	*	*	*	*	*	*
257	Mataji	Mahi	Madhya Pradesh	7950	8033	6350	7118	6792	10133	IBHS	IBHS	D
258	Mathabhanga	Jaldhaka	West Bengal	*	*	*	1400	1300	16000	*	*	*
259	Matigara	Mahananda	West Bengal	*	*	*	10000	8275	28000	*	*	*
260	Mawi	Yamuna	Uttar Pradesh	910000	231200	35000	31200	42933	49833	IBHS	IBHS	D
261	Mehandipur	Ganga	Uttar Pradesh	*	10150	*	4467	4500	*	*	IBHS	*
262	Mejaroad	Tons	Uttar Pradesh	2700	2340	2317	3015	3780	3017	D	D	D
263	Mekhliganj	Teesta	West Bengal	*	*	*	2400	2200	16000	*	*	*
264	Menangudi	Cauvery	Tamil Nadu	940	287	318	460	1356	3908	NoHS	NHS	NHS
265	Mirzapur	Ganga	Uttar Pradesh	5067	4140	3967	4946	5620	4833	IBHS	D	D

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
266	Mohana	Betwa	Uttar Pradesh	4173	4378	33567	3973	4333	6133	IBHS	IBHS	IBHS
267	Mohna	Yamuna	Haryana	16942143	4098667	1733333	1686667	1035333	605000	IBHS	IBHS	IBHS
268	Moradabad	Ramganga	Uttar Pradesh	*	17000	14000	22000	21500	*	*	D	*
269	Mungoli	Penganga	Maharashtra	2283	3196	7362	2619	3787	4900	D	D	IBHS
270	Munugodu	Yedduvagu	Andhra Pradesh	1320	5744	6983	10107	2151	892	D	IBHS	IBHS
271	Muradpur	Vashishti	Maharashtra	*	78462	*	*	68725	*	*	IBHS	*
272	Murappanadu	Tambraparani	Tamil Nadu	6853	7600	6467	5356	5240	4460	IBHS	IBHS	IBHS
273	Murti	Murti	West Bengal	*	*	*	*	945	*	*	*	*
274	Musiri	Cauvery	Tamil Nadu	7873	6080	9517	3789	7455	7750	IBHS	D	IBHS
275	Muthankera	Kabini	Kerala	477800	6033333	159667	126000	*	*	IBHS	*	*
276	Nagothane	Amba	Maharashtra	*	39877	*	*	12269	*	*	IBHS	*
277	Nagrakata	Jaldhaka	West Bengal	*	*	*	*	940	*	*	*	*
278	Naidupet	Swarnamukhi	Andhra Pradesh	1400	365	860	1178	2585	6941	IBHS	NHS	D
279	Nallamaranpatty	Amaravathi	Tamil Nadu	8433	11125	9533	5533	6175	2250	IBHS	IBHS	IBHS
280	Nallathur	Cauvery/Nandalar	Puducherry	1010	330	770	*	1275	663	*	NHS	IBHS
281	Nanded	Godavari	Maharashtra	1771	4540	14233	11571	11650	1100	D	D	IBHS
282	Nandgaon	Wunna	Maharashtra	5067	6795	4283	3021	3003	5183	IBHS	IBHS	D
283	Nandipalli	Pennar/Sagileru	Andhra Pradesh	1180	1400	1500	1209	470	675	IBHS	NoHS	IBHS
284	Nasik	Godavari	Maharashtra	2613	6400	14867	80247	13480	8600	D	D	IBHS
285	Naugaon	Yamuna	Uttarakhand	23571	28533	22500	18333	24533	22800	IBHS	IBHS	D
286	Neeleswaram	Periyar	Kerala	*	1147	1300	1267	900	2400	*	IBHS	D
287	Neemsar	Gomti	Uttar Pradesh	2400	2133	*	2400	2600	2100	IBHS	D	*
288	Nellipally	Kallada	Kerala	*	860	1300	1600	1100	2950	*	D	D
289	Nellore	Pennar	Andhra Pradesh	*	865	1723	*	1312	1502	*	D	IBHS

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										Pre-M	M	Post-M
290	Neora	Teesta / Naora	West Bengal	*	*	*	2400	1300	330	*	*	*
291	Nirmali	Tiljuga	Bihar	*	*	*	3093	5660	*	*	*	*
292	Noida	Hindon	Uttar Pradesh	26000000	4620000	3166667	6053333	3749333	1190000	IBHS	IBHS	IBHS
293	Nona	Nona	Assam	800	360	1592	60	*	*	NoHS	*	*
294	Noukaghat	Mahananda	West Bengal	*	*	*	22000	13850	35000	*	*	*
295	Nowrangpur	Indravathi	Odisha	2343	4380	8750	10420	6740	2150	D	D	IBHS
296	Odenthurai	Kallar	Tamil Nadu	17063	16573	12150	7478	12000	5600	IBHS	IBHS	IBHS
297	Orai-Rath Marg, Chikasi (Sahijina U/S)	Betwa	Uttar Pradesh	5473	4044	10683	3540	6013	6667	IBHS	D	IBHS
298	P.G.Bridge	Penganga	Maharashtra	968	5323	8182	2433	1896	3022	D	IBHS	IBHS
299	Pachawali	Sindh	Madhya Pradesh	*	3280	*	*	3227	3950	*	IBHS	*
300	Pachegaon	Pravara	Maharashtra	*	5750	*	*	9936	4100	*	D	*
301	Padardibadi	Mahi	Rajasthan	11493	8800	6300	5427	7213	10400	IBHS	IBHS	D
302	Pagladiya	Pagladiya	Assam	*	3070	43	78	*	*	*	*	*
303	Palakadavu	Karuvannur	Kerala	*	1230	1070	*	1400	*	*	D	*
304	Paleru Bridge	Krishna	Andhra Pradesh	*	8570	13733	26057	2891	1717	*	IBHS	IBHS
305	Pali	Chambal	Rajasthan	48143	41867	40833	29600	29600	35333	IBHS	IBHS	IBHS
306	Paliakalan	Sharda	Uttar Pradesh	*	2250	*	2150	2233	2100	*	IBHS	*
307	Palla	Yamuna	Delhi	885000	924000	523333	376667	185067	96167	IBHS	IBHS	IBHS
308	Pancharatna	Brahmaputra	Assam	2400	517	27	33	*	*	NoHS	*	*
309	Paramakudi	Vaigai	Tamil Nadu	2800	4900	9383	4267	3400	3300	D	IBHS	IBHS
310	Pargaon	Bhima	Maharashtra	*	26286	*	*	33523	*	*	D	*
311	Parmarthghat	Ganga	Uttar Pradesh	7000	8150	7800	4000	4700	4600	IBHS	IBHS	IBHS
312	Parsohan ghat	Burhi Rapti	Uttar Pradesh	2200	2600	2600	2200	2800	2200	IBHS	D	IBHS
313	Patala	Wardha	Maharashtra	5658	6950	3438	5734	4207	3450	D	IBHS	D
314	Patansaongi	Chandrabhaga	Maharashtra	3540	6442	5520	9767	5083	7750	D	IBHS	D

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										Pre-M	M	Post-M
315	Pathagudem	Indravathi	Chhattisgarh	1460	4773	7617	8240	6033	4965	D	D	IBHS
316	Pattazhy	Kallada	Kerala	*	947	1170	1147	945	1950	*	IBHS	D
317	Pauni	Wainganga	Maharashtra	2887	7238	8388	5297	6840	3138	D	IBHS	IBHS
318	Peralam	Vanjiyar	Tamil Nadu	315	254	760	*	*	*	*	*	*
319	Perumannu	Valapatnam	Kerala	*	943	1020	1633	1200	2450	*	D	D
320	Perur	Godavari	Telangana	1708	3759	8117	9567	4260	4017	D	D	IBHS
321	Phulgaon	Bhima	Maharashtra	*	12167	*	*	23917	*	*	D	*
322	Poanta	Yamuna	Himachal Pradesh	27357	40267	46667	28133	31733	33000	IBHS	IBHS	IBHS
323	Polavaram	Godavari	Andhra Pradesh	1733	5264	5283	8247	4553	3383	D	IBHS	IBHS
324	Porakudi	Arasalar	Tamil Nadu	350	213	340	*	1328	856	*	NHS	NHS
325	Pratap pur	Yamuna	Uttar Pradesh	7733	7233	6567	9587	12347	8533	D	D	D
326	Pratapgarh	Sai	Uttar Pradesh	4047	3100	3367	3546	4940	4267	IBHS	D	D
327	Pratapur	Pravara	Maharashtra	2800	7067	9200	*	11492	5700	*	D	IBHS
328	Premnagar	Chenab	Jammu & Kashmir	*	240	348	1557	*	*	*	*	*
329	Pudur	Kannadipuzha	Kerala	*	1233	1450	1800	1300	*	*	D	*
330	Pulamanthole	Bharathapuzha	Kerala	*	865	1550	1533	1210	2250	*	D	D
331	Pulikukku	Netravathi	Karnataka	*	1280	1800	2367	1285	*	*	D	*
332	Purna	Purna	Maharashtra	3500	5908	11467	*	7660	1400	*	D	IBHS
333	Puthimari	Puthimari	Assam	-	2557	113	-	*	*	NoHS	*	*
334	Rahu	Mula-Mutha	Maharashtra	*	26429	*	*	22792	*	*	IBHS	*
335	Rai Bareli	Sai	Uttar Pradesh	2100	3350	3400	3900	3450	3200	D	D	IBHS
336	Rajahmundry	Godavari	Andhra Pradesh	1533	5850	9200	7920	5120	6850	D	IBHS	IBHS
337	Rajapur	Yamuna	Uttar Pradesh	8583	10856	7667	13527	11613	9033	D	D	D
338	Rajegaon	Bagh	Madhya Pradesh	1246	6000	2070	1347	3744	2277	IBHS	IBHS	D

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
339	Rajghat (Agra)	Betwa	Uttar Pradesh	4545	4660	3133	5077	3740	4917	D	IBHS	D
340	Ramakona	Kanhan	Madhya Pradesh	637	7258	3383	2780	4558	6100	D	IBHS	D
341	Ramamangalam	Muvattupuzha	Kerala	*	740	1150	1425	1098	2950	*	D	D
342	Rangeli	Som	Rajasthan	9613	7500	6800	7127	6413	*	IBHS	IBHS	*
343	Rangpo	Rangpochu	West Bengal	*	*	*	2800	5400	*	*	*	*
344	Regauli	Rapti	Uttar Pradesh	5400	4850	4600	4450	4000	2400	IBHS	IBHS	IBHS
345	Renukaji	Giri	Himachal Pradesh	18500	27867	25667	24067	26267	22500	IBHS	IBHS	IBHS
346	Sahijana	Betwa	Uttar Pradesh	4564	3389	8233	3047	4333	7750	IBHS	D	IBHS
347	Saidpur	Ganga	Uttar Pradesh	6193	4507	4500	3985	6200	5000	IBHS	D	D
348	Saigaon	Manjera	Karnataka	*	7409	9200	*	3743	*	*	IBHS	*
349	Sakhara	Wainganga	Maharashtra	5597	5833	4850	4264	4298	2950	IBHS	IBHS	IBHS
350	Sakleshpur	Hemavathi	Karnataka	300909	401333	623333	227500	*	*	IBHS	*	*
351	Sakmur	Wardha	Maharashtra	517	4098	1768	1326	6229	1150	D	D	IBHS
352	Sakra	Burhi Gandak	Bihar	*	*	*	3633	2560	*	*	*	*
353	Salebardi	Wainganga	Maharashtra	4088	3280	2848	230	4001	4720	NoHS	D	D
354	Saloor	Manjira	Telangana	1450	6500	7933	16000	7786	10117	D	D	D
355	Samdoli	Varna	Maharashtra	*	14500	14500	7333	24040	22000	*	D	D
356	Sangam (LGD)	Kinnersani	Telangana	1853	4247	7520	10669	3599	3548	D	IBHS	IBHS
357	Sangod	Parwan	Rajasthan	*	36889	*	*	32818	*	*	IBHS	*
358	Sankosh LRP	Sankosh	West Bengal	*	*	*	800	1085	110	*	*	*
359	Santhegulli	Aghnanashni	Karnataka	*	907	1700	2000	1056	1700	*	D	D
360	Saradaput	Sabari	Odisha	1627	5680	5283	8940	4893	3817	D	IBHS	IBHS
361	Sarangpur	Kalisindh	Madhya Pradesh	*	122000	*	*	32500	*	*	IBHS	*
362	Sarati	Nira	Maharashtra	*	7122	*	*	8593	*	*	D	*
363	Satna	Tons	Madhya	3400	1901	1817	2546	4440	3383	IBHS	D	D

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
			Pradesh									
364	Satrapur	Kanhan	Maharashtra	3920	10985	9100	2240	3866	7022	IBHS	IBHS	IBHS
365	Satrapur U/S	Kanhan	Maharashtra	12420	9846	13667	4100	5046	7367	IBHS	IBHS	IBHS
366	Savandapur	Bhavani	Tamil Nadu	5407	9547	9633	4411	4691	9550	IBHS	IBHS	IBHS
367	Seohara	Ramganga	Uttar Pradesh	*	21500	17000	15500	18500	*	*	IBHS	*
368	Seondha	Sindh	Madhya Pradesh	4149	4080	3067	3593	5029	4500	IBHS	D	D
369	Sevanur	Chittar	Tamil Nadu	*	12980	23000	6400	7650	13283	*	IBHS	IBHS
370	Sevoke	Teesta	West Bengal	*	*	*	*	10700	9200	*	*	*
371	Shahjahanpur	Khannaut	Uttar Pradesh	*	24000	21000	19333	20500	13000	*	IBHS	IBHS
372	Shahzadpur	Ganga	Uttar Pradesh	4100	3660	3267	3892	5340	4750	IBHS	D	D
373	Shastri Bridge	Ganga	Uttar Pradesh	4800	3980	3750	4754	5320	4617	IBHS	D	D
374	Shimoga	Tunga	Karnataka	706667	918462	232000	120667	*	*	IBHS	*	*
375	Sikandarpur	Burhi Gandak	Bihar	*	*	*	850	728	*	*	*	*
376	Singasadanapalli	Ponnaiyar	Tamil Nadu	5600000	8666667	2383333	2955556	3467273	4223333	IBHS	IBHS	D
377	Singavaram	Pennar	Andhra Pradesh	*	1400	*	*	1361	915	*	IBHS	*
378	Singimari	Jaldhaka	West Bengal	*	*	*	800	2200	790	*	*	*
379	Sitapur	Gomti	Uttar Pradesh	1700	1300	*	1550	1833	*	IBHS	D	*
380	Sonapur	Digaru	Assam	*	2607	113	20	*	*	*	*	*
381	Sonapur (LBD)	Mahananda	West Bengal	*	*	*	3500	9385	22000	*	*	*
382	Sripalpur	Punpun	Bihar	*	3300	1850	3960	4460	*	*	D	*
383	Suddakallu	Dindi	Telangana	1319	11271	8750	8260	2687	2580	D	IBHS	IBHS
384	Suldaguri	Torsa	West Bengal	*	*	*	2200	8850	*	*	*	*
385	Sultanpur	Gomti	Uttar Pradesh	6567	4840	4333	4277	6720	5050	IBHS	D	D
386	Sulurpet	Kalingi	Andhra Pradesh	390	1015	1860	2050	422	532	NHS	NoHS	IBHS
387	T K Halli	Shimsha	Karnataka	*	933333	623333	1600000	*	*	*	*	*

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
388	T Narsipura	Kabini	Karnataka	273733	495333	188667	116500	*	*	IBHS	*	*
389	T. Bekuppe	Arkavathi	Karnataka	1310000	3578000	793333	1430000	*	*	IBHS	*	*
390	T.Ramapuram	Hagari	Karnataka	1700	5173	7183	9486	3717	4808	D	IBHS	IBHS
391	Tadipatri	Pennar	Andhra Pradesh	*	3400	*	5400	940	1645	*	IBHS	*
392	Takali	Bhima	Maharashtra	*	10000	*	*	29680	*	*	D	*
393	Tal	Chambal	Madhya Pradesh	*	97250	*	*	30286	*	*	IBHS	*
394	Tanda U/S	Ghaghra	Uttar Pradesh	*	*	*	*	5850	3200	*	*	*
395	Tandalaiputhur	Ayyar	Tamil Nadu	*	*	9933	5660	*	*	*	*	*
396	Terwad	Panchganga	Maharashtra	*	34643	17500	*	39400	*	*	D	*
397	Thandalaiputhur	Ayyar	Tamil Nadu	*	*	9933	5660	*	*	*	*	*
398	Thengudi	Cauvery/Thirumalairajanar	Tamil Nadu	560	1433	1573	817	1680	3698	IBHS	D	D
399	Thengumarahada	Bhavani/Moyar	Tamil Nadu	5280	18853	6333	3189	3382	3800	IBHS	IBHS	IBHS
400	Theni	Suruliyar	Tamil Nadu	7800	6260	10667	11422	5573	5333	D	IBHS	IBHS
401	Thevur	Sarabenga	Tamil Nadu	24500	31571	23750	5440	24150	8850	IBHS	IBHS	IBHS
402	Thimmanahalli	Yagachi	Karnataka	555444	588000	200000	116500	*	*	IBHS	*	*
403	Thoppur	Thoppaiyar	Tamil Nadu	*	*	21967	7000	*	*	*	*	*
404	Thottathinkadavu	Iruvazhinjipuzha	Kerala	*	1147	1450	1767	1064	2350	*	IBHS	D
405	Thumpamon	Achankovil	Kerala	*	960	1020	1500	1020	2450	*	D	D
406	Tiharkheda	Ramganga	Uttar Pradesh	*	23000	24000	20500	19000	*	*	IBHS	*
407	Tondarpur	Sukheta	Uttar Pradesh	*	17000	14000	13000	15000	11000	*	IBHS	IBHS
408	Tonk	Banas	Rajasthan	*	102818	*	*	23455	*	*	IBHS	*
409	Triveni	Gandak	Bihar	*	*	*	637	1880	*	*	*	*
410	Tufanganj	Raidak	West Bengal	*	*	*	*	1570	330	*	*	*
411	Tuini	Tons	Uttarakhand	23429	27733	23000	16200	17071	23000	IBHS	IBHS	D
412	Turtipar	Ghaghra	Uttar Pradesh	16500	11000	13000	14000	10650	*	IBHS	IBHS	*

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
413	U/S (Bamni)	Wardha	Maharashtra	7287	9931	7328	8186	5455	3437	D	IBHS	IBHS
414	U/S (Satrapur)	Kanhan	Maharashtra	12420	9846	13667	4100	5046	7367	IBHS	IBHS	IBHS
415	Udi	Chambal	Uttar Pradesh	13917	4667	5750	4173	4067	6817	IBHS	IBHS	D
416	Ujjain	Shipra	Madhya Pradesh	*	376083	490000	*	44400	49000	*	IBHS	IBHS
417	Urachikottai	Cauvery	Tamil Nadu	7450	6064	6417	8633	6700	2675	D	D	IBHS
418	V.S. Bridge	Ganga	Uttar Pradesh	5473	4567	3817	4385	4720	4883	IBHS	D	D
419	Valigonda	Musi	Telangana	2200	6954	16000	40216	3557	1767	D	IBHS	IBHS
420	Vandiperiyar	Periyar	Kerala	*	913	1070	1533	940	2600	*	D	D
421	Varanasi	Ganga	Uttar Pradesh	5660	4840	4850	5407	6707	6467	D	D	D
422	Varanavasi	Marudaiyar	Tamil Nadu	4900	*	11075	7900	*	7900	D	*	IBHS
423	Vautha	Sabarmati	Gujarat	286000	192667	215000	282667	291733	240000	D	D	D
424	Vazhavachanur	Ponnaiyar	Tamil Nadu	345	203	2380	2534	1812	195	NHS	NHS	NoHS
425	Verupakshapuram	Swarnamukhi	Andhra Pradesh	*	*	*	*	6519	1017	*	*	*
426	Vijayawada	Krishna	Andhra Pradesh	1956	6121	6983	13600	1997	1283	D	IBHS	IBHS
427	Villupuram	Ponnaiyar	Tamil Nadu	1700	*	1733	1820	905	252	D	*	NoHS
428	Vrindawan Bridge (Mathura U/S)	Yamuna	Uttar Pradesh	1593571	698000	273333	268667	340000	668333	IBHS	D	D
429	Wadakbal	Sina	Maharashtra	*	93909	50000	35000	40733	18600	*	IBHS	IBHS
430	Wadenapalli	Krishna	Telangana	1411	4850	13733	9620	3103	1467	D	IBHS	IBHS
431	Wairagarh	Wainganga	Maharashtra	300	2827	4672	8070	4869	2383	NHS	D	IBHS
432	Warunji	Koyna	Maharashtra	*	17444	5000	*	35085	*	*	D	*
433	Watrak Nr Vautha	Watrak	Gujarat	*	7625	*	*	9311	*	*	D	*
434	Yadgir	Bhima	Karnataka	*	5869	9200	*	2819	2033	*	IBHS	IBHS
435	Yamuna Expressway Road Bridge, Etamadpur (Agra D/S)	Yamuna	Uttar Pradesh	330000	941111	200833	266667	255333	296667	IBHS	IBHS	D

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
436	Yashwant Nagar	Giri	Himachal Pradesh	38143	37000	34000	27800	28500	31667	IBHS	IBHS	IBHS
437	Yelli	Godavari	Maharashtra	2207	5107	9200	10329	5850	1700	D	D	IBHS
438	Yennehole	Swarna	Karnataka	*	740	1250	1633	1054	1700	*	D	D

(-) means No Hotspot

(*) means Data not available/ river dry.

	No Hot Spot (NoHS)		Deteriorate (D)		New Hotspot (NHS)		Improved but Hotspot (IBHS)
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8.11 Faecal Coliform (FC):

Faecal Coliform (FC) is an important microbiological indicator used to assess contamination of water bodies by sewage and faecal matter. According to the adopted criteria, FC concentrations ≤ 500 MPN/100 ml are considered within acceptable limits, whereas values > 500 MPN/100 ml are categorized as Hot Spots. The comparison between the monitoring data of 2024 and 2025 was carried out for 373 water quality monitoring stations located on different rivers across India during Pre-Monsoon (Pre-M), Monsoon (M), and Post-Monsoon (Post-M) seasons.

The comparison of Faecal Coliform (FC) hotspots at various river water quality monitoring stations during 2024 and 2025 provides a critical assessment of faecal contamination and public health risk in river systems. Faecal coliform bacteria are direct indicators of contamination from human and animal waste, reflecting untreated sewage discharge, open defecation, and poor sanitation practices. The assessment was carried out for pre-monsoon (Pre-M), monsoon (M), and post-monsoon (Post-M) seasons to capture seasonal variability. The results presented in Table 29 indicate widespread contamination, with varying trends of improvement, persistence, and deterioration across different river stretches.

Overall, the analysis shows that Improved but Hotspot (IBHS) conditions dominate, accounting for approximately 45–50% of the monitoring stations, indicating that although faecal coliform levels have reduced compared to 2024, they still remain above acceptable limits. Major river stretches such as the Yamuna (Delhi, Agra, Mathura), Hindon, Wardha, and Ganga basin consistently fall under this category, reflecting persistent faecal contamination despite partial improvements.

Deterioration (D) category represents a significant proportion (around 25–30%) of the stations, indicating worsening microbiological water quality in 2025. Stations such as Allahabad, Varanasi, Lucknow, Baghpat, Balrampur, and several locations across Uttar Pradesh, Maharashtra, and Tamil Nadu showed increased FC levels. These trends highlight increasing sewage discharge, population pressure, and inadequate sanitation infrastructure along riverbanks.

New Hot Spot (NHS) category accounts for approximately 15–20% of the observations, indicating emergence of faecal contamination at previously non-hotspot locations. Stations such as Aheri Gudem Bridge (Pranhita), Bakhari (Wainganga), Bangapani (Uttarakhand), and several locations in Madhya Pradesh, Bihar, and Maharashtra fall under this category. This

reflects expanding anthropogenic pressure and insufficient wastewater treatment.

No Hot Spot (NoHS) category forms the smallest proportion (around 5–10%), indicating that only a limited number of stations maintained acceptable faecal coliform levels during 2025. These stations are mostly located in less impacted or upstream regions with lower human interference and better natural purification capacity.

Seasonal analysis indicates that the pre-monsoon season recorded high FC concentrations at several stations due to low flow and accumulation of contaminants. During the monsoon season, dilution effects led to partial improvement at some locations, but runoff also contributed to increased contamination at others. In the post-monsoon season, several stations continued to exhibit IBHS and D conditions, indicating persistent faecal pollution even after monsoon flushing.

Overall, the comparative analysis indicates that faecal contamination remains one of the most critical water quality concerns, with dominance of IBHS and substantial presence of D and NHS categories.very limited proportion of NoHS stations highlights serious challenges in sanitation and wastewater management. Strengthening sewage treatment infrastructure, improving sanitation practices, and preventing direct discharge of waste into rivers are essential to reduce faecal contamination and protect public health.

Table 29: Comparison of Hot Spots Faecal Coliform (FC) during year 2024 with 2025

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
1	A.B. Road Crossing	Parwati	Madhya Pradesh	*	35900	*	*	15436	*	*	IBHS	*
2	A.P. Puram	Chittar	Tamil Nadu	*	*	*	615	*	680	*	*	*
3	A.P.M.(Ashti)	Wainganga	Maharashtra	3832	1869	1937	2440	*	*	IBHS	*	*
4	Abu Road	Banas	Rajasthan	*	3363	3950	*	2900	3940	*	IBHS	IBHS
5	Agra (Jawahar Bridge)	Yamuna	Uttar Pradesh	198333	175000	63500	114533	139867	138333	IBHS	IBHS	D
6	Agra (Poiyaghat)	Yamuna	Uttar Pradesh	206667	194444	109167	104400	167667	135000	IBHS	IBHS	D
7	Aheri Gudem Bridge	Pranhita	Maharashtra	134	629	1533	1144	2046	382	NHS	D	NoHS
8	Aie NH Xing	Aie	Assam	3000	268	210	50	*	*	NoHS	*	*
9	Akbarpur	Chhoti sarju	Uttar Pradesh	2672	1713	2067	1992	2640	2000	IBHS	D	IBHS
10	Akhnoor	Chenab	Jammu & Kashmir	85	163	*	675	*	*	NHS	*	*
11	Akkihebbal	Hemavathi	Karnataka	15093	13953	3450	6925	*	*	IBHS	*	*
12	Aklera	Parwan	Rajasthan	*	7120	*	*	13945	*	*	D	*
13	Alandurai	Noyyal	Tamil Nadu	*	946	*	*	772	925	*	IBHS	*
14	Allahabad	Ganga	Uttar Pradesh	2833	2187	2317	3400	3747	3600	D	D	D
15	Ambarampalayam	Aliyar	Tamil Nadu	2839	1111	1463	1027	798	837	IBHS	IBHS	IBHS
16	Ambari	Brahmaputra/Torsa/Kaljani	West Bengal	*	*	*	500	720	*	*	*	*
17	Ambasamudram	Vaigai	Tamil Nadu	877	1900	728	615	780	688	IBHS	IBHS	IBHS
18	Ankinghat	Ganga	Uttar Pradesh	1700	1700	1300	1233	1500	*	IBHS	IBHS	*
19	Arcot	Palar	Tamil Nadu	-	325	-	-	766	-	NoHS	NHS	NoHS
20	Arjunwad (seasonal)	Krishna	Maharashtra	*	7857	6050	1553	29893	1700	*	D	IBHS
21	Arnota	Uttangan	Uttar Pradesh	*	3400	*	*	5340	3400	*	D	*
22	Ashti	Wainganga	Maharashtra	1158	1156	1237	956	1318	753	IBHS	D	IBHS
23	Auraiya	Yamuna	Uttar Pradesh	91809	108778	6235	3166	*	*	IBHS	*	*

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
24	Avarankuppam	Palar	Tamil Nadu	*	*	*	*	940	3050	*	NHS	*
25	Ayodhya	Ghaghra	Uttar Pradesh	1300	1400	*	61168	18107	4283	D	D	*
26	Azmabad	Ganga	Bihar	373	1718	1500	1267	1700	1700	NHS	IBHS	D
27	B.P.M. (Bamni)	Wardha	Maharashtra	8000	6343	3428	2400	1572	*	IBHS	IBHS	*
28	Bachhwara	Ganga/Baya	Bihar	*	*	*	2550	1056	*	*	*	*
29	Badlapur	Ulhas	Maharashtra	20467	30533	16500	4431	1747	3550	IBHS	IBHS	IBHS
30	Baghpat	Yamuna	Uttar Pradesh	29286	20667	8567	33933	19657	40250	D	IBHS	D
31	Bairgania	Ganga/Kosi/Bagmat i/Lalbekia	Bihar	*	*	*	200	1682	*	*	*	*
32	Bakhari	Wainganga	Madhya Pradesh	185	1184	1072	14247	19307	24500	NHS	D	D
33	Baladoba	Brahmaputra/Sankosh	Assam	*	*	*	*	845	220	*	*	*
34	Baleni	Hindon	Uttar Pradesh	364286	78267	489667	1702	924	796	IBHS	IBHS	IBHS
35	Balrampur	Rapti	Uttar Pradesh	940	1250	1400	206000	146000	171667	D	D	D
36	Baltara	Ganga/Kosi	Bihar	*	*	*	1027	1036	*	*	*	*
37	Baluaghat	Ganga	Uttar Pradesh	3400	2787	2833	1200	1300	1300	IBHS	IBHS	IBHS
38	Bamni (Nagpur)	Wardha	Maharashtra	675	2136	3277	2508	4040	3517	D	D	D
39	Banda	Ken	Uttar Pradesh	3208	2600	1870	2048	1240	2697	IBHS	IBHS	D
40	Bangapani	Gauri Ganga	Uttarakhand	220	355	680	1846	3567	3950	NHS	NHS	D
41	Banjari	Sone	Bihar	*	3500	2200	585	810	920	*	IBHS	IBHS
42	Banka	Chandan	Bihar	*	1083	775	1192	1120	*	*	D	*
43	Bansi	Rapti	Uttar Pradesh	700	940	920	1066	886	*	D	IBHS	*
44	Baranwada	Banas	Rajasthan	*	16482	11100	850	1200	805	*	IBHS	IBHS
45	Bardoh (Chhapriyal)	Chenab/Manawar Tawi	Jammu & Kashmir	81	140	*	787	*	*	NHS	*	*
46	Bareilly	Ramganga	Uttar Pradesh	*	13000	14000	11320	12073	13167	*	IBHS	IBHS
47	Barobisha	Brahmaputra/Sankosh/Raidak-II	West Bengal	*	*	*	340	537	*	*	*	*
48	Barod	Kalisindh	Rajasthan	10255	14260	16000	13000	11000	*	D	IBHS	*

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
49	Basantpur (Ganga)	Ganga	Uttar Pradesh	*	1900	2700	11240	8975	*	*	D	*
50	Basoda	Betwa	Madhya Pradesh	3093	2233	1783	1509	2167	*	IBHS	IBHS	*
51	Basti	Kwano	Uttar Pradesh	*	1100	*	2200	2769	2225	*	D	*
52	Basti D/S	Kwano	Uttar Pradesh	*	4500	*	1700	2067	1100	*	IBHS	*
53	Basti U/S	Kwano	Uttar Pradesh	*	1100	*	2067	2200	1200	*	D	*
54	Bawapuram	Tungabhadra	Andhra Pradesh	1100	3471	6450	1833	2100	1090	D	IBHS	IBHS
55	Beki Road Bridge	Beki	Assam	*	*	*	3500	440	80	*	*	*
56	Belne Bridge	Gad	Maharashtra	9690	12650	4350	4880	731	842	IBHS	IBHS	IBHS
57	Bendrahalli	Suvarnavathi	Karnataka	206667	21780	13780	1128	*	*	IBHS	*	*
58	Bhadana Village D/s of Kota City	Chambal	Rajasthan	*	14429	*	46125	*	*	*	*	*
59	Bhadrachalam	Godavari	Telangana	1127	3179	4500	*	15750	15500	*	D	D
60	Bhatpalli	Peddavagu	Telangana	571	1857	1650	2459	1221	780	D	IBHS	IBHS
61	Bhind	Kunwari	Madhya Pradesh	3133	2943	3200	1444	1591	1567	IBHS	IBHS	IBHS
62	Bhitora	Ganga	Uttar Pradesh	4600	*	4500	2500	2108	2483	IBHS	*	IBHS
63	Bigod	Banas	Rajasthan	*	8880	10060	3700	3450	*	*	IBHS	*
64	Birdghat	Rapti	Uttar Pradesh	2600	8000	*	*	12075	12000	*	D	*
65	Bithoor	Ganga	Uttar Pradesh	2200	3600	3100	12667	11000	6050	D	D	D
66	Buxar	Ganga	Bihar	300	1515	1717	2150	2600	2200	NHS	D	D
67	Byaladahalli	HARIDRA	Karnataka	*	31040	4130	3222	2540	*	*	IBHS	*
68	Chaklagaon	Manas NH Xing	Assam	*	*	*	3400	493	97	*	*	*
69	Champasari	Ganga/Mahananda	West Bengal	*	*	*	21500	7725	11000	*	*	*
70	Chandrika Devi	Gomti	Uttar Pradesh	2300	1700	3400	2665	*	*	D	*	*
71	Changsari	Kurijali	Assam	*	*	*	340	1097	1822	*	*	*
72	Chindnar	Indravathi	Chhattisgarh	1314	2839	3367	3300	3200	2700	D	D	IBHS
73	Chitrasani	Balaram	Gujarat	*	3233	*	2900	1727	902	*	IBHS	*

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
74	Chittorgarh	Gambhiri	Rajasthan	*	*	*	*	26000	*	*	NHS	*
75	Cholachagudda	MALAPRABHA	Karnataka	*	641143	34000	*	3467	*	*	IBHS	*
76	Chopan	Sone	Uttar Pradesh	1202	561	643	14000	*	*	D	*	*
77	Chunchanakatte	Cauvery	Karnataka	*	*	*	39650	10980	3350	*	*	*
78	D/S (Ashti)	Wainganga	Maharashtra	2300	1622	1180	952	1282	1018	IBHS	IBHS	IBHS
79	Dabri	Ramganga	Uttar Pradesh	*	7800	14000	14000	11000	*	*	D	*
80	Dadri	Sahibi	Haryana	*	17500	*	*	29991	*	*	D	*
81	Dameracherla	Musi	Telangana	790	4833	9067	4871	835	950	D	IBHS	IBHS
82	Daund	Bhima	Maharashtra	*	21143	*	1617333	638133	200500	*	D	*
83	Delhi Railway Bridge	Yamuna	Delhi	5557143	1494000	1346667	*	883	*	*	IBHS	*
84	Deongaon Bridge	Bhima	Karnataka	*	3388	9750	5129	1533	1080	*	IBHS	IBHS
85	Deosugur	Musi	Karnataka	1100	2993	5800	2678	3100	3367	D	D	IBHS
86	Derol Bridge	Sabarmati	Gujarat	3390	3278	3033	3771	1567	*	D	IBHS	*
87	Dhalegaon	Godavari	Maharashtra	368	3603	5083	9300	9300	*	NHS	D	*
88	Dhamkund	Chenab	Jammu & Kashmir	140	148	*	528	*	*	NHS	*	*
89	Dhaneta	Baigul/Kicha	Uttar Pradesh	*	7800	11000	*	20091	*	*	D	*
90	Dhansa	Sahibi	Haryana	*	120167	*	*	18200	*	*	IBHS	*
91	Dhareri	Chambal	Madhya Pradesh	*	230000	*	2433	3173	3183	*	IBHS	*
92	Dheng Bridge	Ganga/Kosi/Bagmati	Bihar	*	*	*	2950	1422	*	*	*	*
93	Dholpur	Chambal	Rajasthan	6517	1964	2800	*	15000	*	*	D	*
94	Dobhi	Phalgu	Bihar	*	1990	2350	2750	736	*	*	IBHS	*
95	Domohani	Brahmaputra/Teesta	West Bengal	*	*	*	1000	715	490	*	*	*
96	Duddhi	Kanhar	Uttar Pradesh	963	695	867	1095	1322	1173	D	D	D
97	Dudhnoi	Dudhnai	Assam	*	*	*	300	1147	760	*	*	*
98	Ekmighat	Ganga/Kosi/Bagmati/AdhwaraGroup	Bihar	*	*	*	943	2092	*	*	*	*

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
99	Elgin bridge	Ghaghra	Uttar Pradesh	630	940	*	1167	1200	1100	D	D	*
100	Elunuthimangalam	Noyyal	Tamil Nadu	1451	2092	1700	983	1342	1233	IBHS	IBHS	IBHS
101	Etawah	Yamuna	Uttar Pradesh	437500	88889	111500	106667	117000	143167	IBHS	D	D
102	Faizabad U/S	Ghaghra	Uttar Pradesh	*	1100	*	1700	1950	1250	*	D	*
103	Fatehgarh	Ganga	Uttar Pradesh	1200	2150	*	2100	1567	*	D	IBHS	*
104	G.R. Bridge	Godavari	Maharashtra	415	3369	3860	6500	1548	1300	NHS	IBHS	IBHS
105	Gaisabad	Bearma	Madhya Pradesh	*	1900	1733	*	2264	2433	*	D	D
106	Galeta	Hindon	Uttar Pradesh	4114286	420800	1130000	248667	219333	340000	IBHS	IBHS	IBHS
107	Gandhavayal	Gandhayar	Tamil Nadu	770	1074	1400	1833	440	518	D	NoHS	IBHS
108	Gandhighat	Ganga	Bihar	698	1779	1692	2228	1678	*	D	IBHS	*
109	Gandlapet	Peddavagu	Telangana	652	4020	3150	*	893	998	*	IBHS	IBHS
110	Ganguwala	Bata	Himachal Pradesh	9779	9440	6983	8773	13100	68167	IBHS	D	D
111	Ganod	Bhadar	Gujarat	*	*	*	*	3500	2783	*	*	*
112	Garhakota	Sonar	Madhya Pradesh	*	9300	*	*	1881	2333	*	IBHS	*
113	Garhmukteshwar	Ganga	Uttar Pradesh	530	670	680	855	1233	*	D	D	*
114	Garhwa	North Koel	Jharkhand	*	1633	1500	1398	802	*	*	IBHS	*
115	Garrauli	Dhasan	Madhya Pradesh	3275	1880	1487	2227	2940	2967	IBHS	D	D
116	Gaya	Phalgu	Bihar	*	1700	1250	990	1056	*	*	IBHS	*
117	Gazaldoba	Brhamaputra/Teesta	West Bengal	*	*	*	1700	490	330	*	*	*
118	Ghat	Ganga/Ghaghra/Sharda/Saryu	Uttarakhand	-	450	-	-	580	-	NoHS	NHS	NoHS
119	Ghazipur	Ganga	Uttar Pradesh	3367	2167	2767	2400	3460	3017	IBHS	D	D
120	Ghugumari	Brahmaputra/Torsa	West Bengal	*	*	*	1100	355	*	*	*	*
121	Gokak	Ghataprabha	Karnataka	*	*	*	36000	437507	8880	*	*	*
122	Gokul barrage Mathura D/S	Yamuna	Uttar Pradesh	1964286	1306000	325000	117067	168067	195000	IBHS	IBHS	IBHS
123	Golokganj	Brahmaputra/Sankosh	Assam	*	*	*	*	580	790	*	*	*

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
124	Gomti Nagar	Gomti	Uttar Pradesh	94000	59500	79000	79000	73500	63000	IBHS	D	IBHS
125	Gorakhpur D/S	Rapti	Uttar Pradesh	*	13500	*	15000	13000	6100	*	IBHS	*
126	Gorakhpur U/S	Rapti	Uttar Pradesh	*	10150	*	11000	11000	4250	*	D	IBHS
127	Gummanur	Ponnaiyar	Tamil Nadu	1448	2770	1102	971	1069	1043	IBHS	IBHS	IBHS
128	Guwahati D.C.Court	Brahmaputra	Assam	*	*	*	330	1854	572	*	*	*
129	Halia	Halia	Telangana	*	5725	6317	3840	784	455	*	IBHS	NoHS
130	Hamirpur	Yamuna	Uttar Pradesh	41200	15222	3067	15307	12693	5467	IBHS	IBHS	D
131	Haralahalli	Tungabhadra	Karnataka	23000	36540	3470	5033	*	*	IBHS	*	*
132	Hariharapura	Tunga	Karnataka	*	*	*	40467	35180	3500	*	*	*
133	Hariharapura	Krishna/Tungabhadra/Tunga	Karnataka	35180	3500	40467	20170	*	*	IBHS	*	*
134	Haripur	Tons	Uttarakhand	7500	8187	5567	7360	9660	6983	IBHS	D	D
135	Hasimara	Brahmaputra/Torsa	West Bengal	*	*	*	170	915	*	*	*	*
136	Hathidah	Ganga	Bihar	480	1884	1930	2244	1510	*	NHS	IBHS	*
137	Hathikhana	Ganga	Uttar Pradesh	*	3700	3300	3150	4350	*	*	D	*
138	Hayaghat	Ganga/Kosi/Bagmati	Bihar	*	*	*	4167	1456	*	*	*	*
139	Hivra	Wardha	Maharashtra	296	2148	600	888	1110	590	NHS	IBHS	IBHS
140	Hogenakkal	Chinnar	Tamil Nadu	*	*	*	*	1400	1700	*	*	*
141	Holehonnur	Bhadra	Karnataka	13707	23460	4970	2338	*	*	IBHS	*	*
142	Honnali	Tungabhadra	Karnataka	14213	25287	6633	1783	*	*	IBHS	*	*
143	Huvinhedgi	Krishna	Karnataka	935	3857	6033	3107	1813	1367	D	IBHS	IBHS
144	Irrukkankudi	Vaippar	Tamil Nadu	1276	*	775	794	*	*	IBHS	*	*
145	Jagdalpur	Indravathi	Chhattisgarh	1093	2979	4433	3700	1683	1398	D	IBHS	IBHS
146	Jaigaon	Brahmaputra/Torsa	West Bengal	*	*	*	230	595	*	*	*	*
147	Jainagar	Ganga/Kosi/Bagmati/KamlaBalan	Bihar	*	*	*	753	2132	*	*	*	*
148	Jajmau	Ganga	Uttar Pradesh	4700	7000	9200	6250	7300	4700	D	D	IBHS

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
149	Jaldhaka NH-31	Brahmaputra/Jaldhaka	West Bengal	*	*	*	1500	490	170	*	*	*
150	Jammu Tawi (Sidhra)	Chenab/Tawi	Jammu & Kashmir	*	*	*	860	*	*	*	*	*
151	Japla	Sone	Jharkhand	*	1593	875	826	596	*	*	IBHS	*
152	Jaunpur	Gomti	Uttar Pradesh	2693	1993	2200	2069	2740	2050	IBHS	D	IBHS
153	Jhalawar	Kalisindh	Rajasthan	*	9280	*	*	12755	*	*	D	*
154	Jhanjharpur	Ganga/Kosi/Bagmat i/KamlaBalan	Bihar	*	*	*	2550	2262	*	*	*	*
155	Jhansi-Mirzapur Highway Road Bridge (Sahijana D/S)	Betwa	Uttar Pradesh	2909	1989	1650	2413	2287	3067	IBHS	D	D
156	K. M. Vadi	Cauvery/ Lakshmanthirth	Karnataka	85400	388800	12700	45800	*	*	IBHS	*	*
157	K.T.(Satrapur)	Kanhan	Maharashtra	8633	5657	2750	8271	4588	4483	IBHS	IBHS	D
158	Kabirganj	Ganga/Ghaghra/Sharda	Uttar Pradesh	450	*	*	665	647	450	NHS	*	*
159	Kachlabridge	Ganga	Uttar Pradesh	615	730	1200	855	1160	*	D	D	*
160	Kailash Mandir, Agra (U/S)	Yamuna	Uttar Pradesh	227500	154444	97500	120733	176600	143333	IBHS	D	D
161	Kakarghatti	Ganga/Kosi/Bagmat i/Jivach	Bihar	*	*	*	650	1736	*	*	*	*
162	Kalanaur	Yamuna	Uttar Pradesh	12586	10567	7683	11067	14486	15833	IBHS	D	D
163	Kalpi	Yamuna	Uttar Pradesh	50218	39413	2383	19680	12893	3433	IBHS	IBHS	D
164	Kamalpur	Banas	Gujarat	*	3775	*	*	3900	*	*	D	*
165	Kannauj	Kali	Uttar Pradesh	*	9200	4500	4250	4000	*	*	IBHS	*
166	Kanpur	Ganga	Uttar Pradesh	4400	3100	4500	2750	3000	4000	IBHS	IBHS	IBHS
167	Kanti	Ganga/BurhiGandak	Bihar	*	*	*	2043	866	*	*	*	*
168	Karad	Krishna	Maharashtra	*	17000	4000	*	46077	*	*	D	*
169	Karnal	Yamuna	Haryana	21429	11347	6500	11360	16086	14050	IBHS	D	D
170	Kasganj	Kali	Uttar Pradesh	*	12000	9200	9200	8267	*	*	IBHS	*
171	Katri Umrauli	Ganga	Uttar Pradesh	*	4500	4000	3200	4000	*	*	IBHS	*
172	Kazipura	Ramganga	Uttar Pradesh	*	11000	*	11500	11100	*	*	D	*

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
173	Keesara	Munneru	Andhra Pradesh	*	4490	3150	3180	546	475	IBHS	IBHS	NoHS
174	Kellodu	VEDAVATHI	Karnataka	350000	44867	10000	14000	*	*	IBHS	*	*
175	Keolari	Wainganga	Madhya Pradesh	433	2117	1658	1180	1968	1405	NHS	IBHS	IBHS
176	Khanitar	Brahmaputra/Teesta	Sikkim	*	*	*	170	790	*	*	*	*
177	Khanpur	Mahi	Gujarat	3340	3620	3650	3257	3493	3200	IBHS	IBHS	IBHS
178	Khatoli	Parwati	Rajasthan	11391	12145	12800	10733	12892	15667	IBHS	D	D
179	Khudrakhowa	Manas NH Xing	Assam	*	*	*	16000	560	47	*	*	*
180	Kodumudi	Cauvery	Tamil Nadu	1048	1035	832	394	745	582	NoHS	IBHS	IBHS
181	Koelwar	Sone	Bihar	*	2183	1075	932	1352	*	*	IBHS	*
182	Koggedoddi	Arkavathi	Karnataka	177733	277453	4900	13950	*	*	IBHS	*	*
183	Kokiwada	Pench	Madhya Pradesh	996	1050	143	927	598	565	IBHS	IBHS	NHS
184	Kollegal	Cauvery	Karnataka	18438	13836	7280	6200	*	*	IBHS	*	*
185	Konta	Sabari	Chhattisgarh	1006	3121	4120	2508	1323	1000	D	IBHS	IBHS
186	Kopergaon	Godavari	Maharashtra	*	6444	*	*	3568	1300	*	IBHS	*
187	Kora	Rind	Uttar Pradesh	2804	2486	1633	2287	1779	2367	IBHS	IBHS	D
188	Kota-By Pass Hanging Road Bridge U/S of Kota City	Chambal	Rajasthan	*	15517	*	*	14008	15000	*	IBHS	*
189	Kudige	Cauvery	Karnataka	53333	379693	11833	8775	*	*	IBHS	*	*
190	Kudlur	Palar	Tamil Nadu	*	*	*	*	1400	680	*	*	*
191	Kuldahbridge	Sone	Madhya Pradesh	1635	879	1100	1410	1582	1288	IBHS	D	D
192	Kulsi	Kulsi	Assam	*	*	*	1300	1638	120	*	*	*
193	Kumhari	Wainganga	Madhya Pradesh	213	1760	790	949	1673	668	NHS	IBHS	IBHS
194	Kuppellur	KUMUDVATHI	Karnataka	*	*	*	*	32280	4850	*	*	*
195	Kurundwad	Krishna	Maharashtra	*	5886	7000	*	18980	3300	*	D	IBHS
196	Lakhisarai	Kiul	Bihar	*	2800	200	440	1090	*	NoHS	IBHS	*
197	Lakhoura	Ganga/Burhi Gandak/Tiyar	Bihar	*	*	*	2033	682	*	*	*	*

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										Pre-M	M	Post-M
198	Lakkavalli	Bhadra	Karnataka	10267	20947	6780	22950	*	*	D	*	*
199	Lakshmanapatti	Kodaganar	Tamil Nadu	832	1265	745	622	*	*	IBHS	*	*
200	Lalganj	Gandak	Bihar	*	2340	1100	852	1076	*	*	IBHS	*
201	Lalpur	Sengar	Uttar Pradesh	3982	7300	1867	2019	3227	3500	IBHS	IBHS	D
202	Lodhikheda	Jam	Madhya Pradesh	2487	2101	2030	1591	1590	3533	IBHS	IBHS	D
203	Lucknow	Gomti	Uttar Pradesh	45333	28500	47000	45333	47500	40000	D	D	IBHS
204	Luwara	Shetrunji	Gujarat	3556	3114	2750	*	3323	3167	*	D	D
205	M. H. Halli	Hemavathy	Karnataka	18114	9433	1660	1190	*	*	IBHS	*	*
206	Madhira	Wyra	Telangana	790	5830	5283	2874	697	675	D	IBHS	IBHS
207	Madla	Ken	Madhya Pradesh	*	1460	2000	*	1682	2233	*	D	D
208	Magardhara	Wainganga	Maharashtra	170	1100	987	709	889	2152	NHS	IBHS	D
209	Mahalgaon	Wainganga	Maharashtra	533	1009	425	973	1144	2623	D	D	NHS
210	Mahidpur	Shipra	Madhya Pradesh	*	31480	*	*	14329	*	*	IBHS	*
211	Maighat	Gomti	Uttar Pradesh	2260	1680	2317	2123	3220	2000	IBHS	D	IBHS
212	Malkhed	Bhima	Karnataka	684	3792	4850	6860	751	1167	D	IBHS	IBHS
213	Manas NH Xing	Manas NH Xing	Assam	*	*	*	9000	1740	883	*	*	*
214	Mancherial	Godavari	Telangana	1045	3364	3900	9600	1184	2015	D	IBHS	IBHS
215	Mandawara	Chambal	Rajasthan	13600	13707	16667	11940	12447	18667	IBHS	IBHS	D
216	Manderial	Chambal	Rajasthan	17743	12460	10567	12587	11567	13700	IBHS	IBHS	D
217	Mangaon	Kal	Maharashtra	*	5015	3000	*	25367	*	*	D	*
218	Manjhi	Ghaghra	Bihar	*	3300	940	1096	994	*	*	IBHS	*
219	Mantralayam	Tungabhadra	Andhra Pradesh	*	3948	4750	3482	873	783	*	IBHS	IBHS
220	Marella	Gundakamma	Andhra Pradesh	*	5929	2833	4956	507	758	*	IBHS	IBHS
221	Marol	Varada	Karnataka	*	*	*	*	48900	14400	*	*	*
222	Mataji	Mahi	Madhya Pradesh	2550	3083	3000	3273	3183	3083	D	D	D

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										Pre-M	M	Post-M
223	Mathabhanga	Brahmaputra/Jaldhaka	West Bengal	*	*	*	300	270	1400	*	*	*
224	Matigara	Ganga/Mahanand a/Balason	West Bengal	*	*	*	2500	2048	7000	*	*	*
225	Mawi	Yamuna	Uttar Pradesh	194857	57800	5483	13013	16333	18833	IBHS	IBHS	D
226	Mehandipur	Ganga	Uttar Pradesh	*	8000	*	2033	2200	*	*	IBHS	*
227	Mejaroad	Tons	Uttar Pradesh	1257	1066	1072	1508	1906	1367	D	D	D
228	Mekhliganj	Brahmaputra/Teesta	West Bengal	*	*	*	340	460	2200	*	*	*
229	Mirzapur	Ganga	Uttar Pradesh	2500	2000	1883	2392	2600	2300	IBHS	D	D
230	Mohana	Betwa	Uttar Pradesh	2785	2478	11183	2287	2693	3467	IBHS	D	IBHS
231	Mohna	Yamuna	Haryana	3049286	1181333	458333	387867	312000	215000	IBHS	IBHS	IBHS
232	Moradabad	Ramganga	Uttar Pradesh	*	13000	11000	12500	15000	*	*	D	*
233	Mungoli Township	Penganga	Maharashtra	757	1137	1990	719	1064	2050	IBHS	IBHS	D
234	Munugodu	Edduvagu	Andhra Pradesh	395	4067	3900	3275	1202	517	NHS	IBHS	IBHS
235	Muradpur	Vashishti	Maharashtra	*	25462	*	*	18742	*	*	IBHS	*
236	Murappanadu	Tambraparani	Tamil Nadu	812	845	723	611	721	528	IBHS	IBHS	IBHS
237	Musiri	Cauvery	Tamil Nadu	1185	668	1185	860	918	832	IBHS	D	IBHS
238	Muthenkera	Kabini	Kerala	72267	391153	5800	1600	*	*	IBHS	*	*
239	Nagothane	Amba	Maharashtra	*	9508	*	*	4100	*	*	IBHS	*
240	Naidupet	Swarnamukhi	Andhra Pradesh	-	193	-	-	646	-	NoHS	NHS	NoHS
241	Nallamaranpatty	Amaravathi	Tamil Nadu	883	795	653	670	1008	325	IBHS	D	NoHS
242	Nanded	Godavari	Maharashtra	1183	3093	8267	4414	1300	140	D	IBHS	NoHS
243	Nandgaon	Wunna	Maharashtra	1341	2375	1053	1031	856	2467	IBHS	IBHS	D
244	Nasik	Godavari	Maharashtra	1279	3933	8567	29113	5447	3383	D	D	IBHS
245	Naugaon	Yamuna	Uttarakhand	7657	8027	6217	6613	10407	7580	IBHS	D	D
246	Neemsar	Gomti	Uttar Pradesh	930	1040	*	1700	1400	450	D	D	*
247	Nirmali	Ganga/Kosi/Bagmat i/Tiljuga	Bihar	*	*	*	833	1972	*	*	*	*

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										Pre-M	M	Post-M
248	Noida	Hindon	Uttar Pradesh	6607143	1146667	668333	1516000	900000	318333	IBHS	IBHS	IBHS
249	Nona	Nona	Assam	*	*	*	800	357	1592	*	*	*
250	Noukaghat	Mahananda	West Bengal	*	*	*	5000	2250	7000	*	*	*
251	Nowrangpur	Indravathi	Odisha	1304	2839	4000	3307	2161	845	D	IBHS	IBHS
252	Odenthurai	Kallar	Tamil Nadu	765	1011	1010	922	925	668	D	IBHS	IBHS
253	Orai-Rath Marg, Chikasi (Sahijina U/S)	Betwa	Uttar Pradesh	3764	2033	4583	2193	3240	4650	IBHS	D	D
254	P.G.Bridge	Penganga	Maharashtra	268	1793	2693	1250	785	1667	NHS	IBHS	IBHS
255	Pachawali	Sindh	Madhya Pradesh	*	1216	*	*	1982	1900	*	D	*
256	Pachegaon	Pravara	Maharashtra	*	3800	*	*	2570	1000	*	IBHS	*
257	Paderdibadi	Mahi	Rajasthan	3580	3020	3750	2707	2987	4083	IBHS	IBHS	D
258	Pagladiya	Pagladiya	Assam	*	*	*	*	2860	43	*	NHS	*
259	Paleru Bridge	Krishna	Andhra Pradesh	*	5420	7617	7068	707	867	*	IBHS	IBHS
260	Pali	Chambal	Rajasthan	15093	11527	10467	11760	11940	11900	IBHS	D	D
261	Paliakalan	Sharda	Uttar Pradesh	*	1240	*	535	993	680	*	IBHS	*
262	Palla	Yamuna	Delhi	324143	236000	109333	116600	71267	26833	IBHS	IBHS	IBHS
263	Pancharatna	Brahmaputra	Assam	*	*	*	2400	497	27	*	*	*
264	Paramkudi	Vaigai	Tamil Nadu	633	1100	868	903	680	300	D	IBHS	NoHS
265	Pargaon	Bhima	Maharashtra	*	6721	*	*	8846	*	*	D	*
266	Parmarthghat	Ganga	Uttar Pradesh	3400	3950	4500	2650	2500	2600	IBHS	IBHS	IBHS
267	Parsohan ghat	Burhi Rapti	Uttar Pradesh	1100	1200	1400	1250	1167	930	D	IBHS	IBHS
268	Patala	Wardha	Maharashtra	1671	1706	497	1972	1120	1267	D	IBHS	NHS
269	Patansaongi	Chandrabhaga	Maharashtra	1744	2391	1407	2244	1267	3050	D	IBHS	D
270	Pathagudem	Indravathi	Chhattisgarh	1000	3195	3683	2593	1525	1295	D	IBHS	IBHS
271	Pauni	Wainganga	Maharashtra	916	1755	1312	1727	2726	1670	D	D	D
272	Perur	Godavari	Telangana	969	2879	3800	2333	1526	1278	D	IBHS	IBHS

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
273	Phulgaon	Bhima	Maharashtra	*	2817	*	*	13267	*	*	D	*
274	Poanta	Yamuna	Himachal Pradesh	6700	9920	11267	12353	13647	11017	D	D	IBHS
275	Polavaram	Godavari	Andhra Pradesh	880	3186	2933	2010	1081	1108	D	IBHS	IBHS
276	Porakudi	Cauvery/Arasalar	Tamil Nadu	121	-	144	*	-	522	*	NoHS	NHS
277	Pratap pur	Yamuna	Uttar Pradesh	4975	3989	2500	1769	2540	2183	IBHS	IBHS	IBHS
278	Pratapgarh	Sai	Uttar Pradesh	2067	1332	1685	4493	6987	3883	D	D	D
279	Pratapur	Pravara	Maharashtra	1400	4367	5400	*	3641	1495	*	IBHS	IBHS
280	Premnagar	Chenab	Jammu & Kashmir	120	175	*	517	*	*	NHS	*	*
281	Purna	Purna	Maharashtra	1700	3731	6667	*	1628	270	*	IBHS	NoHS
282	Puthimari	Puthimari	Assam	*	*	*	330	2194	113	*	*	*
283	Raebareli	Sai	Uttar Pradesh	1000	1440	1700	2100	1900	1300	D	D	IBHS
284	Rahu	Bhima	Maharashtra	*	7000	*	*	5433	*	*	IBHS	*
285	Rajahmundry	Godavari	Andhra Pradesh	891	3714	4767	2289	1457	1515	D	IBHS	IBHS
286	Rajapur	Yamuna	Uttar Pradesh	5558	4467	3233	4933	6260	3617	IBHS	D	D
287	Rajegaon	Bagh	Madhya Pradesh	600	2200	623	290	1544	740	NoHS	IBHS	D
288	Rajghat (Agra)	Betwa	Uttar Pradesh	2784	1668	1783	2315	2100	2067	IBHS	D	D
289	Ramakona	Kanhan	Madhya Pradesh	177	2066	720	1360	1005	1914	NHS	IBHS	D
290	Rangeli	Som	Rajasthan	3473	3160	3133	2867	2980	*	IBHS	IBHS	*
291	Rangpo	Brahmaputra/Tees ta/Rangpochu	West Bengal	*	*	*	800	1100	*	*	*	*
292	Regauli	Rapti	Uttar Pradesh	2100	2200	3300	2100	2200	615	D	D	IBHS
293	Renukaji	Giri	Himachal Pradesh	6964	8153	9400	8620	10347	10000	D	D	D
294	Sahijana	Betwa	Uttar Pradesh	2990	1622	2858	1846	2940	4000	IBHS	D	D
295	Saidpur	Ganga	Uttar Pradesh	2707	1953	2083	1900	2920	2500	IBHS	D	D
296	Saigaon	Manjera	Karnataka	*	4418	2800	*	874	*	*	IBHS	*
297	Sakhra (Wadsa)	Wainganga	Maharashtra	2077	2025	1505	1221	1209	1178	IBHS	IBHS	IBHS

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
298	Sakleshpura	Hemavathi	Karnataka	19364	40380	10900	12150	*	*	IBHS	*	*
299	Sakmur	Wardha	Maharashtra	204	1118	300	567	1289	595	NHS	D	NHS
300	Sakra	Ganga/BurhiGandak	Bihar	*	*	*	1287	932	*	*	*	*
301	Salebardi	Chulband	Maharashtra	648	956	365	80	1535	2515	NoHS	D	NHS
302	Saloor	Godavari	Telangana	590	2185	3267	4450	1868	3383	D	IBHS	D
303	Samdoli	Warana	Maharashtra	*	4514	3917	2133	5993	8000	*	D	D
304	Sangam (LGD)	Kinnersani	Telangana	1021	2959	4220	3915	1472	717	D	IBHS	IBHS
305	Sangod	Parwan	Rajasthan	*	9911	*	*	13091	*	*	D	*
306	Saradaput	Sabari	Odisha	934	3116	3133	2288	1175	1177	D	IBHS	IBHS
307	Sarangpur	Kalisindh	Madhya Pradesh	*	25143	*	*	15200	*	*	IBHS	*
308	Sarati	Nira	Maharashtra	*	2144	*	*	4293	*	*	D	*
309	Satna	Tons	Madhya Pradesh	1478	854	915	1248	2160	1500	IBHS	D	D
310	Satrapur	Kanhan	Maharashtra	1119	4457	1427	900	1885	2722	IBHS	IBHS	D
311	Savandapur	Bhavani	Tamil Nadu	759	1051	985	679	508	915	IBHS	IBHS	IBHS
312	Seohara	Ramganga	Uttar Pradesh	*	12500	11000	10600	10150	*	*	IBHS	*
313	Seondha	Sindh	Madhya Pradesh	2538	1620	1867	2364	2614	2617	IBHS	D	D
314	Sevanur	Chittar	Tamil Nadu	*	1370	1517	940	698	783	*	IBHS	IBHS
315	Sevoke	Brahmaputra/Teesta	West Bengal	*	*	*	*	1750	1700	*	*	*
316	Shahjahanpur	Khannaut	Uttar Pradesh	*	17000	13000	13000	9400	6800	*	IBHS	IBHS
317	Shahzadpur	Ganga	Uttar Pradesh	1900	1525	1655	1900	2620	2400	D	D	D
318	Shastri Bridge	Ganga	Uttar Pradesh	2327	1847	1800	2600	2680	2467	D	D	D
319	Shimoga	Tunga	Karnataka	50333	56938	3750	8267	*	*	IBHS	*	*
320	Sikandarpur	Ganga/BurhiGandak	Bihar	*	*	*	560	496	*	*	*	*
321	Singasadanapalli	Ponnaiyar	Tamil Nadu	892000	1845333	578333	1207778	564545	881667	D	IBHS	D
322	Singimari	Brahmaputra/Jaldhaka	West Bengal	*	*	*	220	700	330	*	*	*

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
323	Sitapur	sarayan	Uttar Pradesh	680	903	*	780	927	*	D	D	*
324	Sonapur	Digaru	Assam	*	*	*	*	1573	113	*	*	*
325	Sonapur (LBD)	Ganga/Mahanand a	West Bengal	*	*	*	700	1783	4900	*	*	*
326	Sripalpur	Punpun	Bihar	*	2200	1040	2160	2588	*	*	D	*
327	Suddakallu	Dindi	Telangana	631	8986	4433	3110	1102	1336	D	IBHS	IBHS
328	Suldaguri	Brahmaputra/Torsa	West Bengal	*	*	*	500	1265	*	*	*	*
329	Sultanpur	Gomti	Uttar Pradesh	3053	2113	2000	1954	3280	2300	IBHS	D	D
330	T. Bekuppe	Arkavathy	Karnataka	144333	304547	19867	103000	*	*	IBHS	*	*
331	T. K. Halli	Shimsha	Karnataka	*	14600	16667	110000	*	*	*	*	*
332	T. Narasipur	Kabini	Karnataka	14920	12213	6660	1043	*	*	IBHS	*	*
333	T.Ramapuram	Hagari	Karnataka	790	3600	4117	3436	1098	1475	D	IBHS	IBHS
334	Takali	Bhima	Maharashtra	*	2967	*	*	6960	*	*	D	*
335	Tal	Chambal	Madhya Pradesh	*	15625	*	*	14429	*	*	IBHS	*
336	Tanda D/S	Ganga/Ghaghra	Uttar Pradesh	*	*	*	*	2750	1100	*	*	*
337	Tanda U/S	Ganga/Ghaghra	Uttar Pradesh	*	*	*	*	2200	855	*	*	*
338	Terwad	Panchganga	Maharashtra	*	11879	5500	*	7560	*	*	IBHS	*
339	Thandalaiputhur	Ayyar	Tamil Nadu	*	*	*	*	*	877	*	*	*
340	Thengudi	Cauvery/Thirumalairajanar	Tamil Nadu	-	-	148	-	-	528	NoHS	NoHS	NHS
341	Thengumarahada	Bhavani/Moyar	Tamil Nadu	522	1144	637	484	555	502	NoHS	IBHS	IBHS
342	Theni	Suruliyar	Tamil Nadu	972	608	1167	1151	646	653	D	D	IBHS
343	Thevur	Sarabenga	Tamil Nadu	615	1869	1157	692	1184	1027	D	IBHS	IBHS
344	Thimmanahalli	Yagachi	Karnataka	27333	24427	5167	983	*	*	IBHS	*	*
345	Thoppur	Thoppaiyar	Tamil Nadu	*	*	1593	680	*	*	*	*	*
346	Tiharkheda	Ramganga	Uttar Pradesh	*	4500	12000	11000	11100	*	*	D	*
347	Todarpur	Sukheta	Uttar Pradesh	*	11000	9300	8400	9300	6800	*	IBHS	IBHS

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
348	Tonk	Banas	Rajasthan	*	18818	*	*	9245	*	*	IBHS	*
349	Triveni	Ganga/Gandak	Bihar	*	*	*	350	1148	*	*	*	*
350	Tuini	Tons	Uttarakhand	8914	7867	6600	6027	6086	7700	IBHS	IBHS	D
351	Turtipar	Ghaghra	Uttar Pradesh	8100	4600	9400	7900	6900	*	IBHS	D	*
352	U/S (Bamni)	Wardha	Maharashtra	2409	3240	1473	2019	1267	1882	IBHS	IBHS	D
353	U/S (Satrapur)	Kanhan	Maharashtra	3567	3293	2433	1319	1538	2583	IBHS	IBHS	D
354	Udi	Chambal	Uttar Pradesh	7900	2411	2567	2453	2447	3333	IBHS	D	D
355	Ujjain	Shipra	Madhya Pradesh	*	91833	78000	*	18380	22000	*	IBHS	IBHS
356	Urachikottai	Cauvery	Tamil Nadu	775	777	848	887	655	263	D	IBHS	NoHS
357	V.S. Bridge	Ganga	Uttar Pradesh	2720	2013	1817	2054	2480	2450	IBHS	D	D
358	Valigonda	Musi	Telangana	1620	5554	13280	12822	606	983	D	IBHS	IBHS
359	Varanasi	Ganga	Uttar Pradesh	2787	2260	2300	2547	3360	3183	IBHS	D	D
360	Varanavasi	Marudaiyar	Tamil Nadu	1100	*	1058	637	*	1100	IBHS	*	D
361	Vautha	Sabarmati	Gujarat	54733	51533	51500	48200	95667	46000	IBHS	D	IBHS
362	Verupakshapuram	Swarnamukhi	Andhra Pradesh	*	*	*	*	624	242	*	*	*
363	Vijayawada	Krishna	Andhra Pradesh	1091	4471	3800	6740	492	642	D	NoHS	IBHS
364	Vrindawan Bridge (Mathura U/S)	Yamuna	Uttar Pradesh	383000	151933	75667	87267	172067	225000	IBHS	D	D
365	Wadakbal	Sina	Maharashtra	*	29636	22000	13000	12413	5900	*	IBHS	IBHS
366	Wadenapalli	Krishna	Telangana	893	3321	6667	3165	1127	892	D	IBHS	IBHS
367	Wairagarh	Wainganga	Maharashtra	170	1477	1217	1805	1118	988	NHS	IBHS	IBHS
368	Warunji	Koyna	Maharashtra	*	3300	2300	*	17085	*	*	D	*
369	Watrak Nr Vautha	Watrak	Gujarat	*	3300	*	*	3433	*	*	D	*
370	Yadgir	Bhima	Karnataka	*	4077	5400	*	842	1310	*	IBHS	IBHS
371	Yamuna Expressway Road Bridge, Etamadpur (Agra D/S)	Yamuna	Uttar Pradesh	234167	244222	48833	106933	132067	151667	IBHS	IBHS	D

S.No.	Water Quality Stations	River/ Reservoir	State	Pre-M (2024)	M (2024)	Post-M (2024)	Pre-M (2025)	M (2025)	Post-M (2025)	Comparison of Hotspots during year 2024 with 2025		
										Pre-M	M	Post-M
372	Yashwant Nagar	Giri	Himachal Pradesh	9850	9880	9100	7873	11479	10967	IBHS	D	D
373	Yelli	Godavari	Maharashtra	1241	2973	4333	3900	1830	140	D	IBHS	NoHS

(-) means No Hotspot

(*) means Data not available/ river dry.

	No Hot Spot (NoHS)		Deteriorate (D)		New Hotspot (NHS)		Improved but Hotspot (IBHS)
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Conclusion

The study conducted covered a total of 774 water quality monitoring stations situated in important rivers across the country to identify water quality hotspots. The study report is based on the average values recorded during pre-monsoon, monsoon and post-monsoon seasons at these monitoring stations for 2025. The report provides a detailed analysis of 13 water quality parameters, highlighting the water quality status at various locations in India. The report also sheds light on the variations observed in the parameters essential for both the Central Pollution Control Board (CPCB) and Bureau of Indian Standards (BIS) classifications, along with parameters specific to the primary water quality criteria for bathing water as per the Ministry of Environment, Forest and Climate Change (MoEFCC). Based on the water quality data analysis, the following observations have been found:

pH

The pH levels of water across various rivers in India exhibit significant variability, influenced by seasonal factors and human activities. The analysis spanning pre-monsoon, monsoon, and post-monsoon seasons reveals widespread deviations from the recommended pH range of 6.5 to 8.5, with numerous monitoring stations exceeding these limits. In 2025, a total of 21,013 river water samples were analyzed with 546 samples (2.59%) found to exceed the acceptable pH limit. Eleven (11) water quality monitoring stations on 10 rivers exceeded the acceptable pH limit. The pH of the samples ranged from 4.26 to 9.37 throughout January to December 2025. The lowest pH value (4.26) was observed at the Kharkhana water quality monitoring station on the Myntdu River in February 2025. The highest pH value (9.37) was observed at the Jagdalpur a water quality monitoring station on the Wardha River in April 2025. Seasonal variations were observed, with the pre-monsoon season showing the highest variability, while the monsoon season exhibited relatively stable conditions due to dilution from rainfall and increased river flow. A few stations recorded pH values outside the permissible limits, indicating localized environmental or anthropogenic influences, particularly in some northeastern river stretches. The comparison from 2023 to 2025 shows a significant decline in the number of pH hotspots, decreasing from 23 in 2023 and 30 in 2024 to 11 in 2025, indicating an overall improvement in pH compliance across the monitored

ivers. Although most stations showed stable or improved conditions, a few locations continued to exhibit persistent or emerging hotspot.

Electrical Conductivity (EC)

The analysis of electrical conductivity (EC) across various water quality monitoring stations reveals significant fluctuations influenced by seasonal variations and human activities. The comparison of hotspots at various monitoring stations along rivers during the years 2024 and 2025 reveals significant changes in river water quality. In 2025, a total of 20,919 river water samples were analyzed with 101 samples (0.48%) found to exceed the acceptable electrical conductivity limit. Seven (07) water quality monitoring stations on 07 rivers exceeded the acceptable electrical conductivity limit (CPCB Class E). The electrical conductivity range was from 16.78 to 11,850 $\mu\text{S}/\text{cm}$ in 2025. The lowest electrical conductivity (16.78 $\mu\text{S}/\text{cm}$) was observed at the at the Upper Rimbi water quality monitoring station on the Rimbi khola River during July 2025. The highest electrical conductivity (11850 $\mu\text{S}/\text{cm}$) was observed at the Durvesh water quality monitoring station on the Vaitarna River during March 2025.

The comparison between 2023 and 2025 shows an increase in EC hotspots from 6 stations in 2023 to 11 stations in 2024, followed by a decline to 7 stations in 2025, indicating gradual improvement in river water quality with respect to salinity levels. Several monitoring stations shifted to No Hotspot (NoHS) status in 2025, reflecting improved conditions, while a few stations continued to exhibit persistent or newly emerging hotspot characteristics. Overall, the findings indicate that most river stretches maintain acceptable electrical conductivity levels, although localized hotspots persist due to factors such as industrial discharges, agricultural runoff, and seasonal hydrological changes.

Ammonia as N ($\text{NH}_3\text{-N}$)

The recommended acceptable limit of ammonia as N ($\text{NH}_3\text{-N}$) as 1.2 mg/L is mentioned in “Designated Best Uses of Water” by CPCB only in Class D- Propagation of wild life and fisheries. In 2025, a total of 16,907 river water samples were analyzed with 162 samples (4.93%) found to exceed the acceptable limit. Thirty-six (36) water quality monitoring stations on 17 rivers exceeded the acceptable ammonia limit (CPCB Class D). The ammonia concentration of the samples ranged from 0.00 to 73.34 throughout January to December 2025. The highest ammonia concentration of 73.34 mg/L was observed at KT (Satrapur) water quality monitoring station on the Kanhan River during May 2025. Seasonal analysis revealed that pre-monsoon

periods recorded the highest ammonia concentrations, primarily due to reduced river flow, limited dilution capacity, and accumulation of pollutants. During the monsoon season, ammonia levels generally declined across most stations because of dilution from rainfall and increased river discharge. However, some stations continued to exhibit elevated levels, suggesting persistent pollution sources. In the post-monsoon period, a partial increase in ammonia concentrations was observed at several locations as river flows stabilized and dilution effects reduced.

The three-year comparison (2023–2025) shows that ammonia hotspots increased from 42 stations in 2023 to 47 stations in 2024, followed by a decline to 36 stations in 2025, indicating some improvement in water quality conditions. Nevertheless, a large number of monitoring stations, particularly in the Yamuna River basin and other urban-influenced rivers—continued to record ammonia concentrations above the permissible limit. While several stations showed improvement or shifted to No-Hotspot status, others exhibited deterioration or emerged as new hotspots, reflecting ongoing anthropogenic pressures. Overall, although a modest improvement in ammonia levels was observed in 2025, the persistence of hotspots across multiple river basins indicates that ammonia pollution remains a significant concern for river water quality in India.

Fluoride (F⁻)

Bureau of Indian Standard (10500:2012) has recommended the acceptable limit of 1.5 mg/ for fluoride. In 2025, a total of 19,191 river water samples were analyzed and 89 samples (0.46%) found to exceed the acceptable limit of BIS 10500:2012. Two (02) water quality monitoring station on 02 river exceeded the acceptable fluoride limit of BIS 10500:2012. The fluoride concentration range was from 0.00 to 10.5 mg/L in 2025. The highest fluoride concentration (10.5 mg/L) was observed at the Lingdem Hot Spring water quality monitoring station on the Talang Chu River during November 2025. Seasonal analysis showed that fluoride concentrations at Lingdem decreased slightly during the monsoon season due to dilution from rainfall, but increased again during the post-monsoon period, suggesting continued natural leaching of fluoride-rich minerals. At Tadipatri, exceedance was observed only during the post-monsoon season, while other seasonal values remained within acceptable limits. The comparison between 2023 and 2025 indicates a notable improvement in fluoride conditions across monitored rivers. The number of hotspot stations decreased from six in 2023 to one in 2024, with a slight increase to two in 2025, still representing a substantial reduction compared to 2023. Among all stations, Lingdem Hot Spring

remained the only persistent hotspot, showing a deteriorating trend between 2024 and 2025.

Total Hardness (TH))

BIS (Bureau of Indian Standard) 10500:2012) has recommended an acceptable limit of 600 mg/L of total hardness in drinking water. In 2025, a total of 20,372 river water samples were analyzed and 17 samples (0.08%) found to exceed the acceptable limit. One (01) water quality monitoring station on 01 river exceeded the acceptable total hardness limit of BIS 10500:2012. The total hardness concentration range was from 5 to 1454 mg/L in year 2025. The lowest hardness concentration (5 mg/L) was observed at the Kokrajhar water quality monitoring station on the Gaurang River during February 2025. The highest hardness concentration (1454 mg/L) was observed at the Durvesh water quality monitoring station on the Vaitarna River during March 2025. The comparative assessment for the period 2023–2025 shows a fluctuating but overall improving trend in hardness-related hotspots. The number of hotspots decreased from three stations in 2023 to four in 2024, followed by a significant reduction to only one station in 2025. Several monitoring stations that previously recorded hardness values above the permissible limit improved to No Hotspot (NoHS) status in 2025, indicating better water quality conditions.

Chloride (Cl⁻)

The evaluation of chloride concentrations at water quality monitoring stations reveals concerning exceedances of permissible limits defined by IS 10500:2012. The acceptable limit for chloride in drinking water is set at 250 mg/L, with a permissible limit extending to 1000 mg/L in the absence of alternative water sources. In 2025, a total of 21,012 river water samples were analyzed and 10 samples (0.047%) found to exceed the acceptable limit. The chloride concentration range was from 0.50 to 3954.81 mg/L in 2025. The highest chloride concentration (3954.81 mg/L) was observed at the Durvesh water quality monitoring station on the Vaitarna River during March 2025. The comparative assessment for the period 2023–2025 shows a clear declining trend in chloride hotspots. In 2023, three monitoring stations exceeded the permissible limit, which reduced to one station in 2024 (Luwara on the Shetrunji River, Gujarat) during the pre-monsoon season. In 2025, no exceedances were recorded at any monitoring station. This improvement may be attributed to better dilution during seasonal flows, reduced pollutant inputs, and improved management of anthropogenic sources such as industrial discharge, sewage, and agricultural runoff.

Boron (B)

The analysis of boron concentrations in river water during 2025 indicates that the majority of monitored samples remained within the CPCB prescribed limit of 2.0 mg/L for Class-E waters (irrigation, industrial cooling, and controlled waste disposal). Out of 15,804 river water samples analyzed, only 10 samples (0.06%) exceeded the permissible limit, demonstrating that boron contamination in the monitored rivers is minimal and localized. The recorded boron concentrations ranged from 0.00 to 3.91 mg/L, with the highest value observed at Lingdem Hot Spring on the Talangchu River in October 2025. Despite this localized exceedance, the seasonal average boron concentrations during the pre-monsoon, monsoon, and post-monsoon periods remained within acceptable limits at the monitored stations. Overall, the findings suggest that boron levels in most river stretches remain well within permissible limits, indicating effective control of both natural and anthropogenic sources. Occasional exceedances may be associated with geogenic influences or localized industrial activities, particularly in areas influenced by mineral-rich geological formations or hot spring systems.

Nitrate as N (NO_3^- -N)

Bureau of Indian Standard (10500:2012) has recommended that the acceptable limit for nitrate is 45 mg/L or 10.17 mg/L as NO_3^- – N in drinking water. In 2025, a total of 15,602 river water samples were analyzed and 240 samples (1.53%) found to exceed the acceptable limit. Seventeen (17) water quality monitoring stations on 14 rivers exceeded the acceptable nitrate limit of BIS 10500:2012. The nitrate concentration range was from 0.00 to 64.7 mg/L in year 2025. The highest nitrate concentration (64.7 mg/L) was observed at the T. Bekuppe water quality monitoring station on the Arkavathi River during February 2025.

Seasonal analysis showed that pre-monsoon conditions recorded the highest nitrate concentrations, likely due to reduced river flow, higher evaporation, and accumulation of pollutants from agricultural runoff and domestic wastewater. During the monsoon season, mixed trends were observed, where some stations showed a reduction in nitrate levels due to dilution from rainfall and increased discharge, while others continued to show elevated concentrations, indicating persistent pollutant inputs. In the post-monsoon period, nitrate levels generally declined at several stations following monsoon flushing, although localized increases were observed at a few locations. The comparison between 2023 and 2025 shows a steady decline in nitrate hotspots, decreasing from 42 stations in 2023 to 22 stations in 2024 and further to 17 stations in 2025, reflecting an overall improvement in nitrate levels across the monitored rivers. Despite this

improvement, persistent hotspots at certain stations—particularly in the Cauvery, Krishna, and Arkavathi river basins—indicate continued anthropogenic influences such as agricultural fertilizer runoff, domestic sewage discharge, and nutrient loading from surrounding catchments. Overall, the results suggest that while nitrate pollution has decreased over the three-year period, localized hotspots continue to exist in several river stretches.

Dissolved Oxygen (DO)

The assessment of Dissolved Oxygen (DO) levels in river water during 2025 indicates widespread variability across different river basins in India. Out of 19,209 samples analyzed, 2,833 samples (14.74%) recorded DO concentrations below the CPCB prescribed limit of 5.0 mg/L for Class-B waters (outdoor bathing). A total of 111 monitoring stations across 80 rivers exhibited DO levels below the acceptable limit, highlighting significant oxygen stress in several river stretches. The observed DO concentrations ranged from 0 to 13.42 mg/L, with the highest value recorded at Koteswar on the Bhagirathi River, while zero DO levels were reported in 278 samples, indicating severe oxygen depletion at certain locations.

Seasonal analysis revealed that pre-monsoon periods recorded the lowest DO levels, primarily due to reduced river discharge, higher temperatures, and increased organic pollution from untreated sewage and industrial effluents. During the monsoon season, slight improvements were observed at some stations because of dilution from rainfall and increased river flow; however, many rivers stretch continued to record DO values below the prescribed limit. In the post-monsoon period, partial recovery in DO levels was observed at several stations, although many locations still remained below the acceptable threshold, particularly in heavily urbanized river stretches such as the Yamuna and Hindon basins.

The comparison between 2023 and 2025 indicates fluctuating but gradually improving trends. The total number of DO hotspots increased from 115 in 2023 to 156 in 2024, followed by a decline to 111 in 2025, suggesting some recovery in oxygen conditions across the monitored rivers. Despite this improvement, the large number of affected stations indicates that oxygen depletion remains a widespread water quality concern, particularly in rivers influenced by urban sewage discharge, industrial effluents, and high organic pollution loads.

Biochemical Oxygen Demand (BOD)

The assessment of Biochemical Oxygen Demand (BOD) levels in river water during 2025 indicates significant organic pollution in several river stretches

across India. Out of 17,924 samples analyzed, 4,077 samples (22.74%) recorded BOD concentrations above the CPCB prescribed limit of 3 mg/L for Class-B waters (outdoor bathing). A total of 150 monitoring stations across 67 rivers exceeded the acceptable limit, with BOD values ranging from 0.00 to 145.20 mg/L. The highest concentration was recorded at Singasadanapalli on the Ponnaiyar River, indicating severe organic pollution at this location.

Seasonal analysis showed that pre-monsoon conditions recorded the highest BOD concentrations, mainly due to low river flow, higher temperature, and accumulation of untreated sewage and industrial effluents. During the monsoon season, BOD levels declined at some stations because of dilution from increased river discharge; however, many stations continued to record elevated concentrations due to stormwater runoff carrying organic pollutants into river systems. In the post-monsoon period, partial improvement was observed at certain locations, but several rivers stretch remained heavily polluted, indicating continued discharge of untreated wastewater.

The comparison between 2023 and 2025 shows fluctuating trends in BOD hotspots. The number of hotspots declined from 152 in 2023 to 146 in 2024, but increased again to 150 in 2025, indicating persistent organic pollution in several river basins. Rivers flowing through densely populated and industrialized regions—particularly the Yamuna, Ramganga, Gomti, Hindon, Godavari, and Ponnaiyar basins—continued to exhibit high BOD levels at multiple monitoring stations.

Total Coliform (TC)

The assessment of Total Coliform (TC) levels in river water during 2025 indicates widespread microbiological contamination across many river systems in India. Out of 6,805 samples analyzed, 6,311 samples (92.72%) exceeded the CPCB prescribed limit of 500 MPN/100 mL for Class-B waters (outdoor bathing). A total of 416 monitoring stations across 220 rivers recorded TC concentrations above the acceptable limit, reflecting extensive microbial pollution. The TC concentrations ranged from 20 to 13,000,000 MPN/100 mL, with the highest value observed at Noida on the Hindon River, indicating severe contamination at certain urban river stretches.

Seasonal analysis revealed that pre-monsoon and monsoon periods recorded extremely high TC concentrations, primarily due to untreated sewage discharge, reduced dilution under low-flow conditions, and stormwater runoff carrying faecal matter from urban settlements, livestock areas, and open defecation sites. During the monsoon season, additional contamination occurred due to overflow of sewer networks and wash-off from surrounding land surfaces. In the post-monsoon period, although slight reductions were

observed at some stations, TC levels remained significantly above permissible limits in many river stretches, indicating continuous discharge of untreated wastewater.

The comparison between 2023 and 2025 shows a progressive increase in TC hotspots, rising from 277 in 2023 to 378 in 2024 and further to 416 in 2025, indicating worsening microbiological water quality in several river basins. Major rivers such as the Ganga, Yamuna, Godavari, Krishna, Cauvery, and Sabarmati, along with their tributaries, consistently recorded elevated coliform levels, particularly in densely populated and urbanized regions.

Faecal coliform (FC)

The assessment of Faecal Coliform (FC) levels in river water during 2025 reveals widespread microbiological contamination across many river systems in India. Out of 6,781 samples analyzed, 5,136 samples (75.74%) exceeded the MoEFCC prescribed limit of 500 MPN/100 mL for bathing water quality. A total of 347 monitoring stations across 166 rivers recorded FC concentrations above the acceptable limit, indicating significant faecal pollution in several river stretches. The observed FC concentrations ranged from 20 to 4,900,000 MPN/100 mL, with the highest value recorded at Delhi Railway Bridge on the Yamuna River, reflecting severe contamination in urban river segments.

Seasonal analysis showed that pre-monsoon conditions recorded extremely high FC concentrations, primarily due to reduced river flow, limited dilution capacity, and continuous discharge of untreated domestic sewage and industrial waste. During the monsoon season, although increased river discharge provided partial dilution at some locations, stormwater runoff, sewer overflows, and wash-off from contaminated land surfaces contributed to sustained microbial pollution. In the post-monsoon period, FC levels declined slightly at certain stations but remained significantly above permissible limits in many rivers, indicating persistent wastewater discharge.

The comparison between 2023 and 2025 demonstrates a steady increase in FC hotspots, rising from 257 in 2023 to 322 in 2024 and further to 347 in 2025. The monsoon season consistently recorded the highest number of hotspots, reflecting the influence of runoff-driven contamination. Major river basins such as the Ganga–Yamuna system, Godavari, Krishna, Cauvery, Sabarmati, and Ponnaiyar continued to exhibit high faecal contamination, particularly in densely populated and urbanized regions.

Sodium Adsorption Ratio (SAR)

All the samples have been found within the acceptable limit of the SAR.

ABBREVIATION

Ammonia	NH ₃
Andhra Pradesh	AP
Alpha Benzenhexachloride	BHC
Biochemical Oxygen Demand	BOD
Bureau of Indian Standards	BIS
Boron	B
Calcium	Ca ⁺²
Cauvery Division	CD
Central Pollution Control Board	CPCB
Central Water Commission	CWC
Chambal Division	CD
Chenab Division	CD
Chloride	Cl ⁻
Dissolved Oxygen	DO
Dichlorodiphenyltrichloroethane	DDT
Eastern River Division	ERD
Electrical Conductance	EC
Godavari Division	GD
Himachal Pradesh	HP
Himalayan Ganga Division	HGD
Hydrology Division	HD
Hot Spring	HS
Iron	Fe
Lower Krishna Division	LKD
Lower Yamuna Division	LYD
Madhya Pradesh	MP
Magnesium	Mg ⁺²
Mahanadi Division	MD
Mahi Division	MD
Middle Brahmaputra Division	MBD
Middle Ganga Division	MGD
Monsoon Season	M
Narmada Division	ND
Nitrate	NO ₃ ⁻¹
Pre-Monsoon Season	Pre-M
Post-Monsoon Season	Post-M
Sodium Absorption Ratio	SAR
South Western Rivers Division	SWR
Southern Rivers Division	SRD
Sulphate	SO ₄ ⁻²
Tapi Division	TD
Total Dissolved Solids	TDS
Total Coliforms	TC
Total Hardness	TH
Upper Yamuna Division	UYD
Uttar Pradesh	UP
Wainganga Division	WGD
Rourkela Steel Plant	RSP
Madhya Bharat Paper Ltd	MBPL

Annexure-I

Water Quality Laboratories of CWC& NABL accreditation Status

Out of 25 Water Quality Laboratories in CWC, 22 laboratories got accredited by NABL as on March, 2026.

List of Water Quality Labs in CWC			
S.No.	Location of laboratory	Level of Laboratory	Organization
1	National River Water Quality Laboratory, New Delhi	III	YBO, New Delhi
2	Lower Cauvery Water Quality Laboratory, Coimbatore	III	C&SRO, Coimbatore
3	Upper and Middle Ganga Water Quality Laboratory, Varanasi	III	LGBO, Patna
4	Krishna and Godavari River Water Quality Laboratory, Hyderabad	III	K&GBO, Hyderabad
5	Upper Cauvery Water Quality Laboratory, Bangalore	II	MSO, Bangalore
6	South Western Flowing Rivers Water Quality Laboratory, Kochi	II	C&SRO, Coimbatore
7	Upper Krishna Division Water Quality Laboratory, Pune	II	K&GBO, Hyderabad
8	Mahi Division Water Quality Laboratory, Gandhinagar	II	MTBO, Gandhinagar
9	Lower Yamuna Water Quality Laboratory, Agra	II	YBO, New Delhi
10	Eastern Rivers Water Quality Laboratory, Bhubaneswar	II	M&ERO, Bhubaneswar
11	Hydrology Division, Chennai	II	C&SRO, Coimbatore
12	Wainganga Division, Nagpur	II	MCO, Nagpur
13	Chenab Division, Jammu	II	IBO, Chandigarh
14	Middle Ganga Division -I, Lucknow	II	UGBO, Lucknow
15	Mahanadi Division, Raipur	II	M&ERO, Bhubaneswar
16	Middle Brahmaputra Division, Guwahati	III	BBO, Guwahati
17	Lower Brahmaputra Division, Jalpaiguri	II	T&BDBO, Kolkata
18	U.B. Division, Dibrugarh	II	BBO, Guwahati
19	Lower Ganga Division-3, Berhampore	II	T&BDBO, Kolkata
20	Middle Ganga Division-5, Patna	II	LGBO, Patna
21	Narmada Division, Bhopal	II	NBO, Bhopal
22	Tapi Division, Surat	II	MTBO, Gandhinagar
23	Himalayan Ganga Division, Haridwar	II	UGBO, Lucknow
24	Meghna Division, Silchar	II	BOBO, Shillong
25	Chambal River Water Quality Laboratory, Kota	II	YBO, New Delhi

Annexure-II

List of Parameters analyzed in different levels of Water Quality Labs of CWC

Sl.No.	Level-I (465 Labs)	Level-II (19 Labs)	Level-III (05 Labs)
1	Temperature	Temperature	Temperature
2	Colour and Intensity	pH	pH
3	Odour	Electrical Conductivity	Electrical Conductivity
4	pH	Dissolved Oxygen (DO)	Dissolved Oxygen (DO)
5	Electrical Conductivity	Turbidity	Turbidity
6	Dissolved Oxygen	Biochemical Oxygen Demand (BOD)	Biochemical Oxygen Demand (BOD)
7	Weather	Chemical Oxygen Demand (COD)	Chemical Oxygen Demand (COD)
8	Depth of main stream/depth of water table	Total Dissolved Solids (TDS)	Total Dissolved Solids (TDS)
9	Visible effluent discharge	Sodium	Sodium
10	Human activities Around station	Calcium	Calcium
11	Station details	Magnesium	Magnesium
12	Velocity	Potassium	Potassium
13	Discharge	Phenolphthalein Alkalinity (Carbonate)	Phenolphthalein Alkalinity (Carbonate)
14	Water Level	Total Alkalinity	Total Alkalinity
15		Chloride	Chloride
16		Sulphate	Sulphate
17		Fluoride	Fluoride
18		Boron	Boron
19		Ammoniacal Nitrogen	Ammoniacal Nitrogen
20		Nitrate	Nitrate
21		Nitrite	Nitrite
22		Phosphate	Phosphate
23		Silicate	Silicate
24		Total Coliform MPN/100 ml	Total Coliform MPN/100 ml
25		Faecal Coliform MPN/100 ml	Faecal Coliform MPN/100 ml
26		E. Coli	E. Coli
27		Faecal Streptococci	Faecal Streptococci
28		Hardness	Hardness
29		NO ₂ +NO ₃	NO ₂ +NO ₃
30		Sodium Adsorption Ratio	Sodium Adsorption Ratio
31		% Sodium	% Sodium
32		Residual Sodium Carbonate	Residual Sodium Carbonate
33			Arsenic
34			Cadmium
35			Chromium
36			Copper
37			Iron
38			Lead
39			Nickel
40			Mercury
41			Zinc
42			Alpha BHC
43			Beta BHC
44			Gama BHC (Lindane)
45			OP DDT
46			PP-DDT
47			Alpha Endosulphan
48			Beta Endosulphan
49			Aldrin
50			Dieldrin
51			Carbaryl (Carbamate)
52			Malathion
53			Methyl Parathion
54			Anilophos
55			Chloropyriphos
56			2-4 D

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