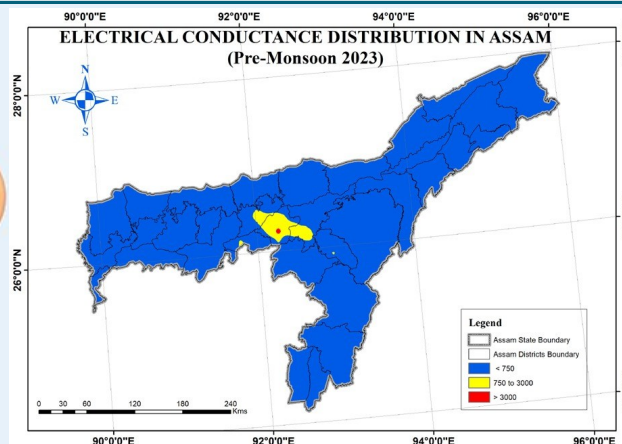
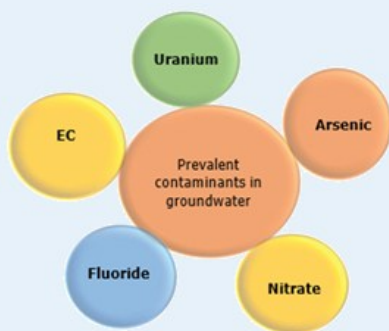


## Groundwater Quality Scenario in Assam

Parameters	No of samples	Permissible limit	No. of Samples above permissible limit	% Samples > permissible Limit
EC	155	3000 $\mu\text{S}/\text{cm}$	1	0.65
Fluoride	155	1.5 mg/L	0	0
Nitrate	155	45 mg/L	0	0
Arsenic	155	10 ppb	1	0.65
Uranium	155	30 ppb	0	0



### Districts with anomalous values at sporadic locations

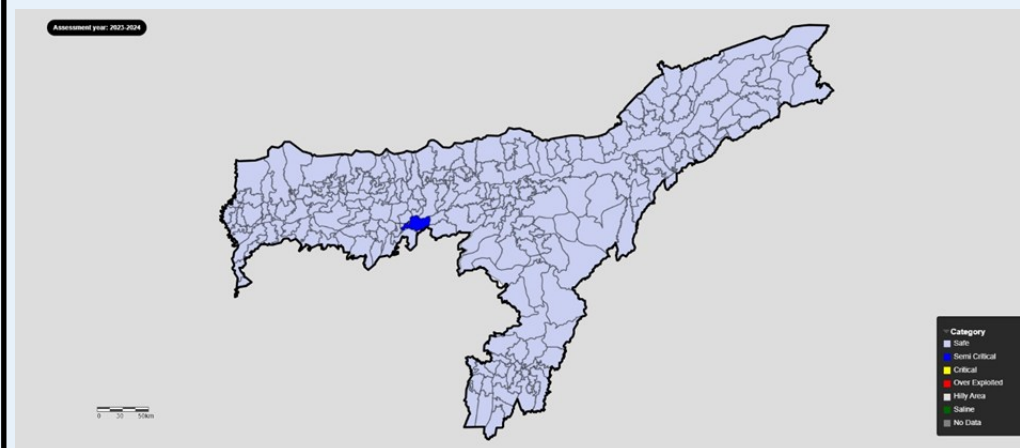
EC (3000 $\mu\text{S}/\text{cm}$ )	Morigaon
Fluoride ( $F > 1.5 \text{ mg/L}$ )	Not Any
Nitrate (Nitrate $> 45 \text{ mg/L}$ )	Not Any
Arsenic ( $\text{As} > 10 \text{ ppb}$ )	Not Any
Uranium ( $\text{U} > 30 \text{ ppb}$ )	Not Any

For Further Information, Contact to :  
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Central Ground Water Board  
 Department of Water Resources, RD & GR  
 Ministry of Jal Shakti, Government of India



Dynamic Ground Water Resources &  
 Ground Water Quality of Assam, 2024

December, 2024

## Groundwater Resource Scenario in Assam

- ◆ Ground Water Resources Assessment (GWRA)- jointly carried out by Central Ground Water Board and State Nodal/Ground Water Department periodically as per the Ground Water Resource Estimation Committee (GEC) methodology.
- ◆ Carried out under the guidance of the respective State/UT Level Committees (SLCs) and overall supervision of Central Level Expert Group (CLEG).
- ◆ As part of the assessment, 'Annual Extractable Ground Water Resource' as well as 'Annual Ground Water Extraction are assessed for each assessment unit (Block).
- ◆ The 'Stage of Ground Water Extraction' is computed as the ratio of 'Annual Ground Water Extraction' with respect to 'Annual Extractable Ground Water Resource' and is usually expressed in percentage. Based on the stage of extraction, the assessment units are categorized as Safe ( $\leq 70\%$ ), Semi-Critical ( $>70\%$  and  $\leq 90\%$ ), Critical ( $>90\%$  and  $\leq 100\%$ ) and Over-Exploited ( $>100\%$ ).
- ◆ GWRA-2024, 2023, 2022 and 2020 has been carried out through a software/web-based application "INDIA-GROUNDWATER RESOURCE ESTIMATION SYSTEM (IN-GRES)" developed by CGWB through IIT-Hyderabad.

### Salient Features

1	Rainfall	2,362.11 mm
2	Hydrogeology	The State is underlain mainly by unconsolidated Quaternary formation in Brahmaputra valley and potential aquifers lie at shallow as well as deeper zone.
3	Recharge Worthy Area of the State	68.82 Thousand Sq. Km
4	Assessment Unit (AU) Type / Number	Block / 245 Numbers
5	Average area of Assessment Unit	280.89 Sq. Km

### Findings

	Attribute	GWRA-2017	GWRA-2020	GWRA-2022	GWRA-2023	GWRA-2024
1	Total Annual Ground Water Recharge (in bcm)	28.67	27.05	26.53	27.26	27.21
2	Annual Extractable Ground Water Resources (in bcm)	24.26	21.97	21.4	20.93	20.89
3	Annual Ground Water Extraction (in bcm)	2.73	2.58	2.65	2.63	2.64
4	Stage of Ground Water Extraction (in %)	11.25	11.73	12.38	12.54	12.61

bcm: Billion Cubic Meters

### Categorization of Assessment Units based on the 'Stage of Ground Water Extraction

Sl. No	Category	GWRA-2017		GWRA-2020		GWRA-2022		GWRA-2023		GWRA-2024			
		Number of AUs	% of AUs	Number of AUs	% of AUs	Number of AUs	% of AUs	Number of AUs	% of AUs	Number of AUs	% of AUs		
1	Safe	28	100	28	100	27	96	244	99.59	244	99.59	244	99.59
2	Semi-critical					1	4	1	0.41	1	0.41	1	0.41
3	Critical												
4	Over-exploited												
5	Saline												
Total number of AUs		28		28		28		245		245		245	

### Recommendations

- \* The State is underlain mainly by unconsolidated Quaternary formation in Brahmaputra valley and potential aquifers lie at shallow as well as deeper zone. The semi-consolidated Tertiary formations are found to occur in the southern part of KarbiAnglong, Cachar, Karimganj and Hailakandi districts and in Upper Assam covering southern fringe of Dibrugarh, Tinsukia, Sibsagar, Jorhat, Golaghat districts. The consolidated Precambrian rocks occur mainly in N.C. Hills, Karbi-Anglong, Kamrup, Goalpara, Dhubri, and Nagaon. Ground water resources have been assessed district-wise due to paucity of block wise data.
- \* The Total Annual Groundwater Recharge of the State has been estimated as 27.21 bcm and Annual Extractable Groundwater Resources is 20.89 bcm. The Current Annual Ground Water Extraction for all uses is 2.64 bcm and Stage of Ground Water Extraction is 12.61%. Out of 245 assessment units, 244 have been categorized as 'Safe' and one assessment unit of Guwahati is in 'Semi Critical' condition. There is no saline area in the state
- \* All the assessment units except one are in safe category as well as future allocation of ground water is also sufficient, State Government can judiciously develop the ground water resource mainly for agricultural use.
- \* Development of Springs and their catchment in hilly areas.
- \* National Aquifer Mapping & Management Programme (NAQUIM) Reports prepared by CGWB (<https://cgwb.gov.in/cgwbpm/>) which are also being shared with State/District Authorities and Ground Water Year Book published by CGWB having water level & water quality data may be used in Ground water management (<https://cgwb.gov.in/cgwbpm/>).
- \* Regulation & control of Ground water Extraction: Ministry of Jal Shakti has issued the guidelines for control and regulations of ground water extraction vide notification dated 24.09.2020 which has further been amended in March 2023. Concerned departments may ensure implementations of the guidelines.