



वार्षिक भूजल पुस्तिका, झारखण्ड
(2023 - 2024)
Ground Water Year Book
(2023 - 2024)



मध्य पूर्वी क्षेत्र, पटना
राज्य एकक कार्यालय, रांची
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Mid-Eastern Region, Patna
State Unit Office, Ranchi
November 2024



भारत सरकार
जलशक्ति मंत्रालय
जल संसाधन, नदी विकास और गंगा संरक्षण विभाग
केंद्रीय भूमि जल बोर्ड
वार्षिक भूजल पुस्तिका
झारखण्ड
(2023 - 2024)

GOVERNMENT OF INDIA

Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Board

**GROUND WATER YEAR BOOK
JHARKHAND
(2023 - 2024)**

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FOREWORD

To understand the groundwater situations in diverse hydrogeological environments, changes in various facets of ground water, like variation in water level and water quality are to be monitored. A regular monitoring of ground water regime through a network of observation wells i.e., Ground water Monitoring Well (GWMW) is being carried out by Central Ground Water Board, MER Patna for the state of Jharkhand. Initially the task was taken up with the help of a few GWMW but gradually the numbers of stations were increased, which is now totals 582 GWMW (as on March 2024) which represents all 24 districts and almost all blocks of the state.

This is an attempt to make a presentation in the form of a report for Jharkhand State where the scenarios of water levels for the year 2023-2024 have been produced. The comparisons with decadal mean, seasonal & annual fluctuations, chemical quality of ground water, different maps along with data have been incorporated.

Periodic water level measurements were taken 4 times in a year in 2023-2024, (i.e., in the months of May 2023, August 2023, November 2023 and January 2024). Water samples from the GWMW were collected during the month of May-2023 and November 2023 to study the changes in hydrochemical regime.

The scientific officers and technical personnel of the state unit office Ranchi of Jharkhand, systematically collected field data from the GWMW as required for monitoring purposes and collected water samples during the pre-monsoon period which were analysed in the chemical lab of this region.

The compilation and analyzing data, its retrieval, evaluation, preparation of suitable maps and their reproduction in the form of present report has been carried out by **Mrs Sulekha Bhaya, Scientist-C and Miss Sapna Sakshi Scientist-B**, in supervision of Mrs Rose Anita Kujur, Scientist- E & Officer-in-Charge, CGWB, SUO, Ranchi.

It is sincerely hoped that the appended write up, maps and basic information in this report would be very useful to the Planners and concerned beneficiaries in Jharkhand State

Rajeev Ranjan Shukla

Regional Director

EXECUTIVE SUMMARY

In Jharkhand state ground water levels of 582 Ground Water Monitoring Wells (GWMW) were monitored four times in the year 2023 - 2024 as a part of regime monitoring of phreatic aquifer in different hydrogeological and agro-climatic zones. The water level monitoring was carried out in the months of May 2023, August 2023, November 2023 and January 2024 and ground water samples were collected in pre-monsoon period (May, 2023) and post- monsoon (November 2023) for chemical analysis. In the state the phreatic aquifer consists of weathered mantle and saprolite zone. Over 78% area of the state is underlain by rocks of Chotanagpur Granitic Gneissic Complex (CGGC) suit. Hence, most of the GWMW represented water level in weathered CGGC. A few GWMW represented water level of phreatic aquifer of Gondwana Super Group, Basalts, Limestones, Tertiary Formation and recent alluvium. The observed water level data had been grouped into four categories viz. 0 -2m, 2-5m, 5-10m, 10- 20m and >20m. Thematic maps depicting ground water levels measured in different periods have been prepared. The water levels have been further analysed to study its change with respect to measurement of pre-monsoon period of the same year, previous year water level data of corresponding period, and decadal mean water level data of the corresponding period. The fluctuations have been shown under rise and fall categories. In each category there are three groups viz. 0-2 m, 2-4 m and >4 m. Thematic maps have been prepared for each category.

The depth to water level data of all the Ground Water Monitoring Wells collected during the four measurements are also presented along with the general well information. The water samples were collected during May, 2023 and November 2023 for chemical analysis report.

During pre-monsoon 2023, 369 monitoring wells have been monitored in 24 districts. The minimum and the maximum depth to water levels during pre-monsoon period have been recorded as 1 m bgl and 15.79 m bgl at Gumla and Ranchi. In general, the water level throughout the State varies in the range of 5 – 10 m bgl and has been observed in the 243 wells (65.9%) out of 364 analyzed wells. Water level 2 - 5 m bgl has been observed in the 67 wells

(18.2%). The water level in the range of 10- 20 m bgl has been observed in the 45wells (12.2%) whereas the water level in 0-2 m bgl has been observed in 14 wells (3.79%)

Fluctuation in water level for May 2023 compared with May 2022 shows fall in water level 79 and rise in 169 wells. When compare the data of August 2023 with respect to August 2022, it shows rise in 51% GWMW as well as fall in 49% GWMW of the total 334 analysed wells. When compare the data of November 2023 with respect to November 2022, it shows rise in 43% GWMW as well as fall in 57% GWMW of the total 295 analysed wells. Janauary 2023 data compared to January 2024 shows the major part of the state shows rise in 81% GWMW as well as fall in 19% GWMW of the total 307 analysed wells.

The fluctuation in water level between May 2023 and August 2023 indicates a general rise in water level in 340 well, 4% well shows fall in water level out of 340 well which may be mainly due to temporal withdrawal of ground water and less rainfall in those areas. Fluctuation in water level for November 2023 compared with May 2023 shows rise in water level (90%) for the entire state of Jharkhand. Fluctuation in water level for November 2023 compared with January 2024 shows general rise (306 wells) in water level, in the range of 0.00 to 2.00 m (45.4%), 2.00 to 4.00 m (35.1%) and > 4 mbgl (6.9%), whereas 54 wells of the state shows fall in water level.

The fluctuation of water level of May, 2023 with respect to decadal mean water level of May 2014 to May 2022 indicate 59% (104) wells shows rise and 41% (73) wells shows fall out of 177 well analysed. The fluctuation of water level of August, 2023 with respect to decadal mean water level of August 2013 to August 2022 indicate 51% (116) wells shows rise and 49% (113) wells shows fall out of 229 well analysed The fluctuation of water level of November 2023 with respect to decadal mean water level of November 2013 to November 2022 rise in 136 wells (51%) and fall in 134 wells (49%) out of 270 wells analysed. The fluctuation of water level of January 2024 with respect to decadal mean water level of January 2014 to January 2023 indicates 48 % rise and 52% fall out of 222 well analysed.

The ground water scenario of confined aquifer of Jharkhand, total 122 bore wells of Jharkhand has been taken up for regular monitoring as on March 2024. The bore wells are being monitored from August 2022. Total 93 bore wells monitored during May 2023, 96 in August 2023, 106 during November 2023 and 112 in January 2024 monitoring.

Fluctuation in water level for May 2023 compared with May 2022 shows fall in water level 79 and rise in 169 wells. When compare the data of August 2023 with respect to August 2022, it shows rise in 54% GWMW as well as fall in 46% GWMW of the total 81 analysed wells. When compare the data of November 2023 with respect to November 2022, it shows rise in 19% GWMW as well as fall in 62% GWMW of the total 77 analysed wells. January 2023 data compared to January 2024 shows the major part of the state shows rise in 60% GWMW as well as fall in 40% GWMW of the total 81 analysed wells.

The fluctuation in water level between May 2023 and August 2023 indicates a general rise in water level in 82 well, 10% well shows fall in water level which may be mainly due to temporal withdrawal of ground water and less rainfall in those areas. Fluctuation in water level for November 2023 compared with May 2023 shows rise in water level (90%) for the entire state of Jharkhand. Fluctuation in water level for November 2023 compared with January 2024 shows general rise (79 wells) in water level, in the range of 0.00 to 2.00 m (45.4%), 2.00 to 4.00 m (35.1%) and > 4 mbgl (6.9%), whereas 54 wells of the state shows fall in water level

GROUND WATER YEAR BOOK, JHARKHAND (2023-2024)

1. INTRODUCTION

Jharkhand state, was created on 15th November, 2000, consists of districts falling on Chotanagpur Plateau of erstwhile Bihar on the birthday of legendary tribal freedom fighter Birsa Munda. Presently it consists of 24 districts and 260 administrative blocks. The capital of the state is Ranchi. The state spreads over 79714 sq km, between Latitude 21° 55' 00" and 25° 15' 00" and Longitude 83° 15' 00" and 87° 55' 00". The state is bounded by Bihar in the north and by West Bengal in the east. The other two sides, west and south, are bounded by Chhattisgarh and Orissa states respectively.

The population of the state as per 2011 census is 03.30 crore. The population density is 414 person/km². The urban population is 7.912 million and the rural population is 25.05 million. The tribal population constitutes about 28% of total population. The state is moderately urbanized with Ranchi as its capital city. Nearly 24% of total population of the state lives in urban areas. Important urban centers are in the state are Jamshedpur, Dhanbad, Hazaribagh, Daltonganj, Dumka and Deoghar.

To acquire a detailed knowledge vis-a-vis scenario of ground water level with respect to behaviour, availability and quality, Ground Water monitoring is essential in time and space. Thus, the data so collected during monitoring gives an important input for ground water management. Periodical monitoring of ground water regime covering different geomorphic, hydrogeological units is an effort to get information on the behaviour of ground water levels and chemical quality of formation water through representative sampling. Monitoring of ground water regime includes:

- (a) Monitoring of ground water levels
- (b) Monitoring of ground water quality and
- (c) Temperature of ground water.

Monitoring is being carried out by establishing suitable *Ground Water Monitoring Well* (GWMW) based on Geomorphology, Geology, Hydrogeology and status of ground water resource of the area with a view to observe the trend of water level and change of chemical quality with time and space. It is also very useful to estimate the dynamic ground water resources and to demarcate the water logged as well as drought prone areas.

2. GEOLOGY and HYDROGEOLOGY

The generalized geological succession of Jharkhand state is given Table 1 - Generalized geological succession of Jharkhand state.

Table 1. General Stratigraphic sequences of geological formations in Jharkhand State

Age	Formation	Broad Lithology
Quaternary	Alluvial deposits	Sand, clay, silt and occasional gravel
Tertiary	Dhalbhumgarh Gravel beds	Sandstone, conglomerate, clay-stone, gravel
Upper Jurassic to Lower Cretaceous	Rajmahal Volcanics	Basalt flows with inter-trappean sedimentary beds
Upper Jurassic to Carboniferous	Gondwana Supergroup	Sandstone, shale, clay, conglomerate with coal beds
Lower Cambrian to Proterozoic	Vindhyan Supergroup	Sandstone, dolomite, chart, shale <i>etc.</i>
Proterozoic	Rocks of Singhbhum-Greenstone-Granite domain, basic volcanics and Chhotanagpur Gneiss Granulite Complex including BMB	Granites, granite-gneiss, schists, phyllites, dolomites, basic and ultrabasic lavas, amphibolites
Archaean	Older Metamorphic Gneiss, Older Metamorphic Tonalite Gneiss	Gneiss, schists, arenites, amphibolites

GRANITE - GNEISS, SCHIST, PHYLLITE, AND OTHER ROCKS BELONGING TO CGGC

It covers nearly 85 % of the geographical area of the state. The phreatic aquifer in this formation consists of weathered mantle and underlying secondary porosities like fractures, joints and fissures. In general, the thickness of weathered zone varies between 10 and 25 m, however in localized patches it is > 35 m. The weathered zone is the main repository of ground water. Exploratory wells of CGWB reveal that the fractures underlying the weathered zones form the potential aquifer. The fracture zones (generally beyond 100 m depth) are exploited particularly in urban areas. In general, 2-5 sets of fractures have been encountered within 150 m bgl. In a few wells, fractures have been encountered beyond 150 m depth. The ground water occurs under semi-confined to confined condition in the fractures situated at a deeper level. In this formation discharge from negligible to 30 lps has been recorded from the bore wells.

VINDHYAN SUPERGROUP

The rocks of this group are exposed in Palamu and Garhwa districts over a limited aerial extent, in the south of the river Son. The sandstones are hard and compact. The ground water occurs within the secondary porosities like fractures and joints. The fractured sandstone has good ground water potential in comparison to the shale. The ground water occurs under unconfined condition in weathered zone. The yield potential of sandstone is poorer than granite gneiss.

VOLCANIC ROCKS

The volcanic rocks occur mainly in the northeastern part of the state in Sahebganj, Pakur, Dumka and Godda districts as Rajmahal Traps and in southeastern part of the state in East & West Singhbhum, and Saraikela districts as other volcanics. The Rajmahal trap is a series of basaltic flows horizontally disposed. In an individual flow, the lower part is massive and the upper part is vesicular. In some cases, vesicles are filled with secondary material. Partially filled interconnected vesicles form the potential aquifers. Thin inter-trappean beds are also observed between the flows. The ground water occurs under unconfined conditions in upper vesicular flows, which are exposed generally at the ground level. In the vesicular layers disposed at deeper levels the ground water occurs under semi-confined to confined condition.

GONDWANA SUPERGROUP

The Gondwana Super Group ranging in age from Upper Carboniferous to Cretaceous is considered as semi-consolidated formation. Ground water occurs within inter-granular space as well as within the secondary porosities like fractures and joints. Rocks of this unit are exposed as patches in the districts of Hazaribagh, Dhanbad, Giridih, Bokaro, Ranchi, Dumka, Jamtara, Latehar, Godda and Garhwa districts. The sandstones form repository of ground water. The exploratory drilling of CGWB and other agencies indicate that ground water occur in semi-confined to confined condition in aquifers situated at deeper level, and under unconfined condition at shallow level. At few places, the piezometric head rises above the ground level to give rise to auto flow condition.

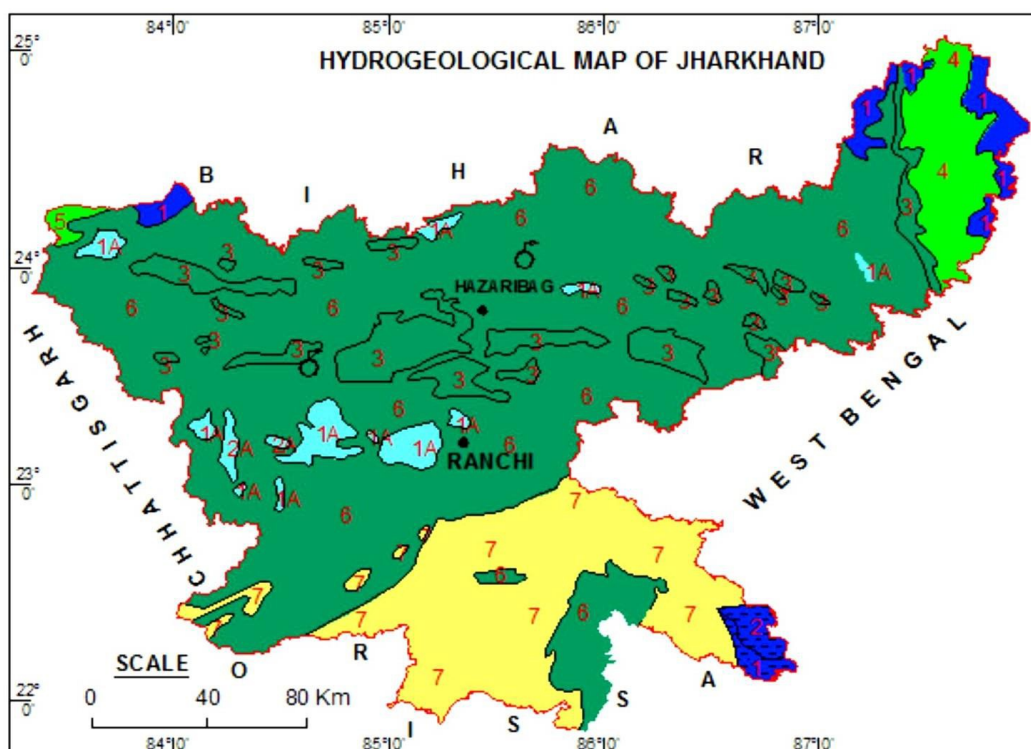
LATERITES AND TERTIARY SEDIMENTS

The Dhalbhumgarh Formation of Tertiary age occur in Chakulia- Bahragora-Dhalbhumgarh tract of East Singhbhum district. Exploration to a depth of 120 m indicates presence of 2 to 4 sedimentary layers. Laterite formations also occur as cappings in some parts of the state. These sedimentary layers are repository of ground water, which occurs under unconfined condition in aquifers disposed at shallow level and under confined to semi-confined condition in aquifers situated at deeper levels.

YOUNGER ALLUVIUM

The Younger Alluvium deposits are confined mainly to the bordering area of the state and occur in patches in the districts of Godda, Sahebganj and Pakur in the northeast and in Latehar, Palamu, Deoghar and Garhwa districts. In the bordering areas alluvial patches is extension of the Gangetic Plain. There is a patch of alluvial deposit in Ranchi district also. The ground water occurs under unconfined condition in aquifer disposed at shallow level. The depth of dug wells ranges between 10 –15 m in general while the depth of shallow tube well ranges between 20 - 30 m. The hydrogeological map & Geological map of Jharkhand is given in Fig.1.

Fig.1 –Hydrogeological map of Jharkhand.



FISSURED & SEMI-CONSOLIDATED FORMATIONS

UNITS	AGE GROUP	FORMATION	COLOUR	LITHOLOGY	GROUN WATER POTENTIAL
1	QUATERNARY	ALLUVIUM		CLAY, SILT, GRAVEL, PEBBLES & CALC	>40 m ³ /hr
1A	QUATERNARY	ALLUVIUM		CLAY, SILT & SAND	1-10 m ³ /hr
2	PLEISTOCENE TERTIARY	LATERITES		LATERITES & LITHOMARGE	1-10 m ³ /hr
2A	PLEISTOCENE TERTIARY	TERTIARY		SAND, SILT, CLAY, PABLE & GRAVEL	10-40 m ³ /hr
3	CARBONIFEROUS ECRETACEOUS	GONDWANA		CLAY, SILT, GRIT, SANDSTONE & SHALE	1->25 m ³ /hr
4	L JURASSIC E CRETACEOUS	RAJMAHAL BASALT		BASALT FLOWS WITH INTERTRAPPEANS	1-25 m ³ /hr
5	PROTEROZOIC E CAMBRIAN	VINDHYAN		QUARTZITE, LIMESTONE, SANDSTONE, DOLOMITE & SHALE	1-25 m ³ /hr
6	PROTEROZOIC ARCHEAN	CHHOTNAGPUR GNEISSC COMPLEX		GNEISSES & GRANITES	1->25 m ³ /hr
7	PROTEROZOIC ARCHEAN	VOLCANO-SEDIMENTARY		SCHISTS, PHYLITES, BASIC & ACIDIC INTRUSIVES	1-15 m ³ /hr

3. GROUND WATER SCENARIO

A total of 582 Hydrograph Network Stations (HNS) among which 460 are dug wells tapping phreatic aquifer and 122 bore wells tapping semi-confined to confined aquifer has been monitored as a part of ground water regime monitoring in the state of Jharkhand. Majority of the wells represent phreatic aquifer. The district wise location and distribution of the HNS are given in **Fig 2** and **Fig 3** and **Table 2** respectively.

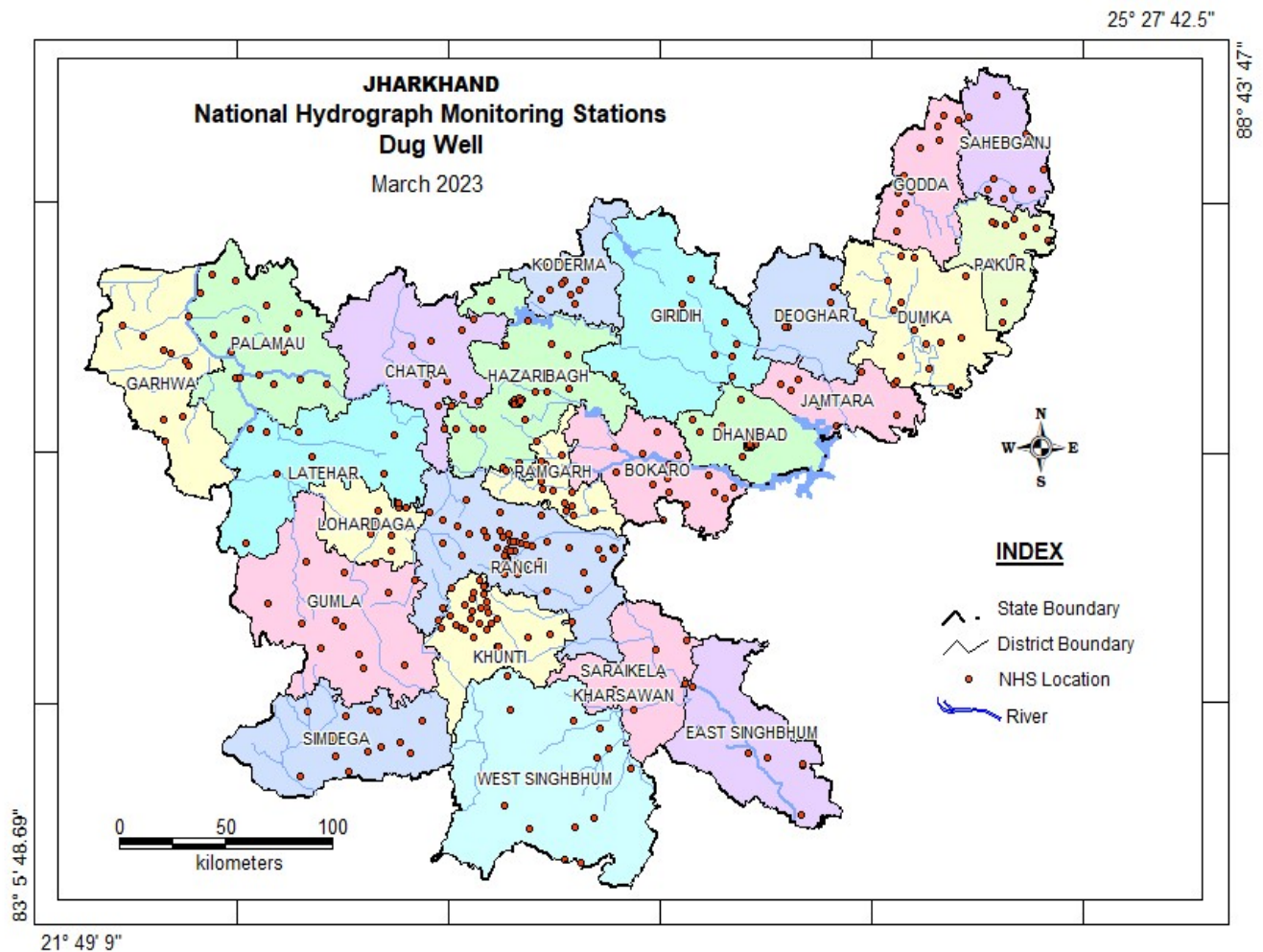


Fig. 2 Location of Hydrograph Network Stations (Dug Well) in Jharkhand state, 2024

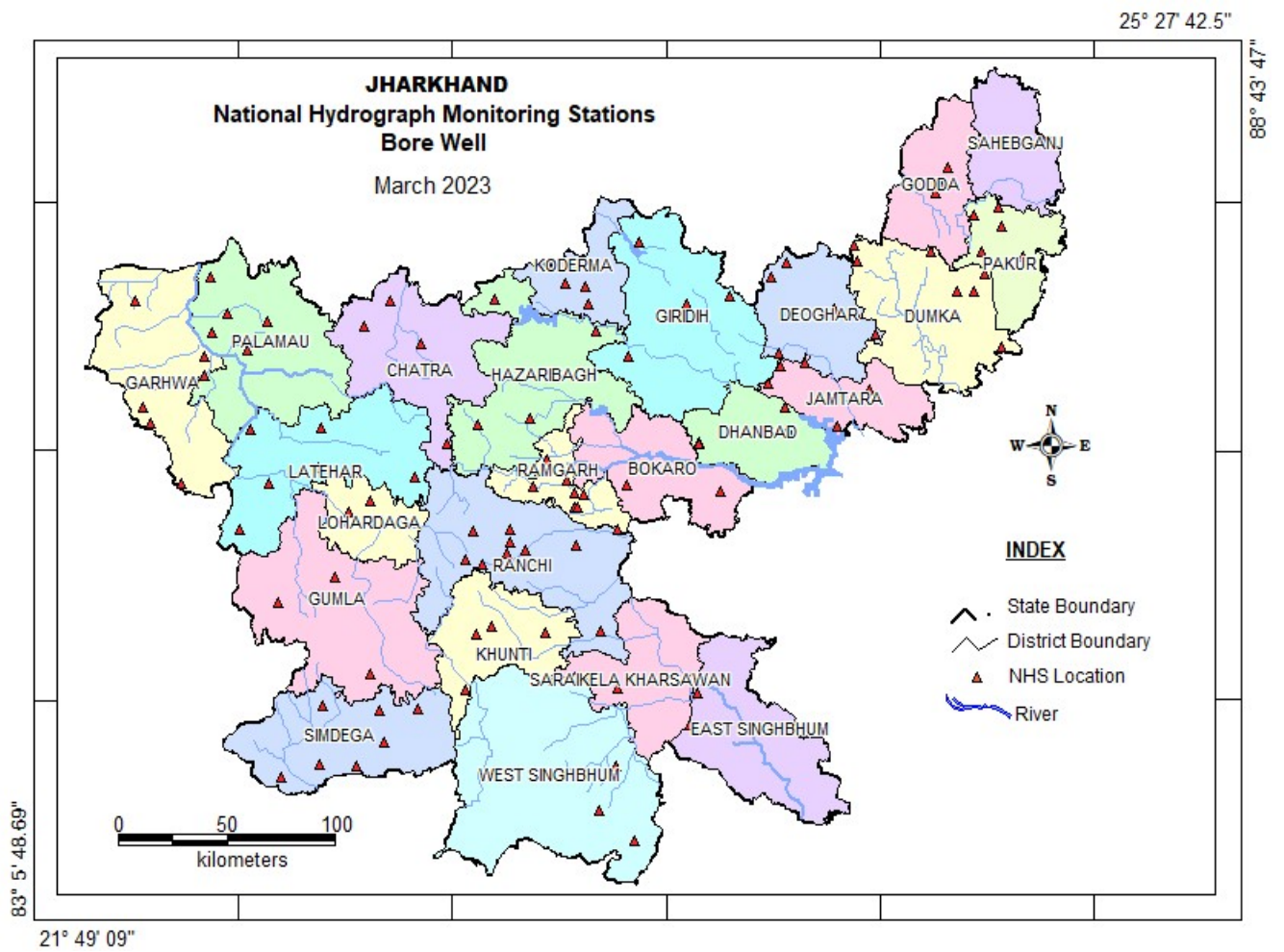


Fig. 3 Location of Hydrograph Network Stations (Bore Well) in Jharkhand state, 2024

Table 2 District wise distribution of the HNS as on 31.03.24

Sl.No	District	DW	PZ	TOTAL
1	Bokaro	16	1	17
2	Chatra	17	4	21
3	Deoghar	11	5	16
4	Dhanbad	20	4	24
5	Dumka	17	7	24
6	E. Singhbhum	36	3	39
7	Garhwa	23	8	31
8	Giridih	18	4	22
9	Godda	19	3	22
10	Gumla	17	3	20
11	Hazaribagh	28	10	38
12	Jamtara	11	5	16
13	Khunti	14	6	20
14	Koderma	7	6	13
15	Latehar	12	6	18
16	Lohardaga	12	2	14
17	Pakur	11	4	15
18	Palamu	25	7	32
19	Ramgarh	17	6	23
20	Ranchi	56	12	68
21	Sahibganj	21	3	24
22	Saraikela	14	1	15
23	Simdega	14	7	21
24	W Singhbhum	24	5	29
Total		460	122	582

The numbers of HNS monitored in the state as per the following monitoring schedules:

Table 3 HNS monitoring schedule

Sl. N.	Month	Date	Period
1	May	20 – 30	Pre-monsoon
2	August	20 – 30	Mid-monsoon
3	November	1 – 10	Post-monsoon
4	January	1 – 10	Recession

The Number of HNS monitored during the various monitoring period is given in Table-4. The water level data of HNS are presented in the Annexure I. The data were analysed for each set of measurement and the thematic presentation of depth to water level and its fluctuations have been prepared in the range of 0 – 2 m, 2 – 5 m, 5 – 10 m and more than 10 m using GWDES software.

Table 4 Number of HNS monitored/analysed during different months

State	May 2023	August 2023	November 2023	January 2024
Jharkhand	369	422	425	448

3.0 GROUND WATER SCENARIO UNCONFINED AQUIEFR

3.1 DEPTH TO WATER LEVEL

3.1.1 May 2023

During Pre- Monsoon period (May 2023), 369 HNS were analysed. The Minimum depth to water level is 1 m bgl has been observed at Gumla district, and maximum is 15.79 m bgl at Ranchi district. The depth to water level rests in range of 5 – 10 m bgl in 86% of the area of Jharkhand State, which covers almost entire part of the state except very small part of Sahibganj, Pakur, Jamtara, Dhanbad, Bokaro, Chatra, East Singhbhum, W singhbhum, Simdega and Gumla districts and some other small patch like areas. The depth to water level rests in the range of 2-5 m bgl in only 14% of the area covering very small part of Sahibganj, Pakur, Jamtara, Dhanbad, Bokaro, Chatra, East Singhbhum, W singhbhum, Simdega and Gumla districts and some other small patch like areas. In ~ 12% of NHS well shows depth to water level > 10 m bgl has been recorded, which distributed as isolated patches mainly in West Singhbhum, Godda, Giridih, Ranchi and Lohardaga district. In only 14 Hydrograph Network Station (HNS) shows the depth to water level < 2 m bgl has been recorded. (Fig. 4; Table 5)

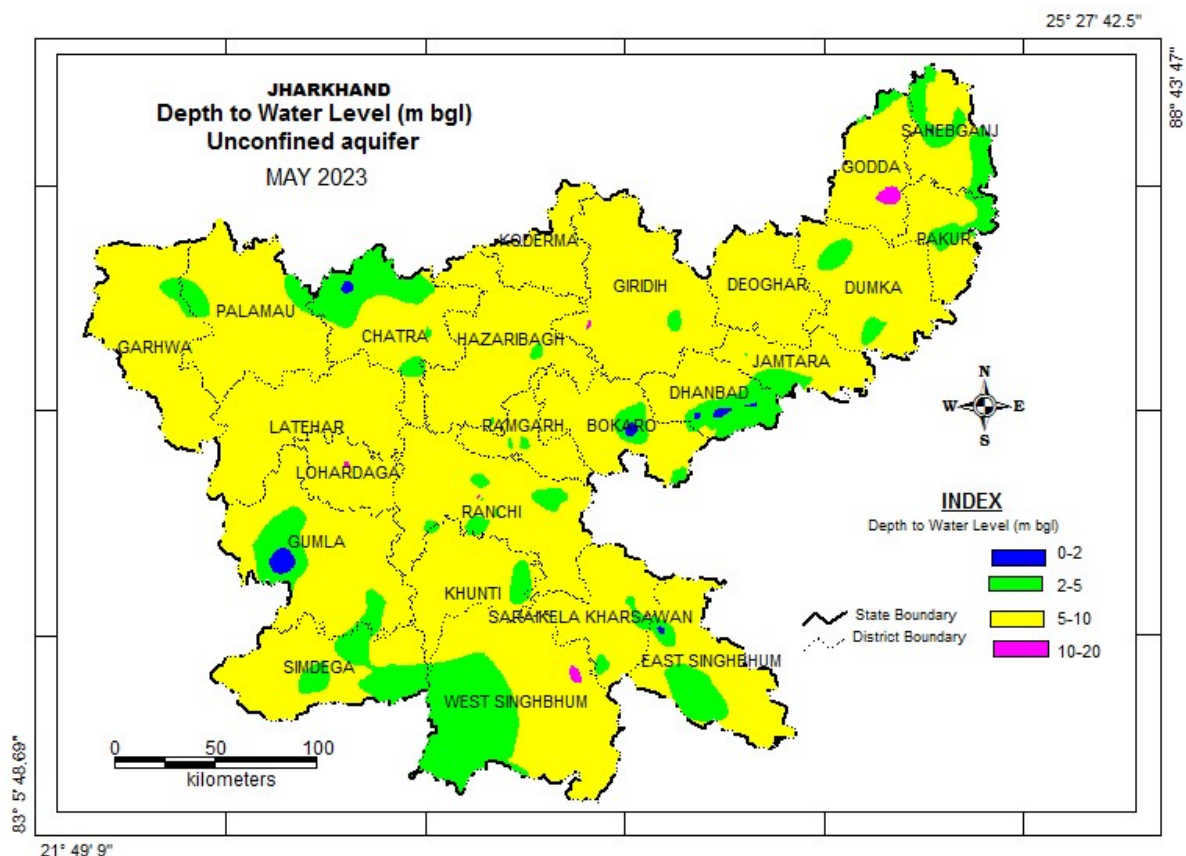


Fig. 4: Depth to water level in May 2023

Table 5 District wise well frequency for different ranges of depth to water level of HNS in **May 2023** in Jharkhand state

SN	District	No. of wells analysed	Depth to water level (m bgl)		0-2 m		2-5 m		5-10 m		>10 m	
			Min.	Max.	No.	%	No.	%	No.	%	No.	%
1	Bokaro	16	1.25	10.52	1	6.3	2	12.5	11	68.8	2	12.5
2	Chatra	14	1.9	10.3	1	7.1	4	28.6	8	57.1	1	7.1
3	Devghar	11	5.35	9.28	0	0	0	0	11	100	0	0
4	Dhanbad	24	1.45	11.16	5	20.8	2	8.3	15	62.5	2	8.3
5	Dumka	9	2.84	9.8	0	0	2	22.2	7	77.8	0	0
6	Garhwa	8	4.7	10.3	0	0	1	12.5	6	75	1	12.5
7	Giridih	13	4.38	12.58	0	0	2	15.4	10	76.9	1	7.7
8	Godda	10	5.22	13.21	0	0	0	0	7	70	3	30
9	Gumla	19	1	12.1	1	5.3	5	26.3	12	63.2	1	5.3
10	Hazaribag	26	4.6	12.1	0	0	2	7.7	17	65.4	7	26.9
11	Jamtara	10	4.2	10.7	0	0	3	30	6	60	1	10
12	Khunti	14	3.05	9.35	0	0	3	21.4	11	78.6	0	0
13	Koderma	6	4.9	9	0	0	1	16.7	5	83.3	0	0
14	Latehar	5	5.7	10.2	0	0	0	0	4	80	1	20
15	Lohardaga	10	5.1	13.1	0	0	0	0	9	90	1	10
16	Pakur	9	4.11	11.42	0	0	3	33.3	4	44.4	2	22.2
17	Palamau	9	4.2	10.1	0	0	1	11.1	7	77.8	1	11.1
18	Paschim Singbhum	15	2.65	13.2	0	0	2	13.3	9	60	4	26.7
19	Purba Singbhum	25	1.05	14.1	3	12	7	28	10	40	5	20
20	Ramgarh	18	3.1	13.3	0	0	2	11.1	14	77.8	2	11.1
21	Ranchi	55	1.9	15.79	1	1.8	10	18.2	35	63.6	9	16.4
22	Sahebganj	18	1.37	9.34	2	11	7	39	9	50	0	0
23	Saraikela-Kharswan	11	2.63	10.1	0	0	3	27	7	64	1	9
24	Simdega	14	2.6	8.1	0	0	5	35.7	9	64.3	0	0
Total		369	1	15.79	14	3.79	67	18.2	243	65.9	45	12.2

3.1.2 August 2023

During mid-monsoon (August 2023), total 422 HNS were monitored. The depth to water level has been found to vary between 0.02 m bgl (West Singhbhum) and 15.00 m bgl (Palamu district). The depth to water level varies in the range of 2 – 5 m bgl covers in about 57% area of the state. It spatially covers almost entire northern part of Jharkhand state, and parts of Khunti, Simdega, Gumla, East & West Singhbhum, Saraikela Kharsawan district in southern part. Depth to water level range in 0 to 2 m bgl covers 24% of total area including major part of East- West Singhbhum, Saraikela, Gumla and Pakur district and some small part of Godda, Sahibganj, Giridih, Hazaribagh, Jamtara, Dhanbad, Latehar, Garhwa district. Depth to water level range 5 to 10 m bgl covers only 18% of the total area of the state, which includes major part of Ranchi and Lohardaga district and some parts of Gumla, Latehar, Palamu, Hazaribagh, Deoghar, Dumka, Godda, Jamtara and Bokaro districts and other small patch like areas. A very small part of the district shows water level deeper than 10 m bgl in unconfined aquifer i.e. very small part of Ranchi, Hazaribagh and Lohardaga district. Only 3% (12 nos) dug wells reflects water level deeper than 10 m bgl during August 2023. (Fig. 5; Table 6)

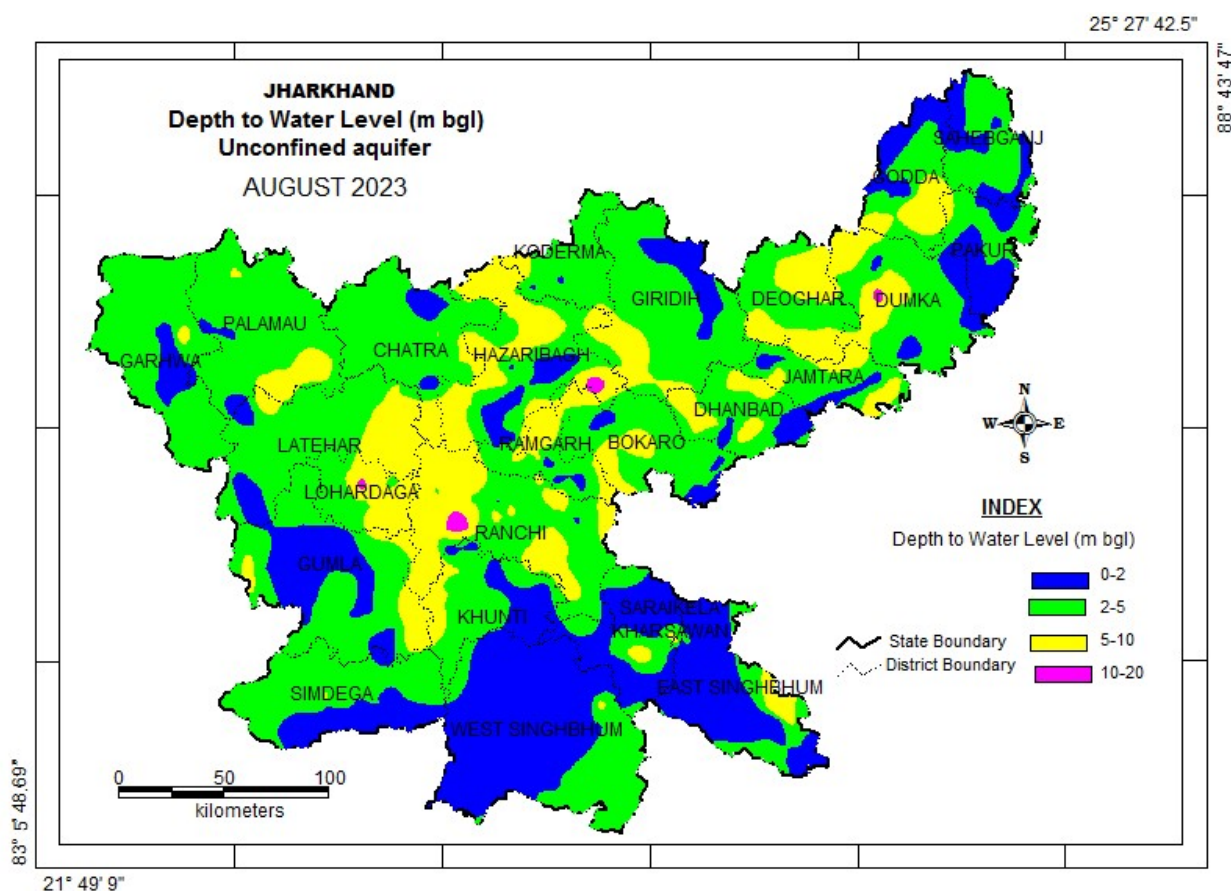


Fig. 5: Depth to water level in August 2023

Table 6 District wise well frequency for different ranges of depth to water level of HNS in **August 2023** in Jharkhand state

SN	District	No. of wells analysed	Depth to water level (m bgl)		0-2 m		2-5 m		5-10 m		>10 m	
			Min.	Max.	No.	%	No.	%	No.	%	No.	%
1	Latehar	10	1.15	8.8	4	40	4	40	2	20	0	0
2	Chatra	12	0.92	5.05	1	8.3	10	83.3	1	8.3	0	0
3	Devghar	14	3.4	8.2	0	0	6	42.9	8	57.1	0	0
4	Dhanbad	23	1	9.3	4	17.4	9	39.1	10	43.5	0	0
5	Dumka	15	1.16	11.25	3	20	8	53.3	3	20	1	6.7
6	Garhwa	12	1.1	7.03	5	41.7	6	50	1	8.3	0	0
7	Giridih	19	1.1	8.4	5	26.3	12	63.2	2	10.5	0	0
8	Godda	17	0.73	9.73	9	52.9	5	29.4	3	17.6	0	0
9	Gumla	18	0.35	8.2	9	50	4	22.2	5	27.8	0	0
10	Hazaribag	29	0.1	11.45	6	20.7	7	24.1	15	51.7	1	3.4
11	Jamtara	11	1.4	7.1	6	54.5	2	18.2	3	27.3	0	0
12	Bokaro	17	0.95	8.45	4	23.5	10	58.8	3	17.6	0	0
13	Koderma	7	1.6	4.8	1	14.3	6	85.7	0	0	0	0
14	Simdega	12	0.58	4.77	7	58.3	5	41.7	0	0	0	0
15	Lohardaga	14	2.9	11	0	0	5	35.7	7	50	2	14.3
16	Pakur	11	0.27	4.81	7	63.6	4	36.4	0	0	0	0
17	Palamau	16	1.65	15	1	6.3	6	37.5	5	31.3	4	25
18	Paschim Singbhum	17	0.02	5.44	10	58.8	6	35.3	1	5.9	0	0
19	Purba Singbhum	30	0.17	14.75	22	73.3	4	13.3	3	10	1	3.3
20	Ramgarh	18	1.2	7.25	5	27.8	6	33.3	7	38.9	0	0
21	Ranchi	55	0.9	12.2	5	9.1	30	54.5	17	30.9	3	5.5
22	Sahebganj	21	0.6	5.13	12	57.14	8	38.09	1	4.76	0	0
23	Saraikela	11	0.34	6.38	10	90	0	0	1	10	0	0
24	Khunti	13	0.2	7.5	7	53.8	2	15.4	4	30.8	0	0
Total		422	0.02	15	143	33.9	165	39.1	102	24.2	12	2.8

3.1.3 November 2023

Total 425 HNS wells were analysed during post-monsoon period (November 2023). The minimum and the maximum depth to water levels have been recorded as 0.19 m bgl (Gumla district) and 14.11 m bgl (Koderma district) respectively. In major area of the State (62%) water level rests in range of 2 – 5 m bgl which covers almost entire Southern part and major part of Northern part of Jharkhand State. The depth to water level in the range of 5-10 m bgl occurs in about 26 % of the area, which occurs in part of Dumka, Deoghar, Pakur, Giridih, Bokaro, Hazaribagh, Chatra, Latehar, Lohardaga, and some other small part of the state. The water level in the range of 0 – 2 m bgl has been observed in only 8% of HNS wells, spatially covers as small patches at many locations, E & W Singhbhum, Simdega, Gumla, and other small patches. There are 16 HNS stations in E Singhbhum, Koderma, Jamtara, Hazaribagh and Bokaro where level has been observed more than 10 m bgl. (Fig. 6; Table 7).

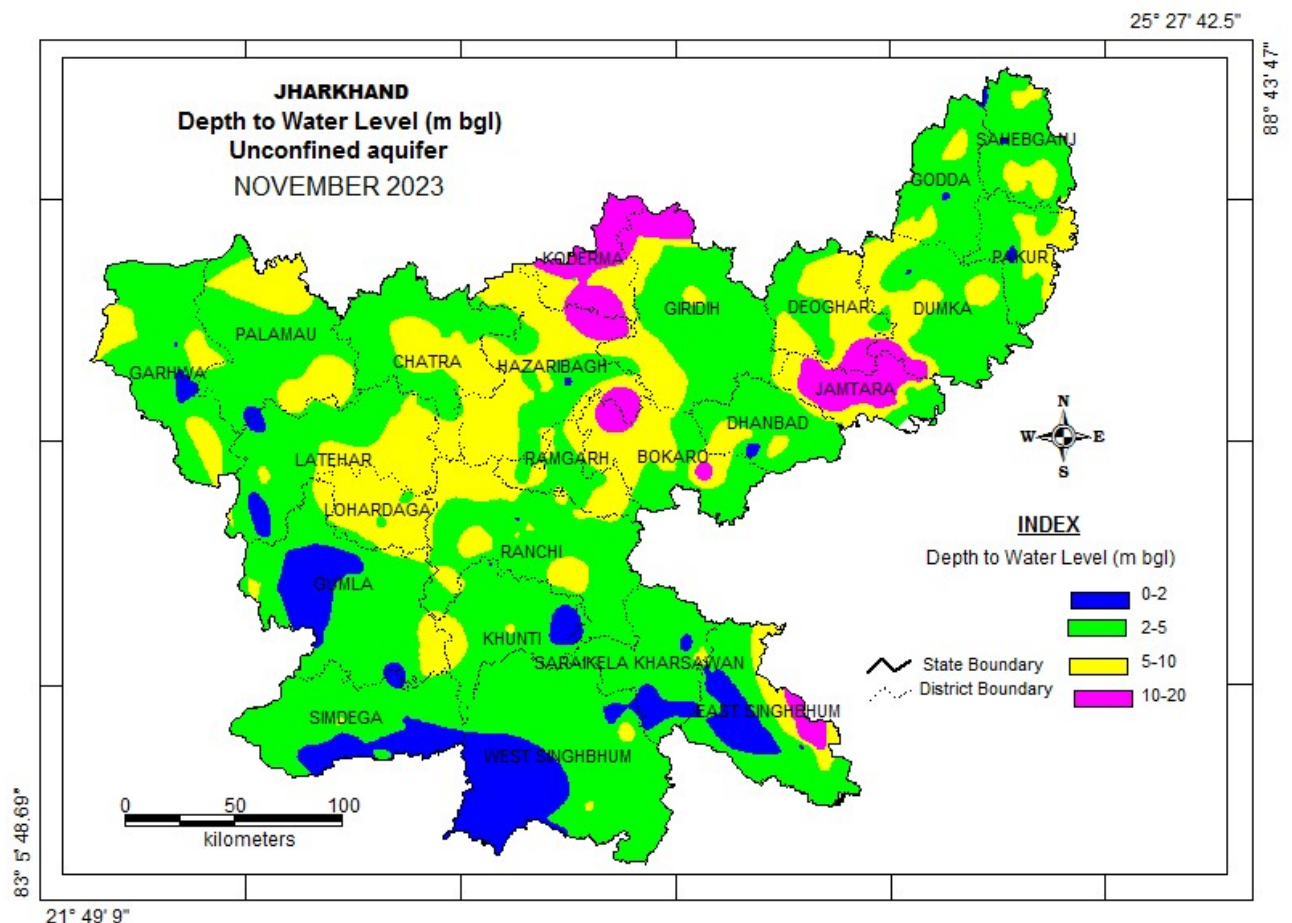


Fig. 6: Depth to water level in November 2023

Table 7 District wise well frequency for different ranges of depth to water level of HNS in November 2023 in Jharkhand state

SN	District	No. of wells analysed	Depth to water level (m bgl)		0-2 m		2-5 m		5-10 m		10 - 20 m	
			Min.	Max.	No.	%	No.	%	No.	%	No.	%
1	Bokaro	15	2.1	11.9	0	0	11	73.3	2	13.3	2	13.3
2	Chatra	17	2.4	8.6	0	0	10	58.8	7	41.2	0	0
3	Devgarh	14	3.92	8.31	0	0	6	42.9	8	57.1	0	0
4	Dhanbad	24	2.15	7.32	0	0	17	70.8	7	29.2	0	0
5	Dumka	15	1.9	7.35	1	6.7	9	60	5	33.3	0	0
6	Garhwa	12	1.4	7.84	3	25	4	33.3	5	41.7	0	0
7	Giridih	17	2.15	9.46	0	0	14	82.4	3	17.6	0	0
8	Godda	16	1.9	7.12	2	12.5	9	56.3	5	31.3	0	0
9	Gumla	18	0.19	7.84	5	27.8	11	61.1	2	11.1	0	0
10	Hazaribag	27	1.8	11.97	1	3.7	9	33.3	15	55.6	2	7.4
11	Jamtara	11	3.18	25.1	0	0	3	27.3	2	18.2	6	54.5
12	Khunti	16	1.1	4.75	4	25	12	75	0	0	0	0
13	Koderma	7	2.65	14.11	0	0	1	14.3	1	14.3	5	71.4
14	Latehar	9	1.26	8.95	3	33.3	2	22.2	4	44.4	0	0
15	Lohardaga	15	3.2	8.75	0	0	4	26.7	11	73.3	0	0
16	Pakur	11	0.88	9.1	1	9.1	6	54.5	4	36.4	0	0
17	Palamau	11	2.05	9.96	0	0	8	72.7	3	27.3	0	0
18	Paschim Singbhum	17	1.2	6.7	3	17.6	11	64.7	3	17.6	0	0
19	Purba Singbhum	33	0.21	13.45	16	48.5	11	33.3	5	15.2	1	3
20	Ramgarh	19	1.95	7.85	1	5.3	13	68.4	5	26.3	0	0
21	Ranchi	55	1.45	7.35	1	1.8	39	70.9	15	27.3	0	0
22	Sahebganj	21	1.32	7.42	2	9.5	14	66.7	5	23.8	0	0
23	Saraikela	11	0.6	3.5	5	45.5	6	54.5	0	0	0	0
24	Simdega	14	0.63	4.87	6	42.9	8	57.1	0	0	0	0
	Total	425	0.19	14.11	54	12.7	238	56	117	27.5	16	2.1

3.1.4 January 2024

Total 448 HNS wells were analysed during January 2024. The minimum and the maximum depth to water levels have been recorded as 0.6 m bgl (Gumla district) and 17.6 m bgl (East Singhbhum district) respectively. In major area of the State (56%) water level rests in range of 5 – 10 m bgl which covers almost entire western part and major part of eastern Jharkhand State. The depth to water level in the range of 2 -5 m bgl occurs in about 40 % of the area, which occurs in parts of Godda, Giridih, Dhanbad, Bokaro, Khunti, West Singhbhum, Simdega, Gumla, Garhwa and Palamu district and some other small parts of Jharkhand. The water level in the range of 0 – 2 m bgl has been observed in only 4% of HNS wells, spatially covers as small patches at many locations, West Singhbhum, Chatra, Gumla, and Dhanbad district. There are 18 HNS stations in East & West Singhbhum, Saraikela, Chatra, Garhwa, Latehar, Giridih and Pakur district where level has been observed more than 10 m bgl. (**Fig. 7; Table 8**).

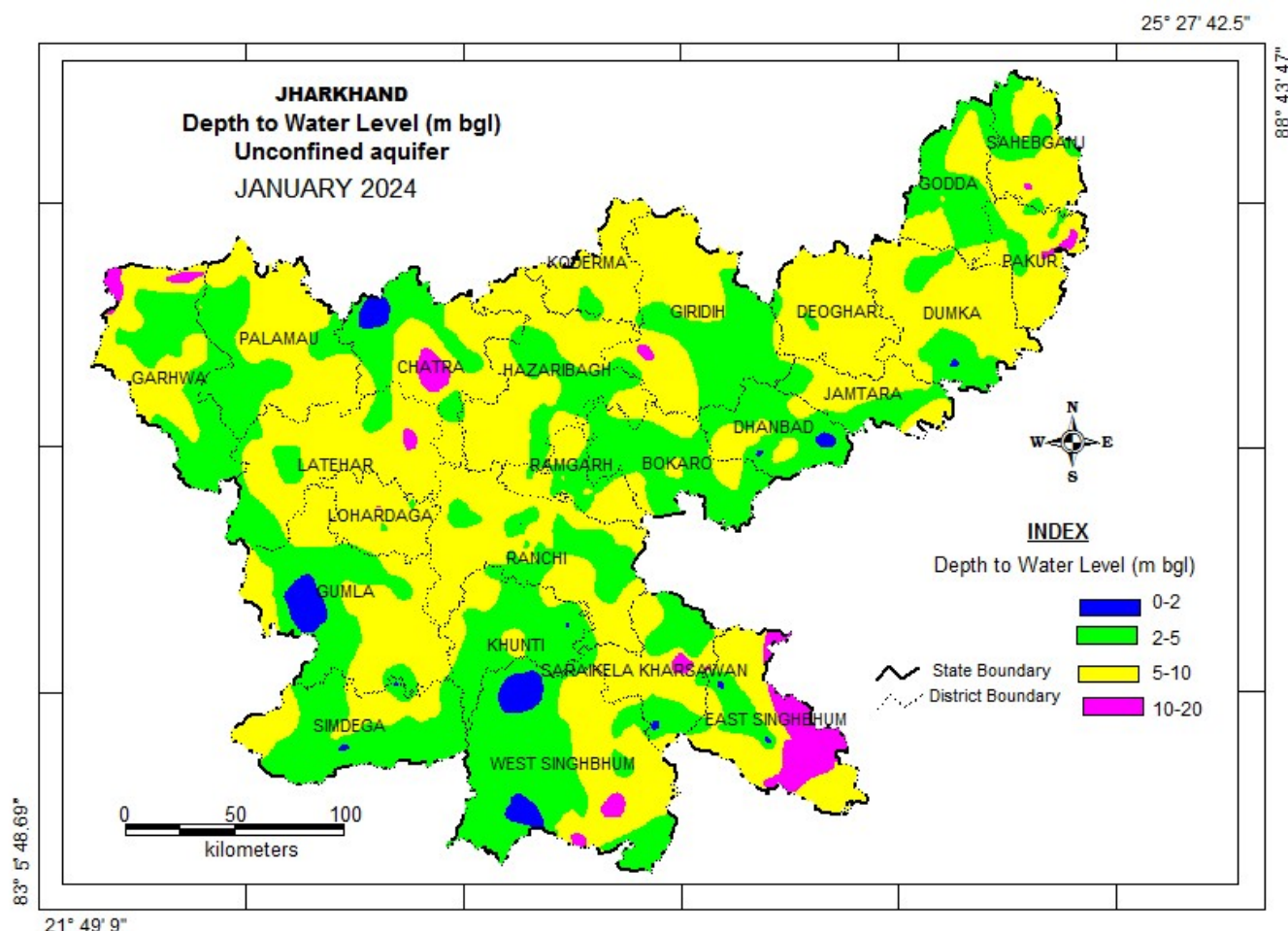


Fig. 7: Depth to water level in January 2024

Table 8 District wise well frequency for different ranges of depth to water level of HNS January 2024 in Jharkhand state District

SN	District	No. of wells analysed	Depth to water level (m bgl)		0-2 m		2-5 m		5-10		>10 m	
			Min.	Max.	No.	%	No.	%	No.	%	No.	%
1	Bokaro	15	2	6.7	1	6.7	11	73	3	20	0	0
2	Chatra	15	1.3	12.2	1	6.7	5	33	8	53	1	6.7
3	Devghar	12	4.9	9.39	0	0	2	17	10	83	0	0
4	Dhanbad	23	1.7	8	3	13	11	48	9	39	0	0
5	Dumka	15	1.9	8.9	1	6.7	5	33	9	60	0	0
6	Garhwa	22	2.4	12.1	0	0	11	50	9	41	2	9.1
7	Giridih	16	2.9	10.9	0	0	10	63	5	31	1	6.3
8	Godda	17	2.2	7.45	0	0	9	53	8	47	0	0
9	Gumla	19	0.6	9.5	2	11	6	32	11	58	0	0
10	Hazaribag	28	3.3	9.4	0	0	8	29	20	71	0	0
11	Jamtara	12	2.4	8.32	0	0	5	42	7	58	0	0
12	Khunti	15	2	6.85	1	6.7	9	60	5	33	0	0
13	Koderma	7	4.1	7.8	0	0	2	29	5	71	0	0
14	Latehar	10	3.6	10.4	0	0	5	50	4	40	1	10
15	Lohardaga	13	3.9	10.2	0	0	2	15	10	77	1	7.7
16	Pakur	11	2.3	10.2	0	0	4	36	5	46	2	18
17	Palamau	18	3	9.2	0	0	8	44	10	56	0	0
18	W Singbhum	23	1.9	12.5	1	4.3	9	39	11	48	2	8.7
19	E Singbhum	33	1.5	17.6	4	12	13	39	10	30	6	18
20	Ramgarh	16	2.3	8.6	0	0	10	63	6	38	0	0
21	Ranchi	59	1.8	9.85	2	3.4	22	37	35	59	0	0
22	Sahibgani	21	2.2	11.6	0	0	10	48	10	48	1	4.8
23	Saraikela	14	1.7	17.1	1	7.1	8	57	4	29	1	7.1
24	Simdega	14	1.6	7.25	2	14	7	50	5	36	0	0
Total		448	0.6	17.6	19	4.2	192	43	219	49	18	4

3.2 SEASONAL FLUCTUATION

3.2.1 May 2023 to August 2023

Water level fluctuation between May 2023 and August 2023 has been analysed for 340 HNS to study the seasonal fluctuation of depth to water level and its categorization in different depth zones. The analysis indicates rise in the water level in 327 (96%) HNS whereas the fall is observed only in 13 (4%) HNS. Major area (41%) of the state shows water level rise within the range of 2 to 4m covering Dumka, Deoghar, Jamtara, Deoghar, Giridih, Koderma, Latehar, Ranchi, Khunti, West Singhbhum and Gumla district. Water level rise >4 m covers almost equal portion (39%) of area of the state covering major part of Giridih, Godda, Pakur, Hazaribagh, Garhwa, Palamu, Latehar, Gumla, East-West Singhbhum and Saraikela Kharsawan district and some other parts of the state. Water level rise within 2 m shown only in 18% of the state area i.e. in small parts of Ranchi, Lohardaga, Chatra, Dhanbad and Dumka districts and other small parts of the state.

Only 3% of NHS wells (11 nos) reflects water level fall within 2 m covering very small part of Chatra, Palamu, Lohardaga, Simdega and Ranchi district, which covers only 1% of total area of the state. Water level fall within range of 2 to 4 m has been recorded in 1 NHS well in Chatra district and >4m in 1 well in Dhanbad district. **(Fig 8. Table 9).**

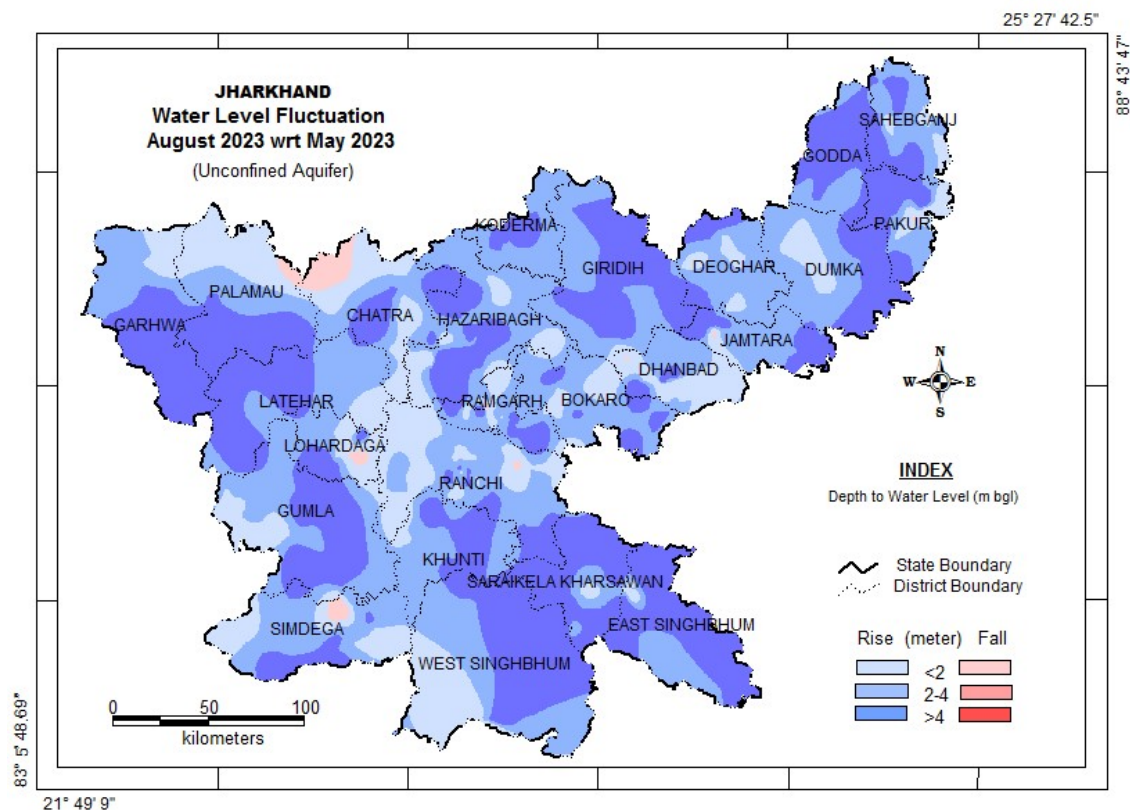


Fig. 8 Water level Fluctuation between May 2023 and August 2023

Table –9 District-wise categorisation of frequency and fluctuation water levels of HNS of August. 2023 w.r.t. May. 2023 for Jharkhand State

SN	District	No. of HNS	No. of Wells / Percentage showing fluctuation												Total	
			Rise						Fall							
			<2m	%	2-4m	%	>4m	%	<2m	%	2-4 m	%	>4 m	%	Rise	Fall
1	Bokaro	14	4	28.6	4	29	5	36	1	7.1	0	0	0	0	13	1
2	Chatra	11	5	45.5	2	18	3	27	0	0	1	9.1	0	0	10	1
3	Devghar	10	4	40	5	50	1	10	0	0	0	0	0	0	10	0
4	Dhanbad	17	6	35.3	5	29	4	24	1	5.9	0	0	1	5.9	15	2
5	Dumka	8	1	12.5	5	63	2	25	0	0	0	0	0	0	8	0
6	Garhwa	8	1	12.5	3	38	4	50	0	0	0	0	0	0	8	0
7	Giridih	13	0	0	5	39	8	62	0	0	0	0	0	0	13	0
8	Godda	10	0	0	2	20	8	80	0	0	0	0	0	0	10	0
9	Gumla	18	3	16.7	8	44	7	39	0	0	0	0	0	0	18	0
10	Hazaribag	25	6	24	10	40	8	32	1	4	0	0	0	0	24	1
11	Jamtara	10	0	0	4	40	5	50	1	10	0	0	0	0	9	1
12	Khunti	10	3	30	2	20	5	50	0	0	0	0	0	0	10	0
13	Koderma	6	0	0	4	67	2	33	0	0	0	0	0	0	6	0
14	Latehar	5	0	0	2	40	3	60	0	0	0	0	0	0	5	0
15	Lohardaga	10	3	30	3	30	2	20	2	20	0	0	0	0	8	2
16	Pakur	9	1	11.1	1	11	6	67	1	11.1	0	0	0	0	8	1
17	Palamau	7	2	28.6	3	43	2	29	0	0	0	0	0	0	7	0
18	Paschim Singbhum	15	1	6.7	2	13	12	80	0	0	0	0	0	0	15	0
19	Purba Singbhum	24	7	29.2	3	13	14	58	0	0	0	0	0	0	24	0
20	Ramgarh	17	6	35.3	3	18	7	41	1	5.9	0	0	0	0	16	1
21	Ranchi	53	19	35.8	23	43	10	19	1	1.9	0	0	0	0	52	1
22	Sahebganj	18	2	11	9	50	6	33	1	6	0	0	0	0	17	1
23	Saraikela	10	2	20	1	10	7	70	0	0	0	0	0	0	10	0
24	Simdega	12	2	16.7	5	42	4	33	1	8.3	0	0	0	0	11	1
Total		340	78	22.9	114	34	135	40	11	3.2	1	0.3	1	0.3	327	13

3.2.2 May 2023 to November 2023

Water level fluctuations between May 2023 and November 2023 has been analysed for 350 HNS. The rise of water level observed in 314 (90%) HNS whereas, only 36 (10%) HNS have shown fall in water level. The majority of HNS (126 well, 36%) have shown rise in the range of 2-4 m, whereas the 111 and 77 NHS have shown rise in water level rise >4 m and upto 2 m respectively.

About 97 % area of the State has shown rise in water level. The 2-4 m segment covering 47% area of the state has spread in the major part of Giridih, Bokaro, Dumka, Deoghar, Khunti, Latehar, Ranchi, W Singhbhum, Gumla and Simdega district. 24% area shows rise in water level upto 2 m covering northern part of Palamu, Garhwa, Chatra, Giridih district, southern part of E and W Singhbhum district and other small parts of the state. 24 % area shows water level rise >4m, which covers parts of E & W Singhbhum, Khunti, Latehar, Garhwa, Palamu, Godda district and some other parts shown in map. The fall is recorded as dissiminated patches at many locations covering only 3% area of the state (small patches in Jamtara, Pakur, Chatra, Lohardaga, Latehar, and Simdega district) **Fig 9, Table 10).**

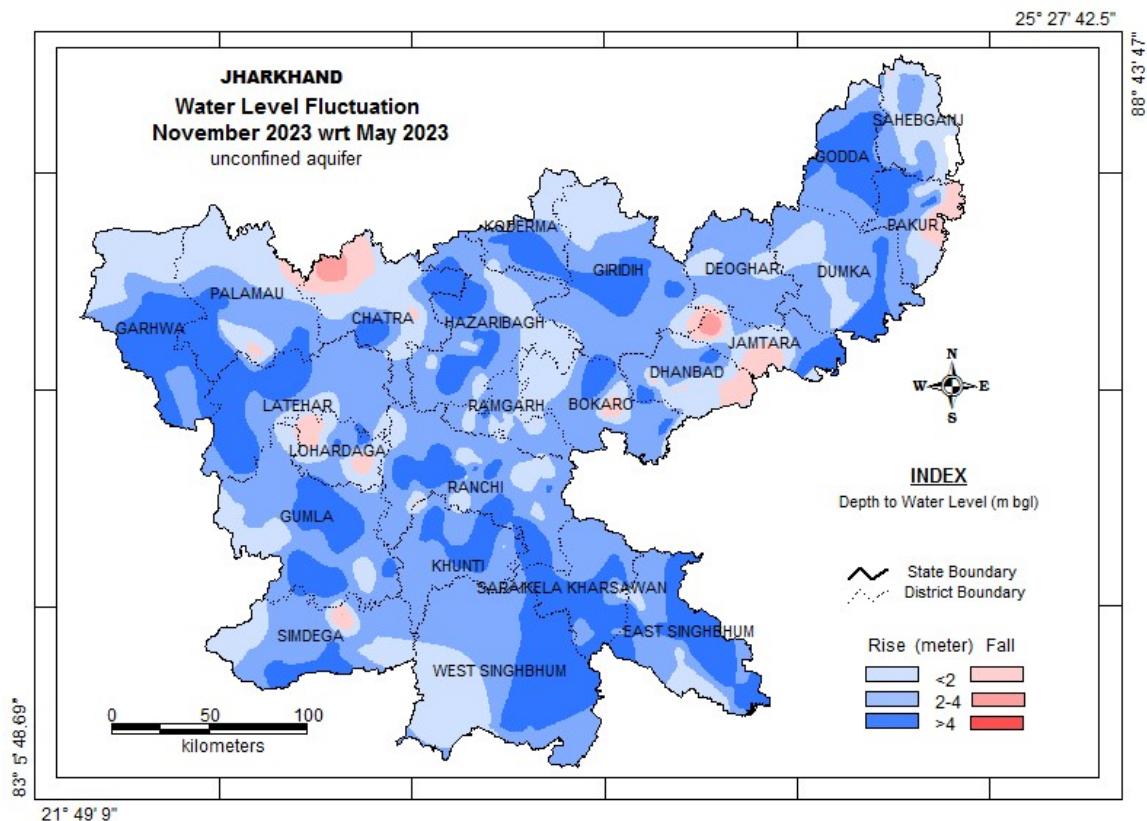


Fig. 9: Fluctuation in ground water level between May 2023 and Nov. 2023.

Table –10 District wise categorization of frequency and fluctuation water levels of HNS of Nov. 2023 w.r.t. May. 2023 for Jharkhand State

SN	District	No. of HNS	No. of Wells / Percentage showing fluctuation												Total	
			Fall						Rise							
			<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%	Fall	Rise
1	Bokaro	12	1	8.3	0	0	0	0	1	8.3	6	50	4	33.3	1	11
2	Chatra	14	2	14.3	1	7.1	0	0	6	42.9	2	14.3	3	21.4	3	11
3	Devghar	10	0	0	0	0	0	0	2	20	8	80	0	0	0	10
4	Dhanbad	22	6	27.3	0	0	2	9.1	2	9.1	8	36.4	4	18.2	8	14
5	Dumka	9	0	0	0	0	0	0	3	33.3	4	44.4	2	22.2	0	9
6	Garhwa	8	0	0	0	0	0	0	3	37.5	2	25	3	37.5	0	8
7	Giridih	10	0	0	0	0	0	0	0	0	6	60	4	40	0	10
8	Godda	9	0	0	0	0	0	0	0	0	3	33.3	6	66.7	0	9
9	Gumla	18	0	0	0	0	0	0	3	16.7	8	44.4	7	38.9	0	18
10	Hazaribag	25	0	0	1	4	0	0	8	32	7	28	9	36	1	24
11	Jamtara	10	2	20	0	0	5	50	0	0	2	20	1	10	7	3
12	Khunti	13	1	7.7	0	0	0	0	1	7.7	6	46.2	5	38.5	1	12
13	Koderma	6	0	0	0	0	4	66.7	0	0	1	16.7	1	16.7	4	2
14	Latehar	5	0	0	0	0	0	0	0	0	2	40	3	60	0	5
15	Lohardaga	10	2	20	0	0	0	0	2	20	3	30	3	30	2	8
16	Pakur	9	1	11.1	0	0	1	11.1	1	11.1	2	22.2	4	44.4	2	7
17	Palamau	7	1	14.3	0	0	0	0	3	42.9	0	0	3	42.9	1	6
18	Paschim Singbhum	15	0	0	0	0	0	0	2	13.3	3	20	10	66.7	0	15
19	Purba Singbhum	25	0	0	0	0	0	0	11	44	4	16	10	40	0	25
20	Ramgarh	18	0	0	0	0	0	0	5	27.8	12	66.7	1	5.6	0	18
21	Ranchi	53	1	1.9	0	0	0	0	12	22.6	24	45.3	16	30.2	1	52
22	Sahebganj	18	4	22.22	0	0	0	0	9	50	4	22.22	1	5.56	4	14
23	Saraikela	10	0	0	0	0	0	0	1	10	3	30	6	60	0	10
24	Simdega	14	0	0	1	7.1	0	0	2	14.3	6	42.9	5	35.7	1	13
	Total	350	21	6	3	0.9	12	3.4	77	22	126	36	111	31.7	36	314

3.2.3 May 2023 to January 2024

Water level fluctuation between May 2023 and January 2024 has been analysed for 350 HNS which indicates rise in water level in about 87 % (306 wells) of the HNS. The rise in water level in the range of 0 – 2 m in 45 % of the HNS, 2 – 4 m in 35% of the HNS and >4 m only in 07% HNS. About 40% area has shown rise in water level up to 2 m covers major part of Palamu, Deoghar, Lohardaga and Gumla districts and some other parts of Jharkhand State. The range of 2 to 4 m rise has been observed in major parts of Giridih, Hazaribagh, Khunti, Bokaro, Godda, district, and many localised areas constitutes about 35% area of the State. 20% area of the state including major parts of Latehar and Pakur districts and parts of Palamu, Jamtara, Chatra, districts shows water level rise more than 4 m.

The fall in water level has been observed in 44 wells (12.6%), 10% well shows fall less than 2 m and only 3 wells located in Jamtara, Pakur and Paschim Singhbhum district shows fall in water level 2-4 m. The range of 0-2 m fall is observed as patches in Sahebganj, Purba Singhbhum, Chatra and Bokaro districts and other areas as small patches covering 4% of the area of the state. Only 6 well has shown fall of water level >4 m (**Fig. 10, Table 11**).

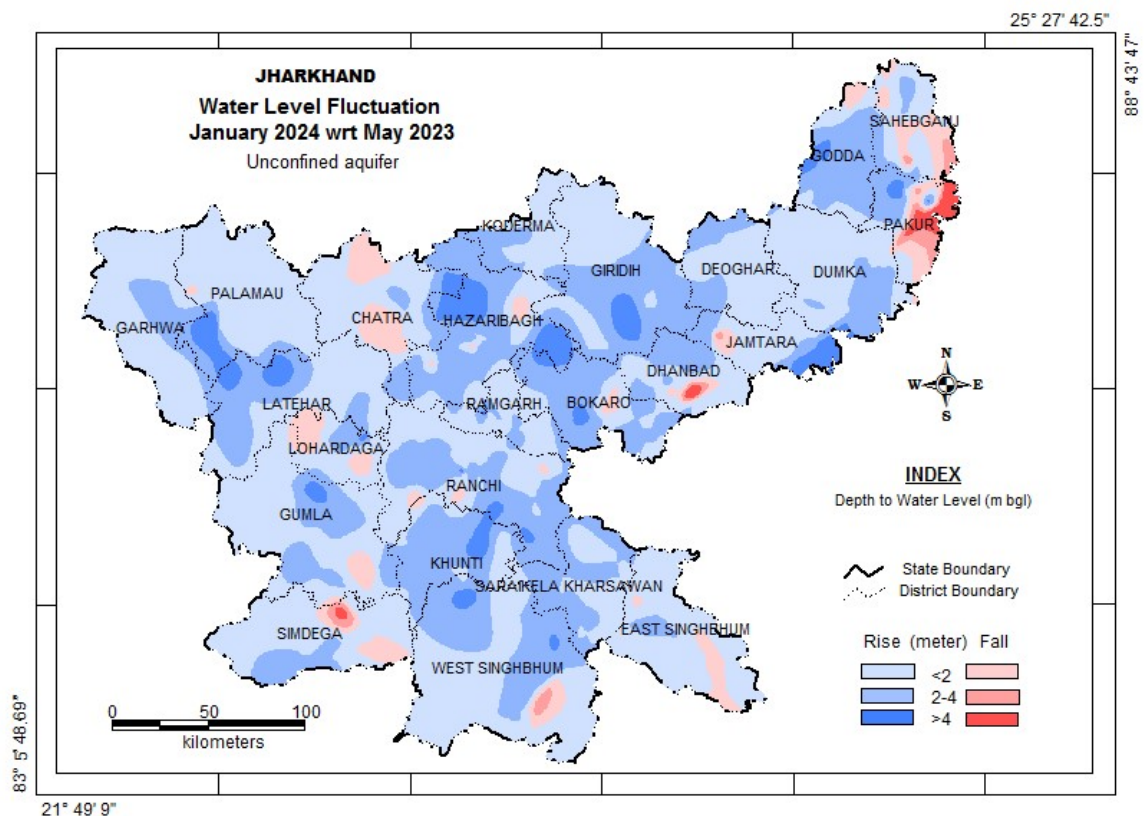


Fig. 10: Fluctuation in ground water level between May 2023 and Jan. 2024.

Table –11 District-wise categorisation of frequency and fluctuation water levels of HNS of Jan. 2024 w.r.t. May. 2023 for Jharkhand State																
SN	District	No. of HNS	No. of Wells / Percentage showing fluctuation												Total	
			Fall						Rise							
			<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%	Fall	Rise
1	Bokaro	15	2	13.3	0	0	0	0	4	26.7	8	53.3	1	6.7	2	13
2	Chatra	13	4	30.8	0	0	0	0	5	38.5	3	23.1	1	7.7	4	9
3	Devghar	10	0	0	0	0	0	0	7	70	3	30	0	0	0	10
4	Dhanbad	21	1	4.8	0	0	1	4.8	13	61.9	6	28.6	0	0	2	19
5	Dumka	9	0	0	0	0	0	0	5	55.6	4	44.4	0	0	0	9
6	Garhwa	8	1	12.5	0	0	0	0	4	50	3	37.5	0	0	1	7
7	Giridih	12	0	0	0	0	0	0	6	50	4	33.3	2	16.7	0	12
8	Godda	8	1	12.5	0	0	0	0	1	12.5	5	62.5	1	12.5	1	7
9	Gumla	19	1	5.3	0	0	0	0	11	57.9	6	31.6	1	5.3	1	18
10	Hazaribag	25	3	12	0	0	0	0	9	36	9	36	4	16	3	22
11	Jamtara	9	0	0	1	11.1	0	0	5	55.6	2	22.2	1	11.1	1	8
12	Khunti	13	1	7.7	0	0	0	0	4	30.8	7	53.8	1	7.7	1	12
13	Koderma	6	0	0	0	0	0	0	4	66.7	2	33.3	0	0	0	6
14	Latehar	6	0	0	0	0	0	0	3	50	1	16.7	2	33.3	0	6
15	Lohardaga	10	2	20	0	0	0	0	4	40	3	30	1	10	2	8
16	Pakur	9	0	0	1	11.1	2	22.2	1	11.1	3	33.3	2	22.2	3	6
17	Palamau	7	1	14.3	0	0	0	0	5	71.4	0	0	1	14.3	1	6
18	Paschim Singbhum	14	1	7.1	1	7.1	0	0	6	42.9	5	35.7	1	7.1	2	12
19	Purba Singbhum	24	4	16.7	0	0	0	0	15	62.5	5	20.8	0	0	4	20
20	Ramgarh	15	0	0	0	0	0	0	5	33.3	9	60	1	6.7	0	15
21	Ranchi	54	3	5.6	0	0	0	0	24	44.4	24	44.4	3	5.6	3	51
22	Sahibgani	18	9	50	0	0	1	5.6	6	33.3	2	11.1	0	0	10	8
23	Saraikela	11	0	0	0	0	1	9.1	5	45.5	4	36.4	1	9.1	1	10
24	Simdega	14	1	7.1	0	0	1	7.1	7	50	5	35.7	0	0	2	12
Total		350	35	10	3	0.9	6	1.7	159	45.4	123	35.1	24	6.9	44	306

3.3.0 ANNUAL FLUCTUATION

3.3.1 May 2022 to May 2023

Fluctuation of ground water level between May 2022 and May 2023 of 248 HNS has been analysed which indicates rise in water level rise in 79 wells (33%) of the HNS and fall in water level in 169 No (67%) of HNS. Major part of the State has shown fall in water level. Fall to the tune of 0 – 2 m has covered maximum area (59%), which includes major parts of E and W Singhbhum, Saraikela-Kharsawan, Khunti, Gumla, Simdega, Latehar, Palamu, Garhwa, Chatra, Hazaribagh, Ramgarh, Dhanbad, Dumka, Godda, and Sahebganj districts. Parts of Simdega, Gumla, Garhwa, Palamu, Hazaribagh, Giridih, Godda and Sahebganj district and many other small parts of the state has shown water level fall between 2-4m. Major part of Gumla districts and small parts of Garhwa, Hazaribagh, Giridih and Ramgarh has shown water level fall >4m.

Area where rise of water level is within 2 m spread over mainly in mid-eastern and north-eastern part of the state, covering Ranchi, Saraikela, Bokkaro, Hazaribagh, Giridih, Dumka, Godda and Sahebganj district, parts of Palamu and Garhwa district in north west, part of Simdega district in south west part covering 21% of the state area. Major part of Palamu district and some parts of Jamtara, Simdega, Ranchi, Godda and Sahebganj shows water level rise in the range of 2-4 m and more than 4 m. only 7 and 4 wells show water level rise in the range of 2-4 m and more than 4 m respectively. (Fig. 11, Table 12).

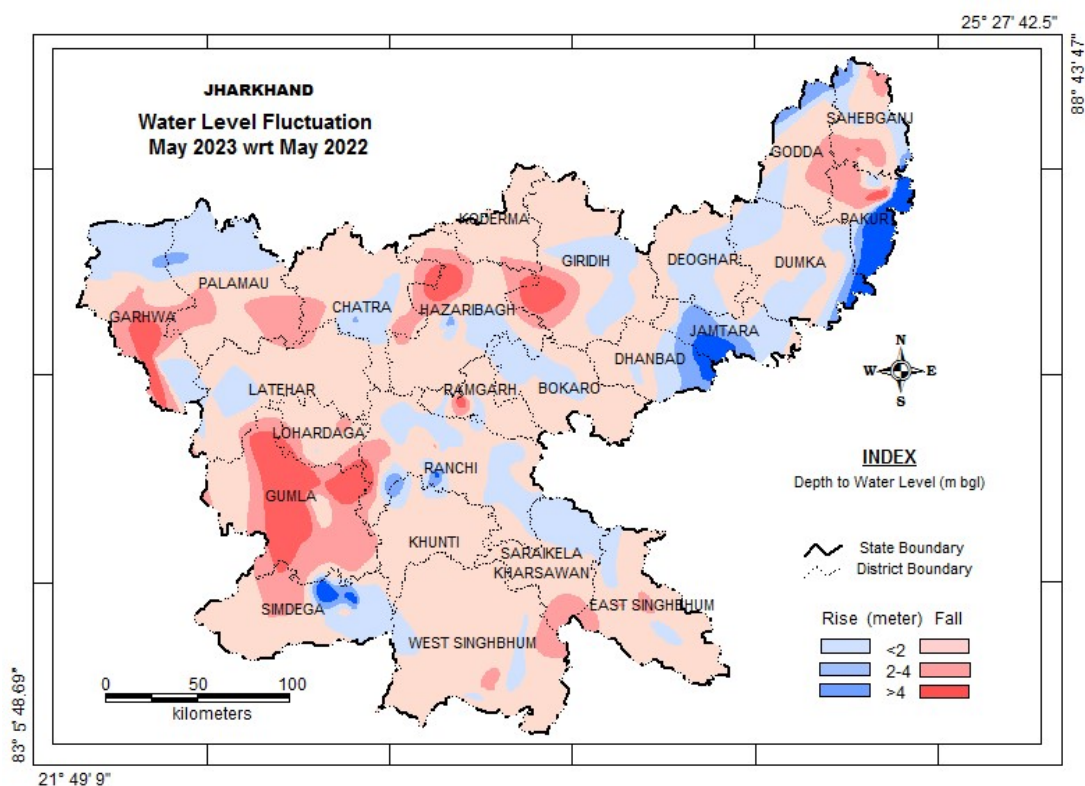


Fig. 11: Fluctuation in ground water level between May 2022 and May 2023.

Table –12 District-wise categorization of frequency and fluctuation water levels of HNS of May. 2023 w.r.t. May. 2022 for Jharkhand State

SN	District	No. of HNS	No. of Wells / Percentage showing fluctuation												Total	
			Rise						Fall							
			<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%	Rise	Fall
1	Bokaro	12	2	16.7	0	0	0	0	10	83.3	0	0	0	0	2	10
2	Chatra	6	2	33.3	1	16.7	0	0	3	50	0	0	0	0	3	3
3	Devghar	6	3	50	0	0	0	0	3	50	0	0	0	0	3	3
4	Dhanbad	10	1	10	0	0	0	0	9	90	0	0	0	0	1	9
5	Dumka	8	5	62.5	0	0	0	0	3	37.5	0	0	0	0	5	3
6	Garhwa	6	1	16.7	1	16.7	0	0	2	33.3	1	16.7	1	16.7	2	4
7	Giridih	8	3	37.5	0	0	0	0	3	37.5	0	0	2	25	3	5
8	Godda	4	1	25	0	0	0	0	2	50	1	25	0	0	1	3
9	Gumla	10	0	0	0	0	0	0	1	10	2	20	7	70	0	10
10	Hazaribag	18	6	33.3	0	0	1	5.6	9	50	1	5.6	1	5.6	7	11
11	Jamtara	3	1	33.3	1	33.3	0	0	1	33.3	0	0	0	0	2	1
12	Khunti	9	0	0	1	11.1	0	0	8	88.9	0	0	0	0	1	8
13	Koderma	4	0	0	0	0	0	0	4	100	0	0	0	0	0	4
14	Latehar	4	0	0	0	0	0	0	4	100	0	0	0	0	0	4
15	Lohardaga	8	1	12.5	0	0	0	0	6	75	1	12.5	0	0	1	7
16	Pakur	6	1	16.7	0	0	1	16.7	1	16.7	1	16.7	2	33.3	2	4
17	Palamu	5	0	0	0	0	0	0	3	60	2	40	0	0	0	5
18	Paschim Singbhum	12	4	33.3	1	8.3	0	0	5	41.7	2	16.7	0	0	5	7
19	Purba Singbhum	14	5	35.7	0	0	0	0	8	57.1	1	7.1	0	0	5	9
20	Ramgarh	14	3	21.4	0	0	0	0	9	64.3	1	7.1	1	7.1	3	11
21	Ranchi	50	20	40	0	0	1	2	25	50	4	8	0	0	21	29
22	Sahebganj	15	5	33.3	2	13.3	0	0	3	20	4	26.7	1	6.67	7	8
23	Saraikela-Kharswan	3	1	33	0		0	0	2	67	0		0	0	1	2
24	Simdega	13	3	23.1	0	0	1	7.7	8	61.5	1	7.7	0	0	4	9
Total		248	68	11.3	7	1.17	4	1.61	132	53.23	22	8.871	15	6.05	79	169

3.3.2 August 2022 to August 2023

Water level fluctuation between August 2022 and August 2023 has been analysed for 268 HNS, which indicates that the rise of water level is in 50% of the HNS and fall in 50% of the HNS. Rise of water level within 2 m has been observed in major part (46% of the total area) of the state which covers major part of East West Singhbhum, Saraikela, Simdega, Gumla, Latehar, Chatra, Palamu, Giridih, Pakur, Godda, Sahibganj and Koderma district. Water level rise within 2 to 4 m covers 13% of total area of the state including parts of Sahebganj, Palamu, Garhwa, Gridih district and some other small part of the state. Water level rise >4 m covers very small part of the state i.e. part of Garhwa, Palamu, West Singhbhum and other small parts of the state.

Water level fall within 2 m covers 27% of the total area includes part of Dumka, Deoghar, dhanbad, Bokaro, Ramgarh, Ranchi Khunti Chatra and Hazaribagh district and many other small patches. Water level fall within 2-4 and >4 m covers very small part of the state mainly covering the central part i.e Ranchi, ramgarh, Chatra, Latehar and Bokaro district. Water level fall in these two ranges covers only 7 and 2% area of the state respectively. (Fig.12, Table 13).

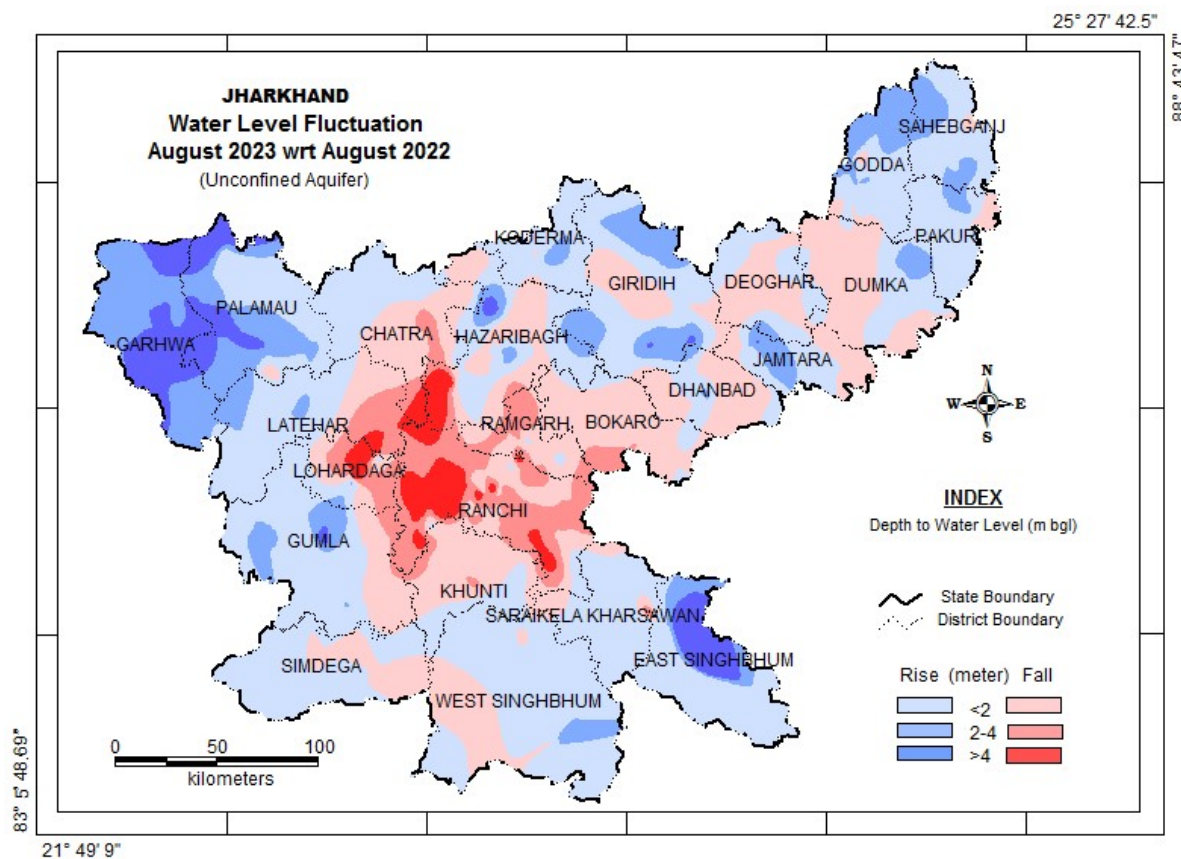


Fig. 12: Fluctuation in ground water level between Aug. 2022 and Aug. 2023

Table –13 District-wise categorization of frequency and fluctuation water levels of HNS of August. 2023 w.r.t. August 2022 for Jharkhand State

SN	District	No. of HNS	No. of Wells / Percentage showing fluctuation												Total	
			Rise						Fall							
			<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%	Rise	Fall
1	Bokaro	9	2	22	0	0	0	0	6	67	1	11	0	0	2	7
2	Chatra	9	3	33	1	11	0	0	3	33	2	22	0	0	4	5
3	Devghar	7	3	43	0	0	0	0	4	57	0	0	0	0	3	4
4	Dhanbad	8	3	38	0	0	0	0	5	63	0	0	0	0	3	5
5	Dumka	14	4	29	1	7.1	0	0	8	57	0	0	1	7.1	5	9
6	Garhwa	9	1	11	3	33	5	56	0	0	0	0	0	0	9	0
7	Giridih	11	3	27	2	18	2	18	4	36	0	0	0	0	7	4
8	Godda	13	7	54	5	39	0	0	1	7.7	0	0	0	0	12	1
9	Gumla	14	7	50	3	21	1	7.1	2	14	1	7.1	0	0	11	3
10	Hazaribag	20	6	30	1	5	1	5	8	40	2	10	2	10	8	12
11	Jamtara	8	2	25	1	13	1	13	4	50	0	0	0	0	4	4
12	Khunti	5	2	40	0	0	0	0	2	40	1	20	0	0	2	3
13	Koderma	7	4	57	1	14	0	0	2	29	0	0	0	0	5	2
14	Latehar	6	4	67	2	33	0	0	0	0	0	0	0	0	6	0
15	Lohardaga	10	2	20	1	10	0	0	2	20	1	10	4	40	3	7
16	Pakur	10	5	50	4	40	0	0	1	10	0	0	0	0	9	1
17	Palamau	1	0	0	0	0	0	0	1	100	0	0	0	0	0	1
18	Paschim Singbhum	13	9	69	1	7.7	0	0	3	23	0	0	0	0	10	3
19	Purba Singbhum	16	14	88	0	0	1	6.3	0	0	1	6.3	0	0	15	1
20	Ramgarh	15	3	20	0	0	0	0	6	40	6	40	0	0	3	12
21	Ranchi	49	2	4.1	0	0	0	0	17	35	17	35	13	27	2	47
22	Saraikela	5	5	100	0	0	0	0	0	0	0	0	0	0	5	0
23	Simdega	9	6	67	0	0	0	0	3	33	0	0	0	0	6	3
	Total	268	97	36	26	9.7	11	4.1	82	31	32	12	20	7.5	134	134

3.3.3 November 2022 to November 2023

Water level fluctuation between November 2022 and November 2023 has been analysed for 295 HNS, which indicates that there is a fall of water level in about 57% of the HNS and rise in only 43% of the HNS. The fall of water level of 0-2 m range shows in 42% NHS wells covering 46% area covers maximum parts Dumka, Deoghar, Giridih, Hazaribagh, Ranchi, Latehar, Lohardaga, W Singhbhum, Saraikela district and other small patch like area of the state. The segment of 2 to 4m fall shown in small parts of Lohardaga, Ranchi, Chatra, Giridih and Bokaro district. 14 nos of NHS well situated in Lohardaga and Chatra have shown water level fall >4m.

Total 46% area of the State shows rise in water level. Major parts of Godda, Sahibganj, Dumka, Pakur, Deoghar, Giridih, Hazaribagh, Chatra, Latehar, Lohardaga, Ranchi, W Singhbhum and some other small parts of state is covered by the range of 0-2 m rise in water level. Only 14 NHS wells covering very small parts of E. Singhbhum, Latehar and Garhwa has shown the rise of water level 2- 4 m. The range of > 4 m rise has been observed in only 4 wells located in Garhwa, Khunti, Palamu, Purba Singhbhum. (Fig.13, Table 14).

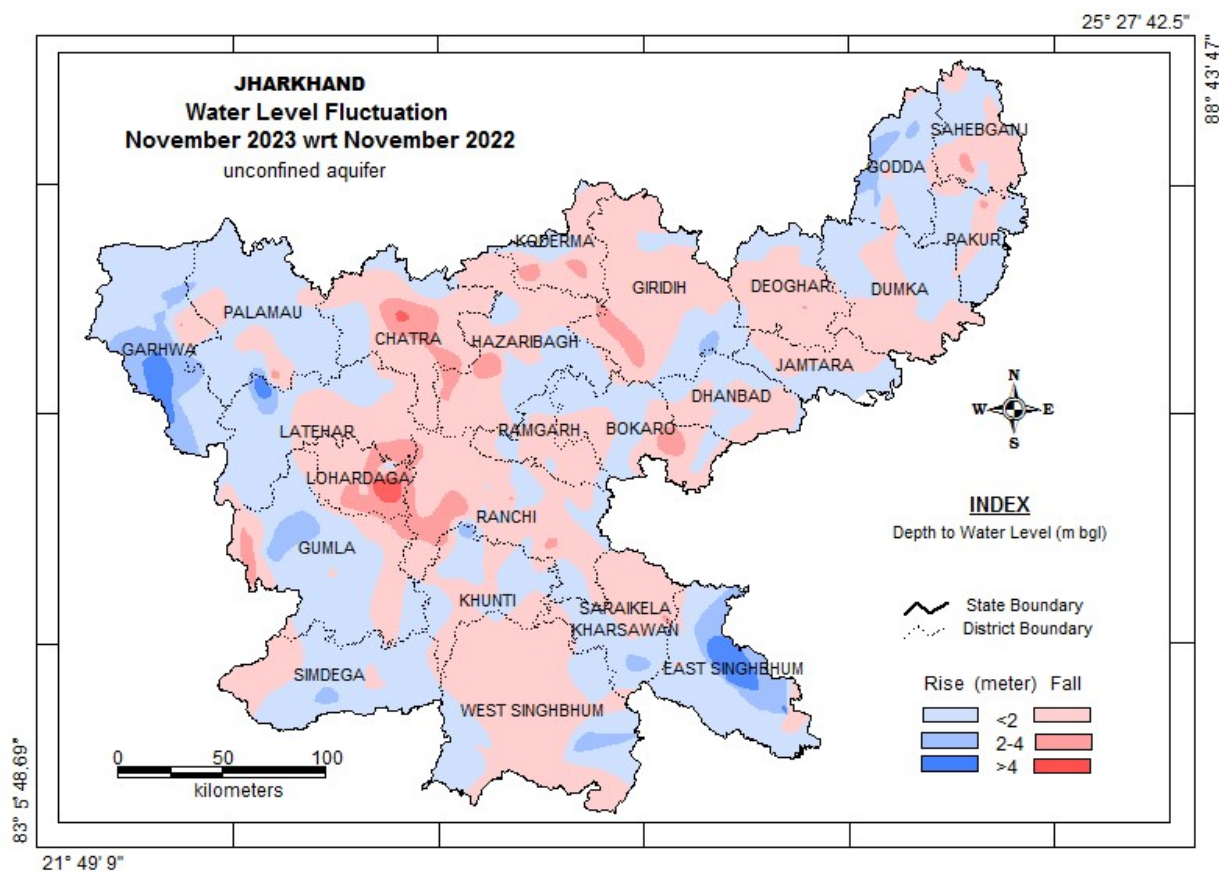


Fig. 13: Fluctuation in ground water level between Nov 2023 and Nov. 2022.

Table –14 District-wise categorization of frequency and fluctuation water levels of HNS of **Nov. 2023 w.r.t. Nov. 2022** for Jharkhand State

SN	District	No. of HNS	No. of Wells / Percentage showing fluctuation												Total	
			Fall						Rise							
			<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%	Fall	Rise
1	Bokaro	10	5	50	1	10	0	0	4	40	0	0	0	0	6	4
2	Chatra	13	8	61.5	2	15.4	1	7.7	1	7.7	1	7.7	0	0	11	2
3	Devghar	11	8	72.7	1	9.1	0	0	2	18.2	0	0	0	0	9	2
4	Dhanbad	15	7	46.7	1	6.7	0	0	7	46.7	0	0	0	0	8	7
5	Dumka	14	9	64.3	0	0	0	0	5	35.7	0	0	0	0	9	5
6	Garhwa	9	1	11.1	1	11.1	0	0	3	33.3	3	33.3	1	11.1	2	7
7	Giridih	12	7	58.3	1	8.3	0	0	3	25	1	8.3	0	0	8	4
8	Godda	12	1	8.3	0	0	0	0	8	66.7	3	25	0	0	1	11
9	Gumla	15	1	6.7	2	13.3	0	0	10	66.7	2	13.3	0	0	3	12
10	Hazaribag	17	6	35.3	3	17.6	1	5.9	7	41.2	0	0	0	0	10	7
11	Jamtara	8	1	12.5	0	0	6	75	1	12.5	0	0	0	0	7	1
12	Khunti	9	4	44.4	1	11.1	0	0	3	33.3	0	0	1	11.1	5	4
13	Koderma	7	0	0	1	14.3	5	71.4	1	14.3	0	0	0	0	6	1
14	Latehar	9	2	22.2	0	0	0	0	7	77.8	0	0	0	0	2	7
15	Lohardaga	10	3	30	5	50	1	10	1	10	0	0	0	0	9	1
16	Pakur	8	3	37.5	1	12.5	0	0	4	50	0	0	0	0	4	4
17	Palamau	2	0	0	0	0	0	0	1	50	0	0	1	50	0	2
18	Paschim Singbhum	13	9	69.2	0	0	0	0	3	23.1	1	7.7	0	0	9	4
19	Purba Singbhum	18	3	16.7	2	11.1	0	0	10	55.6	2	11.1	1	5.6	5	13
20	Ramgarh	16	10	62.5	1	6.3	0	0	5	31.3	0	0	0	0	11	5
21	Ranchi	49	32	65.3	6	12.2	0	0	11	22.4	0	0	0	0	38	11
22	Saraikela	5	3	60	0	0	0	0	2	40	0	0	0	0	3	2
23	Sahebganj															
24	Simdega	13	1	7.7	0	0	0	0	11	84.6	1	7.7	0	0	1	12
	Total	295	124	42	29	9.8	14	4.7	110	37.3	14	4.7	4	1.4	167	128

3.3.4 January 2023 to January 2024

Water level fluctuation between January 2023 and January 2024 has been analysed for 307 HNS. The rise of water level has been observed in 167 wells (81%) whereas the fall in water level between observed in 140 (19%) wells.

The rise to the tune of 0 to 2 m has been shown in 48% well of the State spread in almost entire State. The segment of 2 to 4 m rise has been observed in localised areas falls in Ranchi West Singhbhum, Godda, Palamu district and many other small parts of the State. Only 04 wells in has shown water level rise more than 4m.

The fall in the range of 0 – 2 m and 2 – 4 m has been observed in 13% and 3% of total area of the state respectively. The fall ranged from 0 to 2 m is observed in part of Ranchi, Ramgarh, East Singhbhum, Gumla, Deogarh and some other small part as patches at many locations. The segment of 2 to 4 m fall has been calculated for only 20 wells covers the area as patches in part of Ranchi, West Singhbhum, Hazaribagh district. Only 03 well located in Saraikela, Lohardaga, Garhwa district have shown fall of water level more than 4 m. (**Fig. 14, Table 15**).

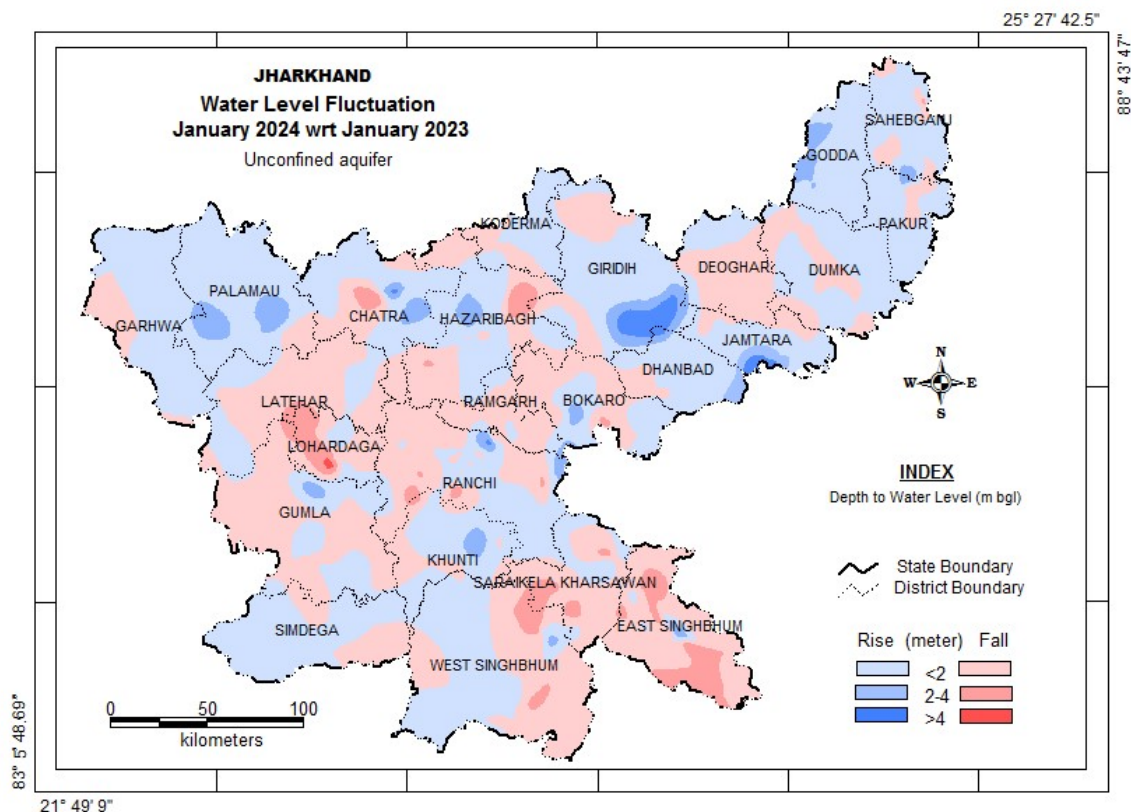


Fig. 14: Fluctuation in ground water level between Jan. 2023 and Jan. 2024.

Table –15 District-wise categorization of frequency and fluctuation water levels of HNS of **Jan 2024 w.r.t. Jan. 2023** for Jharkhand State

SN	District	No. of HNS	No. of Wells / Percentage showing fluctuation												Total	
			Fall						Rise							
			<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%	Fall	Rise
1	Bokaro	13	5	38.5	1	7.7	0	0	6	46.2	1	7.7	0	0	6	7
2	Chatra	11	0	0	1	9.1	0	0	9	81.8	1	9.1	0	0	1	10
3	Devghar	12	8	66.7	0	0	0	0	4	33.3	0	0	0	0	8	4
4	Dhanbad	15	3	20	0	0	0	0	12	80	0	0	0	0	3	12
5	Dumka	15	7	46.7	0	0	0	0	8	53.3	0	0	0	0	7	8
6	Garhwa	10	1	10	1	10	1	10	5	50	2	20	0	0	3	7
7	Giridih	14	4	28.6	0	0	0	0	6	42.9	1	7.1	3	21.4	4	10
8	Godda	12	0	0	0	0	0	0	10	83.3	2	16.7	0	0	0	12
9	Gumla	17	10	58.8	0	0	0	0	6	35.3	1	5.9	0	0	10	7
10	Hazaribag	21	9	42.9	2	9.5	0	0	9	42.9	1	4.8	0	0	11	10
11	Jamtara	8	3	37.5	0	0	0	0	5	62.5	0	0	0	0	3	5
12	Khunti	10	3	30	1	10	0	0	5	50	1	10	0	0	4	6
13	Koderma	7	4	57.1	0	0	0	0	3	42.9	0	0	0	0	4	3
14	Latehar	7	3	42.9	0	0	0	0	4	57.1	0	0	0	0	3	4
15	Lohardaga	10	5	50	0	0	1	10	4	40	0	0	0	0	6	4
16	Pakur	10	2	20	0	0	0	0	7	70	1	10	0	0	2	8
17	W Singbhum	15	8	53.3	4	26.7	0	0	1	6.7	2	13.3	0	0	12	3
18	E Singbhum	17	10	58.8	3	17.6	0	0	3	17.6	1	5.9	0	0	13	4
19	Ramgarh	13	10	76.9	0	0	0	0	3	23.1	0	0	0	0	10	3
20	Ranchi	51	20	39.2	4	7.8	0	0	24	47.1	2	3.9	1	2	24	27
21	Saraikela	6	0	0	3	50	1	16.7	2	33.3	0	0	0	0	4	2
22	Simdega	13	2	15.4	0	0	0	0	11	84.6	0	0	0	0	2	11
Total		307	117	38.1	20	6.5	3	1	147	47.9	16	5.2	4	1.3	140	167

3.4 DECADAL FLUCTUATION

3.4.1 Decadal Mean of May (2013-2022) to May 2023

Fluctuation in water level of May 2023 with respect to decadal mean of May 2013-2022 has been analysed for 177 HNS wells, which indicates fall in 59% and rise in the remaining 41% of the analysed HNS. The fall in the tune of 0 – 2 m is observed in the 49% of the HNS analysed, spatially covers the 52% area of the State and covers almost entire mid part, north eastern part and south eastern part of the state. In 16 HNS has shown fall in the tune of 2-4 m covering very small patches of Bokaro, Chatra, Deoghar, Hazaribagh, Dumka, Gumla Jamtara, Godda, Ranchi and Lohardaga district. Only 2 wells located in Ramgarh and Giridih district has recorded water level fall more than 4m.

40% area of the State has shown rise in water level less than 2 m covering major part of Deoghar, Giridih, Palamu, Garhwa, W Singhbhum and Simdega district and small parts of Sahibganj, Pakur, Jamtara, Hazaribagh, Chatra, Ranchi, Khunti and E Singhbhum district, whereas the segment of 2 – 4 m observed in only 6 NHS wells. The rise of water level more than 4m has been recorded in only 4 wells located in Giridih, Pakur, Sahibganj and Simdega district. (Fig. 15, Table 16).

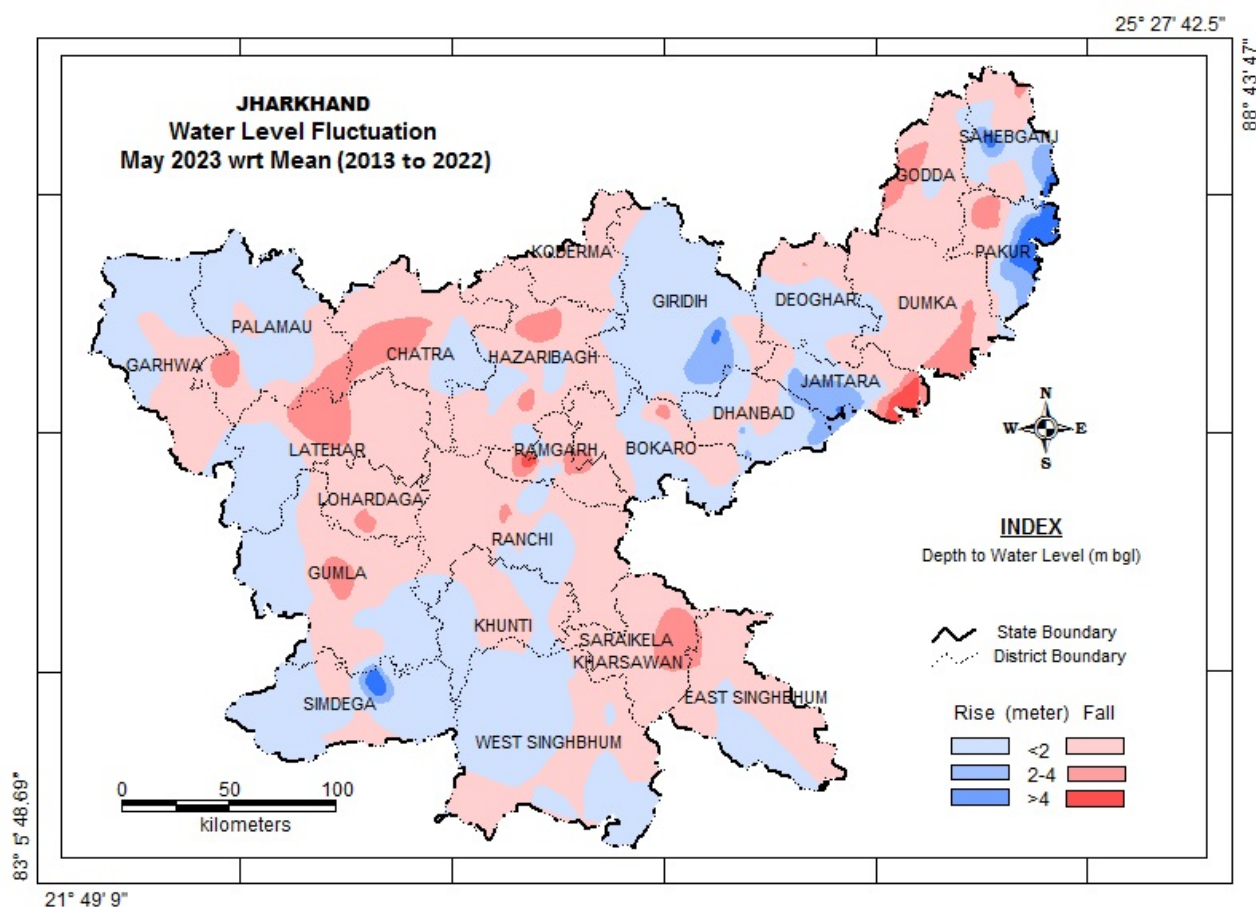


Fig. 15 Fluctuation in water level between May mean (2013-2022) and May 2023.

Table –16 District-wise categorization of frequency and fluctuation water levels of HNS of **May, 2023 w.r.t. May decadal mean (2013-2022)** for Jharkhand State

SN	District	No. of HNS	Rise		Fall		No. of Wells / Percentage showing fluctuation												Total	
							Rise						Fall							
			Min	Max	Min	Max	<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%	Rise	Fall
1	Bokaro	8	0.06	1.75	0	2.05	4	50	0	0	0	0	3	37.5	1	12.5	0	0	4	4
2	Chatra	6	0.17	2.57	0.9	2.37	2	33.3	1	16.7	0	0	2	33.3	1	16.7	0	0	3	3
3	Devghar	7	0.63	1.4	0.58	2.09	4	57.1	0	0	0	0	2	28.6	1	14.3	0	0	4	3
4	Dhanbad	5	0.5	1.75	0.09	0.09	4	80	0	0	0	0	1	20	0	0	0	0	4	1
5	Dumka	8			0.09	2.32	0	0	0	0	0	0	7	87.5	1	12.5	0	0	0	8
6	Garhwa	2	0.38	1.28			2	100	0	0	0	0	0	0	0	0	0	0	2	0
7	Giridih	11	0.41	4.22	0.4	4.27	6	54.5	1	9.1	1	9.1	2	18.2	0	0	1	9.1	8	3
8	Godda	5	1.14	1.14	0.44	1.76	1	20	0	0	0	0	4	80	0	0	0	0	1	4
9	Gumla	13	0.03	1.73	0.72	2.17	6	46.2	0	0	0	0	6	46.2	1	7.7	0	0	6	7
10	Hazaribag	10	0.06	1.93	0.01	2.04	3	30	0	0	0	0	6	60	1	10	0	0	3	7
11	Jamtara	3	1.19	3.91	0.82	0.82	1	33.3	1	33.3	0	0	1	33.3	0	0	0	0	2	1
12	Khunti	6	0.02	3.2	0.91	2.64	2	33.3	2	33.3	0	0	1	16.7	1	16.7	0	0	4	2
13	Koderma	3			1.17	1.75	0	0	0	0	0	0	3	100	0	0	0	0	0	3
14	Latehar	3			0.35	3.3	0	0	0	0	0	0	2	66.7	1	33.3	0	0	0	3
15	Lohardaga	9	0.19	0.19	0.17	2.56	1	11.1	0	0	0	0	6	66.7	2	22.2	0	0	1	8
16	Pakur	2	7.12	7.12	1.1	1.1	0	0	0	0	1	50	1	50	0	0	0	0	1	1
17	Palamau	6	1.36	1.89	0.43	3.15	2	33.3	0	0	0	0	2	33.3	2	33.3	0	0	2	4
18	Paschim Singbhum	10	0.14	1.13	0.02	1.66	5	50	0	0	0	0	5	50	0	0	0	0	5	5
19	Purba Singbhum	4	0.32	0.33	0.38	0.96	2	50	0	0	0	0	2	50	0	0	0	0	2	2
20	Ramgarh	8	0.21	1.37	0.13	5.79	2	25	0	0	0	0	4	50	1	12.5	1	12.5	2	6
21	Ranchi	28	0.02	1.64	0.13	3.96	11	39.3	0	0	0	0	15	53.6	2	7.1	0	0	11	17
22	Sahebganj	8	1.01	4.4	0.39	2.2	2	25	1	12.5	1	12.5	3	37.5	1	12.5	0	0	4	4
23	Saraikela-Kharswan	4	0.38	0.38	0.17	1.94	1	25	0	0	0	0	3	75	0	0	0	0	1	3
24	Simdega	8	0.45	5.88	0.05	0.77	2	25	0	0	1	12.5	5	62.5	0	0	0	0	3	5
Total		177	0.02	7.12	0	5.79	63	35.6	6	3.4	4	2.3	86	48.6	16	9	2	1.1	73	104

3.4.2 Decadal Mean of August (2013-2022) to August 2023

Fluctuation in water level of August 2023 with respect to decadal mean of August (2013-2022) has been analysed for 229 HNS, which shows rise in water level in the 51% of HNS and fall in the remaining 49% of HNS. The rise in the range of 0 – 2 m has been observed in 40% of the HNS, spatially covers the major area (55%) of the state covers almost all part of the state except north eastern and mid part. The range of 2 to 4 m rise has been recorded only in 19 NHS wells and covers very small parts of Godda, Giridih, Palamu, Gumla, Ranchi district and some other parts of the state. Only 5 wells located in Bokaro, Chatra, Dumka and Hazaribagh district shows rise of water level >4 m.

About 31 % area of the State has shown fall of water level in the range of 0 to 2m spread mainly north eastern and mid part of the state. Covering major part of Dumka, Kodema, Bokaro, Palamu, and Latehar district and some other small areas. The range of 2 – 4 m fall has been observed only in 15% wells, covering small part of the state, Ranchi, Khunti, Lohardaga, Chatra and Ramgarh district and some other small patches. The fall of water level more than 4m has been recorded only in 17 well. This range of rise in water level reflects in very small part of Dumka, Hazaribagh, Chatra, Lohardaga and Latehar district. (Fig. 16, Table 17).

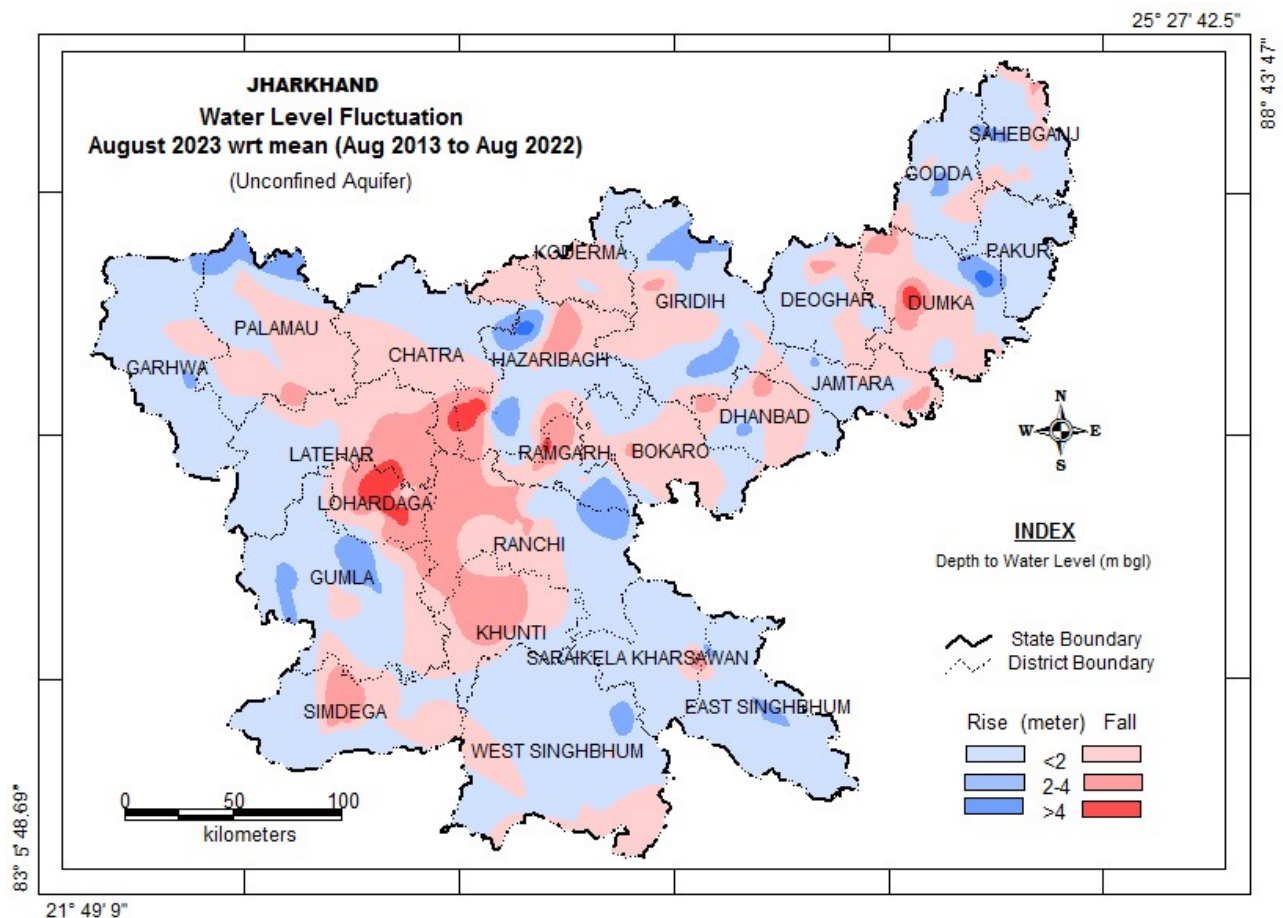


Fig. 16 Fluctuation in water level between Aug. (mean) and Aug. 2023

Table – 17 District-wise categorization of fluctuation and their frequency of water levels of HNS of **Aug. 2023** w.r.t. **Aug. mean (2013-2022)** for Jharkhand

SN	District	No. of HNS	Range of fluctuation (m)				No. of Wells / Percentage showing fluctuation												Total	
			Rise		Fall		Rise						Fall							
			Min.	Max.	Min.	Max.	<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%	Rise	Fall
1	Bokaro	9	0.43	6.43	0.28	2.19	3	33	0	0	1	11	4	44	1	11	0	0	4	5
2	Chatra	4	0.14	5.37	0.37	0.37	2	50	0	0	1	25	1	25	0	0	0	0	3	1
3	Devghar	7	0.45	1.43	0.24	0.42	5	71	0	0	0	0	2	29	0	0	0	0	5	2
4	Dhanbad	7	1.09	1.79	0.24	2.64	2	29	0	0	0	0	3	43	2	29	0	0	2	5
5	Dumka	13	0.38	4.86	0.3	5.78	2	15	0	0	1	8	7	54	2	15	1	8	3	10
6	Garhwa	6	0.11	2.26	0.91	0.91	4	67	1	17	0	0	1	17	0	0	0	0	5	1
7	Giridih	15	0.01	3.32	0.07	5.76	6	40	4	27	0	0	3	20	1	7	1	7	10	5
8	Godda	11	0.04	3.66	0.12	0.35	6	55	3	27	0	0	2	18	0	0	0	0	9	2
9	Gumla	13	0.17	3.88	0.58	2.05	6	46	4	31	0	0	2	15	1	8	0	0	10	3
10	Hazaribag	12	0.36	4.49	1.59	5.22	5	42	0	0	2	17	2	17	1	8	2	17	7	5
11	Jamtara	8	0.08	2.13	1.01	2.24	5	63	1	13	0	0	1	13	1	13	0	0	6	2
12	Khunti	4	0.56	1.31	0.48	3.24	2	50	0	0	0	0	1	25	1	25	0	0	2	2
13	Koderma	5	0.39	1.91	1.45	1.81	3	60	0	0	0	0	2	40	0	0	0	0	3	2
14	Latehar	6	0.46	0.74	1.21	2.41	3	50	0	0	0	0	2	33	1	17	0	0	3	3
15	Lohardaga	10			0.33	5.3	0	0	0	0	0	0	3	30	3	30	4	40	0	10
16	Pakur	6	0.09	1.12	0.14	0.14	5	83	0	0	0	0	1	17	0	0	0	0	5	1
17	Palamau	12	0.04	0.13	0.14	5.5	3	25	0	0	0	0	3	25	3	25	3	25	3	9
18	Paschim Singbhum	13	0.02	3.49	0.03	0.9	9	69	1	8	0	0	3	23	0	0	0	0	10	3
19	Purba Singbhum	8	0.49	2.73	10.51	10.51	4	50	3	38	0	0	0	0	0	0	1	13	7	1
20	Ramgarh	11	1.08	3.04	0.54	3.69	3	27	1	9	0	0	2	18	5	46	0	0	4	7
21	Ranchi	31	0.42	1.19	0.01	5.17	2	7	0	0	0	0	12	39	12	39	5	16	2	29
22	Sahebganj	8	0.17	2.09	0.81	2.63	5	63	1	13	0	0	1	13	1	13	0	0	6	2
23	Saraikela-Kharswan	4	0.43	1.17			4	100	0	0	0	0	0	0	0	0	0	0	4	0
24	Simdega	6	0.53	0.84	0.03	0.93	3	50	0	0	0	0	3	50	0	0	0	0	3	3
Total		229	0.01	6.43	0.01	10.51	92	40	19	8	5	2	61	27	35	15	17	7	116	113

3.4.3 Decadal Mean of November (2013-2022) to November 2023

Fluctuation in water level of November 2023 with respect to decadal mean of November 2013-2022 has been analysed for 270 HNS. 51% of the HNS well shows rise and fall in the remaining 49 % of HNS. Maximum part (46% of total area) of the district shows water level rise in the range of 0 to 2m, covering mainly southern part of the state. Water level rise in the range of 2 – 4 m has been observed in 6% NHS which covers only 4% area of the state including very small part of Khunti, Hazaribagh, Chatra, Garhwa, Palamu, Gumla, Latehar and Giridih. Rise >4m has been observed in only 3 NHS wells located in Palamu, Hazaribagh, Chatra district.

The fall in the range of 0-2 m has been shown by 50% HNS. The fall of water level ranged from 0 to 2 m covers 39% area of the State covers the major and adjoining part of Sahebganj, Pakur, Dumka, Deoghar, Dhanbad, Ramgarh, Ranchi, Latehar district and as patches at many locations. Fall within 2 to 4 m observed in very small parts of Chatra, Ranchi and Lohardaga distric and many other small patches. Only 11 well located at Giridih, Jamtara, Koderma, E Singhbhum has shown water level fall >4m. (Fig. 17, Table 18.)

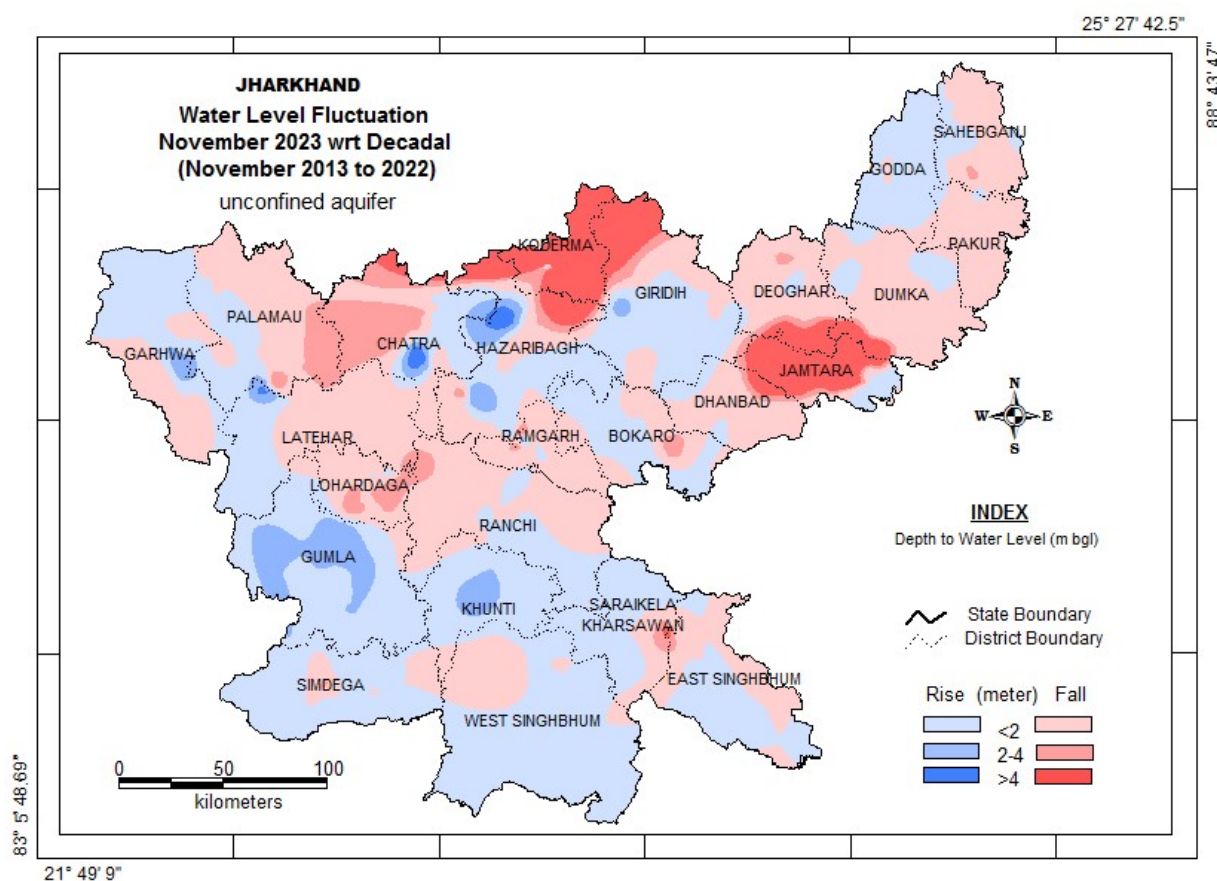


Fig. 17 Fluctuation in water level between Nov. (mean) and Nov. 2023

Table – 18 District-wise categorization of fluctuation and their frequency of water levels of HNS of Nov. 2023 w.r.t. Nov. mean (2013-2022) for Jharkhand

SN	District	No. of HNS	Range of fluctuation (m)				No. of Wells / Percentage showing fluctuation												Total	
			Rise		Fall		Rise						Fall							
			Min.	Max.	Min.	Max.	<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%	Rise	Fall
1	Bokaro	10	0.09	0.77	0.25	1.9	5	50	0	0	0	0	5	50	0	0	0	0	5	5
2	Chatra	6	0.73	4.43	0.29	3.88	3	50	0	0	1	17	1	17	1	17	0	0	4	2
3	Devghar	8	0.51	0.51	0.24	2.62	1	13	0	0	0	0	6	75	1	13	0	0	1	7
4	Dhanbad	8	0.51	0.51	0.21	1.78	1	13	0	0	0	0	7	88	0	0	0	0	1	7
5	Dumka	14	0.12	1.78	0.12	1.52	3	21	0	0	0	0	11	79	0	0	0	0	3	11
6	Garhwa	6	0.43	3.06	0.46	0.72	3	50	1	17	0	0	2	33	0	0	0	0	4	2
7	Giridih	14	0.01	2.24	0.27	5.62	7	50	1	7	0	0	4	29	1	7	1	7	8	6
8	Godda	12	0.16	1.89	0.54	0.74	10	83	0	0	0	0	2	17	0	0	0	0	10	2
9	Gumla	14	0.53	3.4	0.11	3.02	6	43	4	29	0	0	3	21	1	7	0	0	10	4
10	Hazaribag	12	0.2	5.23	0.15	2.61	5	42	1	8	1	8	4	33	1	8	0	0	7	5
11	Jamtara	9	0.85	0.85	0.08	19.55	1	11	0	0	0	0	2	22	0	0	6	67	1	8
12	Khunti	9	0.34	1.12	0.02	0.45	5	56	0	0	0	0	4	44	0	0	0	0	5	4
13	Koderma	5	1.42	1.42	2.68	19.1	1	20	0	0	0	0	0	0	1	20	3	60	1	4
14	Latehar	6	0.01	2.71	0.63	0.63	3	50	2	33	0	0	1	17	0	0	0	0	5	1
15	Lohardaga	11	0.04	0.63	0.37	3.82	3	27	0	0	0	0	5	46	3	27	0	0	3	8
16	Pakur	7	0.35	0.35	0.25	1.66	1	14	0	0	0	0	6	86	0	0	0	0	1	6
17	Palamau	10	0.05	5.34	0.71	2.72	4	40	2	20	1	10	2	20	1	10	0	0	7	3
18	Paschim Singbhum	14	0.12	1.96	0.17	0.33	11	79	0	0	0	0	3	21	0	0	0	0	11	3
19	Purba Singbhum	11	0.13	2.76	0.27	4.64	6	55	1	9	0	0	3	27	0	0	1	9	7	4
20	Ramgarh	13	0.04	1.21	0.34	3.83	3	23	0	0	0	0	8	62	2	15	0	0	3	10
21	Ranchi	36	0.11	2.31	0.08	2.12	15	42	1	3	0	0	18	50	2	6	0	0	16	20
22	Sahebganj	13	0.02	2.23	0.21	1.63	4	31	1	8	0	0	8	62	0	0	0	0	5	8
23	Saraikela	8	0.2	3.53			6	75	1	13	0	0	1	13	0	0	0	0	7	1
24	Simdega	14	0.13	3.58	0.12	0.88	10	71	1	7	0	0	3	21	0	0	0	0	11	3
Total		270					117	43	16	6	3	1	109	40	14	5	11	4	136	134

3.4.4 Decadal Mean of January 2024 to January 2014-2023

Fluctuation in water level of January 2024 with respect to decadal mean of January has been analysed for 222 HNS. 52% of the HNS well shows fall and remaining 48% shows rise in water level. Maximum part (48% of total area) of the district shows water level fall in the range of 0 to 2m, covering mainly western, north eastern and some southern part of the state. Water level rise in the range of 2 – 4 m has covered 46% area of the state which covers major part of Ranchi, Khunti, W Singhbhum, Bokaro, Gumla, Simdega, Palamu, Giridih and Koderma district and some other parts of the state. 2 to 4 m rise and fall has been observed in only 3% (only in 10 NHS wells) and 7% (only in 15 NHS wells) of the area of the state respectively. 2 to 4 m rise observed in parts Saraikela Kharsawan, W Singhbhum, Giridih, Hazaribagh district and other small patches area. 2 to 4 m fall has been observed in small parts of Chatra, Latehar, Lohardaga, Garhwa, E & W Singhbhum, Saraikela, Hazaribagh and Giridih district. >4 m rise shown in only 2 wells located at Hazaribagh and Jmatara district, whereas > 4 m fall shown in only 4 wells located at Saraikela, W Singhbhum, Palamu and Giridih district. **(Fig. 18, Table 19)**

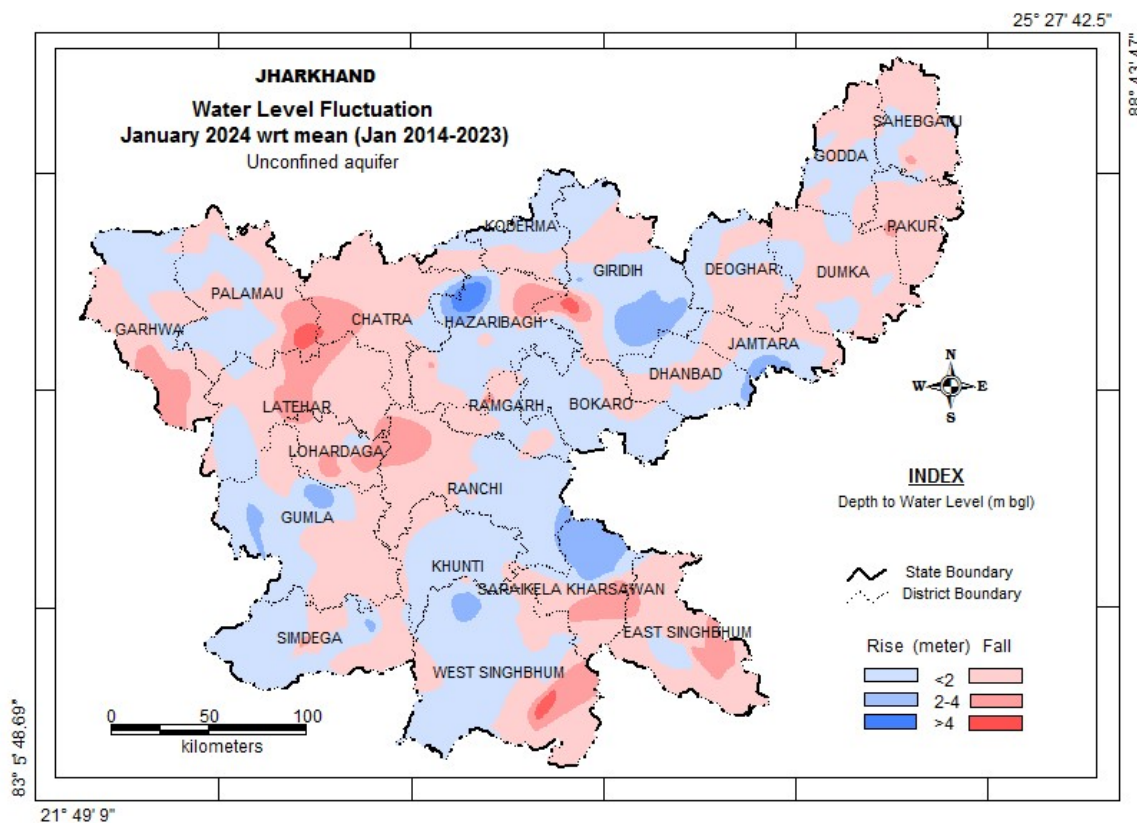


Fig. 18 Fluctuation in water level between Jan. (mean) and Jan. 2024

Table-19 District-wise categorization of fluctuation and their frequency of water levels of HNS of Jan. 2024 w.r.t. Jan. mean (2014-2023) for Jharkhand

SN	District	No. of HNS	Range of fluctuation (m)				No. of Wells / Percentage showing fluctuation												Total	
			Rise		Fall		Rise						Fall							
			Min.	Max.	Min.	Max.	<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%	Rise	Fall
1	Bokaro	8	0.07	1.86	0.33	1.13	6	75	0	0	0	0	2	25	0	0	0	0	6	2
2	Chatra	5	0.11	0.64	0.63	1.02	3	60	0	0	0	0	2	40	0	0	0	0	3	2
3	Devghar	7	0.04	1.17	0.14	1.27	4	57.1	0	0	0	0	3	42.9	0	0	0	0	4	3
4	Dhanbad	8	0.16	0.93	0.26	0.28	6	75	0	0	0	0	2	25	0	0	0	0	6	2
5	Dumka	14	0.08	1	0.31	1.49	5	35.7	0	0	0	0	9	64.3	0	0	0	0	5	9
6	Garhwa	5	0.41	2.1	1.26	2.57	2	40	1	20	0	0	1	20	1	20	0	0	3	2
7	Giridih	14	0.08	3.7	0.27	5.9	5	35.7	5	35.7	0	0	2	14.3	1	7.1	1	7.1	10	4
8	Godda	7	0.09	0.47	0.1	1.86	4	57.1	0	0	0	0	3	42.9	0	0	0	0	4	3
9	Gumla	15	0.03	3.72	0.15	3.19	4	26.7	2	13.3	0	0	8	53.3	1	6.7	0	0	6	9
10	Hazaribag	14	0.14	6.04	0.15	3.21	7	50	0	0	1	7.1	4	28.6	2	14.3	0	0	8	6
11	Jamtara	5	0.01	4.68			4	80	0	0	1	20	0	0	0	0	0	0	5	0
12	Khunti	9	0.12	2.34	0.38	0.89	5	55.6	1	11.1	0	0	3	33.3	0	0	0	0	6	3
13	Koderma	5	0.89	0.89	0.39	1.68	1	20	0	0	0	0	4	80	0	0	0	0	1	4
14	Latehar	6	0.07	1.1	0.46	2.24	3	50	0	0	0	0	2	33.3	1	16.7	0	0	3	3
15	Lohardaga	10	0.67	0.93	0.19	3.58	2	20	0	0	0	0	4	40	4	40	0	0	2	8
16	Pakur	5	0.87	0.87	0.08	2.36	1	20	0	0	0	0	3	60	1	20	0	0	1	4
17	Palamau	6	0.09	1.16	0.22	4.92	2	33.3	0	0	0	0	3	50	0	0	1	16.7	2	4
18	W Singbhum	14	0.6	1.23	0.31	5.13	5	35.7	0	0	0	0	8	57.1	0	0	1	7.1	5	9
19	E Singbhum	6	0.48	0.86	1.14	3.09	2	33.3	0	0	0	0	2	33.3	2	33.3	0	0	2	4
20	Ramgarh	9	1.04	1.17	0.15	1.16	3	33.3	0	0	0	0	6	66.7	0	0	0	0	3	6
21	Ranchi	24	0.02	1.75	0.02	2.36	12	50	0	0	0	0	11	45.8	1	4.2	0	0	12	12
22	Sahibgani	10	0.68	1.9	0.24	1.72	2	20	0	0	0	0	8	80	0	0	0	0	2	8
23	Saraikela	5	3.91	3.91	0.04	2.67	0	0	1	20	0	0	2	40	1	20	1	20	1	4
24	Simdega	11	0.09	0.99	0.09	1.44	7	63.6	0	0	0	0	4	36.4	0	0	0	0	7	4
Total		222	0.01	6.04	0.02	5.9	95	42.8	10	4.5	2	0.9	96	43.2	15	6.8	4	1.8	107	115

4. GROUND WATER SCENARIO CONFINED AQUIEFR

4.1 DEPTH TO WATER LEVEL

4.1.1 May 2023

During Pre-Monsoon period (May 2023), 93 bore wells were monitored. The Minimum depth to water level is 3.62 m bgl has been observed at East Singhbhum district, and maximum is 36.34 m bgl at Ranchi district. The depth to water level rests in range of 5 – 10 m bgl in 46% of the area of Jharkhand State, which covers almost entire part of Giridih, Deoghar, Jamtara, Godda, Chatra, Garhwa, Khunti and Saraikela Kharsawan district and some parts of Palamu, Hazaribagh, Gumla, Simdega W Singhbhum, Ramgarh, Dhanbad and Sahebganj district and some other parts of the state. The depth to water level rests in the range of 10-20 m bgl covers almost equal part (44%) of the sate. Water level in that range covers the major part of Ranchi, Bokaro, Dhanbad, Gumla, Simdega, Palamu, Dumka, Pakur and Sahebganj district and some other parts of the state. Water level within the range >20 m bgl and 2 to 5 m bgl covers only 6% (11 nos of well) and 4% (6 nos of well) of area of the state respectively. Water level within range 5 to 10 m bgl reflects in very small part of Gumla, East Singhbhum and Deoghar district while water level range >20 m bgl reflects in parts of West Singhbhum, Simdega, Gumla, Latehar, Bokaro, Dhanbad, Dumka, Pakur, Sahebganj district (**Fig. 19; Table 20**)

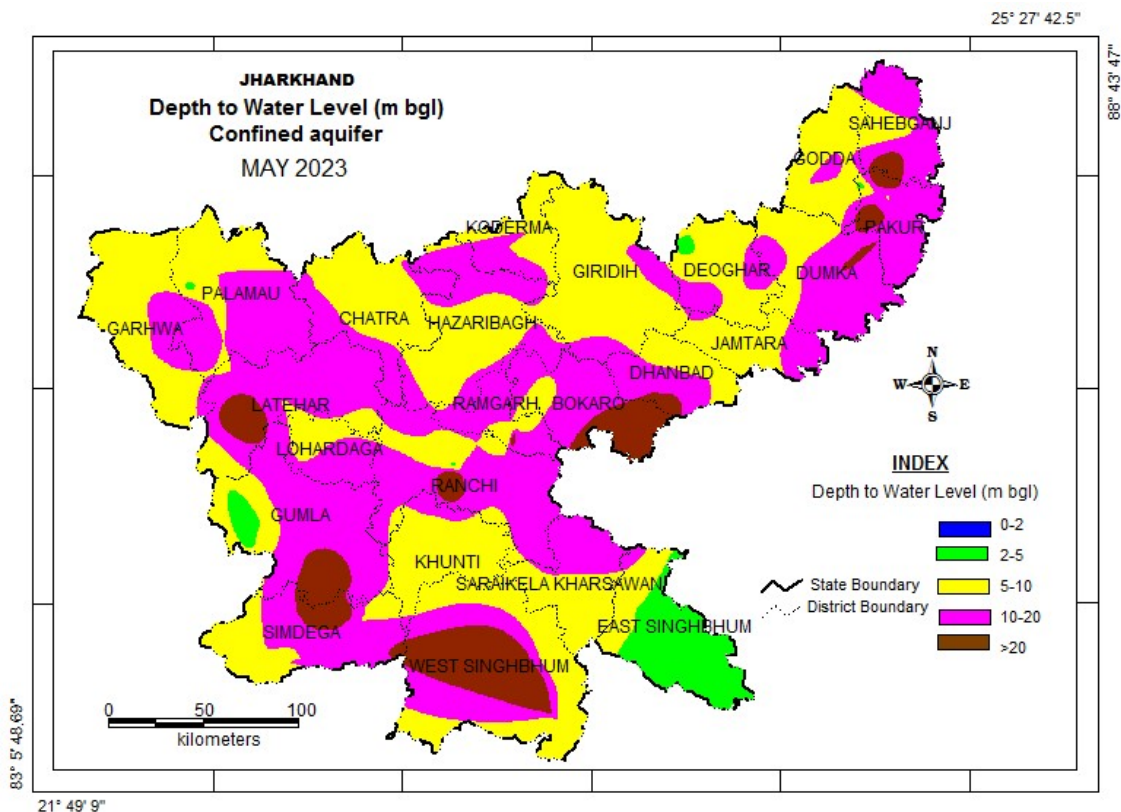


Fig. 19: Depth to water level in May 2023 (confined aquifer)

Table 20 District wise well frequency for different ranges of depth to water level of HNS in **May 2023** in Jharkhand state (Confined Aquifer)

SN	District	No. of wells analysed	Depth to water level (m bgl)		0-2 m		2-5 m		5-10 m		10-20 m		>20 m	
			Min.	Max.	No.	%	No.	%	No.	%	No.	%	No.	%
1	Koderma	3	6.05	11.6	0	0	0	0	1	33.3	2	66.7	0	0
2	Chatra	4	6.9	14.15	0	0	0	0	3	75	1	25	0	0
3	Devghar	5	3.66	17.66	0	0	1	20	3	60	1	20	0	0
4	Dhanbad	4	6.03	14.4	0	0	0	0	3	75	1	25	0	0
5	Dumka	5	5.25	21.94	0	0	0	0	2	40	2	40	1	20
6	Garhwa	5	7.65	15.8	0	0	0	0	4	80	1	20	0	0
7	Giridih	4	8.03	11.14	0	0	0	0	3	75	1	25	0	0
8	Godda	2	8.98	11.78	0	0	0	0	1	50	1	50	0	0
9	Gumla	3	4.2	22.9	0	0	1	33.3	0	0	0	0	2	66.7
10	Hazaribag	4	7	11.6	0	0	0	0	2	50	2	50	0	0
11	Bokaro	1	29.68	29.68	0	0	0	0	0	0	0	0	1	100
12	Khunti	5	6	7.25	0	0	0	0	5	100	0	0	0	0
13	Simdega	7	7.3	31.2	0	0	0	0	3	42.9	3	42.9	1	14.3
14	Latehar	6	6.4	28.25	0	0	0	0	4	66.7	1	16.7	1	16.7
15	Lohardaga	2	6.45	9.8	0	0	0	0	2	100	0	0	0	0
16	Pakur	4	9.68	32.16	0	0	0	0	1	25	1	25	2	50
17	Palamau	5	4.5	14.85	0	0	1	20	2	40	2	40	0	0
18	Paschim Singbhum	3	6.62	30	0	0	0	0	2	66.7	0	0	1	33.3
19	Purba Singbhum	2	3.62	6.3	0	0	1	50	1	50	0	0	0	0
20	Ramgarh	5	6.8	33.1	0	0	0	0	2	40	2	40	1	20
21	Ranchi	8	4.7	36.34	0	0	1	12.5	1	12.5	5	62.5	1	12.5
22	Sahibgani	3	4.75	14.14	0	0	1	33.3	1	33.3	1	33.3	0	0
23	Saraikela	1	7.98	7.98	0	0	0	0	1	100	0	0	0	0
24	Jamtara	2	7.33	7.57	0	0	0	0	2	100	0	0	0	0
Total		93	3.62	36.34	0	0	6	6	49	53	27	29	11	12

4.1.2 August 2023

During mid-monsoon (August 2023), total 96 bore wells were monitored. The depth to water level has been found to vary between 0.2 m bgl (Gridih district) and 35.8 m bgl (Simdega district). The depth to water level varies in the wide range from < 2 m bgl to >20 m bgl.

The water level within range 5 to 10 m bgl covers maximum area of the state, including major part of Dhanbad, Hazaribagh, Bokaro, Giridih, Koderma, Chatra, Ranchi, Latehar etc district, and some other parts of the state. 38% well shows water level within this range. 33% wells show water level within 2 to 5 m bgl which covers parts of Garhwa, Palamu, Giridih, Deoghar, Jamtara, Khunti, West Singhbhum, Simdega, Gumla and Saraikela Kharsawan district. Water level range within 10 to 20 m bgl covers parts of Palamu, Latehar, Chatra, Hazaribagh, Ramgarh, Simdega, Gumla, Dumka, Pakur and Jmatara districts with some small other part of the state. Water level shallower than 2 m bgl reflects only in 8 nos of wells situated in East and West Singhbhum, Saraikela Kharsawan, Khunti, Gumla and Giridih district. Water level deeper than 20 m shows in 5 bore wells in Dumka and Simdega district. (Fig. 20; Table 21)

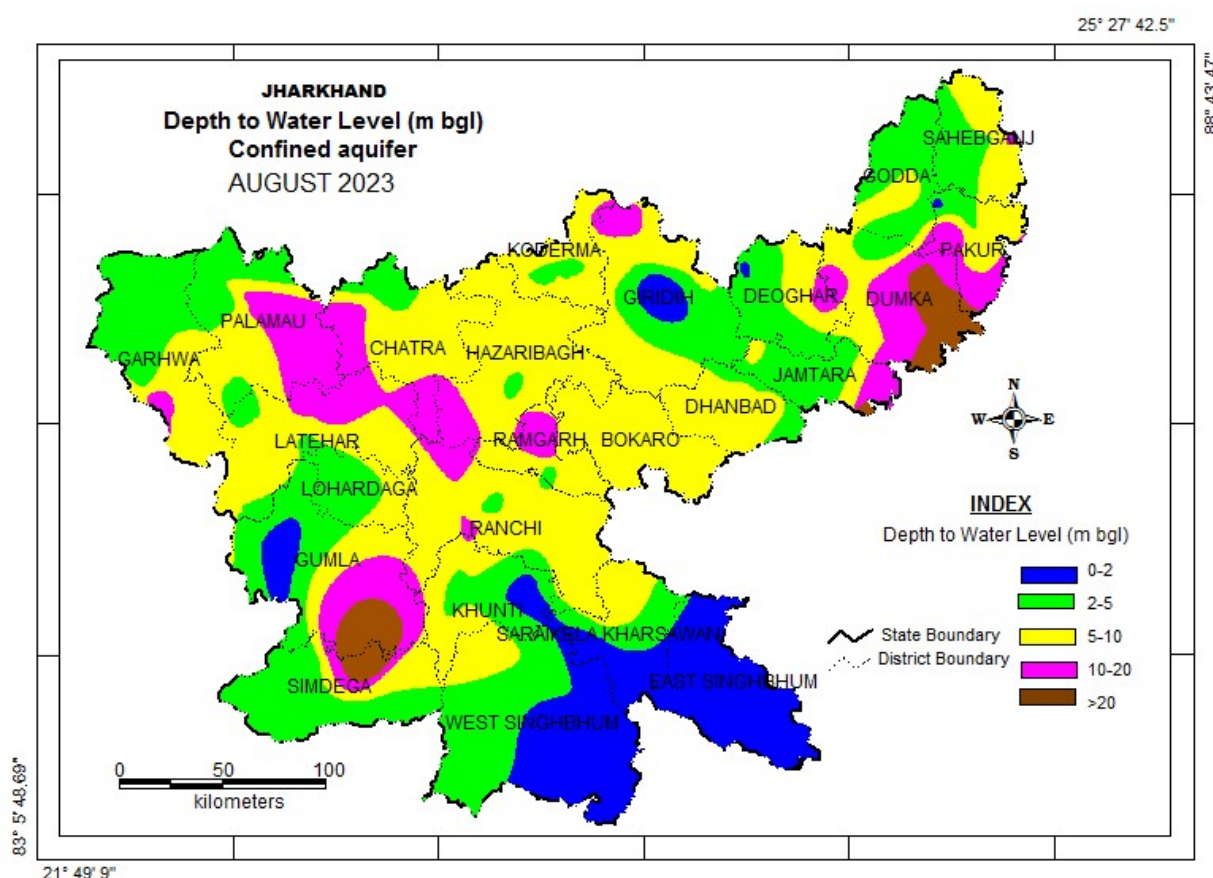


Fig. 20: Depth to water level in August 2023(confined aquifer)

Table 21 District wise well frequency for different ranges of depth to water level of HNS in **August 2023** in Jharkhand state (Confined Aquifer)

SN	District	No. of wells analysed	Depth to water level (m bgl)		0-2 m		2-5 m		5-10 m		10-20 m		>20	
			Min.	Max.	No.	%	No.	%	No.	%	No.	%	No.	%
1	Koderma	3	2.1	8.55	0	0	2	67	1	33	0	0	0	0
2	Devghar	6	1.85	15.55	1	16.7	2	33	2	33	1	17	0	0
3	Dhanbad	4	3.17	8.97	0	0	1	25	3	75	0	0	0	0
4	Dumka	6	2.14	22.6	0	0	1	17	1	17	1	17	3	50
5	Garhwa	4	3.2	11.9	0	0	2	50	0	0	2	50	0	0
6	Giridih	4	0.2	10.15	1	25	0	0	2	50	1	25	0	0
7	Godda	2	2.14	9.23	0	0	1	50	1	50	0	0	0	0
8	Gumla	1	1.12	1.12	1	100	0	0	0	0	0	0	0	0
9	Hazaribag	3	4.81	8.88	0	0	1	33	2	67	0	0	0	0
10	Chatra	4	2.73	13.16	0	0	1	25	1	25	2	50	0	0
11	Khunti	4	1.3	8.07	1	25	2	50	1	25	0	0	0	0
12	Simdega	7	3.72	35.8	0	0	3	50	2	25	0	0	2	25
13	Latehar	6	4.25	12.02	0	0	2	33	3	50	1	17	0	0
14	Lohardaga	1	3.02	3.02	0	0	1	100	0	0	0	0	0	0
15	Pakur	4	3.88	17.53	0	0	2	50	1	25	1	25	0	0
16	Palamau	6	2.3	12.1	0	0	3	50	2	33	1	17	0	0
17	Purba Singbhum	2	0.23	1.05	2	100	0	0	0	0	0	0	0	0
18	Ramgarh	6	3.55	14.76	0	0	1	17	3	50	2	33	0	0
19	Ranchi	14	3.46	10.75	0	0	2	14	10	71	2	14	0	0
20	Sahibgani	3	1.77	10.07	1	33.3	1	33	0	0	1	33	0	0
21	Saraikela	1	1.48	1.48	1	100	0	0	0	0	0	0	0	0
22	Jamtara	5	2.1	9.85	0	0	4	80	1	20	0	0	0	0
Total		96	0.2	35.8	8	8	32	33	36	38	15	16	5	5

4.1.3 November 2023

Total 106 HNS bore wells were analysed during post-monsoon period (November 2023). The minimum and the maximum depth to water levels have been recorded as 0.95 m bgl (E Singhbhum district) and 31.1 m bgl (Dumka district) respectively. In major area of the State (60%) water level rests in range of 5 – 10 m bgl which covers entire part of Sahebganj and Palamu district, major part of Godda, Deoghar, Jamtara, Deoghar, Giridih, Hazaribagh, Chatra, Garhwa, Latehar, Ranchi and W Singhbhum district and some other parts of the state. 20% area of the state shows water level 10-20 m bgl range covering Dumka, Jatar, Bokaro, Ramgarh, Saraikela Kharsawan, Chatra, Giridih, Simdega and W Singhbhum district and other small patch like area. 32 nos well shows depth to water level within the range of 2 to 5 m bgl covering maximum part of E Singhbhum district and parts of W Singhbhum, Saraikela Kharsawan, Khunti, Lohardaga and Garhwa district and very small part of Gumla and deoghar district. Only 6 wells located at Dumka, Bokaro and Giridih district covering only 5% of total area of the state shows water level >20 m bgl (Fig. 21; Table 22).

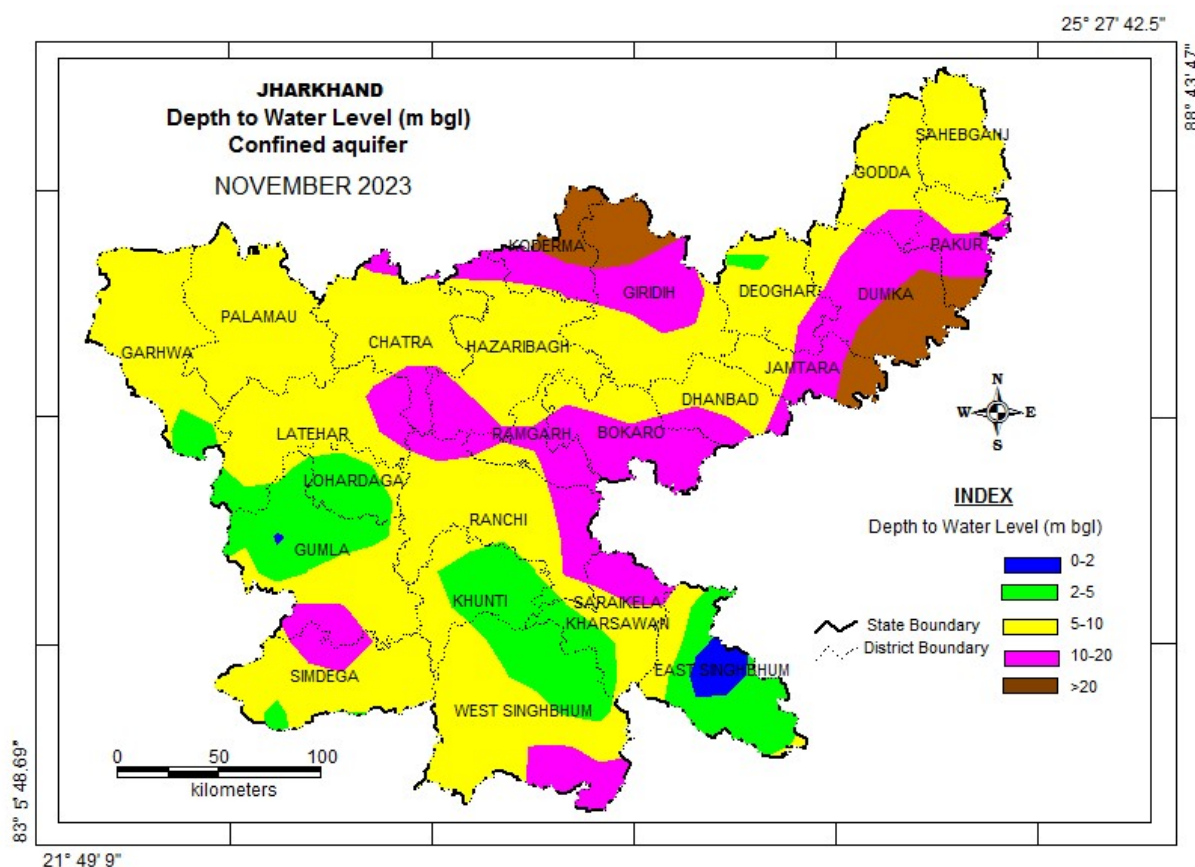


Fig. 21: Depth to water level in November 2023 (confined aquifer)

Table -22 District wise well frequency for different ranges of depth to water level of HNS in November 2023 in Jharkhand state (Confined Aquifer)

S N	District	No. of wells analyse d	Depth to water level (m bgl)		0-2 m		2-5 m		5-10 m		10-20 m		>20	
			Min.	Max .	N o.	%	N o.	%	N o.	%	N o.	%	N o.	%
1	Bokaro	2	16.57	24.53	0	0	0	0	0	0	1	50	1	50
2	Chatra	4	3.84	13.77	0	0	1	25	1	25	2	50	0	0
3	Devghar	6	2.63	16.72	0	0	1	16.7	4	66.7	1	16.7	0	0
4	Dhanbad	4	4.15	7.94	0	0	1	25	3	75	0	0	0	0
5	Dumka	6	3.47	31.1	0	0	1	16.7	1	16.7	1	16.7	3	50
6	Garhwa	7	3.25	16.2	0	0	2	28.6	2	28.6	3	42.9	0	0
7	Giridih	4	3.65	29.27	0	0	1	25	1	25	0	0	2	50
8	Godda	2	3.89	8.37	0	0	1	50	1	50	0	0	0	0
9	Gumla	1	1.5	1.5	1	100	0	0	0	0	0	0	0	0
10	Hazaribag	6	4.83	7.5	0	0	1	16.7	5	83.3	0	0	0	0
11	Jamtara	5	4.16	12.27	0	0	3	60	1	20	1	20	0	0
12	Khunti	4	2.45	7.1	0	0	2	50	2	50	0	0	0	0
13	Koderma	3	3.98	10.18	0	0	1	33.3	1	33.3	1	33.3	0	0
14	Latehar	4	4.83	11.07	0	0	2	50	1	25	1	25	0	0
15	Lohardaga	1	3.4	3.4	0	0	1	100	0	0	0	0	0	0
16	Pakur	4	7.29	19.08	0	0	0	0	3	75	1	25	0	0
17	Palamau	7	3.07	14.47	0	0	4	57.1	2	28.6	1	14.3	0	0
18	Paschim Singbhum	4	2.25	11.4	0	0	3	75	0	0	1	25	0	0
19	Purba Singbhum	3	0.95	16.1	2	66.7	0	0	0	0	1	33.3	0	0
20	Ramgarh	5	4.43	14.85	0	0	1	20	1	20	3	60	0	0
21	Ranchi	15	3.25	10.78	0	0	2	13.3	12	80	1	6.7	0	0
22	Sahibgani	3	4.02	9.97	0	0	2	66.7	1	33.3	0	0	0	0
23	Saraikela	1	2.4	2.4	0	0	1	100	0	0	0	0	0	0
24	Simdega	5	4.73	16.85	0	0	1	20	2	40	2	40	0	0
Total		106	0.95	31.1	3	2.8	32	30.2	44	41.5	21	19.8	6	5.7

4.1.4 January 2024

Total 112 HNS bore wells were analysed during January 2024. The minimum and the maximum depth to water levels have been recorded as 1.95 m bgl (Hazaribagh district) and 44.52 m bgl (Latehar district) respectively. In major area of the State (51%) water level rests in range of 5 – 10 m bgl which covers entire part of Lohardaga, Garhwa and Giridih district and major part of Sahebganj, Deoghar, Dhanbad, Hazaribagh, Ranchi, Chatra, Palamu, Simdega and E Singhbhum district and some other parts of the state. 25% area of the state shows water level 10-20 m bgl range covering major part of Bokaro, Saraikela Kharsawan district, parts of E Singhbhum, Ranchi, Gumla, Simdega, Palamu, Latehar, Giridih, Ramgarh, Jamtara, Dumka, Godda and Pakur district and other small patch like areas. Only 16% area of the state shows water level within range of 2 to 5 m bgl which covers major part of W Singhbhum district and very small parts of Saraikela, E Singhbhum, Khunti, Sahebganj, Godda, Jamtara, Chatra, Palamu and Garhwa district. Only 9 wells show water level deeper than 20 m bgl covering 8% area of the state including parts of Saraikela Kharsawan, Bokaro, Dumka, Pakur, Simdega, Gumla, Latehar district. (Fig. 22; Table 23).

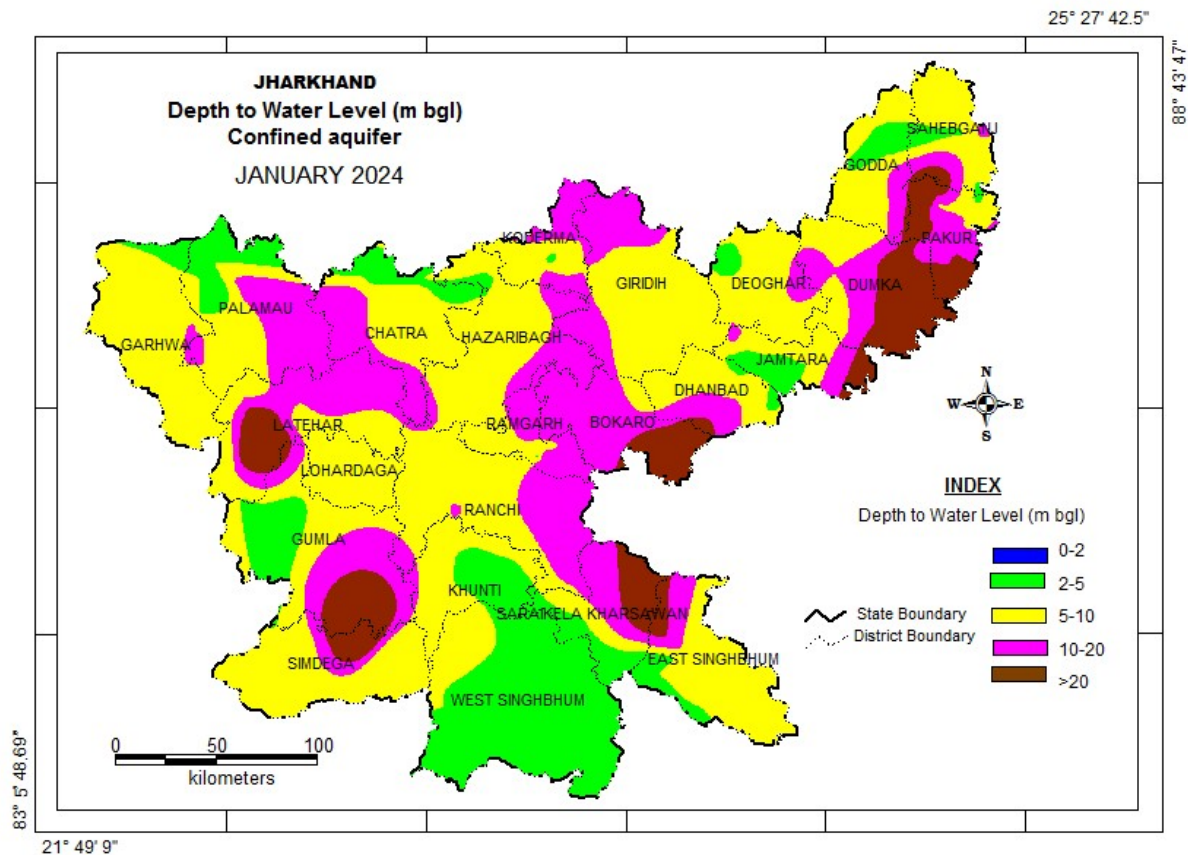


Fig. 22: Depth to water level in January 2024

Table No-23 District wise well frequency for different ranges of depth to water level of HNS in January 2024 in Jharkhand state (Confined Aquifer)

SN	District	No. of wells analysed	Depth to water level (m bgl)		0-2 m		2-5 m		5-10 m		10-20 m		>20	
			Min.	Max.	No.	%	No.	%	No.	%	No.	%	No.	%
1	Bokaro	2	15.8	26.72	0	0	0	0	0	0	1	50	1	50
2	Chatra	4	4.15	13.1	0	0	1	25	1	25	2	50	0	0
3	Devghar	6	2.95	17.87	0	0	1	16.7	4	66.7	1	16.7	0	0
4	Dhanbad	4	4.12	9.94	0	0	1	25	3	75	0	0	0	0
5	Dumka	6	5.38	32.85	0	0	0	0	2	33.3	1	16.7	3	50
6	Garhwa	6	5.65	13	0	0	0	0	5	83.3	1	16.7	0	0
7	Giridih	4	6	12.4	0	0	0	0	2	50	2	50	0	0
8	Godda	2	4.72	8.65	0	0	1	50	1	50	0	0	0	0
9	Gumla	1	2.25	2.25	0	0	1	100	0	0	0	0	0	0
10	Hazaribag	7	1.95	9.55	1	14.3	0	0	6	85.7	0	0	0	0
11	Jamtara	5	4.37	13.03	0	0	1	20	3	60	1	20	0	0
12	Khunti	5	3.9	6.3	0	0	3	60	2	40	0	0	0	0
13	Koderma	5	4.1	10.4	0	0	1	20	3	60	1	20	0	0
14	Latehar	6	5.75	44.52	0	0	0	0	4	66.7	1	16.7	1	16.7
15	Lohardaga	1	5.65	5.65	0	0	0	0	1	100	0	0	0	0
16	Pakur	4	9.85	27.36	0	0	0	0	1	25	1	25	2	50
17	Palamau	7	2.7	12.55	0	0	4	57.1	1	14.3	2	28.6	0	0
18	W Singbhum	3	2.1	2.79	0	0	3	100	0	0	0	0	0	0
19	E Singbhum	2	4.45	5.21	0	0	1	50	1	50	0	0	0	0
20	Ramgarh	5	4.75	16.4	0	0	2	40	1	20	2	40	0	0
21	Ranchi	14	4.95	11.26	0	0	1	7.1	10	71.4	3	21.4	0	0
22	Sahibgani	3	4.62	10.37	0	0	2	66.7	0	0	1	33.3	0	0
23	Saraikela	1	4.82	4.82	0	0	1	100	0	0	0	0	0	0
24	Simdega	9	5.72	38.55	0	0	0	0	7	77.8	0	0	2	22.2
Total		112	1.95	44.52	1	0.9	24	21.4	58	51.8	20	17.9	9	8

4.2 SEASONAL FLUCTUATION

4.2.1 May 2023 to August 2023

Water level fluctuation between May 2023 and August 2023 has been analysed for 82 HNS to study the seasonal fluctuation of depth to water level in confined aquifer of Jharkhand state. The analysis indicates rise in the water level in 74 (90%) HNS whereas the fall is observed only in 8 (10%) HNS. Majority of HNS (42%) have shown the rise of water level in the range of 2 to 4 m constituting 38% of the total area i.e. Hazaribagh, Bokaro, Dhanbad, Palamu, Latehar, Lohardaga, Gumla, East Singhbhum district and some small parts of the state. Water level rise within 2 m has been reflected in major part of Chatra, Ranchi, Gumla district and very small part of Ramgarh, Deoghar, Godda, Giridih, Hazaribagh districts covering 16% of total area of the state. Water level rise more than 4 m has been observed in eastern western corner part and southern part of the state including major part of Saraikela Kharsawan, West Singhbhum, Simdega, Ranchi, Latehar, Palamu, Garhwa, Giridih, Jamtara, Deoghar, Godda, Pakur and Sahebganj districts and some other small parts of the state.

Water level fall has been observed in very small part of the state, including parts of Dumka, Giridih, Koderma, Chatra, Palamu, Garhwa, Gumla, Simdega, Khunti, West Singhbhum, Ranchi and Ramgarh district. (**Fig23; Table 24**).

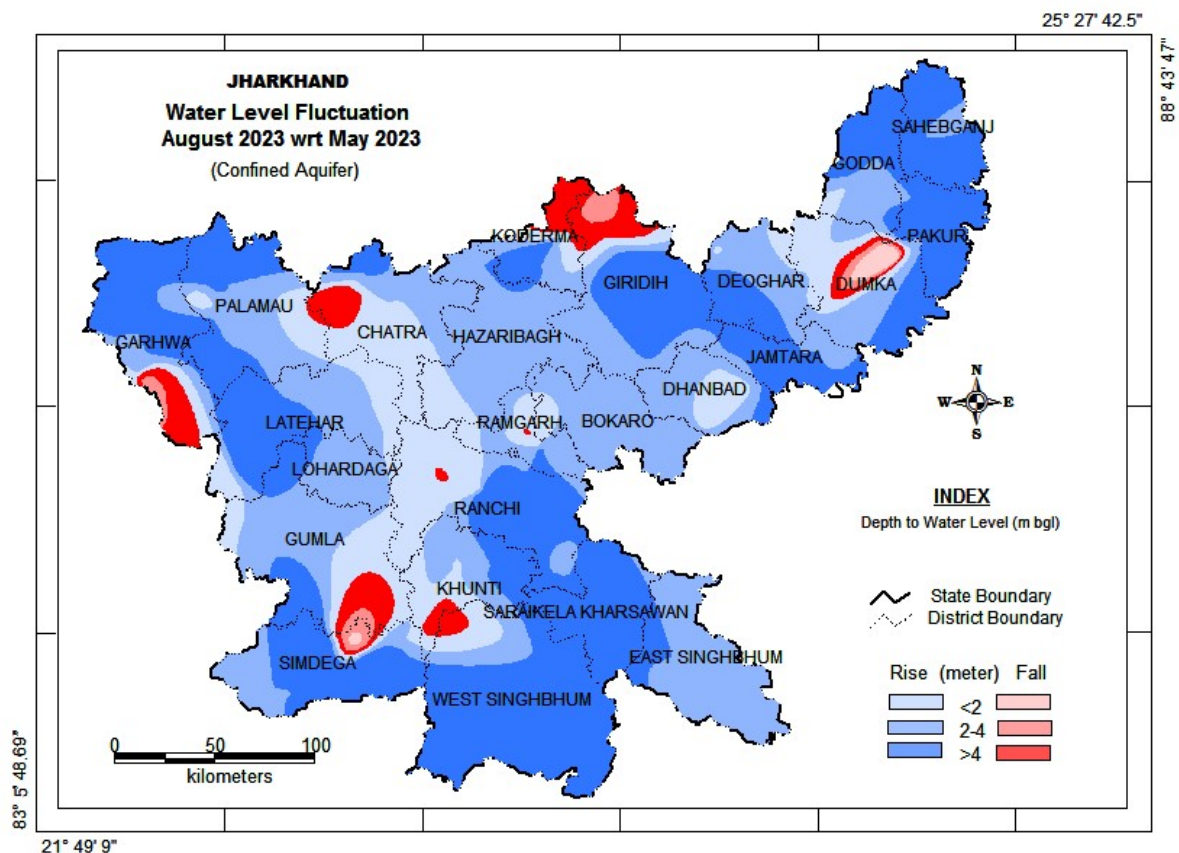


Fig. 23 Water level Fluctuation between May 2023 and August 2023 (confined aquifer)

Table –24 District-wise categorization of frequency and fluctuation water levels of HNS of August. 2023 w.r.t. May 2023 for Jharkhand State-Confined Aquifer

SN	District	No. of HNS	No. of Wells / Percentage showing fluctuation												Total	
			Rise						Fall							
			<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%	Rise	Fall
1	Chatra	4	2	50	0	0	1	25	1	25	0	0	0	0	3	1
2	Devghar	5	2	40	3	60	0	0	0	0	0	0	0	0	5	0
3	Dhanbad	4	2	50	1	25	1	25	0	0	0	0	0	0	4	0
4	Dumka	5	2	40	2	40	0	0	0	0	0	0	1	20	4	1
5	Garhwa	4	0	0	2	50	1	25	0	0	1	25	0	0	3	1
6	Giridih	4	0	0	1	25	2	50	0	0	1	25	0	0	3	1
7	Godda	2	0	0	1	50	1	50	0	0	0	0	0	0	2	0
8	Gumla	1	0	0	1	100	0	0	0	0	0	0	0	0	1	0
9	Hazaribag	3	0	0	3	100	0	0	0	0	0	0	0	0	3	0
10	Jamtara	2	0	0	1	50	1	50	0	0	0	0	0	0	2	0
11	Khunti	4	0	0	2	50	1	25	1	25	0	0	0	0	3	1
12	Koderma	3	0	0	2	66.7	1	33	0	0	0	0	0	0	3	0
13	Latehar	6	2	33	1	16.7	3	50	0	0	0	0	0	0	6	0
14	Lohardaga	1	0	0	1	100	0	0	0	0	0	0	0	0	1	0
15	Pakur	4	0	0	0	0	4	100	0	0	0	0	0	0	4	0
16	Palamau	5	1	20	2	40	2	40	0	0	0	0	0	0	5	0
17	Purba Singbhum	2	0	0	1	50	1	50	0	0	0	0	0	0	2	0
18	Ramgarh	5	0	0	3	60	1	20	1	20	0	0	0	0	4	1
19	Ranchi	7	1	14	3	42.9	2	29	1	14	0	0	0	0	6	1
20	Sahibgani	3	0	0	2	66.7	1	33	0	0	0	0	0	0	3	0
21	Saraikela	1	0	0	0	0	1	100	0	0	0	0	0	0	1	0
22	Simdega	7	0	0	2	28.6	4	57	0	0	0	0	1	14	6	1
Total		82	12	15	34	41.5	28	34	4	4.9	2	2.4	2	2.4	74	8

4.2.2 May 2023 to November 2023

Water level fluctuations in confined aquifer between May 2023 and November 2023 has been analysed for 81 HNS. The rise of water level observed in 73 (90%) HNS whereas, only 8 (10%) HNS have shown fall in water level. The majority of HNS (26 well, 36%) have shown rise in the range of 2-4 m and >4m, whereas 21 NHS have shown rise in water level upto 2m. 41% area shows rise in water level 2-4 m bgl, covering maximum part of Sahibganj, Godda, Pakur, Koderma, Ranchi, Saraikela Kharsawan, Simdega, Gumla and Latehar district and some other small parts of the state. Water level rise >4m covers 35% of area of the state including maximum part of Hazaribagh, Lohardaga, Khunti and Deoghar district and other parts. Water level rise upto 2 m has shown in major part of Chatra and Dumka district and parts of W Singhbhum, Khunti, Palamu, Jamtara and some other small parts.

Water Level fall shows only in 4 district Chatra, Palamu, Garhwa and W Singhbhum district. Water level fall >4m shown only in 5 wells, located at W Singhbhum, Garhwa and Giridih district. Only 5% area shows fall of water level (**Fig 24, Table 25**).

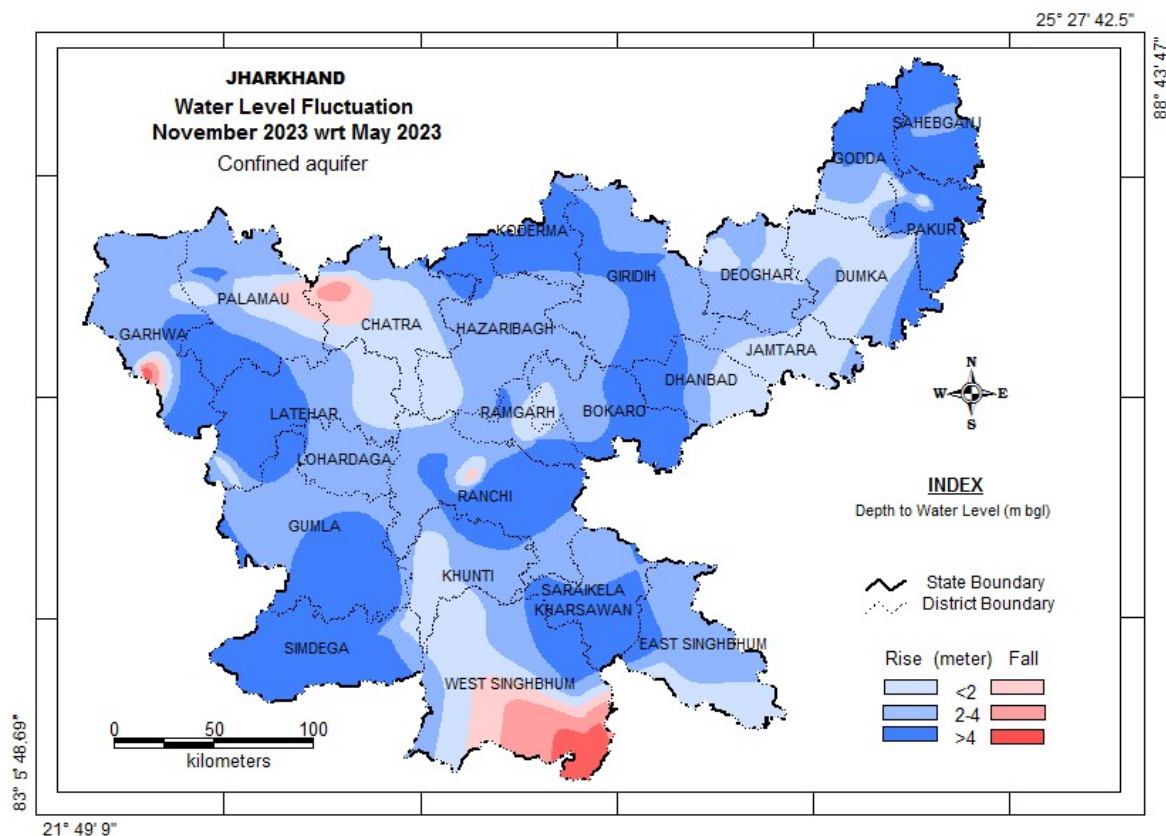


Fig. 24 Fluctuation in ground water level between May 2023 and Nov.2023 (*confined aquifer*).

Table –25 District-wise categorization of frequency and fluctuation water levels of HNS of November 2023 w.r.t. May. 2023 for Jharkhand State (confined aquifer)																
SN	District	No. of HNS	No. of Wells / Percentage showing fluctuation												Total	
			Fall						Rise							
			<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%	Fall	Rise
1	Bokaro	1	0	0	0	0	0	0	0	0	0	0	1	100	0	1
2	Chatra	4	0	0	1	25	0	0	2	50	1	25	0	0	1	3
3	Devghar	5	0	0	0	0	0	0	3	60	2	40	0	0	0	5
4	Dhanbad	4	0	0	0	0	0	0	2	50	1	25	1	25	0	4
5	Dumka	5	0	0	0	0	1	20	4	80	0	0	0	0	1	4
6	Garhwa	5	1	20	0	0	1	20	0	0	2	40	1	20	2	3
7	Giridih	4	0	0	0	0	2	50	0	0	1	25	1	25	2	2
8	Godda	2	0	0	0	0	0	0	0	0	1	50	1	50	0	2
9	Gumla	1	0	0	0	0	0	0	0	0	1	100	0	0	0	1
10	Hazaribag	3	0	0	0	0	0	0	0	0	2	66.7	1	33.3	0	3
11	Jamtara	2	0	0	0	0	0	0	0	0	2	100	0	0	0	2
12	Khunti	4	0	0	0	0	0	0	2	50	2	50	0	0	0	4
13	Koderma	3	0	0	0	0	0	0	1	33.3	2	66.7	0	0	0	3
14	Latehar	4	0	0	0	0	0	0	1	25	1	25	2	50	0	4
15	Lohardaga	1	0	0	0	0	0	0	0	0	1	100	0	0	0	1
16	Pakur	4	0	0	0	0	0	0	1	25	0	0	3	75	0	4
17	Palamau	5	0	0	0	0	0	0	2	40	1	20	2	40	0	5
18	Paschim Singbhum	2	0	0	0	0	1	50	0	0	0	0	1	50	1	1
19	Purba Singbhum	2	0	0	0	0	0	0	0	0	1	50	1	50	0	2
20	Ramgarh	5	0	0	0	0	0	0	2	40	1	20	2	40	0	5
21	Ranchi	6	1	16.7	0	0	0	0	0	0	2	33.3	3	50	1	5
22	Sahibgani	3	0	0	0	0	0	0	1	33.3	1	33.3	1	33.3	0	3
23	Saraikela	1	0	0	0	0	0	0	0	0	0	0	1	100	0	1
24	Simdega	5	0	0	0	0	0	0	0	0	1	20	4	80	0	5
	Total	81	2	2.5	1	1.2	5	6.2	21	25.9	26	32.1	26	32.1	8	73

4.2.3 May 2023 to January 2024

Water level fluctuation between May 2023 and January 2024 has been analysed for 79 HNS which indicates rise in water level in about 84 % (66 wells) of the HNS. The rise in water level in the range of 0 – 2 m in 39 % of the HNS covering Lohardaga, Chatra, Deogarh, Dhanbad and in small patches of the district. 2 – 4 m in 32% of the HNS in Giridih, Khunti, Latehar, Ranchi and >4 m only in 13% HNS Palamu, Dhanbad, Pakur districts.

The fall in water level has been observed in 13 wells (16%), 10 % well shows fall less than 2 m and only 1 wells located in in Chatra district shows fall in water level 2-4 m. The range of 0-2 m fall is observed as small patches in Dumka, Giridih, Pakur, East Singhbhum and Ranchi districts, covering 10% of the area of the state. Only 4 well has shown fall of water level >4 m (Fig. 25, Table 26).

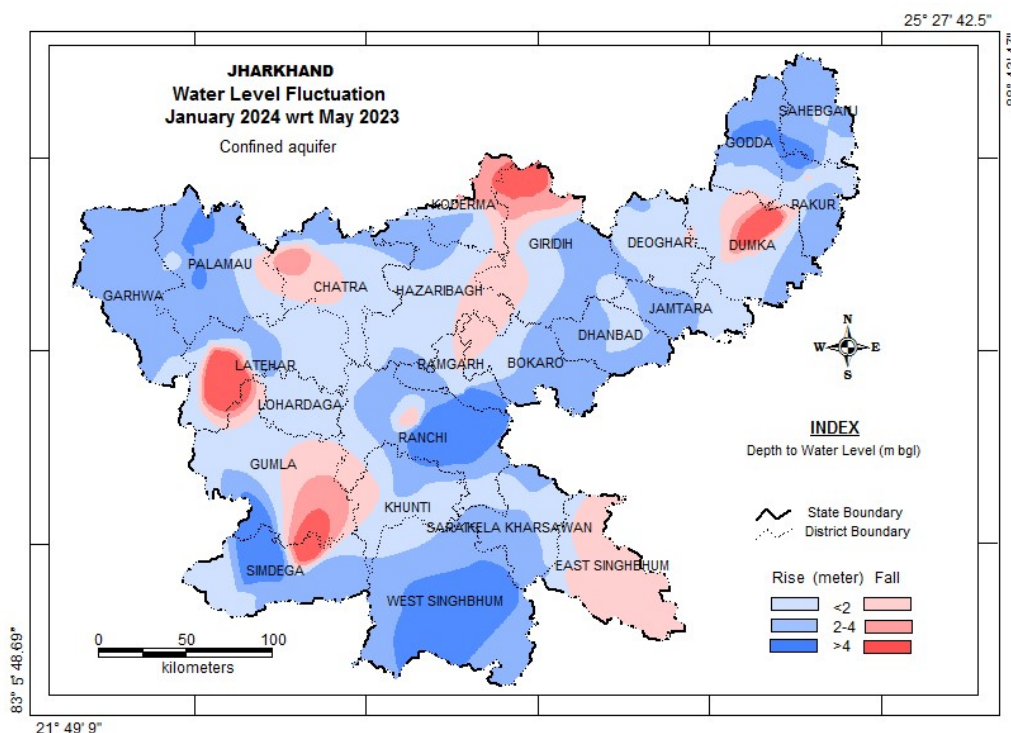


Fig. 25: Fluctuation in ground water level between May 2023 and Jan. 2024.

Table –26 District-wise categorization of frequency and fluctuation water levels of HNS of **Jan 2024 w.r.t. May 2023** for Jharkhand State (confined aquifer)

SN	District	No. of HNS	No. of Wells / Percentage showing fluctuation												Total	
			Fall						Rise							
			<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%	Fall	Rise
1	Bokaro	1	0	0	0	0	0	0	0	0	1	100	0	0	0	1
2	Chatra	4	0	0	1	25	0	0	2	50	1	25	0	0	1	3
3	Devghar	5	1	20	0	0	0	0	3	60	1	20	0	0	1	4
4	Dhanbad	4	0	0	0	0	0	0	2	50	1	25	1	25	0	4
5	Dumka	5	3	60	0	0	1	20	1	20	0	0	0	0	4	1
6	Garhwa	3	0	0	0	0	0	0	3	100	0	0	0	0	0	3
7	Giridih	4	1	25	0	0	1	25	0	0	2	50	0	0	2	2
8	Godda	2	0	0	0	0	0	0	0	0	1	50	1	50	0	2
9	Gumla	1	0	0	0	0	0	0	1	100	0	0	0	0	0	1
10	Jamtara	2	0	0	0	0	0	0	1	50	1	50	0	0	0	2
11	Khunti	5	0	0	0	0	0	0	3	60	2	40	0	0	0	5
12	Koderma	3	0	0	0	0	0	0	2	66.7	1	33.3	0	0	0	3
13	Latehar	6	0	0	0	0	1	16.7	2	33.3	3	50	0	0	1	5
14	Lohardaga	1	0	0	0	0	0	0	1	100	0	0	0	0	0	1
15	Pakur	4	1	25	0	0	0	0	1	25	1	25	1	25	1	3
16	Palamau	5	0	0	0	0	0	0	1	20	2	40	2	40	0	5
17	W Singbhum	1	0	0	0	0	0	0	0	0	0	0	1	100	0	1
18	E Singbhum	2	1	50	0	0	0	0	1	50	0	0	0	0	1	1
19	Ramgarh	4	0	0	0	0	0	0	2	50	0	0	2	50	0	4
20	Ranchi	6	1	16.7	0	0	0	0	1	16.7	3	50	1	16.7	1	5
21	Sahibgani	3	0	0	0	0	0	0	2	66.7	1	33.3	0	0	0	3
22	Saraikela	1	0	0	0	0	0	0	0	0	1	100	0	0	0	1
23	Simdega	7	0	0	0	0	1	14.3	2	28.6	3	42.9	1	14.3	1	6
Total		79	8	10.1	1	1.3	4	5.1	31	39.2	25	31.6	10	12.7	13	66

4.3.0 ANNUAL FLUCTUATION

4.3.1 August 2022 to August 2023

Water level fluctuation between August 2022 and August 2023 for confined aquifer has been analysed for 81 NHS bore wells, which indicates that the rise of water level is in about 54% of the HNS and fall in about 46% of the HNS. Rise in water level 0 to 2m has been observed in major part of the state covering 42% of total area including the whole East Singhbhum, Saraikela Kharsawan district, major part of West Singhbhum, Latehar, Giridih, Jamtara, Deoghar and other small part of the state. Rise in water level 2 to 4 m reflects in mainly northern part covering major area of Garhwa, Sahibganj and Godda district and small parts of Palamu, Hazaribagh, Koderma, Giridih, Deoghar Godda, Sahubganj and Latehar district. Water level rise >4 m observed in major part of Palamu and Giridih district and small part of Hazaribagh, Koderma, Deoghar, Godda, Latehar and Garhwa district. 0 to 2 m fall of water level covers 21% of the total area of the state including parts of Dumka, Pakur, Dhanbad, Bokaro, Hazaribagh and Khunti district and some other small parts of the state, while water level fall within the range 2 to 4 m covers maximum area of Chatra and Ramgarh district with some other small areas constituting only 9% of the total area of the state. Water level fall >4m observed in only 7 wells and covers part of Ranchi, Gumla and Simdega district. (Fig.26, Table 27).

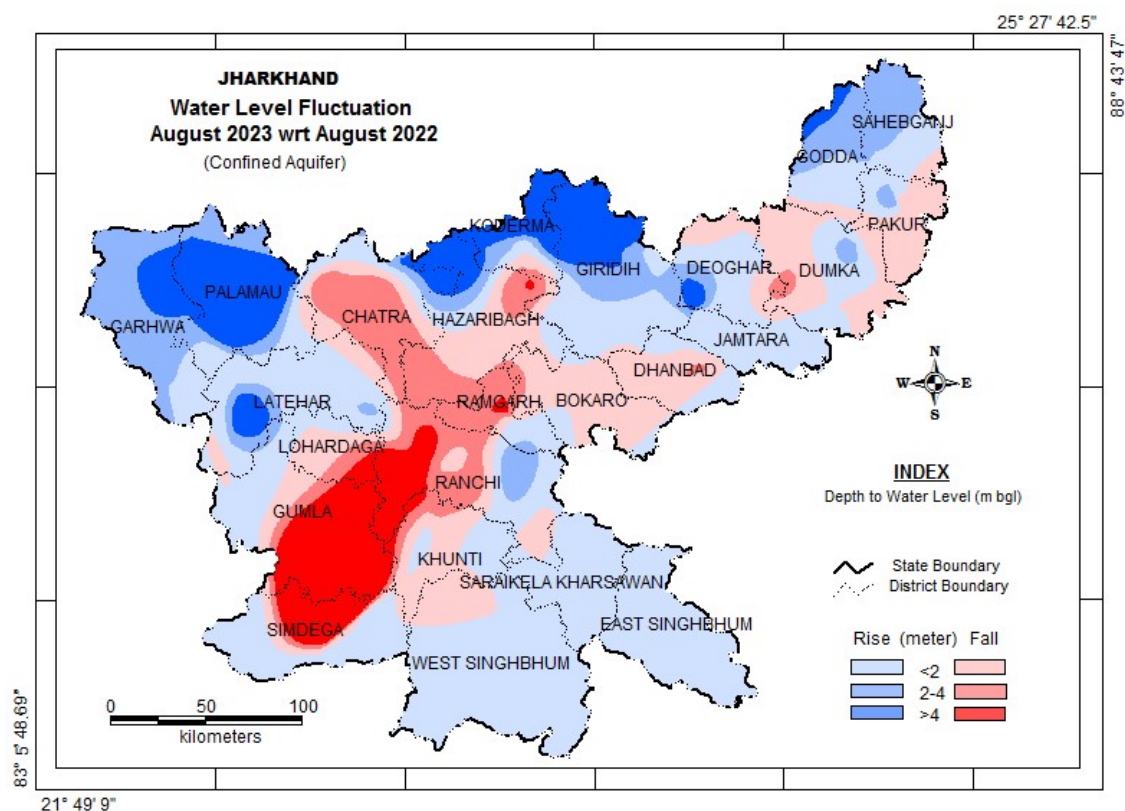


Fig. 26 Fluctuation in ground water level between Aug. 2022 and Aug. 2023 (confined aquifer)

Table –27 District-wise categorization of frequency and fluctuation water levels of HNS of August. 2023 w.r.t. August 2022 for Jharkhand State-Confined Aquifer

SN	District	No. of HNS	No. of Wells / Percentage showing fluctuation												Total	
			Rise						Fall							
			<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%	Rise	Fall
1	Chatra	4	1	25	0	0	0	0	0	0	3	75	0	0	1	3
2	Devghar	6	1	17	0	0	2	33	2	33	1	17	0	0	3	3
3	Dhanbad	3	1	33	0	0	0	0	1	33	1	33	0	0	1	2
4	Dumka	6	0	0	1	17	0	0	5	83	0	0	0	0	1	5
5	Garhwa	2	0	0	2	100	0	0	0	0	0	0	0	0	2	0
6	Giridih	4	2	50	0	0	2	50	0	0	0	0	0	0	4	0
7	Godda	2	1	50	1	50	0	0	0	0	0	0	0	0	2	0
8	Gumla	1	1	100	0	0	0	0	0	0	0	0	0	0	1	0
9	Hazaribag	3	0	0	0	0	1	33	1	33	0	0	1	33	1	2
10	Jamtara	4	4	100	0	0	0	0	0	0	0	0	0	0	4	0
11	Khunti	4	2	50	0	0	0	0	1	25	1	25	0	0	2	2
12	Koderma	3	1	33	1	33	0	0	1	33	0	0	0	0	2	1
13	Latehar	6	3	50	1	17	1	17	1	17	0	0	0	0	5	1
14	Lohardaga	1	0	0	0	0	0	0	1	100	0	0	0	0	0	1
15	Pakur	3	1	33	1	33	0	0	1	33	0	0	0	0	2	1
16	Palamau	6	0	0	2	33	4	67	0	0	0	0	0	0	6	0
17	Ramgarh	3	1	33	0	0	0	0	1	33	0	0	1	33	1	2
18	Ranchi	14	0	0	2	14	0	0	3	21	6	43	3	21	2	12
19	Saraikela	1	1	100	0	0	0	0	0	0	0	0	0	0	1	0
20	Simdega	5	3	60	0	0	0	0	0	0	0	0	2	40	3	2
Total		81	23	28	11	14	10	12	18	22	12	15	7	8.6	44	37

4.3.2 November 2022 to November 2023

Water level fluctuation between November 2023 and November 2022 has been analysed for 77 HNS, which indicates that there is a fall of water level in about 62% of the HNS and rise in only 19% of the HNS. The fall of water level of 0-2 m range shows in 44% NHS wells covering 31% area covers major parts W Singhbhum, Saraikela, Ranchi, Gumla, Hazaribagh and Dumka district, some parts of Palamu, Jamtara, Deoghar, Jamtara district and many other small parts. Fall of water level in the range of 2-4 m and >4 m has been observed in 7 (each) wells only which mainly covers the area of Dumka, jamtara, Giridih, Koderma, Chatra, Hazaribagh, Bokaro and Latehar district.

Total 45% area of the State shows rise in water level. 32% of area including major parts of Sahebganj, Godda, W Singhbhum, Khunti, Lohardaga and Garhwa district, some part of Deoghar, Dhanbad, Gumla, Palamu district and some other small parts of the state is covered by the range of 0-2m rise in water level. Only 6 and 3 NHS wells has shown rise in water level in range of 2-4 m and >4 m respectively. 2-4 m rise of water level shown in parts of W Singhbhum, Simdega, Khunti, Latehar and Garhwa district, on the other hand rise >4m has shown in very small part of Sahebganj, Simdega, Palamu and Garhwa district. **(Fig.27, Table 28).**

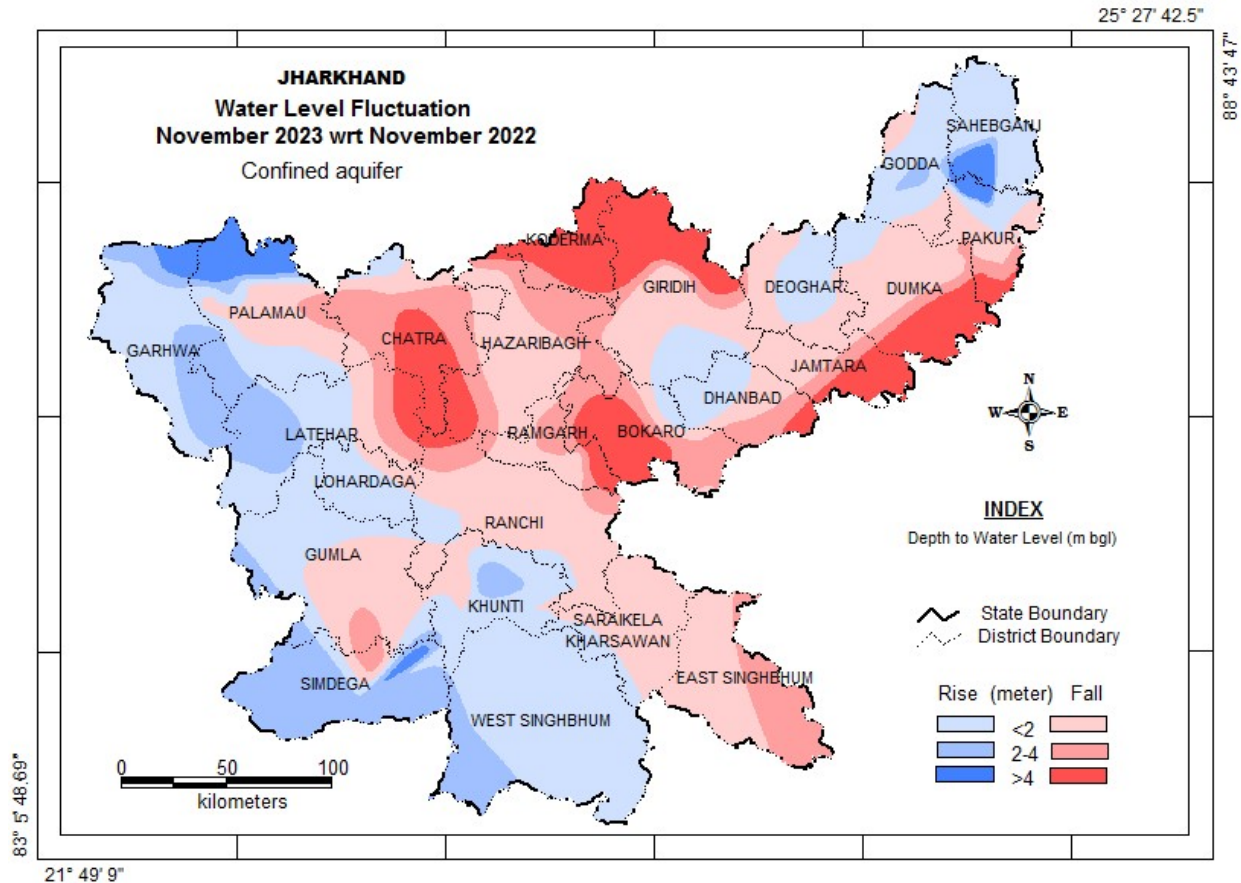


Fig. 27: Fluctuation in ground water level between Nov 2022 and Nov. 2023.

Table –28 District-wise categorization of frequency and fluctuation water levels of HNS of November 2023 w.r.t. November. 2022 for Jharkhand State (confined aquifer)

SN	District	No. of HNS	No. of Wells / Percentage showing fluctuation													Total	
			Fall							Rise							
			<2m	%	2-4 m	%	>4 m	%	<2m	%	2-4 m	%	>4 m	%	Fall	Rise	
1	Bokaro	2	0	0	1	50	1	50	0	0	0	0	0	0	2	0	
2	Chatra	4	0	0	1	25	2	50	1	25	0	0	0	0	3	1	
3	Devghar	6	5	83.3	0	0	0	0	1	16.7	0	0	0	0	5	1	
4	Dhanbad	3	2	66.7	0	0	0	0	1	33.3	0	0	0	0	2	1	
5	Dumka	4	2	50	0	0	1	25	1	25	0	0	0	0	3	1	
6	Garhwa	3	0	0	0	0	0	0	3	100	0	0	0	0	0	3	
7	Giridih	4	2	50	0	0	2	50	0	0	0	0	0	0	4	0	
8	Godda	2	0	0	0	0	0	0	1	50	1	50	0	0	0	2	
9	Gumla	1	0	0	0	0	0	0	1	100	0	0	0	0	0	1	
10	Hazaribag	3	2	66.7	1	33.3	0	0	0	0	0	0	0	0	3	0	
11	Jamtara	4	3	75	0	0	0	0	1	25	0	0	0	0	3	1	
12	Khunti	4	1	25	0	0	0	0	2	50	1	25	0	0	1	3	
13	Koderma	3	1	33.3	2	66.7	0	0	0	0	0	0	0	0	3	0	
14	Latehar	3	0	0	0	0	0	0	2	66.7	1	33.3	0	0	0	3	
15	Lohardaga	1	0	0	0	0	0	0	1	100	0	0	0	0	0	1	
16	Pakur	3	0	0	0	0	0	0	2	66.7	0	0	1	33.3	0	3	
17	Palamau	6	3	50	0	0	0	0	0	0	2	33.3	1	16.7	3	3	
18	Ramgarh	4	3	75	1	25	0	0	0	0	0	0	0	0	4	0	
19	Ranchi	12	9	75	0	0	1	8.3	2	16.7	0	0	0	0	10	2	
20	Sahibgani	2	1	50	0	0	0	0	1	50	0	0	0	0	1	1	
21	Simdega	3	0	0	1	33.3	0	0	0	0	1	33.3	1	33.3	1	2	
	Total	77	34	44.2	7	9.1	7	9.1	20	26	6	7.8	3	3.9	48	29	

4.3.3 January 2023 to January 2024

Water level fluctuation between January 2023 and January 2024 has been analysed for 81 HNS. The rise in water level has been observed in 49 wells (60%) whereas the fall in water level observed in 32 (40%) wells.

The rise to the tune of 0 to 2 m has been shown in 38.3% well of the State spread in almost entire State. The segment of 2 to 4 m rise has been observed in localised areas falls in Dumka, Pakur, Palamu, Ramgarh, Ranchi, Sahebganj and Simdega district covering small parts of the State. Only 8 wells in has shown water level rise more than 4m.

The fall in the range of 0 – 2 m and 2 – 4 m has been observed in 25.9% and 8.6% of NHS of the state respectively. The fall ranged from 0 to 2 m is observed in part of Deoghar, Dumka, Giridih, Koderma, Latehar and Ranchi district and some other small part as patches at many locations. The segment of 2 to 4 m fall has been calculated for only 07 wells covers the area as patches in part of Chatra, Bokaro, Dumka, Purba Singhbhum, Ramgarh and Ranchi district. Only 04 well located in Simdega, Latehar, Bokaro district have shown fall of water level more than 4 m. (Fig. 28, Table 29).

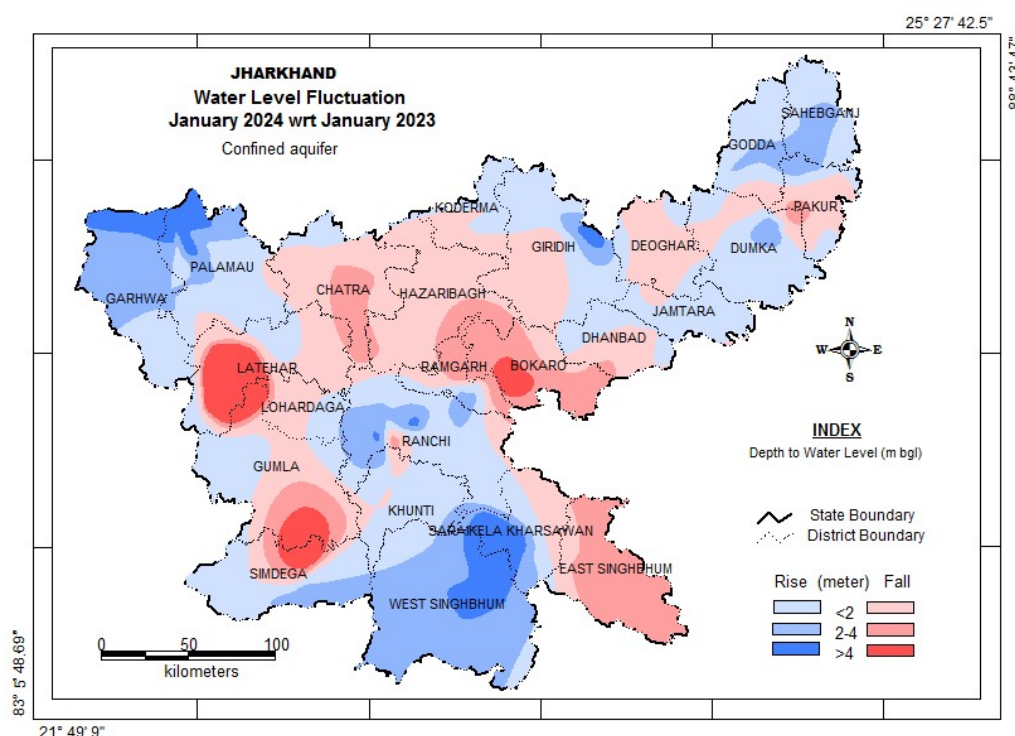


Fig. 28 Fluctuation in ground water level between Jan. 2024 and Jan. 2023.

Table –29 District-wise categorization of frequency and fluctuation water levels of HNS of Jan 2024 w.r.t. Jan 2023 for Jharkhand State (confined aquifer)

SN	District	No. of HNS	No. of Wells / Percentage showing fluctuation												Total	
			Fall						Rise							
			<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%	Fall	Rise
1	Bokaro	2	0	0	1	50	1	50	0	0	0	0	0	0	2	0
2	Chatra	4	1	25	2	50	0	0	1	25	0	0	0	0	3	1
3	Devghar	5	4	80	0	0	0	0	1	20	0	0	0	0	4	1
4	Dhanbad	3	1	33.3	0	0	0	0	2	66.7	0	0	0	0	1	2
5	Dumka	6	2	33.3	1	16.7	0	0	2	33.3	1	16.7	0	0	3	3
6	Garhwa	2	1	50	0	0	0	0	1	50	0	0	0	0	1	1
7	Giridih	4	2	50	0	0	0	0	1	25	0	0	1	25	2	2
8	Godda	2	0	0	0	0	0	0	1	50	1	50	0	0	0	2
9	Gumla	1	0	0	0	0	0	0	1	100	0	0	0	0	0	1
10	Jamtara	3	1	33.3	0	0	0	0	2	66.7	0	0	0	0	1	2
11	Khunti	5	1	20	0	0	0	0	4	80	0	0	0	0	1	4
12	Koderma	3	2	66.7	0	0	0	0	1	33.3	0	0	0	0	2	1
13	Latehar	5	2	40	0	0	1	20	2	40	0	0	0	0	3	2
14	Lohardaga	1	1	100	0	0	0	0	0	0	0	0	0	0	1	0
15	Pakur	3	1	33.3	0	0	0	0	1	33.3	1	33.3	0	0	1	2
16	Palamau	6	0	0	0	0	0	0	2	33.3	2	33.3	2	33.3	0	6
17	Paschim Singbhum	1	0	0	0	0	0	0	0	0	0	0	1	100	0	1
18	Purba Singbhum	1	0	0	1	100	0	0	0	0	0	0	0	0	1	0
19	Ramgarh	5	0	0	1	20	0	0	1	20	2	40	1	20	1	4
20	Ranchi	10	2	20	1	10	0	0	4	40	1	10	2	20	3	7
21	Sahibgani	3	0	0	0	0	0	0	2	66.7	1	33.3	0	0	0	3
22	Saraikela	1	0	0	0	0	0	0	0	0	0	0	1	100	0	1
23	Simdega	5	0	0	0	0	2	40	2	40	1	20	0	0	2	3
Total		81	21	25.9	7	8.6	4	4.9	31	38.3	10	12.3	8	9.9	32	49

ANNEXURE-I

Depth to Water level (m bgl) in Various Seasons

State : Jharkhand

District	Block	Location	Depth to Water Level (m bgl)			
			2023			2024
			May	August	November	January
Bokaro	Jaridih	Banchas	6.82	3.15	4.65	5.1
Bokaro	Chandankiyari	Baramasia	4.86	0.95	2.69	3.4
Bokaro	Chas	Bokaro Rly Station	1.25	-	2.91	1.99
Bokaro	Chandankiyari	Chandankiyari	7.66	1.55	2.1	4.03
Bokaro	Chandrapura	Chandrapura	3.56	2.2	2.98	3.73
Bokaro	Chas	Chas	Dry	Dry	11.9	Dry
Bokaro	Gomia	Gomia	5.68	1.03	-	3.63
Bokaro	Kasmar	Harmu	8.02	3.8	4.15	3.4
Bokaro	Jaridih	Jaina More	Dry 10.25	8.45	6.38	7.53
Bokaro	Nawadih	Nawadih	10.52	-	4.95	6.65
Bokaro	Chandankiyari	Nutandih	7.3	3.65	3.7	4.42
Bokaro	Peterwar	Petarbar	9.12	7.3	5.6	6.7
Bokaro	Bermo	Dhori 5 No	5.24	Blocked	Well filled	2.2
Bokaro	Chas	Pindarjora	7.15	2.75	2.52	4.03
Bokaro	Chas	Radhagaon Rly Stn	5.7	3.15	3.51	3.97
Bokaro	Peterwar	Tenughat	5.75	4.8	-	2.85
Chatra	Chatra	Chatra	-	-	8.6	9.8
Chatra	Chatra	Chatra1	9.2	-	8.6	-
Chatra	Itkhor	Pitij	8.2	4.5	4.4	7.6
Chatra	Itkhor	Itkhor	-	-	4.1	6.3
Chatra	Itkhor	Itkhor1	9.4	-	4.1	-
Chatra	Simaria	Birhu	8.8	3.5	5.08	5.8
Chatra	Simaria	Bagra	10.3	4.53	4.93	12.2
Chatra	Simaria	Tutilawa l	6.7	3.4	5.15	5.8
Chatra	Tandwa	Behra chocha	6.3	2.08	4.44	3.6
Chatra	Simaria	Piri	7.4	4.9	5.4	6.4
Chatra	Tandwa	Teliyadih	3.1	1.3	2.13	3.6
Chatra	Lawalong	Bandu	4.6	4.38	4.18	3.6
Chatra	Kanhachatti	Kanha Chatti	2.9	0.92	2.4	-
Chatra	Mayurhand	Mayurhand	9.8	2.9	3.33	5.6
Chatra	Giddhor	Gidhaur	6.6	5.05	6.43	3.7
Chatra	Shaligram Ram Narayanpur Alias Hunterganj	Lohsinghna Khurd	3.3	2.35	3.53	4.2

District	Block	Location	Depth to Water Level (m bgl)			
			2023			2024
			May	August	November	January
Chatra	Kunda	Bariya Chak	4.1	3.35	4.03	2.9
Chatra	Pratappur	Kukurman	1.9	4.63	4.58	1.3
Chatra	Pathalgada	Barwadih	4.6	4.3	5.08	3.8
Deoghar	Deoghar	Deoghar	9.28	7.4	7.18	7.61
Deoghar	Mohanpur	Ghormara	8.46	5.1	5.82	6..87
Deoghar	Deoghar	Jasidih	8.58	3.6	4.68	5.31
Deoghar	Madhupur	Madhupur	7.1	3.4	3.92	4.86
Deoghar	Palojori	Palajori	7.3	3.6	4.43	5.36
Deoghar	Sarath	Sarath	Dry	4.6	5.7	6.96
Deoghar	Sarwan	Sarawan	7.28	5.5	5.12	6.45
Deoghar	Karown	Karon Bus stand	7.45	5.6	4.22	5.66
Deoghar	Devipur	Chaudharidih	5.35	4.1	4.84	5.05
Deoghar	Margomunda	Rampur	Dry	8.2	8.31	9.39
Deoghar	Sonaraithari	Ashubandha	7.8	5.4	6.73	7.31
Dhanbad	Baghmara	Rajganj	6.38	3.65	3.83	4.35
Dhanbad	Nirsa	Sindri Gosala More	5.24	2.6	4.25	2.93
Dhanbad	Nirsa	Nirsa	1.95	1.75	2.15	1.7
Dhanbad	Govindpur	Govindpur	5.7	3.4	3.47	3.7
Dhanbad	Topchanchi	Topchanchi	6.1	6.15	3.55	4.3
Dhanbad	Tundi	Tundi	Dry 6.75	5.5	3.83	3.7
Dhanbad	Dhanbad	Jharia	1.58	1	0.95	1.7
Dhanbad	Dhanbad	Dhansar MRS	3.13	2.03	3.8	3.33
Dhanbad	Baghmara	Kandra Madal Basti	6.04	3.06	3.98	4.66
Dhanbad	Dhanbad	Dhaiya ISM	5.47	-	3.68	4.02
Dhanbad	Dhanbad	Godhar Basti	10.54	3.99	6.7	6.86
Dhanbad	Baghmara	Balajee Mandrir	6.96	6.15	7.32	6.94
Dhanbad	Dhanbad	Basudeopur	6.93	6.05	6.02	6.3
Dhanbad	Dhanbad	DBI Bunglow	5.45	1.4	2.7	3.55
Dhanbad	Baghmara	Mahuda	11.16	5.1	6.08	7.4
Dhanbad	Dhanbad	P. K. Roy College	8.75	2.7	4.42	7.2
Dhanbad	Dhanbad	Purandih Jorapokhar	3.43	2.2	3.49	2.73
Dhanbad	Baliapur	Pandadih	1.45	9.3	6.59	8
Dhanbad	Purvi Tundi	Mairanwatand	9.52	5.85	4.64	6
Dhanbad	Chirkunda	Chirkunda	-	-	-	2.42
Dumka	Jama	Barapalashi	-	8.17	-	7.19
Dumka	DUMKA	Chapodia	dry	4.84	4.46	5.63
Dumka	Jama	Chikania	dry	7.49	6.33	7.45
Dumka	Godda	Dhadhakia	dry	-	-	-
Dumka	DUMKA	Dumka(db ib)	6.12	4.35	4.45	5
Dumka	Ramgarh	Gamharia	dry	Dry	Dry	-

District	Block	Location	Depth to Water Level (m bgl)			
			2023			2024
			May	August	November	January
Dumka	Gopikander	Gopikandar	9.8	1.91	5.54	8.9
Dumka	Saraiyahat	Hansdiha pwdib	gate closed	6.9	gate closed	7.73
Dumka	JAMA	Jama	dry	11.25	7.35	8.68
Dumka	Jarmundi	Jarmundi db.ib	dry	4.67	5	6.02
Dumka	Jama	Kathikund	8.46	4.57	5.03	6.27
Dumka	Masaliya	Masalia	6.55	4.26	4.01	4.5
Dumka	DUMKA	Masanjor	3.75	1.16	3.11	1.85
Dumka	Jarmundi	Nunihaat	2.84	1.58	1.9	2.49
Dumka	JAMA	Parapalashi	8.57	-	6.57	-
Dumka	Sikaripara	Patabari	7.59	4.65	3.86	5.2
Dumka	Ramgarh	Ramgarh	6.35	2.69	3.58	4.95
Dumka	Ranishwar	Raneswar	dry	3.42	3.7	4.77
Dumka	Sikaripara	Sikaripara	8.8	3.53	4.7	5.65
Jamtara	Nala	Basti Palajori	7.26	3.1	16.11	6.05
Jamtara	Kundhit	Dootala	10.7	5.8	3.6	5.2
Jamtara	Kundhit	Fatehpur	9.59	7.1	25.1	8.32
Jamtara	Jamtara	Jamtara	dry	3.6	15.7	6
Jamtara	Karmatanr Vidyasagar	Jasaydih	7.63	1.9	20.11	7
Jamtara	Kundhit	Kundahit	6.95	1.4	3.18	4.45
Jamtara	Jamtara	Mihijam db ib	4.2	1.6	5.8	2.4
Jamtara	Narayanpur	Mohanpur	4.89	5.4	22.4	7.55
Jamtara	Nala	Nala	5.23	1.8	11.4	3.22
Jamtara	Narayanpur	Narayanpur	5.62	1.1	9.09	3.19
Jamtara	Jamtara	Karmatanr	-	-	-	7.1
E Singbhum	Bahragora	Baharagora	Dry	Dry	Dry	Dry
E Singbhum	Chakulia	Chakulia	Dry	6.56	13.4	17.6
E Singbhum	Dhalbhumgarh	Dhalbhumgarh	11.55	1.89	3.9	10.78
E Singbhum	Bahragora	Ghatsila	8.3	0.17	3.8	6.97
E Singbhum	Bahragora	Jabirdiha	8.2	-	-	-
E Singbhum	Bahragora	Hana Bautia	5.5	2.7	4.1	5.6
E Singbhum	Chakulia	Kalapathar	9.6	3.05	6.1	8.56
E Singbhum	Potka	Kalikapur	5.2	0.4	1.3	2.53
E Singbhum	Musabani	Kendadih	6.42	0.8	1.6	4.05
E Singbhum	Musabani	Matigora	5.7	0.73	0	3.3
E Singbhum	Musabani	Mosabani	2.7	0.4	0.8	1.47
E Singbhum	Musabani	Mosabani	-	-	0.8	1.47
E Singbhum	Golmuri Cum Jugsalai	Paridih	7.6	2.65	5.7	7.25
E Singbhum	Golmuri Cum Jugsalai	Piplia	6	0.86		5.5
E Singbhum	Potka	Potka	9.69	1.37	4.3	7.2

District	Block	Location	Depth to Water Level (m bgl)			
			2023			2024
			May	August	November	January
E Singbhum	Golmuri Cum Jugsalai	Sundarnagar	14.1	6.5	9.2	11.7
E Singbhum	Golmuri Cum Jugsalai	Bagun Nagar	Not Found	Not Found	1.2	2.22
E Singbhum	Golmuri Cum Jugsalai	Baridih	1.9	0.85	1.2	1.77
E Singbhum	Golmuri Cum Jugsalai	Barmamines Thana	2.75	1	1.5	2.4
E Singbhum	Golmuri Cum Jugsalai	Garhabasa	Not Found	Not Found	0.9	1.47
E Singbhum	Golmuri Cum Jugsalai	Golmuri	3.3	1.95	2.8	3.45
E Singbhum	Golmuri Cum Jugsalai	Jamshedpur Bloodbank Bistupur	2.5	-	2.4	2.3
E Singbhum	Golmuri Cum Jugsalai	Jugsalai Thana	3.15	1.4	2.1	2.6
E Singbhum	Potka	Rankini Madir Jadugora	2.85		2.1	2.6
E Singbhum	Golmuri Cum Jugsalai	Shitla Mandir Sakchi	1.8	1.6	1.6	2.15
E Singbhum	Golmuri Cum Jugsalai	Telco	1.05	1	0.9	1.55
E Singbhum	Chakulia	Andharia	11.05	0.45	1.8	11.94
E Singbhum	Golmuri Cum Jugsalai	Birsa Nagar	4	0.35	1.2	2.07
E Singbhum	Potka	Gitilata	11.35	0.53	2.2	10
E Singbhum	Potka	Hata/tirin	5.65	0.9	1.8	4.6
E Singbhum	Bahragora	Jamirdih	8.2	0.83	2.9	8.16
E Singbhum	Chakulia	Lodhlisol (Kalapathar)	dry 14	4.2	7.4	12.96
E Singbhum	Golmuri Cum Jugsalai	Mariyamman Temple	3.55	2	2.4	3.05
E Singbhum	Boram	Boram	-	-	-	8.5
E Singbhum	Gurabanda	Gurabandha	-	-	-	11
Garhwa	Bhawnathpur	Bhawanathpur	5.6	3.5	4.05	4.3
Garhwa	Ranka	Bishrampur (Ranka)	10.3	1.8	2.13	8.8
Garhwa	Garhwa	Garhwa	dry	7.03	7.84	9.35
Garhwa	Garhwa	Lagama	6.6	1.1	1.8	3.5
Garhwa	Manjhiaon	Manjhian	4.7	3.1	3.48	2.9
Garhwa	Meral	Meral	7.3	1.6	2.3	4.6
Garhwa	Ranka	Godarmana	8.4	3.9	5.9	8.2
Garhwa	GARHWA	Obra	dry	2.65	6.2	4.8
Garhwa	Ranka	Ranka	abandoned	1.2	1.4	4.6
Garhwa	Nagar Untari	Ramna	6.6	3.1	3.8	4.4
Garhwa	Nagar Untari	Nagaruntari	6.3	4.05	5.39	6.1
Garhwa	Sagma	sagma	-	-	-	4.2
Garhwa	Kharaundhi	Chandni	-	-	-	11.6

District	Block	Location	Depth to Water Level (m bgl)			
			2023			2024
			May	August	November	January
Garhwa	Ketar	Ketar	-	-	-	6.05
Garhwa	Kandi	Dhabariya	-	-	-	12.1
Garhwa	Dandai	Dandai	-	-	-	3.7
Garhwa	Bishunpura	Patagarhakala	-	-	-	4.9
Garhwa	Bardiha	Bardiha	-	-	-	2.8
Garhwa	Dhurki	Dhurki	-	-	-	6.3
Garhwa	Dandai	Tasrar	-	-	-	8.6
Garhwa	Chinia	Chinia	-	-	-	6.3
Garhwa	Ramkanda	Ramkanda	-	-	-	3.8
Garhwa	Bhandaria	Bhandaria	-	-	-	2.4
Giridih	Bagodar	Bagodar	dry	2.3	3.4	4.15
Giridih	Bengabad	Bengabad	7	1.6	3.27	4.05
Giridih	Bagodar	Birini	8.88	4.1	2.33	4
Giridih	Pirtand	Chirki (pirtanr)/Pandeydih	8.98	3.1	-	3.35
Giridih	Deori	Dewri	dry	1.6	3.03	5.05
Giridih	Giridih	Dhanidih	7.55	3.6	2.47	3.65
Giridih	Bagodar	Dhanwar	6.3	4.1	4.25	5.35
Giridih	Deori	Dumri	8.99	5.2	6.19	7.5
Giridih	Gandey	Gande	dry	3.7	3	4.58
Giridih	GIRIDIH	Giridih	4.38	1.8	2.15	2.85
Giridih	Jamua	Jamua pwd ib	9.4	3.4	5.35	7.35
Giridih	Tisri	Khijri	7.59	1.1	-	Not Found
Giridih	Gandey	Maheshmunda	8.2	2.3	3.55	4.55
Giridih	Gandey	Pandri	not found	2.6	2.57	3.3
Giridih	Suriya	Saraiya	12.58	8.4	9.46	10.85
Giridih	Gawan	Ganwan	6.32	2.3	5.55	6.3
Giridih	Tisri	Khijui	not found	1.8	4.03	5.65
Giridih	Birni	Barmasia	4.59	2.3	2.48	3.35
Godda	Mahagama	Bara borijore	7.03	0.85	2.63	4.26
Godda	Poraiyahat	Bargacha Hariyari	Dry	4.91	4.55	6.05
Godda	Pathargama	Bisaha	Dry	4.8	3.87	4.68
Godda	Poraiyahat	Chamudih	8.63	6.27	5.93	7.45
Godda	Meharma	Doi	5.22	1.13	2.8	5.65
Godda	Mahagama	Gobra	6.61	1.34	2.05	2.19
Godda	Godda	Godda	Dry	1.75	4.43	NA
Godda	Godda	Jainipahar	8.86	1.75	4.43	5.37
Godda	Godda	Kumardih	5.86	1.78	2.68	3.33
Godda	Boarijor	Lalmatia	10.08	4.89	5.88	7.25
Godda	Pathargama	Maheshpur	6.5	0.73	1.9	3.55
Godda	Poraiyahat	Poraiyahaat	10.31	6.2	-	6.62

District	Block	Location	Depth to Water Level (m bgl)			
			2023			2024
			May	August	November	January
Godda	Sundarpahari	Sundar Pahari	13.21	9.73	Dry	Dry
Godda	Poraiyahat	Siktia	10.02	-	-	-
Godda	Poraiyahat	Raghunathpur	Dry	4.9	7.12	6.56
Godda	Thakurgangti	ThakurGhanti	6.01	1.31	3.13	4.23
Gumla	Ghaghra	Adar	3.8	0.78	0.73	2.23
Gumla	Gumla	Anjam gram	4.3	1.7	2.1	2.6
Gumla	Kamdara	Baisia	4.1	-	3.37	5.7
Gumla	Basia	Basia	-	2	3.37	5.7
Gumla	Palkot	Bhagma	6.1	1.9	2.57	5.15
Gumla	Bharno	Bharno bdo	-	5.36	4.98	6.14
Gumla	Bharno	Bharno bdo	7.25	5.36	4.98	6.14
Gumla	Bishnupur	Bishnupur	7.4	3.6	4.07	6.7
Gumla	Chainpur	Chainpur	2.9	0.35	0.44	1.6
Gumla	Ghaghra	Ghagra	7.4	1.3	1.84	2.59
Gumla	Gumla	Gumla	8.9	5.79	5.94	7.34
Gumla	Gumla	Gumla	-	5.79	5.94	7.34
Gumla	Raidih	Kasir	1	0.36	0.19	0.6
Gumla	Gumla	Kharka	8.1	1.42	2.09	5.6
Gumla	Sisai	Nagfeni	8.65	1.69	2.54	6.1
Gumla	Palkot	Palkot	9.4	2.74	3.75	6.99
Gumla	Raidih	Raidih	7.1	2.1	2.12	3.85
Gumla	Raidih	Raidih	-	2.1	2.12	3.85
Gumla	Sisai	Sisai	6.8	2.45	2.67	4.6
Gumla	Dumri	Dumri	6.8	5.1	5	6.38
Gumla	Kamdara	Kamdara	12.1	8.2	7.84	9.5
Simdega	Bano	Bano	6.7	3.63	3.92	5.28
Simdega	Jaldega	Bari Biringa	2.6	1.68	1.3	3.3
Simdega	Simdega	Biru	5.7	-	2.32	5.65
Simdega	Bolba	Bolba	6.1	1.3	1.75	3.25
Simdega	Jaldega	Jaldega	4.8	1.26	1.71	2.91
Simdega	Thethaitanger	Kerio	6.8	1.75	1.92	4.55
Simdega	Kolebira	Kolebira	2.6	3.9	4.65	7.25
Simdega	Kurdeg	Kurdeg	6.1	4.77	4.87	5.67
Simdega	Kolebira	Kolebira	8.1	3.9	4.65	7.25
Simdega	Kolebira	Lachargarh	-	2.05	3.16	5.4
Simdega	Jaldega	Lamboi	6.6	1.9	2.35	4.2
Simdega	Kolebira	Puthritoli	3.8	0.75	0.63	1.8
Simdega	Simdega	Simdega	-	2.45	2.42	3.85
Simdega	Jaldega	Tengratuku	5.6	2.05	2.8	4.3
Simdega	Thethaitanger	Thethai Thangar	3.5	0.58	0.75	1.58
Hazaribagh	Sadar	Amritnagar	7.4	3.6	3.7	5.5
Hazaribagh	Barkagaon	Barkagaon	11.5	2.05	5.7	8.4

District	Block	Location	Depth to Water Level (m bgl)			
			2023			2024
			May	August	November	January
Hazaribagh	Barkatha	Barkatha	6.6	-	-	7.8
Hazaribagh	Katkamdag	Bendi	8.8	7.53	6.07	6.8
Hazaribagh	Churchu	Dari	4.8	1.6	2.85	4.4
Hazaribagh	Dadi	Daru	5.4	0	1.8	2.6
Hazaribagh	Keredari	Garrikalan	7.1	6.92	6.2	7.6
Hazaribagh	Churchu	Dasokhap	5.9	3.36	5.1	3.8
Hazaribagh	Sadar	Hatyari	7.5	1.03	2.37	3.7
Hazaribagh	Sadar	Hazaribagh	8.2	1	3.77	5.6
Hazaribagh	Ichak	Ichak	8.7	5.75	5.6	4.5
Hazaribagh	Keredari	Keradari	8.7	6.78	5.37	5.4
Hazaribagh	Keredari	Keradari	-	-	5.37	5.4
Hazaribagh	Sadar	Meru(Silwar)	11.1	3.65	6.5	9.1
Hazaribagh	Barhi	Padma	11.7	3.5	3.8	3.5
Hazaribagh	Bishnugarh	Jamnijara	12.1	11.45	11.97	5.6
Hazaribagh	Katkamsandi	Katkamsandi	9.7	5.7	5.85	5.6
Hazaribagh	Barkatha	Sakrej	8.1	6.5	6.7	5.6
Hazaribagh	Bishnugarh	Tatijhariya	4.6	1.1	2.63	3.6
Hazaribagh	Barkagaon	Urimari	8.8	1.94	4.98	6.6
Hazaribagh	Sadar	Habib nagar	8.8	10	10.83	6.8
Hazaribagh	Chalkusha	Kendua	7.4	5.85	6.25	5.6
Hazaribagh	Barhi	Konra-Barhi	9.1	7.05	7.1	6.1
Hazaribagh	Sadar	Kud Ashram	10.2	3.1	4.8	8.1
Hazaribagh	Sadar	Masipiri	8.2	4.6	7.63	9.4
Hazaribagh	Sadar	Old Bus Stand	dry	5.1	4.72	8.3
Hazaribagh	Sadar	Sindur	7.1	1.5	2.73	5.1
Hazaribagh	Chouparan	Chauparan1	10.1	7.96	6.09	7.2
Hazaribagh	Dari	Bela Chirwan	-	-	-	3.3
Ramgarh	Mandu	Barkachumba	6.45	5.4	3.7	4.35
Ramgarh	Patratu	Barkakhana	3.6	2.55	3.15	3.55
Ramgarh	RAMGARH	Barlong	7.3	2.2	4.85	4.6
Ramgarh	Patratu	Bhurkunda	5.2	4.1	4.25	4.6
Ramgarh	Chitarpur	Chitarpur	7.8	4.05	4.7	5.8
Ramgarh	GOLA	Gola	9.1	1.7	6.9	7.65
Ramgarh	RAMGARH	Kaitha	3.1	1.2	1.95	2.3
Ramgarh	Mandu	Kanjgi	6.45	7.25	3.2	3.95
Ramgarh	Mandu	Kuju	D.M.	6.55	4.45	5.3
Ramgarh	RAMGARH	Kusumbha	7.2	2.46	4.35	4.95
Ramgarh	Mandu	Mandu	8	6.75	5.1	6.35
Ramgarh	RAMGARH	Ramgarh	8.1	5.65	4.85	5.2
Ramgarh	Patratu	Sayal	7.2	1.7	5.2	4.95
Ramgarh	MANDU	Sirka	13.3	6.2	7.85	8.6
Ramgarh	Mandu	Thakur Gora	11	8.3	7.55	8.95
Ramgarh	Chitarpur	Chitarpur	5.2	2.7	4.25	4.75
Ramgarh	Dulmi	Dulmi	6	1.3	2.5	3.15
Ranchi	Ratu	Bajra	3.4	2.6	3.15	3.85

District	Block	Location	Depth to Water Level (m bgl)			
			2023			2024
			May	August	November	January
Ranchi	KANKE	Bit More	3.35	2.6	3.1	4.7
Ranchi	Namkum	Bridge Ford School	6.55	2.2	2.95	5.1
Ranchi	KANKE	Bunti	2.7	1.5	2.1	2.2
Ranchi	bero	Chutiya	6 (DM)	3.6	2.4	3.5
Ranchi	bero	Harmu	10.3	8.24	5.2	6.7
Ranchi	NAMKUM	Hatia	-	5.81	5.35	9.35
Ranchi	KANKE	Kanke	5.4	4.2		3.9
Ranchi	Ratu	Kantitanr	4.9	2.25	2.6	3.2
Ranchi	Namkum	Kharsidag	7.5	4.34	4.75	5.25
Ranchi	Lapung	Kakriya	8.1	7.45	5.8	6.8
Ranchi	kanke	Lalganj	8.4	4.1	4.6	5.2
Ranchi	SONAHATU	Lowadih	9.55	7.25	5.15	6.25
Ranchi	KANKE	Morhabadi	7.65	3.15	3.9	6.95
Ranchi	Ormanjhi	Ormanji	7.35	4.7	5.1	5.95
Ranchi	KANKE	Pithoria	4.26	3.1	2.3	3.1
Ranchi	NAMKUM	Rampur	6	2.7	3.85	4.85
Ranchi	ratu	Siramtoli	6.75	3.7	4.65	5.1
Ranchi	Namkum	Sithipokhartoli	6.65	1.7	3.1	4.45
Ranchi	Angara	Barwadag	3.85	1.85	2.35	3.4
Ranchi	Bero	Berro	8.5	6.05	4.25	6.3
Ranchi	Chanho	Bijupara Tangar	5.75	4.9	2.6	3.15
Ranchi	Mandar	Bishakhatanga	9.2	6.45	3.55	5.3
Ranchi	Bundu	Bundu	10.2	7.4	6.3	6.65
Ranchi	Burmu	Burmoo	9.35	9	6.65	7.95
Ranchi	itki	Chachgura	10.5	10.1	7.3	8.1
Ranchi	Ormanjhi	Chutupalu	7.7	5.6	6.1	6.2
Ranchi	KANKE	Daily Market	15.79	10.75	5.75	9.85
Ranchi	Angara	Gondlipokhar	6.75	3.05	2.45	4.1
Ranchi	Bero	Hanuman Mandir (Near AG.Office)	11.45	8.25	6.45	8.85
Ranchi	NAMKUM	Hatia	12.25	-	-	-
Ranchi	KANKE	Hochar	Dry 7.1	2.95	3.95	4.3
Ranchi	kanke	Hombai B.I.T. Mesra	7.28	4.65	5.15	6.35
Ranchi	ratu	Hurhuri	8.45	4.75	2.7	5.15
Ranchi	Itki	Itki	12.3	12.2	7.35	9.5
Ranchi	Angara	Jonha	4.53	4.83	3.65	4.15
Ranchi	KANKE	Kanke1	2.2	1.8	1.45	1.8
Ranchi	Namkum	Kharsidag	7.5		4.75	5.25
Ranchi	Silli	Kita	4.8	3.1	3.95	5.2
Ranchi	Namkum	Ladnapiri	7.2	3.9	4.65	4.15
Ranchi	Mandar	Mandar	6.5	5.75	3.1	4.4
Ranchi	Bero	Mani Tola (Doranda)	1.9	0.9	2.1	2.15
Ranchi	Silli	Patrahatu	6.75	3.4	2.55	3.9

District	Block	Location	Depth to Water Level (m bgl)			
			2023			2024
			May	August	November	January
Ranchi	Namkum	Pindarcom	9.25	3.45	4.35	6.2
Ranchi	Rahe	Rangamati	7.7	1.9	4.95	5.65
Ranchi	Silli	Silli	7.3	6.5	4.25	5.3
Ranchi	Sonahatu	Sonahatu	5.15	2.9	3.65	3.25
Ranchi	Chanho	Sonsbazar	7.05	6.5	5.65	6.15
Ranchi	KANKE	Sukurhutu	4.25	2.25	2.9	3.6
Ranchi	Bundu	Taimara	11.55	6.6	5.45	7.25
Ranchi	Tamar	Tamar	10.75	6.4	2.9	6.45
Ranchi	Namkum	Tati Silway(E.F.)	8.95	4.95	3.9	5.9
Ranchi	Bundu	Tungri Tola	7.4	3.6	4.85	6.25
Ranchi	Ormanjhi	Ukrid	6.6	3.12	3.9	5.1
Ranchi	Angara	Angara1	8.25	7.25	5.25	6.4
Ranchi	Khelari	Churi(Khelari)	-	7.35	-	6.35
Ranchi	ratu	Bandheya	-	-	-	5.9
Ranchi	Rahe	B. Nawadih	-	-	-	3.8
Kodema	Jainagar	Jainagar	6.5	2.6	23.1	4.5
Kodema	Koderma	Jhumri Tilaiya	8.7	4.6	6.4	6.7
Kodema	Koderma	Kanobigha	7.8	4.8	2.65	5.65
Kodema	Koderma	Kodarma	9	2.2	20.2	6.05
Kodema	Koderma	Pathaldiha	4.9	1.6	12.1	4.1
Kodema	Koderma	Buchitar	dry	3.2	34.11	7.8
Kodema	Satgawan	Karcheta	7.4	4.2	23.2	6.92
Kodema	Domchanch	Karakhut	-	4.6	5.82	6.8
Kodema	Chandwara	Soni mohalla	-	1.8	-	6.2
Kodema	Markacho	Dongadih	-	4.6	5.98	6.6
Latehar	Balumath	Balumath	dry	8.8	8.95	10.35
Latehar	Balumath	Barjatu	8.2	5.55	5.59	6.6
Latehar	Barwadih	Barwadih	9.5	1.35	1.65	4.9
Latehar	Barwadih	Betla	dry	7.52	3.09	8.82
Latehar	Chandwa	Chandwa	dry	-	Filled	Filled up
Latehar	Garu	Garu	6.3	3.2	3.44	4.4
Latehar	Latehar	Latehar	dry	3.34	5.03	6.59
Latehar	Mahuadanr	Mahuadanr	dry	1.35	1.81	3.6
Latehar	Manika	Manika	10.2	2.87	2.89	5.32
Latehar	Mahuadanr	Aksi	7.45	1.15	1.26	4.6
Latehar	Garu	Baresad(Lalmatia)	dry	4.2	5.4	6.95
Latehar	Herhanj	Chiru	5.7	2.8	3.15	4.45
Palamu	Chainpur	Baraw	9.8	4.7	4.76	4.6
Palamu	Pipra	Bishrampur	dry	3.1	3.64	Dry
Palamu	Chhatarpur	Chhatarpur	dry	Dry	Dry	Dry
Palamu	Medininagar	Daltenganj	5.2	-	4.4	4.8
Palamu	Chhatarpur	Hariharganj	dry	Dry	Dry	Dry
Palamu	Hussainabad	Hydernagar	dry	-	-	6.8

District	Block	Location	Depth to Water Level (m bgl)			
			2023			2024
			May	August	November	January
Palamu	Hussainabad	Japla	dry	3.4	-	5.6
Palamu	Patan	Kajri	dry	Dry	Dry	Dry
Palamu	Nawa Bazar	Kanda	6.8	4.1	-	5.6
Palamu	Lesliganj	Lesliganj	dry	4	4.27	4.5
Palamu	PATAN	Nawadih	dry	Dry	Dry	Dry
Palamu	PANKI	Panki	10.1	5.43	5.97	9.2
Palamu	PATAN	Patan	dry	Dry	-	Dry
Palamu	Bishrampur	Rajhara	6.6	1.6	2.05	-
Palamu	PANKI	Sagalim	7.9	-	-	6.6
Palamu	Hussainabad	Sandha	6.4	5.05	5.5	4.6
Palamu	Satbarwa	Satbarwa	9.6	9.6	9.96	7.8
Palamu	Bishrampur	Ketat Kala	4.2	1.65	4.2	4.4
palamu	Tarhasi	Tarhasi	-	-	-	8.6
palamu	Manatu	kusri	-	-	-	3.05
palamu	Medininagar	Medninagar Urban	-	-	-	3.7
palamu	Pandu	Karamdih/Madanpur	-	-	-	3
palamu	Untari Road	Utarior Road	-	-	-	5.05
palamu	Mohamadganj	Muhammad Ganj	-	-	-	4.7
palamu	Pipra	Damwa	-	-	-	8.2
Lohardaga	Lohardaga	Barwatoli Chowk	5.1	3.9	3.2	3.9
Lohardaga	Bhandra	Bhandara	dry	7.45	6.6	7.3
Lohardaga	Lohardaga	Hesal	9.1	8.1	5.7	6.3
Lohardaga	Kuru	Hinjla	7.5	7.55	7.05	7.4
Lohardaga	Lohardaga	Irgaon	7.3	7.58	7.95	7.8
Lohardaga	Kisko	Kisko	13.1	11	8.75	10.15
Lohardaga	Kuru	Kuru	9.6	3.1	3.65	4.75
Lohardaga	Peshrar	Peshrar Weekly Market	6.8	2.9	7.65	7.6
Lohardaga	Lohardaga	Lohardaga(pwdib	7.9	7.3	5.1	5.95
Lohardaga	Kuru	Rudh	9.8	7.7	5.5	7.15
Lohardaga	Senha	Senha Bdo	8.8	4.05	6.2	7.6
Lohardaga	Kario	Utka	-	-	-	5.1
Pakur	Amrapara	Amrapara	dry	0.89	3.33	5.19
Pakur	Hiranpur	Hiranpur	5.8	1.29	5.6	8.38
Pakur	Littipara	Kariodih	11.42	1.61	4.72	5.94
Pakur	Littipara	Litipara	10.1	4.81	7.38	8.36
Pakur	Littipara	Litipara	7.79	2.6	3.35	4.15
Pakur	Pakur	Pakur	4.7	3.24	6.65	10.24
Pakur	Amrapara	Pochaibera	4.32	0.57	0.88	2.28
Pakur	Pakuria	Salgapara	dry	0.62	4.26	6.11
Pakur	Pakur	Vikrampur	6.6	0.27	2.05	3.45
Pakur	Maheshpur	Sahargram	4.11	4.22	9.1	10.24
Pakur	Hiranpur	Torai	8.27	0.78	3.39	4.01

District	Block	Location	Depth to Water Level (m bgl)			
			2023			2024
			May	August	November	January
Sahebganj	Barhait	Baramasia	7.34	2.1	7.42	11.61
Sahebganj	Barhait	Barhait	7.25	5.13	6.96	7.62
Sahebganj	Barharwa	Barharwa	Dry	3.13	7.75	9.98
Sahebganj	Borio	Borio	1.67	1.62	1.76	2.24
Sahebganj	Borio	Chota Kadma	8.11	3.1	4.75	6.22
Sahebganj	Sahibganj	Dihari	3	-	3.45	3.43
Sahebganj	Rajmahal	Ghat Selampur	Well Blocked	-	4.22	5.67
Sahebganj	Barharwa	Kotalpokhar	4.33	1.02	3.04	4.6
Sahebganj	Mandro	Mandro	3.12	0.6	2.3	3.97
Sahebganj	Rajmahal	Mangalhat	5.4	3.96	4.74	5.67
Sahebganj	Borio	Maricho	7.87	3.39	4.84	5.75
Sahebganj	Rajmahal	Rajmahal	4.92	1.63	2.99	3.85
Sahebganj	Pathna	Ranga	8.12	2.92	4.67	6.4
Sahebganj	Sahibganj	Sahebganj	9.34	4.42	5.32	6.56
Sahebganj	Sahibganj	Sakrigali	7	4.92	5.14	5.95
Sahebganj	Rajmahal	Taljhari	4.13	1.45	2.8	3.07
Sahebganj	Rajmahal	Udvababutala	3.45	1.83	3.98	5.77
Sahebganj	Mandro	Belbhadri	5.05	0.63	1.32	3.15
Sahebganj	Sahibganj	Dihari	-	0.94	3.45	3.43
Sahebganj	Borio	Harinchara Chowk	3.81	1.11	3.28	4.2
Sahebganj	Sahibganj	Hazipur	3.1	1.07	2.63	3.58
Saraikela	Chandil	Chandil	10.1 Dry	Could Not	Dry	2.21

District	Block	Location	Depth to Water Level (m bgl)			
			2023			2024
			May	August	November	January
Saraikela	Gamharia	Dugni	7.93	6.38	3.6	6.07
Saraikela	Kharsawan	Harison	8.2	1.85	3.6	6.1
Saraikela		Jamdih	6.6	0.65	2.7	4.08
Saraikela	Gamharia	Kandra	Filled 6.20	1	3.5	17.05
Saraikela	Gobindpur	Keshargaria	3.6	0.35	0.7	1.65
Saraikela	Kharsawan	Kharsawan	7.98	1.84	3.4	5.98
Saraikela	Seraikella	Saraikela	not found	0.34	1.1	4.85
Saraikela	Chandil	Bhaludih	4.8	0.4	0.6	2.39
Saraikela	Nimdih	Lupungdih	6.45	0.7	2.4	4.82
Saraikela	Ichagarh	Tikar	-	-	-	8.2
Saraikela	Kukru	Kukru	-	-	-	3.09
W Singhbhum	Bandgaon	Bandgaon	8.44	2.2	3.9	6.37
W Singhbhum	Noamundi	Barajamda	2.7	1.17	1.3	1.8796
W Singhbhum	Noamundi	Bhandgaon	4.36	1.75	2.2	3.6
W Singhbhum	Chaibasa	Chaibasa	13.2	5.44	6.7	9.04
W Singhbhum	Chakradharpur	Chakradharpur	8.25	0.97	3.8	5.99
W Singhbhum	Hatgamharia	Hat Gamhariya	8.32	2.5	3.1	11.63
W Singhbhum	Tonto	Hesadih	5.24	1.07	2.65	0.8128
W Singhbhum	Jagannathpur	Jagannathpur	10.05	3.88	5.9	8.61
W Singhbhum	Jagannathpur	Jaitgarh	6.05	4.03	2.5	4.97
W Singhbhum	Jhinkpani	Jhinkpani	7.2	1.38	2.4	3.78
W Singhbhum	Kereikala	Kereikela	6.75	1.15	3.5	5.76
W Singhbhum	Khuntpani	Khuntpani	Dry 7.8	0.02	1.9	6.42
W Singhbhum	Tantnagar	Kokcho	10.25	2.96	3.9	7.79
W Singhbhum	Noamundi	Noamundi	2.65	0.1	1.2	3.17
W Singhbhum	Khuntpani	Putida	Dry	0.08	1.1	2.19
W Singhbhum	Noamundi	Bhandgaon	-	-	-	11.1
W Singhbhum	Noamundi	Toretopa Noamundi	13.16	3.72	6.5	12.49
W Singhbhum	Jagannathpur	Barananda	8.13	0.12	2.1	4.5
W Singhbhum	Tonto	Ramsai	-	-	-	5.46
W Singhbhum	Kumardungi	Kumardungi	-	-	-	6.37
W Singhbhum	Manoharpur	Posaita	-	-	-	2.1336
W Singhbhum	Goelkera	Bangali Tola	-	-	-	4.64
W Singhbhum	Manjhgaon	Manjhgaon	-	-	-	3.65
W Singhbhum	Manjhari	Manjhari	-	-	-	7.36
W Singhbhum	Sonua	Sonua	-	-	-	4.74
Khunti	Torpa	Dorma	6.85	3.1	3.9	4.4
Khunti	Karra	Bala	6.4	2.95	2.3	3.5

District	Block	Location	Depth to Water Level (m bgl)			
			2023			2024
			May	August	November	January
Khunti	Karra	Binagoan	9.05	3.6	4.1	6.2
Khunti	Karra	Govindpur village	7.2	6.32	4.3	5.55
Khunti	Karra	Jariya	7.65	7.5	4.75	5.8
Khunti	Khunti	Kalimati	3.4	1.6	3.7	5.1
Khunti	murhu	Karapurti	9	1.5	2.95	3.95
Khunti	Khunti	Khunti	5.95	1.8	3.35	3.5
Khunti	Karra	Lodhama	4.88	1.13	1.9	3.6
Khunti	Murhu	Murhu	6.85	1.4		4.15
Khunti	MURHU	Pelaul	6.6	3.17	2.4	3.4
Khunti	Arki	Seringathu	3.05	0.43	1.1	1.95
Khunti	Rania	Goilkeria	-	-	-	2.95
Khunti	Karra	Karra	-	-	-	6.85

**WATER LEVEL DATA OF CONFINED AQUIFER MEASURED BY CGWB, SUO, RANCHI,
JHARKHAND**

District	Block	Location	DTWL (mbgl) May 2023	DTWL (mbgl) August 2023	DTWL (mbgl) November 2023	DTWL (mbgl) January 2024
Bokaro	Chas	Kamaldih	DWLR	16.97	15.8	DWLR
Bokaro	Chandrapura	Dugda	gate locked	24.53	26.72	gate closed
Chatra	Chatra	Chatra	5.6	6.85	7.4	8.4
Chatra	Partapur	Partapur	10.98	12.13	12.6	13.1
Chatra	Tandwa	Laharnga	13.16	13.77	13.1	gate closed
Chatra	Hunterganj	Bishunpur	2.73	3.84	4.15	5.6
Deoghar	Margomunda	Margomunda	2.1	7.99	9.16	DWLR
Deoghar	Deogarh	Sikdardih	4.7	5.53	6.33	8.45
Deoghar	Palojori	Farasimal	6.6	5.74	6.44	8.73
Deoghar	Deogarh	Punasi	1.85	2.63	2.95	3.52
Deoghar	Sonaraithari	Mahapur	15.55	16.72	17.87	17.98
Deoghar	Sarwan	Lokhoriya	6.7	7.27	8.13	9.48
Dhanbad	Purvi Tundi	Mairanawatand	3.17	4.15	4.12	gate clsed
Dhanbad	Baghmara	Baghmara	7.7	7.26	9.94	15.52
Dhanbad	Givindpur	Chitahi(Bagdudih)	8.97	7.94	7.91	9.41
Dhanbad	Chirkunda	Kushiyara	7.76	5.52	6.53	8.28
Dumka	Saraiyahat	Dighi	Locked		Locked	Locked
Dumka	Sihkaripara	Benagadiya	22.6	31.1	32.85	33.1
Dumka	Gopikandar	Durgapur	12.6	14.38	15.99	18.53
Dumka	Kathikund	Amgachhi	22.01	25.68	23.71	24.63
Dumka	Gopikandar	Gopikandar	20.14	21.12	22.5	22.85
Dumka	Ramgarh	Lakhanpur	2.14	3.47	5.38	5.75
Dumka	Sariyahat	Gadojhopa	6.15	5.33	6.43	8.25
East Singhbhum	Golmuri	Parsudih AMD Campus		16.1	23.65	30.56
East Singhbhum	Potka	Pauri	1.05	1	4.45	6.74
East Singhbhum	Mosabani	Chapri	0.23	0.95	5.21	2.85
Garhwa	Bhandaria	Bargarh		3.25		gate closed
Garhwa	Chinia	Ranpura	4	4.9		6.95
Garhwa	Bhawanathpur	Bhawanathpur	3.2	5.1		10.1
Giridih	Gawan	Gawan	10.15	29.27	12.4	15.85
Giridih	Sariya	Sariya Inter College	6.65	7.36	10.52	10.83
Giridih	Bengabad	Chotki Kharagdiha	5.5	22.1	8.15	pump fitted

District	Block	Location	DTWL (mbgl) May 2023	DTWL (mbgl) August 2023	DTWL (mbgl) November 2023	DTWL (mbgl) January 2024
Giridih	Jamua	Jamua	0.2	3.65	6	8.27
Godda	Godda	Kurmichak		Closed	Well not open	Closed
Godda	Sundarpahari	Kauadhab	9.23	8.37	8.65	10.6
Godda	Poreyahat	Rajabhita	2.14	3.89	4.72	7.3
Garhwa	Ranka	Chutru	10.55	12.93	-	not opened
Grahwa	Garhwa	Dumaria	-	-	-	not permitted
Gumla	Chainpur	Chainpur	1.12	1.5	2.25	5.21
Gumla	Ghagra	Nauni	-	-	Motor Fitted	motor fitted
Gumla	Palkot	Bangru	-	-	Motor Fitted	motor fitted
Hazaribagh	Hazaribagh	Hatyari	4.81	4.83	Locked	gate closed
Hazaribagh	Chalkusa	Ragdih	7.36	7.5	Road Jam	6.1
Hazaribagh	Chauparan	Chauparan	8.88	7.08	Locked	5.6
Hazaribagh	Keredari	Garrikala	Pump Fitted	Pump fitted	5.25	8.1
Jamtara	Narayanpur	Tongodih	9.85	-	13.03	15.1
Jamtara	Vidyasagar	Sahajpur	2.75	-	5.62	7.12
Jamtara	Narayanpur	Chainpur	4.1	-	5.4	6.7
Jamtara	Fatehpur	Majhladih	3.4	-	5.37	gate closed
Jamtara	Jamtara	Kelahi	2.1	-	4.37	5.76
Khunti	Torpa	Dorma	3.83	5.5	5.75	5.75
Khunti	Murhu	Pelloal	4.42	2.82	3.9	6.33
Khunti	Arki	Hunt	1.3	2.45	4.44	Pump fitted
Khunti	Rania	Rania	8.07	7.1	6.3	8.03
Koderma	Koderma	Sujanpur	3.8	-	8.35	11.65
Koderma	Domechanch	Golwadhab	2.1	-	4.1	6.4
Koderma	Jaynagar	khagradih	8.55	-	10.4	11.5
Latehar	Manika	Matlang	12.02	11.07	12.85	14.39
Latehar	Chanduwa	Kali	7.95	Gate Lock	8.74	10.09
Latehar	Mahuadant	Hami	5.39	4.93	5.75	6.09
Latehar	Barwadih	Barwadih	4.25	Gate closed	6.65	gate closed
Latehar	Latehar	Banbirwa	4.65	4.83	6.79	7.72
Latehar	Garu	Maromar	7.72	8.13	44.52	22

District	Block	Location	DTWL (mbgl) May 2023	DTWL (mbgl) August 2023	DTWL (mbgl) November 2023	DTWL (mbgl) January 2024
Lohardaga	Peshrar	Jawakheda	3.02	3.4	5.65	6.07
Lohardaga	Kisko	Tisiya	Locked Motor	Pump fitted	Pump fitted	Pump fitted
Pakur	Ltipara	Manjhladih	3.88	7.58	27.36	31.9
Pakur	Maheshpur	Sahargaon	5.4	7.29	11.89	7.18
Pakur	Amarapara	Dumarchir	17.53	19.08	25.57	27.29
Pakur	Litipara	Litipara	4.44	9.4	9.85	10.06
Palamu	Chainpur	Khura Kalan	7.02	8.48	10.4	gate closed
Palamu	Chhatarpur	Kerki Khurd(Kutia)	12.1	14.47	12.55	14.6
Palamu	Heidernagar	Itwa	2.3	3.27	3.85	5.95
Palamu	Pandu	Kajur Kalan	2.78	3.07	3.1	5.6
Palamu	Pandwa	Kokrasa	6.85	7.35	5.45	8.1
Palamu	Bishrampur	Bishrampur	3.35	4.02	3.3	5.1
Ramgarh	Gola	Chitarpur	6.7	7.13	8.15	9.4
Ramgarh	Dulmi	Harhadkander	3.55	4.43	4.9	5.92
Ramgarh	Orla EW	Mandu	14.76	12.35	Pump fitted	Pump fitted
Ramgarh	Chitarpur	K.B.A. , Lari Campus	6.89	Gate Locked	6.43	8.96
Ramgarh	DWSD Burha Kokhra (EW)	Ramgarh	12.14	11.85	11.98	13.19
Ramgarh	Dulmi	Potamdagga	9.9	14.85	16.4	14.1
RANCHI	Kanke	Ranchi College	3.46	5.42	6.62	5.75
RANCHI	BERO	Kurgi_PZ1	8.1	6.12	7.8	11.15
RANCHI	MANDAR	Bandhea	10.75	8.4	10.26	14.06
RANCHI	KANKE	Dav I				21.72
RANCHI	KANKE	Mahilong Forest Nur	8.75	7.42	8.1	10.02
RANCHI	KANKE	Jamchuan Kgbav	7.7		Cealed	11.47
RANCHI	KANKE	Kanke Sember Toli	-	-	-	25.12
RANCHI	KANKE	Military Farm Namkom	7.2	7.9	8.75	13.72
RANCHI	MANDAR	Brambey I	9.8	5.44	7.1	9.45
Ranchi	Silli	Banuwadiah	Motor Fitted	Motor Fitted	Motor Fitted	Motor Fitted
Ranchi	Tamar	Roladih	8.93	10.78	11.26	13.12
Saraikela- Kharsawan	Kharsawan	Kharsawan	1.48	2.4	4.82	7.5
Simdega	Bano	Unikel	5.32	5.86	7.21	9
Simdega	Thethaitangar	Kereya	3.72	4.73	8.42	10.46
Simdega	Kolebira	Kolebira	35.8	16.85	38.55	10.91
Simdega	Jaldega	Gangu Toli	5.45	6.06	8.98	12.17
Simdega	Bolba	Auga	4.39	Gate closed	6.16	6.96

District	Block	Location	DTWL (mbgl) May 2023	DTWL (mbgl) August 2023	DTWL (mbgl) November 2023	DTWL (mbgl) January 2024
Simdega	Pakartand	Pakartand	4.4	14.78	8.04	18.43
Simdega	Thethaitangar	Tara boga	4.03	Gate closed	6.27	8.32
W Singhbhum	Kumardungi	Kumardungi	-	11.4	DWLR	gate closed
W Singhbhum	Jhinkpani	Asura High School (EW)	1.62	2.25	2.1	6.1
W Singhbhum	Hatgamhria	Hatgamharia	-	Dry	Not Water in Well	gate closed
W Singhbhum	Jagnathpur	Jagnathpur Inter College	-	-	2.79	7.12
W Singhbhum	Hat Gamharia	Kochra	-	-	2.66	6.3
Sahebganj	Barharwa	Kotal Pokhar	1.77	4.02	4.62	4.68
Sahebganj	Taljhari	Nischinta	4.02	4.14	4.67	6.34
Sahebganj	Pathna	Taljhari	10.07	9.97	10.37	10.57
Garhwa	Kandi	Kandi	9.43	11.57		13.6
Palamu	Bishrampur	Bishrampur	3.28	4.02	2.7	NW
Garhwa	Ramna	Silidag	6	6.58	-	6.6
Garhwa	Nagaruntari	Jatpura	5.6	Gate Locked	-	10.3
Khunti	Karra	Masmano	13.45	-	-	18.5
Khunti	Khunti	Dumardaga	1.72	Pump fitted	Pump fitted	Pump fitted
Hazaribag	Chouparan	Pandeybera	2.65	Gate Locked	1.95	3.6
Hazaribag	Ichak	Ichak/Hadari	5.33	5.65	6.15	7.1
Hazaribag	Padma	Padma/Lati	4.02	6.38	5.55	6.1
Hazaribag	Ichak	Sijhua	4.63	Gate Locked	9.35	11.9
Hazaribag	Chouparan	Selhara	4.32	6.09	6.75	7.1
Koderma	Koderma	ITI, Koderma	-	-	Pump Fitted	pump fitted
Koderma	Koderma	Idgah	-	-	7.1	8.7
Koderma	Koderma	Gumo	-	-	6.05	7.47
Ranchi	Namkom	Barganwa	SEALED	SEALE D	SEALED	SEALED
Hazaribagh	Padma	Champadih	-	-	9.55	9.25

Hydrology Project : HIS-GWDES Software**Trend of Ground Water Level****Perio 01-Jan-14 to 01-Dec-23 Premonsoon**

Tahsil/Taluk	Location	Well No	No of Data	Rise (meter/yr.)	Fall (meter/yr.)	Intercept 01-Jan-14
District: Bokaro						
	Baramasia	JHBK04	5	0.492	-	8.700
	Pupunki	BGH22	6	0.215	-	6.039
Bermo	Chandrapura	BDD12A	8	0.019	-	3.234
	Phusro/Bermo	BGH07	7	-	0.196	5.363
Chandankyari	Chandankiyari	BDD15	8	0.168	-	8.263
	Pindarjora	BDD06	7	0.361	-	10.111
Chas	Chas	BDD05	8	1.377	-	14.939
	Jaina More	BGH13	9	0.090	-	10.746
Gomia	Gomia	BGH01	9	0.137	-	5.652
	Tenughat	BGH15	9	0.082	-	6.387
Nawadih	Nawadih	BGH16	8	-	0.172	8.199
Petarwar	Petarbar	BGH11	9	0.135	-	9.867
District: Chatra						
	Birhu	BHB27	9	0.149	-	8.692
	Itkhor	BHB08A	8	0.111	-	8.871
	Pitij	BHB28	9	-	0.034	8.194
	Teliyadi	BHB16	6	0.835	-	12.020
	Tutilawa	BHB06A	8	0.079	-	7.918
Simaira	Bagra	BHB18	9	0.339	-	14.062
	Simaria	BHB17	6	0.472	-	13.446
District: Deoghar						
Deoghar	Deoghar	BDR06	7	-	0.312	6.313
	Jasidih	BDR02	8	-	0.082	7.787
Madhupur	Madhupur	BDR01	8	-	0.017	7.787
	Madhupur	BDR01A	8	-	0.017	7.783
Mohanpur	Ghormara	BDR08	6	-	0.391	6.045
Palojori	Palajori	BDR07	8	0.237	-	8.764

Trend of Ground Water Level

Perio 01-Jan-14 to 01-Dec-23 Premonsoon

Tahsil/Taluk	Location	Well No	No of Data	Rise (meter/yr.)	Fall (meter/yr.)	Intercept 01-Jan-14
Sarath	Sarath	BDR03	7	-	0.029	7.876
Sarwan	Sarawan	BDR04	8	0.034	-	8.237
District: Dhanbad						
	Dhaiya I S M	BDD28	6	-	0.114	4.283
	Dhansar M R S	BDD23	6	0.661	-	9.708
	Godhar Basti	bdd21	6	-	0.217	7.942
	Jharia	BDD01	7	-	0.083	1.827
Baghmara	Baghmara	BDD14	5	0.170	-	13.322
	Rajganj	BDD09	8	0.186	-	7.810
Dhanbad	Dhanbad	BDD13	5	0.185	-	5.996
Gobindpur	Govindpur	BDD08	5	0.094	-	6.182
Jharia	Sindri	BDD11	8	0.181	-	6.520
Nirsa	Nirsa ecl l.qtr	BDD03A	7	0.171	-	3.591
Topchachi	Topchanchi	BDD04	8	0.277	-	8.866
Tundi	Tundi	BDD02	7	0.020	-	6.764
District: Dumka						
Dumka	Dumka (db ib)	BDK03	9	0.102	-	5.649
Gopikandar	Gopikandar	BDK23	9	-	0.157	7.832
	Narayanpur	BDK18	6	0.191	-	5.585
Jama	Chikania	BDK22	6	0.923	-	10.343
	Jama	BDK13	8	0.312	-	9.628
Jarmundi	Jarmundi db.ib	BDK07	8	0.174	-	8.037
	Nunihaat	BDK19	8	-	0.034	2.305
Kathikund	Kathikund	BDK02	9	-	0.028	6.967
Masalia	Masalia	BDK15	9	0.082	-	6.013
Ramgarh	Gamharia	BDK20	6	0.761	-	11.283
Raneshwar	Masanjor	BDK05	8	0.068	-	4.123
	Raneswar	BDK14	6	0.336	-	7.458
Saraiyahat	Hansdiha pwdib	BDK04	7	0.148	-	7.946

Trend of Ground Water Level

Perio 01-Jan-14 to 01-Dec-23 Premonsoon

Tahsil/Taluk	Location	Well No	No of Data	Rise (meter/yr.)	Fall (meter/yr.)	Intercept 01-Jan-14
Shikaripara	Patabari	BDK17	9	0.015	-	7.668
	Sikaripara	BDK06	7	0.009	-	6.864
District: Garhwa						
	Ramna	BPL37	7	0.010	-	6.969
	Ranka	JHGA01	6	-	0.123	6.537
Bhandaria	Godarmana	BPL28	5	-	0.057	7.883
Bhawnathpur+kandi	Bhawanathpur	BPL20	5	0.106	-	7.678
Garhwa	Garhwa	BPL06	5	1.105	-	16.575
Majhiaon	Manjhian	BPL31	7	-	0.222	4.981
District: Giridih						
	Maheshmunda	BGH24	8	-	0.219	6.456
	Saraiya	BGH23	8	-	0.327	7.539
Bagodar	Bagodar	BGH02	7	-	0.117	7.461
Bengabad	Bengabad	BGH17	8	0.200	-	9.174
Birni	Birini	BGH08	7	0.201	-	9.156
Deori	Dewri	BGH10	6	-	0.078	6.541
Dhanwar	Dhanwar	BGH05	6	0.129	-	8.448
Dumri	Dumri	BGH14	8	0.214	-	11.283
Gandey	Gandey	BGH21	7	0.052	-	9.771
	Pandri	BGH09	6	-	0.447	7.330
Giridih	Bandhutanr	BGH19	6	-	0.330	8.104
	Dhanidih	BGH20	8	0.046	-	8.114
	Giridih	BGH03	8	0.372	-	9.661
Jamua	Jamua pwd ib	BGH06	7	0.077	-	10.910
	Khijri	BGH12	7	-	0.340	7.198
Pirtanr	Chirki (pirtanr)	BGH18	7	0.133	-	11.414
Tsri	Tisri	BGH04	7	-	0.275	3.983
District: Godda						
	Jaminipahar	BGD11	7	-	0.213	6.362
	Kumardih	JHGO07	5	-	0.229	3.898
Godda	Godda	BGD01A	5	-	0.298	5.142
Mahagama	Doi	BGD02	6	-	0.092	4.268
	Lalmatia	BGD05	8	-	0.038	8.695
	Mahagama	BGD06A	7	0.191	-	8.960
Pathargama	Maheshpur	BGD03A	7	0.127	-	7.720
	Pathargama	BGD04	6	0.118	-	6.158
Sundar pahari	Sundar Pahari	BGD07	8	0.023	-	12.519
District: Gumla						
	Bhagma	BGL19	7	0.277	-	8.019
	Kasir	BGL20	8	0.113	-	1.888
	Kharka	BGL21	5	-	0.015	5.763
Basia	Baisia	BGL10	10	0.640	-	8.521

Trend of Ground Water Level

Perio 01-Jan-14 to 01-Dec-23 <i>Premonsoon</i>						
Tahsil/Taluk	Location	Well No	No of Data	Rise (meter/yr.)	Fall (meter/yr.)	Intercept 01-Jan-14
Bharno	Bharno bdo	BGL04	9	0.187	-	7.412
	Nagfeni	BGL14	9	0.035	-	8.161
Bishunpur	Bishnupur	BGL06	8	0.350	-	8.437
Chainpur	Chainpur	BGL13	8	0.364	-	6.047
Ghaghra	Ghagra	BGL05	8	0.448	-	9.558
Gumla	Anjam gram	BGL18	7	-	0.058	2.514
	Gumla	BGL02	6	-	0.025	8.408
	Gumla	BGL02A1	8	0.324	-	8.731
Palkot	Palkot	BGL07	9	0.071	-	8.815
Raidih	Raidih	BGL12	8	0.282	-	7.451
Sisai	Sisai	BGL03	8	0.358	-	8.411
District: Hazaribag						
	Barkagaon	BHB19	6	0.037	-	11.713
	Dari	BHB50	5	0.738	-	10.966
	Daru	BHB25	7	0.100	-	7.527
	Garrikalan	BHB23	7	0.206	-	7.244
	Hatyari	BHB51	6	0.030	-	5.450
	Ichak More	BHB13A	7	-	0.298	5.760
	Keredari	BHB22	8	0.451	-	10.385
	Meru(silwar)	BHB24	8	0.094	-	10.669
	Padma	BHB26	8	0.185	-	10.855
	Sakrej	BHB52	8	0.198	-	7.577
	Tatijhariya	BHB53	5	-	0.187	2.242
	Urimari	BHB35	8	-	0.108	7.132
Barhi	Barhi	BHB01	7	0.186	-	10.450
Barkatha	Barkatha	BHB10	9	0.177	-	7.258
Hazaribagh	Hazaribagh	BHB04	8	0.557	-	11.730
District: Jamtara						
	Basti Palajori	JHJA03	5	-	0.140	5.383
	Dhootala	BDK24	6	-	0.231	5.779
	Fatehpur	JHJA05	6	0.113	-	9.369
	Jasaydih	JHJA02	5	0.404	-	10.345
	Mihijam db ib	BDK01	8	0.342	-	8.876
	Mohanpur	JHJA04	6	0.553	-	10.808
Jamtara	Jamtara	BDK12	7	0.255	-	8.954
Kundhit	Kundahit	BDK11	8	0.125	-	6.721
Nala	Nala	BDK16	9	0.100	-	6.584
District: Khunti						
	Binagoan	JHKH02	6	-	0.213	6.975
	Dorma	BRC34	7	0.009	-	6.116
	Jariya	JHKH01	5	-	0.075	6.275
Arki	Karapurti	BRC14	6	-	0.463	3.781

Trend of Ground Water Level

Perio 01-Jan-14 to 01-Dec-23 Premonsoon

Tahsil/Taluk	Location	Well No	No of Data	Rise (meter/yr.)	Fall (meter/yr.)	Intercept 01-Jan-14
	Seringathu	BRC12A	7	0.215	-	4.325
Karra	Lodma	BRC20	7	-	0.042	4.844
Khunti	Kalimati	BRC15	6	0.321	-	8.064
Khunti	Khunti	BRC02	7	0.387	-	9.489
Murhu	Murhu	BRC16	6	-	0.140	3.907
District: Koderma						
	Chandwara	BHB36	7	0.233	-	5.947
	Domchanch	BHB57	5	-	0.764	5.588
	Jainagar	BHB58	6	0.205	-	6.353
	Jhumritilaiya	BHB37	7	-	0.249	6.224
	Kanobigha	JHKO02	7	0.047	-	6.567
	Pathaldiha	JHKO01	6	0.146	-	5.403
Koderma	Kodarma	BHB03	7	-	0.046	7.941
District: Latehar						
	Daltenganj	BPL07	7	0.317	-	7.958
	Garu	BPL14	6	0.046	-	7.640
Balumath	Balumath	BPL15	8	-	0.024	11.556
	Barjatu	BPL30	9	0.012	-	7.389
Barwadih	Barwadih	BPL16	8	-	0.030	9.001
Chandwa	Chandwa	BPL02	7	-	0.046	8.172
Latehar	Latehar	BPL03	5	-	0.146	5.550
Manika	Manika	BPL12	8	-	0.582	4.927
District: Lohardaga						
	Barwatoli Chowk	JHLO02	7	0.473	-	8.262
	Hesal	BLD09	7	0.027	-	8.573
	Irgaon	BLD11	7	0.198	-	8.260
	Lohardaga (patra Toli)	BLD08	7	-	0.016	6.750
Bhandara	Bhandara	BLD04	8	-	0.056	7.781
Kisko	Kisko	BLD05A	8	-	0.056	11.497
Kuru	Hinjla	BLD03B	8	0.007	-	7.279
	Kuru	BLD02A	8	0.112	-	8.331
	Rudh	BLD06	7	-	0.059	8.124

Trend of Ground Water Level

Perio 01-Jan-14 to 01-Dec-23 Premonsoon

Tahsil/Taluk	Location	Well No	No of Data	Rise (meter/yr.)	Fall (meter/yr.)	Intercept 01-Jan-14
Lohardaga	Lohardaga (pwdib)	BLD01	8	0.052	-	6.560
Senha	Senha Bdo	BLD07	9	-	0.391	4.483
District: Pakur						
	Litipara 2	JHPA06	5	-	0.401	2.975
Amrapara	Amrapara	BSG06	5	0.887	-	6.951
Littipara	Litipara	BSG07	8	-	0.155	8.603
Maheshpur	Maheshpur	BSG05	5	0.037	-	6.913
	Salgapara	BSG14	7	-	0.071	6.647
Pakur	Pakur	BSG08	7	0.344	-	12.679
Pakuria	Pakuria	BSG04	5	0.528	-	5.142
District: Palamau						
	Baraw	BPL36	7	-	0.321	5.894
	Sagalim	BPL34	6	0.149	-	9.626
Bishrampur	Bishrampur	BPL09	5	0.549	-	10.528
	Kajri	BPL27	5	-	0.194	10.917
	Rajhara	BPL08	6	0.342	-	9.516
Chhatarpur	Chhatarpur	BPL05	6	-	0.623	7.428
Hariharganj	Hariharganj	BPL19	5	-	0.426	7.234
Lesliganj	Lesliganj	BPL26	5	-	0.624	5.542
Panki	Panki	BPL22	7	-	0.647	5.597
Patan	Kanda	BPL25	6	0.038	-	6.618
	Nawadih	BPL18	5	-	0.288	12.825
Satbarwah	Satbarwa	BPL24	6	-	0.137	8.390
District: Paschim Singbhum						
	Barajamda	BSM38	5	-	0.141	2.505
	Hatgamhariya	BSM43	6	0.031	-	9.835
	Jagnnathpur	BSM42	7	0.046	-	9.665
	Jaitgarh	BSM41	7	0.053	-	6.279
	Noamundi	BSM39	7	0.108	-	4.121

Trend of Ground Water Level

Perio 01-Jan-14 to 01-Dec-23 **Premonsoon**

Tahsil/Taluk	Location	Well No	No of Data	Rise (meter/yr.)	Fall (meter/yr.)	Intercept 01-Jan-14
Bandgaon	Bandgaon	BSM23	7	0.078	-	8.303
	Hesadih	BSM30A	8	0.108	-	5.940
	Kereikela	BSM22A	8	0.260	-	8.437
Chaibasa	Chaibasa	BSM07	8	-	0.026	13.279
Chakradharpur	Chakradharpur	BSM01	8	-	0.102	6.892
Jagnnathpur	Kokcho	BSM26	8	0.091	-	9.244
Jhinkpani	Jhinkpani	BSM16	8	0.029	-	7.200
Khuntpani	Khuntpani	BSM17	7	0.014	-	7.874
District: Purba Singhbhum						
	Hana Bautia	BSM34	5	0.262	-	7.366
	Pithajudi	BSM33	6	0.009	-	4.963
	Baharagora	BSM02	6	0.060	-	14.080
Chakulia	Chakulia	BSM03	7	0.208	-	17.748
Dhalbhumgarh	Dhalbhumgarh	BSM08	8	-	0.082	10.960
Ghatsila	Ghatsila	BSM04	7	0.146	-	7.354
Jugsalai	Paridih	BSM32	5	0.075	-	8.394
Musabani	Mosabani	BSM09	8	0.175	-	3.750
Potka	Kalikapur	BSM24	8	0.198	-	5.917
	Potka	BSM10	7	-	0.044	8.629
District: Ramgarh						
	Barkachumba	BHB54	5	0.158	-	7.893
	Kaitha	JHRA01	7	0.546	-	7.418
	Kanjgi	BHB31	7	0.490	-	8.949
	Kuju	BHB21	7	0.186	-	7.310
	Kusumbha	JHRA03	6	0.419	-	8.970
	Sayal	BHB34	9	0.193	-	5.967
	Sirka(bazartanr)	BHB32	7	-	0.148	7.548
	Chitarpur	BHB15A	7	0.015	-	7.136
Gola	Gola	BHB12	6	0.301	-	9.850

Trend of Ground Water Level

Perio 01-Jan-14 to 01-Dec-23 *Premonsoon*

Tahsil/Taluk	Location	Well No	No of Data	Rise (meter/yr.)	Fall (meter/yr.)	Intercept 01-Jan-14
Ramgarh	Barkakhana	BHB14	9	0.142	-	4.348
	Ramgarh	BHB02	6	-	0.210	5.818
District: Ranchi						
Ramgarh	Angara	BRC17A	10	0.238	-	9.105
	Bajra	BRC48	6	0.328	-	6.473
	Bit More	BRC26	9	0.219	-	5.926
	Bridge Ford School	JHRN16	5	0.025	-	6.283
	Gondlipokhar	BRC42	8	0.294	-	7.476
	Hanuman Mandir	JHRN15	5	-	0.400	6.136
	Harmu	BRC33	7	0.378	-	11.523
	Kanke	BRC32	7	-	0.016	2.705
	Kharsidag	BRC45	6	-	0.228	4.971
	Kita	BRC27	8	0.219	-	6.544
	Lalganj	BRC41	7	0.066	-	7.356
	Lowadih	BRC43	6	-	0.255	6.636
	Namkom Bz Chowk	BRC31	5	-	0.000	3.747
	Patrahau	BRC28	7	-	0.353	1.369
	Pithoria	BRC49	9	0.232	-	5.931
	Rampur	BRC44	6	-	0.074	4.224
	Rangamati	BRC29	8	0.123	-	7.504
	Siramtoli	BRC47	7	0.362	-	8.672
	Sithipokhartoli	BRC46	5	-	0.065	5.193
	Sonsbazar	BRC40	8	0.078	-	6.728
	Taimara	BRC30	10	0.273	-	11.591
Angara	Barwadag	BRC08	8	0.332	-	5.984
	Jonha	BRC25	10	0.125	-	5.479
Bero	Berro	BRC07	9	0.251	-	10.197
Bundu	Bundu	BRC04	9	0.143	-	9.906
Burmu	Burmoo	BRC05	9	0.207	-	10.490
Itki	Chachgura	BRC24	10	0.057	-	11.005

Trend of Ground Water Level

Perio 01-Jan-14 to 01-Dec-23 Premonsoon

Tahsil/Taluk	Location	Well No	No of Data	Rise (meter/yr.)	Fall (meter/yr.)	Intercept 01-Jan-14
Kanke	Hatia	BRC19A	6	-	0.110	9.598
Mandar	Mandar	BRC06	8	0.067	-	6.339
Ormanjhi	Bunti	BRC18	6	-	0.003	2.254
	Chutupalu	BRC22	8	0.250	-	9.142
	Ormanji	BRC01	7	-	0.134	5.543
Ratu	Kantitanr	BRC21A	8	0.102	-	5.132
Silli	Silli	BRC09	8	0.138	-	7.278
Sonahatu	Sonahatu	BRC23	7	0.274	-	6.500
Tamar	Tamar	BRC11	8	0.169	-	10.885
District: Sahibgani						
	Baramasia	JHSA07	5	0.383	-	9.255
	Berhait	BSG09	8	0.180	-	7.181
	Borio	BSG11	7	0.520	-	7.815
	Chota Kadma	JHSA05	5	0.510	-	11.397
	Ghat Selampur	BSG17	7	0.284	-	7.594
	Kotalpokhar	JHSA08	5	0.239	-	6.113
	Mandro	BSG12	8	0.091	-	4.628
	Mangal Hat	JHSA06	5	0.029	-	5.722
	Maricho	JHSA04	5	-	0.090	6.719
	Rajmahal	BSG02	8	0.037	-	6.005
	Ranga	BSG16	7	0.152	-	8.151
	Sahebganj	BSG01	8	-	0.045	8.656
	Sakrigali	BSG13	8	0.065	-	5.352
	Taljhari	BSG03	8	0.210	-	3.812
	Udvababutala	BSG18	6	0.399	-	8.656
District: Saraikela						
	Chandil	BSM06	7	-	0.472	6.865
	Kandra	BSM19	7	0.078	-	6.893
	Keshargaria	BSM28	6	0.285	-	4.387

Trend of Ground Water Level

Perio 01-Jan-14 to 01-Dec-23 Premonsoon

Tahsil/Taluk	Location	Well No	No of Data	Rise (meter/yr.)	Fall (meter/yr.)	Intercept 01-Jan-14
	Kharsawan	BSM18	8	-	0.085	6.670
	Saraikela	BSM14	7	0.138	-	3.058
District: Simdega						
	Baribringa	JHSI01	6	0.309	-	5.679
	Biru	BGL23	8	0.114	-	5.861
	Bolba	JHSI04	6	0.372	-	8.708
	Kerio	JHSI03	5	0.368	-	8.457
	Lamboi	JHSI02	6	0.112	-	7.245
	Puthritoli	BGL24	6	0.146	-	4.688
	Tengratuku	BGL22	7	0.187	-	7.392
Bano	Bano	BGL08	8	0.006	-	6.683
Jaldega	Jaldega	BGL17	8	0.089	-	5.753
Kolebira	Kolebira	BGL11	9	0.366	-	9.776
	Lachargarh	BGL16	8	0.025	-	7.665
Simdega	Simdega	BGL01	6	0.064	-	7.185
Thethaitangar	Thethai Thangar	BGL09	8	-	0.006	2.876
District: Bokaro						
	Baramasia	JHBK04	8	0.281	-	4.928
	Pupunki	BGH22	6	-	0.011	3.148
	Radhagaon Rly Stn	BGH32	5	0.085	-	3.608
Bermo	Chandrapura	BDD12A	10	0.020	-	2.125
	Phusro/Bermo	BGH07	6	0.022	-	1.522
Chandankyari	Chandankiyari	BDD15	10	0.221	-	3.868
	Pindarjora	BDD06	10	0.261	-	4.366
Chas	Chas	BDD05	7	0.128	-	11.247
	Jaina More	BGH13	10	0.171	-	8.207
Gomia	Gomia	BGH01	9	0.201	-	3.334
	Tenughat	BGH15	9	0.173	-	3.971
Nawadih	Nawadih	BGH16	10	-	0.024	4.800
Petarwar	Petarbar	BGH11	10	0.210	-	6.953
District: Chatra						
	Birhu	BHB27	10	0.324	-	7.271
	Itkhor	BHB08A	10	0.254	-	6.884
	Pitij	BHB28	10	0.257	-	6.956
	Teliyadih	BHB16	7	-	0.082	3.962
	Tutilawa	BHB06A	9	0.208	-	6.146
Simaira	Bagra	BHB18	10	0.907	-	13.611
	Simaria	BHB17	7	0.145	-	8.640
District: Devghar						
Deoghar	Deoghar	BDR06	5	-	0.124	5.271
	Jasidih	BDR02	10	0.169	-	5.093

Madhupur	Madhupur	BDR01	10	0.234	-	4.936
	Madhupur	BDR01A	10	0.234	-	4.936
Mohanpur	Ghormara	BDR08	10	0.247	-	7.095

Trend of Ground Water Level

Perio 01-Jan-14 to 01-Dec-23 *Postmonsoon*

Tahsil/Taluk	Location	Well No	No of Data	Rise (meter/yr.)	Fall (meter/yr.)	Intercept 01-Jan-14
Palojori	Palajori	BDR07	10	0.117	-	4.745
Sarath	Sarath	BDR03	8	0.065	-	5.277
Sarwan	Sarawan	BDR04	8	0.258	-	6.947
District: Dhanbad						
	Dhaiya I S M	BDD28	5	-	0.141	2.197
	Dhansar M R S	BDD23	9	0.010	-	3.511
	Godhar Basti	bdd21	7	-	0.289	3.834
	Jharia	BDD01	8	-	0.029	1.769
	Mahuda	BDD07	6	-	0.316	2.682
Baghmara	Baghmara	BDD14	9	0.390	-	10.406
	Rajganj	BDD09	10	0.077	-	4.127
Dhanbad	Dhanbad	BDD13	8	0.258	-	3.484
Gobindpur	Govindpur	BDD08	9	-	0.123	2.260
Jharia	Sindri	BDD11	8	-	0.006	2.813
Nirsa	Nirsa ecl l.qtr	BDD03A	7	0.027	-	1.973
Topchachi	Topchanchi	BDD04	10	0.089	-	4.555
Tundi	Tundi	BDD02	9	0.021	-	3.348
District: Dumka						
	Chapodia	JH DU01	8	-	0.083	3.406
Dumka	Dumka (db ib)	BDK03	9	-	0.072	3.088
Gopikandar	Gopikandar	BDK23	9	0.221	-	8.208
	Narayanpur	BDK18	5	0.282	-	4.342
Jama	Chikania	BDK22	7	-	0.174	4.628
	Jama	BDK13	9	-	0.062	5.853
Jarmundi	Jarmundi db.ib	BDK07	7	0.057	-	5.489
	Nunihaat	BDK19	9	0.042	-	2.024
Kathikund	Kathikund	BDK02	8	0.077	-	5.444
Masalia	Masalia	BDK15	9	0.078	-	4.396
Ramgarh	Gamharia	BDK20	8	-	0.075	7.266

Trend of Ground Water Level

Perio 01-Jan-14 to 01-Dec-23 Postmonsoon

Tahsil/Taluk	Location	Well No	No of Data	Rise (meter/yr.)	Fall (meter/yr.)	Intercept 01-Jan-14
Raneshwar	Masanjor	BDK05	9	0.082	-	3.208
	Raneswar	BDK14	9	0.135	-	4.156
Saraiyahat	Hansdiha pwdib	BDK04	7	-	0.006	4.984
	Ramgarh	BDK09	5	0.306	-	5.832
Shikaripara	Patabari	BDK17	9	0.059	-	4.165
	Sikaripara	BDK06	8	0.233	-	6.007
District: Garhwa						
	Ramna	BPL37	8	0.233	-	5.642
	Ranka	JHGA01	9	0.447	-	6.644
Bhandaria	Godarmana	BPL28	7	-	0.206	4.113
Bhawnathpur+kandi	Bhawanathpur	BPL20	6	0.120	-	6.124
Garhwa	Garhwa	BPL06	7	0.038	-	7.681
Majhiaon	Manjhian	BPL31	9	-	0.008	4.494
District: Giridih						
	Maheshmunda	BGH24	10	-	0.011	2.748
	Saraiya	BGH23	8	-	0.479	2.346
Bagodar	Bagodar	BGH02	10	0.141	-	4.760
Bengabad	Bengabad	BGH17	9	0.212	-	4.481
Birni	Birini	BGH08	8	0.360	-	6.248
Deori	Dewri	BGH10	9	0.012	-	2.668
Dhanwar	Dhanwar	BGH05	8	-	0.179	1.581
Dumri	Dumri	BGH14	10	0.269	-	7.507
Gandey	Gandey	BGH21	9	0.345	-	6.038
	Pandri	BGH09	10	0.118	-	4.092
Giridih	Bandhutanr	BGH19	7	0.230	-	5.455
	Dhanidih	BGH20	9	0.271	-	4.310
	Giridih	BGH03	10	0.350	-	5.863
Jamua	Jamua pwd ib	BGH06	8	-	0.023	5.448
	Khijri	BGH12	6	-	0.222	2.574

Trend of Ground Water Level

Perio 01-Jan-14 to 01-Dec-23 **Postmonsoon**

Tahsil/Taluk	Location	Well No	No of Data	Rise (meter/yr.)	Fall (meter/yr.)	Intercept 01-Jan-14
Tsri	Tisri	BGH04	8	-	0.055	2.372
District: Godda						
	Bargacha Hariyari	JHGO08	8	0.335	-	7.246
	Bisaha	JHGO06	5	-	0.064	3.037
	Chamudih	JHGO03	6	0.240	-	7.541
	Gobra	JHGO02	8	0.067	-	3.310
	Jaminipahar	BGD11	10	0.079	-	5.281
	Kumardih	JHGO07	8	-	0.038	2.644
Boarijor	Bara borijore	BGD09	9	0.091	-	3.466
Godda	Godda	BGD01A	7	0.167	-	4.763
Mahagama	Doi	BGD02	10	0.015	-	3.034
	Lalmatia	BGD05	10	0.125	-	7.045
	Mahagama	BGD06A	6	0.337	-	7.635
Pathargama	Maheshpur	BGD03A	10	0.564	-	6.833
	Pathargama	BGD04	5	-	0.333	4.408
Porayahat	Poraiyahaat	BGD08	7	-	0.024	4.592
Sundar pahari	Sundar Pahari	BGD07	7	0.280	-	9.051
District: Gumla						
	Bhagma	BGL19	8	0.142	-	4.467
	Kasir	BGL20	9	0.045	-	0.870
	Kharka	BGL21	5	0.366	-	5.759
Basia	Baisia	BGL10	9	0.001	-	3.178
Bharno	Bharno bdo	BGL04	9	0.106	-	4.506
	Nagfeni	BGL14	8	0.385	-	6.444
Bishunpur	Bishnupur	BGL06	9	0.134	-	5.350
Chainpur	Chainpur	BGL13	9	0.302	-	4.707
Ghaghra	Ghagra	BGL05	9	0.495	-	7.268
Gumla	Anjam gram	BGL18	9	-	0.062	1.185
	Gumla	BGL02	8	-	0.240	2.197

Trend of Ground Water Level

Perio 01-Jan-14 to 01-Dec-23 **Postmonsoon**

Tahsil/Taluk	Location	Well No	No of Data	Rise (meter/yr.)	Fall (meter/yr.)	Intercept 01-Jan-14
Gumla	Gumla	BGL02A1	8	0.126	-	6.441
Palkot	Palkot	BGL07	9	0.247	-	6.339
Raidih	Raidih	BGL12	9	0.210	-	4.070
Sisai	Sisai	BGL03	9	0.242	-	4.885
District: Hazaribag						
	Barkagaon	BHB19	9	0.397	-	10.909
	Dari	BHB50	6	0.165	-	4.888
	Daru	BHB25	9	0.205	-	3.594
	Garrikalan	BHB23	7	-	0.131	3.425
	Hatyari	BHB51	9	0.039	-	3.368
	Ichak More	BHB13A	8	0.122	-	5.417
	Keredari	BHB22	7	-	0.104	3.862
	Meru(silwar)	BHB24	9	0.151	-	7.747
	Padma	BHB26	9	0.663	-	12.114
	Sakrej	BHB52	9	0.082	-	5.372
	Tatijhariya	BHB53	8	-	0.050	2.857
	Urimari	BHB35	8	0.013	-	4.214
Barhi	Barhi	BHB01	7	0.300	-	6.623
Barkatha	Barkatha	BHB10	7	0.057	-	3.720
Hazaribagh	Hazaribagh	BHB04	9	0.063	-	4.098
District: Jamtara						
	Basti Palajori	JHJA03	7	-	1.369	-4.071
	Dhootala	BDK24	9	0.163	-	5.197
	Fatehpur	JHJA05	7	-	1.930	-4.852
	Jasaydih	JHJA02	6	-	1.968	-7.033
	Mihijam db ib	BDK01	7	-	0.149	4.126
	Mohanpur	JHJA04	7	-	1.737	-4.557
Jamtara	Jamatara	BDK12	9	-	0.508	3.363
Kundhit	Kundahit	BDK11	9	0.156	-	3.912

Trend of Ground Water Level

Perio 01-Jan-14 to 01-Dec-23 Postmonsoon

Tahsil/Taluk	Location	Well No	No of Data	Rise (meter/yr.)	Fall (meter/yr.)	Intercept 01-Jan-14
Nala	Nala	BDK16	9	-	0.123	4.506
District: Khunti						
	Binagoan	JHKH02	9	0.122	-	5.110
	Dorma	BRC34	9	0.118	-	4.345
	Jariya	JHKH01	8	0.110	-	5.267
	Nawatoli	BRC56	5	-	0.032	3.191
	Pokta	BRC58	6	0.233	-	3.087
Arki	Karapurti	BRC14	7	0.162	-	4.220
	Seringathu	BRC12A	7	-	0.053	0.638
Karra	Lodma	BRC20	6	-	0.036	2.731
Khunti	Kalimati	BRC15	9	0.266	-	4.936
	Khunti	BRC02	8	0.151	-	4.717
Murhu	Murhu	BRC16	7	0.373	-	5.094
District: Koderma						
	Chandwara	BHB36	8	0.138	-	3.249
	Domchanch	BHB57	5	-	0.454	5.030
	Jainagar	BHB58	9	-	1.156	-0.623
	Jhumritilaiya	BHB37	10	-	0.108	3.418
	Kanobigha	JHKO02	9	0.245	-	5.345
	Pathaldiha	JHKO01	8	-	0.730	-1.036
Koderma	Kodarma	BHB03	7	0.278	-	6.834
District: Latehar						
	Betla	BPL04	7	0.162	-	8.755
	Daltenganj	BPL07	7	-	0.220	3.597
	Garu	BPL14	9	0.021	-	5.617
Balumath	Balumath	BPL15	10	-	0.029	9.121
	Barjatu	BPL30	8	-	0.143	5.077
Barwadih	Barwadih	BPL16	9	0.215	-	5.294
Chandwa	Chandwa	BPL02	9	-	0.293	3.613

Trend of Ground Water Level

Perio 01-Jan-14 to 01-Dec-23 Postmonsoon

Tahsil/Taluk	Location	Well No	No of Data	Rise (meter/yr.)	Fall (meter/yr.)	Intercept 01-Jan-14
Latehar	Latehar	BPL03	10	-	0.241	3.312
Mahuadanr	Mahuadanr	BPL17	7	0.123	-	4.534
Manika	Manika	BPL12	10	-	0.080	2.767
District: Lohardaga						
	Barwatoli Chowk	JHLO02	8	0.080	-	3.335
	Hesal	BLD09	10	0.192	-	6.760
	Irgaon	BLD11	10	0.048	-	5.045
	Lohardaga (patra Toli)	BLD08	8	0.450	-	5.921
Bhandara	Bhandara	BLD04	9	0.252	-	7.683
Kisko	Kisko	BLD05A	6	-	0.252	5.580
Kuru	Hinjla	BLD03B	10	0.028	-	5.335
	Kuru	BLD02A	10	0.128	-	4.981
	Rudh	BLD06	9	0.212	-	5.602
Lohardaga	Lohardaga (pwdib)	BLD01	8	0.108	-	4.608
Senha	Senha Bdo	BLD07	7	-	0.459	0.110
District: Pakur						
	Kariodih	JHPA03	7	-	0.046	3.685
	Litipara 2	JHPA06	7	-	0.021	2.995
	Vikarampur	JHPA04	7	0.019	-	2.477
Amrapara	Amrapara	BSG06	9	-	0.066	1.668
Littipara	Litipara	BSG07	9	-	0.022	7.179
Maheshpur	Salgapara	BSG14	8	0.057	-	3.801
Pakur	Pakur	BSG08	10	0.068	-	6.293
Pakuria	Pakuria	BSG04	8	0.243	-	3.026
District: Palamau						
	Baraw	BPL36	6	-	0.110	3.929
	Hydernagar	BPL35	5	-	0.106	4.575
	Sagalim	BPL34	6	-	0.323	5.068
Bishrampur	Bishrampur	BPL09	8	-	0.120	3.693

Trend of Ground Water Level

Perio 01-Jan-14 to 01-Dec-23 *Postmonsoon*

Tahsil/Taluk	Location	Well No	No of Data	Rise (meter/yr.)	Fall (meter/yr.)	Intercept 01-Jan-14
Bishrampur	Kajri	BPL27	6	-	0.712	8.130
	Rajhara	BPL08	7	0.154	-	6.002
Chhatarpur	Chhatarpur	BPL05	7	-	0.453	7.223
	Sandha	BPL29	6	-	0.221	4.613
Hariharganj	Hariharganj	BPL19	6	-	0.282	4.612
Lesliganj	Lesliganj	BPL26	7	0.042	-	5.887
Panki	Panki	BPL22	8	-	0.541	2.327
Patan	Kanda	BPL25	6	-	0.413	3.940
	Patan	BPL21	7	-	0.396	3.919
Satbarwah	Satbarwa	BPL24	8	-	0.321	6.196

District: Paschim Singbhum

	Bangaon	BSM40	9	0.266	-	5.470
	Barajamda	BSM38	8	0.077	-	1.866
	Hatgamhariya	BSM43	10	0.188	-	4.903
	Jagnnathpur	BSM42	10	0.364	-	7.965
	Jaitgarh	BSM41	8	0.336	-	5.457
	Noamundi	BSM39	10	0.394	-	4.779
Bandgaon	Bandgaon	BSM23	8	-	0.128	4.279
	Hesadih	BSM30A	9	0.182	-	3.477
	Kereikela	BSM22A	10	0.453	-	6.110
Chaibasa	Chaibasa	BSM07	10	0.240	-	9.867
Chakradharpur	Chakradharpur	BSM01	10	0.223	-	4.945
Jagnnathpur	Kokcho	BSM26	10	0.220	-	5.163
Jhinkpani	Jhinkpani	BSM16	9	0.405	-	5.238
Khuntpani	Khuntpani	BSM17	10	0.229	-	3.906

District: Purba Singbhum

	Kalapathar	BSM59	5	0.251	-	7.663
	Piplia	JHES01	6	0.418	-	5.871
Bahragora	Bahragora	BSM02	6	0.401	-	7.674

Trend of Ground Water Level

Perio 01-Jan-14 to 01-Dec-23 **Postmonsoon**

Tahsil/Taluk	Location	Well No	No of Data	Rise (meter/yr.)	Fall (meter/yr.)	Intercept 01-Jan-14
Chakulia	Chakulia	BSM03	9	0.198	-	14.209
Dhalbhumgarh	Dhalbhumgarh	BSM08	9	0.113	-	6.388
Ghatsila	Ghatsila	BSM04	10	-	0.165	3.341
Jugsalai	Paridih	BSM32	5	-	0.026	5.297
Musabani	Mosabani	BSM09	10	0.074	-	1.560
Potka	Kalikapur	BSM24	10	0.144	-	2.773
	Potka	BSM10	10	0.025	-	4.421
District: Ramgarh						
	Barkachumba	BHB54	7	0.093	-	3.952
	Kaitha	JHRA01	9	0.446	-	5.547
	Kanjgi	BHB31	9	0.437	-	6.631
	Kuju	BHB21	10	0.032	-	4.189
	Kusumbha	JHRA03	6	0.135	-	4.720
	Sayal	BHB34	10	0.157	-	4.253
	Sirka(bazartanr)	BHB32	8	-	0.157	4.886
	Thakur Gaon	BHB55	8	-	0.601	0.846
Gola	Chitarpur	BHB15A	9	0.226	-	5.431
	Gola	BHB12	10	0.167	-	6.873
Ramgarh	Barkakhana	BHB14	10	0.040	-	2.931
	Ramgarh	BHB02	6	-	0.042	3.671
District: Ranchi						
	Angara	BRC17A	8	0.195	-	6.344
	Bajra	BRC48	7	0.236	-	4.990
	Bit More	BRC26	9	0.273	-	4.807
	Bridge Ford School	JHRN16	7	0.303	-	5.999
	Gondlipokhar	BRC42	10	0.215	-	4.427
	Hanuman Mandir	JHRN15	6	0.236	-	7.647
	Harmu	BRC33	7	0.560	-	9.676
	Hombai B.i.t Mesra	JHRN05	7	0.097	-	5.595

Trend of Ground Water Level

Perio 01-Jan-14 to 01-Dec-23 Postmonsoon

Tahsil/Taluk	Location	Well No	No of Data	Rise (meter/yr.)	Fall (meter/yr.)	Intercept 01-Jan-14
	Jaltanda	BRC64	5	0.386	-	4.852
	Kanke	BRC32	10	0.187	-	2.938
	Kharsidag	BRC45	8	0.142	-	5.160
	Kita	BRC27	9	-	0.013	2.850
	Lalganj	BRC41	7	0.138	-	5.326
	Lowadih	BRC43	8	0.117	-	5.449
	Patrahau	BRC28	7	-	0.144	0.570
	Pithoria	BRC49	8	0.087	-	3.049
	Ramkrishna Mission	JHRN06	7	-	0.088	3.579
	Rampur	BRC44	8	-	0.116	2.774
	Rangamati	BRC29	8	0.058	-	4.389
	Siramtoli	BRC47	8	0.230	-	5.729
	Sithipokhartoli	BRC46	7	0.280	-	6.066
	Sonsbazar	BRC40	7	-	0.036	3.884
	Taimara	BRC30	9	0.059	-	5.700
Angara	Barwadag	BRC08	9	0.110	-	3.798
	Jonha	BRC25	9	0.078	-	4.034
	Tatilsilwai	BRC12	6	0.287	-	6.537
Bero	Berro	BRC07	7	0.463	-	8.633
Bundu	Bundu	BRC04	9	0.101	-	5.251
Burmu	Burmoo	BRC05	9	0.207	-	7.220
Itki	Chachgura	BRC24	9	0.268	-	6.939
Kanke	Hatia	BRC19A	9	0.349	-	7.972
Mandar	Mandar	BRC06	8	0.110	-	3.611
Ormanjhi	Bunti	BRC18	8	0.150	-	2.888
	Chutupalu	BRC22	7	-	0.008	3.565
	Ormanji	BRC01	8	0.044	-	4.481
Ratu	Kantitanr	BRC21A	7	0.167	-	3.805
Silli	Silli	BRC09	8	-	0.018	4.354
Sonahatu	Sonahatu	BRC23	8	0.104	-	3.104

Trend of Ground Water Level

Perio 01-Jan-14 to 01-Dec-23 Postmonsoon

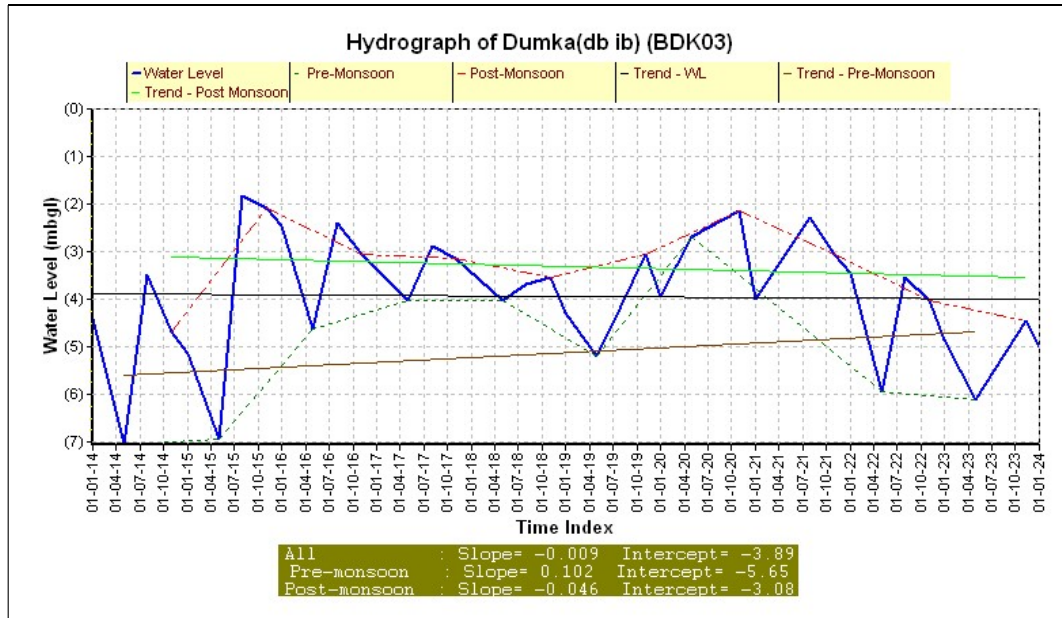
Tahsil/Taluk	Location	Well No	No of Data	Rise (meter/yr.)	Fall (meter/yr.)	Intercept 01-Jan-14
Tamar	Tamar	BRC11	7	0.062	-	3.903
		District: Sahibgani				
	Berhait	BSG09	6	0.127	-	6.280
	Borio	BSG11	8	0.211	-	4.757
	Chota Kadma	JHSA05	7	0.024	-	4.921
	Ghat Selampur	BSG17	8	0.168	-	4.038
	Kotalpokhar	JHSA08	6	0.008	-	2.533
	Mandro	BSG12	9	0.109	-	2.900
	Mangal Hat	JHSA06	7	-	0.001	3.903
	Maricho	JHSA04	7	0.027	-	3.931
	Rajmahal	BSG02	9	0.068	-	3.716
	Ranga	BSG16	9	0.113	-	4.232
	Sahebganj	BSG01	8	0.058	-	5.352
	Sakrigali	BSG13	6	-	0.253	2.520
	Taljhari	BSG03	9	0.167	-	3.343
	Udvababutala	BSG18	8	0.206	-	5.234
		District: Saraikela				
	Chandil	BSM06	7	-	0.392	2.682
	Dugni	JHSR05	5	-	0.053	3.575
	Harison	JHSR07	5	0.147	-	5.602
	Jamdih	JHSA11	5	0.203	-	4.047
	Kandra	BSM19	9	0.104	-	4.047
	Keshargaria	BSM28	8	0.049	-	1.295
	Kharsawan	BSM18	9	0.150	-	4.798
	Nabibera	JHSR06	5	0.744	-	8.816
	Saraikela	BSM14	10	0.003	-	1.800
		District: Simdega				
	Baribringa	JHSI01	7	-	0.010	1.339
	Biru	BGL23	10	-	0.355	3.954

Trend of Ground Water Level

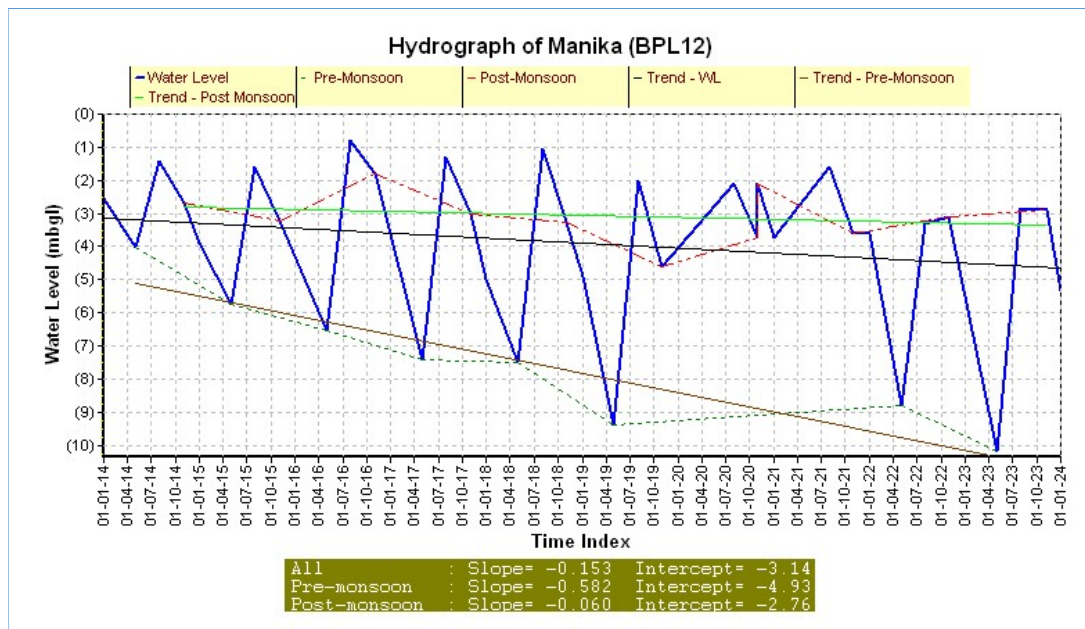
Perio 01-Jan-14 to 01-Dec-23 *Postmonsoon*

Tahsil/Taluk	Location	Well No	No of Data	Rise (meter/yr.)	Fall (meter/yr.)	Intercept 01-Jan-14
	Bolba	JHSI04	8	0.106	-	3.254
	Kerio	JHSI03	8	0.161	-	4.183
	Kurdeg	JHSI05	6	-	0.047	3.866
	Lamboi	JHSI02	8	0.104	-	3.933
	Puthritoli	BGL24	7	0.069	-	1.443
	Tengratuku	BGL22	10	0.101	-	3.312
Bano	Bano	BGL08	9	0.042	-	4.047
Jaldeg	Jaldeg	BGL17	10	0.107	-	3.278
Kolebira	Kolebira	BGL11	10	0.119	-	5.847
	Lachargarh	BGL16	10	0.144	-	4.513
Simdeg	Simdeg	BGL01	5	0.002	-	2.621
Thethaitangar	Thethai Thangar	BGL09	10	-	0.071	1.385

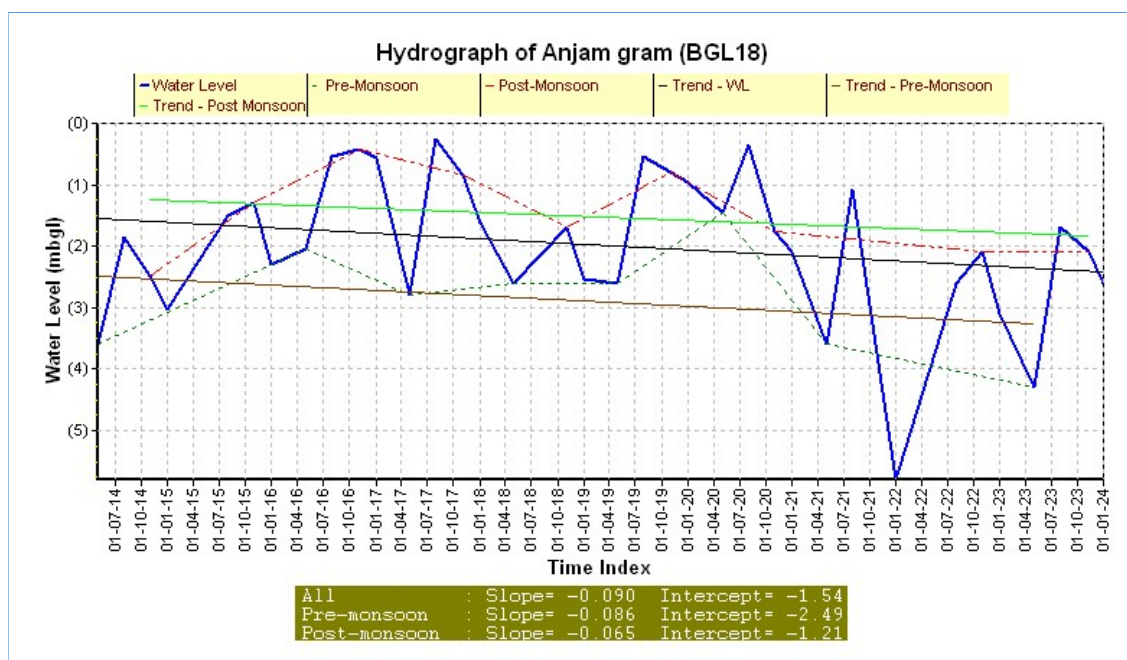
Hydrographs of Selected NHNS



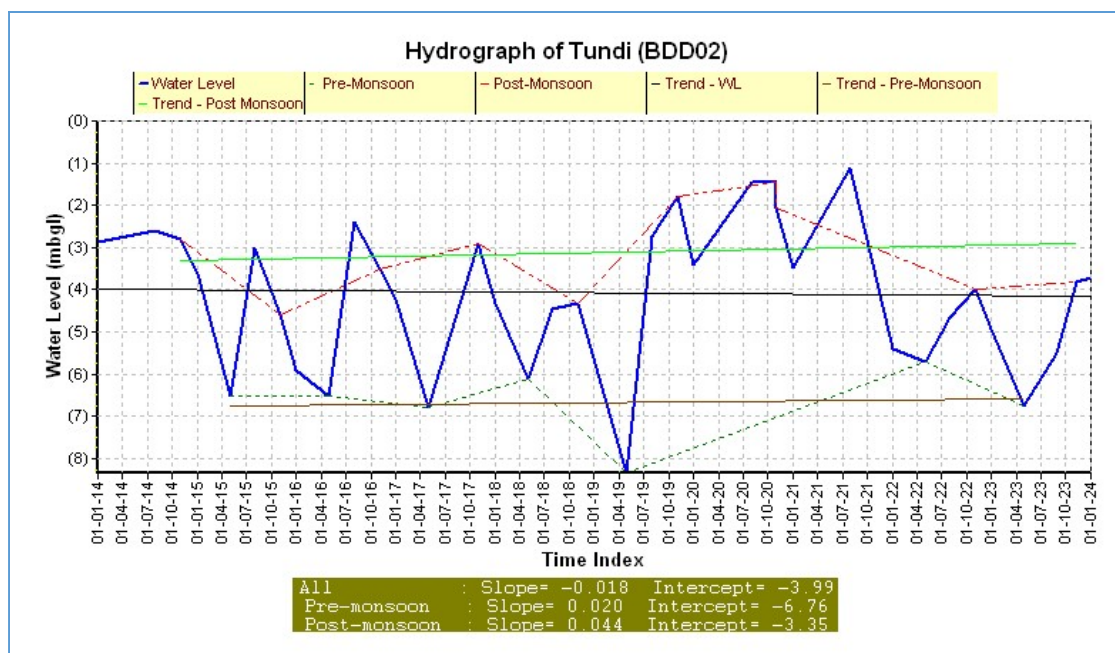
Hydrograph 1 : Dumka db ib, Dumka block, Dumka district



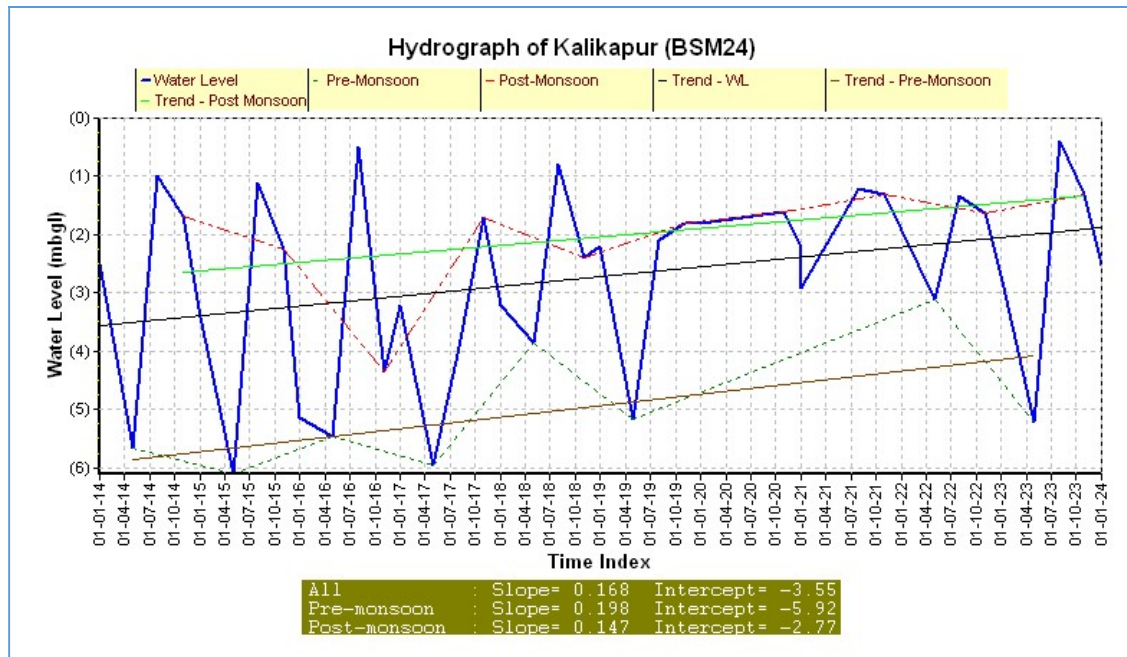
Hydrograph 2 : Manika , Manika block , Latehar district



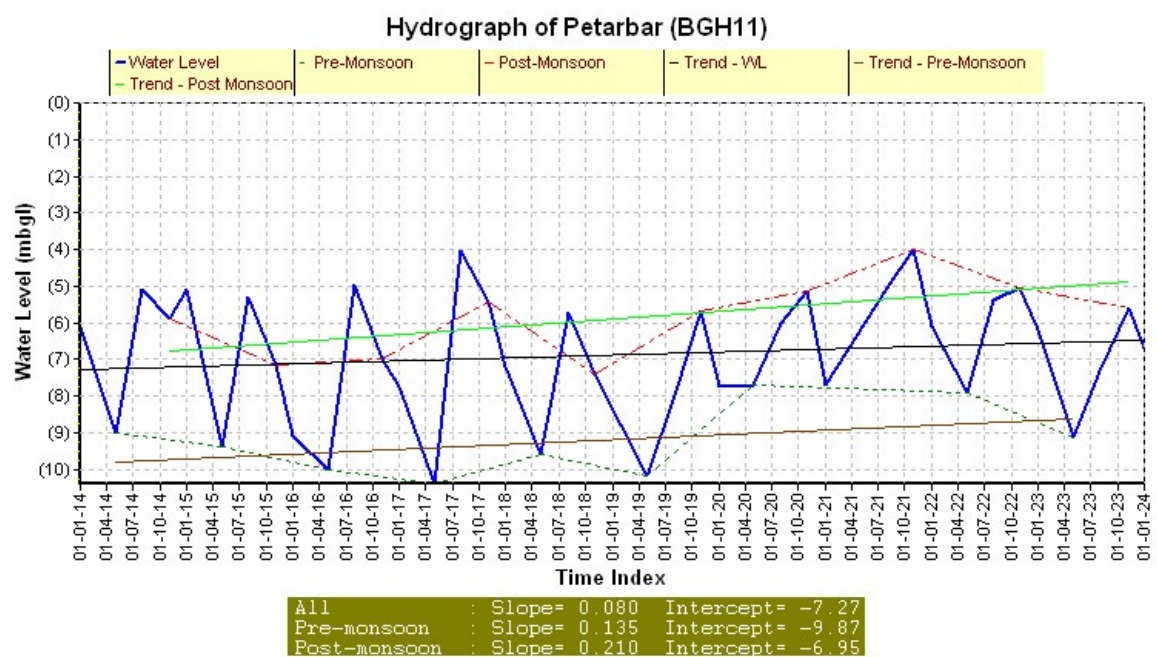
Hydrograph 3 : Anjam Gram, Gumla block, Gumla district



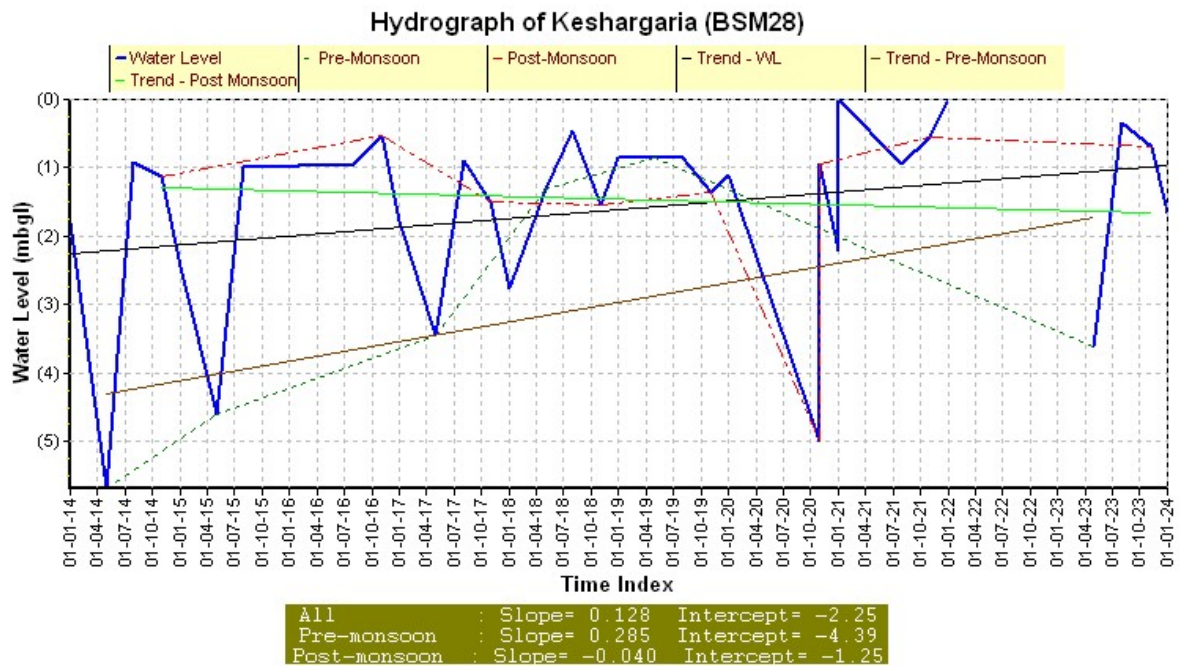
Hydrograph 4 : Tundi, Tundi block, Dhanbad district



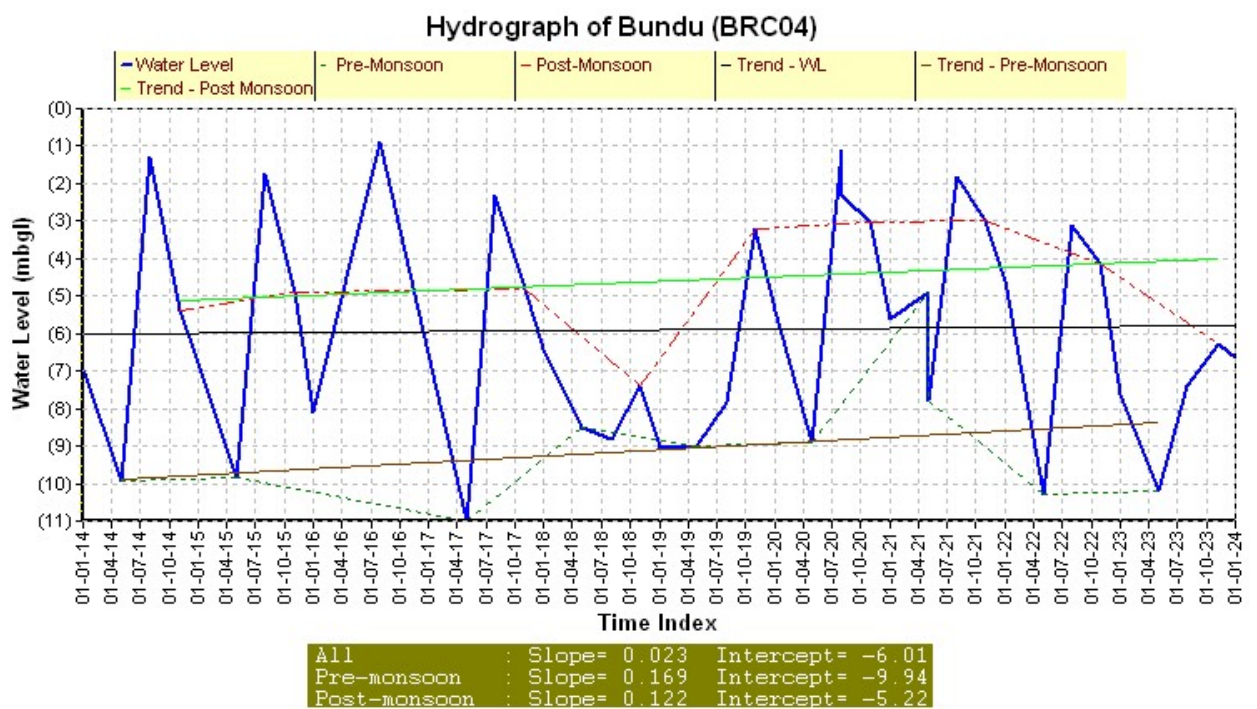
Hydrograph 5 : Kalikapur, Potka block, East Singhbhum district



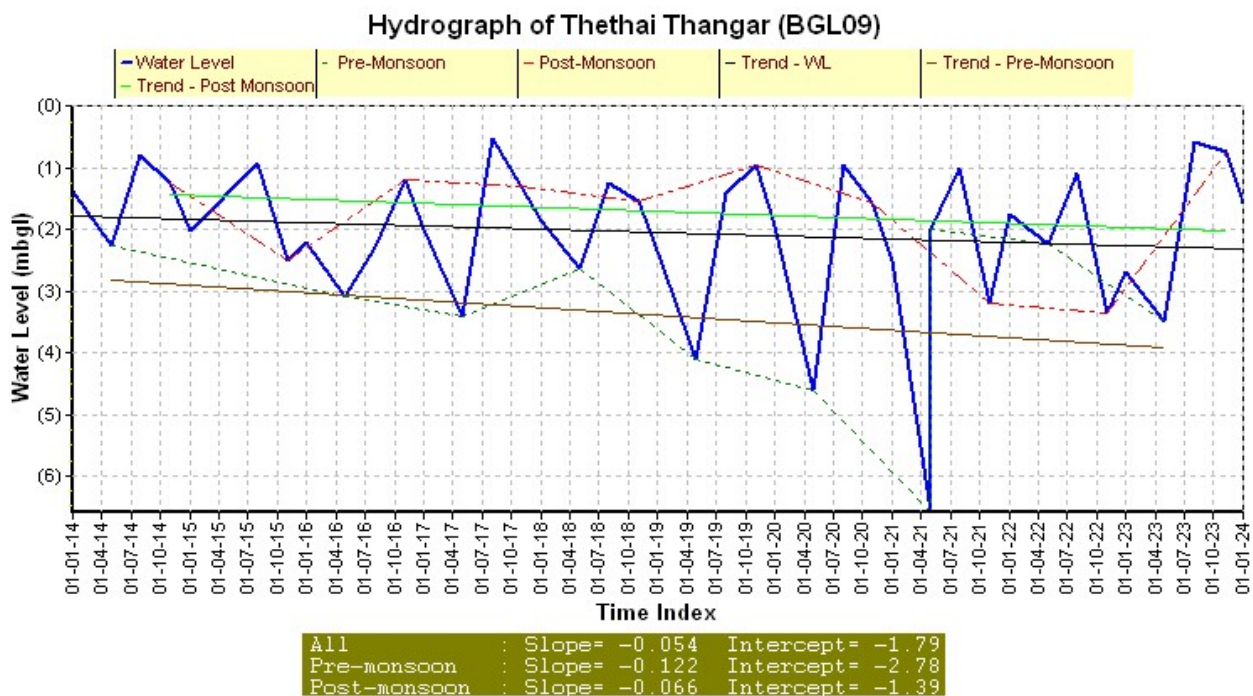
Hydrograph 6 : Peterbar, Peterbar block, Bokaro district



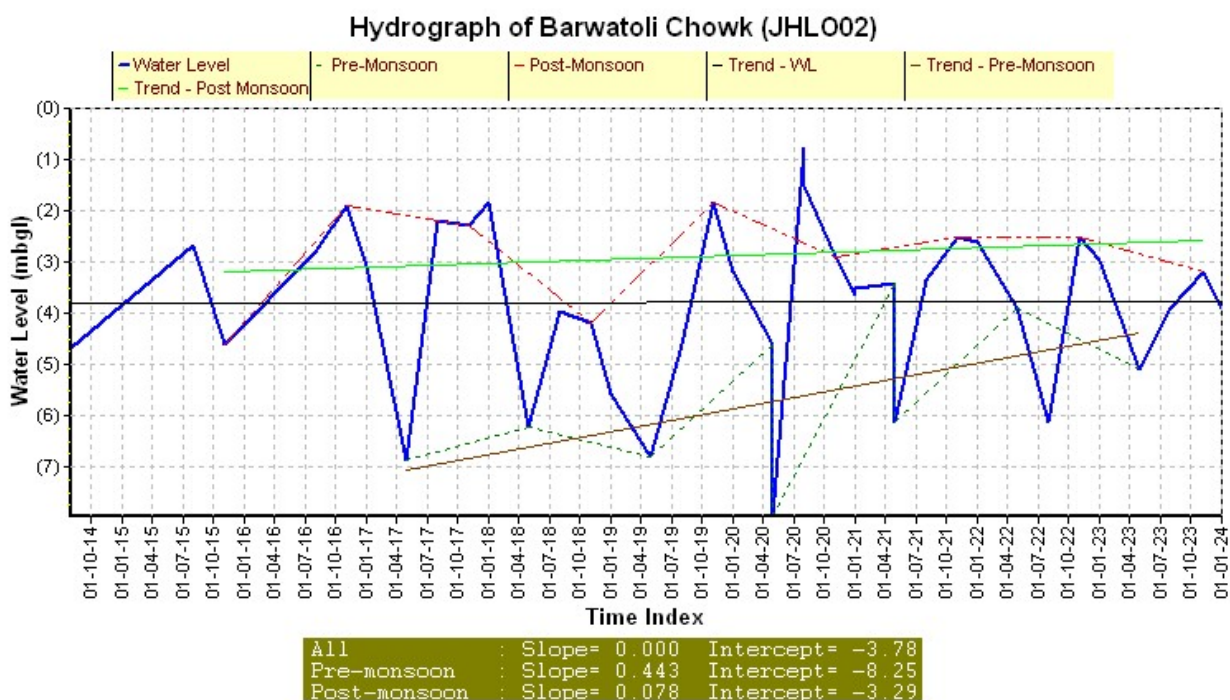
Hydrograph 7 : Keshargaria , Keshargaria block, West Singhbhum district



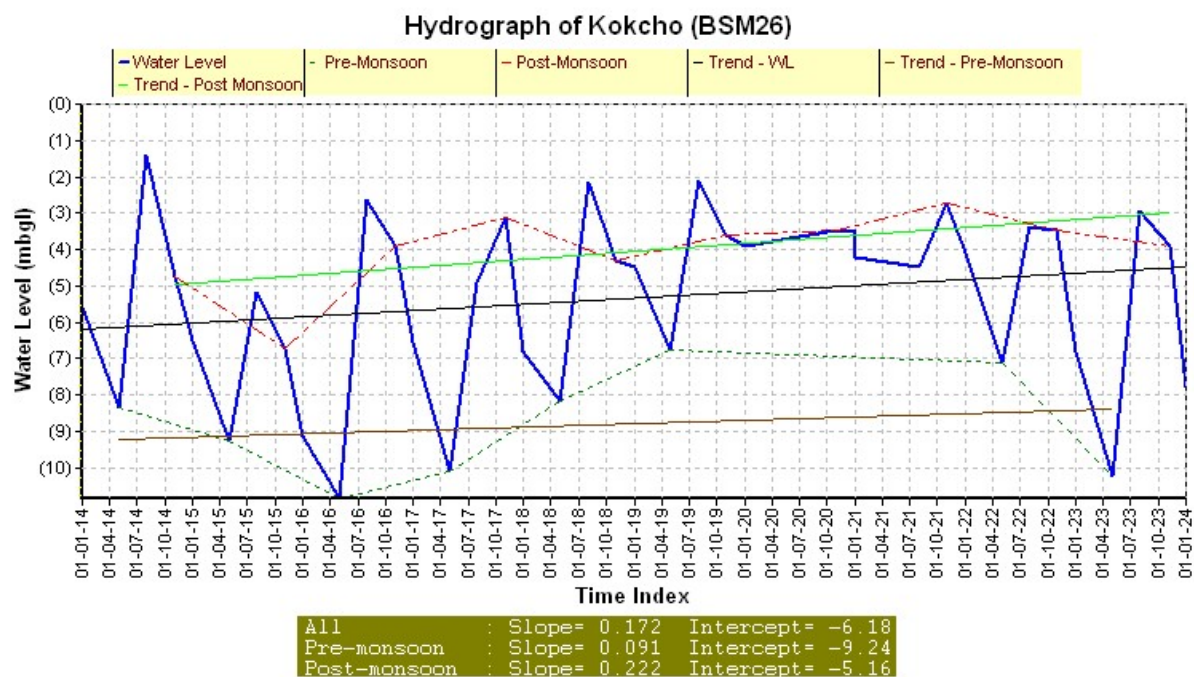
Hydrograph 8 : Bundu, Bundu block, Ranchi district



Hydrograph 9 : Thethaithangar, Thethaithangar block, Simdega district



Hydrograph 10 : Barwatoli Chowk, Lohardaga block, Lohardaga district



Hydrograph 11 : Kokcho, Tantanagar block, West Singhbhum district

