CGWB, NORTH CENTRAL CHHATTISGARH REGION, RAIPUR

GROUND WATER LEVEL BULLETIN CHHATTISGARH

November 2024

ABSTRACT

Ground water level Scenario during Novembert-2024 highlighting the findings, status of ground water level in different aquifers and its seasonal, annual and decadal comparison.

1. INTRODUCTION

Groundwater bulletin is prepared by CGWB depicting changes in groundwater regime of the country through different seasons. It is an effort to obtain information on groundwater levels through representative monitoring wells. The important attributes of groundwater regime monitoring are groundwater level. The natural conditions affecting the groundwater regime involve climatic parameters like rainfall, evapotranspiration etc., whereas anthropogenic influences include pumpage from the aquifer, recharge due to irrigation systems and other practices like waste disposal etc. Groundwater levels are being measured by Central Ground Water Board four times a year during January, May, August and November. The regime monitoring started in the year 1969 by Central Groundwater Board.

2. STUDY AREA

Chhattisgarh, located between North Latitude 17°47’ to 24°06’ and East Longitude 80°14’ to 84°24’, is monitored for groundwater dynamics by the Central Ground Water Board's North Central Chhattisgarh Region in Raipur. Covering 1, 37, 360 sq. km, the state is predominantly tribal dominated, encompassing approximately 65.90% of its total area. Groundwater regime monitoring involves a network of observation wells and piezometers. Dug wells represent the shallow phreatic aquifer system, while piezometers gauge the shallow un-confined and deeper semi-confined aquifer systems.

This monitoring forms part of the All-India Network Hydrograph Stations, overseen by various regional offices nationwide. As of March 2024, Chhattisgarh's network includes 1308 nos. observation wells (dug wells and purpose-built piezometers) monitored quarterly for groundwater levels and quality. The objective is to assess groundwater behaviour across diverse hydrogeological environments, periodically estimating groundwater resources and tracking water quality changes.

3. PHYSIOGRAPHY

Chhattisgarh is geographically categorized into three distinct regions. The Bastar Plateau in the southern part of the state includes districts such as Bastar, Kondagaon, and Dantewada. Covered mostly by dense evergreen forests and hilly terrain, it features high-level plateaus, structural hills, valleys, and pediplains, with altitudes ranging from 400 to 600 meters above mean sea level (amsl).

The Chhattisgarh Plain occupies the central part and spans districts like Raipur, Bilaspur, and Durg. This region, formed on Proterozoic rocks, is characterized by a gently undulating and flat terrain, interspersed with remnants of hills and ridges. Altitudes vary from 284 meters amsl in the southeast to 750 meters amsl in the northwest.

The Northern Hilly Region covers the northern and north-central parts, encompassing districts like Raigarh and Bilaspur. It forms part of the Maikal and Hazaribagh hill ranges, featuring structural plains, pediplains, denudational plateaus, and hills. This area supports various river systems, including tributaries of the Mahanadi and Son rivers. The state's highest point, TulisiDongri in Dantewada district, reaches 1197 meters amsl, while its lowest point is 50 meters amsl at Konta, also in Dantewada district.

4. DRAINAGE

Chhattisgarh is traversed by major rivers including the Mahanadi, and its tributaries Seonath, Hasdeo, Mand, and Arpa, impacting several districts. The Indravati River, a Godavari tributary, flows through Kanker, Bastar, and Dantewada districts.

5. HYDROGEOLOGICAL CONDITIONS

The occurrence and movement of ground water is related to the existing geology of the area. The State is underlained by various rock types belonging to different geological ages, from Azoic to Quaternary. Nearly 58 % of the State is covered by Crystalline and metamorphic rocks; around 27 % of the area is

covered by Chhattisgarh Group of rocks. The semi-consolidated Gondwana Supergroup of rocks covers 13 % of the area and the remaining 2 % by Deccan trap, Lameta, Laterite and River Alluvium.

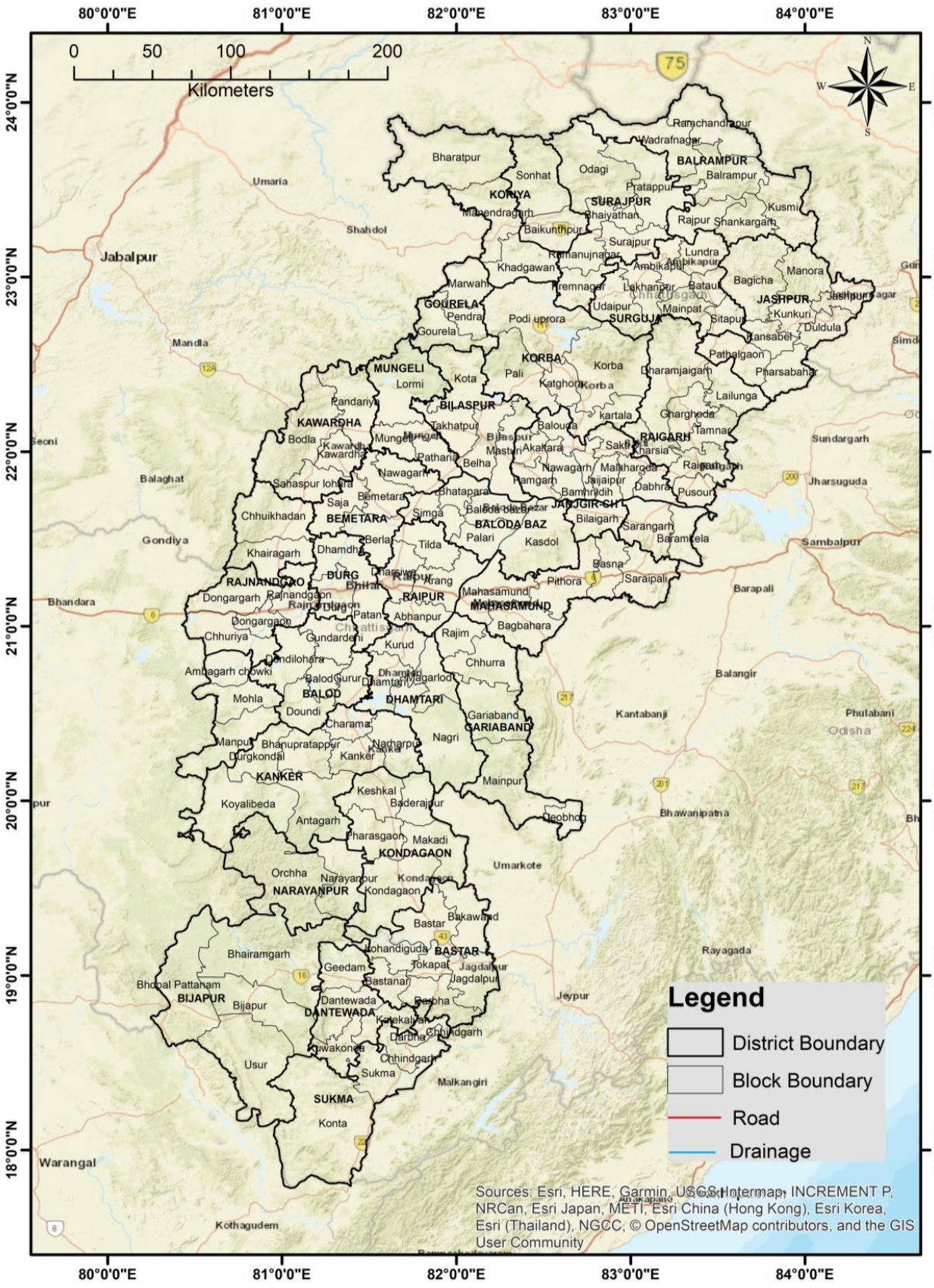

Figure-1: Map showing administrative divisions Chhattisgarh

6. GROUNDWATER LEVEL MONITORING

The Central Ground Water Board, North Central Chhattisgarh Region, conducts ongoing quarterly monitoring of groundwater regimes in Chhattisgarh state. This involves a network of monitoring stations situated across various hydrogeological and geomorphic units. **As of November 2024, there were 1251 operational wells, comprising 1023 dug wells and 228 piezometers.** The details of the wells are provided in Table 1.

Table-1: District-wise distribution of water level monitoring stations as per November 2024

Sl no	State	District	DW	PZ	Total
1	Chhattisgarh	Balod	47	8	55
2	Chhattisgarh	Balodabazar	32	10	42
3	Chhattisgarh	Balrampur	16	7	23
4	Chhattisgarh	Bastar	15	12	27
5	Chhattisgarh	Bemetara	43	8	51
6	Chhattisgarh	Bijapur	0	0	0
7	Chhattisgarh	Bilaspur	55	6	61
8	Chhattisgarh	Dantewada	0	0	0
9	Chhattisgarh	Dhamtari	27	8	35
10	Chhattisgarh	Durg	51	9	60
11	Chhattisgarh	Gariaband	23	2	25
12	Chhattisgarh	Janjgir	44	10	54
13	Chhattisgarh	Jashpur	82	10	92
14	Chhattisgarh	Kabirdham	10	8	18
15	Chhattisgarh	Kanker	11	1	12
16	Chhattisgarh	Kondagaon	12	1	13
17	Chhattisgarh	Korba	84	30	114
18	Chhattisgarh	Koriya	30	3	33
19	Chhattisgarh	Mahasamund	30	25	55
20	Chhattisgarh	Mungeli	30	7	37
21	Chhattisgarh	Narayanpur	0	0	0
22	Chhattisgarh	Raigarh	89	10	99
23	Chhattisgarh	Raipur	37	15	52
24	Chhattisgarh	Rajnandgaon	48	10	58
25	Chhattisgarh	Sukma	0	0	0
26	Chhattisgarh	Surajpur	61	6	70
27	Chhattisgarh	Surguja	47	5	54
28	Chhattisgarh	Gaurela-Pendra-Marwahi	28	3	31
29	Chhattisgarh	Sakti	10	5	15
30	Chhattisgarh	Khairagarh-Chhuikhadan-Gandai	9	4	13
31	Chhattisgarh	Mohla-Manpur- Ambagarh Chowki	2	1	38
32	Chhattisgarh	Sarangarh-Bilaigarh	18	1	22
33	Chhattisgarh	Manendragarh Chirimiri Bharatpur	32	3	
Total			**1023**	**228**	**1251**

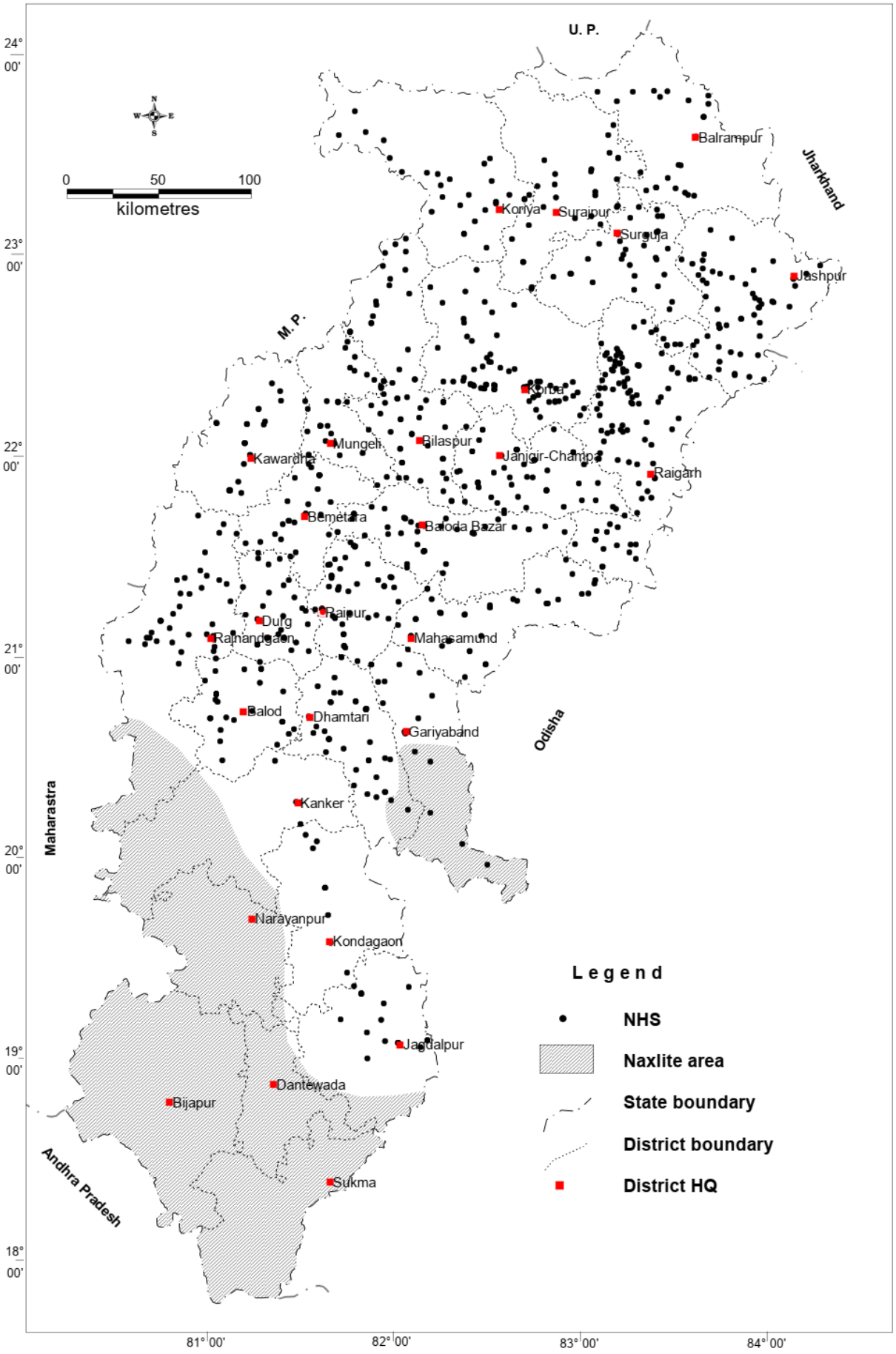

Figure-2: Map showing locations of monitoring Dug Wells (NHNS) in Chhattisgarh state

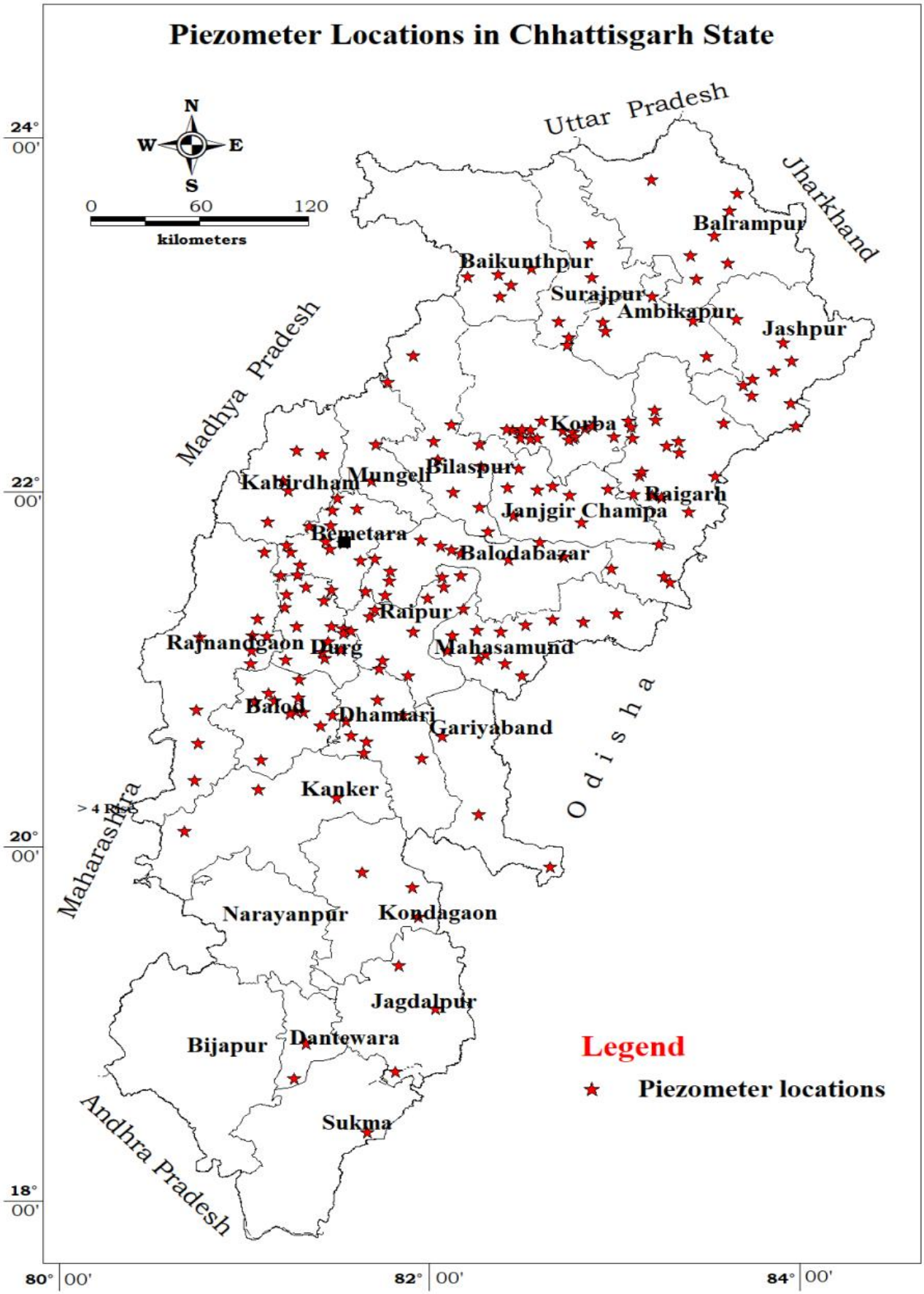

Figure-3: Map showing locations of Piezometers (NHNS) in Chhattisgarh state

7.0 RAINFALL

The region experiences a subtropical monsoon climate with distinct summer, monsoon, and winter seasons. The southwest monsoon prevails from June to mid-September, providing about 90% of the annual rainfall. Winter spans from October to February, while summer lasts from March to mid-June. Rainfall primarily recharges groundwater, with the Indian Meteorological Department (IMD), state departments, and agricultural universities maintaining over 200 rain gauge stations across the state. The average annual rainfall in the region is 1089.9 mm, varying across districts from a high of 2286.5 mm in Bijapur to a low of 560 mm in Bemetara.

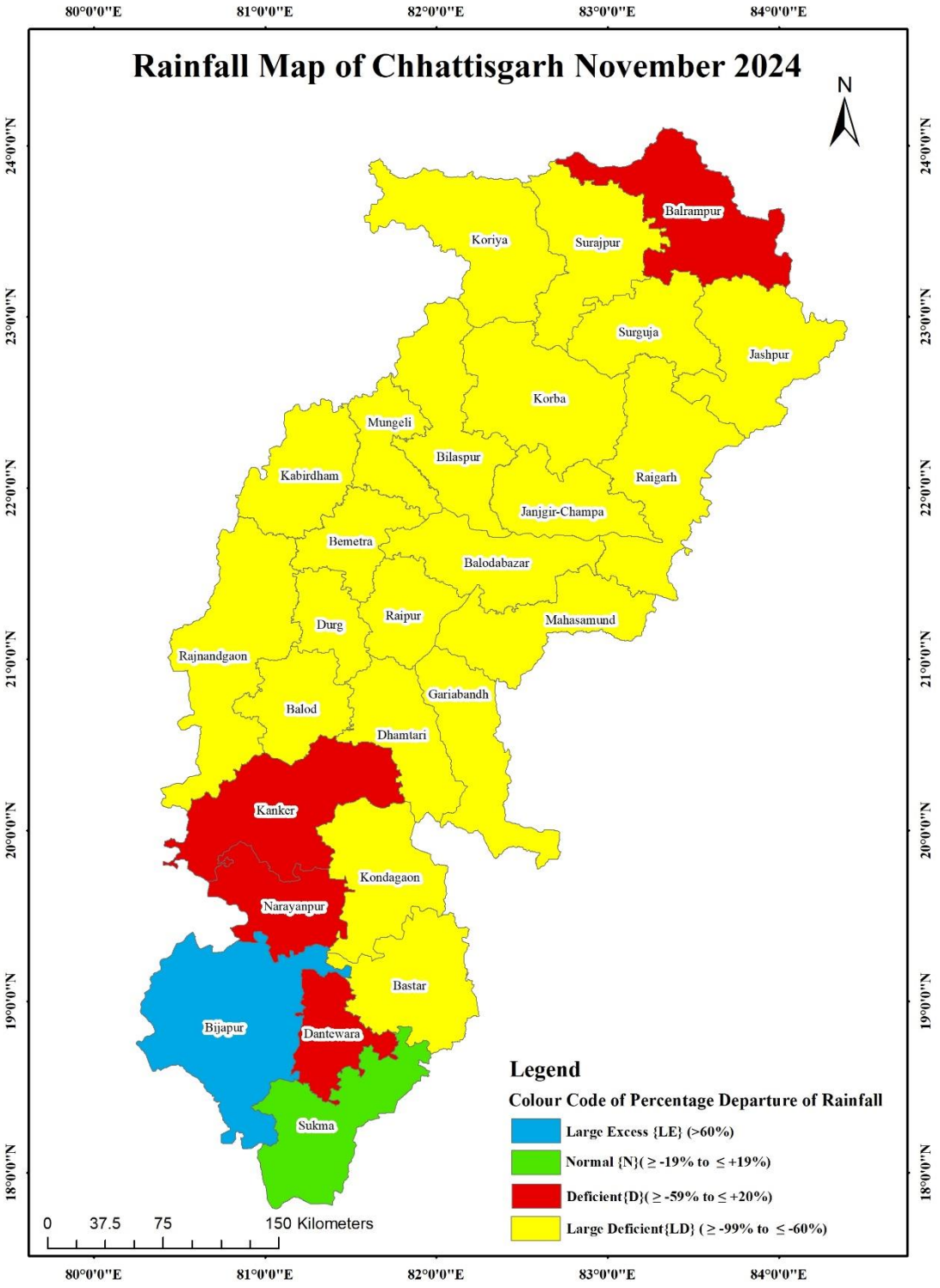

Figure 4 : Rainfall Map of Chhattiagarh (November 2024)

Table 2: District wise distribution of Rainfall with deviation given in colour code

Sl. No.	District	Percentage Departure	Category
1	Balod	-99%	Large Deficient
2	Baloda Bazar	-97%	Large Deficient
3	Balrampur	-50%	Deficient
4	Bastar	-50%	Deficient
5	Bemetara	-92%	Large Deficient
6	Bijapur	41%	Large Excess
7	Bilaspur	-85%	Large Deficient
8	Dantewada	-51%	Deficient
9	Dhamtari	-79%	Large Deficient
10	Durg	-89%	Large Deficient
11	Gariaband	-60%	Large Deficient
12	Gaurela-Pendra-Marwahi	-85%	Large Deficient
13	Janjgir-Champa	-99%	Large Deficient
14	Jashpur	-78%	Large Deficient
15	Kabirdham	-90%	Large Deficient
16	Kanker	-41%	Deficient
17	Khairagarh-Chhuikhadan-Gandai	-88%	Large Deficient
18	Kondagaon	-65%	Large Deficient
19	Korba	-82%	Large Deficient
20	Korea	-79%	Large Deficient
21	Mahasamund	-87%	Large Deficient
22	Manendragarh-Chirmiri-Bharatpur	-89%	Large Deficient
23	Mohala-Manpur-Chowki	-73%	Large Deficient
24	Mungeli	-92%	Large Deficient
25	Narayanpur	-30%	Deficient
26	Raigarh	-77%	Large Deficient
27	Raipur	-82%	Large Deficient
28	Rajnandgaon	-99%	Large Deficient
29	Sakti	-97%	Large Deficient
30	Sarangarh-Bilaigarh	-98%	Large Deficient
31	Sukma	3%	Excess
32	Surajpur	-66%	Large Deficient
33	Surguja	-81%	Large Deficient

8.0 GROUND WATER LEVEL SCENARIO (November 2024)

8.1 SHALLOW AQUIFER (UNCONFINED)

8.1.1 DEPTHTOWATERLEVEL (November 2024 Weathered Aquifer)

Out of 1069 wells minimum water level occurs in Raigarh district(0.6m bgl) while the deepest occur in Mahasamund(58.2m bgl). 156 wells(14.6%) occurs in range of 0 to 2 m in areas of Durg, Rajnandgaon, Korba, Koriya, Raipur and Bilaspur. While 604 wellsoccurs in 2 to 5 m range which accounts for almost 56.5%. The wells of this range are distributted all over Chhattisgarh with Durg with the maximum number of 88 wells and Kanker with the lowest value of 5. Around 246 wells(23%) occurs in the range of 5 to 10 m. These wells occurs in areas of Bastar, Bilaspur, Dantewada, Dhamtari, Durg, Janjgir – Champa, Jashpur, Kawardha, Korba, Koriya, Mahasamund, Raigarh, Raipur, Rajnandgaon and Surguja except Kanker. 49 wells(4.6%) occurs in Range of 10 to 20 m . These occurs in areas of Bastar, Mahasamund, Dhamtari, Jashpur, and Bilaspur. Very few wells around 11 occurs in range of 20 to 40 m bgl These occurs in areas of Bastar, Durg, Koriya, Mahasamund and Raigarh. Only 3 wells have water level more than 40 m. these are in areas of Bastar and Mahasamund.

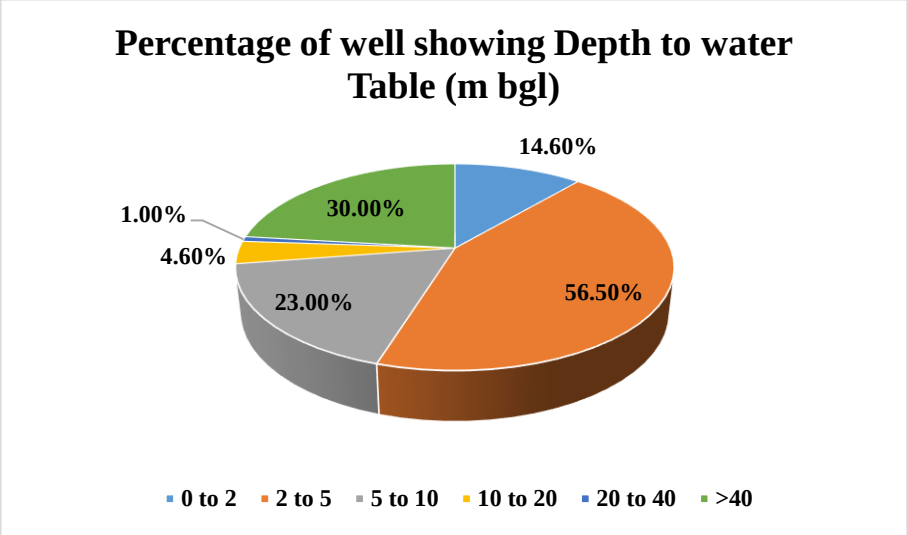

Figure 5 : Percentage of wells showing water level range in Unconfined Aquifer (ranges in mbgl)

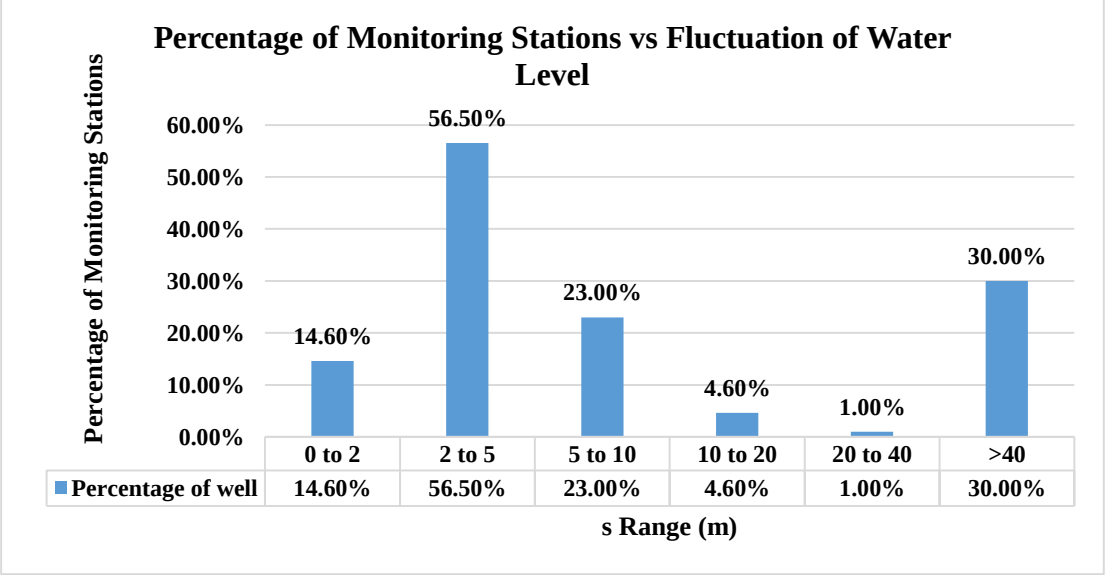

Figure 6 : No of wells showing water level range (in mbgl) in Unconfined Aquifer

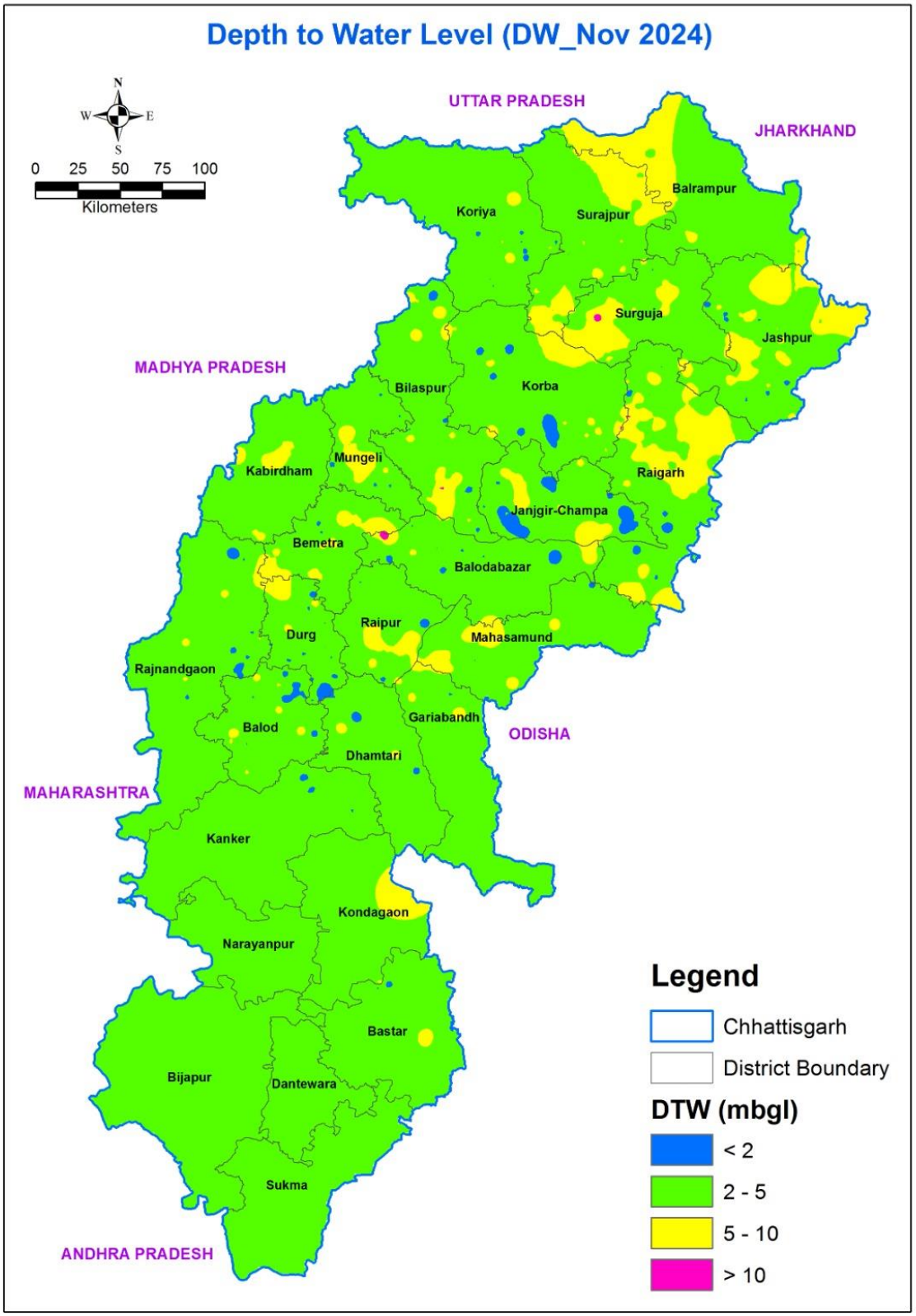

Figure 7 : Depth to Water Level Map of Unconfined Aquifers in November 2024

Table-3: Distribution of Percentage of wells showing water level range in Unconfined Aquifer for November 2024

DISTRICT	Number of wells analysed	Depth to Water Table (m bgl)		Number / Percentage of Wells showing Depth to Water Table (m bgl) in the range of											
				< 2		2 to 5		5 - 10		10 - 20		20 - 40		> 40	
		Min	Max	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
BASTAR	34	1.2	48.63	2	5.9	20	58.8	4	11.8	5	14.7	1	2.9	2	5.9
BILASPUR	107	1	19.2	18	16.8	53	49.5	29	27.1	7	6.5	0	0		
DHAMTARI	34	1.3	16	5	14.7	21	61.8	6	17.6	2	5.9	0	0		
DURG	147	0.9	24.5	24	16.3	88	59.9	26	17.7	7	4.8	2	1.4	0	
JANJGIR - CHAMPA	48	0.95	9.98	14	29.2	22	45.8	12	25	0	0	0			
JASHPUR	80	0.78	16.26	8	10	43	53.8	26	32.5	3	3.8	0	0		
KANKER	8	1.14	4.16	3	37.5	5	62.5	0	0	0	0				
KAWARDHA	17	3	20.33	0	7	41.2	6	35.3	3	17.6	1	5.9	0		
KORBA	76	0.86	15.4	15	19.7	46	60.5	13	17.1	2	2.6	0	0		
KORIYA	63	1.05	21.85	13	20.6	41	65.1	6	9.5	2	3.2	1	1.6	0	
MAHASAMUND	47	1.9	58.2	2	4.3	21	44.7	16	34	5	10.6	2	4.3	1	2.1
RAIGARH	105	0.6	23.8	9	8.6	53	50.5	36	34.3	3	2.9	4	3.8	0	
RAIPUR	102	1.06	10.84	19	18.6	64	62.7	18	17.6	1	1	0	0		
RAJNANDGAON	68	0.85	15.37	17	25	37	54.4	12	17.6	2	2.9	0	0		
SURGUJA	133	0.9	14.8	7	5.3	83	62.4	36	27.1	7	5.3	0	0		
TOTAL	**1069**			**156**	**14.6**	**604**	**56.5**	**246**	**23**	**49**	**4.6**	**11**	**1**	**3**	**0.3**

8.2 Annual Fluctuation in water Level: -

8.2.1 Annual Fluctuation in Water Level in Unconfined Aquifer (November 2023 vs November 2024)

Rise: There are 485 wells showing a rise in water table levels. Maximum number of wells showing rise are in disricts of Durg(81), Surguja(70) and Raipur(52). 380(39.2%)wells of 485 showing rise are in 0 to 2m range. These are in areas of Bastar, Bilaspur, Dantewada, Dhamtari, Durg, Janjgir – Champa, Jashpur, Kanker, Kawardha, Korba, Koriya, Mahasamund, Raigarh, Raipur, Rajnandgaon and Surguja. 56(5.8%) wells of 485 shows rise in 2 to 4 m category which falls in areas of Jashpur, Kawardha, Korba, Kanker, Bilaspur and Mahasamund. 36 wells(3.7%) out of 485 shows risemore than 4m. These occurs mostly in areas of Bastar, Kanker, Mahasamund and Raigarh.

Fall in Water Table: Out of 485 wells showing fall in waterlevel 420 wells falls in range of 0 to 2m ie 43.3 % of well show fall in water level between 0 to 2 m. These wells are evenly distributd in areas of Bastar, Bilaspur, Dantewada, Dhamtari, Durg, Janjgir – Champa, Jashpur, Kawardha, Korba, Koriya, Mahasamund, Raipur, Rajnandgaon and Surguj except areas of Kanker (14.3%) and Raigarh(8.9%). 41 wells(4.2%) occurs in range of 2 to 4 m. These includes areas of Bastar, Janjgir-Champa, Korba, Mahasamund Raipur and Surguja. 24 wells(2.5%) falls in the category of> 4m. Areas of Bastar, Bilaspur, Janjgir-Champa and Durg falls in this range.

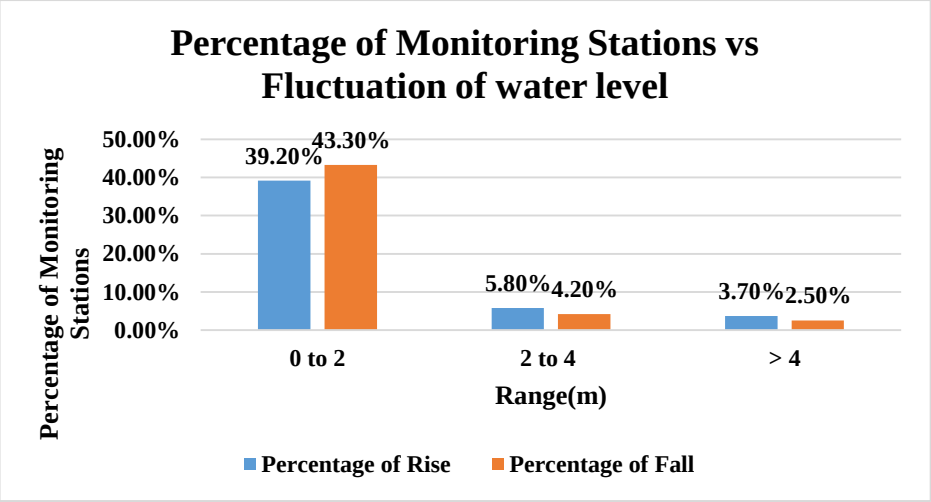

Figure 8 : Percentage of Monitoring Stations vs Ranges of Rise and Fall of Water Level

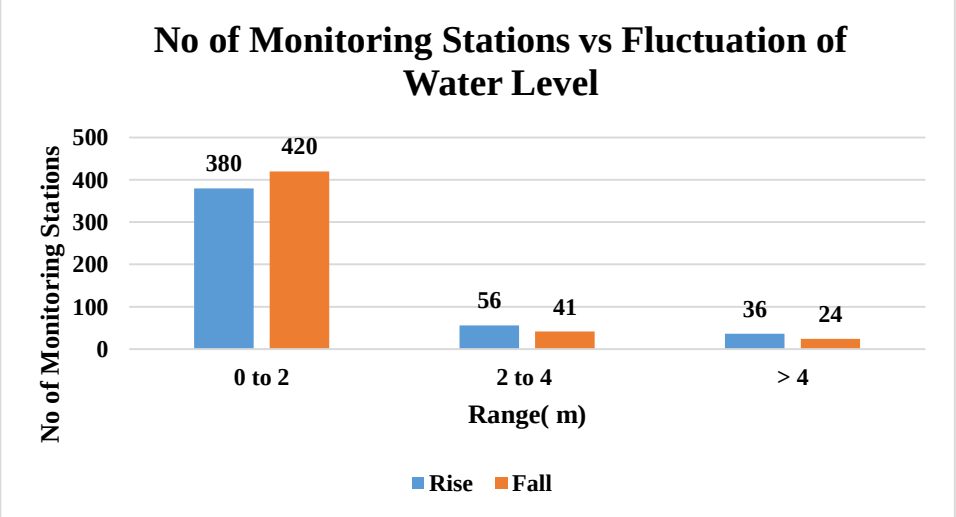

Figure 9 : No of Monitoring Stations vs Ranges of Rise and Fall of Water Level

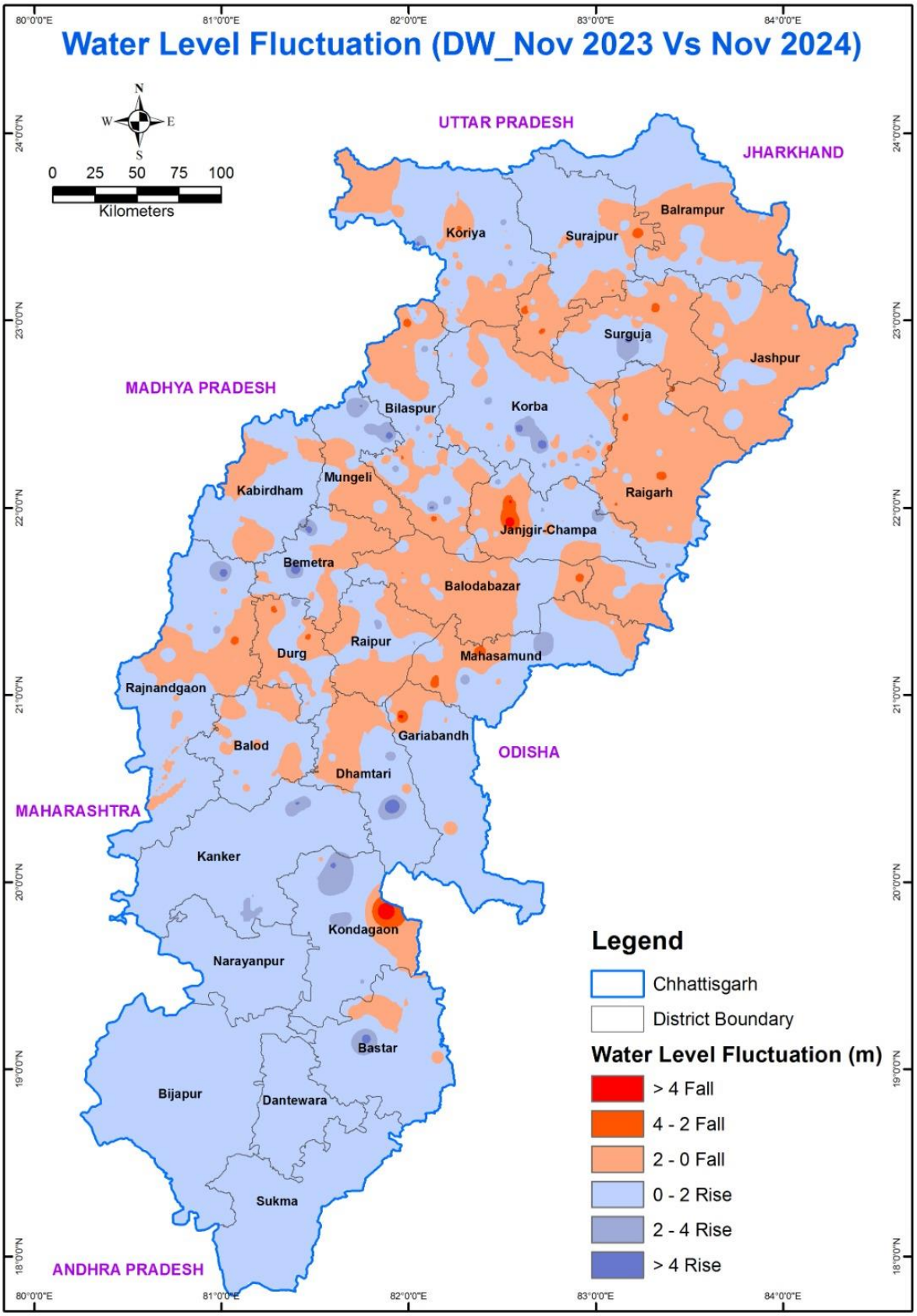

Figure 10 : Annual Fluctuation in water Level in unconfined Aquifer (November 2023 vs November2024)

Table 4: District Wise –Annual Fluctuation of WL and Frequency Distribution of wells in Unconfined Aquifer (November 2023 vs November2024)

		Range of fluctuation (m)		Number / Percentage of Wells showing Fluctuation															
								Rise						Fall					
		No of Wells showing		Min.	Max.	Min.	Max.	0 - 2		2 to 4		>4		0 - 2		2 to 4		>4	
				Rise		Fall		No.	%	No.	%								
District	Number of wells analysed	Rise	Fall	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
BASTAR	32	17	15	0	21.86	0.02	5.39	10	31.3	3	9.4	3	9.4	11	34.4	2	6.3	2	6.3
BILASPUR	100	47	53	0.02	8.47	0.09	8.04	32	32	10	10	5	5	45	45	4	4	4	4
DANTEWADA	0	0	0																
DHAMTARI	30	17	13	0.03	7.65	0.05	3.72	15	50	1	3.3	1	3.3	12	40	1	3.3		
DURG	138	81	57	0	6.4	0.02	6.1	68	49.3	6	4.3	5	3.6	47	34.1	5	3.6	5	3.6
JANJGIR -	43	20	23	0.03	4.03	0.03	5.8	16	37.2	3	7	1	2.3	17	39.5	4	9.3	2	4.7
CHAMPA																			
JASHPUR	77	25	52	0	1.89	0.05	2.08	24	31.2	51	66.2	1	1.3						
KANKER	7	6	1	0.13	5.07	0.14	0.14	4	57.1	1	14.3	1	14.3	1	14.3				
KAWARDHA	15	4	11	0.2	1.87	0.01	12.03	4	26.7	10	66.7	1	6.7						
KORBA	69	41	28	0	8.62	0.01	4.59	25	36.2	10	14.5	5	7.2	24	34.8	3	4.3	1	1.4
KORIYA	60	40	20	0	5.05	0.14	2.35	33	55	4	6.7	2	3.3	19	31.7	1	1.7		
MAHASAMUND	32	20	12	0	54.8	0.2	9.46	11	34.4	3	9.4	5	15.6	9	28.1	3	9.4		
RAIGARH	101	19	82	0	2.4	0.05	5.05	16	15.8	2	2	72	71.3	9	8.9	1	1		
RAIPUR	87	52	35	0	10.08	0.01	5.2	41	47.1	4	4.6	5	5.7	29	33.3	5	5.7	1	1.1
RAJNANDGAON	61	26	35	0	5.15	0.05	4.51	19	31.1	4	6.6	1	1.6	33	54.1	2	3.3		
SURGUJA	118	70	48	0	6.95	0.04	4.8	62	52.5	5	4.2	2	1.7	40	33.9	6	5.1	2	1.7
TOTAL	**970**	**485**	**485**	**0.41**	**150.3**			**380**	**39.2**	**56**	**5.8**	**36**	**3.7**	**420**	**43.3**	**41**	**4.2**	**24**	**2.5**

8.3 Decadal Fluctuation in water Level: -

8.3.1 Decadal Fluctuation in water Level in Unconfined Aquifer November (2014-2023) vs November 2024

- **Rise in Water Table**: Of 427 wells across most districts the most frequent occurrence of water level is in in the 0-2 m. This is observed in 50.81% of all wells analysed. Districts like Janjgir-Champa (61.7%), Raipur (67%), and Kanker (75%) show a particularly high percentage of wells with a rise in the 0-2 meter range. 144 wells(33.72%) show rises in the 2-4 m. these includes districts like Koriya, Rajnandgaon, Surguja, Kanker, Bastar, Bilaspur, Durg and Janjgir Champa. 66 wells(15.45%) sows water level >4 m which signifies increases in water levels are less common. These includes districts of Dhamtari, Jashpur, Kanker, Kawardha, Mahasamund, Raipur and Kawardha.
- **Fall in Water Table**: Of 461 wells with 39.65% of wells showing a fall in the 0-2 meter range. The districts like Bastar, Bilaspur, Durg, Janjgir-Champa, Korba, Koriya and Surguja. 133 wells (29.10%) show a fall between 2-4 meters. Districts of Bastar, Durg, Janjgir-Champa, Mahasamund and Surguja fall in the range of 2 to 4 m. 144 wells(31.03%) show a fall greater than 4 meters. The districts of Bastar Mahasamund and Surguja fall in this category dominantly.

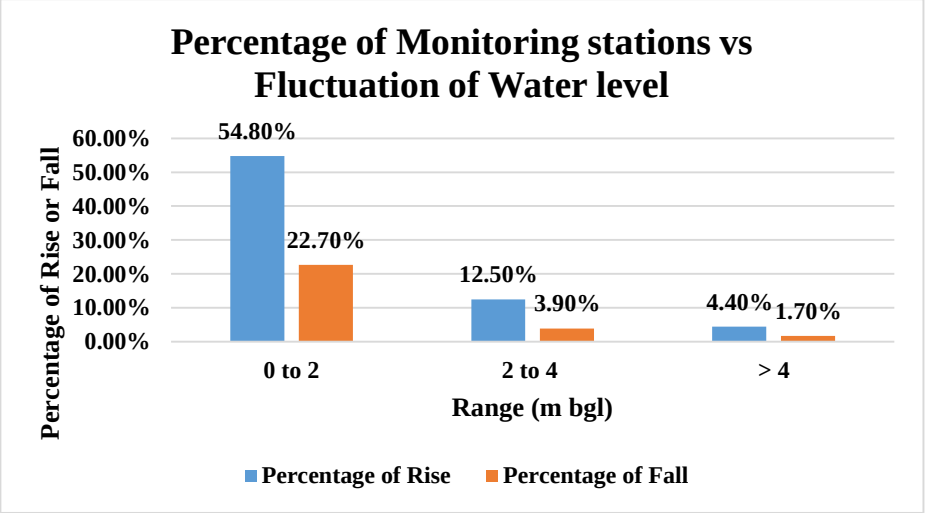

Figure 11 : Percentage of Monitoring Stations vs Fluctuation of Water Level

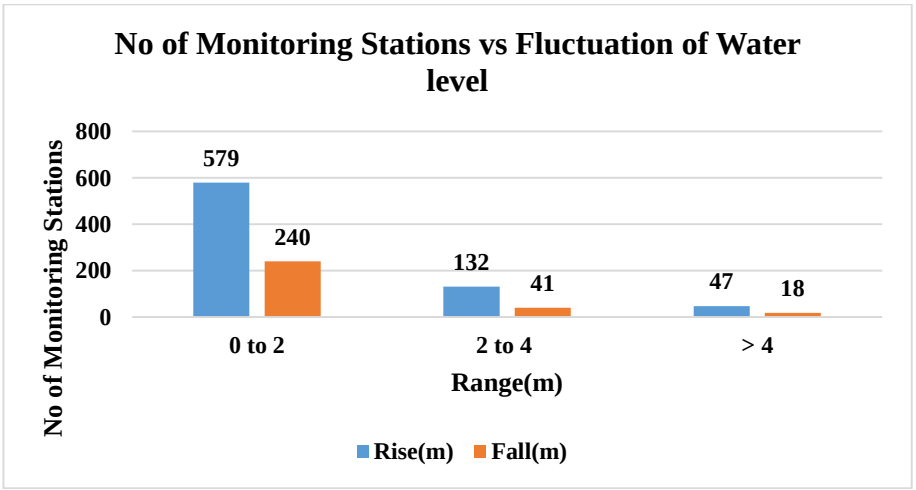

Figure 12 : No of Monitoring Stations vs Fluctuations of Water Level

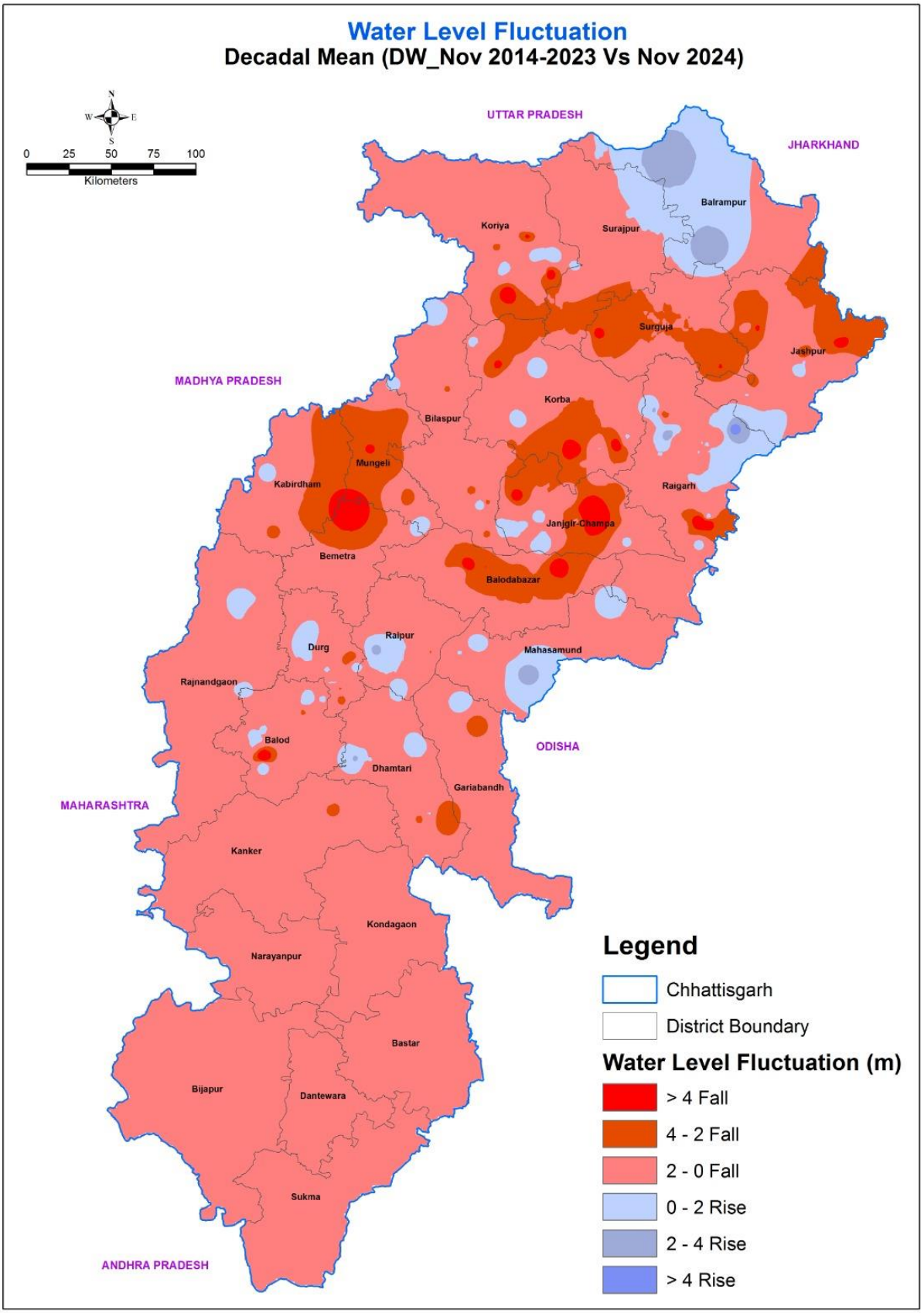

Figure 13 : Decadal Fluctuation in Water Level in Unconfined Aquifer (November(2014-2023) vs November 2024)

Table 5 Decadal Fluctuation in Water Level with Mean in unconfined Aquifer November(2014- 2023) vs November 2024

		Range of fluctuation (m)						Number / Percentage of Wells showing Fluctuation											
				Rise		Fall		Rise						Fall					
	Number of Wells analysed			Min.	Max.	Min.	Max.	0 - 2		2 to 4		> 4		0 - 2		2 to 4		>4	
District		Rise	Fall	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
BASTAR	34	20	14	0.16	14.23	0.15	5.19	14	41.2	4	11.8	2	5.9	9	26.5	4	11.8	1	2.9
BILASPUR	105	77	28	0.08	5.19	0.03	6.02	53	50.5	18	17.1	6	5.7	23	21.9	4	3.8	1	1
DHAMTARI	34	21	13	0.01	3.78	0	4.64	19	55.9	2	5.9	12	35.3	1	2.9				
DURG	146	105	41	0.01	7.94	0.05	4.15	78	53.4	17	11.6	10	6.8	33	22.6	7	4.8	1	0.7
JANJGIR -	47	37	10	0.07	5.14	0.02	5.32	29	61.7	7	14.9	1	2.1	8	17	2	4.3		
CHAMPA																			
JASHPUR	78	45	33	0.04	3.81	0.06	4.83	42	53.8	3	3.8	30	38.5	1	1.3	2	2.6		
KANKER	8	7	1	0.46	4.28	0.2	0.2	6	75	1	12.5	1	12.5						
KAWARDHA	17	14	3	0.03	3.55	0.2	1.9	13	76.5	1	5.9	3	17.6						
KORBA	75	60	15	0	6.62	0.09	4.27	35	46.7	18	24	7	9.3	13	17.3	2	2.7		
KORIYA	62	48	14	0.06	5.55	0.07	6.93	37	59.7	10	16.1	1	1.6	13	21	1	1.6		
MAHASAMUND	47	34	13	0.02	15.75	0.06	4.32	23	48.9	3	6.4	8	17	8	17	3	6.4	2	4.3
RAIGARH	105	55	50	0	2.46	0	3.92	51	48.6	4	3.8	43	41	7	6.7				
RAIPUR	100	72	28	0.02	3.21	0.04	3.75	67	67	5	5	20	20	8	8				
RAJNANDGAON	68	59	9	0.01	12.3	0.06	5.3	44	64.7	11	16.2	4	5.9	8	11.8	1	1.5		
SURGUJA	131	104	27	0.01	6.35	0.04	7.5	68	51.9	29	22.1	7	5.3	16	12.2	7	5.3	4	3.1
TOTAL	**1057**	**758**	**299**	**6.46**	**6.676**			**579**	**54.8**	**132**	**12.5**	**47**	**4.4**	**240**	**22.7**	**41**	**3.9**	**18**	**1.7**

8.4 DEEPER AQUIFER

8.4.1 DEPTH TO WATERLEVEL (November 2024 Fractured Aquifer)

The depth to water level of 102 borewells is used for the analysis. Analysis of depth to water level data of 102 wells shows water levels vary between 0.1 m bgl (Prakashpur EW, Rajnandgaon) to 50 m bgl (Blarampur peizometer). Water level of less than 2 m bgl is recorded in 5.9 % of wells, between 2 to 5 m bgl in 19.91% of wells, between 5 to 10 m bgl in 30.93 % of wells, between >10 m bgl in 43.22 % ofwells. Shallow water level of less than 2 m bgl as isolated patches occurs in parts of Korba, Durg, Janjgir-Champa, Dhamtari, Raipur, Rajnandgaon. Water level of 2 to 5 m bgl is observed mainly 47 wells distributed in districts of Rajnandgaon, Raigarh, Kanker, Durg, Mahasamund, Jashpur, Raipur, Korba, Bilaspur, Surguja, Janjgir-Champa, Balod and Kabirdham. Water level of 5 to 10 m bgl is observed in 73 wells throughout the state within Raipur, Mahasamund, Korba, Bilaspur, Raigarh, Bastar, Koriya, Kabirdham, Durg, Surguja and Janjgir-Champa. Water level of greater than 10 m bgl is in 102 wells distributed in Mungeli, Rajnandgaon, Korba, Kabirdham, Mahasamund, Balod, Bastar, Dhamtari, Bemetara, Raigarh and Jashpur districts.

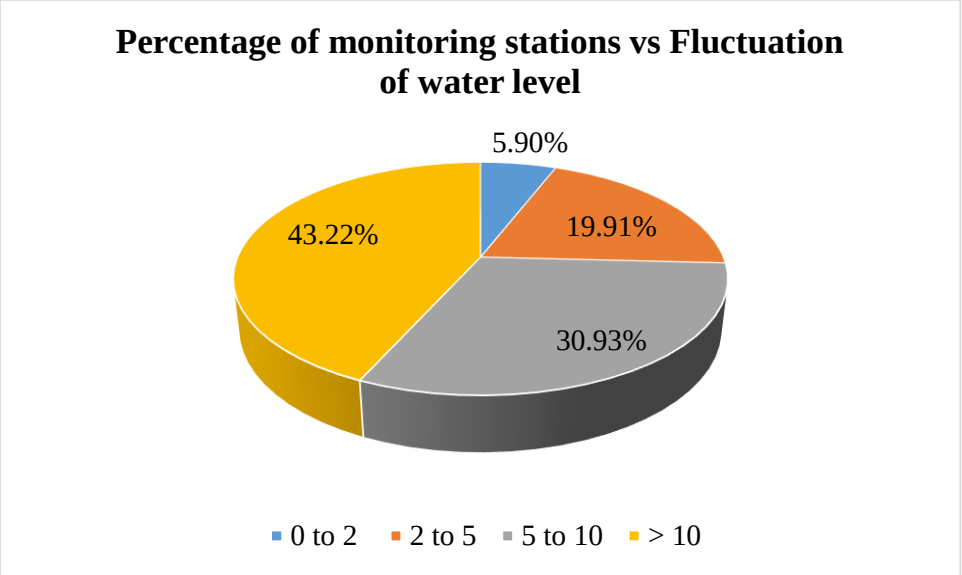

Figure 14 : Percentage of wells showing water level range in Deeper Aquifer in November 2024

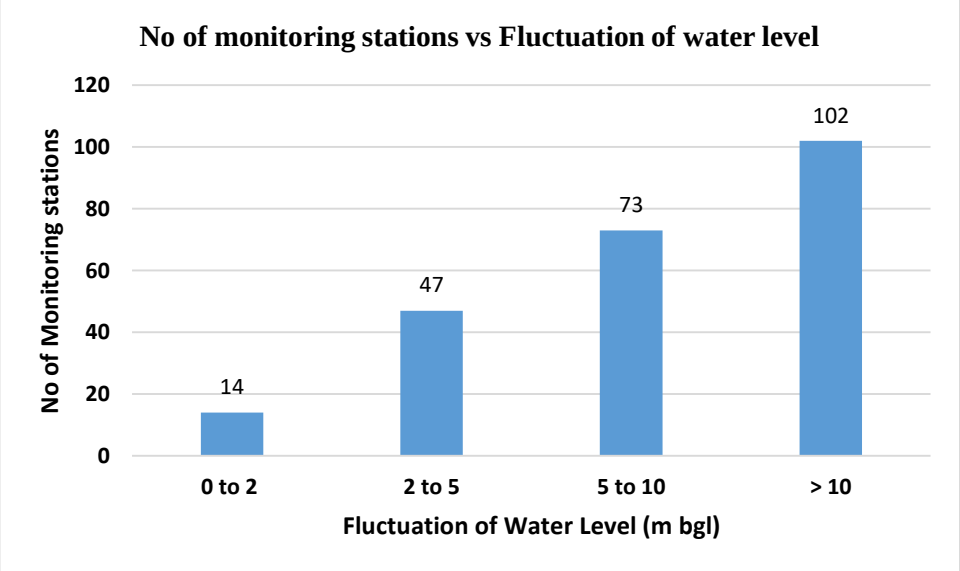

Figure 15 : Nos of of monitoring stationsshowing water level range in Deeper Aquifer in November 2024

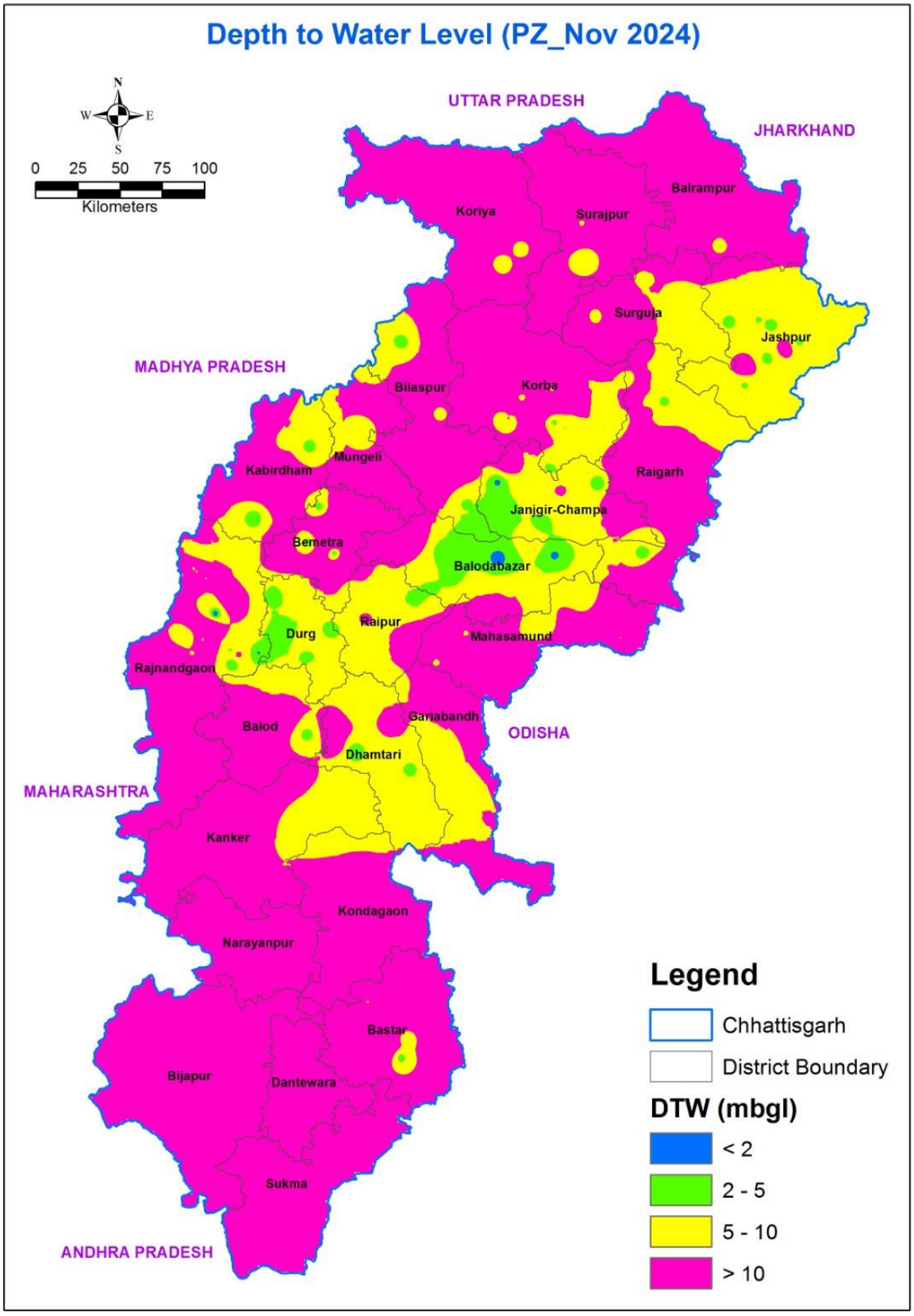

Figure 16 : Depth to Piezometric Level in Deeper Aquifers in November 2024

8.5 Annual Fluctuation in water Level: -

8.5.1 Annual Fluctuation in water Level in Fractured Aquifer (November 2023 vs November 2024): -

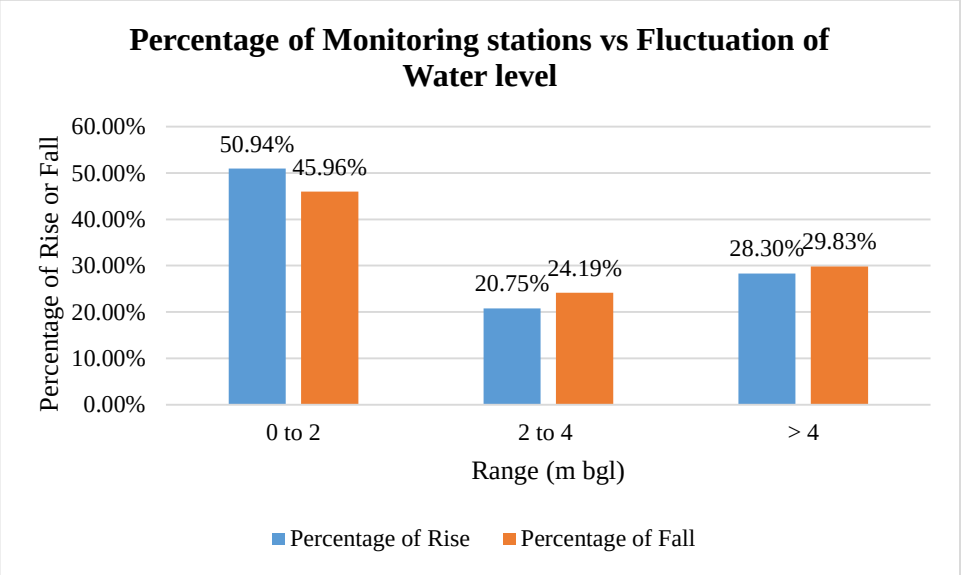

Figure 17 : No of Monitoring Stations vs Fluctuations in Water Level November 2024

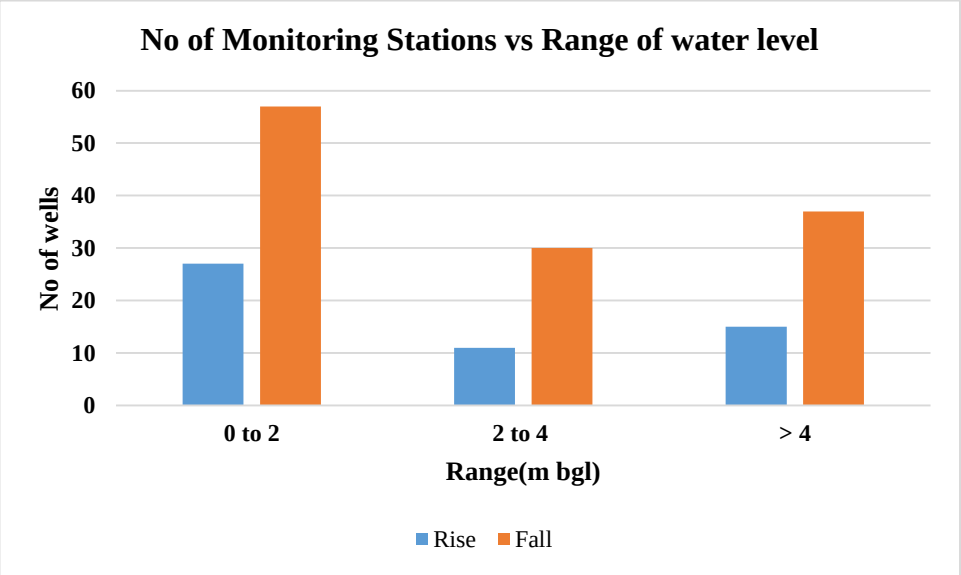

Figure 18 : No of Monitoring Stations vs Fluctuations in Water Level Noveber 2024

Rise in Water Level

Out of 53 wells, water level rise of less than 2 m is recorded in 50.94% (27) wells, 2 to 4 m in 20.75% (11) wells and more than 4 m in 28.30%(15) of the wells. Water level rise of less than 2 m is seen significantly in Bilaspur, Korba, Raigarh, Durg, Jashpur, Bastar, Kawardha, Rajnandgaon, Raipur, Dhamtari and Janjgir-Champa districts. Water level rise of 2 to 4 m is observed mainly in districts such as Jashpur, Durg, Raipur, Mahasamund, Bilaspur and Kawardha districts. Rise of more than 4 m is significantly observed in Korba, Bastar, Kanker, Mahasamund, Surguja, Durg, Bastar and Bilaspur districts.

Fall in Water Level

Out of 124 wells that have registered fall in water levels, 45.96% (57) have recorded less than 2 m while 24.19% (30) in the range of 2 to 4 m and remaining 29.83% (37) wells registered water level fall of more than 4 m. Fall of less than 2 m is mainly observed in parts of Rajnandgaon, Kawardha, Korba, Koriya, Raigarh, Dhamtari, Bilaspur, and Raipur districts. Fall of 2 to 4 m is observed mainly in Surguja, Janjgir Champa, Raipur, Durg,

Korba, Bilaspur Durg, Dhamtari and Bastar districts. Fall of more than 4 m is observed in Korba, Surguja, Durg, Bilaspur, Rajnandgaon, Bastar, Raigarh, Dhamtari and Durg districts.

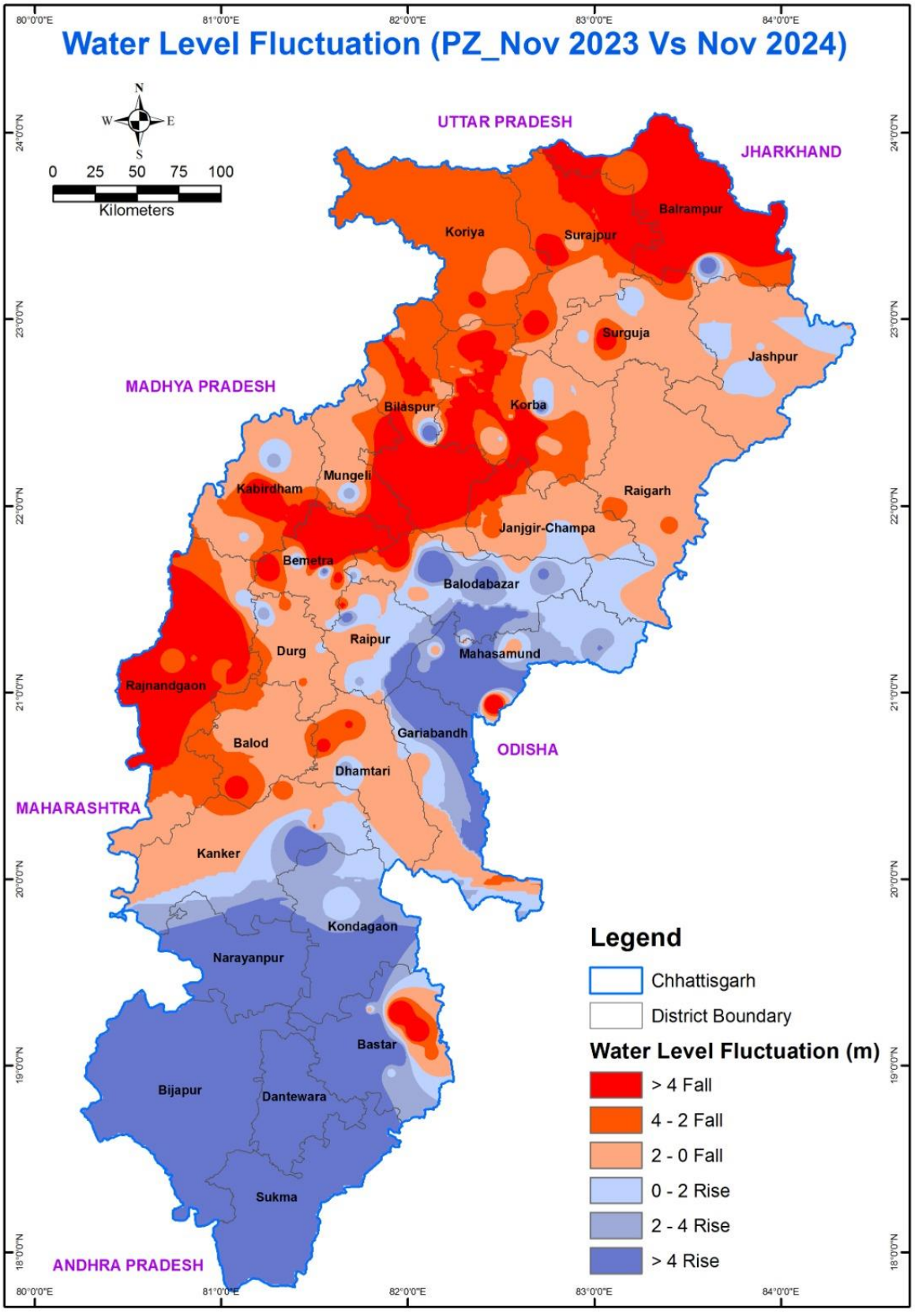

Figure 19 : Water Level Fluctuation Map (November 2023 vs November 2024) in Fractured Aquifer