For official use only
2672/GWLB/2025

GOVERNMENT OF INDIA
DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT AND GANGA REJUVENATION
MINISTRY OF JAL SHAKTI

GROUND WATER LEVEL BULLETIN

August 2025

Central Ground Water Board
Central Region, Nagpur

September 2025

1. INTRODUCTION

The Ground water level bulletin is prepared by CGWB, Central region, Nagpur depicting changes in groundwater regime of the Maharashtra state 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 in a year during January, May, August, and November. The regime monitoring started in the year 1969 by Central Groundwater Board. During the month August 2025 water level data from Total 2464 (DW-2127, BW-337) National Hydrograph Network stations of Maharashtra State representing unconfined to confined aquifer has been collected. This bulletin has been prepared for the unconfined aquifer only.

2. ADMINISTRATIVE DIVISIONS AND PRINCIPAL AQUIFER SYSTEMS

The State of Maharashtra occupies in the west-central part of India. It lies between latitudes 15°45' to 22°00' N and longitudes 73°00' to 80°59' E. Maharashtra is the third largest state in India, has a total geographical area of 3,07,713 sq. km with ~9.4 % of the country area. Maharashtra state is further divided into 5 administrative division as given in **Figure 1**. The hydrogeological units in Maharashtra state are classified into 11 Principal Aquifer Systems, as given in **Figure 2**. in which Deccan Trap Basalt, formed during the late Cretaceous period, is the most dominant formation, covering nearly 82% of the state's area.

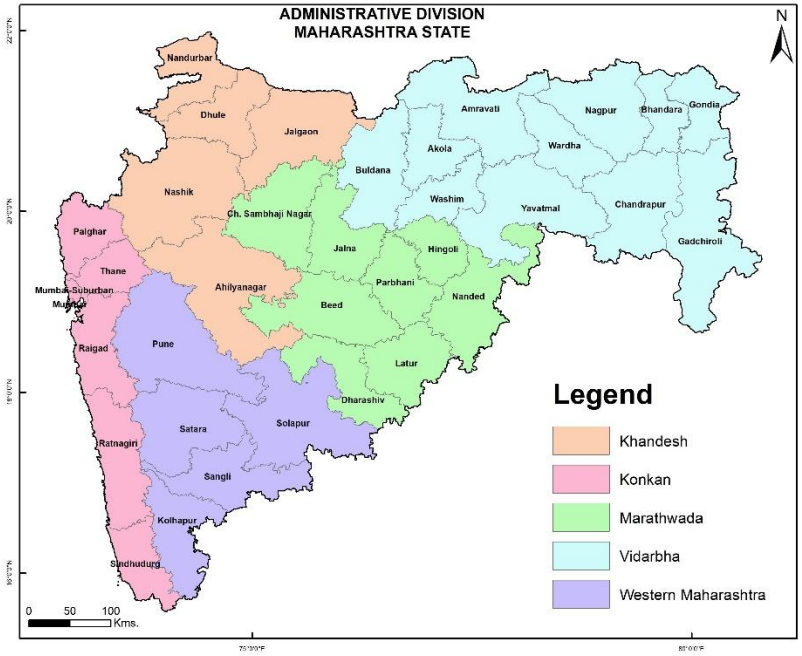

Figure 1. Administrative division, Maharashtra state

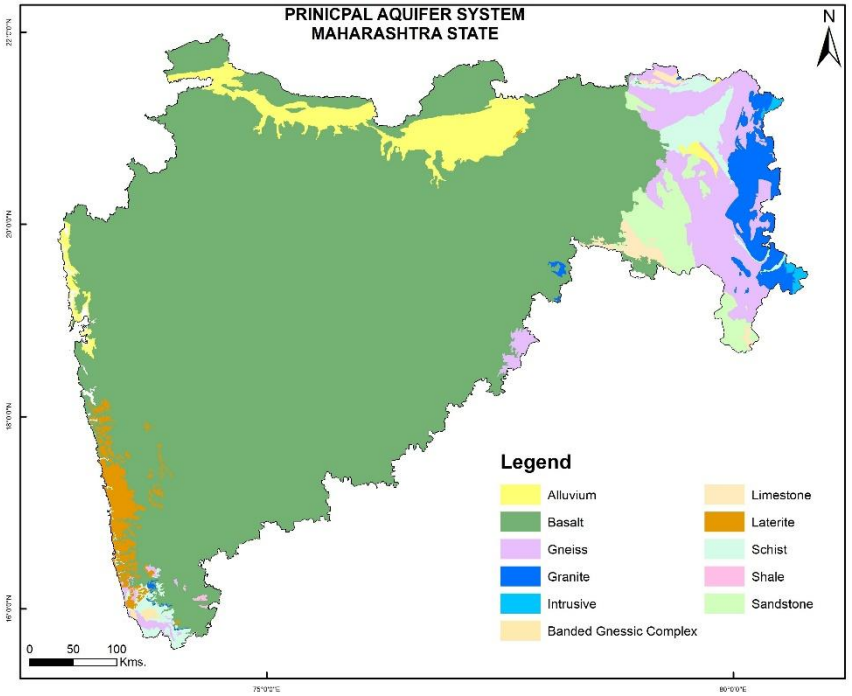

Figure 2. Principal Aquifer system, Maharashtra state

3. GROUND WATER LEVEL MONITORING

Central Ground Water Board, Central region, Nagpur monitoring changes in groundwater regime in the Maharashtra state on quarterly basis continuously. The number of wells monitored during August 2025 was 2464 which include 2127 Dug wells, 337 Borewell. The district-wise breakup of the water level number of stations monitored is given in **Table 1** and presented in **Figure 3.**

Table 1. District-wise water level monitoring station

S. No.	District	DW	BW	Total
1.	Ahmednagar	121	10	131
2.	Akola	33	14	47
3.	Amravati	97	13	110
4.	Beed	83	1	84
5.	Bhandara	33	18	51
6.	Buldhana	79	52	131
7.	Chandrapur	74	12	86
8.	Chhatrapati Sambhajinagar	82	3	85
9.	Dharashiv	31	3	34
10.	Dhule	55	6	61
11.	Gadchiroli	44	4	48
12.	Gondia	22	8	30
13.	Hingoli	35	0	35
14.	Jalgaon	79	5	84
15.	Jalna	62	6	68
16.	Kolhapur	51	4	55
17.	Latur	40	4	44
18.	Mumbai	6	0	6
19.	Mumbai Suburban	18	0	18
20.	Nagpur	152	25	177
21.	Nanded	69	2	71
22.	Nandurbar	28	4	32
23.	Nashik	94	6	100
24.	Palghar	39	1	40
25.	Parbhani	55	2	57
26.	Pune	69	6	75
27.	Raigad	54	1	55
28.	Ratnagiri	70	17	87
29.	Sangli	57	18	75
30.	Satara	67	3	70
31.	Sindhudurg	60	12	72
32.	Solapur	48	18	66
33.	Thane	24	1	25
34.	Wardha	67	27	94
35.	Washim	47	5	52
36.	Yavatmal	82	26	108
	Grand Total	**2127**	**337**	**2464**

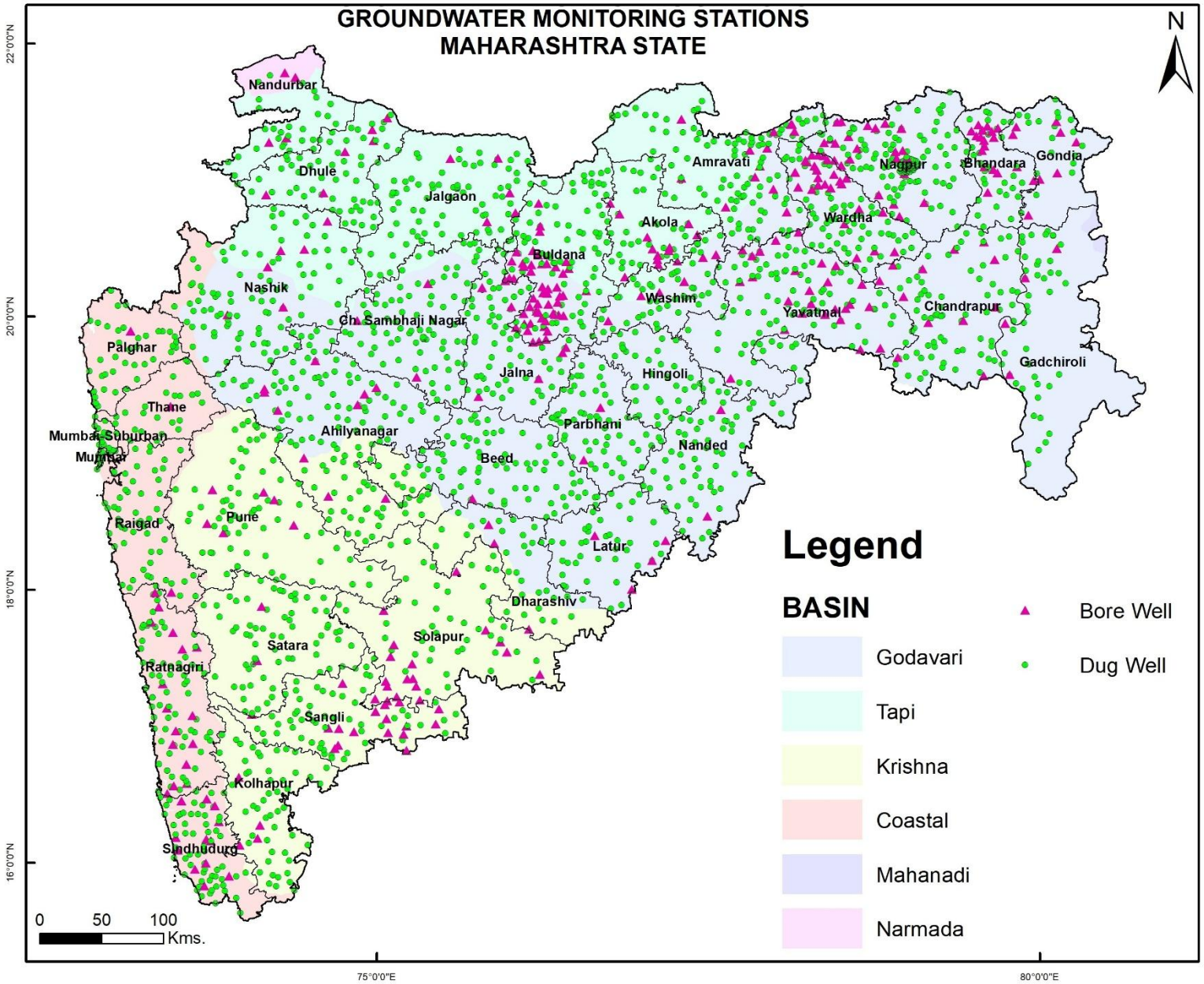

Figure 3. Locations of Groundwater Monitoring Stations, Maharashtra State.

4. RAINFALL

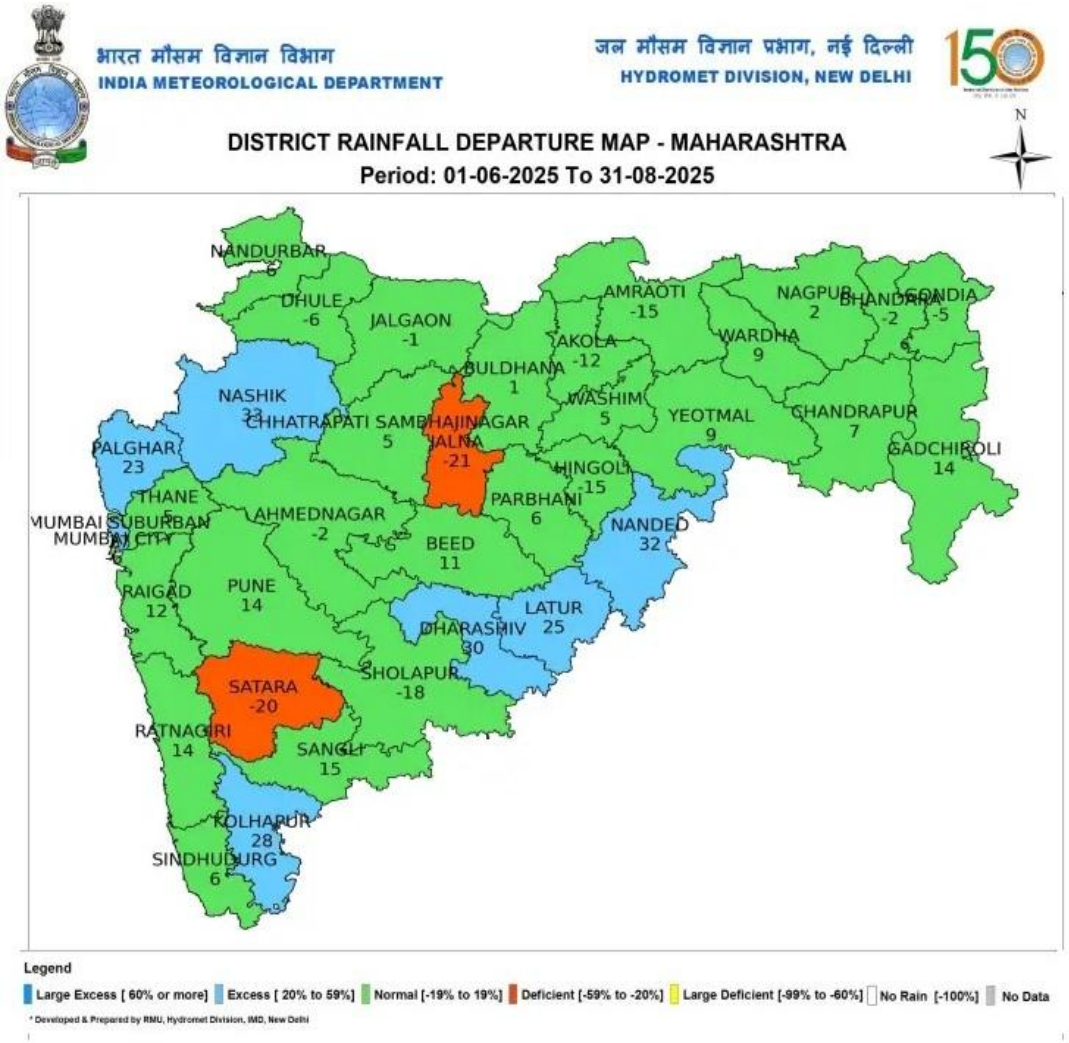

Figure 4. District-wise rainfall pattern during monsoon period 2025.

The southwest monsoon rainfall over Maharashtra during the period 1st June to 31st August 2025 exhibited marked spatial variability, consistent with the state's diverse physiographic and climatic settings. Based on the India Meteorological Department (IMD) classification, rainfall departure within ±19% of the long-period average (LPA) is considered normal, above +19% as excess, between −19% to −59% as deficient, and below −59% as scanty.

The departure of monsoon rainfall from Normal rainfall for the period 1st June 2025 to 31st August 2025 of Maharashtra State as per IMD, present in **Figure 4**.

Total 7 districts recorded **Excess rainfall**, with departures above +19% of the normal. These districts are Nashik (+32%), Nanded (+32%), Dharashiv (+30%), Kolhapur (+28%), Mumbai Suburban (+27%), Latur (+25%) and Palghar (+23%).

27 districts recorded **Normal rainfall** Sangli (+15%), Ratnagiri (+14%), Pune(+14%), Gadchiroli(+14%), Raigad(+12%), Beed (+11%), Yavatmal (+9%), Wardha (+9%), Chandrapur (+7%), Sindhudurg(+6%), Parbhani(+6%), Nandurbar (+6%), Washim (+5%), Thane (+5%), Chhatrapati Sambhajinagar (+5%), Nagpur (+2%), Buldhana (+1%), Jalgaon (-1%), Bhandara (-2%), Ahmednagar(Ahilyanagar) (-2%), Mumbai (-5%), Gondia (-5%), Dhule (-6%), Akola (-12%), Hingoli (-15%), Amravati (-15%) and Solapur (-18%)

2 district recorded **Deficient rainfall** Satara (-20%) and Jalna (-21%)

5. GROUND WATER LEVEL SCENARIO UNCONFINED AQUIFER

5.1 DEPTH TO WATER LEVEL (AUGUST 2025)

Depth to Water Level in the unconfined aquifer for August 2025 presented in **Figure 5,6.** has been analyzed from 2226 wells. The water levels range from 0.01 (GL) mbgl are observed in Ahmednagar, Beed, Chandrapur, Gadchiroli, Gondia, Hingoli, Kolhapur, Nanded, Palghar, Pune, Raigad, Sangli, Satara, Sindhudurg, Thane and Yavatmal districts to 47.52 mbgl in the Jalgaon district. Out of 2226 wells, the ~50% of the wells have a water level upto 2 mbgl, ~32% of the wells have water levels between 2 to 5 mbgl, ~14% of the wells have water levels between 5 to 10 mbgl, 3% have between 10 to 20 mbgl, and ~1% of the wells water levels deeper than 20 mbgl.

Water levels between 2 to 5 mbgl are found all over the state, while shallow water levels ranging from 0 to 2 mbgl are majorly observed in the Palghar, Raigad, Pune, Thane, Kolhapur, Parbhani, Nanded, Chandrapur, Bhandara, Gondia and Gadchiroli districts. Deeper water levels, exceeding 20 mbgl, are observed as isolated patches in Nandurbar, Dhule, Jalgaon, Amravati, and Akola districts.

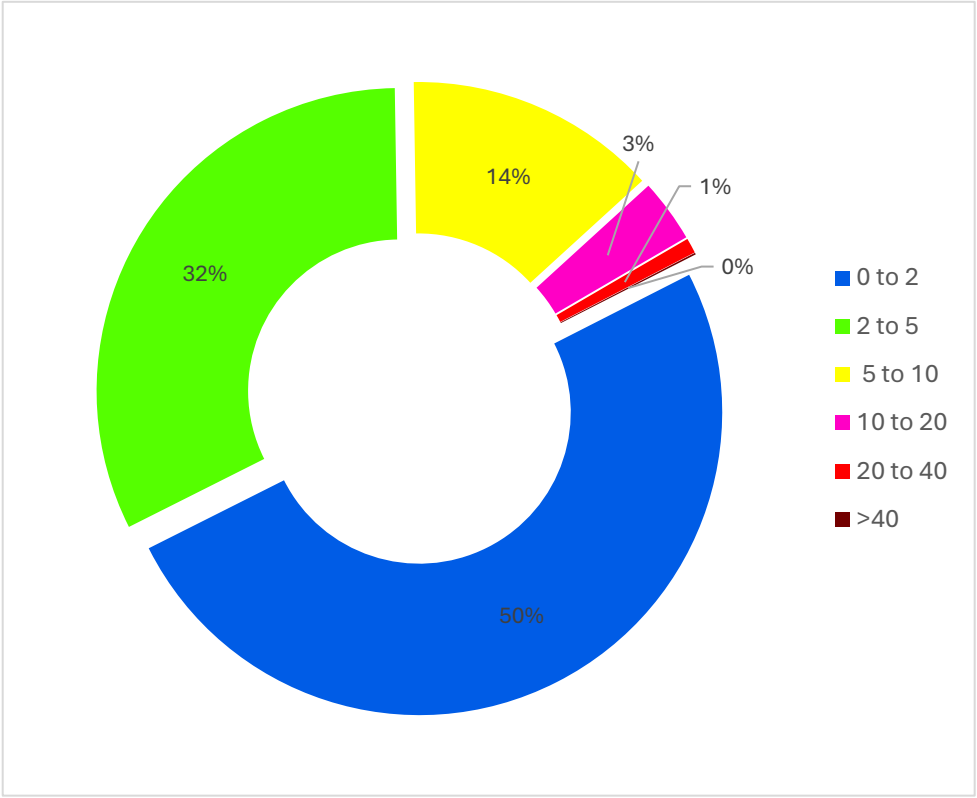

Figure 5. Percentage of wells showing Depth to Water Level (m bgl) in different ranges, August 2025 in unconfined aquifers, Maharashtra.

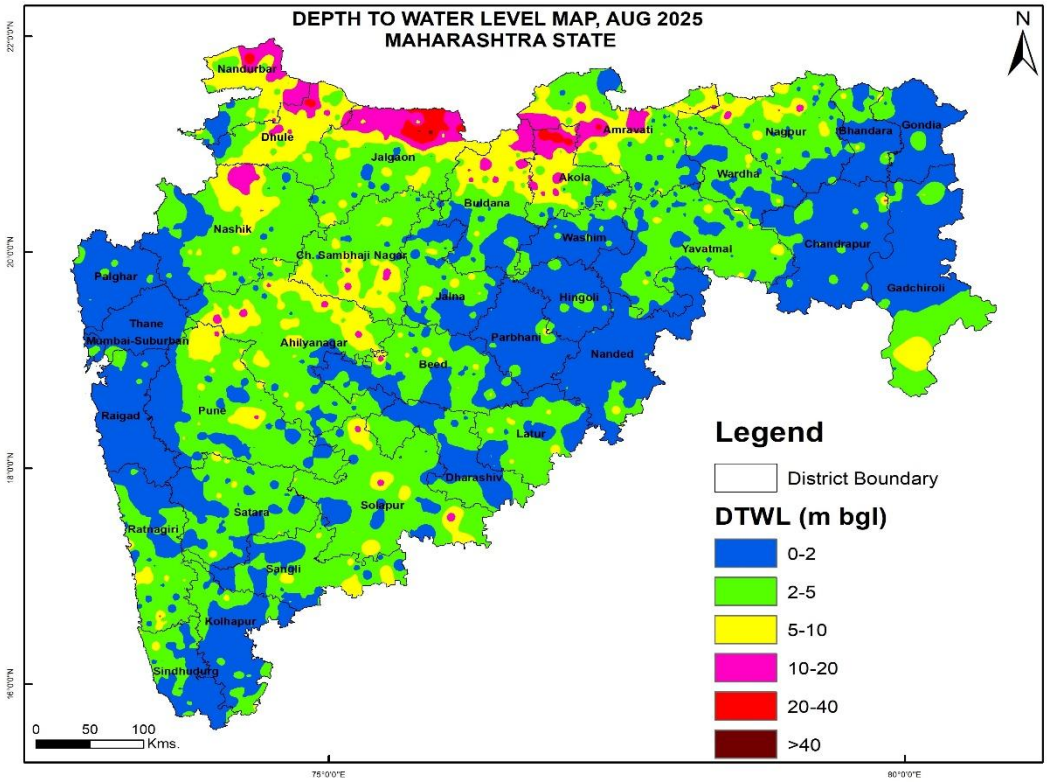

Figure 6. Depth to Water Level map during August 2025 in unconfined aquifer, Maharashtra.

5.2 SEASONAL FLUCTUATION

AUGUST 2025 WRT MAY 2025

Seasonal fluctuation in water levels in August 2025 WRT May 2025 presented in **Figure 7,8.** has been analyzed using data from 2108 wells, analysis reveals that 1789 wells (~84%) showing a rise in water level, 300 wells (~14%) showing a decline of water level while 19 wells show no fluctuation.

Rise in Water Levels:

Out of 2108 wells analyzed, 1789 wells are showing a rise in water levels and out of 578(~27%) of the wells are showing a rise of less than 2 m majorly observed in Kolhapur, Satara, Sindhudurg, Ratnagiri, Pune, Thane, Ahilyanagar, Mumbai and Mumbai suburban districts, 492(~23%) of wells are showing a rise between 2 to 4 m, while 719(~34%) are showing a rise more than 4 m majorly observed in Gadchiroli, Gondia, Chandrapur, Hingoli, Parbhani, Washim, Nanded, Beed and Latur districts.

Fall in Water Levels:

Out of 2108 wells, 300 wells are showing a fall in water levels and out of the 230(~11%) of the wells are showing a fall of less than 2 m majorly observed in Pune, Ahilyanagar, Satara, Solapur, Nashik, Dhule, Jalgaon districts., 50(~2%) of wells show a fall between 2 to 4 m, while fall of more than 4 m was observed in 20(~1%) of wells.

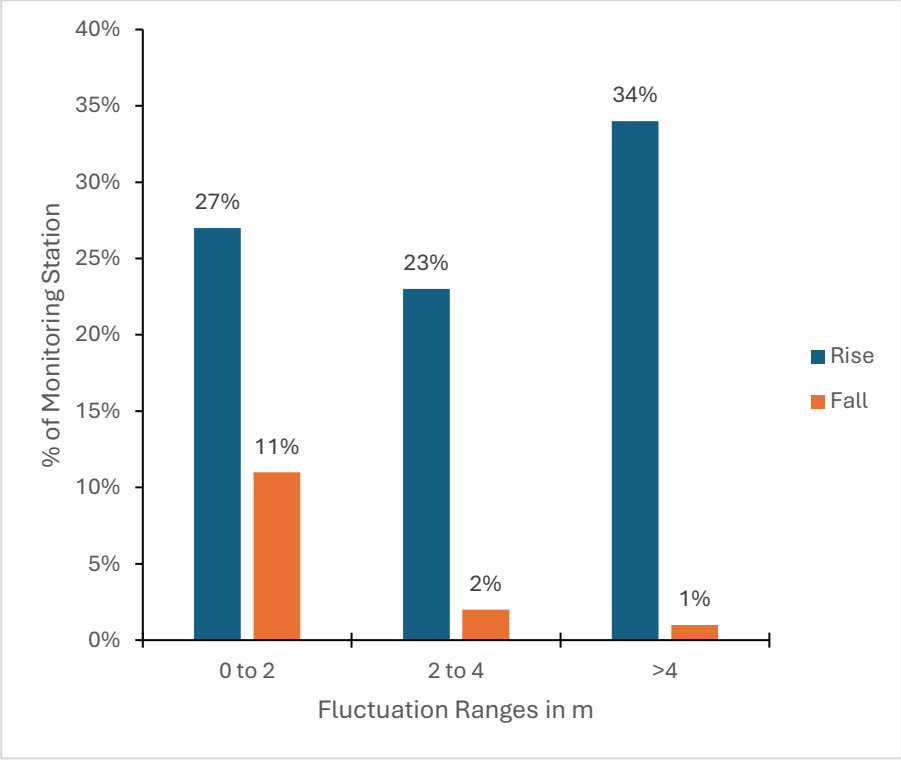

Figure 7. Seasonal Water Level Fluctuation & Frequency distribution in different ranges, August 2025 WRT May 2025 in unconfined aquifer, Maharashtra.

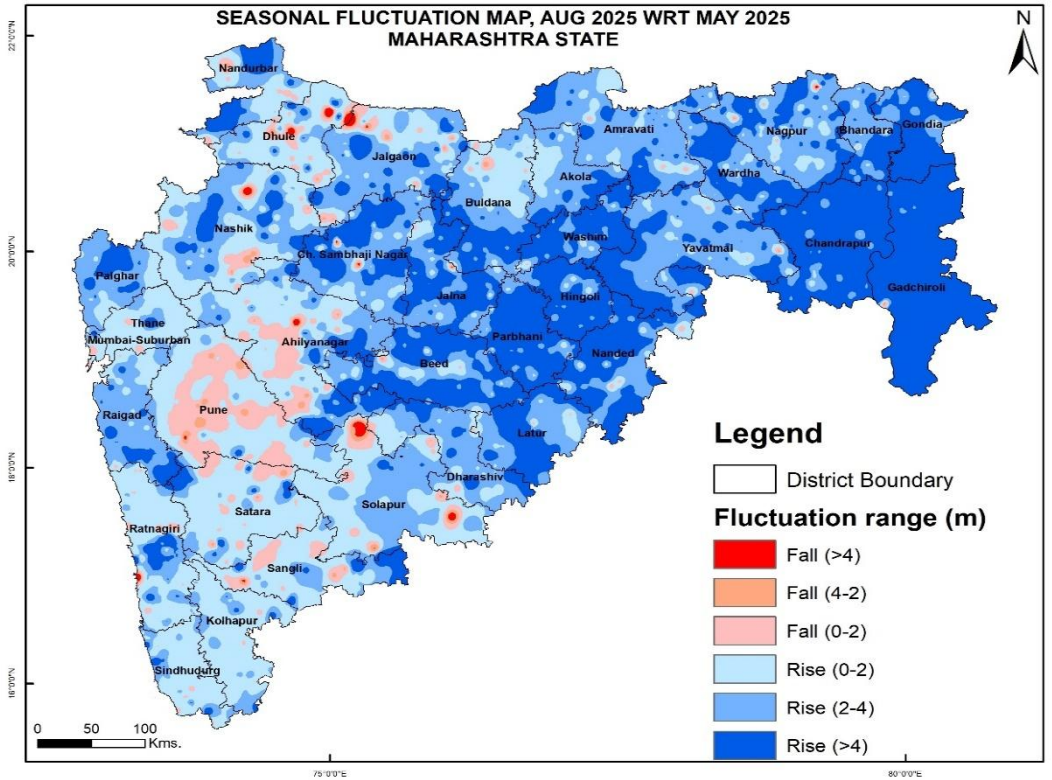

Figure 8. Seasonal Water Level Fluctuation Map, August 2025 WRT May 2025 in unconfined aquifer, Maharashtra.

5.3 ANNUAL FLUCTUATION

AUGUST 2025 WRT AUGUST 2024

Annual fluctuation of water level in August 2025 WRT August 2024 presented in **Figure 9,10.** has been analyzed from 1801 wells. Analysis reveals that, 995 (~55%) wells show a rise in water level and 764 (~43%) wells show a fall in water level. while 42 wells show no fluctuation.

Rise in Water Levels:

Out of 1801 wells, 995 wells are showing a rise in water levels. Of these, 742(~41%) of wells are showing a rise of less than 2 m majorly observed in Gadchiroli, Gondia, Bhandara, Chandrapur, Amravati, Washim, Hingoli, Nanded, Chhatrapati Sambhajinagar, Jalgaon, Nashik, Ahilyanagar, Latur , Dharashiv, Solapur, Beed, and Raigad, districts, 142(~8%) of wells are showing rise between 2 to 4 m, and 111(~6%) of wells are showing a rise of more than 4 m majorly observed in Parbhani, Jalna and Beed districts.

Fall in Water Levels:

Out of 1801 wells, 764 wells are showing a fall in water levels. Of these, 606(~34%) of wells are showing a fall of less than 2 m majorly observed in Nagpur, Wardha, Yavatmal, Buldhana, Jalgaon, Dhule, Nashik, Palghar, Thane, Pune, Ahilyanagar, Satara, Sangli, Ratnagiri, Kolhapur and Sindhudurg districts., 110(~6%) of wells are showing a fall between 2 to 4 m, while the remaining 48(~3%) of wells are showing a fall of more than 4 m

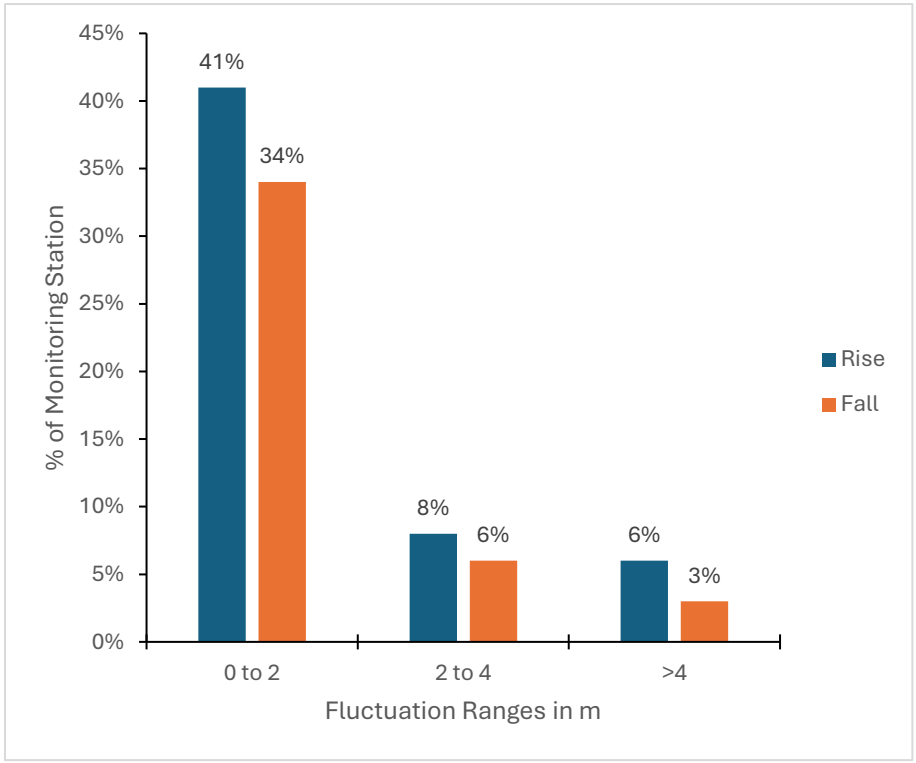

Figure 9. Annual Water Level Fluctuation & Frequency distribution in different ranges, August 2025 WRT August 2024 in unconfined aquifer, Maharashtra.

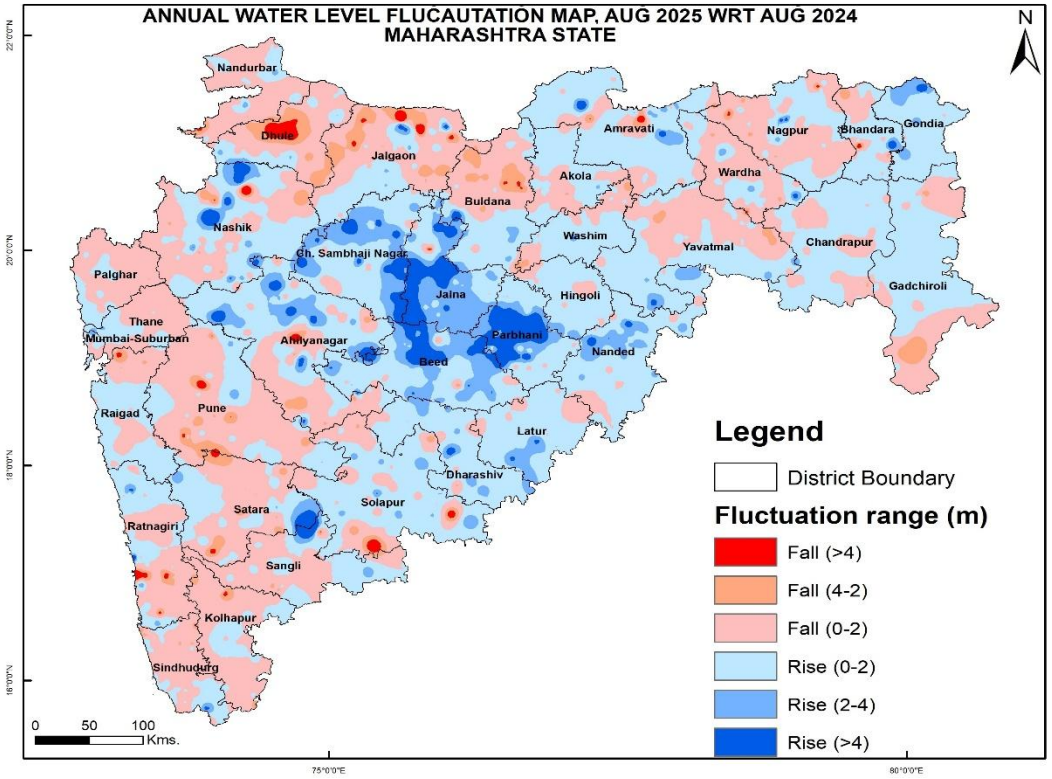

Figure 10. Annual Water Level Fluctuation Map, August 2025 WRT August 2024 in unconfined aquifer, Maharashtra.

AUGUST 2025 WRT AUGUST 2023

Annual fluctuation of water level in August 2025 WRT August 2023 presented in **Figure 11,12.** has been analyzed from 1779 wells. Analysis reveals that, 1267 (~71%) wells show a rise in water level and 493(~28%) wells show a fall in water level. while 19 wells show no fluctuation.

Rise in Water Levels:

Out of 1779 wells, 1267 wells are showing a rise in water levels. Of these, 732(~41%) wells are showing a rise of less than 2 m majorly observed in Gadchiroli, Chandrapur, Bhandara, Amravati, Akola, Washim, Hingoli, Nanded, Jalgaon, Nashik, Palghar, Nandurbar, Nashik, Palghar, Thane, Raigad, Pune, Ratnagiri, Satara, Kolhapur and Sindhudurg districts, 297(~17%) wells are showing rise between 2 to 4 m, and 238 (~13%) wells are showing a rise of more than 4 m majorly observed in Parbhani, Jalna, Beed and Ahilyanagar districts.

Fall in Water Levels:

Out of 1779 wells, 493 wells are showing a fall in water levels. Of these, 402(~23%) wells are showing a fall of less than 2 m majorly observed in Gadchiroli, Nagpur, Wardha, Yavatmal, Buldhana and Dhule districts, 61(~3%) wells are showing a fall between 2 to 4 m, while the remaining 30(~2%) wells are showing a fall of more than 4 m.

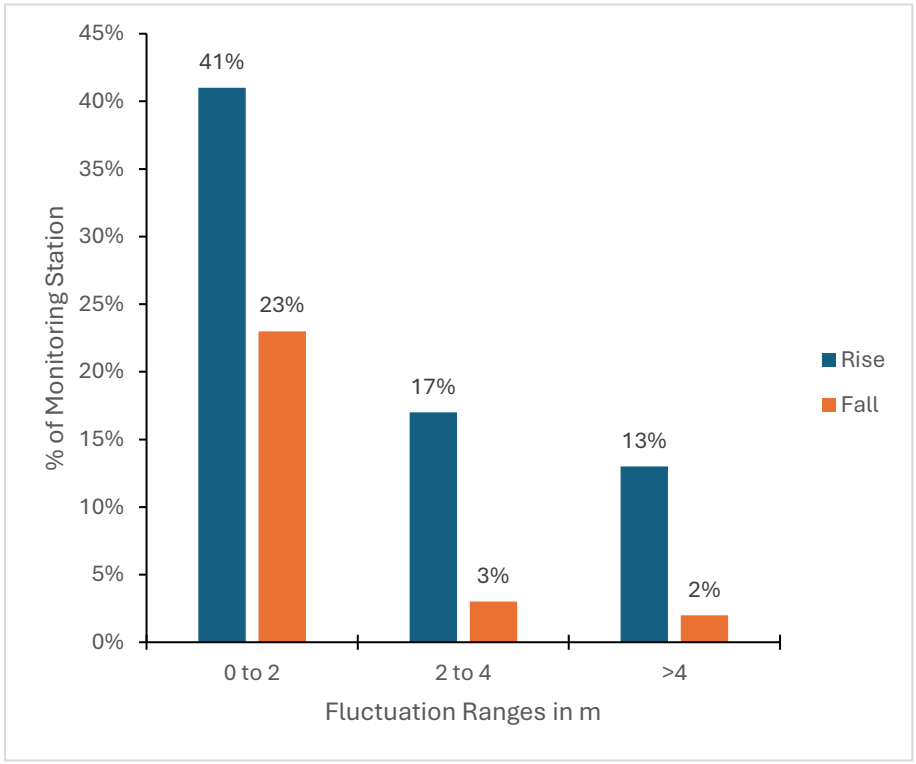

Figure 11. Annual Water Level Fluctuation & Frequency distribution in different ranges, August 2025 WRT August 2023 in unconfined aquifer, Maharashtra.

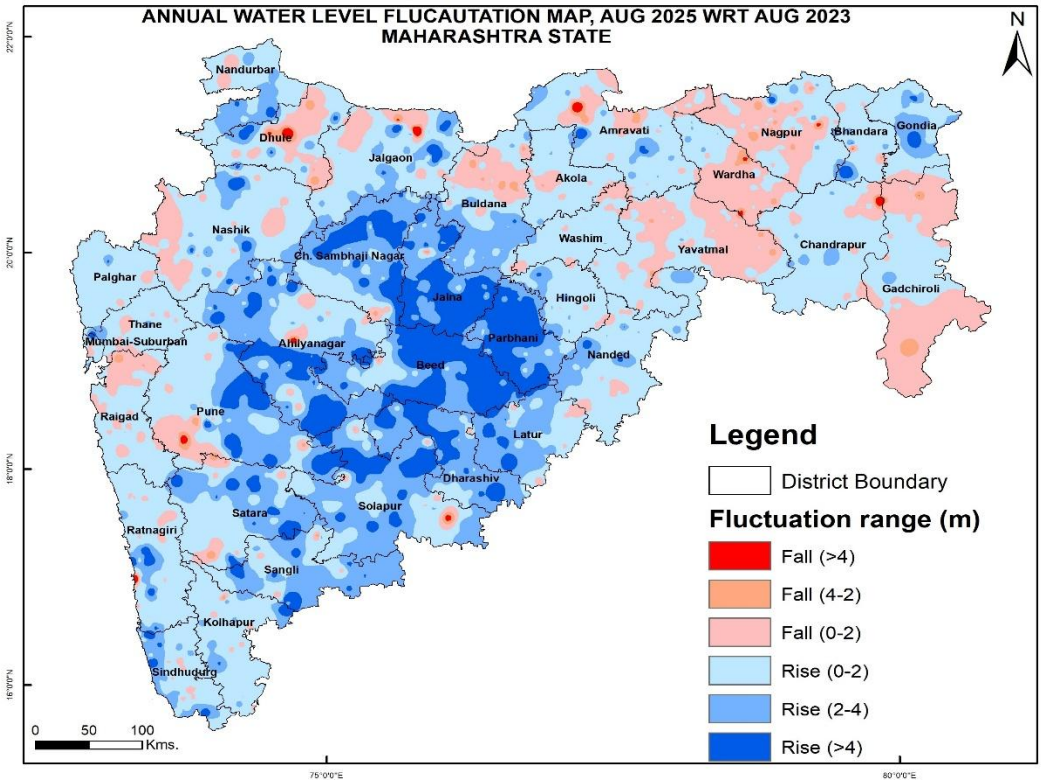

Figure 12. Annual Water Level Fluctuation Map, August 2025 WRT August 2023 in unconfined aquifer, Maharashtra.

5.4 DECADAL FLUCTUATION

Decadal fluctuation of water level in August 2025 WRT Decadal Mean August (2015–2024) presented in **Figure 13,14.** has been analyzed from 1507 wells. Analysis reveals that 1192(~79%) wells are showing a rise in water level, and 315(~21%) wells are showing decline in water level.

Rise in Water Levels:

Out of 1507 wells, 1192 wells are showing a rise in water levels. Of these, 746(~49%) wells are showing a rise of less than 2 m majorly observed in Gadchiroli, Gondia, Bhandara, Chandrapur, Wardha, Yavatmal, Amravati, Washim, Akola, Buldhana, Jalgaon, Nandurbar, Nashik, Palghar, Pune, Raigad, Ratnagiri, Sindhudurg, Satara, Sangli and Kolhapur district, 275(~18%) wells are showing a rise between 2 to 4 m, and 171(~11%) are showing a rise of more than 4 m majorly observed in Parbhani, Beed and isolated patches in Ahilyanagar, Nanded and Chhatrapati Sambhajinagar district.

Fall in Water Levels:

Out of the 1507 wells, 315 wells are showing a fall in water levels. Of these, 270(~18%) are showing a fall of less than 2 m majorly observed in Nagpur, Yavatmal, Dhule, Thane, Pune and Raigad districts, 26(~2%) wells are showing a fall between 2 to 4 m, and the remaining 19(~1%) wells are showing a fall of more than 4 m.

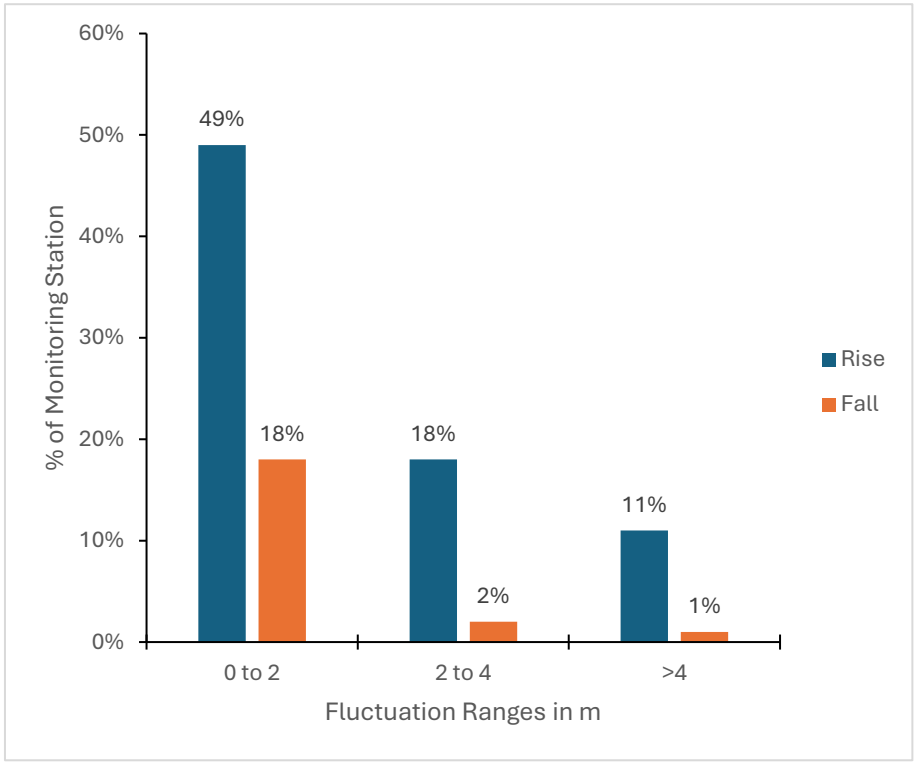

Figure 13. Decadal Water Level Fluctuation & Frequency distribution in different Ranges, August 2025 WRT Decadal mean (August 2015 to 2024) in unconfined aquifer, Maharashtra.

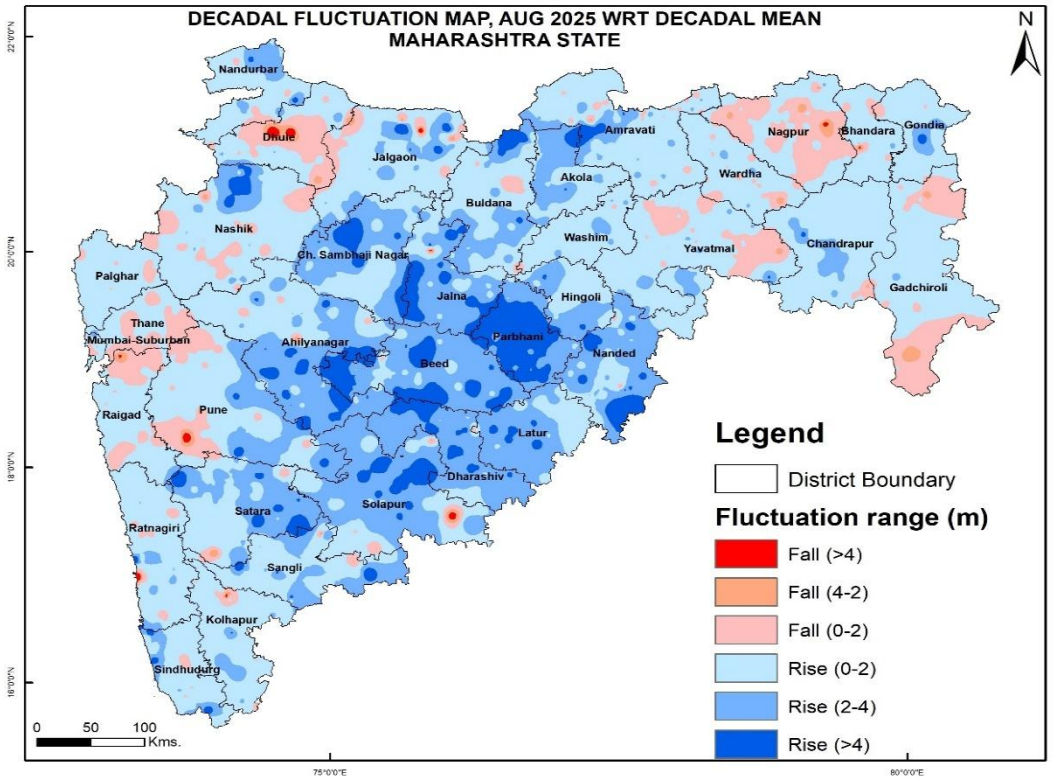

Figure 14. Decadal Water Level Fluctuation map, August 2025 WRT Decadal mean (August 2015 to 2024) in unconfined aquifer, Maharashtra

6. SUMMARY

The CGWB, Central region, Nagpur conducts monitoring of the groundwater conditions on a quarterly basis: in January, May, August, and November. During month August 2025, 2464, National Hydrographs network stations representing unconfined to confined aquifer were monitored.

During August 2025, In Unconfined aquifer the ~50% of the wells have a water level upto 2 mbgl, ~32% of the wells have water levels between 2 to 5 mbgl, ~14% of the wells have water levels between 5 to 10 mbgl, ~3% have between 10 to 20 mbgl, and ~1% of the wells water levels deeper than 20 mbgl.

Seasonal Water Level Fluctuation compared for August 2025 WRT May 2025 in which ~84% of wells showing a rise in water level, ~14% of wells showing a fall of water level while 19 wells show no fluctuation.

Annual Water Level Fluctuation compared for August 2025 WRT August 2024 in which ~55% of wells show in Rise, ~43% of wells show fall and August 2025 WRT August 2023 in which ~71% of wells in Rise, ~28% wells show fall whiles 19 no's wells shows no fluctuation.

Decadal Water Level Fluctuation compared for August 2025 WRT Decadal Mean in August for last ten years (2015-2024) in which 79% of wells shows in rise while 21% shows fall.

7. CONCLUSION AND RECOMMENDATIONS

Based on the analysis of groundwater levels recorded during August 2025 in Maharashtra state, following conclusions has been made:

- As per the comparison with Decadal average, higher recharge has been observed in Parbhani, Ahmednagar, Beed, Solapur and Nanded districts, responded good rainfall during Monsoon 2025. Consequently, groundwater availability in these districts is expected to be favourable for rabi crop cultivation. However, in central parts of Dhule, western and Eastern parts of Nagpur, eastern parts Yavatmal, adjoining parts of Thane, Raigad, Pune districts showed lower ground water recharge in-spite of receiving normal rainfall.

- During August 2025, in comparison to May 2025 total 32 wells of Pune district representing its central part, and 33 wells of Ahilyanagar district located in its central part are not showing normal monsoon recharge in-spite of receiving normal rainfall indicating stress on ground water.

- In Tapti Alluvium Basin the northern part of Jalgaon district, adjoining area of Akola, Buldhana and Amravati districts, area, the groundwater levels remain deeper (>20 m) compared to other parts of states **(Figure 6.).**

Recommendations:

During the period from 1st June to 31st August 2025 except Jalna and Satara district where rainfall has been observed deficient rainfall (slightly less than normal rainfall) the entire State has received normal rainfall **(Figure 4.).**

In the areas, where normal seasonal decline has not been recovered by monsoon recharge and showed fall in comparison decadal average, it is essential to adopt improved and more sustainable groundwater management practices. Simultaneously, demand-side measures like promoting micro-irrigation, crop diversification towards less water-intensive crops, and awareness campaigns on efficient water use should be strengthened. Focused groundwater management in these areas of districts will not only improve sustainability of groundwater resources but also ensure long-term water security for drinking and irrigation needs.

Central Ground Water Board
Central Region, Nagpur

New Secretariat Building, Civil Lines, Nagpur - 440001
Ph. +91-712-2550646 Email: rdcr-cgwb@nic.in