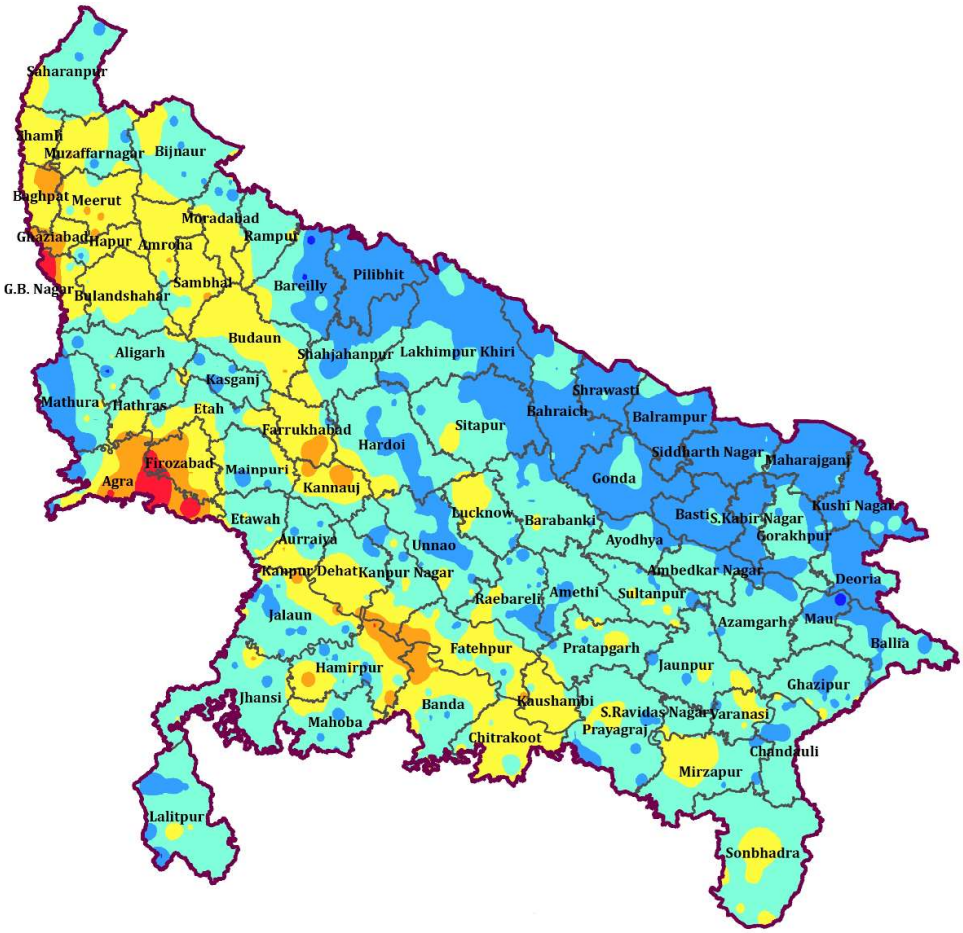
CENTRAL GROUND WATER BOARD

MINISTRY OF WATER RESOURCES, RIVER DEVELOMENT AND GANGA REJUVINATION

GOVERNMENT OF INDIA



GROUND WATER YEAR BOOK
UTTAR PRADESH
(2023-24)

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Foreword

Groundwater on account of its universal availability, dependability and low capital cost, is the major source of water to meet the requirement of various sector in India. However, with a rapid growth of population and all-round development, there is incessant pressure on the ground water withdrawal resulting in compulsive awakening in terms of both the quality and quantity. Ground water has an important role in meeting the water requirements of agriculture, industrial and domestic sectors. About 78% percent of irrigation requirements in the Uttar Pradesh state are being met from ground water resources. If the present trend of the increasing demand remains uncontrollable, the resource may become as strategic as are the minerals resources.

The indiscriminate exploitation of groundwater has led to depletion in storage. Its replenishable is essential in order to avoid the adverse impact. This could be achieved only after careful monitoring of various inputs of hydrological system. Temporal variation in thc ground water system needs to be studied for the scientific management of the resource. In view of this Central Ground Water Board, Northern Region, Lucknow has setup a network of 1194 Ground Water Monitoring Wells all over the state to maintain a regular database. The behaviour of water level is monitored four times every year in May, August, November and January. The data generated are analyzed and subjected to various types of interpretation using dedicated software – GEMS (Ground Water Estimation and Management System).

The present report, Ground Water Year Book 2023-24, is the outcome of combined efforts of Dr. R. K. Prasad (Sc. D), Sh Ankur, STA(Hydrogeologist) and Miss Aishwarya Nagar, (Young Professional) and the entire team of officers of CGWB, NR whose untiring efforts has made inputs in form of field data. I hope, the data presented in the year book will be of immense use to planners and ground water managers associated with the development and management of groundwater resources in the state.

संजय

(S. G. Bhartariya)
Regional Director

EXECUTIVE SUMMARY

- The State of Uttar Pradesh forms a part of vast Gangetic Alluvial Plain covering an area of 2,40,928 Sq. Km. It is bounded by Uttarakhand on the NW, Nepal on the NE, Bihar on the East, Madhya Pradesh in the South, and Haryana, Delhi & Rajasthan in the West. The state is covered with rich fertile soil and underlain by a large thickness of alluvium making it one of the richest ground water repositories of the world. Ground water is a major source of fresh water on earth. It is the most dependable source of water, comparatively free from the vagaries of nature, easily accessible, available at the point of use and economical. Hence it is being developed indiscriminately and the ground water reservoir is stressed. The State being the most populous in the country with a population density of 829 persons per sq. km and a high rate of population growth (20%) its demand for water is soaring. Also due to industrialization, urbanization and modern farming practices its quality is also at stake
- The State of Uttar Pradesh can broadly be divided into 2 physiographic units, the Central Ganga Plain and the Bundelkhand and Vindhyan Plateau. The Ganga Plain covering 85% of the State is a vast, flat expanse of alluvium having a gentle south easterly regional slope. The highest elevation is around 350m amsl in the north western parts and lowest 60m amsl in extreme south eastern part of the state. The land slope is variable, being steep in the north western parts and gradually diminishing south east wards. The slope ranges between less than a meters per kilometre to 5m/km. This Plain has three sub divisions – the Terai in the northwest, the Central Ganga Plain in the canter and the Marginal Alluvial Plain in the south
- The southern part of the state south of the Marginal Alluvial Plain is a part of Bundelkhand and Vindhyan plateau. This plateau region slopes northerly and is represented by undulating hilly terrain. The land slope varies from 130 to 550m amsl in the western part and 100 to 650m amsl in the eastern part with steeper gradients than those in the northern Ganga plain. The State forms a part of Ganga basin. The master drainage of the state is river Ganga and its tributaries. The Ramganga, Ghaghara and Gomti are the main left bank tributaries, while the Yamuna is the main right bank tributary. All these rivers except Gomti originate from Himalayan ranges and are snow

fed. Initially the rivers flow southward in the north western part of the State, then turn south eastward and finally leave the State in an easterly direction

- The food production in UP is commensurate with the self-sufficiency of the country. One of the major contributors for this sufficiency is irrigation. To meet this high irrigational requirement, water resources are being increasingly developed. Ground water contributes to about 71% of the irrigation needs of the State. The indiscriminate development of ground water has resulted in depletion of groundwater storage and lowering of water level in certain areas on one hand. On other side the surface water development in areas having shallow water level has resulted in water logging and soil salinization.
- The State experiences a sub-humid and tropical climate with three distinct seasons' summer, monsoon & winter. The intervening periods are transitional period on the basis of IMD long term normal data. The summer is hot and dry with maximum daily temperature ranging between 38°C - 43°C. The humidity during this season is lowest ranging between 30% to 53% at 08.30 hrs and 18% to 42% at 17.30 hrs. summer seasons ends by May and transition period starts. The rainy season commences by late June when south western monsoon sets in over the State. The humidity gradually increases and reaches above 80%. August is the peak rainy season. The bulk of annual rainfall about 85% occurs during monsoon period (June to September). The monsoon starts retreating from the State in late September or early October. Then commences another transitional period followed by winter from late November till February. January is the coldest month of the period. Another transitional period follows between winter and summer.
- There is large variation in temperature both in time and space. The lowest temperature is observed during January when night temperature ranges between 2°C & 6°C, over the state. With the start of summer, the temperature starts rising with maximum during May when the mercury may touch 45°C in central and eastern parts of the State. Gradually with the beginning of rainy season the temperature drops which again shows a mild rising trend during the intervening period before winter (October, November). The Normal annual potential Evapotranspiration of Uttar Pradesh is 1491.5 mm. The Normal annual potential Evapotranspiration of East Uttar Pradesh is 1484.0 mm and of West Uttar Pradesh is 1499.0 mm. The monthly normal potential Evapotranspiration is high in hot months and low in winter months. Normal potential Evapotranspiration is highest in the

month of May with value of 217.8 mm fallowed by June with value of 201.6 mm. The normal potential Evapotranspiration is lowest in the month of December with value of 50.7 mm fallowed by January with value of 55.6 mm.

- The district wise monthly gridded rainfall data collected from Indian Meteorological Department; India WRIS were used to analyzed the rainfall pattern. The average annual rainfall of year 2023 is 763.60 mm. The amount of average monsoonal rainfall during 2023 is 643.98 mm The average annual actual rainfall of the whole state in monsoon period is 643.98 mm. The minimum value is observed to be 330.39 mm in Fatehpur district in UP and the maximum value 1220.93 mm in Bijnore district of UP. Similarly, in non- monsoon period the minimum value is observed to be 42.28 mm in Jhansi district in UP and the maximum value 283.26 mm in Sonbhadra district of UP.
- During pre-monsoon i.e. from March to May, 2023 the north-west region of UP namely Saharanpur, Shamli, Merrut, Bijnore, Muzzafarnagar and Amroha receives excess rainfall while eastern part of UP specially Balrampur, Siddharathnagar, Maharajganj, Basti, Azamgarh, Kushinagar and Ballia receives very less rainfall.
- During post-monsoon i.e. from June to October, 2023 the western region of UP namely Saharanpur, Shamli, Merrut, Bijnore, Muzzafarnagar, Mathura, Aligarh, G.B. Nagar Bulandshar, Bagpat and Amroha receives excess rainfall as compared to eastern part of UP specially Balrampur, Siddharathnagar, Maharajganj, Basti, Azamgarh, Kushinagar, Deoria, Mau, Jaunpur Pratapgarh, Kaushambi and Ballia.
- The monitoring data forms the base of management practices. In order to manage the water resources and plan development on scientific lines a data base needs to be generated. In view of relative importance of this valuable resource it becomes imperative to adopt sound and scientific management of groundwater resources. With this in view the Central Ground Water Board, an apex organization of India in the field of ground water studies has established a network of 1194 monitoring wells, as on 31.03.2023 out of which 838 are open dug wells and 356 are piezometers. These are being monitored four times a year (May23, August23, November23 & January, 24). Few wells are being monitored through participatory monitoring program for the remaining eight months

Depth to water level of Unconfined aquifer during 2023-24

The depth to ground water level in the state is highly variable throughout the year ranging from ground level to 44.43 mbgl. The distribution pattern remains same during the year with the areas under different ranges increasing/reducing in different seasons.

Depth to water level (May 2023)

- The water levels in the range of 0 to 2 mbgl (i.e., water logged condition) is observed only in 19 wells (about 2.09%). Shallow water level of less than 2 mbgl is observed in isolated patches of Aligarh, Banda, Basti, Bijnore, Hamirpur, Jalaun, Lalitpur, Mathura, Moradabad, Shravasti, Sultanpur and Unnao districts covering an area of 2% of the State
- Water level ranges from 2 to5 mbgl is observed in 38.09% of wells (347 nos.). It is usually observed in Ayodhya, Amethi, Bahraich, Ballia, Balrampur, Barabanki, Basti, Bareilly, Bijnore, Chandauli, Fatehpur, Gazipur, Gonda, Deoria, Kasganj, Kushinagar, Prayagraj, Raibareilly, Saharanpur, Shrawasti, Siddharthnagar, Sitapur, Sultanpur, Shrawasti and Varanasi districts of Uttar Pradesh
- About 38.64 % of wells (352 nos.) show water level between 5 and 10 m bgl. This area is observed, mostly in Amethi, Barabanki, Azamgarh, Ballia, Hardoi, Jalaun, Jaunpur, Jhansi, Lalitpur, Kushinagar, Lalitpur, Pratapgarh, Prayagraj, Raibarelliy, Sitapur and Sultanpur Districts.
- Water level in the range of 10 – 20m have been observe in 155 wells (17%) mainly in Meerut, Hapur, Bulandshahr, Muzzafarnagar, Shamli, Amroha, Sambhal, Budaun, Farrukhabad, Agra, Kannauj, Hamirpur, Banda, Lucknow, Fatehpur, Mirzapur, Sonbhadra districts in UP. Deeper water levels greater than 20m cover 4 % area of the State, recorded in Agra, Gautam Budh Nagar, Lucknow, Baghpat, Hamirpur and Jhansi Districts.

Depth to water level (August 2023)

- Out of 1025 analyzed well 252 (24.59%) falls in the range of 0 to 2mbgl and 372 wells (36.29%) fall in the range of 2 – 5mbgl, it occurs mainly in Terai region of UP namely Bareilly, Lakhimpur Khiri, Shrawasti, Bahraich, Balrampur, Siddharth Nagar, Gonda, Basti, Gorakhpur, Deoria, Ayodhya, Ambedkar Nagar, Azamgarh, Mau, Ballia and southern parts

districts like Lalitpur, Jhansi, Mahoba, Banda and Jalaun. It also observed in western periphery of the districts mainly Mathura, Kasganj and Aligarh.

- The water level in the range of 5-10 mbgl and 10-20mbgl occur in the 246 wells (24%) and 128 wells (12.49%) respectively. As per observation, the water level between 5-10m occurs in Saharanpur, Bijnore, Moradabad. Rampur, Badaun, Sitapur, Barabanki, Fatehpur, Pratapgarh, Varanasi, Prayagraj, Mirzapur, Chaundali and Sonbhadra districts. Water level between 10 – 20m occurs mainly western UP such as Saharanpur, Shamli, Muzaffarnagar, Amroha, Sambhal, Budaun, Baghpat, Meerut, Hapur and some parts of Farrukhabad, Agra, Firozabad, Kannauj and Lucknow Districts.
- Water level above 20m (nearly 2%) are found in small patches of Firozabad, Agra, Lucknow, Gautam budh Nagar, Gaziabad, Shamli and Bagpat districts of UP

Depth to water level (November 2023)

- Analysis of depth to water level data of 1075 wells shows water levels vary between 0.25 mbgl (Moradabad district) to 44.24 mbgl (Agra district). Water level of less than 2 mbgl is recorded in 16 % of wells, between 2 to 5 mbgl in 43.44 %of wells, between 5 to 10 mbgl in 25% of wells, between 10 to 20 m bgl in 12.27% of wells, between 20-40 mbgl in 3% of wells and water level greater than 40 mbgl is registered in 0.37 % of wells.
- Shallow water level of less than 2 mbgl is seen in isolated patches in Shrawasti, Balrampur, Bahraich, Siddarth Nagar, Basti, Amethi, Banda and Deoria districts covering 16% of area. Water level of 2 to 5 mbgl is observed in Terai region of UP mainly in Shrawasti, Balrampur, Maharajganj, Kushinagar, Sant Kabir Nagar and some districts of north western and north eastern parts such as Ballia, Mau, Deoria, Ambedkar Nagar, Ayodhya, Gonda, Sitapur, Hardoi, Shahjahanpur, Bareilly, Pilibhit, Rampur, Moradabad, Bijnaur and Saharanpur districts covering an area of 43% the State
- About 25% area falls in the range of water level between 5 to 10mbgl which is observed in Saharanpur, Bijnaur, Muzaffarnagar, Aligarh, Etah, Kasganj, Sitapur, Pratapgarh, Jaunpur, Varanasi, Mirzapur and Sonbhadra district. Some of the North Western parts of the district falls in the range of Water level between 10 to 20mbgl covering an area 12% of the State such as Saharanpur, Shamli, Muzzafarnagar, Bagpat, Meerut, Hapur, Amroha, Sambhal, Badaun, Farrukhabad, Kannauj, Lucknow, Fatehpur, Kaushambi,

Chitrakoot and Hamirpur districts. Deeper water levels greater than 20mbgl cover 3 % area of the State mainly in Gautam Budh Nagar, Agra, Firozabad and isolated patch in Hamirpur, Lucknow districts

Depth to water level (January 2023)

- The water-logged area showing depth to water level in the range of 0-2 mbgl and is observed as isolated patches in Bijnor, Moradabad, Bareilly, Bahraich, Sitapur, Balrampur, Siddharath nagar, Aligarh, Mathura, Aurraiya, Unnao and Banda district. Water levels in the range of 2–5 and 5-10 mbgl are predominant during this period as reflected at 45.32% and 30.92% of monitored wells respectively.
- The water level in the range of 2 – 5 mbgl is predominantly concentrated along the northern border (Terai region) eastern and North eastern parts of the state and as scattered patches in central and southern part of the State. The depth to water level of 5 - 10 m.bgl is observed predominantly in the central, western, southern and lower eastern parts of U.P from Saharanpur to Sonbhadra districts.
- The water level in range of 10-20 m.bgl is observed all along Yamuna River and parts of western U.P. This range is observed as patches in Agra, Etawah, Aurraiya, Prayagraj, Baghpat, Chitrakoot, Gautam Buddha Nagar, Meerut, Hathras, Shamli, Sambhal, Muzaffarnagar, Ghaziabad, Hamirpur, Jalaun, Kaushambi, Lucknow, Sant Ravidas Nagar, Mirzapur and Sonbhadra districts.
- The water level of 20 mbgl and more is present along Yamuna River in isolated patches. It is seen mostly in Baghpat, Agra, Ghaziabad, Firozabad, Farrukhabad, and Fatehpur districts

Summarized status of water level in unconfined aquifer of year 2023-24

DEPTH RANGE (M)	*May'23*	*Aug'23*	*Nov'23*	*Jan'24*
0-2	19 (2.09%)	252 (24.6%)	172 (16%)	79 (7.25%)
2-5	347 (38.09%)	372 (36.3%)	467 (43.44%)	494 (45.32%)
5-10	352 (38.64%)	246 (24%)	268 (25%)	337 (31%)
10-20	155(17%)	128 (12.5%)	132 (12.28%)	145 (13.30%)
>20	38(4.17%)	27 (2.3%)	36 (3.3%)	35 (3.4%)

Piezometric head of confined aquifer during 2023-24

The Piezometric head in the state is highly variable throughout the year ranging from ground level to 31.21 mbgl. The distribution pattern remains same during the year with the areas under different ranges increasing/reducing in different seasons.

Piezometric head (May 2023)

- Analysis of 99 wells shows Piezometric head of the deeper aquifer vary between 0.18 mbgl (Mau) to 31.21mbgl (Hamirpur district). Piezometric head of less than 2 mbgl is recorded in 2% of wells, between 2 to 5 mbgl in 22.22% of wells, between 5 to10 mbgl in 37.37% of wells, between 10 to 20 mbgl in 24.24 % of wells, between 20-40 mbgl in 13.13% of wells and piezometric head more than 40 mbgl is registered in 1 % of wells.
- Shallow piezometric head of less than 2 mbgl is noticed in Azamgarh and Mau districts. Piezometric head of 2 to 5 mbgl mainly observed in parts of Gorakhpur, Banda, Siddhartnagar, Unnao and Azamgarh districts of the State. North eastern parts of the districts observed mostly decline of Piezometric head in the range of 5 to 10 such as Ambedkar Nagar, Azamagarh, Bahraich, Ballia and Gorakhpur, this is also observed in Bundelkhand districts mainly Banda, Chitrakoot and Mahoba.
- Piezometric head of 10 to 20 mbgl is covered in Banda, Chitrakoot, Fatehpur, Ghazipur, Kheri, Meerut, Rampur, Mahoba, Sambhal area. Deeper piezometric head of more than 20m covers 8% area of the State and mainly observed in Banda, Fatehpur, Sambhal, Hamirpur districts of Uttar Pradesh.

Piezometric head (August 2023)

- The piezometric head has become shallower in large part of the state as per available data. Out of 103 analyzed well 15 (14.56%) falls in the range of 0 to 2mbgl and 37 wells (35.92%) fall in the range of 2 – 5mbgl, it occurs mainly in Gorakhpur, Ambedkar nagar, Siddharth nagar, Azamgarh, Sambhal, Rampur, Etah, Banda, Lakhimpur Kheri, Chitrakoot, Ayodhaya and Unnao.
- The piezometric head in the range of 5-10 and 10-20 mbgl occur in the 22 wells (21.36%) and 16 wells (15.53%) respectively. As per observation, the piezometric head between 5-10m occurs in Gaziabad, Meerut, Bulandshahr, Mahoba, Banda, Lakhimpur Kheri, Sitapur, Chitrakoot, Ambedkar Nagar, Sonbhadra, Gorakhpur, Ballia districts.

- The piezometric head between 10 – 20m are observed in Bagpat, Meerut, Sambhal, Moradabad, Banda, Fatehpur, Chitrakoot, Jaunpur and Balrampur Districts. The piezometric head above 20m (nearly 12%) are found in small patches of Banda, Fatehpur, Hamirpur, Bagpat and Sambhal districts of UP.

Piezometric head (November 2023)

- Analysis of piezometric head data of 114 wells shows that piezometric head vary between 0.64mbgl (Banda) to 38.11mbgl (Hamirpur district). Piezometric head of less than 2mbgl is recorded in 10.53% of wells, between 2 to 5mbgl in 35.09% of wells, between 5 to10mbgl in 27.19% of wells, between 10 to 20 mbgl in 17.54 % of wells, between 20-40 mbgl in 6.14% of wells and Piezometric head more than 40 mbgl is registered in 3.51 % of wells
- Shallow piezometric head of less than 2mbgl is noticed in Balrampur, Banda, Gorakhpur, Mahoba, Sidhdharth Nagar districts of the State. Piezometric head of 2 to 5mbgl mainly observed in parts Ambedkar Nagar, Bahraich, Etah, Fatehpur, Gorakhpur, Mau, Sambhal, Unnao districts of the State. Moradabad, Bijnaur and Saharanpur districts covering an area of 43% the State
- Piezometric head of 5 to 10mbgl are observed in area of Ambedkar Nagar, Banda, Chitrakoot, Fatehpur, Ghazipur, Meerut, Unnao districts. Piezometric head of 10 to 20mbgl are noticed in Baghpat, Balrampur, Banda, Chitrakoot, Fatehpur, Meerut, Mahoba, Sambhal area. Deeper piezometric heads of more than 20mbgl covers 8% area of the State and mainly observed in Banda, Fatehpur, Sambhal, Hamirpur districts of UP.

Piezometric head (January 2023)

- Out of 118 analysed wells, depth to piezometric head in the range of 0-2 mbgl and is observed as isolated patches in Aligarh, Amethi, Azamgarh, Bahraich, Banda, Balrampur, Chaundali, Gazipur, Hamirpur, Jalaun, Mahoba, Lalitpur, Mathura, Shravasti, Rae Bareilli Sultanpur, Unnao and Moradabad district.
- Piezometric head in the range of 2–5 and 5-10 mbgl are predominant during this period as reflected at 32.20% and 30.51% of monitored wells respectively. It is mostly observed in the Terai regions of UP. The moderate water level zone occurs in 26.2%. The very deep-water level occurs in 3.4% wells.

- The piezometric head in the range of 2 – 5 mbgl is observed in Agra, Aligarh, Ambedkar Nagar, Amethi, Aurriya, Ayodhaya, Azamgarh, Bahraich, Ballia, Balrampur, Bara banki, Banda, Bareilly, Basti, Deoria, Etawah, Fatehpur, Gonda, hardoi, Jaunpur, Kushinagar, Kasganj, Mahoba, Maharjganj, Mathura, Pratapgarh and Prayagraj districts
- The piezometric head of 5 - 10 m.bgl is observed predominantly in the Aligarh, Ambedkar Nagar, Amethi, Ayodhaya, Bahraich, Banda, Chitrakoot, Fatehpur, Gazipur, Jalaun, Jaunpur, Saharanpur, Sonbhadra and Unnao districts.
- The piezometric head in range of 10-20 m.bgl is observed as patches in Banda, Fatehpur, Chitrakoot, Gazipur, Jalaun, Unnao, Moradabad and Mahoba districts.The piezometric head of 20 mbgl is seen mostly in Banda, Fatehpur, Hamirpur, Mahoba and Sambhal districts. In Bulandshahr and Hamirpur, water level of more than 20 mbgl is observed.

Summarized status of Piezometric head in unconfined aquifer of year 2023-24

DEPTH RANGE (M)	*May'23*	*Aug'23*	*Nov'23*	*Jan'24*
0-2	2 (2%)	15 (14.56%)	12 (10.53%)	9 (7.63%)
2-5	22 (22.22%)	37 (36%)	40 (35%)	38 (32.20%)
5-10	37 (37.37%)	22 (21.36%)	31 (27.19%)	36 (30.51%)
10-20	24 (24.24%)	16 (15.53%)	20 (17.54%)	24 (20.34%)
>20	14 (14.13%)	13 (12%)	11 (9.6%)	11 (9%)

Seasonal Fluctuation of unconfined aquifer during 2023-24

The difference between the pre- and post-monsoon water level of the year is the most important seasonal fluctuation which gives a clear picture of groundwater potential which could be fruitfully utilized for various uses over the succeeding year

May 2023 – November 2023

Rise in Water Levels:

- The district wise data indicate a rise in water level in almost 89% of the wells indicating monsoon recharge to ground water. There is a general rise in water levels from 0 to 2 m as noticed at 468 (55.78%) wells, 2 to 4m in 27.65% wells and more than 4m in 6.67% of the wells.

- This rise is seen in almost all the districts of the state except north Central part of the state and rise in 2 – 4m is mostly observed in Bundelkhand district and along with it is also noticed in Kanpur, Kanpur Dehat, Aurraiya, Etawah, Mainpuri, Firozabad, Budaun, Rampur, Bijnaur, Shamli and Saharanpur Districts. Rise of more than 4m is significantly observed in isolated patches of Gautam Buddh Nagar, Agra, Firozabad, Jalaun, Mahoba, banda, Unnao, Pratapgarh, Gonda, Mirzapur, Rampura, Bijnor and Bareilly districts.

Fluctuation Change of Groundwater Storage in U.P. (2023)

Magnitude of Change (m)	May'23 – Nov'23	
	Rise (%)	Fall (%)
0-2	468 (55.78%)	67 (7.99%)
2-4	232 (27.65%)	6 (0.72%)
>4	56 (6.67%)	10 (1.19%)

Fall in Water Levels:

- Out of 839 wells that have registered fall in water levels, 7.99% have recorded less than 2m while 0.72% in the range of 2 to 4m and remaining 1.19% wells registered water level fall of more than 4m. Fall of less than 2m is mainly observed in isolated parts of Gautam Buddha Nagar, Hathras, Agra, Farukhabad, Kannauj, Jhansi, Hamirpur, Banda, Chitrakoot, Pratapgarh, districts.
- Fall of 2 to 4m is observed mainly in Gautam Budh Nagar, Agra, Kasganj, Jalaun, Hamirpur, Banda, Chitrakoot and Mau region. Fall greater than 4m is seen in isolated patches of district Agra, Jalaun, Hamirpur, Chitrakoot.

Seasonal Fluctuation of confined aquifer during 2023-24

May 2023 – November 2023

Rise in Piezometric heads:

- Out of 119 wells, piezometric head rise of less than 2m is recorded in 42.86% wells, 2 to 4m in 17.65% wells and more than 4m in 9.24% of the wells. Percentage wise distribution of wells is shown in Fig 14. Piezometric head rise of less than 2m is seen in

Meerut, Shambal, Chitrakoot, Bulandshahar, Unnao, Ambedkar Nagar, Gonda, Rampur, Mahoba, Bahraich, Gorakhpur, Siddharth Nagar and Ballia.

- Piezometric head rise of 2 to 4m is observed mainly in districts such as, Mahoba, Banda, Chitrakoot, Sidharth Nagar, Gorakhpur, Mau districts. Rise of more than 4m is significantly observed in Amroha, Rampur, Banda, Fatehpur, Chitrakoot districts.

Fall in Piezometric heads:

- Out of 119 analyzed wells, observed fall in piezometric head, 8.4% have recorded less than 2m while 10.08% in the range of 2 to 4m and remaining 11.76% wells registered piezometric head fall of more than 4 m.
- Fall of less than 2m is mainly observed in parts of Bagpat, Fatehpur, Unnao, Balrampur, Azamgarh, Gorakhpur districts. Fall of 2 to 4m is observed mainly in Etah, Hamirpur, Banda, Kheri, Bahraich, Azamgarh, Mau region. Fall of more than 4m is observed as isolated patches of Jalaun, Hamirpur, Fatehpur, Gazipur, Gorakhpur districts.

Annual Fluctuation

An annual decline indicates that ground water extraction has been in excess of the rainfall recharge in broad terms. To evaluate the annual change in groundwater levels during 2023 as a resultant of different variables and to develop a strategy for future development, the water level of different seasons over the state was compared to that of the same season in the previous year.

Annual Fluctuation of Water Level in Unconfined Aquifer

MAY 2022 –23

Rise in Water Levels:

- Out of 717 analyzed wells, the rise in water level of less than 2m are recorded in 30% wells, 2 to 4m in 3% wells and more than 4 m in 1.5% of the wells. Water level rise of less than 2 m, observed mostly in south western parts of the districts like Agra, Aligarh, Ambedkar Nagar, Amethi, Amroha, Auraiya, Ayodhya, Bahraich, Ballia, Balrampur, , Bulandshahr, Chandauli, Chitrakoot, Deoria, Hardoi, Hathras, Jalaun, Jaunpur, Jhansi. Kannauj, Kanpur Dehat, and Kanpur Nagar etc.

- Water level rise of 2 to 4 m is seen in very few districts of Hathras, Etawah, Jalaun, Hamirpur and Chitrakoot. Water level rise of more than 4 m is seen in Hathras and Etawah.

Fall in Water Levels:

- Out of 717 analyzed well, the fall in less than 2m water levels observed in 59.41% while 44.63% of wells are in the range of 2 to 4 m and remaining 1.4% wells are recorded water level fall of more than 4m.
- Fall of less than 2 m is mainly observed in south eastern parts of the districts mainly Sonbhadra, Mairzapur, Chandauli, Ghazipur, Ballia, Mau, Deoria, Azamgarh, Varanasi etc. Fall is also observed in central and north west parts of the districts like Lucknow, Barabanki, Ameti, Sultanpur, Hardoi, Sambhal, Amroha, Hapur, Ghaziabad, Baghpat, Shamli, Saharanpur etc.
- Fall of 2 to 4m are observed in isolated patches of Sonbhadra, Mirzapur, Chandauli, Ghazipur, Azamgarh, Ambedkar Nagar, Sultanpur, Barabanki, G.B. Nagar, Baghpat, Shamli, Muzaffarnagar and Bijnaur districts. Fall of more than 4 m are observed in Lakhimpur Khiri and G.B. Nagar district.

August 2022-23:

Rise in Water Levels:

- There is rise of water level in 455 wells (61.53%) and fall in 286 wells (38.46%). The fall in water level is due to scanty monsoonal rainfall in some of the area. A rise of 0 -2 m is observed at 143 monitoring stations (22.84%wells) scattered in the patches.
- A rise of 2-4 m is seen in 27 wells (4.31%) and rise of more than 4 m is seen in only 7 wells (1.12%), mainly concentrated in Lalitpur, Jhansi, Agra, Hamirpur, Fatehpur, Lucknow and Pratapgarh districts of the State.

Fall in Water Levels:

- The fall of 0 -2 water levels is observed in 291 wells (46.49%) of the monitored wells covering major parts of Western, Central and Eastern districts of U.P.
- A fall of 2 - 4m is observed in 115 wells (183.7%) found in Gonda, Siddharth Nagar, Maharajganj, Khushi Nagar, Deoria, Muzaffar Nagar, Mathura, Firozabad, Farrukhabad,

Etawah, Kaushambi, Allahabad, Sant Ravidas Nagar, Varanasi, Chandauli and some parts of Sonbhadra districts.

November 2022– 23:

Rise in Water Levels:

- A rise of 0 -2m water levels, is observed in 258 wells (31.19%) covering North Western and central parts of UP, mainly in Saharanpur, Shamli, Muzaffarnagar, Bijnaur, Moradabad, Amroha, Budaun, Bareilly, Etah, Firozabad, Mainpuri, Farrukhabad, Raebareily, Amethi and Sultanpur districts.
- Rise of 2 - 4 m is observed in 33 wells (3.99%) mostly observed in isolated patches of Firozabad, Mainpuri, Bijnaur districts of UP and rise of more than 4m is observed only at 7(0.84%) wells covering in very small patches in Shamli, Sitapur districts of UP.

Fall in Water Levels:

- The fall of 0-2m water levels is observed in 435 wells (52.59%) mostly in North West to North Eastern parts of the districts mainly in Ghaziabad, Hapur, Bulandshahar, Mahura, Hathras, Unnao, Kanpur Nagar, Fatehpur, Sant Kabir Nagar, Ambedkar Nagar, Maharajganj, Kushinagar districts in UP.
- A fall of 2 - 4m is observed in 70 wells (8.46%) mostly observed in Pratapgarh, Kaushambi, Jaunpur etc. districts and fall in water level more than 4 m is found in 24 wells (2.90%) mostly in Ghazipur, Mirzapur, Kaushambi, Pratapgarh and Jaunpur.

January 2023 –24:

Rise in Water Levels:

- A rise of 0-2 m in water level is noticed in 299 no. of analysed wells (34.49%) mainly in Saharanpur, Shamli, Muzaffarnagar, Bijnaur, Baghpat, Meerut, Amroha, Moradabad, Rampur, Sambhal, Badaun, Kashganj, Etah, Firozabad, Mainpuri, Kannauj, Hardoi, Sitapur, Lucknow, Agra, Mathura, Raebareli, Chandauli etc. districts
- Rise of 2 to 4 m is seen only in 15 no. of wells (1.73 %) in Banda, Hamirpur, Sambhal, Chadauli, Ghazipur, Unnao, Sitapur, Firozabad, Sultanpur etc. districts and rise of > 4m are seen only in 10 no. of wells (1.15 %) of Banda, Ghazipur, Sonbhadra, Sultanpur and Sambhal districts.

Fall in Water Levels:

- The fluctuation data of the state shows a fall of 0 to 2 m in 477 no. of analysed wells (55.01%) in mainly Pilhibhit, Lakimpur Khiri, Bharaich, Shrawasti etc districts. A fall of 2 to 4m is observed only in 50 no. wells (5.77%) mainly in Citrakoot, Kaushambi, Mirzapur, Pratapgarh, Jaunpur, G.B. Nagar etc. districts
- Fall of > 4 m in 16 wells (1.85%) of Sonbhadra, Mirzapur, Fatehpur, Kaushambi, Raebareli, Jalaun, Lakhimpur Khiri and G.B. Nagar districts.

SUMMARISED STATUS OF ANNUAL FLUCTUATION, 2023 FOR UNCONFINED AQUIFER, U.P.

FLUCTUATION RANGE	May (2022-23)		August (2022-23)		Nov(2022-23)		Jan (2023-24)	
	Rise (%)	***Fall (%)***	***Rise (%)***	***Fall (%)***	***Rise (%)***	***Fall (%)***	***Rise (%)***	***Fall (%)***
0-2	218 (30.4%)	426 (59.41%)	368 (49.66%)	225 (30.36%)	258 (31.19%)	435 (52.6%)	299 (34.49%)	477 (55.01%)
2-4	20 (2.79%)	32 (4.46%)	74 (9.98%)	48 (6.47%)	33 (4%)	70 (8.46%)	15 (1.73%)	50 (5.77%)
>4	11 (1.53%)	10 (1.4%)	14 (1.89%)	12 (1.61%)	7 (0.84%)	24 (3%)	10 (1.15%)	16 (1.85%)
Total	249 (34.73%)	468 (65.27%)	456 (61.53%)	285 (38.46%)	298 (36.03%)	529 (63.96%)	324 (34.11%)	543 (65.88%)

From the analysis of table, it is evident that the water level has shown maximum decline in May 2023 but there is a gradual increase in rise of water level percentage from November'23and January'23 due to rainfall occurs during the month of August 23.

Annual Fluctuation of Water Level in confined Aquifer

MAY 2022 –23

Rise in piezometric head:

Out of 17 analyzed wells, the rise in piezometric head of less than 2m are recorded in 52.24% wells. Piezometric head rise of less than 2 m, observed mostly in parts of Bahraich, Bulandshahar, Fatehpur, Meerut & Sambhal.

Fall in piezometric head:

Out of 17 analyzed well, the fall in piezometric head of less than 2m water levels observed in 47.06 %. This fall is mainly observed in parts of the districts mainly in Amroha, Fatehpur, Ghaziabad, Gonda, Meerut & Rampur.

August 2022-23:

The annual fluctuations of piezometric head in confined aquifers are observed in 13 wells. Rise in 9 wells (69.23%) and fall in 4 wells (30.76%). The fall in piezometric head is due to scanty monsoonal rainfall in some of the area.

Rise in piezometric head:

The rise of water level 0–2m is observed in 7 wells (53.84%) namely in parts of Amroha, Baharaich, Bulandshahar, Ghaziabad, Etah and Meerut districts of UP. Piezometric head of 2 – 4 m rise is seen in 2 wells (15.38%) namely in parts of Amroha and Rampur districts.

Fall in piezometric head:

The fall of 0 – 2 m is observed in 2 wells (15.38%) in the patches of Ballia and Gonda districts. 2 – 4 m fall is seen in the parts of Banda district and greater than 4 m is observed in Sonbhadra district only.

November 2022– 23:

Rise in piezometric head:

The rise of 0– 2m piezometric head is observed mostly in 14 Wells (22.22%) namely in parts of Unnao, Sitapur, Sambhal, Meerut, Kheri, Banda and Amroha districts. The rise of 2-4m is observed in Banda district of UP.

Fall in piezometric head:

The Fall of 0 – 2m piezometric head is observed in 42 wells (66.67%) namely in parts of Ambedkar Nagar, Banda, Gorakhpur, Kheri, Unnao etc districts and the fall of piezometric

head of 2-4m is observed in parts of Fatehpur and Balrampur. The fall of piezometric head greater than 4m is observed in very minor patches of Banda and Jalaun districts.

January 2023 –24:

The fluctuation of 85 wells data show rise of piezometric head in 29 nos (34.11%) and fall in 56 nos (65.88%) of the analysed wells.

Rise in piezometric head:

A rise of 0-2 m in piezometric head is noticed in 24 no. of analysed wells (28.23%) mainly in Azamgharh, Baghpat, banda, Bulandshahr, Chitrakoot, Fatehpur, Gaziabad and Mahoba districts in UP and rise of piezometric head of 2 to 4 m is seen only in 5 no. of wells (5.88%) in Banda, Chitrakoot, Mahoba and Sambhal districts.

Fall in piezometric head:

The fluctuation data of the state shows a fall of piezometric head of 0 to 2 m in 49 no. of analysed wells (57.64%) in mainly Ambedkar Nagar, Bahraich, Ballia, Balrampur, Banda, Bulandshahr, Chitrakoot, Fatehpur, Gorakhpur, Mau and Siddharath nagar districts of UP.

A fall of piezometric head of 2 to 4m is observed only in 6 no. wells (7.05%) mainly in Azamgarh, Banda, Chitrakoot, Fatehpur and Lakhimpur Kheri districts and fall of piezometric head greater than 4 m is observed in Siddharth nagar district of UP.

SUMMARISED STATUS OF ANNUAL FLUCTUATION, 2023 FOR CONFINED AQUIFER, U.P.

FLUCTUATION RANGE	May (2022-23)		August (2022-23)		Nov (2022-23)		Jan (2023-24)	
	Rise (%)	*Fall (%)*	*Rise (%)*	*Fall (%)*	*Rise (%)*	*Fall (%)*	*Rise (%)*	*Fall (%)*
0-2	9 (52.94%)	8 (47.06%)	7 (53.84%)	2 (15.38%)	14 (22.22%)	42 (66.67%)	24 (28.23%)	49 (57.64%)
2-4	0	0	2 (15.38%)	1 (7.7%)	1 (1.58%)	4 (6.35%)	5 (5.88%)	6 (7.05%)
>4	0	0	0 (0%)	1 (7.7%)	0 (0%)	2 (3.17%)	0 (0%)	1 (1.17%)
Total	9 (52.94%)	8 (47.06%)	9 (69.23%)	4 (30.76%)	15 (23.8%)	48 (76.19%)	29 (34.11%)	56 (65.88%)

From the analysis of Table, it is evident that the piezometric head has shown maximum

decline in May 2023 but there is rise of piezometric head in August 2023 due to rainfall occurs during the month of August 23.

Fluctuation from the Decadal Mean during 2023-24

The fluctuations in water level described earlier are very much dependent on the rainfall and give a very short-term picture. In order to remove the rainfall anomalies, the long-term water level is considered as this would normalize the erratic highs and lows. For this the water level of each season has been compared to the mean water level of past 10 years.

Decadal Fluctuation during 2023-24 for unconfined aquifer

Mean May (2013- 2022) – May 2023

The analyzed data shows that rise in water level for 282 (46.84%) wells and fall in 320 no. (53.16%).

Rise in water level

- Out of 602 wells, water level rise of less than 2 m is recorded in 42.85% wells, 2 to 4m in 3 % wells and more than 4 m in 1% of the wells. Water level rise of less than 2m are observed Trai region such as Siddarth Nagar, Balrampur, Shrawasti, Bahraich etc and it is also observed in south western parts of the districts such as Lalitpur, Jhansi, Mahoba, Hamirpur, Jalaun, Kanpur, Etawah, Hathras and Mathura.
- Water level rise of 2 to 4 m is observed mainly in Lalitpur, Jhansi, Hamirpur, Jalaun, Kanpur and Etwah districts and rise of more than 4m is significantly observed in Lalitpur, Hamirpur, Jalaun, and Etawah districts.

Fall in water level

- Out of the 602 analyzed wells, fall in water levels 43.52% of wells arerecorded less than 2m while 6.3% in the range of 2 to 4 m and remaining 3.3% wells registered water level fall of more than 4m.
- The water level Fall of less than 2 m is observed in north eastern parts of the district mainly Sonbhadra, Chandauli, Ghazipur, Ballia, Deoria, Kushi Nagar, Maharganj, Azamgarh, Mau, Jaunpur etc. It has been observed that the fall in water level less than 2m is following north west to south east direction.

- Fall of 2 to 4m are mainly found in the district of Baghpat, Bijnour, G.B. Nagar, Agra, Firozabad, Amroha, Buaun, Kannauj, Kanpur Dehat, Chitrakoot and Mirzapur. Fall of more than 4m is recorded mainly in G.B. Nagar, Agra, Firozabad, Kannauj, Sambhal, Chitrakoot and Mirzapur.

Mean August (2013 - 2022) – August 2023
Rise in water level:

- Out of 608, there is rise in water level in 300 wells (49.34%) wells. However, a rise of 0 to 2m water level occurs in patches for 256 wells (42.11%), which occurs mostly in Ghazipur, Ayodhaya, Sultanpur, Azamgarh, Siddharth nagar, Shrawasti, Bahraich, Bareilly, Moradabad, Bijnaur, Saharanpur, Hathras, Etah, Firozabad, Agra, Jalaun, Jhansi and Hamirpur district of UP.
- Rise of 2 - 4m is observed in 37 wells (6.09%) occours in Unnao, Kanpur nagar, Jalaun, Sitapur, Varanasi, Hamirpur and Hathras districts of UP and more than 4 m are observed in 7 wells (1.15%) namely Hamirpur, Jalaun and Farrukhabad districts of UP.

Fall in water level:

- The fall in water level is observed in 308 wells (50.65% of the monitored wells). The fall in water level is mostly concentrated in western and eastern part of UP with few patched in central U.P. It is seen in Sambhal, Ghaziabad, Firozabad, Hathras, Etah, Farrukhabad, Kannauj, Kanpur Nagar, Lucknow, Mirzapur, Prayagraj, Sonbhadra, Chaundali, Bagpat, Chitrakoot and Shamli districts of UP.
- Fall in water level for the range of 0 - 2 m and 2 -4 m is observed in 223 wells (36.68%) and 56 wells (9.21%). Fall of greater than 4m is observed only in 29 no. wells (4.77%).

Mean November (2013- 22) – November

The average water level of last 10 years (2013-22) for each hydrograph station for the month of November has been evaluated and compared with water level data of November 23.

Rise in Water Levels:

- Out of 650 wells, water level rise of less than 2m is recorded in 46.15% wells, 2 to 4 m in 5.38 % wells and more than 4 m in 1.69% of the wells. Water level rise of less than 2m is seen in Mathura, Mainpuri, Etawah, Auraiya, Kanpur Dehat, Hamirpur, Jhansi,

Lalitpur, Jalaun, Mahoba, Banda, Fatehpur, Sonbhadra, Chaundli, Amethi, Sultanpur, Ayodhaya, Pilibhit, Bijnaur, Saharanpur, Shamli region.

- Water level rise of 2 to 4m is observed mainly in isolated patches of Jalaun, Hamirpur, Jhansi, Fatehpur, Chandauli, districts and rise of more than 4m is significantly observed in isolated patches of Jalaun district.

Fall in Water Levels:

- Out of the 650 analyzed wells, 35.53% wells have recorded fall of less than 2m while 8% in the range of 2 to 4m and remaining 3.23% wells registered water level fall of more than 4m.
- Fall of less than 2m are observed in all districts mainly in parts of Meerut, Bulandshahar, Aligarh, Agra, Kasganj, Hathras, Farukhabad, Kannauj, Unnao, Lucknow, Barabanki, Raebarelly, Pratapgarh, Kaushambi, Azamgarh, Ballia, Sonbhadra, Kushinagar, Mau, Maharajganj, Gazipur, Mirzapur etc. districts.
- Fall of 2 to 4m, found in Gautambudh Nagar, Amroha, Shambhal, Budaun, Agra, Kannauj, Chitrakoot, Prayagraj, Mirzapur, Gazipur and Balrampur districts. Fall beyond 4m is recorded mainly in Gautambudh Nagar, Shambal, Badaun, and Balrampur districts.

Mean January (2014- 23) – January 2024: Unconfined Aquifers

Rise in Water Levels:

- Out of 655 wells, water level rise of less than 2m is recorded in 42.14% wells, 2 to 4 m in 3.82 % wells and more than 4 m in 1.07% of the wells. Water level rise of less than 2m is seen in Mathura, Hathras, Etawah, Auraiya, Kanpur Dehat, Kanpur Nagar, Hamirpur, Jhansi, Lalitpur, Jalaun, Mahoba, Banda, Fatehpur, Sonbhadra, Chaundli, Amethi, Sultanpur, Saharanpur and Muzzafarnagar region.
- Water level rise of 2 to 4m is observed mainly in isolated patches of Jalaun, Hamirpur, Gazipur, Unnao, Bijnaur, Saharanpur districts and rise of more than 4m is significantly observed in isolated patches of Hamirpur and Jalaun district.

Fall in Water Levels:

- Out of the 655 analyzed wells, 42.59% wells have recorded fall of less than 2m while 7.94% in the range of 2 to 4m and remaining 2.44% wells registered water level fall of

more than 4m as shown in Fig.-17. Fall of less than 2m are observed in Eastern and Westren parts of UP, mainly in Meerut, Bulandshahar, Aligarh, Agra, Kasganj, Hathras, Farukhabad, Kannauj, Lucknow, Kushinagar, Mau, Maharajganj, Gazipur, Mirzapur districts.

- Fall of 2 to 4m, found in Gautambudh Nagar, Amroha, Shambhal, Budaun, Agra, Kannauj, Prayagraj, Mirzapur, Gazipur, Jaunpur, Chitrakoot, Pratapgarh and Fatehpur districts. Fall beyond 4m is recorded mainly in Badaun, Mainpuri, Mirzapur, Fatehpur, Shamli district.

SUMMARISED STATUS OF DECADAL FLUCTUATION 2023 FOR UNCONFINED AQUIFER, U.P.

FLUCTUATION RANGE	Mean May (2013-22) to May 23		Mean August (2013-22) to August 23		Mean Nov (2013-22) to November 23		Mean Jan (2014-23) to January 24	
	Rise (%)	*Fall (%)*	*Rise (%)*	*Fall (%)*	*Rise (%)*	*Fall (%)*	*Rise (%)*	*Fall (%)*
0-2	158 (28.52%)	309 (55.77%)	256 (42.10%)	223 (36.67%)	300 (46.15%)	231 (35.53%)	276 (42.14%)	279 (42.59%)
2-4	18 (3.24%)	46 (8.3%)	37 (6.08%)	56 (9.21%)	35 (5.38%)	52 (8%)	25 (3.82%)	52 (7.94%)
>4	5 (0.9%)	18 (3.24%)	7 (1.15%)	29 (4.76%)	11 (1.69%)	21 (3.23%)	7 (1.07%)	16 (2.44%)
Total	181 (32.67%)	373 (67.32%)	300 (49.34%)	308 (50.65%)	346 (53.23%)	304 (46.77%)	308 (47.02%)	347 (52.97%)

From the above summerised table, it can be inferred that the number of wells that have observed fall in the water levels are highest in the month of May. However, in the month of November due to recharge in ground water level, the number of rise (%) of wells is highest. It shows that major part of U.P. have received good amount of rainfall.

Decadal Fluctuation during 2023-24 for confined aquiferMean May (2013- 2022) – May 2023

Fall in piezometric Head: Out of the 5 wells that have registered fall in piezometric head, 80% have recorded less than 2 m while 0% wells in the range of 2 to 4 m and remaining 20% wells registered piezometric head fall of more than 4m. Fall of piezometric head of less than

2m is observed in the districts mainly in parts of Bulandshahar, Ghaziabad and Meerut. Whereas fall of more than 4m is seen in Amroha District.

Mean August (2013 - 2022) – August 2023

The average water level of last 10 years (2013 to 2022) for each well for the month of August has been evaluated and compared with water level data for August'2023.

Rise in piezometric head:

Out of 5 wells, there is rise in piezometric head in 3 wells (60%) wells. However, a rise of 0 to 2m piezometric head occurs in Ghaziabad and Meerut district of UP. Rise of 2 - 4m piezometric head is observed in 1 well (20%) occurs in Rampur district of UP.

Fall in piezometric head:

The fall in piezometric head is observed in 2 wells (40% of the monitored wells). Fall in piezometric head for the range of 0 - 2 m and >4 m is observed in 1 well (20%) namely in Bulandshahr and Amroha respectively.

Mean November (2013 - 2022) – November 2023

The average piezometric head of last 10 years (2013 to 2022) for each well for the month of November has been evaluated and compared with piezometric head data for November'2023.

Rise in piezometric head:

Out of 5 wells, piezometric head rise of less than 2m is recorded in 20% wells, observed in Rampur District.

Fall in piezometric head:

Out of the 5 wells that have registered fall in piezometric head, 80% have recorded less than 2m which is observed mainly in parts of Bulandshahar, Ghaziabad and Meerut districts

Mean January (2014 - 2023) – January 2024

The average piezometric head of last 10 years (2014 to 2023) for each well for the month of January has been evaluated and compared with water level data for January'2024.

Rise in piezometric head:

Out of 12 wells, piezometric head rise of less than 2m is recorded in 4 wells 33.33% wells, observed in Balrampur, Banda, Meerut and Rampur Districts in UP.

Fall in piezometric head:

Out of the 12 wells that have registered fall in piezometric head, 7 wells 58.33% have recorded less than piezometric head of 2m which is observed mainly in parts Ambedkar Nagar, Ballia, Balrampur, Bulandshahar and Ghaziabad districts of UP and 1 well (8.33%) in Siddharth Nagar district recorded fall in piezometric head in range of 2-4 m.

SUMMARISED STATUS DECADAL FLUCTUATION 2023 FOR CONFINED AQUIFER, U.P.

FLUCTUATION RANGE	Mean May (2013-22) to May 23		Mean August (2013-22) to August 23		Mean Nov (2013-22) to November 23		Mean Jan (2014-23) to January 24	
	Rise (%)	*Fall (%)*	*Rise (%)*	*Fall (%)*	*Rise (%)*	*Fall (%)*	*Rise (%)*	*Fall (%)*
0-2	1 (16.67%)	3 (50%)	2 (40%)	1 (20%)	1 (20%)	4 (80%)	4 (33.33%)	7 (58.33%)
2-4	0 (0%)	1 (16.67%)	1 (20%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (8.33%)
>4	1 (16.67%)	0 (0%)	0 (0%)	1 (20%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Total	2 (33.33%)	4 (66.66%)	3 (60%)	2 (40%)	1 (20%)	4 (80%)	4 (33.33%)	8 (66.66%)

From the above summerised table, it can be inferred that the number of wells that have observed fall in the piezometric head are highest in the month of may and january. However, in the month of august due to recharge in ground water level, the number of rise (%) of wells is highest. It shows that major part of U.P. have received good amount of rainfall.

WATER LEVEL TREND

To have a true picture where highs and lows are balanced out, the long-term trend for ten years 2014 to 2023 has been worked out and analysed on the basis of DWL data of Ground Water Monitoring Wells

WATER LEVEL TREND: UNCONFINED AQUIFERS

❖ The Rising trend is observed in 53.38% of the monitoring wells (307) and the Declining trend of 47.61% of the monitoring wells (279) is covering over 10 year's period. Decline of 279 wells in which 0 – 20 cm/yr is commonly observed in 30.20% wells followed by 20 – 40 cm/yr in 9.04% wells and >40 cm/yr in 8.36%.

❖ The decline in water level is mostly dominant in North-West and South-Western parts of the State. Higher decline occursin Agra, Firozabad, Etah, Kasganj, Budaun, Sambhal, Hapur, Ghaziabad, Auraiyya, Kanpur Dehat & Nagar, Lucknow etc districts.

❖ There is a rising trend observed in 307 wells which are mostly observed in Tarai Belt in the North – Eastern parts and maximum rise in water level more than 40cm/year (2.38%) is recorded in South- Eastern parts, mainly Sonbhadra, Mirzapur, Varanasi, Ghazipur and Ballia districts.

❖ The rise of 0 -20 cm/year is observed in 42.32% of wells of Bijnaur, Rampur, Pilibhit, Lakhimpur Khiri, Shrawasti, Sidharth Nagar, Shrawasti, Gonda, Balrampur, Maharajganj, Kushi Nagar, Sant Kabir Nagar, Ambedkar Nagar, Gorakhpur, Azamgarh, Jaunpur, and Deoria etc. districts and 20 -40cm/year and recorded in 7.67% of the monitored wells, localized in the South-Eastern Parts of the districts.

❖ There is a rise in trend in 72.02% of the monitoring wells over 10 years period. Rise of 0 – 20cm/year is found in 44.35%(287) is shown in North Eastern part of the state that is in Balrampur, Bahraich, Mau, Jaunpur,Varanasi etc districts followed by 20-40cm/year in 19.62% (127) wells seen in the patches of South Western part of the State that is in Jalaun, Hamirpur, Lalitpur, Mahoba districts etc.

The results of Water Level trend data during pre and post-monsoon for the period 2014-2023 are summarized as following tables:

Percentage of wells showing Pre-monsoon DWL Trend (cm/year) from 2014 -2023 Unconfined Aquifers								
Total Well Analyzed	**Rise (cm/year)**			**Fall (cm/Year)**			**Total**	
	0 -20	20-40	>40	0 -20	20 -40	>40	Rise	Fall
586	248 42.32%	45 7.67%	14 2.38%	177 30.20%	53 9.04%	49 8.36%	307 53.38%	279 47.61%
Percentage of wells showing Post-monsoon DWL Trend (cm/year) from 2014 -2023								
Total Well Analysed	**Rise (cm/year)**			**Fall (cm/Year)**			**Total**	
	0 -20	20-40	>40	0 -20	20 -40	>40	Rise	Fall
647	287 44.35%	127 19.62%	52 8.03%	117 18.08%	30 4.63%	34 5.25%	466 72.02%	181 27.97%

WATER LEVEL TREND: CONFINED AQUIFERS

- The results of water level trend data during Pre-monsoon for the period 2014-2023 for Confined Aquifers are summarized in the following tables for Pre and Post Monsoon. In the Pre-Monsoon, 5 monitoring wells only falling trend is noticed for confined aquifers since last ten years trend.
- The fall of less than 20 cm/year in 3 monitoring wells (60%) majorly shows in Amroha, Bulandshahar, Ghaziabad, and Meerut districts. The fall less than 20 – 40 cm/year is seen majorly in part of Bulandshahar district following with highest fall > 40 cm/year in Amroha district. In the Post Monsoon 5 monitoring wells 80 % falling trend and 20% rising trend is noticed for confined aquifers since last ten years trend.
- The fall of less than 20cm/year in 2 monitoring wells (40%) majorly shows in Ghaziabad and Meerut Districts. The fall between 20 to 40 cm/year is seen in Bulandshahar district. The rising trend is shown (20%) of 20 – 40 cm/year in Rampur district only.

The results of Water Level trend data during pre and post-monsoon for the period 2014-2023 are summarized as following tables:

	Percentage of wells showing Pre-monsoon DWL Trend (cm/year) from 2014 -2023(Confined aquifers)					
Total Well Analysed		Fall (cm/Year)			Total	Fall
	Total wells	0 -20	20 -40	>40		
	5	3	1	1		5
		60.00%	20.00%	20.00%		100.00%

Percentage of wells showing Post-monsoon DWL Trend (cm/year) from 2014 -2023 (Confined aquifers)						
	Fall		Rise	Total	Fall	Rise
Total wells Analysed	0 - 20 cm/year	20 - 40 cm/year	0 - 20 cm/year			
5	2	2	1		4	1
	40%	40%	20%		80%	20%

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PLATES:

GROUND WATER YEAR BOOK
UTTAR PRADESH
(2023-24)
CHAPTER 1
INTRODUCTION

The State of Uttar Pradesh forms a part of vast Gangetic Alluvial Plain covering an area of 2,40,928 Sq. Km. and lies between North latitude $23^0$52'12" & $30^0$24'30" and East longitude $77^0$05'38" & $84^0$38'30". It is bounded by Uttrakhand on the NW, Nepal on the NE, Bihar on the East, Madhya Pradesh in the South, and Haryana, Delhi & Rajasthan in the West.

The state is covered with rich fertile soil and underlain by a large thickness of alluvium making it one of the richest ground water repositories of the world. Ground water is a major source of fresh water on earth. It is the most dependable source of water, comparatively free from the vagaries of nature, easily accessible, available at the point of use and economical. Hence it is being developed indiscriminately and the ground water reservoir is stressed. The State being the most populous in the country with a population density of 829 persons per sq. km and a high rate of population growth (20%) its demand for water is soaring. Also due to industrialization, urbanization and modern farming practices its quality is also at stake.

The food production in UP is commensurate with the self-sufficiency of the country. One of the major contributors for this sufficiency is irrigation. To meet this high irrigational requirement, water resources are being increasingly developed. Ground water contributes to about 71% of the irrigation needs of the State. The indiscriminate development of ground water has resulted in depletion of groundwater storage and lowering of water level in certain areas on one hand. On other side the surface water development in areas having shallow water level has resulted in water logging and soil salinization.

All these negative impacts on the resource give rise to the need for regular and continuous monitoring of the ground water regime. The monitoring data forms the base of management

practices. In order to manage the water resources and plan development on scientific lines a data base needs to be generated. In view of relative importance of this valuable resource it becomes imperative to adopt sound and scientific management of groundwater resources.

With this in view the Central Ground Water Board, an apex organization of India in the field of ground water studies has established a network of 1194 monitoring wells, mostly open wells spread all over the State. These are being monitored four times a year (May23, August23, November23 & January, 24). Few wells are being monitored through participatory monitoring program for the remaining eight months.

The statistical analysis of water level is carried out in excel. However, the recoded water level data of 1194 monitoring stations have been given in Annexure I. The water levels of different periods are compared to analyse the behavioural patterns. The trend of water level behaviour is worked out and future predictions are estimated. The management programs are framed to safe guard the environment and meet the requirement to optimal possibility.

Ground water is a dynamic resource; hence it requires continuous monitoring both in terms of quality and quantity. The main objectives of ground water monitoring are:

- To study the behavior of the water level in space and time in response to recharge and discharge.
- To study the long-term behavior and trends for future predictions.
- To assess the ground water resource.
- To study the hydro chemical behavior of shallow ground water.
- To develop Artificial Recharge plan.

The district wise status of Ground Water Monitoring Wells (G.W.M.W.) as on 31.03.2023 are shown in Table-1 and location of wells are shown in Plate -1

Plate -1

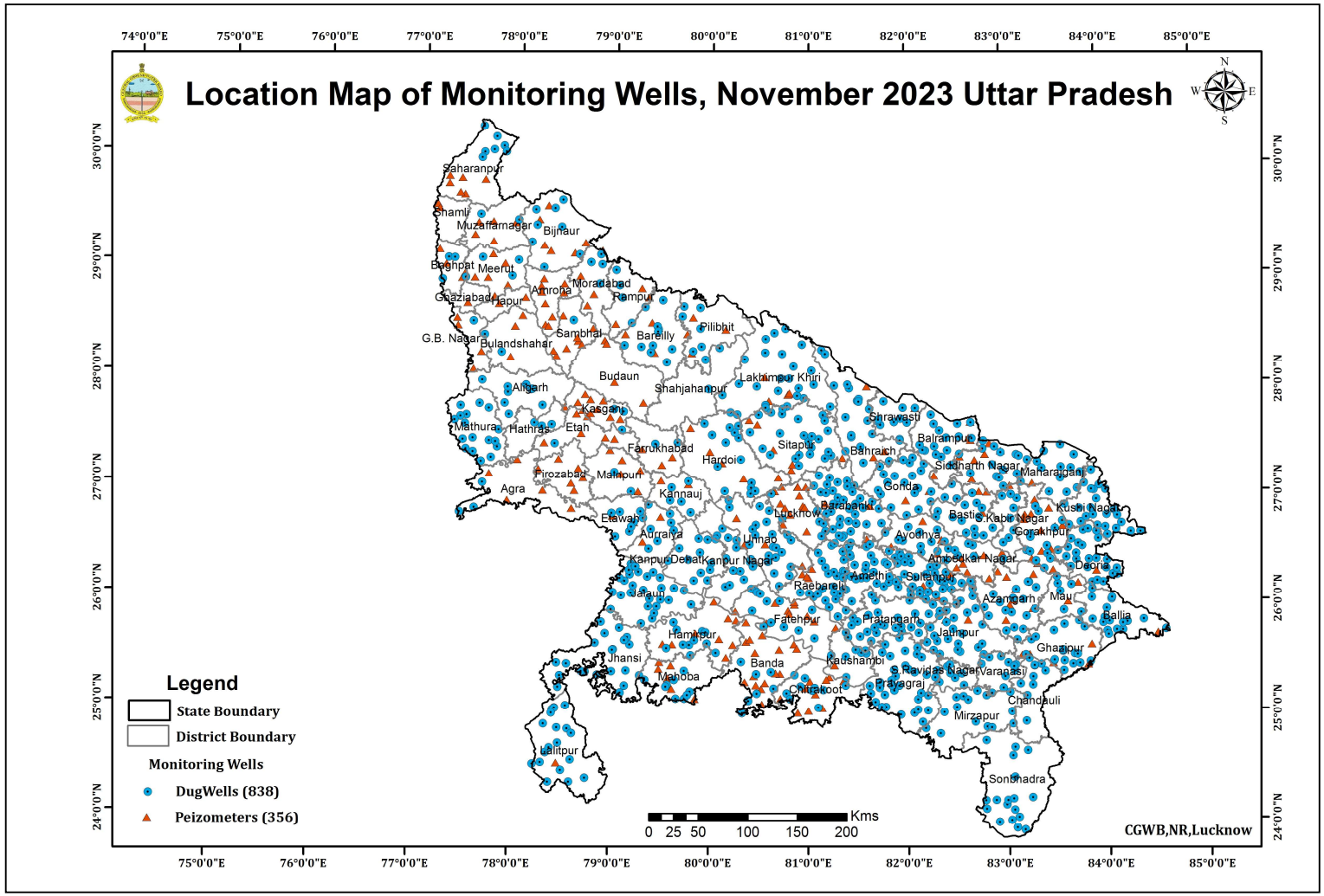


Table 1. Status of ground water monitoring wells, Uttar Pradesh as on 31.03.23

S.No	District	Number of Water Level Monitoring Stations		
		2023		
		DW	PZ	Total
1	Agra	3	6	9
2	Aligarh	8	1	9
3	Ambedkar Nagar	6	12	18
4	Amethi	28	1	29
5	Amroha		8	8
6	Auraiya	7	2	9
7	Ayodhya	10	5	15
8	Azamgarh	18	8	26
9	Baghpat		13	13
10	Bahraich	14	3	17
11	Ballia	21		21
12	Balrampur	14	4	18
13	Banda	9	21	30
14	Bara Banki	36	4	40
15	Bareilly	7	4	11
16	Basti	7	1	8
17	Bhadohi	6		6
18	Bijnor	6	5	11
19	Budaun		4	4
20	Bulandshahr	1	4	5
21	Chandauli	11	2	13
22	Chitrakoot	10	14	24
23	Deoria	25	1	26
24	Etah	3	4	7
25	Etawah	6	3	9
26	Farrukhabad	1	4	5

S.No	District	Number of Water Level Monitoring Stations		
		2023		
		DW	PZ	Total
27	Fatehpur	12	13	25
28	Firozabad		6	6
29	Gautam Buddha Nagar		5	5
30	Ghaziabad		3	3
31	Ghazipur	21	10	31
32	Gonda	20	4	24
33	Gorakhpur	9	16	25
34	Hamirpur	11	11	22
35	Hapur		3	3
36	Hardoi	14	8	22
37	Hathras	2		2
38	Jalaun	30	5	35
39	Jaunpur	28	3	31
40	Jhansi	20	1	21
41	Kannauj	2	2	4
42	Kanpur dehat	8	1	9
43	Kanpur nagar	14	1	15
44	Kasganj	3	13	16
45	Kaushambi	7	1	8
46	Kheri	25	4	29
47	Kushinagar	25		25
48	Lalitpur	19	3	22
49	Lucknow	6	16	22
50	Mahoba	10	6	16
51	Mahrajganj	8	1	9
52	Mainpuri	2	5	7
53	Mathura	16		16
54	Mau	8	3	11

S.No	District	Number of Water Level Monitoring Stations		
		2023		
		DW	PZ	Total
55	Meerut	1	11	12
56	Mirzapur	16		16
57	Moradabad	3	5	8
58	Muzaffarnagar	2	5	7
59	Pilibhit	8	3	11
60	Pratapgarh	29		29
61	Prayagraj	32		32
62	Rae bareli	28	4	32
63	Rampur	1	3	4
64	Saharanpur	7	6	13
65	Sambhal	0	7	7
66	Sant kabir nagar	5		5
67	Shamli		3	3
68	Shahjahanpur	1		1
69	Shrawasti	13	1	14
70	Siddharthnagar	10	10	20
71	Sitapur	22	9	31
72	Sonbhadra	20		20
73	Sultanpur	35	5	40
74	Unnao	19	5	24
75	Varanasi	9	1	10
	Grand Total	**838**	**356**	**1194**

CHAPTER 2

PHYSIOGRAPHY AND DRAINAGE

The State of Uttar Pradesh can broadly be divided into 2 physiographic units, the Central Ganga Plain and the Bundelkhand and Vindhyan Plateau. The Ganga Plain covering 85% of the State is a vast, flat expanse of alluvium having a gentle south easterly regional slope. The highest elevation is around 350m amsl in the north western parts and lowest 60m amsl in extreme south eastern part of the state. The land slope is variable, being steep in the north western parts and gradually diminishing south east wards. The slope ranges between less than a meters per kilometre to 5m/km. This Plain has three sub divisions – the Terai in the northwest, the Central Ganga Plain in the canter and the Marginal Alluvial Plain in the south.

The southern part of the state south of the Marginal Alluvial Plain is a part of Bundelkhand and Vindhyan plateau. This plateau region slopes northerly and is represented by undulating hilly terrain. The land slope varies from 130 to 550m amsl in the western part and 100 to 650m amsl in the eastern part with steeper gradients than those in the northern Ganga plain.

The State forms a part of Ganga basin. The master drainage of the state is river Ganga and its tributaries. The Ramganga, Ghaghara and Gomti are the main left bank tributaries, while the Yamuna is the main right bank tributary. All these rivers except Gomti originate from Himalayan ranges and are snow fed. Initially the rivers flow southward in the north western part of the State, then turn south eastward and finally leave the State in an easterly direction.

CHAPTER 3
CLIMATE AND RAINFALL

The State experiences a sub-humid and tropical climate with three distinct seasons' summer, monsoon & winter. The intervening periods are transitional period on the basis of IMD long term normal data. The summer is hot and dry with maximum daily temperature ranging between 38°C - 43°C. The humidity during this season is lowest ranging between 30% to 53% at 08.30 hrs and 18% to 42% at 17.30 hrs. Summer seasons ends by May and transition period starts. The rainy season commences by late June when south western monsoon sets in over the State. The humidity gradually increases and reaches above 80%. August is the peak rainy season. The bulk of annual rainfall about 85% occurs during monsoon period (June to September). The monsoon starts retreating from the State in late September or early October. Then commences another transitional period followed by winter from late November till February. January is the coldest month of the period. Another transitional period follows between winter and summer.

There is large variation in temperature both in time and space. The lowest temperature is observed during January when night temperature ranges between 2°C & 6°C, over the state. With the start of summer, the temperature starts rising with maximum during May when the mercury may touch 45°C in central and eastern parts of the State. Gradually with the beginning of rainy season the temperature drops which again shows a mild rising trend during the intervening period before winter (October, November). The wind speed varies between 8-10 km/hr during summer season and 4-6 km/hr during winter and rainy seasons. The wind is mainly south westerly during summer and south easterly during winter. The Normal annual potential Evapotranspiration of Uttar Pradesh is 1491.5 mm. The Normal annual potential Evapotranspiration of East Uttar Pradesh is 1484.0 mm and of West Uttar Pradesh is 1499.0 mm. The monthly normal potential Evapotranspiration is high in hot months and low in winter months. Normal potential Evapotranspiration is highest in the month of May with value of 217.8 mm fallowed by June with value of 201.6 mm. The normal potential Evapotranspiration is lowest in the month of December with value of 50.7 mm fallowed by January with value of 55.6 mm.

RAINFALL

The district wise monthly gridded rainfall data collected from Indian Meteorological Department; India WRIS were used to analyzed the rainfall pattern. Table-2 gives actual annual and monthly rainfall for the year 2023 showing the amount of rainfall received during monsoon and non monsoon period. Table-3 gives the district wise variability of rainfall in Uttar Pradesh in year 2023. The deviation of rainfall in year 2023 has been calculated from the Normal Rain fall as well as deviation with respect to actual rainfall received during year 2022. Actual Rain fall of the district during the period of March – May 2023 and district wise deviation % in Rainfall during the period of March – May, 2023 are shown in Plate 2 and 3 respectively. Actual Rain fall of the district during the period of June-October, 2023 and district wise deviation % in Rainfall during the period of June-October, 2023 are shown in Plate 4 and 5 respectively.

The average annual rainfall of the State is 763.60 mm in 2023 and the amount of average monsoonal rainfall is 643.98 mm. During monsoon seasons the minimum rainfall of 330.39 mm observed in Fatehpur district and the maximum 1220.93 mm rainfall in Bijnore district. Similarly, in non- monsoon period the minimum and maximum rainfall of 42.28mm and 283.26 mm observed in Jhansi Sonbhadra district respectively. During non monsoon period the north-west region of UP namely Saharanpur, Shamli, Merrut, Bijnore, Muzzafarnagar and Amroha receives good amount of rainfall due to western disturbance as compared to excess eastern part of State specially Balrampur, Siddharathnagar, Maharajganj, Basti, Azamgarh, Kushinagar and Ballia receives very less rainfall as shown in Plate 2 and Plate 3. However, during monsoon seasons the western region namely Saharanpur, Shamli, Merrut, Bijnore, Muzzafarnagar, Mathura, Aligarh, G.B. Nagar Bulandshar, Baghpat and Amroha receives excess rainfall as compared to eastern part of UP specially Balrampur, Siddharathnagar, Maharajganj, Basti, Azamgarh, Kushinagar, Deoria, Mau, Jaunpur Pratapgarh, Kaushambi and Ballia as shown in Plate 4 and Plate 5.

Table 2. Monthly and Annual Rainfall (mm) for the Year – 2023

S.No	DISTRICT	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL	MONSOON	NON-MONSOON
1	Agra	18.11	0	18.15	3.89	43.65	111.74	158.43	162.95	110.94	3.94	1.67	11.91	645.38	544.06	101.32
2	Aligarh	15.02	0	23.63	14.75	49.3	64.77	259.11	190.71	175.15	5.56	5.52	3.46	806.98	689.74	117.24
3	Ambedkar Nagar	3.11	0	13.97	15.06	20.34	41.51	196.53	195.16	71.58	40.9	0.87	1.5	600.53	504.78	95.75
4	Auraiya	6.1	0	2.72	5.65	26.59	81.06	239.55	103.78	88.35	10.14	1.13	7.33	572.4	512.74	59.66
5	Ayodhya	2.43	0	12.77	11.27	25.14	61.14	164.97	235.04	133.69	24.25	0.39	3.96	675.05	594.84	80.21
6	Azamgarh	1.13	0	11.37	3.84	24.64	40.77	157.49	177.21	125.69	55.54	4.39	4.27	606.34	501.16	105.18
7	Baghpat	7.13	0	54.55	7.73	45.82	81.34	381.15	158.82	53.08	5.4	2.02	0.04	797.08	674.39	122.69
8	Bahraich	2.41	0	26.91	22.62	40.65	47.29	254.37	337.81	185.96	20.07	0.43	10.15	948.67	825.43	123.24
9	Ballia	1.26	0	7.52	8.72	30.79	42	184.32	210.98	80.37	32.23	0	3.18	601.37	517.67	83.7
10	Balrampur	0.34	0	4.85	1.68	31.45	48.4	315.71	257.85	98.69	60.95	0.03	3.39	823.34	720.65	102.69
11	Banda	1.37	0	7.42	9.74	37.62	105.21	103.97	219.61	89.35	2.41	8.98	1.38	587.06	518.14	68.92
12	Bara Banki	1.38	0	26.83	17.15	42.9	77.66	299.26	253.57	258.35	12.92	0.44	12.73	1003.2	888.84	114.35
13	Bareilly	22.55	0.11	71.21	37.9	77.29	36.27	274.96	185.97	169.44	12.08	0.42	0.93	889.13	666.64	222.49
14	Basti	0.75	0	5.61	5.96	24.86	28.56	198.75	279.54	78.53	30.44	0.18	1.23	654.41	585.38	69.03
15	Bijnor	17.91	0.07	54.1	14.8	92.1	184.97	483.77	358.38	193.81	17.78	0.22	0.19	1418.1	1220.93	197.17
16	Budaun	12.02	0	28.99	15.78	38.46	73.59	312.29	261.35	186.54	5.83	1.06	2.63	938.54	833.77	104.77
17	Bulandshahr	12	0	34.29	18.28	56.54	55.13	225.68	231.77	127.28	5.16	1.95	0.82	768.9	639.86	129.04
18	Chandauli	3.14	0	20	32.56	26.38	55.44	166.36	154.8	135.63	121.44	1.32	18.56	735.63	512.23	223.4
19	Chitrakoot	3.57	0	26.28	14.55	32.99	64.78	116.23	230.21	113.59	10	3.35	5.29	620.84	524.81	96.03
20	Deoria	0.19	0	22.4	10.15	27.42	40.68	144.85	244.72	53.71	28.44	0.01	2.12	574.69	483.96	90.73
21	Etah	18.11	0	3.9	15.2	37.21	123.86	289.46	290.61	154.84	9.8	5.73	8.44	957.16	858.77	98.39
22	Etawah	9.54	0	8.08	3.83	29.22	110.75	232.06	122.25	103.14	6.84	0.76	4.62	631.09	568.2	62.89
23	Farrukhabad	10.49	0	14.54	14.13	28.76	70.86	211.2	166.08	105.23	11.27	0.84	1.83	635.23	553.37	81.86
24	Fatehpur	0.7	0	4.14	3.11	21.35	26.17	102.3	125.18	76.74	10.76	4.32	3.28	378.05	330.39	47.66
25	Firozabad	23.96	0	21.24	6.73	38.6	191.37	227.84	259.57	149.39	10.22	1	13.09	943.01	828.17	114.84

S.No	DISTRICT	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL	MONSOON	NON-MONSOON
26	Gautam Buddha Nagar	8.34	0	32.25	6.57	38.55	51.4	181.16	73.99	48.46	2.1	2.99	1.07	446.88	355.01	91.87
27	Ghaziabad	5.73	0	39.27	10.58	46.7	67.98	219.08	83.88	52.65	6.08	1.85	0.17	533.97	423.59	110.38
28	Ghazipur	4.12	0	9.9	14.05	34.6	74.3	195.07	151.53	137.29	82.16	0.38	8.69	712.09	558.19	153.9
29	Gonda	0.98	0	15.78	9.93	37.3	76.3	208.52	297.51	144.01	37.89	0.12	12.95	841.29	726.34	114.95
30	Gorakhpur	0.02	0	10.99	1.16	31.69	30.08	177.58	266.07	68.5	40.08	0.14	0.78	627.09	542.23	84.86
31	Hamirpur	3.05	0	9.46	13.11	30.78	171.79	192.57	240.82	117.26	4.33	22.2	4.79	810.11	722.44	87.67
32	Hardoi	12.19	0	18.75	15.53	29.06	58.4	176.33	253.05	138.41	23.2	2.32	4.9	732.14	626.19	105.95
33	Jalaun	5.08	0	3.42	5.85	31.74	99.66	234.23	137.96	91.89	9.61	11.1	20.76	651.29	563.74	87.55
34	Jaunpur	2.58	0	31.55	16.16	25.85	68.59	179.6	134.79	80.18	48.84	3.93	4.66	596.73	463.16	133.57
35	Jhansi	4.23	0	4.56	1.66	16.71	140.03	173.45	223.61	142.08	1.56	7.76	5.8	721.45	679.17	42.28
36	Jyotiba Phule Nagar	19.45	0	55.2	18	81.16	77.93	366.11	252.47	209.32	8.87	1.43	0.88	1090.8	905.83	184.99
37	Kannauj	10.1	0	8.65	12.89	50.52	89.79	330.87	152.03	152.94	14.14	0.95	4.56	827.44	725.63	101.81
38	Kanpur Dehat	6.06	0	6.43	11.02	38.54	85.46	152.51	92.49	67.99	11.19	3.06	11.17	485.92	398.45	87.47
39	Kanpur Nagar	6.46	0	6.85	12.85	47.57	105.29	164.27	131.43	83.24	11.08	6.07	8.92	584.03	484.23	99.8
40	Kansiram Nagar	13.52	0	7.42	13.37	32.55	82.01	298.23	262.9	170.31	7.92	4.43	7.14	899.8	813.45	86.35
41	Kaushambi	5.3	0	18.53	8.47	27.72	62.47	148.13	119.42	88.89	16	5.58	6.52	507.03	418.91	88.12
42	Kheri	8	0.01	50.32	6.25	41.91	66.11	266.63	296.83	135.05	24.63	0.31	4.06	900.11	764.62	135.49
43	Kushinagar	0	0	15.61	3.78	25.91	48.31	142.49	297.1	36.08	42.05	0.07	0.67	612.07	523.98	88.09
44	Lalitpur	16.62	0	10.94	7.16	13.04	159.39	218.76	264	227.06	5.35	7.71	10.84	940.87	869.21	71.66
45	Lucknow	2.52	0	35.8	16.17	36.01	77.3	353.03	349.78	224.59	13	1.48	11.56	1121.2	1004.7	116.54
46	Mahamaya Nagar	18.11	0	12.88	9.15	48.13	79.27	250.12	252.49	182.2	6.22	7.84	6.88	873.29	764.08	109.21
47	Maharajganj	0	0	10.99	3.83	36.88	63.16	219.58	307.85	95.33	87.6	0.3	0	825.52	685.92	139.6
48	Mahoba	8.46	0	16.63	7.32	29	205.58	135.66	201.03	143.73	2.6	15.3	4.02	769.31	686	83.31
49	Mainpuri	16.96	0	12.73	8.68	39.25	172.27	279.16	175.9	156.73	12.45	0.19	6.65	880.97	784.06	96.91

S.No	DISTRICT	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL	MONSOON	NON-MONSOON
50	Mathura	13.47	0	40.47	9.72	32.03	55.79	167.73	131.52	91.54	4.87	6.94	2.91	556.99	446.58	110.41
51	Mau	0.34	0	10.72	1.06	19.46	50.15	171.03	191.43	109.7	44.77	1.08	2.23	601.97	522.31	79.66
52	Meerut	11.49	0	87.53	11.38	66.15	163.02	427.08	206.6	111.83	14.96	1.06	0.04	1101.1	908.53	192.61
53	Mirzapur	1.82	0	36.31	13.11	12.8	56.65	150.17	151.28	95.26	98.56	2.32	15.16	633.44	453.36	180.08
54	Moradabad	9.06	0.06	50.34	21.46	69.64	80.79	321.46	229.32	186.15	9.65	1.66	0.87	980.46	817.72	162.74
55	Muzaffarnagar	12.48	0	67.43	12.43	85.02	93.23	405.64	205.43	124.32	21.87	1.75	0.13	1029.7	828.62	201.11
56	Pilibhit	15.23	0.66	83.26	22.39	38.64	67.52	248.78	244.79	145.85	19.83	0.12	0.43	887.5	706.94	180.56
57	Pratapgarh	7.69	0	16.6	9.08	42.97	57.83	144.66	121.52	111.14	41.48	3.07	5.35	561.39	435.15	126.24
58	Prayagraj	3.94	0	19.77	15.95	23.98	52.95	104.09	134.58	90.01	40.5	3.16	9.03	497.96	381.63	116.33
59	Rae Bareli	3.97	0	11.05	7.94	28.95	23.67	192.04	160.58	122.26	7.91	1.62	2.89	562.88	498.55	64.33
60	Rampur	14.75	1.29	71.06	37.74	82.09	87.23	415.45	269.6	271.5	19.54	0.28	0.87	1271.4	1043.78	227.62
61	Saharanpur	16.31	0.53	65.55	14.97	83.73	162.29	592.33	277.92	78.17	19.82	1.06	0.39	1313.1	1110.71	202.36
62	Sant Kabir Nagar	0	0	10.38	0.16	24.82	30.36	261.1	395.61	86.67	53.35	0	0.9	863.35	773.74	89.61
63	Sant Ravi Das Nagar(Bhadohi)	3.11	0	58.06	20.55	30.14	73.83	143.94	132.9	84.32	80.99	3.41	7.25	638.5	434.99	203.51
64	Shahjahanpur	11.01	0	42.93	22.04	14.13	67.08	229.78	194.65	148.21	20.38	6.57	1.85	758.63	639.72	118.91
65	Shrawasti	2.54	0	9.66	5.45	35.98	34.11	238.28	303.39	97.95	44.03	0	4.56	775.95	673.73	102.22
66	Siddharth Nagar	0.18	0	2.94	1.45	27.53	44.29	290.3	316.13	111.05	77.72	0.04	0.37	872	761.77	110.23
67	Sitapur	10.61	0	34.5	16.2	36.04	53.22	196	229.42	187.59	16.11	1.75	8.44	789.88	666.23	123.65
68	Sonbhadra	0.22	0	16.72	15.01	14.82	82.95	170.01	263.22	140.76	203.99	1.65	30.85	940.2	656.94	283.26
69	Sultanpur	6.82	0	12.34	12.6	45.52	54.49	180.52	150.11	79.85	43.3	1.73	3.95	591.23	464.97	126.26
70	Unnao	3.14	0	13.21	19.78	31.73	42.26	194.28	138.52	94.09	8.22	2.02	9.09	556.34	469.15	87.19
71	Varanasi	1.49	0	53.32	13.77	18.4	75.41	157.82	123.87	82.97	84.38	4.24	12.65	628.32	440.07	188.25

Plate 2

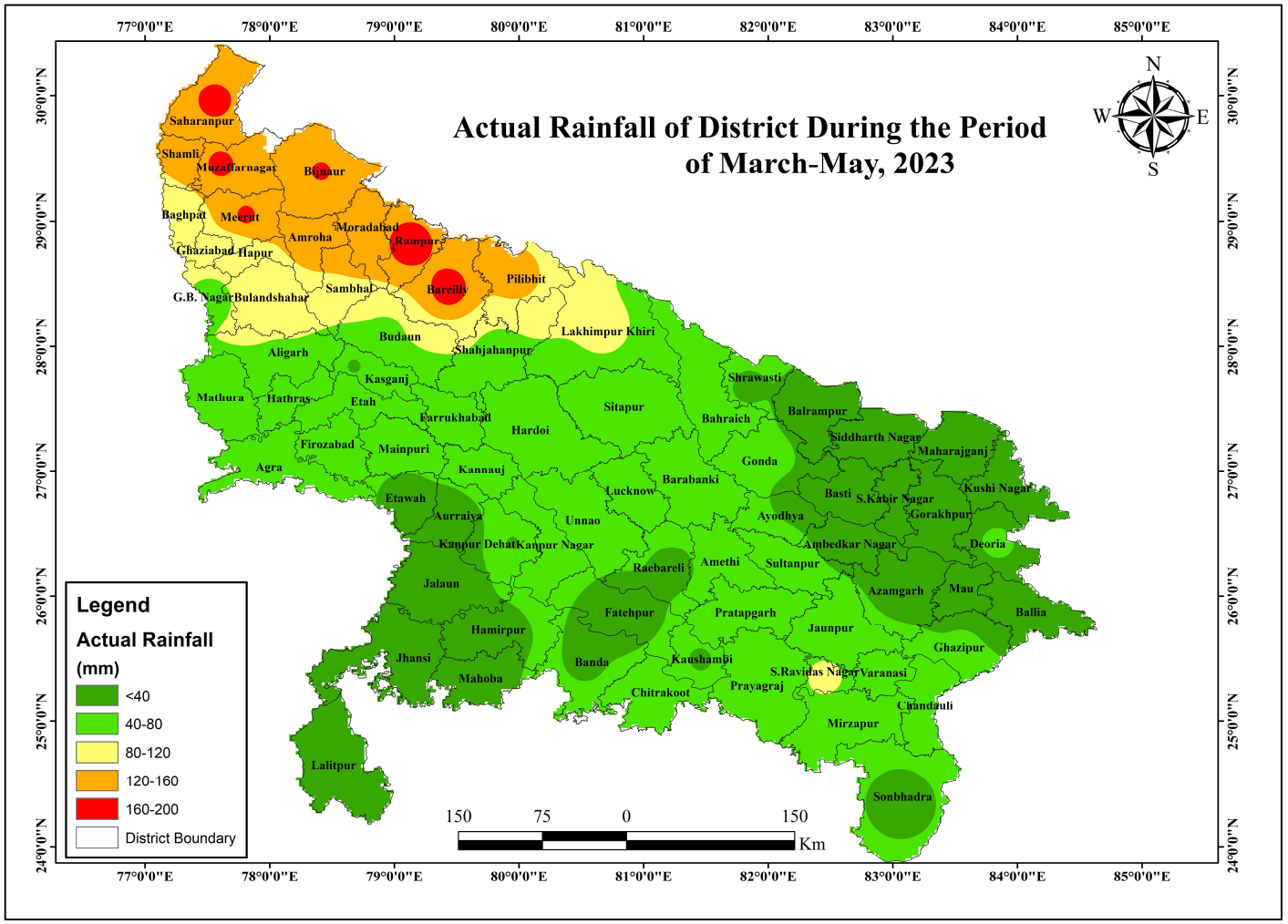

Actual Rainfall of District During the Period of March-May, 2023
N
S
E
W
77°0'0"E
78°0'0"E
79°0'0"E
80°0'0"E
81°0'0"E
82°0'0"E
83°0'0"E
84°0'0"E
85°0'0"E
30°0'0"N
29°0'0"N
28°0'0"N
27°0'0"N
26°0'0"N
25°0'0"N
24°0'0"N
Saharanpur
Shamli
Muzaffarnagar
Bijnaur
Baghpat
Meerut
Moradabad
Amroha
Rampur
Ghaziabad
Hapur
Pilibhit
Bareilly
Sambhal
G.B. Nagar
Bulandshahar
Budaun
Lakhimpur Khiri
Shahjahanpur
Aligarh
Kasganj
Shrawasti
Mathura
Hathras
Etah
Sitapur
Balrampur
Farrukhabad
Bahraich
Siddharth Nagar
Maharajganj
Firozabad
Mainpuri
Hardoi
Gonda
Agra
Kannauj
Barabanki
Basti
S.Kabir Nagar
Kushi Nagar
Lucknow
Etawah
Gorakhpur
Auraiya
Unnao
Ayodhya
Kanpur Dehat
Kanpur Nagar
Ambedkar Nagar
Deoria
Raebareli
Amethi
Sultanpur
Jalaun
Azamgarh
Mau
Fatehpur
Pratapgarh
Ballia
Hamirpur
Jaunpur
Ghazipur
Jhansi
Banda
Kaushambi
Mahoba
S.Ravidas Nagar
Varanasi
Chitrakoot
Prayagraj
Chandauli
Mirzapur
Lalitpur
Sonbhadra
Legend
Actual Rainfall
(mm)
<40
40-80
80-120
120-160
160-200
District Boundary
150
75
0
150
Km

Plate-3

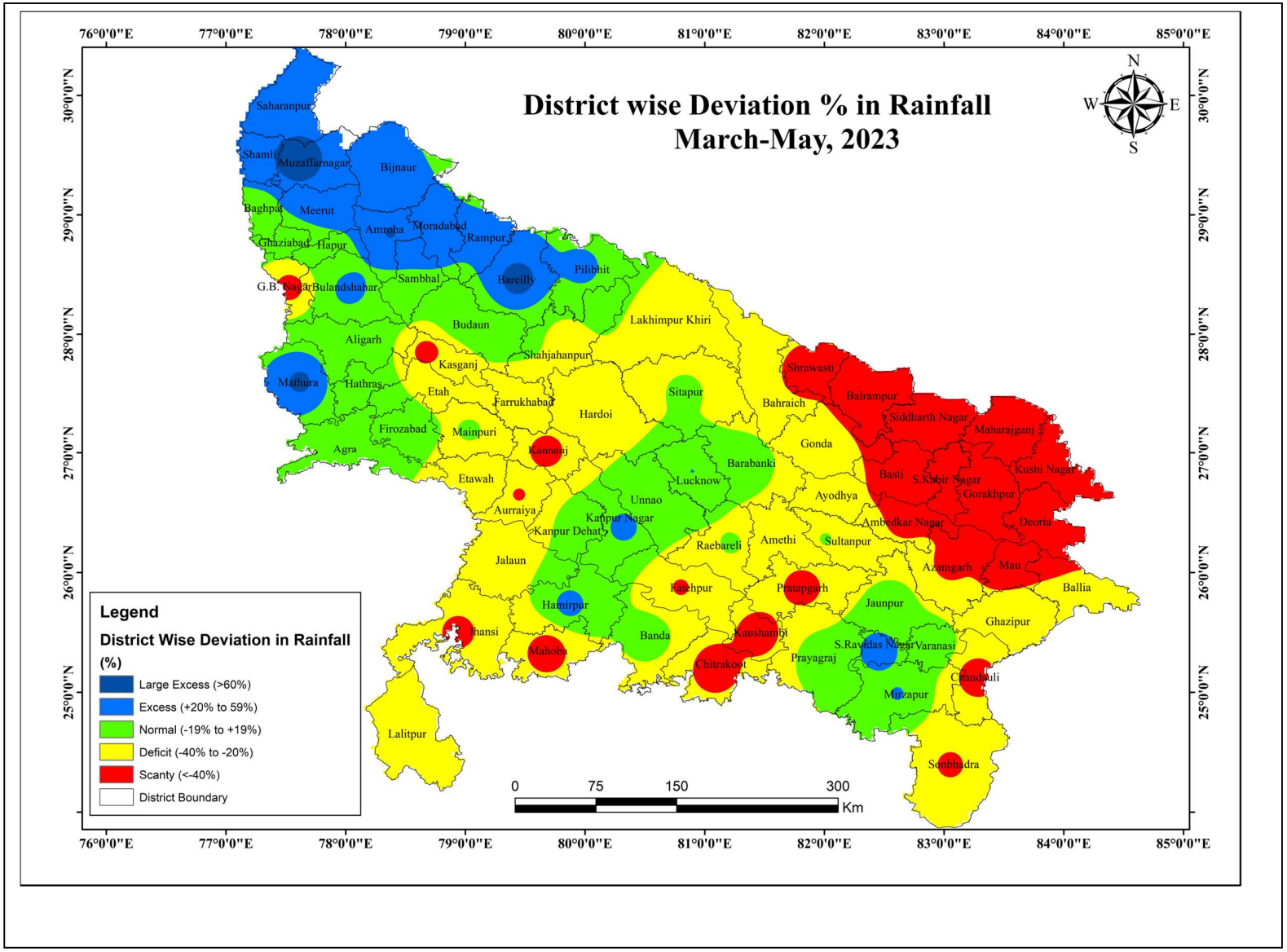

District wise Deviation % in Rainfall
March-May, 2023
N
S
E
W
76°0'0"E
77°0'0"E
78°0'0"E
79°0'0"E
80°0'0"E
81°0'0"E
82°0'0"E
83°0'0"E
84°0'0"E
85°0'0"E
30°0'0"N
29°0'0"N
28°0'0"N
27°0'0"N
26°0'0"N
25°0'0"N
Saharanpur
Shamli
Muzaffarnagar
Bijnaur
Baghpat
Meerut
Amroha
Moradabad
Rampur
Ghaziabad
Hapur
Sambhal
Bareilly
Pilibhit
G.B. Nagar
Bulandshahar
Budaun
Lakhimpur Khiri
Aligarh
Kasganj
Shahjahanpur
Shrawasti
Mathura
Hathras
Etah
Farrukhabad
Sitapur
Balrampur
Bahraich
Hardoi
Siddharth Nagar
Maharajganj
Firozabad
Mainpuri
Gonda
Agra
Kannauj
Barabanki
Basti
S.Kabir Nagar
Kushi Nagar
Etawah
Lucknow
Gorakhpur
Ayodhya
Unnao
Aurraiya
Kanpur Nagar
Ambedkar Nagar
Deoria
Kanpur Dehat
Raebareli
Amethi
Sultanpur
Jalaun
Azamgarh
Mau
Fatehpur
Pratapgarh
Ballia
Hamirpur
Jaunpur
Ghazipur
Jhansi
Banda
Kaushambi
S.Ravidas Nagar
Varanasi
Mahoba
Prayagraj
Chitrakoot
Chandauli
Mirzapur
Lalitpur
Sonbhadra
Legend
District Wise Deviation in Rainfall (%)
Large Excess (>60%)
Excess (+20% to 59%)
Normal (-19% to +19%)
Deficit (-40% to -20%)
Scanty (<-40%)
District Boundary
0
75
150
300
Km

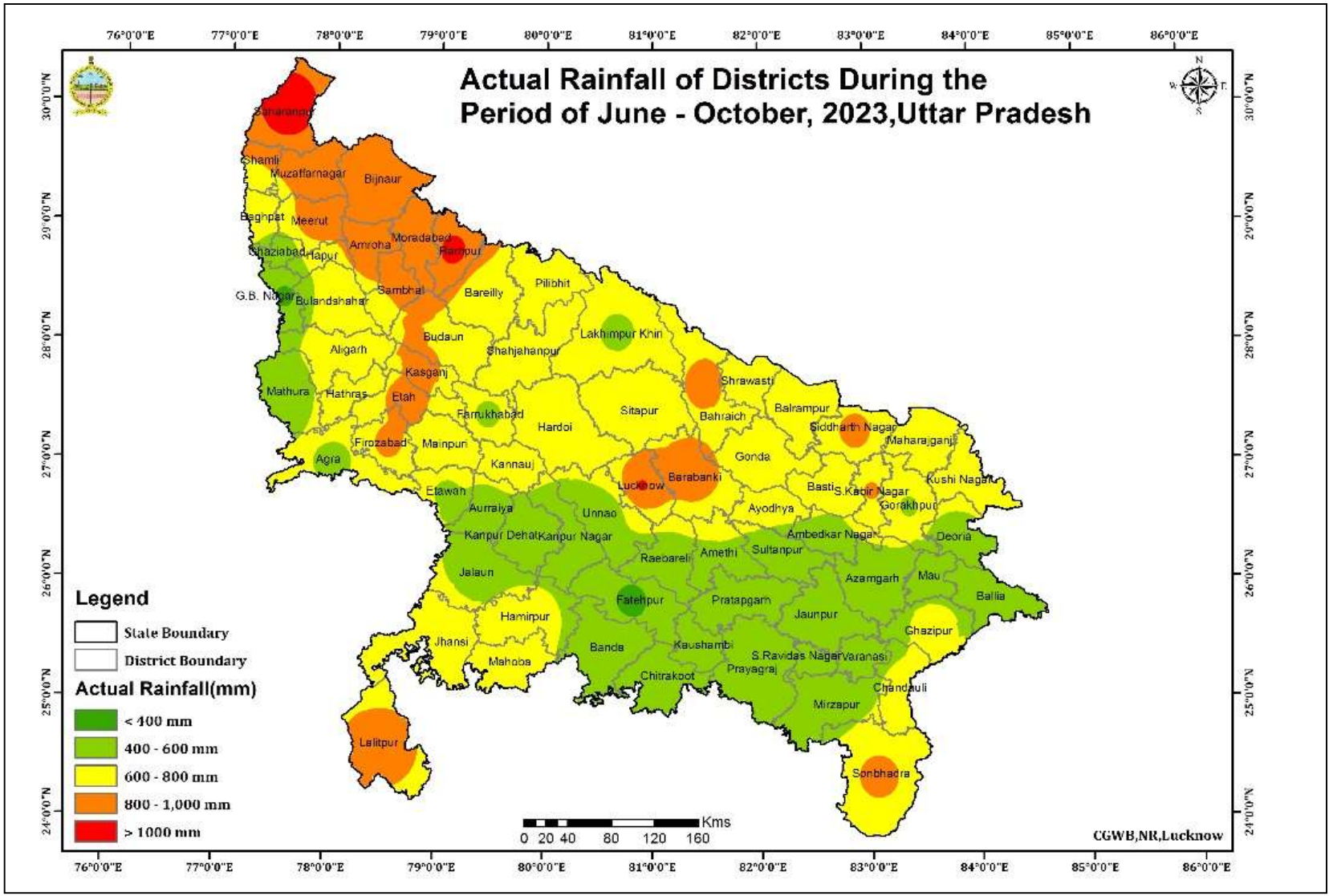
Table-3. District wise variability of rainfall in Uttar Pradesh (2023)

District						
	Normal Rain Fall(mm)	Actual Rain Fall (mm) 2022	Deviation%	Actual Rain Fall (mm) 2023	Deviation%	% Deviation 2023 To 2022
Agra	719.7	723.4	0.51	548	-23.86	-32.01
Aligarh	660	745.79	13.00	695.3	5.35	-7.26
Ambedkar Nagar	950.9	705.07	-25.85	545.68	-42.61	-29.21
Auraiya	772.3	455.85	-40.98	522.88	-32.30	12.82
Ayodhya	900.8	802.77	-10.88	619.09	-31.27	-29.67
Azamgarh	992.7	683.82	-31.12	556.7	-43.92	-22.83
Baghpat	570	466.95	-18.08	679.79	19.26	31.31
Bahraich	1047.5	1103.45	5.34	845.5	-19.28	-30.51
Ballia	938.6	589.8	-37.16	549.9	-41.41	-7.26
Balrampur	1148.5	988.33	-13.95	781.6	-31.95	-26.45
Banda	908.1	948.21	4.42	520.55	-42.68	-82.16
Bara Banki	992.1	973.39	-1.89	901.76	-9.11	-7.94
Bareilly	963.7	760.21	-21.12	678.72	-29.57	-12.01
Basti	1039.5	734.47	-29.34	615.82	-40.76	-19.27
Bijnor	971.9	907.88	-6.59	1238.71	27.45	26.71
Budaun	807.6	599.08	-25.82	839.6	3.96	28.65
Bulandshahr	711.8	529.69	-25.58	645.02	-9.38	17.88
Chandauli		672.64		633.67		-6.15
Chitrakoot		1132.8		534.81		-111.81
Deoria	1037	766.73	-26.06	512.4	-50.59	-49.64
Etah	694.5	738.08	6.28	868.57	25.06	15.02
Etawah	795.4	575.83	-27.60	575.04	-27.70	-0.14
Farrukhabad	827.7	321.75	-61.13	564.64	-31.78	43.02
Fatehpur	897	838.22	-6.55	341.15	-61.97	-145.70
Firozabad	725.9	687.1	-5.35	838.39	15.50	18.05
Gautam Buddha Nagar		344.38		357.11		3.56
Ghaziabad	661.6	473.75	-28.39	429.67	-35.06	-10.26
Ghazipur	982.4	543.43	-44.68	640.35	-34.82	15.14
Gonda	1090.5	991.73	-9.06	764.23	-29.92	-29.77
Gorakhpur	1154.8	920.45	-20.29	582.31	-49.57	-58.07
Hamirpur	772.3	848.97	9.93	726.77	-5.90	-16.81
Hardoi	862.8	618.41	-28.33	649.39	-24.73	4.77

District						
	Normal Rain Fall(mm)	Actual Rain Fall (mm) 2022	Deviation%	Actual Rain Fall (mm) 2023	Deviation%	% Deviation 2023 To 2022
Jalaun	825.2	773.46	-6.27	573.35	-30.52	-34.90
Jaunpur	939.2	617.96	-34.20	512	-45.49	-20.70
Jhansi	881	771.26	-12.46	680.73	-22.73	-13.30
Jyotiba Phule Nagar	860.5	631.83	-26.57	914.7	6.30	30.92
Kannauj		512.7		739.77		30.69
Kanpur Dehat	765.8	447.86	-41.52	409.64	-46.51	-9.33
Kanpur Nagar	789.1	666.88	-15.49	495.31	-37.23	-34.64
Kansiram Nagar		616.51		821.37		24.94
Kaushambi		747.1		434.91		-71.78
Kheri	1025.6	1278.85	24.69	789.25	-23.05	-62.03
Kushinagar	1213.3	548.29	-54.81	566.03	-53.35	3.13
Lalitpur	985.2	991.64	0.65	874.56	-11.23	-13.39
Lucknow	860.5	803.97	-6.57	1017.7	18.27	21.00
Mahamaya Nagar	666.8	828.91	24.31	770.3	15.52	-7.61
Maharajganj	1320.2	964.48	-26.94	773.52	-41.41	-24.69
Mahoba		712.53		688.6		-3.48
Mainpuri	706.3	495.78	-29.81	796.51	12.77	37.76
Mathura	552.9	612.94	10.86	451.45	-18.35	-35.77
Mau	1043	671.72	-35.60	567.08	-45.63	-18.45
Meerut	805.7	703.33	-12.71	923.49	14.62	23.84
Mirzapur	873.1	733.92	-15.94	551.92	-36.79	-32.98
Moradabad	894.9	600.17	-32.93	827.37	-7.55	27.46
Muzaffarnagar	742.8	637.88	-14.12	850.49	14.50	25.00
Pilibhit	1037.1	1133.71	9.32	726.77	-29.92	-55.99
Pratapgarh		729.5		476.63		-53.05
Prayagraj	854.5	506.59	-40.72	422.13	-50.60	-20.01
Rae Bareli	889.1	623.6	-29.86	506.46	-43.04	-23.13
Rampur	1004.1	862.99	-14.05	1063.32	5.90	18.84
Saharanpur	796	767.44	-3.59	1130.53	42.03	32.12
Sant Kabir Nagar		817.47		827.09		1.16

District						
	Normal Rain Fall(mm)	**Actual Rain Fall (mm) 2022**	**Deviation%**	**Actual Rain Fall (mm) 2023**	**Deviation%**	**% Deviation 2023 To 2022**
Sant Ravi Das Nagar (Bhadohi)	911.6	621.12	-31.86	515.98	-43.40	-20.38
Shahjahanpur	914.5	570.65	-37.60	660.1	-27.82	13.55
Shrawasti	1047.5	1294.58	23.59	717.76	-31.48	-80.36
Siddharth Nagar	1132.1	748.32	-33.90	839.49	-25.85	10.86
Sitapur	908.4	741.01	-18.43	682.34	-24.89	-8.60
Sonbhadra	993.5	617.01	-37.90	860.93	-13.34	28.33
Sultanpur	943.7	603.29	-36.07	508.27	-46.14	-18.69
Unnao	856.9	547.28	-36.13	477.37	-44.29	-14.64
Varanasi	875.2	815.65	-6.80	524.45	-40.08	-55.52
Average	**895.37**	**726.23**	**-17.83**	**672.86**	**-22.00**	**-12.98**

Plate-4


Actual Rainfall of Districts During the Period of June - October, 2023,Uttar Pradesh
Legend
State Boundary
District Boundary
Actual Rainfall(mm)
< 400 mm
400 - 600 mm
600 - 800 mm
800 - 1,000 mm
> 1000 mm
Kms
0 20 40 80 120 160
CGWB,NR,Lucknow
Saharanpur
Shamli
Muzaffarnagar
Bijnaur
Baghpat
Meerut
Moradabad
Amroha
Rampur
Ghaziabad
Hapur
Sambhal
Bareilly
Pilibhit
G.B. Nagar
Bulandshahar
Budaun
Lakhimpur Khin
Aligarh
Shahjahanpur
Kasganj
Shrawasti
Mathura
Hathras
Etah
Farrukhabad
Sitapur
Balrampur
Bahraich
Siddharth Nagar
Hardoi
Maharajganj
Firozabad
Mainpuri
Gonda
Agra
Kannauj
Barabanki
Lucknow
Basti
S.Kabir Nagar
Kushi Nagar
Etawah
Gorakhpur
Auraiya
Unnao
Ayodhya
Kanpur Dehat
Kanpur Nagar
Ambedkar Nagar
Deoria
Raebareli
Amethi
Sultanpur
Jalaun
Azamgarh
Mau
Fatehpur
Pratapgarh
Ballia
Hamirpur
Jaunpur
Ghazipur
Jhansi
Banda
Kaushambi
S.Ravidas Nagar
Varanasi
Mahoba
Prayagraj
Chitrakoot
Chandauli
Mirzapur
Lalitpur
Sonbhadra

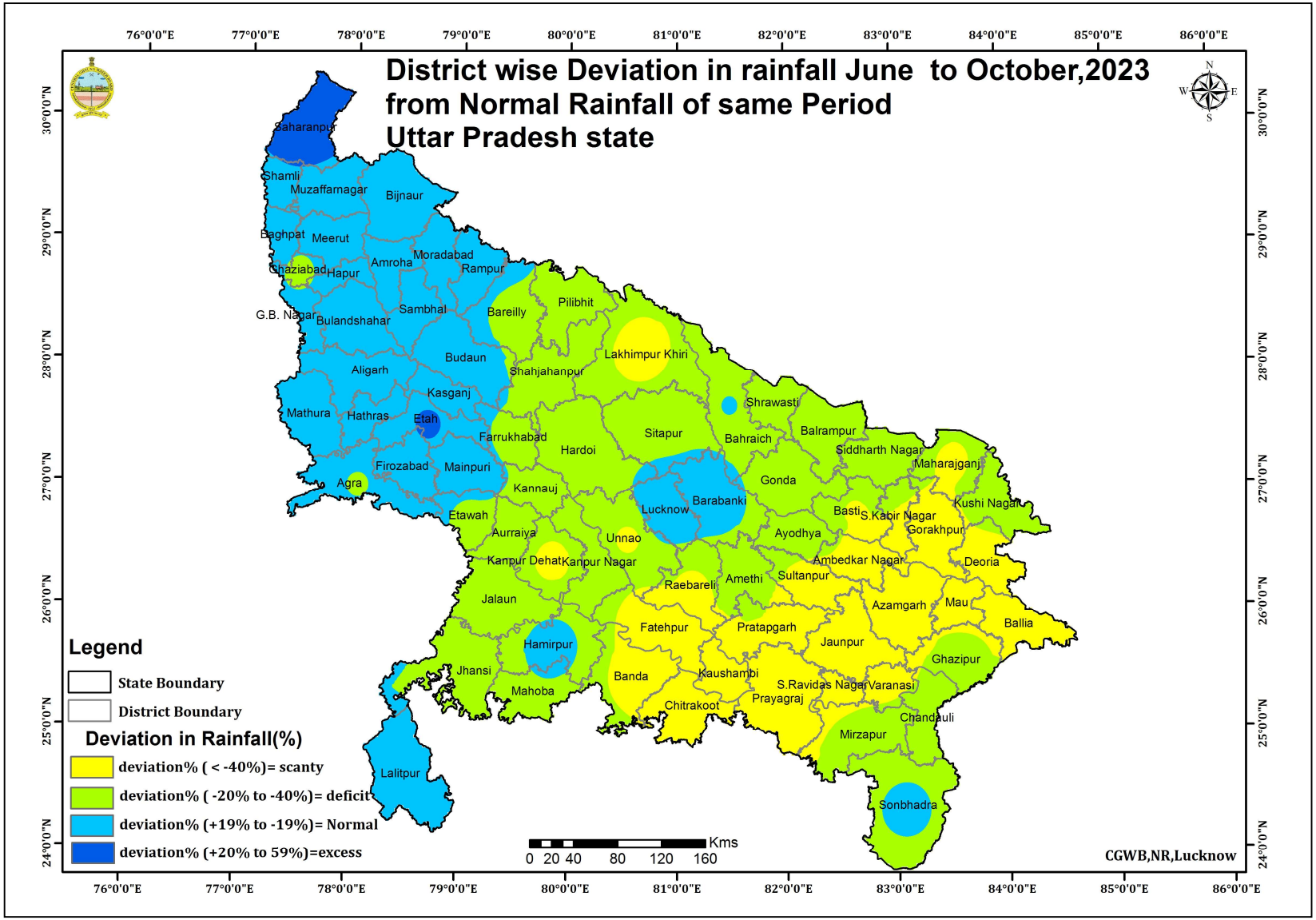
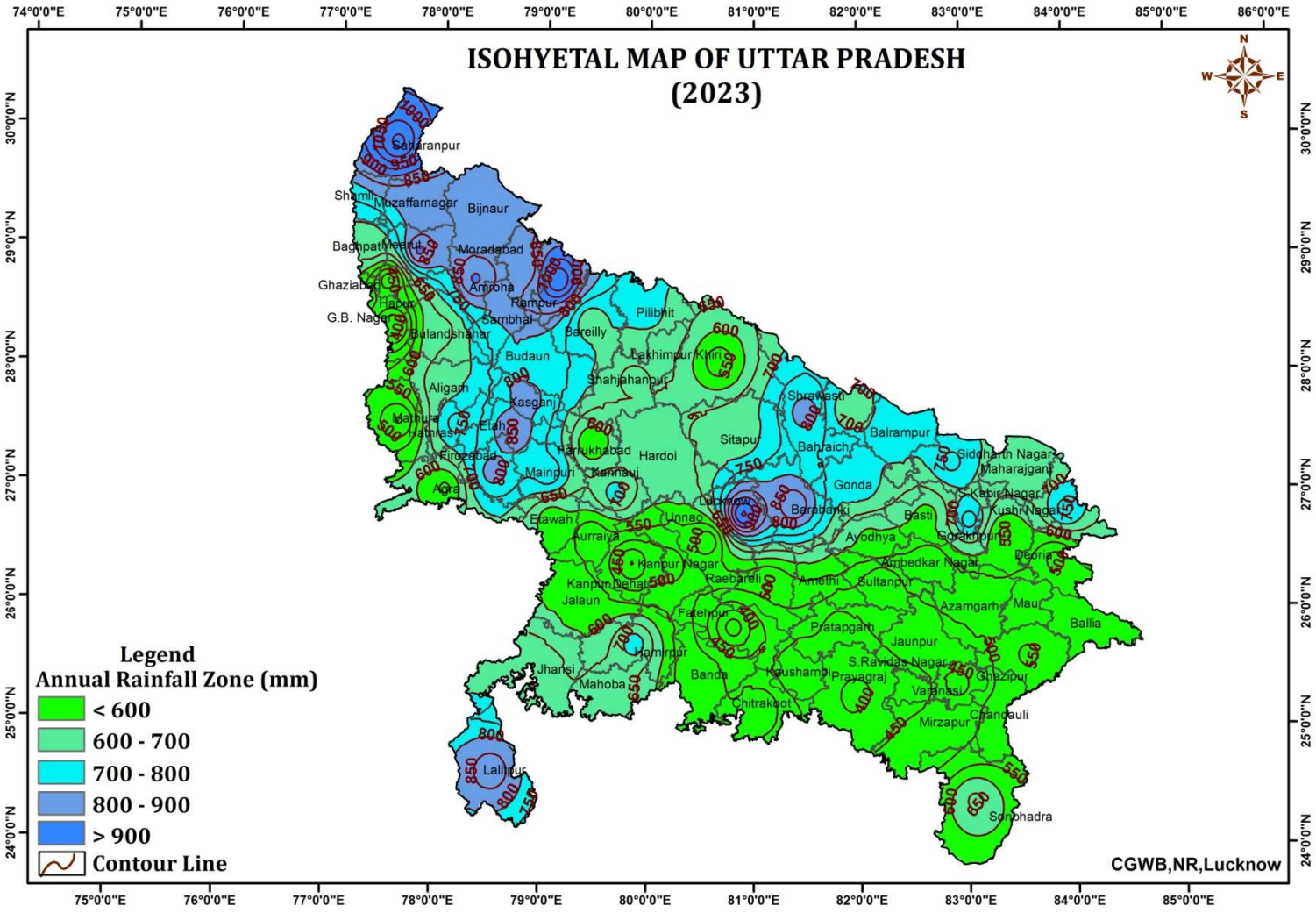

District wise Deviation in rainfall June to October,2023
from Normal Rainfall of same Period
Uttar Pradesh state
Legend
State Boundary
District Boundary
Deviation in Rainfall(%)
deviation% (< -40%)= scanty
deviation% (-20% to -40%)= deficit
deviation% (+19% to -19%)= Normal
deviation% (+20% to 59%)=excess
Kms
0 20 40 80 120 160
CGWB,NR,Lucknow
Saharanpur
Shamli
Muzaffarnagar
Bijnaur
Baghpat
Meerut
Ghaziabad
Hapur
Amroha
Moradabad
Rampur
G.B. Nagar
Bulandshahar
Sambhal
Bareilly
Pilibhit
Budaun
Aligarh
Shahjahanpur
Lakhimpur Khiri
Kasganj
Mathura
Hathras
Etah
Farrukhabad
Hardoi
Sitapur
Shrawasti
Bahraich
Balrampur
Siddharth Nagar
Maharajganj
Firozabad
Mainpuri
Agra
Kannauj
Etawah
Lucknow
Barabanki
Gonda
Basti
S.Kabir Nagar
Kushi Nagar
Gorakhpur
Aurraiya
Unnao
Ayodhya
Kanpur Dehat
Kanpur Nagar
Ambedkar Nagar
Deoria
Raebareli
Amethi
Sultanpur
Jalaun
Azamgarh
Mau
Ballia
Fatehpur
Pratapgarh
Jaunpur
Hamirpur
Ghazipur
Jhansi
Banda
Kaushambi
Mahoba
S.Ravidas Nagar
Varanasi
Chitrakoot
Prayagraj
Chandauli
Mirzapur
Lalitpur
Sonbhadra
76°0'0"E
77°0'0"E
78°0'0"E
79°0'0"E
80°0'0"E
81°0'0"E
82°0'0"E
83°0'0"E
84°0'0"E
85°0'0"E
86°0'0"E
30°0'0"N
29°0'0"N
28°0'0"N
27°0'0"N
26°0'0"N
25°0'0"N
24°0'0"N

Plate – 6


ISOHYETAL MAP OF UTTAR PRADESH
(2023)
Legend
Annual Rainfall Zone (mm)
< 600
600 - 700
700 - 800
800 - 900
> 900
Contour Line
CGWB,NR,Lucknow
74°0'0"E
75°0'0"E
76°0'0"E
77°0'0"E
78°0'0"E
79°0'0"E
80°0'0"E
81°0'0"E
82°0'0"E
83°0'0"E
84°0'0"E
85°0'0"E
86°0'0"E
30°0'0"N
29°0'0"N
28°0'0"N
27°0'0"N
26°0'0"N
25°0'0"N
24°0'0"N
Saharanpur
Shamli
Muzaffarnagar
Bijnaur
Baghpat
Meerut
Moradabad
Ghaziabad
Amroha
Hapur
Rampur
G.B. Nagar
Sambhal
Pilibhit
Bareilly
Bulandshahar
Budaun
Lakhimpur Khiri
Aligarh
Shahjahanpur
Kasganj
Shrawasti
Mathura
Etah
Sitapur
Balrampur
Hathras
Farrukhabad
Hardoi
Bahraich
Siddharth Nagar
Firozabad
Maharajganj
Mainpuri
Kannauj
Gonda
Agra
Lucknow
Kabir Nagar
Barabanki
Basti
Etawah
Unnao
Kushi Nagar
Auraiya
Ayodhya
Gorakhpur
Deoria
Kanpur Nagar
Ambedkar Nagar
Raebareli
Amethi
Kanpur Dehat
Sultanpur
Jalaun
Azamgarh
Mau
Fatehpur
Pratapgarh
Ballia
Jaunpur
Hamirpur
S.Ravidas Nagar
Jhansi
Kaushambi
Prayagraj
Ghazipur
Banda
Varanasi
Mahoba
Chitrakoot
Chandauli
Mirzapur
Lalitpur
Sonbhadra

CHAPTER 4

HYDROGEOLOGICAL FRAME WORK

The geology and structure of the formations existing in an area control occurrence and movement of ground water. The geomorphic conditions also have a great impact on ground water scenario. The larger part of the State is underlain by fluvial sediments laid down in the fore deep between Plateau region in south and Himalayas in north during the Quaternary period by the Indus-Ganga system of drainage over the Precambrian topography existing during geological past. These deposits owe their origin to riverine activity. The southern part of the State has entirely different geological conditions being underlain by Precambrian formations under a thin alluvial cover. Broadly, the State can be divided into two hydrogeological units.

1. Unconsolidated zone.
2. Consolidated, hard rock zone.

The hydrogeological conditions of the above two units widely differ and are discussed subsequently in brief.

- **UNCONSOLIDATED ZONE**

This unit covers nearly 85% of the State area. The unconsolidated formations comprising the area have been deposited through mighty rivers originating from great Himalayan Mountains. These sediments are an admixture of pebble, gravel, sand, silt, clay and kankar. The sediments are generally coarser in the north and gradually become finer south east ward along downstream of the drainage which is a typical feature of fluvial deposits. This zone consists of mainly two parts, the Terai and the Alluvial Plain. However, foot hill zone is very small part of Bhabar belt and lies in the northern parts of Bijnor and Saharanpur districts. The Terai is a narrow-disconnected belt along the north western fringe of the State. The Alluvial Plain occupies the area south of Terai and can further be divided in two sub units - Younger Alluvium and Older Alluvium.

The younger alluvium occurs mostly along the present-day flood plain area. The continuous shifting of the drainage network with time caused reworking of their earlier deposits giving rise to the younger alluvium. The older alluvium occupying comparatively high area covers major part of the Plain. A typical characteristic of older alluvium is formation of kankar within itself due to leaching

of calcium carbonate under favourable climatic conditions. The kankar occasionally forms pans restricting downward movement of water.

The thickness of alluvial sediments is variable and generally goes upto 500m. Below which occur the semi-consolidated Upper Siwalik formations. The Shallower basement occurs in isolated areas which are known as “Basement highs."

This unconsolidated zone is porous and permeable with primary intergranular porosity and has good ground water potential. The sub-surface correlation of formations in the state has shown presence of several aquifers down to a depth of 750 m below the ground. These aquifers mainly encountered in Central Ganga Plain have been grouped on the basis of lithological characters as well as based on interpretation of electrical logs of Boreholes drilled and are as follows

1. First aquifer 0.0 – 150.00 mbgl
2. Second aquifer 160.00 – 210.00 mbgl
3. Third aquifer 250.00 – 360.00 mbgl
4. Forth deep aquifer 380.00 – 600.00 mbgl

The upper part of first aquifer down to 50 mbgl is the main source of drinking water through hand pumps and dug wells and is unconfined in nature. The first aquifer which is under unconfined to semi-confined conditions, it is the most potential aquifer group which is the main source of groundwater in the State extensively exploited through private as well as Government tube wells to meet the drinking water and irrigation needs. The deeper aquifers are confined in nature being exploited to a very limited extent. The yield of second aquifer is limited while the third aquifer is potential. The shallow and phreatic aquifers are under heavy stress.

- **CONSOLIDATED ZONE**

The Bundelkhand Vindhyan plateau region is underlain by variety of Precambrian formations, mostly granite and granite gneisses, Vindhyan sandstone, limestone & shale, under a thin a alluvial cover or without alluvial cover. As such these formations are hard and compact and devoid of any primary porosity. The ground water in these formations occurs in the secondary porosity of these formations. The secondary porosity has developed due to cracks and fractures which are open at the surface and tighten at depth. The ground water occurs under unconfined or water level conditions

in these formations. The alluvial sediments of moderate depth along the river courses and in valleys form potential groundwater repositories. The weathered mantle over the entire unit also forms potential aquifers. These aquifers are being monitored mostly through open wells over the area.

CHAPTER 5
BEHAVIOUR OF WATER LEVEL

The groundwater storage is largely controlled by the prevailing hydrogeological and geomorphic conditions. Besides, magnitude of input (recharge) to the ground water system and output (discharge) from it also influences the status of groundwater regime. In the State of Uttar Pradesh hydrogeological as well as the geomorphological conditions are highly variable as evident from earlier chapters. The chief source of recharge to storage is rainfall which is highly variable over space and time. The main source of discharge is ground water abstraction which is also varying and also growing exponentially. The regions having ground water as the main source for irrigation always remain under heavy stress. The imbalance between the recharge and discharge expresses itself in terms of variations in the ground water level. Thus, the water level is a very important parameter for ground water studies. The behavior of the water level in the state during year 2023 has been studied based upon the observations made on the permanent Ground Water Monitoring Wells and described in the following paragraphs.

5.1 Depth to Water Level in Unconfined Aquifer during 2023-24

The depth to ground water level in the state is highly variable throughout the year ranging from ground level to 44.43 mbgl. The distribution pattern remains same during the year with the areas under different ranges increasing/reducing in different seasons.

The water level in general increases from north-east to south-west roughly parallel to the northern boundary of the State. The shallow water level occurs in the north, north eastern part and parts of central region of the state. The moderate water level occurs in the north western part, the central part and along the southern boundary. The deeper water level occurs in the western part, along Yamuna River, parts of southern U.P. and cities.

There are four canal command areas in the state but these do not have the same depth to water level pattern and all do not necessarily show very shallow ground water levels. The Gandak and Saryu command areas in general show very shallow water level 2 – 5 mbgl and water logging conditions exists in the monsoon and post monsoon period with few areas within these zones showing 5 – 10 mbgl. Generally, the larger areas in Sharda Sahayak command fall under 5 – 10 mbgl water level range in comparison to above commands, in Ramganga command the water level is generally

deeper, falling in the range of 5 – 10 mbgl in the north eastern part and 10 – 20 mbgl in the south western part.

The different water level zones are controlled by geomorphological features such as flood plains, natural levees of main rivers, interfluves areas etc. as well as by the nature of deposits.

May 2023

This is the pre-monsoon period as it appears after one complete cycle of inputs and outputs. Generally, this period shows the deepest water levels during the year. May is the dry season and the water levels are used for most of the ground water calculations. The analyses of 602 wells have carried out for groundwater studies.

In general water level ranges mostly from 2 to 20 mbgl, however in some parts of the state show variation of 20 mbgl or above.

The water levels in the range of 0 to 2 mbgl (i.e., water logged condition) is observed only in 19 wells (about 2.09%). Shallow water level of less than 2 mbgl is observed in isolated patches of Aligarh, Banda, Basti, Bijnore, Hamirpur, Jalaun, Lalitpur, Mathura, Moradabad, Shravasti, Sultanpur and Unnao districts covering an area of 2% of the State

Water level ranges from 2 to5 mbgl is observed in 38% of wells (347 nos.). It is usually observed in Ayodhya, Amethi, Bahraich, Ballia, Balrampur, Barabanki, Basti, Bareilly, Bijnore, Chandauli, Fatehpur, Gazipur, Gonda, Deoria, Kasganj, Kushinagar, Prayagraj, Raibareilly, Saharanpur, Shrawasti, Siddharthnagar, Sitapur, Sultanpur, Shrawasti and Varanasi districts of Uttar Pradesh.

About 38.64 % of wells (352 nos.) show water level between 5 and 10 m bgl. This area is observed, mostly in Amethi, Barabanki, Azamgarh, Ballia, Hardoi, Jalaun, Jaunpur, Jhansi, Lalitpur, Kushinagar, Lalitpur, Pratapgarh, Prayagraj, Raibarelliy, Sitapur and Sultanpur Districts.

Water level in the range of 10 – 20m have been observe in 155 wells (17.01%) mainly in Meerut, Hapur, Bulandshahr, Muzzafarnagar, Shamli, Amroha, Sambhal, Budaun, Farrukhabad, Agra, Kannauj, Hamirpur, Banda, Lucknow, Fatehpur, Mirzapur, Sonbhadra districts in UP.

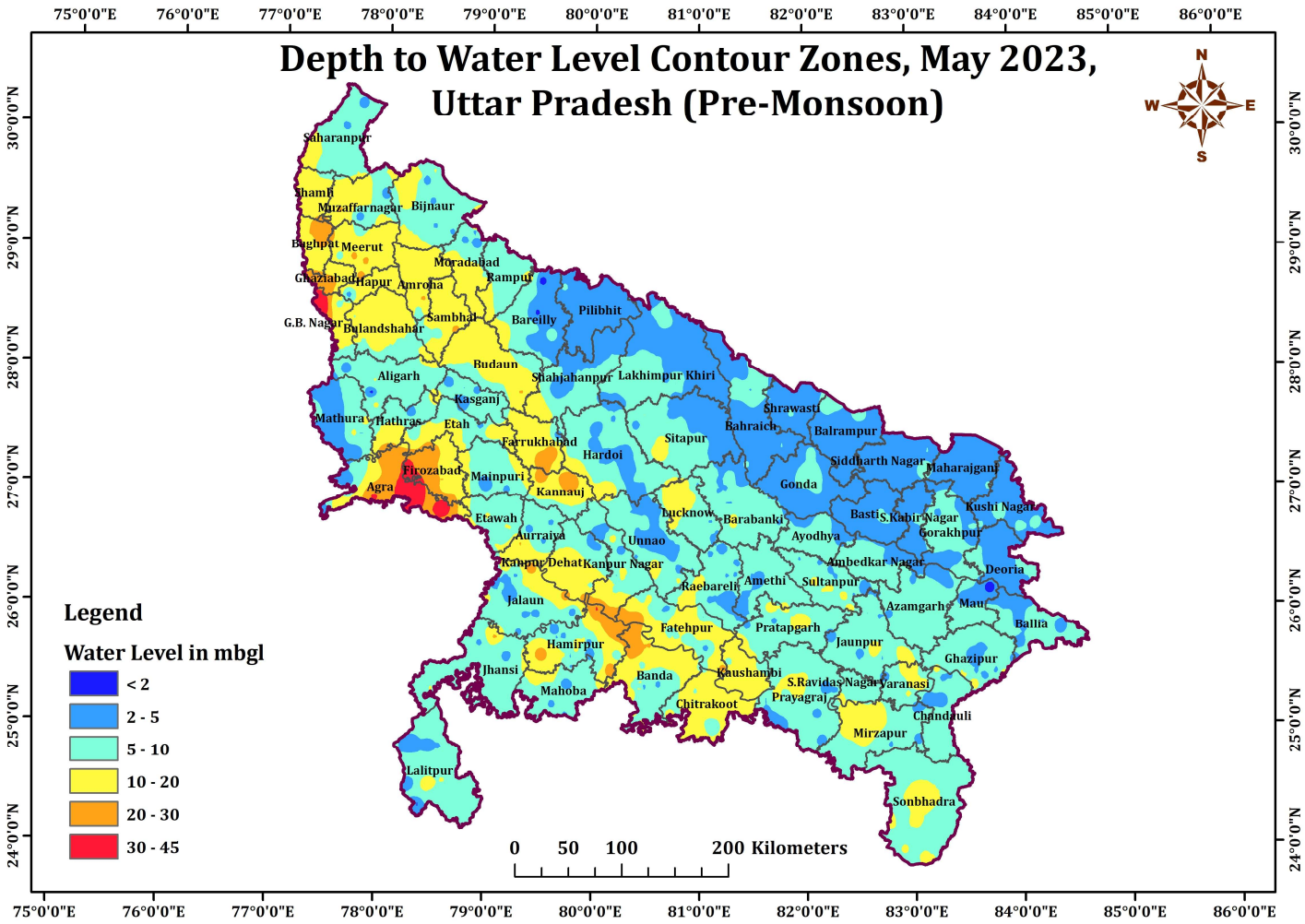
Deeper water levels greater than 20m cover 4 % area of the State, recorded in Agra, Gautam Budh Nagar, Lucknow, Baghpat, Hamirpur and Jhansi Districts. The district wise depth to water level during May 2023 is presented in table-4 and in Plate –7.

Table-4. DISTRICT- WISE DEPTH TO WATER LEVEL IN UNCONFINED AQUIFER, U.P. MAY, 2023

District	No. of Analysed Well	Depth to Water level		No. / Percentage of Wells Showing Depth to Water Level (mbgl) in the Range of													
		Minimum	Maximum	0- 2	%	02-5	%	5 -10	%	10 -20	%	20 -30	%	30 -45	%	>45	%
Agra	8	2.24	44.43	0	0.0	2	25.0	1	12.5	1	12.5	1	12.5	3	37.5	0	0
Aligarh	8	1.05	10.62	1	12.5	1	12.5	3	37.5	3	37.5	0	0.0	0	0.0	0	0
Ambedkar Nagar	9	4.42	6.7	0	0.0	1	11.1	8	88.9	0	0.0	0	0.0	0	0.0	0	0
Amethi	25	3.7	11.98	0	0.0	7	28.0	16	64.0	2	8.0	0	0.0	0	0.0	0	0
Amroha	6	8.12	21.38	0	0.0	0	0.0	1	16.7	4	66.7	1	16.7	0	0.0	0	0
Auraiya	9	2.95	21.3	0	0.0	3	33.3	4	44.4	1	11.1	1	11.1	0	0.0	0	0
Ayodhya	12	3.15	8.55	0	0.0	4	33.3	8	66.7	0	0.0	0	0.0	0	0.0	0	0
Azamgarh	12	4.25	8.81	0	0.0	2	16.7	10	83.3	0	0.0	0	0.0	0	0.0	0	0
Baghpat	6	10.59	29.42	0	0.0	0	0.0	0	0.0	3	50.0	3	50.0	0	0.0	0	0
Bahraich	16	2.25	8.48	0	0.0	13	81.3	3	18.8	0	0.0	0	0.0	0	0.0	0	0
Ballia	17	2.94	10.32	0	0.0	8	47.1	8	47.1	1	5.9	0	0.0	0	0.0	0	0
Balrampur	17	2.08	12.6	0	0.0	14	82.4	2	11.8	1	5.9	0	0.0	0	0.0	0	0
Banda	9	1.15	12.5	1	11.1	1	11.1	5	55.6	2	22.2	0	0.0	0	0.0	0	0
Bara Banki	37	3.22	12.72	0	0.0	8	21.6	24	64.9	5	13.5	0	0.0	0	0.0	0	0
Bareilly	11	0.92	14.02	2	18.2	3	27.3	5	45.5	1	9.1	0	0.0	0	0.0	0	0
Basti	10	1.97	6.82	1	10.0	8	80.0	1	10.0	0	0.0	0	0.0	0	0.0	0	0
Bhadohi	5	5.75	12.82	0	0.0	0	0.0	4	80.0	1	20.0	0	0.0	0	0.0	0	0
Bijnor	10	1.9	19.96	1	10.0	3	30.0	1	10.0	5	50.0	0	0.0	0	0.0	0	0
Budaun	2	19.23	20.47	0	0.0	0	0.0	0	0.0	1	50.0	1	50.0	0	0.0	0	0
Bulandshahr	3	12.39	14.7	0	0.0	0	0.0	0	0.0	3	100.0	0	0.0	0	0.0	0	0
Chandauli	10	2	11.96	0	0.0	4	40.0	5	50.0	1	10.0	0	0.0	0	0.0	0	0
Chitrakoot	12	4.76	20.49	0	0.0	1	8.3	3	25.0	7	58.3	1	8.3	0	0.0	0	0
Deoria	23	3.05	6.71	0	0.0	17	73.9	6	26.1	0	0.0	0	0.0	0	0.0	0	0
Etah	4	6.93	14.01	0	0.0	0	0.0	2	50.0	2	50.0	0	0.0	0	0.0	0	0
Etawah	6	4.3	13.27	0	0.0	1	16.7	3	50.0	2	33.3	0	0.0	0	0.0	0	0

District	No. of Analysed Well	Depth to Water level		No. / Percentage of Wells Showing Depth to Water Level (mbgl) in the Range of													
		Minimum	Maximum	0- 2	%	02-5	%	5 -10	%	10 -20	%	20 -30	%	30 -45	%	>45	%
Farrukhabad	5	2.64	24.62	0	0.0	1	20.0	0	0.0	2	40.0	2	40.0	0	0.0	0	0
Fatehpur	17	3.33	27.88	0	0.0	4	23.5	6	35.3	5	29.4	2	11.8	0	0.0	0	0
Firozabad	5	9.74	32.23	0	0.0	0	0.0	1	20.0	1	20.0	2	40.0	1	20.0	0	0
Gautam Buddha Nagar	5	7.35	40.81	0	0.0	0	0.0	2	40.0	1	20.0	0	0.0	2	40.0	0	0
Ghaziabad	1	21.25	21.25	0	0.0	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0	0	0
Ghazipur	15	1.07	13.35	1	6.7	4	26.7	8	53.3	2	13.3	0	0.0	0	0.0	0	0
Gonda	22	2.71	7.68	0	0.0	17	77.3	5	22.7	0	0.0	0	0.0	0	0.0	0	0
Gorakhpur	9	3.2	9.21	0	0.0	3	33.3	6	66.7	0	0.0	0	0.0	0	0.0	0	0
Hamirpur	17	1.72	29.44	1	5.9	8	47.1	0	0.0	6	35.3	2	11.8	0	0.0	0	0
Hapur	3	3.09	20	0	0.0	1	33.3	0	0.0	1	33.3	1	33.3	0	0.0	0	0
Hardoi	23	2.3	16.57	0	0.0	12	52.2	10	43.5	1	4.3	0	0.0	0	0.0	0	0
Hathras	1	3.78	3.78	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0
Jalaun	30	1.03	28.68	3	10.0	7	23.3	11	36.7	6	20.0	3	10.0	0	0.0	0	0
Jaunpur	23	2.98	16.81	0	0.0	10	43.5	9	39.1	4	17.4	0	0.0	0	0.0	0	0
Jhansi	20	2.67	22.3	0	0.0	4	20.0	14	70.0	1	5.0	1	5.0	0	0.0	0	0
Kannauj	2	22.26	26.81	0	0.0	0	0.0	0	0.0	0	0.0	2	100.0	0	0.0	0	0
Kanpur Dehat	6	3.22	20.39	0	0.0	1	16.7	2	33.3	2	33.3	1	16.7	0	0.0	0	0
Kanpur Nagar	16	1.64	19.63	1	6.3	4	25.0	8	50.0	3	18.8	0	0.0	0	0.0	0	0
Kasganj	11	3.6	13.12	0	0.0	7	63.6	3	27.3	1	9.1	0	0.0	0	0.0	0	0
Kaushambi	5	8.4	19.58	0	0.0	0	0.0	1	20.0	4	80.0	0	0.0	0	0.0	0	0
Kheri	26	2.39	8.71	0	0.0	20	76.9	6	23.1	0	0.0	0	0.0	0	0.0	0	0
Kushinagar	20	2.68	6.25	0	0.0	14	70.0	6	30.0	0	0.0	0	0.0	0	0.0	0	0
Lalitpur	19	1.7	16.08	1	5.3	6	31.6	10	52.6	2	10.5	0	0.0	0	0.0	0	0
Lucknow	16	4.26	32.64	0	0.0	4	25.0	3	18.8	7	43.8	1	6.3	1	6.3	0	0
Mahoba	8	3.34	10.51	0	0.0	2	25.0	5	62.5	1	12.5	0	0.0	0	0.0	0	0
Mahrajganj	7	3.41	5.21	0	0.0	5	71.4	2	28.6	0	0.0	0	0.0	0	0.0	0	0

District	No. of Analysed Well	Depth to Water level		No. / Percentage of Wells Showing Depth to Water Level (mbgl) in the Range of													
		Minimum	Maximum	0- 2	%	02-5	%	5 -10	%	10 -20	%	20 -30	%	30 -45	%	>45	%
Mainpuri	7	2.91	9.97	0	0.0	2	28.6	5	71.4	0	0.0	0	0.0	0	0.0	0	0
Mathura	16	1.96	12.12	1	6.3	10	62.5	2	12.5	3	18.8	0	0.0	0	0.0	0	0
Mau	4	3.85	6.9	0	0.0	1	25.0	3	75.0	0	0.0	0	0.0	0	0.0	0	0
Meerut	6	7.1	21.79	0	0.0	0	0.0	1	16.7	2	33.3	3	50.0	0	0.0	0	0
Mirzapur	11	3.26	15.15	0	0.0	3	27.3	3	27.3	5	45.5	0	0.0	0	0.0	0	0
Moradabad	8	1.85	19.4	1	12.5	2	25.0	0	0.0	5	62.5	0	0.0	0	0.0	0	0
Muzaffarnagar	6	2.73	20.6	0	0.0	2	33.3	0	0.0	3	50.0	1	16.7	0	0.0	0	0
Pilibhit	11	2.76	5.34	0	0.0	10	90.9	1	9.1	0	0.0	0	0.0	0	0.0	0	0
Pratapgarh	23	3.47	14.96	0	0.0	2	8.7	17	73.9	4	17.4	0	0.0	0	0.0	0	0
Prayagraj	27	2.71	15.07	0	0.0	10	37.0	13	48.1	4	14.8	0	0.0	0	0.0	0	0
Rae Bareli	29	3.08	18.2	0	0.0	12	41.4	12	41.4	5	17.2	0	0.0	0	0.0	0	0
Rampur	2	7.03	10.76	0	0.0	0	0.0	1	50.0	1	50.0	0	0.0	0	0.0	0	0
Saharanpur	9	3.95	16.42	0	0.0	2	22.2	6	66.7	1	11.1	0	0.0	0	0.0	0	0
Sambhal	3	17.25	19.86	0	0.0	0	0.0	0	0.0	3	100.0	0	0.0	0	0.0	0	0
Sant Kabir Nagar	4	2.52	5.14	0	0.0	3	75.0	1	25.0	0	0.0	0	0.0	0	0.0	0	0
Shamli	1	24.9	24.9	0	0.0	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0	0	0
Shrawasti	13	1.97	6.05	1	7.7	11	84.6	1	7.7	0	0.0	0	0.0	0	0.0	0	0
Siddharthnagar	14	2.26	6.7	0	0.0	11	78.6	3	21.4	0	0.0	0	0.0	0	0.0	0	0
Sitapur	25	2.5	13.49	0	0.0	11	44.0	9	36.0	5	20.0	0	0.0	0	0.0	0	0
Sonbhadra	13	4.56	14.72	0	0.0	1	7.7	6	46.2	6	46.2	0	0.0	0	0.0	0	0
Sultanpur	35	1.95	15.58	1	2.9	8	22.9	20	57.1	6	17.1	0	0.0	0	0.0	0	0
Unnao	19	1.77	13.88	2	10.5	9	47.4	5	26.3	3	15.8	0	0.0	0	0.0	0	0
Varanasi	6	3.33	17.09	0	0.0	1	16.7	2	33.3	3	50.0	0	0.0	0	0.0	0	0


Depth to Water Level Contour Zones, May 2023,
Uttar Pradesh (Pre-Monsoon)
N
S
E
W
75°0'0"E
76°0'0"E
77°0'0"E
78°0'0"E
79°0'0"E
80°0'0"E
81°0'0"E
82°0'0"E
83°0'0"E
84°0'0"E
85°0'0"E
86°0'0"E
30°0'0"N
29°0'0"N
28°0'0"N
27°0'0"N
26°0'0"N
25°0'0"N
24°0'0"N
Saharanpur
Shamli
Muzaffarnagar
Bijnaur
Baghpat
Meerut
Moradabad
Rampur
Ghaziabad
Hapur
Amroha
G.B. Nagar
Bulandshahar
Sambhal
Bareilly
Pilibhit
Budaun
Shahjahanpur
Lakhimpur Khiri
Aligarh
Kasganj
Mathura
Hathras
Etah
Farrukhabad
Hardoi
Sitapur
Shrawasti
Bahraich
Balrampur
Siddharth Nagar
Maharajganj
Firozabad
Mainpuri
Agra
Kannauj
Gonda
Kushi Nagar
Etawah
lucknow
Barabanki
Basti
S.Kabir Nagar
Gorakhpur
Aurraiya
Unnao
Ayodhya
Kanpur Dehat
Kanpur Nagar
Ambedkar Nagar
Deoria
Raebareli
Amethi
Sultanpur
Jalaun
Azamgarh
Mau
Fatehpur
Pratapgarh
Ballia
Hamirpur
Jaunpur
Ghazipur
Jhansi
Banda
Kaushambi
S.Ravidas Nagar
Varanasi
Mahoba
Prayagraj
Chitrakoot
Chandauli
Mirzapur
Lalitpur
Sonbhadra
Legend
Water Level in mbgl
< 2
2 - 5
5 - 10
10 - 20
20 - 30
30 - 45
0
50
100
200 Kilometers

August 2023

The water level during August indicates the immediate impact of rain fall on ground water storage. This is the month of peak monsoon rainfall hence this measurement is carried out to get the peak of the water level hydrograph. The water level rises in response to rainfall.

Water level has become shallower in large part of the state as per available data. Out of 1025 analyzed well 252 (24.59%) falls in the range of 0 to 2mbgl and 372 wells (36.29%) fall in the range of 2 – 5mbgl, it occurs mainly in Terai region of UP namely Bareilly, Lakhimpur Khiri, Shrawasti, Bahraich, Balrampur, Siddharth Nagar, Gonda, Basti, Gorakhpur, Deoria, Ayodhya, Ambedkar Nagar, Azamgarh, Mau, Ballia and southern parts districts like Lalitpur, Jhansi, Mahoba, Banda and Jalaun. It also observed in western periphery of the districts mainly Mathura, Kasganj and Aligarh. The water level in the range of 5-10 mbgl and 10-20mbgl occur in the 246 wells (24%) and 128 wells (12.49%) respectively. As per observation, the water level between 5-10m occurs in Saharanpur, Bijnore, Moradabad. Rampur, Badaun, Sitapur, Barabanki, Fatehpur, Pratapgarh, Varanasi, Prayagraj, Mirzapur, Chaundali and Sonbhadra districts. Water level between 10 – 20m occurs mainly western UP such as Saharanpur, Shamli, Muzaffarnagar, Amroha, Sambhal, Budaun, Baghpat, Meerut, Hapur and some parts of Farrukhabad, Agra, Firozabad, Kannauj and Lucknow Districts. Water level above 20m (nearly 2%) are found in small patches of Firozabad, Agra, Lucknow, Gautam budh Nagar, Gaziabad, Shamli and Bagpat districts of UP.

The district wise depth to water level during August 2022 is presented in table-5 and in Plate-8.

Plate-8

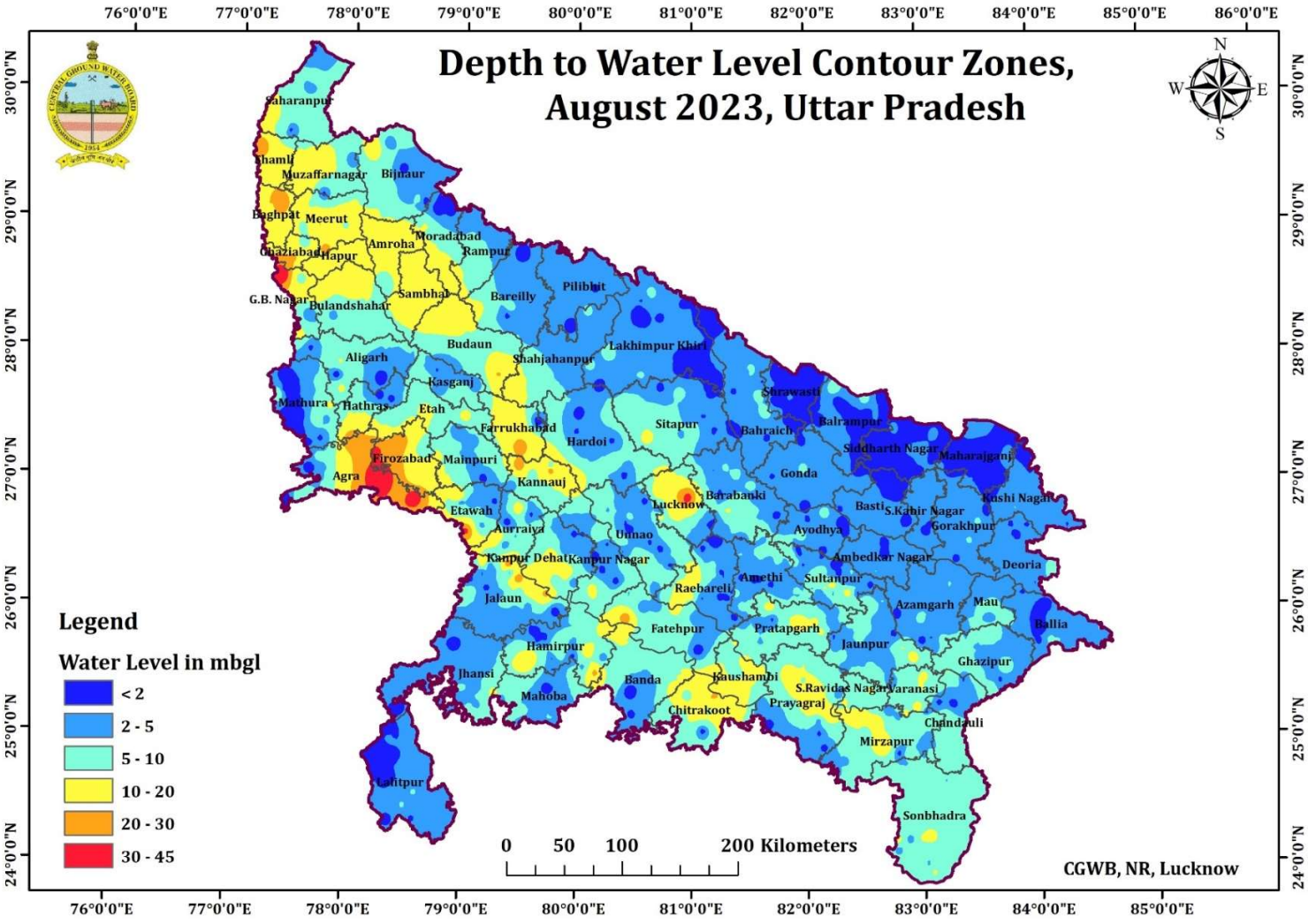

Depth to Water Level Contour Zones,
August 2023, Uttar Pradesh
Legend
Water Level in mbgl
< 2
2 - 5
5 - 10
10 - 20
20 - 30
30 - 45
0 50 100 200 Kilometers
CGWB, NR, Lucknow
N
S
E
W
76°0'0"E
77°0'0"E
78°0'0"E
79°0'0"E
80°0'0"E
81°0'0"E
82°0'0"E
83°0'0"E
84°0'0"E
85°0'0"E
86°0'0"E
30°0'0"N
29°0'0"N
28°0'0"N
27°0'0"N
26°0'0"N
25°0'0"N
24°0'0"N
Saharanpur
Shamli
Muzaffarnagar
Bijnaur
Baghpat
Meerut
Moradabad
Rampur
Ghaziabad
Hapur
Amroha
G.B. Nagar
Bulandshahar
Sambhal
Bareilly
Pilibhit
Budaun
Shahjahanpur
Lakhimpur Khiri
Aligarh
Kasganj
Mathura
Hathras
Etah
Farrukhabad
Sitapur
Shrawasti
Balrampur
Bahraich
Siddharth Nagar
Maharajganj
Hardoi
Firozabad
Mainpuri
Agra
Kannauj
Gonda
Barabanki
Lucknow
Basti
S.Kabir Nagar
Kushi Nagar
Gorakhpur
Etawah
Auraiya
Unnao
Ayodhya
Ambedkar Nagar
Deoria
Kanpur Dehat
Kanpur Nagar
Amethi
Sultanpur
Raebareli
Jalaun
Azamgarh
Mau
Ballia
Fatehpur
Pratapgarh
Hamirpur
Jaunpur
Ghazipur
Jhansi
Banda
Kaushambi
S.Ravidas Nagar
Varanasi
Mahoba
Prayagraj
Chitrakoot
Chandauli
Mirzapur
Lalitpur
Sonbhadra

Table-5. DISTRICT- WISE DEPTH TO WATER LEVEL IN UNCONFINED AQUIFER, U.P. AUGUST, 2023

District	No. of Analysed Well	Depth to Water level (mbgl)		No. / Percentage of Wells Showing Depth to Water Level(mbgl) in the Range of													
		Minimum	Maximum	0 - 2	%	02 - 5	%	5 - 10	%	10 - 20	%	20 - 30	%	30 - 45	%	>45	%
Agra	7	0.6	42.19	2	28.6	0	0.0	2	28.6	0	0.0	1	14.3	2	28.6	0	0
Aligarh	9	0.01	11.1	3	33.3	2	22.2	1	11.1	3	33.3	0	0.0	0	0.0	0	0
Ambedkar Nagar	13	0.84	5.24	2	15.4	10	76.9	1	7.7	0	0.0	0	0.0	0	0.0	0	0
Amethi	23	0.5	9.03	5	21.7	11	47.8	7	30.4	0	0.0	0	0.0	0	0.0	0	0
Amroha	4	5	16.93	0	0.0	0	0.0	1	25.0	3	75.0	0	0.0	0	0.0	0	0
Auraiya	9	0.02	19.18	3	33.3	3	33.3	1	11.1	2	22.2	0	0.0	0	0.0	0	0
Ayodhya	15	0.245	7.35	5	33.3	8	53.3	2	13.3	0	0.0	0	0.0	0	0.0	0	0
Azamgarh	15	0.45	6.95	3	20.0	9	60.0	3	20.0	0	0.0	0	0.0	0	0.0	0	0
Baghpat	7	9.03	29.53	0	0.0	0	0.0	1	14.3	4	57.1	2	28.6	0	0.0	0	0
Bahraich	19	0.07	8.12	8	42.1	7	36.8	4	21.1	0	0.0	0	0.0	0	0.0	0	0
Ballia	17	1.08	6.95	7	41.2	8	47.1	2	11.8	0	0.0	0	0.0	0	0.0	0	0
Balrampur	19	0.03	9.02	9	47.4	8	42.1	2	10.5	0	0.0	0	0.0	0	0.0	0	0
Banda	7	0.05	9	2	28.6	3	42.9	2	28.6	0	0.0	0	0.0	0	0.0	0	0
Bara Banki	37	0.34	11.88	6	16.2	16	43.2	13	35.1	2	5.4	0	0.0	0	0.0	0	0
Bareilly	12	1.01	14.48	2	16.7	5	41.7	4	33.3	1	8.3	0	0.0	0	0.0	0	0
Basti	14	0.64	5.43	7	50.0	6	42.9	1	7.1	0	0.0	0	0.0	0	0.0	0	0
Bhadohi	7	4.92	11.84	0	0.0	1	14.3	4	57.1	2	28.6	0	0.0	0	0.0	0	0
Bijnor	9	0.65	16.5	2	22.2	2	22.2	4	44.4	1	11.1	0	0.0	0	0.0	0	0
Budaun	2	15.9	20.55	0	0.0	0	0.0	0	0.0	1	50.0	1	50.0	0	0.0	0	0
Bulandshahr	3	4.47	14.8	0	0.0	1	33.3	0	0.0	2	66.7	0	0.0	0	0.0	0	0
Chandauli	12	0.54	11.03	4	33.3	2	16.7	4	33.3	2	16.7	0	0.0	0	0.0	0	0
Chitrakoot	14	0.74	21.62	1	7.1	0	0.0	5	35.7	6	42.9	2	14.3	0	0.0	0	0
Deoria	25	0.93	6	4	16.0	19	76.0	2	8.0	0	0.0	0	0.0	0	0.0	0	0
Etah	5	5.95	12.54	0	0.0	0	0.0	3	60.0	2	40.0	0	0.0	0	0.0	0	0

District	No. of Analysed Well	Depth to Water level (mbgl)		No. / Percentage of Wells Showing Depth to Water Level(mbgl) in the Range of													
		Minimum	Maximum	0 - 2	%	02 - 5	%	5 - 10	%	10 - 20	%	20 - 30	%	30 - 45	%	>45	%
Etawah	11	0.26	33.57	2	18.2	4	36.4	3	27.3	1	9.1	0	0.0	1	9.1	0	0
Farrukhabad	3	0.3	24.84	1	33.3	0	0.0	0	0.0	1	33.3	1	33.3	0	0.0	0	0
Fatehpur	15	0.5	26.23	1	6.7	4	26.7	7	46.7	2	13.3	1	6.7	0	0.0	0	0
Firozabad	5	4.8	32.45	0	0.0	1	20.0	0	0.0	2	40.0	1	20.0	1	20.0	0	0
Gautam Buddha Nagar	4	2.08	41.95	0	0.0	1	25.0	1	25.0	1	25.0	0	0.0	1	25.0	0	0
Ghaziabad	2	5.46	20.65	0	0.0	0	0.0	1	50.0	0	0.0	1	50.0	0	0.0	0	0
Ghazipur	16	0.54	9.46	2	12.5	5	31.3	9	56.3	0	0.0	0	0.0	0	0.0	0	0
Gonda	24	0.58	6.67	4	16.7	18	75.0	2	8.3	0	0.0	0	0.0	0	0.0	0	0
Gorakhpur	12	0.51	5.63	2	16.7	7	58.3	3	25.0	0	0.0	0	0.0	0	0.0	0	0
Hamirpur	17	0.59	22.73	7	41.2	2	11.8	3	17.6	4	23.5	1	5.9	0	0.0	0	0
Hapur	2	13.73	19.71	0	0.0	0	0.0	0	0.0	2	100.0	0	0.0	0	0.0	0	0
Hardoi	16	0.15	11.83	5	31.3	5	31.3	5	31.3	1	6.3	0	0.0	0	0.0	0	0
Hathras	2	1.24	1.34	2	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0
Jalaun	34	0.29	27.53	9	26.5	12	35.3	7	20.6	2	5.9	4	11.8	0	0.0	0	0
Jaunpur	25	1.22	12.87	5	20.0	10	40.0	8	32.0	2	8.0	0	0.0	0	0.0	0	0
Jhansi	20	0.68	7.21	3	15.0	15	75.0	2	10.0	0	0.0	0	0.0	0	0.0	0	0
Kannauj	8	2.9	25.88	0	0.0	1	12.5	4	50.0	1	12.5	2	25.0	0	0.0	0	0
Kanpur Dehat	9	1.26	18.4	1	11.1	4	44.4	2	22.2	2	22.2	0	0.0	0	0.0	0	0
Kanpur Nagar	17	0.23	15.66	6	35.3	4	23.5	5	29.4	2	11.8	0	0.0	0	0.0	0	0
Kasganj	8	1.65	8.36	2	25.0	3	37.5	3	37.5	0	0.0	0	0.0	0	0.0	0	0
Kaushambi	7	4.72	14.66	0	0.0	1	14.3	0	0.0	6	85.7	0	0.0	0	0.0	0	0
Kheri	26	0.68	7.98	10	38.5	12	46.2	4	15.4	0	0.0	0	0.0	0	0.0	0	0
Kushinagar	24	0.51	5.23	6	25.0	17	70.8	1	4.2	0	0.0	0	0.0	0	0.0	0	0
Lalitpur	21	0.72	5.74	9	42.9	10	47.6	2	9.5	0	0.0	0	0.0	0	0.0	0	0
Lucknow	19	0.73	43.28	3	15.8	3	15.8	4	21.1	7	36.8	1	5.3	1	5.3	0	0

District	No. of Analysed Well	Depth to Water level (mbgl)		No. / Percentage of Wells Showing Depth to Water Level(mbgl) in the Range of													
		Minimum	Maximum	0 - 2	%	02 - 5	%	5 - 10	%	10 - 20	%	20 - 30	%	30 - 45	%	>45	%
Mahoba	11	0.56	13.28	1	9.1	6	54.5	3	27.3	1	9.1	0	0.0	0	0.0	0	0
Mahrajganj	14	0.93	3.37	9	64.3	5	35.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0
Mainpuri	6	0.65	7.5	1	16.7	4	66.7	1	16.7	0	0.0	0	0.0	0	0.0	0	0
Mathura	17	0.35	11.21	10	58.8	2	11.8	2	11.8	3	17.6	0	0.0	0	0.0	0	0
Mau	7	2.26	7.84	0	0.0	5	71.4	2	28.6	0	0.0	0	0.0	0	0.0	0	0
Meerut	7	6.62	22.33	0	0.0	0	0.0	3	42.9	2	28.6	2	28.6	0	0.0	0	0
Mirzapur	17	0.3	15.3	4	23.5	3	17.6	4	23.5	6	35.3	0	0.0	0	0.0	0	0
Moradabad	6	0.01	14.08	3	50.0	0	0.0	1	16.7	2	33.3	0	0.0	0	0.0	0	0
Muzaffarnagar	4	0.93	18.93	1	25.0	1	25.0	0	0.0	2	50.0	0	0.0	0	0.0	0	0
Pilibhit	11	0.8	3.56	2	18.2	9	81.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0
Pratapgarh	29	1.06	15.22	1	3.4	5	17.2	18	62.1	5	17.2	0	0.0	0	0.0	0	0
Prayagraj	36	0.09	18.42	4	11.1	13	36.1	8	22.2	11	30.6	0	0.0	0	0.0	0	0
Rae Bareli	34	0.35	19.55	10	29.4	13	38.2	6	17.6	5	14.7	0	0.0	0	0.0	0	0
Rampur	5	2.2	9.7	0	0.0	1	20.0	4	80.0	0	0.0	0	0.0	0	0.0	0	0
Saharanpur	12	1.04	13.54	2	16.7	2	16.7	6	50.0	2	16.7	0	0.0	0	0.0	0	0
Sambhal	4	16.48	19.46	0	0.0	0	0.0	0	0.0	4	100.0	0	0.0	0	0.0	0	0
Sant Kabir Nagar	8	0.77	4.36	2	25.0	6	75.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0
Shahjahanpur	1	5.82	5.82	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	0	0
Shamli	1	24.07	24.07	0	0.0	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0	0	0
Shrawasti	13	0.14	2.43	11	84.6	2	15.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0
Siddharthnagar	13	0.2	4.41	10	76.9	3	23.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0
Sitapur	31	0.85	12.99	7	22.6	11	35.5	12	38.7	1	3.2	0	0.0	0	0.0	0	0
Sonbhadra	18	3.18	12.52	0	0.0	4	22.2	10	55.6	4	22.2	0	0.0	0	0.0	0	0
Sultanpur	37	0.29	15.32	12	32.4	11	29.7	9	24.3	5	13.5	0	0.0	0	0.0	0	0
Unnao	21	0.29	12.62	7	33.3	5	23.8	5	23.8	4	19.0	0	0.0	0	0.0	0	0
Varanasi	11	2.91	13.46	0	0.0	1	9.1	6	54.5	4	36.4	0	0.0	0	0.0	0	0

November 2023

The water level starts receding gradually after August with lateral flow of ground water due to change in hydraulic conditions with recession of monsoon and ground water storage. The water level stabilizes by November and there after natural out flow reduces considerably. This is the post monsoon water level which reflects the change in ground water storage which is the dynamic ground water resource. The volume of water available in storage may be safely used during the remaining year. This water level is an important parameter for resource estimation, planning etc.

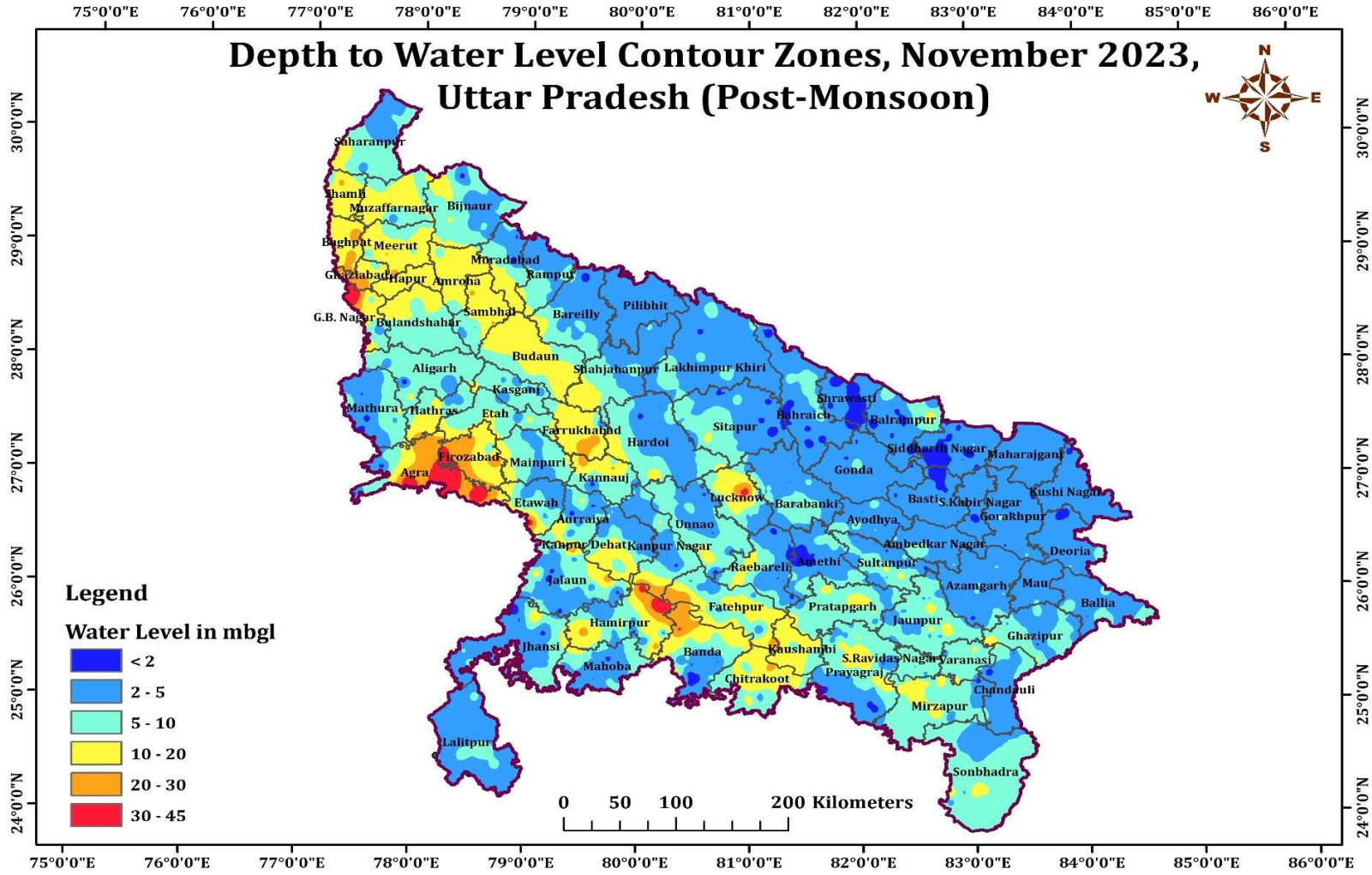
The depth to water level of 1075 wells is used for the analysis. Analysis of depth to water level data of 1075 wells shows water levels vary between 0.25 mbgl (Moradabad district) to 44.24 mbgl (Agra district). Water level of less than 2 mbgl is recorded in 16 % of wells, between 2 to 5 mbgl in 43.44 %of wells, between 5 to 10 mbgl in 25% of wells, between 10 to 20 m bgl in 12.27% of wells, between 20-40 mbgl in 3% of wells and water level greater than 40 mbgl is registered in 0.37 % of wells. Shallow water level of less than 2 mbgl is seen in isolated patches in Shrawasti, Balrampur, Bahraich, Siddarth Nagar, Basti, Amethi, Banda and Deoria districts covering 16% of area. Water level of 2 to 5 mbgl is observed in Terai region of UP mainly in Shrawasti, Balrampur, Maharajganj, Kushinagar, Sant Kabir Nagar and some districts of north western and north eastern parts such as Ballia, Mau, Deoria, Ambedkar Nagar, Ayodhya, Gonda, Sitapur, Hardoi, Shahjahanpur, Bareilly, Pilibhit, Rampur, Moradabad, Bijnaur and Saharanpur districts covering an area of 43% the State. About 25% area falls in the range of water level between 5 to 10mbgl which is observed in Saharanpur, Bijnaur, Muzaffarnagar, Aligarh, Etah, Kasganj, Sitapur, Pratapgarh, Jaunpur, Varanasi, Mirzapur and Sonbhadra district. Some of the North Western parts of the district falls in the range of Water level between 10 to 20mbgl covering an area 12% of the State such as Saharanpur, Shamli, Muzzafarnagar, Bagpat, Meerut, Hapur, Amroha, Sambhal, Badaun, Farrukhabad, Kannauj, Lucknow, Fatehpur, Kaushambi, Chitrakoot and Hamirpur districts. Deeper water levels greater than 20mbgl cover 3 % area of the State mainly in Gautam Budh Nagar, Agra, Firozabad and isolated patch in Hamirpur, Lucknow districts. The district wise depth to water level during this month has been shown in table -6 and in Plate-9.

Table-6. DISTRICT-WISE DEPTH TO WATER LEVEL IN UNCONFINED AQUIFER, U.P. NOVEMBER, 2023

District	No. of Analysed Well	Depth to Water level		No. / Percentage of Wells Showing Depth to Water Level (mbgl) in the Range of													
		Minimum	Maximum	0 - 2	%	02 -5	%	5 -10	%	10 -20	%	20 -30	%	30 -45	%	>45	%
Agra	8	1.36	44.24	2	25.0	0	0.0	2	25.0	0	0.0	1	12.5	3	37.5	0	0
Aligarh	9	0.31	10.68	2	22.2	2	22.2	2	22.2	3	33.3	0	0.0	0	0.0	0	0
Ambedkar Nagar	13	1.88	5.495	1	7.7	6	46.2	6	46.2	0	0.0	0	0.0	0	0.0	0	0
Amethi	26	1.09	9.31	7	26.9	14	53.8	5	19.2	0	0.0	0	0.0	0	0.0	0	0
Amroha	8	5.37	18.75	0	0.0	0	0.0	2	25.0	6	75.0	0	0.0	0	0.0	0	0
Auraiya	9	0.87	17.84	3	33.3	2	22.2	2	22.2	2	22.2	0	0.0	0	0.0	0	0
Ayodhya	15	1.31	7.29	3	20.0	7	46.7	5	33.3	0	0.0	0	0.0	0	0.0	0	0
Azamgarh	18	1.45	5.91	1	5.6	13	72.2	4	22.2	0	0.0	0	0.0	0	0.0	0	0
Baghpat	7	8.86	29.27	0	0.0	0	0.0	3	42.9	1	14.3	3	42.9	0	0.0	0	0
Bahraich	19	1.21	8.24	8	42.1	7	36.8	4	21.1	0	0.0	0	0.0	0	0.0	0	0
Ballia	17	1.64	9.11	3	17.6	9	52.9	5	29.4	0	0.0	0	0.0	0	0.0	0	0
Balrampur	18	0.34	33.19	7	38.9	8	44.4	2	11.1	0	0.0	0	0.0	1	5.6	0	0
Banda	8	0.35	10.49	2	25.0	4	50.0	1	12.5	1	12.5	0	0.0	0	0.0	0	0
Bara Banki	38	1.83	10.1	1	2.6	22	57.9	14	36.8	1	2.6	0	0.0	0	0.0	0	0
Bareilly	15	1.1	12.9	2	13.3	8	53.3	4	26.7	1	6.7	0	0.0	0	0.0	0	0
BASTI	17	1.37	5.95	6	35.3	10	58.8	1	5.9	0	0.0	0	0.0	0	0.0	0	0
Bhadohi	7	3.86	8.89	0	0.0	2	28.6	5	71.4	0	0.0	0	0.0	0	0.0	0	0
BIJNOR	14	0.57	16.64	2	14.3	3	21.4	6	42.9	3	21.4	0	0.0	0	0.0	0	0
Budaun	3	15.34	20.31	0	0.0	0	0.0	0	0.0	2	66.7	1	33.3	0	0.0	0	0
Bulandshahr	3	6.75	14.36	0	0.0	0	0.0	1	33.3	2	66.7	0	0.0	0	0.0	0	0
Chandauli	10	0.53	10.88	3	30.0	5	50.0	0	0.0	2	20.0	0	0.0	0	0.0	0	0
Chitrakoot	12	1.81	22.37	1	8.3	0	0.0	5	41.7	4	33.3	2	16.7	0	0.0	0	0
Deoria	26	1.33	5.82	2	7.7	20	76.9	4	15.4	0	0.0	0	0.0	0	0.0	0	0
Etah	5	4.45	12.12	0	0.0	1	20.0	2	40.0	2	40.0	0	0.0	0	0.0	0	0
Etawah	10	1.53	34.34	2	20.0	5	50.0	2	20.0	0	0.0	0	0.0	1	10.0	0	0

District	No. of Analysed Well	Depth to Water level		No. / Percentage of Wells Showing Depth to Water Level (mbgl) in the Range of													
		Minimum	Maximum	0 - 2	%	02 -5	%	5 -10	%	10 -20	%	20 -30	%	30 -45	%	>45	%
Farrukhabad	5	2.28	25.12	0	0.0	1	20.0	0	0.0	2	40.0	2	40.0	0	0.0	0	0
Fatehpur	16	1.58	27.48	1	6.3	5	31.3	7	43.8	1	6.3	2	12.5	0	0.0	0	0
Firozabad	6	5.35	32.52	0	0.0	0	0.0	1	16.7	2	33.3	2	33.3	1	16.7	0	0
Gautam Buddha Nagar	5	2.73	42.74	0	0.0	1	20.0	1	20.0	1	20.0	0	0.0	2	40.0	0	0
Ghaziabad	1	20.79	20.79	0	0.0	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0	0	0
Ghazipur	20	0.37	11.35	3	15.0	5	25.0	9	45.0	3	15.0	0	0.0	0	0.0	0	0
Gonda	25	1.76	7.78	3	12.0	21	84.0	1	4.0	0	0.0	0	0.0	0	0.0	0	0
Gorakhpur	13	1.32	5.37	2	15.4	9	69.2	2	15.4	0	0.0	0	0.0	0	0.0	0	0
Hamirpur	17	1	25.18	5	29.4	3	17.6	1	5.9	5	29.4	3	17.6	0	0.0	0	0
Hapur	2	13.63	20	0	0.0	0	0.0	0	0.0	1	50.0	1	50.0	0	0.0	0	0
Hardoi	21	1.46	15.05	4	19.0	9	42.9	7	33.3	1	4.8	0	0.0	0	0.0	0	0
Hathras	3	2.73	13.83	0	0.0	2	66.7	0	0.0	1	33.3	0	0.0	0	0.0	0	0
Jalaun	32	0.47	25.05	9	28.1	12	37.5	4	12.5	6	18.8	1	3.1	0	0.0	0	0
Jaunpur	26	1.47	16.16	2	7.7	13	50.0	9	34.6	2	7.7	0	0.0	0	0.0	0	0
Jhansi	21	0.26	21.01	3	14.3	12	57.1	5	23.8	0	0.0	1	4.8	0	0.0	0	0
Kannauj	7	0.69	24.63	1	14.3	1	14.3	3	42.9	0	0.0	2	28.6	0	0.0	0	0
Kanpur Dehat	11	1.89	19.01	1	9.1	7	63.6	1	9.1	2	18.2	0	0.0	0	0.0	0	0
Kanpur Nagar	17	1.18	11.28	4	23.5	6	35.3	5	29.4	2	11.8	0	0.0	0	0.0	0	0
Kasganj	14	2.38	13.14	0	0.0	6	42.9	7	50.0	1	7.1	0	0.0	0	0.0	0	0
Kaushambi	7	5.69	14.38	0	0.0	0	0.0	1	14.3	6	85.7	0	0.0	0	0.0	0	0
Kheri	25	1.65	8.27	3	12.0	19	76.0	3	12.0	0	0.0	0	0.0	0	0.0	0	0
Kushinagar	24	1.58	4	4	16.7	20	83.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0
Lalitpur	21	1.42	7.78	1	4.8	15	71.4	5	23.8	0	0.0	0	0.0	0	0.0	0	0
Lucknow	22	1.58	41.49	1	4.5	8	36.4	3	13.6	7	31.8	1	4.5	2	9.1	0	0
Mahoba	11	1.52	9.25	1	9.1	6	54.5	4	36.4	0	0.0	0	0.0	0	0.0	0	0
Mahrajganj	14	2.03	3.86	0	0.0	14	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0

District	No. of Analysed Well	Depth to Water level		No. / Percentage of Wells Showing Depth to Water Level (mbgl) in the Range of													
		Minimum	Maximum	0 - 2	%	02 -5	%	5 -10	%	10 -20	%	20 -30	%	30 -45	%	>45	%
Mainpuri	7	2.47	6.86	0	0.0	4	57.1	3	42.9	0	0.0	0	0.0	0	0.0	0	0
Mathura	17	1.15	11.4	5	29.4	7	41.2	2	11.8	3	17.6	0	0.0	0	0.0	0	0
Mau	6	2.29	5.14	0	0.0	5	83.3	1	16.7	0	0.0	0	0.0	0	0.0	0	0
Meerut	7	5.88	21.81	0	0.0	0	0.0	3	42.9	2	28.6	2	28.6	0	0.0	0	0
Mirzapur	15	0.78	15.44	2	13.3	1	6.7	7	46.7	5	33.3	0	0.0	0	0.0	0	0
Moradabad	7	0.25	13.22	3	42.9	1	14.3	0	0.0	3	42.9	0	0.0	0	0.0	0	0
Muzaffarnagar	7	2.14	18.69	0	0.0	2	28.6	1	14.3	4	57.1	0	0.0	0	0.0	0	0
Pilibhit	10	2.05	4.45	0	0.0	10	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0
Pratapgarh	28	2.24	15.18	0	0.0	6	21.4	16	57.1	6	21.4	0	0.0	0	0.0	0	0
Prayagraj	36	0.67	17.23	6	16.7	16	44.4	5	13.9	9	25.0	0	0.0	0	0.0	0	0
Rae Bareli	34	0.8	16.72	13	38.2	10	29.4	7	20.6	4	11.8	0	0.0	0	0.0	0	0
Rampur	5	3.34	9.02	0	0.0	3	60.0	2	40.0	0	0.0	0	0.0	0	0.0	0	0
Saharanpur	13	2.25	13.12	0	0.0	5	38.5	6	46.2	2	15.4	0	0.0	0	0.0	0	0
Sambhal	5	16.2	19.6	0	0.0	0	0.0	0	0.0	5	100.0	0	0.0	0	0.0	0	0
Sant Kabir Nagar	8	0.56	3.89	1	12.5	7	87.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0
Shahjahanpur	2	5.29	5.37	0	0.0	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0	0	0
Shamli	2	5.36	22.07	0	0.0	0	0.0	1	50.0	0	0.0	1	50.0	0	0.0	0	0
Shrawasti	13	0.95	3.86	9	69.2	4	30.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0
Siddharthnagar	15	1.1	5.7	7	46.7	7	46.7	1	6.7	0	0.0	0	0.0	0	0.0	0	0
Sitapur	29	1.17	11.78	6	20.7	12	41.4	9	31.0	2	6.9	0	0.0	0	0.0	0	0
Sonbhadra	18	1.98	13.95	1	5.6	4	22.2	10	55.6	3	16.7	0	0.0	0	0.0	0	0
Sultanpur	37	0.94	14.61	7	18.9	14	37.8	11	29.7	5	13.5	0	0.0	0	0.0	0	0
Unnao	23	0.71	14.74	6	26.1	5	21.7	8	34.8	4	17.4	0	0.0	0	0.0	0	0
Varanasi	10	3.55	11.55	0	0.0	1	10.0	7	70.0	2	20.0	0	0.0	0	0.0	0	0


Depth to Water Level Contour Zones, November 2023,
Uttar Pradesh (Post-Monsoon)
N
W
E
S
75°0'0"E
76°0'0"E
77°0'0"E
78°0'0"E
79°0'0"E
80°0'0"E
81°0'0"E
82°0'0"E
83°0'0"E
84°0'0"E
85°0'0"E
86°0'0"E
30°0'0"N
29°0'0"N
28°0'0"N
27°0'0"N
26°0'0"N
25°0'0"N
24°0'0"N
Saharanpur
Shamli
Muzaffarnagar
Bijnaur
Baghpat
Meerut
Moradabad
Ghaziabad
Hapur
Amroha
Rampur
Sambhal
Bareilly
Pilibhit
G.B. Nagar
Bulandshahar
Budaun
Aligarh
Shahjahanpur
Lakhimpur Khiri
Kasganj
Shrawasti
Mathura
Hathras
Etah
Bahraich
Balrampur
Farrukhabad
Sitapur
Hardoi
Siddharth Nagar
Maharajganj
Firozabad
Mainpuri
Gonda
Agra
Kannauj
Lucknow
Basti
S.Kabir Nagar
Kushi Nagar
Etawah
Barabanki
Auraiya
Ayodhya
Gorakhpur
Unnao
Ambedkar Nagar
Kanpur Dehat
Kanpur Nagar
Deoria
Amethi
Sultanpur
Raebareli
Jalaun
Azamgarh
Mau
Ballia
Fatehpur
Pratapgarh
Jaunpur
Hamirpur
Ghazipur
Jhansi
Kaushambi
Banda
S.Ravidas Nagar
Varanasi
Mahoba
Prayagraj
Chitrakoot
Chandauli
Mirzapur
Lalitpur
Sonbhadra
Legend
Water Level in mbgl
< 2
2 - 5
5 - 10
10 - 20
20 - 30
30 - 45
0
50
100
200 Kilometers

January 2024

Winter season is the peak season of ground water abstraction for Rabi cultivation. Consequently, bulk of ground water storage is depleted during this season which is well reflected in the water level measurement during January 2024.

The depth to water level shows a large variation. The water-logged area showing depth to water level in the range of 0-2 mbgl and is observed as isolated patches in Bijnor, Moradabad, Bareilly, Bahraich, Sitapur, Balrampur, Siddharath nagar, Aligarh, Mathura, Aurraiya, Unnao and Banda district. Water levels in the range of 2–5 and 5-10 mbgl are predominant during this period as reflected at 45.32% and 30.92% of monitored wells respectively. It is mostly observed in the Terai regions of UP. The moderate water level zone occurs in 15.6%. The very deep-water level occurs in 0.8% wells.

The water level in the range of 2 – 5 mbgl is predominantly concentrated along the northern border (Terai region) eastern and North eastern parts of the state and as scattered patches in central and southern part of the State. The depth to water level of 5 - 10 m.bgl is observed predominantly in the central, western, southern and lower eastern parts of U.P from Saharanpur to Sonbhadra districts.

The water level in range of 10-20 m.bgl is observed all along Yamuna River and parts of western U.P. This range is observed as patches in Agra, Etawah, Aurraiya, Prayagraj, Baghpat, Chitrakoot, Gautam Buddha Nagar, Meerut, Hathras, Shamli, Sambhal, Muzaffarnagar, Ghaziabad, Hamirpur, Jalaun, Kaushambi, Lucknow, Sant Ravidas Nagar, Mirzapur and Sonbhadra districts.

The water level of 20 mbgl and more is present along Yamuna River in isolated patches. It is seen mostly in Baghpat, Agra, Ghaziabad, Firozabad, Farrukhabad, and Fatehpur districts. This is due to effluent nature of river Yamuna and also due to higher elevations in the area. In the central parts of Lucknow, water level of more than 20 mbgl is observed.

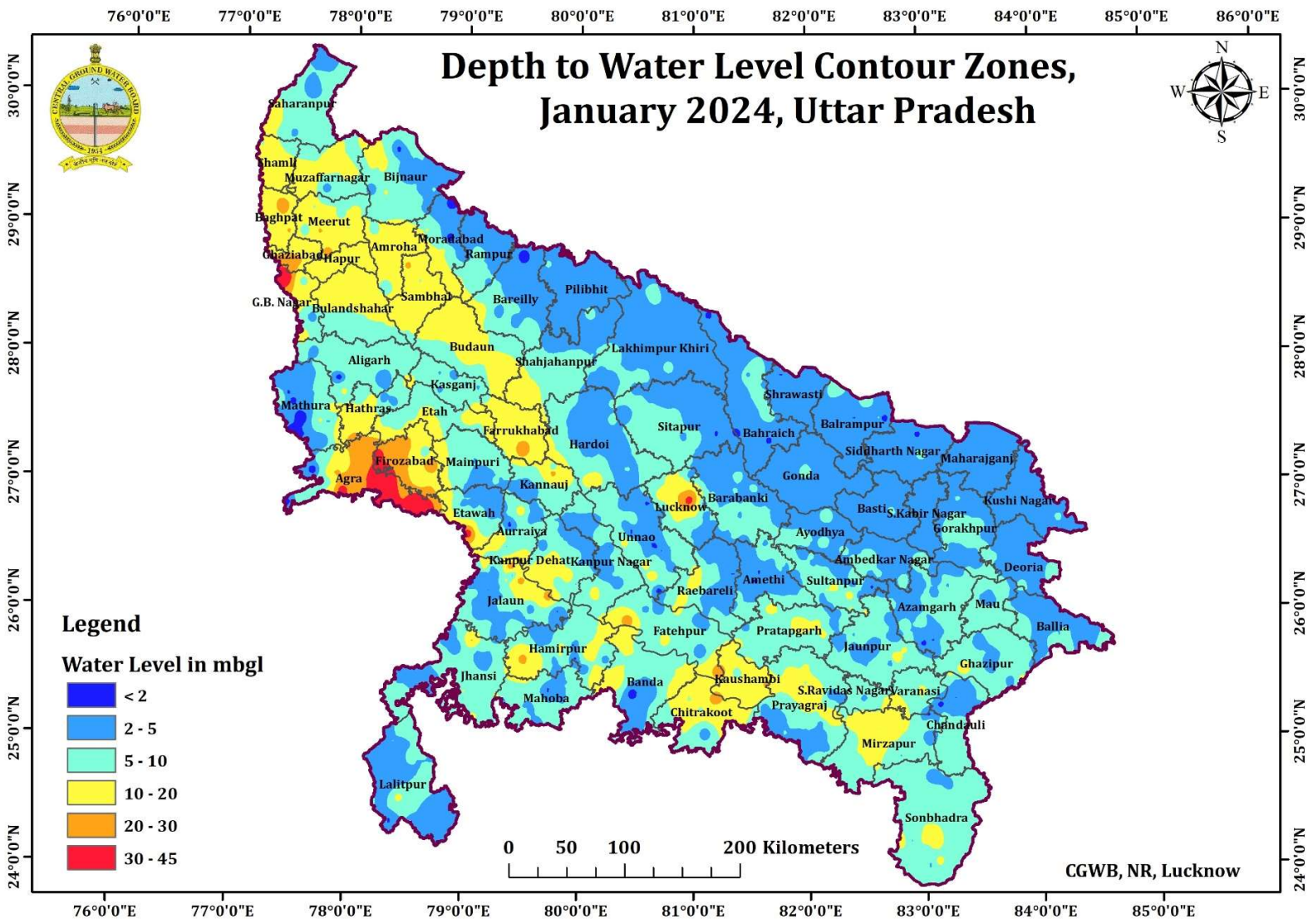
The district wise status of water level during the month has been shown in Table- 7 and in Plate-10.

Table 7: DISTRICT-WISE DEPTH TO WATER LEVEL IN UNCONFINED AQUIFER, U.P. JANUARY, 2024

District	No. of Analysed Well	Depth to Water level (mbgl)		No. / Percentage of Wells Showing Depth to Water Level(mbgl) in the Range of													
		Min	Max	0 - 2	%	02 - 5	%	5 - 10	%	10 - 20	%	20 - 30	%	30 - 45	%	>45	%
Agra	12	0.35	44.22	2	16.67	0	0.00	4	33.33	0	0.00	2	16.67	4	33.33	0	0
Aligarh	9	0.4	10.6	2	22.22	2	22.22	3	33.33	2	22.22	0	0.00	0	0.00	0	0
Ambedkar Nagar	13	3.72	6.56	0	0.00	5	38.46	8	61.54	0	0.00	0	0.00	0	0.00	0	0
Amethi	25	1.3	9.31	4	16.00	15	60.00	6	24.00	0	0.00	0	0.00	0	0.00	0	0
Amroha	8	5.15	18.56	0	0.00	0	0.00	2	25.00	6	75.00	0	0.00	0	0.00	0	0
Auraiya	10	1	18.47	1	10.00	3	30.00	3	30.00	3	30.00	0	0.00	0	0.00	0	0
Ayodhya	13	2.215	7.4	0	0.00	8	61.54	5	38.46	0	0.00	0	0.00	0	0.00	0	0
Azamgarh	20	1.38	9.23	2	10.00	10	50.00	8	40.00	0	0.00	0	0.00	0	0.00	0	0
Baghpat	7	9.04	26.34	0	0.00	0	0.00	3	42.86	2	28.57	2	28.57	0	0.00	0	0
Bahraich	19	1.62	9.26	4	21.05	11	57.89	4	21.05	0	0.00	0	0.00	0	0.00	0	0
Ballia	18	1.9	9.3	1	5.56	11	61.11	6	33.33	0	0.00	0	0.00	0	0.00	0	0
Balrampur	18	0.4	8.88	3	16.67	12	66.67	3	16.67	0	0.00	0	0.00	0	0.00	0	0
Banda	9	0.62	16.12	1	11.11	4	44.44	3	33.33	1	11.11	0	0.00	0	0.00	0	0
Bara Banki	37	2.09	10.33	0	0.00	22	59.46	14	37.84	1	2.70	0	0.00	0	0.00	0	0
Bareilly	15	1.12	13.95	1	6.67	8	53.33	5	33.33	1	6.67	0	0.00	0	0.00	0	0
Basti	16	2.34	6.43	0	0.00	15	93.75	1	6.25	0	0.00	0	0.00	0	0.00	0	0
Bhadohi	4	3.57	8.27	0	0.00	1	25.00	3	75.00	0	0.00	0	0.00	0	0.00	0	0
Bijnor	15	0.93	16.91	2	13.33	2	13.33	8	53.33	3	20.00	0	0.00	0	0.00	0	0
Budaun	4	8.77	19.98	0	0.00	0	0.00	1	25.00	3	75.00	0	0.00	0	0.00	0	0
Bulandshahr	2	12.55	14.25	0	0.00	0	0.00	0	0.00	2	100.00	0	0.00	0	0.00	0	0
Chandauli	14	0.78	11.53	3	21.43	4	28.57	6	42.86	1	7.14	0	0.00	0	0.00	0	0
Chitrakoot	12	1.9	23.3	1	8.33	0	0.00	5	41.67	4	33.33	2	16.67	0	0.00	0	0
Deoria	25	2.09	6.96	0	0.00	20	80.00	5	20.00	0	0.00	0	0.00	0	0.00	0	0
Etah	5	5.76	12.46	0	0.00	0	0.00	3	60.00	2	40.00	0	0.00	0	0.00	0	0
Etawah	9	2.31	35.55	0	0.00	6	66.67	2	22.22	0	0.00	0	0.00	1	11.11	0	0

District	No. of Analysed Well	Depth to Water level (mbgl)		No. / Percentage of Wells Showing Depth to Water Level(mbgl) in the Range of													
		Min	Max	0 - 2	%	02 - 5	%	5 - 10	%	10 - 20	%	20 - 30	%	30 - 45	%	>45	%
Farrukhabad	3	16.92	25.26	0	0.00	0	0.00	0	0.00	2	66.67	1	33.33	0	0.00	0	0
Fatehpur	16	1.96	26.98	1	6.25	4	25.00	6	37.50	3	18.75	2	12.50	0	0.00	0	0
Firozabad	6	5.99	32.42	0	0.00	0	0.00	1	16.67	2	33.33	2	33.33	1	16.67	0	0
Gautam Buddha Nagar	4	3.42	43.18	0	0.00	1	25.00	1	25.00	1	25.00	0	0.00	1	25.00	0	0
Ghaziabad	1	20.97	20.97	0	0.00	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0
Ghazipur	21	0.33	13.45	1	4.76	5	23.81	11	52.38	4	19.05	0	0.00	0	0.00	0	0
Gonda	22	1.94	7.1	1	4.55	19	86.36	2	9.09	0	0.00	0	0.00	0	0.00	0	0
Gorakhpur	15	2.32	6.88	0	0.00	8	53.33	7	46.67	0	0.00	0	0.00	0	0.00	0	0
Hamirpur	18	0.45	23.9	4	22.22	5	27.78	1	5.56	6	33.33	2	11.11	0	0.00	0	0
Hapur	2	13.7	19.86	0	0.00	0	0.00	0	0.00	2	100.00	0	0.00	0	0.00	0	0
Hardoi	21	2.06	14.72	0	0.00	14	66.67	6	28.57	1	4.76	0	0.00	0	0.00	0	0
Hathras	4	3.22	19.27	0	0.00	2	50.00	0	0.00	2	50.00	0	0.00	0	0.00	0	0
Jalaun	34	0.7	27.4	6	17.65	13	38.24	6	17.65	5	14.71	4	11.76	0	0.00	0	0
Jaunpur	27	2.06	15.07	0	0.00	12	44.44	13	48.15	2	7.41	0	0.00	0	0.00	0	0
Jhansi	20	1.56	21.22	1	5.00	7	35.00	9	45.00	2	10.00	1	5.00	0	0.00	0	0
Kannauj	8	2.58	25.94	0	0.00	5	62.50	2	25.00	0	0.00	1	12.50	0	0.00	0	0
Kanpur Dehat	11	2.79	17.68	0	0.00	5	45.45	4	36.36	2	18.18	0	0.00	0	0.00	0	0
Kanpur Nagar	17	1.44	14.26	2	11.76	7	41.18	7	41.18	1	5.88	0	0.00	0	0.00	0	0
Kasganj	12	3.81	12.86	0	0.00	5	41.67	5	41.67	2	16.67	0	0.00	0	0.00	0	0
Kaushambi	9	6.94	22.97	0	0.00	0	0.00	1	11.11	7	77.78	1	11.11	0	0.00	0	0
Kheri	27	1.94	8.2	1	3.70	21	77.78	5	18.52	0	0.00	0	0.00	0	0.00	0	0
Kushinagar	27	2.01	6.1	0	0.00	26	96.30	1	3.70	0	0.00	0	0.00	0	0.00	0	0
Lalitpur	21	1.22	12.66	3	14.29	9	42.86	8	38.10	1	4.76	0	0.00	0	0.00	0	0
Lucknow	20	2.12	40.86	0	0.00	8	40.00	5	25.00	4	20.00	1	5.00	2	10.00	0	0
Mahoba	11	1.65	11.05	1	9.09	5	45.45	3	27.27	2	18.18	0	0.00	0	0.00	0	0
Mahrajganj	14	2.28	4.65	0	0.00	14	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0

District	No. of Analysed Well	Depth to Water level (mbgl)		No. / Percentage of Wells Showing Depth to Water Level(mbgl) in the Range of													
		Min	Max	0 - 2	%	02 - 5	%	5 - 10	%	10 - 20	%	20 - 30	%	30 - 45	%	>45	%
Mainpuri	9	2.02	7.22	0	0.00	4	44.44	5	55.56	0	0.00	0	0.00	0	0.00	0	0
Mathura	17	0.55	11.3	6	35.29	6	35.29	2	11.76	3	17.65	0	0.00	0	0.00	0	0
Mau	8	3.12	7	0	0.00	1	12.50	7	87.50	0	0.00	0	0.00	0	0.00	0	0
Meerut	7	6.38	21.41	0	0.00	0	0.00	4	57.14	1	14.29	2	28.57	0	0.00	0	0
Mirzapur	16	0.95	16.74	1	6.25	2	12.50	5	31.25	8	50.00	0	0.00	0	0.00	0	0
Moradabad	8	0.67	13.08	2	25.00	3	37.50	0	0.00	3	37.50	0	0.00	0	0.00	0	0
Muzaffarnagar	7	3.14	17.86	0	0.00	2	28.57	1	14.29	4	57.14	0	0.00	0	0.00	0	0
Pilibhit	10	2.45	5.25	0	0.00	9	90.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0
Pratapgarh	28	2.43	14.9	0	0.00	4	14.29	18	64.29	6	21.43	0	0.00	0	0.00	0	0
Prayagraj	37	1.53	17.93	3	8.11	13	35.14	11	29.73	10	27.03	0	0.00	0	0.00	0	0
Rae Bareli	35	1.21	16.66	2	5.71	19	54.29	10	28.57	4	11.43	0	0.00	0	0.00	0	0
Rampur	5	4.08	9.21	0	0.00	3	60.00	2	40.00	0	0.00	0	0.00	0	0.00	0	0
Saharanpur	12	2.21	13.06	0	0.00	5	41.67	5	41.67	2	16.67	0	0.00	0	0.00	0	0
Sambhal	6	9.43	21.33	0	0.00	0	0.00	1	16.67	4	66.67	1	16.67	0	0.00	0	0
Sant Kabir Nagar	9	2.37	4.61	0	0.00	9	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
Shahjahanpur	3	5.57	5.77	0	0.00	0	0.00	3	100.00	0	0.00	0	0.00	0	0.00	0	0
Shamli	2	8.05	21.09	0	0.00	0	0.00	1	50.00	0	0.00	1	50.00	0	0.00	0	0
Shrawasti	13	1.56	5.28	3	23.08	9	69.23	1	7.69	0	0.00	0	0.00	0	0.00	0	0
Siddharthnagar	15	1.6	6.64	2	13.33	12	80.00	1	6.67	0	0.00	0	0.00	0	0.00	0	0
Sitapur	28	1.65	10.08	2	7.14	15	53.57	10	35.71	1	3.57	0	0.00	0	0.00	0	0
Sonbhadra	18	2.61	13.68	0	0.00	4	22.22	10	55.56	4	22.22	0	0.00	0	0.00	0	0
Sultanpur	37	1.29	15.78	3	8.11	14	37.84	13	35.14	7	18.92	0	0.00	0	0.00	0	0
Unnao	24	0.58	14.51	7	29.17	5	20.83	8	33.33	4	16.67	0	0.00	0	0.00	0	0
Varanasi	6	4.72	12.4	0	0.00	1	16.67	3	50.00	2	33.33	0	0.00	0	0.00	0	0


Depth to Water Level Contour Zones,
January 2024, Uttar Pradesh
N
W
E
S
76°0'0"E
77°0'0"E
78°0'0"E
79°0'0"E
80°0'0"E
81°0'0"E
82°0'0"E
83°0'0"E
84°0'0"E
85°0'0"E
86°0'0"E
30°0'0"N
29°0'0"N
28°0'0"N
27°0'0"N
26°0'0"N
25°0'0"N
24°0'0"N
Saharanpur
Shamli
Muzaffarnagar
Bijnaur
Baghpat
Meerut
Moradabad
Amroha
Rampur
Ghaziabad
Hapur
Pilibhit
Bareilly
G.B. Nagar
Bulandshahar
Sambhal
Budaun
Lakhimpur Khiri
Aligarh
Shahjahanpur
Kasganj
Shrawasti
Mathura
Hathras
Etah
Balrampur
Farrukhabad
Sitapur
Bahraich
Hardoi
Siddharth Nagar
Maharajganj
Firozabad
Mainpuri
Gonda
Agra
Kannauj
Barabanki
Kushi Nagar
Lucknow
Basti
S.Kabir Nagar
Etawah
Gorakhpur
Ayodhya
Auraiya
Unnao
Ambedkar Nagar
Kanpur Dehat
Kanpur Nagar
Deoria
Amethi
Sultanpur
Raebareli
Jalaun
Azamgarh
Mau
Fatehpur
Pratapgarh
Ballia
Hamirpur
Jaunpur
Ghazipur
Jhansi
Banda
Kaushambi
S.Ravidas Nagar
Varanasi
Mahoba
Prayagraj
Chitrakoot
Chandauli
Mirzapur
Lalitpur
Sonbhadra
Legend
Water Level in mbgl
< 2
2 - 5
5 - 10
10 - 20
20 - 30
30 - 45
0
50
100
200 Kilometers
CGWB, NR, Lucknow

A summarized status of water level in unconfined aquifer over the state during different seasons of the year 2023-2024 is as follows:

Table-8. Summarized status of water level in unconfined aquifer of year 2023-24

DEPTH RANGE (M)	*May'23*	*Aug'23*	*Nov'23*	*Jan'24*
0-2	19 (2.09%)	252 (24.6%)	172 (16%)	79 (7.25%)
2-5	347 (38.09%)	372 (36.3%)	467 (43.44%)	494 (45.32%)
5-10	352 (38.64%)	246 (24%)	268 (25%)	337 (31%)
10-20	155(17%)	128 (12.5%)	132 (12.28%)	145 (13.30%)
>20	38(4.17%)	27 (2.3%)	36 (3.3%)	35 (3.4%)

It is observed from the above table-

a) Shallow water level condition (0-2 mbgl) keeps fluctuating in response to the factors such as rainfall recharge and ground water draft. It is observed maximum in August 2023
b) The area having moderate depth to water level between 5-10 m is maximum in May'23, reducing considerably in August'23, November'23 and January'24.
c) The deep-water level conditions (above 20 mbgl) are reaches maximum in May 23 and gradually decreases in August 22, November 22 and further increases from January 24
d) The spatial and temporal distribution of deeper water level zones is more or less constant.
e) There is a large variation in water logged area, water logging being maximum during Nov'23 and minimum May'23.
f) The well-wise depth to water level of Ground Water Monitoring Wells of the state for May'23, Aug'23 and Nov'23, Jan'24 is given in **Annexure-I**.

5.2 Piezometric head of Confined Aquifer during 2023-24

The Piezometric head in the state is highly variable throughout the year ranging from ground level to 31.21 mbgl. The distribution pattern remains same during the year with the areas under different ranges increasing/reducing in different seasons.

The different Piezometric head zones are controlled by geomorphological features such as flood plains, natural levees of main rivers, interfluves areas etc. as well as by the nature of deposits.

May 2023

Analysis of 99 wells shows Piezometric head of the deeper aquifer vary between 0.18 mbgl (Mau) to 31.21mbgl (Hamirpur district). Piezometric head of less than 2 mbgl is recorded in 2% of wells, between 2 to 5 mbgl in 22.22% of wells, between 5 to10 mbgl in 37.37% of wells, between 10 to 20 mbgl in 24.24 % of wells, between 20-40 mbgl in 13.13% of wells and piezometric head more than 40 mbgl is registered in 1 % of wells. Shallow piezometric head of less than 2 mbgl is noticed in Azamgarh and Mau districts. Piezometric head of 2 to 5 mbgl mainly observed in parts of Gorakhpur, Banda, Siddhartnagar, Unnao and Azamgarh districts of the State. North eastern parts of the districts observed mostly decline of Piezometric head in the range of 5 to 10 such as Ambedkar Nagar, Azamagarh, Bahraich, Ballia and Gorakhpur, this is also observed in Bundelkhand districts mainly Banda, Chitrakoot and Mahoba. Piezometric head of 10 to 20 mbgl is covered in Banda, Chitrakoot, Fatehpur, Ghazipur, Kheri, Meerut, Rampur, Mahoba, Sambhal area. Deeper piezometric head of more than 20m covers 8% area of the State and mainly observed in Banda, Fatehpur, Sambhal, Hamirpur districts of Uttar Pradesh. The district wise Piezometric head during May 2023 is shown in table-9.

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Table-9. DISTRICT- WISE PIEZOMETRIC HEAD IN CONFINED AQUIFER, U.P. MAY, 2023

District	No. of Analysed Well	Piezometric head		No. / Percentage of Wells Showing Depth to Water Level (mbgl) in the Range of													
		Minimum	Maximum	0 - 2	%	02 – 5	%	5 - 10	%	10 - 20	%	20 - 30	%	30 - 45	%	>45	%
Ambedkar Nagar	4	6.05	7.35	0	0	0	0.0	4	100.0	0	0.0	0	0.0	0	0	0	0
Amroha	2	8.72	15.1	0	0	0	0.0	1	50.0	1	50.0	0	0.0	0	0	0	0
Ayodhya	1	5.82	5.82	0	0	0	0.0	1	100.0	0	0.0	0	0.0	0	0	0	0
Azamgarh	5	1.51	6	1	20	1	20.0	3	60.0	0	0.0	0	0.0	0	0	0	0
Baghpat	2	14.18	28.7	0	0	0	0.0	0	0.0	1	50.0	1	50.0	0	0	0	0
Bahraich	1	5.46	5.46	0	0	0	0.0	1	100.0	0	0.0	0	0.0	0	0	0	0
Ballia	1	7.82	7.82	0	0	0	0.0	1	100.0	0	0.0	0	0.0	0	0	0	0
Banda	16	4.26	27.31	0	0	2	12.5	5	31.3	5	31.3	4	25.0	0	0	0	0
Bulandshahr	2	8.75	11.2	0	0	0	0.0	1	50.0	1	50.0	0	0.0	0	0	0	0
Chitrakoot	8	8.23	20.27	0	0	0	0.0	2	25.0	5	62.5	1	12.5	0	0	0	0
Fatehpur	7	4.39	26.91	0	0	1	14.3	0	0.0	4	57.1	2	28.6	0	0	0	0
Ghaziabad	1	7.25	7.25	0	0	0	0.0	1	100.0	0	0.0	0	0.0	0	0	0	0
Ghazipur	1	10.5	10.5	0	0	0	0.0	0	0.0	1	100.0	0	0.0	0	0	0	0
Gonda	1	4.47	4.47	0	0	1	100.0	0	0.0	0	0.0	0	0.0	0	0	0	0
Gorakhpur	11	3.41	6.04	0	0	7	63.6	4	36.4	0	0.0	0	0.0	0	0	0	0
Hamirpur	4	25.02	31.21	0	0	0	0.0	0	0.0	0	0.0	3	75.0	1	25	0	0
Kheri	3	6.69	11.4	0	0	0	0.0	2	66.7	1	33.3	0	0.0	0	0	0	0
Mahoba	5	3.97	14.18	0	0	1	20.0	2	40.0	2	40.0	0	0.0	0	0	0	0
Mau	2	0.18	5.34	1	50	0	0.0	1	50.0	0	0.0	0	0.0	0	0	0	0
Meerut	2	8.07	12.515	0	0	0	0.0	1	50.0	1	50.0	0	0.0	0	0	0	0
Moradabad	1	24.84	24.84	0	0	0	0.0	0	0.0	0	0.0	1	100.0	0	0	0	0
Rampur	2	5.71	14.7	0	0	0	0.0	1	50.0	1	50.0	0	0.0	0	0	0	0
Sambhal	5	5.33	22.36	0	0	0	0.0	3	60.0	1	20.0	1	20.0	0	0	0	0
Siddharthnagar	8	2.4	5.06	0	0	7	87.5	1	12.5	0	0.0	0	0.0	0	0	0	0
Sitapur	1	9.5	9.5	0	0	0	0.0	1	100.0	0	0.0	0	0.0	0	0	0	0
Unnao	3	2.97	6.93	0	0	2	66.7	1	33.3	0	0.0	0	0.0	0	0	0	0

August 2023

The Piezometric head during August indicates the immediate impact of rain fall on ground water storage. This is the month of peak monsoon rainfall hence this measurement is carried out to get the peak in Piezometric head and it rises in response to rainfall.

The piezometric head has become shallower in large part of the state as per available data. Out of 103 analyzed well 15 (14.56%) falls in the range of 0 to 2mbgl and 37 wells (35.92%) fall in the range of 2 – 5mbgl, it occurs mainly in Gorakhpur, Ambedkar Nagar, Siddharth Nagar, Azamgarh, Sambhal, Rampur, Etah, Banda, Lakhimpur Kheri, Chitrakoot, Ayodhaya and Unnao. The piezometric head in the range of 5-10 and 10-20 mbgl occurs in the 22 wells (21.36%) and 16 wells (15.53%) respectively. As per observation, the Piezometric head between 5-10m occurs in Gaziabad, Meerut, Bulandshahr, Mahoba, Banda, Lakhimpur Kheri, Sitapur, Chitrakoot, Ambedkar Nagar, Sonbhadra, Gorakhpur, Ballia districts. The Piezometric head between 10 – 20m are observed in Bagpat, Meerut, Sambhal, Moradabad, Banda, Fatehpur, Chitrakoot, Jaunpur and Balrampur Districts. The piezometric head above 20m (nearly 12%) are found in small patches of Banda, Fatehpur, Hamirpur, Bagpat and Sambhal districts of UP.

The district wise Piezometric head during August 2023 is presented in table-10.

Table-10. DISTRICT- WISE PIEZOMETRIC HEAD IN CONFINED AQUIFER, U.P. AUGUST, 2023

District	No. of Analysed Well	Piezometric head		No. / Percentage of Wells Showing Depth to Water Level (mbgl) in the Range of													
		Minimum	Maximum	0 - 2	%	02 - 5	%	5 - 10	%	10 - 20	%	20 to 30	%	30 - 45	%	>45	%
Ambedkar Nagar	6	2.25	5.34	0	0.0	5	83.3	1	16.7	0	0.0	0	0.0	0	0.0	0	0
Amroha	2	6.38	14.03	0	0.0	0	0.0	1	50.0	1	50.0	0	0.0	0	0.0	0	0
Ayodhya	1	4.79	4.79	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0
Azamgarh	1	2.98	2.98	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0
Baghpat	2	15.04	28.37	0	0.0	0	0.0	0	0.0	1	50.0	1	50.0	0	0.0	0	0
Bahraich	2	4.44	5	0	0.0	1	50.0	1	50.0	0	0.0	0	0.0	0	0.0	0	0
Ballia	1	6.3	6.3	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	0	0
Balrampur	1	12.89	12.89	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0	0	0
Banda	17	0.54	26.43	3	17.6	3	17.6	2	11.8	4	23.5	5	29.4	0	0.0	0	0
Bulandshahr	1	8.29	8.29	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	0	0
Chitrakoot	7	2.64	17.38	0	0.0	3	42.9	3	42.9	1	14.3	0	0.0	0	0.0	0	0
Etah	1	2.68	2.68	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0
Fatehpur	7	3.86	24.2	0	0.0	1	14.3	0	0.0	3	42.9	3	42.9	0	0.0	0	0
Ghaziabad	1	5.32	5.32	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	0	0
Ghazipur	1	0.72	0.72	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0
Gonda	1	4.6	4.6	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0
Gorakhpur	15	1.15	5.49	2	13.3	12	80.0	1	6.7	0	0.0	0	0.0	0	0.0	0	0
Hamirpur	3	29.39	34.74	0	0.0	0	0.0	0	0.0	0	0.0	1	33.3	2	66.7	0	0
Jalaun	1	9.79	9.79	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	0	0
Jaunpur	1	12.71	12.71	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0	0	0
Kheri	4	2.84	10.2	0	0.0	1	25.0	2	50.0	1	25.0	0	0.0	0	0.0	0	0
Mahoba	5	0.2	9.61	3	60.0	0	0.0	2	40.0	0	0.0	0	0.0	0	0.0	0	0
Mau	1	1.27	1.27	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0
Meerut	2	7.07	12.1	0	0.0	0	0.0	1	50.0	1	50.0	0	0.0	0	0.0	0	0
Moradabad	1	18.15	18.15	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0	0	0
Rampur	1	3.5	3.5	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0

District	No. of Analysed Well	Piezometric head		No. / Percentage of Wells Showing Depth to Water Level (mbgl) in the Range of													
		Minimum	Maximum	0 - 2	%	02 - 5	%	5 - 10	%	10 - 20	%	20 to 30	%	30 - 45	%	>45	%
Sambhal	4	4.18	21.74	0	0.0	2	50.0	0	0.0	1	25.0	1	25.0	0	0.0	0	0
Siddharthnagar	7	0.03	4.95	4	57.1	3	42.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0
Sitapur	1	7.9	7.9	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	0	0
Sonbhadra	1	6.23	6.23	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	0	0
Unnao	4	1.66	9.11	1	25.0	1	25.0	2	50.0	0	0.0	0	0.0	0	0.0	0	0

November 2023

The water level starts receding gradually after August with lateral flow of ground water due to change in hydraulic conditions with recession of monsoon and ground water storage. The water level stabilizes by November and there after natural out flow reduces considerably.

Analysis of 114 wells shows that Piezometric head vary between 0.64mbgl (Banda) to 38.11mbgl (Hamirpur district). Piezometric head of less than 2mbgl are recorded in 10.53% of wells and 2 to 5mbgl, 5 to10mbgl, 10 to 20 mbgl and 20-40 mbgl are observed in 35.09%, 27.19%,17.54 % and 6.14% of wells respectively and Piezometric head more than 40 mbgl are observed in 3.51 % of wells. Shallow piezometric head of less than 2mbgl is noticed in Balrampur, Banda, Gorakhpur, Mahoba, Sidhdharth Nagar districts of the State. Piezometric head of 2 to 5mbgl mainly observed in parts Ambedkar Nagar, Bahraich, Etah, Fatehpur, Gorakhpur, Mau, Sambhal, Unnao districts of the State. Piezometric head of 5 to 10mbgl are observed in area of Ambedkar Nagar, Banda, Chitrakoot, Fatehpur, Ghazipur, Meerut, Unnao districts. Piezometric head of 10 to 20mbgl are noticed in Baghpat, Balrampur, Banda, Chitrakoot, Fatehpur, Meerut, Mahoba, Sambhal area. Deeper piezometric heads of more than 20mbgl covers 8% area of the State and mainly observed in Banda, Fatehpur, Sambhal, Hamirpur districts, as shown in Table-11.

Table-11. DISTRICT-WISE PIEZOMETRIC HEAD IN CONFINED AQUIFER, U.P. NOVEMBER, 2023

District	No. of Analysed Well	Piezometric head		No. / Percentage of Wells Showing Depth to Water Level (mbgl) in the Range of													
		Minimum	Maximum	0 - 2	%	02 - 5	%	5 - 10	%	10 - 20	%	20 - 30	%	30 - 45	%	>45	%
Ambedkar Nagar	6	3.57	6.39	0	0.0	3	50.0	3	50.0	0	0.0	0	0	0	0.0	0	0
Amroha	1	7.44	7.44	0	0.0	0	0.0	1	100.0	0	0.0	0	0	0	0.0	0	0
Ayodhya	1	5.19	5.19	0	0.0	0	0.0	1	100.0	0	0.0	0	0	0	0.0	0	0
Azamgarh	8	2.55	5.63	0	0.0	7	87.5	1	12.5	0	0.0	0	0	0	0.0	0	0
Baghpat	1	14.91	14.91	0	0.0	0	0.0	0	0.0	1	100.0	0	0	0	0.0	0	0
Bahraich	2	3.26	4.42	0	0.0	2	100.0	0	0.0	0	0.0	0	0	0	0.0	0	0
Ballia	1	6.29	6.29	0	0.0	0	0.0	1	100.0	0	0.0	0	0	0	0.0	0	0
Balrampur	2	1.77	12.24	1	50.0	0	0.0	0	0.0	1	50.0	0	0	0	0.0	0	0
Banda	16	0.64	31.64	3	18.8	3	18.8	3	18.8	3	18.8	3	18.75	1	6.3	0	0
Bulandshahr	2	7.57	10.86	0	0.0	0	0.0	1	50.0	1	50.0	0	0	0	0.0	0	0
Chitrakoot	8	5.93	17.33	0	0.0	0	0.0	5	62.5	3	37.5	0	0	0	0.0	0	0
Etah	1	3.01	3.01	0	0.0	1	100.0	0	0.0	0	0.0	0	0	0	0.0	0	0
Fatehpur	8	3.06	28.78	0	0.0	1	12.5	1	12.5	3	37.5	3	37.5	0	0.0	0	0
Ghazipur	4	5.51	15.41	0	0.0	0	0.0	3	75.0	1	25.0	0	0	0	0.0	0	0
Gonda	1	4.22	4.22	0	0.0	1	100.0	0	0.0	0	0.0	0	0	0	0.0	0	0
Gorakhpur	13	1.58	5.25	2	15.4	10	76.9	1	7.7	0	0.0	0	0	0	0.0	0	0
Hamirpur	3	33.48	38.11	0	0.0	0	0.0	0	0.0	0	0.0	0	0	3	100.0	0	0
Jalaun	1	14.1	14.1	0	0.0	0	0.0	0	0.0	1	100.0	0	0	0	0.0	0	0
Jaunpur	2	7.17	15.62	0	0.0	0	0.0	1	50.0	1	50.0	0	0	0	0.0	0	0
Kheri	4	2.6	10.73	0	0.0	1	25.0	2	50.0	1	25.0	0	0	0	0.0	0	0
Mahoba	5	1.47	12.17	1	20.0	2	40.0	1	20.0	1	20.0	0	0	0	0.0	0	0
Mau	2	2.94	3.47	0	0.0	2	100.0	0	0.0	0	0.0	0	0	0	0.0	0	0
Meerut	2	7.14	11.72	0	0.0	0	0.0	1	50.0	1	50.0	0	0	0	0.0	0	0
Moradabad	1	17.25	17.25	0	0.0	0	0.0	0	0.0	1	100.0	0	0	0	0.0	0	0
Rampur	2	3.74	7.69	0	0.0	1	50.0	1	50.0	0	0.0	0	0	0	0.0	0	0

District	No. of Analysed Well	Piezometric head		No. / Percentage of Wells Showing Depth to Water Level (mbgl) in the Range of													
		Minimum	Maximum	0 - 2	%	02 - 5	%	5 - 10	%	10 - 20	%	20 - 30	%	30 - 45	%	>45	%
Sambhal	5	4.28	21.16	0	0.0	3	60.0	0	0.0	1	20.0	1	20	0	0.0	0	0
Siddharthnagar	7	0.65	5.03	5	71.4	1	14.3	1	14.3	0	0.0	0	0	0	0.0	0	0
Sitapur	1	7.94	7.94	0	0.0	0	0.0	1	100.0	0	0.0	0	0	0	0.0	0	0
Unnao	4	3.62	9.95	0	0.0	2	50.0	2	50.0	0	0.0	0	0	0	0.0	0	0

January 2024

Out of 118 analysed wells, the piezometric head in range of 0-2 mbgl are observed as isolated patches in Aligarh, Amethi, Azamgarh, Bahraich, Banda, Balrampur, Chaundali, Gazipur, Hamirpur, Jalaun, Mahoba, Lalitpur, Mathura, Shravasti, Rae Bareilli Sultanpur, Unnao and Moradabad district. Piezometric head in the range of 2–5 and 5-10 mbgl are mostly observed during this period as 32.20% and 30.51% wells respectively. It is mostly observed in the Terai regions of UP. The moderate water level zone occurs in 26.2%. The very deep-water level occurs in 3.4% wells.

The Piezometric head in the range of 2 – 5 mbgl are observed in Agra, Aligarh, Ambedkar Nagar, Amethi, Aurriya, Ayodhaya, Azamgarh, Bahraich, Ballia, Balrampur, Bara banki, Banda, Bareilly, Basti, Deoria, Etawah, Fatehpur, Gonda, hardoi, Jaunpur, Kushinagar, Kasganj, Mahoba, Maharjganj, Mathura, Pratapgarh and Prayagraj districts. The Piezometric head of 5 - 10 m.bgl is observed predominantly in the Aligarh, Ambedkar Nagar, Amethi, Ayodhaya, Bahraich, Banda, Chitrakoot, Fatehpur, Gazipur, Jalaun, Jaunpur, Saharanpur, Sonbhadra and Unnao districts.

The piezometric head in range of 10-20 m.bgl is observed as patches in Banda, Fatehpur, Chitrakoot, Gazipur, Jalaun, Unnao, Moradabad and Mahoba districts.

The piezometric head of 20 mbgl are mostly noticed in Banda, Fatehpur, Hamirpur, Mahoba and Sambhal districts. The piezometric head of more than 20 mbgl are observed in Bulandshahr and Hamirpur districts.

The district wise status of piezometric head during the month has been shown in Table- 12.

Table-12. DISTRICT-WISE PIEZOMETRIC HEAD IN CONFINED AQUIFER, U.P. JANUARY, 2024

District	No. of Analysed Well	Piezometric head		No. / Percentage of Wells Showing Depth to Water Level(mbgl) in the Range of													
		Minimum	Maximum	0 - 2	%	02 - 5	%	5 - 10	%	10 - 20	%	20 - 30	%	30 - 45	%	>45	%
Agra	1	3.54	3.54	0	0.00	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
Ambedkar Nagar	6	2.28	6.54	0	0.00	2	33.33	4	66.67	0	0.00	0	0.00	0	0.00	0	0
Ayodhya	1	5.38	5.38	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00	0	0.00	0	0
Azamgarh	8	1.27	6.57	1	12.50	5	62.50	2	25.00	0	0.00	0	0.00	0	0.00	0	0
Baghpat	2	13.31	27.7	0	0.00	0	0.00	0	0.00	1	50.00	1	50.00	0	0.00	0	0
Bahraich	2	4.44	5.02	0	0.00	1	50.00	1	50.00	0	0.00	0	0.00	0	0.00	0	0
Ballia	1	6.92	6.92	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00	0	0.00	0	0
Balrampur	2	3.39	12.27	0	0.00	1	50.00	0	0.00	1	50.00	0	0.00	0	0.00	0	0
Banda	15	1.1	30.4	3	20.00	2	13.33	3	20.00	4	26.67	2	13.33	1	6.67	0	0
Bulandshahr	2	8.08	10.74	0	0.00	0	0.00	1	50.00	1	50.00	0	0.00	0	0.00	0	0
Chitrakoot	8	7.4	18.47	0	0.00	0	0.00	5	62.50	3	37.50	0	0.00	0	0.00	0	0
Etah	1	3.26	3.26	0	0.00	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
Fatehpur	8	3.44	29.42	0	0.00	1	12.50	1	12.50	4	50.00	2	25.00	0	0.00	0	0
Ghaziabad	1	6.18	6.18	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00	0	0.00	0	0
Ghazipur	6	6.08	13.67	0	0.00	0	0.00	4	66.67	2	33.33	0	0.00	0	0.00	0	0
Gonda	1	4.43	4.43	0	0.00	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
Gorakhpur	14	2.55	5.68	0	0.00	10	71.43	4	28.57	0	0.00	0	0.00	0	0.00	0	0
Hamirpur	3	30.01	32.86	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	3	100.00	0	0
Jalaun	1	11.13	11.13	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00	0	0
Jaunpur	2	7.41	15.79	0	0.00	0	0.00	1	50.00	1	50.00	0	0.00	0	0.00	0	0
Kheri	4	2.9	10.88	0	0.00	1	25.00	2	50.00	1	25.00	0	0.00	0	0.00	0	0
Mahoba	5	1.87	20.95	2	40.00	0	0.00	1	20.00	1	20.00	1	20.00	0	0.00	0	0
Mau	2	0.12	2.69	1	50.00	1	50.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
Meerut	2	7.02	11.67	0	0.00	0	0.00	1	50.00	1	50.00	0	0.00	0	0.00	0	0

District	No. of Analysed Well	Piezometric head		No. / Percentage of Wells Showing Depth to Water Level(mbgl) in the Range of													
		Minimum	Maximum	0 - 2	%	02 - 5	%	5 - 10	%	10 - 20	%	20 - 30	%	30 - 45	%	>45	%
Moradabad	1	16.77	16.77	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00	0	0
Rampur	2	4.13	9.36	0	0.00	1	50.00	1	50.00	0	0.00	0	0.00	0	0.00	0	0
Sambhal	5	4.21	20.99	0	0.00	3	60.00	0	0.00	1	20.00	1	20.00	0	0.00	0	0
Siddharthnagar	7	1.03	4.7	2	28.57	5	71.43	0	0.00	0	0.00	0	0.00	0	0.00	0	0
Sitapur	1	8.49	8.49	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00	0	0.00	0	0
Unnao	4	3.5	10.17	0	0.00	2	50.00	1	25.00	1	25.00	0	0.00	0	0.00	0	0

A summarized status of piezometric head in confined aquifer over the state during different seasons of the year 2023-2024 is as follows:

Table-13. Summarized status of Piezometric head in Confined aquifer - 2023-24

DEPTH RANGE (M)	*May'23*	*Aug'23*	*Nov'23*	*Jan'24*
0-2	2 (2%)	15 (14.56%)	12 (10.53%)	9 (7.63%)
2-5	22 (22.22%)	37 (36%)	40 (35%)	38 (32.20%)
5-10	37 (37.37%)	22 (21.36%)	31 (27.19%)	36 (30.51%)
10-20	24 (24.24%)	16 (15.53%)	20 (17.54%)	24 (20.34%)
>20	14 (14.13%)	13 (12%)	11 (9.6%)	11 (9%)

It is observed from the above table-

a) Shallow piezometric head condition (0-2 mbgl) keeps fluctuating in response to the factors such as rainfall recharge and ground water draft. It is observed maximum in August 2023
b) The area having moderate piezometric head between 5-10 is maximum in May'23, reducing considerably in August'23, November'23 and January'24.
c) The deep- piezometric head conditions (above 20 mbgl) are reaches maximum in May 23 and gradually decreases in August 22, November 22.
d) The spatial and temporal distribution of deeper piezometric head zones is more or less constant.
e) The well-wise piezometric head of Ground Water Monitoring Wells of the State for May'23, Aug'23 and Nov'23, Jan'24 is given in **Annexure-I**.

CHAPTER 6
WATER LEVEL FLUCTUATIONS

Ground water is a dynamic resource and its storage changes in response to many factors such as monsoon rainfall, ground water draft for various purposes, hydrogeological conditions, topography, land use, cropping pattern, irrigation status – surface and ground water etc. These changes in storage are reflected in form of water level fluctuations. The periodic monitoring of water levels gives an insight into these changes through study of spatial and temporal variations of water level throughout the year. The seasonal, annual and decadal comparisons of the water level data monitored at stations have been done and is analyzed as follows.

6.1 Seasonal Fluctuation

The water level fluctuation in a particular year gives a picture of response to rainfall and ground water extraction. The water level of May, the pre-monsoon water level, which is the lowest water level after all the inputs and outputs during one year, has been compared with that of post-monsoon water level i.e. November'2023.

6.1.1 Seasonal Fluctuation in unconfined aquifer during 2023

The difference between the pre- and post-monsoon water level of the year is the most important seasonal fluctuation which gives a clear picture of groundwater potential which could be fruitfully utilized for various uses over the succeeding year. This fluctuation is used to evaluate the dynamic ground water resource through the change in ground water storage

May 2023 – November 2023

The depth to water level data during pre and post monsoon seasons of the year 2023 has been compiled and computed to estimate the seasonal change in water level. The same has been presented on district level in Table-14 and in Plate-11.

Table-14. DISTRICT WISE –SEASONAL WATER LEVEL FLUCTUATION IN UNCONFINED AQUIFER, U.P.

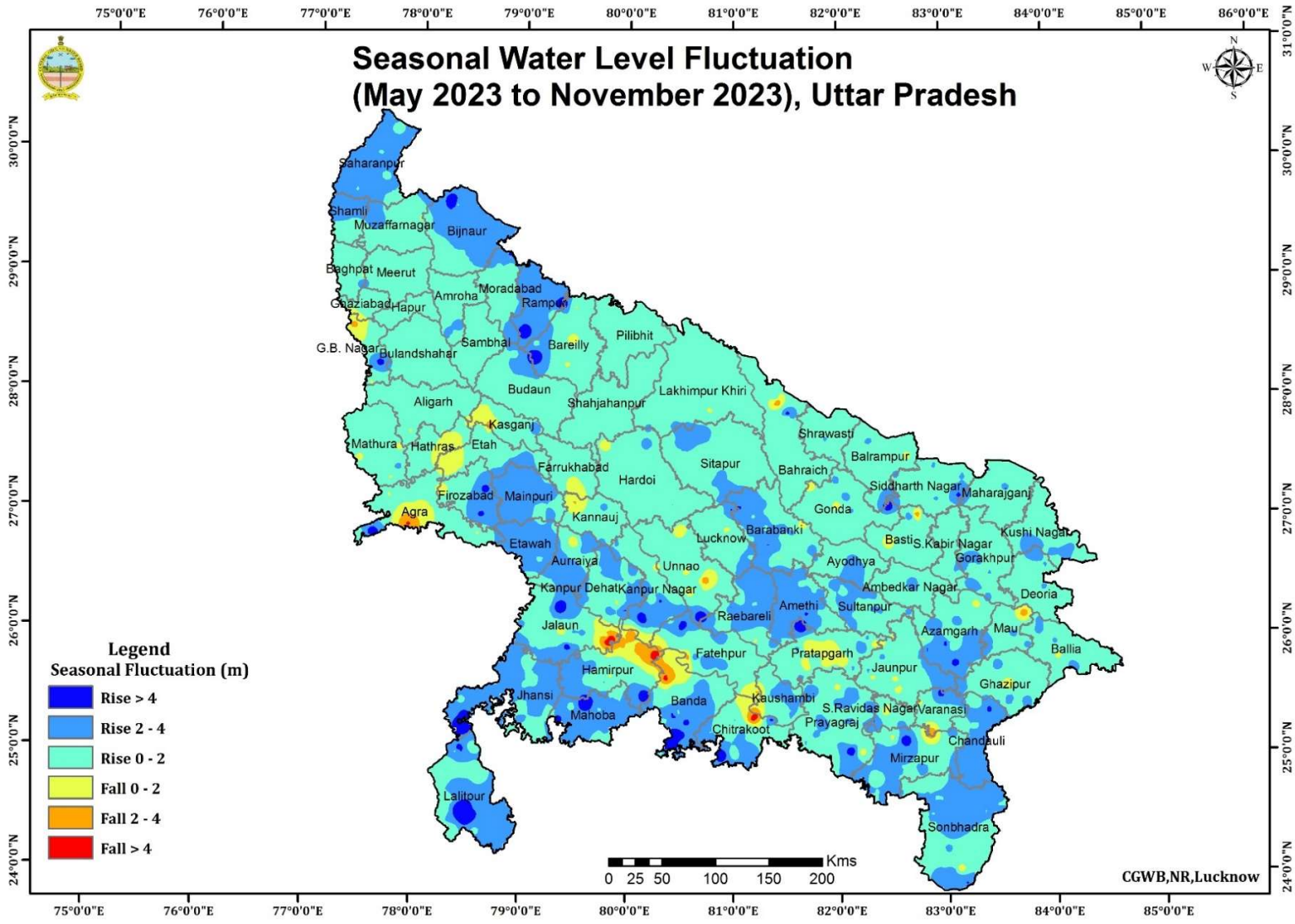
(MAY, 2023 – NOVEMBER, 2023)

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Agra	8	0.19	4.89	0.08	4.21	4	50.00	0	0.00	1	12.50	2	25.00	0	0.00	1	12.50	5	3
Aligarh	8	0.13	1.08	0.06	0.06	7	87.50	0	0.00	0	0.00	1	12.50	0	0.00	0	0.00	7	1
Ambedkar Nagar	8	0.21	3.47			7	87.50	1	12.50	0	0.00	0	0.00	0	0.00	0	0.00	8	
Amethi	23	0.41	4.29			8	34.78	14	60.87	1	4.35	0	0.00	0	0.00	0	0.00	23	
Amroha	4	0.81	2.75			3	75.00	1	25.00	0	0.00	0	0.00	0	0.00	0	0.00	4	
Auraiya	8	1.64	12	2.07	2.07	1	12.50	5	62.50	1	12.50	0	0.00	1	12.50	0	0.00	7	1
Ayodhya	12	0.32	3.98			7	58.33	5	41.67	0	0.00	0	0.00	0	0.00	0	0.00	12	
Azamgarh	12	0.6	4.95	0.43	0.43	3	25.00	5	41.67	3	25.00	1	8.33	0	0.00	0	0.00	11	1
Baghpat	5	0.15	14.1	0.01	0.01	3	60.00	0	0.00	1	20.00	1	20.00	0	0.00	0	0.00	4	1
Bahraich	15	0.24	6.15	4.16	4.16	13	86.67	0	0.00	1	6.67	0	0.00	0	0.00	1	6.67	14	1
Ballia	14	0.13	3.79	1.04	1.04	8	57.14	5	35.71	0	0.00	1	7.14	0	0.00	0	0.00	13	1
Balrampur	16	0.2	2.54	20.6	20.59	13	81.25	2	12.50	0	0.00	0	0.00	0	0.00	1	6.25	15	1
Banda	8	0.8	7.79			3	37.50	2	25.00	3	37.50	0	0.00	0	0.00	0	0.00	8	
Bara Banki	36	0.22	4.44	0.53	1.63	15	41.67	16	44.44	3	8.33	2	5.56	0	0.00	0	0.00	34	2
Bareilly	11	0.48	2.15	0.06	0.77	6	54.55	1	9.09	0	0.00	4	36.36	0	0.00	0	0.00	7	4
Basti	10	0.54	3.29	1.33	1.33	6	60.00	3	30.00	0	0.00	1	10.00	0	0.00	0	0.00	9	1
Bhadohi	4	2.44	4.38	0.06	1.56	0	0.00	1	25.00	1	25.00	2	50.00	0	0.00	0	0.00	2	2
Bijnor	8	1.47	6.8			2	25.00	5	62.50	1	12.50	0	0.00	0	0.00	0	0.00	8	
Budaun	2	0.16	0.25			2	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	
Bulandshahr	2	0.09	0.34			2	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	
Chandauli	8	0.69	4.81			4	50.00	2	25.00	2	25.00	0	0.00	0	0.00	0	0.00	8	
Chitrakoot	12	0.27	12.3	5	5.04	7	58.33	2	16.67	1	8.33	0	0.00	0	0.00	2	16.67	10	2

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Deoria	22	0.11	2.45			18	81.82	4	18.18	0	0.00	0	0.00	0	0.00	0	0.00	22	
Etah	3	1.79	2.15	1.98	1.98	1	33.33	1	33.33	0	0.00	1	33.33	0	0.00	0	0.00	2	1
Etawah	5	1.42	4.1			1	20.00	3	60.00	1	20.00	0	0.00	0	0.00	0	0.00	5	
Farrukhabad	4	0.02	1.63	1.59	1.59	3	75.00	0	0.00	0	0.00	1	25.00	0	0.00	0	0.00	3	1
Fatehpur	16	0.73	6.73	0.46	2.24	8	50.00	5	31.25	1	6.25	1	6.25	1	6.25	0	0.00	14	2
Firozabad	5	0.16	4.46	0.29	0.29	1	20.00	1	20.00	2	40.00	1	20.00	0	0.00	0	0.00	4	1
Gautam Buddha Nagar	4	0.27	4.62	0.03	2.7	1	25.00	0	0.00	1	25.00	1	25.00	1	25.00	0	0.00	2	2
Ghaziabad	1	0.46	0.46			1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	
Ghazipur	15	0.4	3.51	0.07	1.36	9	60.00	4	26.67	0	0.00	2	13.33	0	0.00	0	0.00	13	2
Gonda	21	0.25	5.78	0.31	1.03	13	61.90	4	19.05	1	4.76	3	14.29	0	0.00	0	0.00	18	3
Gorakhpur	9	0.49	3.97			5	55.56	4	44.44	0	0.00	0	0.00	0	0.00	0	0.00	9	
Hamirpur	15	0.07	6.06	0.46	0.46	9	60.00	4	26.67	1	6.67	1	6.67	0	0.00	0	0.00	14	1
Hapur	2	0.87	0.87	0	0	1	50.00	0	0.00	0	0.00	1	50.00	0	0.00	0	0.00	1	1
Hardoi	20	0.46	3.02	0.17	0.4	15	75.00	3	15.00	0	0.00	2	10.00	0	0.00	0	0.00	18	2
Jalaun	27	0.36	20.2	0	9.145	11	40.74	8	29.63	3	11.11	4	14.81	0	0.00	1	3.70	22	5
Jaunpur	19	0.28	2.6	0.47	10.35	13	68.42	2	10.53	0	0.00	3	15.79	0	0.00	1	5.26	15	4
Jhansi	20	0.38	5.59			8	40.00	10	50.00	2	10.00	0	0.00	0	0.00	0	0.00	20	
Kannauj	2	2.18	2.18	2.18	2.18	0	0.00	1	50.00	0	0.00	0	0.00	1	50.00	0	0.00	1	1
Kanpur Dehat	5	1.33	4.27	0.45	0.45	2	40.00	1	20.00	1	20.00	1	20.00	0	0.00	0	0.00	4	1
Kanpur Nagar	16	0.06	16.6	0.5	0.75	7	43.75	3	18.75	4	25.00	2	12.50	0	0.00	0	0.00	14	2
Kasganj	9	0.44	2.72	0.02	4.6	6	66.67	1	11.11	0	0.00	1	11.11	0	0.00	1	11.11	7	2
Kaushambi	4	0.75	3.53			2	50.00	2	50.00	0	0.00	0	0.00	0	0.00	0	0.00	4	
Kheri	25	0.375	3.48	0.13	1.02	21	84.00	2	8.00	0	0.00	2	8.00	0	0.00	0	0.00	23	2
Kushinagar	18	0.7	2.68			13	72.22	5	27.78	0	0.00	0	0.00	0	0.00	0	0.00	18	

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Lalitpur	19	0.21	8.3	0.1	0.1	10	52.63	4	21.05	4	21.05	1	5.26	0	0.00	0	0.00	18	1
Lucknow	15	0.33	4.31	0.89	0.89	10	66.67	3	20.00	1	6.67	1	6.67	0	0.00	0	0.00	14	1
Mahoba	8	0.45	5.34			4	50.00	3	37.50	1	12.50	0	0.00	0	0.00	0	0.00	8	
Mahrajganj	7	1.04	2.17			4	57.14	3	42.86	0	0.00	0	0.00	0	0.00	0	0.00	7	
Mainpuri	6	1.54	3.11			1	16.67	5	83.33	0	0.00	0	0.00	0	0.00	0	0.00	6	
Mathura	16	0.06	2.75	0.16	0.35	12	75.00	1	6.25	0	0.00	3	18.75	0	0.00	0	0.00	13	3
Mau	4	1.03	2.5			3	75.00	1	25.00	0	0.00	0	0.00	0	0.00	0	0.00	4	
Meerut	4	0.61	1.14	0.02	0.02	3	75.00	0	0.00	0	0.00	1	25.00	0	0.00	0	0.00	3	1
Mirzapur	8	0.71	5.83	0.6	0.6	2	25.00	4	50.00	1	12.50	1	12.50	0	0.00	0	0.00	7	1
Moradabad	6	0.7	1.9			6	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	6	
Muzaffarnagar	5	0.59	1.91	0.46	0.46	4	80.00	0	0.00	0	0.00	1	20.00	0	0.00	0	0.00	4	1
Pilibhit	10	0.22	1.87			10	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	10	
Pratapgarh	22	0.03	5.69	0.17	2.08	8	36.36	5	22.73	1	4.55	7	31.82	1	4.55	0	0.00	14	8
Prayagraj	27	0.03	5.93	0.2	11.3	13	48.15	10	37.04	1	3.70	2	7.41	0	0.00	1	3.70	24	3
Rae Bareli	28	0.32	4.92	0.37	0.37	6	21.43	18	64.29	3	10.71	1	3.57	0	0.00	0	0.00	27	1
Rampur	2	1.74	2.85			1	50.00	1	50.00	0	0.00	0	0.00	0	0.00	0	0.00	2	
Saharanpur	9	1.57	4.04			4	44.44	4	44.44	1	11.11	0	0.00	0	0.00	0	0.00	9	
Sambhal	3	0.26	1.8			3	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	3	
Sant Kabir Nagar	4	1.5	1.96	0.1	0.1	3	75.00	0	0.00	0	0.00	1	25.00	0	0.00	0	0.00	3	1
Shamli	1	2.83	2.83			0	0.00	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	1	
Shrawasti	13	0.71	2.3			11	84.62	2	15.38	0	0.00	0	0.00	0	0.00	0	0.00	13	
Siddharthnagar	13	0.31	4.55			6	46.15	6	46.15	1	7.69	0	0.00	0	0.00	0	0.00	13	
Sitapur	23	0.97	3.29			15	65.22	8	34.78	0	0.00	0	0.00	0	0.00	0	0.00	23	
Sonbhadra	13	0.41	4.16	1.76	1.76	6	46.15	4	30.77	2	15.38	1	7.69	0	0.00	0	0.00	12	1

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Sultanpur	28	0.12	4.1	0.04	0.24	15	53.57	10	35.71	1	3.57	2	7.14	0	0.00	0	0.00	26	2
Unnao	18	0.27	5.99	0.86	4.03	14	77.78	0	0.00	1	5.56	2	11.11	0	0.00	1	5.56	15	3
Varanasi	6	0.79	11.6	0.22	3.53	1	16.67	1	16.67	2	33.33	1	16.67	1	16.67	0	0.00	4	2


Seasonal Water Level Fluctuation
(May 2023 to November 2023), Uttar Pradesh
Legend
Seasonal Fluctuation (m)
Rise > 4
Rise 2 - 4
Rise 0 - 2
Fall 0 - 2
Fall 2 - 4
Fall > 4
Kms
0 25 50 100 150 200
CGWB,NR,Lucknow
Saharanpur
Shamli
Muzaffarnagar
Bijnaur
Baghpat
Meerut
Moradabad
Amroha
Rampur
Ghaziabad
Hapur
Sambhal
Bareilly
Pilibhit
G.B. Nagar
Bulandshahar
Budaun
Lakhimpur Khiri
Aligarh
Shahjahanpur
Kasganj
Shrawasti
Mathura
Hathras
Etah
Balrampur
Farrukhabad
Sitapur
Bahraich
Hardoi
Siddharth Nagar
Maharajganj
Firozabad
Mainpuri
Gonda
Agra
Kannauj
Barabanki
Kushi Nagar
Lucknow
Basti
S.Kabir Nagar
Etawah
Gorakhpur
Aurraiya
Ayodhya
Unnao
Ambedkar Nagar
Kanpur Dehat
Kanpur Nagar
Deoria
Amethi
Sultanpur
Jalaun
Raebareli
Azamgarh
Mau
Fatehpur
Pratapgarh
Ballia
Hamirpur
Jaunpur
Ghazipur
Jhansi
Kaushambi
Banda
S.Ravidas Nagar
Varanasi
Mahoba
Prayagraj
Chitrakoot
Chandauli
Mirzapur
Lalitpur
Sonbhadra

Rise in Water Levels:

The district wise data indicate a rise in water level in almost 89% of the wells indicating monsoonal recharge to ground water. There is a general rise in water levels from 0 to 2 m as noticed in 468 (55.78%) wells, 2 to 4m in 27.65% wells and more than 4m in 6.67% of the wells This rise is seen in almost all the districts of the State except north Central and rise in 2 – 4m is mostly observed in Bundelkhand district and along with this, it is also noticed in Kanpur, Kanpur Dehat, Aurraiya, Etawah, Mainpuri, Firozabad, Budaun, Rampur, Bijnaur, Shamli and Saharanpur Districts. Rise of more than 4m is significantly observed in isolated patches of Gautam Buddh Nagar, Agra, Firozabad, Jalaun, Mahoba, banda, Unnao, Pratapgarh, Gonda, Mirzapur, Rampura, Bijnor and Bareilly districts.

Fluctuation Change of Groundwater Storage in U.P. (2023)

Magnitude of Change (m)	May'23 – Nov'23	
	Rise (%)	Fall (%)
0-2	468 (55.78%)	67 (7.99%)
2-4	232 (27.65%)	6 (0.72%)
>4	56 (6.67%)	10 (1.19%)

Fall in Water Levels:

Out of 839 wells that have registered fall in water levels, 7.99% have recorded less than 2m while 0.72% in the range of 2 to 4m and remaining 1.19% wells registered water level fall of more than 4m. Fall of less than 2m is mainly observed in isolated parts of Gautam Buddha Nagar, Hathras, Agra, Farukhabad, Kannauj, Jhansi, Hamirpur, Banda, Chitrakoot, Pratapgarh, districts. Fall of 2 to 4m is observed mainly in Gautam Budh Nagar, Agra, Kasganj, Jalaun, Hamirpur, Banda, Chitrakoot and Mau region. Fall of more than 4m is seen in isolated patches of district Agra, Jalaun, Hamirpur, Chitrakoot as shown in Figure-1.

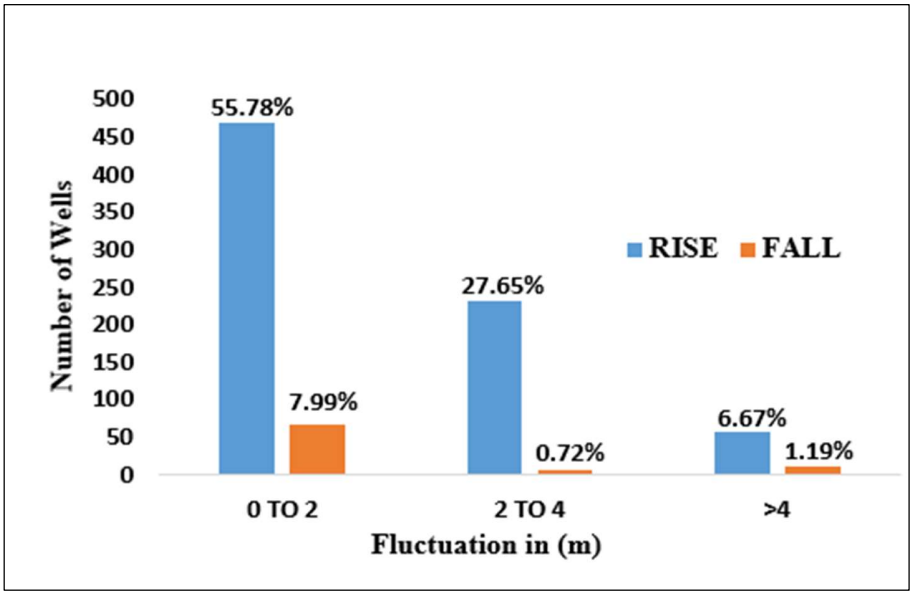


Figure-1: Percentage of wells showing rise and fall in water level - Unconfined aquifer (May 2023 to November 2023)

6.1.2 SEASONAL FLUCTUATION IN CONFINED AQUIFER DURING - 2023

May 2023 – November 2023

The Piezometric head data during pre and post monsoon seasons of the year 2023 has been compiled and computed to estimate the seasonal change in Piezometric head. The same has been presented on district level in Table-15.

Rise in Piezometric head:

Out of 119 wells, piezometric head rise of less than 2m is recorded in 42.86% wells, 2 to 4m in 17.65% wells and more than 4m in 9.24% of the wells. Percentage wise distribution of wells is shown in Fig 14. Piezometric head rise of less than 2m are observed in Meerut, Shambal, Chitrakoot, Bulandshahar, Unnao, Ambedkar Nagar, Gonda, Rampur, Mahoba, Bahraich, Gorakhpur, Siddharth Nagar and Ballia. Piezometric head rise of 2 to 4m is observed mainly in districts such as, Mahoba, Banda, Chitrakoot, Sidharth Nagar, Gorakhpur, Mau districts. Rise of more than 4m is significantly observed in Amroha, Rampur, Banda, Fatehpur, Chitrakoot districts.

Fall in Piezometric head:

Out of 119 analyzed wells, the 8.4% have recorded less than 2m while 10.08% in the range of 2 to 4m and remaining 11.76% wells registered piezometric head fall of more than 4 m. Fall of less

than 2m is mainly observed in parts of Bagpat, Fatehpur, Unnao, Balrampur, Azamgarh, Gorakhpur districts. Fall of 2 to 4m is observed mainly in Etah, Hamirpur, Banda, Kheri, Bahraich, Azamgarh, Mau region. Fall of more than 4m is observed in isolated patches of Jalaun, Hamirpur, Fatehpur, Gazipur, Gorakhpur districts as shown in Figure-2.

Table-15. DISTRICT WISE –SEASONAL PIEZOMETRIC HEAD FLUCTUATION IN CONFINED AQUIFER, U.P.

(MAY, 2023 – NOVEMBER, 2023)

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Ambedkar Nagar	6	0.61	1.78	3.57	3.63	4	66.67	0	0.00	0	0.00	0	0.00	2	33.33	0	0.00	4	2
Amroha	2	1.28	15.1			1	50.00	0	0.00	1	50.00	0	0.00	0	0.00	0	0.00	2	
Ayodhya	1	0.63	0.63			1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	
Azamgarh	8	1.32	2.54	0.27	3.4	1	12.50	2	25.00	0	0.00	2	25.00	3	37.50	0	0.00	3	5
Baghpat	2	28.7	28.7	0.73	0.73	0	0.00	0	0.00	1	50.00	1	50.00	0	0.00	0	0.00	1	1
Bahraich	2	1.04	1.04	3.26	3.26	1	50.00	0	0.00	0	0.00	0	0.00	1	50.00	0	0.00	1	1
Ballia	1	1.53	1.53			1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	
Balrampur	2	0	0	1.77	12.2	0	0.00	0	0.00	0	0.00	1	50.00	0	0.00	1	50.00		2
Banda	16	0.47	5.38	0.75	5.21	4	25.00	6	37.50	2	12.50	2	12.50	1	6.25	1	6.25	12	4
Bulandshahr	2	0.34	1.18			2	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	
Chitrakoot	8	0.01	5.62			2	25.00	4	50.00	2	25.00	0	0.00	0	0.00	0	0.00	8	
Etah	1	0	0	3.01	3.01	0	0.00	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00		1
Fatehpur	8	0.59	4.45	0.13	18.1	3	37.50	0	0.00	1	12.50	2	25.00	0	0.00	2	25.00	4	4
Ghazipur	4	2.37	2.37	5.51	15.4	0	0.00	1	25.00	0	0.00	0	0.00	0	0.00	3	75.00	1	3
Gonda	1	0.25	0.25			1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	
Gorakhpur	14	0.63	3.41	1.58	4.13	9	64.29	2	14.29	0	0.00	1	7.14	1	7.14	1	7.14	11	3
Hamirpur	4	26.09	26.1	2.81	13.1	0	0.00	0	0.00	1	25.00	0	0.00	1	25.00	2	50.00	1	3
Jalaun	1	0	0	14.1	14.1	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	100.00		1
Jaunpur	2	0	0	7.17	15.6	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	100.00		2
Kheri	4	0.38	0.67	2.6	2.6	3	75.00	0	0.00	0	0.00	0	0.00	1	25.00	0	0.00	3	1
Mahoba	5	0.23	8.35			1	20.00	3	60.00	1	20.00	0	0.00	0	0.00	0	0.00	5	
Mau	2	2.4	2.4	3.29	3.29	0	0.00	1	50.00	0	0.00	0	0.00	1	50.00	0	0.00	1	1

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Meerut	2	0.795	0.93			2	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	
Moradabad	1	7.59	7.59			0	0.00	0	0.00	1	100.00	0	0.00	0	0.00	0	0.00	1	
Rampur	2	1.97	7.01			1	50.00	0	0.00	1	50.00	0	0.00	0	0.00	0	0.00	2	
Sambhal	5	1.05	1.81			5	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	5	
Siddharthnagar	8	0.03	3.29			6	75.00	2	25.00	0	0.00	0	0.00	0	0.00	0	0.00	8	
Sitapur	1	1.56	1.56			1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	
Unnao	4	0.18	0.68	0.65	9.95	2	50.00	0	0.00	0	0.00	1	25.00	0	0.00	1	25.00	2	2

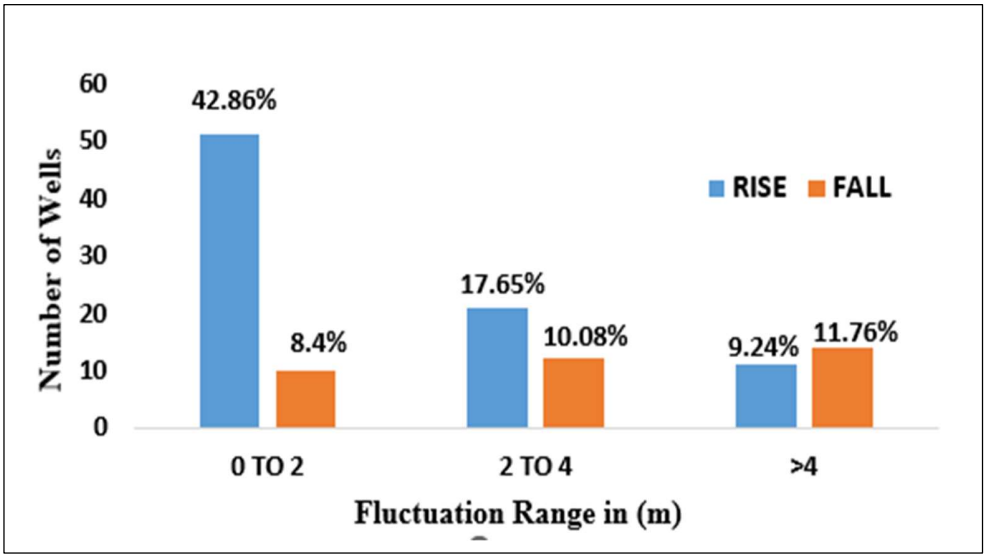


Figure-2: Percentage of wells showing rise and fall in Piezometric head - Confined aquifer (May 2023 to November 2023)

6.2 Annual Fluctuation

The annual fluctuation gives the net result of one whole cycle of recharge and discharge that has taken place during one year. An annual decline indicates that ground water extraction has been in excess of the rainfall recharge in broad terms.

To evaluate the annual change in groundwater levels during 2023 as a resultant of different variables and to develop a strategy for future development, the water level of different seasons over the state was compared to that of the same season in the previous year. The outcome is discussed subsequently in brief.

6.2.1 Annual Fluctuation of Water Level in Unconfined Aquifer – (MAY 2022 –23)

Rise in Water Levels:

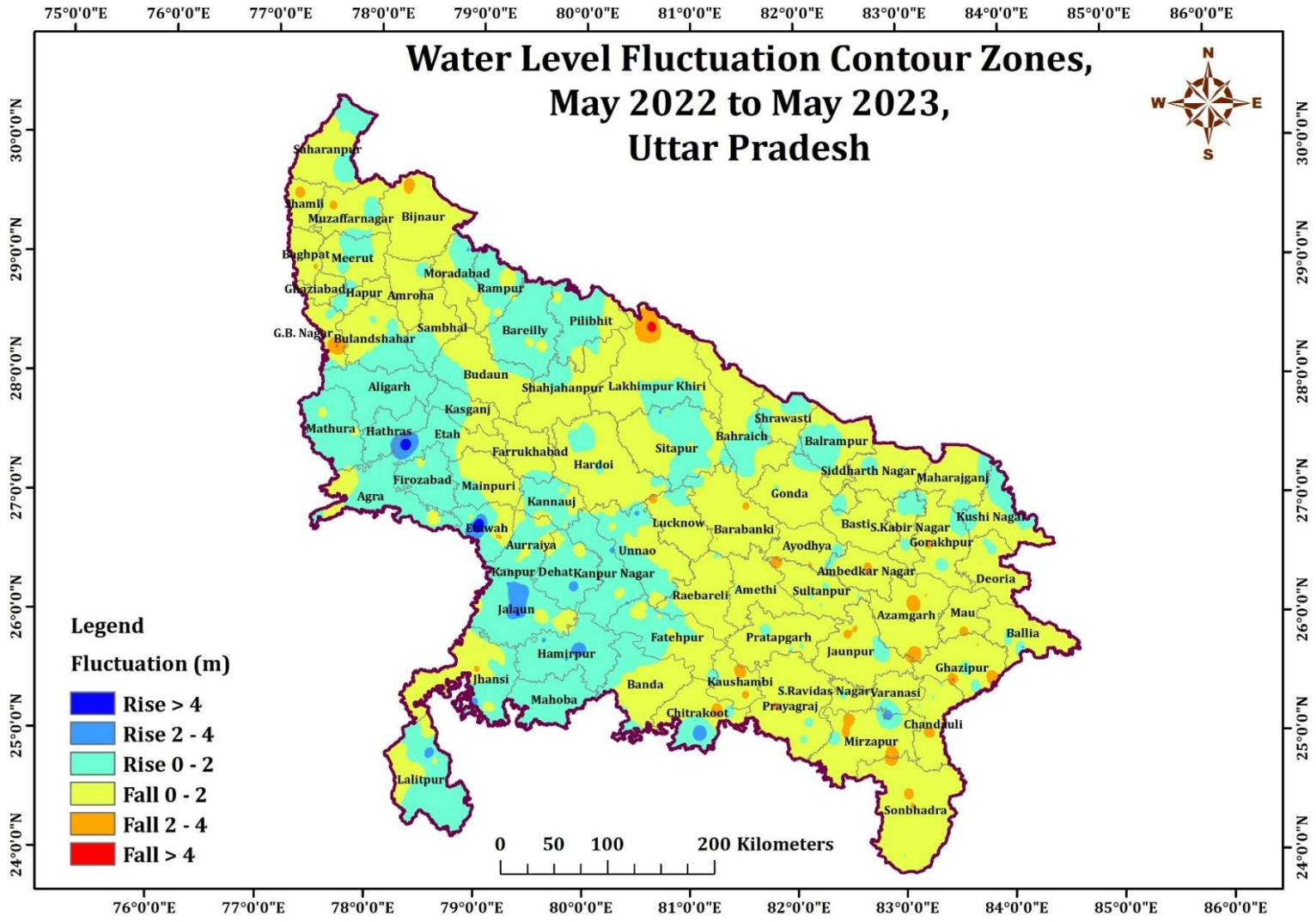
Out of 717 analyzed wells, the rise in water level of less than 2m are recorded in 30% wells, 2 to 4mbgl in 3% wells and more than 4 m in 1.5% of the wells. Water level rise of less than 2mbgl are observed mostly in south western parts of the districts like Agra, Aligarh, Ambedkar Nagar, Amethi, Amroha, Auraiya, Ayodhya, Bahraich, Ballia, Balrampur, Banda, Bara Banki, Bareilly, Bhadohi, Bulandshahr, Chandauli, Chitrakoot, Deoria, Etah, Fatehpur, Firozabad, Gautam Buddha

Nagar, Ghazipur, Gonda, Gorakhpur, Hamirpur, Hapur, Hardoi, Hathras, Jalaun, Jaunpur, Jhansi. Kannauj, Kanpur Dehat, and Kanpur Nagar etc. Water level rise of 2 to 4 m is seen in very few districts of Hathras, Etawah, Jalaun, Hamirpur and Chitrakoot. Water level rise of more than 4 m is seen in Hathras and Etawah.

Fall in Water Levels:

Out of 717 analyzed well, the fall in less than 2m water levels observed in 59.41% while 44.63% of wells are in the range of 2 to 4 m and remaining 1.4% wells are recorded water level fall of more than 4m. Fall of less than 2 m is mainly observed in south eastern parts of the districts mainly Sonbhadra, Mairzapur, Chandauli, Ghazipur, Ballia, Mau, Deoria, Azamgarh, Varanasi etc. Fall is also observed in central and north west parts of the districts like Lucknow, Barabanki, Ameti, Sultanpur, Hardoi, Sambhal, Amroha, Hapur, Ghaziabad, Baghpat, Shamli, Saharanpur etc. Fall of 2 to 4m are observed in isolated patches of Sonbhadra, Mirzapur, Chandauli, Ghazipur, Azamgarh, Ambedkar Nagar, Sultanpur, Barabanki, G.B. Nagar, Baghpat, Shamli, Muzaffarnagar and Bijnaur districts. Fall of more than 4 m are observed in Lakhimpur Khiri and G.B. Nagar district. The district wise changes have been shown in Table-16 and the same is depicted in Plate-12. Percentage of wells showing rise and fall in WL in unconfined aquifer (May 2022 to May 2023) is shown in Figure-3

Plate -12


Water Level Fluctuation Contour Zones,
May 2022 to May 2023,
Uttar Pradesh
N
S
E
W
75°0'0"E
76°0'0"E
77°0'0"E
78°0'0"E
79°0'0"E
80°0'0"E
81°0'0"E
82°0'0"E
83°0'0"E
84°0'0"E
85°0'0"E
86°0'0"E
30°0'0"N
29°0'0"N
28°0'0"N
27°0'0"N
26°0'0"N
25°0'0"N
24°0'0"N
Saharanpur
Shamli
Muzaffarnagar
Bijnaur
Baghpat
Meerut
Moradabad
Ghaziabad
Hapur
Amroha
Rampur
Pilibhit
G.B. Nagar
Bulandshahar
Sambhal
Bareilly
Budaun
Aligarh
Shahjahanpur
Lakhimpur Khiri
Kasganj
Shrawasti
Mathura
Hathras
Etah
Bahraich
Balrampur
Farrukhabad
Hardoi
Sitapur
Siddharth Nagar
Maharajganj
Firozabad
Mainpuri
Gonda
Agra
Kannauj
Kushi Nagar
Etawah
Lucknow
Barabanki
Basti
S.Kabir Nagar
Gorakhpur
Auraiya
Unnao
Ayodhya
Kanpur Dehat
Kanpur Nagar
Ambedkar Nagar
Deoria
Amethi
Sultanpur
Raebareli
Jalaun
Azamgarh
Mau
Ballia
Fatehpur
Pratapgarh
Hamirpur
Jaunpur
Ghazipur
Jhansi
Banda
Kaushambi
S.Ravidas Nagar
Varanasi
Mahoba
Prayagraj
Chitrakoot
Chandauli
Mirzapur
Lalitpur
Sonbhadra
Legend
Fluctuation (m)
Rise > 4
Rise 2 - 4
Rise 0 - 2
Fall 0 - 2
Fall 2 - 4
Fall > 4
0
50
100
200 Kilometers

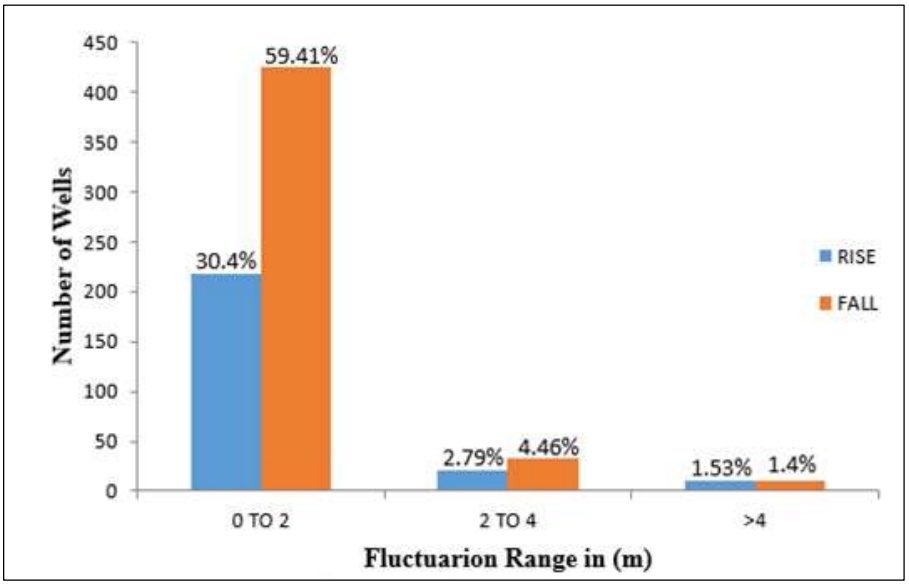


Figure-3: Percentage of wells showing rise and fall of water level in Unconfined aquifer (May 2022 to May 2023)

Table 16: DISTRICT WISE – ANNUAL WATER LEVEL FLUCTUATION IN UNCONFINED AQUIFER, U.P. MAY, 2022 – 2023

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Agra	8	0.03	1.9	0.3	1.78	4	50.00	0	0.00	0	0.00	4	50.00	0	0.00	0	0.00	4	4
Aligarh	8	0.48	1.26	1.09	1.09	7	87.50	0	0.00	0	0.00	1	12.50	0	0.00	0	0.00	7	1
Ambedkar Nagar	8	0.5	0.5	0	3.4	1	12.50	0	0.00	0	0.00	6	75.00	1	12.50	0	0.00	1	7
Amethi	16	0.31	0.31	0	1.13	1	6.25	0	0.00	0	0.00	15	93.75	0	0.00	0	0.00	1	15
Amroha	4	0.31	0.31	0.18	0.98	1	25.00	0	0.00	0	0.00	3	75.00	0	0.00	0	0.00	1	3
Auraiya	9	0.74	10.1	0.29	1.11	3	33.33	1	11.11	1	11.11	4	44.44	0	0.00	0	0.00	5	4
Ayodhya	11	0.02	0.31	0	2.76	3	27.27	0	0.00	0	0.00	7	63.64	1	9.09	0	0.00	3	8
Azamgarh	10			0.78	3.04	0	0.00	0	0.00	0	0.00	5	50.00	5	50.00	0	0.00		10
Baghpat	1	7.76	7.76			0	0.00	0	0.00	1	100.00	0	0.00	0	0.00	0	0.00	1	
Bahraich	14	0.33	0.73	0	0.52	2	14.29	0	0.00	0	0.00	12	85.71	0	0.00	0	0.00	2	12
Ballia	14	0.51	0.79	0.1	7.22	2	14.29	0	0.00	0	0.00	10	71.43	1	7.14	1	7.14	2	12
Balrampur	15	0.15	0.87	0.02	1.66	6	40.00	0	0.00	0	0.00	9	60.00	0	0.00	0	0.00	6	9
Banda	8	0.04	1.42	0.2	1.28	3	37.50	0	0.00	0	0.00	5	62.50	0	0.00	0	0.00	3	5
Bara Banki	23	0.05	0.23	0	2.62	2	8.70	0	0.00	0	0.00	18	78.26	3	13.04	0	0.00	2	21
Bareilly	10	0.01	1.6	0.07	0.45	7	70.00	0	0.00	0	0.00	3	30.00	0	0.00	0	0.00	7	3
BASTI	7			0.05	0.91	0	0.00	0	0.00	0	0.00	7	100.00	0	0.00	0	0.00		7
Bhadohi	5	1.11	1.11	0.3	1.89	1	20.00	0	0.00	0	0.00	4	80.00	0	0.00	0	0.00	1	4
Bijnor	10			0.16	3.73	0	0.00	0	0.00	0	0.00	9	90.00	1	10.00	0	0.00		10
Budaun	2			0	0.68	0	0.00	0	0.00	0	0.00	2	100.00	0	0.00	0	0.00		2
Bulandshahr	3	0.26	0.26	0.4	1.75	1	33.33	0	0.00	0	0.00	2	66.67	0	0.00	0	0.00	1	2
Chandauli	8	0.01	0.26	1.11	2.77	5	62.50	0	0.00	0	0.00	2	25.00	1	12.50	0	0.00	5	3

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Chitrakoot	7	0.68	3.15	0.2	4.25	2	28.57	1	14.29	0	0.00	3	42.86	0	0.00	1	14.29	3	4
Deoria	8	0.04	0.26	0.41	1.35	3	37.50	0	0.00	0	0.00	5	62.50	0	0.00	0	0.00	3	5
Etah	4	0.33	5.1	0.91	0.91	2	50.00	0	0.00	1	25.00	1	25.00	0	0.00	0	0.00	3	1
Etawah	6	2.28	9.55	0.29	4.34	0	0.00	1	16.67	2	33.33	2	33.33	0	0.00	1	16.67	3	3
Farrukhabad	2			0.04	1.67	0	0.00	0	0.00	0	0.00	2	100.00	0	0.00	0	0.00		2
Fatehpur	16	0.1	3.39	0.01	1.26	7	43.75	1	6.25	0	0.00	8	50.00	0	0.00	0	0.00	8	8
Firozabad	5	0.49	1.98	0.41	0.41	4	80.00	0	0.00	0	0.00	1	20.00	0	0.00	0	0.00	4	1
Gautam Buddha Nagar	5	0.22	1.05	1.21	4.17	2	40.00	0	0.00	0	0.00	2	40.00	0	0.00	1	20.00	2	3
Ghaziabad	1			0.33	0.33	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Ghazipur	11	0.43	1.14	0.3	4.5	5	45.45	0	0.00	0	0.00	5	45.45	0	0.00	1	9.09	5	6
Gonda	9	0.12	0.57	0.1	1.02	2	22.22	0	0.00	0	0.00	7	77.78	0	0.00	0	0.00	2	7
Gorakhpur	7	0.81	0.87	0.32	2.51	2	28.57	0	0.00	0	0.00	4	57.14	1	14.29	0	0.00	2	5
Hamirpur	10	0.26	3.18	0.08	0.08	4	40.00	5	50.00	0	0.00	1	10.00	0	0.00	0	0.00	9	1
Hapur	3	0.48	0.48	0.09	0.67	1	33.33	0	0.00	0	0.00	2	66.67	0	0.00	0	0.00	1	2
Hardoi	22	0.18	0.91	0.02	1.49	4	18.18	0	0.00	0	0.00	18	81.82	0	0.00	0	0.00	4	18
Hathras	1	0.27	0.27			1	100.0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	
Jalaun	30	0.1	14.3	0.13	2.31	18	60.00	4	13.33	3	10.00	4	13.33	1	3.33	0	0.00	25	5
Jaunpur	21	0.22	1.01	0	2.82	2	9.52	0	0.00	0	0.00	18	85.71	1	4.76	0	0.00	2	19
Jhansi	20	0.05	8.74	0.15	3.28	7	35.00	1	5.00	1	5.00	10	50.00	1	5.00	0	0.00	9	11
Kannauj	1	1.35	1.35			1	100.0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	
Kanpur Dehat	4	0.74	2.52	0	0.72	1	25.00	1	25.00	0	0.00	2	50.00	0	0.00	0	0.00	2	2

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Kanpur Nagar	12	0.19	2.81	0.4	0.95	9	75.00	1	8.33	0	0.00	2	16.67	0	0.00	0	0.00	10	2
Kasganj	2	0.49	0.49	0.38	0.38	1	50.00	0	0.00	0	0.00	1	50.00	0	0.00	0	0.00	1	1
Kaushambi	5			1.08	3.21	0	0.00	0	0.00	0	0.00	3	60.00	2	40.00	0	0.00		5
Kheri	11	0.25	4.02	0.01	4.75	3	27.27	0	0.00	1	9.09	6	54.55	0	0.00	1	9.09	4	7
Kushinagar	3	0.23	1.28	0.29	0.29	2	66.67	0	0.00	0	0.00	1	33.33	0	0.00	0	0.00	2	1
Lalitpur	13	0.12	4.23	0.13	0.98	3	23.08	0	0.00	1	7.69	9	69.23	0	0.00	0	0.00	4	9
Lucknow	14	0.11	1.3	0.01	3.62	3	21.43	0	0.00	0	0.00	10	71.43	1	7.14	0	0.00	3	11
Mahoba	8	0.02	1.65			8	100.0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	8	
Mahrajganj	5			0	0.95	0	0.00	0	0.00	0	0.00	5	100.0 0	0	0.00	0	0.00		5
Mainpuri	6			0.05	1.44	0	0.00	0	0.00	0	0.00	6	100.0 0	0	0.00	0	0.00		6
Mathura	16	0.03	1.03	0.07	0.52	13	81.25	0	0.00	0	0.00	3	18.75	0	0.00	0	0.00	13	3
Mau	4			0.15	2.4	0	0.00	0	0.00	0	0.00	3	75.00	1	25.00	0	0.00		4
Meerut	6	0.34	0.62	0.19	1.23	3	50.00	0	0.00	0	0.00	3	50.00	0	0.00	0	0.00	3	3
Mirzapur	9			0.14	8.33	0	0.00	0	0.00	0	0.00	5	55.56	3	33.33	1	11.11		9
Moradabad	5	0.05	2.34	0.15	0.65	1	20.00	1	20.00	0	0.00	3	60.00	0	0.00	0	0.00	2	3
Muzaffarnagar	5	0.59	0.59	0.02	2.43	1	20.00	0	0.00	0	0.00	3	60.00	1	20.00	0	0.00	1	4
Pilibhit	10	0.06	0.91	0.04	0.44	7	70.00	0	0.00	0	0.00	3	30.00	0	0.00	0	0.00	7	3
Pratapgarh	23	0.15	1.66	0.37	1.94	5	21.74	0	0.00	0	0.00	18	78.26	0	0.00	0	0.00	5	18
Prayagraj	26	0.25	0.6	0.01	2.77	3	11.54	0	0.00	0	0.00	21	80.77	2	7.69	0	0.00	3	23
Rae Bareli	18	0.02	0.4	0	2.22	4	22.22	0	0.00	0	0.00	13	72.22	1	5.56	0	0.00	4	14
Rampur	2			0.08	0.2	0	0.00	0	0.00	0	0.00	2	100.0 0	0	0.00	0	0.00		2
Saharanpur	6	0.08	0.99	0.41	0.63	3	50.00	0	0.00	0	0.00	3	50.00	0	0.00	0	0.00	3	3

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Sambhal	2			0.5	0.53	0	0.00	0	0.00	0	0.00	2	100.00	0	0.00	0	0.00		2
Sant Kabir Nagar	4	0.26	1.36	0.12	0.46	2	50.00	0	0.00	0	0.00	2	50.00	0	0.00	0	0.00	2	2
Shamli	1			1.00	1.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	100.00		1
Shrawasti	12	0.04	0.89	0.05	0.65	7	58.33	0	0.00	0	0.00	5	41.67	0	0.00	0	0.00	7	5
Siddharthnagar	11	0.03	0.68	0.06	0.65	3	27.27	0	0.00	0	0.00	8	72.73	0	0.00	0	0.00	3	8
Sitapur	20	0.01	2.5	0	1.23	7	35.00	1	5.00	0	0.00	12	60.00	0	0.00	0	0.00	8	12
Sonbhadra	12	0.13	0.13	0.35	2.16	1	8.33	0	0.00	0	0.00	9	75.00	2	16.67	0	0.00	1	11
Sultanpur	35	0.1	0.65	0.02	4.34	5	14.29	0	0.00	0	0.00	27	77.14	2	5.71	1	2.86	5	30
Unnao	19	0.19	2.63	0.03	0.72	7	36.84	1	5.26	0	0.00	11	57.89	0	0.00	0	0.00	8	11
Varanasi	5	2.85	2.85	0.25	12.2	0	0.00	1	20.00	0	0.00	3	60.00	0	0.00	1	20.00	1	4

August 2022-23: Unconfined Aquifers

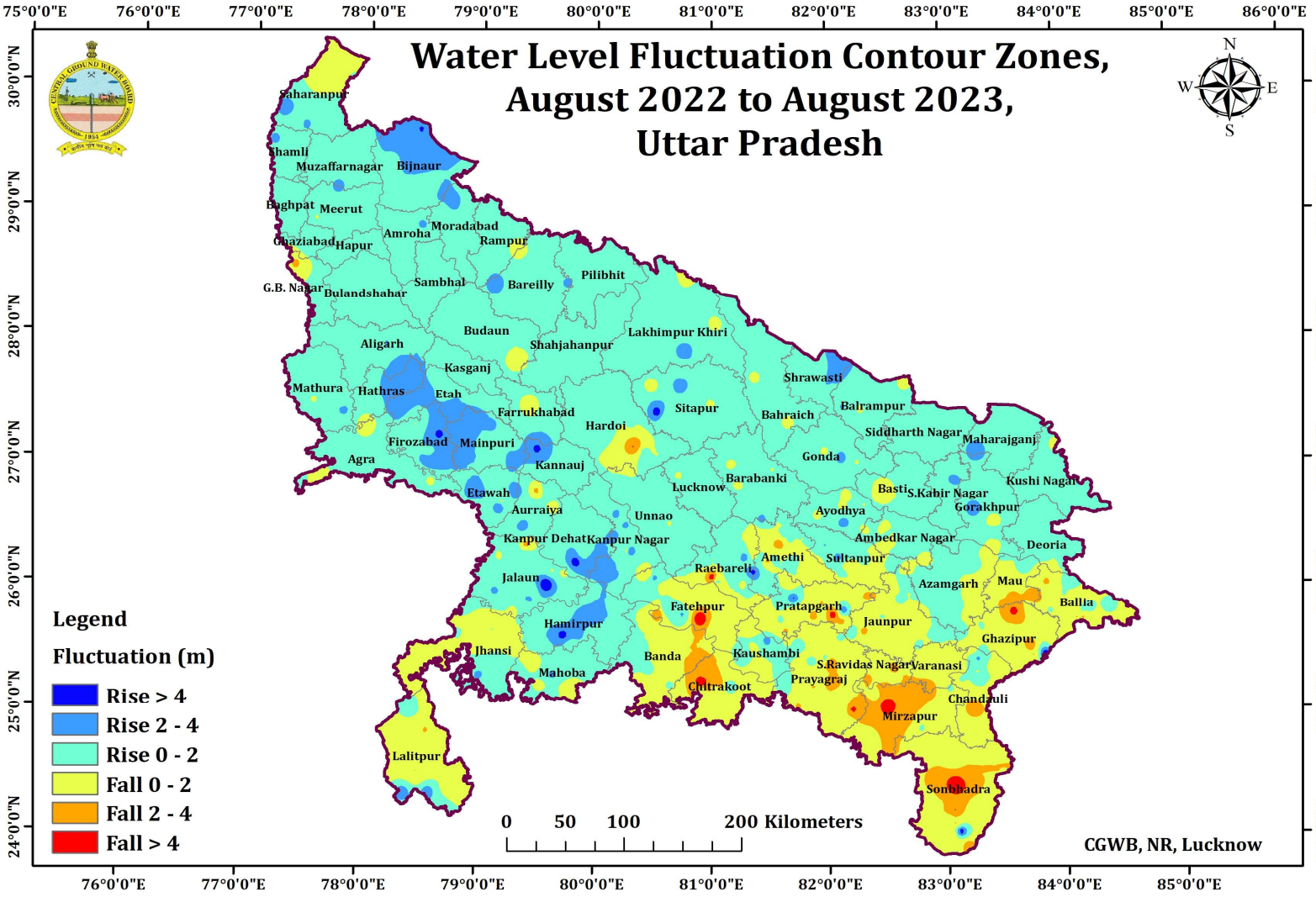
The water level data collected during August'2023 has been compared with Aug'2022 data to evaluate the rise and fall in water levels since last one year. The wells have been categorized depending on rise and fall in water levels.

Rise in Water Levels:

There is rise of water level in 455 wells (61.53%) and fall in 286 wells (38.46%). The fall in water level is due to scanty monsoonal rainfall in some of the area. A rise of 0 -2 m is observed at 143 monitoring stations (22.84%wells) scattered in the patches. A rise of 2-4 m is seen in 27 wells (4.31%) and rise of more than 4 m is seen only in 7 wells (1.12%) mainly concentrated in Lalitpur, Jhansi, Agra, Hamirpur, Fatehpur, Lucknow and Pratapgarh districts of the State.

Fall in Water Levels:

The fall of 0 -2 water levels is observed in 291 wells (46.49%) of the monitored wells covering major parts of Western, Central and Eastern districts of U.P. A fall of 2 - 4m is observed in 115 wells (183.7%) which are observed in Gonda, Siddharth Nagar, Maharajganj, Khushi Nagar, Deoria, Muzaffar Nagar, Mathura, Firozabad, Farrukhabad, Etawah, Kaushambi, Allahabad, Sant Ravidas Nagar, Varanasi, Chandauli and some parts of Sonbhadra districts. The district wise changes have been shown in Table-17 and the same is depicted in Plate-13. Percentage of wells showing rise and fall of WL in Unconfined aquifer (August 2022 to August 2023) is shown in figure-4.


Water Level Fluctuation Contour Zones,
August 2022 to August 2023,
Uttar Pradesh
N
W
E
S
Legend
Fluctuation (m)
Rise > 4
Rise 2 - 4
Rise 0 - 2
Fall 0 - 2
Fall 2 - 4
Fall > 4
0 50 100 200 Kilometers
CGWB, NR, Lucknow
Saharanpur
Shamli
Muzaffarnagar
Bijnaur
Baghpat
Meerut
Moradabad
Amroha
Rampur
Ghaziabad
Hapur
Pilibhit
Sambhal
Bareilly
G.B. Nagar
Bulandshahar
Budaun
Lakhimpur Khiri
Aligarh
Shahjahanpur
Kasganj
Shrawasti
Mathura
Hathras
Etah
Balrampur
Farrukhabad
Sitapur
Bahraich
Hardoi
Siddharth Nagar
Maharajganj
Firozabad
Mainpuri
Gonda
Agra
Kannauj
Barabanki
Kushi Nagar
Lucknow
Basti
S.Kabir Nagar
Etawah
Gorakhpur
Aurraiya
Ayodhya
Unnao
Ambedkar Nagar
Kanpur Dehat
Kanpur Nagar
Deoria
Amethi
Sultanpur
Raebareli
Jalaun
Azamgarh
Mau
Fatehpur
Pratapgarh
Ballia
Hamirpur
Jaunpur
Ghazipur
Jhansi
Banda
Kaushambi
S.Ravidas Nagar
Varanasi
Mahoba
Prayagraj
Chitrakoot
Chandauli
Mirzapur
Lalitpur
Sonbhadra

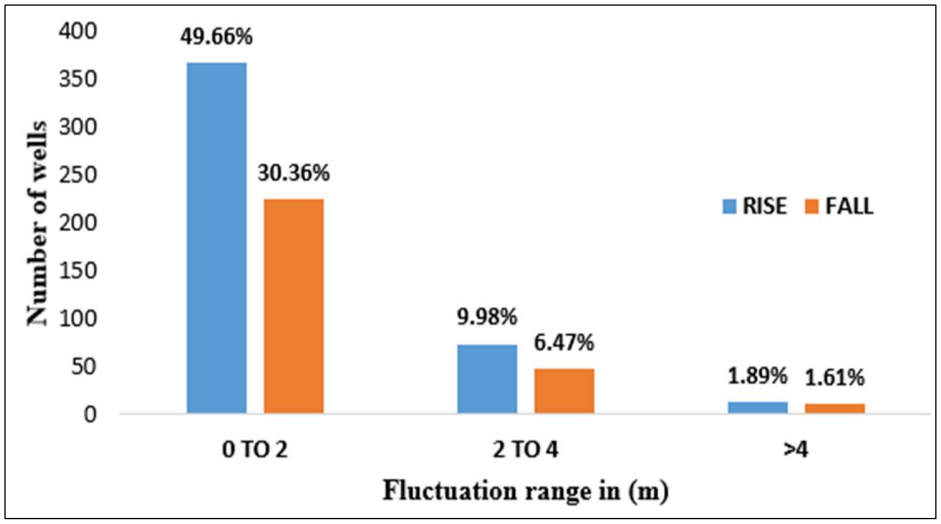


Figure-4: Percentage of wells showing rise and fall of water level in Unconfined aquifer (August 2022 to August 2023)

Table 17: DISTRICT-WISE– ANNUAL WATER LEVEL FLUCTUATION, U.P FOR UNCONFINED AQUIFERS (AUGUST' 2022 -2023)

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Agra	7	0.03	1.92	0	1.41	3	42.86	0	0.00	0	0.00	4	57.14	0	0.00	0	0.00	3	4
Aligarh	5	0.03	2.43			4	80.00	1	20.00	0	0.00	0	0.00	0	0.00	0	0.00	5	0
Ambedkar Nagar	9	0.05	1.7	0.35	0.9	4	44.44	0	0.00	0	0.00	5	55.56	0	0.00	0	0.00	4	5
Amethi	18	0.03	2.23	0.36	3.95	6	33.33	2	11.11	0	0.00	9	50.00	1	5.56	0	0.00	8	10
Amroha	4	0.74	2.31			3	75.00	1	25.00	0	0.00	0	0.00	0	0.00	0	0.00	4	0
Auraiya	8	0.49	3.23	0.81	2.64	4	50.00	2	25.00	0	0.00	1	12.50	1	12.50	0	0.00	6	2
Ayodhya	11	0.06	3.23	0.06	0.4	6	54.55	1	9.09	0	0.00	4	36.36	0	0.00	0	0.00	7	4
Azamgarh	12	0.03	1.85	0.14	1.88	9	75.00	0	0.00	0	0.00	3	25.00	0	0.00	0	0.00	9	3
Baghpat	1	9.4	9.4			0	0.00	0	0.00	1	100.00	0	0.00	0	0.00	0	0.00	1	0
Bahraich	13	0.32	1.95	0.03	0.32	9	69.23	0	0.00	0	0.00	4	30.77	0	0.00	0	0.00	9	4
Ballia	16	0.16	1.35	0.28	2.48	6	37.50	0	0.00	0	0.00	6	37.50	4	25.00	0	0.00	6	10
Balrampur	16	0.12	1.17	0.01	0.69	13	81.25	0	0.00	0	0.00	3	18.75	0	0.00	0	0.00	13	3
Banda	7	0.29	1.54	0.17	1.96	3	42.86	0	0.00	0	0.00	4	57.14	0	0.00	0	0.00	3	4
Bara Banki	21	0.1	3.1	0.06	0.81	16	76.19	1	4.76	0	0.00	4	19.05	0	0.00	0	0.00	17	4
Bareilly	8	0.11	3.13	1.11	1.11	5	62.50	2	25.00	0	0.00	1	12.50	0	0.00	0	0.00	7	1
Basti	8	0.15	1.81	0.08	1.37	6	75.00	0	0.00	0	0.00	2	25.00	0	0.00	0	0.00	6	2
Bhadohi	6			0.15	2.84	0	0.00	0	0.00	0	0.00	3	50.00	3	50.00	0	0.00	0	6
Bijnor	9	0.64	4.07			4	44.44	4	44.44	1	11.11	0	0.00	0	0.00	0	0.00	9	0
Budaun	2	0.77	0.77	0.36	0.36	1	50.00	0	0.00	0	0.00	1	50.00	0	0.00	0	0.00	1	1

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Bulandshahr	2	0.29	0.56			2	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	0
Chandauli	9	0.04	0.3	0.13	3.79	3	33.33	0	0.00	0	0.00	5	55.56	1	11.11	0	0.00	3	6
Chitrakoot	8	1.72	1.72	0.03	13.9	1	12.50	0	0.00	0	0.00	3	37.50	2	25.00	2	25.00	1	7
Deoria	12	0.07	1.93	0.12	0.12	11	91.67	0	0.00	0	0.00	1	8.33	0	0.00	0	0.00	11	1
Etah	4	0.14	3.34			3	75.00	1	25.00	0	0.00	0	0.00	0	0.00	0	0.00	4	0
Etawah	7	1.16	3.67	0.7	0.7	3	42.86	3	42.86	0	0.00	1	14.29	0	0.00	0	0.00	6	1
Farrukhabad	1	1.94	1.94			1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	0
Fatehpur	15	0.01	3.5	0.07	6.08	2	13.33	3	20.00	0	0.00	7	46.67	2	13.33	1	6.67	5	10
Firozabad	5	1.5	4.37	0.08	0.08	2	40.00	1	20.00	1	20.00	1	20.00	0	0.00	0	0.00	4	1
Gautam Buddha Nagar	3	0.98	1.07	2.33	2.33	2	66.67	0	0.00	0	0.00	0	0.00	1	33.33	0	0.00	2	1
Ghaziabad	2	0.94	1.72			2	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	0
Ghazipur	16	0.06	5.31	0.13	4.69	3	18.75	0	0.00	1	6.25	8	50.00	3	18.75	1	6.25	4	12
Gonda	9	0.27	2.88	0.04	0.24	5	55.56	1	11.11	0	0.00	3	33.33	0	0.00	0	0.00	6	3
Gorakhpur	8	0.88	2.94	1.21	2.11	4	50.00	2	25.00	0	0.00	1	12.50	1	12.50	0	0.00	6	2
Hamirpur	8	0.14	4.97	0.03	0.03	4	50.00	2	25.00	1	12.50	1	12.50	0	0.00	0	0.00	7	1
Hapur	2	0.08	1.13			2	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	0
Hardoi	16	0.15	3.06			14	87.50	2	12.50	0	0.00	0	0.00	0	0.00	0	0.00	16	0
Hathras	2	2.65	3.28			0	0.00	2	100.00	0	0.00	0	0.00	0	0.00	0	0.00	2	0
Jalaun	31	0.08	6.87	0.07	3.24	16	51.61	4	12.90	1	3.23	9	29.03	1	3.23	0	0.00	21	10
Jaunpur	25	0.12	1.85	0.04	3.77	6	24.00	0	0.00	0	0.00	16	64.00	3	12.00	0	0.00	6	19

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Jhansi	20	0.18	8.28	0.37	1.89	8	40.00	1	5.00	1	5.00	10	50.00	0	0.00	0	0.00	10	10
Kannauj	2	1.13	4.35			1	50.00	0	0.00	1	50.00	0	0.00	0	0.00	0	0.00	2	0
Kanpur Dehat	5	0.38	5.26			3	60.00	1	20.00	1	20.00	0	0.00	0	0.00	0	0.00	5	0
Kanpur Nagar	15	0.45	4.18	1.26	1.26	9	60.00	4	26.67	1	6.67	1	6.67	0	0.00	0	0.00	14	1
Kaushambi	5	1.18	3.27	0	1.38	1	20.00	1	20.00	0	0.00	3	60.00	0	0.00	0	0.00	2	3
Kheri	11	0.66	3.78	0.69	0.81	8	72.73	1	9.09	0	0.00	2	18.18	0	0.00	0	0.00	9	2
Kushinagar	4	0.17	1.48	0.57	0.57	3	75.00	0	0.00	0	0.00	1	25.00	0	0.00	0	0.00	3	1
Lalitpur	20	0.88	3.49	0.09	3.31	3	15.00	2	10.00	0	0.00	13	65.00	2	10.00	0	0.00	5	15
Lucknow	17	0.03	1.94	0.08	0.14	15	88.24	0	0.00	0	0.00	2	11.76	0	0.00	0	0.00	15	2
Mahoba	11	0.6	2.86	0.06	2.25	4	36.36	1	9.09	0	0.00	5	45.45	1	9.09	0	0.00	5	6
Mahrajganj	7	0.22	2.7			6	85.71	1	14.29	0	0.00	0	0.00	0	0.00	0	0.00	7	0
Mainpuri	6	0.3	3.26			3	50.00	3	50.00	0	0.00	0	0.00	0	0.00	0	0.00	6	0
Mathura	16	0.1	2.97	0.04	0.29	12	75.00	1	6.25	0	0.00	3	18.75	0	0.00	0	0.00	13	3
Mau	7	1.44	1.78	0.8	4.02	2	28.57	0	0.00	0	0.00	3	42.86	1	14.29	1	14.29	2	5
Meerut	5	0.05	2.01			4	80.00	1	20.00	0	0.00	0	0.00	0	0.00	0	0.00	5	0
Mirzapur	13	0.31	0.65	0.02	6.3	2	15.38	0	0.00	0	0.00	6	46.15	4	30.77	1	7.69	2	11
Moradabad	6	0.43	3.21			5	83.33	1	16.67	0	0.00	0	0.00	0	0.00	0	0.00	6	0
Muzaffarnagar	4	0.13	2.42			3	75.00	1	25.00	0	0.00	0	0.00	0	0.00	0	0.00	4	0
Pilibhit	10	0.08	2			9	90.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	10	0
Pratapgarh	28	0.42	4.4	0.03	5.68	2	7.14	2	7.14	1	3.57	17	60.71	5	17.86	1	3.57	5	23
Prayagraj	27	0.155	1.06	0.04	4.69	7	25.93	0	0.00	0	0.00	14	51.85	5	18.52	1	3.70	7	20
Rae Bareli	19	0.25	4.99	0.29	5.6	6	31.58	3	15.79	1	5.26	6	31.58	2	10.53	1	5.26	10	9

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Rampur	2	1.23	1.88			2	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	0
Saharanpur	9	0.63	2.5	0.64	1.99	3	33.33	2	22.22	0	0.00	4	44.44	0	0.00	0	0.00	5	4
Sambhal	2	0.31	2			1	50.00	1	50.00	0	0.00	0	0.00	0	0.00	0	0.00	2	0
Sant Kabir Nagar	5	0.25	2.59			4	80.00	1	20.00	0	0.00	0	0.00	0	0.00	0	0.00	5	0
Shamli	1			1.20	1.20	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	100.00	0	1
Shrawasti	12	0.73	3.17			7	58.33	5	41.67	0	0.00	0	0.00	0	0.00	0	0.00	12	0
Siddharthnagar	11	0.5	1.92			11	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	11	0
Sitapur	20	0.05	2.77	0.95	1.03	16	80.00	2	10.00	0	0.00	2	10.00	0	0.00	0	0.00	18	2
Sonbhadra	16	5.68	5.68	0.04	6.4	0	0.00	0	0.00	1	6.25	10	62.50	3	18.75	2	12.50	1	15
Sultanpur	17	0.21	2.9	0.25	2.22	7	41.18	3	17.65	0	0.00	6	35.29	1	5.88	0	0.00	10	7
Unnao	15	0.01	1.8	0.04	0.17	13	86.67	0	0.00	0	0.00	2	13.33	0	0.00	0	0.00	13	2
Varanasi	7			0.84	3.4	0	0.00	0	0.00	0	0.00	6	85.71	1	14.29	0	0.00	0	7

November 2022– 23: Unconfined Aquifers

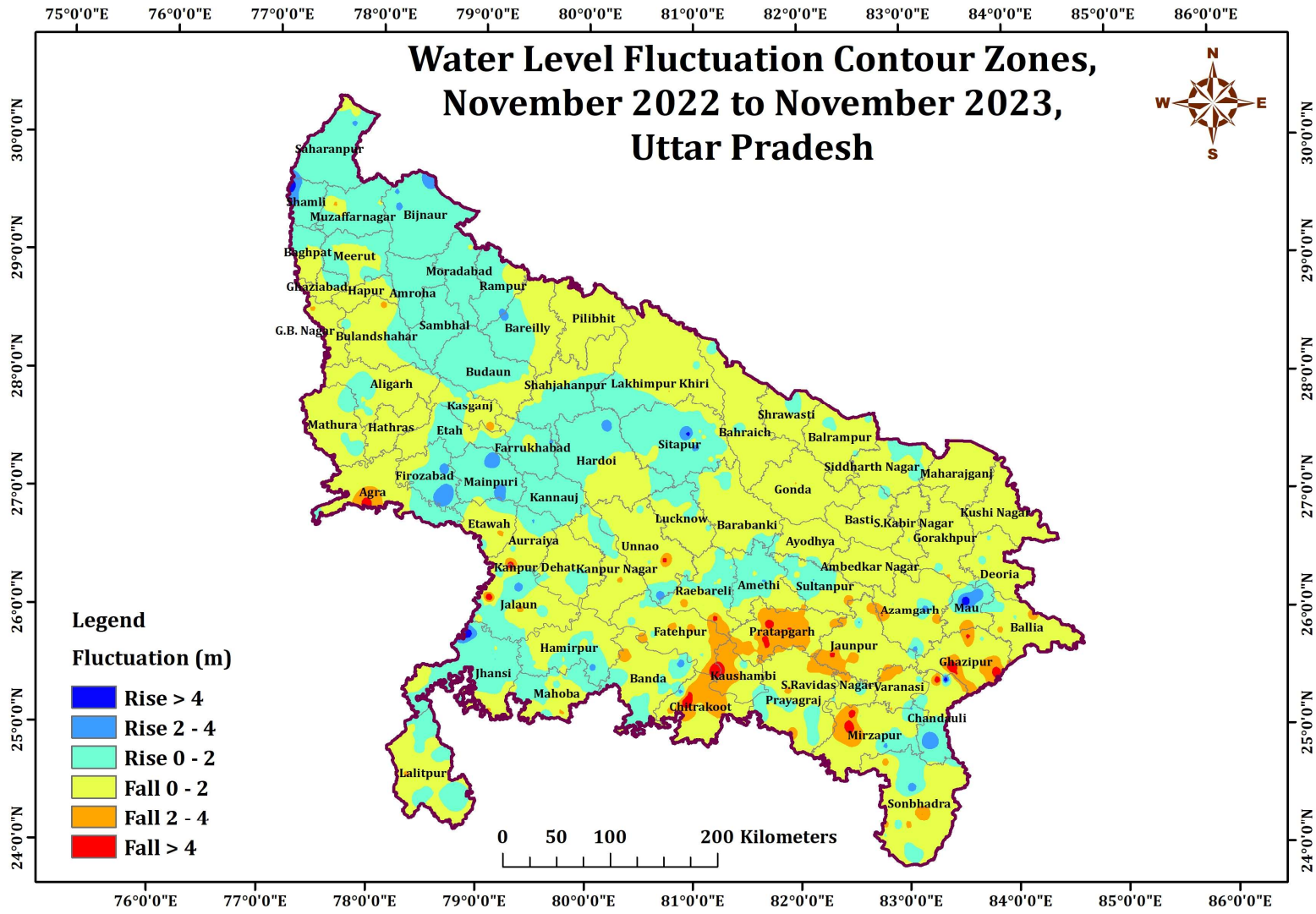
The water level data collected during November'2023 has been compared with November'2022 data to evaluate the rise and fall in water levels since last one year. It is observed that 298 wells (36.03%) show rise and 529 wells (63.96%) show fall in water level.

Rise in Water Levels:

A rise of 0 -2m water level is observed in 258 wells (31.19%) covering North Western and Central parts of UP, mainly in Saharanpur, Shamli, Muzaffarnagar, Bijnaur, Moradabad, Amroha, Budaun, Bareilly, Etah, Firozabad, Mainpuri, Farrukhabad, Raebareily, Amethi and Sultanpur districts. Rise of 2 - 4m is observed in 33 wells (3.99%) mostly observed in isolated patches of Firozabad, Mainpuri, Bijnaur districts of UP and rise of more than 4m is observed only at 7(0.84%) wells covering in very small patches in Shamli and Sitapur districts of UP.

Fall in Water Levels:

The fall of 0-2m water levels is observed in 435 wells (52.59%) mostly in North West to North Eastern parts of the districts mainly in Ghaziabad, Hapur, Bulandshahar, Mahura, Hathras, Unnao, Kanpur Nagar, Fatehpur, Sant Kabir Nagar, Ambedkar Nagar, Maharajganj, Kushinagar districts in UP. A fall of 2 - 4m is observed in 70 wells (8.46%) mostly observed in Pratapgarh, Kaushambi, Jaunpur etc. districts and fall in water level more than 4 m is found in 24 wells (2.90%) mostly noticed in Ghazipur, Mirzapur, Kaushambi, Pratapgarh and Jaunpur. The district wise fall in water level have been shown in Table-18 and the same is depicted in Plate-14. Percentage of wells showing rise and fall in WL in unconfined aquifer (November 2022 to November 2023) is shown in Figure-5.


Water Level Fluctuation Contour Zones,
November 2022 to November 2023,
Uttar Pradesh
N
S
E
W
75°0'0"E
76°0'0"E
77°0'0"E
78°0'0"E
79°0'0"E
80°0'0"E
81°0'0"E
82°0'0"E
83°0'0"E
84°0'0"E
85°0'0"E
86°0'0"E
30°0'0"N
29°0'0"N
28°0'0"N
27°0'0"N
26°0'0"N
25°0'0"N
24°0'0"N
Saharanpur
Shamli
Muzaffarnagar
Bijnaur
Baghpat
Meerut
Moradabad
Ghaziabad
Hapur
Amroha
Rampur
Pilibhit
Sambhal
Bareilly
G.B. Nagar
Bulandshahar
Budaun
Aligarh
Shahjahanpur
Lakhimpur Khiri
Kasganj
Shrawasti
Mathura
Hathras
Etah
Bahraich
Balrampur
Farrukhabad
Sitapur
Hardoi
Siddharth Nagar
Maharajganj
Firozabad
Mainpuri
Gonda
Agra
Kannauj
Kushi Nagar
Lucknow
Barabanki
Basti
S.Kabir Nagar
Etawah
Gorakhpur
Aurraiya
Ayodhya
Unnao
Ambedkar Nagar
Kanpur Dehat
Kanpur Nagar
Deoria
Amethi
Sultanpur
Raebareli
Jalaun
Azamgarh
Mau
Fatehpur
Pratapgarh
Ballia
Hamirpur
Jaunpur
Ghazipur
Jhansi
Kaushambi
Banda
S.Ravidas Nagar
Varanasi
Mahoba
Prayagraj
Chitrakoot
Chandauli
Mirzapur
Lalitpur
Sonbhadra
Legend
Fluctuation (m)
Rise > 4
Rise 2 - 4
Rise 0 - 2
Fall 0 - 2
Fall 2 - 4
Fall > 4
0
50
100
200 Kilometers

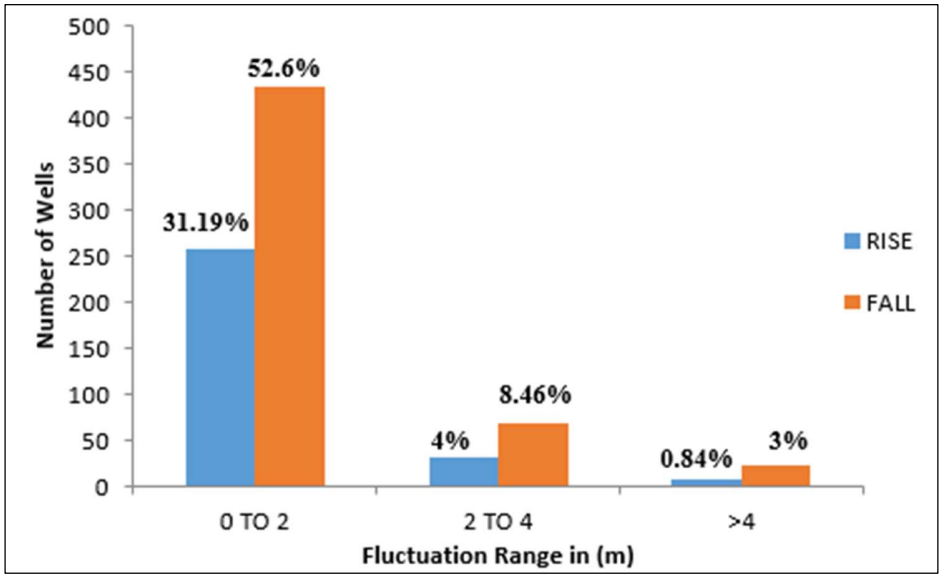


Figure-5: Percentage of wells showing rise and fall of water level in Unconfined aquifer (November 2022 to November 2023)

Table-18. DISTRICT-WISE– ANNUAL WATER LEVEL FLUCTUATION, U.P FOR UNCONFINED AQUIFERS (NOVEMBER' 2022– 2023)

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Agra	7	0.76	0.76	0.1	4.57	1	14.29	0	0.00	0	0.00	4	57.14	1	14.29	1	14.29	1	6
Aligarh	8	0.07	0.67	0.02	2.28	3	37.50	0	0.00	0	0.00	4	50.00	1	12.50	0	0.00	3	5
Ambedkar Nagar	10			0.24	1.81	0	0.00	0	0.00	0	0.00	10	100.00	0	0.00	0	0.00		10
Amethi	23	0.07	2.76	0.04	2.88	13	56.52	1	4.35	0	0.00	7	30.43	2	8.70	0	0.00	14	9
Amroha	6	0.42	1.4			6	100.0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	6	
Auraiya	7	0.48	2.24	0.13	1.07	2	28.57	1	14.29	0	0.00	4	57.14	0	0.00	0	0.00	3	4
Ayodhya	12	0.04	0.61	0.37	1.64	3	25.00	0	0.00	0	0.00	9	75.00	0	0.00	0	0.00	3	9
Azamgarh	15	0.1	3.19	0.08	4.35	2	13.33	3	20.00	0	0.00	8	53.33	1	6.67	1	6.67	5	10
Baghpat	1			0.64	0.64	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Bahraich	15	0.14	0.17	0.01	0.47	2	13.33	0	0.00	0	0.00	13	86.67	0	0.00	0	0.00	2	13
Ballia	17	0.17	0.36	0.12	2.95	2	11.76	0	0.00	0	0.00	12	70.59	3	17.65	0	0.00	2	15
Balrampur	16	0.11	0.47	0.1	30.4	5	31.25	0	0.00	0	0.00	10	62.50	0	0.00	1	6.25	5	11
Banda	8	0.62	2.16	0.2	1.51	3	37.50	1	12.50	0	0.00	4	50.00	0	0.00	0	0.00	4	4
Bara Banki	21	0.05	0.57	0.07	1.62	2	9.52	0	0.00	0	0.00	19	90.48	0	0.00	0	0.00	2	19
Bareilly	11	0.04	2.47	0.1	1.05	4	36.36	1	9.09	0	0.00	6	54.55	0	0.00	0	0.00	5	6
Basti	8	0.01	0.19	0.2	1.2	2	25.00	0	0.00	0	0.00	6	75.00	0	0.00	0	0.00	2	6
Bhadohi	6	0.24	2.33	0.58	3.03	1	16.67	1	16.67	0	0.00	3	50.00	1	16.67	0	0.00	2	4
Bijnor	10	0.36	3			7	70.00	3	30.00	0	0.00	0	0.00	0	0.00	0	0.00	10	
Budaun	2	1.36	1.36	0.14	0.14	1	50.00	0	0.00	0	0.00	1	50.00	0	0.00	0	0.00	1	1
Bulandshahr	2	0.25	0.25	2.39	2.39	1	50.00	0	0.00	0	0.00	0	0.00	1	50.00	0	0.00	1	1
Chandauli	9	0.74	7.04	0.13	6.87	1	11.11	1	11.11	1	11.11	5	55.56	0	0.00	1	11.11	3	6
Chitrakoot	9	3.17	3.17	0.21	6.82	0	0.00	1	11.11	0	0.00	4	44.44	2	22.22	2	22.22	1	8

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Deoria	14	0.07	0.7	0.27	1.43	3	21.43	0	0.00	0	0.00	11	78.57	0	0.00	0	0.00	3	11
Etah	3	0.19	1.53			3	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	3	
Etawah	8	0.43	0.48	0.25	3.5	2	25.00	0	0.00	0	0.00	5	62.50	1	12.50	0	0.00	2	6
Farrukhabad	2	2.09	2.09	0.56	0.56	0	0.00	1	50.00	0	0.00	1	50.00	0	0.00	0	0.00	1	1
Fatehpur	16	0.14	0.74	0.05	6.89	5	31.25	0	0.00	0	0.00	9	56.25	1	6.25	1	6.25	5	11
Firozabad	4	0.76	3.48	0.61	0.61	1	25.00	2	50.00	0	0.00	1	25.00	0	0.00	0	0.00	3	1
Gautam Buddha Nagar	5			0.49	2.56	0	0.00	0	0.00	0	0.00	4	80.00	1	20.00	0	0.00		5
Ghaziabad	1			0.12	0.12	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Ghazipur	18	0.21	0.23	0.18	7.74	2	11.11	0	0.00	0	0.00	10	55.56	3	16.67	3	16.67	2	16
Gonda	10	0.26	0.26	0	2.08	1	10.00	0	0.00	0	0.00	8	80.00	1	10.00	0	0.00	1	9
Gorakhpur	9	1.29	1.29	0.01	2.48	1	11.11	0	0.00	0	0.00	6	66.67	2	22.22	0	0.00	1	8
Hamirpur	10	0.14	2.41	0.07	0.92	4	40.00	1	10.00	0	0.00	5	50.00	0	0.00	0	0.00	5	5
Hapur	2	0.49	0.49	0.4	0.4	1	50.00	0	0.00	0	0.00	1	50.00	0	0.00	0	0.00	1	1
Hardoi	19	0.05	3.97	0.19	2.21	10	52.63	1	5.26	0	0.00	7	36.84	1	5.26	0	0.00	11	8
Hathras	2			1.24	1.86	0	0.00	0	0.00	0	0.00	2	100.00	0	0.00	0	0.00		2
Jalaun	31	0.03	20.8	0.04	7.82	12	38.71	1	3.23	2	6.45	12	38.71	3	9.68	1	3.23	15	16
Jaunpur	24			0.1	5.28	0	0.00	0	0.00	0	0.00	17	70.83	6	25.00	1	4.17		24
Jhansi	20	0.18	5.45	0.12	2.25	11	55.00	1	5.00	1	5.00	6	30.00	1	5.00	0	0.00	13	7
Kannauj	2	0.7	1.2			2	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	
Kanpur Dehat	7	1.84	1.84	0.04	0.84	1	14.29	0	0.00	0	0.00	6	85.71	0	0.00	0	0.00	1	6
Kanpur Nagar	14	0.15	0.93	0.39	3.62	6	42.86	0	0.00	0	0.00	7	50.00	1	7.14	0	0.00	6	8
Kasganj	2	0.06	0.06	2.78	2.78	1	50.00	0	0.00	0	0.00	0	0.00	1	50.00	0	0.00	1	1
Kaushambi	5	1.58	1.58	1.05	3.53	1	20.00	0	0.00	0	0.00	1	20.00	3	60.00	0	0.00	1	4

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Kheri	11	0.05	0.14	0.35	3.04	2	18.18	0	0.00	0	0.00	8	72.73	1	9.09	0	0.00	2	9
Kushinagar	5			0.18	1.26	0	0.00	0	0.00	0	0.00	5	100.00	0	0.00	0	0.00		5
Lalitpur	20	0.08	2.36	0.16	2.7	6	30.00	2	10.00	0	0.00	10	50.00	2	10.00	0	0.00	8	12
Lucknow	19	0.05	1.39	0.12	1.4	8	42.11	0	0.00	0	0.00	11	57.89	0	0.00	0	0.00	8	11
Mahoba	11	0.07	0.85	0.22	2.95	6	54.55	0	0.00	0	0.00	4	36.36	1	9.09	0	0.00	6	5
Mahrajganj	7			0.25	1.29	0	0.00	0	0.00	0	0.00	7	100.00	0	0.00	0	0.00		7
Mainpuri	6	0.01	3.64			4	66.67	2	33.33	0	0.00	0	0.00	0	0.00	0	0.00	6	
Mathura	16	0.44	1.43	0.07	1.15	3	18.75	0	0.00	0	0.00	13	81.25	0	0.00	0	0.00	3	13
Mau	5	3.08	5.55	0.34	3.22	0	0.00	1	20.00	1	20.00	2	40.00	1	20.00	0	0.00	2	3
Meerut	4	0.41	0.7	0.01	0.22	2	50.00	0	0.00	0	0.00	2	50.00	0	0.00	0	0.00	2	2
Mirzapur	9	0.49	2.58	0.48	5.75	1	11.11	2	22.22	0	0.00	3	33.33	1	11.11	2	22.22	3	6
Moradabad	6	0.45	1.3	0.21	0.21	5	83.33	0	0.00	0	0.00	1	16.67	0	0.00	0	0.00	5	1
Muzaffarnagar	7	0.29	1.03	0.35	2.47	5	71.43	0	0.00	0	0.00	1	14.29	1	14.29	0	0.00	5	2
Pilibhit	10			0.21	1.3	0	0.00	0	0.00	0	0.00	10	100.00	0	0.00	0	0.00		10
Pratapgarh	26			0.39	4.85	0	0.00	0	0.00	0	0.00	10	38.46	12	46.15	4	15.38		26
Prayagraj	30	0.02	1.06	0.18	8.08	12	40.00	0	0.00	0	0.00	13	43.33	4	13.33	1	3.33	12	18
Rae Bareli	32	0.07	2.74	0.02	5.17	15	46.88	1	3.13	0	0.00	13	40.63	2	6.25	1	3.13	16	16
Rampur	2	1.01	2.22			1	50.00	1	50.00	0	0.00	0	0.00	0	0.00	0	0.00	2	
Saharanpur	13	0.13	2.54	0.01	1.05	9	69.23	1	7.69	0	0.00	3	23.08	0	0.00	0	0.00	10	3
Sambhal	3	0.13	1.44			3	100.0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	3	
Sant Kabir Nagar	4	0.11	0.11	0.63	2.08	1	25.00	0	0.00	0	0.00	2	50.00	1	25.00	0	0.00	1	3
Shahjahanpur	1	0.15	0.15			1	100.0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	
Shamli	2	5.31	5.31	6.9	6.9	0	0.00	0	0.00	1	50.00	0	0.00	0	0.00	1	50.00	1	1
Shrawasti	12	0.01	0.32	0	0.24	4	33.33	0	0.00	0	0.00	8	66.67	0	0.00	0	0.00	4	8

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Siddharthnagar	11	0.12	0.62	0	0.66	5	45.45	0	0.00	0	0.00	6	54.55	0	0.00	0	0.00	5	6
Sitapur	26	0.26	4.95	0.05	1.26	12	46.15	1	3.85	1	3.85	12	46.15	0	0.00	0	0.00	14	12
Sonbhadra	17	0.17	3.04	0.47	4.07	5	29.41	1	5.88	0	0.00	7	41.18	3	17.65	1	5.88	6	11
Sultanpur	37	0.17	1.98	0.03	4.39	16	43.24	0	0.00	0	0.00	20	54.05	0	0.00	1	2.70	16	21
Unnao	16	0.27	3.22	0.09	5.25	3	18.75	1	6.25	0	0.00	11	68.75	0	0.00	1	6.25	4	12
Varanasi	8	0.58	0.58	0.3	3	1	12.50	0	0.00	0	0.00	3	37.50	4	50.00	0	0.00	1	7

January 2023 –24: UNCONFINED AQUIFERS

To evaluate the rise and fall in water level of January'2024 with respect to January'2023, water level data of wells have been analysed. The fluctuation of 867 wells data show rise of water level in 324 nos (37.37%) and fall in 543 nos (62.62%) of the analysed wells.

Rise in Water Levels:

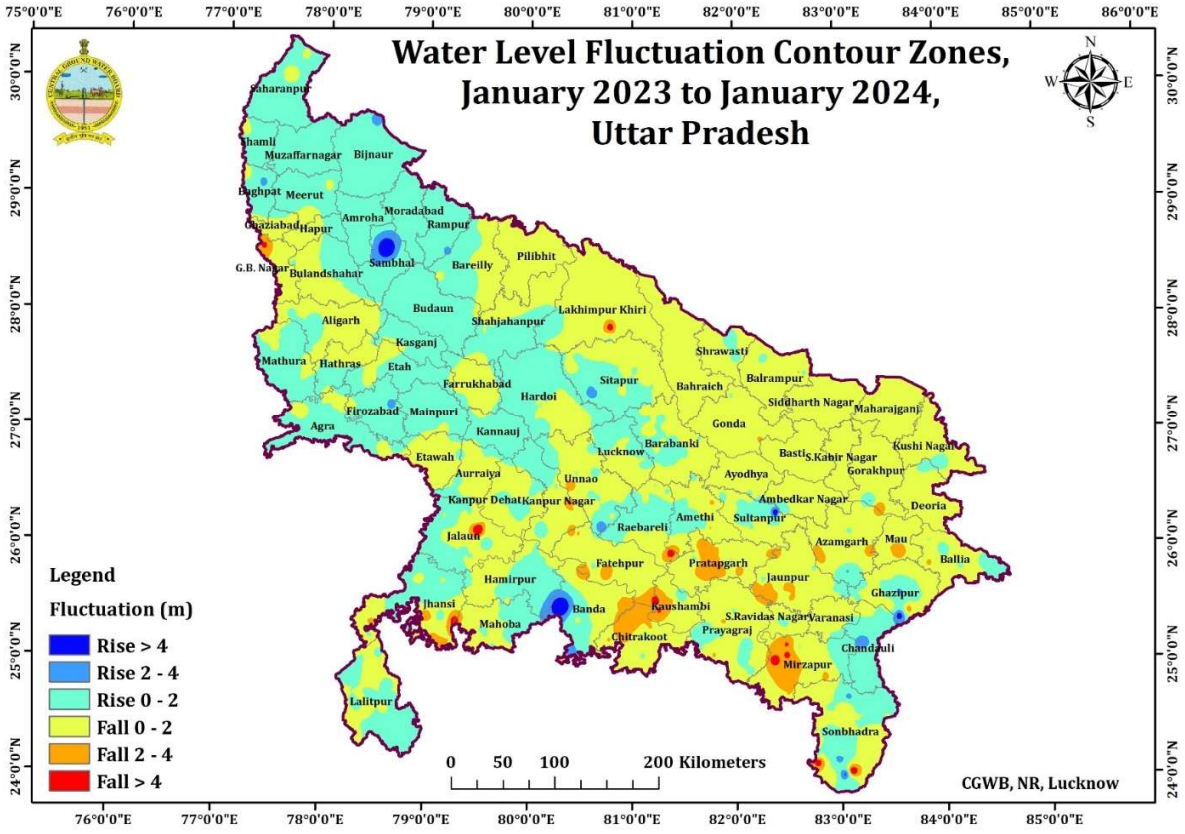
A rise of 0-2 m in water level is noticed in 299 no. of analysed wells (34.49%) mainly in Saharanpur, Shamli, Muzaffarnagar, Bijnaur, Baghpat, Meerut, Amroha, Moradabad, Rampur, Sambhal, Badaun, Kashganj, Etah, Firozabad, Mainpuri, Kannauj, Hardoi, Sitapur, Lucknow, Agra, Mathura, Raebareli, Chandauli etc. districts and rise of 2 to 4 m is seen only in 15 no. of wells (1.73 %) in Banda, Hamirpur, Sambhal, Chadauli, Ghazipur, Unnao, Sitapur, Firozabad, Sultanpur etc. districts and rise of > 4m are seen only in 10 no. of wells (1.15 %) of Banda, Ghazipur, Sonbhadra, Sultanpur and Sambhal districts.

Fall in Water Levels:

The fluctuation data of the State shows a fall of 0 to 2 m in 477 no. of analysed wells (55.01%) in mainly Pilhibhit, Lakimpur Khiri, Bharaich and Shrawasti districts. A fall of 2 to 4m is observed only in 50 no. wells (5.77%) mainly in Chitrakoot, Kaushambi, Mirzapur, Pratapgarh, Jaunpur, G.B. Nagar etc. districts and fall of > 4 m in 16 wells (1.85%) of Sonbhadra, Mirzapur, Fatehpur, Kaushambi, Raebareli, Jalaun, Lakhimpur Khiri and G.B. Nagar districts.

The district wise changes have been shown in Table-19 and Plate-15.

Plate – 15


Water Level Fluctuation Contour Zones,
January 2023 to January 2024,
Uttar Pradesh
Legend
Fluctuation (m)
Rise > 4
Rise 2 - 4
Rise 0 - 2
Fall 0 - 2
Fall 2 - 4
Fall > 4
0 50 100 200 Kilometers
CGWB, NR, Lucknow
N
S
E
W
Saharanpur
Shamli
Muzaffarnagar
Bijnaur
Baghpat
Meerut
Ghaziabad
Hapur
Amroha
Moradabad
Rampur
Sambhal
Bareilly
Pilibhit
G.B. Nagar
Bulandshahar
Budaun
Shahjahanpur
Lakhimpur Khiri
Aligarh
Kasganj
Mathura
Hathras
Etah
Farrukhabad
Hardoi
Sitapur
Shrawasti
Bahraich
Balrampur
Siddharth Nagar
Maharajganj
Firozabad
Mainpuri
Agra
Kannauj
Gonda
Barabanki
Lucknow
Basti
S.Kabir Nagar
Kushi Nagar
Goralkhpur
Etawah
Aurraiya
Unnao
Ayodhya
Kanpur Dehat
Kanpur Nagar
Ambedkar Nagar
Deoria
Amethi
Sultanpur
Raebareli
Jalaun
Azamgarh
Mau
Ballia
Fatehpur
Pratapgarh
Hamirpur
Jaunpur
Ghazipur
Jhansi
Banda
Kaushambi
S.Ravidas Nagar
Varanasi
Mahoba
Prayagraj
Chitrakoot
Chandauli
Mirzapur
Lalitpur
Sonbhadra
75°0'0"E
76°0'0"E
77°0'0"E
78°0'0"E
79°0'0"E
80°0'0"E
81°0'0"E
82°0'0"E
83°0'0"E
84°0'0"E
85°0'0"E
86°0'0"E
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24°0'0"N

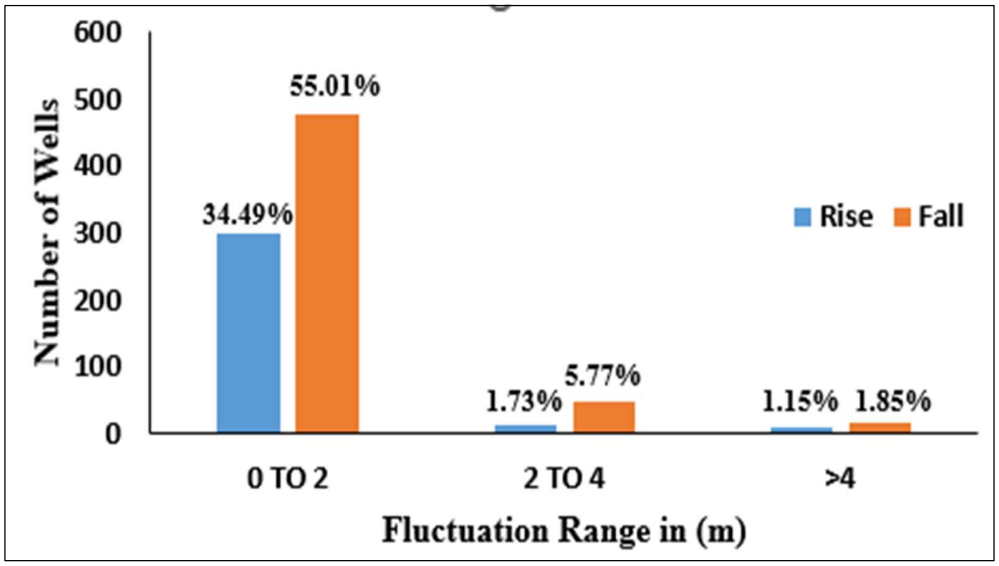


Figure-9: Percentage of wells showing rise and fall of water level in unconfined aquifer (January 2023 to January 2024)

Table 19: DISTRICT-WISE– ANNUAL WATER LEVEL FLUCTUATION, U.P UNCONFINED AQUIFERS JANUARY' 2023– 2024

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Agra	8	0.06	0.92	0.13	0.62	5	62.50	0	0.00	0	0.00	3	37.50	0	0.00	0	0.00	5	3
Aligarh	8	0.01	0.51	0.06	2.61	4	50.00	0	0.00	0	0.00	3	37.50	1	12.50	0	0.00	4	4
Ambedkar Nagar	9			0.14	1.37	0	0.00	0	0.00	0	0.00	9	100.00	0	0.00	0	0.00		9
Amethi	21	0.1	1.86	0.03	2.71	7	33.33	0	0.00	0	0.00	12	57.14	2	9.52	0	0.00	7	14
Amroha	7	0.46	1.47			7	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	7	
Auraiya	8	0.34	0.5	0.1	0.87	2	25.00	0	0.00	0	0.00	6	75.00	0	0.00	0	0.00	2	6
Ayodhya	9	0.19	0.19	0.35	1.65	1	11.11	0	0.00	0	0.00	8	88.89	0	0.00	0	0.00	1	8
Azamgarh	14	0.03	2.39	0.35	2.9	4	28.57	1	7.14	0	0.00	6	42.86	3	21.43	0	0.00	5	9
Baghpat	5	0.08	2.99	0.08	0.49	2	40.00	1	20.00	0	0.00	2	40.00	0	0.00	0	0.00	3	2
Bahraich	14			0.04	1.09	0	0.00	0	0.00	0	0.00	14	100.00	0	0.00	0	0.00		14
Ballia	15	0.04	1.65	0.3	2.49	5	33.33	0	0.00	0	0.00	9	60.00	1	6.67	0	0.00	5	10
Balrampur	16	0.47	0.8	0.03	2.45	2	12.50	0	0.00	0	0.00	13	81.25	1	6.25	0	0.00	2	14
Banda	9	0.14	6.67	0.09	2.45	2	22.22	1	11.11	2	22.22	3	33.33	1	11.11	0	0.00	5	4
Bara Banki	32	0.01	2.29	0	1.93	13	40.63	1	3.13	0	0.00	18	56.25	0	0.00	0	0.00	14	18
Bareilly	11	0.03	1.73	0.05	0.98	5	45.45	0	0.00	0	0.00	6	54.55	0	0.00	0	0.00	5	6
Basti	8			0.12	1.12	0	0.00	0	0.00	0	0.00	8	100.00	0	0.00	0	0.00		8
Bhadohi	4	0.48	0.65	1.41	1.59	2	50.00	0	0.00	0	0.00	2	50.00	0	0.00	0	0.00	2	2
Bijnor	9	0.15	2.45			8	88.89	1	11.11	0	0.00	0	0.00	0	0.00	0	0.00	9	
Budaun	2	0.18	0.89			2	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	
Bulandshahr	2	0.1	0.17			2	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Chandauli	8	0.15	4.17	1.43	1.97	5	62.50	0	0.00	1	12.50	2	25.00	0	0.00	0	0.00	6	2
Chitrakoot	11	0.15	0.51	0.37	3.78	3	27.27	0	0.00	0	0.00	4	36.36	4	36.36	0	0.00	3	8
Deoria	21	0.03	0.4	0.13	1.39	3	14.29	0	0.00	0	0.00	18	85.71	0	0.00	0	0.00	3	18
Etah	5	0.04	1.66	0.66	1.83	3	60.00	0	0.00	0	0.00	2	40.00	0	0.00	0	0.00	3	2
Etawah	7	0.47	0.47	0.33	2.01	1	14.29	0	0.00	0	0.00	5	71.43	1	14.29	0	0.00	1	6
Farrukhabad	3			0.53	0.91	0	0.00	0	0.00	0	0.00	3	100.00	0	0.00	0	0.00		3
Fatehpur	16	0.04	0.58	0.02	4.77	2	12.50	0	0.00	0	0.00	9	56.25	3	18.75	2	12.50	2	14
Firozabad	5	0.02	2.35	0.28	0.28	3	60.00	1	20.00	0	0.00	1	20.00	0	0.00	0	0.00	4	1
Gautam Buddha Nagar	4			0.62	4.37	0	0.00	0	0.00	0	0.00	3	75.00	0	0.00	1	25.00		4
Ghaziabad	1			0.04	0.04	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Ghazipur	17	0.19	7.59	0.14	3.41	4	23.53	0	0.00	2	11.76	10	58.82	1	5.88	0	0.00	6	11
Gonda	20	0.11	0.11	0.19	2.4	1	5.00	0	0.00	0	0.00	18	90.00	1	5.00	0	0.00	1	19
Gorakhpur	9	2.37	2.37	0.66	4.1	0	0.00	1	11.11	0	0.00	7	77.78	0	0.00	1	11.11	1	8
Hamirpur	10	0.2	1.65	0.1	1.32	6	60.00	0	0.00	0	0.00	4	40.00	0	0.00	0	0.00	6	4
Hapur	2	0.3	0.3	0.51	0.51	1	50.00	0	0.00	0	0.00	1	50.00	0	0.00	0	0.00	1	1
Hardoi	18	0.07	1.24	0.01	1.79	9	50.00	0	0.00	0	0.00	9	50.00	0	0.00	0	0.00	9	9
Hathras	2			0.17	0.87	0	0.00	0	0.00	0	0.00	2	100.00	0	0.00	0	0.00		2
Jalaun	33	0.01	2.05	0.03	8.07	18	54.55	1	3.03	0	0.00	12	36.36	1	3.03	1	3.03	19	14
Jaunpur	23	0.04	1.3	0.7	3.49	3	13.04	0	0.00	0	0.00	11	47.83	9	39.13	0	0.00	3	20
Jhansi	20	0.12	2.56	0.02	4.41	10	50.00	1	5.00	0	0.00	6	30.00	2	10.00	1	5.00	11	9
Kannauj	3	0.06	0.74			3	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	3	

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Kanpur Dehat	7	0.2	1.42	0.4	0.74	2	28.57	0	0.00	0	0.00	5	71.43	0	0.00	0	0.00	2	5
Kanpur Nagar	16	0.04	1.87	0.09	5.85	6	37.50	0	0.00	0	0.00	9	56.25	0	0.00	1	6.25	6	10
Kasganj	11	0.22	1.67	0.05	0.14	9	81.82	0	0.00	0	0.00	2	18.18	0	0.00	0	0.00	9	2
Kaushambi	7	2.23	2.23	0.19	4.39	0	0.00	1	14.29	0	0.00	4	57.14	1	14.29	1	14.29	1	6
Kheri	25	0.1	1.06	0.17	5.97	3	12.00	0	0.00	0	0.00	21	84.00	0	0.00	1	4.00	3	22
Kushinagar	24	0.01	1.43	0	1.79	4	16.67	0	0.00	0	0.00	20	83.33	0	0.00	0	0.00	4	20
Lalitpur	19	0.07	2.09	0	3.81	9	47.37	1	5.26	0	0.00	7	36.84	2	10.53	0	0.00	10	9
Lucknow	17	0.04	1.84	0	1.5	7	41.18	0	0.00	0	0.00	10	58.82	0	0.00	0	0.00	7	10
Mahoba	11	0.13	1.91	0.32	6.18	4	36.36	0	0.00	0	0.00	6	54.55	0	0.00	1	9.09	4	7
Mahrajganj	8			0.15	1.02	0	0.00	0	0.00	0	0.00	8	100.00	0	0.00	0	0.00		8
Mainpuri	6	0.16	1.52	0.62	0.62	5	83.33	0	0.00	0	0.00	1	16.67	0	0.00	0	0.00	5	1
Mathura	16	0.06	1.33	0.22	1.48	12	75.00	0	0.00	0	0.00	4	25.00	0	0.00	0	0.00	12	4
Mau	5			0.39	3.59	0	0.00	0	0.00	0	0.00	4	80.00	1	20.00	0	0.00		5
Meerut	5	0.34	0.93	0.2	1.68	3	60.00	0	0.00	0	0.00	2	40.00	0	0.00	0	0.00	3	2
Mirzapur	8	0.235	0.92	0.72	4.98	3	37.50	0	0.00	0	0.00	1	12.50	1	12.50	3	37.50	3	5
Moradabad	5	0.01	0.93			5	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	5	
Muzaffarnagar	6	0.11	0.96			6	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	6	
Pilibhit	10			0.08	1.83	0	0.00	0	0.00	0	0.00	10	100.00	0	0.00	0	0.00		10
Pratapgarh	24	0.54	0.75	0.13	3.76	2	8.33	0	0.00	0	0.00	13	54.17	9	37.50	0	0.00	2	22
Prayagraj	28	0.03	1.7	0.29	2.72	13	46.43	0	0.00	0	0.00	13	46.43	2	7.14	0	0.00	13	15
Rae Bareli	29	0.06	1.83	0.03	6.03	16	55.17	0	0.00	0	0.00	11	37.93	1	3.45	1	3.45	16	13
Rampur	2	0.88	2.49			1	50.00	1	50.00	0	0.00	0	0.00	0	0.00	0	0.00	2	

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Saharanpur	10	0.06	1.13	0.08	0.41	8	80.00	0	0.00	0	0.00	2	20.00	0	0.00	0	0.00	8	2
Sambhal	4	0.34	7.44			3	75.00	0	0.00	1	25.00	0	0.00	0	0.00	0	0.00	4	
Sant Kabir Nagar	4			0.45	1.56	0	0.00	0	0.00	0	0.00	4	100.00	0	0.00	0	0.00		4
Shamli	2			0.08	0.25	0	0.00	0	0.00	0	0.00	2	100.00	0	0.00	0	0.00		2
Shrawasti	11	0.13	0.81	0.35	0.87	3	27.27	0	0.00	0	0.00	8	72.73	0	0.00	0	0.00	3	8
Siddharthnagar	9			0.22	2.09	0	0.00	0	0.00	0	0.00	8	88.89	1	11.11	0	0.00		9
Sitapur	20	0.04	4.25	0	1.02	8	40.00	0	0.00	1	5.00	11	55.00	0	0.00	0	0.00	9	11
Sonbhadra	14	0.44	4.78	0.15	6.75	4	28.57	1	7.14	2	14.29	5	35.71	0	0.00	2	14.29	7	7
Sultanpur	34	0.17	7.8	0.03	1.87	8	23.53	1	2.94	1	2.94	24	70.59	0	0.00	0	0.00	10	24
Unnao	17	0.14	3.87	0.01	3.58	6	35.29	1	5.88	0	0.00	9	52.94	1	5.88	0	0.00	7	10
Varanasi	4	0.02	0.02	0.15	0.77	1	25.00	0	0.00	0	0.00	3	75.00	0	0.00	0	0.00	1	3

The overall status of annual fluctuation in unconfined aquifer of the state is summarized in following table.

TABLE-20: SUMMARISED STATUS OF ANNUAL FLUCTUATION, 2023 FOR UNCONFINED AQUIFER, U.P.

FLUCTUATION RANGE	May (2022-23)		August (2022-23)		Nov (2022-23)		Jan (2023-24)	
	Rise (%)	*Fall (%)*	*Rise (%)*	*Fall (%)*	*Rise (%)*	*Fall (%)*	*Rise (%)*	*Fall (%)*
0-2	218 (30.4%)	426 (59.41%)	368 (49.66%)	225 (30.36%)	258 (31.19%)	435 (52.6%)	299 (34.49%)	477 (55.01%)
2-4	20 (2.79%)	32 (4.46%)	74 (9.98%)	48 (6.47%)	33 (4%)	70 (8.46%)	15 (1.73%)	50 (5.77%)
>4	11 (1.53%)	10 (1.4%)	14 (1.89%)	12 (1.61%)	7 (0.84%)	24 (3%)	10 (1.15%)	16 (1.85%)
Total	249 (34.73%)	468 (65.27%)	456 (61.53%)	285 (38.46%)	298 (36.03%)	529 (63.96%)	324 (34.11%)	543 (65.88%)

From the analysis of table 20, it is evident that the water level has shown maximum decline in May 2023 but there is a gradual increase in rise of water level percentage from November'23 and January'24 due to monsoonal and winter rainfall.

6.2.2 Annual Fluctuation in confined aquifer during 2023

MAY 2022 –23

Rise in piezometric head:

Out of 17 analyzed wells, the rise in piezometric head of less than 2m are recorded in 52.24% wells. Piezometric head rise of less than 2 m, observed mostly in parts of Bahraich, Bulandshahar, Fatehpur, Meerut & Sambhal dsitricts.

Fall in piezometric head:

Out of 17 analyzed well, the fall in piezometric head of less than 2m water levels are observed in 47.06% of wells. This fall is mainly observed in parts of the districts mainly in Amroha, Fatehpur, Ghaziabad, Gonda, Meerut & Rampur districts. District wise fluctuation in piezometric have been shown in Table-21 and the same is depicted in Figure-10.

Table-21. DISTRICT WISE – ANNUAL PIEZOMETRIC HEAD FLUCTUATION IN CONFINED AQUIFER, U.P. MAY' 2022 – 2023

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Amroha	2			0.3	0.57	0	0.00	0	0.00	0	0.00	2	100.00	0	0.00	0	0.00		2
Bahraich	1	0.13	0.13			1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	
Bulandshahr	2	0.32	0.15			2	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	
Fatehpur	5	1.53	0.63	0.19	0.3	3	60.00	0	0.00	0	0.00	2	40.00	0	0.00	0	0.00	3	2
Ghaziabad	1			0.45	0.45	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Gonda	1			0.52	0.52	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Meerut	2	0.65	0.65	0.39	0.39	1	50.00	0	0.00	0	0.00	1	50.00	0	0.00	0	0.00	1	1
Rampur	1			0.22	0.22	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Sambhal	2	0.82	0.39			2	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	

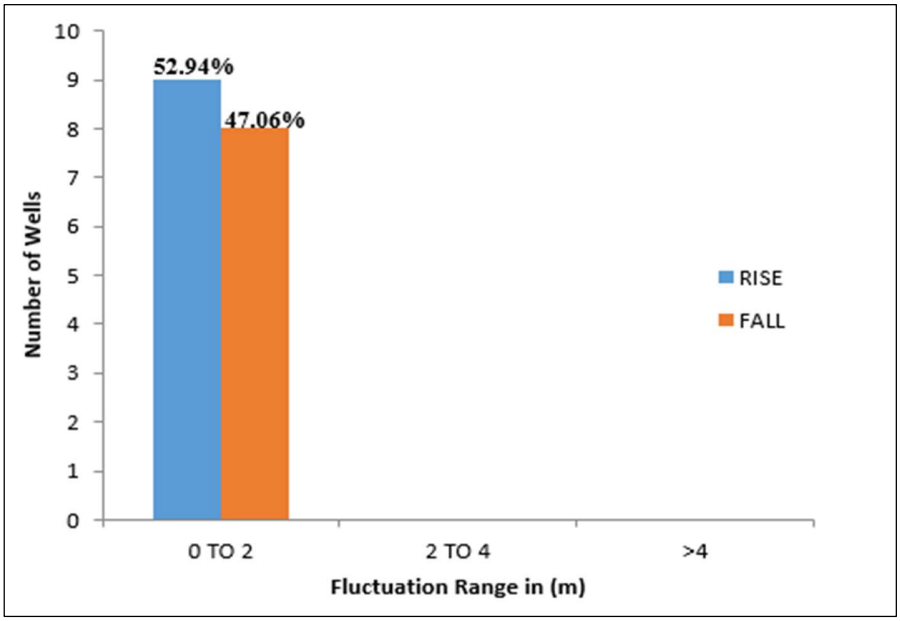


Figure-10: Percentage of wells showing rise and fall of Piezometric head in Confined aquifer (May 2022 to May 2023)

August 2022-23:

The annual fluctuations of piezometric head in confined aquifers are observed in 13 wells. Rise in 9 wells (69.23%) and fall in 4 wells (30.76%). The fall in piezometric head is due to scanty monsoonal rainfall in some of the area.

Rise in Piezometric head:

The rise of water level 0–2m is observed in 7 wells (53.84%) namely in parts of Amroha, Baharaich, Bulandshahar, Ghaziabad, Etah and Meerut districts of UP. Piezometric head of 2 – 4 m rise is seen in 2 wells (15.38%) namely in parts of Amroha and Rampur districts.

Fall in Piezometric head:

The fall of 0 – 2 m is observed in 2 wells (15.38%) in the patches of Ballia and Gonda districts. 2 – 4 m fall is seen in the parts of Banda district and greater than 4 m is observed in Sonbhadra district only.

The district wise annual fluctuations of piezometric head have been shown in Table-22 and percentage of wells showing rise and fall in WL in confined aquifer (August 2022 to August 2023) in figure-11.

Table-22. DISTRICT-WISE– ANNUAL PIEZOMETRIC HEAD FLUCTUATION, U.P FOR CONFINED AQUIFERS AUGUST' (2022 -2023)

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Amroha	2	1.09	3.17			1	50.00	1	50.00	0	0.00	0	0.00	0	0.00	0	0.00	2	
Bahraich	1	0.14	0.14			1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	
Ballia	1			1.12	1.12	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Banda	1			2.135	2.135	0	0.00	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00		1
Bulandshahr	1	0.19	0.19			1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	
Etah	1	0.44	0.44			1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	
Ghaziabad	1	1.54	1.54			1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	
Gonda	1			0.15	0.15	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Meerut	2	0.33	0.99			2	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	
Rampur	1	2.49	2.49			0	0.00	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	1	
Sonbhadra	1			4.25	4.25	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	100.00		1

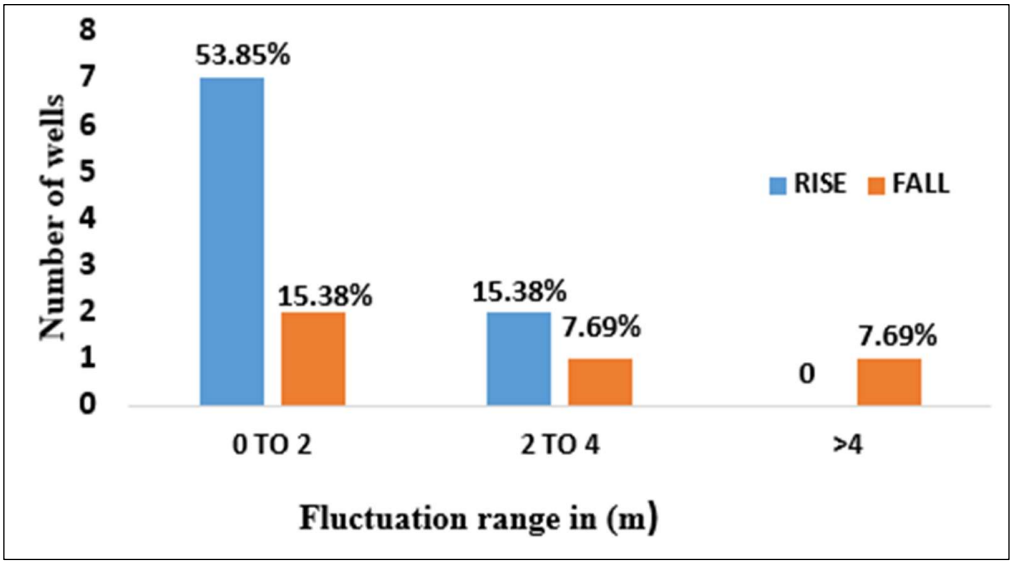


Figure-11: Percentage of wells showing rise and fall of piezometric head in confined aquifer (August 2022 to August 2023)

November 2022– 23:

The water level data collected during November'2023 has been compared with November'2022 data to evaluate the rise and fall in water levels since last one year. It is observed that 15 wells (23.80%) show rise and 48 wells (76.19%) show fall in water level.

Rise in piezometric head:

The rise of 0– 2m piezometric head is observed mostly in 14 Wells (22.22%) namely in parts of Unnao, Sitapur, Sambhal, Meerut, Kheri, Banda and Amroha districts. The rise of 2-4m is observed in Banda district of UP.

Fall in piezometric head:

The Fall of 0 – 2m piezometric head is observed in 42 wells (66.67%) namely in parts of Ambedkar Nagar, Banda, Gorakhpur, Kheri, Unnao etc districts and the fall of piezometric head of 2-4m is observed in parts of Fatehpur and Balrampur. The fall of piezometric head greater than 4m is observed in very minor patches of Banda and Jalaun districts.

The district wise changes have been shown in Table-23 and percentage of wells showing rise and fall of piezometric head in confined aquifer (November 2022 to November 2023) in figure-12.

Table 23: DISTRICT-WISE– ANNUAL PIEZOMETRIC HEAD FLUCTUATION, U.P FOR CONFINED AQUIFERS NOVEMBER' 2022– 2023

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Ambedkar Nagar	5			0.51	1.66	0	0.00	0	0.00	0	0.00	5	100.00	0	0.00	0	0.00		5
Amroha	1	0.91	0.91			1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	
Ayodhya	1			0.18	0.18	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Azamgarh	1			1.87	1.87	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Bahraich	1			0.57	0.57	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Ballia	1			0.82	0.82	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Balrampur	1			3.53	3.53	0	0.00	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00		1
Banda	16	0.215	3.8	0.17	4.01	5	31.25	1	6.25	0	0.00	9	56.25	0	0.00	1	6.25	6	10
Bulandshahr	1			0.25	0.25	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Etah	1			1.05	1.05	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Fatehpur	5			0.04	3.18	0	0.00	0	0.00	0	0.00	2	40.00	3	60.00	0	0.00		5
Gonda	1			0.96	0.96	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Gorakhpur	13			0.05	1.55	0	0.00	0	0.00	0	0.00	13	100.00	0	0.00	0	0.00		13
Jalaun	1			6.63	6.63	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	100.00		1
Kheri	3	0.72	0.72	0.66	0.85	1	33.33	0	0.00	0	0.00	2	66.67	0	0.00	0	0.00	1	2
Meerut	2	0.06	0.54			2	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	
Rampur	1			0.4	0.4	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Sambhal	3	0.68	1.21			3	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	3	
Sitapur	1	0.65	0.65			1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	
Unnao	4	0.15	0.15	0.09	1.06	1	25.00	0	0.00	0	0.00	3	75.00	0	0.00	0	0.00	1	3

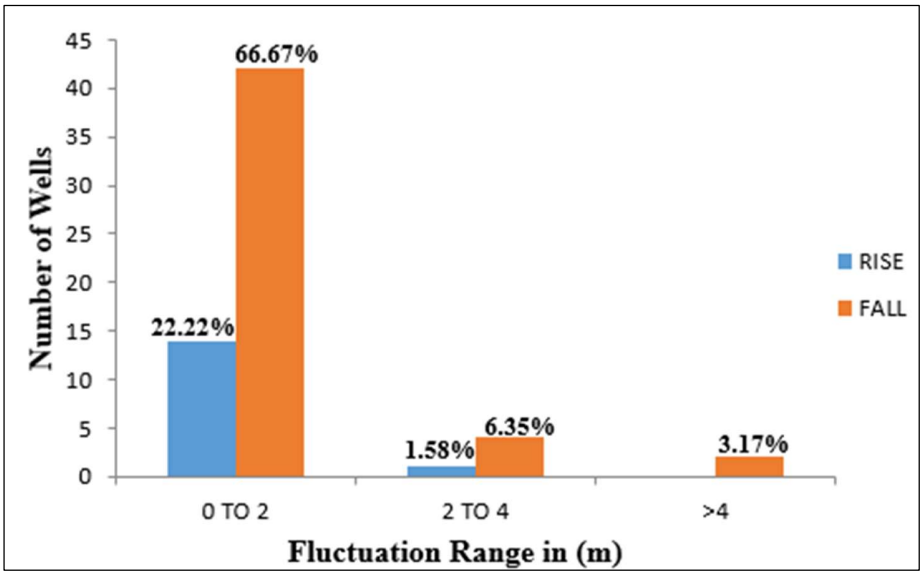


Figure-12: Percentage of wells showing rise and fall of Piezometric head in Confined aquifer (November 2022 to November 2023)

January 2023 –24:

The fluctuation of 85 wells data show rise of piezometric head in 29 nos (34.11%) and fall in 56 nos (65.88%) of the analysed wells.

Rise in Piezometric head:

A rise of 0-2 m in piezometric head is noticed in 24 no. of analysed wells (28.23%) mainly in Azamgharh, Baghpat, Banda, Bulandshahr, Chitrakoot, Fatehpur, Gaziabad and Mahoba districts in UP and rise of piezometric head of 2 to 4 m is seen only in 5 no. of wells (5.88%) in Banda, Chitrakoot, Mahoba and Sambhal districts.

Fall in Piezometric head:

The fluctuation data of the State shows that a fall of piezometric head of 0 to 2m in 49 no. of analysed wells (57.64%) observed mainly in Ambedkar Nagar, Bahraich, Ballia, Balrampur, Banda, Bulandshahr, Chitrakoot, Fatehpur, Gorakhpur, Mau and Siddharathnagar districts of UP.

A fall of piezometric head of 2 to 4m is observed only in 6 no. wells (7.05%) mainly in Azamgarh, Banda, Chitrakoot, Fatehpur and Lakhimpur Kheri districts and fall of piezometric head more than 4 m is observed in Siddharthnagar district of UP.

The district wise change in piezometric head have been shown in Table-24 and percentage of wells showing rise and fall of piezometric head in Confined aquifer (January 2023 to January2024) in figure-13.

Table-24. DISTRICT-WISE– ANNUAL PIEZOMETRIC HEAD FLUCTUATION, U.P CONFINED AQUIFERS (JANUARY' 2023– 2024)

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise					Fall								
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Ambedkar Nagar	1			1.33	1.33	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Azamgarh	8	0.05	0.67	0.23	2.25	3	37.50	0	0.00	0	0.00	4	50.00	1	12.50	0	0.00	3	5
Baghpat	2	0.35	0.7			2	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	
Bahraich	1			0.54	0.54	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Ballia	1			0.55	0.55	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Balrampur	2			0.16	1.07	0	0.00	0	0.00	0	0.00	2	100.00	0	0.00	0	0.00		2
Banda	15	0.17	3.96	0.06	2.26	7	46.67	2	13.33	0	0.00	5	33.33	1	6.67	0	0.00	9	6
Bulandshahr	2	0.15	0.15	0.19	0.19	1	50.00	0	0.00	0	0.00	1	50.00	0	0.00	0	0.00	1	1
Chitrakoot	8	0.58	3	0.01	2.98	2	25.00	1	12.50	0	0.00	3	37.50	2	25.00	0	0.00	3	5
Fatehpur	8	0.19	0.19	0.01	6.58	1	12.50	0	0.00	0	0.00	5	62.50	1	12.50	1	12.50	1	7
Ghaziabad	1	0.5	0.5			1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	
Ghazipur	1			0.27	0.27	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Gonda	1			0.98	0.98	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Gorakhpur	14			0.14	1.91	0	0.00	0	0.00	0	0.00	14	100.00	0	0.00	0	0.00		14
Jalaun	1			1.57	1.57	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Jaunpur	1			1.77	1.77	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Kheri	3			0.58	0.75	0	0.00	0	0.00	0	0.00	3	100.00	0	0.00	0	0.00		3
Mahoba	5	0.21	2.07	0.07	3.53	2	40.00	1	20.00	0	0.00	1	20.00	1	20.00	0	0.00	3	2
Mau	2			0.11	1.32	0	0.00	0	0.00	0	0.00	2	100.00	0	0.00	0	0.00		2
Meerut	2	0.03	0.1			2	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	
Rampur	1			0.32	0.32	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Sambhal	4	0.55	2.16			3	75.00	1	25.00	0	0.00	0	0.00	0	0.00	0	0.00	4	

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall			Rise					Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Siddharthnagar	1			0.6	0.6	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1

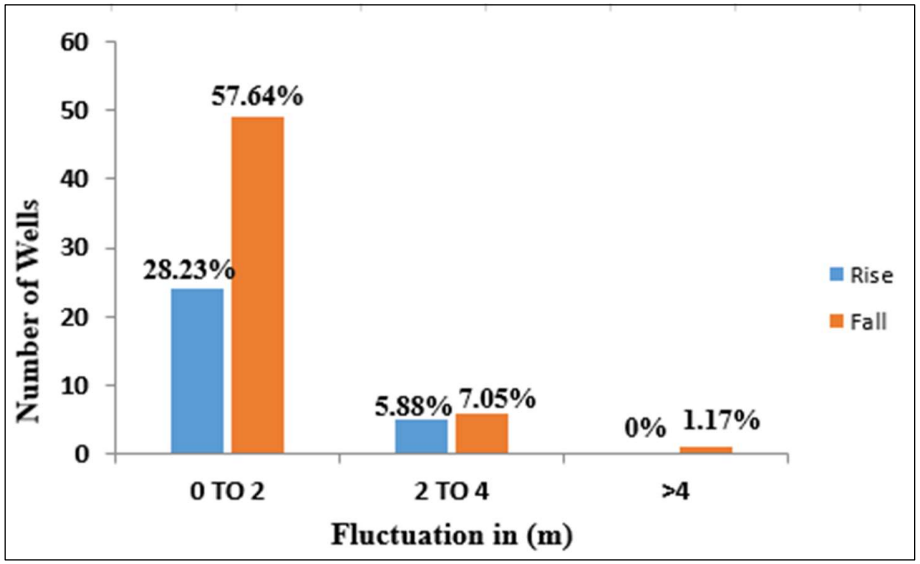


Figure-13: Percentage of wells showing rise and fall of Piezometric head in Confined aquifer (January 2022 to January 2023)

The overall status of annual fluctuation in confined aquifer of the state is summarized in following table.

TABLE-25. SUMMARISED STATUS OF ANNUAL FLUCTUATION, 2023 FOR CONFINED AQUIFER, U.P.

FLUCTUATION RANGE	May (2022-23)		August (2022-23)		Nov (2022-23)		Jan (2023-24)	
	Rise (%)	*Fall (%)*	*Rise (%)*	*Fall (%)*	*Rise (%)*	*Fall (%)*	*Rise (%)*	*Fall (%)*
0-2	9 (52.94%)	8 (47.06%)	7 (53.84%)	2 (15.38%)	14 (22.22%)	42 (66.67%)	24 (28.23%)	49 (57.64%)
2-4	0	0	2 (15.38%)	1 (7.7%)	1 (1.58%)	4 (6.35%)	5 (5.88%)	6 (7.05%)
>4	0	0	0 (0%)	1 (7.7%)	0 (0%)	2 (3.17%)	0 (0%)	1 (1.17%)
Total	9 (52.94%)	8 (47.06%)	9 (69.23%)	4 (30.76%)	15 (23.8%)	48 (76.19%)	29 (34.11%)	56 (65.88%)

From the analysis of Table-25, it is evident that the piezometric head has shown maximum decline in May 2023 but there is rise of piezometric head in August 2023 due to rainfall occurs during the month of August 23.

6.3 Fluctuation from the Decadal Mean during 2023-24

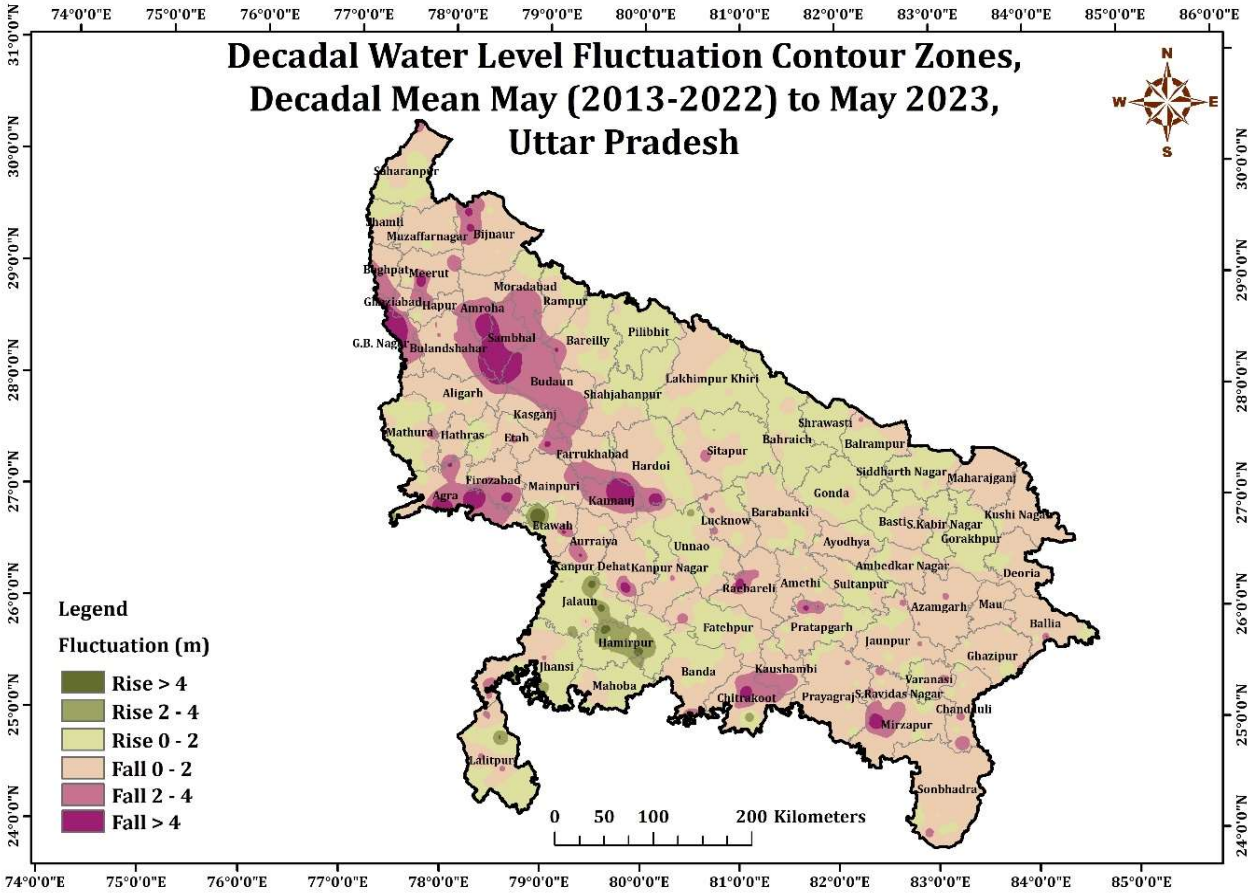
The fluctuations in water level described earlier are very much dependent on the rainfall and give a very short-term picture. In order to remove the rainfall anomalies, the long-term water level is considered as this would normalize the erratic highs and lows. For this the water level of each season has been compared to the mean water level of past 10 years. This has been done to evaluate the status of water level during the year 2023- 24 with respect to long term mean. The outcome of the analysis has been compiled on district level and the same has been discussed subsequently for the four seasons of observation.

6.3.1 Decadal Fluctuation during 2023-24 for unconfined aquifer

Mean May (2013- 2022) – May 2023

The pre-monsoon water level data for 2023 has been compared to decadal mean (2013-2022) for pre-monsoon periods, and district-wise analysis of Ground Water Monitoring wells has been compiled in Table-26 and fluctuation map has been prepared and given in Plate –16. The analyzed data shows that rise in water level for 282 (46.84%) wells and fall in 320 no. (53.16%).

Plate –16



Rise in water level

Out of 602 wells, water level rise of less than 2 m is recorded in 42.85% wells, 2 to 4m in 3 % wells and more than 4 m in 1% of the wells. Water level rise of less than 2m are observed Trai region such as Siddarth Nagar, Balrampur, Shrawasti, Bahraich etc and it is also observed in south western parts of the districts such as Lalitpur, Jhansi, Mahoba, Hamirpur, Jalaun, Kanpur, Etawah, Hathras and Mathura. Water level rise of 2 to 4 m is observed mainly in Lalitpur, Jhansi, Hamirpur, Jalaun, Kanpur and Etwah districts and rise of more than 4m is significantly observed in Lalitpur, Hamirpur, Jalaun, and Etawah districts.

Fall in water level

Out of the 602 analyzed wells, fall in water levels 43.52% of wells are recorded less than 2m while 6.3% in the range of 2 to 4 m and remaining 3.3% wells registered water level fall of more than 4m. The water level Fall of less than 2 m is observed in north eastern parts of the district mainly Sonbhadra, Chandauli, Ghazipur, Ballia, Deoria, Kushi Nagar, Maharganj, Azamgarh, Mau, Jaunpur etc. It has been observed that the fall in water level less than 2m is following north west to south east direction. Fall of 2 to 4m are mainly found in the district of Baghpat, Bijnour, G.B. Nagar, Agra, Firozabad, Amroha, Baduaun, Kannauj, Kanpur Dehat, Chitrakoot and Mirzapur. Fall of more than 4m is recorded mainly in G.B. Nagar, Agra, Firozabad, Kannauj, Sambhal, Chitrakoot and Mirzapur. The Percentage of wells showing rise and fall in WL in Unconfined Aquifer (Decadal Mean May (2013-2022) to May (2023) in figure 14.

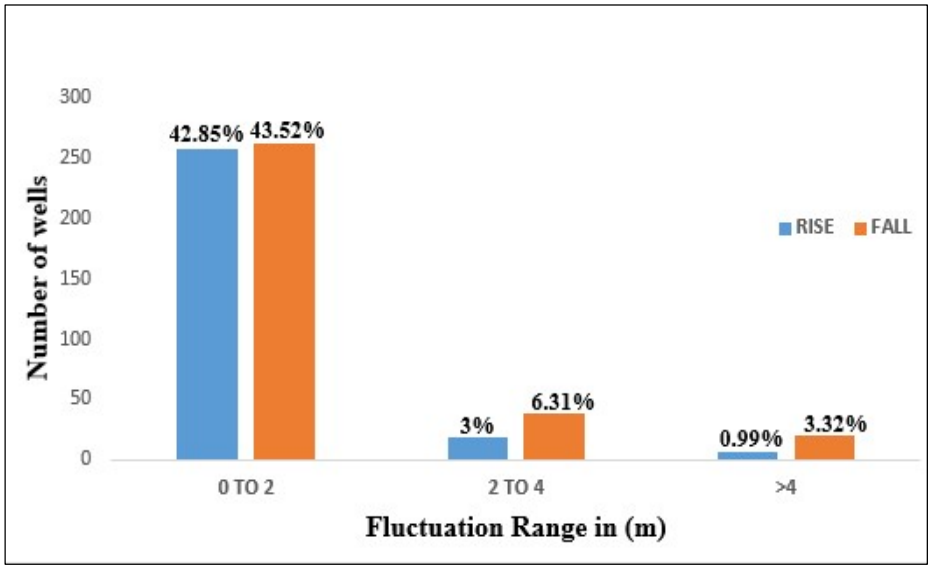


Figure-14: Percentage of wells showing rise and fall of WL in Unconfined Aquifer (Decadal Mean May (2013-2022) to May (2023).

Table-26. DISTRICT WISE – DECADAL WATER LEVEL FLUCTUATION, U.P. UNCONFINED AQUIFERS

DECADAL MEAN MAY (2013 – 2022) – MAY, 2023

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2-4	%	> 4	%	0 - 2	%	2-4	%	> 4	%	Rise	Fall
Agra	8	0.58	3.44	0.34	2.56	2	25	1	12.5	0	0	3	37.5	2	25	0	0	3	5
Aligarh	7	0.15	1.95	0.23	0.72	3	42.86	0	0	0	0	4	57.14	0	0	0	0	3	4
Ambedkar Nagar	5	0.11	0.28	0.07	0.82	3	60	0	0	0	0	2	40	0	0	0	0	3	2
Amethi	14	0.09	0.44	0.01	0.97	4	28.57	0	0	0	0	10	71.43	0	0	0	0	4	10
Amroha	3			0.53	1.62	0	0	0	0	0	0	3	100	0	0	0	0		3
Auraiya	7	0.34	0.64	0.22	4.55	2	28.57	0	0	0	0	3	42.86	1	14.29	1	14.29	2	5
Ayodhya	8	0.17	0.17	0.08	0.57	1	12.5	0	0	0	0	7	87.5	0	0	0	0	1	7
Azamgarh	11	0.02	0.03	0.02	2.34	1	9.09	0	0	0	0	8	72.73	2	18.18	0	0	1	10
Bahraich	12	0.02	1.03	0.06	0.91	8	66.67	0	0	0	0	4	33.33	0	0	0	0	8	4
Ballia	15	0.06	1.03	0.02	1.16	5	33.33	0	0	0	0	10	66.67	0	0	0	0	5	10
Balrampur	16	0.06	1.68	0.01	1.31	13	81.25	0	0	0	0	3	18.75	0	0	0	0	13	3
Banda	8	0.25	0.60	0.34	1.64	2	25	0	0	0	0	6	75	0	0	0	0	2	6
Bara Banki	20	0.04	1.50	0.09	1.81	8	40	0	0	0	0	12	60	0	0	0	0	8	12
Bareilly	8	0.65	1.35	0.45	4.54	4	50	0	0	0	0	3	37.5	0	0	1	12.5	4	4
Basti	8	0.00	1.78	0.09	0.94	4	50	0	0	0	0	4	50	0	0	0	0	4	4
Bhadohi	4	3.01	3.02	0.59	1.45	0	0	1	25	0	0	3	75	0	0	0	0	1	3
Bijnor	4	0.04	0.43	0.32	0.72	2	50	0	0	0	0	2	50	0	0	0	0	2	2
Budaun	2			2.88	3.66	0	0	0	0	0	0	0	0	2	100	0	0		2
Bulandshahr	2			1.08	2.72	0	0	0	0	0	0	1	50	1	50	0	0		2

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2-4	%	> 4	%	0 - 2	%	2-4	%	> 4	%	Rise	Fall
Chandauli	7	0.43	1.31	0.26	2.58	3	42.86	0	0	0	0	3	42.86	1	14.29	0	0	3	4
Chitrakoot	7	0.44	3.38	1.01	9.52	2	28.57	1	14.29	0	0	1	14.29	2	28.57	1	14.29	3	4
Deoria	5	0.32	0.32	0.14	0.91	1	20	0	0	0	0	4	80	0	0	0	0	1	4
Etah	3	4.64	4.64	1.19	4.80	0	0	0	0	1	33.33	1	33.33	0	0	1	33.33	1	2
Etawah	3	1.77	7.20	5.26	5.26	1	33.33	0	0	1	33.33	0	0	0	0	1	33.33	2	1
Farrukhabad	2	1.56	1.56	3.89	3.89	1	50	0	0	0	0	0	0	1	50	0	0	1	1
Fatehpur	11	0.27	2.91	1.38	6.39	6	54.55	1	9.09	0	0	2	18.18	1	9.09	1	9.09	7	4
Firozabad	3			0.25	5.59	0	0	0	0	0	0	1	33.33	1	33.33	1	33.33		3
Gautam Buddha Nagar	3			1.22	9.44	0	0	0	0	0	0	1	33.33	0	0	2	66.67		3
Ghaziabad	1			0.86	0.86	0	0	0	0	0	0	1	100	0	0	0	0		1
Ghazipur	12	0.12	2.47	0.49	1.66	7	58.33	1	8.33	0	0	4	33.33	0	0	0	0	8	4
Gonda	9	0.16	0.92	0.07	0.69	7	77.78	0	0	0	0	2	22.22	0	0	0	0	7	2
Gorakhpur	3	0.48	0.91			3	100	0	0	0	0	0	0	0	0	0	0	3	
Hamirpur	6	1.02	5.50	0.71	0.71	3	50	1	16.67	1	16.67	1	16.67	0	0	0	0	5	1
Hapur	3	1.30	1.30	0.26	2.28	1	33.33	0	0	0	0	1	33.33	1	33.33	0	0	1	2
Hardoi	18	0.06	1.23	0.04	4.73	9	50	0	0	0	0	8	44.44	0	0	1	5.56	9	9
Hathras	1	0.14	0.14			1	100	0	0	0	0	0	0	0	0	0	0	1	
Jalaun	19	0.19	10.04	0.17	1.78	10	52.63	2	10.53	2	10.53	5	26.32	0	0	0	0	14	5
Jaunpur	14	0.11	1.54	0.18	6.69	6	42.86	0	0	0	0	5	35.71	2	14.29	1	7.14	6	8

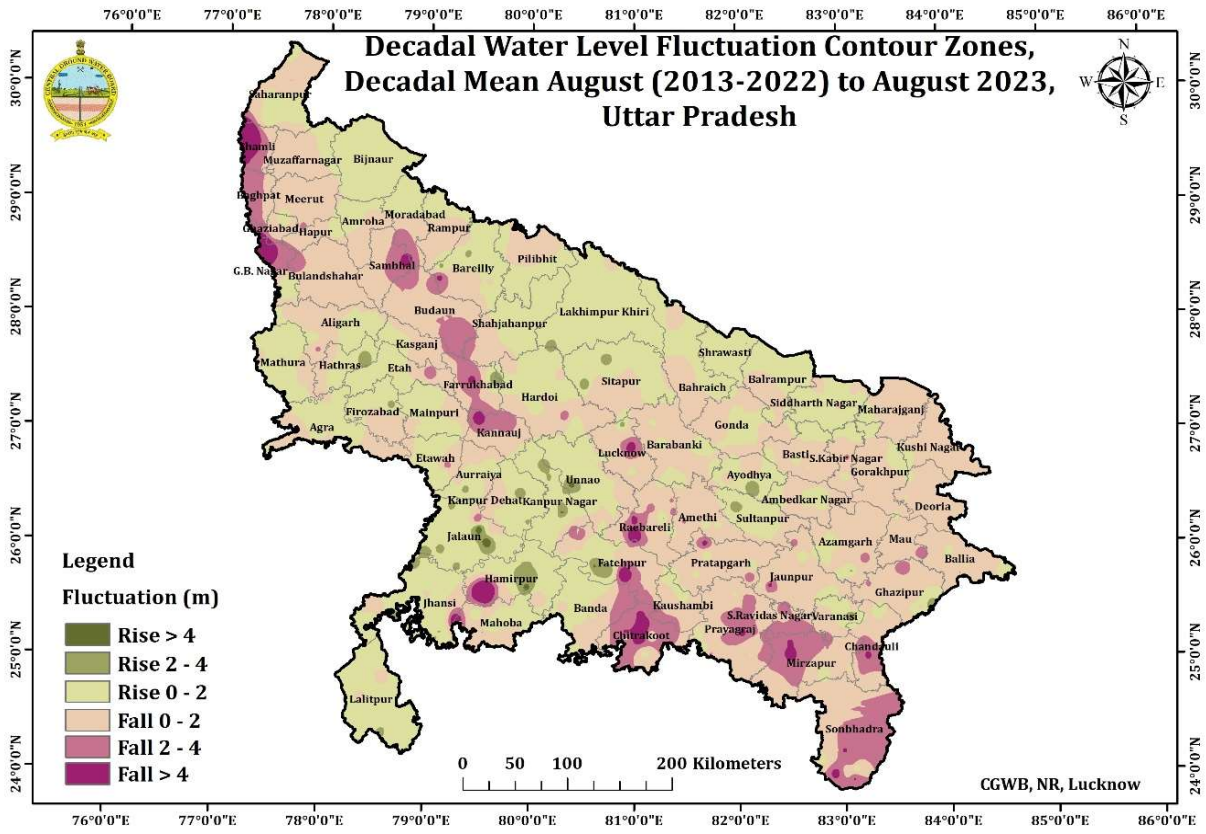
District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2-4	%	> 4	%	0 - 2	%	2-4	%	> 4	%	Rise	Fall
Jhansi	17	0.57	3.64	0.36	2.52	5	29.41	2	11.76	0	0	8	47.06	2	11.76	0	0	7	10
Kannauj	2			3.47	3.81	0	0	0	0	0	0	0	0	2	100	0	0		2
Kanpur Dehat	4	0.80	0.80	1.61	7.22	1	25	0	0	0	0	2	50	0	0	1	25	1	3
Kanpur Nagar	14	0.16	2.46	0.52	1.62	9	64.29	2	14.29	0	0	3	21.43	0	0	0	0	11	3
Kasganj	1	0.19	0.19			1	100	0	0	0	0	0	0	0	0	0	0	1	
Kaushambi	5			0.39	3.72	0	0	0	0	0	0	3	60	2	40	0	0		5
Kheri	7	0.30	1.02	0.30	0.30	6	85.71	0	0	0	0	1	14.29	0	0	0	0	6	1
Kushinagar	3			0.15	1.16	0	0	0	0	0	0	3	100	0	0	0	0		3
Lalitpur	12	0.41	4.46	0.27	2.69	5	41.67	1	8.33	1	8.33	3	25	2	16.67	0	0	7	5
Lucknow	16	0.57	1.66	0.11	5.75	5	31.25	0	0	0	0	9	56.25	1	6.25	1	6.25	5	11
Mahoba	6	1.54	1.87	0.16	0.89	3	50	0	0	0	0	3	50	0	0	0	0	3	3
Mahrajganj	3			0.44	1.08	0	0	0	0	0	0	3	100	0	0	0	0		3
Mainpuri	6	0.37	0.37	0.91	3.16	1	16.67	0	0	0	0	4	66.67	1	16.67	0	0	1	5
Mathura	14	0.14	1.84	0.20	1.30	11	78.57	0	0	0	0	3	21.43	0	0	0	0	11	3
Mau	4			0.42	1.77	0	0	0	0	0	0	4	100	0	0	0	0		4
Meerut	6	0.83	0.83	0.16	2.63	1	16.67	0	0	0	0	3	50	2	33.33	0	0	1	5
Mirzapur	8	0.54	0.64	0.67	7.01	2	25	0	0	0	0	4	50	0	0	2	25	2	6
Moradabad	6	0.04	1.06	0.52	2.58	4	66.67	0	0	0	0	1	16.67	1	16.67	0	0	4	2
Muzaffarnagar	6	0.10	0.65	1.01	4.28	3	50	0	0	0	0	2	33.33	0	0	1	16.67	3	3
Pilibhit	10	0.12	1.16	0.50	0.50	9	90	0	0	0	0	1	10	0	0	0	0	9	1
Pratapgarh	20	0.08	1.61	0.16	5.74	8	40	0	0	0	0	10	50	1	5	1	5	8	12

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2-4	%	> 4	%	0 - 2	%	2-4	%	> 4	%	Rise	Fall
Prayagraj	24	0.04	0.65	0.06	2.44	7	29.17	0	0	0	0	16	66.67	1	4.17	0	0	7	17
Rae Bareli	19	0.17	0.17	0.01	6.88	1	5.26	0	0	0	0	15	78.95	1	5.26	2	10.53	1	18
Rampur	1			0.64	0.64	0	0	0	0	0	0	1	100	0	0	0	0		1
Saharanpur	8	0.11	1.97	0.10	2.90	6	75	0	0	0	0	1	12.5	1	12.5	0	0	6	2
Sambhal	1			3.78	3.78	0	0	0	0	0	0	0	0	1	100	0	0		1
Sant Kabir Nagar	3	0.64	1.30	0.43	0.43	2	66.67	0	0	0	0	1	33.33	0	0	0	0	2	1
Shamli	1			9.54	9.54	0	0	0	0	0	0	0	0	1	100	0	0		1
Shrawasti	11	0.35	1.40	0.05	0.35	9	81.82	0	0	0	0	2	18.18	0	0	0	0	9	2
Siddharthnagar	10	0.04	0.45	0.00	0.55	5	50	0	0	0	0	5	50	0	0	0	0	5	5
Sitapur	18	0.10	2.20	0.10	2.16	10	55.56	1	5.56	0	0	6	33.33	1	5.56	0	0	11	7
Sonbhadra	11	0.34	3.38	1.11	2.15	4	36.36	2	18.18	0	0	4	36.36	1	9.09	0	0	6	5
Sultanpur	14	0.01	0.93	0.02	0.76	7	50	0	0	0	0	7	50	0	0	0	0	7	7
Unnao	15	0.01	3.11	0.01	1.38	8	53.33	1	6.67	0	0	6	40	0	0	0	0	9	6
Varanasi	4	0.19	2.59	3.91	3.91	2	50	1	25	0	0	0	0	1	25	0	0	3	1

Mean August (2013 - 2022) – August 2023

The average water level of last 10 years (2013 to 2022) for each well for the month of August has been evaluated and compared with water level data for August'2023. The wells have been categorized depending on rise and fall in water levels and shown in Table-27 and fluctuation map has been given in Plate-17.

Plate-17



Rise in water level:

Out of 608, there is rise in water level in 300 wells (49.34%) wells. However, a rise of 0 to 2m water level occurs in patches for 256 wells (42.11%), which occurs mostly in Ghazipur, Ayodhaya, Sultanpur, Azamgarh, Siddharth nagar, Shrawasti, Bahraich, Bareilly, Moradabad, Bijnaur, Saharanpur, Hathras, Etah, Firozabad, Agra, Jalaun, Jhansi and Hamirpur district of UP. Rise of 2 - 4m is observed in 37 wells (6.09%) occours in Unnao, Kanpur nagar, Jalaun, Sitapur, Varanasi, Hamirpur and Hathras districts of UP and more than 4 m are observed in 7 wells (1.15%) namely Hamirpur, Jalaun and Farrukhabad districts of UP.

Fall in water level:

The fall in water level is observed in 308 wells (50.65% of the monitored wells). The fall in water level is mostly concentrated in western and eastern part of UP with few patched in central U.P. It is seen in Sambhal, Ghaziabad, Firozabad, Hathras, Etah, Farrukhabad, Kannauj, Kanpur Nagar, Lucknow, Mirzapur, Prayagraj, Sonbhadra, Chaundali, Bagpat, Chitrakoot and Shamli districts of UP. Fall in water level for the range of 0 - 2 m and 2 -4 m is observed in 223 wells (36.68%) and 56 wells (9.21%). Fall of greater than 4m is observed only in 29 no. wells (4.77%). Percentage of wells showing rise and fall in WL in unconfined Aquifer (Decadal Mean August (2013-2022) to August (2023) is shown in figure 15.

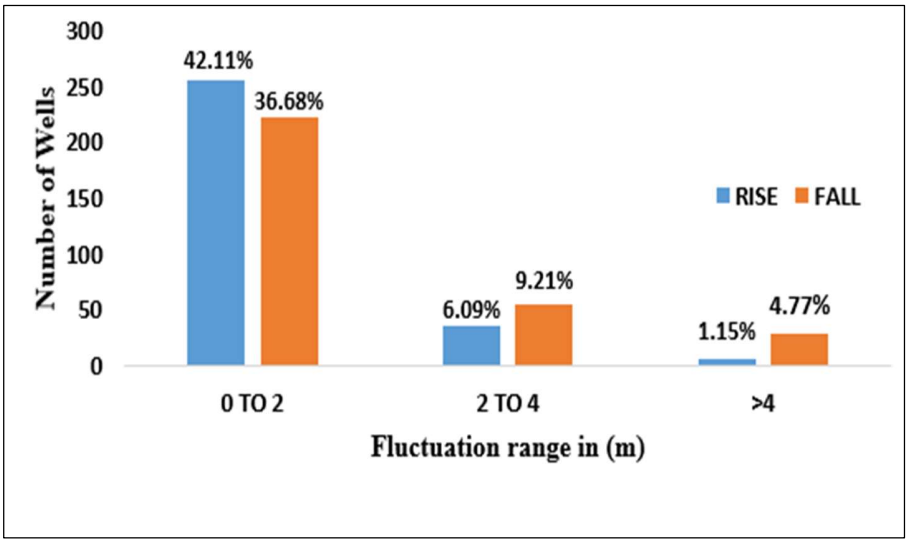


Figure-15: Percentage of wells showing rise and fall of WL in Unconfined Aquifer (Decadal Mean August (2013-2022) to August (2023)

Table-27. DISTRICT WISE – DECADAL WATER LEVEL FLUCTUATION, U.P. UNCONFINED AQUIFERS

MEAN AUGUST (2013 – 2022) – AUGUST, 2023

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2-4	%	> 4	%	0 - 2	%	2-4	%	> 4	%	Rise	Fall
Agra	7	0.23	1.29	0.05	2	3	42.86	0	0	0	0	3	42.86	1	14.29	0	0	3	4
Aligarh	7	1.02	1.42	0.21	2.4	2	28.57	0	0	0	0	4	57.14	1	14.29	0	0	2	5
Ambedkar Nagar	6	0.23	0.56	0.18	0.86	4	66.67	0	0	0	0	2	33.33	0	0	0	0	4	2
Amethi	16	0.2	1.12	0.11	2.51	5	31.25	0	0	0	0	8	50	3	18.75	0	0	5	11
Amroha	3	0.01	0.47	1.07	1.07	2	66.67	0	0	0	0	1	33.33	0	0	0	0	2	1
Auraiya	6	0.27	2.94	0.01	0.91	2	33.33	1	16.67	0	0	3	50	0	0	0	0	3	3
Ayodhya	8	0.04	3.71	0.63	1.44	3	37.5	2	25	0	0	3	37.5	0	0	0	0	5	3
Azamgarh	14	0.07	2.5	0.43	2.71	5	35.71	1	7.14	0	0	6	42.86	2	14.29	0	0	6	8
Bahraich	11	0.05	2.07	0.36	1.58	4	36.36	1	9.09	0	0	6	54.55	0	0	0	0	5	6
Ballia	14	0.42	1.33	0.22	2.18	4	28.57	0	0	0	0	8	57.14	2	14.29	0	0	4	10
Balrampur	16	0.07	1.92	0.04	1.37	10	62.5	0	0	0	0	6	37.5	0	0	0	0	10	6
Banda	7	0.02	0.53	0.12	0.2	5	71.43	0	0	0	0	2	28.57	0	0	0	0	5	2
Bara Banki	20	0.02	1.55	0.08	1.89	10	50	0	0	0	0	10	50	0	0	0	0	10	10
Bareilly	8	0.41	2.93	0.08	4.66	1	12.5	2	25	0	0	4	50	0	0	1	12.5	3	5
Basti	8	0.2	0.67	0.95	1.37	5	62.5	0	0	0	0	3	37.5	0	0	0	0	5	3
Bhadohi	4	0	0	1.66	3.64	0	0	0	0	0	0	1	25	3	75	0	0		4
Bijnor	4	0.17	1.87			4	100	0	0	0	0	0	0	0	0	0	0	4	

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2-4	%	> 4	%	0 - 2	%	2-4	%	> 4	%	Rise	Fall
Budaun	1	0	0	3.71	3.71	0	0	0	0	0	0	0	0	1	100	0	0		1
Bulandshahr	1	0	0	3.19	3.19	0	0	0	0	0	0	0	0	1	100	0	0		1
Chandauli	9	0.9	0.9	0.01	4.66	1	11.11	0	0	0	0	5	55.56	2	22.22	1	11.11	1	8
Chitrakoot	8	0.24	0.89	1.47	13.94	2	25	0	0	0	0	1	12.5	3	37.5	2	25	2	6
Deoria	5	0.07	0.28	0.46	1.28	2	40	0	0	0	0	3	60	0	0	0	0	2	3
Etah	4	0.59	0.87	0.06	3.14	2	50	0	0	0	0	1	25	1	25	0	0	2	2
Etawah	4	0.92	1.78	3.35	3.35	3	75	0	0	0	0	0	0	1	25	0	0	3	1
Farrukhabad	2	3.54	3.54	4.45	4.45	0	0	1	50	0	0	0	0	0	0	1	50	1	1
Fatehpur	11	0.2	4.38	0.23	6.5	4	36.36	1	9.09	1	9.09	2	18.18	0	0	3	27.27	6	5
Firozabad	3	2.45	2.45	1.93	2	0	0	1	33.33	0	0	1	33.33	1	33.33	0	0	1	2
Gautam Buddha Nagar	2	1.71	1.71	11.02	11.02	1	50	0	0	0	0	0	0	0	0	1	50	1	1
Ghaziabad	2	1.22	1.22	0.89	0.89	1	50	0	0	0	0	1	50	0	0	0	0	1	1
Ghazipur	13	0.71	3.83	0.18	3.03	1	7.69	1	7.69	0	0	8	61.54	3	23.08	0	0	2	11
Gonda	8	0.1	0.93	0.18	0.9	3	37.5	0	0	0	0	5	62.5	0	0	0	0	3	5
Gorakhpur	3	1.04	1.04	0.9	0.95	1	33.33	0	0	0	0	2	66.67	0	0	0	0	1	2
Hamirpur	6	0.76	4.72	0.42	12.79	1	16.67	1	16.67	1	16.67	2	33.33	0	0	1	16.67	3	3
Hapur	2	0.45	0.45	1.65	1.65	1	50	0	0	0	0	1	50	0	0	0	0	1	1
Hardoi	14	0.22	2.45	0.29	6.05	9	64.29	1	7.14	0	0	3	21.43	0	0	1	7.14	10	4
Hathras	2	0.73	3.27			1	50	1	50	0	0	0	0	0	0	0	0	2	

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2-4	%	> 4	%	0 - 2	%	2-4	%	> 4	%	Rise	Fall
Jalaun	22	0.15	5.93	0.28	4.16	11	50	5	22.73	2	9.09	3	13.64	0	0	1	4.55	18	4
Jaunpur	16	0.03	1.78	0.07	5.18	4	25	0	0	0	0	10	62.5	1	6.25	1	6.25	4	12
Jhansi	15	0.13	2.5	0.2	0.53	8	53.33	4	26.67	0	0	3	20	0	0	0	0	12	3
Kannauj	2	0	0	3.12	5.3	0	0	0	0	0	0	0	0	1	50	1	50		2
Kanpur Dehat	5	0.42	2.7	1.65	1.65	2	40	2	40	0	0	1	20	0	0	0	0	4	1
Kanpur Nagar	11	0.58	4.62			8	72.73	2	18.18	1	9.09	0	0	0	0	0	0	11	
Kaushambi	4	0.53	2.16	0.79	2.42	1	25	1	25	0	0	1	25	1	25	0	0	2	2
Kheri	6	0.2	1.76	0.49	0.49	5	83.33	0	0	0	0	1	16.67	0	0	0	0	5	1
Kushinagar	4	0	0	0.09	1.28	0	0	0	0	0	0	4	100	0	0	0	0		4
Lalitpur	12	0.01	2.58	0	0.44	9	75	1	8.33	0	0	2	16.67	0	0	0	0	9	3
Lucknow	17	0.02	3.09	0.02	7.45	3	17.65	1	5.88	0	0	11	64.71	1	5.88	1	5.88	4	13
Mahoba	8	0.14	1.51	1.14	6.75	5	62.5	0	0	0	0	1	12.5	1	12.5	1	12.5	5	3
Mahrajganj	5	0	0	0.08	1.77	0	0	0	0	0	0	5	100	0	0	0	0		5
Mainpuri	5	0.43	1.55	0.81	0.81	4	80	0	0	0	0	1	20	0	0	0	0	4	1
Mathura	14	0.02	1.89	0.48	0.9	11	78.57	0	0	0	0	3	21.43	0	0	0	0	11	3
Mau	7	0.68	0.68	0.03	3.34	1	14.29	0	0	0	0	5	71.43	1	14.29	0	0	1	6
Meerut	3	0	0	0.01	2.22	0	0	0	0	0	0	2	66.67	1	33.33	0	0		3
Mirzapur	10	0.32	1.38	1.07	5.36	2	20	0	0	0	0	2	20	4	40	2	20	2	8
Moradabad	5	0.75	1.8	2.94	2.94	4	80	0	0	0	0	0	0	1	20	0	0	4	1

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2-4	%	> 4	%	0 - 2	%	2-4	%	> 4	%	Rise	Fall
Muzaffarnagar	3	0.12	0.12	0.89	1.04	1	33.33	0	0	0	0	2	66.67	0	0	0	0	1	2
Pilibhit	10	0.41	1.94	0.14	1.21	6	60	0	0	0	0	4	40	0	0	0	0	6	4
Pratapgarh	24	0.08	1.73	0.02	5.41	4	16.67	0	0	0	0	15	62.5	4	16.67	1	4.17	4	20
Prayagraj	28	0.1	0.83	0.07	4.84	8	28.57	0	0	0	0	13	46.43	5	17.86	2	7.14	8	20
Rae Bareli	19	0.08	2.98	0.74	7.5	5	26.32	1	5.26	0	0	6	31.58	4	21.05	3	15.79	6	13
Rampur	1	0	0	0.54	0.54	0	0	0	0	0	0	1	100	0	0	0	0		1
Saharanpur	8	1.16	2.07	0.27	2.05	3	37.5	1	12.5	0	0	3	37.5	1	12.5	0	0	4	4
Sambhal	1	0	0	4.86	4.86	0	0	0	0	0	0	0	0	0	0	1	100		1
Sant Kabir Nagar	4	0.26	0.36	0.4	2.22	2	50	0	0	0	0	1	25	1	25	0	0	2	2
Shamli	1	0	0	12.08	12.08	0	0	0	0	0	0	0	0	0	0	1	100		1
Shrawasti	10	0.18	2.08			9	90	1	10	0	0	0	0	0	0	0	0	10	
Siddharthnagar	10	0.17	0.86	0.06	0.75	6	60	0	0	0	0	4	40	0	0	0	0	6	4
Sitapur	17	0.12	3.72	0.06	1.83	9	52.94	2	11.76	0	0	6	35.29	0	0	0	0	11	6
Sonbhadra	11	1.2	1.33	0.07	5.19	2	18.18	0	0	0	0	3	27.27	3	27.27	3	27.27	2	9
Sultanpur	15	0.12	3.87	0.43	0.48	11	73.33	2	13.33	0	0	2	13.33	0	0	0	0	13	2
Unnao	12	0.02	4.98	0.07	0.07	10	83.33	0	0	1	8.33	1	8.33	0	0	0	0	11	1
Varanasi	4	4.64	4.64	0.89	2.47	0	0	0	0	1	25	2	50	1	25	0	0	1	3

Mean November (2013- 22) – November (2023)

The average water level of last 10 years (2013-22) for each hydrograph station for the month of November has been evaluated and compared with water level data of November 23. The wells have been categorized depending on rise and fall in water levels and shown in Table-28 and fluctuation map has been given in Plate-18.

Rise in Water Levels:

Out of 650 wells, water level rise of less than 2m is recorded in 46.15% wells, 2 to 4 m in 5.38 % wells and more than 4 m in 1.69% of the wells. Water level rise of less than 2m is seen in Mathura, Mainpuri, Etawah, Auraiya, Kanpur Dehat, Hamirpur, Jhansi, Lalitpur, Jalaun, Mahoba, Banda, Fatehpur, Sonbhadra, Chaundli, Amethi, Sultanpur, Ayodhaya, Shrawasti, Sitapur, Bahraich, Siddharth Nagar, Pilibhit, Bijnaur, Saharanpur, Shamli region. Water level rise of 2 to 4m is observed mainly in isolated patches of Jalaun, Hamirpur, Jhansi, Fatehpur, Chandauli, districts and rise of more than 4m is significantly observed in isolated patches of Jalaun district.

Fall in Water Levels:

Out of the 650 analyzed wells, 35.53% wells have recorded fall of less than 2m while 8% in the range of 2 to 4m and remaining 3.23% wells registered water level fall of more than 4m. Fall of less than 2m are observed in all districts mainly in parts of Meerut, Bulandshahar, Aligarh, Agra, Kasganj, Hathras, Farukhabad, Kannauj, Unnao, Lucknow, Barabanki, Raebarelly, Pratapgarh, Kaushambi, Azamgarh, Ballia, Sonbhadra, Kushinagar, Mau, Maharajganj, Gazipur, Mirzapur etc. districts. Fall of 2 to 4m, found in Gautambudh Nagar, Amroha, Shambhal, Budaun, Agra, Kannauj, Chitrakoot, Prayagraj, Mirzapur, Gazipur and Balrampur districts. Fall of more than 4m is recorded mainly in Gautambudh Nagar, Shambal, Badaun, Agra, Kannauj, Lucknow, Pratapgarh, Mirzapur, Jaunpur and Balrampur districts. Percentage of wells showing rise and fall in WL in unconfined Aquifer (Decadal Mean November (2013-2022) to November (2023) is shown in figure-16.

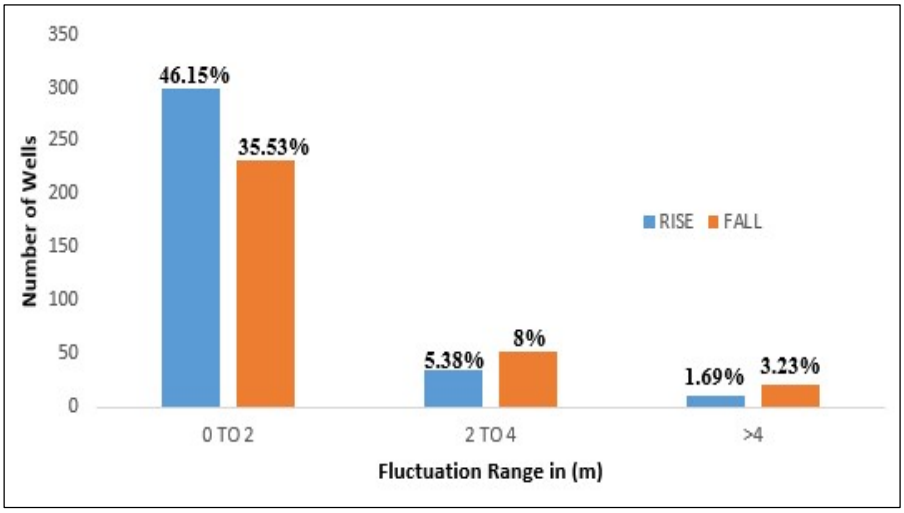


Figure-16: Percentage of wells showing rise and fall of WL in Unconfined Aquifer (DecadalMean November (2013-2022) to November (2023).

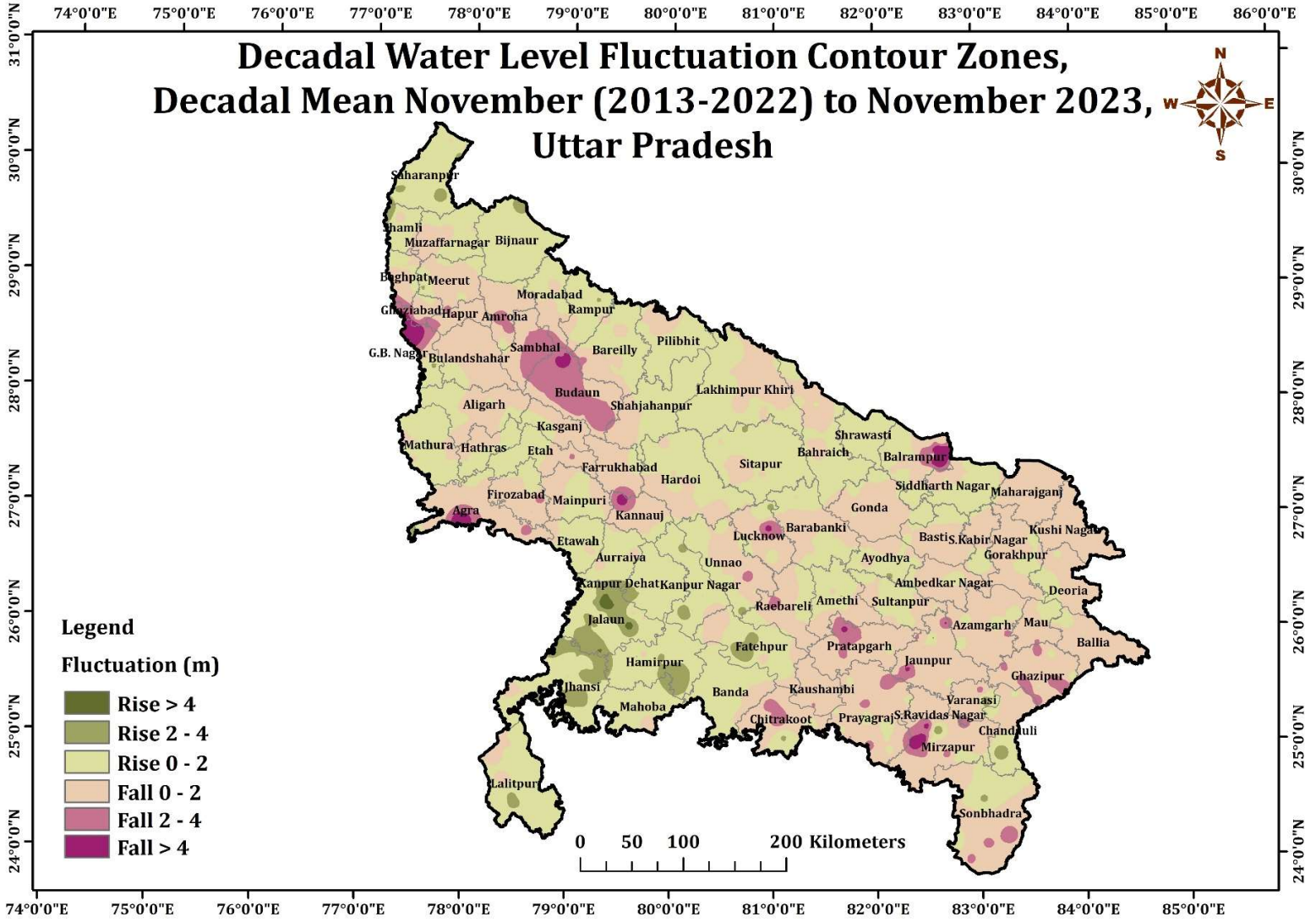

Decadal Water Level Fluctuation Contour Zones,
Decadal Mean November (2013-2022) to November 2023,
Uttar Pradesh
N
W
E
S
Legend
Fluctuation (m)
Rise > 4
Rise 2 - 4
Rise 0 - 2
Fall 0 - 2
Fall 2 - 4
Fall > 4
0 50 100 200 Kilometers
74°0'0"E
75°0'0"E
76°0'0"E
77°0'0"E
78°0'0"E
79°0'0"E
80°0'0"E
81°0'0"E
82°0'0"E
83°0'0"E
84°0'0"E
85°0'0"E
86°0'0"E
31°0'0"N
30°0'0"N
29°0'0"N
28°0'0"N
27°0'0"N
26°0'0"N
25°0'0"N
24°0'0"N
Saharanpur
Shamli
Muzaffarnagar
Bijnaur
Baghpat
Meerut
Moradabad
Ghaziabad
Hapur
Amroha
Rampur
G.B. Nagar
Bulandshahar
Sambhal
Bareilly
Pilibhit
Budaun
Lakhimpur Khiri
Aligarh
Shahjahanpur
Kasganj
Mathura
Hathras
Etah
Farrukhabad
Sitapur
Shrawasti
Bahraich
Balrampur
Hardoi
Siddharth Nagar
Maharajganj
Firozabad
Mainpuri
Agra
Kannauj
Gonda
Lucknow
Barabanki
Basti
S.Kabir Nagar
Kushi Nagar
Etawah
Aurraiya
Unnao
Ayodhya
Gorakhpur
Kanpur Dehat
Kanpur Nagar
Ambedkar Nagar
Deoria
Raebareli
Amethi
Sultanpur
Jalaun
Azamgarh
Mau
Ballia
Fatehpur
Pratapgarh
Jaunpur
Hamirpur
Ghazipur
Jhansi
Banda
Kaushambi
Varanasi
Mahoba
Chitrakoot
Prayagraj
S.Ravidas Nagar
Chandauli
Mirzapur
Lalitpur
Sonbhadra

Table-28. DISTRICT WISE – DECADAL WATER LEVEL FLUCTUATION, U.P. UNCONFINED AQUIFERS

MEAN NOVEMBER (2013 – 2022) – NOVEMBER, 2023

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2-4	%	> 4	%	0 - 2	%	2-4	%	> 4	%	Rise	Fall
Agra	8	0.53	4.84	0.27	6.63	1	12.5	0	0	1	12.5	4	50	1	12.5	1	12.5	2	6
Aligarh	7	0.25	1.56	0.20	1.62	3	42.86	0	0	0	0	4	57.14	0	0	0	0	3	4
Ambedkar Nagar	7	0.05	0.42	0.05	0.65	4	57.14	0	0	0	0	3	42.86	0	0	0	0	4	3
Amethi	16	0.13	2.56	0.09	1.93	7	43.75	1	6.25	0	0	8	50	0	0	0	0	8	8
Amroha	7	0.03	1.54	0.95	3.19	3	42.86	0	0	0	0	2	28.57	2	28.57	0	0	3	4
Auraiya	6	0.15	1.66	0.29	0.97	4	66.67	0	0	0	0	2	33.33	0	0	0	0	4	2
Ayodhya	8	0.01	2.70	0.47	0.83	4	50	1	12.5	0	0	3	37.5	0	0	0	0	5	3
Azamgarh	17	0.01	2.44	0.26	2.58	5	29.41	2	11.76	0	0	8	47.06	2	11.76	0	0	7	10
Bahraich	13	0.07	4.98	0.10	4.95	8	61.54	0	0	1	7.69	3	23.08	0	0	1	7.69	9	4
Ballia	14	0.17	1.86	0.37	4.01	5	35.71	0	0	0	0	7	50	1	7.14	1	7.14	5	9
Balrampur	15	0.15	1.39	0.04	0.26	11	73.33	0	0	0	0	4	26.67	0	0	0	0	11	4
Banda	7	0.17	2.67	0.62	0.62	5	71.43	1	14.29	0	0	1	14.29	0	0	0	0	6	1
Bara Banki	18	0.12	0.65	0.25	1.52	10	55.56	0	0	0	0	8	44.44	0	0	0	0	10	8
Bareilly	9	0.08	1.89	0.29	2.87	6	66.67	0	0	0	0	2	22.22	1	11.11	0	0	6	3
Basti	8	0.11	0.50	0.09	1.44	3	37.5	0	0	0	0	5	62.5	0	0	0	0	3	5
Bhadohi	4	0.00	0.00	0.17	1.63	0	0	0	0	0	0	4	100	0	0	0	0		4
Bijnor	5	0.92	2.88			4	80	1	20	0	0	0	0	0	0	0	0	5	
Budaun	3	0.00	0.00	2.50	3.15	0	0	0	0	0	0	0	0	3	100	0	0		3
Bulandshahr	1	0.00	0.00	1.71	1.71	0	0	0	0	0	0	1	100	0	0	0	0		1
Chandauli	7	0.02	3.13	0.47	0.73	3	42.86	1	14.29	0	0	3	42.86	0	0	0	0	4	3

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2-4	%	> 4	%	0 - 2	%	2-4	%	> 4	%	Rise	Fall
Chitrakoot	7	2.20	2.34	1.18	3.68	0	0	2	28.57	0	0	2	28.57	3	42.86	0	0	2	5
Deoria	5	0.12	0.42	0.06	1.04	2	40	0	0	0	0	3	60	0	0	0	0	2	3
Etah	4	0.42	1.35	2.40	2.40	3	75	0	0	0	0	0	0	1	25	0	0	3	1
Etawah	5	0.45	2.77	2.40	2.40	3	60	1	20	0	0	0	0	1	20	0	0	4	1
Farrukhabad	1	1.50	1.50			1	100	0	0	0	0	0	0	0	0	0	0	1	
Fatehpur	11	0.16	4.68	0.02	5.63	3	27.27	2	18.18	1	9.09	3	27.27	1	9.09	1	9.09	6	5
Firozabad	4	1.43	1.43	0.70	2.80	1	25	0	0	0	0	1	25	2	50	0	0	1	3
Gautam Buddha Nagar	4	0.95	2.25	8.10	10.14	1	25	1	25	0	0	0	0	0	0	2	50	2	2
Ghaziabad	1	0.00	0.00	0.90	0.90	0	0	0	0	0	0	1	100	0	0	0	0		1
Ghazipur	16	0.18	1.52	0.01	3.31	4	25	0	0	0	0	7	43.75	5	31.25	0	0	4	12
Gonda	8	0.02	0.42	0.16	0.81	5	62.5	0	0	0	0	3	37.5	0	0	0	0	5	3
Gorakhpur	3	0.27	0.65	0.40	0.40	2	66.67	0	0	0	0	1	33.33	0	0	0	0	2	1
Hamirpur	7	0.58	4.72	15.44	15.44	2	28.57	3	42.86	1	14.29	0	0	0	0	1	14.29	6	1
Hapur	2	0.07	0.07	2.10	2.10	1	50	0	0	0	0	0	0	1	50	0	0	1	1
Hardoi	16	0.04	1.85	0.00	3.26	10	62.5	0	0	0	0	5	31.25	1	6.25	0	0	9	7
Hathras	2	0.51	1.38			2	100	0	0	0	0	0	0	0	0	0	0	2	
Jalaun	22	0.18	14.48	0.01	1.94	13	59.09	3	13.64	3	13.64	3	13.64	0	0	0	0	19	3
Jaunpur	18	0.34	1.30	0.25	5.12	3	16.67	0	0	0	0	11	61.11	2	11.11	2	11.11	3	15
Jhansi	18	0.41	4.95	0.14	0.88	11	61.11	3	16.67	2	11.11	2	11.11	0	0	0	0	16	2
Kannauj	2	0.00	0.00	1.17	5.19	0	0	0	0	0	0	1	50	0	0	1	50		2

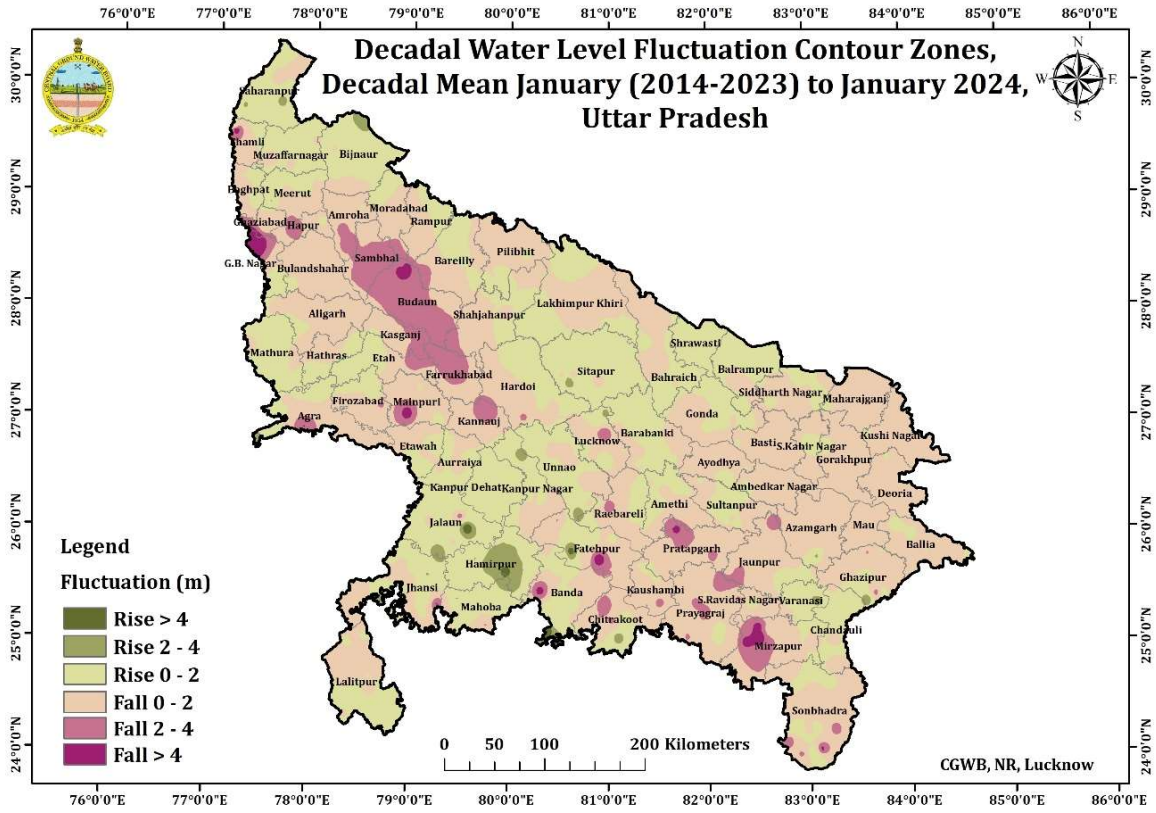
District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2-4	%	> 4	%	0 - 2	%	2-4	%	> 4	%	Rise	Fall
Kanpur Dehat	4	0.24	1.16			4	100	0	0	0	0	0	0	0	0	0	0	4	
Kanpur Nagar	11	0.06	2.57	0.73	0.73	8	72.73	2	18.18	0	0	1	9.09	0	0	0	0	10	1
Kasganj	2	0.98	0.98	1.24	1.24	1	50	0	0	0	0	1	50	0	0	0	0	1	1
Kaushambi	4	0.00	0.00	0.08	2.16	0	0	0	0	0	0	3	75	1	25	0	0		4
Kheri	6	0.36	0.57	0.34	0.62	2	33.33	0	0	0	0	4	66.67	0	0	0	0	2	4
Kushinagar	4	0.00	0.00	0.14	1.75	0	0	0	0	0	0	4	100	0	0	0	0		4
Lalitpur	14	0.14	3.03	0.02	1.26	7	50	1	7.14	0	0	6	42.86	0	0	0	0	8	6
Lucknow	18	0.46	3.20	0.22	5.11	4	22.22	2	11.11	0	0	9	50	1	5.56	2	11.11	6	12
Mahoba	9	0.54	1.80	2.18	2.18	8	88.89	0	0	0	0	0	0	1	11.11	0	0	8	1
Mahrajganj	5	0.00	0.00	0.55	0.88	0	0	0	0	0	0	5	100	0	0	0	0		5
Mainpuri	5	0.28	0.82	0.28	0.57	3	60	0	0	0	0	2	40	0	0	0	0	3	2
Mathura	14	0.10	1.95	0.07	0.97	9	64.29	0	0	0	0	5	35.71	0	0	0	0	9	5
Mau	6	0.19	2.13	0.36	2.23	1	16.67	1	16.67	0	0	3	50	1	16.67	0	0	2	4
Meerut	5	0.34	2.28	0.30	2.33	1	20	1	20	0	0	2	40	1	20	0	0	2	3
Mirzapur	8	1.57	2.50	0.41	6.46	1	12.5	1	12.5	0	0	2	25	1	12.5	3	37.5	2	6
Moradabad	6	0.68	0.93	0.10	0.69	4	66.67	0	0	0	0	2	33.33	0	0	0	0	4	2
Muzaffarnagar	7	0.72	0.91	0.38	1.63	3	42.86	0	0	0	0	4	57.14	0	0	0	0	3	4
Pilibhit	10	0.02	1.38	0.33	0.67	7	70	0	0	0	0	3	30	0	0	0	0	7	3
Pratapgarh	24	0.01	1.22	0.01	4.94	2	8.33	0	0	0	0	16	66.67	5	20.83	1	4.17	2	22
Prayagraj	27	0.04	1.74	0.00	11.20	11	40.74	0	0	0	0	10	37.04	4	14.81	2	7.41	11	16
Rae Bareli	19	0.03	1.42	0.05	4.16	12	63.16	0	0	0	0	5	26.32	1	5.26	1	5.26	12	7

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2-4	%	> 4	%	0 - 2	%	2-4	%	> 4	%	Rise	Fall
Rampur	1	0.48	0.48			1	100	0	0	0	0	0	0	0	0	0	0	1	
Saharanpur	11	0.27	2.46	0.07	0.62	6	54.55	2	18.18	0	0	3	27.27	0	0	0	0	8	3
Sambhal	2	0.00	0.00	3.18	3.54	0	0	0	0	0	0	0	0	2	100	0	0		2
Sant Kabir Nagar	3	1.25	1.25	0.41	0.95	1	33.33	0	0	0	0	2	66.67	0	0	0	0	1	2
Shahjahanpur	1	0.08	0.08			1	100	0	0	0	0	0	0	0	0	0	0	1	
Shamli	2	5.40	5.40	6.62	6.62	0	0	0	0	1	50	0	0	0	0	1	50	1	1
Shrawasti	11	0.35	0.84			11	100	0	0	0	0	0	0	0	0	0	0	11	
Siddharthnagar	10	0.09	0.88	0.12	0.12	9	90	0	0	0	0	1	10	0	0	0	0	9	1
Sitapur	17	0.06	1.91	0.04	1.32	12	70.59	0	0	0	0	5	29.41	0	0	0	0	12	5
Sonbhadra	14	0.17	2.37	0.19	2.92	4	28.57	1	7.14	0	0	4	28.57	5	35.71	0	0	5	9
Sultanpur	14	0.16	1.97	0.22	1.36	9	64.29	0	0	0	0	5	35.71	0	0	0	0	9	5
Unnao	15	0.03	2.93	0.05	4.64	4	26.67	2	13.33	0	0	8	53.33	0	0	1	6.67	6	9
Varanasi	5	0.22	5.46	1.84	3.14	1	20	0	0	1	20	1	20	2	40	0	0	2	3

Mean January (2014- 23) – January 2024: Unconfined Aquifers

The average water level of last 10 years (2014-23) for each hydrograph station for the month of January has been evaluated and compared with water level data of January 24. The wells have been categorized depending on rise and fall in water levels and shown in table- 29 and fluctuation map has been given in Plate-19.

Plate-19



Rise in Water Levels:

Out of 655 wells, water level rise of less than 2m is recorded in 42.14% wells, 2 to 4 m in 3.82 % wells and more than 4 m in 1.07% of the wells. Water level rise of less than 2m is seen in Mathura, Hathras, Etawah, Auraiya, Kanpur Dehat, Kanpur Nagar, Hamirpur, Jhansi, Lalitpur, Jalaun, Mahoba, Banda, Fatehpur, Sonbhadra, Chaundli, Amethi, Sultanpur, Shrawasti, Sitapur, Bahraich, Bijnaur, Saharanpur and Muzzafarnagar region. Water level rise of 2 to 4m is observed mainly in isolated patches of Jalaun, Hamirpur, Gazipur, Unnao, Bijnaur, Saharanpur districts and rise of more than 4m is significantly observed in isolated patches of Hamirpur and Jalaun district.

Fall in Water Levels:

Out of the 655 analyzed wells, 42.59% wells have recorded fall of less than 2m while 7.94% in the range of 2 to 4m and remaining 2.44% wells registered water level fall of more than 4m as shown in Fig.-17. Fall of less than 2m are observed in Eastern and Westren parts of UP, mainly in Meerut, Bulandshahar, Aligarh, Agra, Kasganj, Hathras, Farukhabad, Kannauj, Lucknow, Raebarelly, Pratapgarh, Kaushambi, Azamgarh, Ballia, Sonbhadra, Kushinagar, Mau, Maharajganj, Gazipur, Mirzapur districts. Fall of 2 to 4m, found in Gautambudh Nagar, Amroha, Shambhal, Budaun, Agra, Kannauj, Prayagraj, Mirzapur, Gazipur, Jaunpur, Chitrakoot, Pratapgarh and Fatehpur districts. Fall of more than 4m is recorded mainly in Badaun, Mainpuri, Mirzapur, Fatehpur, Shamli district.

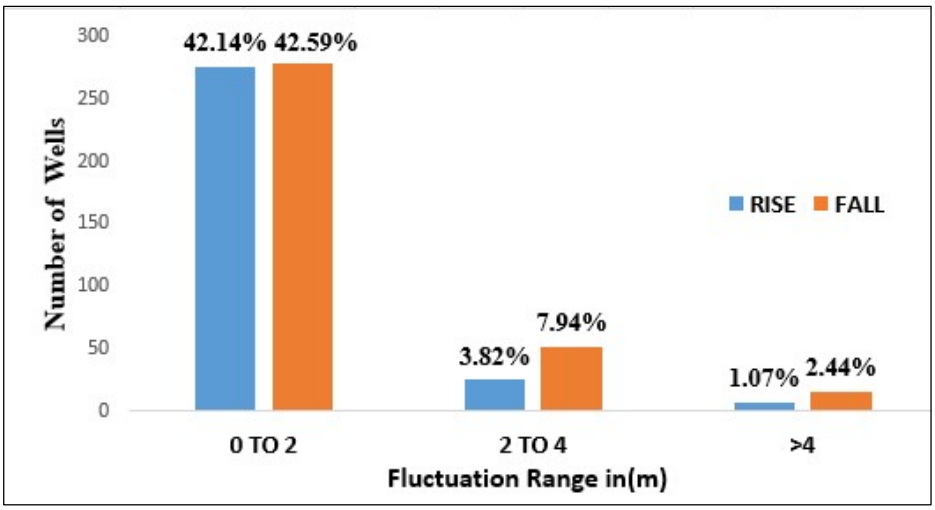


Figure-17: Percentage of wells showing rise and fall of WL in Unconfined Aquifer (Decadal Mean January (2014-2023) to January (2024).

Table-29. DISTRICT WISE – DECADAL WATER LEVEL FLUCTUATION, U.P. UNCONFINED AQUIFERS

MEAN JANUARY (2014 – 2023) – JANUARY, 2024

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Agra	8	0.34	2.34	0.22	4.10	3	37.50	1	12.50	0	0.00	3	37.50	0	0.00	1	12.50	4	4
Aligarh	8	1.51	1.51	0.08	1.29	1	12.50	0	0.00	0	0.00	7	87.50	0	0.00	0	0.00	1	7
Ambedkar Nagar	7	0.24	0.27	0.16	0.63	2	28.57	0	0.00	0	0.00	5	71.43	0	0.00	0	0.00	2	5
Amethi	17	0.02	0.55	0.01	1.66	6	35.29	0	0.00	0	0.00	11	64.71	0	0.00	0	0.00	6	11
Amroha	6	0.18	0.18	0.02	2.75	1	16.67	0	0.00	0	0.00	3	50.00	2	33.33	0	0.00	1	5
Auraiya	6	0.03	1.28	0.33	0.57	3	50.00	0	0.00	0	0.00	3	50.00	0	0.00	0	0.00	3	3
Ayodhya	7	0.05	1.36	0.39	1.09	3	42.86	0	0.00	0	0.00	4	57.14	0	0.00	0	0.00	3	4
Azamgarh	15	0.08	2.58	0.00	2.08	2	13.33	1	6.67	0	0.00	11	73.33	1	6.67	0	0.00	3	12
Baghpat	1	0.84	0.84			1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	
Bahraich	13	0.23	0.73	0.00	0.93	3	23.08	0	0.00	0	0.00	10	76.92	0	0.00	0	0.00	3	10
Ballia	14	0.2	0.86	0.03	2.15	4	28.57	0	0.00	0	0.00	9	64.29	1	7.14	0	0.00	4	10
Balrampur	15	0.16	1.51	0.07	0.55	11	73.33	0	0.00	0	0.00	4	26.67	0	0.00	0	0.00	11	4
Banda	8	0.52	5.32	0.79	4.92	4	50.00	0	0.00	2	25.00	1	12.50	0	0.00	1	12.50	6	2
Bara Banki	20	0.07	0.83	0.01	0.82	14	70.00	0	0.00	0	0.00	6	30.00	0	0.00	0	0.00	14	6
Bareilly	9	0.02	1.36	0.15	3.79	6	66.67	0	0.00	0	0.00	2	22.22	1	11.11	0	0.00	6	3
Basti	8	0.09	0.09	0.00	1.07	1	12.50	0	0.00	0	0.00	7	87.50	0	0.00	0	0.00	1	7
Bhadohi	3	1.94	1.94	0.31	1.02	1	33.33	0	0.00	0	0.00	2	66.67	0	0.00	0	0.00	1	2
Bijnor	5	0.04	3.38	0.09	0.09	3	60.00	1	20.00	0	0.00	1	20.00	0	0.00	0	0.00	4	1
Budaun	3	0	0	2.69	2.78	0	0.00	0	0.00	0	0.00	0	0.00	3	100.00	0	0.00		3
Bulandshahr	1	0	0	0.77	0.77	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Chandauli	9	0.05	2.13	0.20	0.90	5	55.56	1	11.11	0	0.00	3	33.33	0	0.00	0	0.00	6	3

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Chitrakoot	7	2.25	2.95	0.26	3.13	0	0.00	2	28.57	0	0.00	2	28.57	3	42.86	0	0.00	2	5
Deoria	6	0.11	0.11	0.10	0.72	1	16.67	0	0.00	0	0.00	5	83.33	0	0.00	0	0.00	1	5
Etah	4	0.29	1.04	2.83	2.83	3	75.00	0	0.00	0	0.00	0	0.00	1	25.00	0	0.00	3	1
Etawah	5	0.2	2.03	0.06	2.04	2	40.00	1	20.00	0	0.00	1	20.00	1	20.00	0	0.00	3	2
Farrukhabad	1	0	0	3.30	3.30	0	0.00	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00		1
Fatehpur	12	0.6	5.47	0.06	5.70	4	33.33	0	0.00	1	8.33	4	33.33	2	16.67	1	8.33	5	7
Firozabad	4	0.02	1.47	1.03	2.51	2	50.00	0	0.00	0	0.00	1	25.00	1	25.00	0	0.00	2	2
Gautam Buddha Nagar	3	0.55	1.25	11.81	11.81	2	66.67	0	0.00	0	0.00	0	0.00	0	0.00	1	33.33	2	1
Ghaziabad	1	0	0	0.79	0.79	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Ghazipur	16	0.44	3.74	0.14	3.03	2	12.50	2	12.50	0	0.00	10	62.50	2	12.50	0	0.00	4	12
Gonda	7	0.09	0.51	0.04	0.29	3	42.86	0	0.00	0	0.00	4	57.14	0	0.00	0	0.00	3	4
Gorakhpur	3	0	0	0.04	0.56	0	0.00	0	0.00	0	0.00	3	100.00	0	0.00	0	0.00		3
Hamirpur	6	0.45	4.88			2	33.33	3	50.00	1	16.67	0	0.00	0	0.00	0	0.00	6	
Hapur	2	0.37	0.37	2.87	2.87	1	50.00	0	0.00	0	0.00	0	0.00	1	50.00	0	0.00	1	1
Hardoi	16	0.01	1.27	0.11	2.76	9	56.25	0	0.00	0	0.00	6	37.50	1	6.25	0	0.00	9	7
Hathras	3	0.64	0.64	0.31	1.46	1	33.33	0	0.00	0	0.00	2	66.67	0	0.00	0	0.00	1	2
Jalaun	24	0.1	6.86	0.81	2.98	19	79.17	0	0.00	2	8.33	2	8.33	1	4.17	0	0.00	21	3
Jaunpur	16	0.13	1.17	0.11	3.87	2	12.50	0	0.00	0	0.00	9	56.25	5	31.25	0	0.00	2	14
Jhansi	18	0.05	3.47	0.05	1.94	7	38.89	3	16.67	0	0.00	8	44.44	0	0.00	0	0.00	10	8
Kannauj	1	0	0	3.92	3.92	0	0.00	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00		1
Kanpur Dehat	5	0.2	1.17			5	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	5	
Kanpur Nagar	12	0.05	3.19	0.45	1.15	7	58.33	1	8.33	0	0.00	4	33.33	0	0.00	0	0.00	8	4

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Kasganj	1	0	0	3.10	3.10	0	0.00	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00		1
Kaushambi	6	0.76	0.76	0.43	2.60	1	16.67	0	0.00	0	0.00	2	33.33	3	50.00	0	0.00	1	5
Kheri	8	0.06	0.65	0.18	1.22	4	50.00	0	0.00	0	0.00	4	50.00	0	0.00	0	0.00	4	4
Kushinagar	5	0.18	0.18	0.50	1.64	1	20.00	0	0.00	0	0.00	4	80.00	0	0.00	0	0.00	1	4
Lalitpur	14	0.25	1.97	0.02	2.64	7	50.00	0	0.00	0	0.00	6	42.86	1	7.14	0	0.00	7	7
Lucknow	16	0.02	2.72	0.00	4.11	7	43.75	1	6.25	0	0.00	6	37.50	1	6.25	1	6.25	8	8
Mahoba	9	0.04	2.11	0.47	4.61	4	44.44	1	11.11	0	0.00	2	22.22	1	11.11	1	11.11	5	4
Mahrajganj	5	0	0	0.39	1.26	0	0.00	0	0.00	0	0.00	5	100.00	0	0.00	0	0.00		5
Mainpuri	6	0.25	0.48	0.51	5.15	2	33.33	0	0.00	0	0.00	3	50.00	0	0.00	1	16.67	2	4
Mathura	14	0.09	1.67	0.56	0.99	11	78.57	0	0.00	0	0.00	3	21.43	0	0.00	0	0.00	11	3
Mau	5	0	0	0.66	1.60	0	0.00	0	0.00	0	0.00	5	100.00	0	0.00	0	0.00		5
Meerut	5	0.51	2.11	0.01	2.25	1	20.00	1	20.00	0	0.00	2	40.00	1	20.00	0	0.00	2	3
Mirzapur	6	0.03	0.03	0.21	5.84	1	16.67	0	0.00	0	0.00	2	33.33	0	0.00	3	50.00	1	5
Moradabad	6	0.31	0.64	0.17	1.71	3	50.00	0	0.00	0	0.00	3	50.00	0	0.00	0	0.00	3	3
Muzaffarnagar	7	0.09	1.09	0.09	0.63	4	57.14	0	0.00	0	0.00	3	42.86	0	0.00	0	0.00	4	3
Pilibhit	10	0.08	0.4	0.12	1.83	4	40.00	0	0.00	0	0.00	6	60.00	0	0.00	0	0.00	4	6
Pratapgarh	22	0.08	1.53	0.15	5.39	2	9.09	0	0.00	0	0.00	15	68.18	4	18.18	1	4.55	2	20
Prayagraj	29	0.07	1.01	0.08	4.08	7	24.14	0	0.00	0	0.00	15	51.72	6	20.69	1	3.45	7	22
Rae Bareli	21	0.16	1.02	0.18	4.27	12	57.14	0	0.00	0	0.00	7	33.33	1	4.76	1	4.76	12	9
Rampur	1	0.15	0.15			1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	
Saharanpur	11	0.05	2.41	0.12	1.00	6	54.55	2	18.18	0	0.00	3	27.27	0	0.00	0	0.00	8	3
Sambhal	3	0	0	2.78	7.02	0	0.00	0	0.00	0	0.00	0	0.00	2	66.67	1	33.33		3
Sant Kabir Nagar	3	0.7	0.7	0.39	0.43	1	33.33	0	0.00	0	0.00	2	66.67	0	0.00	0	0.00	1	2

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Shahjahanpur	1	0	0	0.08	0.08	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Shamli	2	1.79	1.79	5.92	5.92	1	50.00	0	0.00	0	0.00	0	0.00	0	0.00	1	50.00	1	1
Shrawasti	11	0.1	0.82	0.09	0.09	9	81.82	0	0.00	0	0.00	2	18.18	0	0.00	0	0.00	9	2
Siddharthnagar	9	0.27	0.59	0.00	1.60	4	44.44	0	0.00	0	0.00	5	55.56	0	0.00	0	0.00	4	5
Sitapur	18	0.06	3.89	0.25	0.94	14	77.78	1	5.56	0	0.00	3	16.67	0	0.00	0	0.00	15	3
Sonbhadra	13	0.68	2.3	0.86	4.91	6	46.15	1	7.69	0	0.00	2	15.38	3	23.08	1	7.69	7	6
Sultanpur	14	0.13	2.09	0.07	1.17	7	50.00	1	7.14	0	0.00	6	42.86	0	0.00	0	0.00	8	6
Unnao	16	0.01	3.83	0.11	1.45	9	56.25	1	6.25	0	0.00	6	37.50	0	0.00	0	0.00	10	6
Varanasi	3	0.13	4.65	0.19	0.19	1	33.33	0	0.00	1	33.33	1	33.33	0	0.00	0	0.00	2	1

Table-30 SUMMARISED STATUS OF DECADAL FLUCTUATION 2023 FOR UNCONFINED AQUIFER, U.P.

FLUCTUATION RANGE	Mean May (2013-22) to May 23		Mean August (2013-22) to August 23		Mean Nov (2013-22) to November 23		Mean Jan (2014-23) to January 24	
	Rise (%)	*Fall (%)*	*Rise (%)*	*Fall (%)*	*Rise (%)*	*Fall (%)*	*Rise (%)*	*Fall (%)*
0-2	158 (28.52%)	309 (55.77%)	256 (42.10%)	223 (36.67%)	300 (46.15%)	231 (35.53%)	276 (42.14%)	279 (42.59%)
2-4	18 (3.24%)	46 (8.3%)	37 (6.08%)	56 (9.21%)	35 (5.38%)	52 (8%)	25 (3.82%)	52 (7.94%)
>4	5 (0.9%)	18 (3.24%)	7 (1.15%)	29 (4.76%)	11 (1.69%)	21 (3.23%)	7 (1.07%)	16 (2.44%)
Total	181 (32.67%)	373 (67.32%)	300 (49.34%)	308 (50.65%)	346 (53.23%)	304 (46.77%)	308 (47.02%)	347 (52.97%)

From the above summerised table, it can be inferred that the number of wells that have observed fall in the water levels are highest in the month of May. However, in the month of November due to recharge in ground water level, the number of rise (%) of wells is highest. It shows that major part of U.P. have received good amount of rainfall.

6.3.2 Decadal Fluctuation during 2023-24 for confined aquifer

Mean May (2013- 2022) – May 2023

The pre-monsoon water level data for May 2023 has been compared to decadal mean (2013-2022) for pre-monsoon periods, and district-wise analysis of Ground Water Monitoring wells has been compiled in Table-31 and the percentage of wells showing rise and fall in piezometric head in confined Aquifer (Decadal Mean May (2013-2022) to May 2023). given in figure –18. Out of 5 wells, none of the wells have shown rise in piezometric head.

Fall in piezometric Head:

Out of the 5 wells, fall in piezometric head has been observed, 80% have recorded less than 2m while 0% wells in the range of 2 to 4m and remaining 20% wells registered piezometric head fall of more than 4m. Fall of piezometric head of less than 2m is observed in the districts mainly in

parts of Bulandshahar, Ghaziabad and Meerut. Whereas fall of more than 4m is seen in Amroha District.

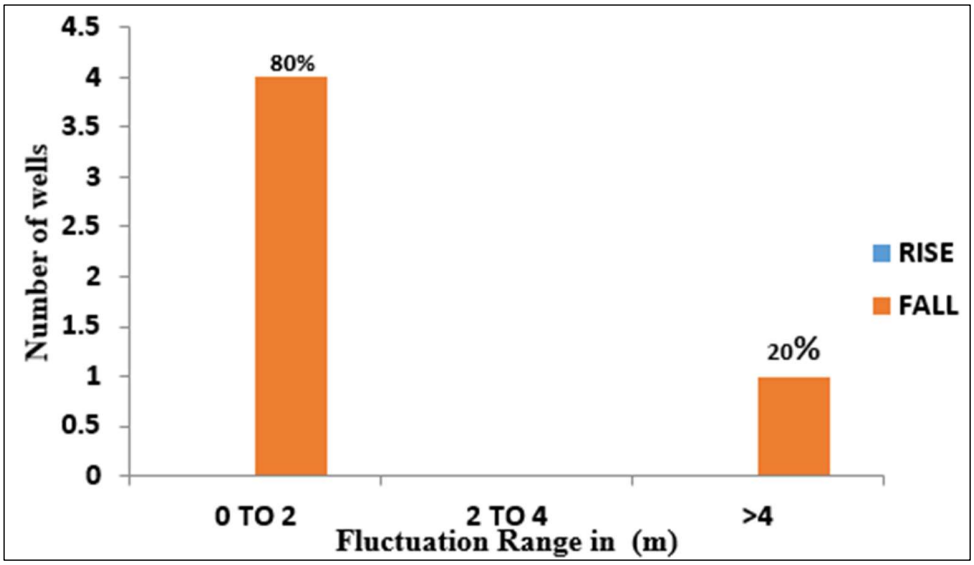


Figure-18: Percentage of wells showing rise and fall of Piezometric head in Confined Aquifer (Decadal Mean May (2013-2022) to May 2023)

Table-31. DISTRICT WISE – DECADAL PIEZOMETRIC HEAD FLUCTUATION, U.P. CONFINED AQUIFERS

MEAN MAY (2013 – 2022) – MAY, 2023

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Amroha	1	0.00	0.00	5.80	5.80	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	100.00	0	1
Bulandshahr	2	0.00	0.00	0.49	0.67	0	0.00	0	0.00	0	0.00	2	100.00	0	0.00	0	0.00	0	2
Ghaziabad	1	0.00	0.00	0.21	0.21	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00	0	1
Meerut	1	0.00	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00	0	1

Mean August (2013 - 2022) – August 2023

The average water level of last 10 years (2013 to 2022) for each well for the month of August has been evaluated and compared with water level data for August'2023. The wells have been categorized depending on rise and fall in piezometric head is shown in Table-32 and percentage of wells showing rise and fall in piezometric head in confined Aquifer (Decadal Mean August (2013-2022) to August 2023) as shown in figure-19.

Rise in piezometric head:

Out of 5 wells, there is rise of piezometric head in 3 wells (60%) wells. However, a rise of 0 to 2m piezometric head occurs in Ghaziabad and Meerut district of UP. Rise of 2 - 4m piezometric head is observed in 1 well (20%) occurs in Rampur district of UP.

Fall in piezometric head:

The fall in piezometric head is observed in 2 wells (40% of the monitored wells). Fall in piezometric head for the range of 0 - 2 m and >4 m is observed in 1 well (20%) namely in Bulandshahr and Amroha respectively

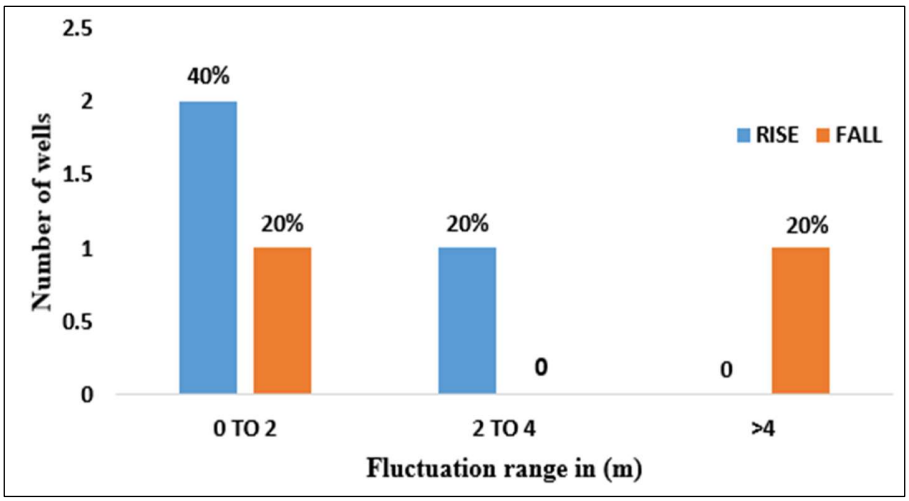


Figure-19: Percentage of wells showing rise and fall of Piezometric head in Confined Aquifer (Decadal Mean August (2013-2022) to August 2023)

Table-32. DISTRICT WISE – DECADAL PIEZOMETRIC HEAD FLUCTUATION, U.P. CONFINED AQUIFERS

MEAN AUGUST (2013 – 2022) – AUGUST, 2023

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Amroha	1	0.00	0.00	5.01	5.01	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	100.00		1
Bulandshahr	1	0.00	0.00	1.88	1.88	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00		1
Ghaziabad	1	1.09	1.09	0.00	0.00	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	
Meerut	1	0.38	0.38	0.00	0.00	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	
Rampur	1	2.51	2.51	0.00	0.00	0	0.00	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	1	

Mean November (2013 - 2022) – November 2023

The average piezometric head of last 10 years (2013 to 2022) for each well for the month of November has been evaluated and compared with piezometric head data for November'2023. The wells have been categorized depending on rise and fall in piezometric head and shown in Table-33 and percentage of wells showing rise and fall in piezometric head in confined Aquifer (Decadal Mean November (2013-2022) to November 2023) is shown in figure-20.

Rise in piezometric head:

Out of 5 wells, piezometric head rise of less than 2m is recorded in 20% wells, observed in Rampur District.

Fall in piezometric head:

Out of the 5 wells that have registered fall in piezometric head, 80% have recorded less than 2m which is observed mainly in parts of Bulandshahar, Ghaziabad and Meerut districts

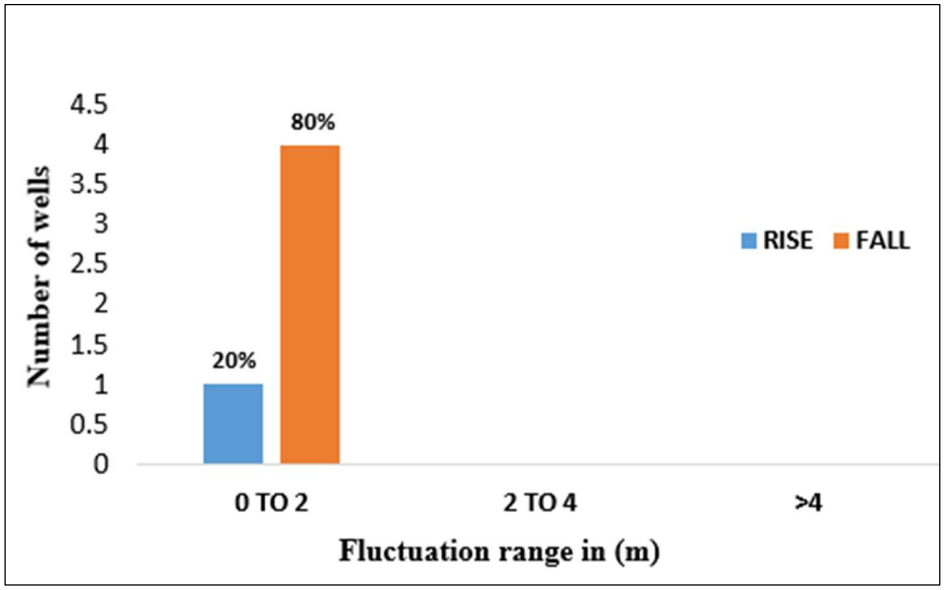


Figure-20: Percentage of wells showing rise and fall of Piezometric head in Confined Aquifer (Decadal Mean November (2013-2022) to November 2023)

Table-33. DISTRICT WISE – DECADAL PIEZOMETRIC HEAD FLUCTUATION, U.P. CONFINED AQUIFERS

MEAN NOVEMBER (2013 – 2022) – NOVEMBER, 2023

District Name	No. of Wells	Range of Fluctuation (m) No. of Wells/Percentage Showing Fluctuation																Total Number of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Bulandshahr	2			0.95	1.13	0	0.00	0	0.00	0	0.00	2	100.00	0	0	0	0		2
Ghaziabad	1			0.10	0.10	0	0.00	0	0.00	0	0.00	1	100.00	0	0	0	0		1
Meerut	1			0.09	0.09	0	0.00	0	0.00	0	0.00	1	100.00	0	0	0	0		1
Rampur	1	1.60	1.60			1	100.00	0	0.00	0	0.00	0	0.00	0	0	0	0	1	

Mean January (2014 - 2023) – January 2024

The average piezometric head of last 10 years (2014 to 2023) for each well for the month of January has been evaluated and compared with water level data for January'2024. The wells have been categorized depending on rise and fall in piezometric head and shown in Table-34 and percentage of wells showing rise and fall in piezometric head in confined Aquifer (Decadal Mean January (2014-2023) to January 2024) is shown in figure-21.

Rise in piezometric head:

Out of 12 wells, piezometric head rise of less than 2m is recorded in 4 wells 33.33% wells, observed in Balrampur, Banda, Meerut and Rampur Districts in UP.

Fall in piezometric head:

Out of the 12 wells, fall in piezometric head has been observed in 7 wells 58.33% and less than piezometric head of 2m which is observed mainly in parts Ambedkar Nagar, Ballia, Balrampur, Bulandshahar and Ghaziabad districts of UP and 1 well (8.33%) in Siddharth Nagar district recorded fall in piezometric head in range of 2-4 m.

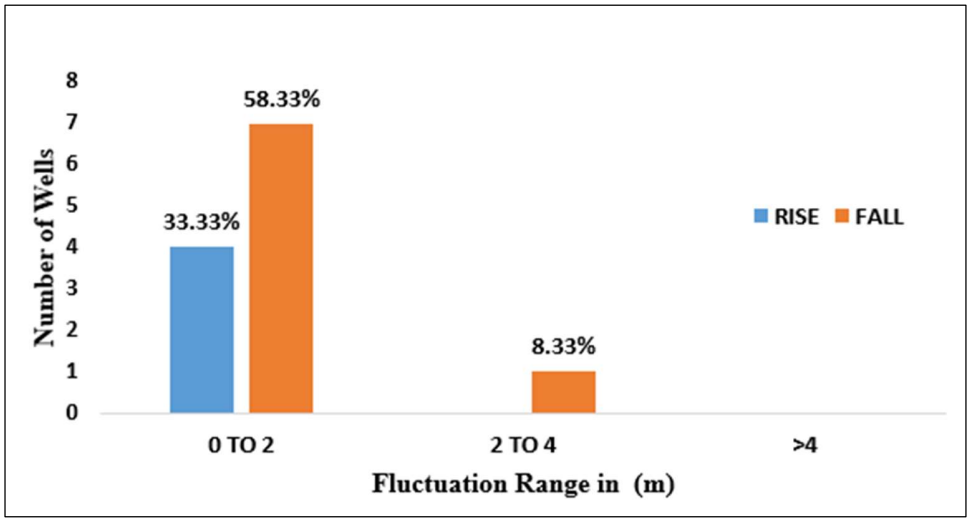


Figure-21: Percentage of wells showing rise and fall of Piezometric head in Confined Aquifer (Decadal Mean January (2014-2023) to January 2024)

Table-34 DISTRICT WISE – DECADAL PIEZOMETRIC HEAD FLUCTUATION, U.P. CONFINED AQUIFERS

MEAN JANUARY (2014 – 2023) – JANUARY 2024

District Name	No. Of Wells	Range Of Fluctuation (M) No. Of Wells/Percentage Showing Fluctuation																Total Number Of Wells	
		Rise		Fall		Rise						Fall							
		Min	Max	Min	Max	0 - 2	%	2 - 4	%	> 4	%	0 - 2	%	2 - 4	%	> 4	%	Rise	Fall
Ambedkar Nagar	1			0.92	0.92	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Ballia	1			0.69	0.69	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Balrampur	2	0.21	0.21	1.61	1.61	1	50	0	0	0	0	1	50.00	0	0	0	0	1	1
Banda	1	1.06	1.06			1	100	0	0	0	0	0	0	0	0	0	0	1	0
Bulandshahr	2			0.71	1.63	0	0	0	0	0	0	2	100	0	0	0	0	0	2
Ghaziabad	1			0.06	0.06	0	0	0	0	0	0	1	100	0	0	0	0	0	1
Gonda	1			0.02	0.02	0	0	0	0	0	0	1	100	0	0	0	0	0	1
Meerut	1	0.28	0.28			1	100	0	0	0	0	0	0	0	0	0	0	1	0
Rampur	1	1.92	1.92			1	100	0	0	0	0	0	0	0	0	0	0	1	0
Siddharthnagar	1			2.05	2.05	0	0	0	0	0	0	0	0	1	100	0	0	0	1

Table-35. SUMMARISED STATUS DECADAL FLUCTUATION 2023 FOR CONFINED AQUIFER, U.P.

FLUCTUATION RANGE	Mean May (2013-22) to May 23		Mean August (2013-22) to August 23		Mean Nov (2013-22) to November 23		Mean Jan (2014-23) to January 24	
	Rise (%)	*Fall (%)*	*Rise (%)*	*Fall (%)*	*Rise (%)*	*Fall (%)*	*Rise (%)*	*Fall (%)*
0-2	1 (16.67%)	3 (50%)	2 (40%)	1 (20%)	1 (20%)	4 (80%)	4 (33.33%)	7 (58.33%)
2-4	0 (0%)	1 (16.67%)	1 (20%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (8.33%)
>4	1 (16.67%)	0 (0%)	0 (0%)	1 (20%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Total	2 (33.33%)	4 (66.66%)	3 (60%)	2 (40%)	1 (20%)	4 (80%)	4 (33.33%)	8 (66.66%)

From the above summerised table, it is observed that fall in the piezometric head is highest in the month of May23 and January24. However, in the month of August 23 due to recharge in ground water level, the number of rise (%) of wells is highest. It shows that major part of U.P. have received good amount of rainfall.

6.4 WATER LEVEL TREND

The seasonal, annual and decadal fluctuation gives an idea of the behavior of the water level but is subjected to many anomalous factors which gives a short-term picture. To have a true picture where highs and lows are balanced out, the long-term trend for ten years 2014 to 2023 has been worked out and analysed on the basis of DWL data of Ground Water Monitoring Wells. The pre monsoon, post monsoon and annual trend for the said period is given in Annexure-II and Plate 20 and 21 respectively.

6.4.1 WATER LEVEL TREND: UNCONFINED AQUIFERS

The results of water level trend data during Pre-monsoon and Post – monsoon for the period 2014-2023 for Unconfined Aquifers are summarized as follows:

During Pre-monsoon, the Rising trend is observed in 53.38% of the monitoring wells (307) and the Declining trend of 47.61% of the monitoring wells (279) is covering over 10 year's period. Out of 279 wells, decline of 0 – 20 cm/yr is commonly observed in 30.20% (177) wells followed by 20 – 40 cm/yr in 9.04% wells (53) and >40 cm/yr in 8.36% (49). The decline in water level is mostly dominant in North-West and South-Western parts of the State. Higher decline occurs in Agra, Firozabad, Etah, Kasganj, Budaun, Sambhal, Hapur, Ghaziabad, Auraiyya, Kanpur Dehat & Kanpur Nagar, Lucknow etc districts.

There is a rising trend observed in 307 wells which are mostly observed in Tarai Belt in the North – Eastern parts and maximum rise in water level more than 40cm/year (2.38%) is recorded in South- Eastern parts, mainly Sonbhadra, Mirzapur, Varanasi, Ghazipur and Ballia districts.The rise of 0 -20 cm/year is observed in 42.32% of wells of Bijnaur, Rampur, Pilibhit, Lakhimpur Khiri, Shrawasti, Sidharth Nagar, Shrawasti, Gonda, Balrampur, Maharajganj, Kushi Nagar, Sant Kabir Nagar, Ambedkar Nagar, Gorakhpur, Azamgarh, Jaunpur, and Deoria etc. districts and rise of 20 -40cm/year are recorded in 7.67% of the monitored wells, localized in the South-Eastern Parts of the districts.

During Post Monsoon, there is a rising trend of 72.02% and declining trend in 27.97% of the 647 monitoring wells over 10 years period. Decline of 0 – 20 cm/yr 18.08% (117) is mostly observed in Muzaffarnagar, Meerut, Kasganj, Sitapur, Raebareilly, Etah, Farukhkhabad, Kannauj, Aurraiya etc. Districts. Decline of 20 -40 (cm/yr) is observed in 4.63% (30) wells, shown in North Western

part of Uttar Pradesh which is in Ghaziabad, Hapur, Sambhal, Budaun, Aurraiya, Firozabad, Agra etc districts and more than 40 cm/yr is also found in 5.25% (34) wells mainly in patches of Agra, Firozabad, Sambhal, Budaun. The low decline is spread in North-East and South Eastern parts of the state.

There is a rise in trend in 72.02% of the monitoring wells over 10 years period. Rise of 0 – 20cm/year is found in 44.35%(287) is shown in North Eastern part of the state that is in Balrampur, Bahraich, Gonda, Shrawasti, Azamgarh, Mau, Jaunpur,Varanasi etc districts followed by 20-40cm/year in 19.62% (127) wells seen in the patches of South Western part of the State that is in Jalaun, Hamirpur, Lalitpur, Mahoba districts etc. and very few wells of 8.03% (52) wells showing water level trend of more than 40cm/year mostly in parts of Southern and South Western part of State that is in Pratapgarh, Kaushambi, Fatehpur, Lalitpur, Jalaun, Hamirpur etc districts. The rise in water level is mostly localized in North- Eastern and South - Eastern Parts as well as Bundelkahnd parts of the State.

The results of Water Level trend data during Pre and Post-monsoon for the period 2014-2023 are summarized as following tables:

Percentage of wells showing Pre-monsoon DWL Trend (cm/year) from 2014 -2023 Unconfined Aquifers								
Total Well Analyzed	**Rise (cm/year)**			**Fall (cm/Year)**			**Total**	
	0 -20	20-40	>40	0 -20	20 -40	>40	Rise	Fall
586	248 42.32%	45 7.67%	14 2.38%	177 30.20%	53 9.04%	49 8.36%	307 53.38%	279 47.61%
Percentage of wells showing Post-monsoon DWL Trend (cm/year) from 2014 -2023								
Total Well Analysed	**Rise (cm/year)**			**Fall (cm/Year)**			**Total**	
	0 -20	20-40	>40	0 -20	20 - 40	>40	Rise	Fall
647	287 44.35%	127 19.62%	52 8.03%	117 18.08%	30 4.63%	34 5.25%	466 72.02%	181 27.97%

Plate-20

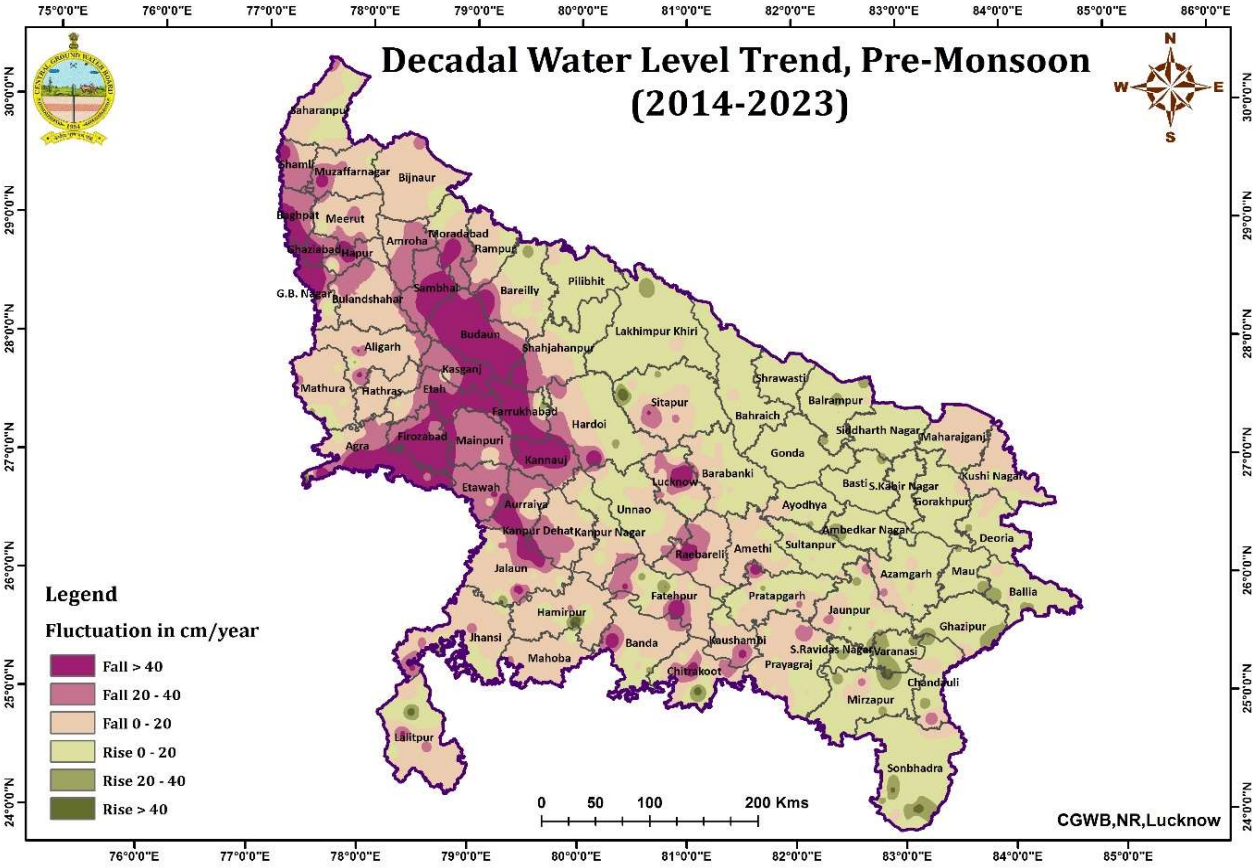
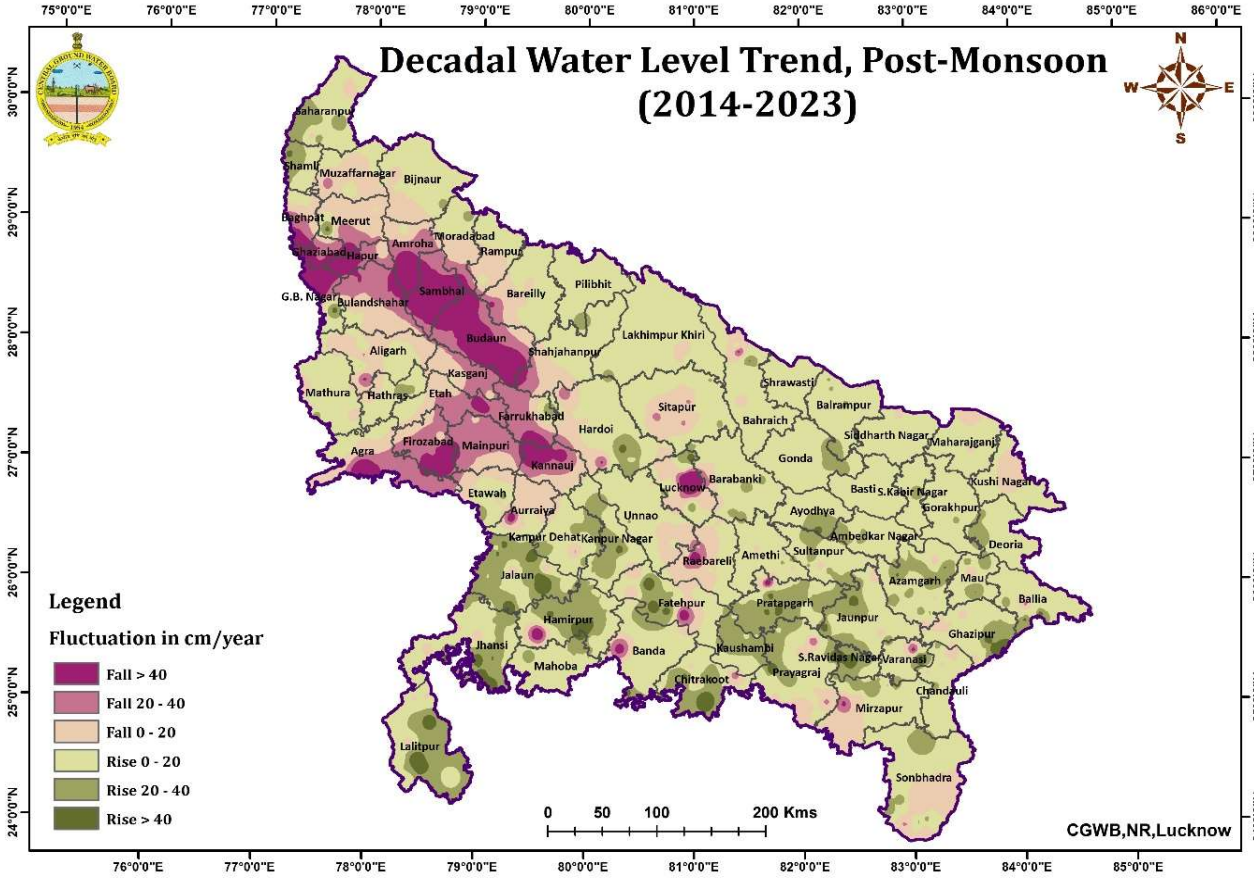

Decadal Water Level Trend, Pre-Monsoon
(2014-2023)
Legend
Fluctuation in cm/year
Fall > 40
Fall 20 - 40
Fall 0 - 20
Rise 0 - 20
Rise 20 - 40
Rise > 40
0 50 100 200 Kms
CGWB,NR,Lucknow
N
S
E
W
Saharanpur
Shamli
Muzaffarnagar
Bijnaur
Baghpat
Meerut
Moradabad
Amroha
Rampur
Ghaziabad
Hapur
G.B. Nagar
Bulandshahar
Sambhal
Bareilly
Pilibhit
Budaun
Lakhimpur Khiri
Aligarh
Shahjahanpur
Kasganj
Mathura
Hathras
Etah
Farrukhabad
Sitapur
Shrawasti
Balrampur
Hardoi
Bahraich
Siddharth Nagar
Maharajganj
Firozabad
Mainpuri
Agra
Kannauj
Gonda
Lucknow
Barabanki
Basti
S.Kabir Nagar
Kushi Nagar
Etawah
Gorakhpur
Auraiya
Unnao
Ayodhya
Kanpur Dehat
Kanpur Nagar
Ambedkar Nagar
Deoria
Rasbareli
Amethi
Sultanpur
Jalaun
Azamgarh
Mau
Fatehpur
Pratapgarh
Ballia
Hamirpur
Jaunpur
Jhansi
Ghazipur
Banda
Kaushambi
S.Ravidas Nagar
Varanasi
Mahoba
Pravagraj
Chitrakoot
Chandauli
Mirzapur
Lalitpur
Sonbhadra
75°0'0"E
76°0'0"E
77°0'0"E
78°0'0"E
79°0'0"E
80°0'0"E
81°0'0"E
82°0'0"E
83°0'0"E
84°0'0"E
85°0'0"E
86°0'0"E
30°0'0"N
29°0'0"N
28°0'0"N
27°0'0"N
26°0'0"N
25°0'0"N
24°0'0"N

Plate-21


Decadal Water Level Trend, Post-Monsoon
(2014-2023)
Legend
Fluctuation in cm/year
Fall > 40
Fall 20 - 40
Fall 0 - 20
Rise 0 - 20
Rise 20 - 40
Rise > 40
0 50 100 200 Kms
CGWB,NR,Lucknow
N
S
E
W
Saharanpur
Shamli
Muzaffarnagar
Bijnaur
Baghpat
Meerut
Moradabad
Amroha
Rampur
Ghaziabad
Hapur
Sambhal
Pilibhit
G.B. Nagar
Bulandshahar
Bareilly
Budaun
Lakhimpur Khiri
Aligarh
Shahjahanpur
Kasganj
Mathura
Hathras
Etah
Farrukhabad
Sitapur
Shrawasti
Balrampur
Hardoi
Bahraich
Firozabad
Mainpuri
Agra
Kannauj
Siddharth Nagar
Maharajganj
Gonda
Barabanki
Lucknow
Basti
S.Kabir Nagar
Kushi Nagar
Etawah
Gorakhpur
Auraiya
Unnao
Ayodhya
Kanpur Dehat
Kanpur Nagar
Ambedkar Nagar
Deoria
Raebareli
Amethi
Sultanpur
Jalaun
Azamgarh
Mau
Ballia
Fatehpur
Pratapgarh
Hamirpur
Jaunpur
Ghazipur
Jhansi
Banda
Kaushambi
S.Ravidas Nagar
Varanasi
Mahoba
Prayagraj
Chitrakoot
Chandauli
Mirzapur
Lalitpur
Sonbhadra

6.4.2 WATER LEVEL TREND: Confined Aquifers (Deeper Aquifers)

The seasonal, annual and decadal fluctuation gives an idea of the behavior of the water level but is subjected to many anomalous factors which give a short-term picture. To have a true picture where highs and lows are balanced out, the long-term trend for ten years 2014 to 2023 has been worked out and analysed on the basis of piezometric head data of Ground Water Monitoring Wells. The trend of piezometric head data during Pre-monsoon for the period 2014-2023 for Confined Aquifers are summarized in the following tables for Pre and Post Monsoon.

In the Pre-Monsoon, piezometric head shows falling trend in Confined aquifers since last ten years. The fall of less than 20 cm/year in 3 monitoring wells (60%) majorly shows in Amroha, Bulandshahar, Ghaziabad, and Meerut districts. The fall less than 20 – 40 cm/year is seen mainly in parts of Bulandshahar district and fall of more than 40 cm/year is observed in Amroha district.

In the Post Monsoon, out of 5 monitoring wells, the trend of piezometric head shows 80% and 20% fall and rise respectively in Confined aquifers. The fall of less than 20cm/year in 2 monitoring wells (40%) mainly observed in Ghaziabad and Meerut Districts. The fall between 20 to 40 cm/year is seen in Bulandshahar district. The rising trend is shown (20%) of 20 – 40 cm/year in Rampur district only.

	Percentage of wells showing Pre-monsoon DWL Trend (cm/year) from 2014 - 2023(Confined aquifers)					
Total Well Analysed		Fall (cm/Year)			Total	Fall
	Total wells	0 -20	20 -40	>40		
	5	3	1	1		5
		60.00%	20.00%	20.00%		100.00%

Percentage of wells showing Post-monsoon DWL Trend (cm/year) from 2014 -2023 (Confined aquifers)						
	Fall		Rise	Total	Fall	Rise
Total wells Analysed	0 - 20 cm/year	20 - 40 cm/year	0 - 20 cm/year			
5	2	2	1		4	1
	40%	40%	20%		80%	20%

Annexure-I

DEPTH TO WATER LEVEL OF GROUND WATER MONITORING WELLS (GWMW), U.P.

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
1	**AGRA**	Gangapur Basai	77.4500	26.8167	2.57		1.89	
2		Gangapur Basai NEW	77.4717	26.8369		0.6		1.59
3		Mevli	77.6000	26.8583	13.15	8.43	8.26	8.02
4		Undera	77.6778	27.0917	2.24	0.93	1.36	0.35
5		Saraindhi	77.7004	26.9308				5.41
6		Achhanera Pz-GWD	77.7456	27.1772	6.14	6.04	6.22	6.09
7		Bakalpur	77.8076	26.9966				7.25
8		Akola	77.8857	27.0715				21.32
9		Saiyan Pz-GWD	77.9344	26.9350	31.2		35.41	34.66
10		Khundauli Pz-GWD	78.0294	27.3081	29.32	28.54	27.36	27.4
11		Basai Kalan	78.0583	27.1500				3.54
12		Fatehabad Pz-GWD	78.2958	27.0300	44.43	42.19	44.24	44.22
13		Bah Pz-GWD	78.5892	26.8700	36.25	36.33	36.36	36.42
14		Nadgawan	78.6584	26.7936				41.31
1	**ALIGARH**	Takipur(new)	77.6533	28.0233	4.57	1.48	4.16	4.09
2		Gonda	77.8875	27.8194	1.05	0.01	0.31	0.4
3		Khair	77.9167	27.9667	9.5	9.65	9.37	9.32
4		Andala	77.9189	27.9183	10.42	10.72	10.13	10.08
5		Iglas	77.9333	27.7167	10.62	11.1	10.68	10.6
6		Sudiyal	78.1028	27.9889	10.16	10.63	10.02	9.98
7		Harduaganj	78.1575	27.9464	5.41	3.4	4.45	4.88
8		Safedpur	78.1667	27.9500	6.62	3.57	5.54	6.2
9		Akrabad	78.2750	27.8067		0.55	1.8	1.89
1	**AMBEDKAR NAGAR**	Tiwari Ka Purwa	82.3042	26.4702	6.05	3.01	5.44	6.25
2		Bhiti-New	82.3083	26.4917	6	3.01	5.24	6
3		Mahrua gola	82.3917	26.4083	5.55	3.75	5.15	5.65

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
4		Gopalpur	82.4181	26.5133		3.33	3.81	4.3
5		Katehari	82.4833	26.5000	5.74	3.47	4.35	5.03
6		Mcaet College Dulla Pur	82.4928	26.4586	6.7	3.145	4.925	5.875
7		Hasanpur Jalalpur Pz-CGWB	82.4992	26.3411	7.35	4.29	6.39	6.27
8		Akbarpur1	82.5125	26.4500	6.05	4.2	4.56	5.35
9		Akbarpur Pz-GWD	82.5431	26.4158	6.7	4.89		
10		Akbarpur Pz-GWD NEW	82.5436	26.4361			5.18	6.25
11		District Jail Awas	82.5638	26.3764	6.86	5.34	6.2	6.54
12		Khajuri Karaundi	82.6063	26.2997	5.705	5.24	5.495	5.43
13		Tijra	82.6211	26.5569		2.87	2.92	3.72
14		Surapur	82.6645	26.5433		0.85	1.88	3.8
15		Kesharpur	82.6736	26.4417	5.59	0.84	2.12	3.8
16		Pipari Saidpur	82.6956	26.4537		2.55	3.63	2.28
17		Baskhari Pz-GWD	82.7758	26.4508	4.42	2.54	2.8	4
18		Bhiyaon New Pz	82.8275	26.2383	6.62	4.83	5.16	5.73
19		Ramcola	82.9626	26.4731		2.25	3.57	4.67
20		Jahangir Ganj	82.9733	26.4150		3.92	5.23	6.56
1	**AMETHI**	Tedhai	81.4099	26.5350	5.19	3.46	1.99	3.05
2		Semrauta	81.4194	26.4653			3.02	4.25
3		Simrauta(ii)	81.4250	26.4500	6.8	5.4	2.86	3.55
4		Nigohan1	81.4333	26.2667	3.86	0.5	1.25	1.82
5		Saidpur	81.4686	26.3723	4.98	4.9	1.09	2.96
6		Jais	81.5350	26.2517	4.05	0.79	1.3	1.7
7		Goriabad	81.5778	26.3292	3.7	2.35	1.69	1.3
8		Janapur	81.5813	26.3696	6.66	5.11	3.75	4.8
9		Mahona	81.5833	26.5333		4.52		

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
10		Gauhaniya	81.5886	26.2547	4.89	1.3	2.17	1.96
11		Mahona	81.5898	26.5362	6.42		2.84	5.2
12		Shukul Bazar	81.5917	26.6083	10.16	9.03	9.31	9.31
13		Mardanpur	81.6167	26.5625		3.78		
14		Mardanpur	81.6230	26.5583	5.77		3.04	3.92
15		Jagdishpur2	81.6333	26.4583	9.97	8.6	8.43	8.75
16		Bhatgaon	81.6583	26.3056			2.03	5.1
17		Khutahna	81.6667	26.4000	4.9	3.27	2.69	2.9
18		Gauriganj new -2	81.6917	26.2028	6.14	1.19	1.85	2.92
19		Kushitali	81.7622	26.1739	5.08	2.29	2.01	4.55
20		Madhar Basunda	81.7754	26.3943	8.93	7.47	7.24	7.98
21		Badgawn	81.7959	26.0597	11.98			
22		Musafir Khana	81.7996	26.3763	4.9		1.97	2.8
23		Musafirkhana	81.7996	26.3763		0.77		
24		Munshiganj1	81.8125	26.2125	5.67	3.05	4.24	4.81
25		Dariyan ka purw	81.8225	26.2644	5.2	4.38	2.64	3.52
26		Tarapur	81.8419	26.1137	9.1			
27		Tikree	81.8883	26.2175			4	4.89
28		Bhim pashim	81.9086	26.1675	6.75	5.65	6.34	
29		Partosh Manik	81.9100	26.2333	5.04	3.11	3.92	4.3
30		Piper Pur	82.0333	26.1433	7.39	5.84	5.8	6.67
31		Trishundi	82.0350	26.0911	5.83	4.66	4.11	4.6
1	**AMROHA**	Dhayoti	78.1772	28.9632				8.95
2		Jogipura Pz GWD	78.2403	28.8911	15.1	13.78	13.5	13.22
3		Gajraula Pz GWD	78.2436	28.8381			13.86	13.68
4		Gajraula Pz CGWB	78.2458	28.8400	15.1	14.03		
5		Dhanaura Pz CGWB	78.2656	28.9567			8.57	
6		Hasanpur	78.2821	28.7317	17.4			16.94

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
7		Hasanpur Pz GWD	78.2822	28.7314			17.15	
8		Dariyal	78.2903	28.5403	8.12	5	5.37	5.15
9		Rehra	78.3200	28.5300	8.72	6.38	7.44	
10		Bagadpur Pz GWD	78.3589	28.6133			18.75	
11		Bagadpur	78.3644	28.6131	21.38			18.56
12		Joya Pz GWD	78.4731	28.8356	17.38	16.93	16.57	16.35
13		Amroha Pz CGWB	78.4784	28.9152	15.3	13.89	13.8	13.68
1	**AURAIYA**	Pz GWD Ajitmal	79.3167	26.5750	21.3	19.18	17.84	18.47
2		Kukarkat	79.3733	26.9122		4.9	5.08	5.61
3		Hasuliya	79.3806	26.5125	13.51	1.96	1.52	4.42
4		Premnagar-Bajera	79.4000	26.6900	2.95	0.02	0.87	1
5		Phaphund	79.4708	26.5833	6.57	4.78	4.31	5.05
6		Bidhuna Pz	79.5000	26.8000	9.74	16.08	11.81	14.75
7		Baisundnra	79.5333	26.5950	3.72			
8		Bhaupur	79.5417	26.4350				12.38
9		Bandhamau	79.5958	26.8300	6.21	4.2	3.28	4.09
10		Sahar	79.6067	26.7500	4.07	0.99	1.28	2.31
11		Sahayal	79.6347	26.6792	7.12	5.56	5.48	6.05
1	**AYODHYA**	Ramdin Purwa	81.5900	26.7400	6.78	4.3	5.47	6.16
2		Rudauli1	81.7417	26.7508	4.69	0.88	2.16	3.02
3		Amaniganj	81.7792	26.6647	6.58	3.02	4.46	
4		Acharya Narendra Dev Krushi Mahavidyalaya	81.8392	26.5393	5.82	4.79	5.19	5.38
5		Milkipur	81.9108	26.5967	4.95	4.95	4.63	5.07
6		Achoura	81.9561	26.5906		6.93	6.49	6.92
7		Moyis kapur	82.0147	26.7142		1.53	1.81	2.92
8		Madhopur	82.1250	26.6667	5.52	2.96	3.02	4.26
9		Khajurahat	82.1367	26.5383	8.55	3.77	5.35	6.26

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
10		Chaure bazar	82.1417	26.4833	5.87	0.85	1.89	3.7
11		Faizabad Pz-CGWB	82.1608	26.7661	7.83	7.35	7.29	7.4
12		Balapur	82.2486	26.5781		3.75	5.02	
13		Bakarganj	82.3083	26.6847	4.23	0.69	2.38	3.5
14		Rajbaliya	82.3485	26.5971	3.15	0.245	1.31	2.215
15		Gosaiganj 1	82.3800	26.5800	5.35	2.91	3.65	4.45
16		Gosaiganj Pz-GWD	82.3800	26.5800	5.19		3.68	4.46
17		Gosaiganj	82.3833	26.5583		3.8		
1	**AZAMGARH**	Karsandia kalan	82.7750	25.9733	4.25	0.66	4.68	4.67
2		Belwana	82.8167	25.8944	6.75	2.32	2.43	5.85
3		Phulpur	82.8667	26.0917	5.76	3.83	2.95	4.96
4		Jhagra Pakar	82.9089	26.2143				3.87
5		Bansepur	82.9136	26.3018			3.38	3.34
6		Saraimir	82.9319	26.0167		2.49	3.57	3.58
7		Bairadih	82.9875	25.9431	8.81	6.95	3.86	7.02
8		Ubarpur Lakhimpur	82.9912	25.8523	5.5	2.98	3.34	3.8
9		Deogaon	82.9917	25.7583	4.93	0.45	1.45	1.38
10		Hisamuddinpur	83.0039	26.2519	4.83		3.51	3.75
11		Rasulpur Mafi	83.0283	25.9547				4.47
12		Fariha	83.0306	25.9929	5.36		5.63	3.04
13		Bahrapur	83.0500	25.9250	5	4.49	4.4	4.54
14		Nadauli	83.0601	26.0369			3.4	6.57
15		Nizamabad	83.0639	26.0542			5.9	6.18
16		Madayan	83.0722	25.7847	7.52	1.67	2.72	1.67
17		Mahubar Khutoli (Jal nigam)	83.0914	26.1341			2.55	3.65
18		Bibipur Khatauli	83.0972	26.1361	6.45	4.17	4.06	4.25
19		Sidhauna	83.1028	25.6764	6.44	4.6	3.02	3.96

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
20		Vishunpur	83.1126	26.2538				4.74
21		Bhaduli	83.1437	26.0534				9.23
22		Kharihani	83.1625	25.7694		5.62	5.91	5.97
23		Azamgarh	83.1667	26.0417			4.85	
24		Rahul nagar	83.2000	25.8917		4.23	2.34	
25		Langarpur	83.2181	26.2056	5.3	4.63	4.02	4.39
26		Badihari	83.2297	26.2014	7.37	5.33	5.9	6.37
27		Jagdishpur (Jal Nigam)	83.2631	25.9570	6		3.46	6.49
28		Karmaini	83.2767	26.2735	1.51		2.92	1.27
29		Rampur	83.2871	25.9527	8.77	4.53	5.5	6.29
30		Sageri	83.3000	26.1500			3.4	5.75
1	**BAGHPAT**	Chhaprauli	77.1787	29.2081	18.47	18.47	18.48	17.73
2		Baghpat	77.2167	28.9333		9.03	9.65	9.04
3		Sisana	77.2177	28.9640	15.79	17.14		
4		Shahpur	77.2522	29.0745	10.59		8.86	9.29
5		Baraut	77.2617	29.1000		14.895		
6		Baoli	77.2725	29.1343	20.62	20.77	20.4	19.23
7		Binauli	77.3375	29.1333	29.42	29.53	29.27	26.34
8		Bamnauli	77.3450	29.1391	28.7	28.37		27.7
9		Pilana Pz	77.4181	28.9514			26.81	22.71
10		Pura Mahadeo	77.4502	28.9979	14.18	15.04	14.91	13.31
		Pilana	77.4549	28.9540	23.5	18.43	9.38	9.05
1	**BAHRAICH**	Katarniaghat	81.1336	28.3333	2.32	0.49	1.9	1.83
2		Mote Baba	81.1703	28.2961	2.25	0.07	1.38	
3		Tapri godh	81.2611	28.0061	4.07	2.67	3.19	3.46
4		Razichauraha	81.3783	27.4111	2.38	1.1	1.21	1.62
5		Sablapur	81.3792	27.7194	3.37	1.75	2.32	2.47

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
6		Mihi Purwa	81.4006	28.0158	4.8	4.12	3.6	4.17
7		Gaighat	81.4167	27.9833	3.75	1.84	7.91	3.19
8		Baisanpurwa	81.4383	27.5383	2.47	2.12	1.95	2.22
9		Kapurpur	81.4389	27.5556	3.53	2.72	2.19	3.01
10		Baba Kutir	81.4993	27.8675	2.69	0.34	1.35	1.77
11		Nanpara	81.5111	27.8611	8.48	6.575	8.24	9.26
12		Bhopatpur	81.5139	27.8833	8.39	8.03	2.24	8.14
13		Narayanpur Pakriya	81.5331	27.4513		2.42	1.75	2.28
14		Karmullapur	81.5397	27.1264		2.04		2.74
15		Bhakraulikapurw	81.5597	27.3042	2.87		1.69	2.23
16		Kewalpur	81.5972	27.9986		4.44	3.26	4.44
17		Indra Nagar	81.6053	27.6873		7.84	7.31	7.57
18		Parpatganj	81.6228	27.7922	5.07	1.69	3.27	4.78
19		Deeha	81.6520	27.5666		8.12	7.61	8.06
20		Hujurpur PZ (GWD)	81.6653	27.3533	2.4	1.63	1.45	1.7
21		Pyagpur I	81.7797	27.4078	5.46	5	4.42	5.02
22		Jamunaha Kala	81.8231	27.3184		4.35	4.2	4.98
23		Loharipurwa	81.8829	27.4115	3.32			
1	**BALLIA**	Raghopur	83.8573	25.8672				7.8
2		Jamuaun	83.8608	26.0519	4.65	3.9	2.26	2.86
3		Rasra	83.8617	25.8500	7.32		6.94	7.3
4		Ubhavan	83.8672	26.1327	5	1.25	2.29	4.37
5		Jahangrapur	83.8889	25.8139		2.73		
6		Sikandarpur2	83.9288	25.5654		2.86		4.25
7		Chilkahar New	83.9711	25.8197		1.58	3.22	4.55
8		Chilkhar	83.9750	25.8189	6.09			
9		Balesara	83.9847	25.8650	3.4	1.26	2.46	3.19
10		Pur	84.0083	25.9514	4.32	1.1	1.95	2.34

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
11		Chitbargaon	84.0103	25.7444	2.94	1.57	1.64	1.9
12		Narahi	84.0228	25.7114			3.08	
13		Garwar	84.0333	25.8333	4.43	1.08	5.47	2.6
14		Sikandarpur2	84.0583	26.0333	3.99	1.49	3.27	4.04
15		Sikanderpur	84.0641	26.0469			3.52	
16		Kharsanda	84.0833	25.9356	5.7	2.1		2.62
17		Nasirabad	84.1056	25.7528	10.32	6.95	9.11	9.3
18		Ballia	84.1667	25.7500	5.62	5.49	1.83	5.75
19		Manihar	84.1681	25.8125	7	3.05	5.73	4.92
20		Bansdih New	84.2064	25.8864	4.7			
21		Babhnauli	84.2139	25.8250	5.72	3.31	5.59	5.37
22		Reoti	84.3789	25.8456	4.05	2.57	3.03	3.2
23		Dalan Chhapra	84.5208	25.7208	7.82	6.3	6.29	6.92
24		Jaiprakashnagar	84.6000	25.7500	6.9	2.74	4.86	6.4
1	**BALRAMPUR**	Utraula	82.1667	27.4167	3.94	2.94	2.5	3.09
2		Balrampur PZ(GWD)	82.1714	27.4289	4.43	3.04		3.54
3		Balrampur1	82.1883	27.4133	3.88	3.91	3.6	3.92
4		Bankatawa	82.2528	27.7369	8.91	9.02	8.71	8.88
5		Rehrabazar PZ(GWD)	82.2789	27.1819	3.95	2.92	2.83	3.31
6		Harriaya bazar	82.2808	27.6536	4.42	1.02	1.88	2.33
7		Gangnar	82.2847	27.4500	3.28	3.26	1.6	3.8
8		Shriduttganj	82.3024	27.3752		2.57	2.37	3.85
9		Sipahia village	82.3361	27.5944	2.75	1.13	1.74	2.13
10		Sridutganj1	82.3561	27.3544	3.24	2.4	2.14	3.15
11		Tulsipur (Devipatan)	82.4067	27.5283	2.31	0.68	1.4	1.87
12		Gaura crossing	82.4139	27.4139	2.56	0.83	1.31	
13		Chheetar Para	82.4558	27.2777		1.22	3.21	2.47
14		Jarwa	82.5233	27.6550	8	7.3	7.58	7.96

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
15		Gainsari	82.5375	27.5375	2.85	0.81	1.75	1.92
16		Semri1	82.5389	27.3792	4.35	1.42	2.03	3.59
17		Pachperwa-2	82.6336	27.5269	12.6	3.24	33.19	5.6
18		Pachpedwa1	82.6542	27.5042		12.89	12.24	12.27
19		Chandanpur1	82.6550	27.6700			1.77	3.39
20		Chandanpur	82.6572	27.6639	3.38	1.39	2.6	3.26
21		Pachpedwa	82.6667	27.5217	2.08	0.03	0.34	0.4
1	**BANDA**	Banda	80.3208	25.4833	11.3	9	10.49	16.12
2		Siddhpur	80.3335	25.0146	5.775		4.44	8.52
3		Vindhyavashini Devi Temple	80.3590	25.3002	13.98	12.94	12.6	13.82
4		Rampur	80.3724	25.8441	23.695	25.34	24.865	25.18
5		Khaptiya Kalan	80.3734	25.6657	26.43	24.92	31.64	
6		Jaspura	80.3737	25.8113		21.18		
7		Badehan	80.3933	25.1350	12.5	5.94	4.71	5.3
8		Mukera	80.3978	25.1269	8.32	3.64	2.59	2.7
9		Nevaich	80.4098	25.6855	27.31	26.43	29.95	30.4
10		Shivhad	80.4512	25.3554	11.57	8.835	6.19	7.225
11		Kusreja Dham	80.4640	25.5656	8.32	6.37	6.63	6.35
12		Baheri	80.4727	25.2725	4.48	0.54	1.14	1.6
13		Khhurand	80.4750	25.3722	1.15	0.05	0.35	0.62
14		Naraini New	80.4817	25.1944	6.47	0.99	1.17	2.4
15		Pachokhar	80.5263	25.2385	4.26	0.61	0.64	1.1
16		Sadha	80.5352	25.0964	6.96	4.19	4.59	17.5
17		Padarathpur	80.5371	25.7275	21.28	20.1	22.03	22.22
18		Atarra	80.5567	25.2769	6.45			2.55
19		Atarra	80.5632	25.2919	6.77	4.305	2.265	3.2
20		Bisanda	80.6222	25.3931	4.15	2.02	2.08	2.3

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
21		Badausa	80.6500	25.2417	8.09	4.53	5.69	6.07
22		Para	80.6701	25.3813	5.86	1.63	2.11	2.7
23		Patwan	80.7064	25.5955	12.34	11.68	9.22	9.42
24		Bagha	80.7154	25.3782	5.58	2.06	1.76	1.82
25		Sanda	80.8539	25.6436	17.57	17.74	16.93	17.45
26		Enguva	80.8823	25.6059	10.74	16.76	10.27	10.55
1	**BARA BANKI**	Tiketganj	81.0556	27.0928	8.05	7.01	3.63	4.3
2		Baba ki kuti	81.1083	27.1867	5.13	2.1	2.16	2.48
3		Takaji	81.1258	27.0347	6.55	5.44	3.83	4.37
4		Barabanki I	81.1722	26.9292	8.02		5.88	5.94
5		Dewa	81.1783	27.0267	4.62	3.18	2.88	3.35
6		Sharifabad	81.1828	26.8367	9.2	8.42	7.7	7.32
7		Kitlupur	81.1903	27.1028	4.6	1.64	2	2.45
8		Fatehpur (new)	81.2167	27.1667	4.82	3.99	2.83	3.31
9		Harakh	81.2333	26.8567	6.75	4.53	3	4.35
10		Saddipur	81.2483	27.0456			3.07	3.14
11		Bhiwal	81.2486	26.6972	7.86	2.64	5.1	5.9
12		Rasauli	81.2542	26.9256	4.89	0.34	2.42	2.2
13		Lakshvar Vajaha	81.2939	26.9225	4.145	2.96	2.6	3.28
14		Sundhia mau	81.2983	27.1250	6.38	5.8	4.27	4.73
15		Masauli chaurah	81.2983	26.9833	6.66	3.72	4.45	5.07
16		Trivediganj	81.3083	26.6375	6.48	2.38	2.83	4.24
17		Kaisarganj	81.3172	26.7333	11.6	9.18	8.78	8.85
18		Bibipur	81.3225	26.7886	12.72	11.88	8.44	8.84
19		Gutauna	81.3417	26.6222	5.4	1.83	3.4	4.4
20		Datauli chanda	81.3583	26.6375	10.32	9.6	10.1	10.33
21		Rahra Mau	81.3592	26.9622		4.08	5.6	5.32
22		Purwa amarsingh	81.3944	27.1361	3.22	1.99	1.83	2.09

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
23		Ramnagar New	81.3958	27.0875	9.1	8.39	7.75	7.9
24		Sidhaur	81.4083	26.7708	7.42	5.16	2.98	3.41
25		Bhanwapur	81.4172	26.8797	7.35	6.36	5.3	4.7
26		Motikpur	81.4300	26.6769	9.28	8.3	9.81	
27		Chaubisi	81.4303	26.5733	5.2	1.1	2.28	2.92
28		Markamau	81.4494	27.0354	5.44	4.51	4.01	4.56
29		Durgapur	81.4647	27.0928	4.98	3.62	3.29	3.89
30		Kotwa sarai	81.4750	26.8333	8.38	7.74	7.44	7.24
31		Untawa	81.4789	26.9250	5.38	4.18	2.48	3.18
32		Kalkeshwar temp	81.4833	26.7500	10.02	11.74	9.09	9.14
33		Bhikhar Pur	81.4853	26.7456	10.15	8.6	9.08	8.95
34		Rani katra	81.5261	26.9756	7.13	6.97	6.17	6.17
35		Daryabad	81.5567	26.8900	4.84	1.02	2.24	2.68
36		Puredalai PZ (GWD)	81.6242	26.9067	5.01	3.7	4.5	5.4
37		Sikari	81.6508	26.9469	5	3.7	6.63	3.56
38		Sarai barai	81.7106	26.8503	6.55	4.35		
39		Mademau Chirra	81.7172	26.8806	5.55	3.76	4.47	5.12
1	**BAREILLY**	Ramnagar2	79.1067	28.3667	14.02	14.48	12.9	13.95
2		Siroli Pz GWD	79.1167	28.4667	9.49	5.56	7.95	8.17
3		Majhgawan	79.2798	28.3547		5.18	4.04	3.9
4		Shishgarh	79.3167	28.7167	5.12	4.87	4.56	3.42
5		Kyara	79.3791	28.3049		1.02	5.63	6.28
6		Mirganj Pz GWD	79.3900	28.5750	6.39	2.9	4.24	5.02
7		Bareilly1	79.4000	28.3667	6.8	6.62	6.32	6.38
8		Kandharpur Pz GWD	79.4167	28.3000	2.58		2.77	3.2
9		Nawabganj1	79.4444	28.5431	3.64	3.6	3.7	3.86
10		Pipalsana Chaudhari	79.4500	28.4935			4.21	4.68
11		Deorania	79.4563	28.5155	1.56	2.94	2.33	3.38

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
12		Baheri	79.5000	28.7792	0.92	1.01	1.1	1.12
13		Para-Faridpur	79.5438	28.2129			6.2	6.5
14		Bhuta	79.5958	28.3361	5.68	5.05	4.7	4.92
15		Nakti Narianpur	79.7540	28.4749	3.08	2	1.95	2.6
1	**BASTI**	Vikram Jot	82.2958	26.8042	4.14	1.43	2.33	3.23
2		Nedula	82.3143	26.8536		3.285	1.71	2.34
3		Haraiya	82.4667	26.8000	1.97	3.74	3.3	3.64
4		Kaptanganj1	82.5564	26.7667	4.19	3.66	3.48	3.78
5		Ambarpur	82.5892	26.9077		3.1	3.46	3.08
6		Sabai Parsan	82.5995	26.6566		2.36	2.48	3.05
7		Bhanpur	82.6681	27.0181	4.66	0.64	1.37	2.92
8		Kharauan jat	82.6833	26.6917	3.62	1.97	2.53	3.16
9		Kalwari	82.6917	26.6333	4.38	3.75	3.84	4.13
10		Deyipar Khurd	82.7110	26.9252		0.7	1.4	
11		Ramnagar	82.7328	27.0328	4.05		1.68	2.91
12		Basti	82.7333	26.8000	6.82	5.43	5.95	6.43
13		Mahuwari	82.7644	26.8804		0.79	1.53	2.46
14		Saunghat	82.7682	26.8363	4.44		3.17	3.64
15		Thanhwa Muriyari	82.7764	26.6312			4.17	4.6
16		Rudauli PZ (GWD}	82.8153	27.0275	4.55	1.31	2.44	3.54
17		Barohia	82.8700	26.6995		1.33	1.91	2.52
1	**BHADOHI**	Koirauna	82.3125	25.2972	12.82	11.84	8.44	
2		Bhikhamapur	82.3933	25.4384		4.92	8.85	
3		Suriyavan	82.4200	25.4583	8.83	8.08	8.89	8.27
4		Pali1	82.4250	25.3792	6.42	9.65	7.98	6.55
5		Gyanpur New	82.4719	25.3344		5.16	4.54	3.57
6		Gyanpur	82.4767	25.3333	5.75			
7		Musilatpur	82.5417	25.3739		11.8	6.4	

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
8		Aurai	82.5603	25.2667	6.3	5.34	3.86	5.21
9		Sarakthal	78.1333	29.2917	4.6		3.13	2.29
1	**BIJNOR**	Chandok	78.1667	29.5917	19.96	16.5	16.64	16.91
2		Swaheri Khurd	78.1833	29.4500	11.29	9.86	8.43	9.63
3		Kiratpur B.O.	78.2078	29.4995			14.17	14.25
4		Faridpur Sadhiran	78.2628	29.2666			10.52	10.59
5		Chandpur siau	78.2633	29.0617	11.65	9.91	9.93	9.83
6		Motamahadev (Vijaypur)	78.3000	29.6300	11.55	3.43	4.75	5
7		Paizaniya	78.3294	29.2173			6.94	7.2
8		Najibabad	78.3333	29.6167	1.9			
9		Najibabad New	78.3667	29.6083			0.57	0.93
10		Nagina	78.4375	29.4375	4.41	1.13	2.39	1.92
11		Sneh Rd.rly.stn.	78.4467	29.6867	10.24	5.87	6.3	6.7
12		Sarakthal	78.4667	29.2367		3.25		
13		Dhampur	78.5167	29.3167	8.57			5.04
14		Seohara	78.5800	29.2000		6.2	5.97	5.73
15		Milak Beniram	78.6306	29.1864	4.56	0.65	1.72	2.48
16		Taimoorabad	78.6909	29.2946			5.4	5.15
1	**BUDAUN**	Asafpur	78.9056	28.4083		15.9		
2		Asafpur Pz GWD	78.9056	28.4083			15.34	15.23
3		Ujhani Pz GWD	79.0108	28.0275	19.23		18.98	18.75
4		Qadar Chowk Pz GWD	79.0833	27.8500				8.77
5		Mansa Nagla Pz GWD	79.3083	27.8417	20.47	20.55	20.31	19.98
1	**BULANDSHAHR**	Sikandrabad 1	77.6667	28.4417	12.79	12.86	12.7	12.55
2		Khurja	77.8433	28.2857		4.47	6.75	
3		Daulatpur Khurd EW/Pz	77.9375	28.2403	11.2		10.86	10.74

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
4		Lakhaothi Pz	77.9778	28.5222	8.75	8.29	7.57	8.08
5		Syana (Gwd Pz)	78.0542	28.6227	14.7	14.8	14.36	14.25
6		Unchagaon (GWD PZ)	78.1517	28.4872	12.39			
1	**CHANDAULI**	Mugal sarai	83.1300	25.2767	2	0.71	0.53	0.78
2		Shivnathpur	83.1580	25.1897				5.99
3		Chandraprabha	83.1833	24.9333	7.71	7.37	3.7	7.09
4		Baburi	83.1950	25.1667		9.05	4.96	5.15
5		Marufpur xing	83.2208	25.5083	11.96	10.84	10.23	11.53
6		Chakia	83.2217	25.0417	9.44	8.61		5.76
7		Naugarh	83.2283	24.8283	9.69	6.26		7.58
8		Chandauli	83.2544	25.2639	2.93	0.54	1.14	
9		Sakaldiha	83.2567	25.3383	5.48	1.86	2.2	2.66
10		Bhojapur	83.2611	25.3263				1.65
11		Katkauliya	83.2663	25.4405				3.13
12		Naudiha	83.2714	25.4403	3.39	2.85	2.7	
13		Naudiha	83.2722	25.4419		11.03	10.88	3.19
14		Badgawan	83.2890	25.1126				7
15		Dhanpur	83.3417	25.4533	3.68	0.7	1.16	1.37
16		Kamalpur	83.3811	25.3889	7.86	3.21	3.05	3.15
1	**CHITRAKOOT**	Ghuratanpur	80.7210	25.1511	11.33	5.56	7.39	10
2		Bharat Koop	80.7818	25.1991	9.44	5.52	7.51	9.32
3		Tharri	80.8144	25.1446	9.63	7.62	7.48	8
4		Pausaunja	80.8600	25.3667	12.96	12.78	11.09	14.52
5		Tikariya Jamunihai	80.8949	25.0199	12.54	4.44	6.92	7.4
6		Chakrajafar	80.9217	25.2600	16.13	15.27	15.86	17.45
7		Karwi	80.9250	25.2083		7.35		
8		Pahari buzurg New	80.9653	25.3372	8.6	7.23	8.02	9.3
9		Sapha	80.9679	25.2460	8.23	7.76	8.22	8.55

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
10		Haldi Dandi	81.0028	25.0375	12.48	4.49	11.74	18.47
11		Nanditaura	81.0148	25.3062	11.74	8.98	9.49	9.8
12		Bhaunri	81.0403	25.2250	12.32	10.32	10.87	11.35
13		Jorwara	81.0625	25.2486	20.49	18.79	8.17	8.7
14		Madna	81.0717	25.1899	20.27	17.38	17.33	17.5
15		Manikpur	81.1000	25.0667	4.76	0.74	1.81	1.9
16		Ailiha Badiyya	81.1397	25.0629	8.84	2.64	5.93	9.73
17		Raipura	81.1500	25.2283	10.38	8.2	8.81	9.8
18		Sikari	81.1787	25.3223	16.89	20.42	21.89	23.3
19		Rupauli	81.2103	25.3459	17.33	21.62	22.37	22.92
20		Dubari	81.3563	25.3134	18.6		13.32	7.42
21		Mau	81.3750	25.2694	18.64	16.88	17.03	18.23
22		Mawai Kalan	81.3849	25.3022		13.1		
1	**DEORIA**	Belwa Dubauli	83.5278	26.4864	5.35	3.85	3.59	5.81
2		Rudrapur1	83.6117	26.4283	6.26	4.35	4.29	5.52
3		Ram Nagar	83.6279	26.5143	5.7	2.46	3.92	4.88
4		Dubauli	83.6551	26.3397	5.69	4.21	4.22	4.99
5		Gauri Bazar	83.6625	26.5908	3.31	2.03	2.21	2.77
6		Usra Bazaar	83.7100	26.4600	4.59	3.75	2.96	4.63
7		Nai Khas	83.7126	26.4058	3.98	2.85	2.25	3.21
8		Baitalpur	83.7333	26.5500	3.72	2.31	2.36	3.13
9		Deoria2	83.7722	26.5292	4.48	3.32	3.75	4.09
10		Desai Deoria	83.7833	26.6667	3.7	1.29	1.59	2.09
11		Rampur Karkhana	83.8205	26.5734	3.05	0.93		2.57
12		Dohani Tola	83.8234	26.3264	4.1	3.11	3	3.73
13		Soniya Mudera	83.8342	26.6773	3.78	3.66	1.33	2.48
14		Narouli Khem	83.8400	26.4040	4.35	3.04	2.85	3.51
15		Dewasia	83.8652	26.1930		4.02		

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
16		Dewasiya	83.8653	26.1925			5.79	6.96
17		Pipra Devraj	83.9145	26.4070	4.85	3.6	2.55	3.54
18		Salempur Pz	83.9148	26.3012	4.93	3.83	3.9	4.44
19		Lar road	83.9200	26.2100	4.08	4	3.46	3.78
20		Mauhari	83.9202	26.6559		1.24	2.32	3.37
21		FarendhaTola	83.9360	26.5924	4.42	2.72	2.37	3.64
22		Chordiha	83.9812	26.1942	3.7	1.7	2.82	3.03
23		Chotka Gaon	84.0126	26.3187	4.92	3.97	4.07	4.6
24		Keroniya Ghat	84.0234	26.3939	5.48	4.72	3.55	3.99
25		Bhudowar	84.0776	26.2647	4.75		4.64	
26		Bankata	84.1135	26.2715			5.82	
27		Parsiya Chhitni Singh	84.1174	26.3154	6.71	6	5.74	6.49
28		Kalyan Narhia	84.1216	26.2596		5.96	5.4	6.15
1	**ETAH**	Jalesar Pz- GWD	78.3000	27.4667	6.93	9.14	8.91	9.24
2		Punhera	78.4072	27.4600		5.95	4.45	5.76
3		Marahchi	78.6267	27.7333	8.92			
4		Marahchi Pz-GWD	78.6267	27.7333		7.9	7.77	7.77
5		Etah Pz-GWD	78.6778	27.5556	13.91	12.54	12.12	11.99
6		Dhumri1	78.9250	27.5200		2.68	3.01	3.26
7		Jaithra Pz-GWD	79.0194	27.5097	14.01	12.44	11.86	12.46
1	**ETAWAH**	Puthan Shakrauli	78.8956	26.8336		9.42		
2		Pz GWD Jaswant Nagar	78.9417	26.8667	6.12			
3		Kantihar	78.9777	26.8856		18.93		
4		Bichpuri khas	78.9994	26.8319		0.26	1.53	2.91
5		Govt Iti Parisar	79.0068	26.8047	10.53	7.42	7.11	7.97
6		Barecha	79.0389	26.6181		33.57	34.34	35.55
7		Ujhayani	79.0853	26.8419		2.1	3.08	4.17

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
8		Bakewar	79.1833	26.6667	4.3	3.25	2.88	4.63
9		Patya Chaturpur	79.2025	26.7094	13.27	8.67	9.17	9.39
10		Bharthana Pz	79.2267	26.7507	5.06	2.49	2.43	2.84
11		Bharthana2	79.2269	26.7500			2.43	
12		Nagriya Yadvan	79.2928	26.8494		1.13	1.74	2.31
13		Pakkatal	79.3200	26.7900	6.41	3.68	4.02	4.52
1	**FARRUKHABAD**	Ganeshpur Pz-Gwd	79.3039	27.4205	18.49		18.47	18.53
2		Pz GWD Shukrullahpur	79.4333	27.4667	17.37	17.4		
3		Shamsabad2	79.4350	27.4694			16.93	16.92
4		Madal Sankarpur Pz-Gwd	79.5048	27.2760	23.53	24.84	25.12	25.26
5		Budhnamau Pz-Gwd	79.6127	27.3478	24.62		22.99	
6		Rajepur	79.6639	27.4833	2.64	0.3	2.28	
1	**FATEHPUR**	Dapsaura	80.2639	25.9440	26.91	13.04	28.78	29.42
2		Musfha	80.4233	26.1500	9.57	11.11	8.84	10.77
3		Barwa	80.4333	25.9500	27.88	26.23	26.79	26.98
4		Devmai new	80.4633	26.1372	5.94	2.99	2.88	4.31
5		Sarain bakewar	80.4833	26.1194	6.72	7.67	4.02	6.89
6		Baba Kuwan	80.5139	26.1061	13.52	6.81	6.79	8.48
7		Lalauli	80.5486	25.8056	8.43	8.87	8.89	9.59
8		Mahakhera	80.5784	25.8372	19.28		23.64	24.39
9		Bindki1	80.5800	26.0361	4.6	2	3.24	3.84
10		Bahua	80.6250	25.8417	9.26	6.44	5.32	5.6
11		Umarghana	80.6665	26.0219	4.39	3.86	3.06	3.44
12		Malwan	80.7100	26.0400	3.66	2.49	2.19	2.45
14		Sanvra	80.7333	26.0167	18.63			
15		Gazipur New	80.7542	25.8022	12.37	8.44	8.73	11.31
16		Fatehpur PZ Gwd	80.7958	25.9519	9.07	9.24	8.05	7.9

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
17		Govt. Iti College	80.8061	25.9221	21.01	24.2	20.42	19.1
18		Bhitaura PZ Gwd	80.8561	26.0308	13.73	13.5	12.04	12.25
19		Basohani	80.8584	26.0052	11.21	17.94	6.76	8.86
20		Asothar	80.9028	25.7722	11.04	8.295	8.71	9.645
21		Murawan	80.9902	25.9026	17.1	19.56	16.29	15.31
22		Bela	81.0361	25.9583	4.4	3.18	2.89	3.16
23		Savant	81.0590	25.8538		21.27	18.11	17.2
24		Sadhuwapur	81.0600	25.7000	3.33	0.5	1.58	1.96
25		Dhata	81.2300	25.5467	25.24		27.48	26.64
26		Mahammadpur Gaunti	81.2751	25.7956	17.95	20.71	18.08	17.49
1	**FIROZABAD**	Tundla	78.2458	27.2247	32.23	32.45	32.52	32.42
2		Gangni	78.4500	27.3200	28.07	27.26	27.91	27.8
3		Shikohabad Pz-GWD	78.5833	27.1000	20.08	18.29	17.89	17.86
4		Madanpur Pz-GWD	78.6167	27.0333	17.35	13.9	12.89	12.71
5		Jasrana Pz GWD	78.6536	27.2386	9.74	4.8	5.35	5.99
6		Araon Pz GWD	78.7031	27.1529			26.64	26.04
1	**GAUTAM BUDDHA NAGAR**	Sector-72 Pz	77.3800	28.5889	40.04	41.95	42.74	43.18
2		Sector- 62 A Pz	77.3900	28.5200	40.81		40.84	
3		Dadri	77.5486	28.5625	7.87	7.21	7.6	7.69
4		Jewar	77.5583	28.1208	12.4	12.19		
5		Jewar- Pz	77.5611	28.1236			12.48	12.52
6		Chauki Pz	77.6353	28.2856	7.35	2.08	2.73	3.42
1	**GHAZIABAD**	Morta Pz GWD	77.4833	28.7250	21.25	20.65	20.79	20.97
2		Modi Nagar-Pz II	77.5750	28.8472		5.46		
3		Modi Nagar-Pz I	77.5750	28.8472		5.32		6.18
1	**GHAZIPUR**	Rampur Sidhauna	83.1496	25.5365			15.41	6.23
2		Saidpur 1	83.1875	25.5389		8.9	9.5	8.97

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
3		Saidpur	83.2273	25.5423			10.51	10.01
4		Pyrepur	83.2417	25.6750	5.87	5.88	5.47	5.1
5		Tanda Bairakh	83.2875	25.6972	5.61	5.31	4.7	5.77
6		Devkali1	83.3280	25.5429				13.05
7		Sadar Jahanpur	83.3282	25.7999				13.67
8		Devkali	83.3417	25.5528				13.45
9		Damodarpur	83.4619	25.4621	10.5		8.13	9.13
10		Karanda	83.4700	25.4800	13.15	8.91	11.18	9.58
11		Orulari	83.4708	25.7542	5.45		2.85	3.64
12		Naudar (Chotti)	83.4737	25.4897	8.7	8.12	7.98	8.1
13		Ghazipur (Urban)	83.5597	25.5792	1.07	0.54	0.37	0.33
14		Ghazipur Sadar new	83.5600	25.5675	4.45	3.9	3.7	4.1
15		Ghazipur church	83.5633	25.5764	3.51	5.54	4.87	4.86
16		Baresar	83.5667	25.3917	13.35	9.46	11.35	6.63
17		Deoria	83.5750	25.4806	4.16	2.15	0.91	
18		Mardah	83.5778	25.8111		6.2	6.07	6.06
19		Dildar nagar	83.6600	25.4500	3.44	0.99	2.25	6.28
20		Nandganj	83.6783	25.5433			8.76	8.5
21		Revatipur	83.7083	25.5375	8.92	9.32	8.48	6.37
22		Sidhagarghat	83.7278	25.8417	5.03	4.79	5.1	4.89
23		Ajaipur	83.7306	25.4556	5.27	3.04	1.76	2.45
24		Kasimabad	83.7819	25.7819			5.96	6.74
25		Raisenpur	83.8133	25.4455			6.55	8.6
26		Gahmar	83.8361	25.4694	8.09	2.3	7.2	11.665
27		Sonari	83.8531	25.6256			5.51	6.08
26		Bihara	83.8567	25.5983		0.72		11.33
1	**GONDA**	Neurangpurwa (Bhuliyapur)	81.5800	27.1100	3.41	3.28		3.16

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
2		Colonelganj	81.7083	27.0500	3.87	1.5	3.2	3.11
3		Dharampur	81.7300	27.2700	3.12	3.09	4.09	2.85
4		Bhauriganj	81.7361	27.0125	4.04	2.42	2.78	
5		Birpur katra	81.7667	27.1972	3.31	2.88	2.45	
6		Parsa gondri	81.8050	27.1222	3.33	3.54	2.71	3.5
7		Neusara	81.8400	26.8900	3.46	3.08	2.71	2.61
8		Bikrampur	81.8800	27.1800	3.97	2.1	1.94	1.94
9		Panchurki Manohar Jot	81.9695	27.3282	4.12	0.98	1.76	2.39
10		Gonda (Urban)	81.9783	27.1167	6.75	6.67	7.78	7.1
11		Tarabganj PZ (GWD)	81.9906	26.9558	3.51	2.78	2.8	3.01
12		Bangown	82.0000	26.8200	2.71	0.66	2.16	2.84
13		Itiathok	82.0333	27.3022			3.14	
14		Sisour Andupur	82.0575	27.1810	5.54	2.95	2.9	3.71
15		Saghnwal	82.0626	27.3496	5.72	5.22	4.65	5.02
16		Vakil Kuan	82.0806	27.0220		4.26	4.45	
17		Kazi Dewar	82.1167	27.0667	6.22	2.32	3.95	4.49
18		Louwabirpur	82.1190	26.8728	3.25	3.37	3	3.34
19		Belwarpurwa	82.1479	27.2279		3.04	3.41	4.11
20		Lalpur	82.1786	27.2937	4.09		2.48	3.01
21		Mankapur-1	82.2292	27.0375	4.47	4.6	4.22	4.43
22		Lidhena Grant	82.2442	26.9428		4.68	3.64	3.95
23		Mankapur	82.2500	27.0333	4.52	4.575	4.19	4.45
24		Chhapia	82.3894	26.9800	3.11	2.43	2.2	2.9
25		Pure Seer	82.4600	27.1000	7.68	0.58	1.9	3.21
26		Ausani Buzurg	82.5096	26.9662	3.39	2.16	2.61	3.59
27		Sonbarsa	82.5097	26.9659	3.75	4.37	4.06	4.55
	GORAKHPUR	Munda Kodara	83.1880	26.7729		3.32	2.97	3.15

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
1		Pali	83.1983	26.8154		2.36	4.13	4.85
2		Malava	83.2080	26.4931			4.48	5.51
3		Pipra Pandey	83.2451	26.4808		2.2	2.78	3.57
4		Bharohia	83.2500	26.6400	9.21	4.82	5.24	6.88
5		Khajni	83.2506	26.6125	6.43	5.04	5.37	6.29
6		Murarpur	83.2614	26.4150	4.85	1.15	1.98	3.24
7		Kurwa	83.2631	26.8205	4.1	3.36	2.64	3.62
8		Campierganj	83.2667	27.0333				2.61
9		Baktawa Nagar	83.2759	27.0164				3.38
10		Jangal Bihuli	83.3006	26.9482	5.54	4.56	4.91	5.5
11		Dedhi	83.3042	26.3967	3.96	1.05	1.32	2.53
12		Tola Bhawan Bari	83.3057	26.8889	5.34	3.95	4.45	5.22
13		Gopalpur	83.3210	26.3709	4.24	3.59	3.37	3.85
14		Maniram	83.3376	26.8434	5.3	3.95	4.45	4.83
15		Bhapurwa	83.3617	26.6706		1.41	1.58	2.55
16		Singha_Kanail	83.3628	26.4834	4.66	4.05	3.15	4.21
17		Mehra	83.3849	26.3265	6	4.81	3	5.31
18		Kauriram	83.4167	26.5333	6.51	5.47	4.23	5.78
19		Dubauli	83.4200	26.4600	3.98	3.55	3.49	4.5
20		Phulwaria	83.4415	26.8715	4.29	3.67	3.19	3.87
21		Tikari	83.4481	26.4113		4.6	4.24	4.17
22		Jangal Aurahi	83.4483	26.8189		3.81		
23		Uncher	83.4571	26.4978	5.15	3.81	4.37	5.12
24		Teeha Mohamadpur	83.4754	26.3128	6.04	5.49	5.25	5.44
25		Dhobiyan Tola	83.5008	26.6888		5.63	4.53	5.8
26		Bhaisaha Mandir	83.5036	26.7053	4.99	4.58	4.28	4.74
27		Jagdishpur1	83.5764	26.7569	3.2	0.51	1.6	2.32
28		Doomari Court	83.5776	26.7118	5.96	3.07	4.17	5.68

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
29		Amadeeha	83.5921	26.6190	3.41	2.36		3.53
1	**HAMIRPUR**	Karguwa	79.5326	25.6408	28.55		25.18	23.9
2		Rath	79.5694	25.6042		16.67	20.35	19.84
3		Aunta	79.6274	25.6386	17.17	15.38	15.81	15.1
4		Dhagwan	79.6408	25.8394	3.73	0.71	2.34	2.94
5		Sarila NEW DW	79.6747	25.7728	4.63	1.21	1.64	2.12
6		Mamna	79.7372	25.7931	4.22	0.94		3.5
7		Bihuni Khurd	79.7383	25.6364	10.53	5.67	9.52	9.72
8		Ainjhi	79.7991	25.6341	4.04	1.21	1.81	1.95
9		Kharela	79.8111	25.5444	4.53	1.57		
10		Kharela A	79.8147	25.5419			2.47	2.69
11		Damu Purwa	79.8481	25.6783	11.26	9.17	11.72	11.17
12		Mahera	79.8630	25.7394	12.15	10.98	12.08	11.68
13		Bewar	79.9300	25.7611	12.07	9.56	10.37	10.18
14		Haraulipur	79.9404	26.1119	26.09			
15		Bibhuni	79.9633	25.7503	2.08	1.37	1.49	0.45
16		Kunetha	79.9767	25.6483	1.72	0.59	1	1.18
17		Shekhupur	80.0467	26.0312	31.21	31.28	34.02	32.86
18		Khanna	80.0678	25.5639	4.83	4.07	1.57	1.84
19		Fatehpur Maudah	80.1000	25.6889	17.21	14.32	16.29	17.23
20		Nayakpurwa (Inchauli)	80.1693	25.5209	29.44	22.73	23.38	20
21		Devgaon	80.1921	25.8799	25.02	29.39	38.11	30.01
22		Bhainsmari	80.2384	25.6375	3.97	3	2.77	2.9
23		Pachkhura Buzurg	80.2703	25.8601	27.25	34.74	33.48	30.85
1	**HAPUR**	Dhaulana-Pz	77.6475	28.6356	3.09			
2		Hapur-Pz	77.8058	28.7233	20	19.71	20	19.86
3		Garhmukteshwar-Pz	78.0792	28.7858	14.5	13.73	13.63	13.7

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
1	**HARDOI**	Harpalpur PZ-GWD	79.7889	27.3506	7.88			
2		Barkhani Pz-GWD	79.7958	27.6158	9.02	9.47	9.42	9.7
3		Shahabad2	79.9375	27.6583	5.89		5.43	5.63
4		Shahabad Pz-GWD	79.9450	27.6450		5.1		
5		Bawan Pz-GWD	79.9958	27.3989	4.21	1.73	2.85	3.47
6		Saidpur	80.0150	27.5562	3.06	0.74	1.46	2.15
7		Manjila	80.0750	27.2694	4.8	2.19	3.34	4.07
8		Sursa (GWD PZ)	80.1186	27.2969	4.78	4.95	4.95	4.95
9		Mallawan	80.1500	27.0417	16.57		15.05	14.72
10		Barganwar	80.1547	27.4875	6.15		4.77	4.35
11		Pihani	80.1944	27.6250	4.67		1.65	2.48
12		Del panderwa	80.2014	27.7611	3.8	0.15	1.56	3.1
13		Bakharia	80.2459	27.5786	6.32		5.53	3.81
14		Burdhagaon	80.2600	27.6300	5.59			
15		Dhobia	80.2844	27.6389	6.55	5.5	5.56	5.84
16		Gopamau	80.2861	27.5319	7.33	6.84	5.49	5.98
17		Ahirori	80.3089	27.3319	3.67	1.43	2.23	2.86
18		Kachauna (GWD PZ)	80.3406	27.1586	4.58	11.83	3.15	3.57
19		Kachauna	80.3417	27.1583	3.21	2.59		
20		Quasimpur	80.4111	27.0178	4.27		2.8	4.15
21		Behdar (GWD PZ)	80.4156	27.0217	3.83	2.08	2.71	3.14
22		Gangau	80.4169	27.0714	2.3	0.48	1.78	2.06
23		Dalel nagar rly	80.4214	27.1194	7.43	4.53	5.27	5.7
24		Hardalmau	80.4600	27.0423			3.85	4.29
25		Bharawan	80.6946	27.1678	8.53	5.81	7.46	7.85
1	**HATHRAS**	Khamanigarh	77.8986	27.4069				19.27
2		Thulai	78.1958	27.6461			13.83	13.48
3		Rattika nagla	78.2683	27.6583	3.78	1.34		3.22

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
4		Hasyan	78.2722	27.6153			2.73	
5		Sikandrarao	78.3750	27.6333		1.24	3.74	3.98
1	**JALAUN**	Kailaiya	79.0056	25.9528	6.97	3.96	4.22	5.02
2		Nadigaon	79.0225	26.1097	12.07	9.23	9.73	9.44
3		Gopalpura1	79.0917	26.2417	1.03	0.29	0.63	0.7
4		Rendhar	79.1010	26.1552		7.5	15.41	6.27
5		Kanasi	79.1067	26.0833	5.55	5.26	4.41	4.42
6		Mijhauna	79.1410	26.2163	6.27	3.6	5.28	4.68
7		Konch(New)	79.1500	25.9931		2.52		3.39
8		Konch B.O.	79.1619	26.0016	5.27			
9		Rajpura	79.1833	26.3167	2.51	1.11	1.61	1.6
10		Rampura	79.1889	26.3458	13.15	11.58	12.23	12.12
11		Madhogarh	79.1917	26.2750	1.87	1.26	1.38	1.5
12		Mahuta(Jamal Pura)	79.2037	26.3711	23.26	23.14	3.06	21.27
13		Keolari-New	79.2056	26.1042		3.74	0.47	3.62
14		Tihar	79.2157	26.3524	7.55	5.47	4.66	5.18
15		Kamsaira	79.2258	26.1758	2.68	1.04	1.23	1.8
16		Umri	79.2500	26.3500	4.16	1.28	2.97	2.65
17		Gohan	79.2728	26.2933	5.26	3.02		2.2
18		Gohan New	79.2799	26.3006	3.27	2.88	1.61	2.4
19		Mehtauli	79.2964	26.4255		9.79	14.1	11.13
20		Kishora mauza	79.3125	25.8250	4.15	2.86	1.23	2.14
21		Jalaun	79.3333	26.1333			4.81	
22		Jalaun New	79.3376	26.1314		2.5		4.64
23		Hardukh New	79.3715	26.2590	11.59	9.83	4.395	10.48
24		Marora	79.3833	25.9833	3.3	1.66	2.77	2.38
25		Kukargaon New	79.3940	26.0530	9.44	9.71	10.94	10.33
26		Khuthaun B.O.	79.4176	26.3615	28.68	27.53		27.4

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
27		Dekor	79.4250	25.8728	7.42	4.87	5.06	5.65
28		Sirsakalar	79.4300	26.2969		3.04	1.52	2.97
29		Kusumilia	79.4444	25.9211	10.03	2.48	4.09	7.3
30		Orai	79.4667	25.9833	2.28	1.64	2.45	1.77
31		Damras	79.5014	26.2511	13.73	27.09	10.64	24.35
32		Ait2	79.5050	26.0467	5.37		3.165	
33		Churkhi	79.5158	26.1539		7.92	7.88	13.32
34		Ata	79.5917	26.0417	5.81	3.61	3.38	2.8
35		Mahewa	79.6417	26.1542	18.52	16.62	18.16	17.67
36		Kalpi	79.7436	26.1330	24.49	23.17	25.05	25.2
37		Babina-New	79.8181	26.0036	1.53	0.76	1.53	1.16
38		Kadaura B.O.	79.8336	25.9867	5.43	1.28	14.575	2.52
1	**JAUNPUR**	Mungra Badshahpur-Old	82.1931	25.6611			7.98	
2		Mungra Badshahpur	82.1931	25.6611			3.98	
3		Mungra Badshahpur1	82.2083	25.6667		5.49		8.31
4		Belwal	82.2292	25.7958	3.35	1.22	1.47	2.51
5		Narar(jamnipur)	82.2583	25.5889	5.28		4.08	5.33
6		Barji Kalan	82.2667	25.7167	4.94	1.7	2.58	3.38
7		Maheshganj	82.2967	25.6700	8.48	8.06	9.1	8.86
8		Raja bazar	82.3167	25.9000	4.95	4.37	4.47	4.95
9		Janghai	82.3200	25.5528		4.16	4.63	5.94
10		Naharpur-I	82.3825	25.8625		12.71	7.17	7.41
11		Maharajganj2	82.3917	25.8414	6.46	4.51	3.86	4.75
12		Sigra mau	82.3917	25.9472	6.1	6.03	6.57	6.71
13		Machchali Shahar	82.4042	25.6875		1.9	2.08	2.47
14		Barai par	82.4556	25.7792		6.23	6.43	5.66
15		Badla Pur	82.4639	25.8792	10.16	9.05	8.96	9.26

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
16		Marihun	82.5000	25.5889	4.82	3.8	3.44	4.21
17		Bareri dasmi	82.5083	25.6444	2.98	2.18	13.33	4.01
18		Barasathi	82.5250	25.5717	7.02	7.23	7.74	8.34
19		Dhiuraha	82.5333	26.0333	9.06	9.26	8.68	9.33
20		Ishapur	82.5361	26.0544				8.65
21		Sikrara	82.5472	25.7333		1.84	3.15	2.73
22		Rampur1	82.5750	25.9817	4.58			
23		Hasanpur	82.6000	25.9250	6.27	2.58	4.42	5.39
24		Uttar Patti -1	82.6117	25.8614			15.62	15.79
25		Ganeshganjbazar	82.6375	25.6694	16.81			
26		Shahganj1	82.6583	26.0792	7.19	5.23	5.91	6.33
27		Dhitauli Pratappur	82.6600	26.1500	4.27		2.63	3.75
28		Dhitauli	82.6617	26.1450		2.13		
29		Kheta sarai	82.6867	25.9617		3.94		
30		Kheta sarai1	82.6867	25.9617	4.68		3.76	4.02
31		Mehreon1	82.7083	25.6083	4.39	3.2	3.06	2.94
32		Iraji	82.7483	25.6415			16.16	15.07
33		Chakwa	82.7542	25.8167	3.6	1.28	1.62	2.06
34		Tarti	82.7625	25.5458	7.01	4.52	6.73	7.02
35		Muftiganj	82.8250	25.7100	10.03	10.59		10.85
36		Kirakat1	82.9167	25.6389	14	12.87		
1	**JHANSI**	Raksa	78.4650	25.4606	6.74	3.41	5.1	4.9
2		Babina1	78.4833	25.2383	8.19	1.25	2.6	6.04
3		Khailara	78.5000	25.3456	10.43	3.14	5.8	7.28
4		Jhansi1	78.5667	25.4542	5.58	3.02	3.45	3.95
5		Phutera	78.7149	25.3856	7.18	1.61	3.53	4.44
6		Ghugawa	78.7539	25.3828	4.18	3.54	3.6	3.25
7		Semri	78.8494	25.6450	7.68	3.32	4.1	5.8

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
8		Sakrar	78.8767	25.3567		4.83		
9		Sakrar 1	78.8767	25.3567	7.5		5.3	5.7
10		Samthar	78.9078	25.8367		2.5	0.26	3.47
11		Moth	78.9500	25.7333	4.09	0.68	1.64	2.73
12		Auldan	79.0186	25.3897		5.49		
13		Auldan-New	79.0186	25.3897	6.32		4.87	10.5
14		Khillawari	79.0250	25.5833	7.48	3.06	3.78	5.34
15		Bangra Pz	79.0250	25.3167	6.53	3.59	4.23	5.47
16		Baghera	79.0345	25.5887	5.53	3.17	4.73	
17		Eairach	79.0933	25.7839	22.3		21.01	21.22
18		Kuangaon	79.1089	25.1969	9.14	7.21	8.76	11.21
19		Farida	79.1461	25.6736	4.8	2.5	4.26	3.42
20		Mauranipur Rajpaharia	79.1500	25.2583	6.63	4.36	5.3	5.57
21		Rewan	79.1633	25.3967	7.39	4.53	4.45	5.9
22		Bamaur	79.1750	25.7000	8.33	3.43	4.67	5.67
23		Ajneri Madhopura	79.2000	25.6333	2.67	2.29	0.55	1.56
1	**KANNAUJ**	Deopur	79.4347	26.9808		2.9		
2		Bikhupur	79.4553	26.9786				4.57
3		Chibramau Pz-GWD	79.5000	27.1333	22.26	25.14	24.44	
4		Alam Sai Ka Purwa	79.5261	26.9436				2.92
5		Nagla Dhahao	79.5392	27.0117				3.82
6		Udaipur	79.5919	26.9522			0.69	2.58
7		Bamrauli	79.6069	27.0706			9.78	
8		Himmat Nagla	79.6131	27.0669		7.54		
9		Agous	79.7075	26.9424		5.93	5.66	6.14
10		Chabilepurwa	79.7775	27.1308		5.11	4.46	4.86
11		Jalalabad Pz-GWD	79.7775	27.1003	26.81	25.88	24.63	25.94

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
12		Usari	79.8016	26.8442		7.17	7.58	6.98
13		Miya Ganj	79.9719	27.0000		17.46		
1	**KANPUR DEHAT**	Khoaja Phool	79.5797	26.4047		6.53	6.67	8.13
2		Jaunra	79.6856	26.4819		6.12		
3		Pakka Talab Mankapur	79.6931	26.5175			2.4	2.85
4		Derapur	79.7833	26.4167	20.39	18.4	19.01	17.68
5		Pukhrayan1	79.8417	26.2250	17.65			
6		Pukhrayan	79.8417	26.2250		4.73	4.71	5.24
7		Kainjari	79.8875	26.6089	7.61	4.35	4.46	4.88
8		Roura	79.9033	26.4806		2.78	3.6	5.17
9		Muhammadpur	79.9125	26.2958	16.48	17.53	16.93	16.49
10		Kadari	79.9786	26.2286	7.94	2.35	3.67	4.71
11		Sahtawanpurwa	79.9800	26.6000	3.22	1.26	1.89	2.79
12		Prathwipur	80.0061	26.3264			4.82	6.13
13		Bara Dak Bangla	80.0156	26.3844			3.48	4.48
1	**KANPUR NAGAR**	Sheoli	80.0583	26.6056	6.19	1.38	2.26	2.77
2		Bhaisana	80.0747	26.6350	2.31	2.5	2.05	2.12
3		Niwada dhamni	80.1283	26.7000	3.97	3.69	2.45	2.57
4		Bhadras	80.1600	26.1700	16.69	15.66	10.1	14.26
5		Sachendi	80.1667	26.4292	5.36	1.01	1.94	2.61
6		Chaubeypur 1	80.1875	26.6167	13.17	10.56	11.28	9.98
7		Ramsari	80.2047	26.1856	7.88	5.15	6.17	6.77
8		Bidhnu	80.2389	26.3194	2.26	0.45	1.2	1.44
9		Sambharpur	80.2700	26.5300	1.64	1.08	1.58	1.67
10		Bidhnu Pz	80.2700	26.3200	19.63	3.33	3.03	3.05
11		Bithoor-Nganj	80.2717	26.5975	9.01	9.35	9.76	9.68
12		Baradari	80.3119	26.3139	9.23	2.76	4.46	5.61
13		Sarh	80.3500	26.2361	5.19	0.23	1.18	2.27

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
14		Moyaiya	80.4100	26.4000	8.42	8.83	8.92	9.46
15		Motipura	80.4167	26.4250	4.89	1.47	2.05	3.77
16		Rooma	80.4397	26.3583		7.27	7.35	7.5
17		Kulgaon	80.4450	26.3708	8.79	8.62	8.46	9.65
1	**KASGANJ**	Bharhpura Pz-Gwd	78.5061	27.7942	13.12		13.14	12.86
2		Nameni Pz-Gwd	78.6136	27.9144	3.6	5.1		
3		Farid Pur Pz-Gwd	78.6389	27.8369			8.1	8.07
4		Wazirpur Pz-Gwd	78.6897	27.7675	4.11	8.36	8.71	8.57
5		Fatehpur Kalan Pz-Gwd	78.7131	27.9117			6.03	6.11
6		Amanpur Pz-GWD	78.7375	27.7097	3.93		2.38	
7		Timber Pur Pz-Gwd	78.7681	27.8656	4.96	1.65	4.52	4.71
8		Thara Cheetra Pz-Gwd	78.7692	27.7392	4.38	1.73	3.57	4.08
9		Ganeshpur Pz-Gwd	78.8394	27.7775			5.67	5.82
10		Mangadpur Pz -Gwd	78.8997	27.8550	4.38	3.5	3.8	3.81
11		Dhumri	78.9233	27.5897	3.75			
12		Alipur Dadar Pz-Gwd	78.9722	27.7072	9.08	7.64	7.86	7.56
13		Myuni Jedai	79.0106	27.7797	5.42	4.48	4.21	4.39
14		Ranidamar	79.0744	27.6906			6.96	
15		Daryaganj	79.0917	27.5917			9.54	11.8
16		Asadgarh Quila	79.1088	27.7596	5.52	3.01	2.8	4.41
1	**KAUSHAMBI**	Ajrauli Pz	81.2633	25.4550		12.01	13.46	14.67
2		Usargaura	81.3750	25.5333	8.4	4.72	5.69	6.94
3		Lehdari	81.3792	25.7514	15.55	10.83	13.83	14.34
4		Kushambhi	81.3806	25.3472	13.59	13.62	12.84	13.52
5		Kasia	81.4750	25.5958	17.82	14.17	14.29	14.03
6		Sarai akil	81.5133	25.3750	19.58			18.44
7		Sakada	81.5320	25.5684		10.9	10.76	10.82

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
8		Nasirpur	81.5832	25.5603		14.66	14.38	14.81
9		Mandari	81.6295	25.4503				22.97
1	**KHERI**	Sahijana	80.1185	27.9176	6.38	5.45	4.75	5.05
2		Gomti_east bank	80.2739	27.7422	4.07	2.24	2.69	3.22
3		Himmatpur	80.2863	28.0223	7.06	6.23	6.33	6.36
4		Surajanpur (Khabraha Kuwa)	80.3461	28.2454	3.7	2.45	2.75	3.2
5		Jadaura	80.4696	27.9987	5	2.04	2.96	3.65
6		Krishi Vigyan Kendra	80.5521	28.0837	6.69	5.78	6.09	6.27
7		Bhan Pur	80.5560	28.3088	2.45	0.81	1.65	1.94
8		Shaheedpur	80.5594	27.8042	5.33	0.7	1.85	3.07
9		Rasoolpur Tafazzul	80.5594	27.8289	8.14	7.98	8.27	8.2
10		Rikhi Purwa	80.5607	28.4337	3.95	1.89	3.07	3.51
11		Digniya Check Post (6 No Marg)	80.5646	28.6285	4.37	2.19		4.32
12		Behjam	80.5953	27.8649		2.84	2.6	2.9
13		Dudhwa f.r.h.	80.6494	28.4889	8.71	6.69	7.44	7.81
14		Khajanchi purwa	80.6889	27.9597	4.19		3.765	4.2
15		Bhikampur	80.7162	28.0722	4.08	2.34	3.24	3.56
16		Dhobi Purwa	80.7296	28.2967	3.87	1.77	2.81	3.13
17		Chandan chowki	80.7625	28.5278	4.22	2.6	3.845	3.64
18		Khanpur Gurella	80.7802	27.8186	4.24	3.095	3.08	3.1
19		Khiri Pz	80.7892	27.9240	2.77	3.42	3.79	7.4
20		Government Polytehnic_I	80.7990	27.9315	9.06	8.09	8.68	8.91
21		Phool Behar	80.8024	28.0728	3.63	2.51	2.99	3.3
22		Government Polytehnic_Ii	80.8065	27.9379	11.4	10.2	10.73	10.88
23		Jhandi Raj	80.8458	28.1831	3.55	2.27	2.98	3.25
24		Chamlapur	80.8833	27.9133	2.39	0.68	1.77	2.22

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
25		Chauapur	80.9000	27.9833	3.52	1.69	2.72	3.05
26		Singhai	80.9097	28.3111		3.77		3.77
27		Lala Purwa	80.9311	28.3828	4.23	1.53	2.67	3.4
28		Asogapur	80.9500	27.8917	3.13	0.74	2.3	2.62
29		Ramaibehar	81.0306	28.1431	4.09	2.66	3.35	3.65
30		Amathi	81.0542	28.0167	3.76	1.54	3.05	3.28
31		Ishanagar	81.2228	27.8158	3.86	1.17	2.74	3.2
1	**KUSHINAGAR**	Mansurganj	83.6000	26.9056	3.81	1.26	2.3	2.47
2		Parsiya	83.6446	26.7175	5.43	4.06	3.61	4.42
3		Mathauli	83.7500	26.8667			1.96	2.66
4		Gopalpur Biraicha	83.7646	26.7443	4.48	4.38	1.97	3.43
5		Bindwalia	83.8038	27.0974	5.01	3.11	3.63	4.14
6		Kurmi Tola	83.8196	26.7891	6.25	5.23	3.8	4.82
7		Rambar	83.8667	26.8667	5.09	1.87	3.47	3.98
8		Sirsiya Veervam	83.8765	27.0382			3.42	3.78
9		Pakri Brijlal	83.8791	27.2153	2.68	0.51	1.58	2.01
10		Tamaspur	83.8887	26.8039			2.19	2.83
11		Naurangia	83.9000	27.0333		2.7	3.82	4.22
12		Shukla Bhujauli	83.9236	26.9484		3.81	4	4.6
13		Dhuria	83.9325	26.7065	4.14	3.3	2.21	3.22
14		Chittauni	83.9542	27.1333	3.105	1.5		3.04
15		Dusadi Patti	83.9552	27.0742	3.43	1.69	2.33	2.74
16		Jokwa Buzurg	84.0112	26.6939	6.03	4.64	3.73	3.15
17		Maghi Kothilwa	84.0210	27.0343	3.6	2.53	2.9	3.23
18		Singhar Todi	84.0290	26.8060	4.16	3.34	3.01	3.56
19		Taraunwa	84.0300	26.6228	4.57	3.19	3.52	4.35
20		Baria	84.0922	26.7676		4.14		4.19
21		Ghoraria	84.1012	26.8479	3.9	3.56	1.96	2.62

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
22		Balua Shahi	84.1211	26.6749	4.99	4.31	2.31	3.58
23		Mahiyarwa Babatola	84.1357	26.7967		4.46	3.87	4.29
24		Sapahi	84.1755	26.7278	5.89	4.91	3.74	6.1
25		Tarya Sujan	84.2690	26.6469	3.8	1.76	2.73	2.96
26		Parsaurf Sirsia	84.2891	26.7181	3.85	2.49		3.19
27		Parsauni Doyam	84.3664	26.6436	3.4	2.75	2.55	2.89
1	**LALITPUR**	Deogarh	78.2396	24.5271	4.72	2.36	3.76	6.7
2		Jakhlaun	78.3217	24.5433	3.52	2.5	2.87	2.72
3		Jakhaura B.O.	78.3389	24.8962		2.25	3.55	3.81
4		Jakhaura1	78.3461	24.8983	3.45		3.55	2.24
5		Jakhaura	78.3461	24.8983		1.3		
6		Khiriya Mishra	78.3683	24.6361	5.23	1.71	5.02	2.5
7		Amjhara ghati	78.4000	24.3667	1.7	1.48	1.42	1.72
8		Lalitpur	78.4083	24.6792	5.42	0.72	2.52	2.38
9		Tigra	78.4213	25.0001		2.57	3.94	5.39
10		Talbhet-New	78.4317	25.0333	3.73	1.11	3.09	1.22
11		Garhliyana	78.4525	25.0490	9.32	1.02	3.45	6.61
12		Talbhet-III	78.4528	25.0478	7.72	2.13	3.265	5.83
13		Birdha Pz-GWD	78.4778	24.5419	16.08	1.29	7.78	12.66
14		Bansi	78.4800	24.8650	3.08	1.53	2	4.07
15		Birdha	78.4850	24.5383		4.58		
16		Burari	78.4903	24.7236	7.67		4.04	1.86
17		Betna	78.5250	24.4750	9.61	5.74	3.03	6.25
18		Hisar kalan	78.5642	25.0708	6.81	4.64	6.12	5.6
19		Bar	78.5833	24.8583	4.82	3.87	3.56	6.57
20		Digwar	78.6067	24.3700	5.82	1.72	4.22	4.28
21		Silawan	78.6208	24.5739	10.25	5.31	6.6	8
22		Buragaon	78.6294	24.8143	5.34	3.5	3.91	4.8

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
23		Saidpur New	78.7408	24.4597				2.68
24		Saidpur	78.7667	24.4083	7.32	3.56	5.2	
1	**LUCKNOW**	Tikar	80.6236	27.0200			7.2	7.2
2		Rehta	80.6583	27.0417	10.03	9.1	8.6	8.56
3		Malihabad	80.7167	26.9278	15.15	14.5	14.33	13.85
4		Aat Garhi Sonra	80.7278	27.0847		13.95	13	
5		Ibrahim Ganj	80.7347	26.7947		1.58	2.68	3.38
6		Tejkishan Khera	80.7347	26.7958	4.83	2.49	3.06	3.91
7		Bijnor	80.7403	26.7389	12.93	12.88	12.6	
8		Mal	80.7417	27.0222	14.02	13.26		
9		Rehman Khera	80.7625	26.8889	10.7	10.16	10.06	10.13
10		Fatehganj	80.8153	26.8278		15.7	13.9	13.65
11		Itaunja Pz	80.8888	27.0832			10.18	
12		Itaunja	80.8917	27.0833	11.68	8.835	8.8	9.76
13		Bakshi Ka Talab	80.9083	27.0042	13.31	13.72	11.69	11.9
14		Lu New Campus	80.9431	26.9083	23.1	23.28	23.99	23.95
15		Bhujal Bhawan	80.9486	26.8931	32.64		32.29	32.03
16		Mohanlalganj	80.9569	26.6972				5.12
17		Vikasnagar	80.9611	26.8944		43.28	41.49	40.86
18		Kumrahawan	80.9722	27.0833	5.89	5.15	1.58	2.12
19		Mohanlalganj	80.9833	26.6764	5.875	5.125	4.56	4.88
20		Nibaz Nagar	81.0917	26.8631			2.55	2.85
21		Gosaiganj1	81.1125	26.7667	4.26		2.95	3.36
22		Nagram	81.1333	26.6333	4.58	2.35	2.06	2.48
23		Munshiganj	81.1550	26.7494	7.56	4.57	4.65	5.44
24		Khawas khera	81.1722	26.6806	4.5	0.73	3	3.3
25		Gangaganj	81.1933	26.7167		1.2		
1	**MAHOBA**	Kashipura	79.3014	25.3533	5.62	13.28	5.17	11.05

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
2		Teiya	79.3550	25.3144		2.99		
3		Teiya1	79.3550	25.3144	7.98		2.64	3.92
4		Chatesar pz GWD	79.4936	25.4161	10.51	7.95	9.25	9.6
5		Nakra	79.4994	25.4790	14.18	9.61	12.17	12.09
6		Jaitpur NEW	79.5650	25.2542		7.56	5.17	5.4
7		Bela tal	79.5778	25.2703	5.99	2.63	2.95	3.37
8		Baura	79.5849	25.3324	5.54	0.2	2.16	1.99
9		Gouhani	79.6174	25.4489	12.28	1.64	3.93	20.95
10		Mudhari	79.6234	25.2353	3.97	1.14	1.47	1.87
11		Kulpahar2	79.6500	25.3167	7.25	3.62	4.05	6
12		Pipramauf	79.6678	25.1450		3.19	3.52	4.32
13		Charkhari	79.7500	25.4000	3.34	0.56	1.52	1.65
14		Kaimaha	79.7543	25.1456	4.7	3.64	4.03	4.37
15		Srinagar	79.7822	25.1778		6.2	8.54	10.39
16		Bara	79.8100	25.2092	6.02	2.4	3.73	4.72
17		Mawai	79.8563	25.1426	6.65	5.39	6.42	6.6
1	**MAHRAJGANJ**	Dhani	83.1621	27.1150		2.5	2.71	3.73
2		Pharenda pz Gwd	83.2750	27.1055	3.63	1.04	2.17	2.95
3		Koluhi	83.3317	27.3000	3.41	1.08	2.37	3.12
4		Hathiya Garh	83.3749	27.2413		1.91	3.8	3.95
5		Munila Tola	83.4031	27.3938	4.9	2.68	2.85	3.76
6		Kamasin Khurd	83.4479	27.0198		2.01	3.14	4.2
7		Maharajganj2	83.5639	27.1472	3.85	1.1	2.77	3.14
8		Kukesar	83.5700	27.4517		3.22	2.58	3.35
9		Chowk	83.5720	27.2470	5.03	1.74	2.86	4.03
10		Pipra Khadar	83.6270	27.0127		1.11	2.03	2.28
11		Shikar Garh	83.6717	27.2400	4.49	1.35	2.76	3.35

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
12		Hanumanganj (Chhota tola)	83.7071	27.3590		0.93	2.06	2.83
13		Ghughli	83.7333	27.0500	5.21	1.43	3.2	4.65
14		Siswa bazar	83.7667	27.2000		3.37	3.86	4.62
1	**MAINPURI**	Nagal bhujia	78.9750	27.0750	2.91			6.3
2		Kuraoli Pz-GWD	78.9750	27.4083	7.72	2.3	4.66	5.64
3		Nagla Jula	79.0213	27.2054			5.43	6.3
4		Ajeetganj	79.0900	27.1900	6.63	4.51	4.44	4.78
5		Sultanganj Pz-GWD	79.1006	27.3161	6.97	3.92	4.05	4.94
6		Sauj	79.1459	27.0230				2.02
7		Katra Saman	79.1931	27.0306	4.01	0.65	2.47	3.32
8		Kishni Pz-GWD	79.2664	27.0314	7.73	4.6	5.27	5.57
9		BewarPz-GWD	79.2861	27.2244	9.97	7.5	6.86	7.22
1	**MATHURA**	Barsana	77.3778	27.6556	10.29	10.13	10.23	10.11
2		Kosi	77.4383	27.7861	3.24	0.62	2.31	2.4
3		Khairas	77.4400	27.6900	2.15	0.75	1.9	1.5
4		Paintha (Govardhan)	77.4683	27.4817	2.27	0.35	2.62	2.18
5		Sahar1	77.4867	27.6250	2.51	0.83	1.83	1.45
6		Chhata New	77.5000	27.7033	3.42	0.4	1.83	2.19
7		Saunkh	77.5000	27.3967	1.96	0.43	1.15	1.43
8		Jachoda	77.5683	27.4950	2.19	0.58	1.48	0.55
9		Jhinga nagla	77.5736	27.3708	2.95	1.12	2.65	1.8
10		Chhinparai Banger	77.6312	27.8109		2.2	3.42	4.25
11		Nagra Chhitar Singh	77.6600	27.2833	3.08	1.62	2.5	2.12
12		Surir (new)	77.7278	27.7694	7.32	6.33	6.41	6.72
13		Jamunapar Thana	77.7361	27.4750	12.12	10.74	10.79	11.25
14		Auwa Nagla	77.7599	27.3223	2.22	1.2	2.38	1.89
15		Kharab	77.8000	27.4667	4.08	2.53	3.43	3.95

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
16		Baldeo	77.8222	27.4194	7.77	5.55	5.02	5.11
17		Pirsua	77.8333	27.5750	11.1	11.21	11.4	11.3
1	**MAU**	Barahdpur	83.3605	26.0360				7
2		Palia	83.4389	25.9417				6.27
3		Amila Bazar	83.5070	26.1816				6.115
4		Dhorighat	83.5125	26.2500	6.4	2.26	4.98	5.93
5		Amila	83.5167	26.1861		4.93	3.3	
6		Ghosi	83.5417	26.1167	3.85	2.63	2.8	3.12
7		Mau (Urban)	83.5750	25.9417	6.17	4.41	5.14	5.37
8		Kapaganj	83.5750	26.0333		7.84		
9		Kasara	83.6192	26.0216	5.34	1.27	2.94	2.69
10		Jejawali	83.6569	26.1764		4.34	2.29	6.01
11		Dubari	83.7245	26.1926	0.18		3.47	0.12
12		Ratanpura	83.7500	25.9167	6.9	6.21	4.4	6.075
1	**MEERUT**	Timikia Kothi Pz I	77.5500	28.9583			5.88	6.38
2		Timikia Kothi Pz III	77.5500	28.9583	7.1	6.62		
3		Sardhana	77.6250	29.1417		9.52	10.01	9.83
4		Meerut Pz	77.6847	28.9589	21.44		20.81	20.83
5		Meerut	77.7000	28.9853		20.43		
6		Sakoti Tanda Pz	77.7333	29.1750	8.07	7.07	7.14	7.02
7		Kaili Pz	77.7597	28.7903	21.79	22.33	21.81	21.41
8		Sisauli	77.8083	28.9200	21.67			
9		Chota Mawana Pz	77.8611	29.0917	10.94	10.21	9.8	9.57
10		Machra-Pzii-6" (Deep-274M)	77.8914	28.8925	12.515	12.1	11.72	11.67
11		Parikshat garh	77.9350	28.9800		9.53	9.4	9.86
12		Hastinapur 1	78.0000	29.1250	11.03	10.21	10.42	10.5
1	**MIRZAPUR**	Durjanpur	82.1722	24.8855				12.84

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
2		Dramandganj	82.1760	24.8752			5.8	5.68
3		Halia	82.3233	24.8267	7.08	4.65	5.26	
4		Lalganj	82.3639	25.0208	11.83	5.74	8.97	8.09
5		Gaipura	82.3917	25.1528	15.15	12.7		
6		Gopalpur	82.4833	25.1583	14.84	15.3	15.44	16.01
7		Lohangpur	82.4900	25.0667	12.71	8.75	10.4	11.5
8		Chandardipa	82.5477	25.1408				16.74
9		Chilh	82.5527	25.1661			11.98	13.63
10		Jasohar	82.5950	25.1100				8.21
11		Mirzapur	82.6000	25.1333	15.1	13.46	9.27	13.45
12		Kalwan	82.6500	24.9678	5.74			
13		Kotawa	82.6500	24.9700		12.34		
14		Marihan	82.6750	24.9292		12.68	12.5	
15		Baraini	82.6933	25.2139		1.99	10.82	15.06
16		Bhagirathpur	82.7871	25.1735		3.05	9.57	13.3
17		Baghura	82.7917	24.8833	4.15	0.3	1.57	4.65
18		Dadara	82.8369	24.8756	7.6	6.04	6.89	8.38
19		Di Baba Mandir	83.0238	25.2022	3.26	0.52	0.78	0.95
20		Samadpur	83.0324	25.1456		10.64		6.47
21		Ahraura	83.0403	25.0208		4.02	3.7	4.05
22		Barhanchuan	83.0444	24.9272	4.11	1.16		
23		Sukrit	83.0500	24.9083		6.87	6.45	
1	**MORADABAD**	Matlabpur Pz GWD	78.6417	28.9889	10.9	10.52	10.2	10.23
2		Dingarpur Pz GWD	78.7161	28.7211	14.8	14.08	13.22	13.08
3		Painapur	78.7500	29.1167	4	0.6	2.1	2.69
4		Sarifnagar	78.7806	29.2167	18.5			
5		Moradabad	78.7833	28.8250		9.57		
6		Moradabad-Pz	78.7833	28.8250				10.49

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
7		Moradabad Pz GWD	78.7833	28.8250	11.5		10.34	
8		Chaudhapur Pz GWD	78.8281	28.5911	19.4			
9		Korwaku	78.8421	28.9226			0.6	0.67
10		Thakurdwara	78.8500	29.1917	1.85	0.01	0.25	0.84
11		Fauladpur	78.8667	29.1000	2.68	1.6	1.48	2.57
12		Malpura	78.8674	29.2267	24.84	18.15	17.25	16.77
13		Milak Sihor Baze	78.9551	28.8017				2.37
1	**MUZAFFARNAGAR**	Paldi Pz GWD	77.5417	29.3500	20.6	18.93	18.69	17.86
2		Baghra Pz	77.5750	29.4639			13	11.59
3		Baghra	77.5806	29.4681	15.8			
4		Chartawal Pz	77.5847	29.5514				7.02
5		Chartawal	77.5942	29.5375			7.07	
6		Kukra-Sadar Pz	77.7278	29.4750	14.32	13.92	13.22	12.54
7		Khatauli	77.7333	29.2217		0.93		
8		Khatauli PZ (GWD)	77.7333	29.2917	2.73		2.14	3.14
9		Morna Pz	77.9583	29.4667	17.5		16.11	16.03
10		Sukratal	77.9900	29.4950	3.06	2.65	3.52	3.77
1	**PILIBHIT**	Jahanabad1	79.7017	28.6333	4.43	2.7	3.56	4.54
2		Faradia	79.7167	28.7250	5.34	2.31	4.45	5.25
3		Bilaspur Pz GWD	79.8000	28.3000	4.44	2.07	3.45	3.95
4		Pilibhit Pz GWD	79.8125	28.6250	3.77	3.3	3.55	3.83
5		Jeora kalyanpur	79.8150	28.3164	3.99	3	3.35	4.01
6		Gajraula1	79.8867	28.5250	3.01	2.82	2.79	4.02
7		Bhamora	79.8867	28.7142	3.66	3.49	3.17	4.69
8		Baldeopur	79.9000	28.3611	4.48	3.48	3.6	4.03
9		Bargad chauraha	79.9250	28.6167	3.36	3.56		
10		Bilsanda1	79.9417	28.2417	3.92	0.8	2.05	3.4
11		Puranpur	80.1500	28.5167		1.74		

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
12		Puranpur Pz GWD	80.1514	28.5167	2.76		2.1	2.45
1	**PRATAPGARH**	Gutni	81.4000	25.7083	10.07	9.08	10.04	8.46
2		Garhi Manikpur	81.4333	25.8186		9.48	10.41	10.17
3		Maddupur	81.4486	25.8875	3.47	2.41	2.24	2.43
4		Sangramgarh	81.4958	25.8522	5.84	5.95	5.51	5.51
5		Kunda	81.5217	25.7150	8.64	7.95	7.01	7.65
6		Bishahia	81.5729	25.5875	7.03	6.01	5.3	5.53
7		Nanasukul purwa	81.5933	25.7583		4.42	5.12	5.91
8		Rampur batauli	81.6033	25.9083	7.56	3.41	5.17	4.92
9		Lalgopalganj	81.6333	25.6750	6.62	5.16	4.25	5.45
10		Ateha	81.6397	26.0969	13.57	7.64	7.88	8.17
11		Dih balri	81.6672	25.7961	5.94	5.87	6.47	6.06
12		Sangipur	81.6758	26.0422		15.04	15.18	14.9
13		Chiraypur	81.6858	25.7481	5.77	5.55	6.35	
14		Lalganj2	81.7000	25.9333	3.55	1.06	5.63	6.47
15		Narainpur	81.7250	25.8250		5.01	5.39	5.67
16		Jathwara	81.7653	25.8139	5.92	5.32	4.87	5.67
17		Mandhata	81.8789	25.7922	7.16	8.4	8.05	7.94
18		Mohanganj	81.9000	25.8833	12.02	12.37	13.885	12.79
19		Kohla	81.9346	25.8051	8.57	8.62	8.74	8.88
20		Delhupur	81.9383	25.7575	6.23	6.6	6.1	6.33
21		Sadar	81.9400	25.8900	14.96	15.22		13.24
22		Kohdaur	82.0208	26.0417	7.43	6.4	7.03	7.56
23		Raniganj	82.0356	25.7967	7.64	8.51	8.74	9.2
24		Rakha Bazar	82.0752	25.9215		11.33	10.73	11.47
25		Gaura	82.1117	25.7450	6	6.08	3.72	5
26		Jamtoli	82.1286	25.8342		11.92	11.92	12.56
27		Patti 1	82.2125	25.9167	5.62	2.18	2.26	3.06

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
28		Bhusar	82.2583	26.0028	5.48	3.57	3.07	3.35
29		Udai shahpur	82.3250	25.9417	5.48	7.46	7.11	7.28
1	**PRAYAGRAJ**	Lalpur	81.6167	25.2667	4.49	2.22	2.55	2.68
2		Gadwa Fort	81.6278	25.1958	3.92	2.89	3.5	3.48
3		Bairi	81.6750	25.1167	2.88	0.09	0.67	2.93
4		Bara	81.7167	25.2500		2.17	3.19	3.12
5		Chilla	81.7167	25.3000	11.78	10.25	10.32	10.74
6		Naribari	81.7375	25.0708	4.04	3.14	3.81	3.07
7		Atrampur	81.7417	25.5708	6.79	5.59	3.74	5.62
8		Bazar jari	81.7667	25.1833	5.77	3.33	3.46	4.06
9		Holagarh	81.7722	25.6417	4.94	4.94	3.88	4.8
10		Khaptia kheri	81.7792	25.0708	4.76	3.71	3.93	5.38
11		Malka Harhar	81.8167	25.5350		14.29		
12		Malah Karar	81.8228	25.5362			13.21	13.77
13		Gauhani	81.8333	25.3167	7.65	4.31	3.87	4.89
14		Saraon	81.8417	25.2700	6.16	3.12	3.84	3.87
15		Jail Road (Power House)	81.8603	25.4122	11.92	11.18	11.2	12.86
16		Akodha	81.8625	25.2250		8.85	3.06	6.85
17		Naini	81.8750	25.3542	15.07	14.97	15.27	15.43
18		Sonal	81.9122	25.2663		10.08	6.41	9.79
19		Mau-Aima	81.9150	25.7033	6.15	5.73	4.11	5.17
20		Ladiri bazar	81.9292	25.0000	5.33	3.41	4.99	3.04
21		Karchhana	81.9383	25.2833				12.33
22		Sikandra1	81.9736	25.5833	9.87	10.16	10.52	10.65
23		Allahabad	81.9750	25.4500	10.96	8.21	8.26	8.63
24		Aandwa1	82.0042	25.4167		18.42	16.61	17.93
25		Meja road	82.0300	25.2500		16.89		

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
26		Koraon	82.0625	25.0167	5.36	2.51	1.42	1.81
27		Jamshedpur	82.0663	25.3882		12.2	11.59	14.27
28		Phulpur2	82.0917	25.5528	6.97	7.06	6.94	7.34
29		Mailhan	82.0972	25.6111	7.08	6.13	6.68	6.96
30		Pasana	82.1000	25.0458	7.67	0.95	1.74	2.16
31		Meja	82.1000	25.1417	3.99	3.3	3.74	3.32
32		Uruva	82.1295	25.1992		12.83	13.31	13.07
33		Karuwa Dih	82.1375	25.5245		8.67	9.33	9.71
34		Barwarikalaan	82.1458	24.9333	3.68	1.04	1.2	2.49
35		Handia	82.1861	25.3653	2.72		1.15	1.96
36		Rampur tulapur	82.2000	25.0375	5.93	5.31	17.23	6.18
37		Digiya	82.2006	25.1769		16.44	4.78	17.72
38		Baraut1	82.2750	25.3403	2.71	0.935	1.44	1.53
39		Imamganj	82.2958	25.4056	7.73	4.86	4.31	7.52
1	**RAE BARELI**	Ketanpurwa	80.8917	26.2708				4
2		Gougu Mau Village	80.9186	26.1179	12.8	12.5	12.48	13
3		Kheron PZ (GWD)	80.9400	26.2867	7.1	6.63	6.48	6.4
4		Hunsepur	80.9850	26.2678	16.75	15.16	11.83	12.29
5		Domapur	81.0019	26.2519	18.2	19.55	16.72	16.66
6		Gopalipur	81.0083	26.1083	8.11	11.8	5.66	6.4
7		Binjh	81.0339	26.3364	13.3	13.25	12.77	12.75
8		Dalmau PZ (GWD)	81.0450	26.0867				5.7
9		Dalmau	81.0500	26.0778		3.93	4.63	
10		Purelal Sahab Baheria	81.0947	26.1076	3.85	1.22	1.63	2.8
11		Bachharawan Thana	81.0993	26.4832	4.73	1.3	2.02	2.31
12		Peethan	81.1352	26.4082		3.24	4.02	4.19
13		Katghar	81.1417	26.1514	4.99	3.14	1.84	2.16
14		Gaura	81.1728	26.0438		3.15	4.51	5.35

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
15		Harchandpur	81.1736	26.3486	9.9	7.96	7.1	6.52
16		Gangaganj	81.2031	26.2933	10.35	6.53	8.66	8.3
17		Dhoota/Sudamapur	81.2090	25.9819	7.17	3.97	7.54	7.72
18		Bhawanigarh	81.2333	26.5500	3.73	0.35	1.35	1.84
19		Bhadiha	81.2546	26.1747	4.54	3	1.8	2.22
20		Kachunda	81.2583	26.3083	4	0.84	1.91	2
21		Puremakha Purwa	81.2588	26.1176	3.85	0.8	1.77	2.08
22		Kumbhi ka purwa	81.2658	26.5681	5.45	1.97	2.82	3.55
23		Jagatpur	81.2750	26.0558	3.08	2.8	2.14	2.4
24		Cheek daadar	81.2886	26.2708	6.07	1.63	3.61	4.5
25		Unchahar-Pure Ichhani	81.2917	25.9167		3.47		
26		Unchahar Block Office	81.2974	25.8989			3.48	
27		Unchahar PZ (GWD)	81.2983	25.8875	5.51			
28		Prmanpur	81.3181	26.1067	4.01	1.13	1.61	3.3
29		Ahraura bhawani	81.3486	26.4947	5.73	4.23	2.41	3.1
30		Chauraha dusti	81.3500	26.3167	4.13	2.55	0.8	1.21
31		Fursatganj	81.3528	26.2583	5.42	3.81	1.79	2.67
32		Laxmanganjbazar	81.3583	26.1500	5.28	0.44	2.25	3.4
33		Mau garbi	81.3606	26.4214	4.5	3.38	1.93	2.23
34		Dhonda ka purwa	81.3733	26.3111	6.21	5.1	1.86	2.95
35		Kurapur Gaura	81.3786	26.1450		9.25	8.2	8.65
36		New sabji mandi, rohaniya	81.3792	25.9542	3.82	0.45	1.04	7.4
37		Rajapura	81.4375	26.0364		6.35	6.29	6.54
38		Mohanganj1	81.4808	26.2417	5.31	4.38	1.29	2.63
39		Chhatoh	81.5164	26.1631				2.4
1	**RAMPUR**	Fattawala	79.0110	29.0500		2.2	3.34	4.08
2		Shahabad Pz GWD	79.0125	28.5583	10.76	9.7	9.02	9.21

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
3		Badpuda Shumali	79.0506	28.9121		5.32	4.68	4.84
4		Indra	79.0784	28.7999		5.7	5.15	5.6
5		Dhaneli purwi	79.1800	28.5700	7.03	5.02	4.18	4.5
6		Bilaspur Pz CGWB	79.2833	28.8847	5.71	3.5	3.74	4.13
7		Khajuriya Khurd	79.3579	28.8026	14.7		7.69	9.36
1	**SAHARANPUR**	Mohanpura	77.2582	29.8356		13.54		
2		Mainpura Pz GWD	77.2583	29.8167	16.42		13.12	13.06
3		Siriska Pz GWD	77.2583	29.8833		13.3	12.57	12.36
4		Tikrol Pz GWD	77.3750	29.7333	8.15	6.53	6.3	6.54
5		Lundi Pz GWD	77.3917	29.8667	9.12	6.41	6.65	7
6		Nanauta	77.4250	29.7125		1.04		
7		Nanauta Pz GWD	77.4250	29.7167	5.21		2.5	3.42
8		Ghuna	77.5917	30.0583	3.95	3.56	2.25	3.34
9		Bagh colony	77.6044	30.3467	8.44	1.62	4.4	4.54
10		Babail Buzurg	77.6166	30.1081	6.89	6.45	2.9	4.64
11		Tilhari Buzurg	77.6333	29.8583	9.12	8.69	7.19	7.12
12		Dhaula Kuan	77.7167	30.1333			5.48	6.65
13		Shakhambari	77.7383	30.2533	4.3	3.86	2.73	2.21
14		Mohand	77.8194	30.1681		6.53	8.47	9.55
15		Sunderpur1	77.8431	30.1169		5	6.34	
1	**SAMBHAL**	Sihawali	78.3778	28.3028	5.61	4.18	4.28	4.21
2		Baburam Degree College	78.4089	28.2606	5.33	4.53	4.28	4.48
3		Sarifpur	78.4705	28.6257		16.77	18.39	19.05
4		Anchora Kamboh	78.4737	28.7020				21.33
5		Dhanari	78.5114	28.3264	6.17		4.36	4.5
6		Sambhal New	78.5800	28.5883	19.86		19.6	9.43
7		Phc Rajpur	78.6216	28.4297	18.79	18.01	17.3	16.72

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
8		Bahjoi	78.6225	28.3906		16.96		
9		Bahjoi Pz GWD	78.6289	28.3992	17.25		16.56	16.42
10		Wahapur Patti	78.6673	28.3662	22.36	21.74	21.16	20.99
11		Chandausi-PZ	78.7833	28.5167		19.46	19.12	18.87
12		Dabthara Shyam Pz GWD	78.9227	28.3784	18	16.48	16.2	16.17
1	**SANT KABIR NAGAR**	Mahadev	82.9150	26.8388				3.35
2		Rajghat mandir	82.9695	26.9883		2.58	3.56	3.32
3		Shanichara Bazar	82.9737	26.5650		3.55	3.7	2.37
4		Dhanghata	83.0194	26.5542		2.96		
5		Nathnagar	83.0311	26.6050	2.52	0.77	0.56	3.055
6		Khalilabad	83.0500	26.7833	5.14	4.36	3.64	2.68
7		Karma Kalan	83.0571	27.0019			2.38	4.07
8		Farendia	83.0797	26.6742		1.72	2.84	3.97
9		Tighra	83.0852	26.8749	4.43	2.28	2.66	3.48
10		Maidawal	83.1167	26.9667	3.79	2.85	3.89	4.61
1	**SHAHJAHANPUR**	Sidhauli	79.9764	27.9722			5.29	5.57
2		Jamuka	79.9777	27.8494				5.77
3		Jamunia Navadia	80.0867	28.3496		5.82	5.37	5.57
1	**SHAMLI**	Kamalpur Pz	77.1467	29.6250			5.36	8.05
2		Unn(State)	77.1667	29.5867	24.9	24.07	22.07	21.09
1	**SHRAWASTI**	Tulsipur2	81.7056	27.6833	3.52	2.43	2.31	3.58
2		Pakaria	81.7125	27.6972	2.51	0.69	1.8	2.51
3		Dikauli	81.7333	27.6486	2.67	0.14	1.04	2.49
4		Pratapur	81.7692	27.8619	2.04	0.18	1.14	1.82
5		Laxman nagar	81.8750	27.6750	6.05	2.33	3.86	5.28
6		Bhagwanpur	81.9319	27.5167	3.28	0.16	0.98	2.12
7		Madora chowki	81.9333	27.5056	2.52	0.2	1.27	1.95

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
8		Bhinga2	81.9383	27.7050	2.91	1.28	1.55	2.23
9		Ratanpur	81.9653	27.8028	2.56	0.74	1.65	2.39
10		Bhujanga	82.0058	27.6686	3.15	0.42	1.49	2.38
11		Sirsia1	82.0900	27.7983	3.96	0.76	2.79	4.13
12		Sirsia PZ(GWD)	82.0903	27.7989	4.31	0.16	2.92	3.22
13		Shrawasti	82.1372	27.4632	1.97	0.46	0.95	1.56
1	**SIDDHARTHNAGAR**	Sikautha	82.5406	27.3549	4.04		1.98	4.06
2		Dumariaganj	82.6500	27.2000	3.92	0.8	1.89	2.53
3		Patkhauli	82.6640	27.1496	3.57	1.74	1.81	2.77
4		Itwa PZ (GWD)	82.6931	27.3219	2.26	1.63	1.95	4.04
5		Unchdih	82.7143	27.2813	3.29			
6		Ramnagara	82.7750	27.4250	4.67	2.41	2.64	4.01
7		Barhni Pz Gwd	82.7775	27.4892	2.86			1.72
8		Badhni	82.7833	27.4986	3.83	1.95	1.52	2.67
9		Kathela Garvi	82.7978	27.3758	2.47	2	1.61	1.81
10		Chittauni	82.8004	27.0759		0.03		
11		Roinihawa	82.8445	27.4731	3.93	2.65	2.53	3.45
12		Bhalui	82.8731	27.2777	4.16		2.46	4.21
13		Parsa	82.8950	27.4433	4.02	1.09	1.55	2.81
14		Bansi1	82.9167	27.1667	4.06	1.59	1.9	2.52
15		Bhabhani	82.9409	27.1548		1.89	2.33	2.99
16		Chilihia	82.9607	27.3903	2.29	0.2	1.1	1.6
17		Shohratgarh	82.9608	27.4041	5.06	4.95	5.03	4.7
18		Belwa laghunahi	82.9833	27.0778	3.89	1.62	2.35	3.56
19		Kajhai	82.9833	27.2283	6.7	4.41	5.7	6.64
20		Suparaja	82.9853	27.2301	2.4	0.74	0.65	1.03
21		Saptinankar	83.0461	27.0842	3.28	1.16	1.64	2.9
22		Birdpur	83.1181	27.3681	3.56	2.29	2.23	

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
23		Uska	83.1250	27.1917	6.48	1.13	1.93	3.95
24		Naudihwa	83.1454	27.3562	5.39		3.08	4.26
25		Azan	83.2292	27.3185		1.43	2.25	3.44
1	**SITAPUR**	Primary School Neri	80.3947	27.6933	10.05		9.02	8.87
2		Piswan	80.4039	27.5819	5.37	7.81		
3		Naimisharanya-1	80.4039	27.5819	3.21		1.27	1.93
4		Maholi Pz-GWD	80.4769	27.6519	10.36		8.17	8.1
5		Maholi	80.4839	27.6542		8.3		
6		Bada Gaon	80.4900	27.7400	5.88	2.56	2.59	3.94
7		Misrikh	80.5333	27.4333		5.97		
8		Misrikh1	80.5333	27.4333	7.25	1.07	5.39	5.96
9		Karauna	80.6097	27.3764	13.49	12.99	11.78	7.42
10		Sahadatnagar	80.6164	27.7635	5.85	4.08	3.3	4.07
11		MachchretaPz-GWD	80.6419	27.4219	11.59	9.75	10.24	10.08
12		Naiparapur	80.7095	27.5734	10.14	8.95	8.43	8.67
13		Shekhwapur	80.7294	27.7472	4.6	0.85	1.5	2.88
14		Urdauli	80.7347	27.7947		1.99	1.73	2.41
15		Hargaon	80.7361	27.6542	3.41	2		2.24
16		Jalalabad	80.8263	27.2386	9.5	7.9	7.94	8.49
17		Vetnary Hospital	80.8361	27.2888	9.06	7.71	6.92	7.71
18		Amora moti singh	80.8444	27.5233		8.61		7.52
19		Sita Rasoi	80.8680	27.3441		6.68	5.62	6.95
20		Laharpur1	80.8958	27.7042		7.15	6.47	
21		Ramdana Crossing	80.9040	27.2793	6.73	5.4	4.07	5.35
22		Khamaria	80.9047	27.3767	5.47	3.87	3.17	3.89
23		Biutmani	80.9533	27.5550	4.04	2.1	3.04	2.69
24		Biswan2	81.0000	27.5000		4.35	4.26	4.5
25		Sikandrabad	81.0150	27.3850	9.24		8.08	7.9

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
26		Pahla (GWD PZ)	81.0150	27.3850		7.88		
27		Deokalia	81.0283	27.4444	6.96	6.18	5.3	
28		Sanda	81.0361	27.5469	4.06	2.89	3.02	3.1
29		Jahangirabad	81.1050	27.5208	2.5	1.54	1.42	2.05
30		Behta	81.1489	27.7389	3.7	1.92	2.1	2.63
31		Padaria	81.1672	27.6889		1.78	1.8	2.5
32		Purwara gosai	81.1683	27.3450	3.69	2.18	2.72	2.77
33		Kharwhan	81.1989	27.5967		2.66	2.42	
34		Madnapur	81.2044	27.4056	2.93	1.38	1.17	1.65
35		Bahoranpur	81.2319	27.3719	3.63	2.89	2.21	2.65
36		Rampur Mathura Pz-GWD	81.3458	27.3489	4.18	2.19	2.12	2.8
1	**SONBHADRA**	Anpara	82.7700	24.2064	14.5	11.62	12.75	13.1
2		Kohraul	82.7750	24.1294	4.56	3.6	3.7	9.19
3		Ghorawal	82.7806	24.7578			5.1	
4		Bairpan	82.8736	24.2097	5.71	3.18	4.2	4.43
5		Jarha	82.9033	24.0078	10.74	9.23	8.35	9.24
6		Dhrtidand	82.9778	24.1667		6.82		
7		Dhrtidand1	82.9778	24.1667	7.09		6	6.22
8		Gara	82.9881	24.2075	14.72	12.28	12.26	13.36
9		Chopan	83.0264	24.0222	6.06	4.22	2.94	4.1
10		Markundi NEW	83.0453	24.6153		6.64	4.1	7.88
11		Renukoot	83.0478	24.2208		12.52	13.95	13.68
12		Muirpur	83.0550	24.1167	7.06	6.1	5.85	
13		Telguduga	83.0600	24.4200	13.33	9.42	9.5	9.96
14		Robertsganj1	83.0667	24.6917			1.98	2.61
15		Babhani	83.0792	23.9539	12.13	10.91	8.05	8.07
16		Robertsganj	83.0806	24.6903		6.23		

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
17		Hatinala	83.1000	24.0500	6.34	5.92	8.1	11.42
18		Asandih	83.1572	23.9333	10.1	8.56	5.94	6.56
19		Chatra	83.1930	24.6622		4.83	5	3.7
20		Dudhi	83.2347	24.2308	7.94	6.71	7.53	7.65
21		Babhguwa	83.2760	24.6909		7.51		7.4
22		Khaliari	83.4049	24.7317		7.13		6.58
1	**SULTANPUR**	Rampur Babuwan	81.8176	26.4976	9.42	9.56	8.9	8.92
2		Khanoha	81.8749	26.4360		9.55	10.22	10.08
3		Maniyari (Daudpatti)	81.8882	26.3209	5.16	3.89		3.34
4		Wallipur Mauza	81.9031	26.3853	9.72	8.53	8.13	9.75
5		Bahurawa	81.9236	26.4833		0.35	1.46	2.13
6		Baghua	81.9393	26.4479	4.46	0.41	1.61	2.59
7		Mundawa	81.9694	26.2858			4.41	
8		Kurwar	81.9750	26.3583	6.05	1.19		6.3
9		Agai Pureshukul	81.9773	26.3952			1.8	
10		Kutta	82.0167	26.4472	6.06	2.98	4.1	5.25
11		Jajjour	82.0367	26.3889	5.35	4.55	3.77	4.55
12		Bhadar	82.0519	26.1717	7.58	4.74	4.28	6
13		Sultanpur2	82.0833	26.2583	13.53	9.3	9.43	10.2
14		Ramgarh1	82.1250	26.1389	4.78	0.54	1.53	2.6
15		Shivgarh	82.1250	26.1000	5.97	3.62	3.65	4.17
16		Kurebhar1	82.1317	26.4167	4.2	1.6		2.7
17		Tiyari Machharauli	82.1356	26.3051	8.77	8.8		8.87
18		Bhadayian Pz-GWD	82.1608	26.1775	11.08	11.62	11.12	11.05
19		Khasde	82.1867	26.0509	5.28	3.15	3.12	3.7
20		Saidpur	82.1910	26.2839	5.84	4.35	4.7	5.34
21		Pathara	82.2085	26.1190			5.85	
22		Rewari (Belhari)	82.2246	26.1999	15.58	14.28	14.13	15.78

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
23		Lambua Pz-GWD	82.2300	26.1400	4.6	3.92	4.36	4.6
24		Naghipur bajhan	82.2306	26.3486	3.72	0.64	1.35	1.65
25		Arjunpur Gangapur	82.2777	26.2948	4.14	0.29	3.515	2.33
26		Kotra Khurd	82.2872	26.0939	6.55	6.38	5.85	6.3
27		Semari	82.2973	26.3648	5.9	1.64	2.1	3.23
28		Pratap pur Kamaicha Pz	82.3044	26.0704	8.17	7.81	7.61	8.37
29		Khaluhat1	82.3111	26.2403	5.24	1.76	2.56	3.7
30		Paraspatti	82.3268	26.2233			2.94	
31		Mohammdabad	82.3565	26.1426	14.89	15.32	14.61	15.05
32		Sonawa	82.3650	26.0318	10.02	10.16	9.1	10.8
33		Kadipur	82.3756	26.1667	9.31	9.27	9.19	9.3
34		Kumhidadiya	82.3783	26.2197	4.77	0.46	1.62	2.8
35		Tazuddinpur	82.3904	26.3004		5.62	6.23	6.25
36		Sagardeh	82.4125	26.0319	12.17			
37		Dostpur Pz-GWD	82.4403	26.2767	5.72	4.63	5.56	5.8
38		Kamrawa	82.4417	26.1347	3.95	0.5		1.85
39		Kamrawan	82.4480	26.1412			5.93	
40		Katghara Patti	82.4557	26.2183	5.85	4.42	4.54	5
41		Salarpur	82.4939	26.0035	9.95	10.33	10.19	10.95
42		Akhand nagar	82.5500	26.2000			0.94	
43		Akhand Nagar Pz-Gwd	82.5500	26.2000	1.95	0.85		1.29
44		Banbaha Sirkhinpur	82.6389	26.2165	5.4	2.17	2.8	3.81
1	**UNNAO**	Ganj moradabad	80.1889	26.9583			9.82	9.85
2		Ahiran Purwa	80.1986	26.8925		5.54	5.09	5.59
3		Bangarmau(new)	80.2125	26.8875		10.38		
4		Fatehpur Chaurasi PZ GWD	80.2713	26.7949	5.74	4.8	5.25	5.03

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
5		Pipari	80.3490	26.5506	6.93	5.25	6.75	6.75
6		Sikanderpur1	80.4042	26.5556	13.75	7.33	13.48	12.68
7		Santakhera	80.4083	26.4597		1.46		
8		Methi Tikur	80.4333	26.6944	4.45	1.32	3	3.35
9		Chakalvanshi	80.4611	26.6417	2.31	0.36	1.36	1.2
10		Azmatnagar	80.4658	26.7347	8.63	6.8	8.35	7.94
11		Auras	80.5042	26.9042	2.88	3.4	4.26	4.12
12		Orhar	80.5621	26.5588	2.97	1.66	3.62	3.5
13		Hasewan	80.5750	26.7639	4.01	2.53	3.17	3.35
14		Etauli Chipri	80.5866	26.4461		9.11	9.95	10.17
15		Raniganj-New	80.5900	26.4000	13.88	12.62	14.74	14.51
16		Santakhera	80.5979	26.4553	4.21		2.9	2.88
17		Tonda	80.6014	26.8639	1.88	0.29	1.21	1.03
18		Makur	80.6333	26.6500	3.7	2.1	2.82	2.88
19		Bichhia	80.6417	26.5375	3.29	1.37	1.8	1.65
20		Karnai Pur	80.6544	26.2964			13.17	12.67
21		Bhaisai	80.6700	26.4400	6.52	5.15	5.87	6.07
22		Thaura	80.6750	26.5283	2.56		1.3	1.41
23		Unchagaon1	80.7042	26.1792	6.7	3.65	0.71	0.58
24		Unchagaon kila	80.7306	26.4875	1.77	0.52	5.8	1.69
25		Hinora	80.7864	26.6453		6.36	6.24	5.89
26		Sumerpur	80.8083	26.2750	10.93	10.13	10.38	10.46
27		Malauna	80.8208	26.3556	2.1	0.62	1.26	1.39
28		Pathak Pur	80.8244	26.5978		10.07	9.68	9.59
29		Maurawan	80.8833	26.4389	8.67			8.71
30		Satan	80.9384	26.3663	4.49	3.38	3.81	3.66
1	**VARANASI**	Anai	82.7361	25.4583	3.33	2.91	3.55	
2		Phulpur1	82.8181	25.5167		8.47	9.13	8.23

S. No.	DISTRICT	Well	LONGITUDE	LATITUDE	May 2023	Aug. 2023	Nov. 2023	Jan. 2024
3		Jikhan(narsara)	82.8417	25.1931	8.02	11.84	11.55	
4		Sindhaura	82.9361	25.5250	12.31	8.73	7.7	
5		Akhari	82.9588	25.2401		13.19	6.12	
6		Varanasi	82.9769	25.3456	10.49	9.07	9.7	10.3
7		Adamapur	82.9843	25.3930		11.04		12.4
8		Cholapur	83.0089	25.4689		13.46		
9		Cholapur1	83.0089	25.4689			11.4	
10		Chumkoni	83.0656	25.4347		6.03	5.34	4.72
11		Rustampur	83.0750	25.3950	17.09	5.16	5.46	5.23
12		Chobepur	83.0867	25.4500	7.88	6.25	5.5	6.82

Annexure -II

DEPTH TO WATER LEVEL TREND OF GROUND WATER MONITORING WELLS PRE-MONSOON (GWMW) FOR THE PERIOD - 2023, U.P

S.No.	District Name	Village name	Pre-monsoon	
			Rise(m/year)	Fall(m/year)
1	**AGRA**	Gangapur Basai	0.4879	
2		Achchnera	0.0685	
3		Undera		0.0563
4		Khundauli		0.2286
5		Bah		0.3586
6		Fatehabad		0.4177
7		Mevli		0.5893
7		Saiyan		1.0112
1	**ALIGARH**	Gonda	0.2562	
2		Safedpur	0.0615	
3		Khair		0.1158
4		Takipur		0.1184
5		Sudiyal		0.1876
6		Andala		0.4669
7		Iglas		0.4702
1	**AMBEDKAR NAGAR**	Mahrua gola	0.4008	
2		Bhiti	0.2033	
3		Kesharpur	0.1733	
4		Katehari	0.1444	
5		Baskhari	0.0342	
1	**AMETHI**	Khutahna	0.1035	
2		Munshiganj	0.1015	
3		Partosh Manik	0.0834	
4		Dariyan ka purw	0.0780	
5		Trishundi	0.0459	
6		Piper Pur		0.0021
7		Kushitali		0.0216
8		Gauriganj		0.0547
9		Jais		0.0893
10		Jagdishpur		0.0974
11		Simrauta(ii)		0.1017
12		Bhim pashim		0.1060
13		Nigohan		0.1069
14		Goriabad		0.1461

S.No.	District Name	Village name	Pre-monsoon	
			Rise(m/year)	Fall(m/year)
1	**AMROHA**	Jogipura		0.1697
2		Joya		0.3097
3		Amroha		0.3752
1	**AURAIYA**	Baisundnra	0.0798	
2		Sahayal		0.1161
3		Sahar		0.1255
4		Phaphund		0.1402
5		Bandhama		0.3194
6		Hasuliya		0.8581
7		Ajitmal		1.1624
1	**AYODHYA**	Chaure bazar	0.3108	
2		Madhopur	0.1584	
3		Faizabad	0.0349	
4		Bakarganj		0.0016
5		Gosaiganj		0.0087
6		Amaniganj		0.0141
7		Milkipur		0.0523
8		Khajurahat		0.0557
1	**AZAMGARH**	Madayan	0.2199	
2		Phulpur	0.1567	
3		Langarpur	0.1101	
4		Badihari	0.0750	
5		Bairadih	0.0612	
6		Sidhauna	0.0050	
7		Bibipur Khatauli		0.0336
8		Bahrapur		0.0347
9		Karsandia kalan		0.0373
10		Deogaon		0.0970
11		Belwana		0.2980
1	**BAHRAICH**	Katarniaghat	0.0863	
2		Bhakraulikapur	0.0801	
3		Parpatganj	0.0799	
4		Nanpara	0.0731	
5		Sablapur	0.0673	
6		Baisanpurwa	0.0628	
7		Gaighat	0.0605	
8		Tapri godh	0.0433	
9		Hujurpur	0.0398	
10		Razichauraha	0.0018	

S.No.	District Name	Village name	Pre-monsoon	
			Rise(m/year)	Fall(m/year)
11		Bhopatpur		0.0222
12		Kapurpur		0.1061
1	**BALLIA**	Rasra	0.3742	
2		Nasirabad	0.2838	
3		Ballia	0.2562	
4		Bansdih	0.1900	
5		Chitbargaon	0.1819	
6		Manihar	0.1434	
7		Garwar	0.0647	
8		Kharsanda	0.0438	
9		Reoti	0.0410	
10		Babhnauli	0.0402	
11		Jaiprakashnagar	0.0373	
12		Pur	0.0248	
13		Balesara		0.0678
14		Jamuaun		0.0778
15		Chilkhar		0.0931
1	**BALRAMPUR**	Devipatan	0.2792	
2		Chandanpur	0.2779	
3		Rehrabazar	0.2350	
4		Gaura crossing	0.2041	
5		Harriaya bazar	0.1988	
6		Sipahia village	0.1887	
7		Gangnar	0.1306	
8		Jarwa	0.1233	
9		Balrampur	0.1173	
10		Balrampur	0.1173	
11		Gainsari	0.1150	
12		Sridutganj	0.0938	
13		Utraula	0.0707	
14		Bankatawa	0.0579	
15		Semri	0.0561	
16		Pachpedwa		0.0578
1	**BANDA**	Badausa	0.2624	
2		Badehan	0.1232	
3		Khhurand	0.1073	
4		Mukera	0.1014	
5		Naraini	0.0852	
6		Atarra		0.0366

S.No.	District Name	Village name	Pre-monsoon	
			Rise(m/year)	Fall(m/year)
7		Bisanda		0.0387
8		Banda		0.6068
1	**BARA BANKI**	Gutauna	0.1583	
2		Puredalai	0.1536	
3		Kotwa sarai	0.1447	
4		Datauli chanda	0.1333	
5		Rani katra	0.1272	
6		Trivediganj	0.1244	
7		Purwa amarsingh	0.0679	
8		Sarai barai	0.0665	
9		Fatehpur	0.0489	
10		Chaubisi	0.0411	
11		Kitlupur	0.0184	
12		Rasauli	0.0183	
13		Dewa		0.0067
14		Sidhaur		0.0241
15		Masauli chaurah		0.0290
16		Baba ki kuti		0.0416
17		Sundhia mau		0.0437
18		Daryabad		0.0458
19		Bhiwal		0.2427
1	**BAREILLY**	Baheri	0.2690	
2		Kandharpur	0.1117	
3		Shishgarh	0.0999	
4		Nawabganj	0.0596	
5		Mirganj		0.0018
6		Bhuta		0.0280
7		Bareilly		0.0627
8		Ramnagar		0.6702
1	**BASTI**	Rudauli	0.2579	
2		Haraiya	0.1256	
3		Bhanpur	0.1184	
4		Kharauan jat	0.1130	
5		Kaptanganj	0.0640	
6		Vikram Jot	0.0156	
7		Basti	0.0041	
8		Kalwari		0.0093
1	**BHADOHI**	Pali	0.3194	
2		Aurai	0.1812	

S.No.	District Name	Village name	Pre-monsoon	
			Rise(m/year)	Fall(m/year)
3		Koirauna	0.1458	
4		Suriyavan	0.0081	
1	**BIJNOR**	Milak Beniram	0.0875	
2		Chandok		0.0521
3		Swaheri Khurd		0.1336
4		Sneh Rd.rly.stn.		0.2269
1	**BUDAUN**	Mansa Nagla		0.6895
2		Ujhani		0.7305
1	**BULANDSHAHR**	Sikandrarao		0.1650
2		Unchagaon		0.1654
1	**CHANDAULI**	Marufpur xing	0.4306	
2		Chandraprabha	0.3462	
3		Chakia	0.1268	
4		Dhanpur	0.0759	
5		Mugal sarai		0.0703
6		Chandauli		0.0744
7		Naugarh		0.3610
1	**CHITRAKOOT**	Manikpur	0.5327	
2		Raipura	0.2975	
3		Pahari buzurg	0.1676	
4		Mau		0.3374
5		Chakrajafar		0.3649
6		Bhaunri		0.4816
7		Jorwara		0.8467
1	**DEORIA**	Rudrapur	0.2318	
2		Gauri Bazar	0.1088	
3		Lar road	0.0353	
4		Desai Deoria		0.0372
5		Baitalpur		0.0460
1	**ETAH**	Jalesar	0.0221	
2		Etah		0.4938
3		Jaithra		0.7511
1	**ETAWAH**	Bakewar		0.0408
2		Jaswantnagar		0.3204
3		Patya Chaturpur		0.4695
1	**FARRUKHABAD**	Rajepur	0.2934	
2		Shamsabad		0.7261
1	**FATEHPUR**	Fatehpur	0.4317	
2		Bindki	0.3327	

S.No.	District Name	Village name	Pre-monsoon	
			Rise(m/year)	Fall(m/year)
3		Bhitaura	0.0910	
4		Lalauli	0.0888	
5		Bela	0.0537	
6		Devmai		0.2017
7		Musfha		0.4038
8		Sarain bakewar		0.4075
9		Barwa		0.4567
10		Asothar		0.7041
1	**FIROZABAD**	Jasrana		0.3108
2		Shikohabad		0.6205
3		Madanpur		1.2760
1	**GAUTAM BUDDHA NAGAR**	Chauki	0.1872	
2		Sector Sixty Two A		1.6110
3		Sector Seventy Two		2.4134
1	**GHAZIABAD**	Morta		0.3968
1	**GHAZIPUR**	Gahmar	0.3923	
2		Ajaipur	0.3393	
3		Dildar nagar	0.1444	
4		Pyrepur	0.1144	
5		Deoria	0.0870	
6		Orulari	0.0709	
7		Tanda Bairakh	0.0446	
8		Ghazipur		0.0262
9		Ghazipur		0.0262
10		Ghazipur		0.0262
11		Baresar		0.1931
1	**GONDA**	Tarabganj	0.1675	
2		Birpur katra	0.1408	
3		Mankapur	0.0943	
4		Bhauriganj	0.0708	
5		Chhapia	0.0644	
6		Gonda	0.0533	
7		Kazi Dewar	0.0404	
8		Parsa gondri	0.0365	
1	**GORAKHPUR**	Kauriram	0.1140	
2		Dubauli	0.0682	
3		Jagdishpur		0.0454
1	**HAMIRPUR**	Kunetha	0.7212	

S.No.	District Name	Village name	Pre-monsoon	
			Rise(m/year)	Fall(m/year)
2		Sarila	0.1054	
3		Kharela		0.0984
4		Dhagwan		0.1108
5		Khanna		0.1827
6		Bewar		0.2553
1	**HAPUR**	Dhaulana	0.1212	
2		Garh Mukteshwar		0.1045
3		Hapur		0.5028
1	**HARDOI**	Kachauna	0.2399	
2		Kachauna	0.2399	
3		Ahirori	0.2010	
4		Gangau	0.1708	
5		Behdar Khurd	0.1653	
6		Del panderwa	0.1646	
7		Dalel nagar rly	0.0778	
8		Dhobia	0.0633	
9		Pihani	0.0346	
10		Gopamau	0.0245	
11		Barganwar	0.0153	
12		Sursa	0.0143	
13		Manjila		0.0760
14		Bawan		0.1138
15		Harpalpur		0.2939
16		Barkhani		0.3311
17		Mallawan		0.7416
1	**HATHRAS**	Rattika nagla		0.0320
1	**JALAUN**	Kishora mauza	0.4235	
2		Madhogarh	0.1493	
3		Ata	0.0870	
4		Babina	0.0716	
5		Marora	0.0675	
6		Rajpura	0.0224	
7		Umri	0.0173	
8		Kailaiya		0.0035
9		Gopalpura		0.0219
10		Kanasi		0.0362
11		Orai		0.0497
12		Kamsaira		0.0564
13		Kalpi		0.2215

S.No.	District Name	Village name	Pre-monsoon	
			Rise(m/year)	Fall(m/year)
14		Gohan		0.2938
15		Dekor		0.3384
16		Mahewa		0.6467
17		Damras		0.6675
18		Kusumilia		0.7710
1	**JAUNPUR**	Rampur	0.3880	
2		Tarti	0.2730	
3		Marihun	0.2170	
4		Raja bazar	0.1362	
5		Kheta sarai	0.1020	
6		Hasanpur	0.0555	
7		Sigra mau	0.0515	
8		Bari Kalan		0.0036
9		Narar(jamnipur)		0.0188
10		Mehreon		0.0659
11		Maharaj Ganj		0.1508
12		Shahganj		0.3792
13		Maheshganj		0.4252
1	**JHANSI**	Ghugawa	0.4844	
2		Auldan	0.1590	
3		Mauranipur	0.1309	
4		Kuangaon	0.1256	
5		Ajneri Madhopura	0.0089	
6		Moth		0.0215
7		Semri		0.0352
8		Raksa		0.0712
9		Eairach		0.0932
10		Farida		0.0990
11		Sakrar		0.1007
12		Rewan		0.1049
13		Bamaur		0.1061
14		Khailara		0.2294
15		Jhansi1		0.2561
16		Khillawari		0.3078
17		Babina		0.4612
1	**KANNAUJ**	Jalalabad		0.7296
2		Chibramau		1.0276
1	**KANPUR DEHAT**	Kadari		0.1000
2		Kainjari		0.1804

S.No.	District Name	Village name	Pre-monsoon	
			Rise(m/year)	Fall(m/year)
3		Pukhrayan		0.1981
4		Muhammadpur		0.2696
1	**KANPUR NAGAR**	Bhaisana	0.1904	
2		Niwada dhamni	0.1812	
3		Ramsari	0.1149	
4		Bithoor-Nganj	0.1124	
5		Kulgaon	0.0684	
6		Bidhnu	0.0542	
7		Motipura	0.0047	
8		Chaubeypur		0.0227
9		Baradari		0.0750
10		Sachendi		0.1224
11		Sarh		0.2085
1	**KASGANJ**	Amanpur		0.1445
1	**KAUSHAMBI**	Lehdari	0.0445	
2		Usargaura		0.0015
3		Kushambhi		0.1618
4		Kasia		0.1758
5		Sarai akil		0.5244
1	**KHERI**	Dudhwa f.r.h.	0.2896	
2		Khajanchi purwa	0.1714	
3		Asogapur	0.1249	
4		Chamlapur	0.1136	
5		Jhandi Raj	0.0379	
6		Chandan chowki	0.0158	
7		Chauapur		0.1421
1	**KUSHINAGAR**	Mansurganj	0.0180	
2		Rambar	0.0124	
3		Chittauni		0.1152
1	**LALITPUR**	Bansi	0.5541	
2		Bar	0.1842	
3		Jakhaura	0.0946	
4		Jakhlaun	0.0918	
5		Hisar kalan	0.0397	
6		Amjhara ghati		0.0307
7		Birdha		0.1032
8		Talbhet		0.1160
9		Talbhet		0.1160
10		Silawan		0.2456

S.No.	District Name	Village name	Pre-monsoon	
			Rise(m/year)	Fall(m/year)
11		Lalitpur		0.4598
1	**LUCKNOW**	Mohanlalganj	0.2005	
2		Itaunja	0.1631	
3		Nagram	0.1385	
4		Kumrahawan	0.0892	
5		Tejkishan Khera	0.0479	
6		Khawas khera	0.0044	
7		Rehta		0.0117
8		Rehman Khera		0.0173
9		Munshiganj		0.0484
10		Bakshi Ka Talab		0.0626
11		Gosaiganj		0.0645
12		Malihabad		0.2458
13		Bijnor		0.3156
14		Mal		0.3738
15		Lu Campus		0.9090
16		Bhujal Bhawan		1.1821
1	**MAHOBA**	Kashipura	0.0905	
2		Charkhari		0.0068
3		Kulpahar2		0.0249
4		Chatesar		0.0450
5		Bela tal		0.1742
6		Teiya		0.3706
1	**MAHRAJGANJ**	Ghughli		0.0493
2		Koluhi		0.0567
3		Maharajganj		0.0727
1	**MAINPURI**	Katra Saman	0.0332	
2		Nagal bhujia		0.2173
3		Kishni		0.2370
4		Kuraoli		0.2662
5		Sultanganj		0.3008
6		Bewar		0.3148
1	**MATHURA**	Saunkh	0.3032	
2		Kharab	0.1341	
3		Jhinga nagla	0.0755	
4		Nagra Chhitar Singh	0.0537	
5		Surir	0.0292	
6		Jamunapar Thana		0.0116
7		Chhata		0.0350

S.No.	District Name	Village name	Pre-monsoon	
			Rise(m/year)	Fall(m/year)
8		Jachoda		0.0735
9		Kosi		0.0865
10		Pirsua		0.0924
11		Paintha (Govardhan)		0.1140
12		Sahar		0.1430
13		Baldeo		0.2155
14		Barsana		0.2733
1	**MAU**	Ratanpura	0.2853	
2		Dhorighat	0.2238	
3		Ghosi	0.0696	
1	**MEERUT**	Timikia Kothi	0.1499	
2		Hastinapur		0.0125
3		Sisauli		0.1464
4		Meerut		0.2043
5		Chota mawana		0.2442
6		Kaili		0.5857
1	**MIRZAPUR**	Gaipura	0.3401	
2		Baghura	0.2206	
3		Gopalpur	0.1384	
4		Halia	0.1029	
5		Barhanchuan	0.0370	
6		Lalganj		0.0070
7		Lohangpur		0.1651
8		Mirzapur		0.3174
1	**MORADABAD**	Matlabpur	0.1576	
2		Thakurdwara	0.1453	
3		Painapur	0.0262	
4		Fauladpur		0.0416
5		Dingarpur		0.4311
6		Moradabad		0.5756
1	**MUZAFFARNAGAR**	Sukratal	0.1373	
2		Khatauli	0.0038	
3		Morna		0.0948
4		Kukra-Sadar		0.2323
5		Paldi		0.5010
1	**PILIBHIT**	Gajraula	0.1182	
2		Bilaspur	0.0913	
3		Jahanabad	0.0824	
4		Puranpur	0.0581	

S.No.	District Name	Village name	Pre-monsoon	
			Rise(m/year)	Fall(m/year)
5		Bargad chauraha	0.0579	
6		Bhamora	0.0333	
7		Jeora kalyanpur	0.0290	
8		Bilsanda	0.0175	
9		Pilibhit	0.0002	
10		Faradia		0.1251
1	**PRATAPGARH**	Lalganj	0.2777	
2		Gutni	0.2602	
3		Kohdaur	0.1470	
4		Mohanganj	0.1316	
5		Udai shahpur	0.1100	
6		Mandhata	0.0964	
7		Maddupur	0.0524	
8		Sangramgarh	0.0518	
9		Dih balri		0.0203
10		Bhusar		0.0340
11		Jathwara		0.0450
12		Bishahia		0.0518
13		Rampur batauli		0.0735
14		Gaura		0.0768
15		Lalgopalganj		0.0830
16		Delhupur		0.0835
17		Kunda		0.0908
18		Raniganj		0.2701
19		Ateha		0.6990
1	**PRAYAGRAJ**	Barwarikalaan	0.1722	
2		Imamganj	0.1666	
3		Meja	0.1524	
4		Handia	0.1515	
5		Koraon	0.1167	
6		Gauhani	0.1056	
7		Khaptia kheri	0.0534	
8		Atrampur	0.0513	
9		Rampur tulapur	0.0506	
10		Bairi	0.0470	
11		Baraut	0.0427	
12		Lalpur	0.0292	
13		Mau-Aima		0.0028
14		Saraon		0.0033

S.No.	District Name	Village name	Pre-monsoon	
			Rise(m/year)	Fall(m/year)
15		Gadwa Fort		0.0041
16		Pasana		0.0444
17		Holagarh		0.0872
18		Naini		0.1138
19		Ladiri bazar		0.1192
20		Chilla		0.1631
21		Naribari		0.1651
22		Mailhan		0.1818
23		Sikandra		0.2024
24		Phulpur		0.4199
1	**RAE BARELI**	Laxmanganjbazar	0.0403	
2		Kheron	0.0081	
3		Kachunda		0.0048
4		Ahraura bhawani		0.0300
5		Jagatpur		0.0423
6		Dhonda ka purwa		0.0516
7		Cheek daadar		0.0612
8		Fursatganj		0.0953
9		Kumbhi ka purwa		0.1010
10		Katghar		0.1192
11		Mohanganj		0.1373
12		Mau garbi		0.1396
13		Chauraha Dusti		0.1473
14		Bhawanigarh		0.2038
15		Gopalipur		0.2321
16		Binjh		0.2390
17		Harchandpur		0.3792
18		Domapur		0.7665
19		Hunsepur		1.1525
1	**RAMPUR**	Shahabad		0.1587
1	**SAHARANPUR**	Tilhari Buzurg	0.1776	
2		Nanauta	0.1024	
3		Shakhambari	0.0528	
4		Ghuna		0.0008
5		Mainpura		0.0208
6		Lundi		0.0261
7		Tikrol		0.0593
8		Bagh colony		0.3077
1	**SAMBHAL**	Bahjoi		0.6467

S.No.	District Name	Village name	Pre-monsoon	
			Rise(m/year)	Fall(m/year)
1	**SANT KABIR NAGAR**	Nathnagar	0.1385	
2		Maidawal	0.1159	
3		Khalilabad	0.0649	
1	**SHAMLI**	Unn		0.5117
1	**SHRAWASTI**	Pakaria	0.2072	
2		Dikauli	0.1810	
3		Ratanpur	0.1789	
4		Bhujanga	0.1667	
5		Pratapur	0.1561	
6		Madora chowki	0.1470	
7		Bhagwanpur	0.1466	
8		Tulsipur	0.1399	
9		Sirsia	0.1387	
10		Sirsia	0.1387	
11		Laxman nagar	0.0824	
1	**SIDDHARTHNAGAR**	Parsa	0.1649	
2		Bansi	0.1389	
3		Uska	0.1173	
4		Dumariaganj	0.1129	
5		Belwa laghunahi	0.1013	
6		Badhni	0.0945	
7		Birdpur	0.0912	
8		Ramnagara	0.0256	
9		Kajhai	0.0102	
10		Itwa		0.0098
1	**SITAPUR**	Naimisharanya	0.8215	
2		Shekhwapur	0.2357	
3		Bahoranpur	0.1357	
4		Hargaon	0.1025	
5		Behta	0.0778	
6		Madnapur	0.0631	
7		Jahangirabad	0.0554	
8		Purwara gosai	0.0325	
9		Rampur Mathura	0.0256	
10		Sanda	0.0156	
11		Deokalia		0.0342
12		Misrikh		0.1082
13		Biutmani		0.1262
14		Maholi		0.1331

S.No.	District Name	Village name	Pre-monsoon	
			Rise(m/year)	Fall(m/year)
15		Karauna		0.2372
16		Khamaria		0.2429
17		Machchreta		0.4680
1	**SONBHADRA**	Hatinala	0.6253	
2		Bairpan	0.4885	
3		Chopan	0.4191	
4		Kohraul	0.2347	
5		Muirpur	0.1101	
6		Dhrtidand	0.0976	
7		Gara	0.0740	
8		Dudhi	0.0332	
9		Babhani		0.0054
10		Anpara		0.0830
11		Jarha		0.1499
1	**SULTANPUR**	Sultanpur	0.2148	
2		Lambua	0.1109	
3		Kotra Khurd	0.1085	
4		Kurebhar	0.0996	
5		Khaluhat	0.0902	
6		Kadipur	0.0744	
7		Shivgarh	0.0622	
8		Kutta	0.0570	
9		Naghipur bajhan	0.0402	
10		Bhadar	0.0347	
11		Ramgarh	0.0209	
12		Bhadayian		0.0402
13		Kurwar		0.0739
14		Sagardeh		0.0789
1	**UNNAO**	Auras	0.2036	
2		Unchagaon kila	0.2030	
3		Tonda	0.1819	
4		Sikanderpur	0.0825	
5		Malauna	0.0661	
6		Methi Tikur	0.0598	
7		Thaura	0.0189	
8		Chakalvanshi		0.0005
9		Hasewan		0.0170
10		Makur		0.0333
11		Azmatnagar		0.1103

S.No.	District Name	Village name	Pre-monsoon	
			Rise(m/year)	Fall(m/year)
12		Unchagaon		0.1216
13		Maurawan		0.1865
14		Sumerpur		0.2799
1	**VARANASI**	Jikhan(narsara)	0.4978	
2		Chobepur	0.3430	
3		Anai	0.2784	
4		Rustampur		0.0734

Annexure -III

DEPTH TO WATER LEVEL TREND OF GROUND WATER MONITORING WELLS POST-MONSOON (GWMW) FOR THE PERIOD - 2023, U.P

S.No.	District	Village	Post Monsoon	
			Rise(m/year)	fall(m/year)
1	**AGRA**	Achchnera	0.1631	
2		Khundauli	0.0795	
3		Undera	0.0217	
4		Mevli		0.0950
5		Fatehabad		0.2458
6		Bah		0.3493
7		Saiyan		0.8673
1	**ALIGARH**	Gonda	0.2161	
2		Safedpur	0.1685	
3		Khair	0.1107	
4		Takipur		0.1394
5		Sudiyal		0.1735
6		Andala		0.2508
7		Iglas		0.4447
1	**AMBEDKAR NAGAR**	Bhiti	0.3565	
2		Akbarpur	0.2807	
3		Mahrua gola	0.2137	
4		Katehari	0.1858	
5		Baskhari	0.1855	
6		Akbarpur	0.1493	
7		Kesharpur	0.0788	
1	**AMETHI**	Partosh Manik	0.3152	
2		Munshiganj	0.2823	
3		Simrauta(ii)	0.1936	
4		Khutahna	0.1922	
5		Jais	0.1072	
6		Piper Pur	0.0990	
7		Bhatgaon	0.0979	
8		Semrauta	0.0910	
9		Nigohan	0.0850	
10		Trishundi	0.0796	
11		Gauriganj	0.0462	
12		Kushitali	0.0398	
13		Jagdishpur	0.0196	

S.No.	District	Village	Post Monsoon	
			Rise(m/year)	fall(m/year)
14		Goriabad		0.0478
15		Dariyan ka purw		0.0530
16		Bhim pashim		0.0793
1	**AMROHA**	Dhanaura	0.1508	
2		Jogipura		0.1397
3		Amroha		0.2696
4		Joya		0.3281
5		Gajraula		0.3408
6		Hasanpur		0.6684
7		Bagadpur		0.7719
1	**AURAIYA**	Phaphund	0.0736	
2		Hasuliya		0.0082
3		Sahar		0.0193
4		Bandhama		0.0528
5		Sahayal		0.1776
6		Ajitmal		0.6472
1	**AYODHYA**	Chaure bazar	0.5380	
2		Khajurahat	0.2553	
3		Madhopur	0.1738	
4		Gosaiganj	0.1309	
5		Faizabad	0.1210	
6		Bakarganj	0.0692	
7		Amaniganj	0.0412	
8		Milkipur	0.0394	
1	**AZAMGARH**	Azamgarh	0.5056	
2		Phulpur	0.4410	
3		Sageri	0.4385	
4		Bibipur Khatauli	0.3325	
5		Bairadih	0.3096	
6		Madayan	0.3047	
7		Belwana	0.2935	
8		Kharihani	0.2225	
9		Karsandia kalan	0.0775	
10		Saraimir	0.0695	
11		Nizamabad	0.0436	
12		Deogaon	0.0120	
13		Badihari		0.0138
14		Rahul nagar		0.0251
15		Bahrapur		0.0438

S.No.	District	Village	Post Monsoon	
			Rise(m/year)	fall(m/year)
16		Sidhauna		0.1073
17		Langarpur		0.1186
1	**BAHRAICH**	Bhopatpur	0.5330	
2		Parpatganj	0.1956	
3		Bhakraulikapur	0.1234	
4		Mihi Purwa	0.1175	
5		Katarniaghat	0.0838	
6		Hujurpur	0.0548	
7		Nanpara	0.0422	
8		Tapri godh	0.0288	
9		Sablapur	0.0211	
10		Baisanpurwa	0.0153	
11		Razichauraha	0.0005	
12		Kapurpur		0.0735
13		Gaighat		0.5138
1	**BALLIA**	Ballia	0.5522	
2		Narahi	0.5454	
3		Rasra	0.3275	
4		Manihar	0.1520	
5		Reoti	0.1208	
6		Jaiprakashnagar	0.1072	
7		Jamuaun	0.0904	
8		Pur	0.0379	
9		Babhnauli	0.0308	
10		Chitbargaon	0.0250	
11		Chilkahar	0.0177	
12		Balesara		0.0378
13		Nasirabad		0.0382
14		Garwar		0.3160
1	**BALRAMPUR**	Rehrabazar	0.2884	
2		Devipatan	0.2413	
3		Harriaya bazar	0.2148	
4		Bankatawa	0.2051	
5		Jarwa	0.2043	
6		Gangnar	0.1653	
7		Gaura crossing	0.1601	
8		Semri	0.1222	
9		Balrampur	0.0892	
10		Utraula	0.0824	

S.No.	District	Village	Post Monsoon	
			Rise(m/year)	fall(m/year)
11		Sridutganj	0.0748	
12		Gainsari	0.0710	
13		Sipahia village	0.0555	
14		Pachpedwa	0.0302	
15		Chandanpur		0.0097
1	**BANDA**	Mukera	0.4621	
2		Badehan	0.3947	
3		Badausa	0.1634	
4		Bisanda	0.1130	
5		Khhurand	0.0971	
6		Naraini	0.0494	
7		Banda		0.5265
1	**BARA BANKI**	Kotwa sarai	0.2940	
2		Chaubisi	0.2821	
3		Gutauna	0.2791	
4		Puredalai	0.2244	
5		Datauli chanda	0.2116	
6		Trivediganj	0.2078	
7		Baba ki kuti	0.1602	
8		Purwa amarsingh	0.1387	
9		Kalkeshwar temp	0.1148	
10		Rasauli	0.1041	
11		Rani katra	0.0978	
12		Kitlupur	0.0973	
13		Sidhaur	0.0787	
14		Fatehpur	0.0169	
15		Sundhia mau	0.0146	
16		Masauli chaurah		0.0005
17		Dewa		0.0112
18		Bhiwal		0.0859
1	**BAREILLY**	Bhuta	0.1136	
2		Kandharpur	0.0976	
3		Mirganj	0.0888	
4		Baheri	0.0693	
5		Shishgarh	0.0196	
6		Bareilly		0.0347
7		Siroli		0.0467
8		Nawabganj		0.0580
9		Ramnagar		0.4438

S.No.	District	Village	Post Monsoon	
			Rise(m/year)	fall(m/year)
1	**BASTI**	Kaptanganj	0.1758	
2		Rudauli	0.1289	
3		Haraiya	0.1256	
4		Vikram Jot	0.1164	
5		Bhanpur	0.1025	
6		Kharauan jat	0.0530	
7		Kalwari	0.0195	
8		Basti		0.0018
1	**BHADOHI**	Pali	0.5966	
2		Suriyavan	0.3455	
3		Koirauna	0.3092	
4		Aurai	0.0810	
1	**BIJNOR**	Milak Beniram	0.2346	
2		Najibabad	0.2044	
3		Sneh Rd.rly.stn.	0.0475	
4		Chandok	0.0419	
5		Swaheri Khurd		0.0256
1	**BUDAUN**	Asafpur		0.6242
2		Ujhani		0.6277
3		Mansa Nagla		0.6762
1	**BULANDSHAHR**	Sikandrarao		0.2172
1	**CHANDAULI**	Marufpur xing	0.3163	
2		Baburi	0.2508	
3		Chandraprabha	0.1624	
4		Chandauli	0.0302	
5		Sakaldiha		0.0218
6		Mugal sarai		0.0422
7		Dhanpur		0.1184
1	**CHITRAKOOT**	Manikpur	0.6390	
2		Chakrajafar	0.4619	
3		Raipura	0.4467	
4		Jorwara	0.3059	
5		Pahari buzurg		0.0484
6		Bhaunri		0.2458
7		Mau		0.3248
1	**DEORIA**	Rudrapur	0.3510	
2		Gauri Bazar	0.2519	
3		Lar road	0.0928	
4		Baitalpur	0.0721	

S.No.	District	Village	Post Monsoon	
			Rise(m/year)	fall(m/year)
5		Desai Deoria	0.0535	
1	**ETAH**	Jalesar	0.0631	
2		Marahchi		0.1013
3		Etah		0.3325
4		Jaithra		0.7104
1	**ETAWAH**	Bharthana	0.3959	
2		Barecha	0.2947	
3		Bakewar	0.1775	
4		Ujhayani	0.0904	
5		Patya Chaturpur		0.2418
1	**FARRUKHABAD**	Rajepur	0.3457	
2		Bindki	0.6585	
3		Bahua	0.5109	
4		Gazipur	0.4739	
5		Lalauli	0.3815	
6		Fatehpur	0.2175	
7		Bela	0.0799	
8		Bhitaura		0.0790
9		Sarain bakewar		0.0972
10		Musfha		0.1524
11		Barwa		0.1799
12		Asothar		0.6048
1	**FIROZABAD**	Jasrana		0.1169
2		Shikohabad		0.3642
3		Araon		0.5641
4		Madanpur		0.7855
1	**GAUTAM BUDDHA NAGAR**	Chauki	0.4686	
2		Jewar	0.1020	
3		Sector Sixty Two A		1.6423
4		Sector Seventy Two		1.9868
1	**GHAZIABAD**	Morta		0.3193
1	**GHAZIPUR**	Nandganj	0.5300	
2		Gahmar	0.5207	
3		Ajaipur	0.5173	
4		Ghazipur	0.2519	
5		Kasimabad	0.1841	
6		Dildar nagar	0.1697	

S.No.	District	Village	Post Monsoon	
			Rise(m/year)	fall(m/year)
7		Mardah	0.1331	
8		Deoria	0.1122	
9		Ghazipur	0.1092	
10		Tanda Bairakh	0.0223	
11		Saidpur		0.0021
12		Ghazipur		0.0481
13		Sidhagarghat		0.0504
14		Orulari		0.0512
15		Baresar		0.0935
16		Pyrepur		0.2043
1	**GONDA**	Chhapia	0.2270	
2		Mankapur	0.2191	
3		Kazi Dewar	0.1943	
4		Tarabganj	0.1889	
5		Birpur katra	0.1634	
6		Bhauriganj	0.1157	
7		Gonda	0.1150	
8		Parsa gondri	0.1072	
1	**GORAKHPUR**	Kauriram	0.2268	
2		Jagdishpur	0.1239	
3		Dubauli	0.0219	
1	**HAMIRPUR**	Kunetha	0.9318	
2		Sarila	0.4742	
3		Dhagwan	0.2474	
4		Bewar	0.2082	
5		Kharela	0.1828	
6		Khanna	0.1413	
7		Rath		0.6928
1	**HAPUR**	Garh Mukteshwar		0.1162
2		Hapur		0.4596
1	**HARDOI**	Kachauna	0.5155	
2		Behdar Khurd	0.3725	
3		Dalel nagar rly	0.3305	
4		Del panderwa	0.2534	
5		Quasimpur	0.2384	
6		Ahirori	0.1678	
7		Pihani	0.1451	
8		Barganwar	0.1260	
9		Dhobia	0.0744	

S.No.	District	Village	Post Monsoon	
			Rise(m/year)	fall(m/year)
10		Manjila	0.0743	
11		Gangau	0.0623	
12		Gopamau	0.0619	
13		Sursa	0.0247	
14		Bawan		0.0073
15		Barkhani		0.2864
16		Mallawan		0.4498
1	**HATHRAS**	Hasyan	0.2854	
2		Sikandrarao	0.2229	
1	**JALAUN**	Ata	1.2948	
2		Kishora mauza	0.6865	
3		Damras	0.6691	
4		Umri	0.4916	
5		Madhogarh	0.4790	
6		Kailaiya	0.2975	
7		Gopalpura	0.2823	
8		Kamsaira	0.2527	
9		Keorari	0.2507	
10		Ait	0.2417	
11		Churkhi	0.2415	
12		Sirsakalar	0.2059	
13		Kanasi	0.1950	
14		Orai	0.1735	
15		Kusumilia	0.1696	
16		Kalpi	0.1494	
17		Babina	0.1442	
18		Marora	0.1139	
19		Rajpura	0.1109	
20		Dekor		0.0012
21		Mahewa		0.1915
22		Jalaun		0.2176
1	**JAUNPUR**	Mungra Badshah Pur	0.6633	
2		Badla Pur	0.5943	
3		Raja bazar	0.4064	
4		Maharaj Ganj	0.4041	
5		Tarti	0.3628	
6		Janghai	0.2659	
7		Sigra mau	0.2612	

S.No.	District	Village	Post Monsoon	
			Rise(m/year)	fall(m/year)
8		Bhtiwraha	0.2217	
9		Barai par	0.2095	
10		Narar(jamnipur)	0.1972	
11		Marihun	0.1730	
12		Bari Kalan	0.0852	
13		Hasanpur	0.0724	
14		Machchali Shahar	0.0455	
15		Kheta sarai	0.0338	
16		Maheshganj	0.0219	
17		Mehreon		0.0841
18		Shahganj		0.1539
1	**JHANSI**	Kuangaon	0.7363	
2		Ghugawa	0.5048	
3		Auldan	0.4786	
4		Rewan	0.4136	
5		Mauranipur	0.3388	
6		Bamaur	0.2787	
7		Ajneri Madhopura	0.2558	
8		Samthar	0.2450	
9		Sakrar	0.1979	
10		Babina	0.1915	
11		Khailara	0.1660	
12		Eairach	0.0619	
13		Moth	0.0482	
14		Raksa	0.0193	
15		Farida		0.0155
16		Semri		0.0266
17		Jhansi1		0.0782
18		Khillawari		0.1176
1	**KANNAUJ**	Jalalabad		0.4506
2		Chibramau		1.0692
1	**KANPUR DEHAT**	Kadari	0.2476	
2		Roura	0.2442	
3		Kainjari	0.1749	
4		Muhammadpur		0.2285
1	**KANPUR NAGAR**	Baradari	0.5939	
2		Ramsari	0.3855	
3		Niwada dhamni	0.3276	

S.No.	District	Village	Post Monsoon	
			Rise(m/year)	fall(m/year)
4		Bhaisana	0.2585	
5		Sachendi	0.2173	
6		Kulgaon	0.2048	
7		Bidhnu	0.1852	
8		Chaubeypur	0.1742	
9		Bithoor-Nganj	0.1065	
10		Sarh	0.0065	
11		Motipura		0.0638
1	**KASGANJ**	Amanpur	0.0405	
2		Daryaganj		0.1309
1	**KAUSHAMBI**	Usargaura	0.4092	
2		Kushambhi	0.1695	
3		Kasia	0.1690	
4		Lehdari	0.1422	
1	**KHERI**	Asogapur	0.1936	
2		Dudhwa f.r.h.	0.1283	
3		Jhandi Raj	0.0670	
4		Chandan chowki	0.0263	
5		Chamlapur		0.0318
6		Chauapur		0.0788
1	**KUSHINAGAR**	Mansurganj	0.0737	
2		Mathauli	0.0484	
3		Naurangia		0.0616
4		Rambar		0.1332
1	**LALITPUR**	Birdha	0.6483	
2		Betna	0.5799	
3		Bar	0.5676	
4		Bansi	0.3388	
5		Silawan	0.3177	
6		Digwar	0.2605	
7		Jakhaura	0.1402	
8		Saidpur	0.1176	
9		Jakhlaun	0.0268	
10		Amjhara ghati	0.0093	
11		Talbhet	0.0073	
12		Talbhet		0.0236
13		Hisar kalan		0.0248
14		Lalitpur		0.1113
1	**LUCKNOW**	Kumrahawan	0.6297	

S.No.	District	Village	Post Monsoon	
			Rise(m/year)	fall(m/year)
2		Tejkishan Khera	0.4561	
3		Itaunja	0.4200	
4		Mohanlalganj	0.3748	
5		Rehman Khera	0.1551	
6		Bakshi Ka Talab	0.1462	
7		Nagram	0.0114	
8		Munshiganj		0.0109
9		Fatehganj		0.0138
10		Rehta		0.0349
11		Khawas khera		0.0864
12		Gosaiganj		0.0988
13		Malihabad		0.1086
14		Aat Garhi Sonra		0.1356
15		Bijnor		0.2182
16		Lu Campus		0.7695
17		Bhujal Bhawan		1.2159
18		Vikasnagar		1.2624
1	**MAHOBA**	Chatesar	0.3245	
2		Jaitpur	0.2189	
3		Charkhari	0.1831	
4		Kulpahar2	0.1730	
5		Kashipura	0.0638	
6		Srinagar	0.0556	
7		Teiya	0.0484	
8		Pipramauf	0.0259	
9		Bela tal		0.0321
1	**MAHRAJGANJ**	Siswa bazar	0.1561	
2		Ghughli	0.0216	
3		Koluhi	0.0198	
4		Maharajganj		0.0116
5		Kukesar		0.0578
1	**MAINPURI**	Kishni		0.1019
2		Kuraoli		0.1408
3		Katra Saman		0.1683
4		Bewar		0.2745
5		Sultanganj		0.2917
1	**MATHURA**	Saunkh	0.3273	
2		Chhata	0.1828	
3		Kosi	0.1681	

S.No.	District	Village	Post Monsoon	
			Rise(m/year)	fall(m/year)
4		Jamunapar Thana	0.1376	
5		Nagra Chhitar Singh	0.1373	
6		Surir	0.1043	
7		Jachoda	0.0441	
8		Kharab	0.0298	
9		Sahar	0.0213	
10		Pirsua	0.0185	
11		Jhinga nagla	0.0140	
12		Paintha (Govardhan)		0.0182
13		Baldeo		0.0786
14		Barsana		0.1856
1	**MAU**	Mau Nath Bhanjan	0.4121	
2		Jejawali	0.2747	
3		Amila	0.2676	
4		Dhorighat	0.1847	
5		Ratanpura	0.1791	
6		Ghosi		0.2282
1	**MEERUT**	Timikia Kothi	0.4728	
2		Hastinapur	0.0093	
3		Chota mawana		0.1722
4		Meerut		0.2796
5		Kaili		0.5193
1	**MIRZAPUR**	Mirzapur	0.3600	
2		Gopalpur	0.3335	
3		Baghura	0.0946	
4		Marihan	0.0261	
5		Ahraura		0.0004
6		Halia		0.0093
7		Lohangpur		0.1610
8		Lalganj		0.4618
1	**MORADABAD**	Fauladpur	0.2610	
2		Painapur	0.1732	
3		Thakurdwara	0.1274	
4		Matlabpur	0.0626	
5		Moradabad		0.0099
6		Dingarpur		0.1992
1	**MUZAFFARNAGAR**	Chartawal	0.0845	

S.No.	District	Village	Post Monsoon	
			Rise(m/year)	fall(m/year)
2		Khatauli	0.0772	
3		Sukratal	0.0087	
4		Morna	0.0023	
5		Baghra		0.0084
6		Kukra-Sadar		0.1132
7		Paldi		0.2916
1	**PILIBHIT**	Bilsanda	0.2922	
2		Bilaspur	0.1662	
3		Jahanabad	0.1432	
4		Jeora kalyanpur	0.1401	
5		Baldeopur	0.1292	
6		Faradia	0.1090	
7		Gajraula	0.0843	
8		Pilibhit	0.0641	
9		Puranpur	0.0497	
10		Bhamora	0.0487	
1	**PRATAPGARH**	Lalganj	0.4983	
2		Jathwara	0.4978	
3		Dih balri	0.4361	
4		Mohanganj	0.3988	
5		Lalgopalganj	0.3972	
6		Jamtoli	0.3924	
7		Nanasukul purwa	0.3718	
8		Mandhata	0.3588	
9		Garhi Manikpur	0.3435	
10		Gutni	0.3357	
11		Kohdaur	0.3347	
12		Udai shahpur	0.3311	
13		Narainpur	0.3188	
14		Kunda	0.2709	
15		Sangramgarh	0.2241	
16		Delhupur	0.2109	
17		Bishahia	0.1751	
18		Rampur batauli	0.1377	
19		Bhusar	0.1361	
20		Maddupur	0.1082	
21		Ateha	0.1019	
22		Gaura	0.0332	
23		Raniganj		0.0297

S.No.	District	Village	Post Monsoon	
			Rise(m/year)	fall(m/year)
24		Sangipur		0.6764
1	**PRAYAGRAJ**	Chilla	0.8621	
2		Imamganj	0.7746	
3		Mau-Aima	0.3964	
4		Akodha	0.3221	
5		Saraon	0.3013	
6		Atrampur	0.2848	
7		Gauhani	0.2581	
8		Holagarh	0.1602	
9		Mailhan	0.1273	
10		Bairi	0.1242	
11		Sikandra	0.1167	
12		Handia	0.1098	
13		Barwarikalaan	0.0921	
14		Pasana	0.0807	
15		Lalpur	0.0647	
16		Baraut	0.0563	
17		Gadwa Fort	0.0417	
18		Khaptia kheri	0.0061	
19		Meja		0.0066
20		Naini		0.0279
21		Koraon		0.0299
22		Bara		0.0304
23		Allahabad		0.0771
24		Ladiri bazar		0.1140
25		Naribari		0.1402
26		Rampur tulapur		0.2488
27		Phulpur		0.4613
1	**RAE BARELI**	Cheek daadar	0.1490	
2		Fursatganj	0.1378	
3		Dhonda ka purwa	0.1179	
4		Ahraura bhawani	0.1113	
5		Kheron	0.0843	
6		Laxmanganjbazar	0.0641	
7		Chauraha Dusti	0.0487	
8		Kachunda	0.0432	
9		Katghar	0.0314	
10		Mohanganj	0.0082	
11		Jagatpur	0.0011	

S.No.	District	Village	Post Monsoon	
			Rise(m/year)	fall(m/year)
12		Mau garbi	0.0006	
13		Bhawanigarh		0.0248
14		Kumbhi ka purwa		0.0294
15		Gopalipur		0.0402
16		Binjh		0.1824
17		Harchandpur		0.1908
18		Hunsepur		0.5079
19		Domapur		0.8492
1	**RAMPUR**	Shahabad	0.0876	
1	**SAHARANPUR**	Mainpura	0.3950	
2		Siriska	0.3133	
3		Nanauta	0.2764	
4		Tilhari Buzurg	0.2675	
5		Lundi	0.2237	
6		Bagh colony	0.0877	
7		Ghuna	0.0727	
8		Mohand	0.0253	
9		Shakhambari		0.0011
10		Dhaula Kuan		0.0855
11		Tikrol		0.1093
1	**SAMBHAL**	Chandausi		0.6460
2		Bahjoi		0.6717
1	**SANT KABIR NAGAR**	Khalilabad	0.2366	
2		Maidawal	0.1953	
3		Nathnagar	0.1666	
1	**SHAHJAHANPUR**	Sidhauli	0.0384	
1	**SHAMLI**	Unn	0.4323	
2		Kamalpur	0.3734	
1	**SHRAWASTI**	Sirsia	0.1859	
2		Bhagwanpur	0.1387	
3		Pratapur	0.1367	
4		Bhujanga	0.1358	
5		Tulsipur	0.1335	
6		Sirsia	0.1308	
7		Laxman nagar	0.1099	
8		Pakaria	0.1092	
9		Dikauli	0.1054	
10		Madora chowki	0.0953	

S.No.	District	Village	Post Monsoon	
			Rise(m/year)	fall(m/year)
11		Ratanpur	0.0042	
1	**SIDDHARTHNAGAR**	Uska	0.1062	
2		Badhni	0.0833	
3		Bansi	0.0814	
4		Itwa	0.0755	
5		Birdpur	0.0652	
6		Belwa laghunahi	0.0504	
7		Dumariaganj	0.0477	
8		Ramnagara	0.0463	
9		Kajhai	0.0102	
10		Parsa		0.0236
1	**SITAPUR**	Bahoranpur	0.2782	
2		Behta	0.2125	
3		Jahangirabad	0.1712	
4		Madnapur	0.1611	
5		Rampur Mathura	0.1485	
6		Naimisharanya	0.1468	
7		Maholi	0.1318	
8		Shekhwapur	0.1210	
9		Sanda	0.0976	
10		Purwara gosai	0.0544	
11		Biswan	0.0224	
12		Misrikh	0.0159	
13		Karauna	0.0105	
14		Deokalia		0.0322
15		Khamaria		0.2313
16		Biutmani		0.2664
17		Machchreta		0.3101
1	**SONBHADRA**	Robertsganj	0.3441	
2		Bairpan	0.3195	
3		Kohraul	0.2738	
4		Hatinala	0.2721	
5		Chopan	0.2351	
6		Anpara	0.2098	
7		Dhrtidand		0.0368
8		Babhani		0.1180
9		Renukoot		0.1233
10		Dudhi		0.1791

S.No.	District	Village	Post Monsoon	
			Rise(m/year)	fall(m/year)
11		Muirpur		0.1882
12		Gara		0.2110
13		Jarha		0.2405
1	**SULTANPUR**	Sultanpur	0.3622	
2		Lambua	0.2673	
3		Kutta	0.2568	
4		Bhadar	0.2552	
5		Kotra Khurd	0.2196	
6		Dostpur	0.1999	
7		Kadipur	0.1733	
8		Khaluhat	0.1588	
9		Bahurawa	0.0963	
10		Mundawa	0.0779	
11		Ramgarh	0.0273	
12		Naghipur bajhan	0.0173	
13		Shivgarh		0.0169
14		Bhadayian		0.1656
1	**UNNAO**	Sikanderpur	0.2253	
2		Auras	0.1816	
3		Ganj moradabad	0.1321	
4		Malauna	0.1038	
5		Hasewan	0.0894	
6		Makur	0.0827	
7		Unchagaon	0.0179	
8		Methi Tikur	0.0150	
9		Thaura	0.0012	
10		Azmatnagar		0.0030
11		Chakalvanshi		0.0096
12		Tonda		0.0145
13		Unchagaon kila		0.0566
14		Sumerpur		0.1633
1	**VARANASI**	Rustampur	0.9696	
2		Jikhan(narsara)	0.2265	
3		Chobepur	0.1187	
4		Anai		0.0411
5		Cholapur		0.5207