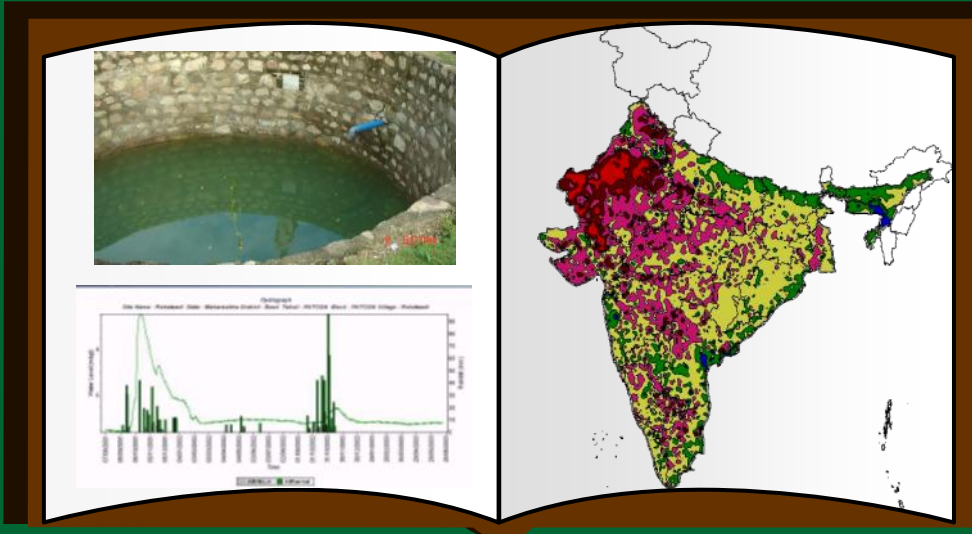




# भू-जल वार्षिक पत्रिका, वर्ष २०१३-२०१४

## GROUND WATER YEAR BOOK, 2013-14



**CENTRAL GROUND WATER BOARD**

**केन्द्रीय भूमि-जल बोर्ड**

**Ministry of Water Resources**

**जल संसाधन मंत्रालय**

**GOVT OF INDIA**

**भारत सरकार**

**Faridabad**

**फ़रीदाबाद**

**JULY, 2014**

# GROUND WATER YEAR BOOK- INDIA 2013-14

<b>CONTENTS</b>	
<b>Chapter</b>	<b>Page No.</b>
<b>1.0 Hydrogeological Setup of the Country</b>	<b>1-4</b>
<b>1.1 Ground Water Occurrence</b>	
<b>1.1.1 Porous Formations</b>	
<b>1.1.2 Fissured Formations (Consolidated Formations)</b>	
<b>1.2 Hydrogeological Units and their Ground Water Potential</b>	
<b>2.0 Ground Water Level Scenario</b>	<b>5-39</b>
<b>2.1 Introduction</b>	
<b>2.2 Depth to Water Level</b>	
<b>2.3 Annual Water Level Fluctuation</b>	
<b>2.4 Seasonal Water Level Fluctuation</b>	
<b>2.5 Decadal Water Level Fluctuation</b>	
<b>2.6 Rain Fall Variations</b>	
<b>3.0 Ground Water Resource Availability and Development Status</b>	<b>40-47</b>
<b>3.1 Dynamic Fresh Ground Water Resource</b>	
<b>3.2 Stage of Ground Water Development</b>	
<b>3.3 Categorisation of Assessment Units</b>	
<b>LIST OF PLATES</b>	<b>PLATE No.</b>
<b>Hydrogeological Map of India</b>	<b>I</b>
<b>Location of Ground Water Monitoring Wells</b>	<b>II</b>
<b>Depth to Water Level at a glance</b>	<b>III</b>
<b>Depth to water level (Pre monsoon2013)</b>	<b>IV</b>
<b>Depth to water level (August 2013)</b>	<b>V</b>
<b>Depth to water level (Post monsoon2013)</b>	<b>VI</b>
<b>Depth to water level (January 2014)</b>	<b>VII</b>

<i>Annual water level fluctuation at a glance</i>	<i>VIII</i>
<i>Annual water level fluctuation at a glance (Pre monsoon 2012-2013)</i>	<i>IX</i>
<i>Annual water level fluctuation (August 2012-August 2013)</i>	<i>X</i>
<i>Annual water level fluctuation (November 2012-November 2013)</i>	<i>XI</i>
<i>Annual water level fluctuation (January 2013-January 2014)</i>	<i>XII</i>
<i>Seasonal water level fluctuation at glance</i>	<i>XIII</i>
<i>Seasonal water level fluctuation at glance (Pre monsoon 2013-August 2013)</i>	<i>XIV</i>
<i>Seasonal water level fluctuation at glance (Pre monsoon 2013-Post monsoon 2013)</i>	<i>XV</i>
<i>Seasonal water level fluctuation at glance (Pre monsoon 2013-January 2014)</i>	<i>XVI</i>
<i>Decadal water level fluctuation at a glance</i>	<i>XVII</i>
<i>Decadal water level fluctuation, Decadal mean pre monsoon (2002-2012) Vs pre monsoon 2013</i>	<i>XVIII</i>
<i>Decadal water level fluctuation, Decadal mean August (2002-2012) Vs August 2013</i>	<i>XIX</i>
<i>Decadal water level fluctuation, Decadal mean November (2002-2012) Vs November 2013</i>	<i>XX</i>
<i>Decadal water level fluctuation, Decadal mean January (2004-2013) Vs January 2013</i>	<i>XXI</i>
<i>Annual Rainfall Map of India</i>	<i>XXII</i>
<i>Categorization of Ground Water Assessment Units</i>	<i>XXIII</i>
<i>Ground Water Resource Availability and Utilization in India</i>	<i>XXIV</i>
<b>LIST OF TABLES</b>	<b>TABLE No.</b>
<i>Major aquifer System In The Country</i>	<i>1</i>
<i>State Wise Distribution of Observation Wells</i>	<i>2</i>
<i>State Wise Ground water Resources Availability, Utilization and Stage of Development</i>	<i>3</i>
<i>Categorization of Ground Water Assessment Units</i>	<i>4</i>
<b>LIST OF ANNEXURES</b>	<b>ANNEXURE No.</b>
<i>State - Wise Distribution Of Percentage Of Observation Wells - 2013 May (Pre- Monsoon)</i>	<i>I</i>
<i>State - Wise Distribution Of Percentage Of Observation Wells - 2013 August</i>	<i>II</i>
<i>State - Wise Distribution Of Percentage Of Observation Wells - 2013 November (Post-Monsoon)</i>	<i>III</i>

<b><i>State - Wise Distribution Of Percentage Of Observation Wells - 2014January</i></b>	<b><i>IV</i></b>
<b><i>State - Wise Fluctuation And Frequency Distribution From Different Ranges From 2012 May To 2013 May</i></b>	<b><i>V</i></b>
<b><i>State - Wise Fluctuation And Frequency Distribution From Different Ranges From 2012 August To 2013 August</i></b>	<b><i>VI</i></b>
<b><i>State - Wise Fluctuation And Frequency Distribution From Different Ranges From 2012 November To 2013 November</i></b>	<b><i>VII</i></b>
<b><i>State - Wise Fluctuation And Frequency Distribution From Different Ranges From 2013January To 2014January</i></b>	<b><i>VIII</i></b>
<b><i>State - Wise Fluctuation And Frequency Distribution From Different Ranges From 2013 May To 2013 August</i></b>	<b><i>IX</i></b>
<b><i>State - Wise Fluctuation And Frequency Distribution From Different Ranges From 2013 May To 2013 November</i></b>	<b><i>X</i></b>
<b><i>State - Wise Fluctuation And Frequency Distribution From Different Ranges From 2013 May To 2014 January</i></b>	<b><i>XI</i></b>
<b><i>State - Wise Fluctuation And Frequency Distribution With Decadal Mean (2002-2012) And 2013 May</i></b>	<b><i>XII</i></b>
<b><i>State - Wise Fluctuation And Frequency Distribution With Decadal Mean (2002-2012) And 2013 August</i></b>	<b><i>XIII</i></b>
<b><i>State - Wise Fluctuation And Frequency Distribution With Decadal Mean (2002-2012) And 2013 November</i></b>	<b><i>XIV</i></b>
<b><i>State - Wise Fluctuation And Frequency Distribution With Decadal Mean (2004-2013) And 2014January</i></b>	<b><i>XV</i></b>

# 1. HYDROGEOLOGICAL SETUP OF THE COUNTRY

---

## 1.1 GROUND WATER OCCURRENCE

The ground water behavior in the Indian sub-continent is highly complicated due to the occurrence of diversified geological formations with considerable lithological and chronological variations, complex tectonic framework, climatological dissimilarities and various hydrochemical conditions. Studies carried out over the years have revealed that aquifer groups in alluvial / soft rocks even transcend the surface basin boundaries. Broadly two groups of rock formations have been identified depending on characteristically different hydraulics of ground water, Viz. Porous Formations and Fissured Formations.

### 1.1.1 POROUS FORMATION

Porous formations have been further subdivided into Unconsolidated and Semi – consolidated formations.

#### UNCONSOLIDATED FORMATIONS

The areas covered by alluvial sediments of river basins, coastal and deltaic tracts constitute the unconsolidated formations. These are by far the most significant ground water reservoirs for large scale and extensive development. The hydrogeological environment and ground water regime in the Indo-Ganga-Brahmaputra basin indicate the existence of potential aquifers having enormous fresh ground water reserve. Bestowed with high incidence of rainfall and covered by a thick pile of porous sediments, these ground water reservoirs get replenished every year and are being used heavily. In these areas, in addition to the Annual Replenishable Ground Water Resources available in the zone of water level fluctuation (Dynamic Ground Water Resource), there exists a huge ground water reserve in the deeper passive recharge zone below the zone of fluctuation as well as in the deeper confined aquifers which remains largely unexplored as yet. Although the mode of development of ground water is primarily through dug wells, dug cum bore well and cavity wells, thousands of tube wells have been constructed during last few decades.

#### SEMI-CONSOLIDATED FORMATIONS

The semi-consolidated formations normally occur in narrow valleys or structurally faulted basins. The Gondwanas, Lathis, Tipams, Cuddalore sandstones and their equivalents are the most extensive productive aquifers in this category. Under favorable situations, these formations give rise to free flowing wells. In selected tracts of northeastern India, these water-bearing formations are quite productive. The Upper Gondwanas, which are generally arenaceous, in general, constitute prolific aquifers.

### 1.1.2 FISSURED FORMATIONS (CONSOLIDATED FORMATIONS)

The consolidated formations occupy almost two-thirds of the country. These formations, except vesicular volcanic rocks have negligible primary porosity. From the hydrogeological point of view, fissured rocks are broadly classified into four types viz. Igneous and metamorphic rocks (excluding volcanic and carbonate rocks), volcanic rocks, consolidated sedimentary rocks and Carbonate rocks.

#### IGNEOUS AND METAMORPHIC ROCKS EXCLUDING VOLCANIC AND CARBONATE ROCKS

The most common rock types under this category are granites, gneisses, charnockites, khondalites, quartzites, schists and associated phyllites, slates, etc. These rocks possess negligible primary porosity but attain porosity and permeability due to fracturing and weathering.

Ground water yield also depends on the rock type and grade of metamorphism. Generally, the granites, Khondalites and biotite gneisses have better yield potential as compared to charnockites.

### **VOLCANIC ROCKS**

The predominant types of volcanic rocks are the basaltic lava flows of Deccan Plateau. The highly variable water bearing properties of different flow units control ground water occurrence in Deccan Traps. The Deccan Traps have usually poor to moderate permeability depending on the presence of primary and secondary fractures.

### **CONSOLIDATED SEDIMENTARY ROCKS EXCLUDING CARBONATE ROCKS**

Consolidated sedimentary rocks occur in Cuddapahs, Vindhyan and their equivalents. The formations consist of conglomerates, sandstones, shales. The presence of bedding planes, joints, contact zones and fractures controls the ground water occurrence, movement and yield potential.

### **CARBONATE ROCKS**

Limestones in the Cuddapah, Vindhyan and Bijawar group of rocks dominates the carbonate rocks other than marbles and dolomites. In carbonate rocks, the circulation of water creates solution cavities thereby increasing the permeability of the aquifers. The solution activity leads to widely contrasting permeabilities within short distances.

## **1.2 HYDROGEOLOGICAL UNITS AND THEIR GROUND WATER POTENTIAL**

Hydrogeological map of India is depicted in Plate-I and the geographical distribution of hydrogeological units along with their Ground water potential is given in Table 1.

**TABLE 1: AQUIFER SYSTEM IN THE COUNTRY**

<b>System</b>	<b>Coverage</b>	<b>Ground water potential</b>
Unconsolidated formations - alluvial	Indo-Gangetic, Brahmaputra plains	Enormous reserves down to 600 m depth. High rain fall and hence recharge is ensured. Can support large-scale development through deep tube wells
	Coastal Areas	Reasonably extensive aquifers but risk of saline water intrusion
	Part of Desert area – Rajasthan and Gujarat	Scanty rainfall. Negligible recharge. Salinity hazards. Ground water Availability at great depths.
Consolidated/semi-consolidated formations - sedimentaries, basalts and crystalline rocks	Peninsular Areas	Availability depends on secondary porosity developed due to weathering, fracturing etc. Scope for GW availability at shallow depths (20-40 m) in some areas and deeper depths (100-200 m) in other areas. Varying yields.
Hilly	Hilly states	Low storage capacity due to quick runoff

# Hydrogeological Map of India



## Legend

### Ground Water Potential (Yield Litres/sec)

>40 25-40 10-25 <10

1-25 1-10 1-5

<1

Unconsolidated Formations

Consolidated /Semi-Consolidated Formations

Hilly Areas

## 2.0 GROUND WATER LEVEL SCENARIO

---

### 2.1 INTRODUCTION

Ground Water Year Book is prepared annually by CGWB depicting changes in ground water regime of the country through different seasons. It is an effort to obtain information on ground water levels through representative sampling. The important attributes of ground water regime monitoring are ground water level.

The natural conditions affecting the regime involve climatic parameters like rainfall, evapotranspiration etc., whereas anthropogenic influences include pumpage from the aquifer, recharge due to irrigation systems and other practices like waste disposal etc.

Ground water levels are being measured by Central Ground Water Board four times a year during January, April/ May, August and November. The regime monitoring started in the year 1969 by Central Ground Water Board. A network of 15653 observation wells, as on 31.03.2013, located all over the country is being monitored. Ground water samples are collected from these observation wells once a year during the month of April/ May to obtain background information of ground water quality changes on regional scale. The database thus generated forms the basis for planning the ground water development and management programmes. The ground water level and quality monitoring is of particular importance in coastal as well inland saline environment to assess the changes in salt water/fresh water interface as also the gradual quality changes in the fresh ground water regime. This data is used for assessment of ground water resources and changes in the regime consequent to various development and management activities.

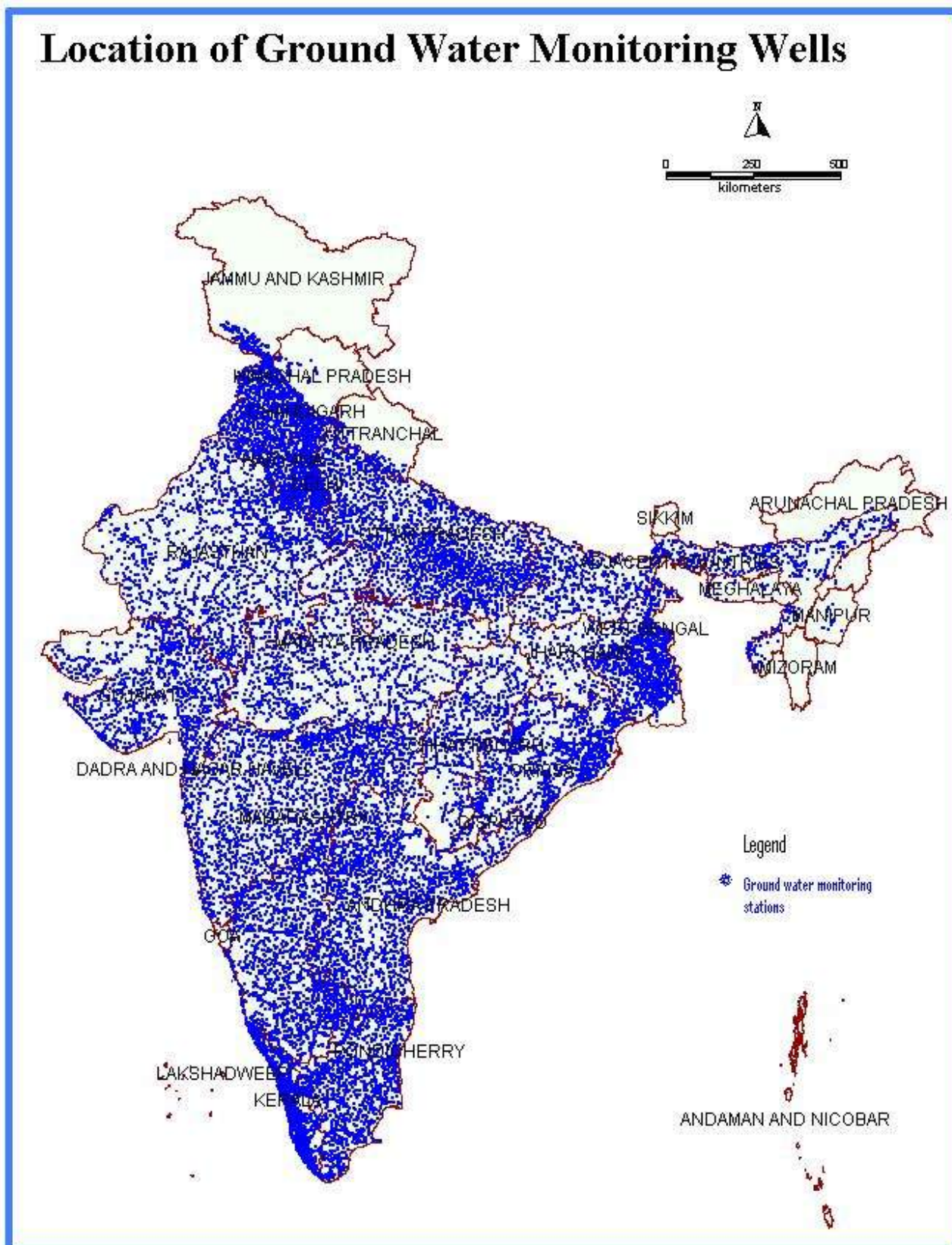
The premonsoon water level data is collected from all the monitoring stations during the months of March/ April/ May, depending on the climatological conditions of the region. For North eastern states premonsoon data is collected during March, since the onset of monsoon is normally observed in April. Similarly for Orissa, West Bengal and Kerala where monsoon appears early in May the monitoring is carried out during the month of April. For remaining states premonsoon monitoring month is May. Water levels during August are monitored to access the impact of monsoon on the ground water resources. Post monsoon data collected during November reflects the cumulative effect of ground water recharge and withdrawal of ground water for various purposes. January water level data indicates the effect of withdrawal for rabi crops.

The data is analyzed to know about the frequency distribution of water levels during different periods and seasonal, annual and decadal fluctuations in water levels. The water level and water level fluctuation maps are prepared for each monitoring period to study the spatial and temporal changes in ground water regime.

The State/UT-wise distribution of the ground water observation wells is given in table- 2 and depicted in Plate II.



# Location of Ground Water Monitoring Wells



**TABLE-2 STATE/UT -WISE STATUS OF GROUND WATER MONITORING WELLS AS ON 31.03.2013**

SI No	Name of the State	Total No. of Ground Water Monitoring Wells (As on 31.03.2013)				
		DW	PZ	Total	Aquifer wise Piezometers	
					Unconfined	Confined/ Semi confined
1	Andhra Pradesh	580	402	982	273	129
2	Arunachal Pradesh	12	0	12	0	0
3	Assam	292	10	302	0	10
4	Bihar	329	12	341	0	12
5	Chhattisgarh	461	248	709	170	78
6	Delhi	25	137	162	137	0
7	Goa	43	59	102	1	58
8	Gujarat	637	376	1013	218	158
9	Haryana	198	266	464	210	56
10	Himachal Pradesh	89	0	89	0	0
11	Jammu & Kashmir	178	19	197	19	0
12	Jharkhand	215	12	227	1	11
13	Karnataka	1134	373	1507	0	373
14	Kerala	658	267	925	79	188
15	Madhya Pradesh	870	376	1246	174	202
16	Maharashtra	1075	227	1302	161	66
17	Manipur	13	10	23	0	10
18	Meghalaya	31	5	36	0	5
19	Nagaland	12	7	19	0	7
20	Orissa	973	137	1110	50	87
21	Punjab	159	202	361	156	46
22	Rajasthan	722	396	1118	339	57

SI No	Name of the State	Total No. of Ground Water Monitoring Wells (As on 31.03.2013)				
		DW	PZ	Total	Aquifer wise Piezometers	
					Unconfined	Confined/ Semi confined
23	Tamil Nadu	566	589	1155	218	371
24	Tripura	32	9	41	0	9
25	Uttar Pradesh	818	247	1065	239	8
26	Uttarakhand	39	94	133	91	3
27	West Bengal	468	420	888	281	139
	UTs			0		
1	Andaman & Nicobar	64	0	64	0	0
2	Chandigarh	1	27	28	14	13
3	Dadra & Nagar Haveli	7	0	7	0	0
4	Daman & Diu	9	5	14	5	0
5	Puducherry	4	7	11	0	7
<b>Total</b>		<b>10714</b>	<b>4939</b>	<b>15653</b>	<b>2836</b>	<b>2103</b>

## **2.2 DEPTH TO WATER LEVEL**

### **DEPTH TO WATER LEVEL – PRE MONSOON 2013**

The ground water level data for the pre Monsoon 2013 indicate that out of the total 12492 wells analysed, 526 (4 %) wells are showing water level less than 2 m bgl, 3082 (25 %) wells are showing water level in the depth range of 2-5 m bgl, 5125 (41%) wells are showing water level in the depth range of 5-10 m bgl, 2900 (23%) wells are showing water level in the depth range of 10-20 m bgl, 654 (5 %) wells are showing water level in the depth range of 20-40 m and remaining 205 (2 %) wells are showing water level more than 40 m bgl (Annexure-I). The maximum depth to water level of 123.55 mbgl is observed in Rajasthan where the minimum is less than 1 mbgl.

The pre Monsoon 2013 map shown in Plate-III and Plate-IV indicates that in Sub-Himalayan area, north of river Ganges and in the north eastern part of the country in the Brahmaputra valley, eastern coast of Orissa, Andhra Pradesh and Tamil Nadu states generally the depth to water level varies from 2-5 meter below ground level. Isolated pockets of shallow water level less than 2 m bgl have been observed in west Maharashtra and in parts of Orissa and Andhra Pradesh state. In major parts of north-western states depth to water level generally ranges from 10-40 m bgl. In the western parts of the country deeper water level is recorded in the depth range of 20-40 m bgl. In North Gujarat, parts of Haryana and western Rajasthan water level more than 40 m bgl is recorded. Along the eastern & western coast water level is generally less than 10 m. Central part of West Bengal state recorded water level in the range of 5-20 m bgl. In north central India water level generally varies between 10-20 m bgl, except in isolated pockets where water level less than 10 m bgl has been observed. The peninsular part of country generally recorded a water level in the range of 5 to 20 m bgl depth range.

### **DEPTH TO WATER LEVEL – AUGUST 2013**

The ground water level data for August 2013 indicate that out of the total 12673 wells analysed, 4400 (35 %) wells are showing water level less than 2 m bgl, 3906 (31 %) wells are showing water level in the depth range of 2-5 m bgl, 2456 (19 %) wells are showing water level in the depth range of 5-10 m bgl, 1280 (10 %) wells are showing water level in the depth range of 10-20 m bgl, 416 (38 %) wells are showing water level in the depth range of 20-40 m and remaining 214 (2 %) wells are showing water level more than 40 m bgl (Annexure-II). The maximum depth to water level of 119.60 m bgl is observed in Rajasthan whereas the minimum is less than 1 m bgl.

The data and map of August 2013 (Plate-V) indicates that in Sub-Himalayan area, north of river Ganges, Orissa, Andhra Pradesh, Kerala, Gujarat, parts of Madhya Pradesh, Assam and Coastal Tamil Nadu generally the depth to water level varies from 2-5 meter below ground level. Shallow water level less than 2 m bgl have also been observed in west Maharashtra, Assam, Northern Uttar Pradesh, Jharkhand, Madhya Pradesh, Chhattisgarh and Orissa. In major parts of north-western states depth to water level generally ranges from 10-40 m bgl. In the western parts of the country deeper water level is recorded in the depth range of 20-40 m bgl and more than 40 m bgl.

In some parts of Delhi and Rajasthan water level of more than 40 m bgl is recorded. Along the eastern & western coast water level is generally less than 10 m. Central part of West Bengal state recorded water level in the range of 5-20 m bgl. In Central India water level generally varies between less than 2 m bgl to 5 m bgl, except in few pockets where water levels of 5 to 10 mbgl has been observed. The peninsular part of country generally recorded a water level in the range of 5 to 20 m bgl depth range.

### **DEPTH TO WATER LEVEL – POST MONSOON 2013**

The ground water level data for November 2013 indicate that out of the total 14127 wells analysed, 3545 (25 %) wells are showing water level less than 2 m bgl, 5384 (38%) wells are showing water level in the depth range of 2-5 m bgl, 3149 (22 %) wells are showing water level in the depth range of 5-10 m bgl, 1348 (10%) wells are showing water level in the depth range of 10-20 m bgl, 469 (3%) wells are showing water level in the depth range of 20-40 mbgl and the remaining 225 (2 %) wells are showing water level more than 40 m bgl (Annexure-III). The maximum depth to water level of 145.09 m bgl is observed in Rajasthan whereas the minimum is less than 1 m bgl.

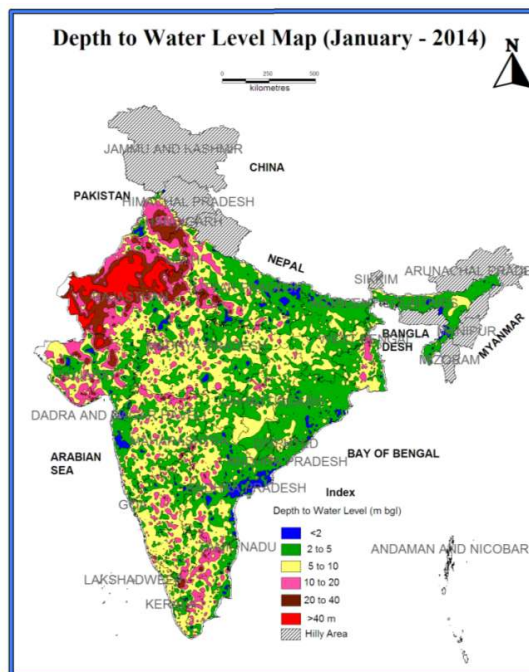
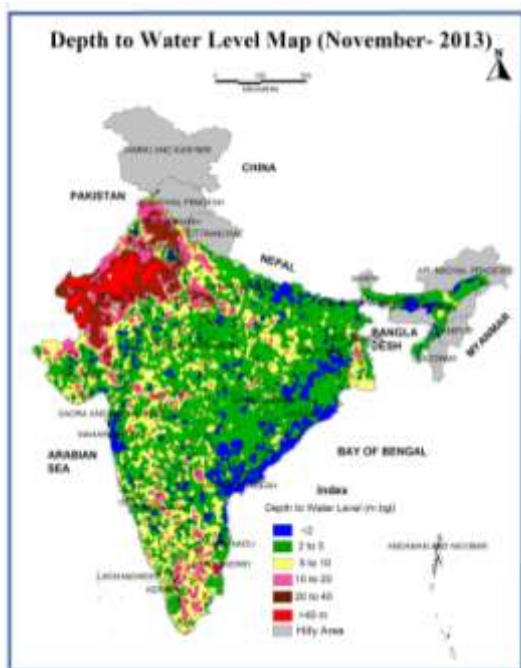
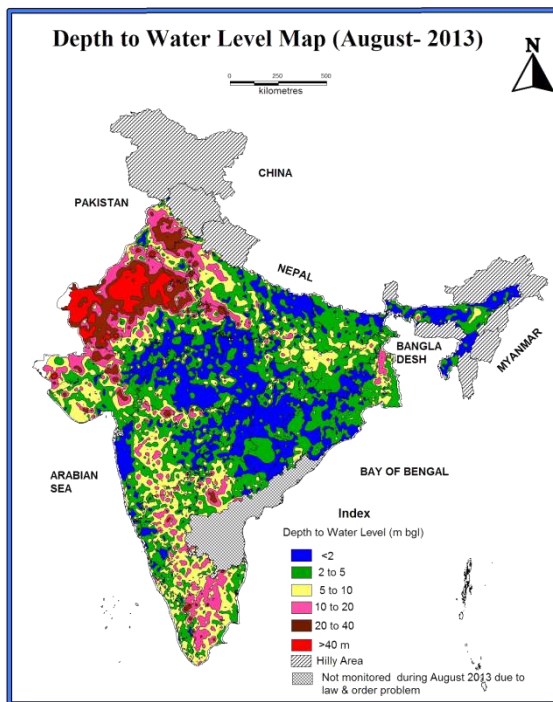
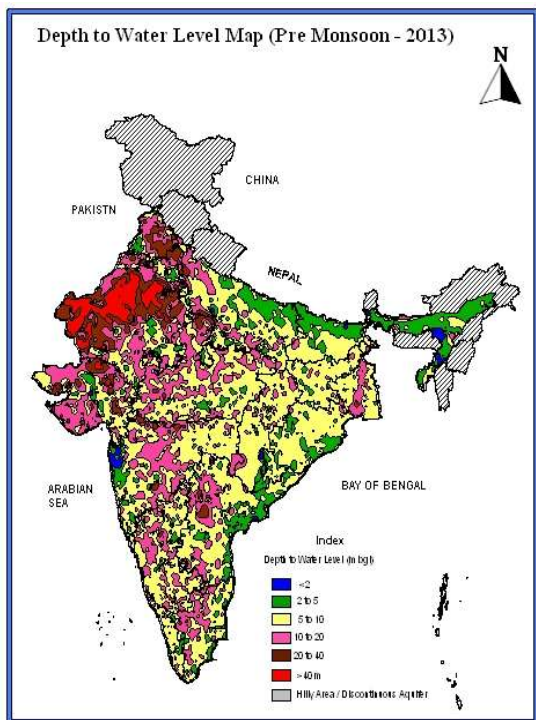
The depth to water level map of November 2013 (Plate-VI) indicates that in Sub-Himalayan area, north of river Ganges, Assam, Bihar, Chhattisgarh, Maharashtra, Jharkhand, Madhya Pradesh, Odisha, Bihar, Gujarat, Tripura and Coastal Tamil Nadu generally the depth to water level varies from 2-5 meter below ground level. Shallow water level less than 2 m bgl have also been observed as patches in Maharashtra, Andhra Pradesh, Assam, Northern Uttar Pradesh, Jharkhand, Chhattisgarh and Odisha. In major parts of north-western states depth to water level generally ranges from 10-40 m bgl. In the western parts of the country deeper water level is recorded in the depth range of 20-40 m bgl and more than 40 m bgl. In some parts of Delhi and Rajasthan water level of more than 40 m bgl is recorded. Along the eastern & western coast water level is generally less than 10 m. Central part of West Bengal state recorded water level in the range of 5-10 m bgl. In Central India water level generally varies from 2 m bgl to 10 m bgl, except in isolated pockets where water level less than 2 m bgl has been observed. The peninsular part of country generally recorded a water level in the range of 5 to 20 m bgl depth range.

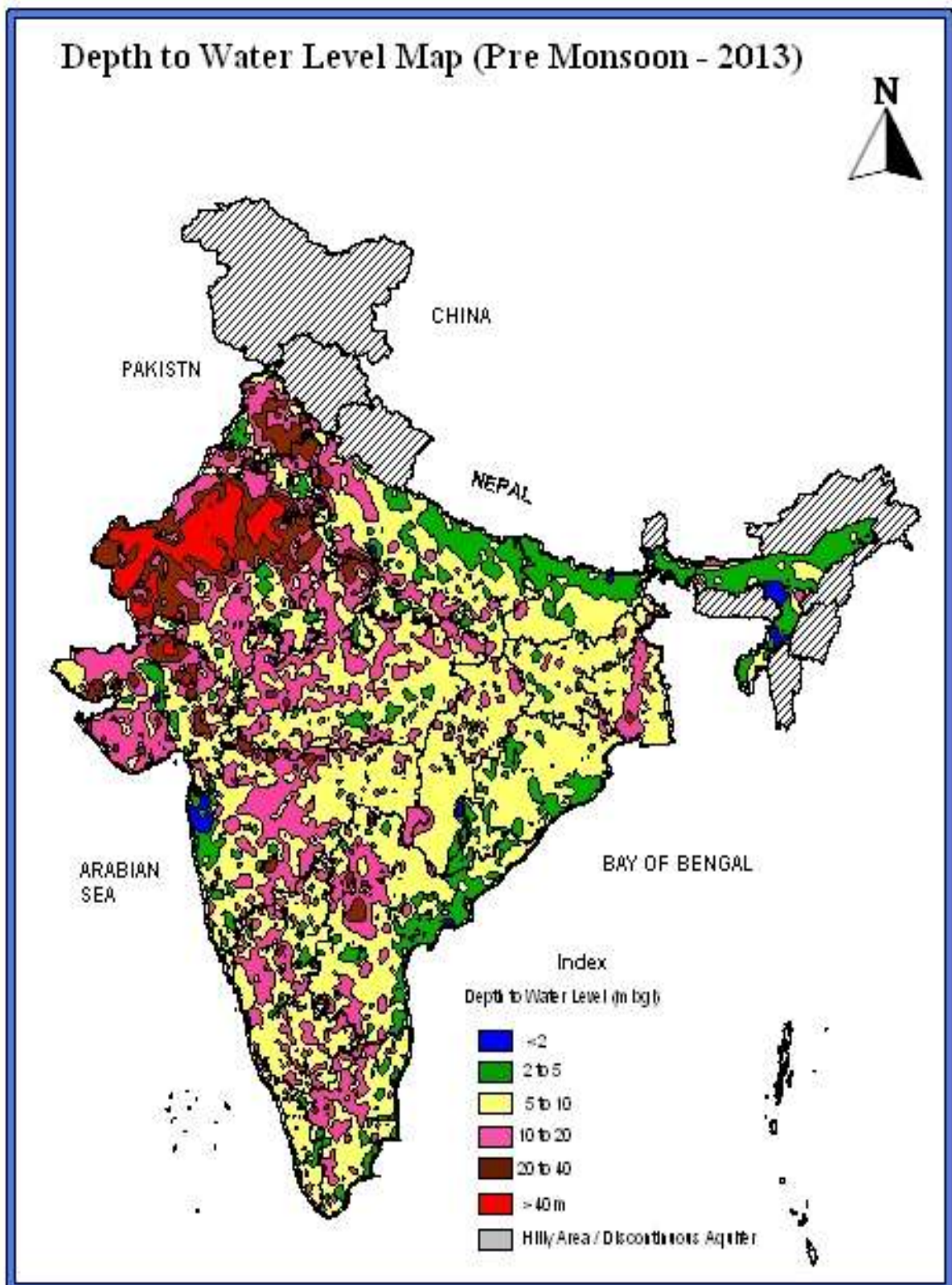
### **DEPTH TO WATER LEVEL – JANUARY 2014**

The ground water level data for January 2014 indicate that out of the total 14391 wells analysed, 1840 (13 %) wells are showing water level less than 2 m bgl, 5839 (41%) wells are showing water level in the depth range of 2-5 m bgl, 4277 (30 %) wells are showing water level in the depth range of 5-10 m bgl, 1760 (12%) wells are showing water level in the depth range of 10-20 m bgl, 462 (3%) wells are showing water level in the depth range of 20-40 mbgl and the remaining 219 (1 %) wells are showing water level more than 40 m bgl (Plate-VII and Annexure-IV). The maximum depth to water level of 112.60 m bgl is observed in Rajasthan whereas the minimum is less than 1 m bgl.

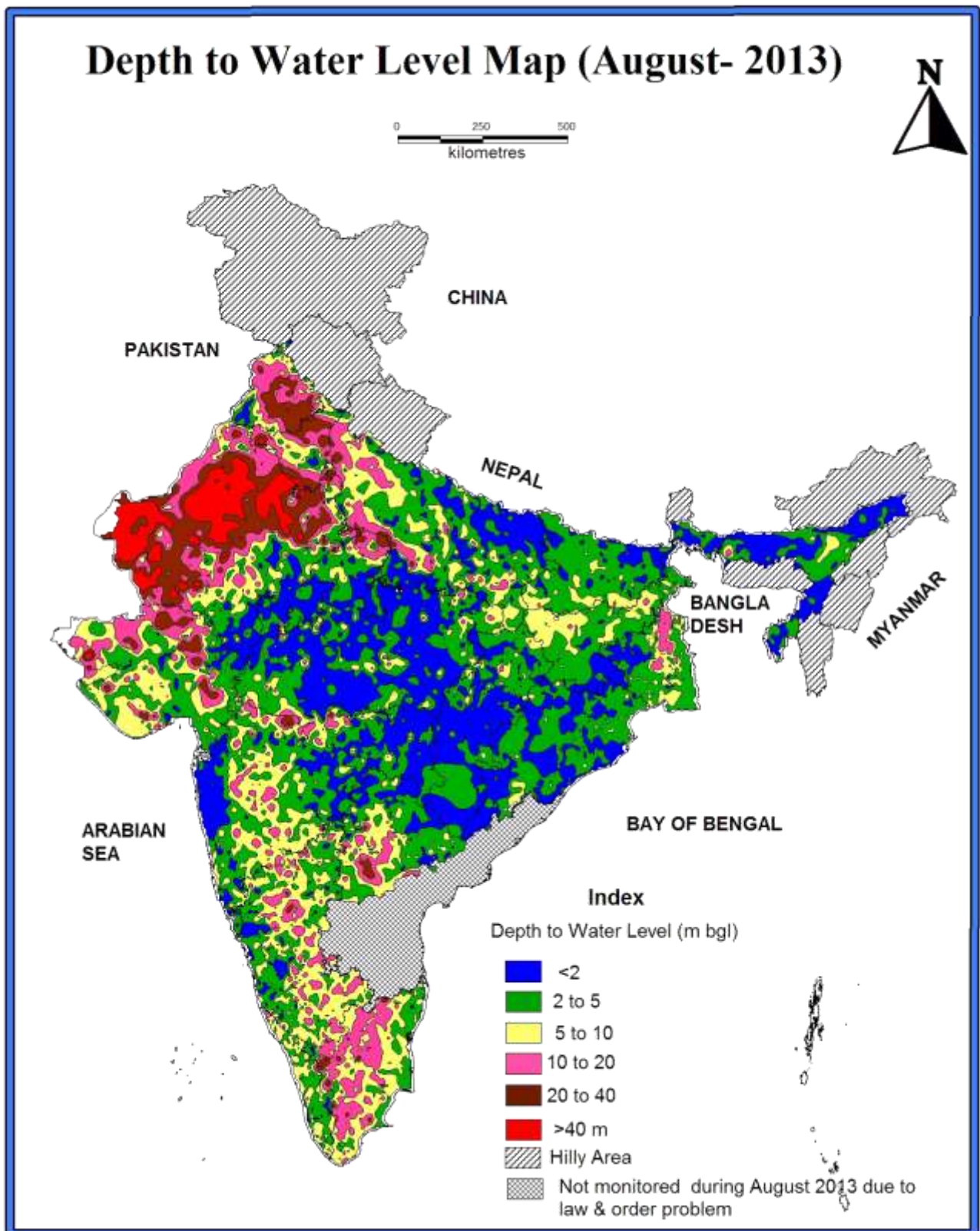
The depth to water level map of January 2014 ( Plate VII) indicates that in Sub-Himalayan area, north of river Ganges, Assam, Bihar, Chhattisgarh, Maharashtra, Jharkhand, Madhya Pradesh Odisha, Bihar, Gujarat, Tripura and Coastal Tamil Nadu generally the depth to water level varies from 2-5 meter below ground level. Shallow water level less than 2 m bgl have also been observed as patches in Maharashtra, Andhra Pradesh, Assam, Northern Uttar Pradesh, Madhya Pradesh, Gujarat and Odisha. In major parts of north-western states depth to water level generally ranges from 10-40 m bgl. In the western parts of the country deeper water level is recorded in the depth range of 20-40 m bgl and more than 40 m bgl. In many parts of Delhi and Rajasthan water level of more than 40 m bgl is recorded. Along the eastern & western coast water level is generally less than 10 m. Central part of West Bengal state recorded water level in the range of 5-10 m bgl and also 10-20 m bgl. In Central India water level generally varies from 2 to 10 m bgl, and in few isolated pockets water level ranges from 10 to 20 m bgl. The peninsular part of country generally recorded a water level in the range of 5 to 20 m bgl depth range. (Plate-VII)

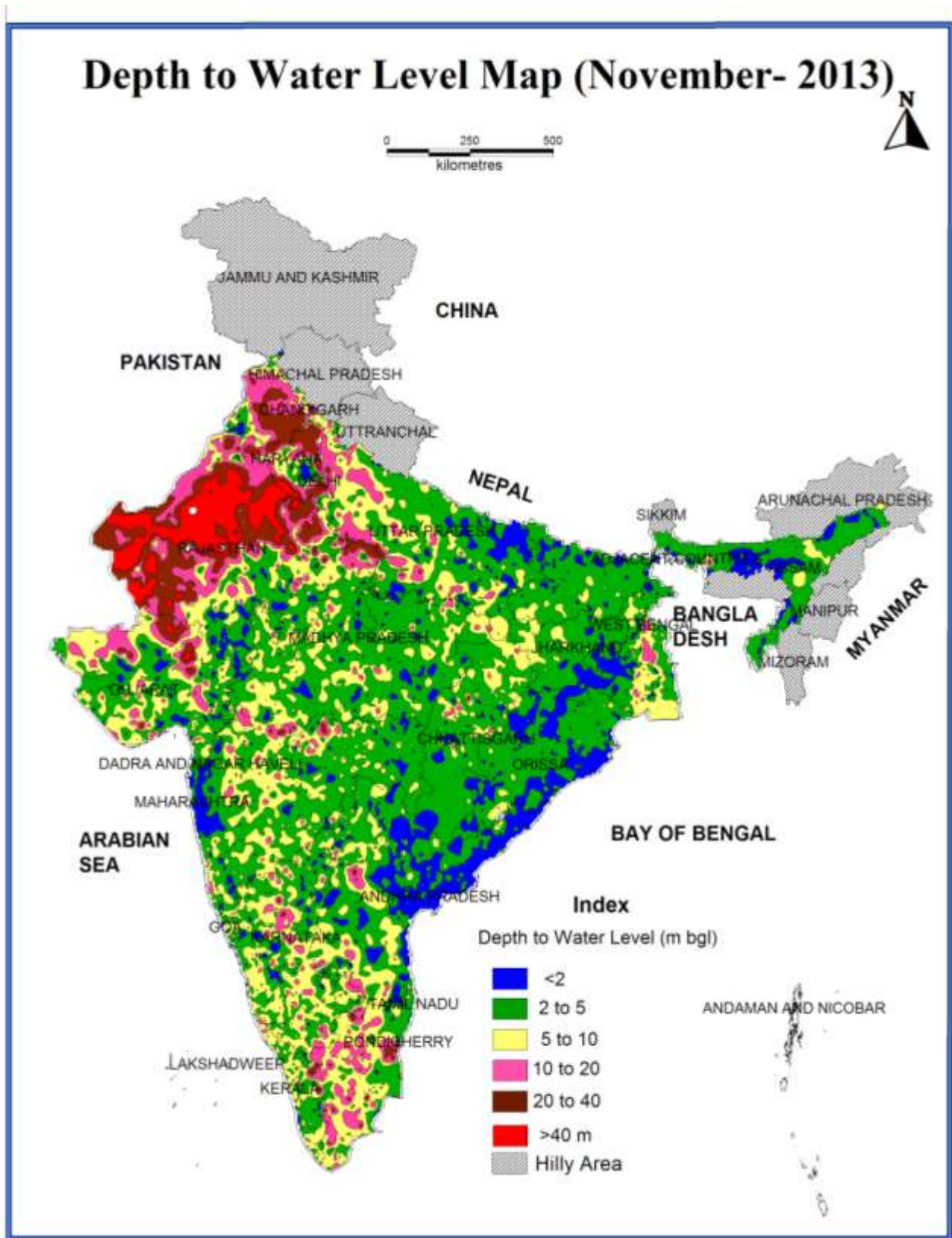
DEPTH TO WATER LEVEL AT A GLANCE

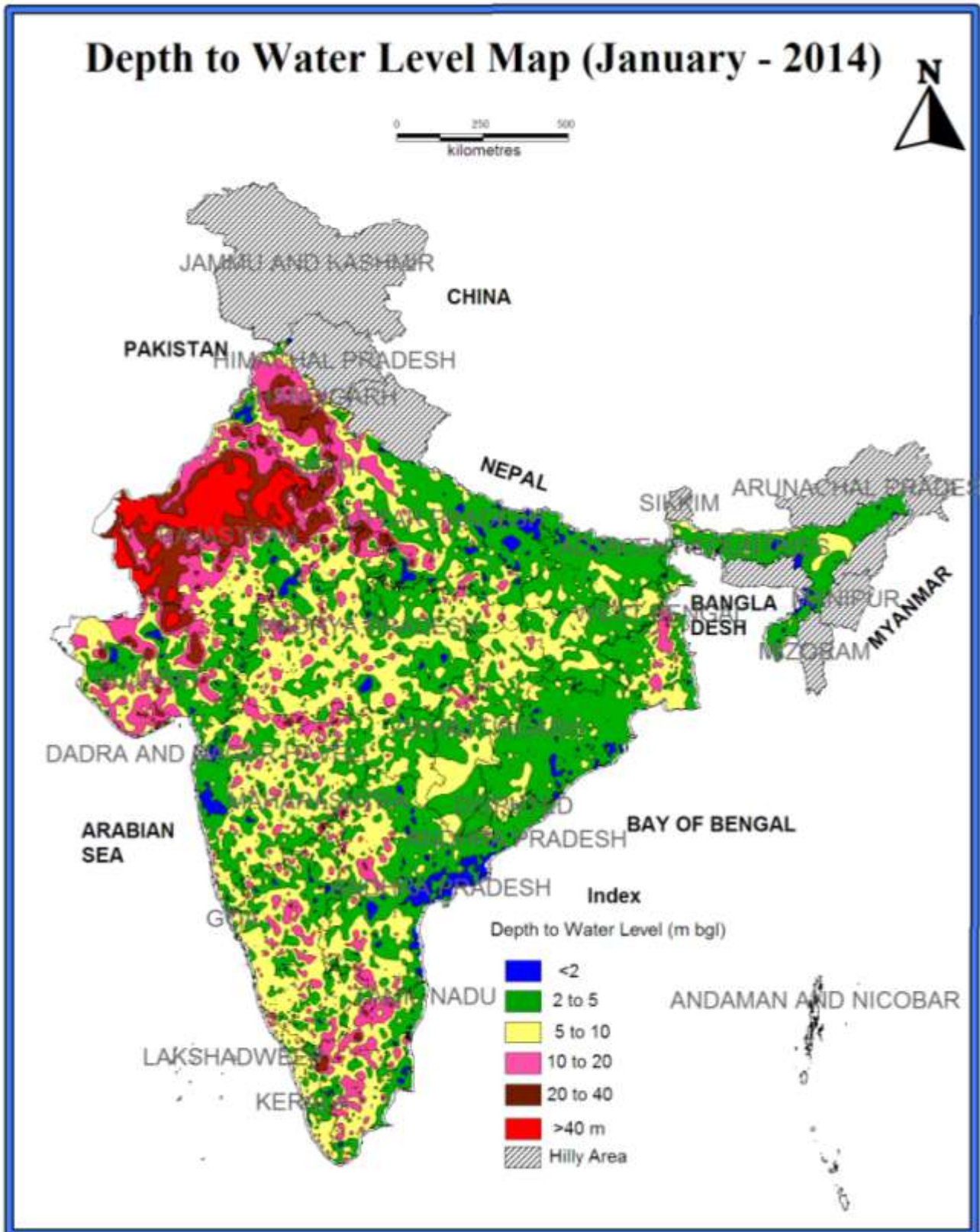












## **2.3 ANNUAL WATER LEVEL FLUCTUATION**

### **ANNUAL WATER LEVEL FLUCTUATION (PREMONSOON 2012-PREMONSOON 2013)**

A comparison of depth to water level of Pre Monsoon 2013 with Pre Monsoon 2012 (Plate-VIII & IX) reveals that in general, there is decline in the water level in Maharashtra, Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, Orissa, south Gujarat and North East states. Most of the wells have been showing fall of water level in the range of 0-2 m. Fall in water level more than 2 meters has been observed in various states such as Punjab, Haryana, northwest Rajasthan, south Gujarat, Maharashtra, Andhra Pradesh and Karnataka and Tamil Nadu. Rise in water level in the range of 0-2 m and 2-4 m is observed in Madhya Pradesh, Uttar Pradesh, Bihar, Jharkhand, West Bengal and south Rajasthan.

About 41% wells are showing rise in water level (Annexure-V). Out of which 32% wells are showing rise in the range of water level less than 2 m. About 6% wells are showing rise in water level in 2-4 m range and 3% wells showing rise in water level more than 4 m range. About 59 % wells are showing decline in water level, out of which 43% wells are showing decline in water level in less than 2 m range. About 10% wells are showing decline in water level in 2-4 m range. Only 6% wells are showing decline in water level more than 4 m range.

### **ANNUAL WATER LEVEL FLUCTUATION (AUGUST 2012-AUGUST 2013)**

A comparison of depth to water level of August 2013 with August 2012 (Plate-X) reveals that in general, there is decline in the water level in almost all the states of the country, namely, Andhra Pradesh, Bihar, Delhi, Gujarat, Haryana, Jharkhand, Karnataka, West Bengal, Uttarakhand and Tamil Nadu. Most of the wells have been showing fall of water level in the range of 0-2 m. Fall in water level more than 2 meters has also been observed in various parts of the states such as Andhra Pradesh, Delhi, Gujarat, Jharkhand, Tamil Nadu and West Bengal.

About 61 % wells are showing fall in water level (Annexure-VI). Out of which 42 % wells are showing fall in water level less than 2 m. About 11 % wells are showing rise in water level in 2-4 m range and 8 % wells showing rise in water level more than 4 m. About 37 % wells are showing rise in water level, out of which 29 % wells are showing rise in water level in less than 2 m range. About 5 % wells are showing decline in water level in 2-4 m range. Only 3 % wells are showing decline in water level more than 4 m range.

### **ANNUAL WATER LEVEL FLUCTUATION (NOVEMBER 2012- NOVEMBER 2013)**

A comparison of depth to water level of November 2012 with November 2013 (Plate-XI) reveals that in general, there is decline in the water level in Maharashtra, Rajasthan, Haryana, Punjab, Karnataka, Andhra Pradesh, Orissa, south Gujarat and Assam states. Most of the wells have been showing fall of water level in the range of 0-2 m. Fall in water level more than 2 meters has also been observed in various parts of the states such as- Gujarat, Rajasthan, Punjab, Haryana and Tamil Nadu states. Rise in water level in the range of 0-2 m and 2-4 m is observed in parts of Madhya Pradesh, Jharkhand, West Bengal, Maharashtra, Tamil Nadu and Andhra Pradesh.

About 46% wells are showing rise in water level, out of which 37% wells are showing rise in the range of water level less than 2 m. About 5% wells are showing rise in water level in 2-4 m range

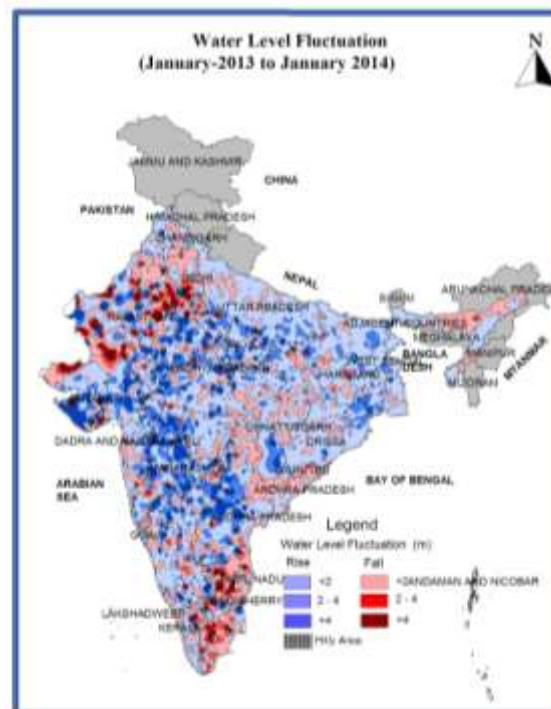
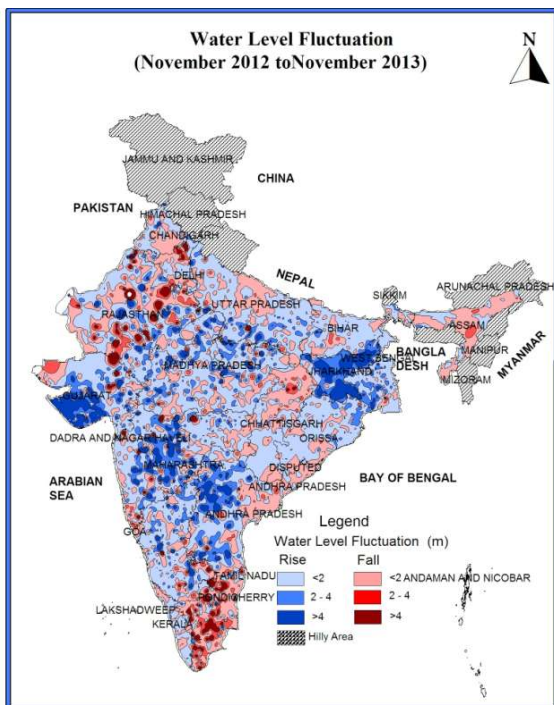
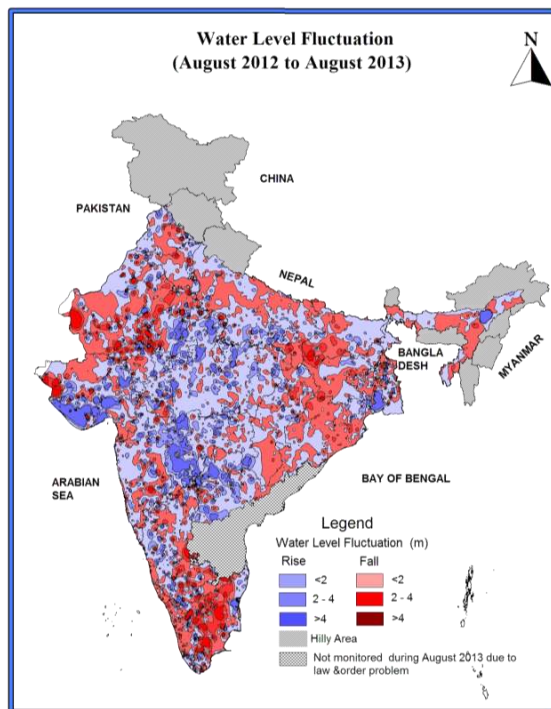
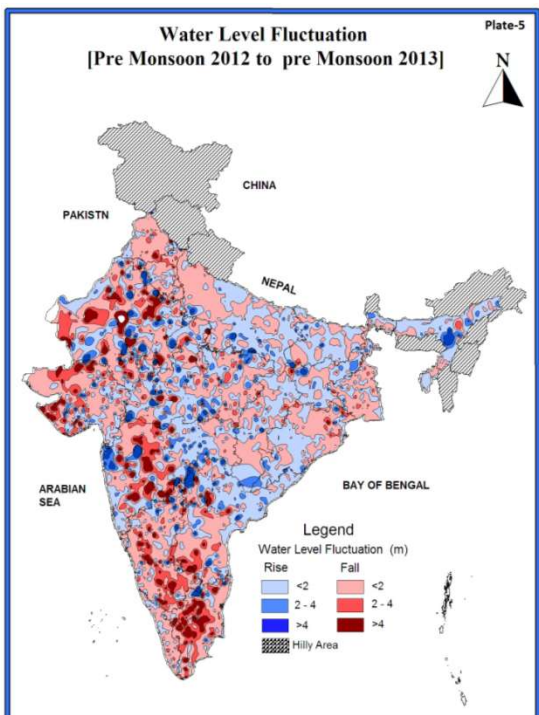
and 4% wells showing rise in water level more than 4 m range. About 54 % wells are showing decline in water level, out of which 40% wells are showing decline in water level in less than 2 m range. About 8% wells are showing decline in water level in 2-4 m range. Only 6% wells are showing decline in water level more than 4 m range (Annexure-VII).

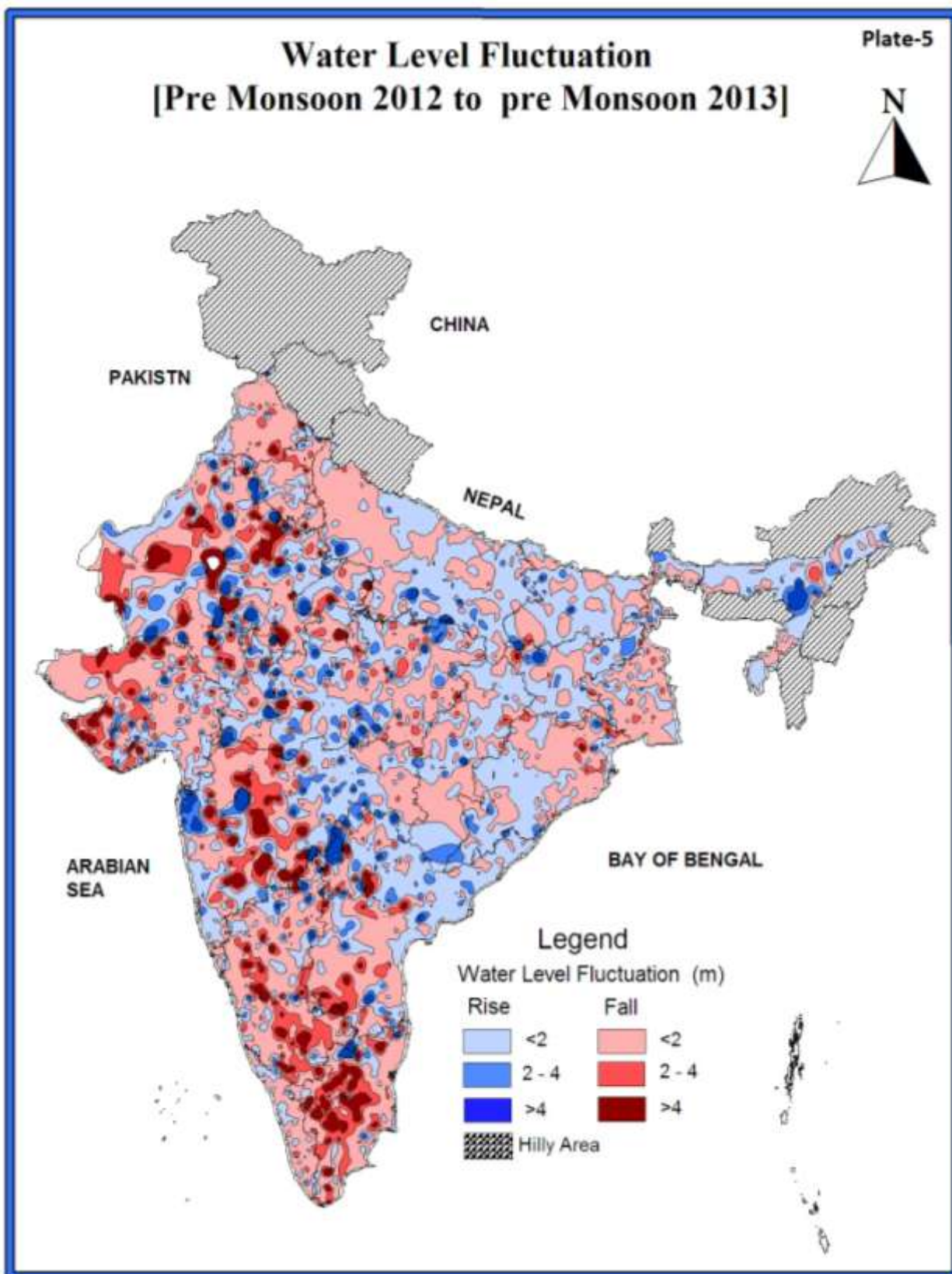
### **ANNUAL WATER LEVEL FLUCTUATION (JANUARY 2014- JANUARY 2013)**

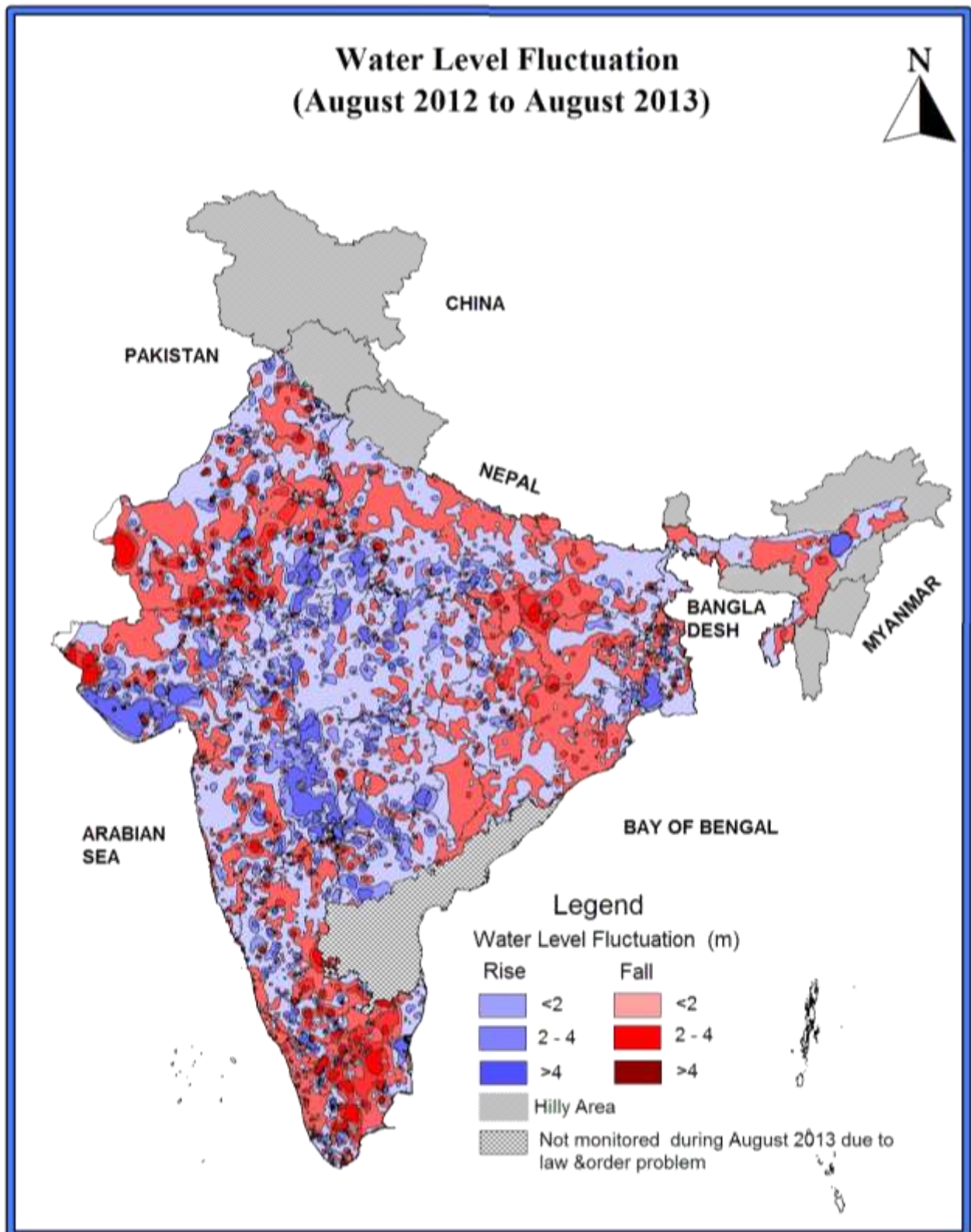
The water level fluctuation of January 2014 to January 2013 shows that out of 11204 wells analysed 7446 (66%) are showing rise and 3519 (31%) are showing fall in water level. Remaining 239 (2%) stations analysed do not show any change in water level (Annexure-VIII). About 48% wells are showing rise in the water level in the range of less than 2 m. About 11% wells are showing rise in water level in 2-4 m range and 7 % wells showing rise in water level more than 4 m range. About 31% wells are showing decline in water level, out of which 25% wells are showing decline in water level in less than 2 m range. About 4 % wells are showing decline in water level in 2-4 m range. Only 3% wells are showing decline in water level more than 4 m range. (Plate-2 and Annexure-II)

A comparison of depth to water level of January 2014 to January 2013 presented in the form of water level fluctuation map (Plate- XII) reveals that in general, there is rise in the water level in almost the entire country, especially in the states of Uttar Pradesh, Jharkhand, Bihar, West Bengal, Chhattisgarh, Orissa, Maharashtra and Gujarat. There is a fall in water level mostly in the range of 0-2 m covering most parts of the country. Fall in water level of more than 2 m has been observed in small pockets in the states of Assam, Tamil Nadu, Rajasthan and Gujarat. Fall of more than 4 m observed in small pockets in the states of Andhra Pradesh, Gujarat, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Uttar Pradesh and Tamil Nadu (Plate-IV). A comparison of depth to water level data of January 2013 with January 2013 reveals that in general, there is decline in the water level in Maharashtra, Karnataka, Andhra Pradesh, Delhi, Gujarat, Haryana, Jharkhand and Orissa states. Most of the wells have been showing fall of water level in the range of 0-2 m. Fall in water level more than 2 meters has been observed in various states such as Andhra Pradesh, Bihar, Chhattisgarh, Delhi, Gujarat, Haryana, Jharkhand, Karnataka, Kerala, Maharashtra, Orissa and West Bengal, . Rise in water level in the range of 0-2 m and 2-4 m is observed in Andhra Pradesh, Assam, Arunachal Pradesh, Chandigarh, Bihar, Chhattisgarh, Gujarat, Haryana, J&K, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Punjab, Maharashtra West Bengal and Orissa.

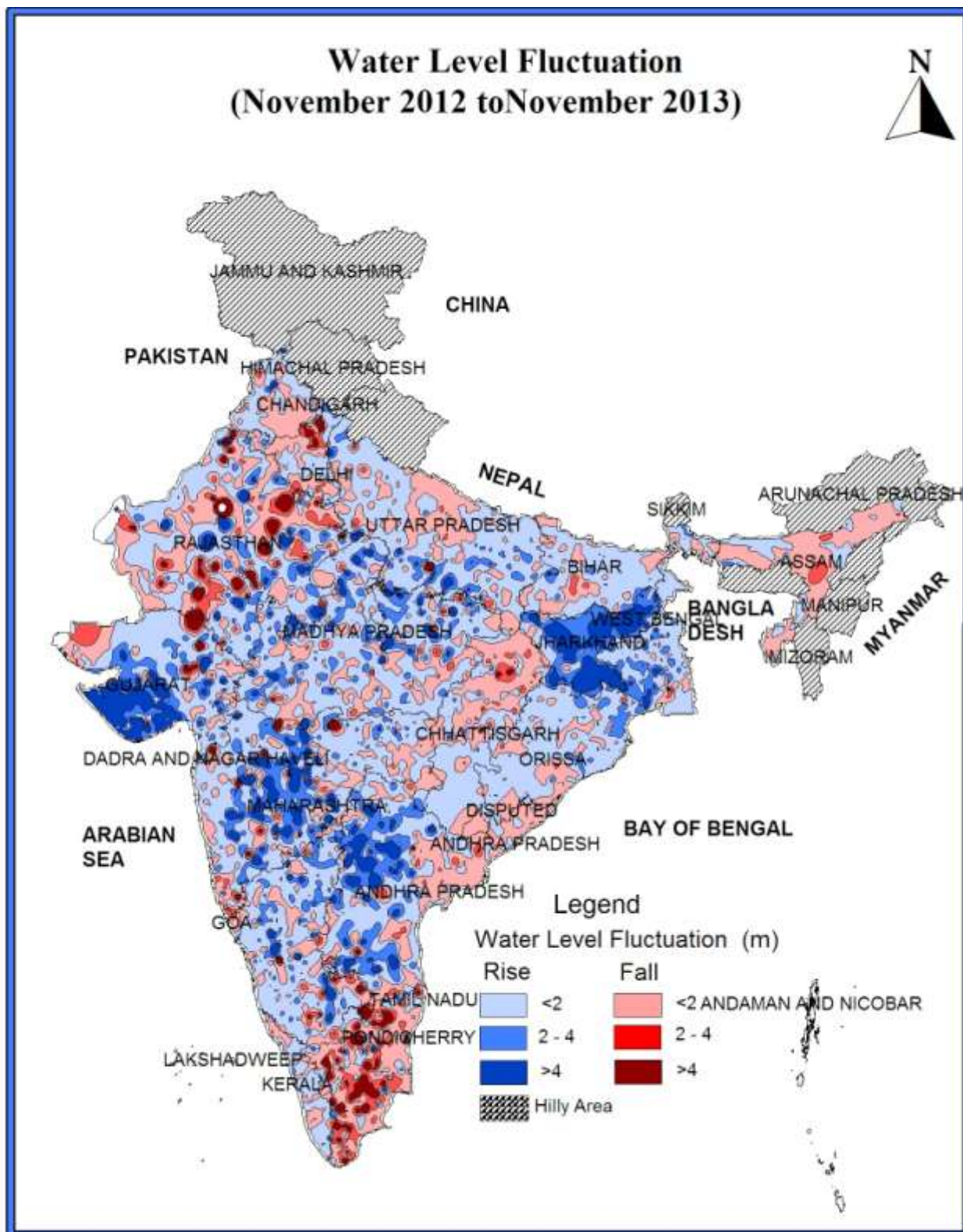
ANNUAL WATER LEVEL FLUCTUATION AT A GLANCE

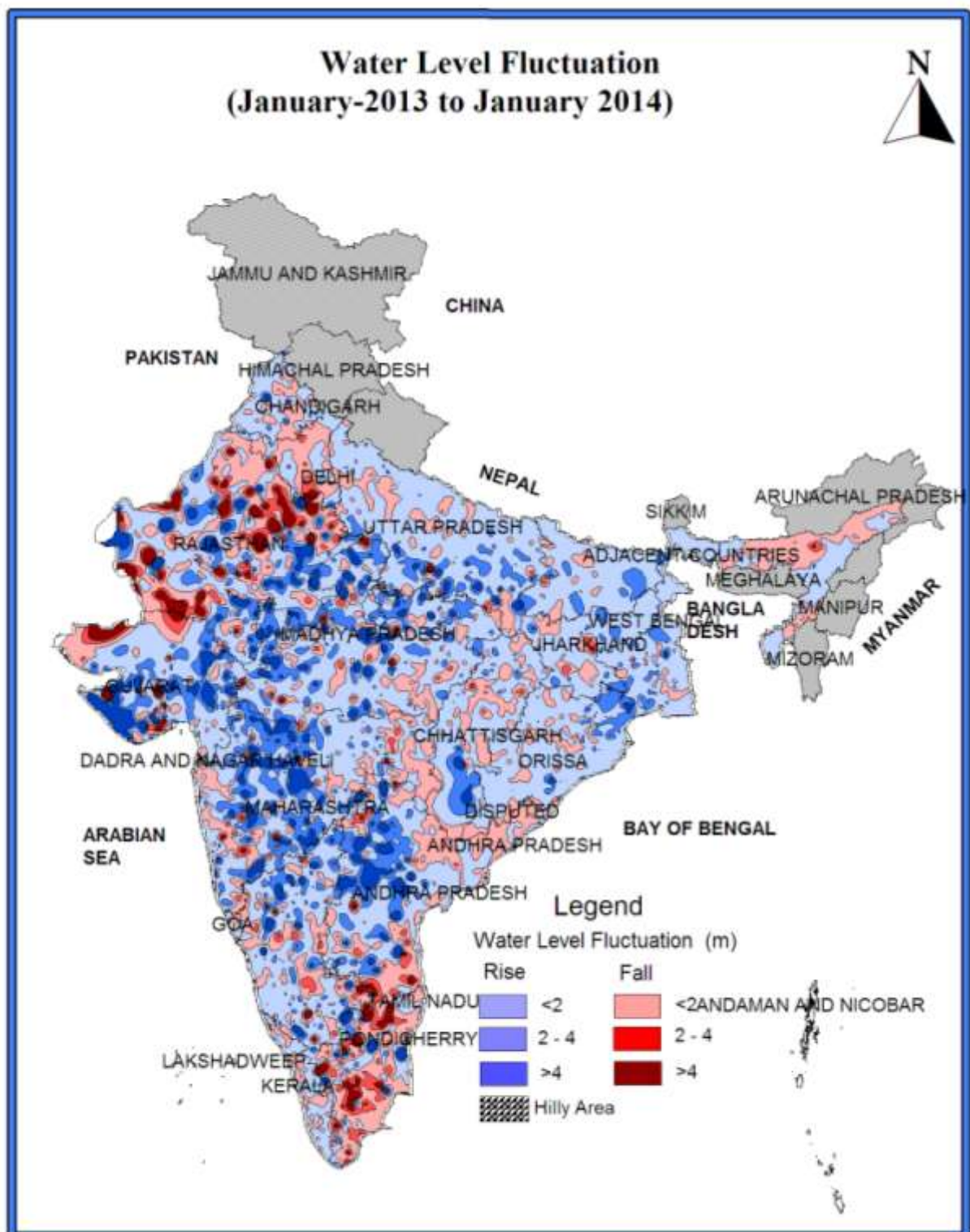












## **2.4 SEASONAL WATER LEVEL FLUCTUATIONS**

### **SEASONAL WATER LEVEL FLUCTUATION (PREMONSOON 2013- AUGUST 2013)**

A comparison of depth to water level during Pre Monsoon 2013 with August 2013 (Plates- XIII and XIV) reveals that in general, there is rise in the water level in almost the entire country except in Delhi, Punjab, Haryana, Rajasthan, Gujarat, Karnataka and Tamil Nadu.

About 79 % wells are showing rise in water level. Out of which 28 % wells are showing rise in water level less than 2 m. About 23 % wells are showing rise in water level in 2-4 m range and 28 % wells showing rise in water level more than 4 m. About 19 % wells are showing decline in water level, out of which 14 % wells are showing decline in water level in less than 2 m range. About 3 % wells are showing decline in water level in 2-4 m range. Only 2 % wells are showing decline in water level more than 4 m range. At 2% stations no change has been observed (Annexure-IX).

### **SEASONAL WATER LEVEL FLUCTUATION (PREMONSOON 2013-NOVEMBER 2013)**

A comparison of depth to water level during Pre Monsoon 2013 with November 2013 (Plate-XV) reveals that in general, there is rise in the water level in most parts of the country except in Punjab, Haryana, and western Rajasthan, Karnataka and Tamil Nadu states. Most of the wells have been showing rise of water level in the range of less than 4 m range. Rise in water level less than 2 meters and 2 to 4 m range is observed mainly in alluvium formation. Decline in water level in the range of 0-2 m and 2-4 m is observed in Punjab, Haryana, Western Rajasthan, Tamil Nadu, Andhra Pradesh and Karnataka states. Decline in water level in the range of more than 4 m is observed in pockets in Punjab, Haryana, Western Rajasthan and Karnataka states.

About 82% wells are showing rise in water level, out of which 34% wells are showing rise in water level less than 2 m range (Annexure-X). About 24% wells are showing rise in water level in 2-4 m range and 24% wells showing rise in water level more than 4 m. About 16% wells are showing decline in water level, out of which 12% wells are showing decline in water level in less than 2 m range. About 3% wells are showing decline in water level in 2-4 m range. Only 1% wells are showing decline in water level more than 4 m range.

Seasonal water level fluctuation (Pre Monsoon 2013 to November 2013) maps depicts that rise in water level is more prominent, which is an indication of extremely good and well distributed rainfall during 2013.

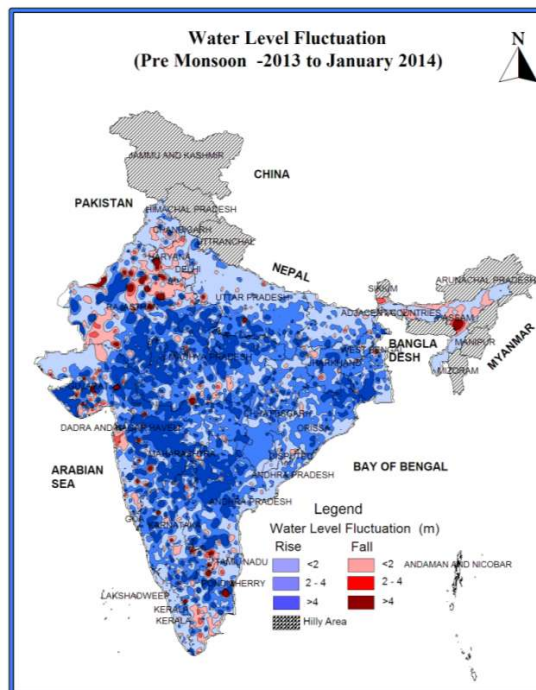
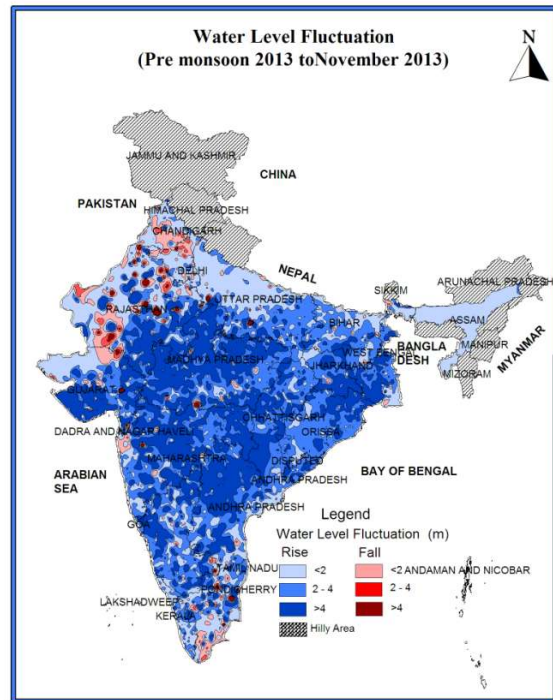
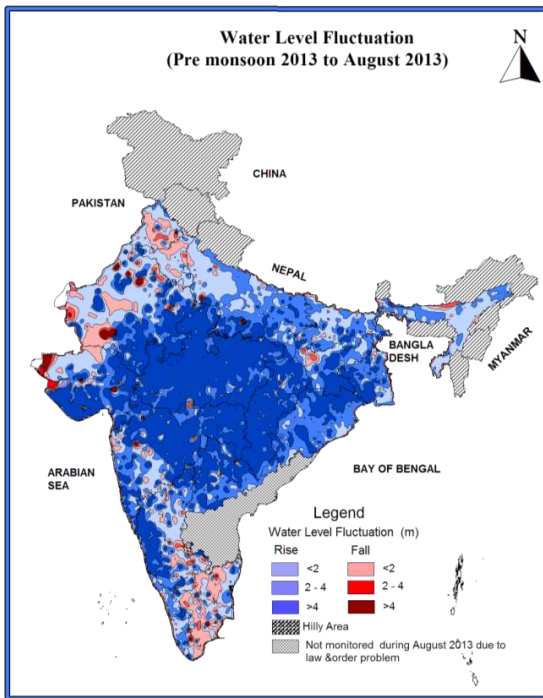
### **SEASONAL WATER LEVEL FLUCTUATION (PREMONSOON 2013 – JANUARY 2014)**

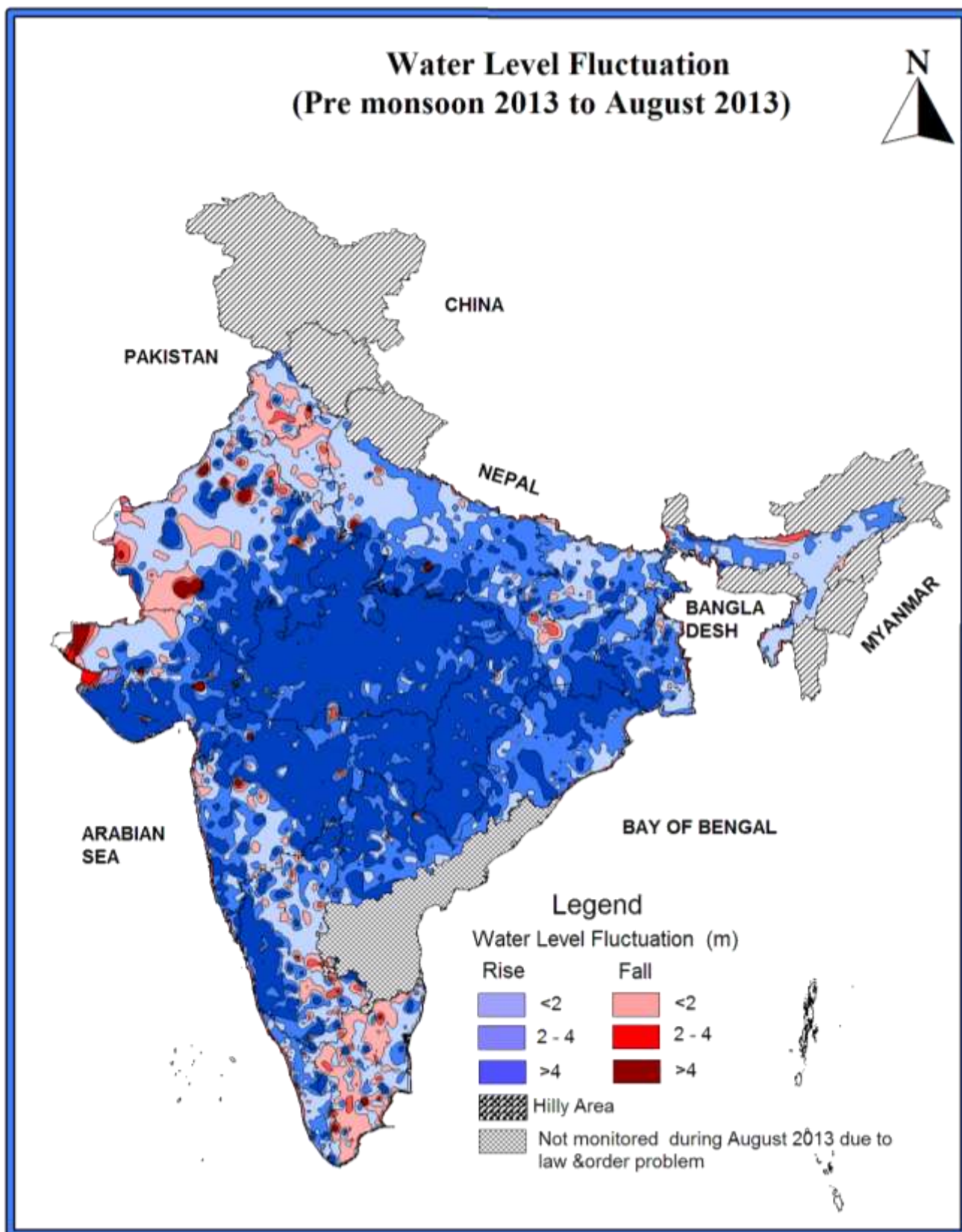
A comparison of depth to water level during January 2014 with Pre Monsoon 2013 reveals that in general, there is rise in the water level in 86% wells, out of which 41% are showing rise in range of 0-2 m, 26% and 19 % shows rise in the range of 2-4 m and more than 4m respectively. The seasonal water level fluctuation map of India is shown in Plate-V shows frequency distribution of wells showing fluctuation in different ranges. There is a fall in 13% wells, out of which 10% of the wells are showing fall in the range of 0-2 m. Most of the wells have been showing rise of water level in the range of less than 4 m range. Rise in water level in the range of 0-2 m and 2-4 m range is observed in the entire country, covering almost all the states. Decline in water level in the range of 0-2 m and 2-4 m is observed mainly in Assam, Punjab, Haryana, Gujarat, Chandigarh,

Rajasthan and also in small pockets in Tamil Nadu, and Maharashtra states. Decline in water level in the range of 4 m is observed in pockets in Assam, Punjab, Haryana, Gujarat and Rajasthan states. The state wise fluctuation is given in Annexure-XI.

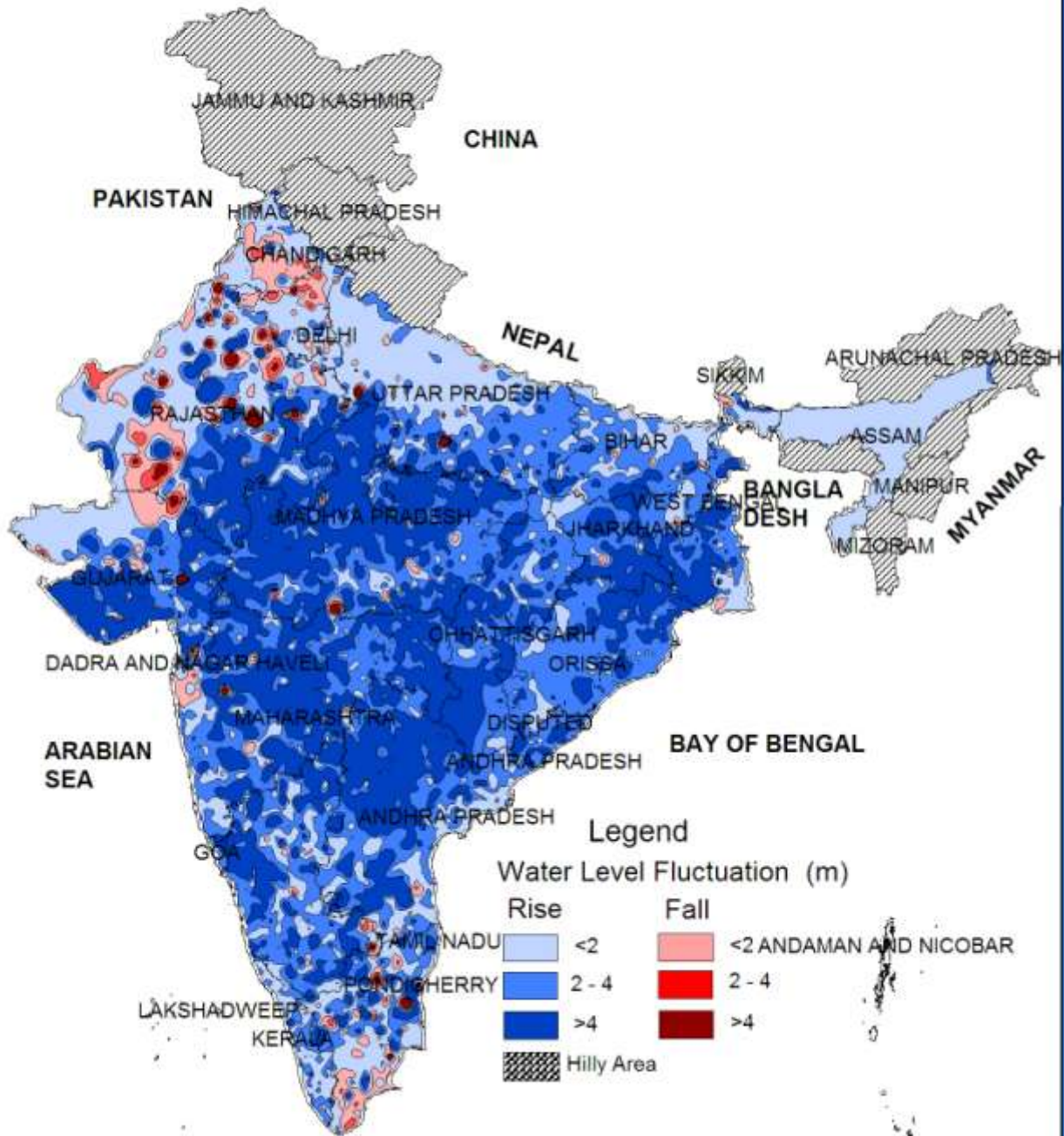
Seasonal water level fluctuation at a glance is shown in Plate XIII. The water level fluctuation maps of different seasons have been depicted in Plates (XIV to XVI). The state wise frequency distribution of wells under different water level/fluctuation ranges for different monitoring period is given in Annexure (IX to XI).

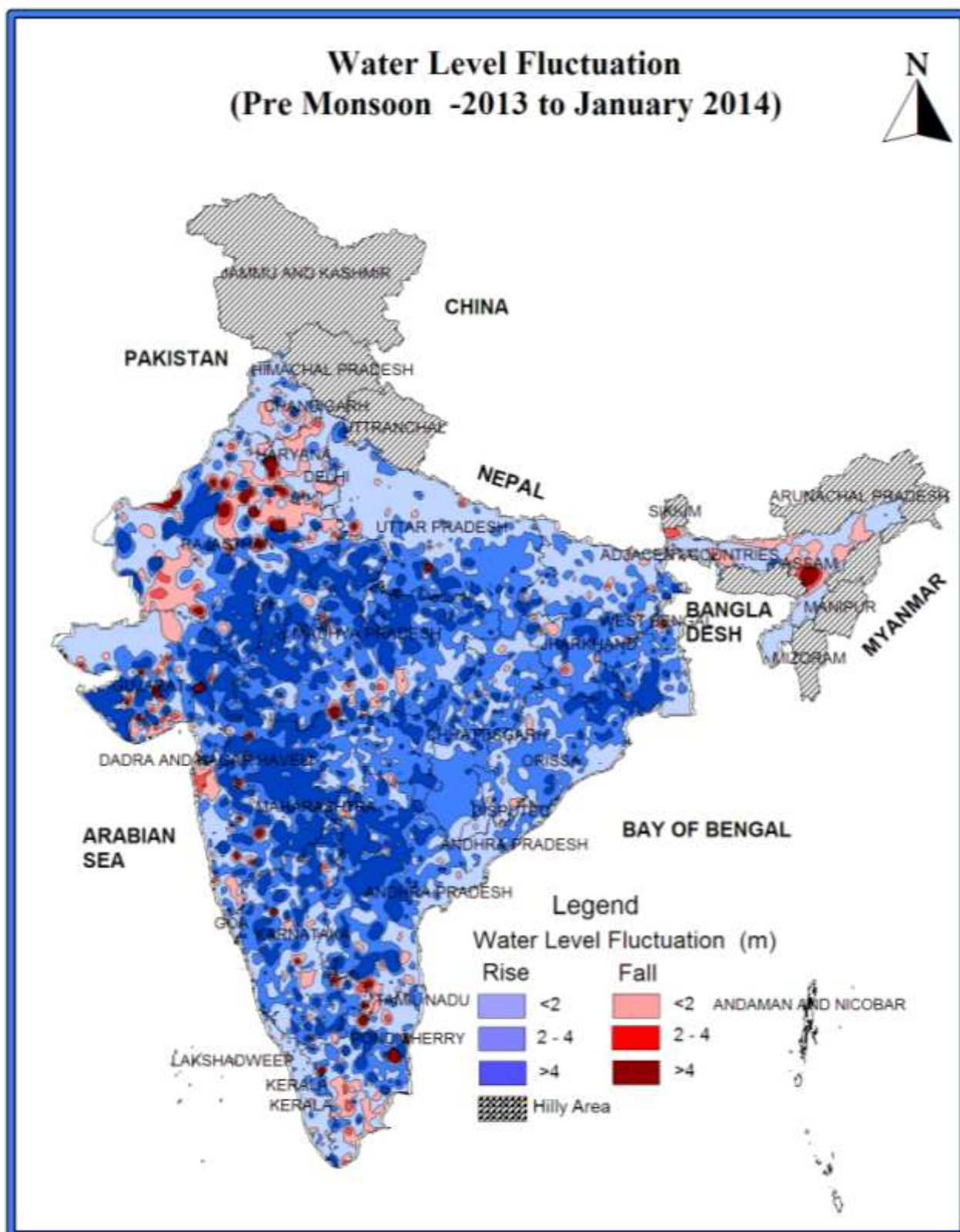
SEASONAL WATER LEVEL FLUCTUATION AT A GLANCE





### Water Level Fluctuation (Pre monsoon 2013 to November 2013)







## **2.5 DECADAL WATER LEVEL FLUCTUATIONS**

### **WATER LEVEL FLUCTUATION WITH DECADAL MEAN (PREMONSOON-2002 TO PREMONSOON-2012) TO PREMONSOON-2013**

A comparison of depth to water level of Pre Monsoon 2013 with decadal mean Pre Monsoon (2002-2012) (Plates- XVII and XVIII) reveals that in general, there is decline in the water level in north- west, east and north eastern part of the country. In general there is rise in water level in central India Gujarat and Tamil Nadu states. About 50 % of wells showing rise in water level. Out of which 37 % wells are showing rise in water level less than 2 m range (Annexure-XII). About 8 % wells are showing rise in water in range of 2-4 m. About 5 % wells are showing rise in water in range of more than 4 m. About 50 % wells are showing decline in water level, out of which 37 % wells are showing decline in water in the range of 0-2 m. Remaining 13 % wells are showing decline in water level more than 2 m range. Decline in water level more than 4 m is mostly prominent in the states of Rajasthan, Punjab, Haryana, Delhi and Andhra Pradesh. Rise in water level more than 4 m is observed mostly in the Gujarat, southern Rajasthan, western Madhya Pradesh and Tamil Nadu state.

### **WATER LEVEL FLUCTUATION WITH DECADAL MEAN (AUG-2002 TO AUG-2012) TO AUG-2013**

A comparison of depth to water level of August 2013 with decadal mean August (2002-2012) (Plates- XIX) reveals that in general, there is both rise and fall in water level in the entire country. It shows a decline in the water level in north- west, east and north eastern part of the country and rise in water level in central part of the country. As per Annexure-XIII about 51 % of wells showing rise in water level. Out of which 38 % wells are showing rise in water level less than 2 m range. About 8 % wells are showing rise in water level in the range of 2-4 m and about 5 % wells are showing rise in water level in the range of more than 4 m. About 49 % wells are showing decline in water level, out of which 33 % of wells are showing decline in water level in the range of 0-2 m, 9 % of wells shows decline in the range of 2-4 m, remaining 7 % wells are showing decline in water level more than 4 m. Decline in water level more than 4 m is mostly prominent in the states of Rajasthan, Punjab, Haryana, Delhi and west Bengal. Rise in water level more than 4 m is observed mostly in the Gujarat, Madhya Pradesh, Maharashtra, Tamil Nadu and in parts of Andhra Pradesh state.

### **WATER LEVEL FLUCTUATION WITH DECADAL MEAN (NOV-2002 TO NOV-2012) TO NOV-2013**

A comparison of depth to water level of November 2013 with decadal mean November (2002-2012) (Plates- XX) reveals that in general, there is decline as well as rise in the water level in north- west, east and north eastern part of the country. In general there is rise in water level in central and Gujarat and Tamil Nadu states. About 54% of wells showing rise in water level (Annexure-XIV). Out of which 40 % wells are showing rise in water level less than 2 m range. About 8% wells are showing rise in water in range of 2-4 m and about 6% wells are showing rise in water in range of more than 4 m. 46% wells are showing decline in water level, out of which 36% wells are showing decline in water in the range of 0-2 m, 9% wells are showing decline in

water level in depth range 2-4 m bgl and remaining wells are showing decline in water level of more than 2 m. Decline in water level more than 4 m is mostly prominent in the states of Rajasthan, Punjab, Haryana, Delhi and west Bengal states. Rise in water level more than 4 m is observed mostly in the Gujarat, southern Rajasthan, western Madhya Pradesh and Tamil Nadu state.

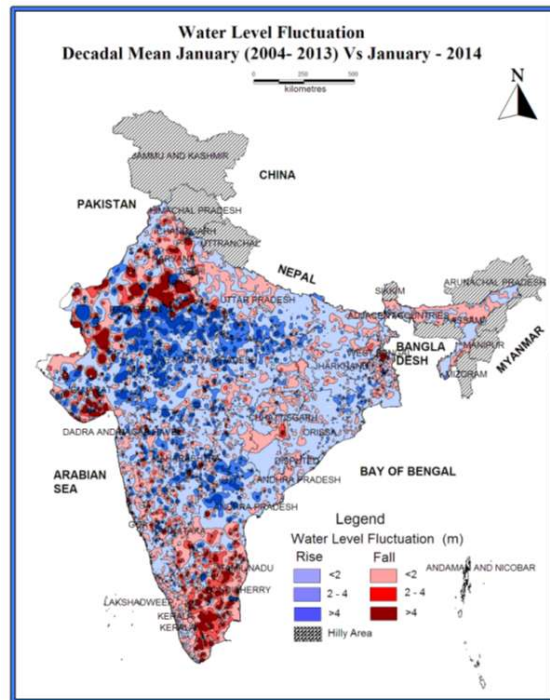
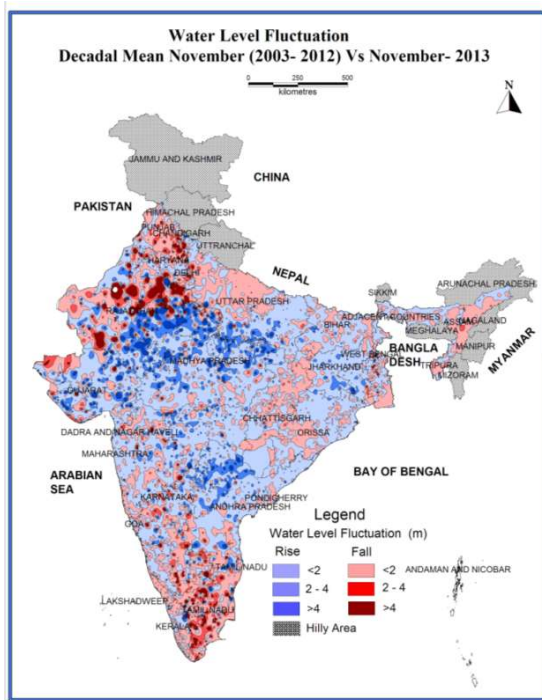
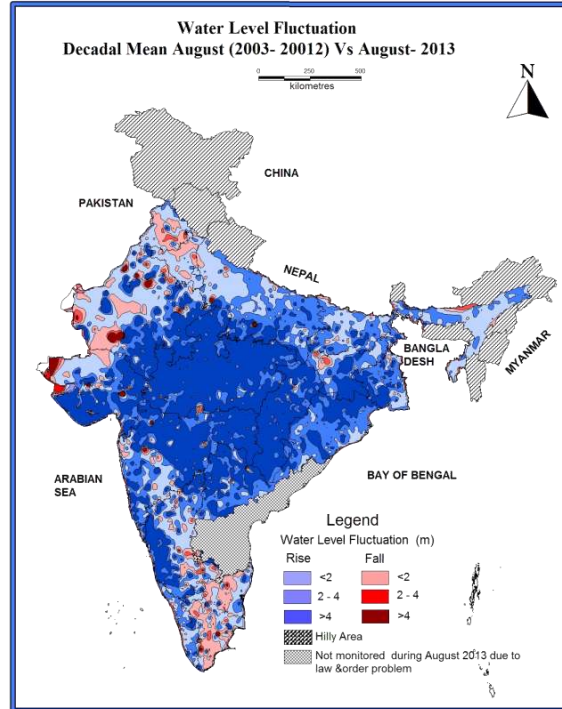
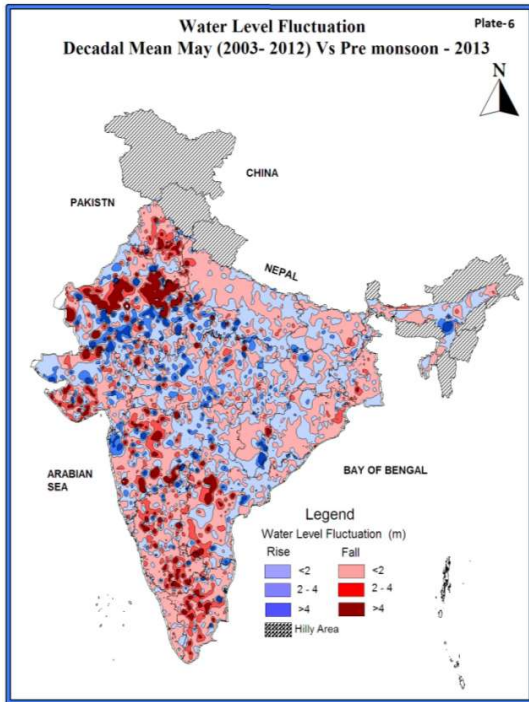
#### **WATER LEVEL FLUCTUATION WITH DECADAL MEAN (JAN-2004 TO JAN-2013) TO JAN-2014**

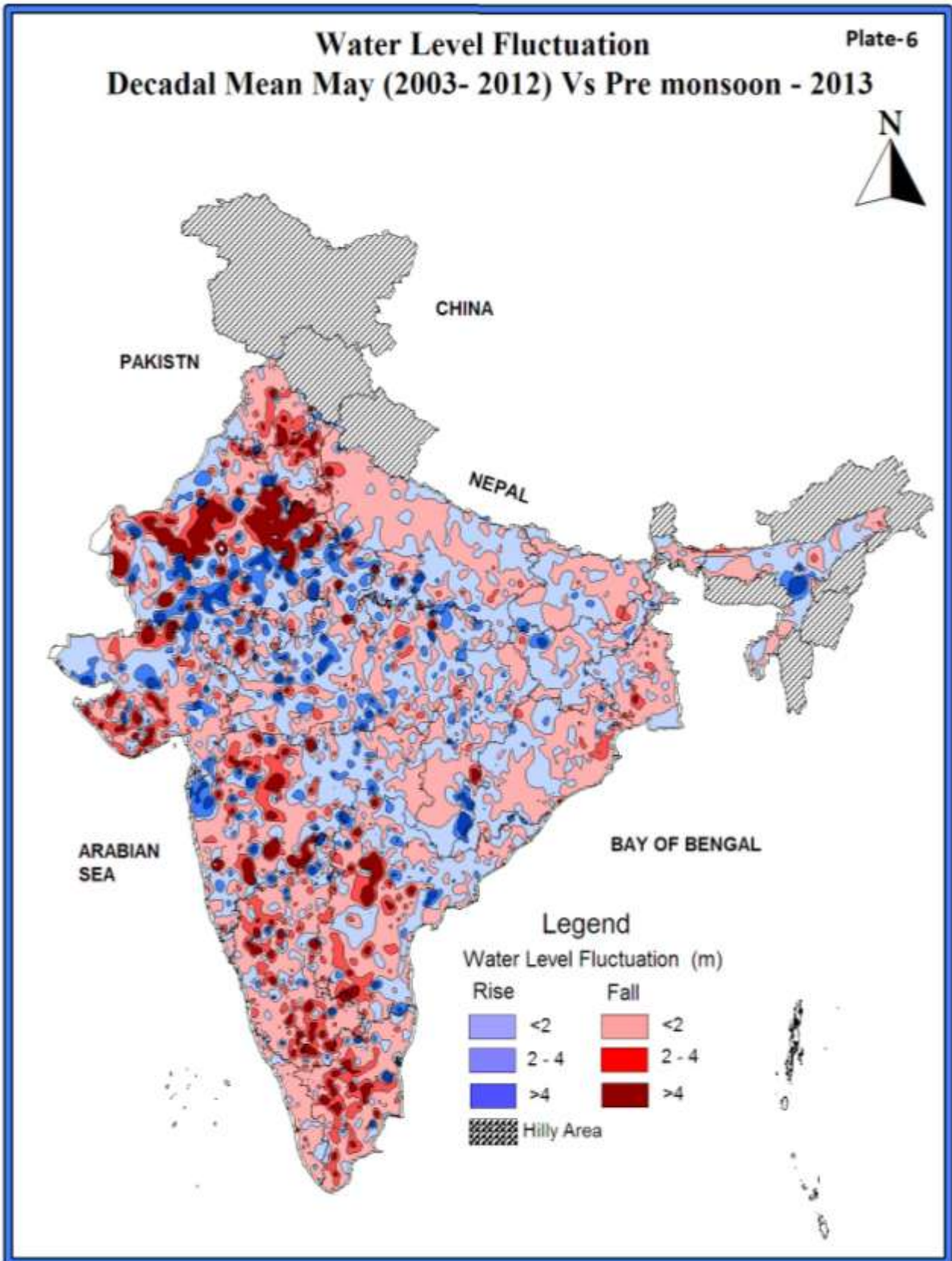
A comparison of depth to water level of January 2014 with decadal mean of January (2004-2013) (Plates- XXI) indicate that 62% of wells are showing rise in water levels, out of which 46% wells are showing rise of less than 2 m (Annexure-XV). About 11% wells are showing rise in water in the range of 2-4 m and about 5 % wells are showing rise in water level in the range of more than 4 m. About 38% wells are showing decline in water level, out of which 28% wells are showing decline in water in the range of 0-2 m. 5% wells are showing decline in water level in 2-4 m range and remaining 5% are in the range of more than 4 m. Decline in water level of more than 4 m is mostly prominent in the states of Delhi, Gujarat, Haryana, Karnataka, Punjab, Rajasthan and Tamil Nadu. Rise in water level of more than 4 m is observed mostly in the states of Andhra Pradesh, Gujarat, Himachal Pradesh, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh.

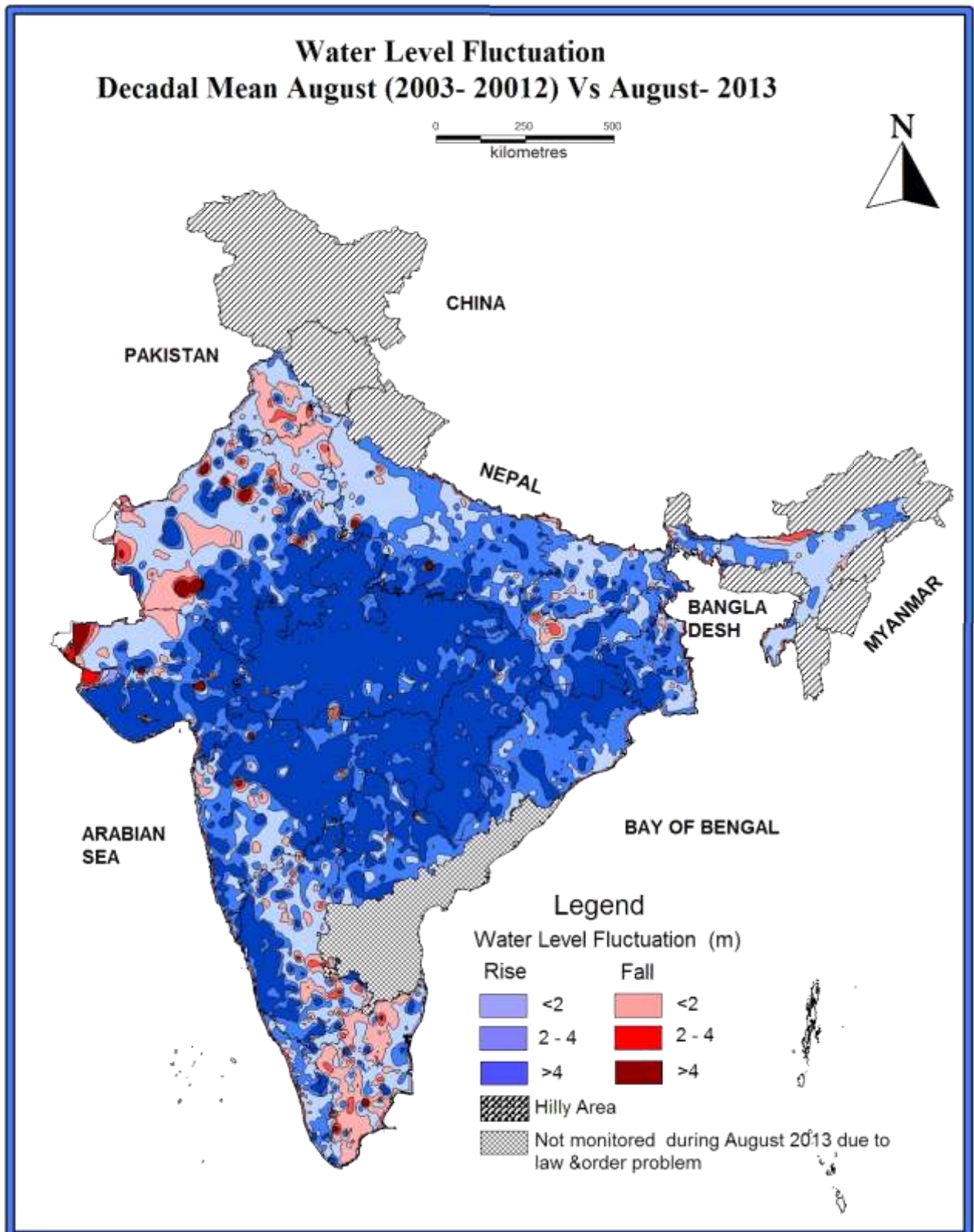
As observed in Plate-XXI maximum fall is observed in and around parts of Punjab, Rajasthan and Tamil Nadu. A rise in water level is observed in almost all parts of the country. In states of Punjab, Kerala and Tamil Nadu rise in water level is observed as patches.

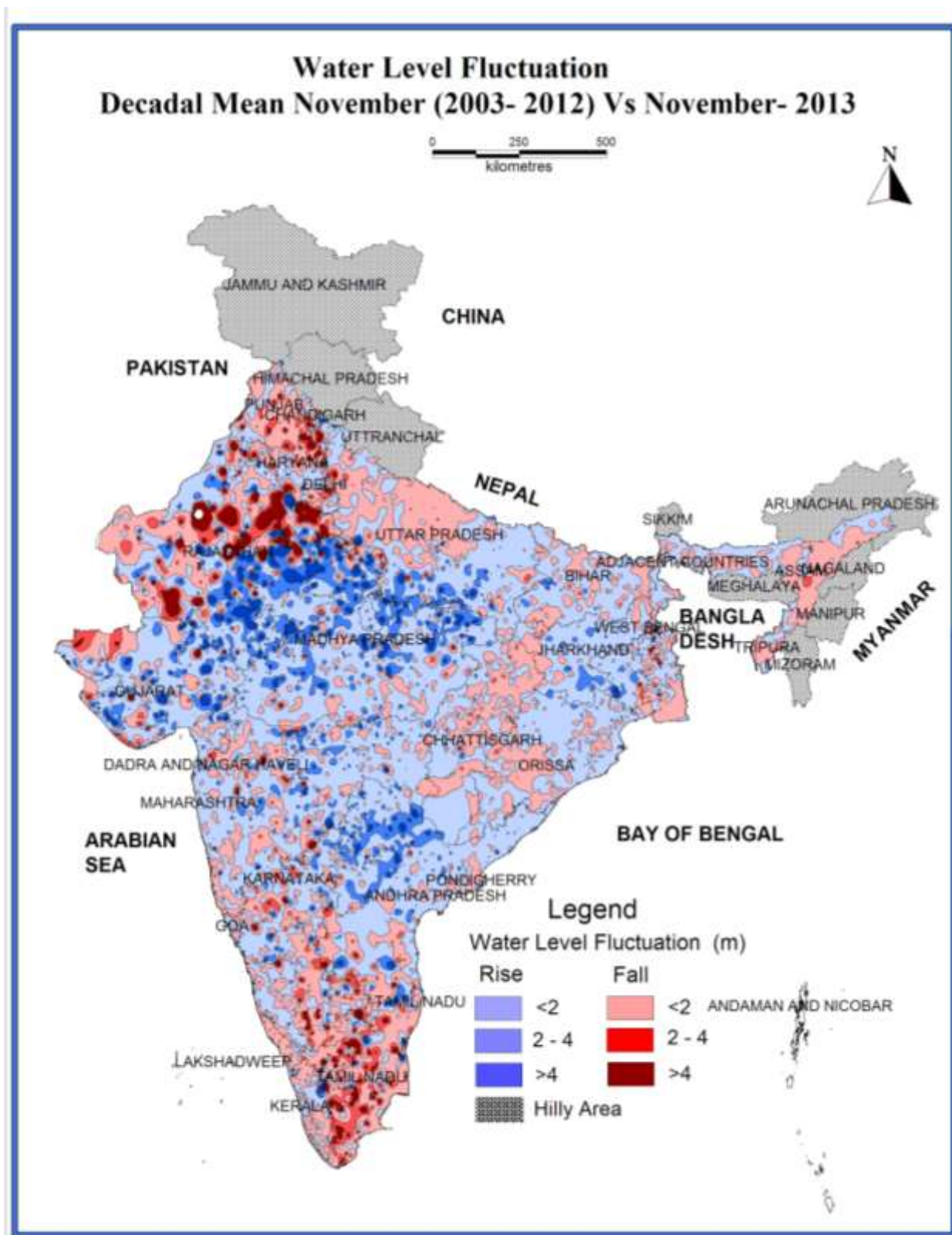
.

DECADAL WATER LEVEL FLUCTUATION AT A GLANCE











## 2.6 Rainfall Variations

Rain gauge stations are established and maintained by different departments and Undertakings of Central and State governments and also by private parties to cater their particular data need. India Meteorological Department (IMD) has 559 observatories (both departmental and part time) while amongst non-Departmental Rain gauge Stations, 3540 are reporting and 5039 are non-reporting.

Though the period of seasons varies from place to place, for Climatological purposes especially for rainfall, year at all the places is uniformly divided into 4 parts, called seasons. The seasons are: Winter (January and February), Pre monsoon (March to May), South West Monsoon (June to September) and Post Monsoon season (October to December).

For the purpose of compiling the rainfall data and draw the inferences India is divided into 36 meteorological homogeneous regions.

The long term average rainfall indicates that most part of India receives rainfall mainly during SW Monsoon season. However main Rainfall season in Tamil Nadu is Post Monsoon season. Jammu and Kashmir, Himachal Pradesh and Uttarakhand receive significant rainfall in all 4 seasons.

The actual season (June to September) rain fall over the country as a whole and four broad geographical regions during the 2012 SW monsoon season are given in the table below along with respective long period average (LPA) values. The rain fall during the 4 monsoon months and second of the monsoon season (August + September) over the country as a whole are given as below.

<b>Season (June to September) rain fall</b>			
<b>Region</b>	<b>LPA (mm)</b>	<b>Actual Rain fall for 2013 SW Monsoon Season</b>	
		<b>Rain fall (mm)</b>	<b>Rain fall (% of LPA)</b>
<b>All India</b>	<b>886.9</b>	<b>936.7</b>	<b>106</b>
<b>Northwest India</b>	<b>615.0</b>	<b>671.8</b>	<b>109</b>
<b>Central India</b>	<b>974.2</b>	<b>1195.3</b>	<b>123</b>
<b>Northeast India</b>	<b>1437.8</b>	<b>1037.9</b>	<b>72</b>
<b>South Peninsula</b>	<b>715.7</b>	<b>825.6</b>	<b>115</b>
<b>Monthly and second half of the Monsoon season rainfall over the country as a whole (All India)</b>			
<b>Month</b>	<b>LPA (mm)</b>	<b>Actual Rainfall for 2013 SW Monsoon Season</b>	
		<b>Rainfall (mm)</b>	<b>Rainfall (% of LPA)</b>
June	163.5	216.3	132
July	288.9	307.5	106
August	261.0	257.0	98
September	173.5	149.5	86

As seen in the table above the season rainfall over the country as a whole and four geographical regions of country were less than the respective LPAs. Month wise the rainfall during the first two months (June and July) was below its LPA values. However, monthly rainfall for August and September as well as total rainfall during the second half monsoon season was higher than its LPA values.



North eastern states, Bihar, West Bengal, Chhattisgarh, Madhya Pradesh, Orissa, parts of Gujarat and Karnataka States show excess to normal rainfall during March to May of year 2013. The plate shows that during June-September deficient rainfall has been observed only in the states of Haryana, Bihar, Jharkhand and north eastern states. During October to December, the central India and Gujarat have received excess rainfall ranging from 29 to 358% in West Bengal, whereas northern states of J&K, North eastern states and peninsular states have experienced deficient rainfall.

भारत मौसम विज्ञान विभाग  
INDIA METEOROLOGICAL DEPARTMENT



LEGEND: [Blue] EXCESS (+20% OR MORE) [Green] NORMAL (+10% TO +19%) [Red] DEFICIENT (-20% TO -50%)  
[Yellow] SCANTY (+5% TO +9%) [White] NO RAIN (-100%) [White] NO DATA

NOTE: (a) Rainfall figures are based on operational data. (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.). Percentage Departures of Rainfall are shown in Brackets.

भारत मौसम विज्ञान विभाग  
INDIA METEOROLOGICAL DEPARTMENT



LEGEND: [Blue] EXCESS (+20% OR MORE) [Green] NORMAL (+10% TO +19%) [Red] DEFICIENT (-20% TO -50%)  
[Yellow] SCANTY (+5% TO +9%) [White] NO RAIN (-100%) [White] NO DATA

NOTE: (a) Rainfall figures are based on operational data. (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.). Percentage Departures of Rainfall are shown in Brackets.

भारत मौसम विज्ञान विभाग  
INDIA METEOROLOGICAL DEPARTMENT



LEGEND: [Blue] EXCESS (+20% OR MORE) [Green] NORMAL (+10% TO +19%) [Red] DEFICIENT (-20% TO -50%)  
[Yellow] SCANTY (+5% TO +9%) [White] NO RAIN (-100%) [White] NO DATA

NOTE: (a) Rainfall figures are based on operational data. (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.). Percentage Departures of Rainfall are shown in Brackets.

भारत मौसम विज्ञान विभाग  
INDIA METEOROLOGICAL DEPARTMENT



LEGEND: [Blue] EXCESS (+20% OR MORE) [Green] NORMAL (+10% TO +19%) [Red] DEFICIENT (-20% TO -50%)  
[Yellow] SCANTY (+5% TO +9%) [White] NO RAIN (-100%) [White] NO DATA

NOTE: (a) Rainfall figures are based on operational data. (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.). Percentage Departures of Rainfall are shown in Brackets.

Source: IMD- Sub-division-wise rainfall distribution over India during various parts of the year 2013-14.

## 3.0 GROUND WATER RESOURCE AVAILABILITY AND DEVELOPMENT STATUS

---

### 3.1 DYNAMIC FRESH GROUND WATER RESOURCE

The dynamic ground water resources of the States and Union Territories have been assessed jointly by the CGWB and State Ground Water Departments under the supervision of the State level Committees. The base year of computation of the resources is 2008-09. The ground water resources in some of the north eastern states viz. Arunachal Pradesh, Manipur, Mizoram, Nagaland and Tripura have been estimated by CGWB in absence of active participation of State Govt. The ground water assessment figures computed at the State Level are presented in the following compilation.

The dynamic ground water resources are also known as Annual Replenishable Ground Water Resources since it replenished/ recharged every year. The Annual Replenishable Ground Water Resource for the entire country has been assessed as 431 billion cubic meter (bcm). The major source of ground water recharge is the monsoon rainfall. About 57% of the annual replenishable resources i.e. 246 bcm are contributed by monsoon rainfall recharge. The overall contribution of rainfall to country's Annual Replenishable Ground Water Resource is 68% and the share of other sources viz. canal seepage, return flow from irrigation, recharge from tanks, ponds, and water conservations structures taken together is 32%. State-wise Ground Water Resources of India as on March, 2009 is given in Table-3. Plate XXIV presents the over-all scenario of ground water resource utilization and availability of the country. The contribution from other sources such as canal seepage, return flow from irrigation, seepage from water bodies etc in Annual Replenishable Ground Water Resource is more than 33% in the states of Andhra Pradesh, Delhi, Haryana, Gujarat, Goa, Jammu & Kashmir, Karnataka, Punjab, Tamil Nadu, Uttar Pradesh, and UT of Puducherry. South-west monsoon being the most prevalent contributor of rainfall in the country, about 73% of country's Annual Ground Water Recharge takes place during the Kharif period of cultivation. Keeping 35 bcm for natural discharge, the Net Annual Ground Water Availability for the entire country is 396 bcm.

The spatial variation in annual replenishable ground water resources is presented in Plate XII. Volumetric estimates are dependent on the areal extent of the assessment unit. Thus, relative comparison of ground water resource of different assessment units based on volumetric estimates is not possible. Hence volumetric estimates of annual replenishable ground water resources have been divided by the area of the assessment unit to arrive at estimates per unit area (in meter). Replenishable Groundwater resource is significantly high in the Indus–Ganga–Brahmaputra alluvial belt in the North, East and North East India covering the states of Punjab, Haryana, Uttar Pradesh, Bihar, West Bengal and valley areas of North Eastern States, where rainfall is plenty and thick piles of unconsolidated alluvial formations are conducive for recharge.

Annual Replenishable Ground Water Resource in these regions varies from 0.25 to more than 0.5 m. The coastal alluvial belt particularly Eastern Coast also has relatively high replenishable ground water resources, in the range 0.25 to more than 0.5 m. In western India, particularly Rajasthan and parts of northern Gujarat which have arid climate, the annual replenishable ground water resources are scanty, mostly up to 0.025 m. Similarly, in major parts of the southern peninsular India covered with hard rock terrains, annual replenishable ground water recharge is less, only up to 0.10 m. This is primarily because of comparatively low infiltration and storage capacity of the rock formations prevailing in the region. The remaining part of Central India is mostly characterized by moderate recharge in the range of 0.10–0.25 m.

The overall estimate of annual replenishable ground water resources of the entire country shows a marginal decrease in the present estimate as compared to the 2004 by about 2 bcm. However there are significant variations in the recharge estimates of some of the States as indicated in Section 5.5. The main reasons for this can be attributed to – changing ground water regime, widespread implementation of rainwater harvesting and water conservation measures, changes in rainfall pattern, adoption of revised values of parameters like Specific Yield which were estimated based on subsequent field studies and availability of improved database which helped in refinements in assessment and assessment in additional areas which were not estimated in the 2004 exercise.

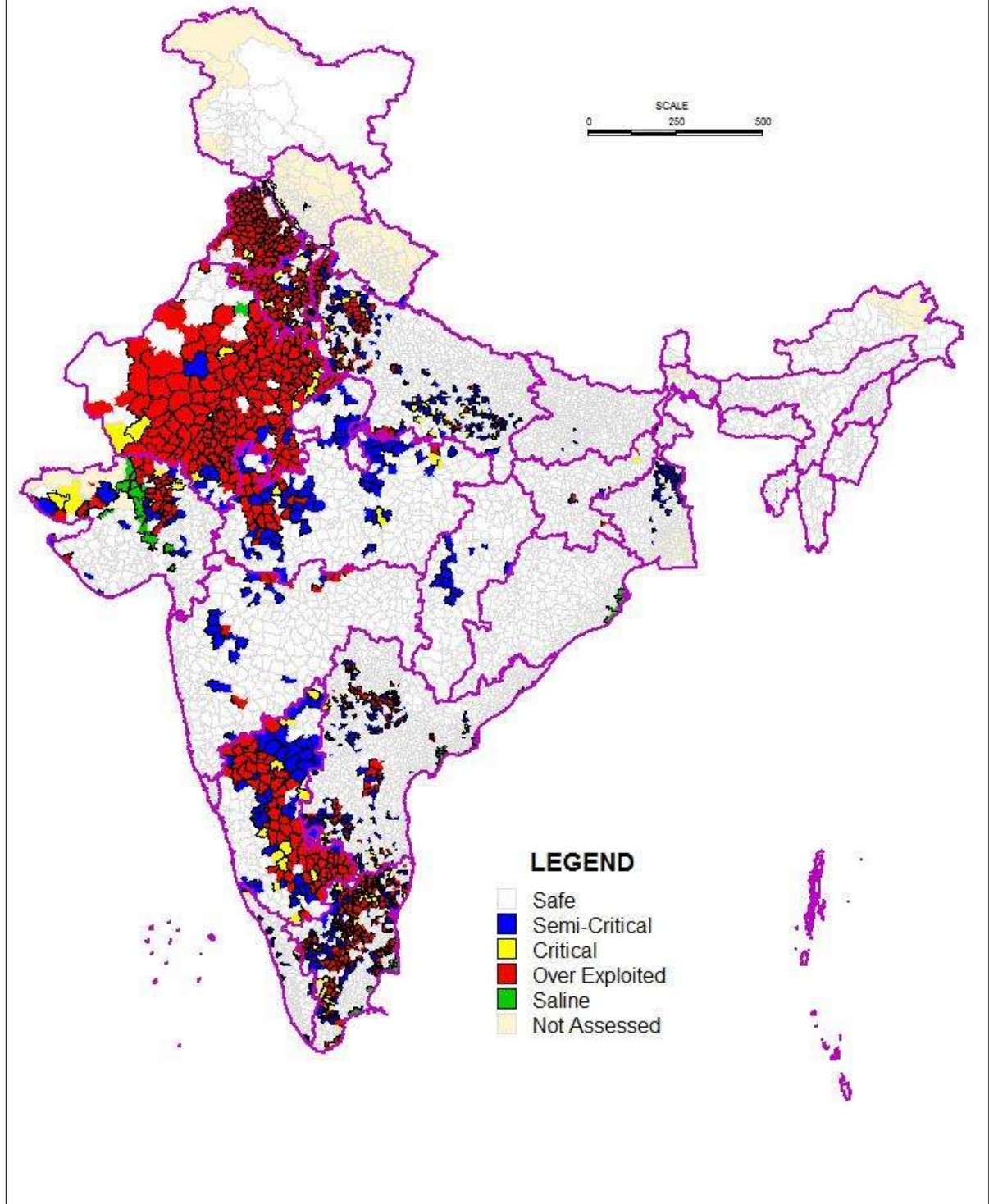
### **3.2 STAGE OF GROUND WATER DEVELOPMENT**

The stage of ground water development in the country is 61%. The status of ground water development is very high in the states of Delhi, Haryana, Punjab and Rajasthan, where the Stage of Ground Water Development is more than 100%, which implies that in the states the annual ground water consumption is more than annual ground water recharge. In the states of Gujarat, Tamil Nadu and Uttar Pradesh and UTs of and UT of Daman & Diu, Lakshadweep and Puducherry, the stage of ground water development is 70% and above. In rest of the states / UTs the stage of ground water development is below 70%. The ground water development activities have increased generally in the areas where future scope for ground water development existed. This has resulted in increase in stage of ground water development from 58% (2004) to 61% (2009).

### **3.3 CATEGORIZATION OF ASSESSMENT UNITS**

Out of 5842 numbers of assessed administrative units (Blocks/ Taluks/ Mandals/ Districts), 802 units are Over-exploited, 169 units are Critical, 523 units are Semi-critical, and 4277 units are Safe (Table-4). Apart from these, there are 71 assessment units which are completely Saline (Annexure – III). Number of Over-exploited and Critical administrative units are significantly higher (more than 15% of the total assessed units) in Delhi, Gujarat, Haryana, Himachal Pradesh, Karnataka, Punjab, Rajasthan and Tamil Nadu and also the UTs of Daman & Diu and Puducherry (Plate XXIII).

### Categorization of Ground Water Assessment Units



**Table-3 STATE-WISE GROUND WATER RESOURCES AVAILABILITY, UTILIZATION AND STAGE OF DEVELOPMENT  
INDIA (As on 2009)**

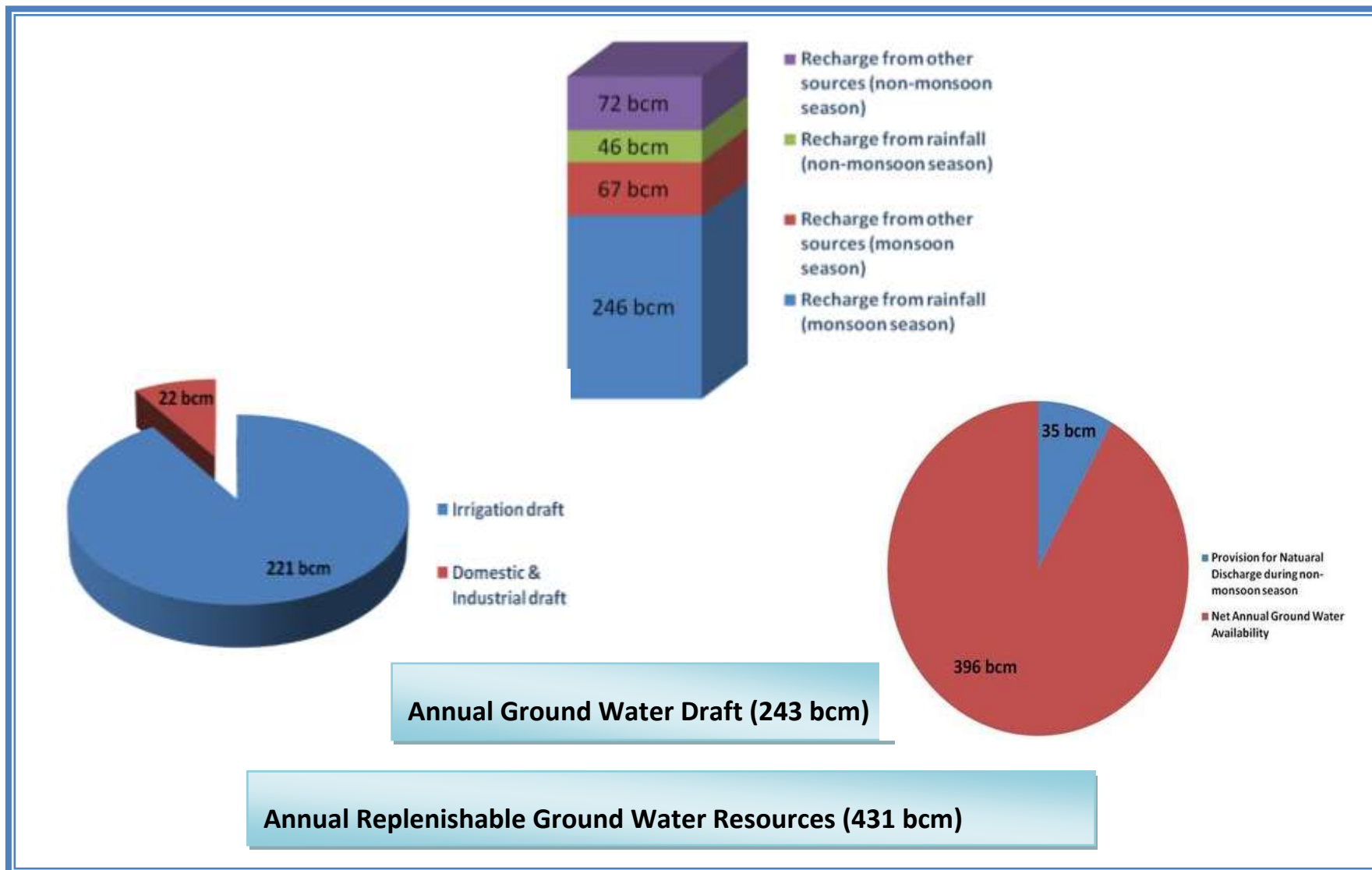
*(in bcm)*

Sl. No.	States / Union Territories	Annual Replenishable Ground Water Resource				Total	Natural Discharge during non-monsoon season	Net Annual Ground Water Availability	Annual Ground Water Draft			Projected demand for Domestic and Industrial uses upto 2025	Ground Water Availability for future irrigation use	Stage of Ground Water Development (%)
		Monsoon Season		Non-monsoon Season					Irrigation	Domestic and industrial uses	Total			
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources									
	<b>States</b>													
1	Andhra Pradesh	15.12	6.52	5.49	6.70	33.83	3.07	30.76	12.61	1.54	14.15	2.69	15.89	46
2	Arunachal Pradesh	3.41	0.0003	1.04	0.0004	4.45	0.45	4.01	0.002	0.001	0.003	0.01	4.00	0.07
3	Assam	18.95	2.20	8.62	0.59	30.35	2.537	27.81	5.333	0.69	6.026	0.977	21.50	22
4	Bihar	18.92	3.92	3.40	2.38	28.63	2.42	26.21	9.79	1.56	11.36	2.56	13.85	43
5	Chhattisgarh	9.85	0.56	0.91	0.90	12.22	0.64	11.58	3.08	0.52	3.60	0.64	7.85	31
6	Delhi	0.11	0.10	0.02	0.08	0.31	0.02	0.29	0.14	0.26	0.40	0.26	0.01	138
7	Goa	0.135	0.008	0.006	0.072	0.221	0.088	0.133	0.014	0.030	0.044	0.037	0.082	33
8	Gujarat	12.21	2.76	0.00	3.46	18.43	1.08	17.35	11.93	1.05	12.99	1.47	5.32	75
9	Haryana	3.53	2.69	1.01	3.25	10.48	0.68	9.80	11.71	0.72	12.43	0.79	-2.70	127
10	Himachal Pradesh	0.40	0.02	0.12	0.04	0.59	0.06	0.53	0.23	0.08	0.31	0.08	0.22	58
11	Jammu & Kashmir	1.45	1.69	0.36	0.19	3.70	0.37	3.33	0.15	0.58	0.73	0.82	2.35	22
12	Jharkhand	4.46	0.14	1.11	0.26	5.96	0.55	5.41	1.17	0.44	1.61	0.62	3.62	30
13	Karnataka	6.30	4.28	2.73	3.51	16.81	2.00	14.81	9.01	1.00	10.01	1.26	6.18	68
14	Kerala	4.77	0.06	0.64	1.15	6.62	0.59	6.03	1.30	1.50	2.81	1.71	3.02	47
15	Madhya Pradesh	27.49	1.10	0.80	4.56	33.95	1.70	32.25	16.66	1.33	17.99	1.83	13.76	56
16	Maharashtra	22.04	2.67	1.90	9.12	35.73	1.93	33.81	15.91	1.04	16.95	2.00	16.32	50
17	Manipur	0.24	0.01	0.19	0.01	0.44	0.04	0.40	0.0033	0.0007	0.0040	0.05	0.35	1
18	Meghalaya	1.0191	0.0000	0.2152	0.0000	1.2343	0.1234	1.1109	0.0015	0.0002	0.0017	0.0964	1.0131	0.15
19	Mizoram	0.03	Negligible	0.02	Negligible	0.044	0.004	0.039	0.000	0.0004	0.0004	0.0008	0.039	1

**Table-3 STATE-WISE GROUND WATER RESOURCES AVAILABILITY, UTILIZATION AND STAGE OF DEVELOPMENT  
INDIA (As on 2009)**

*(in bcm)*

Sl. No.	States / Union Territories	Annual Replenishable Ground Water Resource				Natural Discharge during non-monsoon season	Net Annual Ground Water Availability	Annual Ground Water Draft			Projected demand for Domestic and Industrial uses upto 2025	Ground Water Availability for future irrigation use	Stage of Ground Water Development (%)	
		Monsoon Season		Non-monsoon Season				Total	Irrigation	Domestic and industrial uses				Total
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources									
20	Nagaland	0.28	-	0.14	-	0.42	0.04	0.38	-	0.008	0.008	0.01	0.36	2.14
21	Orissa	11.29	2.53	1.33	2.63	17.78	1.09	16.69	3.47	0.89	4.36	1.27	11.94	26
22	Punjab	5.86	10.57	1.34	4.78	22.56	2.21	20.35	33.97	0.69	34.66	0.95	-14.57	170
23	Rajasthan	8.76	0.67	0.32	2.11	11.86	1.07	10.79	12.86	1.65	14.52	1.84	0.75	135
24	Sikkim	-	-	-	-	-	-	0.046	0.003	0.007	0.010	0.012	0.031	21
25	Tamil Nadu	7.54	11.05	2.16	2.18	22.94	2.29	20.65	14.71	1.85	16.56	1.97	4.70	80
26	Tripura	1.66	0	0.73	0.57	2.97	0.23	2.74	0.09	0.07	0.16	0.23	2.42	6
27	Uttar Pradesh	40.78	11.37	5.41	17.70	75.25	6.68	68.57	46.00	3.49	49.48	5.36	17.22	72
28	Uttarakhand	1.26	0.24	0.20	0.46	2.17	0.10	2.07	1.01	0.03	1.05	0.08	0.98	51
29	West Bengal	18.17	2.16	5.43	4.74	30.50	2.92	27.58	10.11	0.79	10.91	1.02	16.75	40
	<b>Total States</b>	<b>246.05</b>	<b>67.32</b>	<b>45.63</b>	<b>71.45</b>	<b>430.45</b>	<b>34.99</b>	<b>395.52</b>	<b>221.29</b>	<b>21.83</b>	<b>243.14</b>	<b>30.65</b>	<b>153.26</b>	<b>61</b>
	<b>Union Territories</b>													
1	Andaman & Nicobar	0.245	-	0.065	-	0.310	0.012	0.298	0.0006	0.010	0.011	0.015	0.283	4
2	Chandigarh	0.015	0.001	0.005	0.001	0.022	0.002	0.020	0.000	0.000	0.000	0.000	0.020	0.000
3	Dadara & Nagar Haveli	0.043	0.003	0.009	0.005	0.059	0.003	0.056	0.001	0.007	0.009	0.009	0.047	15
4	Daman & Diu	0.010	0.001	0.000	0.002	0.012	0.001	0.011	0.008	0.003	0.011	0.004	-0.001	99
5	Lakshdweep	-	-	-	-	0.0105	0.0070	0.0035	0.0000	0.0026	0.0026	0.0000	0.0000	74
6	Puducherry	0.086	0.056	0.008	0.022	0.171	0.017	0.154	0.121	0.029	0.150	0.032	0.050	98
	<b>Total Uts</b>	<b>0.40</b>	<b>0.06</b>	<b>0.09</b>	<b>0.03</b>	<b>0.59</b>	<b>0.04</b>	<b>0.54</b>	<b>0.13</b>	<b>0.05</b>	<b>0.18</b>	<b>0.06</b>	<b>0.40</b>	<b>34</b>
	<b>Grand Total</b>	<b>246.45</b>	<b>67.38</b>	<b>45.71</b>	<b>71.48</b>	<b>431.03</b>	<b>35.03</b>	<b>396.06</b>	<b>221.42</b>	<b>21.89</b>	<b>243.32</b>	<b>30.71</b>	<b>153.66</b>	<b>61</b>





**Table – 4 Categorisation of Blocks/Mandals/talukas in India**  
**CATEGORIZATION OF BLOCKS/ MANDALS/ TALUKS IN INDIA (As on March 2009)**

Sl.No.	States / Union Territories	Total No. of Assessed Units	Safe		Semi-critical		Critical		Over-exploited		Remarks
			Nos.	%	Nos.	%	Nos.	%	Nos.	%	
	<b>STATES</b>										
1	Andhra Pradesh	1108	867	78	93	8	26	2	84	8	38- Salinity Affected
2	Arunachal Pradesh	16	16	100	0	0	0	0	0	0	
3	Assam	23	23	100	0	0	0	0	0	0	
4	Bihar	533	529	99	4	1	0	0	0	0	
5	Chhattisgarh	146	132	90	14	10	0	0	0	0	
6	Delhi	27	2	7	5	19	0	0	20	74	
7	Goa	11	11	100	0	0	0	0	0	0	
8	Gujarat	223	156	70	20	9	6	3	27	12	14 - Salinity Affected
9	Haryana	116	18	16	9	8	21	18	68	59	
10	Himachal Pradesh	8	6	75	0	0	1	13	1	13	
11	Jammu & Kashmir	14	14	100	0	0	0	0	0	0	
12	Jharkhand	208	200	96	2	1	2	1	4	2	
13	Karnataka	270	154	57	34	13	11	4	71	26	
14	Kerala	152	126	83	22	14	3	2	1	1	
15	Madhya Pradesh	313	224	72	61	19	4	1	24	8	
16	Maharashtra	353	324	92	19	5	1	0	9	3	
17	Manipur	8	8	100	0	0	0	0	0	0	
18	Meghalaya	7	7	100	0	0	0	0	0	0	
19	Mizoram	22	22	100	0	0	0	0	0	0	
20	Nagaland	8	8	100	0	0	0	0	0	0	
21	Orissa	314	308	98	0	0	0	0	0	0	6 - Salinity Affected
22	Punjab	138	23	17	2	1	3	2	110	80	
23	Rajasthan	239	31	13	16	7	25	10	166	69	1 - Salinity Affected
24	Sikkim	4	4	100	0	0	0	0	0	0	
25	Tamil Nadu	386	136	35	67	17	33	9	139	36	11 - Salinity Affected
26	Tripura	39	39	100	0	0	0	0	0	0	

### CATEGORIZATION OF BLOCKS/ MANDALS/ TALUKS IN INDIA (As on March 2009)

Sl.No.	States / Union Territories	Total No. of Assessed Units	Safe		Semi-critical		Critical		Over-exploited		Remarks
			Nos.	%	Nos.	%	Nos.	%	Nos.	%	
	<b>STATES</b>										
27	Uttar Pradesh	820	605	74	107	13	32	4	76	9	
28	Uttarakhand	17	11	65	5	29	1	6	0	0	
29	West Bengal	269	231	86	38	14	0	0	0	0	
	<b>Total States</b>	<b>5792</b>	<b>4235</b>	<b>73</b>	<b>518</b>	<b>9</b>	<b>169</b>	<b>3</b>	<b>800</b>	<b>14</b>	
	<b>Union Territories</b>										
1	Andaman & Nicobar	33	33	100	0	0	0	0	0	0	
2	Chandigarh	1	1	100	0	0	0	0	0	0	
3	Dadra & Nagar Haveli	1	1	100	-	-	-	-	-	-	-
4	Daman & Diu	2	0	0	1	50	0	0	1	50	
5	Lakshdweep	9	5	56	4	44	0	0	0	0	
6	Puducherry	4	2	50	0	0	0	0	1	25	1 - Salinity Affected
	<b>Total UTs</b>	<b>50</b>	<b>42</b>	<b>84</b>	<b>5</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>4</b>	
	<b>Grand Total</b>	<b>5842</b>	<b>4277</b>	<b>73</b>	<b>523</b>	<b>9</b>	<b>169</b>	<b>3</b>	<b>802</b>	<b>14</b>	<b>71 - Salinity Affected</b>

**Note-**

Blocks-Bihar, Chandigarh, Haryana, Jharkhand, Kerala, Madhya Pradesh, Manipur, Mizoram, Orissa, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh, Uttaranchal, West Bengal

Mandals (Command/ non-command)-Andhra Pradesh

Talukas – Goa, Gujarat, Karnataka, Maharashtra

Districts – (Valley) – Himachal Pradesh, Jammu & Kashmir

State – Sikkim

Island – Lakshadweep

UT – Andaman & Nicobar, Chandigarh, Dadra & Nagar Haveli, Daman & Diu, Puducherry

## State-wise Depth to water Level and Distribution of Percentage of Wells for the Period of Pre Monsoon-2013

S. No.	Name of State	No. of wells Analysed	Depth to Water Level (m bgl)		Number & Percentage of Wells Showing Depth to Water Level (m bgl) in the Range of											
					0-2		2-5		5-10		10-20		20-40		> 40	
			Min	Max	No	%	No	%	No	%	No	%	No	%	No	%
1	Andhra Pradesh	1084	0.69	43.40	59	5.44	352	32.47	427	39.39	208	19.19	35	3.23	3	0.28
2	Arunachal Pradesh	11	1.23	7.76	1	9.09	6	54.55	4	36.36	0	0.00	0	0.00	0	0.00
3	Assam	203	0.39	16.09	33	16.26	125	61.58	41	20.20	4	1.97	0	0.00	0	0.00
4	Bihar	185	0.44	10.74	7	3.78	101	54.59	75	40.54	2	1.08	0	0.00	0	0.00
5	Chandigarh	16	2.05	27.75	0	0.00	2	12.50	5	31.25	5	31.25	4	25.00	0	0.00
6	Chhattisgarh	666	0.46	36.30	15	2.25	135	20.27	384	57.66	116	17.42	16	2.40	0	0.00
7	Dadra & Nagar Haveli	5	1.30	10.65	2	40.00	1	20.00	1	20.00	1	20.00	0	0.00	0	0.00
8	Delhi	124	1.97	66.22	1	0.81	30	24.19	32	25.81	31	25.00	16	12.90	14	11.29
9	Goa	43	1.68	18.86	3	6.98	18	41.86	16	37.21	6	13.95	0	0.00	0	0.00
10	Gujarat	732	0.05	61.45	25	3.42	108	14.75	255	34.84	248	33.88	86	11.75	10	1.37
11	Haryana	317	1.15	72.20	12	3.79	59	18.61	88	27.76	95	29.97	57	17.98	6	1.89
12	Himachal Pradesh	68	0.60	27.84	5	7.35	24	35.29	20	29.41	17	25.00	2	2.94	0	0.00
13	Jammu & Kashmir	141	0.45	37.60	23	16.31	69	48.94	27	19.15	11	7.80	11	7.80	0	0.00
14	Jharkhand	177	0.50	18.73	2	1.13	23	12.99	118	66.67	34	19.21	0	0.00	0	0.00
15	Karnataka	1168	0.30	34.58	62	5.31	193	16.52	511	43.75	383	32.79	19	1.63	0	0.00
16	Kerala	849	0.30	56.20	63	7.42	253	29.80	378	44.52	148	17.43	6	0.71	1	0.12

**State-wise Depth to water Level and Distribution of Percentage of Wells for the Period of Pre Monsoon-2013**

S. No.	Name of State	No. of wells Analysed	Depth to Water Level (m bgl)		Number & Percentage of Wells Showing Depth to Water Level (m bgl) in the Range of											
					0-2		2-5		5-10		10-20		20-40		> 40	
			Min	Max	No	%	No	%	No	%	No	%	No	%	No	%
17	Madhya Pradesh	1081	0.70	41.40	10	0.93	140	12.95	481	44.50	392	36.26	55	5.09	3	0.28
18	Maharastra	1004	0.03	55.50	45	4.48	165	16.43	500	49.80	263	26.20	30	2.99	1	0.10
19	Meghalaya	26	0.80	8.13	3	11.54	21	80.77	2	7.69	0	0.00	0	0.00	0	0.00
20	Manipur	1	4.20	4.20	0	0.00	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00
21	Nagaland	12	3.73	21.08	0	0.00	5	41.67	5	41.67	1	8.33	1	8.33	0	0.00
22	Orissa	1035	0.45	17.40	65	6.28	417	40.29	504	48.70	49	4.73	0	0.00	0	0.00
23	Puducherry	7	1.42	8.50	1	14.29	5	71.43	1	14.29	0	0.00	0	0.00	0	0.00
24	Punjab	227	0.53	40.01	10	4.41	32	14.10	56	24.67	76	33.48	52	22.91	1	0.44
25	Rajasthan	869	0.02	123.55	14	1.61	82	9.44	188	21.63	247	28.42	173	19.91	165	18.99
26	Tamil Nadu	464	0.86	35.69	18	3.88	119	25.65	191	41.16	124	26.72	12	2.59	0	0.00
27	Tripura	30	1.21	6.58	3	10.00	15	50.00	12	40.00	0	0.00	0	0.00	0	0.00
28	Uttar Pradesh	779	0.72	38.05	15	1.93	267	34.27	331	42.49	139	17.84	27	3.47	0	0.00
29	Uttaranchal	48	2.46	45.50	0	0.00	19	39.58	11	22.92	14	29.17	3	6.25	1	2.08
30	West Bengal	1120	0.33	31.43	29	2.59	295	26.34	461	41.16	286	25.54	49	4.38	0	0.00
	<b>Total</b>	<b>12492</b>	<b>0.02</b>	<b>123.55</b>	<b>526</b>	<b>4.21</b>	<b>3082</b>	<b>24.67</b>	<b>5125</b>	<b>41.03</b>	<b>2900</b>	<b>23.21</b>	<b>654</b>	<b>5.24</b>	<b>205</b>	<b>1.64</b>

## State-wise Depth to water Level and Distribution of Percentage of Wells for the Period of August-2013

S. No.	Name of State	No. of wells Analysed	Depth to Water Level (mbgl)		Number & Percentage of Wells Showing Depth to Water Level (mbgl) in the Range of											
					0-2		2-5		5-10		10-20		20-40		> 40	
			Min	Max	No	%	No	%	No	%	No	%	No	%	No	%
1	Andhra Pradesh	480	0.00	44.08	152	31.67	147	30.63	105	21.88	58	12.08	17	3.54	1	0.21
2	Arunachal Pradesh	11	0.15	5.00	6	54.55	5	45.45	0	0.00	0	0.00	0	0.00	0	0.00
3	Assam	179	0.00	15.70	110	61.45	53	29.61	14	7.82	2	1.12	0	0.00	0	0.00
4	Bihar	350	0.18	12.45	101	28.86	192	54.86	53	15.14	4	1.14	0	0.00	0	0.00
5	Chandigarh	16	1.95	25.95	1	6.25	3	18.75	3	18.75	6	37.50	3	18.75	0	0.00
6	Chhattisgarh	748	0.00	25.95	405	54.14	235	31.42	71	9.49	34	4.55	3	0.40	0	0.00
7	Dadra & Nagar Haveli	6	0.34	6.84	3	50.00	1	16.67	2	33.33	0	0.00	0	0.00	0	0.00
8	Delhi	124	0.25	66.08	23	18.55	17	13.71	27	21.77	28	22.58	15	12.10	14	11.29
9	Goa	41	0.03	16.15	20	48.78	15	36.59	4	9.76	2	4.88	0	0.00	0	0.00
10	Gujarat	684	0.00	59.79	181	26.46	222	32.46	155	22.66	90	13.16	33	4.82	3	0.44
11	Haryana	125	0.38	61.20	16	12.80	16	12.80	37	29.60	38	30.40	16	12.80	2	1.60
12	Himachal Pradesh	95	0.20	28.18	37	38.95	35	36.84	9	9.47	10	10.53	4	4.21	0	0.00
13	Jammu & Kashmir	194	0.00	33.24	124	63.92	41	21.13	13	6.70	9	4.64	7	3.61	0	0.00
14	Jharkhand	158	0.10	13.27	35	22.15	64	40.51	52	32.91	7	4.43	0	0.00	0	0.00
15	Karnataka	1219	0.00	34.58	273	22.40	395	32.40	365	29.94	173	14.19	13	1.07	0	0.00
16	Kerala	937	0.00	60.00	240	25.61	303	32.34	325	34.69	60	6.40	6	0.64	2	0.21
17	Madhya Pradesh	1121	0.00	40.50	636	56.74	316	28.19	118	10.53	42	3.75	8	0.71	1	0.09
18	Maharashtra	1294	0.01	57.50	549	42.43	408	31.53	230	17.77	90	6.96	16	1.24	1	0.08

**State-wise Depth to water Level and Distribution of Percentage of Wells for the Period of August-2013**

S. No.	Name of State	No. of wells Analysed	Depth to Water Level (mbgl)		Number & Percentage of Wells Showing Depth to Water Level (mbgl) in the Range of											
					0-2		2-5		5-10		10-20		20-40		> 40	
			Min	Max	No	%	No	%	No	%	No	%	No	%	No	%
19	Meghalaya	18	0.36	3.83	11	61.11	7	38.89	0	0.00	0	0.00	0	0.00	0	0.00
20	Orissa	1185	0.00	11.73	620	52.32	476	40.17	88	7.43	1	0.08	0	0.00	0	0.00
21	Puducherry	4	1.43	4.85	1	25.00	3	75.00	0	0.00	0	0.00	0	0.00	0	0.00
22	Punjab	222	0.20	49.92	23	10.36	31	13.96	47	21.17	69	31.08	50	22.52	2	0.90
23	Rajasthan	929	0.04	119.60	165	17.76	118	12.70	142	15.29	162	17.44	160	17.22	182	19.59
24	Tamil Nadu	589	0.15	70.15	42	7.13	145	24.62	214	36.33	155	26.32	28	4.75	5	0.85
25	Tripura	28	0.37	6.37	14	50.00	12	42.86	2	7.14	0	0.00	0	0.00	0	0.00
26	Uttar Pradesh	855	0.00	36.05	314	36.73	238	27.84	173	20.23	110	12.87	20	2.34	0	0.00
27	Uttaranchal	47	0.07	44.88	11	23.40	15	31.91	13	27.66	6	12.77	1	2.13	1	2.13
28	West Bengal	1014	0.00	25.65	287	28.30	393	38.76	194	19.13	124	12.23	16	1.58	0	0.00
	<b>Total</b>	<b>12673</b>	<b>0.00</b>	<b>119.60</b>	<b>4400</b>	<b>34.72</b>	<b>3906</b>	<b>30.82</b>	<b>2456</b>	<b>19.38</b>	<b>1280</b>	<b>10.10</b>	<b>416</b>	<b>3.28</b>	<b>214</b>	<b>1.69</b>

## State-wise Depth to water Level and Distribution of Percentage of Wells for the Period of November-2013

S. No.	Name of State	No. of wells Analysed	Depth to Water Level (m bgl)		Number & Percentage of Wells Showing Depth to Water Level (m bgl) in the Range of											
					0-2		2-5		5-10		10-20		20-40		> 40	
			Min	Max	No	%	No	%	No	%	No	%	No	%	No	%
1	Andhra Pradesh	1142	0.00	36.21	568	49.74	335	29.33	185	16.20	47	4.12	7	0.61	0	0.00
2	Arunachal Pradesh	7	1.04	7.40	1	14.29	4	57.14	2	28.57	0	0.00	0	0.00	0	0.00
3	Assam	188	0.01	15.90	75	39.89	94	50.00	17	9.04	2	1.06	0	0.00	0	0.00
4	Bihar	372	0.00	12.59	87	23.39	235	63.17	48	12.90	2	0.54	0	0.00	0	0.00
5	Chandigarh	16	2.55	38.51	0	0.00	4	25.00	2	12.50	6	37.50	4	25.00	0	0.00
6	Chhattisgarh	775	0.19	41.00	120	15.48	419	54.06	180	23.23	49	6.32	6	0.77	1	0.13
7	Dadra & Nagar Haveli	6	1.55	6.66	2	33.33	3	50.00	1	16.67	0	0.00	0	0.00	0	0.00
8	Delhi	119	0.92	65.81	13	10.92	23	19.33	32	26.89	28	23.53	10	8.40	13	10.92
9	Goa	71	0.27	15.24	16	22.54	29	40.85	21	29.58	5	7.04	0	0.00	0	0.00
10	Gujarat	772	0.00	58.90	160	20.73	277	35.88	210	27.20	86	11.14	36	4.66	3	0.39
11	Haryana	405	0.20	70.78	48	11.85	76	18.77	78	19.26	106	26.17	83	20.49	14	3.46
12	Himachal Pradesh	98	0.50	28.21	20	20.41	39	39.80	22	22.45	13	13.27	4	4.08	0	0.00
13	Jammu & Kashmir	234	0.00	31.54	80	34.19	104	44.44	29	12.39	14	5.98	7	2.99	0	0.00
14	Jharkhand	172	0.39	12.28	48	27.91	95	55.23	26	15.12	3	1.74	0	0.00	0	0.00
15	Karnataka	1215	0.00	34.58	294	24.20	396	32.59	379	31.19	141	11.60	5	0.41	0	0.00
16	Kerala	1061	0.00	56.58	245	23.09	333	31.39	373	35.16	96	9.05	6	0.57	1	0.09

**State-wise Depth to water Level and Distribution of Percentage of Wells for the Period of November-2013**

S. No.	Name of State	No. of wells Analysed	Depth to Water Level (m bgl)		Number & Percentage of Wells Showing Depth to Water Level (m bgl) in the Range of											
					0-2		2-5		5-10		10-20		20-40		> 40	
			Min	Max	No	%	No	%	No	%	No	%	No	%	No	%
17	<b>Madhya Pradesh</b>	1203	0.10	47.00	193	16.04	575	47.80	329	27.35	80	6.65	24	2.00	2	0.17
18	<b>Maharashtra</b>	1372	0.05	58.00	308	22.45	631	45.99	327	23.83	90	6.56	15	1.09	1	0.07
19	<b>Meghalaya</b>	7	0.28	3.49	5	71.43	2	28.57	0	0.00	0	0.00	0	0.00	0	0.00
20	<b>Odisha</b>	1213	0.14	12.10	585	48.23	562	46.33	64	5.28	2	0.16	0	0.00	0	0.00
21	<b>Puducherry</b>	4	1.37	2.60	1	25.00	3	75.00	0	0.00	0	0.00	0	0.00	0	0.00
22	<b>Punjab</b>	255	0.19	37.25	18	7.06	44	17.25	53	20.78	80	31.37	60	23.53	0	0.00
23	<b>Rajasthan</b>	907	0.00	145.09	105	11.58	161	17.75	153	16.87	166	18.30	142	15.66	180	19.85
24	<b>Tamil Nadu</b>	550	0.01	72.00	71	12.91	144	26.18	179	32.55	113	20.55	33	6.00	10	1.82
25	<b>Tripura</b>	29	0.88	5.42	8	27.59	18	62.07	3	10.34	0	0.00	0	0.00	0	0.00
26	<b>Uttar Pradesh</b>	866	0.13	35.60	181	20.90	337	38.91	205	23.67	123	14.20	20	2.31	0	0.00
27	<b>Uttarakhand</b>	38	0.47	28.16	9	23.68	15	39.47	6	15.79	7	18.42	1	2.63	0	0.00
28	<b>West Bengal</b>	1030	0.00	22.60	284	27.57	426	41.36	225	21.84	89	8.64	6	0.58	0	0.00
	<b>Total</b>	<b>14127</b>	<b>0.00</b>	<b>145.09</b>	<b>3545</b>	<b>25.09</b>	<b>5384</b>	<b>38.11</b>	<b>3149</b>	<b>22.29</b>	<b>1348</b>	<b>9.54</b>	<b>469</b>	<b>3.32</b>	<b>225</b>	<b>1.59</b>



## State-wise Depth to water Level Distribution and Percentage of Wells for the Period of January-2014

S. No.	Name of State	No. of wells Analyzed	Depth to Water Level (m bgl)		Number & Percentage of Wells Showing Depth to Water Level (m bgl) in the Range of											
					0-2		2-5		5-10		10-20		20-40		> 40	
			Min	Max	No	%	No	%	No	%	No	%	No	%	No	%
1	Andhra Pradesh	1311	0.00	33.77	355	27.08	552	42.11	306	23.34	91	6.94	7	0.53	0	0.00
2	Arunachal Pradesh	12	1.41	10.20	1	8.33	6	50.00	4	33.33	1	8.33	0	0.00	0	0.00
3	Assam	196	0.18	10.58	36	18.37	130	66.33	29	14.80	1	0.51	0	0.00	0	0.00
4	Bihar	380	0.46	12.72	47	12.37	247	65.00	82	21.58	4	1.05	0	0.00	0	0.00
5	Chandigarh	16	2.36	38.73	0	0.00	4	25.00	2	12.50	5	31.25	5	31.25	0	0.00
6	Chhattisgarh	816	0.94	49.40	38	4.66	385	47.18	315	38.60	63	7.72	14	1.72	1	0.12
7	Dadra & Nagar Haveli	6	1.75	7.66	1	16.67	2	33.33	3	50.00	0	0.00	0	0.00	0	0.00
8	Delhi	120	0.70	72.96	10	8.33	24	20.00	32	26.67	29	24.17	12	10.00	13	10.83
9	Goa	46	0.67	18.45	5	10.87	22	47.83	14	30.43	5	10.87	0	0.00	0	0.00
10	Gujarat	684	0.00	61.20	68	9.94	224	32.75	197	28.80	141	20.61	48	7.02	6	0.88
11	Haryana	101	1.20	70.00	6	5.94	22	21.78	22	21.78	31	30.69	16	15.84	4	3.96
12	Himachal Pradesh	90	0.45	29.62	15	16.67	36	40.00	17	18.89	16	17.78	6	6.67	0	0.00
13	Jammu & Kashmir	206	0.00	32.14	55	26.70	98	47.57	31	15.05	13	6.31	9	4.37	0	0.00
14	Jharkhand	231	0.97	13.00	14	6.06	112	48.48	95	41.13	10	4.33	0	0.00	0	0.00
15	Karnataka	1191	0.10	26.95	147	12.34	410	34.42	438	36.78	191	16.04	5	0.42	0	0.00
16	Kerala	1180	0.20	56.00	133	11.27	382	32.37	506	42.88	151	12.80	13	1.10	1	0.08

**State-wise Depth to water Level Distribution and Percentage of Wells for the Period of January-2014**

S. No.	Name of State	No. of wells Analyzed	Depth to Water Level (m bgl)		Number & Percentage of Wells Showing Depth to Water Level (m bgl) in the Range of											
					0-2		2-5		5-10		10-20		20-40		> 40	
			Min	Max	No	%	No	%	No	%	No	%	No	%	No	%
17	Madhya Pradesh	1315	0.20	48.79	89	6.77	514	39.09	507	38.56	188	14.30	15	1.14	2	0.15
18	Maharashtra	1478	0.05	54.47	147	9.95	615	41.61	527	35.66	163	11.03	24	1.62	2	0.14
19	Meghalaya	11	0.53	3.93	4	36.36	7	63.64	0	0.00	0	0.00	0	0.00	0	0.00
20	Nagaland	15	1.47	20.95	1	6.67	9	60.00	2	13.33	2	13.33	1	6.67	0	0.00
21	Orissa	1199	0.17	12.70	245	20.43	773	64.47	177	14.76	4	0.33	0	0.00	0	0.00
22	Puducherry	4	1.17	4.06	1	25.00	3	75.00	0	0.00	0	0.00	0	0.00	0	0.00
23	Punjab	251	0.00	37.33	20	7.97	40	15.94	52	20.72	85	33.86	54	21.51	0	0.00
24	Rajasthan	943	0.02	112.60	62	6.57	163	17.29	194	20.57	173	18.35	163	17.29	188	19.94
25	Tamil Nadu	628	0.00	51.94	77	12.26	187	29.78	207	32.96	126	20.06	29	4.62	2	0.32
26	Tripura	29	0.99	6.09	5	17.24	18	62.07	6	20.69	0	0.00	0	0.00	0	0.00
27	Uttar Pradesh	897	0.00	37.10	169	18.84	364	40.58	220	24.53	121	13.49	23	2.56	0	0.00
28	Uttaranchal	23	1.91	20.30	1	4.35	3	13.04	11	47.83	7	30.43	1	4.35	0	0.00
29	West Bengal	1012	0.11	26.93	88	8.70	487	48.12	281	27.77	139	13.74	17	1.68	0	0.00
<b>Total</b>		<b>14391</b>	<b>0.00</b>	<b>112.60</b>	<b>1840</b>	<b>12.79</b>	<b>5839</b>	<b>40.57</b>	<b>4277</b>	<b>29.72</b>	<b>1760</b>	<b>12.23</b>	<b>462</b>	<b>3.21</b>	<b>219</b>	<b>1.52</b>

## State-wise Annual Fluctuation &amp; Frequency Distribution of Different Ranges from Pre Monsoon 2013 to Pre Monsoon 2012

S. N o.	Name of State	No. of wells Analy sed	Range in m				Rise						Fall						Rise		Fall	
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		No	%	No	%
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
1	Andhra Pradesh	679	0.01	14.82	0.01	9.87	249	39.71	70	11.16	30	4.78	213	33.97	43	6.86	22	3.51	349	55.66	278	44.34
2	Arunachal Pradesh	3	0.21	0.48	-	-	3	100.0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	3	100.0	0	0.00
3	Assam	177	0.02	7.60	0.01	3.74	83	46.89	20	11.30	9	5.08	62	35.03	3	1.69	0	0.00	112	63.28	65	36.72
4	Bihar	162	0.01	5.40	0.01	3.98	82	50.93	11	6.83	4	2.48	61	37.89	3	1.86	0	0.00	97	60.25	64	39.75
5	Chandigarh	12	0.14	3.20	0.10	3.63	3	25.00	3	25.00	0	0.00	4	33.33	2	16.67	0	0.00	6	50.00	6	50.00
6	Chhattisgarh	359	0.01	11.00	0.05	6.19	155	48.59	17	5.33	6	1.88	116	36.36	20	6.27	5	1.57	178	55.80	141	44.20
7	Dadra & Nagar Haveli	5	1.73	3.75	0.04	0.04	1	20.00	3	60.00	0	0.00	1	20.00	0	0.00	0	0.00	4	80.00	1	20.00
8	Delhi	122	0.01	6.40	0.01	8.75	26	21.67	1	0.83	2	1.67	82	68.33	6	5.00	3	2.50	29	24.17	91	75.83
9	Goa	40	0.01	2.71	0.02	8.98	18	46.15	1	2.56	0	0.00	16	41.03	3	7.69	1	2.56	19	48.72	20	51.28
10	Gujarat	676	0.01	9.97	0.01	12.18	168	26.71	33	5.25	28	4.45	247	39.27	85	13.51	68	10.81	229	36.41	400	63.59
11	Haryana	288	0.01	8.22	0.01	13.20	88	30.88	6	2.11	4	1.40	145	50.88	33	11.58	9	3.16	98	34.39	187	65.61
12	Himachal Pradesh	66	0.03	6.14	0.01	5.15	34	51.52	3	4.55	2	3.03	25	37.88	1	1.52	1	1.52	39	59.09	27	40.91
13	Jammu & Kashmir	129	0.01	5.17	0.04	4.21	64	51.20	14	11.20	6	4.80	39	31.20	1	0.80	1	0.80	84	67.20	41	32.80
14	Jharkhand	141	0.05	8.92	0.03	6.92	60	43.80	17	12.41	7	5.11	44	32.12	7	5.11	2	1.46	84	61.31	53	38.69
15	Karnataka	744	0.01	13.50	0.02	15.28	126	20.66	23	3.77	17	2.79	291	47.70	88	14.43	65	10.66	166	27.21	444	72.79
16	Kerala	541	0.01	6.98	0.01	10.40	177	33.21	12	2.25	4	0.75	307	57.60	25	4.69	8	1.50	193	36.21	340	63.79

**State-wise Annual Fluctuation & Frequency Distribution of Different Ranges from Pre Monsoon 2013 to Pre Monsoon 2012**

S. N o.	Name of State	No. of wells Analy sed	Range in m				Rise						Fall						Rise		Fall	
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		No	%	No	%
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
17	Madhya Pradesh	861	0.01	13.58	0.01	20.50	272	35.14	61	7.88	57	7.36	266	34.37	82	10.59	36	4.65	390	50.39	384	49.61
18	Maharashtra	725	0.01	8.60	0.01	16.40	257	35.99	57	7.98	45	6.30	259	36.27	53	7.42	43	6.02	359	50.28	355	49.72
19	Manipur	1	1.70	1.70			1	100.00	0	0.00	0	0.00	0	0.00	0	0.00		0.00	1	100.0	0	0.00
20	Meghalaya	26	0.02	4.36	0.03	2.48	5	19.23	1	3.85	1	3.85	18	69.23	1	3.85	0	0.00	7	26.92	19	73.08
21	Nagaland	5	0.85	0.85	0.25	1.27	1	20.00	0	0.00	0	0.00	4	80.00	0	0.00	0	0.00	1	20.00	4	80.00
22	Orissa	688	0.01	6.20	0.01	9.88	249	36.67	36	5.30	12	1.77	336	49.48	29	4.27	17	2.50	297	43.74	382	56.26
23	Puducherry	4	0.14	0.84			4	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	4	100.0	0	0.00
24	Punjab	203	0.01	3.61	0.01	6.77	49	24.38	4	1.99	1	0.50	134	66.67	12	5.97	1	0.50	54	26.87	147	73.13
25	Rajasthan	739	0.01	18.50	0.01	20.41	195	28.93	49	7.27	41	6.08	241	35.76	68	10.09	80	11.87	285	42.28	389	57.72
26	Tamil Nadu	339	0.04	8.35	0.04	15.17	39	11.57	11	3.26	9	2.67	147	43.62	68	20.18	63	18.69	59	17.51	278	82.49
27	Tripura	23	0.01	1.95	0.07	3.89	11	50.00	0	0.00	0	0.00	10	45.45	1	4.55	0	0.00	11	50.00	11	50.00
28	Uttar Pradesh	743	0.01	10.66	0.01	5.72	340	46.26	33	4.49	14	1.90	331	45.03	14	1.90	3	0.41	387	52.65	348	47.35
29	Uttaranchal	38	0.03	4.86	0.04	7.29	20	52.63	3	7.89	2	5.26	9	23.68	2	5.26	2	5.26	25	65.79	13	34.21
30	West Bengal	630	0.03	8.52	0.01	9.65	181	28.78	32	5.09	9	1.43	337	53.58	49	7.79	21	3.34	222	35.29	407	64.71
	<b>Total</b>	<b>9169</b>	<b>0.01</b>	<b>18.50</b>	<b>0.01</b>	<b>20.50</b>	<b>2961</b>	<b>34.09</b>	<b>521</b>	<b>6.00</b>	<b>310</b>	<b>3.57</b>	<b>3745</b>	<b>43.11</b>	<b>699</b>	<b>8.05</b>	<b>451</b>	<b>5.19</b>	<b>3792</b>	<b>43.65</b>	<b>4895</b>	<b>56.35</b>

## State-wise Annual Fluctuation &amp; Frequency Distribution of Different Ranges from Aug 2013 to Aug 2012

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Total				Wells showing no change	
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall			
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%		
1	Andhra Pradesh	328	0.02	11.60	0.02	5.63	115	35	56	17	47	14	85	26	17	5	4	1	218	66	106	33	4	1
2	Arunachal Pradesh	8	-	-	0.27	0.27	0	0	0	0	0	0	1	12	0	0	0	0	0	0	1	12	7	88
3	Assam	135	0.03	3.41	0.02	4.42	54	40	4	3	0	0	55	41	4	3	1	0	58	43	60	44	17	13
4	Bihar	206	0.02	6.18	0.01	8.77	100	49	17	8	3	1	64	31	17	8	4	2	120	58	85	42	1	0
5	Chandigarh	12	0.16	22.50	1.50	1.50	8	67	0	0	3	25	1	8	0	0	0	0	11	92	1	8	0	0
6	Chhattisgarh	415	0.01	18.63	0.01	9.24	203	49	22	5	17	4	140	34	17	4	12	3	242	58	169	41	4	1
7	Dadra & Nagar Haveli	5	0.61	1.25	1.24	2.45	3	60	0	0	0	0	1	20	1	20	0	0	3	60	2	40	0	0
8	Delhi	120	0.02	14.62	0.01	3.63	60	50	10	8	4	4	36	30	10	8	0	0	74	62	46	38	0	0
9	Goa	36	0.02	1.91	0.03	1.73	23	64	0	0	0	0	13	36	0	0	0	0	23	64	13	36	0	0
10	Gujarat	586	0.01	36.62	0.02	28.21	190	32	98	17	149	25	104	18	23	4	15	2	437	74	142	25	7	1
11	Haryana	89	0.08	5.20	0.02	9.45	48	54	7	8	2	2	28	32	1	1	2	2	57	64	31	35	1	1
12	Himachal Pradesh	76	0.02	20.16	0.06	3.33	36	47	9	12	1	1	24	32	5	1	0	0	46	60	29	39	1	1
13	Jammu & Kashmir	143	0.02	11.24	0.02	10.06	71	50	24	17	8	5	37	26	0	0.00	2	1	103	72	39	27	1	1
14	Jharkhand	122	0.01	5.13	0.01	6.85	47	39	14	11	4	3	39	32	13	11	5	4	65	53	57	47	0	0
15	Karnataka	771	0.01	15.40	0.02	17.55	292	38	74	9	61	8	206	27	45	6	36	5	427	55	287	38	57	7
16	Kerala	599	0.01	19.32	0.03	17.23	153	26	40	7	13	2	301	50	66	11	20	3	206	35	387	64	6	1
17	Madhya Pradesh	890	0.01	30.75	0.02	16.33	180	20	65	7	51	6	346	39	161	18	73	8	296	33	580	65	14	2
18	Maharashtra	917	0.01	56.90	0.01	9.94	401	44	142	15	122	13	190	21	33	4	12	1	665	72	235	26	17	2

**State-wise Annual Fluctuation & Frequency Distribution of Different Ranges from Aug 2013 to Aug 2012**

S. No	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Total				Wells showing no change	
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall			
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
19	Meghalaya	15	0.08	0.91	0.02	0.53	7	47	0	0	0	0	7	47	0	0	0	0	7	47	7	47	1	6
20	Orissa	753	0.01	7.11	0.01	8.4	216	29	34	4	7	1	419	55	66	9	8	1	257	34	493	65	3	1
21	Puducherry	4	0.11	0.89	0.25	1.16	2	50	0	0	0	0	2	50	0	0	0	0.0	2	50	2	50	0	0
22	Punjab	137	0.01	8.95	0.03	14.65	63	46	12	9	8	6	44	32	7	5	3	2	83	61	54	39	0	0
23	Rajasthan	824	0.01	23.27	0.01	22.40	278	34	66	8	67	8	233	28	60	7	78	10	411	50	371	45	42	5
24	Tamil Nadu	451	0.05	21.94	0.02	32.10	114	25	31	7	21	5	135	30	80	18	65	14	166	37	280	62	5	1
26	Tripura	21	0.05	1.64	0.03	3.28	15	71	0	0	0	0	5	24	1	5	0	0	15	71	6	29	0	0
26	Uttar Pradesh	801	0.01	10.81	0.01	7.65	340	42	78	10	30	4	315	39	27	3	5	1	448	56	347	43	6	1
27	Uttaranchal	28	0.10	4.39	0.43	5.00	19	67	2	7	1	4	4	14	1	4	1	4	22	78	6	22	0	0
28	West Bengal	738	0.01	13.84	0.01	12.99	298	40	62	9	76	10	238	32	42	6	15	2	436	59	295	40	7	1
	<b>TOTAL</b>	<b>9230</b>	<b>0.01</b>	<b>56.90</b>	<b>0.01</b>	<b>32.10</b>	<b>3336</b>	<b>36</b>	<b>867</b>	<b>9.39</b>	<b>695</b>	<b>7.53</b>	<b>3073</b>	<b>33.29</b>	<b>697</b>	<b>7.55</b>	<b>361</b>	<b>3.91</b>	<b>4898</b>	<b>53</b>	<b>4131</b>	<b>45</b>	<b>201</b>	<b>2</b>

## State-wise Annual Fluctuation &amp; Frequency Distribution of Different Ranges from November 2013 to November 2012

S. N o.	Name of State	No. of wells Analy sed	Range in m				Rise						Fall						Total				Wells showing no change	
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall			
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
1	Andhra Pradesh	719	0.01	15.64	0.02	9.31	270	37.55	85	11.82	83	11.54	238	33.10	27	3.76	9	1.25	438	61	274	38	7	1
2	Arunachal Pradesh	5	0.13	0.78	0.20	0.61	3	60.00	0	0.00	0	0.00	2	40.00	0	0.00	0	0.00	3	60	2	40	0	0
3	Assam	158	0.01	3.63	0.02	7.35	48	30.38	2	1.27	0	0.00	88	55.70	5	3.16	2	1.27	50	32	95	60	13	8
4	Bihar	233	0.01	3.89	0.06	6.04	127	54.51	21	9.01	0	0.00	76	32.62	4	1.72	3	1.29	148	64	83	36	2	1
5	Chandigarh	15	0.08	3.43	0.27	4.49	6	40.00	1	6.67	0	0.00	6	40.00	1	6.67	1	6.67	7	47	8	53	0	0
6	Chhattisgarh	505	0.01	11.86	0.01	9.58	128	25.35	17	3.37	11	2.18	287	56.83	40	7.92	21	4.16	156	31	348	69	1	0
7	Dadra & Nagar Haveli	6	0.20	1.30	1.68	1.68	4	66.67	0	0.00	0	0.00	1	16.67	1	16.67	0	0.00	4	67	2	33	0	0
8	Delhi	118	0.01	3.54	0.01	6.48	75	63.56	8	6.78	0	0.00	33	27.97	1	0.85	1	0.85	83	70	35	30	0	0
9	Goa	39	0.02	3.45	0.02	1.74	20	51.28	1	2.56	0	0.00	18	46.15	0	0.00	0	0.00	21	54	18	46	0	0
10	Gujarat	673	0.01	39.42	0.01	34.44	265	39.38	110	16.34	153	22.73	109	16.20	21	3.12	11	1.63	528	78	141	21	4	1
11	Haryana	328	0.01	10.75	0.04	13.07	150	45.73	17	5.18	9	2.74	102	31.10	30	9.15	17	5.18	176	54	149	45	3	1
12	Himachal Pradesh	79	0.04	12.12	0.02	4.71	40	50.63	4	5.06	2	2.53	29	36.71	2	2.53	1	1.27	46	58	32	41	1	1
13	Jammu & Kashmir	189	0.02	11.09	0.02	2.67	115	60.85	14	7.41	5	2.65	49	25.93	3	1.59	0	0.00	134	71	52	28	3	2
14	Jharkhand	102	0.04	10.43	0.04	4.60	53	51.96	22	21.57	5	4.90	17	16.67	4	3.92	1	0.98	80	78	22	22	0	0
15	Karnataka	822	0.01	16.87	0.01	11.14	355	43.19	113	13.75	50	6.08	212	25.79	29	3.53	16	1.95	518	63	257	31	47	6
16	Kerala	676	0.01	10.58	0.01	6.28	358	52.96	39	5.77	22	3.25	223	32.99	22	3.25	4	0.59	419	62	249	37	8	1
17	Madhya Pradesh	952	0.01	17.50	0.01	11.60	428	44.96	154	16.18	85	8.93	187	19.64	38	3.99	28	2.94	667	70	253	27	32	3

**State-wise Annual Fluctuation & Frequency Distribution of Different Ranges from November 2013 to November 2012**

S. N o.	Name of State	No. of wells Analy sed	Range in m				Rise						Fall						Total				Wells showing no change	
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall			
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
18	Maharashtra	1012	0.01	20.75	0.03	19.70	455	44.96	129	12.75	102	10.08	237	23.42	45	4.45	21	2.08	686	68	303	30	23	2
19	Meghalaya	6	0.01	2.63	0.13	0.63	3	50.00	1	16.67	0	0.00	2	33.33	0	0.00	0	0.00	4	67	2	33	0	0
20	Odisha	757	0.01	6.18	0.01	5.08	407	53.76	80	10.57	12	1.59	234	30.91	14	1.85	2	0.26	499	66	250	33	8	1
21	Puducherry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	Punjab	211	0.02	12.27	0.01	9.27	100	47.39	14	6.64	3	1.42	80	37.91	9	4.27	2	0.95	117	55	91	43	3	1
23	Rajasthan	762	0.01	16.20	0.01	38.96	268	35.17	75	9.84	68	8.92	213	27.95	51	6.69	53	6.96	411	54	317	42	34	4
24	Tamil Nadu	405	0.04	17.90	0.01	49.41	90	22.22	16	3.95	16	3.95	138	34.07	69	17.04	73	18.02	122	30	280	69	3	1
25	Tripura	24	0.01	1.40	0.01	3.04	8	33.33	0	0.00	0	0.00	14	58.33	1	4.17	0	0.00	8	33	15	63	1	4
26	Uttar Pradesh	799	0.01	8.02	0.01	17.08	428	53.57	68	8.51	23	2.88	244	30.54	17	2.13	9	1.13	519	65	270	34	10	1
27	Uttarakhand	36	0.04	4.37	0.03	1.60	17	47.22	3	8.33	2	5.56	13	36.11	0	0.00	0	0.00	22	61	13	36	1	3
28	West Bengal	765	0.01	14.13	0.01	11.70	432	56.47	120	15.69	62	8.10	125	16.34	15	1.96	11	1.44	614	80	151	20	0	0
	<b>TOTAL</b>	<b>10396</b>	<b>0.01</b>	<b>39.42</b>	<b>0.01</b>	<b>49.41</b>	<b>4653</b>	<b>45</b>	<b>1114</b>	<b>10.72</b>	<b>713</b>	<b>6.86</b>	<b>2977</b>	<b>28.64</b>	<b>449</b>	<b>4.32</b>	<b>286</b>	<b>2.75</b>	<b>6480</b>	<b>62</b>	<b>3712</b>	<b>36</b>	<b>204</b>	<b>2</b>



## State-wise Annual Fluctuation &amp; Frequency Distribution of Different Ranges from January 2013 to January 2014

S. N. O.	Name of State	No. of wells Analy sed	Range in m				Rise						Fall						Total				Wells showing no change	
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall			
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
1	Andhra Pradesh	846	0.01	28.75	0.01	11.50	336	39.72	98	11.6	83	9.81	22 5	26.60	36	4.26	19	2.25	517	61	280	33	49	6
2	Arunachal Pradesh	9	0.10	0.10			1	11.11	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	11	0	0	8	89
3	Assam	170	0.01	5.92	0.01	5.92	57	33.53	6	3.53	1	0.59	92	54.12	8	4.71	3	1.76	64	38	103	61	3	2
4	Bihar	173	0.01	5.27	0.05	3.44	124	71.68	24	13.87	2	1.16	20	11.56	3	1.73	0	0.00	150	87	23	13	0	0
5	Chandigarh	15	0.02	3.09	0.02	2.32	6	40.00	2	13.33	0	0.00	5	33.33	2	13.3 3	0	0.00	8	53	7	47	0	0
6	Chhattisgarh	583	0.01	6.73	0.01	9.77	272	46.66	41	7.03	8	1.37	22 5	38.59	24	4.12	6	1.03	321	55	255	44	7	1
7	Dadra & Nagar Haveli	6	0.11	1.37	1.81	1.81	5	83.33	0	0.00	0	0.00	1	16.67	0	0.00	0	0.00	5	83	1	17	0	0
8	Delhi	118	0.04	4.48	0.03	2.10	67	56.78	7	5.93	1	0.85	42	35.59	1	0.85	0	0.00	75	64	43	36	0	0
9	Goa	43	0.03	2.21	0.02	2.77	21	48.84	1	2.33	0	0.00	19	44.19	2	4.65	0	0.00	22	51	21	49	0	0
10	Gujarat	615	0.02	40.88	0.34	29.32	259	42.11	117	19.02	106	17.2 4	91	14.80	22	3.58	15	2.44	482	78	128	21	5	1
11	Haryana	66	0.03	2.67	0.05	3.60	28	42.42	4	6.06	0	0.00	27	40.91	6	9.09	0	0.00	32	48	33	50	1	2
12	Himachal Pradesh	88	0.01	5.98	0.00	6.80	53	60.23	8	9.09	2	2.27	23	26.14	1	1.14	1	1.14	63	72	25	28	0	0
13	Jammu & Kashmir	204	0.02	11.82	0.01	6.51	115	56.37	20	9.80	6	2.94	58	28.43	1	0.49	1	0.49	141	69	60	29	3	1
14	Jharkhand	105	0.02	4.98	0.02	4.78	55	52.38	16	15.24	5	4.76	23	21.90	4	3.81	1	0.95	76	72	28	27	1	1
15	Karnataka	1064	0.01	33.32	0.01	9.11	516	48.50	110	10.34	62	5.83	251	23.59	41	3.85	18	1.69	688	65	310	29	66	6

**State-wise Annual Fluctuation & Frequency Distribution of Different Ranges from January 2013 to January 2014**

S. N. O.	Name of State	No. of wells Analy sed	Range in m				Rise						Fall						Total				Wells showing no change	
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall		No	%
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%		
16	Kerala	685	0.01	8.19	0.01	11.39	405	59.12	26	3.80	8	1.17	204	29.78	17	2.48	12	1.75	439	64	233	34	13	2
17	Madhya Pradesh	1037	0.01	18.17	0.01	10.75	500	48.22	192	18.51	104	10.03	179	17.26	29	2.80	23	2.22	796	77	231	22	10	1
18	Maharashtra	1189	0.01	14.99	0.02	15.80	527	44.32	197	16.57	143	12.03	239	20.10	53	4.46	23	1.93	867	73	315	26	7	1
19	Meghalaya	10	0.04	3.92	0.16	1.01	4	40.00	2	20.00	0	0.00	4	40.00	0	0.00	0	0.00	6	60	4	40	0	0
20	Orissa	986	0.02	10.77	0.01	6.67	590	59.84	107	10.85	31	3.14	233	23.63	8	0.81	3	0.30	728	74	244	25	14	1
21	Puducherry	4	0.25	0.47	0.41	0.41	3	75.00	0	0.00	0	0.00	1	25.00	0	0.00	0	0.00	3	75	1	25	0	0
22	Punjab	231	0.02	8.23	0.01	4.70	135	58.44	7	3.03	8	3.46	70	30.30	6	2.60	3	1.30	150	65	79	34	2	1
23	Rajasthan	815	0.02	21.85	0.01	60.90	249	30.55	72	8.83	83	10.18	236	28.96	59	7.24	79	9.69	404	50	374	46	37	5
24	Tamil Nadu	483	0.02	23.21	0.02	26.40	121	25.05	27	5.59	28	5.80	177	36.65	71	14.70	55	11.39	176	36	303	63	4	1
25	Tripura	23	0.06	3.20	0.12	1.08	16	69.57	1	4.35	0	0.00	5	21.74	0	0.00	0	0.00	17	74	5	22	1	4
26	Uttar Pradesh	853	0.01	10.39	0.01	15.10	521	61.08	99	11.61	38	4.45	165	19.34	22	2.58	4	0.47	658	77	191	22	4	0
27	Uttaranchal	17	0.16	3.32	0.18	4.85	9	52.94	2	11.76	0	0.00	5	29.41	0	0.00	1	5.88	11	65	6	35	0	0
28	West Bengal	766	0.01	10.82	0.01	20.75	430	56.14	86	11.23	30	3.92	178	23.24	17	2.22	21	2.74	546	71	216	28	4	1
<b>TOTAL</b>		<b>11204</b>					<b>5425</b>	<b>48</b>	<b>1272</b>	<b>11.35</b>	<b>749</b>	<b>6.69</b>	<b>2798</b>	<b>24.97</b>	<b>433</b>	<b>3.86</b>	<b>288</b>	<b>2.57</b>	<b>7446</b>	<b>66</b>	<b>3519</b>	<b>31</b>	<b>239</b>	<b>2</b>

## State-wise Seasonal Fluctuation &amp; Frequency Distribution of Different Ranges from Pre Monsoon 2013 to Aug 2013

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Total				Wells showing no change	
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall			
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
1	Andhra Pradesh	430	0.05	28.77	0.01	7.56	71	17.00	125	29.00	213	50.00	11	3.00	1	0.00	2	0.00	409	95	14	3	7	2
2	Arunachal Pradesh	9	1.08	3.53	-	-	1	11.00	8	89.00	0	0.00	0	0.00	0	0.00	0	0.00	9	100	0	0	0	0
3	Assam	149	0.09	6.88	0.41	3.59	83	56.00	42	28.00	16	11.00	4	3.00	2	1.00	0	0.00	141	95	6	4	2	1
4	Bihar	313	0.04	10.59	0.02	2.69	130	42.00	105	34.00	52	17.00	24	8.00	2	1.00	0	0.00	287	92	26	8	0	0
5	Chandigarh	14	0.08	9.70	1.53	1.63	10	71.00	1	7.00	1	7.00	1	7.00	2	14.00	0	0.00	12	86	3	21	-1	-7
6	Chhattisgarh	699	0.02	28.15	0.08	6.25	72	10.00	167	24.00	451	65.00	5	1.00	3	0.00	1	0.00	690	99	9	1	0	0
7	Dadra & Nagar Haveli	5	0.55	4.10	-	-	3	60.00	1	20.00	1	20.00	0	0	0	0.00	0	0.00	5	100	0	0	0	0
8	Delhi	123	0.03	9.24	0.07	4.70	71	58.00	26	21.00	7	6.00	18	15	0	0.00	1	1.00	104	85	19	15	0	0
9	Goa	39	0.52	12.90	0.90	1.45	11	28.00	16	41.00	10	26.00	2	5.00	0	0.00	0	0.00	37	95	2	5	0	0
10	Gujarat	594	0.04	29.89	0.02	47.33	112	19.00	114	19.00	315	53.00	30	5.00	5	1.00	9	2.00	541	91	44	7	9	2
11	Haryana	117	0.05	5.65	0.01	6.10	69	59.00	10	9.00	2	2.00	31	26	2	2.00	2	2.00	81	69	35	30	1	1
12	Himachal Pradesh	83	0.06	10.74	0.26	0.39	36	43.00	24	29.00	18	22.00	4	5.00	0	0.00	0	0.00	78	94	4	5	1	1
13	Jammu & Kashmir	176	0.13	15.60	0.45	3.18	82	47.00	60	34.00	32	18.00	1	1.00	1	1.00	0	0.00	174	99	2	1	0	0
14	Jharkhand	130	0.01	16.12	0.08	5.12	36	28.00	42	32.00	42	32.00	4	3.00	4	3.00	2	2.00	120	92	10	8	0	0

**State-wise Seasonal Fluctuation & Frequency Distribution of Different Ranges from Pre Monsoon 2013 to Aug 2013**

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Total				Wells showing no change	
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall			
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
15	Karnataka	974	0.03	22.00	0.02	15.72	294	30.00	183	19.00	292	30.00	85	9.00	20	2.00	13	1.00	769	79	118	12	87	9
16	Kerala	831	0.01	25.08	0.02	5.80	396	48.00	266	32.00	116	14.00	41	5.00	6	1.00	2	0.00	778	94	49	6	4	0
17	Madhya Pradesh	1009	0.07	35.42	0.08	3.30	64	6.00	139	14.00	786	78.00	11	1.00	4	0.00	0	0.00	989	98	15	1	5	1
18	Maharashtra	891	0.07	33.00	0.02	11.35	145	16.00	177	20.00	519	58.00	38	4.00	8	1.00	2	0.00	841	94	48	6	2	0
19	Meghalaya	14	0.63	3.69	-	-	12	86.00	2	14.00	0	0.00	0	0.00	0	0.00	0	0.00	14	100	0	0	0	0
20	Orissa	1089	0.03	15.9	0.02	1.63	370	34.00	406	37.00	294	27.00	18	2.00	0	0.00	0	0.00	1070	98	18	2	1	0
21	Puducherry	4	-	-	0.01	1.20	0	0.00	0	0.00	0	0.00	4	100	0	0.00	0	0.00	0	0	4	100	0	0
22	Punjab	212	0.02	8.52	0.02	16.56	88	42.00	15	7.00	11	5.00	79	370	16	8.00	3	1.00	114	54	98	46	0	0
23	Rajasthan	810	0.01	25.03	0.01	36.57	254	31.00	136	17.00	224	28.00	80	100	23	3.00	23	3.00	614	76	126	16	70	8
24	Tamil Nadu	393	0.01	13.30	0.02	15.00	102	26.00	44	11.00	29	7.00	157	40	21	5.00	10	3.00	175	45	188	47	30	8
25	Tripura	23	0.12	5.72	-	-	15	65.00	6	26.00	2	9.00	0	0	0	0.00	0	0.00	23	100	0	0	0	0
26	Uttar Pradesh	754	0.01	13.82	0.01	12.94	286	38.00	284	38.00	149	20.00	29	4.00	2	0.00	3	0.00	719	95	34	5	1	0
27	Uttaranchal	39	0.62	9.30	1.20	2.38	8	21.00	12	31.00	16	41.00	2	5.00	1	3.00	0	0.00	36	92	3	8	0	0
28	West Bengal	921	0.01	22.04	0.04	11.57	255	28.00	343	37.00	272	30.00	37	4.00	7	1.00	6	1.00	870	95	50	5	1	0
	<b>TOTAL</b>	<b>10845</b>	<b>0.01</b>	<b>35.42</b>	<b>0.01</b>	<b>47.33</b>	<b>3076</b>	<b>28.00</b>	<b>2754</b>	<b>25.00</b>	<b>3870</b>	<b>36.00</b>	<b>716</b>	<b>7.00</b>	<b>130</b>	<b>1.00</b>	<b>79</b>	<b>1.00</b>	<b>9700</b>	<b>89</b>	<b>925</b>	<b>9</b>	<b>220</b>	<b>2</b>

## State-wise Seasonal Fluctuation &amp; Frequency Distribution of Different Ranges from Pre monsoon 2013 to Nov 2013

S. No.	Name of State	No. of wells Analy sed	Range in m				Rise						Fall						Total				Wells showing no change	
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall			
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
1	Andhra Pradesh	994	0.02	31.51	0.13	6.52	260	26.0	289	29.0	403	41.0	29	3.0	6	1.0	1	0.0	952	96.0	36	4.0	6	1
2	Arunachal Pradesh	5	0.19	2.35			4	80.0	1	20.0	0	0.0	0	0.0	0	0.0	0	0.0	5	10.0	0	0.0	0	0
3	Assam	155	0.02	7.31	0.07	8.86	101	65.0	20	13.0	9	6.0	18	12.0	3	2.0	4	3.0	130	84.0	25	16.0	0	0
4	Bihar	332	0.08	9.93	0.04	3.42	123	37.00	137	41.0	50	15.0	19	6.0	3	1.0	0	0.0	310	93.0	22	7.0	0	0
5	Chandigarh	16	0.46	4.30	0.05	1.83	8	50.00	0	0.00	1	6.0	7	44.0	0	0.0	0	0.0	9	56.0	7	44.0	0	0
6	Chhattisgarh	732	0.01	27.55	0.01	4.70	182	25.0	236	32.0	282	39.0	24	3.0	4	1.0	1	0.0	70	96.0	29	4.0	3	0
7	Dadra & Nagar Haveli	5	0.10	3.99	0.54	0.54	2	40.0	2	40.0	0	0.0	1	20.0	0	0.0	0	0.0	4	80.0	1	20.0	0	0
8	Delhi	118	0.02	8.11	0.03	5.04	80	68.0	22	19.0	4	3.0	11	9.0	0	0.0	1	1.0	106	90.0	12	10.0	0	0
9	Goa	38	0.08	10.68	0.05	4.24	15	39.0	12	32.0	4	11.0	6	16.0	0	0.0	1	3.0	31	82.0	7	18.0	0	0
10	Gujarat	673	0.01	39.42	0.01	34.44	265	39.0	110	16.0	153	23.0	109	16.0	21	3.0	11	2.0	528	78.0	141	21.0	4	1
11	Haryana	355	0.01	11.96	0.02	8.34	183	52.0	52	15.0	13	4.0	76	21.0	23	6.0	8	2.0	248	70.0	107	30.0	0	0
12	Himachal Pradesh	87	0.08	10.12	0.12	0.65	45	52.0	25	29.0	12	14.0	5	6.0	0	0.0	0	0.0	82	94.0	5	6.0	0	0
13	Jammu & Kashmir	225	0.08	13.75	0.01	7.79	122	54.0	37	16.0	29	13.0	25	11.0	9	4.0	2	1.0	188	84.0	36	16.0	1	0
14	Jharkhand	143	0.02	15.31	0.14	5.14	14	10.0	40	28.0	81	57.0	4	3.0	2	1.0	2	1.0	135	94.0	8	6.0	0	0
15	Karnataka	973	0.03	22.02	0.01	12.63	280	29.0	259	27.0	291	30.0	68	7.0	7	1.0	5	1.0	830	85.0	80	8.0	63	6

**State-wise Seasonal Fluctuation & Frequency Distribution of Different Ranges from Pre monsoon 2013 to Nov 2013**

S. No.	Name of State	No. of wells Analy sed	Range in m				Rise						Fall						Total				Wells showing no change	
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall		No	%
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%		
16	Kerala	915	0.03	40.82	0.02	9.08	470	51.0	283	31.0	99	11.0	48	5.0	8	1.0	5	1.0	852	93.0	61	7.0	2	0
17	Madhya Pradesh	1045	0.10	40.66	0.04	4.85	135	13.0	250	24.0	609	58.0	28	3.0	7	1.0	3	0.0	994	95.0	38	4.0	13	1
18	Maharashtra	935	0.10	44.80	0.10	10.60	188	20.0	269	29.0	418	45.0	45	5.0	9	1.0	3	0.0	875	94.0	57	6.0	3	0
19	Meghalaya	3	0.20	2.29	-	-	2	67.0	1	33.0	0	0.0	0	0.0	0	0.0	0	0.0	3	10.0	0	0.0	0	0
20	Odisha	1103	0.02	14.32	0.01	3.32	299	27.0	463	42.0	305	28.0	34	3.0	1	0.0	0	0.0	1067	97.0	35	3.0	1	0
21	Puducherry	4	0.05	1.20	0.19	0.19	3	75.0	0	0.0	0	0.0	1	25.0	0	0.0	0	0.0	3	75.0	1	25.0	0	0
22	Punjab	244	0.01	7.41	0.01	9.83	125	51.0	18	7.0	6	2.0	74	30.0	15	6.0	5	2.0	149	61.0	94	39.0	1	0
23	Rajasthan	793	0.02	19.45	0.01	22.41	227	29.0	149	19.0	201	25.0	103	13.0	22	3.0	29	4.0	577	73.0	154	19.0	62	8
24	Tamil Nadu	330	0.01	16.57	0.05	24.90	104	32.0	64	19.0	67	20.0	64	19.0	10	3.0	6	2.0	235	71.0	80	24.0	15	5
25	Tripura	25	0.02	3.09	0.27	1.02	19	76.0	4	16.0	0	0.0	2	8.0	0	0.0	0	0.0	23	92.0	2	8.0	0	0
26	Uttar Pradesh	757	0.04	9.84	0.05	15.30	392	52.0	232	31.0	98	13.0	24	3.0	3	0.0	4	1.0	722	95.0	31	4.0	4	1
27	Uttarakhand	35	0.45	9.72	0.0	0.0	19	54.0	6	17.0	10	29.0	0	0.0	0	0.0	0	0.0	35	10.0	0	0.0	0	0
28	West Bengal	917	0.01	21.09	0.01	10.31	209	23.0	336	37.0	340	37.0	26	3.0	2	0.0	4	0.0	885	97.0	32	3.0	0	0
	<b>Total</b>	<b>11957</b>	<b>0.01</b>	<b>44.8</b>	<b>0.01</b>	<b>34.44</b>	<b>3876</b>	<b>32.0</b>	<b>3317</b>	<b>28.0</b>	<b>3485</b>	<b>29.0</b>	<b>851</b>	<b>7.0</b>	<b>155</b>	<b>1.0</b>	<b>95</b>	<b>1.0</b>	<b>10678</b>	<b>89.0</b>	<b>1101</b>	<b>9.0</b>	<b>178</b>	<b>1.0</b>

## State-wise Seasonal Fluctuation &amp; Frequency Distribution of Different Ranges from Pre monsoon 2013 to Jan 2014

S. N o.	Name of State	No. of wells Analyzed	Range in m				Rise						Fall						Total				Wells showing no change	
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall		No	%
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
1	Andhra Pradesh	1012	0.02	29.26	0.01	7.82	396	39.00	270	27.00	254	25.00	51	5.00	14	1.00	9	1.00	920	91.00	74	7.00	18	2
2	Arunachal Pradesh	10	0.49	0.74	0.18	0.18	9	90.00	0	0.00	0	0.00	1	10.00	0	0.00	0	0.00	9	90.00	1	10.00	0	0
3	Assam	163	0.01	5.20	0.01	6.91	110	67.00	6	4.00	4	2.00	33	20.00	4	2.00	2	1.00	120	74.00	39	24.00	4	2
4	Bihar	338	0.09	8.15	0.02	3.07	206	61.00	83	25.00	22	7.00	22	7.00	5	1.00	0	0.00	311	92.00	27	8.00	0	0
5	Chandigarh	16	0.35	4.00	0.05	1.22	6	38.00	2	13.00	0	0.00	8	50.00	0	0.00	0	0.00	8	50.00	8	50.00	0	0
6	Chhattisgarh	752	0.02	17.34	0.02	9.60	265	35.00	247	33.00	157	21.00	64	9.00	8	1.00	3	0.00	669	89.00	75	10.00	8	1
7	Dadra & Nagar Haveli	5	0.23	2.99	0.10	0.80	1	20.00	1	20.00	0	0.00	3	60.00	0	0.00	0	0.00	2	40.00	3	60.00	0	0
8	Delhi	118	0.10	5.66	0.04	2.60	78	66.00	17	14.00	3	3.00	19	16.00	1	1.00	0	0.00	98	83.00	20	17.00	0	0
9	Goa	42	0.10	9.05	0.02	2.89	28	67.00	7	17.00	1	2.00	5	12.00	1	2.00	0	0.00	36	86.00	6	14.00	0	0
10	Gujarat	589	0.10	22.85	0.03	51.10	133	23.00	150	25.00	192	33.00	61	10.00	18	3.00	20	3.00	475	81.00	99	17.00	15	3
11	Haryana	95	0.01	4.41	0.15	3.68	54	57.00	9	9.00	1	1.00	26	27.00	5	5.00	0	0.00	64	67.00	31	33.00	0	0
12	Himachal Pradesh	85	0.07	7.38	0.05	1.12	49	58.00	22	26.00	5	6.00	8	9.00	0	0.00	0	0.00	76	89.00	8	9.00	1	1
13	Jammu & Kashmir	197	0.02	11.94	0.05	2.93	122	62.00	25	13.00	20	10.00	25	13.00	2	1.00	0	0.00	167	85.00	27	14.00	3	2
14	Jharkhand	143	0.06	11.45	0.05	6.17	30	21.00	63	44.00	36	25.00	8	6.00	4	3.00	2	1.00	129	90.00	14	10.00	0	0
15	Karnataka	1062	0.01	14.55	0.05	14.82	370	35.00	266	25.00	209	20.00	108	10.00	22	2.00	10	1.00	845	80.00	140	13.00	77	7

**State-wise Seasonal Fluctuation & Frequency Distribution of Different Ranges from Pre monsoon 2013 to Jan 2014**

S. N o.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Total				Wells showing no change	
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall		No	%
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%		
16	Kerala	920	0.01	24.75	0.01	14.55	582	63.00	131	14.00	40	4.00	146	16.00	7	1.00	8	1.00	753	82.00	161	18.00	6	1
17	Madhya Pradesh	1064	0.05	36.16	0.03	8.10	283	27.00	303	28.00	386	36.00	56	5.00	19	2.00	1	0.00	972	91.00	76	7.00	16	2
18	Maharashtra	1062	0.01	21.75	0.01	15.35	271	26.00	342	32.00	312	29.00	94	9.00	24	2.00	16	2.00	925	87.00	134	13.00	3	0
19	Meghalaya	6	0.44	0.60	0.09	0.76	4	67.00	0	0.00	0	0.00	2	33.00	0	0.00	0	0.00	4	67.00	2	33.00	0	0
20	Orissa	1100	0.03	13.52	0.02	4.55	538	49.00	341	31.00	132	12.00	76	7.00	9	1.00	1	0.00	1011	92.00	86	8.00	3	0
21	Puducherry	4	0.15	0.47	0.41	0.41	3	75.00	0	0.00	0	0.00	1	25.00	0	0.00	0	0.00	3	75.00	1	25.00	0	0
22	Punjab	234	0.01	8.87	0.01	4.23	150	64.00	12	5.00	11	5.00	55	24.00	3	1.00	1	0.00	173	74.00	59	25.00	2	1
23	Rajasthan	792	0.02	19.58	0.01	23.94	257	32.00	130	16.00	153	19.00	130	16.00	37	5.00	31	4.00	540	68.00	198	25.00	54	7
24	Tamil Nadu	381	0.03	14.60	0.02	24.90	154	40.00	86	23.00	51	13.00	61	16.00	14	4.00	8	2.00	291	76.00	83	22.00	7	2
25	Tripura	23	0.02	2.05	0.52	0.52	21	91.00	1	4.00	0	0.00	1	4.00	0	0.00	0	0.00	22	96.00	1	4.00	0	0
26	Uttar Pradesh	772	0.03	12.25	0.01	13.65	418	54.00	235	30.00	78	10.00	31	4.00	3	0.00	5	1.00	731	95.00	39	5.00	2	0
27	Uttaranchal	19	0.47	7.76	0.70	2.47	3	16.00	7	37.00	5	26.00	3	16.00	1	5.00	0	0.00	15	79.00	4	21.00	0	0
28	West Bengal	903	0.01	15.85	0.01	12.25	357	40.00	284	31.00	175	19.00	65	7.00	7	1.00	13	1.00	816	90.00	85	9.00	2	0
<b>Total</b>		<b>11907</b>	<b>0.01</b>	<b>36.16</b>	<b>0.01</b>	<b>51.1</b>	<b>4898</b>	<b>41.00</b>	<b>3040</b>	<b>26.0</b>	<b>2247</b>	<b>19.0</b>	<b>1163</b>	<b>10.0</b>	<b>208</b>	<b>2.00</b>	<b>130</b>	<b>1.00</b>	<b>10185</b>	<b>86.00</b>	<b>1501</b>	<b>13.00</b>	<b>221</b>	<b>2</b>



## Annexure – XII

## State-wise Decadal Water Level Fluctuation With Mean [Pre Monsoon(2003 to 2012)] and Pre Monsoon 2013

S.No.	Name of State	No. of wells analysed	Range in m				Rise						Fall						Rise		Fall	
			Rise		Fall		0-2 m		2-4 m		> 4 m		0-2 m		2-4 m		> 4 m		No	%	No	%
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
1	Andhra Pradesh	729	0.01	9.23	0.01	15.59	265	36.35	64	8.78	20	2.74	265	36.35	74	10.15	41	5.62	349	47.87	380	52.13
2	Arunachal Pradesh	3	0.42	1.13	0.50	0.50	2	66.67	0	0.00	0	0.00	1	33.33	0	0.00	0	0.00	2	66.67	1	33.33
3	Assam	195	0.01	7.89	0.01	5.29	85	43.59	13	6.67	7	3.59	81	41.54	6	3.08	2	1.03	105	54.12	89	45.88
4	Bihar	181	0.03	6.14	0.01	2.75	81	44.75	5	2.76	2	1.10	88	48.62	5	2.76	0	0.00	88	48.62	93	51.38
5	Chandigarh	16	0.04	2.32	0.10	5.31	6	37.50	1	6.25	0	0.00	6	37.50	2	12.50	1	6.25	7	43.75	9	56.25
6	Chhattisgarh	404	0.01	10.02	0.02	7.47	174	43.07	33	8.17	16	3.96	142	35.15	30	7.43	8	1.98	223	55.33	180	44.67
7	Dadra & Nagar Haveli	5	0.96	4.47	0.27	0.27	3	60.00	0	0.00	1	20.00	1	20.00	0	0.00	0	0.00	4	80.00	1	20.00
8	Delhi	124	0.01	3.29	0.05	10.23	38	30.65	7	5.65	2	1.61	39	31.45	23	18.55	15	12.10	47	37.90	77	62.10
9	Goa	43	0.02	2.96	0.02	7.50	16	37.21	3	6.98	0	0.00	20	46.51	3	6.98	1	2.33	19	44.19	24	55.81
10	Gujarat	702	0.01	9.38	0.01	13.57	207	29.49	62	8.83	42	5.98	218	31.05	103	14.67	67	9.54	311	44.49	388	55.51
11	Haryana	312	0.01	8.22	0.01	8.92	92	29.49	11	3.53	4	1.28	129	41.35	41	13.14	34	10.90	107	34.41	204	65.59
12	Himachal Pradesh	68	0.04	17.53	0.09	4.53	28	41.18	3	4.41	3	4.41	31	45.59	2	2.94	1	1.47	34	50.00	34	50.00
13	Jammu & Kashmir	131	0.03	5.11	0.01	6.90	72	54.96	8	6.11	2	1.53	41	31.30	7	5.34	1	0.76	82	62.60	49	37.40
14	Jharkhand	172	0.01	7.31	0.03	6.88	67	38.95	17	9.88	6	3.49	70	40.70	11	6.40	1	0.58	90	52.33	82	47.67
15	Karnataka	827	0.01	12.50	0.01	20.17	177	21.40	38	4.59	25	3.02	329	39.78	123	14.87	96	11.61	240	30.46	548	69.54
16	Kerala	604	0.01	6.85	0.01	5.87	159	26.32	11	1.82	2	0.33	379	62.75	44	7.28	8	1.32	172	28.52	431	71.48

**State-wise Decadal Water Level Fluctuation With Mean [Pre Monsoon(2003 to 2012)] and Pre Monsoon 2013**

S.No.	Name of State	No. of wells analysed	Range in m				Rise						Fall						Rise		Fall	
			Rise		Fall		0-2 m		2-4 m		> 4 m		0-2 m		2-4 m		> 4 m		No	%	No	%
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
17	Madhya Pradesh	944	0.01	22.85	0.01	20.50	362	38.35	116	12.29	66	6.99	286	30.30	81	8.58	27	2.86	544	58.00	394	42.00
18	Maharashtra	848	0.02	10.79	0.01	18.10	301	35.50	77	9.08	43	5.07	315	37.15	71	8.37	41	4.83	421	49.65	427	50.35
19	Manipur	1	1.70	1.70	0.01	0.00	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00
20	Meghalaya	27	0.10	3.64	0.28	4.38	8	29.63	1	3.70	0	0.00	15	55.56	2	7.41	1	3.70	9	33.33	18	66.67
21	Nagaland	12	0.05	3.69	0.13	4.14	5	41.67	1	8.33	0	0.00	5	41.67	0	0.00	1	8.33	6	50.00	6	50.00
22	Odisha	743	0.01	7.43	0.01	6.06	274	36.88	42	5.65	13	1.75	329	44.28	68	9.15	17	2.29	329	44.28	414	55.72
23	Puducherry	7	0.20	1.54	0.12	5.82	4	57.14	0	0.00	0	0.00	2	28.57	0	0.00	1	14.29	4	57.14	3	42.86
24	Punjab	211	0.01	4.48	0.01	7.68	48	22.75	7	3.32	2	0.95	102	48.34	38	18.01	13	6.16	57	27.14	153	72.86
25	Rajasthan	846	0.01	21.89	0.01	25.59	232	27.42	97	11.47	99	11.70	179	21.16	84	9.93	138	16.31	428	51.63	401	48.37
26	Tamil Nadu	457	0.01	14.68	0.01	10.91	81	17.72	17	3.72	10	2.19	199	43.54	91	19.91	59	12.91	108	23.63	349	76.37
27	Tripura	28	0.03	1.64	0.01	1.06	13	46.43	0	0.00	0	0.00	15	53.57	0	0.00	0	0.00	13	46.43	15	53.57
28	Uttar Pradesh	777	0.01	13.75	0.01	7.60	313	40.28	34	4.38	13	1.67	368	47.36	41	5.28	8	1.03	360	46.33	417	53.67
29	Uttarakhand	47	0.01	6.04	0.01	3.38	15	31.91	3	6.38	4	8.51	19	40.43	6	12.77	0	0.00	22	46.81	25	53.19
30	West Bengal	755	0.01	6.55	0.01	13.87	216	28.61	43	5.70	9	1.19	356	47.15	91	12.05	40	5.30	268	35.50	487	64.50
	<b>TOTAL</b>	<b>10219</b>	<b>0.01</b>	<b>22.85</b>	<b>0.01</b>	<b>25.59</b>	<b>3345</b>	<b>32.73</b>	<b>714</b>	<b>6.99</b>	<b>391</b>	<b>3.83</b>	<b>4030</b>	<b>39.44</b>	<b>1047</b>	<b>10.25</b>	<b>622</b>	<b>6.09</b>	<b>4450</b>	<b>43.85</b>	<b>5699</b>	<b>56.15</b>

## Annexure – XIII

## State-wise Decadal Water Level Fluctuation With Mean [Aug(2003 to 2012)] and Aug 2013

S. No.	Name of State	No. of wells Analyzed	Range in m				Rise						Fall						Total				Wells showing no change			
			Rise		Fall		0-2 m		2-4 m		Fall>4 m		0-2 m		2-4 m		>4 m		Rise		Fall					
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%			No	%
1	Andhra Pradesh	350	0.01	8.98	0.03	9.08	139	39.7	67	19.1	47	13.4	67	19.1	22	6.3	8	2.3	253	72	97	28	0	0		
2	Arunachal Pradesh	9	0.11	1.06	0.06	0.16	7	77.8	0	0.0	0	0.0	2	22.2	0	0.0	0	0.0	7	78	2	22	0	0		
3	Assam	175	0.01	16.71	0	4.76	69	39.4	1	0.6	1	0.6	101	57.7	2	1.1	1	0.6	71	41	104	59	0	0		
4	Bihar	264	0.02	4.79	0.02	7.43	96	36.4	6	2.3	3	1.1	129	48.9	25	9.5	5	1.9	105	40	159	60	0	0		
5	Chandigarh	16	0.04	7.28	0.06	2.27	7	43.8	0	0.0	2	12.5	6	37.5	1	6.3	0	0.0	9	56	7	44	0	0		
6	Chhattisgarh	466	0.01	18.63	0.01	8.33	236	50.6	45	9.7	30	6.4	131	28.1	16	3.4	7	1.5	311	67	154	33	1	0		
7	Dadra & Nagar Haveli	6	0.39	1.27	0.68	2.17	4	66.7	0	0.0	0	0.0	1	16.7	1	16.7	0	0.0	4	67	2	33	0	0		
8	Delhi	124	0.03	8.08	0.21	8.45	51	41.1	13	10.5	3	2.4	30	24.2	17	13.7	10	8.1	67	54	57	46	0	0		
9	Goa	41	0.01	5.07	0.05	1.43	29	70.7	4	9.8	1	2.4	7	17.1	0	0.0	0	0.0	34	83	7	17	0	0		
10	Gujarat	655	0.01	15.26	0.01	29.91	237	36.2	105	16.0	45	6.9	176	26.9	51	7.8	40	6.1	387	59	267	41	1	0		
11	Haryana	115	0.01	5.06	0	9.45	48	41.7	10	8.7	4	3.5	42	36.5	7	6.1	4	3.5	62	54	53	46	0	0		
12	Himachal Pradesh	77	0.03	18.25	0.03	3.62	44	57.1	6	7.8	5	6.5	21	27.3	1	1.3	0	0.0	55	71	22	29	0	0		
13	Jammu & Kashmir	147	0.01	7.93	0.02	12.19	96	65.3	22	15.0	2	1.4	25	17.0	0	0.0	2	1.4	120	82	27	18	0	0		
14	Jharkhand	154	0.09	8.82	0	5.73	56	36.4	14	9.1	3	1.9	51	33.1	25	16.2	5	3.2	73	47	81	53	0	0		
15	Karnataka	828	0	9.47	0.02	19.91	323	39.0	73	8.8	25	3.0	252	30.4	85	10.3	66	8.0	421	51	403	49	4	0		

**State-wise Decadal Water Level Fluctuation With Mean [Aug(2003 to 2012)] and Aug 2013**

S. No.	Name of State	No. of wells Analyzed	Range in m				Rise						Fall						Total				Wells showing no change	
			Rise		Fall		0-2 m		2-4 m		Fall>4 m		0-2 m		2-4 m		>4 m		Rise		Fall			
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%		
16	Kerala	636	0.01	9.46	0	4.67	179	28.1	22	3.5	12	1.9	392	61.6	28	4.4	3	0.5	213	33	423	67	0	0
17	Madhya Pradesh	1005	0.01	38.96	0.01	20.55	363	36.1	279	27.8	235	23.4	97	9.7	12	1.2	14	1.4	877	87	123	12	5	1
18	Maharashtra	1072	0	26.65	0.01	14.08	481	44.9	160	14.9	88	8.2	258	24.1	47	4.4	35	3.3	729	68	340	32	3	0
19	Meghalaya	18	0.09	0.94	0.01	1.08	8	44.4	0	0.0	0	0.0	10	55.6	0	0.0	0	0.0	8	44	10	56	0	0
20	Odisha	773	0.01	6.66	0	6.64	263	34.0	11	1.4	5	0.6	405	52.4	80	10.3	9	1.2	279	36	494	64	0	0
21	Puducherry	4	0.89	1.61	0.21	1.37	2	50.0	0	0.0	0	0.0	2	50.0	0	0.0	0	0.0	2	50	2	50	0	0
22	Punjab	163	0.01	10.35	0.04	17.88	52	31.9	21	12.9	3	1.8	52	31.9	18	11.0	17	10.4	76	47	87	53	0	0
23	Rajasthan	903	0	25.61	0	29.83	254	28.1	137	15.2	138	15.3	156	17.3	70	7.8	129	14.3	529	59	355	39	19	2
24	Tamil Nadu	581	0.01	18.01	0.01	47.61	160	27.5	39	6.7	21	3.6	192	33.0	100	17.2	69	11.9	220	38	361	62	0	0
25	Tripura	24	0.01	1.6	0.25	1.89	19	79.2	0	0.0	0	0.0	5	20.8	0	0.0	0	0.0	19	79	5	21	0	0
26	Uttar Pradesh	847	0	13.73	0.01	12.22	387	45.7	91	10.7	51	6.0	273	32.2	32	3.8	12	1.4	529	62	317	38	1	0
27	Uttarakhand	46	0.1	5.77	0.04	6.44	17	37.0	6	13.0	3	6.5	13	28.3	6	13.0	1	2.2	26	57	20	43	0	0
28	West Bengal	791	0.01	13.42	0	20.67	309	39.1	43	5.4	44	5.6	284	35.9	78	9.9	31	3.9	396	50	393	50	2	0
	<b>TOTAL</b>	<b>10290</b>	<b>0.01</b>	<b>38.96</b>	<b>0.01</b>	<b>29.91</b>	<b>3936</b>	<b>38.3</b>	<b>1175</b>	<b>11.4</b>	<b>771</b>	<b>7.5</b>	<b>3180</b>	<b>30.9</b>	<b>724</b>	<b>7.0</b>	<b>468</b>	<b>4.5</b>	<b>5882</b>	<b>57</b>	<b>4372</b>	<b>42</b>	<b>36</b>	<b>1</b>

## State-wise Decadal Water Level Fluctuation With Mean [Nov (2003 to 2012)] and Nov 2013

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Rise		Fall		Wells showing no change	
			Rise		Fall		0-2 m		2-4 m		>4 m				2-4 m		>4 m		No	%	No	%	No	%
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
1	Andhra Pradesh	761	0	11.98	0	10.47	379	49.8	141	18.5	77	10.1	124	16.3	29	3.8	9	1.2	597	78	162	21	2	0
2	Arunachal Pradesh	6	0.65	0.93	0.09	0.73	3	50.0	0	0.0	0	0.0	3	50.0	0	0.0	0	0.0	3	50	3	50	0	0
3	Assam	188	0.01	3.63	0.02	4.86	90	47.9	5	2.7	0	0.0	86	45.7	5	2.7	2	1.1	95	51	93	49	0	0
4	Bihar	277	0.04	5.56	0.01	4.53	156	56.3	13	4.7	1	0.4	94	33.9	11	4.0	2	0.7	170	61	107	39	0	0
5	Chandigarh	15	0.07	3.64	0.19	2.94	3	20.0	1	6.7	0	0.0	10	66.7	1	6.7	0	0.0	4	27	11	73	0	0
6	Chhattisgarh	541	0.01	9.49	0	9.58	182	33.6	28	5.2	8	1.5	272	50.3	35	6.5	15	2.8	218	40	322	60	1	0
7	Dadra & Nagar Haveli	6	0.21	1.31	1.74	1.74	5	83.3	0	0.0	0	0.0	1	16.7	0	0.0	0	0.0	5	83	1	17	0	0
8	Delhi	119	0.06	4.02	0.02	7.33	44	37.0	7	5.9	2	1.7	40	33.6	16	13.4	10	8.4	53	45	66	55	0	0
9	Goa	40	0.01	5.41	0.11	1.52	23	57.5	2	5.0	1	2.5	14	35.0	0	0.0	0	0.0	26	65	14	35	0	0
10	Gujarat	709	0.01	14.15	0.01	34.44	330	46.5	119	16.8	80	11.3	141	19.9	21	3.0	17	2.4	529	75	179	25	1	0
11	Haryana	361	0.01	10.75	0.01	13.07	154	42.7	21	5.8	7	1.9	103	28.5	37	10.2	38	10.5	182	50	178	49	1	0
12	Himachal Pradesh	79	0.03	13.85	0.01	2.64	41	51.9	7	8.9	4	5.1	26	32.9	1	1.3	0	0.0	52	66	27	34	0	0
13	Jammu & Kashmir	193	0.02	10.74	0.01	2.81	136	70.5	9	4.7	4	2.1	40	20.7	2	1.0	0	0.0	149	77	42	22	2	1
14	Jharkhand	171	0.03	9.77	0.04	3.42	96	56.1	29	17.0	7	4.1	31	18.1	8	4.7	0	0.0	132	77	39	23	0	0
15	Karnataka	877	0	12.86	0	13.25	353	40.3	85	9.7	36	4.1	275	31.4	69	7.9	57	6.5	474	54	401	46	2	0
16	Kerala	717	0	10.49	0	6.17	262	36.5	19	2.6	10	1.4	397	55.4	24	3.3	4	0.6	291	41	425	59	1	0
17	Madhya Pradesh	1022	0.01	22.18	0.01	10.1	420	41.1	243	23.8	155	15.2	155	15.2	25	2.4	16	1.6	818	80	196	19	8	1

**State-wise Decadal Water Level Fluctuation With Mean [Nov (2003 to 2012)] and Nov 2013**

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Rise		Fall		Wells showing no change	
			Rise		Fall		0-2 m		2-4 m		>4 m				2-4 m		>4 m		No	%	No	%	No	%
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
18	Maharashtra	1143	0	27.06	0.01	14.03	595	52.1	128	11.2	60	5.2	290	25.4	45	3.9	22	1.9	783	69	357	31	3	0
19	Meghalaya	7	0.23	1.5	0.05	0.54	5	71.4	0	0.0	0	0.0	2	28.6	0	0.0	0	0.0	5	71	2	29	0	0
20	Odisha	789	0.01	5.22	0	4.43	484	61.3	57	7.2	2	0.3	230	29.2	14	1.8	1	0.1	543	69	245	31	1	0
21	Puducherry	4	0.02	2.37	0.82	0.82	2	50.0	1	25.0	0	0.0	1	25.0	0	0.0	0	0.0	3	75	1	25	0	0
22	Punjab	229	0.01	9.02	0.02	9.56	91	39.7	7	3.1	1	0.4	85	37.1	23	10.0	22	9.6	99	43	130	57	0	0
23	Rajasthan	876	0.01	25.8	0.01	145.7	237	27.1	147	16.8	148	16.9	146	16.7	61	7.0	128	14.6	532	61	335	38	9	1
24	Tamil Nadu	544	0.02	26.32	0.01	44.38	111	20.4	16	2.9	20	3.7	209	38.4	99	18.2	89	16.4	147	27	397	73	0	0
25	Tripura	28	0.01	1.62	0.01	1.35	14	50.0	0	0.0	0	0.0	14	50.0	0	0.0	0	0.0	14	50	14	50	0	0
26	Uttar Pradesh	836	0	9.59	0	6.81	381	45.6	76	9.1	22	2.6	315	37.7	32	3.8	9	1.1	479	57	356	43	1	0
27	Uttarakhand	38	0.06	4.89	0	1.47	15	39.5	4	10.5	1	2.6	18	47.4	0	0.0	0	0.0	20	53	18	47	0	0
28	West Bengal	809	0.01	13.8	0.01	11.7	432	53.4	76	9.4	25	3.1	208	25.7	44	5.4	24	3.0	533	66	276	34	0	0
	<b>Total</b>	<b>11385</b>	<b>0.01</b>	<b>27.06</b>	<b>0.01</b>	<b>44.38</b>	<b>5044</b>	<b>44.3</b>	<b>1241</b>	<b>10.9</b>	<b>671</b>	<b>5.9</b>	<b>3330</b>	<b>29.2</b>	<b>602</b>	<b>5.3</b>	<b>465</b>	<b>4.1</b>	<b>6956</b>	<b>61</b>	<b>4397</b>	<b>39</b>	<b>32</b>	<b>1.0</b>

## State-wise Decadal Water Level Fluctuation With Mean [January(2004 to 2013)] and January 2014

S. No.	Name of State	No. of wells Analy sed	Range in m				Rise						Fall						Wells showing no change					
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m			Rise		Fall		
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%		No	%	No	%	No
1	Andhra Pradesh	878	0.01	27.45	0.01	16.61	428	48.7	108	12.3	75	8.5	205	23.3	31	3.5	29	3.3	611	70	265	30	2	0
2	Arunachal Pradesh	11	0.06	1.37	0.02	0.02	8	72.7	0	0.0	0	0.0	3	27.3	0	0.0	0	0.0	8	73	3	27	0	0
3	Assam	193	0.01	4.23	0.01	5.03	86	44.6	5	2.6	2	1.0	91	47.2	7	3.6	1	0.5	93	48	99	51	1	1
4	Bihar	284	0.01	3.91	0.01	3.4	164	57.7	17	6.0	0	0.0	95	33.5	8	2.8	0	0.0	181	64	103	36	0	0
5	Chandigarh	16	0.01	1.57	0.03	5.21	8	50.0	0	0.0	0	0.0	5	31.3	2	12.5	1	6.3	8	50	8	50	0	0
6	Chhattisgarh	642	0.01	7.29	0.01	9.62	274	42.7	49	7.6	8	1.2	268	41.7	29	4.5	11	1.7	331	52	308	48	3	0
7	Dadra & Nagar Haveli	6	0.54	1.8	0.11	1.97	4	66.7	0	0.0	0	0.0	2	33.3	0	0.0	0	0.0	4	67	2	33	0	0
8	Delhi	120	0.04	3.78	0.03	7.37	50	41.7	7	5.8	0	0.0	35	29.2	18	15.0	10	8.3	57	48	63	53	0	0
9	Goa	45	0.1	2.44	0.04	3.58	26	57.8	2	4.4	0	0.0	15	33.3	2	4.4	0	0.0	28	62	17	38	0	0
10	Gujarat	674	0.01	18.02	0.01	35.4	276	40.9	103	15.3	70	10.4	125	18.5	49	7.3	51	7.6	449	67	225	33	0	0
11	Haryana	98	0.04	10.2	0.03	20.9	39	39.8	4	4.1	3	3.1	33	33.7	15	15.3	4	4.1	46	47	52	53	0	0
12	Himachal Pradesh	90	0.02	11.5	0	3.4	56	62.2	6	6.7	6	6.7	21	23.3	1	1.1	0	0.0	68	76	22	24	0	0
13	Jammu & Kashmir	205	0.02	11.76	0.03	4.73	126	61.5	15	7.3	5	2.4	57	27.8	0	0.0	1	0.5	146	71	58	28	1	0
14	Jharkhand	169	0.05	4.25	0.02	4.22	95	56.2	20	11.8	2	1.2	43	25.4	8	4.7	1	0.6	117	69	52	31	0	0

**State-wise Decadal Water Level Fluctuation With Mean [January(2004 to 2013)] and January 2014**

S. No.	Name of State	No. of wells Analy sed	Range in m				Rise						Fall						Wells showing no change					
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m			Rise		Fall		
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%		No	%	No	%	No
15	Karnataka	1097	0.01	33.32	0	11.25	490	44.7	85	7.7	38	3.5	342	31.2	76	6.9	61	5.6	613	56	479	44	5	0
16	Kerala	715	0.01	6.82	0.01	4.83	297	41.5	7	1.0	5	0.7	380	53.1	23	3.2	3	0.4	309	43	406	57	0	0
17	Madhya Pradesh	1118	0.01	21.35	0.02	9.21	500	44.7	233	20.8	153	13.7	181	16.2	35	3.1	15	1.3	886	79	231	21	1	0
18	Maharashtra	1368	0.01	27.4	0.01	26.64	696	50.9	187	13.7	88	6.4	299	21.9	63	4.6	33	2.4	971	71	395	29	2	0
19	Meghalaya	10	0.15	3.35	0.21	0.71	5	50.0	1	10.0	0	0.0	4	40.0	0	0.0	0	0.0	6	60	4	40	0	0
20	Odisha	991	0.01	6.64	0.01	3.45	641	64.7	99	10.0	18	1.8	222	22.4	9	0.9	0	0.0	758	76	231	23	2	0
21	Puducherry	4	1.71	1.71	0.2	0.7	1	25.0	0	0.0	0	0.0	3	75.0	0	0.0	0	0.0	1	25	3	75	0	0
22	Punjab	240	0.02	9.73	0.01	6.9	102	42.5	9	3.8	4	1.7	87	36.3	22	9.2	15	6.3	115	48	124	52	1	0
23	Rajasthan	918	0.01	32.55	0.01	44.23	244	26.6	141	15.4	139	15.1	168	18.3	59	6.4	143	15.6	524	57	370	40	24	3
24	Tamil Nadu	621	0.01	27.28	0.01	33.6	92	14.8	15	2.4	11	1.8	231	37.2	122	19.6	150	24.2	118	19	503	81	0	0
25	Tripura	28	0.01	2.68	0.01	2.27	17	60.7	1	3.6	0	0.0	9	32.1	1	3.6	0	0.0	18	64	10	36	0	0
26	Uttar Pradesh	884	0.01	12.79	0.01	5.51	474	53.6	109	12.3	38	4.3	228	25.8	29	3.3	5	0.6	621	70	262	30	1	0
27	Uttarakhand	22	0.3	3.91	0.11	7.94	11	50.0	3	13.6	0	0.0	7	31.8	0	0.0	1	4.5	14	64	8	36	0	0
28	West Bengal	822	0.01	9.44	0.01	20.75	429	52.2	64	7.8	13	1.6	236	28.7	45	5.5	34	4.1	506	62	315	38	1	0
<b>Total</b>		<b>12269</b>	<b>0.01</b>	<b>33.32</b>	<b>0.01</b>	<b>44.23</b>	<b>5639</b>	<b>46.0</b>	<b>1290</b>	<b>10.5</b>	<b>678</b>	<b>5.5</b>	<b>3395</b>	<b>27.7</b>	<b>654</b>	<b>5.3</b>	<b>569</b>	<b>4.6</b>	<b>7607</b>	<b>62</b>	<b>4618</b>	<b>38</b>	<b>44</b>	<b>1.00</b>



# वार्षिकी

## 2013-2014



Central Ground Water Board  
National Data Centre  
Bhujal Bhavan, NH-IV,  
Faridabad-121001, Haryana  
E-mail: gwmndc-cgwb@nic.in

केन्द्रीय भूमि जल बोर्ड  
राष्ट्रीय आँकड़ा केंद्र  
भूजल भवन, एनएच-4  
फरीदाबाद-121001, हरियाणा  
ई-मेल : gwmndc-cgwb@nic.in

