

भारत सरकार
जल संसाधन मंत्रालय
केंद्रीय भूमि जल बोर्ड

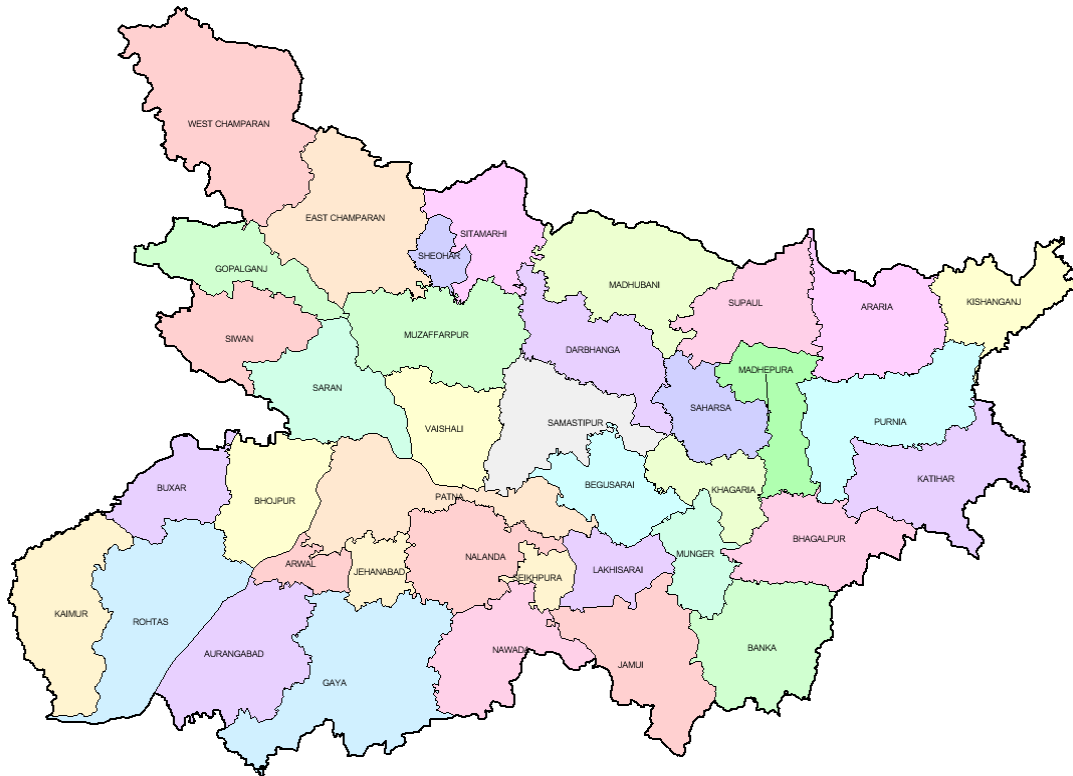


GOVT. OF INDIA
MINISTRY OF WATER RESOURCES
CENTRAL GROUND WATER BOARD

वार्षिक भूजल पुस्तिका, बिहार

(२०१३ - २०१४)

GROUND WATER YEAR BOOK, BIHAR (2013 - 2014)



मध्य पूर्वी क्षेत्र, पटना

अक्टूबर २०१४

MID-EASTERN REGION, PATNA

October 2014

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ABSTRACT

Monitoring of ground water levels from 507 Hydrograph Network Stations (HNS) were carried out in the year 2013-2014 with an objective to assess ground water regime of phreatic aquifer. The water level monitoring was carried out in the months of May'13, August'13, November'13, and January'14. The ground water samples from the HNS were collected in the month of May'13 for chemical analysis. The water level in the HNS represented phreatic aquifer.

The observed water level data had been grouped into four categories viz. 0-2 m, 2-5 m, 5-10 m and >10 m. Thematic maps depicting ground water levels measured in different periods had been prepared. The water levels had been further analysed for study of its' change with respect to measurement of pre-monsoon period of the same year, previous year water level data of the same period, and decadal mean water level data of the same period. The fluctuation had been grouped under rise and fall categories. In each category there are three groups viz. 0-2 m, 2-4 m and >4 m. Thematic maps had been prepared for each category of fluctuation.

During pre-monsoon 2013 the ground water levels were found to vary between 0.44 and 13.00 m bgl. The depth to water level rests in range of 2 – 5 m bgl in 47% of HNS, which spatially covers northern part of North Bihar Plains (NBP) and small patches in the South Bihar Plains (SBP). During post-monsoon, water level rested in the range of 2 – 5 m bgl in 62% of the HNS. The fluctuation of water level between pre and post-monsoon 2013 indicated rise in water level in 97% of the HNS. Annual change of water level of May 2013 with respect to May 2012 indicated rise in water level in 64 % of the HNS, and during November 2013 with respect to November 2012 indicated rise in 62 % of the HNS. The change in water level of May 2013 with respect to the decadal mean of May (May 2003 to May 2012) indicated fall in 55 % of the HNS and during November 2013 with respect to the decadal mean of November (November 2003 to November 2012) indicated rise in 62% of the HNS.

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1. INTRODUCTION

Bihar state lies between 83° 20' and 88° 00' E Longitudes and 24° 15' and 27° 23' N Latitudes. It shares international border with Nepal in the north and is bounded in the east, west and south by West Bengal, Uttar Pradesh and Jharkhand states respectively. The state covers geographical area of 94,163 Sq.km and has its capital at Patna (*Fig 1*).

Administratively the state is divided into 38 districts and 534 community development blocks. The population of the state is 10.41 crores (2011 census). Population density is 881 persons/Sq.km. The urban population is 11,758,016 and rural population is 92,341,436. There are 150 small and large towns in the state. The distribution of urban population is highly skewed as only three towns namely Gaya, Bhagalpur, and Muzaffarpur are having population of more than 3 lakhs, besides urban population of Patna urban agglomeration which is having 1,683,200.

2. HYDROGEOLOGY

The generalized stratigraphic succession of the state is presented in Table 1. The hydrogeological map of Bihar is depicted in *Fig 2*.

Table 1. Generalized geological succession of Bihar.

<i>Age</i>	<i>Formation</i>	<i>Broad Lithology</i>
Quaternary	Alluvial Deposits	Sand, clay, silt and occasional gravel
Tertiary	Siwaliks	Sandstone, conglomerate, clay stone, gravel
L-Cambrian	Vindhyan Super Group	Sandstone, limestone.
Proterozoic	Chotanagpur Granite Gneiss	Granite, granitic-gneiss, schist, phyllites, dolomites, basic rocks, amphibolites.
Archean	Bihar Mica belt	Gneiss, Pegmatites etc.,



Fig. 1 Administrative Map of Bihar state

Pre-cambrians

The rocks belonging to Proterozoic and Archean age are granite, granitic-gneiss, quartzite, phyllites, slates, and metabasics. Rocks of Chhotanagpur Granite Gneissic Complex (CGGC) suit occur in the form of small strip in the districts bordering Jharkhand state. Meta-basic rocks intrude the Chhotanagpur Granite Gneiss Complex suit of rocks. Mica bearing pegmatite of Bihar Mica Belt has been found in Gaya, Nawada and Munger districts. In parts of Munger, Gaya and Nawada districts the meta-sedimentary rocks (viz. phyllite, schist and quartzite) of Pre-cambrian age are also found.

The occurrence and movement of ground water is controlled by the thickness and nature of weathered mantle and saprolite zone (a transition zone between weathered residuum and fresh basement), besides fractures lying underneath the weathered residuum. Thickness of the weathered zone usually ranges from 5 to 20 m. Thickness of weathered zone is more in schist and other meta-sedimentary rocks in comparison to the granite-gneiss. The weathered product of granite and granite-gneiss is marked by presence of coarse granular materials composed of quartz and feldspar, whereas those of schist and phyllite by clayey materials.

Ground water occurs under unconfined condition within the weathered mantle and saprolite zone. In the secondary porosities imparted by joints, cracks and fractures, ground water occurs under confined to semi-confined conditions.

Vindhyan

Rocks of Vindhyan Super-group are confined in the west and north of the river Sone and forms eastern end of the Kaimur Plateau. It occurs in the parts of Rohtas, Kaimur and Aurangabad districts. The width of the Vindhyan rocks becomes less than 3 km near Sasaram in Rohtas district. Rocks found under this super-group are mainly sandstone, limestone, quartzite and schist. These rocks behave as consolidated formation and have remained unaffected by any large-scale tectonic disturbances, except faulting at a few places in the geological past. Vindhyan sandstones are compact and have low primary porosity. Ground water in this occurs within the weathered residuum and in the secondary porosity below them. Ground water occurs under unconfined condition in the weathered mantle. The thickness of the weathered residuum varies from 5 to 10 m.

Siwaliks

The Siwaliks of Upper Tertiary age occur as small patches in northwestern corner of the state in West Champaran district bordering Nepal. It consists of sandstone, conglomerate, red clay and spongy limestone and forms structural hills with a number of faults crisscrossing them. Ground water occurs under confined conditions in sandstones disposed at depth.

Quaternary alluvium

Quaternary sediments of Recent to Sub-Recent age cover about 89 percent of the geographical area of the state. They occupy entire north Bihar plain, and a vast stretch of land between south of the river Ganga and the Chhotanagpur Plateau. Deep exploratory drilling by Central Ground Water Board has confirmed thickness of sedimentary deposits in north Bihar plain as more than three hundred meter. In the south of the river Ganga, the alluvial thickness gradually decreases to as low as 50 m or even less, towards the area bordering the Jharkhand state. The sedimentary deposit consists of alternate sequences of sand and clay layers representing multi-cyclic nature of sedimentation. The Quaternary alluvial deposit spread over south and north of the river Ganga is a part of Mid-Ganga Plain. The Terai belt, which is demarcated by auto-flow wells, occurs as a narrow strip in the bordering areas in Madhubani, Darbhanga, and West

Champaran districts. It is an extension of Terai belt of Nepal which coalesces with alluvial plain. Ground water occurs under unconfined conditions in the phreatic aquifer, which is generally disposed within 70 m below ground. Aquifers situated at deeper levels have ground water levels under confined condition.

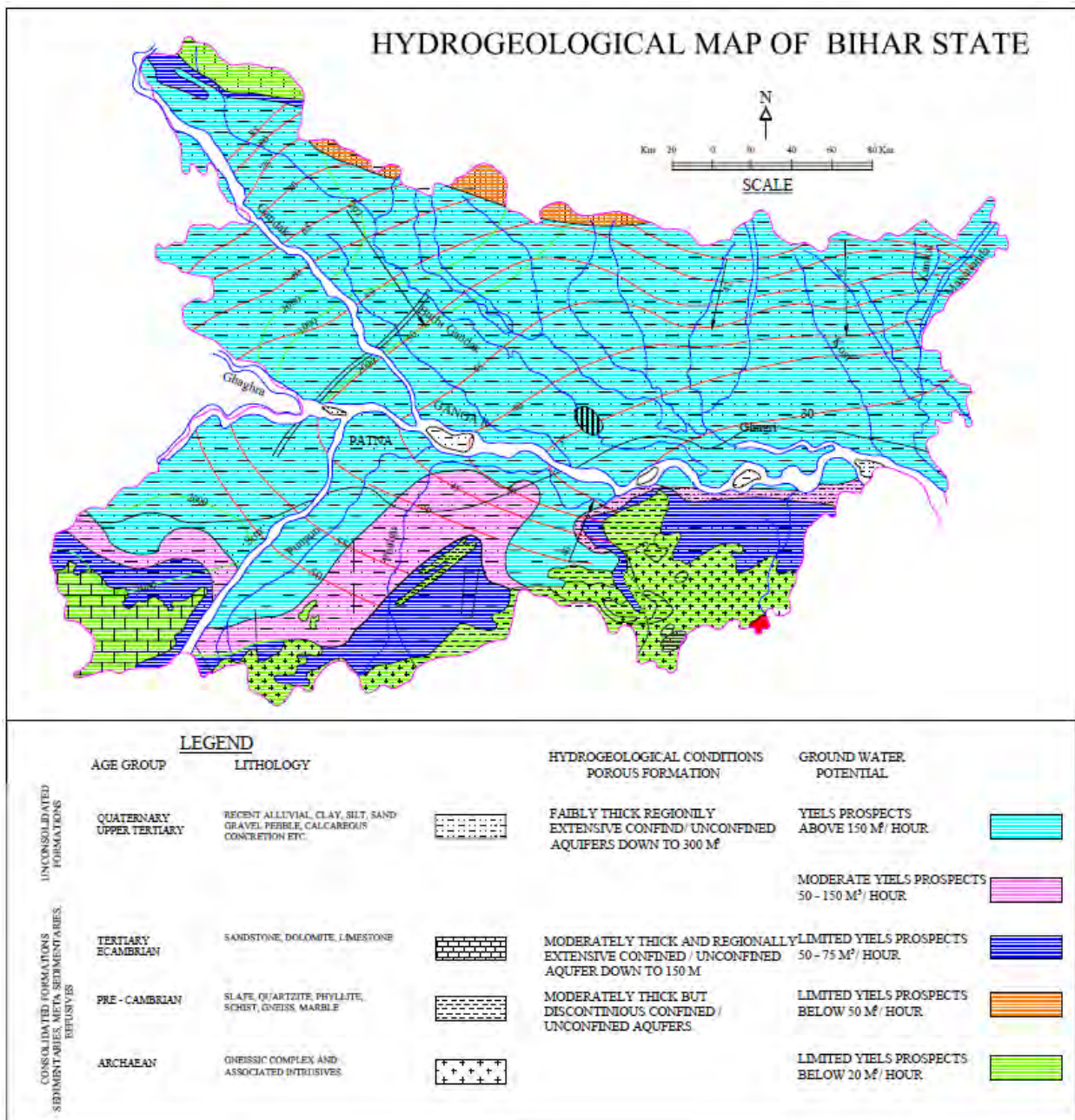


Fig. 2 Hydrogeological Map of Bihar state

3. GROUND WATER SCENARIO

A total of 507 Hydrograph Network Stations (HNS) which are dug wells tapping phreatic aquifer has been monitored as a part of ground water regime monitoring in the state of Bihar. Majority of the wells represent phreatic alluvial aquifer. The district wise location and distribution of the HNS are given in Fig 3 and Table 2 respectively.

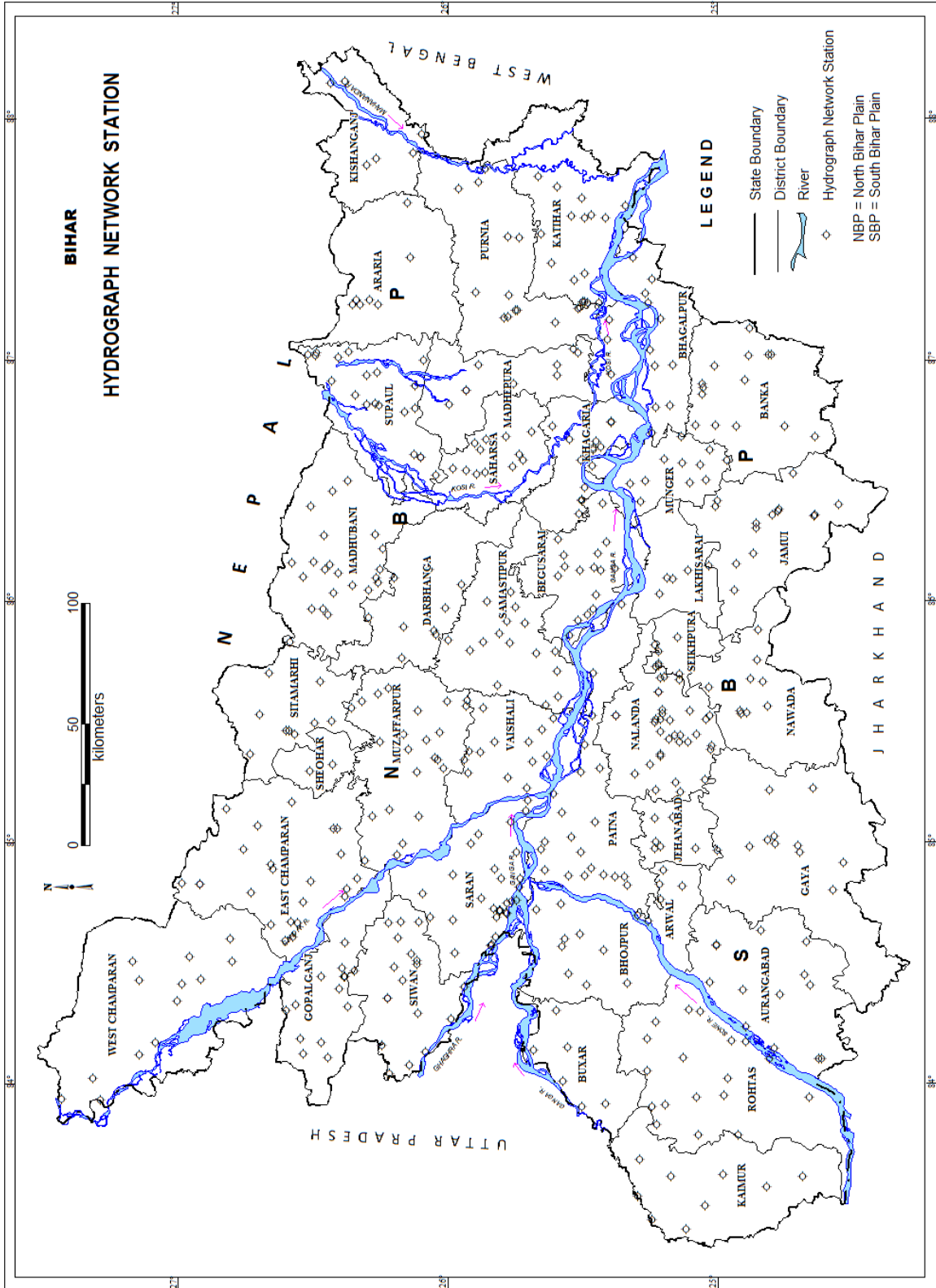


Fig. 3 Location of hydrograph network stations in Bihar state

Fig. 3 Location of hydrograph network stations in Bihar

Table 2 District wise distribution of the HNS as on 31.3.14

SN	District	No. of Wells
1	Araia	7
2	Aurangabad	13
3	Banka	14
4	Begusarai	16
5	Bhagalpur	15
6	Bhojpur	9
7	Buxar	6
8	Darbhanga	9
9	Gaya	12
10	Gopalganj	14
11	Jamui	15
12	Jehanabad & Arwal	12
13	Kaimur/Bhabhua	9
14	Katihar	17
15	Khagaria	13
16	Kishanganj	6
17	Lakhisarai	4
18	Madhepura	9
19	Madhubani	22
20	Munger	10
21	Muzaffarpur	23
22	Nalanda	30
23	Nawada	10
24	W Champaran	13
25	Patna	21
26	E Chamaparan	23
27	Purnia	14
28	Rohtas	18
29	Saharsa	12
30	Samastipur	15
31	Saran	30
32	Sheikhpura	6
33	Sheohar	2
34	Sitamarhi	8
35	Siwan	17
36	Supaul	20
37	Vaishali	13
Total		507

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

Table 3 HNS monitoring schedule

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

The Number of HNS monitored during the various monitoring period is given in **Table-4**. The water level data of HNS are presented in the Annexure I. The data were analysed for each

set of measurement and the thematic presentation of depth to water level and its fluctuations have been prepared in the range of 0 – 2 m, 2 – 5 m, 5 – 10 m and more than 10 m using GEMS software. Bihar state has been broadly divided into North Bihar Plain (NBP) consisting of areas falling to the north of the river Ganga and South Bihar Plain (SBP) consisting of areas falling to the south of the river Ganga and bordering Jharkhand state.

Table 4 *Number of HNS monitored/analysed during different months*

State	May'13	August'13	November'13	January'14
Bihar	400	390	400	479

3.1 DEPTH TO WATER LEVEL

3.1.1 May 2013

During the Pre- Monsoon period (May 2013), 400 HNS were analysed. The Minimum depth to water level of is 0.44 m bgl below ground level (bgl) has been observed at, Supaul district, and maximum water level of 13.00 m bgl has been occurred at, Gaya is 15.00 m bgl. The depth to water level rests in range of 2 – 5 m bgl in 41% of the area of Bihar State, which spatially covers northern part of North Bihar Plains (NBP) and as small patches in the South Bihar Plains (SBP). The depth to water level rests in the range of 5 – 10 m bgl in about 57% of the area covering adjoining to the river Ganga, and major parts of SBP. In ~ 3% of area, water level > 10 m bgl has been recorded, which distributed as isolated patches mainly in Kaimur, Rohtas, Jamui, Gaya, Nawada and Banka district. In only 11 Hydrograph Network Station (HNS) which falls in Nalanda, Lakhisarai, Kishanganj, Saharsa, Saran, Supaul and Bhagalpur district, the depth to water level < 2 m bgl has been recorded (**Fig. 4; Table 5**).

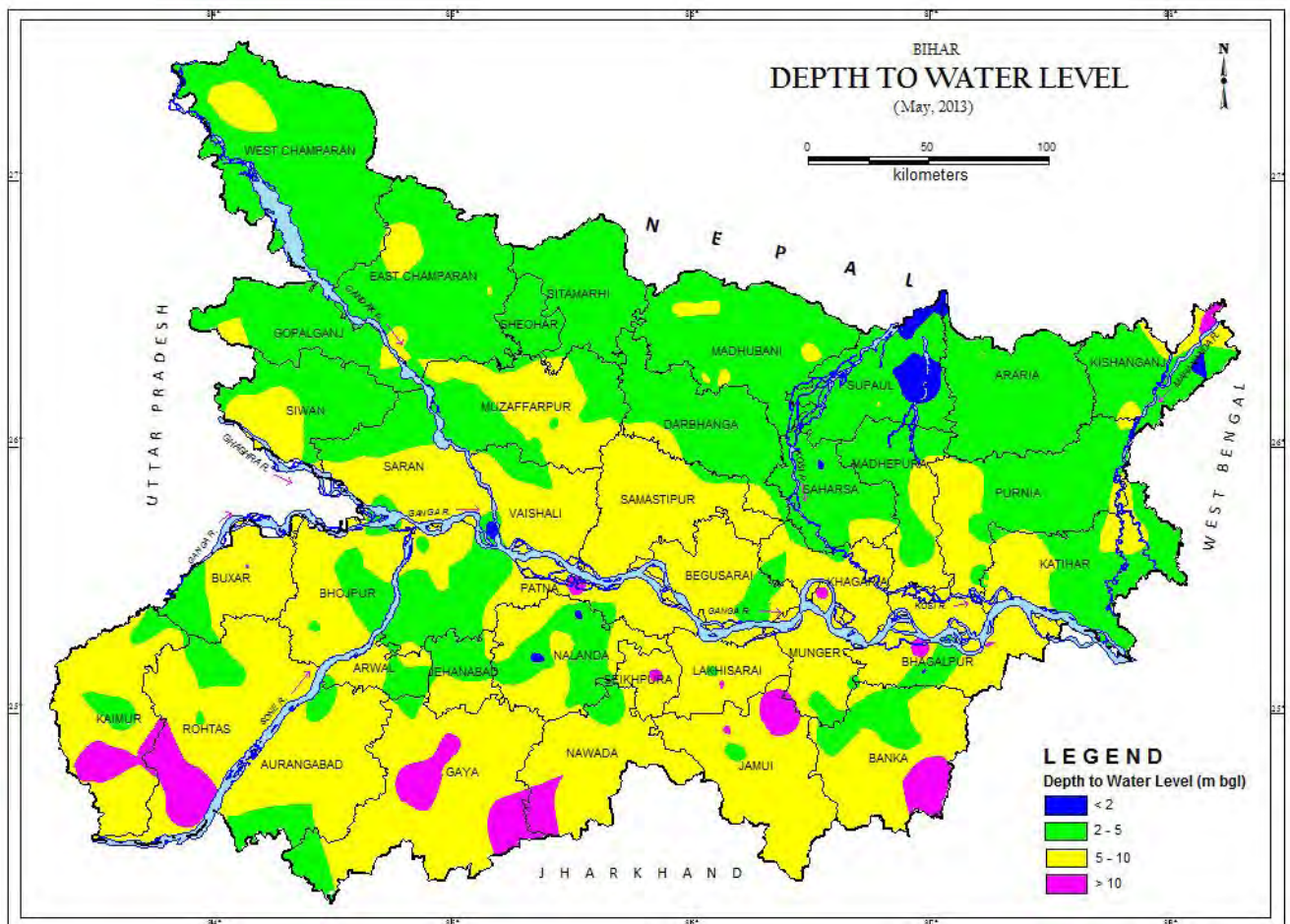


Fig. 4: Depth to water level in May 2013

Table 5 District wise well frequency for different ranges of depth to water level of HNS in **May 2013** in Bihar state

SN	District	No. of NHS analysed	Depth to water level (m bgl)		0-2 m		2-5 m		5-10 m		10-20 m	
			Min.	Max.	No.	%	No.	%	No.	%	No.	%
1	Araria	5	2.82	5.20	0	0	4	80	1	20	0	0
2	Aurangabad	10	3.42	9.40	0	0	3	30	7	70	0	0
3	Banka	11	2.98	12.16	0	0	4	36	6	55	1	9
4	Begusarai	15	2.20	9.37	0	0	1	7	14	93	0	0
5	Bhagalpur	12	1.68	12.25	1	8	3	25	6	50	2	17
6	Bhojpur	8	4.09	8.20	0	0	4	50	4	50	0	0
7	Buxar	6	2.21	10.14	0	0	2	33	3	50	1	17
8	Darbhanga	9	2.20	5.90	0	0	8	89	1	11	0	0
9	Gaya	11	5.16	13.00	0	0	0	0	8	73	3	27
10	Gopalganj	11	2.55	6.10	0	0	10	91	1	9	0	0
11	Jamui	8	3.93	12.63	0	0	1	13	5	63	2	25
12	Jehanabad & Arwal	10	3.57	7.01	0	0	6	60	4	40	0	0
13	Kaimur	9	2.46	12.30	0	0	3	33	5	56	1	11
14	Katihar	15	2.88	7.80	0	0	9	60	6	40	0	0
15	Khagaria	12	2.51	7.67	0	0	2	17	10	83	0	0
16	Kishanganj	5	1.76	10.40	1	20	2	40	1	20	1	20
17	Lakhisarai	5	1.51	10.81	1	20	0	0	3	60	1	20
18	Madhepura	9	4.30	6.80	0	0	6	67	3	33	0	0
19	Madhubani	17	2.57	6.20	0	0	12	71	5	29	0	0
20	Munger	8	2.97	11.03	0	0	2	25	5	63	1	13
21	Muzaffarpur	18	4.20	9.00	0	0	8	44	10	56	0	0
22	Nalanda	27	0.87	10.40	2	7	10	37	14	52	1	4
23	Nawada	7	2.24	10.00	0	0	1	14	6	86	0	0
24	W Champaran	9	2.57	5.88	0	0	8	89	1	11	0	0
25	Patna	19	2.14	11.47	0	0	9	47	9	47	1	5
26	E Champaran	19	3.60	6.27	0	0	16	84	3	16	0	0
27	Purnia	10	3.52	5.84	0	0	6	60	4	40	0	0
28	Rohtas	12	4.20	11.68	0	0	3	25	7	58	2	17
29	Saharsa	12	1.22	5.60	1	8	10	83	1	8	0	0
30	Samastipur	11	5.92	8.04	0	0	0	0	11	100	0	0
31	Saran	14	0.50	9.31	1	7	5	36	8	57	0	0
32	Seikhpura	5	4.42	10.45	0	0	1	20	3	60	1	20
33	Sheohar	1	3.36	3.36	0	0	1	100	0	0	0	0
34	Sitamarhi	7	2.63	4.49	0	0	7	100	0	0	0	0
35	Siwan	11	3.14	6.87	0	0	8	73	3	27	0	0
36	Supaul	15	0.44	5.15	4	27	10	67	1	7	0	0
37	Vaishali	7	4.04	7.88	0	0	2	29	5	71	0	0
	Total	400	0.44	13.00	11	3	187	47	184	46	18	5

3.1.2 August 2013

During mid-monsoon (August 2013), a total of 390 HNS were monitored. The depth to water level has been found to vary between 0.02 m bgl (Katihar district) and 12.45 m bgl (Jamui district). The depth to water level varies in the range of 0 – 2 m bgl spread in about 19% area of the State, which spatially covers the major part and bordering area of Gopalganj, Madhubani, Supaul, Madhepura, Kishanganj, Araria and Purnia district and as patches in many other part of the State. The depth to water level rests in the range of 2-5 m bgl in about 66% area of the State spatially covers almost entire State except the localised area in Bhabhua, Rohtas, Buxer, Gaya, Nawada, Jamui, Banka, Jehanabad & Arwal, Patna, Samastipur and many other places in the State where the depth to water level is in the range of 5 to 10 m bgl which forms about 14% of the area of the State. Only four wells have shown water level more than 10 m bgl located in Bhagalpur, Jamui and Rohtas district. (Fig. 5; Table 6)

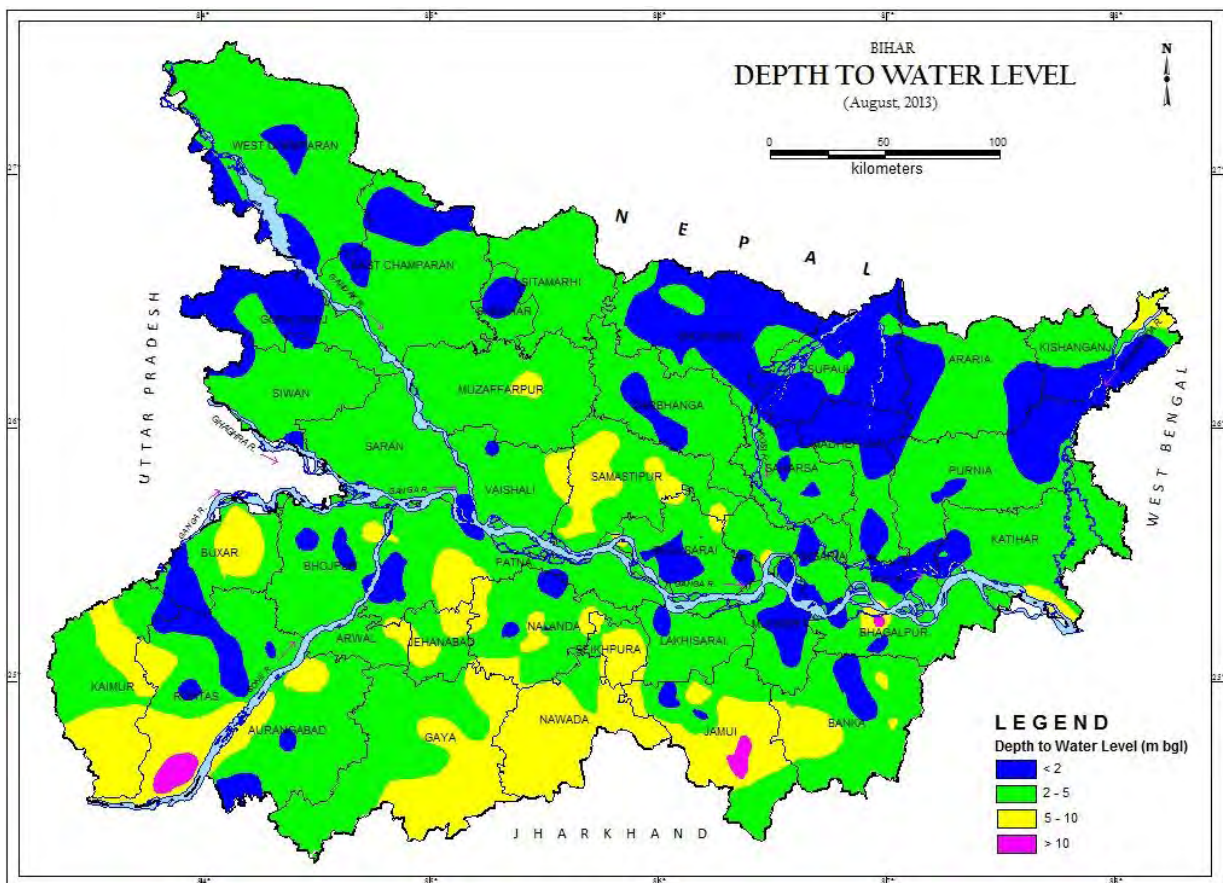


Fig. 5: Depth to water level in August 2013

Table 6 District wise well frequency for different ranges of depth to water level of HNS in Aug. 2013 in Bihar state

SN	District	No. of NHS analysed	Depth to water level (m bgl)		0-2 m		2-5 m		5-10 m		10-20 m	
			Min.	Max.	No.	%	No.	%	No.	%	No.	%
1	Araria	4	1.30	2.46	2	50	2	50	0	0	0	0
2	Aurangabad	9	0.17	6.91	2	22	5	56	2	22	0	0
3	Banka	12	0.36	7.66	3	25	6	50	3	25	0	0
4	Begusarai	16	0.46	5.40	9	56	5	31	2	13	0	0
5	Bhagalpur	10	0.62	12.21	4	40	5	50	0	0	1	10
6	Bhojpur	8	0.73	6.46	3	38	4	50	1	13	0	0
7	Buxar	5	1.16	8.30	2	40	2	40	1	20	0	0
8	Darbhanga	8	0.94	3.07	2	25	6	75	0	0	0	0
9	Gaya	8	2.61	6.65	0	0	5	63	3	38	0	0
10	Gopalganj	8	0.69	2.94	5	63	3	38	0	0	0	0
11	Jamui	9	0.76	12.45	2	22	3	33	2	22	2	22
12	Jehanabad & Arwal	10	2.26	7.12	0	0	6	60	4	40	0	0
13	Kaimur	8	2.28	6.43	0	0	5	63	3	38	0	0
14	Katihar	15	0.69	5.46	3	20	11	73	1	7	0	0
15	Khagaria	13	1.36	6.85	6	46	6	46	1	8	0	0
16	Kishanganj	4	0.75	7.76	2	50	1	25	1	25	0	0
17	Lakhisarai	3	0.95	4.59	1	33	2	67	0	0	0	0
18	Madhepura	9	1.30	2.61	5	56	4	44	0	0	0	0
19	Madhubani	15	0.02	4.67	9	60	6	40	0	0	0	0
20	Munger	8	0.22	4.24	4	50	4	50	0	0	0	0
21	Muzaffarpur	15	2.51	5.85	0	0	14	93	1	7	0	0
22	Nalanda	28	0.05	7.85	4	14	14	50	10	36	0	0
23	Nawada	7	2.71	8.66	0	0	1	14	6	86	0	0
24	W Champaran	10	0.86	4.31	1	10	9	90	0	0	0	0
25	Patna	18	0.75	7.46	8	44	8	44	2	11	0	0
26	E Champaran	21	0.10	4.06	6	29	15	71	0	0	0	0
27	Purnia	10	0.18	4.58	5	50	5	50	0	0	0	0
28	Rohtas	17	0.42	11.16	6	35	7	41	3	18	1	6
29	Saharsa	12	1.11	4.58	4	33	8	67	0	0	0	0
30	Samastipur	11	2.15	6.78	0	0	4	36	7	64	0	0
31	Saran	13	0.80	4.98	2	15	11	85	0	0	0	0
32	Seikhpura	6	3.14	9.11	0	0	3	50	3	50	0	0
33	Sheohar	1	1.05	1.05	1	100	0	0	0	0	0	0
34	Sitamarhi	7	2.06	3.80	0	0	7	100	0	0	0	0
35	Siwan	10	1.37	4.50	3	30	7	70	0	0	0	0
36	Supaul	15	0.56	3.29	11	73	4	27	0	0	0	0
37	Vaishali	7	1.55	5.94	1	14	5	71	1	14	0	0
	Total	390	0.02	12.45	116	30	213	55	57	15	4	1

3.1.3 November 2013

A total of 400 HNS were Analysed during post-monsoon period (November 2013). The minimum and the maximum depth to water levels have been recorded as 0.21 m bgl (Nawada district) and 12.59 m bgl (Jamui district) respectively. In major area of the State (78%) recorded in 249 wells, water level rests in range of 2 – 5 m bgl which covers almost entire Bihar State. The depth to water level in the range of 5-10 m bgl occurs in about 18 % of the area, which occurs in a part and bordering area of Samstipur, Begusarai, Bhagalpur, Kaimur, Rohtas, Aurangabad, Buxar, Sheikhpura, Lakhisarai, Jamui district and many other places as patches. The water level in the range of 0 – 2 m bgl has been observed in only12% of HNS, spatially covers as small patches at many locations in NBP and a few locations in SBP. There are only 02 HNS stations which falls in Bhagalpur and Jamui districts where level has been observed more than 10 m bgl (**Fig. 6; Table 7**).

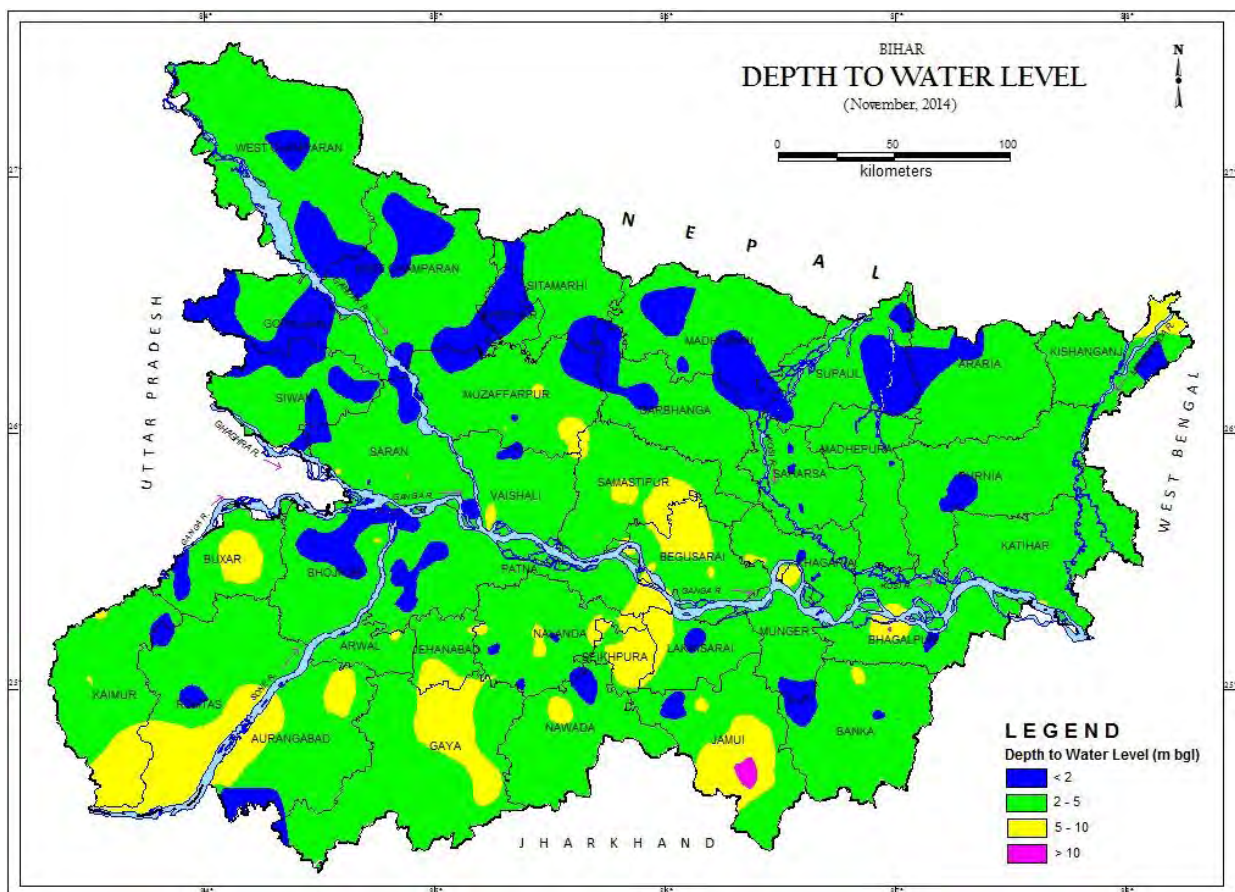


Fig. 6: Depth to water level in November 2013

Table 7 District wise well frequency for different ranges of depth to water level of HNS in Nov. 2013 in Bihar state

SN	District	No. of Wells analysed	Depth to water level (m bgl)		0-2 m		2-5 m		5-10 m		10-20 m	
			Min.	Max.	No.	%	No.	%	No.	%	No.	%
1	Araria	4	1.37	3.84	2	50	2	50	0	0	0	0
2	Aurangabad	13	0.77	9.00	1	8	8	62	4	31	0	0
3	Banka	11	1.65	6.40	3	27	7	64	1	9	0	0
4	Begusarai	16	2.03	7.00	0	0	10	63	6	38	0	0
5	Bhagalpur	12	1.45	10.45	2	17	9	75	0	0	1	8
6	Bhojpur	9	0.80	5.31	5	56	3	33	1	11	0	0
7	Buxar	6	1.54	7.68	2	33	3	50	1	17	0	0
8	Darbhangha	6	1.74	3.22	2	33	4	67	0	0	0	0
9	Gaya	6	3.05	5.54	0	0	4	67	2	33	0	0
10	Gopalganj	11	0.85	3.25	7	64	4	36	0	0	0	0
11	Jamui	11	1.04	12.59	2	18	5	45	3	27	1	9
12	Jehanabad	10	2.76	5.78	0	0	8	80	2	20	0	0
13	Kaimur	8	2.62	5.30	0	0	6	75	2	25	0	0
14	Katihar	15	2.28	5.06	0	0	14	93	1	7	0	0
15	Khagaria	13	1.56	5.30	3	23	8	62	2	15	0	0
16	Kishanganj	4	1.63	8.41	1	25	2	50	1	25	0	0
17	Lakhisarai	3	1.30	5.39	1	33	1	33	1	33	0	0
18	Madhepura	9	1.96	4.46	1	11	8	89	0	0	0	0
19	Madhubani	14	0.57	4.39	6	43	8	57	0	0	0	0
20	Munger	10	0.93	7.65	3	30	6	60	1	10	0	0
21	Muzaffarpur	17	0.32	6.46	3	18	10	59	4	24	0	0
22	Nalanda	27	0.85	7.70	4	15	16	59	7	26	0	0
23	Nawada	7	0.21	7.04	1	14	5	71	1	14	0	0
24	W Champaran	10	1.04	3.59	2	20	8	80	0	0	0	0
25	Patna	19	1.15	6.50	8	42	9	47	2	11	0	0
26	E Champaran	21	0.62	3.67	9	43	12	57	0	0	0	0
27	Purnia	9	1.15	4.18	2	22	7	78	0	0	0	0
28	Rohtas	16	0.52	9.71	2	13	11	69	3	19	0	0
29	Saharsa	12	1.53	4.00	4	33	8	67	0	0	0	0
30	Samastipur	10	3.82	6.32	0	0	7	70	3	30	0	0
31	Saran	15	0.32	5.38	4	27	9	60	2	13	0	0
32	Seikhpura	6	1.75	8.94	1	17	2	33	3	50	0	0
33	Sheohar	1	1.28	1.28	1	100	0	0	0	0	0	0
34	Sitamarhi	6	1.93	2.76	1	17	5	83	0	0	0	0
35	Siwan	12	1.33	5.00	6	50	6	50	0	0	0	0
36	Supaul	14	0.82	3.02	4	29	10	71	0	0	0	0
37	Vaishali	7	1.44	5.33	2	29	4	57	1	14	0	0
	Total	400	0.21	12.59	95	24	249	62	54	14	2	0.5

3.1.0 January 2014

During the recession period (Jan. 2014), 479 HNS were analysed. The minimum depth to water level of 0.46 m below ground level (bgl) has been observed in the Saran district, and maximum water level of 12.72 m bgl has been observed in the Jamui district. The depth to water level rests in range of 2 – 5 m bgl in 78% of the area of Bihar State. The depth to water level rests in the range of 5 – 10 m bgl in 18% of the area covering adjoining area and major part of Samastipur, Begusarai, Sheikhpura, Lakhisarai, Jamui, Banka, Kaimur, Rohtas, Buxar and many locations as patches. In only 8% HNS which falls mostly as patches in NBP the depth to water level < 2 m bgl has been recorded In only 05 wells located in Rohtas, Gaya and Jamui district. (Fig. 7; Table 8).

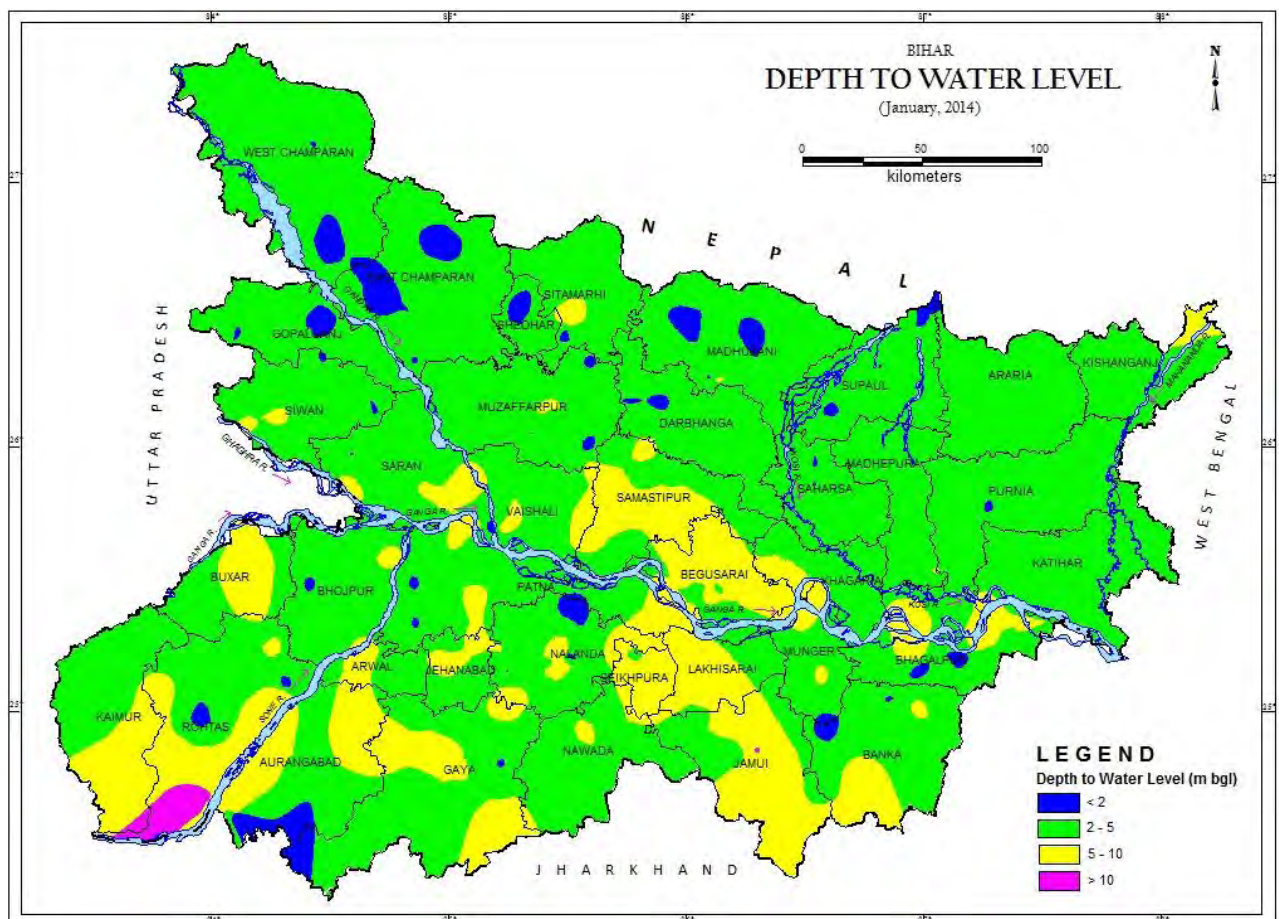


Fig. 7: Depth to water level in January 2014

SN	District	No. of Wells analysed	Depth to water level (m bgl)		0-2 m		2-5 m		5-10 m		10-20 m	
			Min.	Max.	No.	%	No.	%	No.	%	No.	%
1	Araria	6	2.18	4.87	0	0	6	100	0	0	0	0
2	Aurangabad	13	1.41	9.77	2	15	6	46	5	38	0	0
3	Banka	12	1.93	6.30	2	17	7	58	3	25	0	0
4	Begusarai	16	3.09	6.98	0	0	6	38	10	63	0	0
5	Bhagalpur	14	1.23	10.05	2	14	8	57	3	21	1	7
6	Bhojpur	8	1.76	6.78	2	25	5	63	1	13	0	0
7	Buxar	6	2.60	7.94	0	0	4	67	2	33	0	0
8	Darbhanga	8	1.65	4.64	2	25	6	75	0	0	0	0
9	Gaya	11	1.80	7.25	1	9	6	55	4	36	0	0
10	Gopalganj	14	1.22	3.72	4	29	10	71	0	0	0	0
11	Jamui	14	2.84	12.72	0	0	5	36	6	43	3	21
12	Jehanabad & Arwal	12	2.26	9.20	0	0	9	75	3	25	0	0
13	Kaimur	8	2.50	6.37	0	0	6	75	2	25	0	0
14	Katihar	17	2.70	5.38	0	0	16	94	1	6	0	0
15	Khagaria	13	2.79	6.28	0	0	9	69	4	31	0	0
16	Kishanganj	6	2.01	8.34	0	0	5	83	1	17	0	0
17	Lakhisarai	1	6.83	6.83	0	0	0	0	1	100	0	0
18	Madhepura	9	2.30	5.22	0	0	8	89	1	11	0	0
19	Madhubani	21	1.26	5.22	4	19	16	76	1	5	0	0
20	Munger	9	1.00	8.62	1	11	5	56	3	33	0	0
21	Muzaffarpur	22	1.29	6.18	3	14	16	73	3	14	0	0
22	Nalanda	31	0.82	8.50	4	13	16	52	11	35	0	0
23	Nawada	8	2.71	7.02	0	0	7	88	1	13	0	0
24	W Champaran	12	1.27	3.94	2	17	10	83	0	0	0	0
25	Patna	19	1.21	6.66	2	11	13	68	4	21	0	0
26	E Champaran	16	0.92	3.70	6	38	10	63	0	0	0	0
27	Purnia	14	1.87	4.58	1	7	13	93	0	0	0	0
28	Rohtas	17	1.02	10.92	2	12	7	41	7	41	1	6
29	Saharsa	13	1.80	3.83	3	23	10	77	0	0	0	0
30	Samastipur	14	3.67	8.56	0	0	4	29	10	71	0	0
31	Saran	30	0.46	6.51	2	7	21	70	7	23	0	0
32	Seikhpura	6	2.80	9.85	0	0	2	33	4	67	0	0
33	Sheohar	2	1.41	2.28	1	50	1	50	0	0	0	0
34	Sitamarhi	7	1.51	7.40	1	14	5	71	1	14	0	0
35	Siwan	17	1.90	5.56	2	12	13	76	2	12	0	0
36	Supaul	20	1.47	4.25	4	20	16	80	0	0	0	0
37	Vaishali	13	2.45	5.78	0	0	11	85	2	15	0	0
	Total	479	0.46	12.72	53	11	318	66	103	22	5	1

3.2 SEASONAL FLUCTUATION

3.2.1 May 2013 to August 2013

Water level fluctuation between May 2013 and August 2013 has been analysed for 363 HNS to study the seasonal fluctuation of depth to water level, and its categorization in different depth zones. The analyses indicates rise in the water level in 330 (91%) HNS whereas the fall is observed only in 33 (9%) HNS located in Aurangabad, Begusarai, Bhagalpur, Jehanabad, Kaimur, Katihar, Nalanda, Nawada W Champaran, Patna, Samastipur, Sheikhpura, Saran, Gaya Sitamarhi, Supaul and Vaishali districts within the range of 0- 2 m except Jehanabad and Katihar district districts where the fall in water level is in the range of 2 – 4 m in two HNS. The majority of HNS (42%) have shown the rise of water level in the range of 0 to 2 m whereas the segment of 2 - 4 m has been observed in 33% HNS only and about 16% of HNS have shown rise in water level of more than 4m.

About 43% of the area of the State has shown rise in water level in the range of 0- 2 m which covers the major and bordering area of E & W Champaran, Sitamarhi, Sheohar, Saran, Siwan, Muzaffarpur, Darbhanga, Supaul, Araria, Purnia, Kishanganj, Vaishali, Arwal, Patna, Nalanda and Bhagalpur and few localised area. About 41% area of the state are categorised under the segment of 2-4 m rise, including Buxar, Bhojpur, Rohtas, Gaya, Nawada, Jamui, Banka, Madhepura, Madhubani, E cahampara and W Chamaparan. Only 12% area has shown rise of water level more than 4 m in localised areas in SGP and along the river Ganga.

Fall has been observed at many locations as patches constitute only 2% area of the State.

(Fig. 8; Table 9).

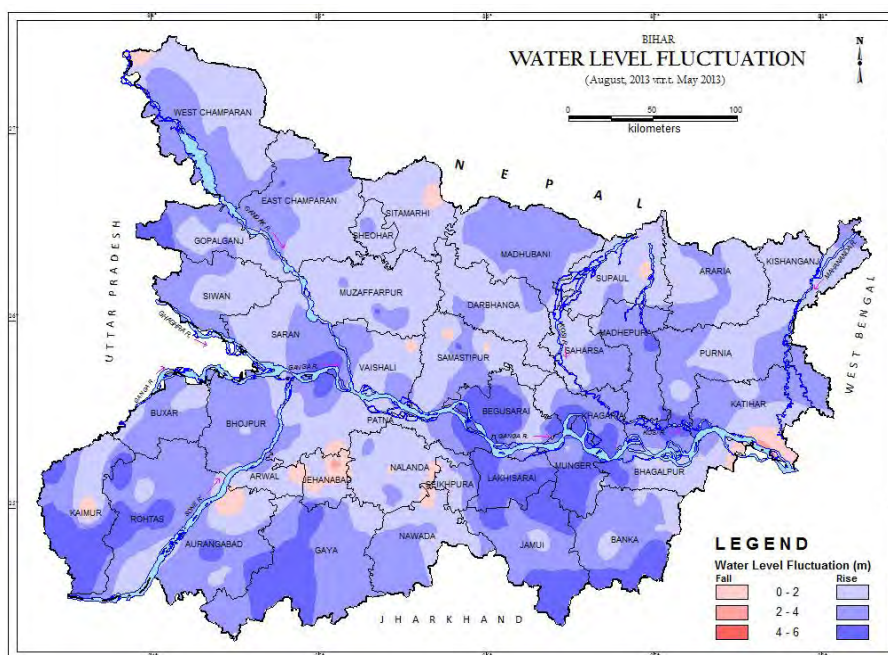


Fig. 8: Fluctuation in ground water level between May 2013 and August 2013.

Table – 9 District wise categorization of fluctuation and their frequency of water levels of HNS of Aug. 2013 w.r.t. May 2013 for Bihar State

SN	District	No. of HNS analysed	Range of fluctuation (m)				No. of Wells / Percentage showing fluctuation												Total wells	
			Rise (m)		Fall (m)		Rise						Fall						Rise	Fall
			Min.	Max.	Min.	Max.	<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%		
1	Araria	4	1.49	2.74	-	-	2	50	2	50	0	0	0	0	0	0	0	0	4	0
2	Aurangabad	9	1.27	5.8	1.5	1.5	3	33	3	33	2	22	1	11	0	0	0	0	8	1
3	Banka	11	0.67	4.75	-	-	4	36	5	45	2	18	0	0	0	0	0	0	11	0
4	Begusarai	15	1.47	8.91	0.08	0.08	1	7	2	13	11	73	1	7	0	0	0	0	14	1
5	Bhagalpur	9	0.04	7	0.08	0.08	3	33	1	11	4	44	1	11	0	0	0	0	8	1
6	Bhojpur	7	1.74	3.92	-	-	2	29	5	71	0	0	0	0	0	0	0	0	7	0
7	Buxar	5	0.64	2.93	-	-	3	60	2	40	0	0	0	0	0	0	0	0	5	0
8	Darbhanga	7	0.68	3.65	-	-	6	86	1	14	0	0	0	0	0	0	0	0	7	0
9	Gaya	8	0.39	5.39	0.36	0.36	1	13	3	38	3	38	1	13	0	0	0	0	7	1
10	Gopalganj	8	0.08	5.35	-	-	5	63	2	25	1	13	0	0	0	0	0	0	8	0
11	Jamui	7	0.65	10.59	-	-	1	14	3	43	3	43	0	0	0	0	0	0	7	0
12	Jehanabad	10	0.12	3.1	0.02	2.69	3	30	2	20	0	0	4	40	1	10	0	0	5	5
13	Kaimur	8	0.15	6.37	1.78	1.78	3	38	2	25	2	25	1	13	0	0	0	0	7	1
14	Katihar	14	1.27	5.98	2.3	2.3	3	21	7	50	3	21	0	0	1	7	0	0	13	1
15	Khagaria	12	0.59	5.37	-	-	2	17	5	42	5	42	0	0	0	0	0	0	12	0
16	Kishanganj	4	0.53	2.64	-	-	3	75	1	25	0	0	0	0	0	0	0	0	4	0
17	Lakhisarai	3	1.61	7.95	-	-	1	33	0	0	2	67	0	0	0	0	0	0	3	0
18	Madhepura	9	1.78	4.66	-	-	1	11	6	67	2	22	0	0	0	0	0	0	9	0
19	Madhubani	15	0.68	4.07	-	-	4	27	10	67	1	7	0	0	0	0	0	0	15	0
20	Munger	6	1.41	10.3	-	-	2	33	1	17	3	50	0	0	0	0	0	0	6	0
21	Muzaffarpur	14	0.31	4.66	-	-	11	79	2	14	1	7	0	0	0	0	0	0	14	0
22	Nalanda	27	0.05	3.5	0.02	0.6	16	59	5	19	0	0	6	22	0	0	0	0	21	6
23	Nawada	7	1.18	2.78	0.24	1.11	2	29	2	29	0	0	3	43	0	0	0	0	4	3
24	W Champaran	9	1.05	2.9	1.74	1.74	5	56	3	33	0	0	1	11	0	0	0	0	8	1
25	Patna	17	0.83	6.54	0.03	0.03	6	35	7	41	3	18	1	6	0	0	0	0	16	1
26	E Champaran	17	0.44	4.16	-	-	9	53	7	41	1	6	0	0	0	0	0	0	17	0
27	Purnia	10	1.24	3.97	-	-	5	50	5	50	0	0	0	0	0	0	0	0	10	0
28	Rohtas	12	0.3	7.17	-	-	3	25	4	33	5	42	0	0	0	0	0	0	12	0
29	Saharsa	12	0.75	3.52	0.33	0.43	6	50	4	33	0	0	2	17	0	0	0	0	10	2
30	Samastipur	11	0.73	4.53	0.38	0.68	5	45	2	18	2	18	2	18	0	0	0	0	9	2
31	Saran	12	0.08	4.7	0.3	0.3	5	42	3	25	3	25	1	8	0	0	0	0	11	1
32	Seikhpura	5	0.08	2.64	0.79	0.79	3	60	1	20	0	0	1	20	0	0	0	0	4	1
33	Sheohar	1	2.31	2.31	-	-	0	0	1	100	0	0	0	0	0	0	0	0	1	0
34	Sitamarhi	7	0.57	1.02	0.06	0.52	5	71	0	0	0	0	2	29	0	0	0	0	5	2
35	Siwan	9	0.42	3.27	-	-	5	56	4	44	0	0	0	0	0	0	0	0	9	0
36	Supaul	15	0.45	2.84	0.38	1.29	11	73	2	13	0	0	2	13	0	0	0	0	13	2
37	Vaishali	7	0.63	3.43	0.83	0.83	3	43	3	43	0	0	1	14	0	0	0	0	6	1
	Total	363	0.04	10.59	0.02	2.69	153	42	118	33	59	16	31	9	2	1	0	0	330	33

3.2.2 May 2013 to November 2013

Water level fluctuations between May 2013 and November 2013 has been analysed for 369 HNS. The rise of water level observed in 343 (93%) HNS ranged from 0.01 (Jehanabad & Arwal) to 9.93 m (Jamui) whereas, only 26 (7%) HNS have shown fall in water level ranged from 0.04 (Aurangabad) to 3.42 m (Banka). The majority of HNS (148 well, 40%) have shown rise in the range of 2-4 m whereas the 143 and 52 NHS have shown rise in water level in the range of 0-2 m and >4m respectively.

About 97 % area of the State has shown rise in water level. The 0-2 m segment has spread in the major part and a larger area in north-eastern part of NBP and in the adjoining part of Jehanabad, Nalanda, SBP and in many other localised area of the State. About 48% area of the State spread in the major part of Buxar Bhojpur, Rohtas Aurangabad, Gaya, E & W Champaran, Jamui, Banka, Saran, Muzaffarpur, Samastipur ,Munger, Bhagalpur, Madhepura, Purnia and Katihar district has shown water level in the range of 2-4 m. The areas covering part of Kaimur, Buxar and Gaya, Nawada Jamui, Lakhisarai district are categorised in the segment of more than 4 m rise of water level. The fall is recorded as disseminated patches at many locations in the State. (Fig 9, Table 10).

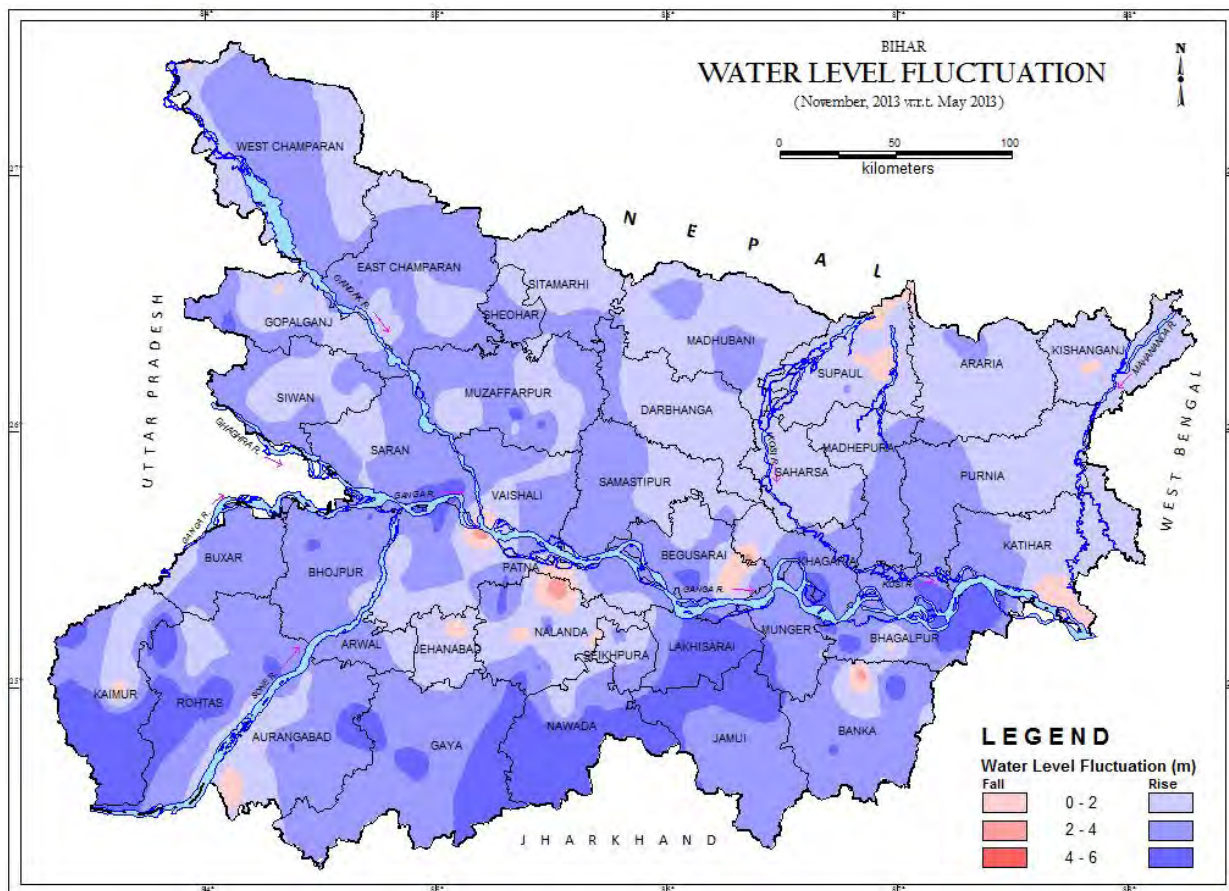


Fig. 9: Fluctuation in ground water level between May 2013 and Nov. 2013.

Table – 10 District-wise categorization of fluctuation and their frequency of water levels of HNS of **May 2013 w.r.t. Jan. 2014** for Bihar State

SN	District	No. of HNS analysed	Range of fluctuation (m)				No. of Wells / Percentage showing fluctuation												Total wells		
			Rise		Fall		Rise						Fall							Rise	Fall
			Min.	Max.	Min.	Max.	<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%	Rise	Fall	
1	Araria	4	0.66	3.08	-	-	2	50	2	50	0	0	0	0	0	0	0	0	4	0	
2	Aurangabad	10	1.3	4.64	0.04	0.47	3	30	3	30	2	20	2	20	0	0	0	0	8	2	
3	Banka	10	1.49	4.98	3.42	3.42	4	40	3	30	2	20	0	0	1	10	0	0	9	1	
4	Begusarai	15	0.8	5.02	1.78	1.78	2	13	9	60	3	20	1	7	0	0	0	0	14	1	
5	Bhagalpur	11	1.79	5.94	0.39	0.39	2	18	1	9	7	64	1	9	0	0	0	0	10	1	
6	Bhojpur	8	2.16	4.23	-	-	0	0	6	75	2	25	0	0	0	0	0	0	8	0	
7	Buxar	6	0.67	3.59	-	-	1	17	5	83	0	0	0	0	0	0	0	0	6	0	
8	Darbhanga	6	0.46	2.42	-	-	5	83	1	17	0	0	0	0	0	0	0	0	6	0	
9	Gaya	6	2.26	5.6	-	-	0	0	4	67	2	33	0	0	0	0	0	0	6	0	
10	Gopalganj	11	0.16	4.89	0.26	0.26	4	36	5	45	1	9	1	9	0	0	0	0	10	1	
11	Jamui	8	2.01	9.93	-	-	0	0	5	63	3	38	0	0	0	0	0	0	8	0	
12	Jehanabad & Arwal	10	0.01	2.49	0.41	0.41	8	80	1	10	0	0	1	10	0	0	0	0	9	1	
13	Kaimur	8	0.4	7.5	0.89	0.92	1	13	2	25	3	38	2	25	0	0	0	0	6	2	
14	Katihar	13	0.59	4.21	1.9	1.9	6	46	5	38	1	8	1	8	0	0	0	0	12	1	
15	Khagaria	12	2.17	5	2.59	2.59	0	0	9	75	2	17	0	0	1	8	0	0	11	1	
16	Kishanganj	4	0.13	1.99	0.1	0.1	3	75	0	0	0	0	1	25	0	0	0	0	3	1	
17	Lakhisarai	2	3.22	8.36	-	-	0	0	1	50	1	50	0	0	0	0	0	0	2	0	
18	Madhepura	9	1.36	4	0.07	0.07	2	22	6	67	0	0	1	11	0	0	0	0	8	1	
19	Madhubani	14	1.29	3.76	-	-	11	79	3	21	0	0	0	0	0	0	0	0	14	0	
20	Munger	7	2	3.56	-	-	1	14	6	86	0	0	0	0	0	0	0	0	7	0	
21	Muzaffarpur	16	0.75	7.53	0.76	0.76	7	44	6	38	2	13	1	6	0	0	0	0	15	1	
22	Nalanda	27	0.08	6.93	0.93	3.22	16	59	4	15	4	15	2	7	1	4	0	0	24	3	
23	Nawada	7	0.51	6.68	-	-	1	14	1	14	5	71	0	0	0	0	0	0	7	0	
24	W Champaran	9	1.03	3.85	0.1	0.1	4	44	4	44	0	0	1	11	0	0	0	0	8	1	
25	Patna	18	0.56	4.57	2.84	2.84	7	39	8	44	2	11	0	0	1	6	0	0	17	1	
26	E Champaran	17	0.78	4.1	-	-	5	29	11	65	1	6	0	0	0	0	0	0	17	0	
27	Purnia	9	0.7	3.11	-	-	4	44	5	56	0	0	0	0	0	0	0	0	9	0	
28	Rohtas	12	0.7	7.3	-	-	4	33	3	25	5	42	0	0	0	0	0	0	12	0	
29	Saharsa	12	0.03	2.26	0.58	0.58	10	83	1	8	0	0	1	8	0	0	0	0	11	1	
30	Samastipur	10	0.65	4.02	-	-	5	50	4	40	1	10	0	0	0	0	0	0	10	0	
31	Saran	14	0.18	5.34	-	-	4	29	8	57	2	14	0	0	0	0	0	0	14	0	
32	Seikhpura	5	0.14	4.87	0.45	0.45	2	40	1	20	1	20	1	20	0	0	0	0	4	1	
33	Sheohar	1	2.08	2.08	-	-	0	0	1	100	0	0	0	0	0	0	0	0	1	0	
34	Sitamarhi	6	0.52	2.24	-	-	5	83	1	17	0	0	0	0	0	0	0	0	6	0	
35	Siwan	11	0.88	3.17	-	-	4	36	7	64	0	0	0	0	0	0	0	0	11	0	
36	Supaul	14	0.33	2.38	0.19	1.02	7	50	2	14	0	0	5	36	0	0	0	0	9	5	
37	Vaishali	7	1.42	3.83	-	-	3	43	4	57	0	0	0	0	0	0	0	0	7	0	
	Total	369	0.01	9.93	0.04	3.42	143	39	148	40	52	14	22	6	4	1	0	0	343	26	

3.2.3 May 2013 to January 2014

Water level fluctuation between May 2012 and January 2013 has been analysed for 271 HNS which indicates rise in water level in about 92 % of the HNS . The rise in water level in the range of 0 – 2 m in 60 % of the HNS, 2 – 4 m in 25% of the HNS and >4 m only in 6% HNS. The fall in water level has been observed only in 24 wells (6%) up to 2 m except 5 (1%) wells which have shown fall in the range of 2 to 4 m.

About 60% area has shown rise in water level up to 2m spread over entire State. The range of 2 to 4 m rise has been observed in many localised areas constitutes about 27% area of the State. Except a small patch in Muzaffarpur in NBP, only SBP has shown rise of water level more than 4m as patches in Kaimur, Rohtas Gaya, Nawada, Jamui, Banka and Bhagalpur district. Including the part of Araria Supaul, Begusarai khagaria and Katihar district the fall in the segment of 0-2m has been shown as patches at many disseminated locations in the State. The range of 2-4 m fall is observed as small patches in Begusarai, Khagaria and Nalanda district. No area has shown fall of water level more than 4 m (**Fig. 10, Table 11**).

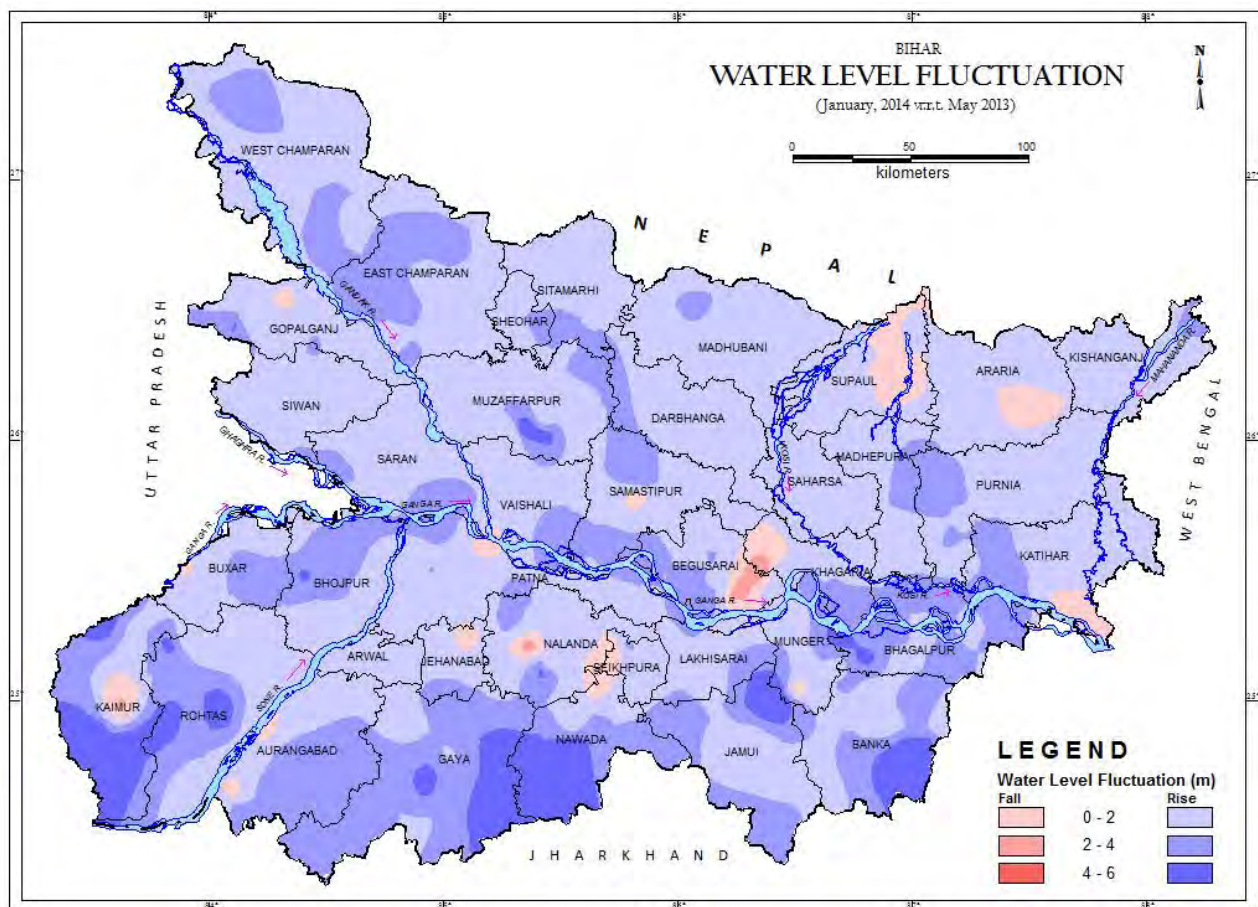


Fig. 10: Fluctuation in ground water level between May 2013 and Jan. 2014.

Table – 11 District-wise categorization of fluctuation and their frequency of water levels of HNS of May 2013 w.r.t. Jan. 2014 for Bihar State																					
SN	District	No. of HNS analysed	Range of fluctuation (m)				No. of Wells / Percentage showing fluctuation												Total wells		
			Rise		Fall		Rise							Fall						Rise	Fall
			Min.	Max.	Min.	Max.	<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%			
1	Araria	4	1.22	1.71	0.37	0.37	3	75	0	0	0	0	1	25	0	0	0	0	3	1	
2	Aurangabad	10	1.06	4.59	0.81	0.82	3	30	3	30	2	20	2	20	0	0	0	0	8	2	
3	Banka	11	0.9	7.97	-	-	6	55	4	36	1	9	0	0	0	0	0	11	0		
4	Begusarai	15	1.05	3.36	3.07	3.07	8	53	6	40	0	0	0	0	1	7	0	0	14	1	
5	Bhagalpur	12	0.45	5.07	-	-	4	33	5	42	3	25	0	0	0	0	0	12	0		
6	Bhojpur	7	1.24	4.34	-	-	2	29	4	57	1	14	0	0	0	0	0	7	0		
7	Buxar	6	1.16	2.2	0.39	0.39	4	67	1	17	0	0	1	17	0	0	0	5	1		
8	Darbhanga	6	0.39	2.37	-	-	5	83	1	17	0	0	0	0	0	0	0	6	0		
9	Gaya	9	0.3	5.5	-	-	3	33	3	33	3	33	0	0	0	0	0	9	0		
10	Gopalganj	11	0.33	4.2	0.56	0.56	8	73	1	9	1	9	1	9	0	0	0	10	1		
11	Jamui	8	0.18	8.15	-	-	5	63	2	25	1	13	0	0	0	0	0	8	0		
12	Jehanabad & Arwal	10	0.38	2.07	0.93	0.93	8	80	1	10	0	0	1	10	0	0	0	9	1		
13	Kaimur	8	0.66	5.93	2.44	2.44	2	25	2	25	3	38	0	0	1	13	0	7	1		
14	Katihar	14	0.47	3.29	1.63	1.63	9	64	4	29	0	0	1	7	0	0	0	13	1		
15	Khagaria	12	0.94	4.05	3.64	3.64	5	42	5	42	1	8	0	0	1	8	0	11	1		
16	Kishanganj	4	0.14	2.06	0.25	0.25	2	50	1	25	0	0	1	25	0	0	0	3	1		
17	Lakhisarai	1	1.78	1.78	-	-	1	100	0	0	0	0	0	0	0	0	0	1	0		
18	Madhepura	9	0.65	3.66	0.1	0.1	6	67	2	22	0	0	1	11	0	0	0	8	1		
19	Madhubani	15	0.46	3.28	-	-	13	87	2	13	0	0	0	0	0	0	0	15	0		
20	Munger	7	0.51	2.41	1.05	1.05	5	71	1	14	0	0	1	14	0	0	0	6	1		
21	Muzaffarpur	17	0.17	7.05	-	-	12	71	3	18	2	12	0	0	0	0	0	17	0		
22	Nalanda	27	0.12	4.38	0.15	3.43	17	63	5	19	1	4	2	7	2	7	0	23	4		
23	Nawada	6	0.53	5.97	0.47	0.47	1	17	3	50	1	17	1	17	0	0	0	5	1		
24	W Champaran	7	0.1	3.62	-	-	4	57	3	43	0	0	0	0	0	0	0	7	0		
25	Patna	18	0.55	2.74	0.86	0.86	11	61	6	33	0	0	1	6	0	0	0	17	1		
26	E Champaran	15	1.13	4.08	-	-	8	53	6	40	1	7	0	0	0	0	0	15	0		
27	Purnia	10	0.28	2.41	-	-	7	70	3	30	0	0	0	0	0	0	0	10	0		
28	Rohtas	12	0.28	6.5	-	-	6	50	3	25	3	25	0	0	0	0	0	12	0		
29	Saharsa	12	0.76	2.02	0.58	0.58	10	83	1	8	0	0	1	8	0	0	0	11	1		
30	Samastipur	10	0.89	3.84	1.2	1.2	6	60	3	30	0	0	1	10	0	0	0	9	1		
31	Saran	13	0.04	3.78	-	-	8	62	5	38	0	0	0	0	0	0	0	13	0		
32	Seikhpura	5	0.6	3.82	0.02	0.75	1	20	1	20	0	0	3	60	0	0	0	2	3		
33	Sheohar	1	1.95	1.95	-	-	1	100	0	0	0	0	0	0	0	0	0	1	0		
34	Sitamarhi	6	0.17	2.98	-	-	5	83	1	17	0	0	0	0	0	0	0	6	0		
35	Siwan	11	0.09	2.18	-	-	10	91	1	9	0	0	0	0	0	0	0	11	0		
36	Supaul	15	0.23	1.55	0.14	1.64	10	67	0	0	0	0	5	33	0	0	0	10	5		
37	Vaishali	7	0.48	3.52	-	-	5	71	2	29	0	0	0	0	0	0	0	7	0		
	Total	371	0.04	8.15	0	3.6	224	60	94	25	24	6	24	6	5	1	0	0	342	29	

3.3.0 ANNUAL FLUCTUATION

3.3.1 May 2012 to May 2013

Fluctuation of ground water level between May 2012 and May 2013 of 348 HNS has been analysed which indicates rise in water level in 224 wells (64 %) of the HNS and fall in water level only in 112 No. (46%) of HNS. The rise has covered almost entire State. The rise to the tune of 0 – 2 m in 57% of HNS, in the tune of 2 – 4 m in the 5% and only 2% HNS has shown rise >4 m. The segment of >4m rise is observed in 08 NHS located each in Banka, Gaya, Jamui, Muzaffarpur, Nawada, Patna, E Champaran and Sheikhpura district . The fall of water level in the segment of 0-2 m has been observed in the major and adjoining part of E & West Champaran, Muzaffarpur Madhubani, Supaul, Araria, Madhepura, Purnia, Katihar, Bhagalpur, Begusarai, Khagaria, Nalanda Nawada, Gaya Jamui and Banka district and as patches at few locations. The fall of water level in the range of 2-4 m has been observed which spread only in 2% area of the State. Only three wells, located in Begusarai, Kaimur, and Khagaria district have shown fall of water level > 4 m. (Fig. 11, Table 12).

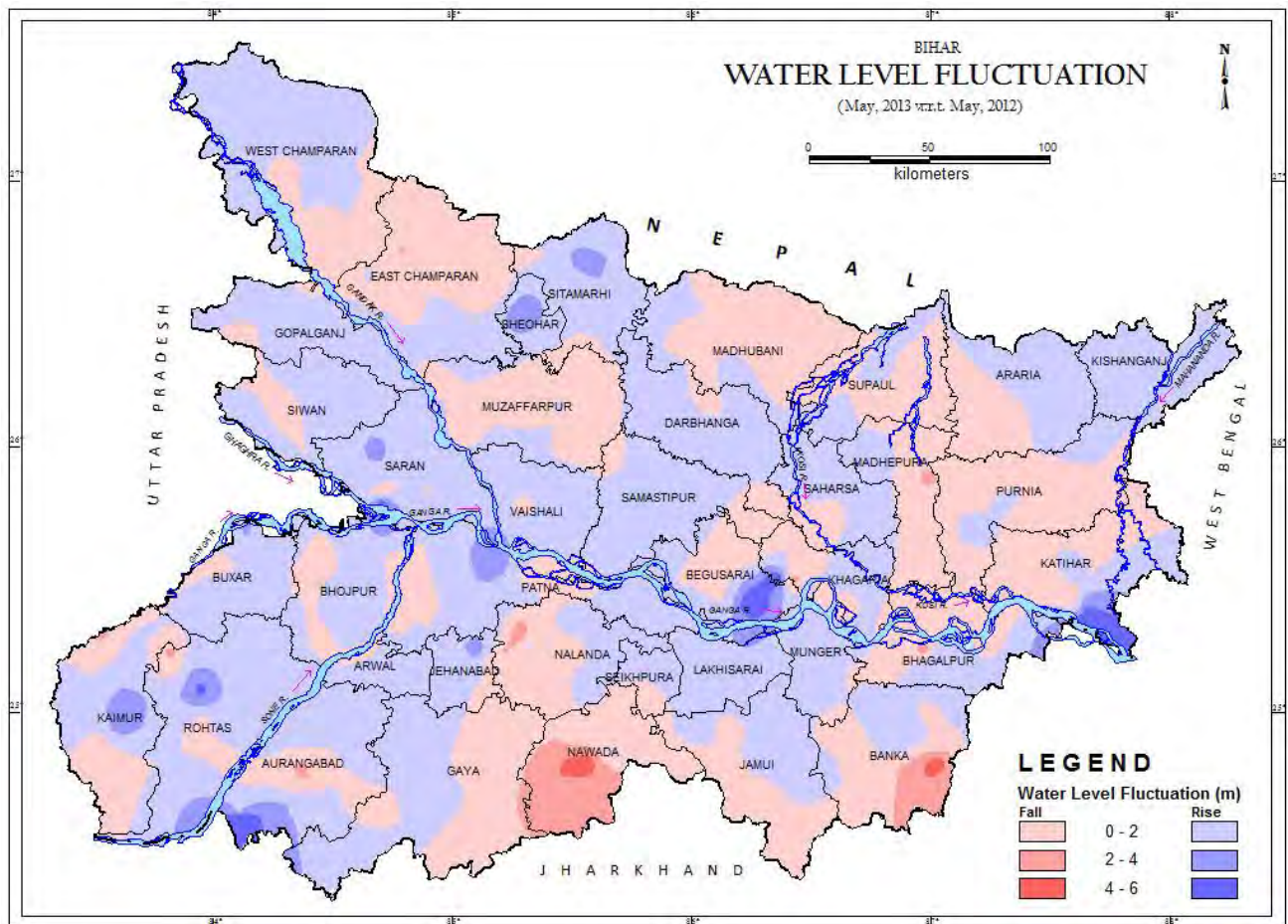


Fig. 11: Fluctuation in ground water level between May 2012 and May 2013.

Table – 12 District-wise categorization of fluctuation and their frequency of water levels of HNS of May 2013 w.r.t. May 2012 for Bihar State																				
SN	District	No. of HNS analysed	Range of fluctuation (m)				No. of Wells / Percentage showing fluctuation												Total wells	
			Rise		Fall		Rise						Fall						Rise	Fall
			Min.	Max.	Min.	Max.	<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%		
1	Araria	4	0.61	1.06	0.08	0.55	2	50	0	0	0	0	2	50	0	0	0	0	2	2
2	Aurangabad	9	0.02	2.32	0.92	2.03	5	56	1	11	0	0	2	22	1	11	0	0	6	3
3	Banka	11	0.48	9.08	0.3	0.68	6	55	0	0	1	9	3	27	0	0	0	0	7	3
4	Begusarai	14	0.14	1.81	4.76	4.76	12	86	0	0	0	0	0	0	0	0	1	7	12	1
5	Bhagalpur	11	0.21	2.37	0.53	1.84	6	55	1	9	0	0	4	36	0	0	0	0	7	4
6	Bhojpur	8	0.09	2.16	0.56	0.56	6	75	1	13	0	0	1	13	0	0	0	0	7	1
7	Buxar	5	0.69	0.82	0.02	1.28	3	60	0	0	0	0	2	40	0	0	0	0	3	2
8	Darbhanga	6	0.05	0.2	0.1	0.88	2	33	0	0	0	0	4	67	0	0	0	0	2	4
9	Gaya	7	0.73	4.55	-	-	2	29	2	29	1	14	0	0	0	0	0	0	5	0
10	Gopalganj	11	0.01	1.76	0.02	0.39	8	73	0	0	0	0	3	27	0	0	0	0	8	3
11	Jamui	8	0.28	4.68	1.18	1.83	4	50	0	0	1	13	3	38	0	0	0	0	5	3
12	Jehanabad & Arwal	8	0.08	1.82	1.42	3.07	5	63	0	0	0	0	1	13	1	13	0	0	5	2
13	Kaimur	7	0.25	1.54	0.46	4.12	3	43	0	0	0	0	1	14	1	14	1	14	3	3
14	Katihar	14	0.06	1.88	0.03	3.45	11	79	0	0	0	0	1	7	1	7	0	0	11	2
15	Khagaria	11	0.01	1.85	0.06	4.67	9	82	0	0	0	0	1	9	0	0	1	9	9	2
16	Kishanganj	3	0.15	0.15	0.3	1.03	1	33	0	0	0	0	2	67	0	0	0	0	1	2
17	Lakhisarai	3	0.3	3.79	-	-	2	67	1	33	0	0	0	0	0	0	0	0	3	0
18	Madhepura	7	0.63	1.04	0.44	1.06	5	71	0	0	0	0	2	29	0	0	0	0	5	2
19	Madhubani	13	0.07	1.82	0.08	1	9	69	0	0	0	0	4	31	0	0	0	0	9	4
20	Munger	7	0.24	3.69	0.2	3.9	2	29	1	14	0	0	2	29	2	29	0	0	3	4
21	Muzaffarpur	13	0.25	5.82	0.15	0.89	5	38	0	0	1	8	7	54	0	0	0	0	6	7
22	Nalanda	27	0.01	3.24	0.01	1.95	15	56	2	7	0	0	10	37	0	0	0	0	17	10
23	Nawada	7	0.39	6.25	1.09	1.09	5	71	0	0	1	14	1	14	0	0	0	0	6	1
24	W Champaran	6	0.01	2.16	0.2	0.46	3	50	1	17	0	0	2	33	0	0	0	0	4	2
25	Patna	19	0.09	4.32	0.03	1.56	9	47	1	5	1	5	7	37	0	0	0	0	11	7
26	E Champaran	15	0.25	4.56	0.42	0.42	9	60	3	20	1	7	1	7	0	0	0	0	13	1
27	Purnia	8	0.07	0.85	0.12	0.15	6	75	0	0	0	0	2	25	0	0	0	0	6	2
28	Rohtas	11	0.04	2.69	0.2	1.25	5	45	3	27	0	0	3	27	0	0	0	0	8	3
29	Saharsa	11	0.28	1.24	0.42	0.43	8	73	0	0	0	0	2	18	0	0	0	0	8	2
30	Samastipur	10	0.02	1.12	0.03	1.86	4	40	0	0	0	0	6	60	0	0	0	0	4	6
31	Saran	12	0.15	0.89	0.57	0.57	11	92	0	0	0	0	1	8	0	0	0	0	11	1
32	Seikhpura	5	0.03	5.22	0.68	0.81	2	40	0	0	1	20	2	40	0	0	0	0	3	2
33	Sheohar	1	0.26	0.26	-	-	1	100	0	0	0	0	0	0	0	0	0	0	1	0
34	Sitamarhi	7	0.7	0.7	0.04	0.57	1	14	0	0	0	0	5	71	0	0	0	0	1	5
35	Siwan	9	0.01	1.78	0.18	1.85	5	56	0	0	0	0	3	33	0	0	0	0	5	3
36	Supaul	13	0.06	1.16	0.03	1.08	4	31	0	0	0	0	9	69	0	0	0	0	4	9
37	Vaishali	7	0.03	0.35	0.32	3.46	3	43	0	0	0	0	2	29	2	29	0	0	3	4
	Total	348	0.01	9.08	0.01	4.76	199	57	17	5	8	2	101	29	8	2	3	1	224	112

3.3.2 August 2012 to August 2013

Water level fluctuation between August 2012 and August 2013 has been analysed for 268 HNS, which indicates that the rise of water level is in about 57% of the HNS and fall in about 43% of the HNS. The rise of water level observed in the eastern part of the State except part of the Banka, Bhagalpur and Katihar district and as patches in eastern part, which spread in range of 0 – 2 m in 47% area of the State. The segment of 2–4m had covered the major part of Begusarai, Lakhisarai, Munger, Khagaria, and madhepura district and as patches at few location constitutes about 5% area of the State. Only two wells located in Munger and Rohtas district have shown rise >4m.

About 31 % area of the State has shown fall in water level to the tune of 0 to 2 m spread in western part of the State and in the eastern Bihar in part of Supaul Banka, Bhagalpur and Katihar district. The range of 2 to 4 m fall has been noticed as patches in East Champaran, Muzaffarpur, Kaimur, Rohtas, Aurangabad, Nawada, Jehanabad, Bhagalpur and Patna district. Only 04 wells located in Aurangabad, Katihar, Nawada and Rohtas district have shown fall more than 4 m. (Fig. 12, Table 13).

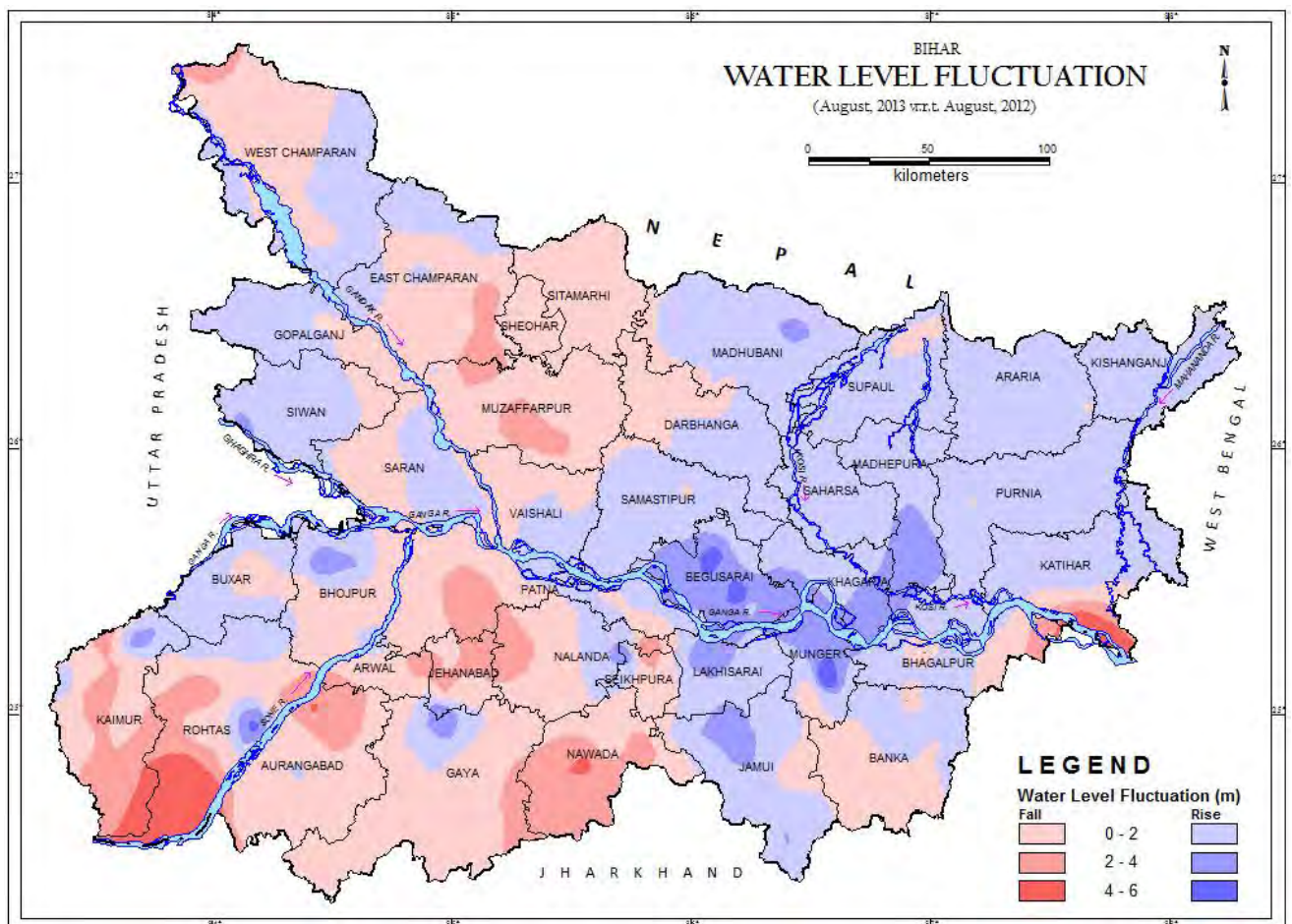


Fig. 12: Fluctuation in ground water level between Aug. 2012 and Aug. 2013.

Table – 13 District-wise categorization of fluctuation and their frequency of water levels of HNS of **Aug. 2013 w.r.t. Aug. 2012** for Bihar State

SN	District	No. of HNS analysed	Range of fluctuation (m)				No. of Wells / Percentage showing fluctuation												Total wells	
			Rise		Fall		Rise						Fall							
			Min.	Max.	Min.	Max.	<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%	Rise	Fall
1	Araria	3	0.59	0.76	0.04	0.04	2	67	0	0	0	0	1	33	0	0	0	0	2	1
2	Aurangabad	7	0.2	0.2	0.01	4.18	1	14	0	0	0	0	5	71	0	0	1	14	1	6
3	Banka	10	0.1	4.56	0.15	2.13	6	60	0	0	1	10	2	20	1	10	0	0	7	3
4	Begusarai	9	0.77	6.06	-	-	2	22	5	56	2	22	0	0	0	0	0	0	9	0
5	Bhagalpur	8	0.3	1.91	2.08	2.08	7	88	0	0	0	0	0	0	1	13	0	0	7	1
6	Bhojpur	7	0.12	2.8	0.18	0.94	1	14	2	29	0	0	4	57	0	0	0	0	3	4
7	Buxar	5	0.29	1.11	0.8	0.8	4	80	0	0	0	0	1	20	0	0	0	0	4	1
8	Darbhangha	7	0.02	1.9	0.18	1.29	3	43	0	0	0	0	4	57	0	0	0	0	3	4
9	Gaya	6	3.86	3.86	0.66	3.42	0	0	1	17	0	0	4	67	1	17	0	0	1	5
10	Gopalganj	7	0.49	1.69	0.1	0.74	5	71	0	0	0	0	2	29	0	0	0	0	5	2
11	Jamui	6	0.7	3.22	0.27	0.27	1	17	4	67	0	0	1	17	0	0	0	0	5	1
12	Jehanabad & Arwal	7	0.46	0.46	0.91	2.62	1	14	0	0	0	0	3	43	3	43	0	0	1	6
13	Kaimur	8	0.27	3	0.28	3.07	1	13	1	13	0	0	3	38	3	38	0	0	2	6
14	Katihar	13	0.77	2.34	5.4	5.4	9	69	3	23	0	0	0	0	0	0	1	8	12	1
15	Khagaria	6	1.09	3.34	2.53	2.53	2	33	3	50	0	0	0	0	1	17	0	0	5	1
16	Kishanganj	3	0.48	0.84	-	-	3	100	0	0	0	0	0	0	0	0	0	0	3	0
17	Lakhisarai	3	1.57	2.8	-	-	1	33	2	67	0	0	0	0	0	0	0	0	3	0
18	Madhepura	5	0.83	2.17	-	-	4	80	1	20	0	0	0	0	0	0	0	0	5	0
19	Madhubani	13	0.35	2.38	0.15	0.88	9	69	1	8	0	0	3	23	0	0	0	0	10	3
20	Munger	5	0.16	6.18	0.32	0.32	1	20	1	20	2	40	1	20	0	0	0	0	4	1
21	Muzaffarpur	9	0.1	0.1	0.26	3.99	1	11	0	0	0	0	5	56	3	33	0	0	1	8
22	Nalanda	8	0.02	0.02	0.16	3.7	1	13	0	0	0	0	3	38	3	38	0	0	1	6
23	Nawada	5	-	-	0.75	4.33	0	0	0	0	0	0	2	40	2	40	1	20	0	5
24	W Champaran	7	0.16	0.56	0.11	2.63	4	57	0	0	0	0	2	29	1	14	0	0	4	3
25	Patna	10	0.02	1.08	0.06	3.66	3	30	0	0	0	0	5	50	2	20	0	0	3	7
26	E Champaran	13	0.09	1.82	0.13	2.44	4	31	0	0	0	0	8	62	1	8	0	0	4	9
27	Purnia	8	0.55	1.84	0.17	0.17	7	88	0	0	0	0	1	13	0	0	0	0	7	1
28	Rohtas	13	0.38	4.72	0.09	8.77	3	23	0	0	1	8	5	38	3	23	1	8	4	9
29	Saharsa	6	0.13	1.43	-	-	6	100	0	0	0	0	0	0	0	0	0	0	6	0
30	Samastipur	9	0.25	1.28	0.12	0.12	8	89	0	0	0	0	1	11	0	0	0	0	8	1
31	Saran	11	0.33	3.1	0.09	1.48	4	36	1	9	0	0	6	55	0	0	0	0	5	6
32	Seikhpora	3	2.93	2.93	1.93	3.86	0	0	1	33	0	0	1	33	1	33	0	0	1	2
33	Sheohar	1	-	-	0.3	0.3	0	0	0	0	0	0	1	100	0	0	0	0	0	1
34	Sitamarhi	5	-	-	0.67	1.34	0	0	0	0	0	0	5	100	0	0	0	0	0	5
35	Siwan	8	0.15	2.35	0.5	0.5	6	75	1	13	0	0	1	13	0	0	0	0	7	1
36	Supaul	9	0.19	0.72	0.14	0.19	7	78	0	0	0	0	2	22	0	0	0	0	7	2
37	Vaishali	5	0.06	0.38	0.03	0.79	2	40	0	0	0	0	2	40	0	0	0	0	2	2
	Total	268	0.02	6.18	0.01	8.77	119	44	27	10	6	2	84	31	26	10	4	1	152	114

3.3.3 November 2012 to November 2013

Water level fluctuation between November 2012 and November 2013 has been analysed for 239 HNS, which indicates that there is a rise of water level in about 62% of the HNS and fall in about 38% of the HNS. The rise of water level spread in almost entire (64% area) States whereas patches of the segment of 2 to 4 m rise has been observed in Buxar, Bhojpur, Siwan Aurangabad, Samastipur, Madhubani, Begusarai, Nawada, Jamui, Banka and Bhagalpur district. No area has shown rise of water level more than 4 m.

About 30 % area of the State which covers the major and bordering part of Kaimur Rohtas Aurangabad, Jehanabad, Patna, Nawada, Sheikhpura Muzaffarpur, Sheohar West champaran, Jamui, Banka, Araria and Kishanganj district and as patches at few locations has shown the fall of water level upto 2 m . The range of 2 to 4 m fall has been observed in total 3% area of the State shown in Jehanabad, Patna, Nalanda, Sheikhpura, Jamui Banka and Kishanganj district. Only 03 wells have shown fall of water level more than 4 m located in Banka, Kishanganj and Patna district. (Fig. 13, Table 14).

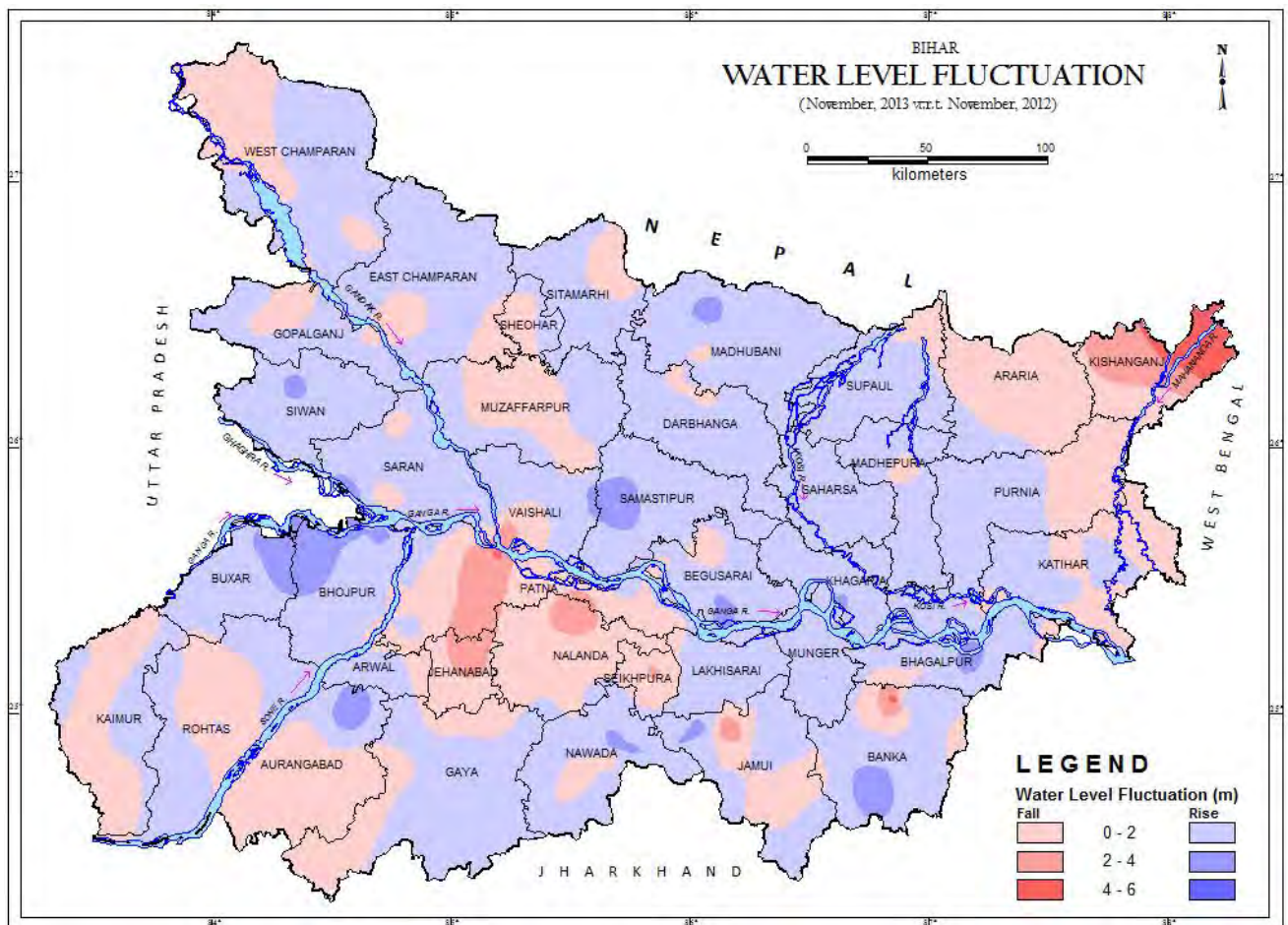


Fig. 13: Fluctuation in ground water level between Nov 2012 and Nov. 2013.

Table – 14 District-wise categorization of fluctuation and their frequency of water levels of HNS of Nov. 2013 w.r.t. Nov. 2012 for Bihar State

SN	District	No. of HNS analysed	Range of fluctuation (m)				No. of Wells / Percentage showing fluctuation												Total wells	
			Rise		Fall		Rise				Fall									
			Min.	Max.	Min.	Max.	<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%	Rise	Fall
1	Araria	1	-	-	0.24	0.24	0	0	0	0	0	0	1	100	0	0	0	0	0	1
2	Aurangabad	10	0.11	3.64	0.06	1.92	2	20	1	10	0	0	7	70	0	0	0	0	3	7
3	Banka	8	0.3	2.41	0.14	4.7	4	50	1	13	0	0	2	25	0	0	1	13	5	3
4	Begusarai	8	0.05	2.27	0.34	0.5	4	50	2	25	0	0	2	25	0	0	0	0	6	2
5	Bhagalpur	7	0.3	2.55	0.1	0.1	4	57	1	14	0	0	1	14	0	0	0	0	5	1
6	Bhojpur	7	0.09	2.59	-	-	5	71	2	29	0	0	0	0	0	0	0	0	7	0
7	Buxar	6	0.63	3.51	-	-	5	83	1	17	0	0	0	0	0	0	0	0	6	0
8	Darbhangha	5	0.22	1.06	0.07	0.46	3	60	0	0	0	0	2	40	0	0	0	0	3	2
9	Gaya	4	0.02	0.7	-	-	4	100	0	0	0	0	0	0	0	0	0	0	4	0
10	Gopalganj	10	0.01	2.01	0.59	1.41	6	60	1	10	0	0	3	30	0	0	0	0	7	3
11	Jamui	7	0.12	2.42	0.38	3.8	2	29	1	14	0	0	3	43	1	14	0	0	3	4
12	Jehanabad & Arwal	7	-	-	0.14	3.57	0	0	0	0	0	0	6	86	1	14	0	0	0	7
13	Kaimur	7	0.68	1.64	0.23	1.85	3	43	0	0	0	0	4	57	0	0	0	0	3	4
14	Katihar	10	0.69	2.23	0.09	0.81	4	40	1	10	0	0	5	50	0	0	0	0	5	5
15	Khagaria	6	0.67	2.26	-	-	5	83	1	17	0	0	0	0	0	0	0	0	6	0
16	Kishanganj	2	-	-	0.3	6.04	0	0	0	0	0	0	1	50	0	0	1	50	0	2
17	Lakhisarai	2	1.1	1.9	-	-	2	100	0	0	0	0	0	0	0	0	0	0	2	0
18	Madhepura	2	1.06	1.06	0.21	0.21	1	50	0	0	0	0	1	50	0	0	0	0	1	1
19	Madhubani	8	0.31	3.89	0.3	0.3	6	75	1	13	0	0	1	13	0	0	0	0	7	1
20	Munger	7	0.54	2.05	-	-	5	71	1	14	0	0	0	0	0	0	0	0	6	0
21	Muzaffarpur	10	1.06	1.35	0.13	1.6	2	20	0	0	0	0	8	80	0	0	0	0	2	8
22	Nalanda	8	0.11	0.11	0.16	3.69	1	13	0	0	0	0	6	75	1	13	0	0	1	7
23	Nawada	7	0.5	2.44	0.13	0.68	3	43	2	29	0	0	2	29	0	0	0	0	5	2
24	W Champaran	7	0.38	0.85	0.1	0.86	3	43	0	0	0	0	4	57	0	0	0	0	3	4
25	Patna	9	0.04	0.78	0.06	4.31	5	56	0	0	0	0	3	33	0	0	1	11	5	4
26	E Champaran	8	0.37	2.01	1	1	6	75	1	13	0	0	1	13	0	0	0	0	7	1
27	Purnia	5	1.05	1.25	0.07	0.26	2	40	0	0	0	0	3	60	0	0	0	0	2	3
28	Rohtas	12	0.05	1.66	0.17	1.6	7	58	0	0	0	0	5	42	0	0	0	0	7	5
29	Saharsa	5	0.55	1.09	-	-	5	100	0	0	0	0	0	0	0	0	0	0	5	0
30	Samastipur	7	0.19	3.36	1.25	1.25	5	71	1	14	0	0	1	14	0	0	0	0	6	1
31	Saran	10	0.11	3.2	0.2	0.76	6	60	1	10	0	0	3	30	0	0	0	0	7	3
32	Seikhpura	2	-	-	1.28	2.31	0	0	0	0	0	0	1	50	1	50	0	0	0	2
33	Sheohar	1	-	-	0.28	0.28	0	0	0	0	0	0	1	100	0	0	0	0	0	1
34	Sitamarhi	5	0.13	0.88	0.46	0.46	4	80	0	0	0	0	1	20	0	0	0	0	4	1
35	Siwan	10	0.22	2.52	-	-	9	90	1	10	0	0	0	0	0	0	0	0	10	0
36	Supaul	3	0.1	0.83	0.16	0.16	2	67	0	0	0	0	1	33	0	0	0	0	2	1
37	Vaishali	6	0.09	1.48	0.08	2.68	4	67	0	0	0	0	1	17	1	17	0	0	4	2
	Total	239	0.01	3.89	0.06	6.04	129	54	20	8	0	0	80	33	5	2	3	1	149	88

3.3.4 January 2013 to January 2014

Water level fluctuation between January 2013 and January 2014 has been analysed for 291 HNS. The rise of water level ranged from 0.02 to 5.27 m has been observed in 206 wells (71%) whereas the fall in water level was between 0.01 and 7.43 m noticed in 83 Well (29%). The rise to the tune of 0 to 2 m has been shown in 75 area of the State spread in almost entire State. The segment of 2 to 4 m is observed in localised area in part of Bhagalpur, Munger, and Jehanabad district and as patches and many locations. Only one well in Bhgalpur district has shown water level rise more than 4m.

The fall in the range of 0 – 2 m, 2 – 4 m and > 4m has been observed in 24%, 3 % and 1% of HNS respectively. The fall ranged from 0 to 2 m is observed as patches at many locations including the part of Jamui, Vaishali, Muzaffarpur, Sitamarhi, Rohtas, Aurangabad, Gaya, Nalanda, Nawada and Sheikhpura district. The segment of 2 to 4 m has been calculated for only 09 wells covers the area as patches in part of Muzaffarpur, Buxar, Nalanda, Sheikhpura, and Purnia district. Only 03 wells analysed have shown fall of water level more than 3 m located in Jamui and Nalanda district. (Fig. 14, Table 15).

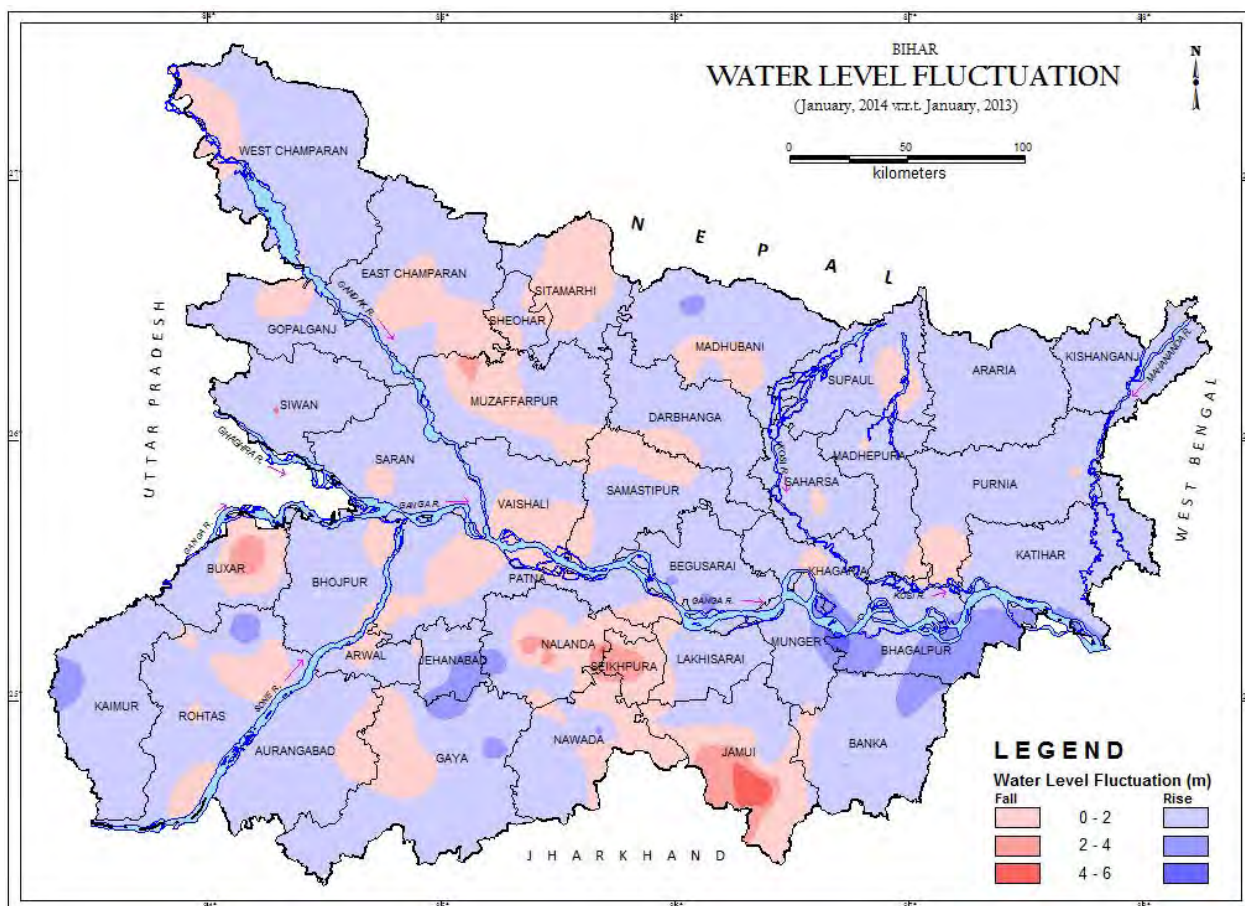


Fig. 14: Fluctuation in ground water level between Jan. 2014 and Jan. 2013.

Table – 15 District-wise categorization of fluctuation and their frequency of water levels of HNS of Jan. 2014 w.r.t. Jan. 2013 for Bihar State

SN	District	No. of HNS analysed	Range of fluctuation (m)				No. of Wells / Percentage showing fluctuation												Total wells		
			Rise		Fall		Rise				Fall								Rise	Fall	
			Min.	Max.	Min.	Max.	<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%			
1	Araria	2	1.04	1.47	-	-	2	100	0	0	0	0	0	0	0	0	0	0	0	2	0
2	Aurangabad	8	0.15	0.97	0.2	0.2	7	88	0	0	0	0	1	13	0	0	0	0	0	7	1
3	Banka	8	0.42	2.74	-	-	6	75	2	25	0	0	0	0	0	0	0	0	8	0	
4	Begusarai	9	0.34	2.42	-	-	7	78	2	22	0	0	0	0	0	0	0	0	9	0	
5	Bhagalpur	7	1.45	5.27	-	-	3	43	3	43	1	14	0	0	0	0	0	0	7	0	
6	Bhojpur	5	0.77	1.84	1.2	1.2	4	80	0	0	0	0	1	20	0	0	0	0	4	1	
7	Buxar	4	0.62	1.27	3.44	3.44	3	75	0	0	0	0	0	0	1	25	0	0	3	1	
8	Darbhanga	3	0.57	0.72	0.21	0.21	2	67	0	0	0	0	1	33	0	0	0	0	2	1	
9	Gaya	7	0.02	3.06	0.08	0.27	3	43	2	29	0	0	2	29	0	0	0	0	5	2	
10	Gopalganj	9	0.09	1.2	0.7	1.41	7	78	0	0	0	0	2	22	0	0	0	0	7	2	
11	Jamui	10	0.34	1.67	0.41	7.43	5	50	0	0	0	0	4	40	0	0	1	10	5	5	
12	Jehanabad & Arwal	10	0.07	2.78	0.15	0.56	6	60	1	10	0	0	3	30	0	0	0	0	7	3	
13	Kaimur	8	0.43	3.44	-	-	6	75	2	25	0	0	0	0	0	0	0	0	8	0	
14	Katihar	14	0.28	2.07	-	-	13	93	1	7	0	0	0	0	0	0	0	0	14	0	
15	Khagaria	8	0.27	2.04	1.47	1.47	6	75	1	13	0	0	1	13	0	0	0	0	7	1	
16	Kishanganj	2	1.26	1.94	-	-	2	100	0	0	0	0	0	0	0	0	0	0	2	0	
17	Lakhisarai	1	1	1	-	-	1	100	0	0	0	0	0	0	0	0	0	0	1	0	
18	Madhepura	5	0.65	1.5	0.11	0.18	3	60	0	0	0	0	2	40	0	0	0	0	3	2	
19	Madhubani	13	0.03	3.41	0.02	0.85	8	62	1	8	0	0	4	31	0	0	0	0	9	4	
20	Munger	6	0.18	0.91	0.25	0.25	5	83	0	0	0	0	1	17	0	0	0	0	5	1	
21	Muzaffarpur	11	0.16	1.49	0.19	2.6	4	36	0	0	0	0	6	55	1	9	0	0	4	7	
22	Nalanda	28	0.14	2.83	0.21	4.59	11	39	1	4	0	0	11	39	3	11	2	7	12	16	
23	Nawada	6	0.04	2.46	0.01	1.36	1	17	1	17	0	0	3	50	0	0	0	0	2	3	
24	W Champaran	6	0.04	1.88	0.54	0.54	5	83	0	0	0	0	1	17	0	0	0	0	5	1	
25	Patna	17	0.28	2.05	0.03	1.96	9	53	1	6	0	0	7	41	0	0	0	0	10	7	
26	E Champaran	5	0.03	1.39	0.68	0.68	4	80	0	0	0	0	1	20	0	0	0	0	4	1	
27	Purnia	6	0.76	1.61	0.11	2.1	4	67	0	0	0	0	1	17	1	17	0	0	4	2	
28	Rohtas	13	0.16	3.42	0.24	0.98	6	46	1	8	0	0	6	46	0	0	0	0	7	6	
29	Saharsa	7	0.36	1.05	0.01	0.85	5	71	0	0	0	0	2	29	0	0	0	0	5	2	
30	Samastipur	5	0.14	1.32	1.93	1.93	4	80	0	0	0	0	1	20	0	0	0	0	4	1	
31	Saran	11	0.15	1.93	0.77	0.89	9	82	0	0	0	0	2	18	0	0	0	0	9	2	
32	Seikhpura	4	-	-	0.92	2.64	0	0	0	0	0	0	1	25	3	75	0	0	0	4	
33	Sheohar	1	0.12	0.12	-	-	1	100	0	0	0	0	0	0	0	0	0	0	1	0	
34	Sitamarhi	4	0.34	0.34	0.18	0.75	1	25	0	0	0	0	3	75	0	0	0	0	1	3	
35	Siwan	8	0.23	1.45	0.04	0.04	7	88	0	0	0	0	1	13	0	0	0	0	7	1	
36	Supaul	15	0.02	1.35	0.02	0.84	12	80	0	0	0	0	2	13	0	0	0	0	12	2	
37	Vaishali	5	0.84	1.61	0.34	0.34	4	80	0	0	0	0	1	20	0	0	0	0	4	1	
	Total	291	0.02	5.27	0.01	7.43	186	64	19	7	1	0	71	24	9	3	3	1	206	83	

3.4 DECADAL FLUCTUATION

3.4.1 Decadal Mean of May to May 2013

Fluctuation in water level of May 2013 with respect to decadal mean of May has been analysed for 292 HNS, which indicates fall in 55% and rise in the remaining 45% of the analysed HNS. The rise in the tune of 0 – 2 m is observed in the 40% of the HNS analysed, spatially covers the 36% area of the State and occurs in the major and adjoining part of Gopalganj, Siwan, Saran, Vaishali, Bhojpur, Rohtas, Aurangabad, Jehanabad, Patna, Nalanda, Jamui, munger, Kishanganj, Darbhanga and Sitamarhi district and as patches at many locations. In only 10 HNS located in Bhagalpur, Bhojpur, Buxar, Jamui, Kaimur, Katihar, Patna Rohtas and Saran has shown rise in the tune of 2-4 m. Only 3 wells located each in Begusarai, Khagaria and Lakhisarai district has recorded rise more than 4m. The major area (58% area) of the State has shown fall in water level less than 2 m whereas the segment of 2 – 4 m observed in only 5% (16 Nos.) NHS covered the area as patches mostly in SGP. The fall of water level more than 4m has been recorded in only 5 wells located in Banka, Bhagalpur, Lakhisarai, Muzaffarpur and Nawada district. (Fig. 15, Table 16).

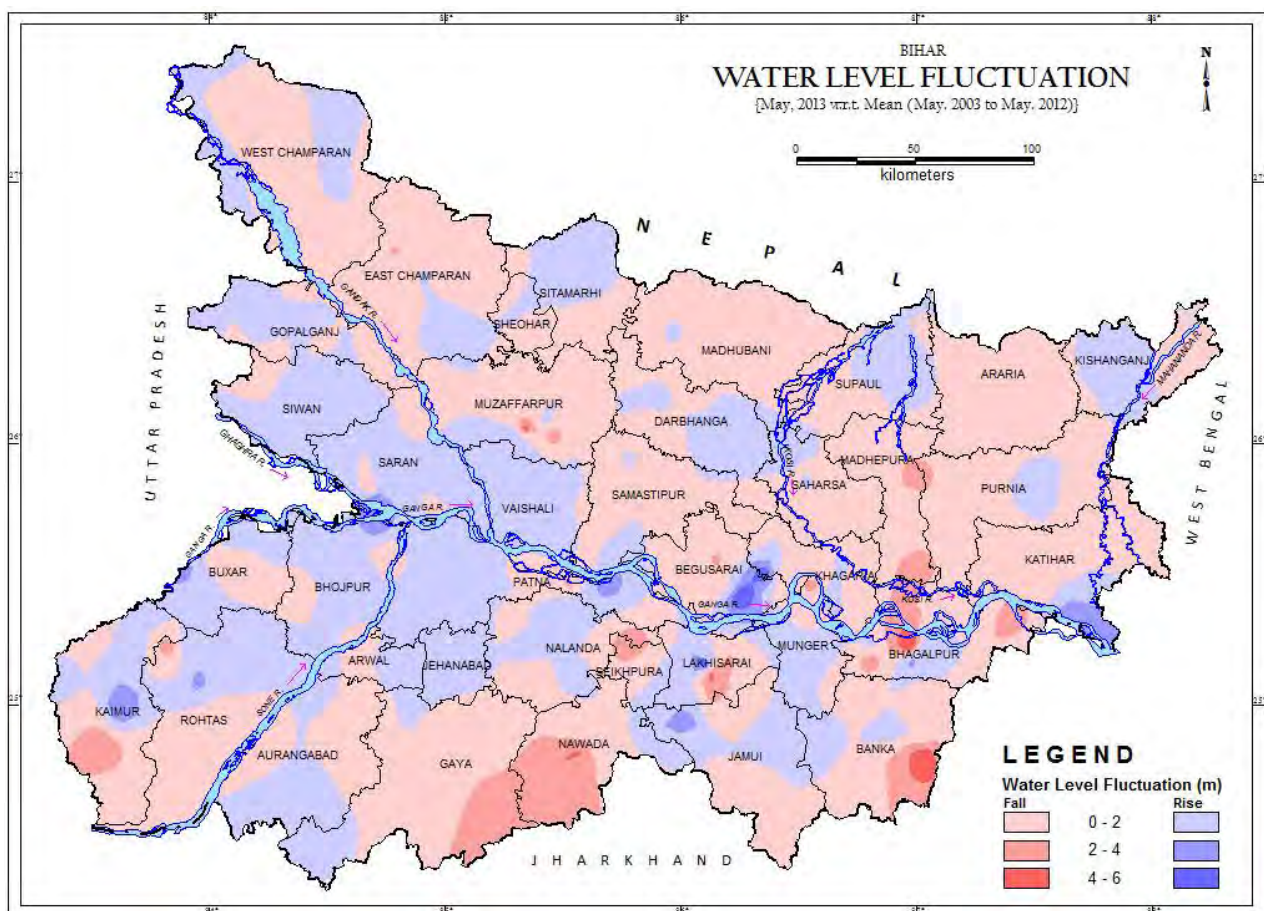


Fig. 15 Fluctuation in water level between May (mean) and May 2013.

Table – 16 District-wise categorization of fluctuation and their frequency of water levels of HNS of **May. 2013** w.r.t. **May mean (2003-2012)** for Bihar State

SN	District	No. of	Range of fluctuation (m)				No. of Wells / Percentage showing fluctuation												Total	
		Wells	Rise		Fall		Rise				Fall				wells					
		analysed	Min.	Max.	Min.	Max.	<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%	Rise	Fall
1	Araria	3	-	-	0.23	1.77	0	0	0	0	0	0	3	100	0	0	0	0	0	3
2	Aurangabad	9	0.05	1.70	0.39	1.68	6	67	0	0	0	0	3	33	0	0	0	0	6	3
3	Banka	9	0.05	0.61	0.06	4.83	2	22	0	0	0	0	6	67	0	0	1	11	2	7
4	Begusarai	10	5.59	5.59	0.06	2.34	0	0	0	0	1	10	7	70	1	10	0	0	1	8
5	Bhagalpur	11	0.07	2.35	0.62	6.10	4	36	1	9	0	0	3	27	2	18	1	9	5	6
6	Bhojpur	8	0.48	2.68	0.02	1.31	3	38	2	25	0	0	3	38	0	0	0	0	5	3
7	Buxar	6	0.34	2.45	0.39	0.47	3	50	1	17	0	0	2	33	0	0	0	0	4	2
8	Darbhanga	6	0.26	0.89	0.37	1.51	3	50	0	0	0	0	3	50	0	0	0	0	3	3
9	Gaya	8	0.26	0.26	0.45	3.15	1	13	0	0	0	0	6	75	1	13	0	0	1	7
10	Gopalganj	11	0.10	1.44	0.03	0.45	5	45	0	0	0	0	6	55	0	0	0	0	5	6
11	Jamui	5	0.29	2.48	1.10	1.52	2	40	1	20	0	0	2	40	0	0	0	0	3	2
12	Jehanabad & Arwal	9	0.05	1.56	0.20	0.20	8	89	0	0	0	0	1	11	0	0	0	0	8	1
13	Kaimur	8	0.95	3.76	0.10	3.65	2	25	1	13	0	0	4	50	1	13	0	0	3	5
14	Katihar	13	0.16	3.27	0.12	1.32	1	8	1	8	0	0	11	85	0	0	0	0	2	11
15	Khagaria	7	0.08	4.82	0.73	1.33	4	57	0	0	1	14	2	29	0	0	0	0	5	2
16	Kishanganj	3	0.08	0.94	0.68	0.68	2	67	0	0	0	0	1	33	0	0	0	0	2	1
17	Lakhisarai	5	0.42	6.52	2.19	4.57	2	40	0	0	1	20	0	0	1	20	1	20	3	2
18	Madhepura	6	-	-	0.44	2.64	0	0	0	0	0	0	4	67	2	33	0	0	0	6
19	Madhubani	10	0.33	0.33	0.16	3.08	1	10	0	0	0	0	8	80	1	10	0	0	1	9
20	Munger	6	0.80	1.49	0.20	2.59	3	50	0	0	0	0	2	33	1	17	0	0	3	3
21	Muzaffarpur	18	0.03	1.75	0.01	4.99	5	28	0	0	0	0	11	61	1	6	1	6	5	13
22	Nalanda	8	0.07	1.47	0.19	1.96	5	63	0	0	0	0	3	38	0	0	0	0	5	3
23	Nawada	6	0.01	0.01	0.25	4.27	1	17	0	0	0	0	4	67	0	0	1	17	1	5
24	W Champaran	9	0.11	1.37	0.20	1.84	4	44	0	0	0	0	5	56	0	0	0	0	4	5
25	Patna	10	0.04	2.85	0.33	2.25	6	60	1	10	0	0	2	20	1	10	0	0	7	3
26	E Champaran	14	0.03	0.92	0.26	2.14	5	36	0	0	0	0	8	57	1	7	0	0	5	9
27	Purnia	7	0.01	0.33	0.15	1.28	2	29	0	0	0	0	5	71	0	0	0	0	2	5
28	Rohtas	11	.00	2.42	0.36	2.72	4	36	1	9	0	0	4	36	2	18	0	0	5	6
29	Saharsa	7	0.13	0.19	0.07	1.87	2	29	0	0	0	0	5	71	0	0	0	0	2	5
30	Samastipur	8	0.21	0.70	0.18	1.90	3	38	0	0	0	0	5	63	0	0	0	0	3	5
31	Saran	9	0.02	3.91	0.38	1.03	6	67	1	11	0	0	2	22	0	0	0	0	7	2
32	Seikhpura	2	-	-	0.55	3.31	0	0	0	0	0	0	1	50	1	50	0	0	0	2
33	Sheohar	1	0.09	0.09	-	-	1	100	0	0	0	0	0	0	0	0	0	0	1	0
34	Sitamarhi	5	0.02	0.74	0.56	0.56	4	80	0	0	0	0	1	20	0	0	0	0	4	1
35	Siwan	9	0.12	1.55	0.58	0.58	7	78	0	0	0	0	1	11	0	0	0	0	7	1
36	Supaul	10	0.56	1.64	0.06	1.28	5	50	0	0	0	0	5	50	0	0	0	0	5	5
37	Vaishali	5	0.18	1.54	-	-	5	100	0	0	0	0	0	0	0	0	0	0	5	0
	Total	292	0.01	6.52	0.01	6.10	117	40	10	3	3	1	139	48	16	5	5	2	130	160

3.4.2 Decadal Mean of August to August 2013

Fluctuation in water level of August 2013 with respect to decadal mean of August has been analysed for 289 HNS, which shows fall in water level in the 56% of HNS and rise in the remaining 44% of HNS. The rise in the range of 0 – 2 m has been observed in 28% of the HNS, spatially covers the major area in eastern part of the State and localised area in southern part. The range of 2 to 4 m rise has been recorded as patches at many locations and in an area including the adjoining part of Begusarai, Khagaria, Madhepura, Lakhisarai and Munger district. Only 03 wells located in Bhojpur, Munger and Rohtas district has shown rise more than 4m. About 58 % area of the State has shown fall of water level in the range of 0 to 2m spread in the Sitamarhi and Sheohar district, and in part of Muzaffarpur, E & W Champaran, Saran, Siwan, Gopalganj, Buxar, Rohtas Kaimuur, Aurangabad, Jehanabad & Arwal, Gaya, Nawada, Nalanda, Sheikhpura, Jamui, Bhagalpur, Katihar, Patna and Supaul district. The range of 2 – 4 m has been observed as patches in about 4% area of the State. The fall of water level more than 4m has been recorded only in 3 wells located in Bhagalpur, Nawada and Rohtas district. (Fig. 16, Table 17).

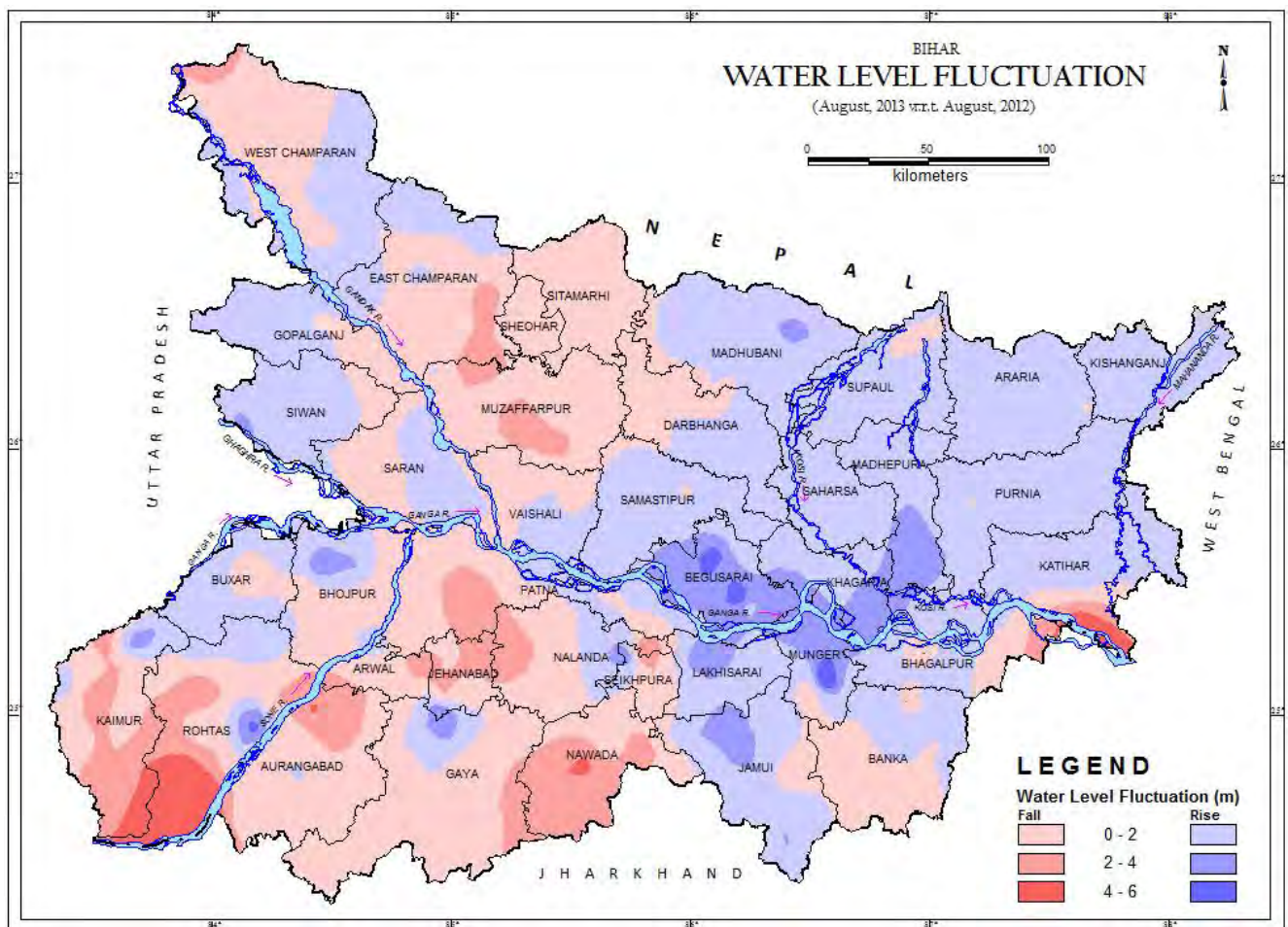


Fig. 16 Fluctuation in water level between Aug. (mean) and Aug. 2013

Table – 17 District-wise categorization of fluctuation and their frequency of water levels of HNS of Aug. 2013 w.r.t. Aug. mean (2003-2012) for Bihar State

SN	District	No. of	Range of fluctuation				No. of Wells / Percentage showing fluctuation												Total		
		Wells	Rise		Fall		Rise						Fall						Rise	Fall	
		analysed	Min.	Max.	Min.	Max.	<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%			
1	Araria	3	0.02	0.59	-	-	3	100	0	0	0	0	0	0	0	0	0	0	0	3	0
2	Aurangabad	8	0.20	0.96	0.46	3.82	3	38	0	0	0	0	4	50	1	13	0	0	3	5	
3	Banka	10	0.24	1.56	0.29	3.33	3	30	0	0	0	0	5	50	2	20	0	0	3	7	
4	Begusarai	9	0.08	3.31	-	-	5	56	3	33	0	0	1	11	0	0	0	0	8	1	
5	Bhagalpur	10	1.13	1.83	0.10	7.33	6	60	0	0	0	0	3	30	0	0	1	10	6	4	
6	Bhojpur	7	0.44	4.20	0.05	1.29	3	43	0	0	1	14	3	43	0	0	0	0	4	3	
7	Buxar	5	0.34	1.25	0.88	1.41	3	60	0	0	0	0	2	40	0	0	0	0	3	2	
8	Darbhanga	8	0.02	1.08	0.07	1.21	2	25	0	0	0	0	6	75	0	0	0	0	2	6	
9	Gaya	4	3.86	3.86	0.45	0.76	0	0	1	25	0	0	3	75	0	0	0	0	1	3	
10	Gopalganj	8	0.35	0.83	0.04	1.58	4	50	0	0	0	0	4	50	0	0	0	0	4	4	
11	Jamui	7	1.69	3.01	0.68	2.72	1	14	2	29	0	0	3	43	1	14	0	0	3	4	
12	Jehanabad & Arwal	9	0.51	0.51	0.91	3.92	1	11	0	0	0	0	4	44	4	44	0	0	1	8	
13	Kaimur	8	0.24	1.19	0.86	2.36	3	38	0	0	0	0	4	50	1	13	0	0	3	5	
14	Katihar	13	0.34	1.59	0.17	2.30	7	54	0	0	0	0	5	38	1	8	0	0	7	6	
15	Khagaria	6	0.48	1.63	0.56	0.56	5	83	0	0	0	0	1	17	0	0	0	0	5	1	
16	Kishanganj	4	0.20	0.62	1.10	1.10	3	75	0	0	0	0	1	25	0	0	0	0	3	1	
17	Lakhisarai	3	1.55	3.29	-	-	2	67	1	33	0	0	0	0	0	0	0	0	3	0	
18	Madhepura	6	0.13	1.04	-	-	6	100	0	0	0	0	0	0	0	0	0	0	6	0	
19	Madhubani	13	0.53	2.38	0.01	1.63	5	38	1	8	0	0	7	54	0	0	0	0	6	7	
20	Munger	6	0.37	5.07	0.78	1.20	2	33	1	17	1	17	2	33	0	0	0	0	4	2	
21	Muzaffarpur	14	0.02	0.02	0.43	3.11	1	7	0	0	0	0	6	43	7	50	0	0	1	13	
22	Nalanda	8	0.35	0.79	0.34	1.72	2	25	0	0	0	0	6	75	0	0	0	0	2	6	
23	Nawada	5	-	-	1.78	4.24	0	0	0	0	0	0	1	20	3	60	1	20	0	5	
24	W Champaran	7	-	-	0.41	2.23	0	0	0	0	0	0	6	86	1	14	0	0	0	7	
25	Patna	8	0.13	0.89	0.44	3.37	5	63	0	0	0	0	2	25	1	13	0	0	5	3	
26	E Champaran	16	0.16	1.22	0.24	2.07	3	19	0	0	0	0	12	75	1	6	0	0	3	13	
27	Purnia	9	0.23	1.52	0.17	1.73	6	67	0	0	0	0	3	33	0	0	0	0	6	3	
28	Rohtas	14	0.09	4.74	0.08	6.03	7	50	0	0	1	7	4	29	1	7	1	7	8	6	
29	Saharsa	6	0.38	0.57	0.20	0.46	4	67	0	0	0	0	2	33	0	0	0	0	4	2	
30	Samastipur	10	0.30	0.30	0.12	2.50	1	10	0	0	0	0	6	60	3	30	0	0	1	9	
31	Saran	8	0.69	0.69	0.01	1.68	1	13	0	0	0	0	7	88	0	0	0	0	1	7	
32	Seikhpura	3	2.93	2.93	0.85	1.07	0	0	1	33	0	0	2	67	0	0	0	0	1	2	
33	Sheohar	1	-	-	0.28	0.28	0	0	0	0	0	0	1	100	0	0	0	0	0	1	
34	Sitamarhi	6	0.24	0.24	0.23	2.06	1	17	0	0	0	0	4	67	1	17	0	0	1	5	
35	Siwan	9	0.14	0.92	0.13	1.46	5	56	0	0	0	0	4	44	0	0	0	0	5	4	
36	Supaul	12	0.08	0.91	0.39	0.40	10	83	0	0	0	0	2	17	0	0	0	0	10	2	
37	Vaishali	6	0.17	0.17	0.20	1.18	1	17	0	0	0	0	5	83	0	0	0	0	1	5	
	Total	289	0.02	3.86	0.00	7.33	114	39	10	3	3	1	131	45	28	10	3	1	127	162	

3.4.3 Decadal Mean of November to November 2013

Fluctuation in water level of November 2013 with respect to decadal mean of November has been analysed for 277 HNS, which shows Rise in water level ranged from 0.01 to 5.56 m in 62% of the HNS and fall in the remaining 38 % of HNS. The rise in the range of 0 – 2 m and 2 – 4 m has been observed in the 57% and 4%. Only one station located in Bhojpur district where rise is >4m. The rise up to 2m has been observed in 58% area and spread almost entire State. The fall is 34% and 4% of HNS in the range of 0-2 and 2-4 m respectively. The fall in water level >4 m has been observed in only one station located in Banka district. The fall of water level ranged from 0 to 2 m has been shown by 38% area of the State covers the major and adjoining part of Sitamarhi, Sheohar, Muzaffarpur, Samastipur, Begusarai, Saharsa, Araria, Kishanganj, Katihar, Rohtas, Aurangabad, Gaya, Jehanabad, Nalanda and Sheikhpura district and as patches at many locations. (Fig. 17, Table 18).

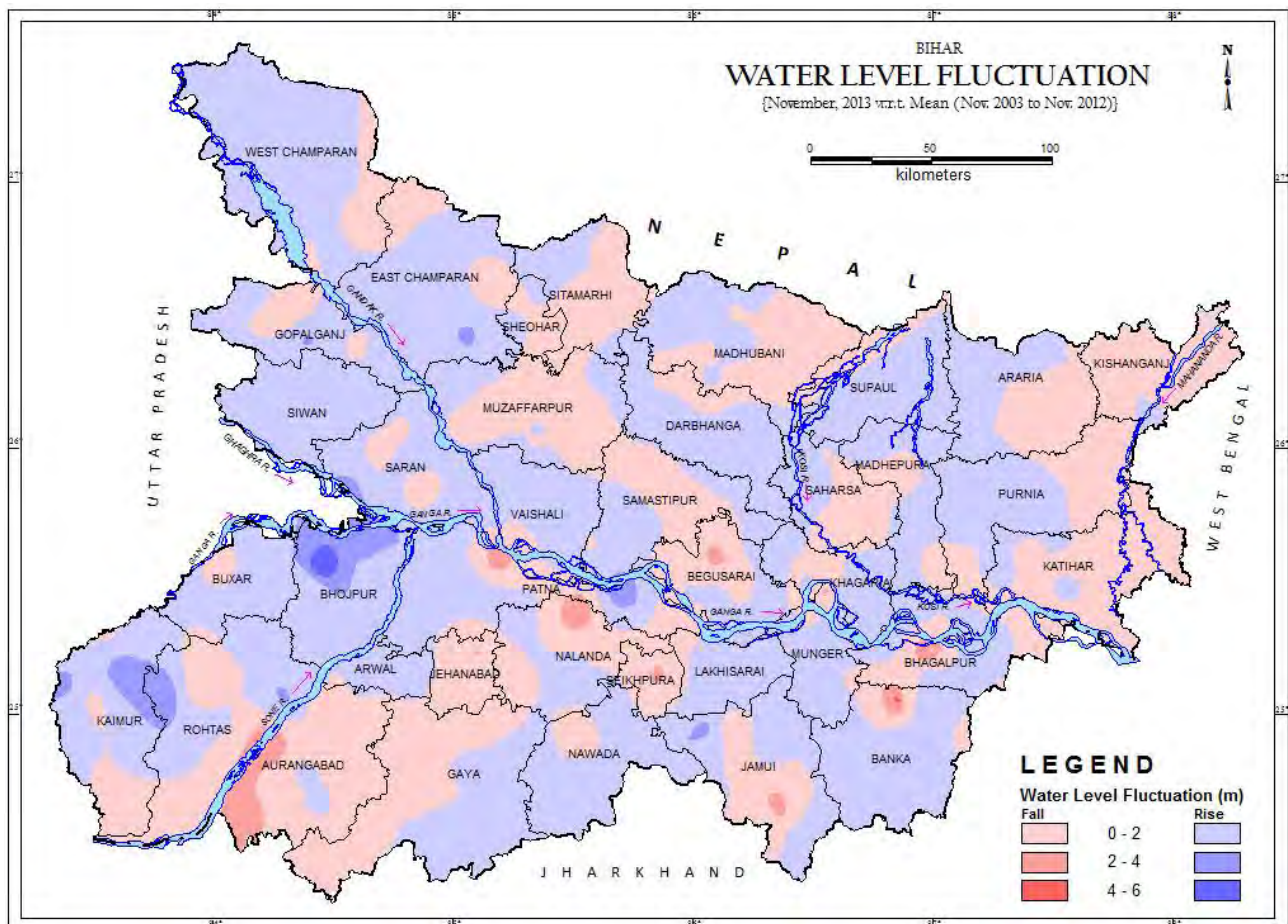


Fig. 17 Fluctuation in water level between Nov. (mean) and Nov. 2013

Table – 18 District-wise categorization of fluctuation and their frequency of water levels of HNS of Nov. 2013 w.r.t. Nov. mean (2003-2012) for Bihar State

SN	District	No. of Wells analysed	Range of fluctuation (m)				No. of Wells / Percentage showing fluctuation										Total wells			
			Rise		Fall		Rise					Fall					Rise	Fall		
			Min.	Max.	Min.	Max.	<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%			>4m	%
1	Araria	2	0.40	0.40	0.60	0.60	1	50	0	0	0	0	1	50	0	0	0	0	1	1
2	Aurangabad	9	0.35	0.35	0.09	3.57	2	22	0	0	0	0	5	56	2	22	0	0	2	7
3	Banka	8	0.52	1.96	0.28	4.53	4	50	0	0	0	0	3	38	0	0	1	13	4	4
4	Begusarai	11	0.36	1.35	0.09	2.52	5	45	0	0	0	0	5	45	1	9	0	0	5	6
5	Bhagalpur	11	0.19	1.24	0.34	3.35	7	64	0	0	0	0	3	27	1	9	0	0	7	4
6	Bhojpur	8	0.01	5.56	-	-	6	75	1	13	1	13	0	0	0	0	0	0	8	0
7	Buxar	6	0.38	1.64	1.46	1.46	5	83	0	0	0	0	1	17	0	0	0	0	5	1
8	Darbhanga	6	0.37	0.62	0.73	0.98	4	67	0	0	0	0	2	33	0	0	0	0	4	2
9	Gaya	4	0.08	0.93	0.16	0.16	3	75	0	0	0	0	1	25	0	0	0	0	3	1
10	Gopalganj	11	0.41	2.53	0.16	1.56	6	55	1	9	0	0	4	36	0	0	0	0	7	4
11	Jamui	7	0.05	2.39	0.97	2.72	3	43	1	14	0	0	2	29	1	14	0	0	4	3
12	Jehanabad & Arwal	3	0.27	0.44	2.09	2.09	2	67	0	0	0	0	0	0	1	33	0	0	2	1
13	Kaimur	8	0.81	2.92	0.04	0.79	3	38	2	25	0	0	3	38	0	0	0	0	5	3
14	Katihar	11	0.43	0.81	0.28	1.43	3	27	0	0	0	0	8	73	0	0	0	0	3	8
15	Khagaria	7	0.27	1.88	0.58	0.58	6	86	0	0	0	0	1	14	0	0	0	0	6	1
16	Kishanganj	3	0.12	0.12	0.03	1.69	1	33	0	0	0	0	2	67	0	0	0	0	1	2
17	Lakhisarai	2	0.63	0.95	-	-	2	100	0	0	0	0	0	0	0	0	0	0	2	0
18	Madhepura	6	0.08	0.33	0.37	1.41	4	67	0	0	0	0	2	33	0	0	0	0	4	2
19	Madhubani	9	0.45	1.31	0.34	0.54	5	56	0	0	0	0	4	44	0	0	0	0	5	4
20	Munger	8	0.22	1.43	0.02	2.22	6	75	0	0	0	0	1	13	1	13	0	0	6	2
21	Muzaffarpur	15	0.69	1.08	0.28	1.30	4	27	0	0	0	0	11	73	0	0	0	0	4	11
22	Nalanda	8	0.11	1.05	0.14	3.24	5	63	0	0	0	0	2	25	1	13	0	0	5	3
23	Nawada	7	0.19	1.53	1.23	1.23	6	86	0	0	0	0	1	14	0	0	0	0	6	1
24	W Champaran	7	0.02	0.77	0.80	0.80	6	86	0	0	0	0	1	14	0	0	0	0	6	1
25	Patna	10	0.42	3.41	0.12	3.53	5	50	1	10	0	0	3	30	1	10	0	0	6	4
26	E Champaran	12	0.11	2.42	0.55	0.75	9	75	1	8	0	0	2	17	0	0	0	0	10	2
27	Purnia	7	0.17	1.08	0.14	0.83	4	57	0	0	0	0	3	43	0	0	0	0	4	3
28	Rohtas	12	0.57	3.70	0.15	2.18	5	42	2	17	0	0	4	33	1	8	0	0	7	5
29	Saharsa	7	0.37	0.45	0.03	0.58	2	29	0	0	0	0	5	71	0	0	0	0	2	5
30	Samastipur	6	0.18	0.74	0.18	0.42	3	50	0	0	0	0	3	50	0	0	0	0	3	3
31	Saran	12	0.17	2.93	0.07	1.14	7	58	1	8	0	0	4	33	0	0	0	0	8	4
32	Seikhpura	2	-	-	1.28	2.38	0	0	0	0	0	0	1	50	1	50	0	0	0	2
33	Sheohar	1	-	-	0.03	0.03	0	0	0	0	0	0	1	100	0	0	0	0	0	1
34	Sitamarhi	5	0.19	0.64	0.02	0.73	2	40	0	0	0	0	3	60	0	0	0	0	2	3
35	Siwan	10	0.25	1.79	-	-	10	100	0	0	0	0	0	0	0	0	0	0	10	0
36	Supaul	10	0.02	1.56	0.07	0.07	9	90	0	0	0	0	1	10	0	0	0	0	9	1
37	Vaishali	6	0.04	2.15	0.08	0.08	4	67	1	17	0	0	1	17	0	0	0	0	5	1
	Total	277	0.01	5.56	0.03	4.53	159	57	11	4	1	0	94	34	11	4	1	0	171	106

3.4.4 Decadal Mean of January to January 2014

Fluctuation in water level of January 2014 with respect to decadal mean of January has been analysed for 339 HNS. In 66% of the HNS, rise in water level is recorded and remaining 34% HNS fall in water level has been observed. The rise in the range of 0 – 2 m has been spread in 66% area of the State, and covered the part of every district of Bihar. The segment of 2-4m rise has been observed as patches in Kaimur, Rohtas Buxar, bhojpur Gaya, Jehanabad, Nalanda Patna, Munger, and Bhagalpur district. No well has shown rise more than 4m. About 30% area of the State has shown fall in localised areas in the tune of 0 to 2 m including the part of Muzaffarpur, Sitamarhi, Madhubani, Araria, Kishanganj, Bhagalpur, Madhepura, Purnia, Gaya, Nalanda, Sheikhpura, Nawada and Jamui district. The segment of 2 to 4 m fall has been observed as patches in Rohtas, Aurangabad, Nalanda, Sheikhpura, Samastipur Khagaria and Bhagalpur district. Only 02 wells located in Nalanda district has shown fall of water level more than 4 m.

(Fig. 18, Table 19).

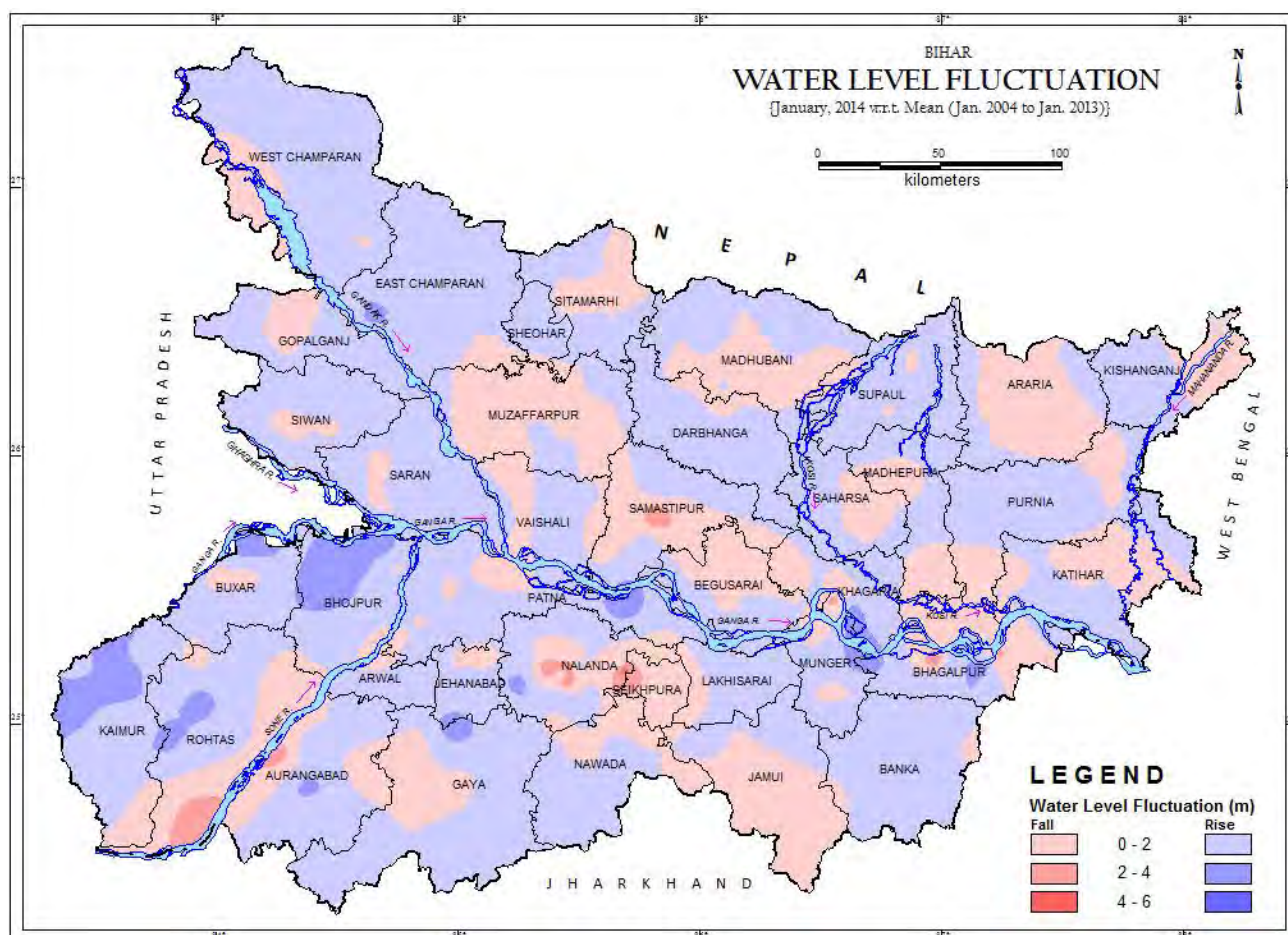


Fig. 18 Fluctuation in water level between Jan. (mean) and Jan. 2014

Table – 19 District-wise categorization of fluctuation and their frequency of water levels of HNS of **Jan. 2014 w.r.t. Jan. mean (2004-2013)** for Bihar State

SN	District	No. of	Range of fluctuation (m)				No. of Wells / Percentage showing fluctuation												Total		
			Rise		Fall		Rise				Fall										
			Min.	Max.	Min.	Max.	<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%	Rise	Fall	
1	Araria	2	-	-	0.36	0.63	0	0	0	0	0	0	2	100	0	0	0	0	0	0	2
2	Aurangabad	8	0.03	2.35	0.99	3.53	4	50	1	13	0	0	2	25	1	13	0	0	5	3	
3	Banka	9	0.41	1.55	0.07	0.47	7	78	0	0	0	0	2	22	0	0	0	0	7	2	
4	Begusarai	10	0.09	1.94	0.66	1.65	7	70	0	0	0	0	3	30	0	0	0	0	7	3	
5	Bhagalpur	11	0.06	3.41	1.25	2.97	6	55	2	18	0	0	1	9	2	18	0	0	8	3	
6	Bhojpur	7	0.36	3.91	0.24	0.24	3	43	3	43	0	0	1	14	0	0	0	0	6	1	
7	Buxar	6	0.30	3.72	0.32	0.33	3	50	1	17	0	0	2	33	0	0	0	0	4	2	
8	Darbhanga	6	0.76	1.44	0.42	1.34	4	67	0	0	0	0	2	33	0	0	0	0	4	2	
9	Gaya	8	0.07	3.06	0.08	0.29	4	50	1	13	0	0	3	38	0	0	0	0	5	3	
10	Gopalganj	11	0.04	1.47	0.14	1.47	8	73	0	0	0	0	3	27	0	0	0	0	8	3	
11	Jamui	10	0.48	1.67	0.27	1.42	3	30	0	0	0	0	7	70	0	0	0	0	3	7	
12	Jehanabad & Arwal	10	0.14	1.18	0.09	0.56	7	70	0	0	0	0	3	30	0	0	0	0	7	3	
13	Kaimur	7	0.60	3.37	-	-	4	57	3	43	0	0	0	0	0	0	0	0	7	0	
14	Katihar	14	0.06	0.88	0.31	0.90	8	57	0	0	0	0	6	43	0	0	0	0	8	6	
15	Khagaria	9	0.76	2.80	0.27	1.47	5	56	1	11	0	0	3	33	0	0	0	0	6	3	
16	Kishanganj	3	0.43	0.65	1.67	1.67	2	67	0	0	0	0	1	33	0	0	0	0	2	1	
17	Lakhisarai	1	0.11	0.11	-	-	1	100	0	0	0	0	0	0	0	0	0	0	1	0	
18	Madhepura	6	0.21	0.24	0.91	1.37	3	50	0	0	0	0	2	33	0	0	0	0	3	2	
19	Madhubani	14	0.01	1.60	0.52	1.06	10	71	0	0	0	0	4	29	0	0	0	0	10	4	
20	Munger	8	0.31	1.28	0.16	2.92	4	50	0	0	0	0	3	38	1	13	0	0	4	4	
21	Muzaffarpur	16	0.08	2.46	0.41	1.35	6	38	1	6	0	0	9	56	0	0	0	0	7	9	
22	Nalanda	28	0.14	2.83	0.10	4.59	12	43	1	4	0	0	10	36	3	11	2	7	13	15	
23	Nawada	6	0.14	1.41	0.52	0.83	4	67	0	0	0	0	2	33	0	0	0	0	4	2	
24	W Champaran	8	0.83	1.73	0.26	1.52	6	75	0	0	0	0	2	25	0	0	0	0	6	2	
25	Patna	16	0.01	3.90	0.11	1.16	10	63	2	13	0	0	4	25	0	0	0	0	12	4	
26	E Champaran	12	0.25	2.68	-	-	10	83	2	17	0	0	0	0	0	0	0	0	12	0	
27	Purnia	10	0.23	1.54	0.21	2.10	6	60	0	0	0	0	3	30	1	10	0	0	6	4	
28	Rohtas	13	0.14	2.66	0.10	2.79	5	38	2	15	0	0	5	38	1	8	0	0	7	6	
29	Saharsa	8	0.32	0.75	0.27	0.72	4	50	0	0	0	0	4	50	0	0	0	0	4	4	
30	Samastipur	8	0.40	0.97	0.08	3.49	3	38	0	0	0	0	4	50	1	13	0	0	3	5	
31	Saran	11	0.11	1.57	0.14	1.13	9	82	0	0	0	0	2	18	0	0	0	0	9	2	
32	Seikhpura	5	-	-	0.92	2.64	0	0	0	0	0	0	2	40	2	40	0	0	0	4	
33	Sheohar	1	0.72	0.72	-	-	1	100	0	0	0	0	0	0	0	0	0	0	1	0	
34	Sitamarhi	6	0.30	1.08	0.34	0.75	3	50	0	0	0	0	3	50	0	0	0	0	3	3	
35	Siwan	11	0.40	1.97	0.08	0.60	9	82	0	0	0	0	2	18	0	0	0	0	9	2	
36	Supaul	15	0.01	1.16	0.05	0.39	12	80	0	0	0	0	3	20	0	0	0	0	12	3	
37	Vaishali	5	0.11	1.94	-	-	5	100	0	0	0	0	0	0	0	0	0	0	5	0	
	Total	339	0.01	3.91	0.05	4.59	198	58	20	6	0	0	105	31	12	4	2	1	218	119	

4. HYDROCHEMISTRY

In order to assess the chemical quality of ground water of phreatic aquifers of Bihar 398 ground water samples have been analysed for 15 major parameters viz. EC, pH, HCO₃, CO₃, Cl, F, NO₃, PO₄, SO₄, TH, Ca, Mg, K, Na, SiO₂ and the results are given in **Annexure-II**.

The groundwater pH of the samples shows neutral to mildly alkaline in nature in the range of 6.76 (Kheria, Katihar distt.) to 9.10 (Neazipur, Buxar distt.) with an average of 7.90 ± 0.5 . As evident by the contour map mostly samples are characterised by the presence of bi-carbonate even upto 1001 mg l⁻¹ (at Bhui of Nalanda district) over carbonate. In 6% (23 nos) of groundwater samples analysed which are located at different locations in Aurangabad, Banka, Bhagalpur, Buxar, Jamui, Katihar, Madhubani, Munger, Nalanda, Patna, Samastipur, sheikhpura and Siwan districts showed alkalinity value higher than 600 mg l⁻¹. The wide range of electrical conductivity (from 110 micro siemens cm-1, Kheria; Katihar district to 4352 micro siemens cm-1, Bhui; Nalanda district) as well as TDS values indicates wide variation in dissolved constituents in groundwater samples of Bihar. EC values were found more than 2250 $\mu\text{S cm}^{-1}$ only in 4% (15 no) samples from 10 districts viz. Begusarai, Bhojpur, Jamui, Jehanabad, Kaimur (Bhabua), Munger, Muzaffarpur, Nalanda, Samastipur, Siwan. In 38% of the analysed sample TDS values have been found higher than Desirable Limit of 500 mg l⁻¹ and in 02 samples from Nalanda district show TDS value higher than permissible limit of 2000 mg l⁻¹.

In general, the quality of groundwater in terms of Total Hardness as CaCO₃ has been found as hard to very hard (almost 69% of total analysed samples), even in 4% samples total hardness was found above the permissible limit of 600 mg l⁻¹. The concentration of Na ranged from 3.0 mg l⁻¹ (at Bhore, Gopalganj district) to 620 mg l⁻¹ (at Bhui, Nalanda district) and of K ranged from 0.3 mg l⁻¹ at Purna Khaira, Jamui district to 303 mg l⁻¹ at Wazirganj, Gaya district.

The Chloride ion concentration in majority of the ground water samples (93%) has been found to below the desirable limit for drinking purpose (250 mg l⁻¹, BIS: 2012). The maximum concentration of chloride has been found as 760 mg l⁻¹ at Chandra Mandih, Jamui district. Nitrate concentration ranged from traces to 393 mg l⁻¹ (Dholi, Muzaffarpur district). Total 59 samples showed Nitrate concentration higher than the permissible limit of 45 mg l⁻¹ collected from different locations of Arwal, Banka, Bhagalpur, Buxar, Gaya, Jamui, Jehanabad, Kaimur (Bhabua), Munger, Nalanda, Nawada, Patna, Rohtas, and Sheikhpura districts of south Bihar plain and East Champaran, Katihar, Kishanganj, Muzaffarpur, Purnia, Samastipur, Saran, Siwan, Vaishali and West Champaran districts of North Bihar plain (**Fig 19**). Concentration of Sulphate ion ranged from traces to 440 mg l⁻¹ (Bhui, Nalanda District). Only 09 samples from Jehanabad, Muzaffarpur, Nalanda and Samastipur districts showed higher sulphate concentration than the

desirable limit of 200 mg l⁻¹. Fluoride ion concentration varied from Traces to 3.25 mg l⁻¹ (Tarakhakhar, Banka district). Only 03 samples from Banka, 01 sample from Jamui and 01 from Nalanda showed higher Fluoride concentration than the permissible limit of 1.5 mg l⁻¹ (BIS: 2012). Highest phosphate concentration of 6.65 mg l⁻¹ was found at Damdaha, Purnia. In most of the ground water samples (almost 80%) phosphate was detected as trace. The silicate concentration was found in the range of 4.2 mg l⁻¹ (Kaswa Kaliganj, kishanganj) to 70.4 mg l⁻¹ (Labhgaon, Khagaria). As per Residual Sodium Carbonate 83% groundwater samples found safe for irrigation purpose whereas as per the Sodiuk Hazard Classes based on USSL by SAR, 99% samples are categorised under ‘excellent’ class for irrigation having value >10.

No major threat has been identified according to analysed major parameters from drinking water perspective (Drinking water specification: BIS, 2012). Ground water in major part of Bihar State has also been found suitable for use in irrigation and allied purposes.

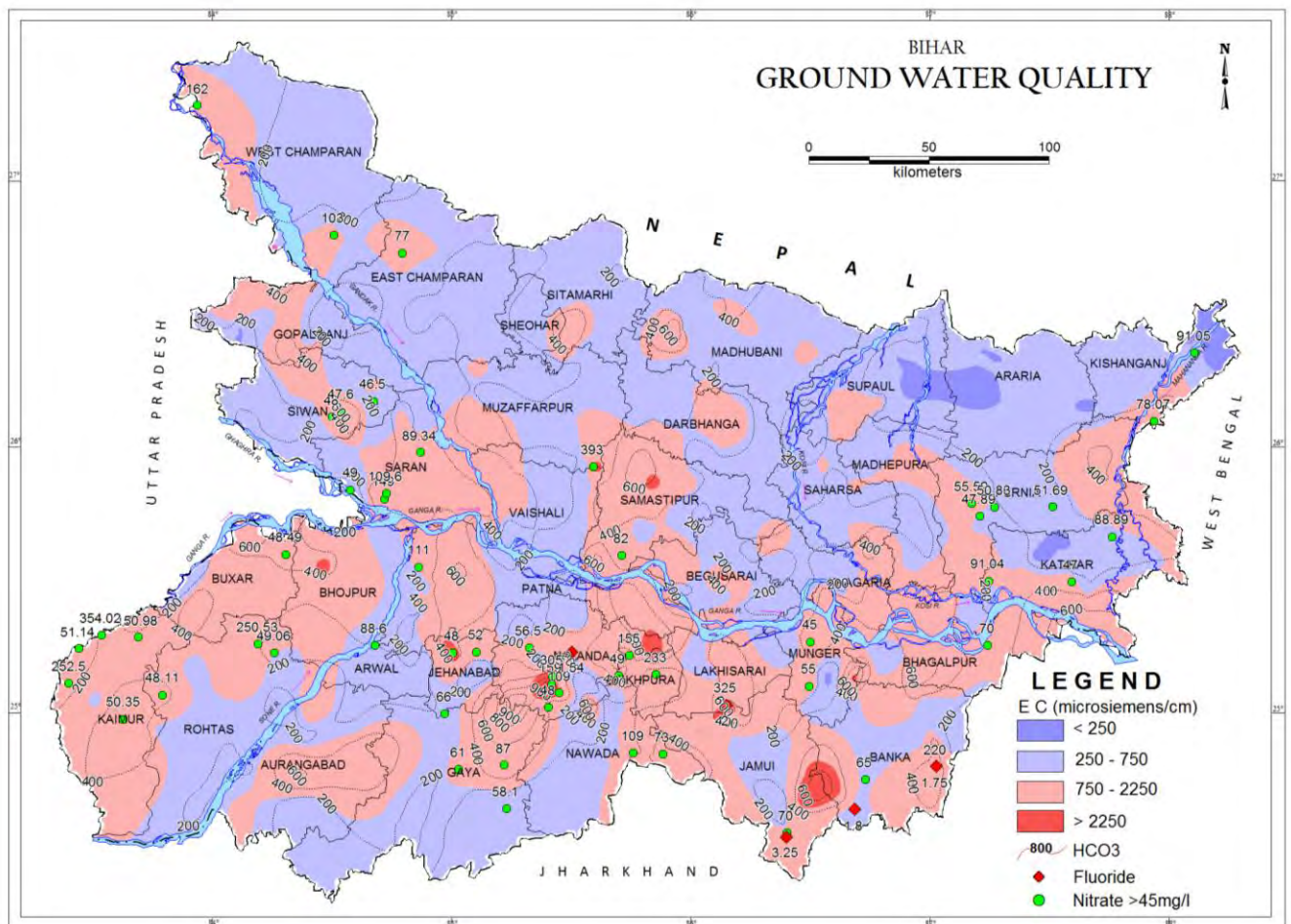


Fig. 19 Groundwater Quality

5. RAINFALL DATA ANALYSIS

The study of rainfall data indicates that Bihar received normal rainfall during the monsoon period and same is reflected in the unconfined aquifer. The district wise monthly rainfall for Bihar and percent departure has been given in Annexure-III. More than 50% deficiency in monsoon rainfall occurred in Gaya, Lakhisarai, Nawada, Samastipur, Sheikhpura, Sheohar, Sitamarhi and Vaishali districts of Bihar. The immediate changes do occur in the phreatic aquifer during August when the monsoon is in its receding phase. The depth to water level during Aug'13 revealed that only 57 observation wells, out of 390 wells showed 5-10 m water level and 4 wells showed 10-20 m depth to water level. The fall in water level during August '13 in comparison to August '12 showed rise in depth to water level in 57% of wells. But in the comparison of decadal August and August '13 water levels, out of 289 wells analysed, 162 wells showed fall in water level. Out of which 45% of wells showed fall in the range of <2m and 10% of wells showed fall in the range of 2 to 4 m. Hence, the phreatic aquifer is in tune with the vagaries of monsoon deficit.

6.0 TREND ANALYSIS DURING PRE AND POST MONSOON

Trend of the ground water level for the last ten year (2004-2013) have been analyzed. District wise percentage of well showing Rise, fall or no significant trend during Pre- Monsoon and Post Monsoon Season has been given in the Annexure – IV. A total of 33 districts have shown long term water level trend more than 50% of the HNS is showing the falling trend during the Pre-monsoon period. The post monsoon data of Araria, Aurangabad, Banka, Bhagalpur, Buxar, Gaya, Gopalganj, Jamui, Jehanabad, Katihar, Kishanganj, Lakhisarai, Madhepura, Madhubani, Munger, Muzaffarpur, Purnia, Saharsa, Samastipur, Sitamarhi districts are also showing falling trend in more than 50% of the HNS analysed.

DEPTH TO WATER LEVEL (M BGL) IN VARIOUS SEASONS

STATE : BIHAR

District	No. of wells	SN	Location	May-13	Aug-13	Nov-13	Jan-14	
ARARIA	7	1	1 Araria	4.5	2.46	3.84	4.87	
		2	2 Bathnaha 1	5.2	2.46	2.99	3.49	
		3	3 Bathnaha badres	4.45		1.37	3.09	
		4	4 Haripur	New well				2.84
		5	5 Matiyari	New well				3.94
		6	6 Jokihat 1	2.82	1.3	*	**	
		7	7 Pallasi	3.4	1.91	1.76	2.18	
AURANGABAD	13	8	1 Aurangabad	7	1.2	2.79	2.96	
		9	2 Barun	8.96	6.91	9	9.77	
		10	3 Narari Kala	New well			6.01	8.78
		11	4 Daudnagar	4.3	5.8	2.46	3.24	
		12	5 Deol	5.02	3.75	3.09	3.29	
		13	6 Deohara goh	New well			4.39	4.1
		14	7 Deonara	New well			7.55	8.36
		15	8 Madanpur	6.91	2.43	4.36	2.33	
		16	9 Pataya	4.95	3.38	2.24	1.92	
		17	10 Dhanibar	6.38	2.85	6.85	7.2	
		18	11 Nabinagar dbib	3.42	0.17	0.77	1.41	
		19	12 Obra	5.61	3.85	4.31	4.14	
		20	13 Rafiganj	9.4	L&O	4.76	6.78	
BANKA	14	21	1 Amarpur ps	4.66	3.99	3.17	3.76	
		22	2 English More	3.24	1.08	1.65	1.99	
		23	3 Rampur	2.98	0.62	6.4	1.93	
		24	4 Banka ps	3.52	0.36	1.78	2.6	
		25	5 Barahat	5.4	3.53	1.98	2.78	
		26	6 Baunsi	Dry	2.08	3.77	Dry	
		27	7 Bausi pwdib	12.16	7.66	Dry	4.19	
		28	8 Tinmurty	New well				7.5
		29	9 Chandan	7.2	2.45	4.77	5.52	
		30	10 Panjwara	5.21	3.58	3.64	4.07	
		31	11 Katoria	8.7	7.52	4.52	6.3	
		32	12 Rajaun ps	8.84	5.69	3.86	5.66	
		33	13 Kharharia	New well				2.45
		34	14 Sambhuganj	5.21	2.44	2.5	2.89	
BEGUSARAI	16	35	1 Baraun mile	Dry	4.2	4.15	4.89	
		36	2 Kumharson	8.35	5.4	5.45	4.99	
		37	3 Naya Nagar Dularpur	7.06	2	3.44	4.75	
		38	4 Teghra	8.75	1.54	5.71	6.8	
		39	5 Bagrash	7.42	1.88	5.3	6	
		40	6 Bakhari salauna	6.7	5.23	4.21	5.07	
		41	7 Manjaul	9.2	4.2	6.05	6.54	
		42	8 Begusarai	7.21	1.16	3.2	4.29	
		43	9 Begusarai fc ib	6.02	2.38	2.03	3.09	
		44	10 Gopalpur	7.01	1.95	5.25	5.91	
		45	11 Haridia	6.2	1.63	2.1	4.5	
		46	12 Matihani	9.37	0.46	4.35	6.98	

		47	13	Mohanpur Usrai	7.4	2.01	4.92	5.41
		48	14	Pokharia	2.2	2.28	3.98	5.27
		49	15	Cheriabariapur	7.8	1.93	7	6.75
		50	16	Bintoli	8.5	1.48	4.8	6.92
BHAGALPUR	15	51	1	Bihpur ib	Dry	2	2.42	Dry
		52	2	Ghoga rly stn	5.58	Flood	1.45	1.7
		53	3	Harchandpur	New well			2.3
		54	4	Jagnathpur	New well			6.64
		55	5	Kahalgaoon rlyco	10.14	Dry	4.2	9.4
		56	6	Madrauni Chowk	6.63	2.4	2.6	3.76
		57	7	Bhagalpur city	12.25	12.21	10.45	10.05
		58	8	Jagadishpur	1.68	0.62	2.07	1.23
		59	9	Naugachhia h.s	6.32	0.94	2.14	3.75
		60	10	Pirpainty db.ib	9.37	Dry	4.3	5.27
		61	11	Sabaur	3.2	3.28	Dry	2.52
		62	12	Shahkund db.ib	8.82	3.41	3.3	4.01
		63	13	Akbarnagar stn	4.9	1.26	1.97	2.05
		64	14	Asarganj	4.55	3.43	2.76	3.62
		65	15	Sultanganj	9.33	2.33	4.93	4.26
BHOJPUR	9	66	1	Milki	4.98	Flood	0.87	2.43
		67	2	Bihiya	5.2	1.28	0.97	2.6
		68	3	Garhani	5.08	3.24	2.6	2.8
		69	4	Jagadishpur l	6.1	3.12	3.14	1.76
		70	5	Kulharia	8.2	6.46	5.31	6.78
		71	6	Pirro	4.94	2.08	2.78	3.7
		72	7	Chandawa	4.56	0.73	1.22	*
		73	8	Harnath Kundi	New	2.57	1.99	2.79
		74	9	Udwantnagar	4.09	1.35	0.8	2
BUXAR	6	75	1	Barhampur	5.52	4.06	3.3	4.36
		76	2	Buxar(SSA)	6.25	3.46	3.6	4.6
		77	3	Chausa	2.21	1.57	1.54	2.6
		78	4	Dumraon	10.14	8.3	7.68	7.94
		79	5	Rajpur	4.09	1.16	1.74	2.74
		80	6	Neazipur	6.92	Flood	3.33	5.4
DARBHANGA	9	81	1	Darbhanga	2.2	1.52	1.74	1.65
		82	2	Jorja	New well			4.11
		83	3	Bahera	4.75	2.95	3.22	3.46
		84	4	Baheril	3.9	0.94	2.42	2.51
		85	5	Hayaghat	5.9	2.25	Dry	Dry
		86	6	Pouram	New well			4.64
		87	7	Keoti	3.8	2.4	3.06	3.16
		88	8	Sakaril	3.84	3.07	2.52	2.59
		89	9	Simri (bithauli)	4.3	2.42	1.88	1.93
GAYA	12	90	1	Dobhi	6.13	6.49	3.45	4.35
		91	2	Paligaon	8	2.61	*	4.14
		92	3	Bodh Gaya	6.12	3.47	3.42	3.72
		93	4	Fatehpur	10.85	6.65	5.25	5.35
		94	5	Bitho Sharif	9	4.01	3.98	3.51
		95	6	Chakand	10.91	Dry	Dry	Dry
		96	7	Ram Kund	New well			5.78
		97	8	Sangat Gali	New well			7.25
		98	9	Manpur	8.03	5.77	5.54	6.34
		99	10	Sherghati	5.31	Dry	3.05	3.3

		100	11	Tekari	5.16	5.5	*	4.86
		101	12	Wazirganj	6.9	4.63	Dry	1.8
GOPALGANJ	14	102	1	Barauli	3.34	2.94	2.14	2.39
		103	2	Bhore	6.1	0.75	1.21	1.9
		104	3	Rampur2	2.9	2.82	2.74	2.43
		105	4	Turkaha	2.55	0.69	0.99	1.22
		106	5	Hathua 1	4.2	2.25	1.97	2.37
		107	6	Jamunaha	New well			3.72
		108	7	Misirbatha1	3.98	*	1.85	3.29
		109	8	Jalalpur2	3.71	1.13	3.25	3.33
		110	9	Kuchaikot	2.95	-	3.21	3.51
		111	10	Bangra	4.28	1.1	1.42	1.74
		112	11	Bangra Deoria	New well			2.53
		113	12	Chanwabe	3	1.14	0.85	2.67
		114	13	Manjhwa1	4.18	Dry	1.83	2.26
		115	14	Nunachapra	New well			1.92
JAMUI	15	116	1	Chakai	7.77	2.28	4.1	5.46
		117	2	Chakai B	New well			4.12
		118	3	Jamui	10.74	7.39	6.41	8.9
		119	4	Manjhwe	6.7	4.18	2.7	5.67
		120	5	Ambedkar Nagar	New Well			7.85
		121	6	Chandramanita	5.6	*	3.1	4.23
		122	7	Chandwari	New well			7.85
		123	8	Jhajha	Dry	10.33	9.49	10.41
		124	9	Gidhaur O	New well			10.96
		125	10	Purna Khaira	3.93	1.07	1.92	2.84
		126	11	Gidhaur	8.6	7.95	5.75	8.42
		127	12	Laxmipur	New well			2.9 -
		128	13	Sandipi	12.63	2.04	2.7	4.48
		129	14	Sikandra	6.27	0.76	1.04	3.2
130	15	Batia1	New well			12.45 12.59 12.72		
JEHANABAD	12	131	1	Arwal1	6.18	3.08	3.69	5.6
		132	2	Dirpal Bigha	4.46	2.26	3.46	3.79
		133	3	Ghoshi	4.33	4.86	4.32	3.95
		134	4	Kako	4.43	7.12	4.84	5.36
		135	5	Gaurakhini	New well			9.2
		136	6	Jahanabad hosp.	4.47	2.89	*	3.62
		137	7	Teni Bigha	New well			5
		138	8	Imamganj	4.89	3.9	3.81	3.73
		139	9	Kinjer	7.01	7.03	5.78	4.94
		140	10	Jhunathi	5.23	6.29	4.04	4.74
		141	11	Kurtha bdo	3.57	3.45	2.76	2.26
		142	12	Makhdumpur	5.61	6.06	5.42	3.62
KAIMUR	9	143	1	Adhaura	7	L & O		
		144	2	Bhabhua	12.3	5.93	4.8	6.37
		145	3	Tori f.ck.post	2.46	4.24	3.38	4.9
		146	4	Chainpur	8.14	5.37	5.14	3.59
		147	5	Chand in p.s.	6.12	2.28	2.62	2.5
		148	6	Karmanasa	8.58	2.78	3.28	5.08
		149	7	Nuawan	8.34	5.82	5.3	2.6
		150	8	Mohania	8.37	6.43	2.65	3.65
KATIHAR	17	151	9	Bandipur	4.4	4.25	4	3.25
		152	1	Barari-1	6.1	2.01	2.92	3.57

		153	2	Dumaria	7.8	2.44	3.59	4.51	
		154	3	Kursela	7.43	1.45	4.49	5.38	
		155	4	Paranpur	4.44	0.92	2.92	2.7	
		156	5	Dumer	Dry	0.69	2.28	4	
		157	6	Mahendrapur	4.88	2.18	*	3.13	
		158	7	Narahaiya	5.2	3	2.6	3.38	
		159	8	Kadwa	5.12	2.46	4.05	3.92	
		160	9	Sonauli	4.97	2.84	3.09	3.6	
		161	10	Hafla 1	4.2	2.93	2.28	2.86	
		162	11	Katihar	4.99	2.85	4.4	3.48	
		163	12	Khiria	New well		2.91	3.57	
		164	13	Korha	5.95	3.37	3.66	3.57	
		165	14	Routru	4.54	3	2.52	4.07	
		166	15	Manihari	3.16	5.46	5.06	4.79	
		167	16	Basantpur	New well			3.8	
		168	17	Bastaul 1	4.5	2.87	3.57	2.94	
KHAGARIA	13	169	1	Pirnasara	6.2	3.2	3.12	3.6	
		170	2	Basantpur	6.18	1.99	1.56	-	
		171	3	Chautham	5.2	1.36	3.03	4.26	
		172	4	Maheshkhunt 1	6.41	1.7	3.36	4.16	
		173	5	Gandhinagar	4.99	2.12	1.9	2.93	
		174	6	Jamalpur	6.85	3.34	1.85	2.8	
		175	7	Maheshkhunt _Lohiya Chowk	6.89	2.83	3.74	4.99	
		176	8	Maheshkunt	5.62	1.72	2.45	4.03	
		177	9	Gangaut	2.51	1.81	5.1	6.15	
		178	10	Kasimpur	New well		1.91	4.85	5.65
		179	11	Khagaria	7.44	6.85	4.33	6.03	
		180	12	Labhgaon	7.67	2.3	5.3	6.28	
		181	13	Mohaddipur	6.7	2.4	3.2	4.54	
KISHANGANJ	6	182	1	Bahadurganj	2.66	2.13	2.76	2.52	
		183	2	Bahadurganj B	New well			3.14	
		184	3	Kishanganj	3.2	1.37	2.42	2.78	
		185	4	Bhagalbari	6.08	Dry	Dry	Dry	
		186	5	Kaswa Kaliganj	1.76	0.75	1.63	2.01	
		187	6	Thakurganj	10.4	7.76	8.41	8.34	
LAKHISARAI	4	188	1	Barhaiya	8.61	0.95	5.39	6.83	
		189	2	Kiul 1	Dry	*	1.3	Dry	
		190	3	Lakhisarai	6.2	4.59	***	***	
		191	4	Surajgarha 1	10.81	2.86	2.45	*	
MADHEPURA	9	192	1	Abhiyatola	6.8	2.4	4.26	5.22	
		193	2	Chausa 1	5.91	2.26	3.07	3.99	
		194	3	Ganeshpur	4.6	1.62	2.22	3.19	
		195	4	Hatkora bazar	4.33	1.41	2.08	2.68	
		196	5	Madhepura	4.39	2.61	4.46	4.49	
		197	6	Gaushala Chowk	-	1.72	2.75	3.14	
		198	7	Murliganj	5.96	1.3	1.96	2.3	
		199	8	Singeswar	4.3	1.36	2.94	3.65	
		200	9	Gwalpara	4.88	2.13	2.46	2.87	
MADHUBANI	22	201	1	Babubarhi	New well			1.36	
		202	2	Narar	5.44	3.4	1.68	2.16	
		203	3	Benipatti	2.57	0.65	0.94	1.26	
		204	4	Dhakjari	3.55	1.31	1.93	2.34	
		205	5	Kapasia	3.31	0.35	1.43	1.69	

		206	6	Khutauna 1	4.92	1.4	Dry	Dry
		207	7	Jaynagar	4.06	1	2.09	2.42
		208	8	Bideshwar Asthan	New well			4.72
		209	9	Jhanjharpur	3.08	0.2	0.57	2.05
		210	10	Bentadih	New well			3.17
		211	11	Khajauli	4.52	2.42	2.74	3.01
		212	12	Ambedkar Nagar	New well			3.89
		213	13	Bihari	4.1	2.7	2.6	2.94
		214	14	Madhubani	4.92	0.85	2.41	2.76
		215	15	Bhawanipur	5.68	4	4.39	5.22
		216	16	Pandaul	5.35	4.67	-	4.66
		217	17	Phulparas 1	2.81	0.02	1.27	1.34
		218	18	Shambhuar	New well			4.69
		219	19	Kapileshwar	5.4	3.33	3.51	4.5
		220	20	Siswar	4.28	0.91	2.53	2.95
		221	21	Karmnali	4.55	Dry		2.71
		222	22	Pariharpur	New well			3.98
MUNGER	10	223	1	Bariarpur	Dry		0.97	2.05
		224	2	Singhiya chawk	5.58	*	2.58	4.03
		225	3	Jamalpur 1	5.99	4.24	3.54	5.48
		226	4	Gangta Morh	3.93	3.02	1.93	4.98
		227	5	Gobadda	New well			2.69
		228	6	Havelikhargpur	6.68	0.22	4.65	5.33
		229	7	Tarapur	Dry		4.06	2.5
		230	8	Purabsarai	11.03	0.73	7.65	8.62
		231	9	Rampur 2	5.52	2.33	1.96	3.69
		232	10	Sangrampur	2.97	Water logged		0.93
MUZAFFARPUR	23	233	1	Aurai	4.23	2.65	0.32	1.29
		234	2	Rajkhand	4.77	2.85	2.67	3.19
		235	3	Bhagwanpur Chowk	5.12	4.81	1.37	4.17
		236	4	Jaffarpur	5.03	2.51	2.51	4.25
		237	5	Bochaha	6.16	5.85	5.41	5.1
		238	6	Barkurwa	New well		3.18	6.88
		239	7	Surfuddinpur	4.88	Dry		3.9
		240	8	Muzaffarpur	5.5	4.91	2.76	3.13
		241	9	Katral	4.78	Dry		Dry
		242	10	Ramnagar	New well			4.58
		243	11	Sakri chatti	9	4.34	1.47	1.95
		244	12	Turki	4.52	Dry		3.08
		245	13	Wazitpur	4.43	3.71	5.19	4.26
		246	14	Gargaliya	5.56	4.7	Dry	
		247	15	Digra	4.4	4.06	3.4	4.03
		248	16	Japaha	New well			5.3
		249	17	Dewaria	New well			3.54
		250	18	Paro	4.2	3.62	3.08	3.34
251	19	Daha Chhapra	New well			2.38		
252	20	Sahebganj	5.18	3.8	2.2	3.76		
253	21	Dholi	7.05	Dry		5.1		
254	22	Mahantmanihari	7.84	4.48	3.5	3.64		
255	23	Mushari	5.12	4.41	4.09	4.61		
NALANDA	30	256	1	Asthwan	3.77	3.55	2.05	2.78
		257	2	Jangipur	5.97	6.1	6.9	8
		258	3	Sare	7.23	7.83	6.84	8.03

		259	4	B Sharif Rly Stn	2.06	1.6	0.85	0.82
		260	5	Biharsharif	2.69	1.19	1.27	1.29
		261	6	Muraura	4.05	4.08	3.03	3.82
		262	7	Ranabigha	Road jam	5.97	5.89	5.35
		263	8	Sohdh	3.55	3.57	2.34	3.43
		264	9	Ekangarsarai	6.28	6	5.47	5.11
		265	10	Parwalpur	0.87	0.05	2.44	4.3
		266	11	Giriak	5.38	4.45	3.48	3.56
		267	12	Pawapuri	2.95	2.32	2.68	2.52
		268	13	Harnaut1	1.55	1.07	4.77	1.17
		269	14	Hilsa	7.09	4.3	2.42	3.99
		270	15	Nischalganj	3.6	3.35	2.52	3.45
		271	16	Ankuri Bazar	8	6.15	5.06	6.68
		272	17	Islampur	New well			2.85
		273	18	Sherpur	2.67	2.62	1.48	1.91
		274	19	Daudpur	7.53	7.6	6.76	6.81
		275	20	Doiya	5.8	4	5.33	5.68
		276	21	Heganpura	10.4	7.85	3.47	8.5
		277	22	Paparnhosa	4.58	4.75	4.29	4.21
		278	23	Bhui	7.61	4.79	4.67	3.23
		279	24	Kundalpur	7.78	7.6	7.7	7.93
		280	25	Nalanda	New well			6.75
		281	26	Nirpur	8.24	6.58	4.25	5.6
		282	27	Pilkhi	6.3	6.2	1.07	3.97
		283	28	Rajgir	5.77	3.56	2.79	3.3
		284	29	Silao	6.68	3.18	2.48	2.79
		285	30	Sithaura	4.12	2.3	2.17	2.67
		286	1	Tungi	10	7.22	3.32	4.03
		287	2	Hisua	7.28	7.52	3.22	4.57
		288	3	Roh	7.81	5.1	2.79	4
		289	4	Shahpur Morh	New well			2.7
		290	5	Kawakol ashram	8.34	7.16	3.18	*
		291	6	Rupau	6.5	5.1	2.27	4.23
		292	7	Garhpar	New well			3.54
		293	8	Gonama	New well			4.83
		294	9	Nawada2	7.55	8.66	7.04	7.02
		295	10	Warshaliganj	2.24	2.71	0.21	2.71
		296	1	Bagaha	New well			3.94
		297	2	Belwa	New well			3.32
		298	3	Mangalpur	New well			3.65
		299	4	Bettiah	4.89	2.11	1.04	1.27
		300	5	Chanpatia	4.64	3.59	3.59	2.29
		301	6	Gurwalia	New well			2.46
		302	7	Banspur pipra	4.44	3.39	3.39	Dry
		303	8	Lauria	4.6	2.02	2.25	2.89
		304	9	Panchpurwa	4.46	2.48	2.15	Dry
		305	10	Majhwalia	3.8	2.49	2.75	2.84
		306	11	Harnatanr	5.88	2.98	2.77	3.28
		307	12	Naurangia	3.93	2.14	2.9	3.83
		308	13	Valmikinagar	2.57	4.31	2.67	2.45
		309	1	Bakhtiarpur	11.47	Dry	Dry	Dry
		310	2	Barh1	5.18	2.28	1.98	3.35
		311	3	Raghopur	5.21	5.24	4.65	4.53

		312	4	Ardhra Chowki	3.87	1.99	2.14	2.81
		313	5	Bharatpura	3	1.48	1.15	1.43
		314	6	Dulhin Bazar	4.05	1.85	2.27	3.5
		315	7	Mariyawa	2.47	0.97	1.35	1.21
		316	8	Noniatola	4.15	1.85	1.74	2.9
		317	9	Khaspur	8.24	2.75	3.67	5.76
		318	10	Daniyawan	6.46	4.8	2.26	3.72
		319	11	Fatuha	7.1	0.75	5.94	6.31
		320	12	Mokama	5.27	4.44	3.02	3.71
		321	13	Lalbegam	6.34	2.45	2.48	3.93
		322	14	Maner	4.65	2.05	1.17	2.55
		323	15	Maranchi	9.02	2.48	6.5	6.66
		324	16	Snehitola	5.59	2.07	1.73	3.51
		325	17	Bali Pakar	3.52	1.41	1.98	2.54
		326	18	Patna-City	2.14	1.1	4.98	3
		327	19	Etwarpur	New well			2.68
		328	20	Hulas Chak	4.24	1.01	1.21	3.5
		329	21	Deokali	*	7.46	3.84	5.25
		330	1	Areraj	4.26	Dry	Dry	0.66
		331	2	Chakial	4.5	4.06	3.34	Dry
		332	3	Uttari Gavandra	New well	3.05	1.4	2.56
		333	4	Chatia	New well	3.22	3.44	Dry
		334	5	Chiraiya	4.6	5.02	1.3	Dry
		335	6	Ghorashan	4.73	1.62	2.23	2.85
		336	7	Sheoraha	5	1.82	0.9	0.92
		337	8	Dharampur	4.53	3.53	2.47	3.21
		338	9	Dipau	4.83	2.41	2.42	2
		339	10	Dubey Tola	4.35	2.11	2.89	1.78
		340	11	Khajuriachowk	5.62	2.43	Dry	Dry
		341	12	Kizerpura	4.92	3.99	3.67	3.7
		342	13	Lala Chapra	5	3.78	1.44	1.8
		343	14	Lakhwara	4.21	1.51	0.62	1.16
		344	15	Motihari	4.77	2.81	3.03	3.53
		345	16	Bishunpur Matiyarwan	4.83	2.84	2.29	2.86
		346	17	Gobindganj	3.6	1.56	0.75	1.41
		347	18	Patahi	5.05	3.69	2.97	3.47
		348	19	Belhi	New well	0.1	1.62	2.44
		349	20	Raghunathpur	New well	1.32	1.48	1.98
		350	21	Raxaul	4.06	3.25	3.28	2.93
		351	22	Sugauli Bazar	6.27	2.11	2.43	2.62
		352	23	Nawadal	4.28	2.91	1.53	2.65
		353	1	Bansbari	3.52	1.71	2.73	3.24
		354	2	Baisi2	4.58	1.36	3.2	3.8
		355	3	Chadia	5.24	2.67	4.18	4.58
		356	4	Budhia Gola	New well			2.61
		357	5	Dargaha	5.82	4.58	3.3	3.72
		358	6	Amri Kukran E	5.84	3.81	2.8	3.43
		359	7	Amri Kukran W	New well			3.42
		360	8	Banmankhi	4.19	1.48	1.74	2.43
		361	9	Dhamdaha	5.54	3.74	2.43	3.25
		362	10	Kajha	3.69	1.8	1.15	1.87
		363	11	Purnia	3.9	2.26	3.2	2.56
		364	12	Ranipatra	New well			3.57

		365	13	Tikapatti Chowk	New well			3
		366	14	Tilka Patti	4.15	0.18	*	3
ROHTAS	18	367	1	Bikramganj pp	Dry	2.87	3.12	5.6
		368	2	Chenari hospita	11.2	4.8	4.65	6.05
		369	3	Maliabagh	6.2	2.93	3.4	4.68
		370	4	Anikut	Dry	8.73	9.71	9.93
		371	5	Karbindia(templ	*	0.7	*	7.1
		372	6	Dinara1	Cemented seal			
		373	7	Kochas	4.2	0.82	2.85	3.92
		374	8	Nokha in temple	4.48	1.62	2.47	3.02
		375	9	Bahaura	1.42	1.58	2.38	1.36
		376	10	Ambwalia	5.05	4.75	4.05	2.35
		377	11	Belthari	Dry	2.01	3.64	3.92
		378	12	Jahanabad (kudra)	9.77	7.6	3.78	6.25
		379	13	Rajandih	8.1	0.93	0.8	3.55
		380	14	Nasriganj	8.36	4.32	3.81	7.9
		381	15	Akbarpur in bdo	11.68	11.16	9.7	10.92
		382	16	Sasaram p.o.	8.94	2.52	2.11	2.44
		383	17	Tilothu bustand	9	7.83	8.3	8
		384	18	Amawan	4.44	0.42	0.52	1.02
SAHARSA	12	385	1	Bangaon	3.06	1.11	1.53	1.86
		386	3	Patodibazar	2.97	1.57	2.08	2.05
		387	5	Potwaha	3.47	Dry	2.38	2.71
		388	7	Saharsa1	4.52	2.74	3.03	3.33
		389	9	Tulsiyahi	1.22	1.65	1.8	1.8
		390	11	Sonbarsaraj1	5.6	2.08	3.92	3.83
		391	13	Jamunia	4.03	2.17	4	2.01
		392	15	Semribaktiarpur	4.35	2.02	2.4	2.91
		393	17	Simri Bakhtiyarpur	3.02	2.27	1.78	1.98
		394	19	Adrahch	3.98	1.85	2.36	2.82
395	21	Baidnathpur	4.1	2.08	2.45	3.03		
396	23	Chandaur Purbi	4.25	3.37	1.99	2.76		
SAMASTIPUR	15	397	1	Kalyanpur	New well			5.7
		398	2	Patapara	6.22	2.15	4.78	5.02
		399	3	Singhia Ghat	New well			8.56
		400	4	Dalsinghsarai	6.25	4.06	4.02	4.65
		401	5	Jakhra	New well			5.69
		402	6	Kishanpur2	6.1	6.78	Dry	Dry
		403	7	Madudabad	6.75	5.07	5.04	3.67
		404	8	Bajidpur	6.8	5.46	4.48	4.75
		405	9	Shahpurpatori	8.04	4.16	4.96	7.08
		406	10	Kerian	5.92	6.3	4.73	5.01
		407	11	Rosera	7.43	6.34	6.32	6.54
		408	12	Tajpur1	8.04	6.61	4.02	6.9
		409	13	Dandia Asadpur	New well			7.49
		410	14	Ujiarpur	6.72	5.99	6.07	7.92
		411	15	Jathmalpur	7.6	3.07	3.82	3.76
SARAN	30	412	1	Jalalpur	4.83	4.75	3.58	4.31
		413	2	Manopali	New well			3.02
		414	3	Chhapra	4.05	1.61	2.41	3.51
		415	4	Chirand	New well			5.26
		416	5	Daldali Bazar A	New well			3.35
		417	6	Daldali Bazar B	New well			2.27

		418	7	Kapiya Niyamat	New well			3.19	
		419	8	Karbinidia	New well			3.56	
		420	9	Mahuapakri	New well			4.64	
		421	10	Mauna Pakri	New well			4.49	
		422	11	Nagra	5.74	4.98	3.38	3.95	
		423	12	Taraiya	New well			2.28	
		424	13	Ammi	8.65	4.25	3.31	4.87	
		425	14	Bishunpur	New well			1.93	
		426	15	Ekma	4.2	3	1.92	2.25	
		427	16	Garkha	7.43	3.95	5.1	5.52	
		428	17	Minapur	New well			2.39	
		429	18	Rampur Kala	New well			2.21	
		430	19	Majhanpura New	New well			5.66	
		431	20	Manjhi	7.4	3.23	4.13	5.8	
		432	21	Marhaura	5.15	3.4	2.52	3.01	
		433	22	Masrakh	Dry	3.03	2.68	2.2	
		434	23	Masrakh I	New well			2.29	
		435	24	Saguni	New well			3.63	
		436	25	Saidpur	New well			6.24	
		437	26	Baleshara	5.12	*	3.39	4.11	
		438	27	Chausia	New well			5.84	
		439	28	Nayagaon	7.27	2.57	2.8	4.85	
		440	29	Sonepur I	0.98	0.8	0.32	0.46	
		441	30	Taraiya	4.39	2.3	1.6	0	
SEIKHPURA	6	442	1	Ambari	New well		3.14	4.22	5.47
		443	2	Barbigha	6.5	6.42	6.36	6.52	
		444	3	Keoti I	6.62	3.98	1.75	2.8	
		445	4	Koeri Bigha	4.42	4.05	2.31	4.5	
		446	5	Sherpar	8.32	9.11	8.77	9.07	
		447	6	Seikhpura	10.45	8.68	8.94	9.85	
SHEOHAR	2	448	1	Sarbarpur	New well			2.28	
		449	2	Sheohar	3.36	1.05	1.28	1.41	
SITAMARHI	8	450	1	Dheng	3.7	2.87	1.93	2.08	
		451	2	Jagwanabazar	3.43	2.41	2.25	2.86	
		452	3	Panaura	3.45	2.65	2.61	2.9	
		453	4	Sitamarhi	New well			7.4	
		454	5	Sursand	3.26	3.32	2.36	3.09	
		455	6	Khairwa	3.28	3.8	2.76	2.99	
		456	7	Karahniya Chowk	2.63	2.06	*	*	
		457	8	Thumba	4.49	3.62	2.25	1.51	
SIWAN	17	458	1	Andar	6.01	4.5	5	5.44	
		459	2	Basantpur	3.14	2.41	1.38	1.9	
		460	3	Chimanpur	5.02	*	2.32	3.82	
		461	4	Hardia	4.32	3.9	1.41	4.03	
		462	5	Sarripatti	New well			2.08	
		463	6	Darauli	6.87	3.87	4.53	5.56	
		464	7	Tarwara	3.68	*	2.19	2.33	
		465	8	Chitakhal	4.31	1.97	2.07	2.75	
		466	9	Deoria	New well			1.97	
		467	10	Maharajganj	3.59	2.18	1.33	3.11	
		468	11	Patrehi	3.6	2.05	2.72	3.51	
		469	12	Mairwal	4.54	1.37	1.69	2.76	
		470	13	Sadikpur	New well			2.44	

		471	14	Murarpatti	New well			2.61
		472	15	Bhagar	New well			2.07
		473	16	Gangapur Siswanl	4.9	1.63	1.73	2.72
		474	17	Siwanl	Dry	3.7	1.94	3.61
SUPAUL	20	475	1	Balua	3.02	1.77	1.73	1.47
		476	2	Bhawanipur1	2.95	1.77	0.82	2.22
		477	3	Bhimnagar	1.13	0.56	2.15	1.82
		478	4	Birpur	New well			3.02
		479	5	Ratanpura l	1.76	1.31	2.2	2.31
		480	6	Balua l	3.02	3.04	2.27	2.41
		481	7	Balua Bazar	2.51	1.97	2.18	2.2
		482	8	Bhasanpatti	0.44	0.82	1.07	2.08
		483	9	Andauli	New well			3.24
		484	10	Supaul	2.97	1.44	2.1	1.57
		485	11	Thumba	3.29	1.83	Dry	3.06
		486	12	Pipra chowk	5.15	2.31	2.77	4.25
		487	13	Shyam Nagar	4.07	1.94	3.02	3.5
		488	14	Ganpatganj l	2	3.29	2.25	2.53
		489	15	Kaithtola	3.23	2.07	2.84	2.97
		490	16	Karjain	2.6	1.72	2.79	1.89
		491	17	Norha	2.58	1.13	1.83	2.72
		492	18	Pratapganj	New well			3.48
		493	19	Jadia	New well			3.58
		494	20	Tribeniganj	New well			3.85
VAISHALI	13	495	1	Chak Sikandar	New well			4.53
		496	2	Mathura	New well			3.45
		497	3	Baksama	New well			2.73
		498	4	Bhaluhia (Garaul)	4.56	1.55	1.8	4.08
		499	5	Garaul	4.04	3.41	1.44	2.45
		500	6	Harpur	New well			4.9
		501	7	Hajipur	7.88	4.45	5.33	5.78
		502	8	Kumharkal	New well			3.71
		503	9	Mahnar	7.83	4.97	4	4.31
		504	10	Mahua l	5.03	3.3	3.16	3.81
		505	11	Sarai l	6.23	4.73	4.41	5.14
		506	12	Patepur	5.11	5.94	3.69	4.06
		507	13	Gajipur	New well			4.37

- * : Could not be found/located on ground
** : Road jam/block
*** : Covered with bushes and wooden blocks
L & O : Law and order problem
Dry : Well may be in either poor condition or partially filled

Annexure-II

Major Chemical parameters of ground water samples of HNS collected during Pre-Monsoon 2013 in Bihar State

SN	District	Location	pH	EC	TDS	TH	Ca ²⁺	Mg ²⁺	Na ⁺	K ⁺	CO ₃ ²⁻	HCO ₃ ⁻	Cl ⁻	NO ₃ ⁻	SO ₄ ²⁻	F ⁻	PO ₄ ³⁻	SiO ₂	% Na	RSC	SAR	PI
1	Araria	Araria	7.36	434	273	75	12.0	10.9	40.3	33.3	0.0	152.5	35.5	21.4	8.3	0.21	1.54	17.8	63	1.00	2	103
2	Araria	Bathnaha 1	7.38	246	159	50	14.0	3.6	27.7	8.2	0.0	97.6	14.2	3.9	16.4	0.00	0.00	11.8	59	0.60	2	112
3	Araria	Haripur	6.90	175	125	40	8.0	4.9	8.8	19.7	0.0	61.0	10.6	20.6	2.2	0.00	0.41	12.9	53	0.20	1	117
4	Araria	Jokihat	7.57	227	156	33	4.0	5.5	40.0	3.0	0.0	134.2	7.1	2.2	0.0	0.20	0.62	12.2	74	1.55	3	135
5	Araria	Pallasi	7.00	305	203	55	18.0	2.4	27.9	29.6	0.0	128.1	17.7	3.0	14.6	0.00	0.22	11.6	64	1.00	2	115
6	Arwal	Arwal	8.19	693	432	240	56.1	24.3	44.0	4.8	0.0	195.2	70.9	88.6	0.0	0.15	0.00	24.0	30	-1.60	1	55
7	Arwal	Dirgal Bigha	8.20	610	376	120	4.0	26.8	88.0	1.5	0.0	292.8	35.5	13.3	0.0	0.98	0.00	27.0	62	2.40	3	97
8	Arwal	Imamganj	8.61	750	404	170	20.0	29.2	91.0	3.2	48.0	195.2	78.0	0.8	9.6	1.11	0.00	23.0	54	-0.20	3	78
9	Aurangabad	Aurangabad	7.57	2002	1151	560	84.0	85.1	208.0	2.0	0.0	616.1	280.1	27.9	56.9	0.44	0.27	30.5	45	-1.09	4	60
10	Aurangabad	Barun	7.24	686	418	240	40.0	34.0	33.0	11.0	0.0	250.1	31.9	41.3	39.5	0.21	0.02	34.7	26	-0.70	1	56
11	Aurangabad	Daudnagar	7.49	1046	609	315	68.0	35.2	83.0	16.0	0.0	311.1	106.4	44.4	38.2	0.29	0.00	27.8	39	-1.19	2	59
12	Aurangabad	Deo	7.81	389	222	120	24.0	14.6	29.0	8.0	0.0	122.0	10.6	2.1	25.2	1.04	0.00	32.6	38	-0.40	1	73
13	Aurangabad	Dhanibar	7.49	596	357	190	32.0	26.7	41.7	10.7	0.0	189.1	28.4	38.8	40.2	0.28	0.00	22.4	35	-0.70	1	64
14	Aurangabad	Goh	7.27	473	277	185	48.0	15.8	22.0	2.0	0.0	170.8	31.9	0.0	36.8	0.37	0.00	15.7	21	-0.90	1	57
15	Aurangabad	Madanpur	7.58	1254	686	390	80.0	46.2	110.0	1.0	0.0	372.1	159.5	21.5	10.9	0.88	0.13	29.4	38	-1.69	2	58
16	Aurangabad	Nabinagar	7.59	990	567	315	44.0	49.8	54.0	42.0	0.0	359.9	85.1	11.6	25.5	0.45	0.00	34.7	35	-0.39	1	55
17	Aurangabad	Narari Kala	7.27	673	380	175	22.0	29.2	54.8	12.7	0.0	195.2	74.4	13.5	21.7	0.37	0.00	31.8	44	-0.30	2	71
18	Aurangabad	Obra	7.20	567	340	205	24.0	35.2	22.0	12.0	0.0	189.1	21.3	4.7	68.7	0.36	0.00	36.1	24	-1.00	1	54
19	Aurangabad	Pataya	7.40	489	274	145	16.0	25.5	31.7	11.7	0.0	115.9	63.8	2.3	17.3	0.51	0.00	34.6	37	-1.00	1	64
20	Aurangabad	Raftganj	7.16	1083	626	345	68.0	42.5	74.0	32.0	0.0	494.1	53.2	18.5	17.5	0.49	0.00	18.5	37	1.21	2	60
21	Banka	Amarpur	8.20	1920	1143	450	136.0	27.0	158.0	87.0	0.0	610.0	206.0	33.0	86.0	0.31	1.90	38.0	40	-0.40	1	61
22	Banka	Banka	8.21	536	309	170	40.0	17.0	25.0	19.0	0.0	207.0	43.0	8.0	0.0	0.48	0.00	30.0	61	3.35	3	99
23	Banka	Barahat	7.97	945	521	250	32.0	41.0	92.0	5.8	0.0	415.0	64.0	0.0	0.0	0.87	0.00	32.0	20	-0.72	1	46
24	Banka	Baunsi	7.10	1810	1127	740	220.0	46.0	68.0	1.5	0.0	427.0	249.0	220.0	0.0	1.75	0.00	60.0	35	-0.14	2	62
25	Banka	Chandan	7.55	680	425	230	76.0	9.7	41.0	1.9	0.0	305.0	43.0	8.0	0.0	1.80	0.00	58.0	19	-1.19	1	44
26	Banka	English Morh	8.26	359	225	100	28.0	7.3	19.0	17.0	0.0	116.0	28.0	28.0	0.0	0.12	0.00	27.0	34	2.00	2	63
27	Banka	Katuria	7.24	700	450	250	72.0	17.0	38.0	1.5	0.0	207.0	78.0	65.0	0.0	0.78	0.00	51.0	19	-1.19	1	44
28	Banka	Panjwara	7.08	260	157	90	12.0	15.0	12.0	6.6	0.0	98.0	21.0	8.4	0.0	0.46	0.00	22.0	12	-0.70	0	52
29	Banka	Rajaun	7.82	550	320	200	48.0	19.0	29.0	0.4	0.0	281.0	14.0	5.3	0.0	0.44	0.00	32.0	39	0.40	2	59
30	Banka	Rampur	8.44	1250	706	380	100.0	29.0	67.0	65.0	48.0	281.0	163.0	17.0	38.0	0.44	0.34	26.0	42	1.80	2	81
31	Banka	Shambhuganj	7.92	780	442	210	48.0	22.0	74.0	3.1	0.0	305.0	71.0	13.0	0.0	0.91	0.00	24.0	49	2.00	2	84
32	Banka	Tara Paghar	8.17	570.0	364	140.0	40.0	9.7	60.0	1.9	0.0	122.0	107.0	8.0	0.0	3.25	0.00	60.0	41.2	0.31	2.4	66.0
33	Begusarai	Badalpur	8.04	389	239	140	10.0	27.9	16.1	22.5	0.0	201.3	21.3	0.9	2.1	0.81	0.00	14.9	31	0.50	1	72
34	Begusarai	Bagrash	8.06	434	261	135	6.0	29.2	16.0	33.9	0.0	213.5	28.4	1.3	2.1	0.62	0.00	13.4	37	0.80	1	76
35	Begusarai	Bakhri	8.22	731	447	150	10.0	30.4	44.8	76.3	0.0	195.2	85.1	12.5	51.2	0.84	0.00	16.8	57	0.20	2	76
36	Begusarai	Begusarai	8.10	398	238	175	8.0	37.7	13.3	2.9	0.0	210.5	24.8	1.1	4.5	0.73	0.00	16.1	16	-0.05	0	60

37	Begusarai	Begusarai fc ib	7.73	813	470	240	26.0	42.5	62.3	24.7	0.0	347.7	49.6	3.5	32.5	1.08	0.12	16.1	41	0.90	2	68
38	Begusarai	Bintoli Kalyanpur	8.29	501	312	190	8.0	41.3	27.1	8.0	0.0	79.3	63.8	38.1	64.3	0.76	0.00	12.4	27	-2.50	1	47
39	Begusarai	Cheria bariarpur	7.70	482	286	225	2.0	53.5	9.7	11.2	0.0	262.3	14.2	7.3	12.0	0.98	0.00	15.1	14	-0.20	0	51
40	Begusarai	Gopalpur	7.42	960	552	360	2.0	86.3	59.0	13.1	0.0	329.4	134.7	38.0	2.4	0.86	0.00	15.2	29	-1.80	1	50
41	Begusarai	Haridia	7.96	556	332	220	8.0	48.6	28.2	11.5	0.0	335.5	10.6	3.0	0.7	1.10	0.00	15.9	26	1.10	1	64
42	Begusarai	Manjaul	8.19	336	212	135	10.0	26.7	11.4	13.4	0.0	176.9	17.7	0.7	8.0	0.83	0.00	15.3	24	0.20	0	69
43	Begusarai	Mohanpur Usrai	7.36	2335	1181	730	84.0	126.4	172.1	13.4	0.0	451.4	382.9	32.8	84.1	0.91	1.29	9.2	35	-7.19	3	46
44	Begusarai	Naya Nagar Dularpur	7.90	1463	819	440	46.0	79.0	98.6	41.4	0.0	323.3	230.4	38.6	74.0	1.20	0.23	12.8	38	-3.49	2	50
45	Begusarai	Pokharia	8.27	607	357	265	18.0	53.5	18.3	3.7	0.0	183.0	74.4	5.8	52.1	0.88	0.00	18.7	14	-2.30	0	41
46	Begusarai	Teghra	7.81	704	401	220	4.0	51.0	60.3	4.8	0.0	161.7	117.0	8.0	44.2	0.76	0.08	11.9	38	-1.75	2	61
47	Bhabua	Bandipur	7.99	1347	789	220	12.0	46.2	157.9	41.7	0.0	207.4	205.6	151.0	31.1	0.38	0.03	17.0	64	-1.00	5	77
48	Bhabua	Betari	8.78	616	282	90	4.0	19.4	68.9	16.4	18.0	153.0	31.9	22.6	0.0	0.64	0.00	14.4	66	2.70	3	107
49	Bhabua	Chainpur	8.29	640	391	250	49.0	31.0	41.7	1.7	0.0	274.5	42.5	11.0	32.1	0.50	0.07	13.9	27	-0.49	1	58
50	Bhabua	Chand	6.94	2256	1411	395	4.0	93.6	283.2	99.9	0.0	176.9	535.3	252.5	21.5	0.05	0.19	12.7	65	-5.00	6	69
51	Bhabua	Gogadhi	7.39	778	425	235	46.0	29.2	54.7	2.3	0.0	329.4	28.4	5.3	43.9	0.22	0.11	14.1	34	0.70	2	66
52	Bhabua	Jahanabad (Kudra)	7.37	1534	882	260	18.0	52.2	197.5	32.8	0.0	414.8	237.5	48.1	24.5	0.11	0.02	17.7	64	1.60	5	81
53	Bhabua	Karmanasa	7.30	1202	742	255	28.0	45.0	178.0	2.6	0.0	140.3	336.8	51.1	3.2	0.23	0.03	11.3	61	-2.80	5	72
54	Bhabua	Kharigaona	8.41	1450	904	235	28.0	40.1	177.5	93.8	18.0	237.9	223.3	154.3	19.7	0.54	0.00	10.8	68	-0.80	5	78
55	Bhabua	Mohania	7.60	1259	773	230	58.0	20.7	176.2	52.9	0.0	353.8	216.2	5.7	13.4	0.00	0.05	13.9	66	1.21	5	82
56	Bhabua	Nuawan	7.47	1781	1169	365	38.0	65.6	267.9	15.8	0.0	207.4	273.0	354.0	10.4	0.09	0.05	18.0	62	-3.89	6	71
57	Bhabua	Tori forest	7.98	1652	992	435	48.0	76.5	189.2	21.0	0.0	530.7	226.9	50.4	39.4	0.83	0.03	16.3	50	0.01	4	66
58	Bhagalpur	Sultanganj	7.92	800	461	240	48.0	29.0	49.0	26.0	0.0	317.0	57.0	30.0	0.0	0.39	0.00	28.0	73	3.20	4	115
59	Bhagalpur	Akbarnagar	8.04	540	309	190	36.0	24.0	30.0	1.9	0.0	281.0	7.1	1.9	0.0	0.42	0.00	36.0	49	1.80	4	64
60	Bhagalpur	Bhagalpur	7.23	960	540	375	100.0	30.0	41.0	0.4	0.0	525.0	21.0	0.0	0.0	0.49	0.00	27.0	35	1.20	1	81
61	Bhagalpur	Sabaur	7.84	1280	736	400	96.0	39.0	81.0	38.0	0.0	415.0	178.0	22.0	0.0	0.23	0.44	29.0	48	-0.20	3	65
62	Bhagalpur	Ghoga	7.22	1140	651	420	120.0	29.0	60.0	1.2	0.0	397.0	135.0	35.0	0.0	0.54	0.00	28.0	25	-0.40	1	60
63	Bhagalpur	Kahalgaoon	7.86	980	571	240	44.0	32.0	106.0	1.9	0.0	317.0	92.0	70.0	0.0	0.89	0.00	31.0	36	1.40	2	73
64	Bhagalpur	Jagdishpur	8.01	1600	923	200	28.0	32.0	265.0	5.8	0.0	671.0	135.0	25.0	0.0	1.15	0.00	22.0	64	2.80	3	107
65	Bhagalpur	Naugachiya	7.46	860	493	270	30.0	47.4	60.0	25.8	0.0	433.1	49.6	0.4	3.1	0.00	0.01	12.2	38	1.70	2	66
66	Bhagalpur	Madrauni Chowk	7.67	468	257	195	4.0	45.0	14.3	5.4	0.0	237.9	10.6	1.0	16.4	0.18	0.01	15.0	16	0.00	0	57
67	Bhojpur	Bihya	7.83	2302	1332	295	10.0	65.6	387.2	42.9	0.0	414.8	482.1	21.4	64.2	0.56	0.05	5.0	75	0.90	10	86
68	Bhojpur	Milki	7.70	485	270	170	10.0	35.2	30.4	1.5	0.0	262.3	10.6	1.1	8.4	0.29	0.01	12.8	29	0.90	1	72
69	Bhojpur	Pirro	8.41	810	528	75	10.0	12.2	161.6	1.9	9.0	158.6	148.9	41.8	34.2	0.29	0.13	15.3	83	1.10	8	101
70	Buxar	Barhampur	7.80	1554	933	135	6.0	29.2	308.4	2.8	0.0	433.1	244.6	48.5	15.0	0.06	0.16	14.0	83	4.40	12	100
71	Buxar	Buxar	7.40	855	488	205	38.0	26.7	96.2	2.4	0.0	219.6	138.3	38.4	0.0	0.32	0.04	14.0	51	-0.50	3	73
72	Buxar	Chausa	8.55	309	176	110	10.0	20.7	25.0	3.1	9.0	122.0	21.3	4.5	0.0	0.15	0.44	11.9	35	-0.20	1	76
73	Buxar	Dumraon	7.36	1045	575	290	14.0	62.0	90.6	22.3	0.0	317.2	124.1	43.1	9.1	0.00	0.01	16.4	44	-0.60	2	64
74	Buxar	Neazipur	9.10	1469	855	145	2.0	34.0	280.2	6.6	63.0	713.7	42.5	3.3	6.2	0.00	0.34	6.8	81	8.80	10	103
75	Buxar	Rajpur	8.00	1132	668	260	48.0	34.0	155.0	1.4	0.0	494.1	102.8	8.5	4.8	0.62	0.04	11.4	57	2.90	4	80
76	Darbhanga	Bahera	7.90	900	585	340	44.1	55.9	81.0	0.9	0.0	536.9	35.5	1.9	24.0	1.05	0.10	13.0	34	2.00	2	63

77	Darbhangha	Baheri	8.10	500	354	170	36.1	19.5	55.0	2.5	0.0	317.3	14.2	0.7	4.8	0.62	0.00	27.0	42	1.80	2	81
78	Darbhangha	Deokuli Dham	8.20	560	398	110	36.0	8.0	88.0	2.3	0.0	354.0	14.0	0.0	0.0	0.51	0.16	33.0	61	3.35	3	99
79	Darbhangha	Dharbhanga	7.90	430	314	90	24.0	7.3	72.0	1.4	0.0	280.6	7.1	0.7	4.8	0.41	0.30	25.0	64	2.80	3	107
80	Darbhangha	Hayaghat	7.50	885	554	350	84.0	56.0	45.0	2.1	0.0	464.0	50.0	0.0	0.0	0.43	0.00	33.0	19	-1.19	1	44
81	Darbhangha	Keoty	8.10	465	304	190	20.0	34.0	25.1	6.8	0.0	207.4	42.6	11.0	9.6	0.62	0.87	28.0	25	-0.40	1	60
82	Darbhangha	Pandaul	8.20	746	500	240	32.1	38.9	50.4	42.0	0.0	268.4	78.0	42.7	33.6	0.09	0.00	18.0	40	-0.40	1	61
83	Darbhangha	Sakri	7.50	1094	718	380	56.1	58.4	93.0	32.0	0.0	488.1	127.7	11.0	24.0	0.34	0.00	18.0	39	0.40	2	59
84	Darbhangha	Simri	8.20	577	391	200	60.1	12.2	50.0	3.1	0.0	329.5	28.4	6.4	4.8	0.72	0.21	24.0	36	1.40	2	73
85	E. Champaran	Areraj	8.28	610	390	180	32.0	24.0	55.0	9.0	0.0	159.0	85.0	5.0	52.0	0.27	0.00	31.0	42	-0.97	2	67
86	E. Champaran	Chapwa (Sugauli)	8.19	1005	644	280	44.0	41.0	85.0	30.0	0.0	256.0	135.0	77.0	50.0	0.13	0.00	26.0	44	-1.37	2	62
87	E. Champaran	Chiraiya	8.63	520	318	150	8.0	32.0	50.0	3.0	6.0	183.0	64.0	1.0	8.0	0.09	0.00	37.0	43	-0.03	2	75
88	E. Champaran	Dharampur	8.54	450	270	210	20.0	39.0	8.0	5.0	6.0	220.0	21.0	1.0	8.0	0.24	0.00	30.0	10	-0.60	0	49
89	E. Champaran	Dipau	8.43	345	204	160	32.0	19.0	5.0	4.0	6.0	171.0	7.0	1.0	4.0	0.07	0.00	24.0	9	-0.36	0	56
90	E. Champaran	Dubey tola	8.3	380	270	140	32.0	15.0	32.0	1.0	0.0	232.0	7.0	1.0	8.0	0.64	0.00	32.0	33	0.97	1	79
91	E. Champaran	Ghorasahan	8.28	380	246	110	24.0	12.0	37.0	1.0	0.0	207.0	11.0	1.0	5.0	0.64	0.00	28.0	43	1.21	2	91
92	E. Champaran	Govindganj	8.59	440	295	150	12.0	29.0	41.0	3.0	12.0	232.0	14.0	2.0	10.0	0.37	0.00	35.0	38	0.82	1	78
93	E. Champaran	Kizerpura	8.62	410	277	160	12.0	32.0	29.0	5.0	12.0	220.0	11.0	2.0	8.0	0.36	0.10	36.0	30	0.37	1	70
94	E. Champaran	Motihari	8.3	400	264	120	34.0	9.0	36.0	3.0	0.0	207.0	18.0	1.0	5.0	0.14	0.00	32.0	40	0.96	1	85
95	E. Champaran	Nawada	8.17	500	316	210	48.0	22.0	14.0	9.0	0.0	262.0	21.0	3.0	4.0	0.10	0.00	35.0	17	0.09	0	56
96	E. Champaran	Patahi	8.3	280	208	110	26.0	11.0	18.0	3.0	0.0	159.0	11.0	3.0	5.0	0.24	0.00	34.0	28	0.40	1	80
97	Gaya	Bitho Sharif	8.20	470	292	140	28.1	17.0	40.0	1.8	0.0	244.0	21.3	5.6	0.0	0.52	0.00	29.0	39	1.20	1	82
98	Gaya	Bodhgaya	8.54	680	385	210	48.1	21.9	55.0	7.4	24.0	231.8	70.9	5.2	0.0	0.37	0.00	20.0	38	-0.40	2	66
99	Gaya	Chakand	8.22	668	411	240	44.1	31.6	41.0	1.3	0.0	207.4	49.6	39.0	48.0	0.64	0.00	29.0	27	-1.40	1	55
100	Gaya	Dobhi	8.36	525	320	170	28.1	24.3	42.0	0.5	36.0	207.4	21.3	12.2	0.0	0.78	0.00	43.0	35	0.00	1	70
101	Gaya	Fatehpur	8.42	495	284	190	20.0	34.0	23.0	0.9	36.0	91.5	46.1	58.1	0.0	0.79	0.00	24.0	21	-2.30	1	46
102	Gaya	Khandail	8.20	630	379	190	32.1	26.8	47.0	11.7	0.0	183.0	106.4	13.1	0.0	0.56	0.00	30.0	38	-0.80	1	65
103	Gaya	Manpur	8.42	925	547	310	68.1	34.0	63.0	10.8	24.0	256.2	113.5	61.0	0.0	0.18	0.00	26.0	33	-2.00	2	54
104	Gaya	Paligaon	8.04	676	410	230	48.1	26.8	33.0	16.7	0.0	207.4	56.7	66.0	9.6	0.35	0.00	26.0	29	-1.20	1	54
105	Gaya	Sherghati	8.21	338	225	100	14.0	15.8	35.8	2.6	0.0	189.1	14.2	0.0	8.4	0.33	0.00	18.6	45	1.10	2	93
106	Gaya	Wazirganj	8.20	1450	1072	290	16.0	60.8	34.0	303.0	0.0	512.5	85.1	87.0	105.7	0.44	0.00	67.0	61	2.60	1	60
107	Gopalganj	Bangra	8.07	847	479	225	16.0	45.0	77.0	13.0	0.0	458.0	24.8	0.4	1.4	0.64	0.00	21.8	45	3.01	2	78
108	Gopalganj	Barauli	8.50	436	249	160	24.0	24.3	29.0	5.7	12.0	208.0	10.7	1.9	12.7	0.81	0.00	6.0	31	0.21	1	70
109	Gopalganj	Bhore	8.00	232	134	95	18.0	12.2	3.0	2.0	0.0	91.5	14.2	8.8	0.0	0.16	0.00	20.0	9	-0.40	0	67
110	Gopalganj	Chanwabe	7.45	601	411	145	14.0	26.7	71.0	20.0	0.0	244.0	60.2	0.6	42.0	0.63	0.00	27.0	55	1.10	3	85
111	Gopalganj	Hathua	7.80	1290	734	285	12.0	62.0	119.0	48.0	0.0	457.5	166.6	5.9	14.1	0.54	0.00	27.0	53	1.80	3	73
112	Gopalganj	Jalalpur	7.63	1106	648	185	18.0	34.0	122.0	53.0	0.0	414.8	106.4	9.1	33.6	0.21	0.00	19.0	64	3.10	4	88
113	Gopalganj	Kuchaikot	7.71	921	517	95	8.0	18.2	132.0	27.0	0.0	372.0	78.0	0.6	8.0	0.57	0.00	18.0	77	4.20	6	107
114	Gopalganj	Manjhwa	8.72	402	252	125	10.0	24.3	29.0	17.0	8.0	183.0	28.0	11.5	0.0	0.15	0.00	16.0	40	0.50	1	80
115	Gopalganj	Misirbatha	7.97	1078	610	355	6.0	82.6	63.0	29.0	0.0	305.0	134.7	42.7	39.6	0.25	0.08	26.0	33	-2.10	1	51
116	Gopalganj	Rampur	8.22	437	299	120	14.0	20.7	38.0	13.0	0.0	204.5	10.6	16.5	24.0	0.24	1.18	36.0	45	0.95	2	86

117	Gopalganj	Turkaha	8.12	479	261	145	12.0	28.0	18.0	7.0	0.0	140.5	14.2	11.2	48.0	0.28	0.02	37.0	25	-0.60	1	62
118	Jamui	Batia	8.28	308	182	120	28.0	12.0	9.2	0.8	0.0	134.0	14.0	3.3	0.0	0.55	0.00	32.0	19	-1.19	1	44
119	Jamui	Chakai	7.46	1080	625	400	88.0	44.0	55.0	0.8	0.0	342.0	114.0	70.0	0.0	1.20	0.00	43.0	19	-1.19	1	44
120	Jamui	Chandra Mandih	7.54	3470	1927	1170	196.0	165.0	248.0	5.8	0.0	671.0	760.0	11.0	67.0	0.95	1.00	64.0	19	-1.19	1	44
121	Jamui	Gidhaur	8.21	420	257	160	36.0	17.0	20.0	0.4	0.0	207.0	14.0	4.0	0.0	0.84	0.00	38.0	19	-1.19	1	44
122	Jamui	Jamui	8.23	771	439	250	60.0	24.0	55.0	2.3	0.0	232.0	99.0	9.0	24.0	0.21	0.00	24.0	18	-1.69	1	39
123	Jamui	Jhajha	7.75	640	375	210	52.0	19.0	44.0	0.8	0.0	244.0	64.0	14.0	0.0	0.44	0.00	32.0	19	-1.19	1	44
124	Jamui	Manjhwe	7.74	2540	1539	550	68.0	92.0	322.0	3.5	0.0	610.0	334.0	325.0	0.0	2.00	0.38	20.0	47	1.38	3	71
125	Jamui	Purna Khaira	8.03	580	327	210	40.0	27.0	31.0	0.3	0.0	293.0	21.0	0.1	0.0	0.54	0.00	28.0	43	-7.58	4	51
126	Jamui	Sandipi	7.01	868	494	240	68.0	17.0	83.0	1.2	0.0	183.0	178.0	18.0	0.0	0.08	0.00	17.0	19	-1.19	1	44
127	Jamui	Sikandra	7.87	2250	1281	450	64.0	71.0	292.0	8.6	0.0	293.0	476.0	12.0	154.0	0.42	0.00	24.0	22	-5.06	1	38
128	Jehanabad	Ghoshi	8.48	365	200	120	16.0	19.5	28.0	1.8	48.0	85.4	21.3	2.7	0.0	0.84	0.00	29.0	34	-1.00	1	66
129	Jehanabad	Jehanabad	8.20	2509	1553	290	20.0	58.4	462.0	9.8	0.0	427.1	461.0	48.0	216.1	0.22	0.00	17.0	78	1.20	12	88
130	Jehanabad	Jhunathi	8.40	480	264	190	40.1	21.9	21.0	2.3	36.0	170.8	14.2	0.0	9.6	0.34	0.00	29.0	20	-1.00	1	55
131	Jehanabad	Kako	8.22	950	566	260	12.0	55.9	101.0	1.6	0.0	329.5	78.0	52.0	38.4	0.66	0.00	25.0	46	0.20	3	70
132	Jehanabad	Kinjer	8.07	490	301	190	32.1	26.8	28.0	1.8	0.0	256.2	14.2	2.6	9.6	0.81	0.00	29.0	25	0.40	1	65
133	Jehanabad	Kurtha	8.44	500	265	170	20.0	29.2	35.0	4.1	48.0	158.6	21.3	2.5	0.0	0.70	0.00	27.0	32	-0.80	1	64
134	Jehanabad	Makhdumpur	8.91	680	379	90	4.0	19.5	112.0	1.6	60.0	244.0	21.3	7.7	0.0	0.69	0.00	27.0	73	2.20	5	103
135	Katihar	Barari	7.43	947	552	290	40.0	46.2	57.0	44.0	0.0	372.1	95.7	12.0	12.3	0.10	0.03	18.0	38	0.30	1	60
136	Katihar	Bastaul	7.53	374	243	160	42.0	13.4	15.8	5.8	0.0	195.2	21.3	2.0	5.1	0.00	0.07	18.5	21	0.00	1	64
137	Katihar	Hafla	7.02	839	510	240	50.0	27.9	46.7	49.7	0.0	317.2	53.2	47.0	23.5	0.16	4.40	17.8	41	0.41	1	63
138	Katihar	Kadwa	7.17	707	450	95	20.0	10.9	76.6	55.7	0.0	170.8	67.4	88.9	13.5	0.00	0.12	12.9	71	0.90	3	96
139	Katihar	Katihar	7.00	675	381	165	12.0	32.8	68.9	10.9	0.0	176.9	88.6	0.0	51.1	0.36	0.02	8.0	50	-0.40	2	75
140	Katihar	Kheria	6.76	110	78	25	4.0	3.6	4.5	11.7	0.0	36.6	7.1	9.7	0.0	0.23	0.12	15.2	50	0.10	0	140
141	Katihar	Korha	7.01	484	284	125	12.0	23.1	48.7	9.0	0.0	207.4	42.5	7.2	3.1	0.00	0.04	12.1	48	0.90	2	86
142	Katihar	Kursela	7.61	558	338	160	10.0	32.8	56.8	9.2	0.0	201.3	92.2	0.6	5.1	0.23	0.05	8.5	46	0.10	2	76
143	Katihar	Manihari	7.04	1697	1024	440	70.0	64.4	96.4	159.6	0.0	683.2	156.0	12.9	24.6	0.00	1.20	23.5	48	2.41	2	58
144	Katihar	Narahaiya	7.09	975	552	270	48.0	36.5	41.6	49.9	0.0	317.2	74.4	91.0	3.1	0.03	0.03	14.1	36	-0.19	1	57
145	Katihar	Paranpur	6.88	690	419	195	38.0	24.3	57.1	25.5	0.0	164.7	117.0	37.7	7.4	0.00	0.03	11.3	45	-1.20	2	65
146	Katihar	Routara	7.83	145	99	25	4.0	3.6	18.4	6.2	0.0	67.1	10.6	3.0	0.0	0.18	0.10	12.3	66	0.60	2	142
147	Katihar	Sonauli	7.64	377	217	115	20.0	15.8	21.6	13.2	0.0	146.4	31.9	7.9	0.0	0.00	0.19	17.0	36	0.10	1	77
148	Khagaria	Basantpur	7.68	581	338	185	6.0	41.3	41.5	3.9	0.0	262.3	17.7	2.3	36.7	0.71	0.00	27.7	34	0.60	1	70
149	Khagaria	Bijlitola, Maheshkhunt	8.21	1693	910	440	26.0	91.1	162.3	9.0	0.0	201.3	333.2	32.7	83.7	0.97	0.48	48.4	45	-5.49	3	56
150	Khagaria	Chautham	7.90	407	253	195	10.0	41.3	12.0	4.3	0.0	213.5	14.2	3.9	19.5	1.12	0.00	16.7	14	-0.40	0	54
151	Khagaria	Gandhinagar	8.26	925	545	395	8.0	91.1	29.0	11.0	0.0	237.9	163.1	14.5	40.8	1.27	0.81	41.4	16	-4.00	1	35
152	Khagaria	Gangaur	7.75	634	394	255	8.0	57.1	38.9	9.4	0.0	244.0	109.9	3.4	0.5	0.95	0.17	16.5	28	-1.10	1	54
153	Khagaria	Jamalpur	7.65	843	470	320	4.0	75.3	46.7	6.1	0.0	433.1	35.5	14.4	9.3	0.58	0.00	14.3	25	0.70	1	56
154	Khagaria	Kasimpur	8.01	549	307	235	28.0	40.1	18.7	3.1	0.0	213.5	49.6	2.6	19.4	0.80	0.00	14.8	16	-1.20	1	49
155	Khagaria	Khagaria	8.32	437	272	185	6.0	41.3	26.7	4.0	12.0	170.8	63.8	1.7	3.1	0.71	0.00	13.3	25	-0.90	1	58
156	Khagaria	Labhgaon	8.45	381	268	140	10.0	27.9	12.6	13.2	12.0	170.8	17.7	3.1	0.7	0.71	0.00	70.4	24	0.00	0	66

157	Khagaria	Maheshkhunt	8.30	449	260	175	8.0	37.7	16.5	14.4	10.5	183.0	39.0	5.7	6.9	0.84	0.00	13.4	24	-0.50	1	58
158	Khagaria	Lohiya Chowk	8.28	872	480	260	6.0	59.5	66.5	10.2	0.0	152.5	177.3	24.5	31.2	0.84	0.06	11.2	38	-2.70	2	55
159	Khagaria	Mohaddipur	7.61	1135	666	375	46.0	63.2	36.1	81.3	0.0	451.4	81.5	37.8	31.4	0.76	0.07	13.1	33	-0.09	1	47
160	Khagaria	Pirnasara	8.45	1675	1056	375	6.0	87.5	90.0	221.0	19.5	420.9	234.0	40.0	86.5	0.77	1.82	21.3	56	-0.60	2	57
161	Kishanganj	Bahadurganj	7.07	403	222	85	16.0	10.9	34.7	11.5	0.0	103.7	49.6	20.3	4.7	0.08	0.00	10.7	51	0.00	2	88
162	Kishanganj	Kaswa Kaliganj	7.24	123	86	30	8.0	2.4	16.0	3.7	0.0	67.1	10.6	0.0	0.0	0.00	0.04	4.0	57	0.50	1	135
163	Kishanganj	Kishanganj	7.10	1082	732	125	22.0	17.0	206.2	19.8	0.0	237.9	166.6	78.1	66.2	0.28	0.00	11.2	79	1.40	8	95
164	Kishanganj	Thakurganj	6.96	130	92	20	4.0	2.4	18.4	3.7	0.0	61.0	10.6	0.0	0.0	0.00	0.24	15.3	69	0.60	2	150
165	Lakhisarai	Barhaiya	8.15	560	330	150	32.0	17.0	54.0	1.9	0.0	293.0	14.0	0.0	0.0	0.61	0.00	32.0	20	0.20	1	67
166	Lakhisarai	Kiul	8.17	450	266	150	36.0	15.0	28.0	1.5	0.0	207.0	21.0	4.1	0.0	0.78	0.00	33.0	58	2.20	3	105
167	Lakhisarai	Lakhisarai	7.32	1190	674	520	168.0	24.0	28.0	0.8	0.0	476.0	121.0	11.0	0.0	0.25	0.00	31.0	25	0.40	1	69
168	Lakhisarai	Surajgarha	7.95	1030	577	260	32.0	44.0	110.0	2.3	0.0	445.0	85.0	8.9	0.0	0.32	0.00	23.0	23	0.60	1	68
169	Madhepura	Abhiyatala	8.40	1050	591	255	4.0	59.5	50.9	85.1	18.0	335.5	99.3	21.3	19.9	0.99	0.71	34.8	46	0.40	1	62
170	Madhepura	Ganeshpur	8.18	582	323	185	6.0	41.3	28.4	10.9	0.0	189.1	74.4	6.2	1.0	0.82	0.00	38.5	29	-0.60	1	61
171	Madhepura	Gaushala Chowk	8.34	608	342	175	10.0	36.5	29.9	28.9	12.0	225.7	49.6	13.6	2.5	0.18	0.00	26.0	37	0.20	1	67
172	Madhepura	Gwalpara	8.43	383	239	125	6.0	26.7	20.1	25.2	12.0	164.7	28.4	7.0	2.1	1.04	0.00	15.1	38	0.20	1	75
173	Madhepura	Hatkora bazar	8.02	766	420	195	12.0	40.1	71.3	6.6	0.0	219.6	113.4	7.5	12.6	1.07	0.00	21.1	46	-0.30	2	71
174	Madhepura	Madhepura	8.45	969	575	190	18.0	35.2	85.1	75.7	15.0	311.1	92.2	25.2	23.7	0.78	0.00	19.8	60	1.30	3	79
175	Madhepura	Singeswar	8.42	570	337	210	4.0	48.6	22.3	31.3	18.0	274.5	31.9	4.8	0.8	1.19	0.00	13.5	30	0.30	1	60
176	Madhubani	Benipatti	8.20	356	273	140	44.1	7.3	33.0	1.6	0.0	244.0	7.1	0.6	4.8	0.20	0.37	25.0	35	1.20	1	81
177	Madhubani	Bhawanipur	8.10	442	319	70	8.0	12.2	85.0	1.4	0.0	280.6	7.1	1.1	9.6	0.51	0.00	23.0	73	3.20	4	115
178	Madhubani	Dhakjari	7.50	1816	1130	490	80.2	70.5	181.8	53.0	0.0	707.7	234.0	38.9	14.4	0.28	0.37	25.0	49	1.80	4	64
179	Madhubani	jaynagar	7.60	660	457	225	76.2	8.5	69.0	1.8	0.0	427.1	7.1	0.6	9.6	0.38	0.20	23.0	40	2.50	2	75
180	Madhubani	Jhanjharpur	8.20	550	394	170	24.0	26.8	73.0	2.1	0.0	329.5	21.3	2.4	14.4	0.66	0.00	28.0	49	2.00	2	84
181	Madhubani	Kapileswar	8.20	1107	738	330	24.0	65.7	115.0	39.0	0.0	390.5	156.0	26.0	57.6	0.66	0.35	16.0	48	-0.20	3	65
182	Madhubani	Karmauli	7.80	371	257	90	12.0	14.6	55.0	1.4	0.0	219.6	7.1	1.6	9.6	0.57	0.00	21.0	57	1.80	3	102
183	Madhubani	Khajauli	7.98	1448	873	420	52.1	70.5	124.2	46.0	0.0	427.1	226.9	14.0	57.6	0.20	0.00	21.0	44	-1.40	3	58
184	Madhubani	Khutauna	7.70	490	346	190	48.1	17.0	42.0	1.1	0.0	329.5	7.1	2.0	4.8	0.61	0.00	22.0	33	1.60	1	74
185	Madhubani	Narar	8.08	793	523	280	60.1	31.6	54.1	33.0	0.0	341.7	81.6	7.0	24.0	0.71	0.25	23.0	36	0.00	1	59
186	Madhubani	Nirmali	8.20	542	384	160	24.0	24.3	60.0	16.0	0.0	280.6	46.1	7.1	4.8	0.37	0.00	30.0	49	1.40	2	82
187	Madhubani	Phulparas	8.20	300	214	140	20.0	21.9	13.8	1.2	0.0	170.8	10.6	4.3	4.8	0.88	0.26	32.0	18	0.00	1	67
188	Madhubani	Siswar	8.10	537	390	190	64.1	7.3	56.0	1.8	0.0	292.8	42.6	12.0	4.8	0.47	0.15	22.0	40	1.00	2	74
189	Munger	Asarganj	7.44	2330	1445	490	116.0	49.0	184.0	204.0	0.0	769.0	284.0	23.0	72.0	0.30	2.50	44.0	49	1.40	2	82
190	Munger	Bariarpur	7.64	1160	665	440	100.0	46.0	58.0	0.8	0.0	476.0	92.0	45.0	0.0	0.42	0.00	32.0	44	-1.40	3	58
191	Munger	Gangta More	8.29	310	192	105	16.0	16.0	18.0	1.2	0.0	134.0	21.0	2.0	0.0	0.39	0.00	36.0	40	2.50	2	75
192	Munger	Haveli Kharagpur	8.26	195	138	60	20.0	2.4	12.0	3.5	0.0	49.0	21.0	22.0	0.0	0.24	0.00	27.0	57	1.80	3	102
193	Munger	Jamalpur	7.22	950	536	370	104.0	29.0	43.0	0.8	0.0	415.0	71.0	11.0	0.0	0.52	0.00	24.0	33	0.80	1	78
194	Munger	Purabsarai (Navtolia)	7.42	620	362	220	72.0	9.7	36.0	1.2	0.0	256.0	57.0	3.8	0.0	0.05	0.00	26.0	30	1.00	1	73
195	Munger	Rampur	7.22	720	422	250	72.0	17.0	46.0	2.3	0.0	329.0	50.0	0.0	0.0	0.38	0.00	34.0	40	1.00	2	74
196	Munger	Sangrampur	8.20	600	345	210	60.0	15.0	33.0	0.8	0.0	317.0	7.1	0.0	0.0	0.42	0.00	35.0	33	1.60	1	74

197	Munger	Singhiya Chowk	8.00	1380	758	450	56.0	75.0	92.0	20.0	0.0	366.0	206.0	55.0	0.0	0.01	0.00	31.0	36	0.00	1	59
198	Munger	Tarapur	7.92	750	410	300	72.0	29.0	28.0	0.8	0.0	293.0	71.0	0.0	0.0	0.66	0.00	30.0	18	0.00	1	67
199	Muzaffarpur	Aurai	8.6	550	331	190	8.0	41.0	39.0	4.0	12.0	220.0	43.0	1.0	16.0	0.07	0.00	38.0	32	-0.17	1	66
200	Muzaffarpur	Baghwanpur Chowk	8.3	790	517	200	16.0	39.0	90.0	5.0	0.0	159.0	78.0	2.0	152.0	0.00	0.00	38.0	50	-1.40	3	70
201	Muzaffarpur	Bochaha	8.23	530	326	230	12.0	49.0	13.0	10.0	0.0	275.0	18.0	2.0	17.0	0.00	0.08	37.0	15	-0.12	0	52
202	Muzaffarpur	Dholi	8.26	2350	1549	800	36.0	173.0	122.0	96.0	0.0	220.0	284.0	393.0	277.0	0.06	0.00	34.0	33	-12.42	2	34
203	Muzaffarpur	Digra	8.3	550	358	220	64.0	15.0	29.0	2.0	0.0	311.0	11.0	1.0	12.0	0.39	0.00	34.0	23	0.67	1	62
204	Muzaffarpur	Gargalia (Minapur)	8.06	580	340	210	20.0	39.0	36.0	5.0	0.0	122.0	71.0	1.0	60.0	0.00	0.00	34.0	29	-2.21	1	52
205	Muzaffarpur	Jaffarpur	8.19	460	291	190	44.0	19.0	18.0	4.0	0.0	232.0	21.0	1.0	10.0	0.18	0.00	32.0	19	0.04	1	60
206	Muzaffarpur	Katra	8.6	590	407	250	8.0	54.0	44.0	11.0	6.0	256.0	82.0	1.0	20.0	0.00	0.00	27.0	31	-0.65	1	59
207	Muzaffarpur	Mohant Monihari	8.14	630	404	220	32.0	34.0	42.0	9.0	0.0	232.0	64.0	2.0	48.0	0.08	0.00	31.0	32	-0.59	1	61
208	Muzaffarpur	Mushari	8.3	400	270	180	36.0	22.0	13.0	6.0	0.0	214.0	18.0	4.0	12.0	0.00	0.00	28.0	17	-0.10	0	58
209	Muzaffarpur	Muzaffarpur	8.85	710	428	290	24.0	56.0	40.0	5.0	18.0	244.0	103.0	1.0	6.0	0.06	0.00	33.0	24	-1.81	1	50
210	Muzaffarpur	Paroo	8.18	1100	698	370	56.0	56.0	80.0	11.0	0.0	146.0	145.0	2.0	220.0	0.00	0.00	39.0	34	-5.01	2	46
211	Muzaffarpur	Rajkhund	8.28	380	262	190	48.0	17.0	7.0	6.0	0.0	207.0	21.0	3.0	8.0	0.11	0.00	26.0	11	-0.40	0	52
212	Muzaffarpur	Sahebganj	8.72	500	345	230	8.0	51.0	27.0	5.0	12.0	281.0	11.0	1.0	24.0	0.14	0.00	39.0	22	0.01	1	58
213	Muzaffarpur	Sarfuddinpur	8.58	780	472	260	40.0	39.0	58.0	9.0	12.0	305.0	35.0	1.0	70.0	0.00	0.00	27.0	35	-0.21	2	62
214	Muzaffarpur	Shukrahata	8.24	910	606	420	20.0	90.0	46.0	4.0	0.0	464.0	21.0	2.0	106.0	0.29	0.00	34.0	20	-0.80	1	46
215	Nalanda	Ankuri Bazar	8.20	1802	1171	350	28.0	68.0	336.0	20.0	0.0	952.0	191.0	16.0	35.0	1.10	0.00	40.0	68	8.61	8	86
216	Nalanda	Asthwan	7.10	1232	800	400	94.0	40.0	100.0	3.5	0.0	479.0	128.0	22.0	8.4	0.39	0.00	21.8	36	-0.13	2	58
217	Nalanda	Belua	7.18	1570	1020	776	120.2	115.7	41.1	8.8	0.0	620.0	215.1	3.5	81.8	0.62	0.06	16.0	11	-5.35	1	29
218	Nalanda	Bhui	8.20	4352	2829	841	112.0	136.0	620.0	227.0	0.0	1001.0	723.0	159.0	440.0	0.81	0.00	33.0	66	-0.37	9	71
219	Nalanda	Biharsharif	8.22	720	433	240	36.1	36.5	56.0	0.7	0.0	146.4	120.6	29.5	33.6	0.40	0.00	30.0	34	-2.40	2	55
220	Nalanda	Biharsharif Rly Stn	7.20	620	403	232	60.9	19.4	43.7	11.3	0.0	280.0	42.5	2.3	41.9	0.29	0.00	16.0	32	-0.05	1	62
221	Nalanda	Daudpur	7.38	1160	754	380	112.0	24.0	83.0	0.8	0.0	439.0	121.0	0.0	19.0	0.59	0.00	21.0	32	-0.37	2	56
222	Nalanda	Deep Nagar	7.14	990	640	320	44.9	50.5	33.6	2.1	0.0	350.0	33.0	21.1	45.5	0.34	0.00	9.0	19	-0.66	1	49
223	Nalanda	Doiya	8.20	2603	1692	570	36.0	117.0	422.0	9.9	0.0	793.0	397.0	13.0	248.0	1.00	0.00	23.0	62	1.58	8	74
224	Nalanda	Ekangarsarai	8.99	1000	615	90	4.0	19.5	190.0	11.3	48.0	341.7	28.4	38.0	62.4	1.15	0.00	23.0	83	3.80	9	106
225	Nalanda	Giriak	8.23	423	267	140	20.0	21.9	31.0	1.4	0.0	170.8	28.4	16.4	9.6	0.36	0.00	34.0	33	0.00	1	73
226	Nalanda	Harnaut	8.51	608	351	110	16.0	17.0	84.0	3.6	24.0	146.4	70.9	1.0	24.0	0.45	0.00	30.0	63	0.20	3	89
227	Nalanda	Heganpura	6.85	1140	741	508	65.7	82.6	54.4	64.1	0.0	280.0	282.5	0.6	57.8	1.54	0.00	21.0	28	-5.48	1	36
228	Nalanda	Hilsa	8.49	400	233	120	16.0	19.5	39.0	3.3	36.0	146.4	14.2	0.3	0.0	0.55	0.00	29.0	43	0.00	2	79
229	Nalanda	Jangipur	6.97	1450	943	505	52.0	91.0	92.0	14.0	0.0	295.0	255.0	44.4	51.8	0.66	0.00	24.9	30	-5.25	2	44
230	Nalanda	Kundalpur	8.20	827	538	320	56.0	44.0	59.0	23.0	0.0	427.0	43.0	7.6	50.0	0.60	0.00	26.0	33	0.58	1	58
231	Nalanda	Moghra	7.22	560	364	268	48.0	35.5	47.4	7.6	0.0	310.0	53.8	0.0	50.0	0.49	0.00	27.0	30	-0.24	1	58
232	Nalanda	Muraura	7.05	938	610	260	64.0	24.0	64.0	54.0	0.0	439.0	74.0	5.4	0.0	0.43	0.00	13.7	45	2.03	2	69
233	Nalanda	Nalanda	7.10	860	560	480	73.7	71.9	30.1	7.3	0.0	482.0	79.2	8.0	59.7	0.47	0.00	18.0	14	-1.70	1	38
234	Nalanda	Nirpur	8.10	3128	2033	610	96.0	90.0	504.0	61.0	0.0	635.0	426.0	305.0	386.0	0.80	0.00	32.0	66	-1.79	9	74
235	Nalanda	Nischalganj	8.64	1150	731	50	16.0	2.4	186.0	78.0	48.0	268.4	156.0	56.5	0.0	0.23	1.35	43.0	91	3.40	11	112
236	Nalanda	Papanhosa	7.90	1949	1267	641	16.0	146.0	156.0	3.9	0.0	610.0	262.0	33.0	78.0	0.55	0.00	25.0	35	-2.81	3	51

237	Nalanda	Parwalpur	7.09	400	260	152	30.5	18.5	111.2	3.9	0.0	190.0	90.6	3.1	77.7	1.37	0.00	17.4	62	0.08	4	84
238	Nalanda	Pawapuri	8.47	435	266	140	32.1	14.6	30.0	10.2	36.0	109.8	42.6	17.0	0.0	0.50	0.00	31.0	36	-1.00	1	64
239	Nalanda	Pilkhi	7.18	1570	1020	776	120.2	115.7	11.1	8.8	0.0	620.0	145.1	22.0	61.8	0.37	0.00	22.0	4	-5.35	0	23
240	Nalanda	Rajgir	8.44	802	501	190	24.0	31.6	42.0	90.0	36.0	231.8	63.8	48.0	0.0	0.29	0.00	38.0	52	0.00	1	67
241	Nalanda	Sare	7.20	840	546	352	52.9	53.5	33.2	7.9	0.0	380.0	46.0	0.0	52.2	0.59	0.00	23.0	19	-0.81	1	46
242	Nalanda	Sherpur	7.62	1040	676	340	72.0	39.0	74.0	0.8	0.0	500.0	36.0	33.0	0.0	0.67	0.00	26.0	32	1.39	2	61
243	Nalanda	Silao	8.10	2593	1685	520	120.0	54.0	406.0	46.0	0.0	744.0	454.0	4.8	190.0	0.64	0.00	36.0	64	1.76	8	75
244	Nalanda	Sithuara	8.00	2254	1465	500	100.0	61.0	330.0	8.0	0.0	512.0	369.0	109.0	180.0	0.73	0.00	29.0	59	-1.62	6	71
245	Nawada	Baluwahi	7.27	930	605	270	52.0	34.0	46.0	59.0	0.0	415.0	57.0	49.0	0.0	0.53	0.00	20.0	39	1.41	1	62
246	Nawada	Dariapur	8.20	320	212	80	16.0	9.7	36.0	1.1	0.0	158.6	14.2	1.1	0.0	1.18	0.00	36.0	50	1.00	2	100
247	Nawada	Hisua	8.64	825	479	170	20.0	29.2	105.0	10.8	36.0	146.4	163.1	8.2	0.0	0.60	0.11	31.0	59	-1.00	4	77
248	Nawada	Kawakol	7.28	2200	1430	710	172.0	68.0	164.0	15.0	0.0	476.0	383.0	73.0	72.0	0.28	0.00	24.0	35	-6.37	3	47
249	Nawada	Nawada	7.94	506	325	180	40.1	19.5	30.0	10.1	0.0	219.6	42.6	17.1	0.0	0.56	0.00	31.0	30	0.00	1	65
250	Nawada	Roh	8.41	430	259	150	32.1	17.0	29.0	1.4	24.0	183.0	14.2	7.7	0.0	0.60	0.00	31.0	30	0.00	1	70
251	Nawada	Rupau	8.59	1948	1250	380	32.1	73.0	158.0	192.0	36.0	134.2	347.5	109.0	192.1	0.05	0.00	43.0	61	-5.40	4	58
252	Nawada	Tungi	8.20	300	199	105	20.0	13.4	21.0	3.3	0.0	122.0	21.3	21.9	0.0	0.34	0.00	23.0	32	-0.10	1	77
253	Nawada	Warshaliganj	8.49	480	270	120	16.0	19.5	50.0	1.5	36.0	183.0	17.7	2.1	0.0	0.88	0.00	29.0	48	0.60	2	85
254	Patna	Andhra Chauki	7.74	526	305	180	16.0	34.0	34.9	3.3	0.0	292.8	17.7	0.2	3.2	0.64	0.00	16.8	31	1.20	1	73
255	Patna	Bakhtiarpur	8.60	600	351	150	8.0	31.6	70.0	4.5	36.0	146.4	49.6	1.2	48.0	0.08	0.02	27.0	51	-0.60	2	76
256	Patna	Baliapakar	8.25	242	162	90	20.0	9.7	11.0	1.2	0.0	134.2	3.5	4.8	0.0	0.16	0.00	30.0	22	0.40	1	86
257	Patna	Barh	7.21	1650	898	480	76.0	71.0	150.0	4.3	0.0	647.0	178.0	1.6	0.0	0.41	0.00	22.0	44	0.80	2	56
258	Patna	Bharatpura	8.99	870	479	100	8.0	19.5	153.0	1.0	72.0	317.3	21.3	2.7	9.6	1.05	0.00	26.0	77	3.20	7	103
259	Patna	Daniyawan	8.21	460	280	160	32.1	19.5	27.0	3.4	0.0	250.1	17.7	0.6	0.0	0.63	0.00	27.0	28	0.90	1	73
260	Patna	Dulhinbazar	7.93	410	289	150	36.1	14.6	24.0	11.9	0.0	170.8	21.3	16.5	24.0	0.24	1.18	36.0	31	-0.20	1	67
261	Patna	Fatuha	8.42	478	293	120	12.0	21.9	55.0	2.6	24.0	170.8	35.5	17.5	0.0	0.15	0.00	30.0	51	0.40	2	85
262	Patna	Hulaschak	7.34	1030	669	332	59.3	44.8	95.4	61.8	0.0	620.0	50.9	0.2	8.5	0.69	0.00	15.0	46	3.52	2	68
263	Patna	Khaspur	7.06	1340	860	616	92.9	93.3	47.8	5.1	0.0	480.0	132.9	0.6	138.0	0.47	0.00	12.7	15	-4.44	1	34
264	Patna	Korhar	7.14	730	470	348	68.9	42.8	45.8	21.3	0.0	380.0	88.0	0.1	50.0	0.27	0.00	16.5	27	-0.73	1	50
265	Patna	Lalbengwan	7.21	1840	1180	756	107.4	118.6	19.4	23.1	0.0	440.0	226.0	0.4	121.4	0.64	0.00	21.8	9	-7.90	0	22
266	Patna	Maner	8.01	1563	920	310	40.1	51.1	215.0	3.3	0.0	353.9	219.9	5.9	144.1	0.53	0.00	24.0	60	-0.40	5	76
267	Patna	Maranchi	7.36	850	473	320	80.0	29.0	42.0	2.7	0.0	403.0	43.0	0.0	0.0	0.38	0.00	30.0	21	0.20	1	68
268	Patna	Mariwama	8.20	390	226	125	28.0	13.4	29.6	1.2	0.0	195.2	14.2	3.0	4.1	0.12	0.26	13.6	35	0.70	1	81
269	Patna	Mokama	7.85	580	332	200	44.0	22.0	34.0	2.7	0.0	268.0	28.0	0.0	0.0	0.57	0.00	37.0	38	0.80	1	84
270	Patna	Nonia Tola	7.50	1060	689	448	97.8	49.6	86.5	10.7	0.0	440.0	141.5	0.9	54.8	0.34	0.00	7.8	31	-1.75	2	51
271	Patna	Patna City	8.20	627	384	200	36.1	26.8	49.0	2.7	0.0	134.2	85.1	39.1	33.6	0.21	0.00	30.0	35	-1.80	2	59
272	Patna	Raghopur	8.18	888	581	300	60.1	36.5	47.0	35.0	0.0	219.6	92.2	111.0	28.8	0.40	0.00	36.0	33	-2.40	1	49
273	Patna	Snehi Tola,	7.09	1630	1000	816	139.4	113.7	135.9	11.6	0.0	470.0	337.4	0.1	144.1	0.49	0.00	24.8	28	-8.61	2	39
274	Purnia	Amri Kukran (East)	7.32	1003	600	180	18.0	32.8	50.9	118.7	0.0	378.2	74.4	55.5	2.1	0.31	0.17	16.1	59	2.60	2	81
275	Purnia	Baisi 2	7.30	1305	733	295	40.0	47.4	159.6	8.4	0.0	402.6	202.1	15.6	2.5	0.30	0.00	11.2	55	0.70	4	74
276	Purnia	Banmankhi	7.76	809	491	200	32.0	29.2	51.4	50.2	0.0	256.2	67.4	47.9	45.7	0.00	0.02	10.6	47	0.20	2	69

277	Purnia	Bansbari	7.37	1517	876	255	26.0	46.2	126.4	157.5	0.0	433.1	163.1	29.0	49.2	0.00	0.00	14.6	65	2.00	3	77
278	Purnia	Budhia Gola	7.53	460	274	130	28.0	14.6	33.2	18.6	0.0	183.0	24.8	27.4	4.5	0.14	0.00	10.8	43	0.40	1	79
279	Purnia	Chadia	7.35	1036	570	295	44.0	45.0	83.5	12.3	0.0	250.1	166.6	35.7	12.2	0.00	0.00	18.1	40	-1.79	2	59
280	Purnia	Damdaha	7.34	604	341	190	32.0	26.7	38.7	12.2	0.0	201.3	53.2	41.4	2.7	0.00	6.65	10.8	34	-0.50	1	64
281	Purnia	Kajha	7.39	959	593	150	38.0	13.4	63.1	113.0	0.0	298.9	85.1	50.8	24.8	0.36	3.19	22.4	65	1.90	2	86
282	Purnia	Iohagarha	8.38	440	262	130	18.0	20.7	37.6	6.0	3.0	103.7	53.2	13.3	37.6	0.04	0.44	10.7	41	-0.90	1	69
283	Purnia	Mahendrapur	8.14	698	384	145	18.0	24.3	68.6	11.5	0.0	237.9	56.7	6.1	18.5	0.52	0.02	35.0	53	1.00	2	84
284	Purnia	paicagola	7.25	276	175	50	10.0	6.1	32.7	6.0	0.0	128.1	17.7	0.4	0.0	0.09	0.00	24.1	61	1.10	2	119
285	Purnia	Pottiah	8.15	734	406	110	20.0	14.6	57.8	34.6	0.0	109.8	78.0	91.1	20.7	0.00	0.03	22.3	61	-0.40	2	82
286	Purnia	Purnia	7.70	601	341	130	34.0	10.9	44.4	20.2	0.0	170.8	53.2	51.7	6.2	0.06	1.27	16.5	49	0.20	2	80
287	Purnia	Tilka Patti	7.37	1034	567	355	56.0	52.2	53.8	20.2	0.0	378.2	85.1	27.2	31.4	0.00	1.26	10.1	29	-0.89	1	51
288	Rohtas	Akbarpur	7.84	572	333	145	18.0	24.3	40.6	21.1	0.0	195.2	53.2	24.9	17.5	0.35	0.04	14.5	44	0.30	1	76
289	Rohtas	Ambwalia	7.92	700	397	105	12.0	18.2	98.2	11.2	0.0	317.2	31.9	15.7	0.0	0.26	0.15	15.5	68	3.10	4	103
290	Rohtas	Anikut	8.17	516	312	145	18.0	24.3	51.6	4.4	0.0	244.0	35.5	7.4	0.0	0.36	0.04	21.5	45	1.10	2	83
291	Rohtas	Bahaura	8.17	440	267	150	18.0	25.5	40.1	1.3	0.0	225.7	17.7	8.0	2.4	0.11	0.15	16.2	37	0.70	1	77
292	Rohtas	Balthari	8.80	502	302	140	26.0	18.2	60.8	3.2	15.0	225.7	24.8	2.2	4.2	0.46	0.07	15.2	49	0.90	2	84
293	Rohtas	Bikramganj	7.59	754	436	150	14.0	27.9	94.2	1.7	0.0	189.1	78.0	49.1	38.2	0.38	0.07	16.8	58	0.10	3	83
294	Rohtas	Chenari	8.07	628	407	175	32.0	23.1	64.4	21.4	0.0	317.2	42.5	10.7	1.1	0.36	0.02	17.6	49	1.70	2	81
295	Rohtas	Dinara	7.73	1621	878	265	20.0	52.2	236.7	6.1	0.0	219.6	358.0	35.5	20.7	0.52	0.04	14.3	66	-1.70	6	78
296	Rohtas	Karbindia	8.09	456	264	140	18.0	23.1	46.7	1.0	0.0	219.6	21.3	0.0	6.3	0.19	0.06	13.9	42	0.80	2	81
297	Rohtas	Kochas	7.89	1110	646	335	52.0	49.8	101.6	21.4	0.0	366.0	173.7	1.1	8.4	0.51	0.09	14.6	43	-0.69	2	62
298	Rohtas	Maliabagh	7.50	1147	808	155	16.0	27.9	135.2	101.7	0.0	201.3	106.4	250.5	30.6	0.35	0.01	16.6	73	0.20	5	86
299	Rohtas	Nasriganj	8.03	371	216	90	18.0	10.9	35.0	21.0	0.0	158.6	14.2	4.9	0.0	0.25	0.05	14.6	53	0.80	2	94
300	Rohtas	Nokha	7.79	928	605	95	12.0	15.8	179.3	3.0	0.0	274.5	88.6	0.0	123.3	0.78	0.06	15.0	81	2.60	8	102
301	Rohtas	Sasaram	7.52	514	282	155	14.0	29.2	37.6	3.0	0.0	213.5	35.5	14.1	4.5	0.27	0.06	13.8	36	0.40	1	74
302	Rohtas	Tilothu	7.93	505	301	185	16.0	35.2	34.7	0.9	0.0	195.2	28.4	20.1	13.5	0.08	0.05	32.7	29	-0.50	1	63
303	Saharsa	Adraha	8.34	478	289	145	8.0	30.4	37.6	15.1	12.0	201.3	39.0	4.8	2.5	0.98	0.00	21.0	41	0.40	1	76
304	Saharsa	Baijanathpur	8.39	483	306	145	20.0	23.1	26.4	36.0	9.0	225.7	28.4	9.8	0.5	1.29	0.05	17.3	42	0.80	1	76
305	Saharsa	Bangaon	8.25	538	314	135	8.0	27.9	52.6	11.2	0.0	219.6	46.1	10.4	3.6	0.00	0.00	20.6	49	0.90	2	84
306	Saharsa	Chandaur Purbi	8.50	896	495	255	8.0	57.1	74.0	6.3	18.0	262.3	113.4	6.1	20.3	1.40	0.00	38.0	40	-0.80	2	64
307	Saharsa	Jamunia	8.30	686	383	215	6.0	48.6	35.1	18.4	7.5	189.1	85.1	13.9	18.4	1.22	0.00	36.9	32	-1.20	1	56
308	Saharsa	Patodibazar	8.77	696	405	155	8.0	32.8	60.2	37.0	9.0	201.3	85.1	9.5	26.9	0.69	0.00	16.7	53	0.20	2	78
309	Saharsa	Potwaha	8.40	252	143	80	8.0	14.6	16.1	2.2	3.0	109.8	14.2	4.6	0.1	0.79	0.00	13.4	32	0.20	1	89
310	Saharsa	Saharsa	8.04	576	320	240	18.0	47.4	15.9	6.0	0.0	219.6	35.5	5.1	40.3	1.02	0.00	17.0	15	-1.20	0	47
311	Saharsa	Sonbarsaraj	8.27	828	465	175	30.0	24.3	72.9	21.8	0.0	140.3	120.5	38.3	36.4	0.98	0.00	34.4	52	-1.20	2	70
312	Saharsa	Tulsiyahi	7.94	933	541	200	8.0	43.7	36.7	114.9	0.0	250.1	145.3	18.2	1.9	0.99	0.28	18.4	53	0.10	1	65
313	Samastipur	Ujjarpur	7.87	907	622	220	44.0	44.0	115.0	3.0	0.0	439.0	14.0	0.0	90.0	0.61	0.00	44.0	47	1.38	3	71
314	Samastipur	Dalsingh Sarai	8.20	601	406	180	12.0	60.0	66.0	2.8	0.0	329.0	21.0	0.0	16.0	0.29	0.00	27.0	35	-0.14	2	62
315	Samastipur	Jathmal pur	7.15	2547	1687	671	144.0	124.0	275.0	36.0	0.0	598.0	305.0	25.0	380.0	0.45	0.00	33.0	43	-7.58	4	51
316	Samastipur	Karian	7.70	804	521	310	52.0	72.0	49.0	1.8	0.0	476.0	7.1	0.0	15.0	0.55	0.00	33.0	20	-0.72	1	46

317	Samastipur	Kishanpur	7.00	1335	821	520	124.0	84.0	63.0	2.0	0.0	696.0	7.1	0.0	80.0	0.64	0.00	36.0	18	-1.69	1	39
318	Samastipur	Madudabad	7.47	1683	1109	370	84.0	64.0	214.0	0.8	0.0	268.0	177.0	82.0	298.0	0.43	0.00	25.0	50	-5.06	4	61
319	Samastipur	Rosera	8.10	362	222	140	28.0	28.0	10.0	2.8	0.0	183.0	14.0	0.0	0.0	0.28	0.00	27.0	12	-0.70	0	52
320	Samastipur	Sahit (Bajidpur)	7.00	1579	1082	600	152.0	88.0	110.0	1.2	0.0	622.0	43.0	41.0	240.0	0.15	0.00	27.0	25	-4.63	2	41
321	Samastipur	Shahpur Patori	7.65	840	540	230	52.0	40.0	94.0	1.1	0.0	378.0	57.0	3.5	35.0	0.41	0.00	26.0	41	0.31	2	66
322	Samastipur	Tajpur	7.37	1267	830	450	48.0	132.0	82.0	3.7	0.0	500.0	28.0	0.0	196.0	0.32	0.00	35.0	22	-5.06	1	38
323	Saran	Aami	7.39	849	472	200	24.0	34.0	82.0	31.0	0.0	359.9	56.7	0.2	8.5	0.96	0.00	15.0	52	1.90	3	79
324	Saran	Baleshra	7.10	1015	644	130	74.0	32.8	78.0	23.0	0.0	530.7	42.5	21.4	21.4	0.96	0.00	26.0	38	2.31	2	65
325	Saran	Chapra	7.53	1289	709	295	38.0	48.6	117.0	29.0	0.0	488.0	131.2	0.1	20.0	0.72	0.00	26.5	50	2.10	3	72
326	Saran	Chausa	7.37	657	416	160	32.0	19.4	62.0	21.0	0.0	280.6	39.0	31.8	17.5	0.46	1.00	21.0	50	1.40	2	82
327	Saran	Chiranad	7.93	1689	1062	590	88.0	89.9	78.0	98.0	0.0	402.6	241.1	149.0	51.7	0.35	0.00	20.0	33	-5.19	1	39
328	Saran	Ekma	7.14	698	382	100	14.0	15.8	85.0	16.0	0.0	366.0	7.1	3.0	4.1	0.21	0.00	13.6	67	4.00	4	108
329	Saran	Garkha	7.08	1571	958	330	54.0	47.4	202.0	28.0	0.0	555.0	212.7	32.2	15.0	0.37	0.14	28.0	59	2.50	5	77
330	Saran	Jalalpur	7.86	820	545	145	14.0	26.7	102.0	26.0	0.0	244.0	56.7	44.3	101.7	0.85	0.00	24.0	64	1.10	4	88
331	Saran	Majhanpura	7.60	432	281	170	18.0	30.4	16.0	2.0	0.0	67.1	43.0	49.0	50.0	0.14	0.00	32.0	18	-2.30	1	43
332	Saran	Manjhi	8.43	405	249	145	16.0	25.5	24.0	3.0	9.0	183.0	10.6	12.7	14.1	0.94	0.00	24.8	28	0.10	1	70
333	Saran	Manopali	7.29	509	304	85	6.0	17.0	74.0	7.0	0.0	256.2	24.8	0.1	0.0	0.52	0.00	18.0	67	2.50	3	107
334	Saran	Marhaura	7.42	1543	940	345	34.0	63.2	148.0	93.0	0.0	561.2	99.3	89.3	53.2	0.46	0.00	16.8	56	2.30	3	71
335	Saran	Mashrakh	7.83	781	464	210	32.0	31.6	77.0	8.0	0.0	457.5	7.1	4.6	12.4	0.41	0.00	12.0	46	3.30	2	81
336	Saran	Nagra	7.81	1670	1017	380	96.0	34.0	198.0	36.0	0.0	475.8	170.2	109.6	74.8	0.38	0.16	7.8	56	0.21	4	70
337	Saran	Nayagaon	7.72	984	556	140	20.0	21.9	108.0	42.0	0.0	439.2	39.0	11.1	20.0	0.22	0.00	26.0	67	4.40	4	98
338	Saran	Sonepur	7.03	1003	631	205	48.0	20.7	126.0	13.0	0.0	445.3	81.5	11.0	23.0	0.49	0.00	36.0	59	3.20	4	85
339	Saran	Taraia	6.94	660	418	105	22.0	12.2	66.0	59.0	0.0	323.3	17.7	7.9	18.6	0.39	0.00	17.0	68	3.20	3	104
340	Sheikhpura	Ambari	7.27	930	605	270	52.0	34.0	46.0	59.0	0.0	415.0	57.0	49.0	0.0	0.53	0.00	20.0	39	1.41	1	62
341	Sheikhpura	Barbigaha	7.53	1083	704	330	76.0	34.0	87.0	3.1	0.0	390.0	135.0	0.1	0.0	0.22	0.00	16.0	37	-0.20	2	61
342	Sheikhpura	Bulachak	7.47	760	494	270	68.0	24.0	41.0	2.7	0.0	354.0	36.0	0.1	0.0	0.25	0.00	18.0	26	0.43	1	59
343	Sheikhpura	Keoti	8.20	827	538	320	56.0	44.0	59.0	23.0	0.0	427.0	43.0	7.6	50.0	0.60	0.00	26.0	33	0.58	1	58
344	Sheikhpura	Koeri bigha	7.07	1830	1135	490	84.0	68.0	140.0	89.0	0.0	586.0	178.0	155.0	38.0	0.44	0.00	25.0	50	-5.06	4	61
345	Sheikhpura	Sahpur	8.00	1869	1215	440	92.0	51.0	269.0	31.0	0.0	659.0	227.0	44.0	150.0	0.41	0.00	32.0	59	2.01	6	73
346	Sheikhpura	Sheikhpura	6.89	990	641	330	100.0	19.0	65.0	5.5	0.0	146.0	107.0	233.0	0.0	0.15	0.00	22.0	25	-4.63	2	41
347	Sheikhpura	Sherpur	8.41	376	221	120	16.0	19.5	31.0	2.7	24.0	134.2	21.3	0.9	4.8	0.24	0.00	28.0	37	-0.20	1	76
348	Sheohar	Narwara	8.20	380	275	90	12.0	14.6	57.0	1.9	0.0	244.0	7.1	0.4	4.8	0.20	0.00	28.0	58	2.20	3	105
349	Sheohar	Sheohar	8.10	360	265	160	32.1	19.5	23.0	3.5	0.0	219.6	14.2	1.1	9.6	0.08	0.00	28.0	25	0.40	1	69
350	Sitamarhi	Bihari	8.10	350	256	140	36.1	12.2	30.0	2.0	0.0	219.6	10.6	0.5	4.8	0.22	0.00	26.0	33	0.80	1	78
351	Sitamarhi	Dheng	8.20	340	236	120	20.0	17.0	32.0	1.9	0.0	195.2	14.2	2.4	4.8	0.25	0.13	24.0	38	0.80	1	84
352	Sitamarhi	Jagwana Bazar	8.05	410	280	170	52.1	9.7	22.0	1.7	0.0	244.0	14.2	0.5	4.8	0.15	0.16	26.0	23	0.60	1	68
353	Sitamarhi	Khairwa	8.20	330	242	150	44.1	9.7	17.0	2.2	0.0	195.2	21.3	0.7	4.8	0.00	0.26	23.0	21	0.20	1	68
354	Sitamarhi	Punurwa	8.20	320	232	150	44.1	9.7	15.6	2.3	0.0	195.2	7.1	0.5	9.6	0.00	0.32	24.0	20	0.20	1	67
355	Sitamarhi	Sursand	8.20	430	295	170	32.1	21.9	33.0	1.6	0.0	268.4	7.1	0.8	9.6	0.28	0.00	25.0	30	1.00	1	73
356	Sitamarhi	Thumma	7.70	1374	916	400	108.2	31.6	80.0	108.0	0.0	536.9	113.5	27.0	72.0	0.93	1.40	47.0	44	0.80	2	56

357	Siwan	Ander	8.02	383	222	140	20.0	21.9	9.0	13.0	0.0	146.4	14.2	9.4	17.9	0.39	0.00	27.0	21	-0.40	0	61
358	Siwan	Basantpur	8.69	402	282	210	40.0	26.7	13.0	3.0	21.0	183.0	16.0	46.5	0.0	0.74	0.00	12.0	13	-1.20	0	48
359	Siwan	Bhagar	8.74	449	264	135	14.0	24.3	23.0	16.0	12.0	176.9	17.7	3.0	16.0	0.70	0.00	34.0	34	0.20	1	73
360	Siwan	Chimanpur	7.94	784	449	195	32.0	27.9	83.0	7.0	0.0	305.0	78.0	17.2	0.0	0.48	0.00	17.0	49	1.10	3	78
361	Siwan	Chitakahl	8.25	266	156	80	6.0	18.2	12.0	1.0	0.0	128.1	10.6	1.0	0.0	0.34	0.00	29.0	23	0.30	1	85
362	Siwan	Darauli	7.49	501	304	170	26.0	25.5	26.0	9.0	0.0	232.0	19.7	6.7	18.0	0.51	0.00	31.0	29	0.41	1	68
363	Siwan	Hardia	7.68	697	390	215	32.0	32.8	22.0	40.0	0.0	292.8	35.5	7.4	14.0	0.53	0.00	27.0	32	0.50	1	60
364	Siwan	Kapiya Niymat	7.06	1019	585	335	58.0	46.2	64.0	19.0	0.0	372.1	102.8	21.4	24.0	0.78	0.00	21.0	33	-0.59	2	55
365	Siwan	Maharajganj	7.04	1238	703	340	54.0	49.8	109.0	22.0	0.0	311.1	159.5	48.0	42.4	0.92	0.00	28.0	44	-1.69	3	61
366	Siwan	Mairwa	8.27	398	218	135	14.0	24.3	12.0	3.0	0.0	109.8	42.5	6.4	9.6	0.87	0.00	38.0	18	-0.90	0	58
367	Siwan	Paterhi (Pateuha)	7.39	2270	1263	445	62.0	52.2	261.0	101.0	0.0	602.7	290.7	47.6	52.0	0.61	0.00	28.0	65	2.49	6	77
368	Siwan	Siwan	7.40	821	509	195	34.0	26.7	88.0	16.0	0.0	286.6	78.0	29.5	33.6	0.34	0.00	28.0	52	0.80	3	78
369	Siwan	Tarwara	7.32	758	466	235	18.0	46.2	61.0	14.0	0.0	378.2	46.1	18.2	0.0	0.73	0.00	31.0	39	1.50	2	70
370	Supaul	Balua	8.36	492	282	210	8.0	46.2	10.6	14.6	24.0	207.4	21.3	18.7	2.0	0.77	0.00	19.2	17	-0.80	0	49
371	Supaul	Balua Bazar	8.52	503	326	120	4.0	26.7	17.4	73.4	15.0	176.9	46.1	19.7	7.4	0.68	0.00	13.5	52	0.50	1	78
372	Supaul	Bhasanpatti	8.40	180	120	90	10.0	15.8	3.6	2.6	0.0	91.5	10.6	0.5	6.2	0.28	0.00	14.7	11	-0.30	0	71
373	Supaul	Bhawanipur	8.38	456	268	170	6.0	37.7	9.1	17.6	15.0	161.7	31.9	6.8	2.2	0.49	0.00	48.7	20	-0.75	0	53
374	Supaul	Bhimnagar	8.37	476	277	175	8.0	37.7	15.6	12.6	0.0	183.0	28.4	18.4	12.6	0.26	0.00	32.3	22	-0.50	1	58
375	Supaul	Ganpatganj	8.22	401	238	110	8.0	21.9	25.4	14.2	0.0	125.1	39.0	37.3	0.2	0.07	0.00	15.2	40	-0.15	1	77
376	Supaul	Kaithtola	8.25	243	152	80	6.0	15.8	18.0	3.3	0.0	85.4	17.7	1.1	26.9	0.49	0.00	10.3	35	-0.20	1	83
377	Supaul	Karjain	8.23	480	280	130	4.0	29.2	44.3	5.9	15.0	170.8	28.4	2.8	28.4	0.22	0.00	23.5	44	0.20	2	80
378	Supaul	Norha	8.28	247	148	90	8.0	17.0	6.5	15.4	0.0	109.8	17.7	1.8	2.4	0.07	0.00	12.1	27	0.00	0	78
379	Supaul	Pipra chowk	8.45	914	566	210	16.0	41.3	64.0	78.6	9.0	292.8	81.5	39.1	42.7	0.11	0.00	18.8	53	0.60	2	71
380	Supaul	Ratanpura	8.28	543	314	135	4.0	30.4	19.9	58.9	0.0	225.7	42.5	2.9	5.1	0.09	0.09	12.7	47	1.00	1	78
381	Supaul	Shyam Nagar	8.37	440	240	155	6.0	34.0	23.6	8.8	9.0	146.4	53.2	4.4	1.6	1.42	0.00	12.3	29	-0.70	1	62
382	Supaul	Supaul	8.61	945	547	260	8.0	58.3	72.3	41.2	18.0	289.8	99.3	35.2	25.6	1.38	0.11	18.0	45	-0.45	2	64
383	Supaul	Thumba	8.29	295	175	115	8.0	23.1	11.5	3.9	24.0	97.6	10.6	11.9	0.2	1.01	0.00	30.5	21	-0.70	0	63
384	Vaishali	Bhataulia (Garaul)	8.38	769	447	265	42.0	38.9	36.0	21.0	3.0	189.0	102.8	29.0	30.0	0.77	0.00	29.0	28	-2.20	1	48
385	Vaishali	Hajipur	8.37	396	230	125	24.0	15.8	12.0	10.0	9.0	152.5	14.2	3.0	6.0	0.62	0.00	46.0	24	0.00	0	70
386	Vaishali	Harpur	8.60	388	233	90	12.0	14.6	29.0	21.0	18.0	116.0	7.1	27.6	19.0	0.29	0.00	21.0	50	0.10	1	86
387	Vaishali	Kanchanpur	7.75	826	534	145	18.0	24.3	112.0	19.0	0.0	360.0	14.2	62.0	32.0	0.41	0.00	33.0	65	3.00	4	94
388	Vaishali	Mahnar	7.92	506	356	170	32.0	21.9	43.0	6.0	0.0	244.0	14.2	14.3	35.0	1.00	0.00	40.0	37	0.60	1	73
389	Vaishali	Mahua	8.53	427	291	160	36.0	17.0	26.0	14.0	12.0	122.0	10.6	32.0	61.8	0.36	0.00	12.0	32	-1.20	1	59
390	Vaishali	Patepur	7.49	635	395	190	42.0	20.7	54.0	9.0	0.0	262.0	31.9	0.0	50.0	0.48	0.00	27.0	40	0.50	2	72
391	Vaishali	Sarai	7.03	860	531	335	80.0	32.8	36.0	14.0	0.0	311.0	88.6	40.8	12.0	0.69	0.00	36.0	22	-1.59	1	46
392	W. Champaran	Banspur Pipra	8.15	300	201	120	32.0	10.0	13.0	2.0	0.0	159.0	7.0	1.0	8.0	0.16	0.00	31.0	20	0.19	1	73
393	W. Champaran	Bettiah	8.13	790	517	260	40.0	39.0	65.0	1.0	0.0	244.0	78.0	103.0	7.0	0.08	0.00	35.0	35	-1.20	2	60
394	W. Champaran	Chanpatia	8.06	340	227	130	20.0	19.0	18.0	4.0	0.0	171.0	7.0	1.0	20.0	0.24	0.10	33.0	26	0.24	1	73
395	W. Champaran	Lauria	8.29	335	229	110	16.0	17.0	25.0	4.0	0.0	171.0	14.0	1.0	6.0	0.09	0.00	42.0	35	0.61	1	84
396	W. Champaran	Naurangia	8.52	1330	961	280	104.0	5.0	95.0	144.0	18.0	317.0	96.0	162.0	108.0	0.00	0.00	43.0	58	-0.41	2	66

397	W. Champaran	Pachpherwa	8.3	270	203	120	40.0	5.0	8.0	1.0	0.0	146.0	7.0	2.0	5.0	0.27	0.00	46.0	13	-0.01	0	69
398	W. Champaran	Valmiki Nagar	8.05	740	493	210	48.0	22.0	38.0	63.0	0.0	305.0	53.0	32.0	20.0	0.00	0.00	31.0	44	0.79	1	66
		Min	6.76	110	78	20	2.0	2.4	3.0	0.3	0.0	36.6	3.5	0.0	0.0	0.00	0.00	4.0	4	-12.42	0	22
		Max	9.10	4352	2829	1170	220.0	173.0	620.0	303.0	72.0	1001.0	760.0	393.0	440.0	3.25	6.65	70.4	91	8.80	12	150
		Std Dev	0.50	556	345	152	33.0	26.1	78.4	35.3	10.7	152.4	104.1	48.0	54.1	0.38	0.51	10.3	17	2.14	2	19
		Average	7.90	837	512	240	37.4	36.4	73.2	20.5	4.0	289.3	86.4	24.9	29.5	0.48	0.13	24.7	40	-0.04	2	70

RSC : Residual Sodium Carbonate

SAR : Sodium Adsorption Ratio

PI : Permeability Index

Districtwise, Monthly Rainfall and its departure during the year 2013

Distt.	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec	
	R/F	%Dep.	R/F	%Dep.	R/F	%Dep.	R/F	%Dep.	R/F	%Dep.	R/F	%Dep.	R/F	%Dep.	R/F	%Dep.	R/F	%Dep.	R/F	%Dep.	R/F	%Dep.	R/F	%Dep.
Araria	25.5	85	24.4	205	5.8	-62	42.3		163	42	391.6	44	623.2	40	347.2	-1	136.5	-51	233.3	178	0	-100	0	-100
Arwal	0	-100	41.2	506	0.5	-90	12.8	300	93.1	731	201.2	78	114.9	-53	255.6	2	132	-27	147.9	344	0	-100	0	-100
Aurangabad	0	-100	49.5	342	0.3	-96	14.7	158	0	-100	111	-9	66.9	-77	276.9	9	112.5	-42	118.8	168	0	-100	0	-100
Banka											87.6	-37	174.2	-36	332.2	37	203.4	-5	308.4	265	0	-100	0	-100
Begusarai	0	-100	17.6	110	0	-100	60.1	247	61.1	25	169.1	10	196.1	-34	86.2	-66	91	-58	224.8	257	0	-100	0	-100
Kaimur											69.4	-47	160.6	-48	228.8	-24	183.1	-28	95.3	125	0	-100	0	-100
Bhagalpur	0	-100	14.5	38	0	-100	58.7	153	143	119	182.1	-8	142.8	-51	266.8	2	160.4	-29	319.3	261	6.8	-21	0	-100
Bhojpur											214.1	97	85.2	-75	219.6	-21	115.5	-43	295.9	556	0	-100	0	-100
Buxar											83.6	-25	147.9	-48	175.2	-33	71.8	-64	149.2	178	0	-100	0	-100
Darbhanga											130.6	-17	157.7	-47	149.2	-48	136.8	-27	210.7	216	0	-100	0	-100
E Champaran	14.2	12	32.4	234	0.1	-99	19.3	46	150	205	187.3	15	200.1	-44	202.7	-32	123.4	-40	227.5	211	0	-100	0	-100
Gaya	0	-100	10.7	-2	0.9	-90	32.1	426	91.8	410	47.8	-63	80.3	-73	168.3	-38	127.1	-30	158.5	195	0	-100	0	-100
Gopalganj	0	-100	42.2	302	0	-100	5	-60	43.2	37	232.5	50	84.8	-73	172.4	-43	68.2	-69	230.3	312	0	-100	0	-100
Jehanabad	0	-100	12.6	66	1.9	-73	22	68	63.2	174	86.1	-23	93.5	-63	240.8	-6	127.4	-35	107.7	175	0	-100	0	-100
Jamui	0	-100	6.4	-22	0	-100	4.7	-50	125	256	152.4	-7	164	-47	246.4	-3	106.3	-52	218.9	209	0	-100	0	-100
Katihar	0	-100	13.4	81	0.1	-99	37.7	53	97.9	2	279.1	32	157.4	-56	282.3	5	148.1	-45	326.8	340	1.2	-76	0	-100
Kishanganj			0	-100	0	-100	23.4	-55	166	7	503	37	1030	78	472	2	324.6	-6	121.4	51	0	-100	0	-100
Khagaria	0	-100	5.5	31	0.1	-99	26	69	36.4	-21	113.5	-38	200.3	-36	181.7	-39	215.6	-19	146.7	78	1.6	-77	0	-100
Lakhisarai	0	-100	5.2	-26	0	-100	48.2	237	66.2	47	50	-70	89	-71	124	-54	141	-39	84	18	0	-100	0	-100
Madhepura	3.7	-69	7	-26	0.3	-98	17.6	-41	93.6	11	374.4	76	199.9	-47	197.3	-35	224.9	-13	302	328	6	-54	0	-100
Madhubani											286	54	134	-64	72.3	-76	96.6	-50	193	154	0	-100	0	-100
Munger	0	-100	0	-100	0	-100	49.8	248	58.6	31	147.8	-11	219.1	-28	201	-26	123.6	-47	178.8	150	3.2	-51	0	-100
Muzaffarpur	16.1	20	43.9	393	0	-100	25	88	150	177	161.1	0	79.9	-75	122.5	-58	89.4	-56	230.7	261	0	-100	0	-100
Nalanda	0	-100	13.5	50	0.1	-99	16	162	86.4	210	106.4	-17	62.5	-78	307.9	17	157	-22	165.8	227	0	-100	0	-100
Nawada	0	-100	0	-100	0.2	-98	10.4	86	87.2	156	45.1	-67	46.1	-85	224	-19	125.2	-32	141.8	127	0	-100	0	-100
Patna	12.4	-5	36.8	291	0.9	-91	12.7	57	115	336	131.3	5	66.2	-80	185.4	-30	184	-15	173	212	0	-100	0	-100
Purmia	1.2	-87	12.5	39	1.6	-88	81.4	142	102	-17	372.5	52	237.1	-45	217	-36	190.1	-36	226.7	172	0	-100	0	-100
Rohtas	0	-100	59.8	367	0	-100	12.1	105	0	-100	92.3	3	188.5	-32	350.1	26	167.6	-12	112.5	162	0	-100	0	-100
Saharsa	0	-100	10.6	-3	3.2	-75	132	234	22.4	-79	191.6	-23	225.5	-56	173	-51	285.8	-2	144.6	53	0	-100	0	-100
Samastipur	2	-87	7.6	-7	0	-100	8.3	-45	35.8	-16	109.7	-38	127.8	-59	95.8	-67	144.6	-41	214.5	233	0	-100	0	-100
Saran	1.3	-92	33.8	260	0	-100	9.6	3	106	197	185.2	39	94.7	-72	166.5	-43	92.4	-57	232.5	293	0	-100	0	-100
Sheikhpura	0	-100	3.6	-56	0	-100	7.4	-24	76.4	128	107.7	-25	97.5	-67	123.4	-49	48.5	-74	132.9	129	0	-100	0	-100

Source: IMD

District wise percentage of well showing Rise, fall or no significant trend during Pre-Monsoon and Post-Monsoon Season

SN	District	Pre-monsoon (in Percent)			Post-monsoon (in Percent)		
		Rise	Fall			Rise	Fall
1	Araria	0	100	0	0	100	100
2	Aurangabad	33	67	67	29	71	71
3	Banka	29	71	43	25	75	63
4	Begusarai	17	83	33	57	43	71
5	Bhagalpur	38	63	38	10	90	70
6	Bhojpur	14	86	71	63	38	75
7	Buxar	40	60	80	50	50	25
8	Darbhanga	100	0	100	100	0	0
9	Gaya	0	100	75	0	100	67
10	Gopalganj	43	57	100	50	50	100
11	Jamui	0	100	100	29	71	57
12	Jehanabad & Arwal	17	83	100	17	83	83
13	Kaimur	25	75	50	71	29	71
14	Katihar	0	100	71	9	91	91
15	Khagaria	50	50	83	57	43	100
16	Kishanganj	0	100	100	25	75	100
17	Lakhisarai	25	75	50	38	63	88
18	Madhepura	0	100	80	0	100	80
19	Madhubani	50	50	50	50	50	100
20	Munger	29	71	57	25	75	50
21	Muzaffarpur	0	100	80	38	62	85
22	Nalanda	50	50	100	63	38	100
23	Nawada	25	75	25	80	20	100
24	W Champaran	0	100	100	60	40	100
25	Patna	39	61	72	64	36	64
26	E Champaran	0	100	100	100	0	90
27	Purnia	20	80	100	33	67	100
28	Rohtas	25	75	100	70	30	70
29	Saharsa	0	100	83	17	83	83
30	Samastipur	0	100	43	0	100	38
31	Saran	25	75	75	73	27	91
32	Seikhpura & Sheohar	No Data					
33	Sitamarhi	33	67	100	25	75	100
34	Siwan	100	0	100	63	38	100
35	Supaul	20	80	100	86	14	100
36	Vaishali	50	50	100	100	0	100