

भारत सरकार
जल संसाधन, नदी विकास और गंगा
संरक्षण मंत्रालय
केंद्रीय भूमि जल बोर्ड



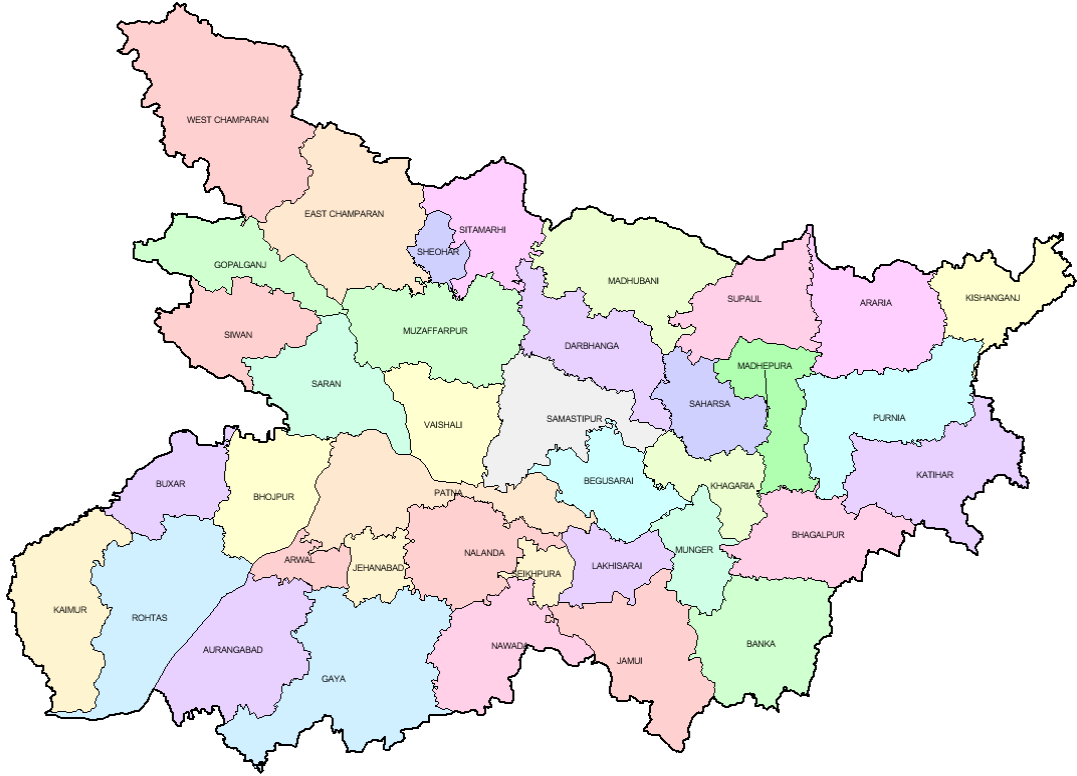
GOVERNMENT OF INDIA
MINISTRY OF WATER RESOURCES RD & GR
CENTRAL GROUND WATER BOARD

वार्षिक भूजल पुस्तिका, बिहार

Ground Water Year Book

(2019 - 2020)

(2019-2020)



मध्य पूर्वी क्षेत्र, पटना
नवंबर 2020

MID-EASTERN REGION, PATNA
March 2021

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GROUND WATER YEAR BOOK, BIHAR
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CONTENTS

CONTENTS	Page No.
List of Tables	i
List of Figures	ii
List of Annexures	ii
List of Contributors	iii
Abstract	iv
1. INTRODUCTION.....	1
2. HYDROGEOLOGY.....	1
3. GROUND WATER SCENARIO.....	4
3.1 DEPTH TO WATER LEVEL.....	8
3.1.1 MAY 2019.....	8
3.1.2 AUGUST 2019.....	10
3.1.3 NOVEMBER 2019.....	12
3.1.4 JANUARY 2020.....	14
3.2 SEASONAL FLUCTUATION.....	16
3.2.1 MAY 2018 TO AUGUST 2019.....	16
3.2.2 MAY 2018 TO NOVEMBER 2019.....	18
3.2.3 MAY 2018 TO JANUARY 2020.....	20
3.3 ANNUAL FLUCTUATION.....	22
3.3.1 MAY 2019 TO MAY 2018.....	22
3.3.2 AUGUST 2019 TO AUGUST 2018.....	24
3.3.3 NOVEMBER 2018 TO NOVEMBER 2017.....	26
3.3.4 JANUARY 2020 TO JANUARY 2019.....	28
3.4 DECADAL FLUCTUATION.....	30
3.4.1 DECADAL MEAN OF MAY TO MAY 2019.....	30
3.4.2 DECADAL MEAN OF AUGUST TO AUGUST 2019.....	32
3.4.3 DECADAL MEAN OF NOVEMBER TO NOVEMBER 2019.....	34
3.4.4 DECADAL MEAN OF JANUARY TO JANUARY 2020.....	36
4. HYDROCHEMISTRY.....	38
5. RAINFALL DATA ANALYSIS.....	40
6.0 TREND ANALYSIS DURING PRE AND POST MONSOON.....	40

LIST OF TABLES

S. No.	Title
1.	Generalised geological succession of Bihar
2.	District-wise distribution of HNS as on 31-03-2020.
3.	HNS Monitoring schedule
4.	Number of HNS monitored during different periods in Bihar
5.	Districtwise well frequency for different ranges of depth to water level of HNS in May 2019
6.	Districtwise well frequency for different ranges of depth to water level of HNS in August 2019
7.	Districtwise well frequency for different ranges of depth to water level of HNS in November 2019
8.	Districtwise well frequency for different ranges of depth to water level of HNS in January 2020
9.	Districtwise categorisation of fluctuation and their frequency distribution of water levels of HNS of August 2019 w.r.t. May 2019
10.	Districtwise categorisation of fluctuation and their frequency distribution of water levels of HNS of November 2019 w.r.t. May 2019
11.	Districtwise categorisation of fluctuation and their frequency distribution of water levels of HNS of January 2020 w.r.t. May 2019
12.	Districtwise categorisation of fluctuation in water levels of HNS and their frequency Distribution between May'18 and May'19
13.	District wise categorisation of fluctuation in water levels of HNS and their frequency distribution between August '18 and August'19
14.	Districtwise categorisation of fluctuation in water levels of HNS and their frequency distribution between November'18 and November'19
15.	Districtwise categorisation of fluctuation in water levels of HNS and their frequency distribution between January'19 and January'20
16.	Districtwise categorisation of water level of May 2019 w.r.t. decadal mean water level of May and frequency distribution of HNS
17.	Districtwise categorisation of water level of August 2019 w.r.t. decadal mean water level of August and frequency distribution of HNS
18.	Districtwise categorisation of water level of November 2019 w.r.t. decadal mean Water level of November and frequency distribution of HNS
19.	Districtwise categorisation of water level of January 2020 w.r.t. decadal mean water Level January and frequency distribution of HNS
20.	Range of chemical parameters of phreatic ground water samples of HNS in Bihar State collected during Pre-monsoon 2019.
21.	Seasonal and annual rainfall statistics of Bihar.

LIST OF FIGURES

Sl. No	Title
1.	Administrative map of Bihar State.
2.	Hydrogeology.
3.	Location of hydrograph network stations in Bihar State.
4.	Depth to Water level May 2019.
5.	Depth to Water level August 2019.
6.	Depth to Water level November 2019.
7.	Depth to Water level January 2020.
8.	Fluctuation in ground water level between May 2019 and August 2019.
9.	Fluctuation in ground water level between May 2019 and November 2019.
10.	Fluctuation in ground water level between May 2019 and January 2020.
11.	Fluctuation in ground water level between May 2018 and May 2019.
12.	Fluctuation in ground water level between August 2018 and August 2019.
13.	Fluctuation in ground water level between November 2018 and November 2019.
14.	Fluctuation in ground water level between January 2019 and January 2020.
15.	Fluctuation water level between May (mean) and May 2019.
16.	Fluctuation in water level between August (mean) and August 2019.
17.	Fluctuation in water level between November (mean) and November 2019.
18.	Fluctuation in ground water level between January (mean) and January 2020.
19.	Map of Electrical Conductivity

ANNEXURE

- I Depth to water levels (m bgl) in the months of May' 19, August '19, November '19, and January '20 in Bihar State.
- II Major chemical parameters of ground water samples of HNS collected during pre-monsoon 2019 in Bihar State.
- III District-wise percentage of well showing rise, fall or no significant trend during pre-monsoon and post-monsoon season of 2019.

GROUNDWATER YEAR BOOK, BIHAR (2019 –2020)

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GROUND WATER YEAR BOOK, BIHAR (2019-2020)

ABSTRACT

Monitoring of ground water levels from 729 Hydrograph Network Stations (HNS) were carried out in the year 2019-2020 with an objective to assess ground water regime of phreatic aquifer. The water level monitoring was carried out in the months of May'19, August'19, November'19, and January'20. The ground water samples from the HNS were collected in the month of May'19 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 2019 the ground water levels were found to vary between 0.74 and 16.11 m bgl. The depth to water level rests in range of 2-5 m bgl is 34% of HNS, which spatially covers covering northern part of NBP and as patches of SBP, and depth to water level rests in range of 5-10 m bgl is 57% NHS wells which spatially covers southern part of North Bihar Plains (NBP) and maximum part of South Bihar Plains (SBP). During post-monsoon 2019, water level rested in the range of 2 – 5 m bgl in 55% of the HNS which covers major part (67% area) of the state. The fluctuation of water level between pre and post-monsoon 2018 indicated rise in water level in 97% of the HNS. Annual change of water level of May 2019 with respect to May 2018 indicated rise in water level in 39% of the HNS, and during November 2019 with respect to November 2018 indicated rise in 81% of the HNS. The change in water level of May 2019 with respect to the decadal mean of May (May 2009 to May 2018) indicated fall in 68% of the HNS and during November 2019 with respect to the decadal mean of November (November 2009 to November 2018) indicated rise in 78% of HNS.

GROUND WATER YEAR BOOK, BIHAR (2019-2020)

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 881persons/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.,

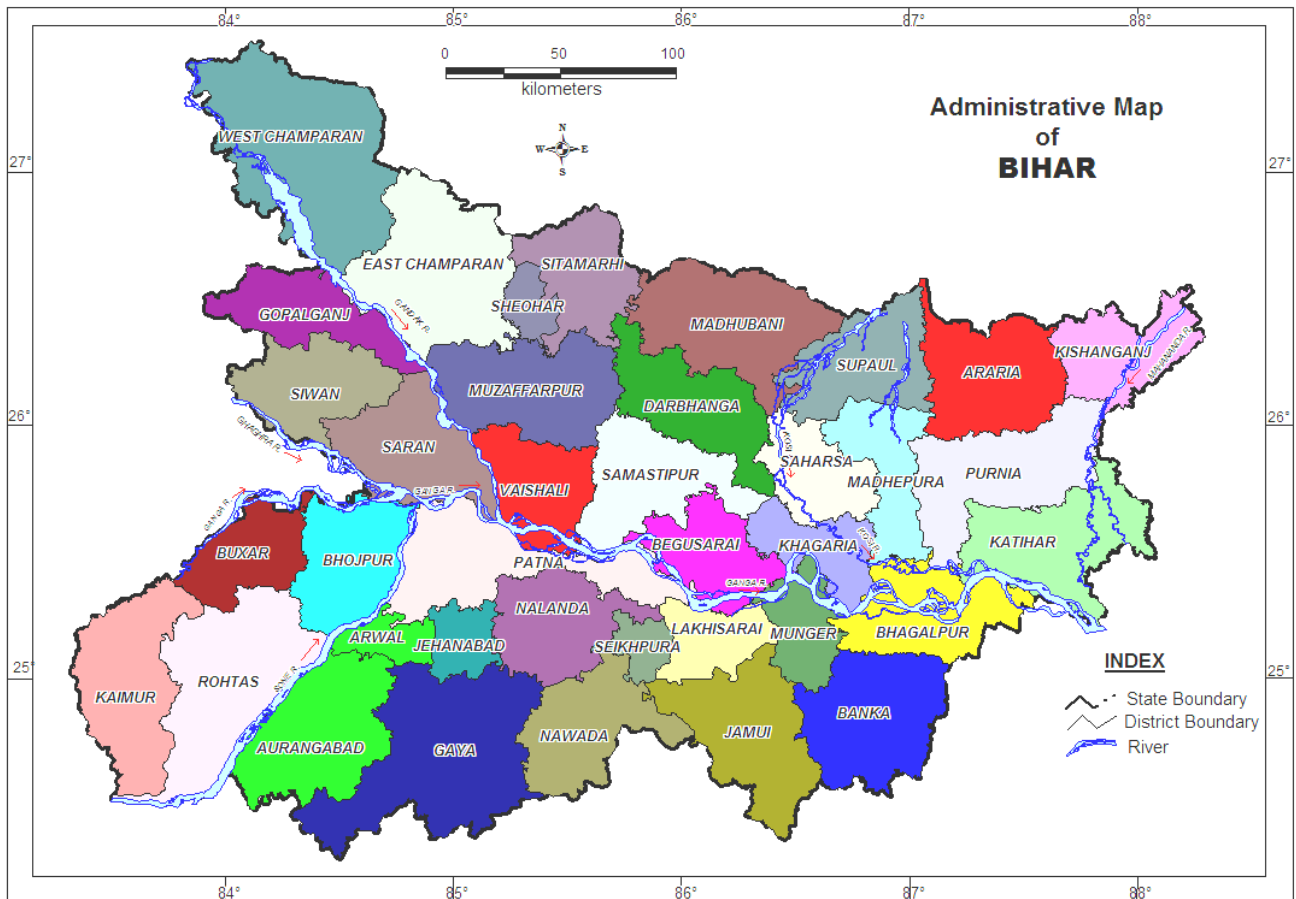


Fig. 1 Administrative Map of Bihar state

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.

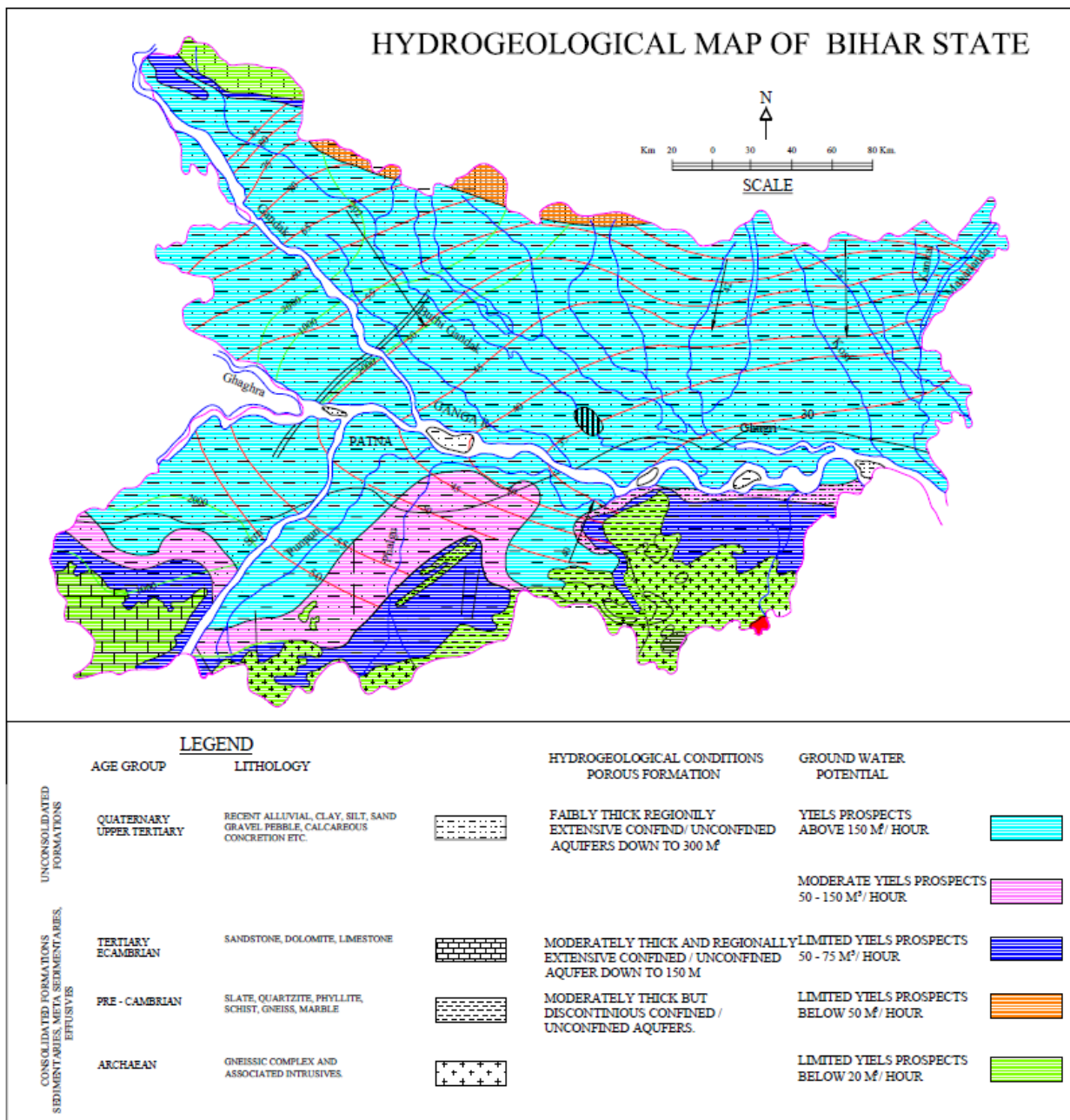


Fig. 2 Hydrogeological Map of Bihar state

3. GROUND WATER SCENARIO

A total of 736 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.

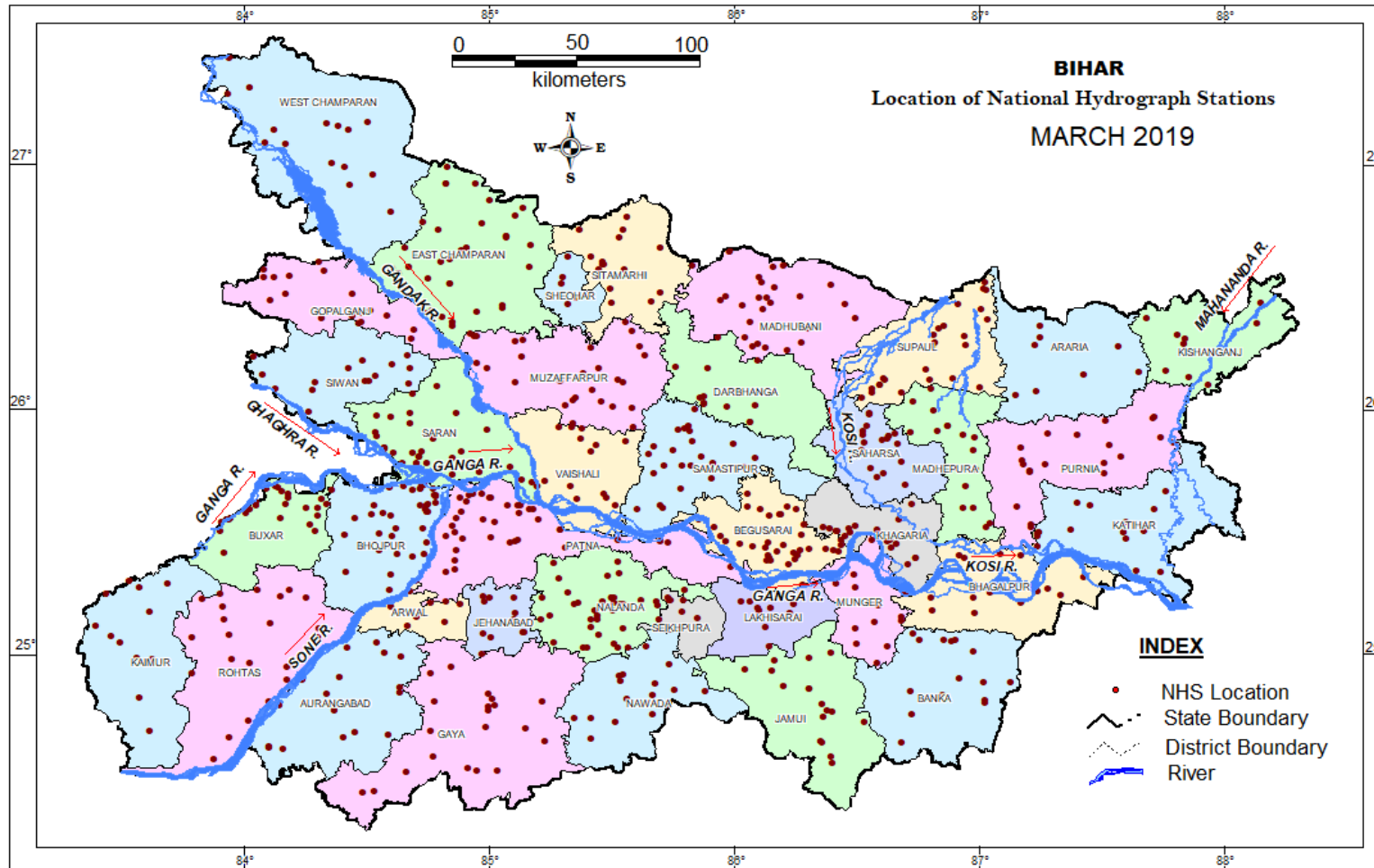


Fig. 3 Location of Hydrograph Network Stations in Bihar state, 2019

Table 2 District wise distribution of the HNS as on 31.3.19

Status of GW Monitoring Stations-March 2019			
SN	District	DW	TW
1	Araia	8	
2	Aurangabad	17	
3	Banka	15	
4	Begusarai	36	
5	Bhagalpur	16	3
6	Bhojpur	37	
7	Buxar	25	
8	Darbhanga	12	
9	Gaya	21	
10	Gopalganj	20	
11	Jamui	18	
12	Jehanabad & Arwal	19	
13	Kaimur/Bhabhua	12	
14	Katihar	16	
15	Khagaria	19	
16	Kishanganj	9	
17	Lakhisarai	9	
18	Madhepura	17	
19	Madhubani	27	
20	Munger	11	
21	Muzaffarpur	27	
22	Nalanda	36	
23	Nawada	16	
24	W Champaran	15	
25	Patna	38	29
26	E Chamaparan	34	
27	Purnia	20	
28	Rohtas	21	
29	Saharsa	18	
30	Samastipur	24	
31	Saran	30	
32	Sheikhpura	7	
33	Sheohar	5	
34	Sitamarhi	16	
35	Siwan	16	
36	Supaul	25	
37	Vaishali	17	
Total		729	32

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'19	August'19	November'19	January'20
Bihar	649	630	647	679

3.1 DEPTH TO WATER LEVEL

3.1.1 May 2019

During Pre- Monsoon period (May 2019), 649 HNS were analysed. The Minimum depth to water level is 0.74 m bgl has been observed at, E Champaran district, and maximum is 16.11 m bgl at Buxar district. The depth to water level rests in range of 5 – 10 m bgl in 57% of the area of Bihar State, which spatially covers southern part of North Bihar Plains (NBP) and maximum part of South Bihar Plains (SBP). The depth to water level rests in the range of 2-5 m bgl in about 34% of the area covering northern part of NBP and as patches of SBP. In ~ 6% of area, water level > 10 m bgl has been recorded, which distributed as isolated patches mainly in Kaimur, Rohtas, Jamui, Bhagalpur, Buxar, Nalanda and Siwan district. In only 10 Hydrograph Network Station (HNS) shows the depth to water level < 2 m bgl has been recorded.

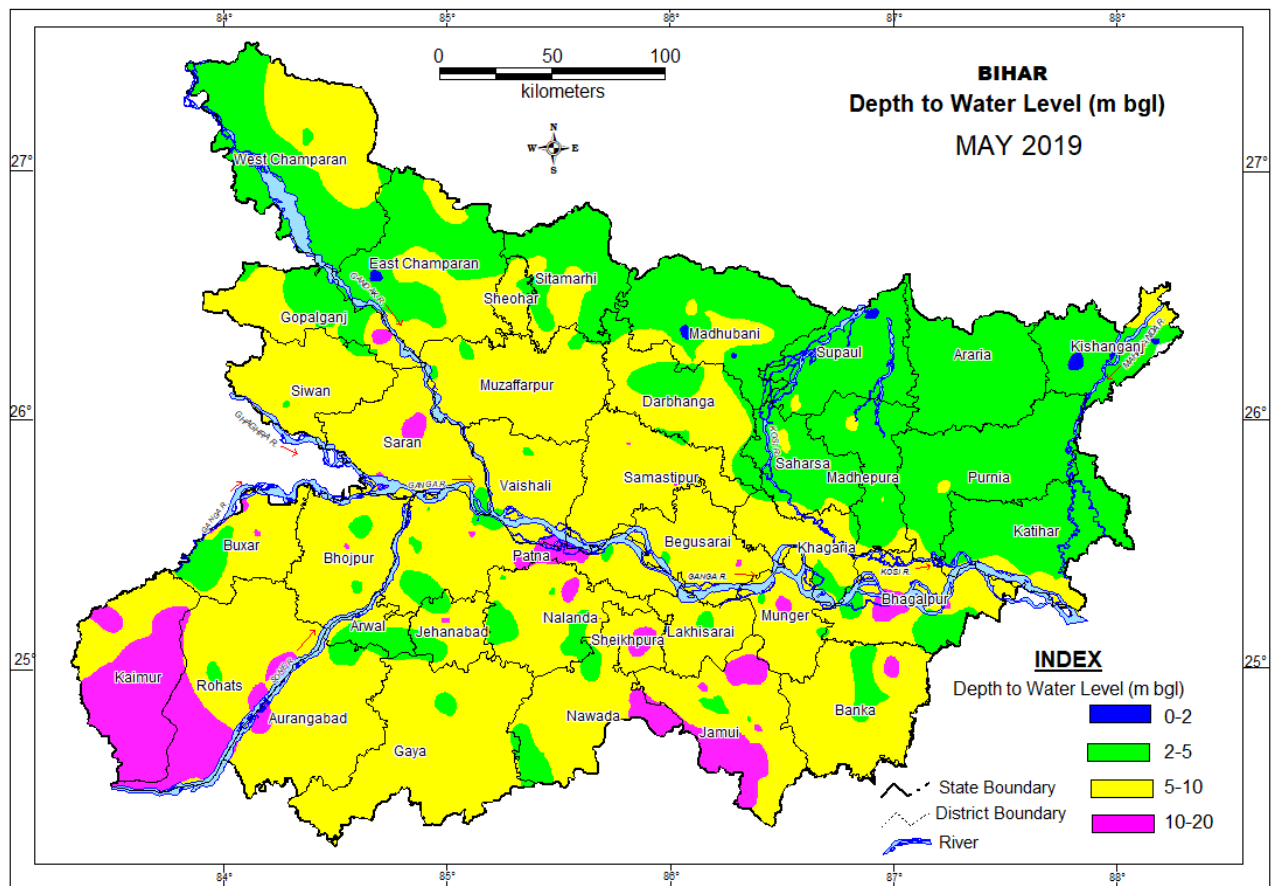


Fig. 4: Depth to water level in May 2019

Table 5 District wise well frequency for different ranges of depth to water level of HNS in May. 2019 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	8	2.26	4.62	0	0	8	100	0	0	0	0
2	Aurangabad	10	3.58	11	0	0	1	10	8	80	1	10
3	Banka	15	3.42	11.18	0	0	4	27	9	60	2	13
4	Begusarai	34	2.1	12	0	0	1	3	31	91	2	6
5	Bhagalpur	14	2.86	14.56	0	0	3	21	8	57	3	21
6	Bhojpur	36	3.37	10.88	0	0	3	8	31	86	2	6
7	Buxar	24	2	16.11	1	4	3	13	15	63	5	21
8	Darbhanga	9	2.47	7.04	0	0	3	33	6	67	0	0
9	Gaya	14	4.3	8.54	0	0	2	14	12	86	0	0
10	Gopalganj	18	3.06	15	0	0	8	44	9	50	1	6
11	Jamui	15	3.96	15.07	0	0	2	13	7	47	6	40
12	Jehanabad	9	3.46	10.4	0	0	4	44	4	44	1	11
13	Kaimur	10	5.3	13.55	0	0	0	0	6	60	4	40
14	Katihar	15	2.3	5.78	0	0	14	93	1	7	0	0
15	Khagaria	19	2.65	8.56	0	0	2	11	17	89	0	0
16	Kishanganj	8	1.65	9.19	2	25	5	63	1	13	0	0
17	Lakhisarai	8	1.26	10.38	1	13	1	13	5	63	1	13
18	Madhepura	17	2.96	6.12	0	0	13	76	4	24	0	0
19	Madhubani	25	1.53	8.27	2	8	16	64	7	28	0	0
20	Munger	10	4.6	11.74	0	0	2	20	7	70	1	10
21	Muzaffarpur	24	3.15	9	0	0	3	13	21	88	0	0
22	Nalanda	36	2.47	12.75	0	0	13	36	20	56	3	8
23	Nawada	16	2.18	11	0	0	3	19	12	75	1	6
24	W champaran	14	2.25	7.94	0	0	11	79	3	21	0	0
25	Patna	30	1.8	11.47	1	3	9	30	16	53	4	13
26	E champaran	30	0.74	8.92	1	3	16	53	13	43	0	0
27	Purnia	19	2.24	5.58	0	0	16	84	3	16	0	0
28	Rohtas	16	4.68	14.2	0	0	1	6	9	56	6	38
29	Saharsa	17	2.49	9	0	0	15	88	2	12	0	0
30	Samastipur	24	4.96	11.1	0	0	1	4	20	83	3	13
31	Saran	24	2.3	11.91	0	0	2	8	19	79	3	13
32	Seikhpura	7	6.5	10.5	0	0	0	0	6	86	1	14
33	Sheohar	5	3.26	9	0	0	2	40	3	60	0	0
34	Sitamarhi	15	2.37	10	0	0	11	73	4	27	0	0
35	Siwan	15	4.7	9	0	0	1	7	14	93	0	0
36	Supaul	23	1.85	10	2	9	20	87	1	4	0	0
37	Vaishali	16	4.62	10	0	0	1	6	15	94	0	0
	Total	649	0.74	16.11	10	2	220	34	369	57	50	8

3.1.2 August 2019

During mid-monsoon (August 2019), total 630 HNS were monitored. The depth to water level has been found to vary between 0.04 m bgl (Muzaffarpur district) and 14.00 m bgl (Aurangabad district). The depth to water level varies in the range of 0 – 2 m bgl covers in about 18% area due to monsoon rainfall. It spatially covers the bordering area of E & W Champaran, Sitamarhi, Madhubani, Supaul, and Kishanganj district, small parts of Rohtas, Darbhanga, Kaimur, Aurangabad, Gaya, Nawada, Banka, Munger, Patna, Jamui and Bhagalpur districts and as patches in many other part of the State.

Range of depth to water level 2-5 m bgl covers major part (56%) of the state including southern part of NBP and maximum part of SBP except some small patch like area. Parts of Saran, Siwan, Muzaffarpur, Vaishali, Samastipur, Buxar, Kaimur, Rohtas, Aurangabad, Jehanabad, Nalanda, Nawada, Sheikhpura, and other part as patches, the depth to water level rests in the range of 5 to 10 m bgl which forms about 25% of the area of the State. Only 13 wells district have shown water level more than 10 m bgl.

(Fig. 5; Table 6)

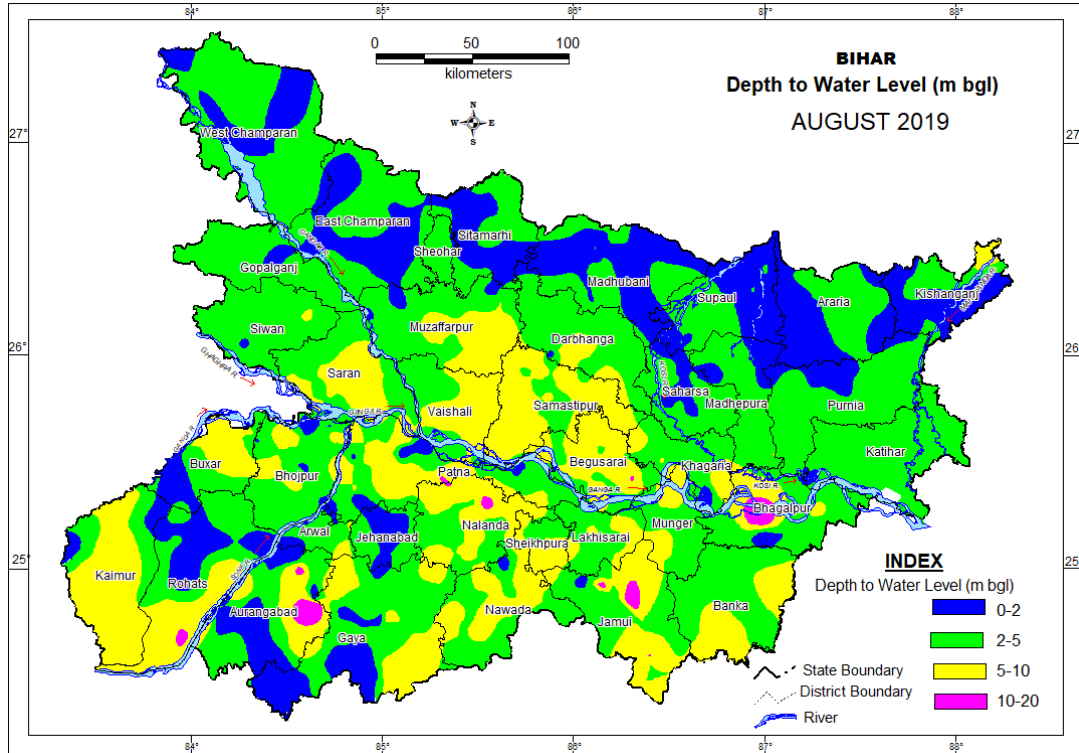


Fig. 5: Depth to water level in August 2019

Table 5 District wise well frequency for different ranges of depth to water level of HNS in August. 2019 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	8	1.32	2.47	4	50	4	50	0	0	0	0
2	Aurangabad	17	0.27	14	8	47	5	29	2	12	2	12
3	Banka	12	1.8	8.3	1	8	6	50	5	42	0	0
4	Begusarai	34	2.93	10.5	0	0	11	32	22	65	1	3
5	Bhagalpur	7	1.27	13.85	2	29	3	43	1	14	1	14
6	Bhojpur	27	0.99	8	6	22	15	56	6	22	0	0
7	Buxar	15	1.04	7.84	5	33	3	20	7	47	0	0
8	Darbhanga	8	0.75	6.98	2	25	3	38	3	38	0	0
9	Gaya	19	0.6	10	7	37	7	37	5	26	0	0
10	Gopalganj	20	1.35	4.49	1	5	19	95	0	0	0	0
11	Jamui	14	1.7	13.5	2	14	6	43	3	21	3	21
12	Jehanabad	12	0.93	5.07	7	58	4	33	1	8	0	0
13	Kaimur	8	1.3	8.12	1	13	2	25	5	63	0	0
14	Katihar	15	1.75	5.41	2	13	12	80	1	7	0	0
15	Khagaria	19	1.49	5.9	1	5	16	84	2	11	0	0
16	Kishanganj	10	0.87	5.78	7	70	2	20	1	10	0	0
17	Lakhisarai	8	1.6	11	1	13	5	63	1	13	1	13
18	Madhepura	17	1.03	5.11	2	12	14	82	1	6	0	0
19	Madhubani	25	0.4	4.8	14	56	11	44	0	0	0	0
20	Munger	10	2	8.21	1	10	6	60	3	30	0	0
21	Muzaffarpur	23	0.04	7.13	3	13	11	48	9	39	0	0
22	Nalanda	36	1.58	11.31	1	3	16	44	17	47	2	6
23	Nawada	16	1.3	9.5	1	6	7	44	8	50	0	0
24	W champaran	13	1.52	4.2	6	46	7	54	0	0	0	0
25	Patna	30	0.4	10.7	9	30	10	33	9	30	2	7
26	E champaran	26	0.64	4.96	11	42	15	58	0	0	0	0
27	Purnia	19	1.2	4.1	3	16	16	84	0	0	0	0
28	Rohtas	17	0.19	10.43	6	35	6	35	4	24	1	6
29	Saharsa	16	1.14	4.04	7	44	9	56	0	0	0	0
30	Samastipur	23	2.15	9.45	0	0	6	26	17	74	0	0
31	Saran	27	1.34	8.38	1	4	11	41	15	56	0	0
32	Seikhpura	10	2.47	7.46	0	0	4	40	6	60	0	0
33	Sheohar	2	2.2	3.3	0	0	2	100	0	0	0	0
34	Sitamarhi	15	0.55	3.63	12	80	3	20	0	0	0	0
35	Siwan	14	1.23	5.12	1	7	12	86	1	7	0	0
36	Supaul	23	0.32	4.34	15	65	8	35	0	0	0	0
37	Vaishali	15	2.38	7.44	0	0	3	20	12	80	0	0
	Total	630	0.04	14	150	24	300	48	167	27	13	2

3.1.3 November 2019

Total 647 HNS wells were analysed during post-monsoon period (November 2019). The minimum and the maximum depth to water levels have been recorded as 0.02 m bgl (Rohtas district) and 14 m bgl (Aurangabad district) respectively. In major area of the State (67%) water level rests in range of 2 – 5 m bgl which covers almost entire Southern part and major part of Northern part of Bihar State. The depth to water level in the range of 5-10 m bgl occurs in about 12 % of the area, which occurs in part of Kaimur, Rohtas, Gaya, Jmaui, Sheikhpua, Nalanda, Patna, Samastipur, Vaishali, and Muzaffarpur districts and many other places as small patches. The water level in the range of 0 – 2 m bgl has been observed in only 28% of HNS wells, spatially covers as small patches at many locations (Sitamarhi, Madhubani, Araria, Kishanganj, Bhagalpur, Banka, Aurangabad, Rohtas, Buxar and W Champaran district, and many small parts of the state) There are 5 HNS stations in Rohtas, Jamui, E Champaran, Nalanda, and Aurangabad where level has been observed more than 10 m bgl. (Fig. 6; Table 7).

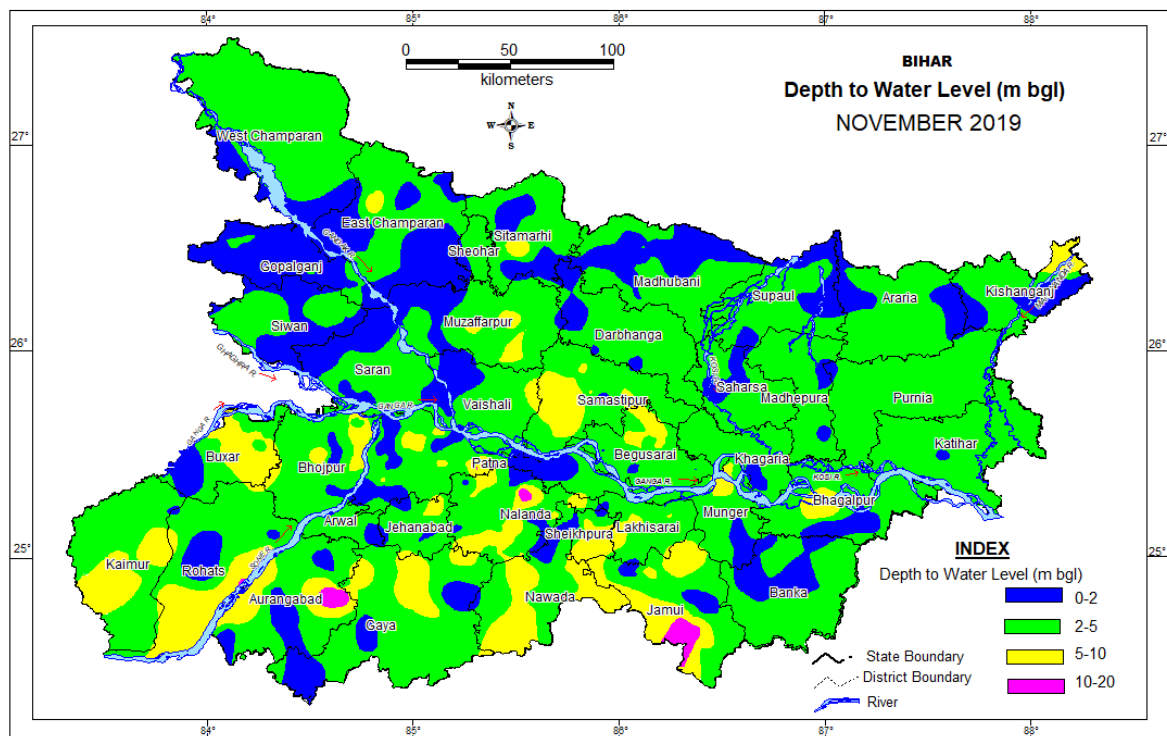


Fig. 6: Depth to water level in November 2019

Table 7 District wise well frequency for different ranges of depth to water level of HNS in Nov. 2019 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	8	1.8	3.36	3	38	5	63	0	0	0	0
2	Aurangabad	16	0.13	14	5	31	8	50	2	13	1	6
3	Banka	11	1	3.3	3	27	8	73	0	0	0	0
4	Begusarai	33	1.47	5.5	5	15	23	70	5	15	0	0
5	Bhagalpur	11	1.1	9.8	2	18	8	73	1	9	0	0
6	Bhojpur	34	0.72	7.2	5	15	15	44	14	41	0	0
7	Buxar	22	1.3	8.37	3	14	9	41	10	45	0	0
8	Darbhanga	10	0.85	4.63	4	40	6	60	0	0	0	0
9	Gaya	21	0.88	8.84	5	24	9	43	7	33	0	0
10	Gopalganj	20	0.45	2.68	15	75	5	25	0	0	0	0
11	Jamui	14	1.25	11.8	3	21	6	43	4	29	1	7
12	Arwal &	16	1.15	5.7	5	31	10	63	1	6	0	0
13	Kaimur	12	1.3	8.04	2	17	8	67	2	17	0	0
14	Katihar	15	1.72	4.64	1	7	14	93	0	0	0	0
15	Khagaria	19	1.28	4.56	5	26	14	74	0	0	0	0
16	Kishanganj	9	1.47	8.32	3	33	5	56	1	11	0	0
17	Lakhisarai	8	2.1	9.5	0	0	6	75	2	25	0	0
18	Madhepura	15	1.48	3.87	3	20	12	80	0	0	0	0
19	Madhubani	23	0.6	4.53	10	43	13	57	0	0	0	0
20	Munger	10	1.15	6.35	3	30	6	60	1	10	0	0
21	Muzaffarpur	22	0.4	5.92	6	27	11	50	5	23	0	0
22	Nalanda	42	0.86	12.75	9	21	19	45	13	31	1	2
23	Nawada	14	0.88	8.61	2	14	6	43	6	43	0	0
24	W Champaran	12	1.62	3.7	1	8	11	92	0	0	0	0
25	Patna	31	0.38	10.4	14	45	11	35	5	16	1	3
26	E Champaran	25	0.59	6.27	12	48	12	48	1	4	0	0
27	Purnia	17	1.8	4.06	1	6	16	94	0	0	0	0
28	Rohtas	16	0.02	10.45	3	19	7	44	5	31	1	6
29	Saharsa	15	0.93	3.32	7	47	8	53	0	0	0	0
30	Samastipur	21	0.7	9.45	1	5	9	43	11	52	0	0
31	Saran	27	0.36	5.29	12	44	14	52	1	4	0	0
32	Seikhpura	9	1.2	6.6	3	33	2	22	4	44	0	0
33	Sheohar	2	2.35	3.13	0	0	2	100	0	0	0	0
34	Sitamarhi	16	0.9	10	9	56	6	38	1	6	0	0
35	Siwan	15	0.92	4.42	8	53	7	47	0	0	0	0
36	Supaul	21	0.38	4.59	10	48	11	52	0	0	0	0
37	Vaishali	15	1.44	5.01	1	7	13	87	1	7	0	0
	Total	647	0.02	14	184	28	355	55	103	16	5	1

3.1.0 January 2020

During the recession period (Jan. 2020), 679 HNS were analysed. The minimum depth to water level of 0.32 m below ground level (bgl) has been observed in Aurangabad district, and maximum water level of 15.8 m bgl has been observed in the Jamui district. The depth to water level rests in range of 2 – 5 m bgl in maximum part (72% area) of Bihar State. The depth to water level rests in the range of 5 – 10 m bgl in 22% of the area covering adjoining area and major part of Lakhisarai, Muzaffarpur, Saran, Samastipur, Begusarai, Aurangabad, Rohtas, Kaimur, Gaya, Nawada, Jamui, Sheikhpura, Buxer and many locations as patches. Only in 13 wells shows depth to water level >10m bgl has been observed. (Fig.7; Table 8).

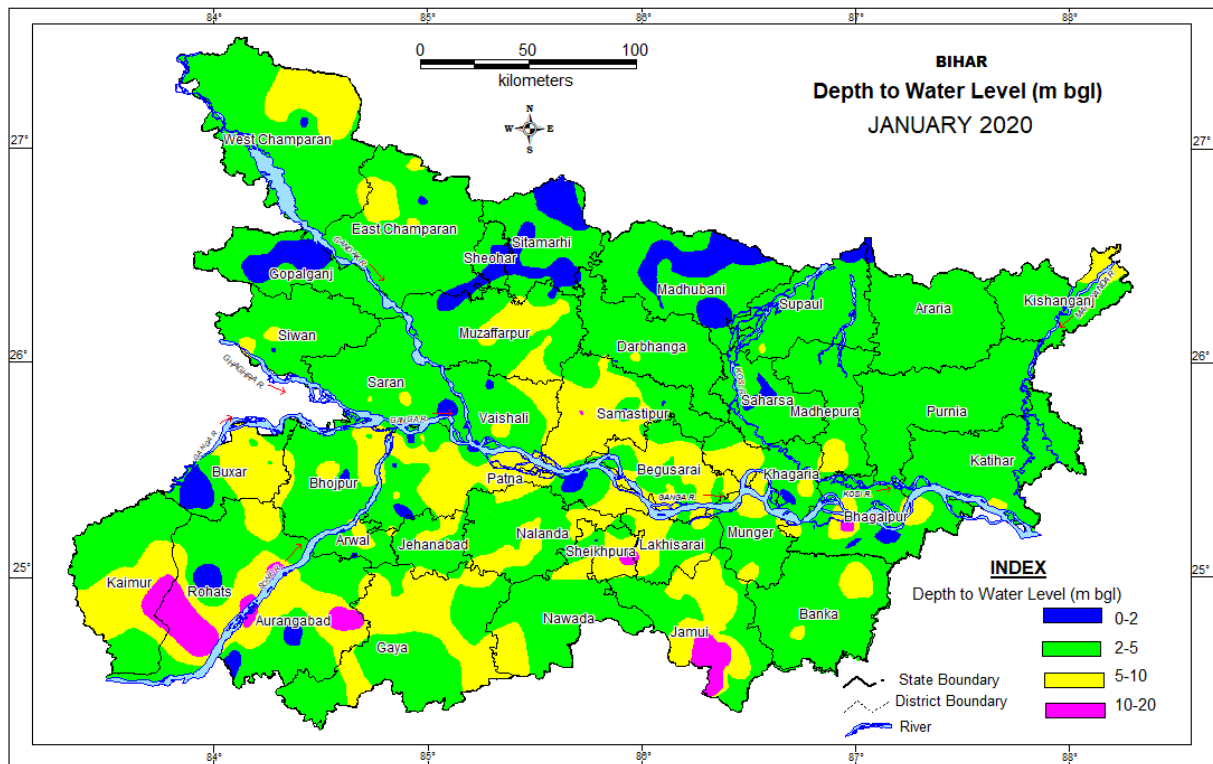


Fig. 7: Depth to water level in January 2020

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	7	2.34	3.41	0	0	7	100	0	0	0	0
2	Aurangabad	16	0.32	14	2	13	8	50	4	25	2	13
3	Banka	14	1.72	6.5	1	7	11	79	2	14	0	0
4	Begusarai	36	2.94	9.5	0	0	15	42	21	58	0	0
5	Bhagalpur	14	1.8	11.92	3	21	8	57	2	14	1	7
6	Bhojpur	35	0.88	10.88	2	6	16	46	16	46	1	3
7	Buxar	24	0.99	9.3	2	8	10	42	12	50	0	0
8	Darbhanga	10	1.64	5.03	1	10	8	80	1	10	0	0
9	Gaya	21	2.48	10	0	0	10	48	11	52	0	0
10	Gopalganj	21	1.02	3.56	6	29	15	71	0	0	0	0
11	Jamui	16	2.25	15.8	0	0	8	50	6	38	2	13
12	Jehanabad	17	1.87	6.65	1	6	11	65	5	29	0	0
13	Kaimur	12	1.3	9.25	1	8	8	67	3	25	0	0
14	Katihar	15	2.34	5.18	0	0	14	93	1	7	0	0
15	Khagaria	18	1.39	8.8	1	6	7	39	10	56	0	0
16	Kishanganj	8	2.22	8.67	0	0	7	88	1	13	0	0
17	Lakhisarai	9	1.21	9.95	1	11	4	44	4	44	0	0
18	Madhepura	17	2.19	6.4	0	0	16	94	1	6	0	0
19	Madhubani	24	0.5	4.21	11	46	13	54	0	0	0	0
20	Munger	10	2.74	7.71	0	0	7	70	3	30	0	0
21	Muzaffarpur	25	0.97	8	2	8	15	60	8	32	0	0
22	Nalanda	39	1.23	9.42	2	5	21	54	16	41	0	0
23	Nawada	6	2.52	7.15	0	0	5	83	1	17	0	0
24	W champaran	14	1.56	6.09	1	7	11	79	2	14	0	0
25	Patna	29	0.52	10.35	8	28	6	21	14	48	1	3
26	E champaran	30	1.87	6.27	2	7	24	80	4	13	0	0
27	Purnia	18	2.51	4.67	0	0	18	100	0	0	0	0
28	Rohtas	18	0.56	14.9	1	6	8	44	5	28	4	22
29	Saharsa	18	1.46	4.35	3	17	15	83	0	0	0	0
30	Samastipur	20	1.55	10.3	2	10	2	10	15	75	1	5
31	Saran	28	1.36	6.52	3	11	22	79	3	11	0	0
32	Seikhpura	10	1.87	11.1	1	10	3	30	5	50	1	10
33	Sheohar	4	1.74	3.75	3	75	1	25	0	0	0	0
34	Sitamarhi	14	1.14	4.12	8	57	6	43	0	0	0	0
35	Siwan	16	1.4	5.76	2	13	12	75	2	13	0	0
36	Supaul	22	1.51	10	1	5	20	91	1	5	0	0
37	Vaishali	24	1.78	5.66	1	4	19	79	4	17	0	0
	Total	679	0.32	15.8	72	11	411	61	183	27	13	2

3.2 SEASONAL FLUCTUATION

3.2.1 May 2019 to August 2019

Water level fluctuation between May 2019 and August 2019 has been analysed for 577 HNS to study the seasonal fluctuation of depth to water level, and its categorization in different depth zones. The analysis indicates rise in the water level in 539 (93%) HNS whereas the fall is observed only in 38 (7%) HNS. Majority of HNS (44%) have shown the rise of water level in the range of 0 to 2 m constituting 44% area of the State including maximum part of NBP and in some parts of SBP. Major parts of Darbhanga, Araria, Purnia, Katihar, Kishanganj, Samastipur and Madhepura district in NBP and Nalanda, Nawada, Gaya, Bhagalpur, and Banka district in SBP and many other small parts of the state, have shown rise in water level upto 2m. Rise of water level from 2 to 4 m has been recorded in 28% (160 wells) NHS wells, covering major parts of Buxar, Bhojpur, Saran, Siwan, Vaishali, Aurangabad, Gaya, Jamui, Kaimur, Rohtas and E Champaran districts and some other parts as small patches. Only 19% of HNS have shown rise in water level of more than 4m. In major part of Kaimur, Rohtas, Aurangabad, Gaya, jehanabad, Patna, Jamui, Banka, and Lakhisarai district and other small parts of the state have shown rise of water level more than 4m has been recorded.

Total 28 wells have shown fall in water level <2m covering small parts of Smastipur, Lakhisarai, Bhagalpur, banka, Jamui, Nawada, Aurangabad, Katihar and Darbhanga district. Only 1 wells located in Banka district shows fall in water level in the range of 2-4 m. 6 wells have shown water level fall >4m. **(Fig:8; Table 9).**

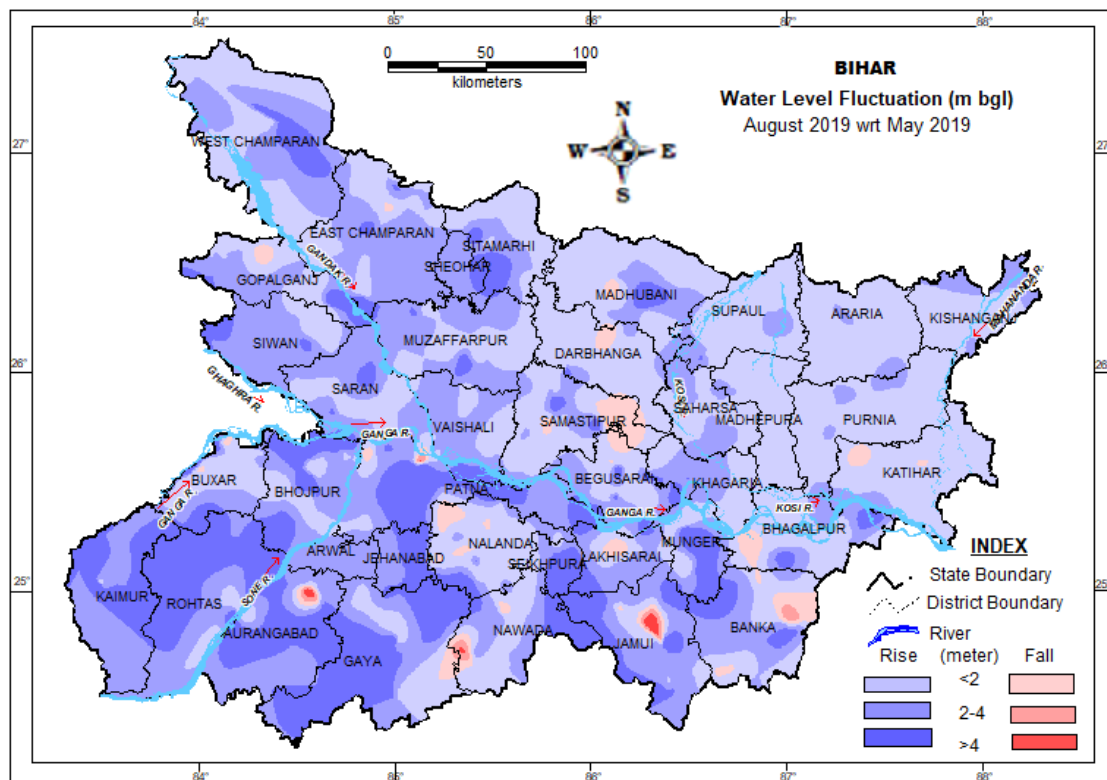


Fig. 7 Water level Fluctuation between May 2019 and August 2019

Table – 9 District wise categorization of fluctuation and their frequency of water levels of HNS of Aug. 2019 w.r.t. May 2019

SN	District	No. of HNS	Range of fluctuation (m)				No. of Wells / Percentage showing fluctuation														Total	
			Rise		Fall		Rise						Fall								Rise	Fall
			Min.	Max.	Min.	Max.	<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%				
1	Araria	8	0.74	2.55	-	-	7	88	1	13	0	0	0	0	0	0	0	0	0	8	0	
2	Aurangabad	10	1.08	10.53	5.7	5.7	1	10	4	40	4	40	0	0	0	0	1	10	9	1	1	
3	Banka	12	0.95	6.23	0.24	3.11	2	17	4	33	1	8	4	33	1	8	0	0	7	5	5	
4	Begusarai	32	0.14	6.14	0.16	0.16	18	53	6	19	7	22	1	3	0	0	0	0	31	1	1	
5	Bhagalpur	7	0.22	4.97	0.59	0.59	3	43	1	14	2	29	1	14	0	0	0	0	6	1	1	
6	Bhojpur	27	0.26	8.15	-	-	8	26	5	19	14	52	0	0	0	0	0	0	27	0	0	
7	Buxar	15	0.57	14.95	0.28	0.55	6	40	2	13	4	27	3	20	0	0	0	0	12	3	3	
8	Darbhanga	6	0.71	4.3	1.01	1.01	4	67	0	0	1	17	1	17	0	0	0	0	5	1	1	
9	Gaya	13	0.48	7.84	-	-	5	38	0	0	8	62	0	0	0	0	0	0	13	0	0	
10	Gopalganj	18	0.47	11.4	1.15	1.15	9	50	7	39	1	6	1	6	0	0	0	0	17	1	1	
11	Jamui	13	1.56	9.05	0.59	6.03	2	15	4	31	4	31	1	8	0	0	2	15	10	3	3	
12	Jehanabad	6	2.32	7.68	-	-	0	0	4	67	2	33	0	0	0	0	0	0	6	0	0	
13	Kaimur	8	1.58	8.2	-	-	1	13	3	38	4	50	0	0	0	0	0	0	8	0	0	
14	Katihar	15	0.05	3.14	0.12	0.46	11	73	2	13	0	0	2	13	0	0	0	0	13	2	2	
15	Khagaria	19	0.9	4.82	-	-	3	16	11	58	5	26	0	0	0	0	0	0	19	0	0	
16	Kishanganj	8	0.2	3.41	-	-	6	75	2	25	0	0	0	0	0	0	0	0	8	0	0	
17	Lakhisarai	7	1.74	4.87	0.34	0.69	1	14	2	29	1	14	3	43	0	0	0	0	4	3	3	
18	Madhepura	17	0.45	2.07	-	-	16	94	1	6	0	0	0	0	0	0	0	0	17	0	0	
19	Madhubani	24	0.3	6.9	1.5	1.5	16	67	6	25	1	4	1	4	0	0	0	0	23	1	1	
20	Munger	10	0.3	8.64	-	-	4	30	2	20	4	40	0	0	0	0	0	0	10	0	0	
21	Muzaffarpur	22	0.25	5.98	-	-	9	41	10	45	3	14	0	0	0	0	0	0	22	0	0	
22	Nalanda	33	0.03	6.02	0.05	1.31	20	58	4	9	4	9	5	12	0	0	0	0	28	5	5	
23	Nawada	16	0.64	6.7	0.7	4.38	5	25	5	25	3	13	2	6	0	0	1	6	13	3	3	
24	W. Champaran	13	0.65	5.61	-	-	5	38	6	46	2	15	0	0	0	0	0	0	13	0	0	
25	Patna	28	1.82	10	4.2	6.15	5	11	11	32	9	25	0	0	0	0	3	7	25	3	3	
26	E. Champaran	25	0.1	5.29	0.26	0.26	10	40	10	40	4	16	1	4	0	0	0	0	24	1	1	
27	Purnia	18	0.04	4.18	-	-	14	78	3	17	1	6	0	0	0	0	0	0	18	0	0	
28	Rohtas	15	1.28	9.48	-	-	3	20	2	13	10	67	0	0	0	0	0	0	15	0	0	
29	Saharsa	14	0.79	4.97	-	-	10	71	3	21	1	7	0	0	0	0	0	0	14	0	0	
30	Samastipur	23	0.05	5.66	1.56	1.56	14	61	5	22	2	9	2	9	0	0	0	0	21	2	2	
31	Saran	21	0.29	5.74	0.02	0.02	8	38	9	43	3	14	1	5	0	0	0	0	20	1	1	
32	Seikhpura	7	0.4	5.5	-	-	3	43	2	29	2	29	0	0	0	0	0	0	7	0	0	
33	Sheohar	2	2.2	2.77	-	-	0	0	2	100	0	0	0	0	0	0	0	0	2	0	0	
34	Sitamarhi	15	0.22	8.37	-	-	8	53	5	33	2	13	0	0	0	0	0	0	15	0	0	
35	Siwan	14	0.6	6.9	-	-	3	21	9	64	2	14	0	0	0	0	0	0	14	0	0	
36	Supaul	21	0.51	7.82	-	-	18	86	2	10	1	5	0	0	0	0	0	0	21	0	0	
37	Vaishali	15	0.77	3.95	0.28	0.28	5	27	9	60	0	0	1	7	0	0	0	0	14	1	1	
	Total	577	0.03	14.95	0.02	6.15	255	44	160	28	108	19	28	5	1	0	6	1	539	38	38	

3.2.2 May 2019 to November 2019

Water level fluctuations between May 2019 and November 2019 has been analysed for 582 HNS. The rise of water level observed in 563 (97%) HNS ranged from 0.05 (Buxar) to 14.36 m (Buxar) whereas, only 19 (03%) HNS have shown fall in water level ranged from 0.08 (W Champaran) to 4.2 m (Patna). The majority of HNS (214 well, 36%) have shown rise in the range of 2-4 m, whereas the 182 and 167 NHS have shown rise in water level rise >4m m and upto 2m respectively.

About 99 % area of the State has shown rise in water level. The 2-4 m segment covering 41% area of the state has spread in the major part of NBP and in SBP, major part of Nalanda, Nawada, Gaya, Aurangabad, Bhojpur, Muzaffarpur, Darbhanga, Smastipur Goplaganj and E Champaran district and many other localised area of the State. About 28% area covering major part of SBP and parts of Araria, Purnia, Kishanganj, Supaul, Saharsa, Madhepura and Katihar district in NBP has shown water level rise in the range of 0-2 m. The areas covering part of Banka, Bhagalpur, Munger, Lakhisarai, Nawada, Aurangabad, Rohtas, and Kaimur district are shown water level rise in the range of more than 4 m. The fall is recorded as dissiminated patches at many locations (small patches in Gaya, Purnia, Araria, Kishanganj E Champaran, and Samastipur district) in the State. **(Fig 9, Table 10).**

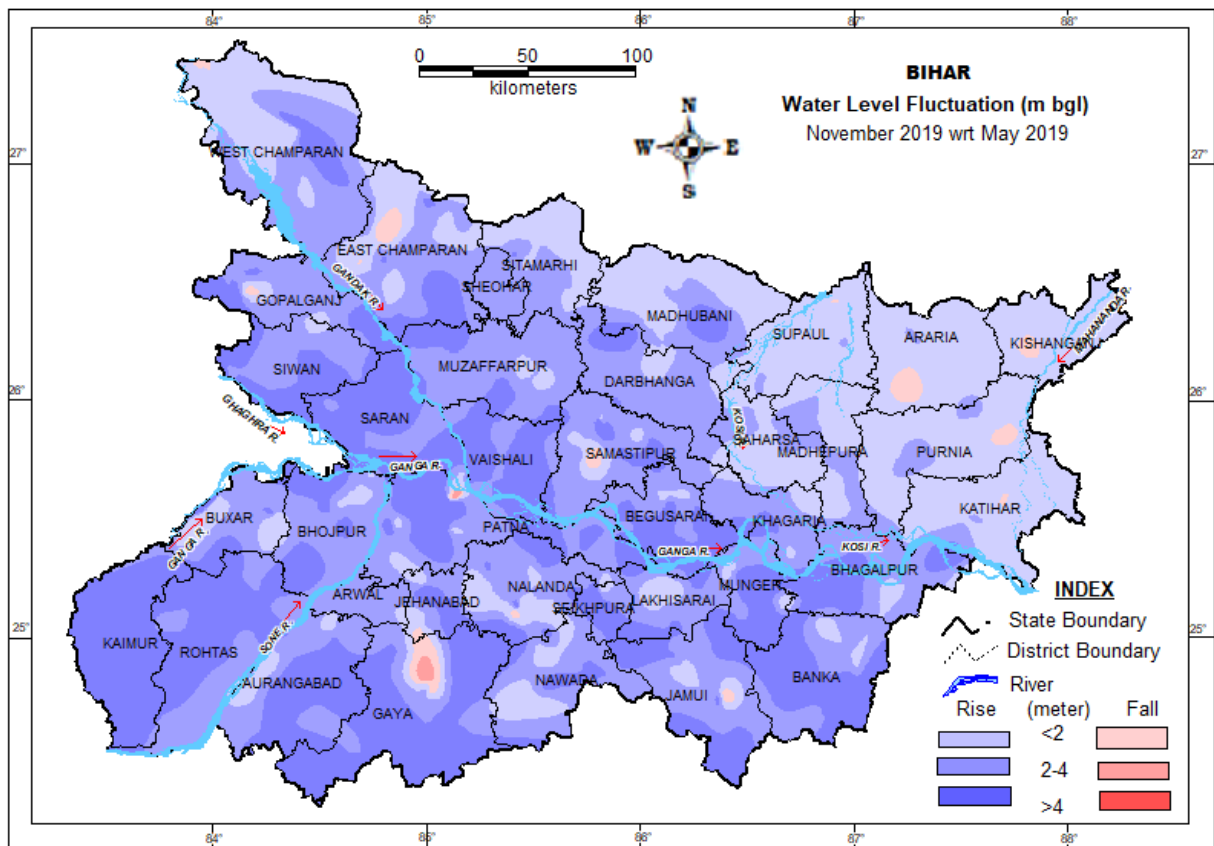


Fig. 9: Fluctuation in ground water level between May 2019 and Nov. 2019.

Table – 10 District wise categorization of fluctuation and their frequency of water levels of HNS of Nov. 2019 w.r.t. May 2019

District	No. of HNS	Range of fluctuation (m)				No. of Wells / Percentage showing fluctuation												Total	
		Rise		Fall		Rise						Fall						Rise	Fall
		Min.	Max.	Min.	Max.	<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%		
Araria	8	0.08	2.57	0.47	0.47	6	75	1	13	0	0	1	13	0	0	0	0	7	1
Aurangabad	10	0.68	6.66	-	-	3	30	4	40	3	30	0	0	0	0	0	0	10	0
Banka	10	1.06	5.91	-	-	3	30	2	20	5	50	0	0	0	0	0	0	10	0
Begusarai	31	1.75	7.98	-	-	2	6	10	32	19	61	0	0	0	0	0	0	31	0
Bhagalpur	10	1.66	5.72	-	-	1	10	4	40	5	50	0	0	0	0	0	0	10	0
Bhojpur	34	0.37	6.20	-	-	4	12	21	62	9	26	0	0	0	0	0	0	34	0
Buxar	21	0.05	14.36	-	-	6	29	10	48	5	24	0	0	0	0	0	0	21	0
Darbhanga	7	0.26	4.52	-	-	1	14	4	57	2	29	0	0	0	0	0	0	7	0
Gaya	14	2.14	6.53	0.53	3.18	0	0	4	29	6	43	3	21	1	7	0	0	10	4
Gopalganj	18	2.20	13.28	-	-	0	0	14	78	4	22	0	0	0	0	0	0	18	0
Jamui	13	1.46	5.35	-	-	1	8	5	38	7	54	0	0	0	0	0	0	13	0
Jehanabad	9	0.62	5.46	-	-	2	22	5	56	2	22	0	0	0	0	0	0	9	0
Kaimur	10	2.72	9.07	-	-	0	0	2	20	8	80	0	0	0	0	0	0	10	0
Katihar	15	0.36	2.28	0.28	0.28	13	87	1	7	0	0	1	7	0	0	0	0	14	1
Khagaria	19	1.37	4.90	-	-	2	11	10	53	7	37	0	0	0	0	0	0	19	0
Kishanganj	8	0.46	1.98	0.85	0.85	7	88	0	0	0	0	1	13	0	0	0	0	7	1
Lakhisarai	7	0.21	5.37	0.84	0.84	2	29	3	43	1	14	1	14	0	0	0	0	6	1
Madhepura	15	0.31	2.58	-	-	7	47	8	53	0	0	0	0	0	0	0	0	15	0
Madhubani	22	-	6.15	-	-	14	64	7	32	1	5	0	0	0	0	0	0	22	0
Munger	10	0.90	9.14	-	-	2	20	2	20	6	60	0	0	0	0	0	0	10	0
Muzaffarpur	20	1.48	6.86	-	-	3	15	12	60	5	25	0	0	0	0	0	0	20	0
Nalanda	36	0.13	5.91	0.61	0.93	12	31	10	25	11	28	3	6	0	0	0	0	33	3
Nawada	14	0.88	5.10	0.21	0.21	5	36	4	29	4	29	1	7	0	0	0	0	13	1
W Champaran	12	0.75	5.51	0.08	0.08	6	50	3	25	2	17	1	8	0	0	0	0	11	1
Patna	26	0.99	10.02	4.20	4.20	4	12	11	35	10	38	0	0	0	0	1	4	25	1
E Champaran	24	0.67	5.94	-	1.93	7	29	10	42	5	21	2	8	0	0	0	0	22	2
Purnia	17	0.29	3.78	0.74	0.74	11	65	5	29	0	0	1	6	0	0	0	0	16	1
Rohtas	15	2.76	8.62	-	-	0	0	7	47	8	53	0	0	0	0	0	0	15	0
Saharsa	13	0.90	5.84	-	-	9	69	3	23	1	8	0	0	0	0	0	0	13	0
Samastipur	21	1.28	5.99	1.56	1.56	4	19	10	43	6	29	1	5	0	0	0	0	20	1
Saran	21	1.94	10.74	-	-	1	5	5	24	15	71	0	0	0	0	0	0	21	0
Seikhpura	6	0.63	7.76	-	-	1	17	1	17	4	67	0	0	0	0	0	0	6	0
Sheohar	2	2.37	2.62	-	-	0	0	2	100	0	0	0	0	0	0	0	0	2	0
Sitamarhi	15	0.19	4.16	-	-	12	73	2	13	1	7	0	0	0	0	0	0	15	0
Siwan	15	2.35	7.06	-	-	0	0	7	47	8	53	0	0	0	0	0	0	15	0
Supaul	19	0.23	8.00	-	-	16	84	1	5	1	5	1	5	0	0	0	0	18	1
Vaishali	15	2.43	6.19	-	-	0	0	4	27	11	73	0	0	0	0	0	0	15	0
Total	582	0.05	14.36	0.08	4.20	167	28	214	36	182	31	17	3	1	0	1	0	563	19

3.2.3 May 2019 to January 2020

Water level fluctuation between May 2019 and January 2020 has been analysed for 607 HNS which indicates rise in water level in about 91 % (551 wells) of the HNS. The rise in water level in the range of 0 – 2 m in 41 % of the HNS, 2 – 4 m in 33% of the HNS and >4 m only in 15% HNS. About 40% area has shown rise in water level up to 2 m covers major part of Araria, Purnia, Katihar, Kishanganj, Aurangabad, Arwal, Nalanda, and Patna districts and some other parts of Bihar State. The range of 2 to 4 m rise has been observed in major parts of Rohtas , Saran, Siwan, Muzaffarpur, Vaishali, Darbhanga, BEgusarai and Banka district, and many localised areas constitutes about 35% area of the State. 20% area of the state including major parts of Kaimur and Nawada districts and parts of Aurangabad, Gaya, Nawada, Jamui, Banka, Lakhisarai, Bhagalpur, Patna, Muzaffarpur, districts shows water level rise more than 4 m.

The fall in water level has been observed in 56 wells (9%), 8 % well shows fall less than 2 m and only 6 wells located in Gaya, Jamui, Madhepura, and E Champaran district shows fall in water level 2-4 m. The range of 0-2 m fall is observed as patches in Araria, Supaul, Purnia, katihar and Kishanganj districts and other areas as small patches covering 4% of the area of the state. Only 3 well has shown fall of water level >4 m (**Fig. 10, Table 11**).

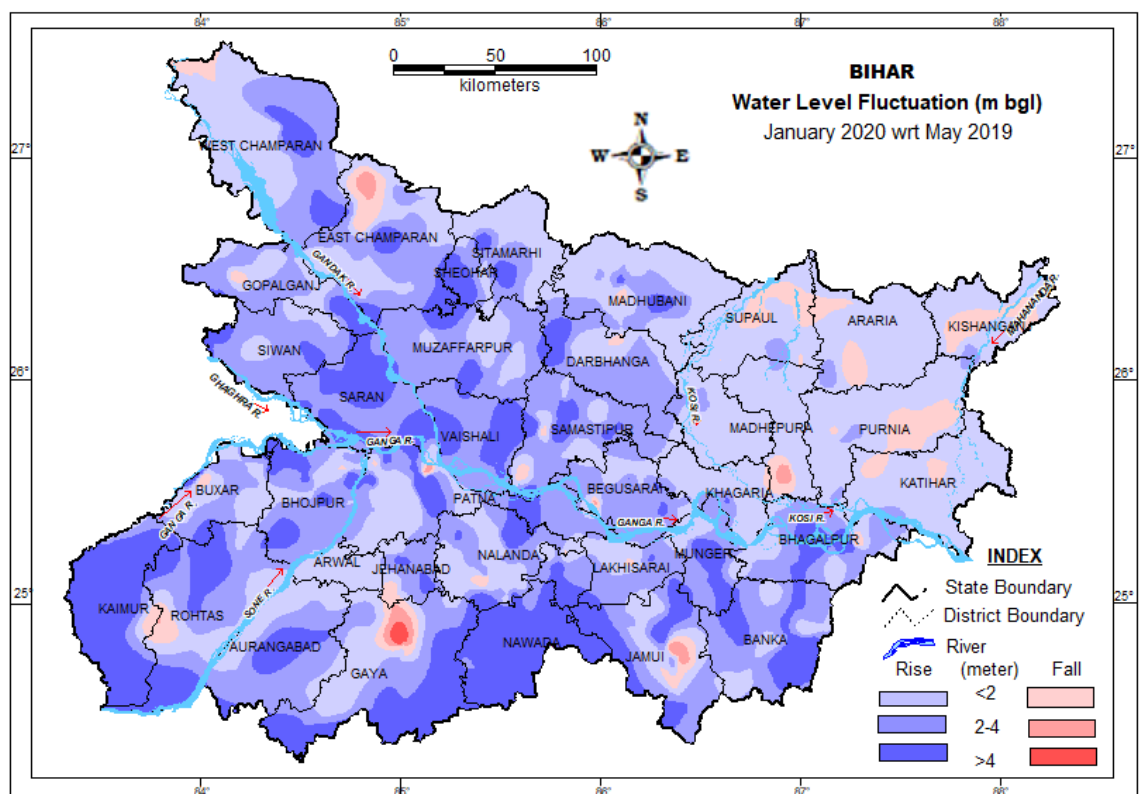


Fig. 10: Fluctuation in ground water level between May 2019 and Jan. 2020.

Table – 11 District wise categorization of fluctuation and their frequency of water levels of HNS of **Jan. 2020 w.r.t. May 2019** for Bihar State

SN	District	No. of HNS	Range of fluctuation (m)				No. of Wells / Percentage showing fluctuation												Total	
			Rise		Fall		Rise						Fall						Rise	Fall
			Min.	Max.	Min.	Max.	<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%		
1	Araria	7	0.21	2.00	0.08	0.86	5	71	0	0	0	0	2	29	0	0	0	0	5	2
2	Aurangabad	10	0.02	6.34	-	-	5	50	3	30	2	20	0	0	0	0	0	0	10	0
3	Banka	13	0.32	4.43	-	-	7	54	4	31	2	15	0	0	0	0	0	13	0	
4	Begusarai	34	1.03	5.41	2.75	2.75	9	26	20	56	4	12	0	0	1	3	0	0	33	1
5	Bhagalpur	13	0.88	8.37	1.28	1.28	2	15	8	62	2	15	1	8	0	0	0	0	12	1
6	Bhojpur	35	0.16	5.88	0.24	0.24	11	29	17	46	6	14	1	3	0	0	0	0	34	1
7	Buxar	23	0.05	13.97	1.09	1.09	11	48	8	35	3	13	1	4	0	0	0	0	22	1
8	Darbhanga	8	0.44	3.77	0.36	0.36	1	13	6	75	0	0	1	13	0	0	0	0	7	1
9	Gaya	14	0.49	4.88	0.75	5.70	4	29	2	14	4	29	2	14	1	7	1	7	10	4
10	Gopalganj	18	1.28	12.52	-	-	4	22	13	72	1	6	0	0	0	0	0	0	18	0
11	Jamui	14	1.36	6.40	0.30	4.23	4	29	5	36	2	14	2	14	0	0	1	7	11	3
12	Jehanabad	9	0.69	4.45	0.27	0.27	4	44	2	22	2	22	1	11	0	0	0	0	8	1
13	Kaimur	10	1.11	8.11	-	-	1	10	1	10	8	80	0	0	0	0	0	0	10	0
14	Katihar	15	0.06	1.66	0.23	0.93	12	80	0	0	0	0	3	20	0	0	0	0	12	3
15	Khagaria	18	0.75	3.58	0.24	0.24	12	67	5	28	0	0	1	6	0	0	0	0	17	1
16	Kishanganj	7	0.52	1.22	0.11	1.53	3	43	0	0	0	0	4	57	0	0	0	0	3	4
17	Lakhisarai	8	0.05	4.28	0.24	0.24	3	38	3	38	1	13	1	13	0	0	0	0	7	1
18	Madhepura	17	0.35	1.82	0.50	3.02	15	88	0	0	0	0	1	6	1	6	0	0	15	2
19	Madhubani	23	0.11	5.25	0.05	0.64	12	52	7	30	2	9	2	9	0	0	0	0	21	2
20	Munger	10	0.63	7.39	-	-	3	30	3	30	4	40	0	0	0	0	0	0	10	0
21	Muzaffarpur	23	0.93	6.70	-	-	7	30	14	57	2	9	0	0	0	0	0	0	23	0
22	Nalanda	36	0.10	7.92	0.03	1.79	18	50	7	19	8	22	3	8	0	0	0	0	33	3
23	Nawada	10	0.51	4.62	0.72	0.72	3	30	4	40	2	20	1	10	0	0	0	0	9	1
24	W. Champaran	13	0.20	5.57	0.55	0.55	10	69	1	8	1	8	1	8	0	0	0	0	12	1
25	Patna	26	0.40	5.33	1.06	5.80	9	35	11	42	3	12	1	4	1	4	1	4	23	3
26	E. Champaran	26	0.41	5.38	1.93	3.14	15	54	7	27	2	8	1	4	1	4	0	0	24	2
27	Purnia	18	0.19	3.07	0.05	1.43	8	44	3	17	0	0	7	39	0	0	0	0	11	7
28	Rohtas	16	0.80	7.05	2.05	2.05	4	19	6	31	5	25	0	0	1	6	0	0	15	1
29	Saharsa	16	0.64	5.54	-	-	14	81	1	6	1	6	0	0	0	0	0	0	16	0
30	Samastipur	20	0.98	4.95	0.97	1.31	6	30	9	40	3	15	2	10	0	0	0	0	18	2
31	Saran	22	0.94	9.36	-	-	1	5	12	55	9	41	0	0	0	0	0	0	22	0
32	Seikhpura	7	0.40	4.63	-	-	3	43	3	43	1	14	0	0	0	0	0	0	7	0
33	Sheohar	4	1.52	7.15	-	-	2	50	1	25	1	25	0	0	0	0	0	0	4	0
34	Sitamarhi	13	0.22	5.88	-	-	10	77	2	15	1	8	0	0	0	0	0	0	13	0
35	Siwan	15	1.01	6.19	-	-	2	13	10	67	3	20	0	0	0	0	0	0	15	0
36	Supaul	21	0.04	1.62	0.04	1.70	13	57	0	0	0	0	8	38	0	0	0	0	13	8
37	Vaishali	15	2.13	5.54	-	-	0	0	9	60	6	40	0	0	0	0	0	0	15	0
	Total	607	0.02	13.97	0.03	5.80	253	41	207	33	91	15	47	8	6	1	3	0	551	56

3.3.0 ANNUAL FLUCTUATION

3.3.1 May 2018 to May 2019

Fluctuation of ground water level between May 2018 and May 2019 of 584 HNS has been analysed which indicates rise in water level in 227 wells (39%) of the HNS and fall in water level in 357 No (61%) of HNS. Major part of the State has shown fall in water level. Fall to the tune of 0 – 2 m has covered maximum area (61%), which includes major parts of Darbhanga, E & W Champaran, Madhubani, Saharsa, Supaul, Madhepura, Samastipur Saran, Vaishali and Siwan districts in NBP and Nalanda, Bhojpur, Rotas, Buxar, Kamur, Nawada and Patna districts in SBP and many other small parts of the state. Parts of Sheohar, Sitamarhi, Gopalganj, Saran, Samastipur, Darbhanga, Patna, Munger, Jamui and Sheikhpura district and many other small parts of the state has shown water level fall between 2-4m. Very small part of Gopalganj, Saran, Sheohar, sitamarhi, Samastipur, and Jamui has shown water level fall >4m.

Area where rise of water level is within 2 m spread over major part of Purnia, Araria, Kishanganj, Katihar, Bhagalpur, and Banka district and as patches at many places in the state constituting 27% area of the state. Water level rise in the range of 2-4 m observed in very small parts of Kishanganj, Banka, Jamui, Aurangabad and E Champaran district and many other small patch like area in the state. Water level rise >4m has been observed in only 11 NHS wells in Aurangabad, Bhojpur, Gopalganj, Jamui, Jehanabad, Khagaria, Gaya and Patna district. (Fig. 11, Table 12).

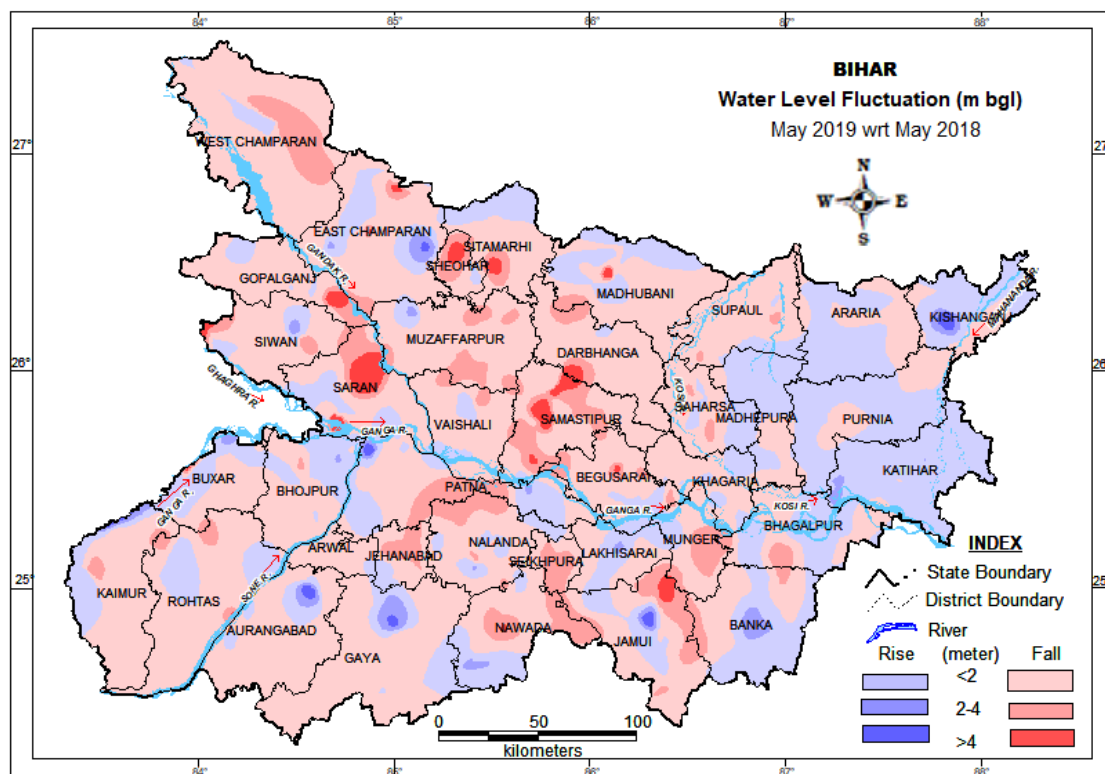


Fig. 11: Fluctuation in ground water level between May 2018 and May 2019.

Table –12 District-wise categorization of frequency and fluctuation water levels of HNS of May. 2019 w.r.t. May. 2018 for Bihar State

SN	District	No. of HNS	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	7	0.2	0.8	0.1	1.2	4	57	0	0	0	0	3	43	0	0	0	0	4	3
2	Aurangabad	10	0.1	5.7	0.1	0.66	2	20	0	0	1	10	7	70	0	0	0	0	3	7
3	Banka	13	0.3	3.8	0.3	1.96	7	54	1	8	0	0	5	38	0	0	0	0	8	5
4	Begusarai	31	0.1	0.7	0.1	5.24	9	29	0	0	0	0	17	55	1	3	4	13	9	22
5	Bhagalpur	11	0.3	1.7	0.4	3.41	6	55	0	0	0	0	3	27	2	18	0	0	6	5
6	Bhojpur	32	0.1	2.3	0.1	2.93	12	28	5	6	3	0	10	28	2	6	0	0	20	12
7	Buxar	23	0.4	3.5	0.1	9.81	12	48	4	13	0	0	6	22	0	0	1	4	16	7
8	Darbhanga	7	0.2	0.2	0.6	3.24	1	14	0	0	0	0	4	57	2	29	0	0	1	6
9	Gaya	14	-	4.5	0.3	1.81	3	21	0	0	1	7	10	71	0	0	0	0	4	10
10	Gopalganj	18	0.1	0.3	-	11.2	5	17	0	0	0	0	11	56	0	0	2	6	5	13
11	Jamui	15	-	6	0.3	5.4	5	33	0	0	1	7	5	33	3	20	1	7	6	9
12	Jehanabad	9	1.5	1.5	0.1	4	1	11	0	0	0	0	6	67	2	22	0	0	1	8
13	Kaimur	9	0.2	5.2	0.4	3.1	3	22	0	0	2	11	3	22	1	11	0	0	5	4
14	Katihar	15	0.2	2.9	0.2	0.18	11	73	3	20	0	0	1	7	0	0	0	0	14	1
15	Khagaria	16	-	0.5	0.1	1.94	6	38	0	0	0	0	10	63	0	0	0	0	6	10
16	Kishanganj	7	-	7.1	0.1	1.09	4	57	0	0	1	14	2	29	0	0	0	0	5	2
17	Lakhisarai	7	0.6	2.5	-	0.4	4	57	1	14	0	0	2	29	0	0	0	0	5	2
18	Madhepura	15	0.1	0.2	0.1	0.38	11	73	0	0	0	0	4	27	0	0	0	0	11	4
19	Madhubani	20	-	1.4	-	1.97	6	30	0	0	0	0	14	70	0	0	0	0	6	14
20	Munger	7	1.9	1.9	1	3.61	1	14	0	0	0	0	4	57	2	29	0	0	1	6
21	Muzaffarpur	24	2.5	2.5	0.3	3.94	0	0	1	4	0	0	17	71	6	21	0	0	1	23
22	Nalanda	34	0.2	3	-	5.35	8	18	2	7	0	0	18	47	2	3	4	9	10	24
23	Nawada	15	0.6	2.2	0.2	4.17	3	20	1	7	0	0	7	40	3	20	1	7	4	11
24	W.Champaran	13	-	0.3	0.1	3.62	3	15	0	0	0	0	8	54	2	15	0	0	3	10
25	Patna	24	0.1	6.2	0.1	3.45	9	25	2	4	2	4	8	29	3	8	0	0	13	11
26	E. Champaran	29	-	2.6	0.1	4.97	5	14	1	3	0	0	20	66	1	3	2	7	6	23
27	Purnia	17	-	2	0.1	1.7	14	82	0	0	0	0	3	18	0	0	0	0	14	3
28	Rohtas	16	0.2	1.6	-	4.26	4	19	0	0	0	0	8	44	3	13	1	6	4	12
29	Saharsa	12	-	0.3	0.4	4.82	6	50	0	0	0	0	4	33	1	8	1	8	6	6
30	Samastipur	18	0.1	0.1	0.4	4.02	2	6	0	0	0	0	14	78	1	6	1	6	2	16
31	Saran	21	0.2	1.5	0.1	7.7	7	33	0	0	0	0	12	57	1	5	1	5	7	14
32	Seikhpura	7	-	-	0.2	3.03	0	0	0	0	0	0	4	57	3	43	0	0	0	7
33	Sheohar	1	0.4	0.4	-	-	1	100	0	0	0	0	0	0	0	0	0	0	1	0
34	Sitamarhi	15	0.1	0.9	0.1	5.01	4	27	0	0	0	0	10	67	0	0	1	7	4	11
35	Siwan	15	0.2	2.9	0.2	4.69	3	13	1	7	0	0	9	60	1	7	1	7	4	11
36	Supaul	22	-	0.6	0.1	6.49	8	36	0	0	0	0	12	55	1	5	1	5	8	14
37	Vaishali	15	-	2.1	0.2	4.8	3	20	1	7	0	0	9	53	1	7	1	7	4	11
	Total	584	0.1	7.1	0.1	11.2	193	30	23	3	11	1	290	48	44	7	23	4	227	357

3.3.2 August 2018 to August 2019

Water level fluctuation between August 2018 and August 2019 has been analysed for 587 HNS, which indicates that the rise of water level is in about 37% of the HNS and fall in about 63% of the HNS. Fall of water level within 2 m has been observed in major part of the state which covers major part of SBP and NBP constitute 54% of the total area. Fall of water level within the tune of 2-4 m observed in part of Siwan, Samastipur, Muzaffarpur, Jamui, Nalanda, Nawada, Sheikhpura, Munger and Jamui district and many other small patches in the state. Small part of Samastipur, Nalanda, Sheikhpura, Lakhisarai, Jamui, Banka and Nalanda district has shown water level fall >4m.

Part of NBP and SBP has shown rise in the tune of 0-2 m covered total 32% area. The rise of water level in the range of 2 to 4 m has been observed in very small part of the state covering very small parts of Gaya, Jehanabad, Kaimur, Siwan, and E Champaran districts. Only 9 wells has shown rise in water level more than 4 m. (Fig.12, Table 13).

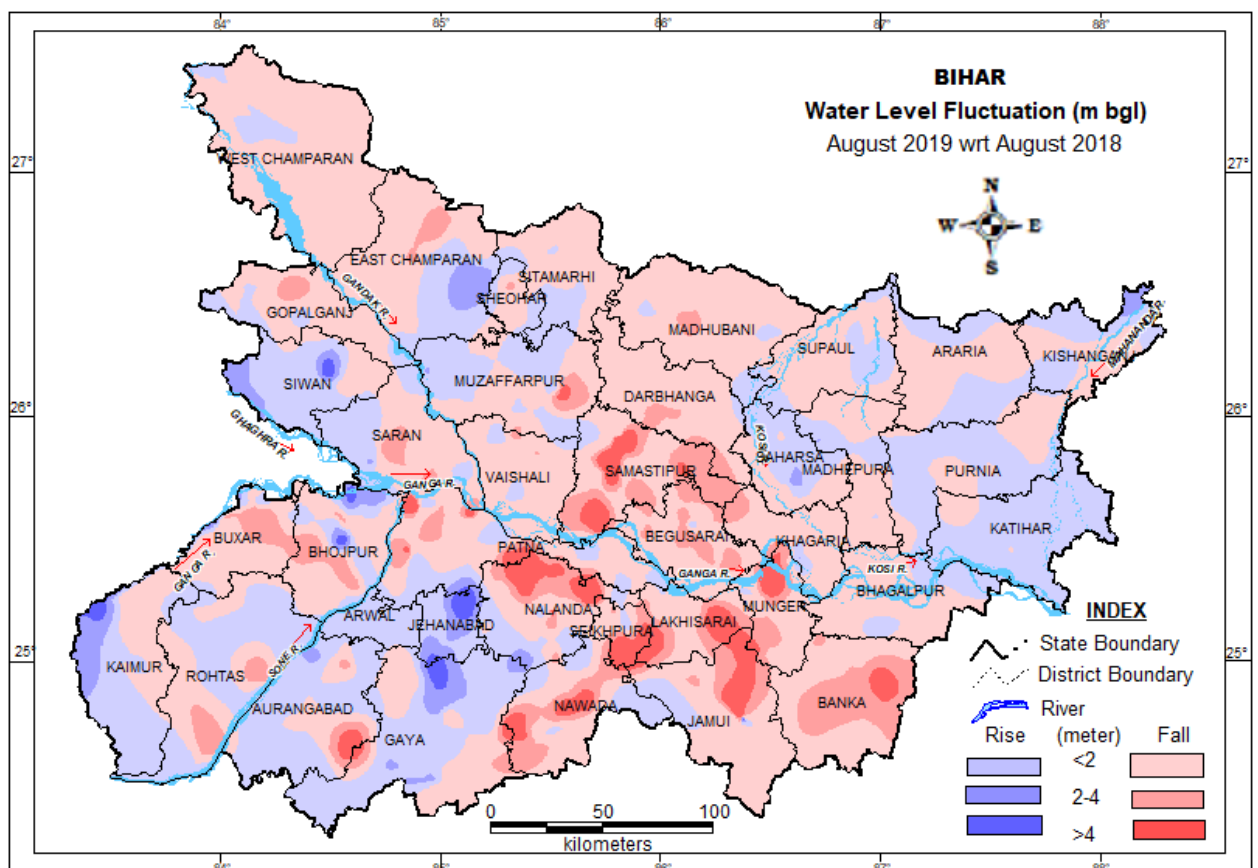


Fig. 12: Fluctuation in ground water level between Aug. 2018 and Aug. 2019

Table –13 District-wise categorization of frequency and fluctuation water levels of HNS of **Aug. 2019 w.r.t. Aug. 2018** for Bihar State

SN	District	No. of HNS	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	7	0.09	0.41	0.08	1.03	3	43	0	0	0	0	4	57	0	0	0	0	3	4
2	Aurangabad	16	0.04	2.4	0.04	5.78	9	50	1	6	0	0	4	25	1	6	1	6	9	6
3	Banka	11	0.37	0.37	0.5	6.93	1	9	0	0	0	0	3	27	6	55	1	9	1	10
4	Begusarai	34	0.09	1.17	0.35	3.86	2	6	0	0	0	0	23	68	9	26	0	0	2	32
5	Bhagalpur	4	0.6	0.6	0.22	1.7	1	25	0	0	0	0	3	75	0	0	0	0	1	3
6	Bhojpur	26	0.1	4.92	0.22	3.08	7	27	4	15	3	12	7	27	5	19	0	0	14	12
7	Buxar	15	0.64	4.24	0.14	2.95	2	13	4	27	1	7	5	33	3	20	0	0	7	8
8	Darbhanga	5	0.02	0.02	1.07	2.46	1	20	0	0	0	0	2	40	2	40	0	0	1	4
9	Gaya	19	0.4	5.3	0.31	1.87	8	42	4	21	1	5	6	32	0	0	0	0	13	6
10	Gopalganj	20	0.73	1.78	0.07	3.69	3	15	0	0	0	0	16	80	1	5	0	0	3	17
11	Jamui	14	0.22	7.47	0.07	7.3	1	7	0	0	1	7	7	50	2	14	3	21	2	12
12	Jehanabad	12	0.05	6.04	0.06	0.06	9	75	1	8	1	8	1	8	0	0	0	0	11	1
13	Kaimur	8	0.34	5.12	0.23	1.44	2	25	2	25	1	13	3	38	0	0	0	0	5	3
14	Katihar	15	0.06	1.58	0.03	0.71	12	80	0	0	0	0	3	20	0	0	0	0	12	3
15	Khagaria	18	0.72	2.1	0.02	1.63	3	17	1	6	0	0	14	78	0	0	0	0	4	14
16	Kishanganj	8	0.4	2.11	0.01	0.72	2	25	1	13	0	0	5	63	0	0	0	0	3	5
17	Lakhisarai	7	0.7	0.7	0.09	5.47	1	14	0	0	0	0	4	57	1	14	1	14	1	6
18	Madhepura	17	0.03	2.07	0.02	1.67	6	35	1	6	0	0	10	59	0	0	0	0	7	10
19	Madhubani	23	0.05	1.41	0.03	3.47	3	13	0	0	0	0	17	74	3	13	0	0	3	20
20	Munger	8	0.04	0.04	0.16	6.68	1	13	0	0	0	0	4	50	2	25	1	13	1	7
21	Muzaffarpur	22	0.08	2.07	0.01	4.83	13	59	1	5	0	0	7	32	0	0	1	5	14	8
22	Nalanda	30	0.21	3.82	0.08	5.56	8	27	1	3	0	0	14	47	5	17	2	7	9	21
23	Nawada	14	0.52	1.93	0.38	7.59	4	29	0	0	0	0	5	36	2	14	3	21	4	10
24	W. Champaran	13	0.02	0.18	0.09	0.85	3	23	0	0	0	0	10	77	0	0	0	0	3	10
25	Patna	27	0.33	1.44	0.08	8.01	8	26	0	0	0	0	13	48	2	7	4	15	7	19
26	E. Champaran	26	0.01	3.05	0.28	2.68	4	12	2	8	0	0	17	65	3	12	0	0	5	20
27	Purnia	17	0.01	1.96	0.23	1.01	14	82	0	0	0	0	3	18	0	0	0	0	14	3
28	Rohtas	17	0.21	1.12	0.17	3.42	12	71	0	0	0	0	3	18	2	12	0	0	12	5
29	Saharsa	15	0.04	3.09	0.05	0.23	10	67	1	7	0	0	4	27	0	0	0	0	11	4
30	Sheohar	18	-	-	0.31	7.25	0	0	0	0	0	0	14	78	2	11	2	11	0	18
31	Samastipur	27	0.16	2.27	0.3	3.54	10	37	1	4	0	0	14	52	2	7	0	0	11	16
32	Saran	7	0.51	1.11	0.17	2.69	2	29	0	0	0	0	4	57	1	14	0	0	2	5
33	Seikhpura	3	0.09	1.8	0.38	0.38	2	67	0	0	0	0	1	33	0	0	0	0	2	1
34	Sitamarhi	15	0.05	0.97	0.04	1.95	3	20	0	0	0	0	12	80	0	0	0	0	3	12
35	Siwan	14	0.03	5.53	0.2	1.16	7	50	3	21	1	7	3	21	0	0	0	0	11	3
36	Supaul	23	0.07	1.1	0.01	1.98	6	26	0	0	0	0	17	74	0	0	0	0	6	17
37	Vaishali	15	0.05	0.6	0.58	5.09	2	13	0	0	0	0	9	60	3	20	1	7	2	13
	Total	587	0.01	7.47	0.01	8.01	185	31	28	5	9	2	290	49	57	10	20	3	219	368

3.3.3 November 2018 to November 2019

Water level fluctuation between November 2018 and November 2019 has been analysed for 592 HNS, which indicates that there is a rise of water level in about 81% of the HNS and fall in only 19% of the HNS. The rise of water level of 0-2 m range shows in 59% NHS wells covering 61% area covers maximum parts SBP and NBP. The segment of 2 to 4m rise shown in small parts of E Champaran, Saran, Siwan, Vaishali, Darbhanga, Patna, Gaya, Banka, Jamui and Bbhalgalpur district and other small patch areas of the state. >4 m rise has been observed only in E & W Champaran Muzaffarpur, Vaishali, Patna, Saran, Aurangabad, Munger and Kaimur district.

Total 22% area of the State shows fall in water level. Parts of Araria, Sheohar, Supaul, E Champaran, Buxar, Bhojpur, Rohtas, Jamui, Nawada, Lakhisarai, and some other small parts of state is covered by the range of 0-2m rise in water level. Only 17 NHS wells covering very small parts of Kaimur, Rohtas, Nalanda, and Munger district has shown the fall of water level 2- 4 m. The range of > 4 m rise has been observed in only 4 wells located in Sitamarhi, Samastipur, Patna and Araria district. (Fig.13, Table 14).

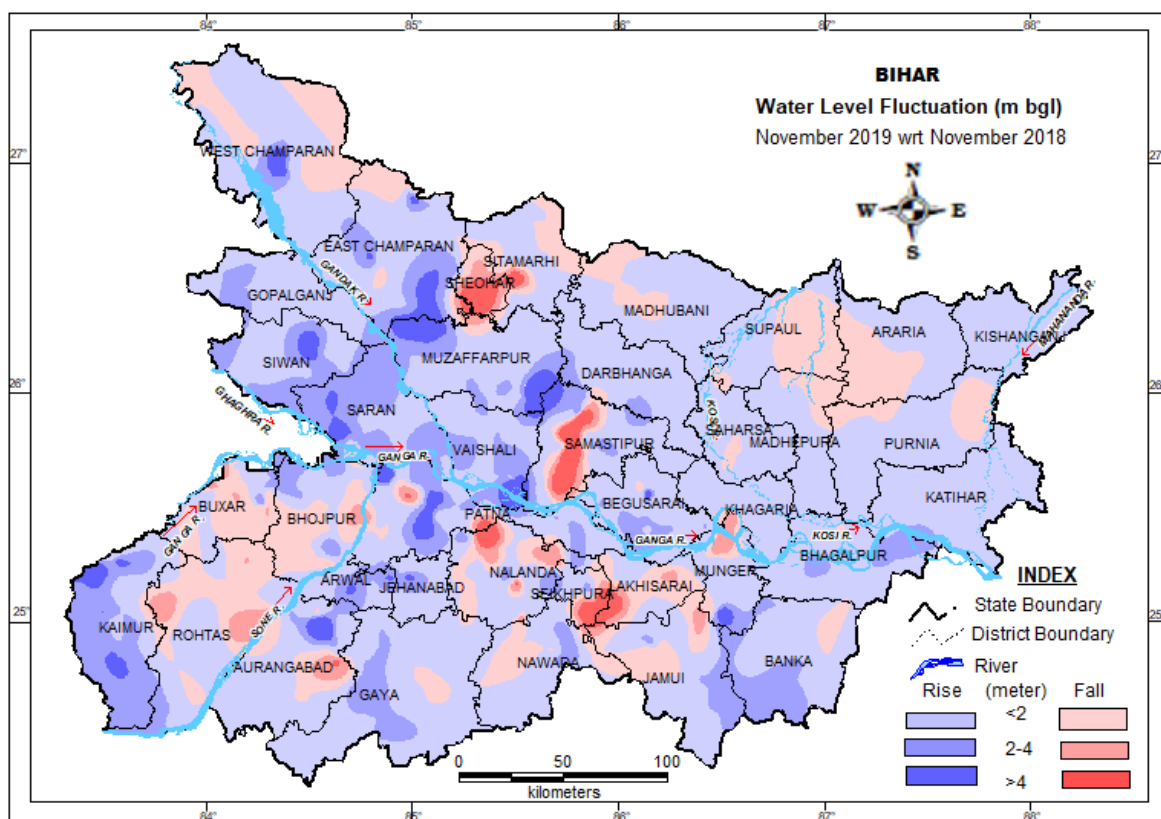


Fig. 13: Fluctuation in ground water level between Nov 2018 and Nov. 2019.

Table –14 District-wise categorization of frequency and fluctuation water levels of HNS of Nov. 2019 w.r.t. Nov. 2018 for Bihar State

SN	District	No. of HNS	Range of fluctuation (m)				No. of Wells / Percentage showing fluctuation												Total	
			Rise		Fall		Rise						Fall						Rise	Fall
			Min.	Max.	Min.	Max.	<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%		
1	Araria	6	0.4	0.9	0.1	0.8	3	50	0	0	0	0	3	50	0	0	0	0	3	3
2	Aurangabad	15	0.2	8.7	0.2	4.3	9	60	1	7	1	7	3	20	0	0	1	7	11	4
3	Banka	10	0.1	3.4	0.3	0.3	6	60	3	30	0	0	1	10	0	0	0	0	9	1
4	Begusarai	27	0.1	6.9	0.7	1	14	52	10	37	1	4	2	7	0	0	0	0	25	2
5	Bhagalpur	9	0.1	3.3	0.1	0.1	5	56	3	33	0	0	1	11	0	0	0	0	8	1
6	Bhojpur	34	0.1	3.5	0.1	3.6	16	47	5	15	0	0	11	32	2	6	0	0	21	13
7	Buxar	22	0.7	3.9	0.1	3.7	6	27	4	18	0	0	8	36	4	18	0	0	10	12
8	Darbhanga	7	0.4	2.6	-	-	5	71	2	29	0	0	0	0	0	0	0	0	7	0
9	Gaya	21	0.5	3.5	0.1	1.1	13	62	5	24	0	0	3	14	0	0	0	0	18	3
10	Gopalganj	20	0.6	3.9	-	-	17	85	3	15	0	0	0	0	0	0	0	0	20	0
11	Jamui	14	0.4	2.9	0.9	3.2	9	64	3	21	0	0	1	7	1	7	0	0	12	2
12	Jehanabad	16	0.5	4.3	-	-	11	69	2	13	3	19	0	0	0	0	0	0	16	0
13	Kaimur	10	1.1	6.5	0	0.6	1	10	3	30	4	40	2	20	0	0	0	0	8	2
14	Katihar	15	0.1	2.1	-	-	14	93	1	7	0	0	0	0	0	0	0	0	15	0
15	Khagaria	17	0	1.7	-	-	17	100	0	0	0	0	0	0	0	0	0	0	17	0
16	Kishanganj	8	0.3	0.8	-	-	8	100	0	0	0	0	0	0	0	0	0	0	8	0
17	Lakhisarai	8	0.2	1.7	0.2	3.1	3	38	0	0	0	0	4	50	1	13	0	0	3	5
18	Madhepura	15	0.1	1.8	0	0.5	13	87	0	0	0	0	2	13	0	0	0	0	13	2
19	Madhubani	19	0	1.4	0.2	1.1	15	79	0	0	0	0	4	21	0	0	0	0	15	4
20	Munger	10	0.2	5.3	2.7	3.6	6	60	1	10	1	10	0	0	2	20	0	0	8	2
21	Muzaffarpur	22	0.7	7.9	-	-	14	64	4	18	4	18	0	0	0	0	0	0	22	0
22	Nalanda	36	0.1	3.7	0.3	4.4	23	64	5	14	0	0	6	17	1	3	1	3	28	8
23	Nawada	14	0.1	3.7	0	2	7	50	2	14	0	0	4	29	1	7	0	0	9	5
24	W.Champaran	12	0.3	6.4	0	1.2	5	42	0	0	1	8	6	50	0	0	0	0	6	6
25	Patna	26	0.3	9.4	0.1	4.3	13	50	6	23	3	12	2	8	1	4	1	4	22	4
26	E.Champaran	25	0.1	4.6	0.2	0.9	17	64	1	4	3	12	4	16	0	0	0	0	21	4
27	Purnia	15	0.1	1.7	0.1	0.6	13	87	0	0	0	0	2	13	0	0	0	0	13	2
28	Rohtas	16	0.6	2	0.2	3.7	5	31	0	0	0	0	7	44	4	25	0	0	5	11
29	Saharsa	14	0.3	1.9	1.2	1.2	13	93	0	0	0	0	1	7	0	0	0	0	13	1
30	Samastipur	2	5.7	5.7	6.6	6.6	0	0	0	0	1	50	0	0	0	0	1	50	1	1
31	Saran	16	0.9	6	0.1	0.9	8	50	4	25	1	6	3	19	0	0	0	0	13	3
32	Seikhpura	24	0.4	5.6	-	-	5	21	17	71	2	8	0	0	0	0	0	0	24	0
33	Sheohar	6	0.1	2.5	-	-	5	83	1	17	0	0	0	0	0	0	0	0	6	0
34	Sitamarhi	16	0.1	1.5	0.4	6.8	13	81	0	0	0	0	2	13	0	0	1	6	13	3
35	Siwan	14	0.8	7.4	-	-	7	50	6	43	1	7	0	0	0	0	0	0	14	0
36	Supaul	18	0	3.4	0.1	0.5	4	17	2	11	0	0	12	67	0	0	0	0	6	12
37	Vaishali	15	0.8	8.1	-	-	8	53	5	33	2	13	0	0	0	0	0	0	15	0
	Total	592	0	0	0	0	351	59	99	17	27	5	94	16	17	3	4	1	477	115

3.3.4 January 2019 to January 2020

Water level fluctuation between January 2019 and January 2020 has been analysed for 604 HNS. The rise of water level ranged from 0.02 to 6.36 m has been observed in 488 wells (81%) whereas the fall in water level between 0.01 to 7.00 observed in 116 (19%) wells.

The rise to the tune of 0 to 2 m has been shown in 62% area of the State spread in almost entire State. The segment of 2 to 4 m rise has been observed in localised areas falls in Saran, Siwan, Vaishali, Samastipur, Banka, Jamui, Nawada, Kaimur and Rohtas district and many other small parts of the State. Only 19 wells in has shown water level rise more than 4m.

The fall in the range of 0 – 2 m and 2 – 4 m has been observed in 13% and 3% of total area of the state respectively. The fall ranged from 0 to 2 m is observed in part of E & W Champaran, Sheohar, Bhojpur, Rohtas, Aurangabad and Gaya district and some other small part as patches at many locations. The segment of 2 to 4 m fall has been calculated for only 20 wells covers the area as patches in part of Kaimur, Rohtas, Patna, E Champaran and Jamui district. Only 10 well located in E Champaran, Kaimur, Rohtas, Patna and Jmaui district have shown fall of water level more than 4 m. (Fig. 14, Table 15).

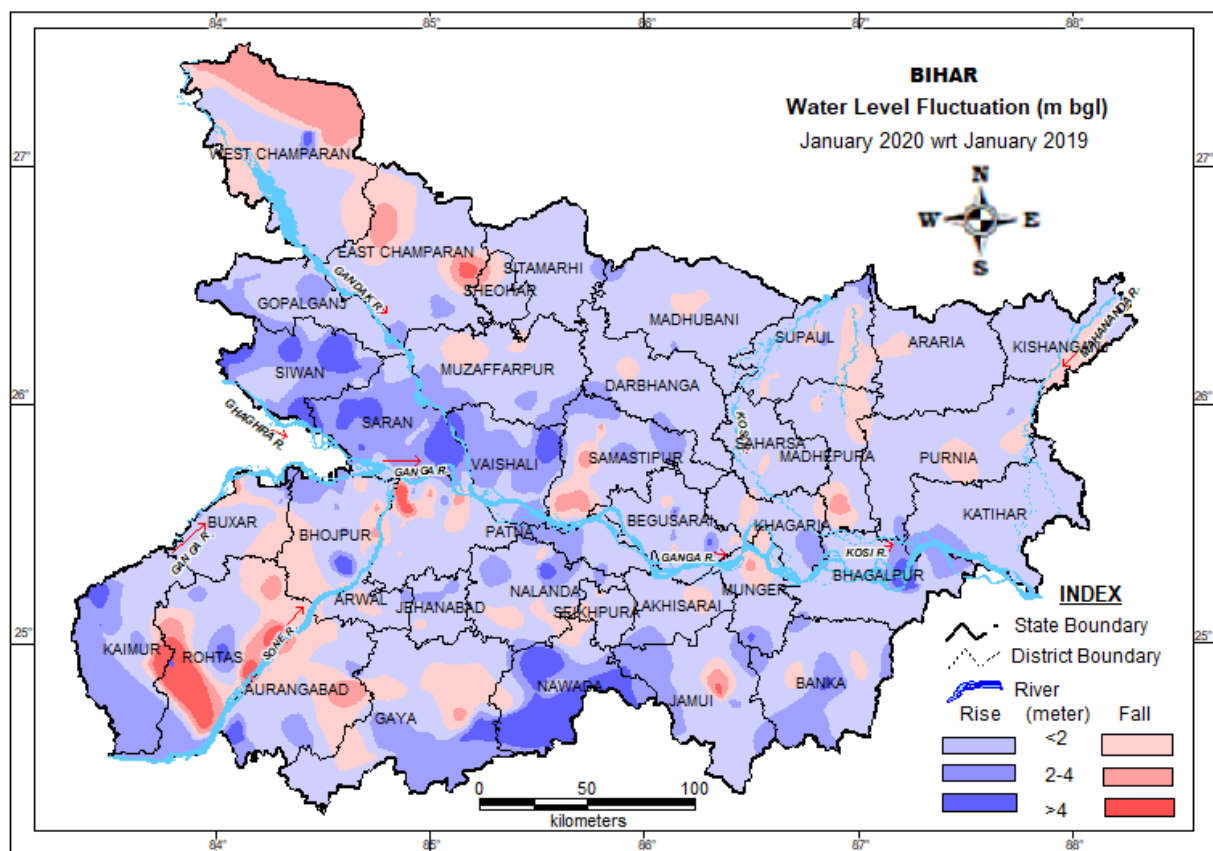


Fig. 14: Fluctuation in ground water level between Jan. 2020 and Jan. 2019.

Table – 15 District-wise categorization of fluctuation and their frequency of water levels of HNS of Jan 2020 w.r.t. Jan 2019 for Bihar State

SN	District	No. of HNS	Range of fluctuation (m)				No. of Wells / Percentage showing fluctuation												Total	
			Rise		Fall		Rise						Fall						Rise	Fall
			Min.	Max.	Min.	Max.	<2m	%	2-4m	%	>4m	%	<2m	%	2-4m	%	>4m	%		
1	Araria	6	0.13	1.38	0.21	0.21	5	83	0	0	0	0	1	17	0	0	0	0	5	1
2	Aurangabad	15	0.07	6.08	0.02	3.9	6	40	2	13	1	7	5	33	1	7	0	0	9	6
3	Banka	12	0.54	4.25	0.45	1.28	3	25	5	42	1	8	3	25	0	0	0	0	9	3
4	Begusarai	33	0.34	4.56	0.19	2.68	25	76	2	6	2	6	3	9	1	3	0	0	29	4
5	Bhagalpur	9	0.37	3.01	0.09	0.09	7	78	1	11	0	0	1	11	0	0	0	0	8	1
6	Bhojpur	34	0.39	6.36	0.05	5.73	15	44	6	18	1	3	10	29	1	3	1	3	22	12
7	Buxar	24	0.14	3.79	0.23	3.83	11	46	4	17	0	0	7	29	2	8	0	0	15	9
8	Darbhanga	8	0.63	2.3	0.19	0.19	6	75	1	13	0	0	1	13	0	0	0	0	7	1
9	Gaya	21	0.15	5.48	0.35	2.35	8	33	6	24	2	5	4	19	1	5	0	0	16	5
10	Gopalganj	20	0.18	2.83	0.35	0.35	15	75	4	20	0	0	1	5	0	0	0	0	19	1
11	Jamui	14	0.26	3.74	4.56	4.56	10	64	3	14	0	0	0	0	0	0	1	7	13	1
12	Jehanabad	16	0.04	2.58	0.14	1.14	11	69	3	19	0	0	2	13	0	0	0	0	14	2
13	Kaimur	8	0.17	5.01	-	-	4	50	2	25	2	25	0	0	0	0	0	0	8	0
14	Katihar	14	0.23	2.24	-	-	12	86	2	14	0	0	0	0	0	0	0	0	14	0
15	Khagaria	18	0.05	2.8	0.12	1.68	15	83	1	6	0	0	2	11	0	0	0	0	16	2
16	Kishanganj	7	0.44	1.34	0.16	0.16	5	71	0	0	0	0	2	29	0	0	0	0	5	2
17	Lakhisarai	8	0.03	1.5	0.93	1.02	6	75	0	0	0	0	2	25	0	0	0	0	6	2
18	Madhepura	17	0.05	1.13	0.05	3.1	14	82	0	0	0	0	2	12	1	6	0	0	14	3
19	Madhubani	21	0.04	3.09	0.07	1.18	16	76	2	10	0	0	3	14	0	0	0	0	18	3
20	Munger	8	0.38	4.14	0.94	2.18	5	63	0	0	1	13	1	13	1	13	0	0	6	2
21	Muzaffarpur	22	0.81	2.8	0.14	1.08	16	68	4	18	0	0	2	9	0	0	0	0	20	2
22	Nalanda	33	0.07	5.78	0.04	2.02	21	64	3	9	2	6	6	18	1	3	0	0	26	7
23	Nawada	6	0.48	4.12	0.64	1.2	3	50	0	0	1	17	2	33	0	0	0	0	4	2
24	W. Champaran	14	0.28	5.57	0.31	2.72	9	57	0	0	1	7	2	14	2	14	0	0	10	4
25	Patna	27	0.05	3.8	0.02	7	14	52	4	15	0	0	5	19	1	4	3	11	18	9
26	E. Champaran	24	0.03	2.39	2.7	3.69	19	79	3	13	0	0	0	0	2	8	0	0	22	2
27	Purnia	16	0.18	2.04	0.2	1.25	12	75	1	6	0	0	3	19	0	0	0	0	13	3
28	Rohtas	18	0.29	3.31	0.1	6.23	6	33	2	11	0	0	3	17	3	17	4	22	8	10
29	Saharsa	16	0.33	1.74	0.28	0.28	15	94	0	0	0	0	1	6	0	0	0	0	15	1
30	Samastipur	17	0.53	3.68	0.04	5.45	8	47	4	24	0	0	1	6	3	18	1	6	12	5
31	Saran	26	1.41	5.23	0.49	0.49	5	19	16	62	4	15	1	4	0	0	0	0	25	1
32	Seikhpura	7	0.03	0.75	0.71	0.82	5	71	0	0	0	0	2	29	0	0	0	0	5	2
33	Sheohar	2	0.58	1.88	-	-	2	100	0	0	0	0	0	0	0	0	0	0	2	0
34	Sitamarhi	14	0.33	1.97	-	-	14	100	0	0	0	0	0	0	0	0	0	0	14	0
35	Siwan	13	0.38	5.76	-	-	6	46	6	46	1	8	0	0	0	0	0	0	13	0
36	Supaul	21	0.02	2.24	0.01	0.98	11	52	2	10	0	0	8	38	0	0	0	0	13	8
37	Vaishali	15	0.38	3.92	-	-	9	60	6		0	0	0	0	0	0	0	0	15	0
	Total	604	0.02	6.36	0.01	7.00	374	61	95	15	19	3	86	14	20	3	10	2	488	116

3.4 DECADAL FLUCTUATION

3.4.1 Decadal Mean of May to May 2019

Fluctuation in water level of May 2019 with respect to decadal mean of May has been analysed for 634 HNS, which indicates fall in 68% and rise in the remaining 32% of the analysed HNS. The fall in the tune of 0 – 2 m is observed in the 57% of the HNS analysed, spatially covers the 77% area of the State and covers almost entire part of SBP and and maximum part of NBP. In only 47 HNS has shown fall in the tune of 2-4 m covering very small patches of Saran, Siwan, Gopalganj, Nawada, Rohts and Bhagalpur district. Only 24 wells located in Bhagalpur, Bhojpur, Buxar, Gopalganj, Jamui, Kaimur, etc district has recorded water level fall more than 4m.

20% area of the State has shown rise in water level less than 2 m whereas the segment of 2 – 4 m observed in only 3% of total NHS wells. The rise of water level more than 4m has been recorded in only 4 wells located in Aurangabad, Gaya, Lakhisarai and Begusarai district. (Fig. 15, Table 16).

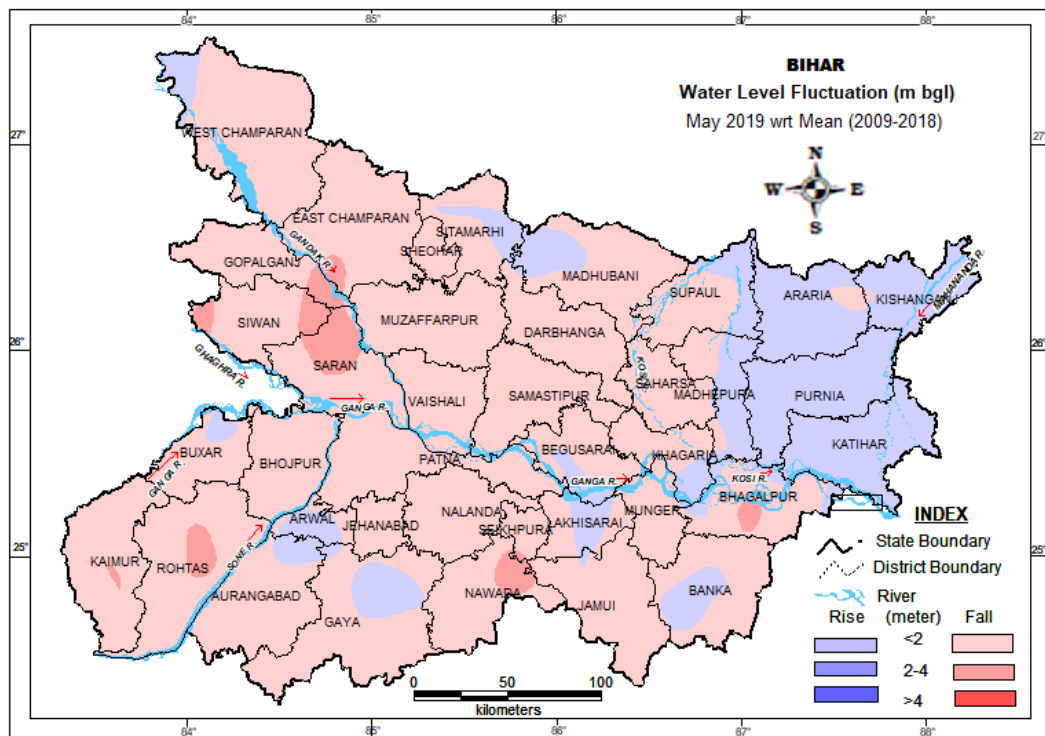


Fig. 15 Fluctuation in water level between May (mean) and May 2019.

Table – 16 District-wise categorization of fluctuation and their frequency of water levels of HNS of **May, 2019 w.r.t. May mean (2009-2018)** for Bihar State

SN	District	No. of HNS	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	8	0.39	1.83	0.37	0.64	5	63	0	0	0	0	3	38	0	0	0	0	5	3
2	Aurangabad	10	0.06	4.36	0.15	1.33	3	30	0	0	1	10	6	60	0	0	0	0	4	6
3	Banka	15	0.02	1.59	0.09	2.47	4	27	0	0	0	0	8	53	3	20	0	0	4	11
4	Begusarai	32	0.14	5.11	0.02	3.67	8	25	0	0	1	3	19	59	4	13	0	0	9	23
5	Bhagalpur	14	0.34	1.86	-	4.65	4	29	0	0	0	0	7	50	2	14	1	7	4	10
6	Bhojpur	36	0.05	1.69	0.01	4	8	22	0	0	0	0	23	64	4	11	1	3	8	28
7	Buxar	24	0.15	2.11	0.02	7.95	14	58	1	4	0	0	8	33	0	0	1	4	15	9
8	Darbhanga	8	0.52	0.52	0.07	3.25	1	13	0	0	0	0	6	75	1	13	0	0	1	7
9	Gaya	14	0.27	4.53	0.17	1.66	4	29	0	0	1	7	9	64	0	0	0	0	5	9
10	Gopalganj	18	0.17	0.17	0.14	11.65	1	6	0	0	0	0	16	89	0	0	1	6	1	17
11	Jamui	15	0.25	3.52	0.04	4.15	3	20	2	13	0	0	8	53	1	7	1	7	5	10
12	Jehanabad	9	0.06	2.15	0.07	3.84	2	22	1	11	0	0	3	33	3	33	0	0	3	6
13	Kaimur	10	1.69	2.1	0.56	4.25	1	10	1	10	0	0	6	60	1	10	1	10	2	8
14	Katihar	15	0.39	2.56	-	-	11	73	4	27	0	0	0	0	0	0	0	0	15	0
15	Khagaria	19	0.04	1.31	0.1	1.27	7	37	0	0	0	0	12	63	0	0	0	0	7	12
16	Kishanganj	8	0.46	3.18	0.95	0.95	6	75	1	13	0	0	1	13	0	0	0	0	7	1
17	Lakhisarai	8	0.24	4.5	0.29	1.93	4	50	1	13	1	13	2	25	0	0	0	0	6	2
18	Madhepura	17	0.01	0.85	0.03	0.55	10	59	0	0	0	0	7	41	0	0	0	0	10	7
19	Madhubani	24	0.08	2.06	0.01	1.49	9	38	1	4	0	0	14	58	0	0	0	0	10	14
20	Munger	9	0.41	2.11	0.83	3.45	1	11	1	11	0	0	5	56	2	22	0	0	2	7
21	Muzaffarpur	24	0.36	0.36	0.27	4.36	1	4	0	0	0	0	20	83	2	8	1	4	1	23
22	Nalanda	36	0.02	3.08	0.02	6.69	5	14	3	8	0	0	22	61	2	6	4	11	8	28
23	Nawada	15	0.09	2.16	0.36	3.62	2	13	1	7	0	0	7	47	5	33	0	0	3	12
24	W. Champaran	14	0.12	0.53	0.07	4.05	2	14	0	0	0	0	10	71	1	7	1	7	2	12
25	Patna	29	0.07	2.86	0.12	3.4	9	31	2	7	0	0	16	55	2	7	0	0	11	18
26	E. Champaran	29	0.11	1.91	0.08	4.95	4	14	0	0	0	0	22	76	1	3	2	7	4	25
27	Purnia	19	0.03	2.09	0.08	1.3	15	79	1	5	0	0	3	16	0	0	0	0	16	3
28	Rohtas	16	-	-	0.09	3.93	0	0	0	0	0	0	13	81	3	19	0	0	0	16
29	Saharsa	16	0.09	0.23	0.12	4.91	2	13	0	0	0	0	13	81	0	0	1	6	2	14
30	Samastipur	20	0.32	1.91	0.08	4.07	3	15	0	0	0	0	15	75	1	5	1	5	3	17
31	Saran	23	-	1.05	0.29	5.93	5	22	0	0	0	0	12	52	4	17	2	9	5	18
32	Seikhpura	7	-	-	0.36	2.64	0	0	0	0	0	0	4	57	3	43	0	0	0	7
33	Sheohar	4	0.28	0.28	0.99	4.88	1	25	0	0	0	0	1	25	1	25	1	25	1	3
34	Sitamarhi	15	0.25	1.38	0.04	5.01	8	53	0	0	0	0	6	40	0	0	1	7	8	7
35	Siwan	15	-	-	0.05	4.75	0	0	0	0	0	0	13	87	0	0	2	13	0	15
36	Supaul	23	0.12	0.84	-	6.03	9	39	0	0	0	0	13	57	0	0	1	4	9	14
37	Vaishali	16	0.06	1.62	0.16	4.15	4	25	0	0	0	0	10	63	1	6	1	6	4	12
	Total	634	0.01	5.1	0.01	11.7	176	28	20	3	4	1	363	57	47	7	24	4	200	434

3.4.2 Decadal Mean of August to August 2019

Fluctuation in water level of August 2019 with respect to decadal mean of August has been analysed for 615 HNS, which shows fall in water level in the 68% of HNS and rise in the remaining 32% of HNS. The fall in the range of 0 – 2 m has been observed in 49% of the HNS, spatially covers the major area (57%) of the state. The range of 2 to 4 m fall has been recorded in Siwan, Muzaffrapur, Patna, Nalanda, Jehanabad, Aurangabad, Nawada, Jamui, Gaya and Kaimur district and as small patches at some other locations. Only 13 wells shown fall more than 4m.

About 29 % area of the State has shown rise of water level in the range of 0 to 2m spread mainly in major parts of Sitamarhi, Madhubani, Araria, E & W Champaran, Araria, Purnia, Katihar, Kishanganj, Gaya, Jehanabad, Arwal, Aurangabad, Rohtas and Kaimur district and many other parts of state. The range of 2 – 4 m has been observed only in 26 wells. The rise of water level more than 4m has been recorded only in 3 well located in Buxar and Jamui. (Fig. 16, Table 17).

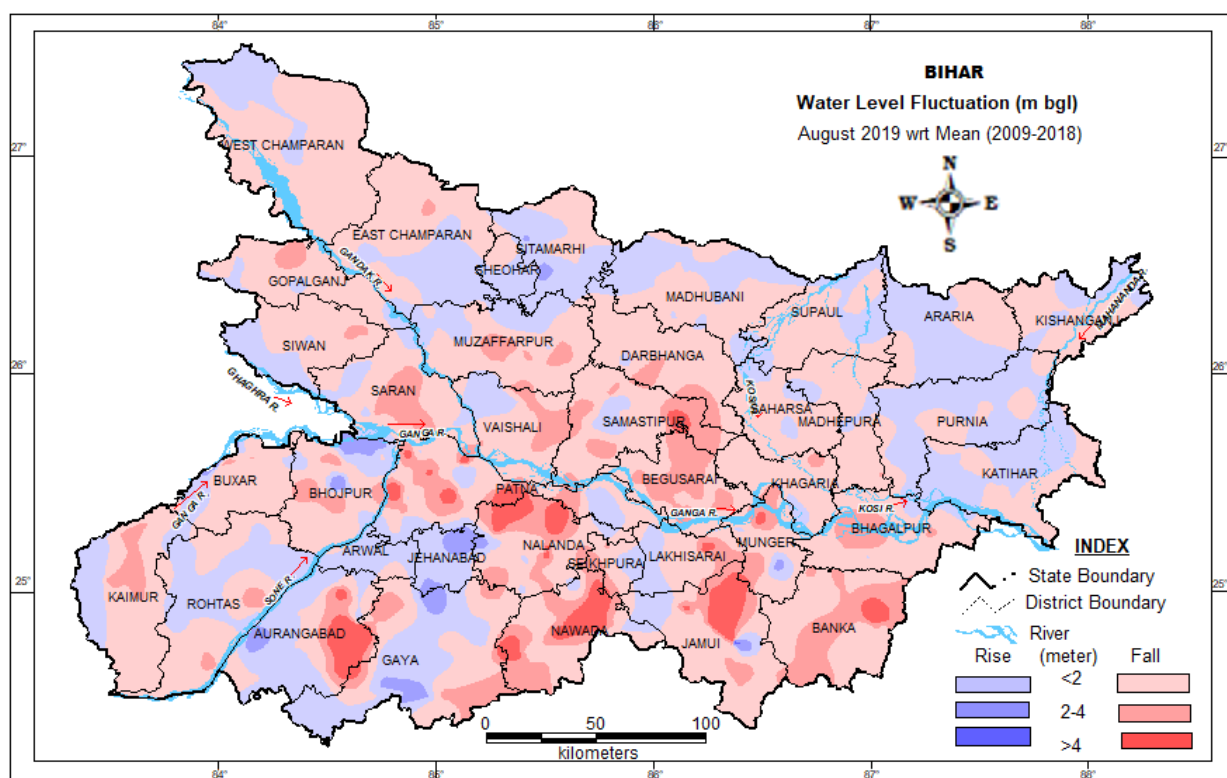


Fig. 16 Fluctuation in water level between Aug. (mean) and Aug. 2019

Table – 17 District-wise categorization of fluctuation and their frequency of water levels of HNS of **Aug. 2019** w.r.t. **Aug. mean (2009-2018)** for Bihar

SN	District	No. of HNS	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	8	0.1	0.41	0.05	0.92	5	63	0	0	0	0	3	38	0	0	0	0	5	3
2	Aurangabad	17	0.14	2.95	0.02	8.4	7	41	1	6	0	0	6	35	0	0	3	18	8	9
3	Banka	12	-	-	0.41	5.86	0	0	0	0	0	0	4	33	7	58	1	8	0	12
4	Begusarai	34	0.89	0.89	0.51	3.95	1	3	0	0	0	0	21	62	12	35	0	0	1	33
5	Bhagalpur	7	0.02	0.02	0.02	3.81	1	14	0	0	0	0	4	57	2	29	0	0	1	6
6	Bhojpur	27	0.13	3.99	0.27	3.56	4	15	10	37	0	0	10	37	3	11	0	0	14	13
7	Buxar	15	0.4	5.26	0.53	2.86	4	27	2	13	1	7	7	47	1	7	0	0	7	8
8	Darbhanga	7	3.02	3.02	0.75	2.7	0	0	1	14	0	0	4	57	2	29	0	0	1	6
9	Gaya	19	0.43	3.73	0.04	3.93	7	37	5	26	0	0	4	21	3	16	0	0	12	7
10	Gopalganj	20	0.5	0.84	0.06	3.25	2	10	0	0	0	0	17	85	1	5	0	0	2	18
11	Jamui	14	0.58	7.5	0.56	8.54	1	7	0	0	2	14	5	36	1	7	5	36	3	11
12	Arwal & Jehanabad	12	0.1	3.59	0.23	0.23	10	83	1	8	0	0	1	8	0	0	0	0	11	1
13	Kaimur	8	0.67	1.39	0.56	3.26	3	38	0	0	0	0	1	13	4	50	0	0	3	5
14	Katihar	15	0.04	1.32	0.35	0.97	11	73	0	0	0	0	4	27	0	0	0	0	11	4
15	Khagaria	19	0.09	0.62	0.28	2.33	2	11	0	0	0	0	16	84	1	5	0	0	2	17
16	Kishanganj	9	0.11	1.55	0.47	1.39	4	44	0	0	0	0	5	56	0	0	0	0	4	5
17	Lakhisarai	8	0.02	0.3	0.09	5.24	3	38	0	0	0	0	3	38	0	0	2	25	3	5
18	Madhepura	17	0.04	0.59	0.22	2.23	4	24	0	0	0	0	12	71	1	6	0	0	4	13
19	Madhubani	25	0.02	1.24	0.12	1.97	11	44	0	0	0	0	14	56	0	0	0	0	11	14
20	Munger	10	0.03	2.57	0.33	4.37	1	10	1	10	0	0	5	50	2	20	1	10	2	8
21	Muzaffarpur	23	0.09	1.69	0.15	3.61	8	35	0	0	0	0	12	52	3	13	0	0	8	15
22	Nalanda	33	0.36	2.48	0.13	6.82	2	6	2	6	0	0	15	45	8	24	6	18	4	29
23	Nawada	15	0.16	0.57	0.81	6.78	2	13	0	0	0	0	5	33	2	13	6	40	2	13
24	W Champaran	13	0.16	1.16	0.13	0.96	4	31	0	0	0	0	9	69	0	0	0	0	4	9
25	Patna	30	0.12	1.71	0.06	8.42	8	27	0	0	0	0	13	43	3	10	6	20	8	22
26	E Champaran	26	0.03	2.23	0.2	2.2	8	31	1	4	0	0	16	62	1	4	0	0	9	17
27	Purnia	19	0.15	1.39	0.14	1.01	14	74	0	0	0	0	5	26	0	0	0	0	14	5
28	Rohtas	17	0.06	1.01	-	3.13	8	47	0	0	0	0	7	41	2	12	0	0	8	9
29	Saharsa	15	0.5	0.85	0.08	0.94	2	13	0	0	0	0	13	87	0	0	0	0	2	13
30	Samastipur	19	1.91	1.95	0.05	4.44	2	11	0	0	0	0	11	58	5	26	1	5	2	17
31	Saran	27	0.02	1.02	0.17	2.89	6	22	0	0	0	0	14	52	7	26	0	0	6	21
32	Seikhpura	7	0.27	0.27	0.59	2.96	1	14	0	0	0	0	3	43	3	43	0	0	1	6
33	Sheohar	1	-	-	0.37	0.37	0	0	0	0	0	0	1	100	0	0	0	0	0	1
34	Sitamarhi	15	0.17	2.28	0.12	0.56	8	53	2	13	0	0	5	33	0	0	0	0	10	5
35	Siwan	14	0.02	0.83	0.06	2.22	6	43	0	0	0	0	6	43	2	14	0	0	6	8
36	Supaul	23	0.01	0.78	0.04	1.46	8	35	0	0	0	0	15	65	0	0	0	0	8	15
37	Vaishali	15	0.03	1.25	0.31	3.01	2	13	0	0	0	0	8	53	5	33	0	0	2	13
	Total	615	0.01	7.5	0.02	8.54	170	28	26	4	3	0	304	49	81	13	31	5	199	416

3.4.3 Decadal Mean of November to November 2019

Fluctuation in water level of November 2019 with respect to decadal mean of November has been analysed for 629 HNS, which shows Rise in water level ranged from 0.02 (Darbhanga district) to 6.58 (Patna district) m in 78% of the HNS and fall in the remaining 22 % of HNS. Maximum part (74% of total area) of the district shows water level rise in the range of 0 to 2m. Water level rise in the range of 2 – 4 m has been observed in 9% NHS which covers only 5% area of the state including very small part of E Champaran, Sitamarhi, Patna, Nalanda, Nawada, Jamui and Aurangabad district and some other patches. Rise >4m has been observed in only 2 NHS wells located in Patna and Aurangabad district.

The fall in the range of 0-2 and 2-4 m has been shown by 19% and 2% of HNS respectively. The fall of water level ranged from 0 to 2 m covers 19% area of the State covers the major and adjoining part of Rohtas, Nalanda, Jamui and Nawada districts and parts of Darbhanga, Supaul, Araria, Muzaffarpur, Begusarai, Lakhisarai, Sheikhpura and Bhojpur district and as patches at many locations. Fall within 2 to 4 m observed in very small parts of Sitamarhi, Patna, Aurangabad, and Nalanda district and many other small patches. Only 6 well has shown water level fall >4m. (Fig. 17, Table 18.)

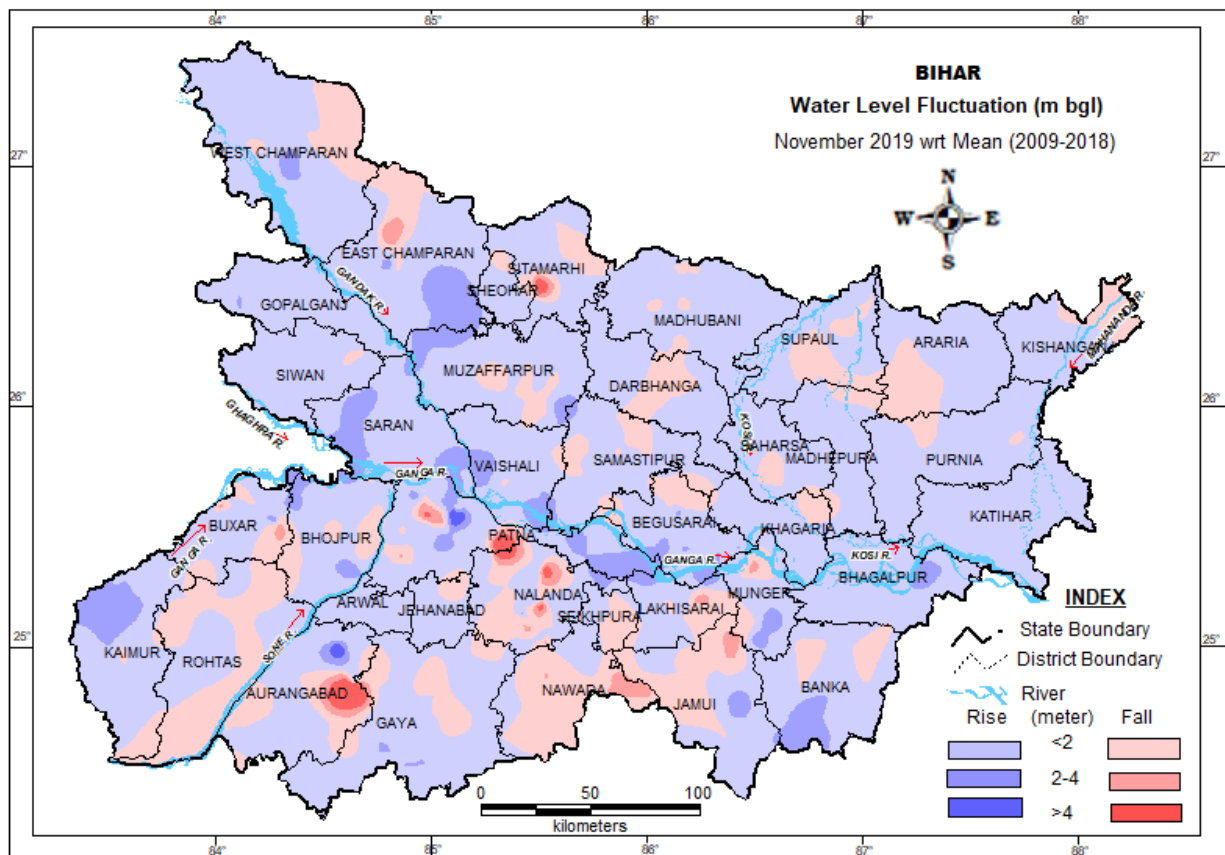


Fig. 17 Fluctuation in water level between Nov. (mean) and Nov. 2019

Table – 18 District-wise categorization of fluctuation and their frequency of water levels of HNS of Nov. 2019 w.r.t. Nov. mean (2009-2018) for Bihar State

SN	District	No. of HNS	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	8	0.04	0.75	0.09	0.32	5	63	0	0	0	0	3	38	0	0	0	0	5	3
2	Aurangabad	16	0.11	5.04	0.82	7.85	12	75	0	0	1	6	2	13	0	0	1	6	13	3
3	Banka	11	0.06	2.48	0.02	0.96	6	55	2	18	0	0	3	27	0	0	0	0	8	3
4	Begusarai	32	0.1	2.71	0.05	0.86	22	69	5	16	0	0	5	16	0	0	0	0	27	5
5	Bhagalpur	11	0.14	3.3	-	-	10	91	1	9	0	0	0	0	0	0	0	0	11	0
6	Bhojpur	34	0.02	3.36	0.58	2.04	26	76	3	9	0	0	4	12	1	3	0	0	29	5
7	Buxar	22	0.03	2.9	0.03	3.24	14	64	3	14	0	0	3	14	2	9	0	0	17	5
8	Darbhanga	9	0.02	3.82	0.07	1.12	4	44	1	11	0	0	4	44	0	0	0	0	5	4
9	Gaya	21	0.25	2.2	0.17	1.98	14	67	2	10	0	0	5	24	0	0	0	0	16	5
10	Gopalganj	20	0.44	2.06	-	-	19	95	1	5	0	0	0	0	0	0	0	0	20	0
11	Jamui	14	0.77	3.52	0.07	2.91	7	50	1	7	0	0	5	36	1	7	0	0	8	6
12	Arwal & Jehanabad	16	0.57	1.94	1.25	1.25	15	94	0	0	0	0	1	6	0	0	0	0	15	1
13	Kaimur	11	0.7	2.9	0.61	0.61	4	36	6	55	0	0	1	9	0	0	0	0	10	1
14	Katihar	15	0.18	1.38	-	-	15	100	0	0	0	0	0	0	0	0	0	0	15	0
15	Khagaria	19	0.45	1.96	0.62	0.62	18	95	0	0	0	0	1	5	0	0	0	0	18	1
16	Kishanganj	9	0.16	0.79	0.03	0.54	7	78	0	0	0	0	2	22	0	0	0	0	7	2
17	Lakhisarai	8	0.04	3.06	0.57	2.97	4	50	1	13	0	0	2	25	1	13	0	0	5	3
18	Madhepura	15	0.07	1.2	-	-	15	100	0	0	0	0	0	0	0	0	0	0	15	0
19	Madhubani	23	0.14	1.31	0.09	0.43	18	78	0	0	0	0	5	22	0	0	0	0	18	5
20	Munger	10	0.38	3.47	0.07	2.37	6	60	2	20	0	0	1	10	1	10	0	0	8	2
21	Muzaffarpur	22	0.25	2.45	0.02	1.39	12	55	4	18	0	0	6	27	0	0	0	0	16	6
22	Nalanda	38	-	2.92	0.05	4.9	19	50	3	8	0	0	11	29	3	8	2	5	22	16
23	Nawada	14	0.31	0.77	0.05	2.54	4	29	0	0	0	0	8	57	2	14	0	0	4	10
24	W Champaran	12	0.1	3.07	0.03	0.35	9	75	1	8	0	0	2	17	0	0	0	0	10	2
25	Patna	30	0.3	6.58	0.06	6.81	17	57	5	17	1	3	3	10	2	7	2	7	23	7
26	E Champaran	25	0.24	3.97	0.22	3.3	17	68	2	8	0	0	5	20	1	4	0	0	19	6
27	Purnia	17	0.05	1.48	0.13	0.18	15	88	0	0	0	0	2	12	0	0	0	0	15	2
28	Rohtas	16	0.04	1.03	0.01	1.21	6	38	0	0	0	0	10	63	0	0	0	0	6	10
29	Saharsa	14	0.12	0.82	0.13	0.62	12	86	0	0	0	0	2	14	0	0	0	0	12	2
30	Samastipur	17	0.14	2	0.11	0.98	12	71	0	0	0	0	5	29	0	0	0	0	12	5
31	Saran	26	0.14	3.99	-	-	15	58	11	42	0	0	0	0	0	0	0	0	26	0
32	Seikhpura	6	0.66	1.74	0.59	1.03	3	50	0	0	0	0	3	50	0	0	0	0	3	3
33	Sheohar	1	-	-	0.13	0.13	0	0	0	0	0	0	1	100	0	0	0	0	0	1
34	Sitamarhi	16	0.03	1.04	0.86	6.42	14	88	0	0	0	0	1	6	0	0	1	6	14	2
35	Siwan	15	0.49	1.86	0.07	0.14	13	87	0	0	0	0	2	13	0	0	0	0	13	2
36	Supaul	21	0.04	1.37	0.05	0.84	13	62	0	0	0	0	8	38	0	0	0	0	13	8
37	Vaishali	15	0.06	3.23	0.09	0.09	10	67	4	27	0	0	1	7	0	0	0	0	14	1
	Total	629	0.02	6.58	0.01	7.85	432	69	58	9	2	0	117	19	14	2	6	1	492	137

3.4.4 Decadal Mean of January to January 2020

Fluctuation in water level of January 2020 with respect to decadal mean of January has been analysed for 657 HNS. In 71% of the HNS, rise in water level is recorded and remaining 29% HNS fall in water level has been observed. The rise in the range of 0 – 2 m has been spread in 65% area covered almost entire part of the state except major part of E & W Champaran, Muzaffarpur, Darbhanga, Patna, Nalanda, Nawada, Gaya, Aurangabad, Rohtas and Banka district. The segment of 2-4m rise has been observed as patches in Saran, Vaishali, Nalanda, Patna, Rohtas and Kaimur district and some other places as small patches. Only 1% wells have shown rise of water level >4m.

About 26% area of the State has shown fall in the tune of 0 to 2 m including major part of E & W Champaran, Muzaffarpur, Darbhanga, Patna, Nalanda, Nawada, Gaya, Aurangabad, Rohtas and Banka district and some localised part of the state. The segment of 2 to 4 m fall has been observed as very small patches in Samastipur, E & W Champaran, Jamui, Nawada, Patna, Gaya, Aurangabad, Rohtas, and Kaimur district. Only 10 wells has shown fall of water level more than 4 m covering very small parts of Aurangabad, Rohtas, Kaimur, Patna, Bhojpur and Gaya district. (Fig. 18, Table 19).

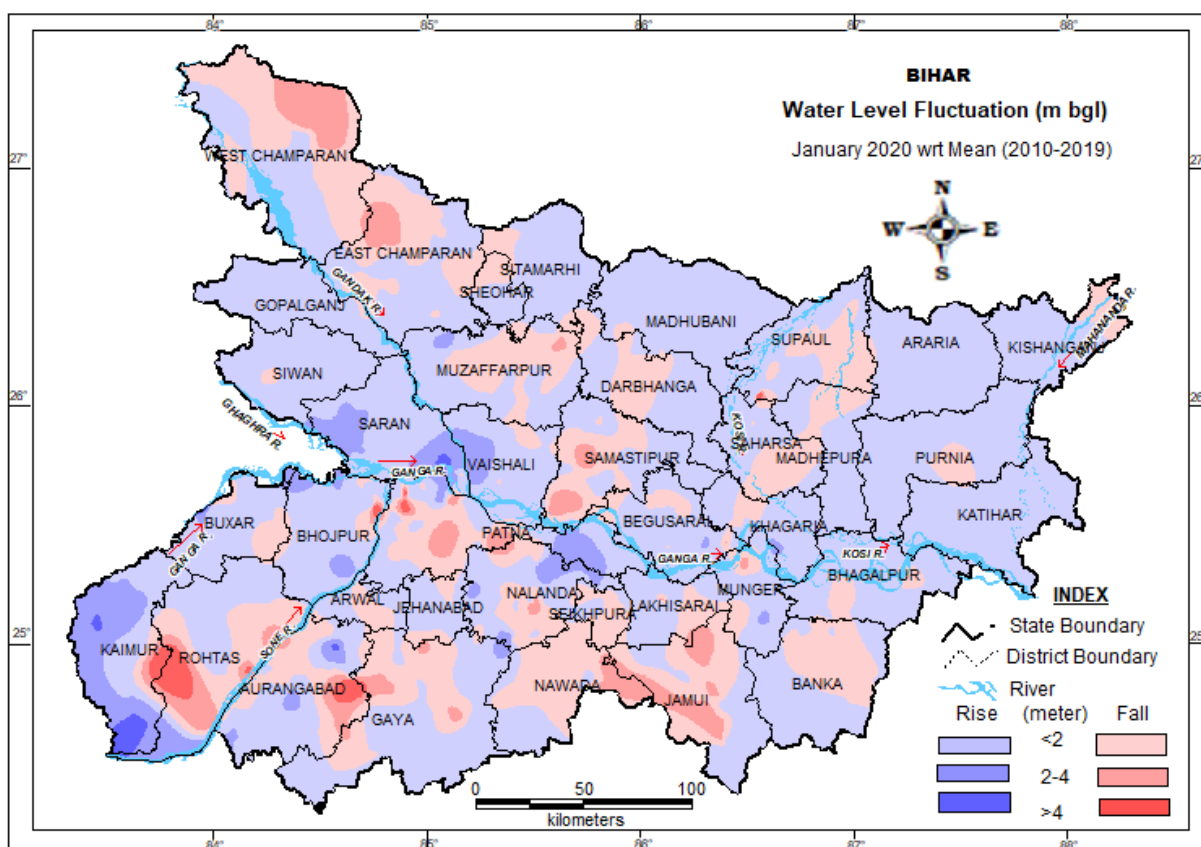


Fig. 18 Fluctuation in water level between Jan. (mean) and Jan. 2020

Table – 19 District-wise categorization of fluctuation and their frequency of water levels of HNS of Jan. 2020 w.r.t. Jan. mean (2010-2019) for Bihar State

SN	District	No. of HNS	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	7	0.19	1.08	-	-	7	100	0	0	0	0	0	0	0	0	0	0	7	0
2	Aurangabad	16	0.22	4.38	0.12	6.22	6	38	2	13	1	6	5	31	1	6	1	6	9	7
3	Banka	14	0.03	1.14	0.05	1.36	7	50	0	0	0	0	7	50	0	0	0	0	7	7
4	Begusarai	35	0.04	2.41	0.1	2.46	26	74	2	6	0	0	6	17	1	3	0	0	28	7
5	Bhagalpur	14	0.02	1.51	1.02	1.43	12	86	0	0	0	0	2	14	0	0	0	0	12	2
6	Bhojpur	35	0.22	4.01	0.12	6.83	24	69	3	9	1	3	5	14	1	3	1	3	28	7
7	Buxar	24	0.23	5.63	0.19	1.49	15	63	2	8	1	4	6	25	0	0	0	0	18	6
8	Darbhanga	9	0.35	0.95	0.02	1.06	4	44	0	0	0	0	5	56	0	0	0	0	4	5
9	Gaya	21	0.12	1.94	0.05	2.46	14	62	0	0	0	0	4	19	3	14	0	0	14	7
10	Gopalganj	20	0.13	1.88	-	-	20	100	0	0	0	0	0	0	0	0	0	0	20	0
11	Jamui	16	0.16	1.89	0.01	3.95	7	44	0	0	0	0	6	38	3	19	0	0	7	9
12	Jehanabad	17	0.13	1.59	0.07	1.75	13	76	0	0	0	0	4	24	0	0	0	0	13	4
13	Kaimur	12	0.76	4.29	-	-	5	42	5	42	2	17	0	0	0	0	0	0	12	0
14	Katihar	15	0.05	1.69	-	-	15	100	0	0	0	0	0	0	0	0	0	0	15	0
15	Khagaria	18	0.06	2.68	0.11	1.61	13	72	1	6	0	0	4	22	0	0	0	0	14	4
16	Kishanganj	8	0.03	0.72	0.18	0.18	7	88	0	0	0	0	1	13	0	0	0	0	7	1
17	Lakhisarai	9	0.18	1.94	0.63	3.08	6	67	0	0	0	0	2	22	1	11	0	0	6	3
18	Madhepura	17	0.07	0.87	0.02	3.19	12	71	0	0	0	0	4	24	1	6	0	0	12	5
19	Madhubani	23	0.03	1.5	0.7	0.7	22	96	0	0	0	0	1	4	0	0	0	0	22	1
20	Munger	10	0.38	2.49	0.3	2.38	7	70	1	10	0	0	1	10	1	10	0	0	8	2
21	Muzaffarpur	25	0.32	2.54	0.16	2.98	15	60	1	4	0	0	8	32	1	4	0	0	16	9
22	Nalanda	36	0.04	3.67	0.12	3.43	15	42	4	11	0	0	16	44	1	3	0	0	19	17
23	Nawada	10	0.04	0.52	0.18	3.32	2	20	0	0	0	0	7	70	1	10	0	0	2	8
24	W. Champaran	14	0.03	1.57	0.25	2.94	9	64	0	0	0	0	4	29	1	7	0	0	9	5
25	Patna	29	0.14	4.07	0.38	7.04	12	41	3	10	1	3	8	28	1	3	4	14	16	13
26	E. Champaran	30	0.11	1.28	0.04	3.88	18	60	0	0	0	0	10	33	2	7	0	0	18	12
27	Purnia	18	-	1.65	0.36	0.97	16	89	0	0	0	0	2	11	0	0	0	0	16	2
28	Rohtas	18	0.31	2.62	0.12	6.57	8	44	1	6	0	0	5	28	2	11	2	11	9	9
29	Saharsa	17	0.07	0.77	-	1.52	10	59	0	0	0	0	7	41	0	0	0	0	10	7
30	Samastipur	17	0.08	1.43	0.01	4.01	8	47	0	0	0	0	6	35	2	12	1	6	8	9
31	Saran	27	0.73	4.35	0.02	0.51	14	52	10	37	1	4	2	7	0	0	0	0	25	2
32	Seikhpura	7	0.28	0.64	0.42	1.62	2	29	0	0	0	0	5	71	0	0	0	0	2	5
33	Sheohar	3	0.69	0.89	1.32	1.32	2	67	0	0	0	0	1	33	0	0	0	0	2	1
34	Sitamarhi	14	0.07	1.22	0.21	0.21	13	86	0	0	0	0	1	7	0	0	0	0	13	1
35	Siwan	15	0.41	1.88	-	0.17	12	80	0	0	0	0	3	20	0	0	0	0	12	3
36	Supaul	22	0.01	0.93	0.16	5.86	14	64	0	0	0	0	7	32	0	0	1	5	14	8
37	Vaishali	15	0.04	3.92	0.06	0.21	10	67	2	13	0	0	3	20	0	0	0	0	12	3
	Total	657	0.01	5.63	0.01	7.04	422	64	37	6	7	1	158	24	23	4	10	2	466	191

4. HYDROCHEMISTRY

In order to assess the chemical quality of ground water of phreatic aquifers of Bihar 671 ground water samples have been collected during May 2018 and analysed for 15 major parameters viz. EC, pH, HCO₃, CO₃, Cl, F, NO₃, PO₄, SO₄, TH, Ca, Mg, K, Na, SiO₂. The results of the completed chemical analysis of the ground water samples are given in Annexure-II. A perusal of the Annexure-II indicates that the water is by and large suitable for domestic and drinking purposes. The pH of ground water mostly lies between 7 and 8. Majority of the ground water samples are mildly alkaline in nature.

The minimum, maximum and average value of parameter is given in table below:

Table – 20 Minimum, Maximum and Average value of Chemical Parameter

	pH	EC	TH	Ca	Mg	Na	K	CO ₃	HCO ₃	Cl	SO ₄	NO ₃	F	TDS
Minimum	6.76	100	15	4	1	0	0	0	43	0	0	0	0	60
Maximum	8.7	3910.0	1039.1	614.4	755.0	536.0	258.0	24.0	873.0	577.0	459.0	241.0	4.0	2542.0
Average	7.9	734.7	236.2	62.1	28.5	51.9	8.4	0.2	285.4	53.3	34.5	28.5	0.4	466.2

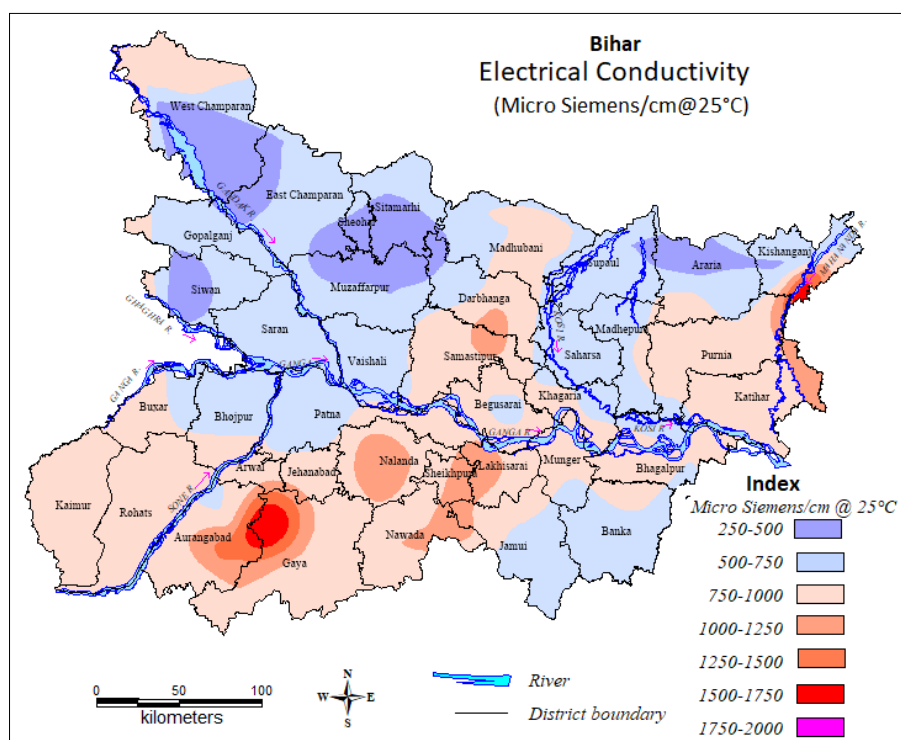


Fig. 19 Map of Electrical Conductivity (In Micro Siemens/cm@25°C)

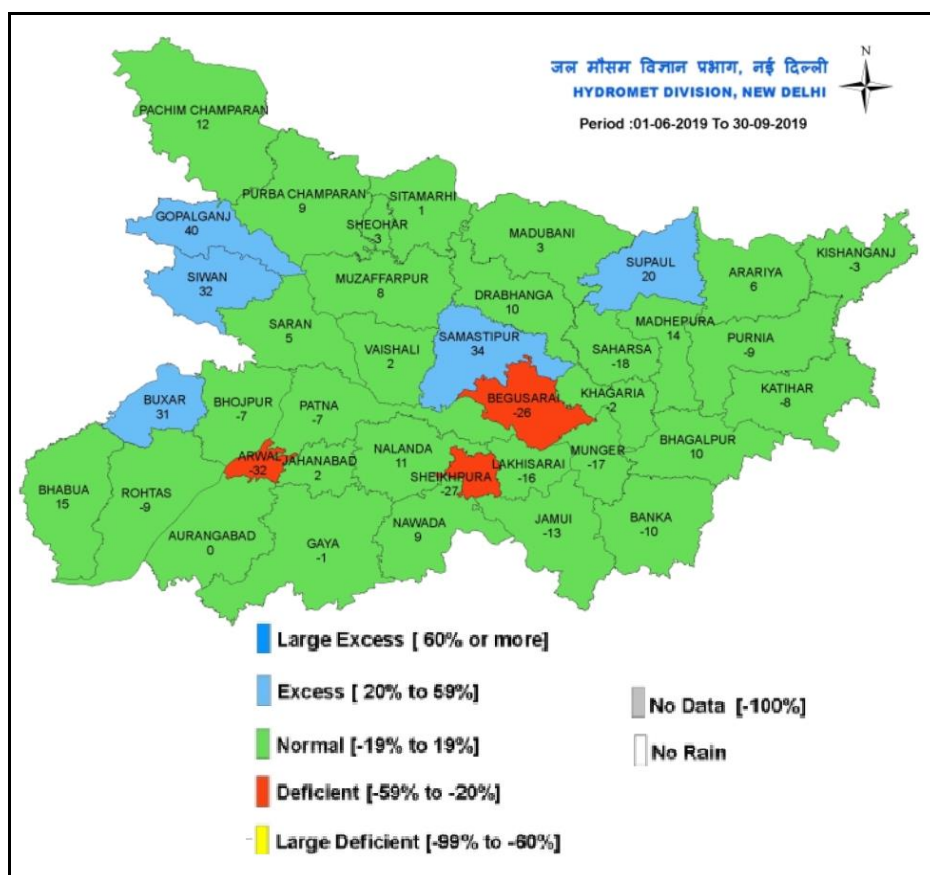
Major part of the district has shown electrical conductivity (EC) value within 1000 μ s. In neighbouring area of Kosi and Gandak River, northern part of Bhojpur and Buxar district, western part of Patna district and southern part of Jamui and Banka district EC value is below 750. There are some localised areas where EC value is more than 1250 may be due to some anthropogenic activities.

5. RAINFALL DATA ANALYSIS

The state with 38 districts had 1050.4 mm rainfall, 3% above normal. Five districts were in Excess rain category: Gopalganj (1367.5 mm, 40% above normal, highest surplus %, situated just south of Pschim Champaran), Supaul (1313.2 mm, 20%), Samastipur (1304.6 mm, 34%), Siwan (1273.3 mm, 32%), Buxar (1084.2 mm, 31%). Three districts had Deficit rainfall: Arwal (511.6 mm, 32% below normal, the lowest rainfall of the state), Sheikhpura (617.8 mm, 27% below normal) and Begusaria (769.1 mm, 26% below normal). Eighteen districts had over 1000 mm rainfall, with Kishanganj (1738.2 mm, 3% below normal) occupying the NE corner of the state recording the highest rainfall, followed by Paschim Champaran (1434.1 mm, 12% above normal, situated at NW corder of the state) and Arariya (1414.5 mm, 6% above normal, just west of Gopalganj).

Source: <https://sandrp.in/2019/10/04/monsoon-2019-state-wise-rainfall/>

June			July			August			September			SW Monsoon		
Actual	Normal	%Dep	Actual	Normal	%Dep	Actual	Normal	%Dep	Actual	Normal	%Dep	Actual	Normal	%Dep
98.7	167.7	-41%	418.5	349	20%	140.4	285.2	-51%	392.7	215.3	82%	1050.4	1017.2	3%



Source: <https://sandrp.in/2019/10/04/monsoon-2019-state-wise-rainfall/>

6. TREND ANALYSIS DURING PRE AND POST MONSOON

Trend of the ground water level for the last ten year (2009-2018) have been analyzed. District wise percentage of well showing rise, fall and no significant trend during Pre- Monsoon and Post Monsoon season has been prepared and given in the Annexure – III. From long term water level trend data it has been observed that more than 50% NHS wells have shown falling trend in 26 districts in premonsoon period and 13 districts in Postmonsoon period.

Depth to Water level (m bgl) in various seasons

STATE : BIHAR

District	Site Name	2019			2020
		May	Aug	Nov	Jan
Araria	Araria	4.07	2.4	3.36	3.14
Araria	Bhargama	2.64	1.64	2.56	-
Araria	Bathnaha 1	3.33	2.24	2.4	3.41
Araria	Haripur	2.67	1.48	1.92	2.46
Araria	Matiyari	4.62	2.07	2.05	2.62
Araria	Jokihat 1	3.3	1.46	1.8	2.44
Araria	Palasi	3.21	2.47	1.92	2.34
Araria	Raniganj	2.26	1.32	2.73	3.12
Aurangabad	Aurangabad	7.5	1.3	0.84	1.16
Aurangabad	Pandrawan	-	0.27	1.03	5.31
Aurangabad	Barun	8.88	7.8	8.2	8.86
Aurangabad	Narari Kala	11	0.47	9.66	10.32
Aurangabad	Daudnagar	5.92	1.62	2.9	4.68
Aurangabad	Deo 1	5.65	3.53	2.03	3.25
Aurangabad	Deohara_goh	5.44	11.14	1.37	3.16
Aurangabad	Dhobi Tola_Goh	5.74	2.21	2.36	3.88
Aurangabad	Etwan	3.58	1.02	2.08	2.73
Aurangabad	Madanpur	-	7.5	3.52	5.28
Aurangabad	Pataya	-	0.27	1.81	2.14
Aurangabad	Dhanibar	-	4.43	-	-
Aurangabad	Mahauli	6.84	3.3	2.97	3.97
Aurangabad	Nabinagar dbib	-	0.6	0.13	0.32
Aurangabad	Obra	-	3.74	4.28	5.67
Aurangabad	Rafiganj	-	14	14	14
Aurangabad	Tineri Morh	7.48	0.8	2.2	3.43
Banka	Amarpur ps	5.1	5.43	-	3.18
Banka	English More	3.42	1.8	2.02	1.72
Banka	Rampur	3.56	3.8	2.5	2.8
Banka	Banka ps	4.35	3.4	1	-
Banka	Barahat	5.19	8.3	3.3	4.87
Banka	Baunsi	8.72	4.95	3.15	4.82
Banka	Bausi pwdib	11.18	4.95	-	0
Banka	Tinmurty	7.07	-	1.78	2.77
Banka	Chandan	5.3	5.57	2.6	3.95
Banka	Panjwara	6.55	6.95	-	4.6
Banka	Katoria	8.16	5.56	2.25	5.3
Banka	Rajaun ps	10.93	-	-	6.5
Banka	Fulidumer	4.39	-	-	3.9
Banka	Kharharia	-	-	2.65	4.25

Banka	Mirjapur	6.25	2.4	2.2	3.67
Banka	Sambhuganj	6.92	4.7	1.4	3.65
Begusarai	Baraun mile	2.1	-	-	4.85
Begusarai	Kumharson	8.35	5.54	4.68	4.92
Begusarai	Naya Nagar Dularpur	6.8	4.4	1.82	3.38
Begusarai	Teghra	8.68	5.11	4.91	6.83
Begusarai	Bagrash	-	6.54	4.95	6.08
Begusarai	Bakhari_salauna	6.84	6.36	4.51	5.04
Begusarai	Manjaul	8.86	2.93	2.4	4.8
Begusarai	Peernagar	7.93	7.35	5.5	6.12
Begusarai	Simri	7.19	6.97	5.37	5.54
Begusarai	Badi Balia	8.43	7.9	4.5	6.2
Begusarai	Bariarpur	6.94	6.17	2.76	4.88
Begusarai	Chhoti Balia	10.5	10.5	3.4	5.34
Begusarai	Laxminia	7.64	7.07	3.3	5.31
Begusarai	Parihara	10	4.53	4.15	5.26
Begusarai	Rahatpur	7.23	5.84	2.85	5.09
Begusarai	Begusarai	7.29	5.82	2.44	4.22
Begusarai	Harpur	6.46	5.22	1.47	3
Begusarai	Barieghu	8.53	5.67	3.72	5.82
Begusarai	Begusarai fc_ib	6.4	4.52	1.78	4.18
Begusarai	Gopalpur	7.35	5.85	3.91	5.2
Begusarai	Haridia	6.49	5.02	2.35	2.94
Begusarai	Kaithma	7.88	7.74	5.15	5.33
Begusarai	Lakho	6.68	4.68	1.98	4.12
Begusarai	Matihani	8.5	3.23	4.41	6.08
Begusarai	Mohanpur Usrai	-	6.7	5	4.61
Begusarai	Pokharia	6.82	5.5	3.19	4.21
Begusarai	Aghara	8.22	6.69	5.37	6.61
Begusarai	Cheriabariarpur	7.19	7.35	5.44	5.98
Begusarai	Kumbhidera	6.17	5.73	3.98	4.22
Begusarai	Badalpura	12	5.86	4.02	6.59
Begusarai	Dariarpur	7.52	4.12	-	4.49
Begusarai	Bintoli	9.5	4.14	3.02	9.5
Begusarai	Heera Tola	9.19	-	-	5.8
Begusarai	New Jafar Nagar	6.37	4.15	1.92	4.33
Begusarai	Raghunathpur	8.03	3.63	3.61	7
Begusarai	Sabdalpur	9.19	4.6	4.73	7.53
Bhagalpur	Bihpur ib	8.3	-	-	5
Bhagalpur	Marwa	6.1	-	2.3	3.9
Bhagalpur	Ghoga rly stn	3.46	2	1.8	1.8
Bhagalpur	Harchandpur	4.58	2.5	2.15	2.45
Bhagalpur	Jagnathpur	6.42	6.2	3.25	7.7
Bhagalpur	Kahalgaon rlyco	11.86	-	-	0
Bhagalpur	Madrauni Chowk	5.99	-	2.1	3.98
Bhagalpur	Bhagalpur city	14.56	13.85	9.8	11.92
Bhagalpur	Jagadishpur	6.15	1.27	1.1	1.82

Bhagalpur	Naugachhia h.s	-	-	2.5	4.43
Bhagalpur	Pirpanti db.ib	8.57	3.6	2.85	4.8
Bhagalpur	Sabaur	10.85	-	-	2.48
Bhagalpur	Shahkund db.ib	7.4	-	2.4	4.8
Bhagalpur	Akbarnagar stn	2.86	3.45	-	1.98
Bhagalpur	Sultanganj	9.27	-	4	7.2
Bhojpur	Jarawarpur Milki	8	8	2.78	3.69
Bhojpur	Bakhorapur	7.31	2.9	5.12	6.3
Bhojpur	Balua	10.15	2	7.2	8.3
Bhojpur	Barahara	9	2.32	6.16	7
Bhojpur	Dhusaria	8.25	2.93	5.15	6.23
Bhojpur	Ekauna	8.21	2.83	7.05	8.05
Bhojpur	Farhda	7.21	1.23	3.53	5.01
Bhojpur	Jagatpur	7.26	1.14	2.41	4.02
Bhojpur	Milki	6.7	0.99	1.77	3.07
Bhojpur	Simariya	8.2	1.56	4.23	5.63
Bhojpur	Bihiya	5.2	-	2.4	2.96
Bhojpur	Garhani	6.4	5.78	3.53	3.95
Bhojpur	Jagadishpur1	6.1	5.66	3.15	4.33
Bhojpur	Birampur	6.06	-	5.69	6.3
Bhojpur	Giddha	7.93	-	5.33	5.4
Bhojpur	Inglishpur	9.02	6.3	5.1	5.65
Bhojpur	Kulharia	8.2	4.3	-	-
Bhojpur	Lodhipur	9.48	-	-	9.48
Bhojpur	Mokhlisa	7.92	-	6.46	6.72
Bhojpur	Muhammadpur	7.7	5.71	5.55	6.42
Bhojpur	Pachrukhiya	8.62	3.5	5.1	6.05
Bhojpur	Rajapur Bazar	-	-	-	-
Bhojpur	Sakkadi	10.88	-	6.54	10.88
Bhojpur	Songhata	8.33	7.23	5.58	8.33
Bhojpur	Pirro	8	3.4	3.15	3.45
Bhojpur	Baruna	4.51	4.25	1.68	2.2
Bhojpur	Guljarpur	6.9	4.1	3.43	4.61
Bhojpur	Kori	7.46	-	4.5	4.51
Bhojpur	Nasratpur	8.77	-	6.53	6.92
Bhojpur	Pauna	6.45	2.95	2.8	3.44
Bhojpur	Sandesh	6.51	-	2.57	2.93
Bhojpur	Karnempur	8.69	4.63	2.57	3.07
Bhojpur	Chandawa	3.37	2.75	1.6	2.48
Bhojpur	Harnath Kundi	4.43	4.11	2.31	2.92
Bhojpur	Kasap	6.76	1.15	0.72	0.88
Bhojpur	Sasaram Chota	9	4.71	2.8	3.53
Bhojpur	Udwantnagar	5.44	3.27	1.41	1.99
Buxar	Bagen Bazar	7.6	-	7.55	7.55
Buxar	Barhampur	5.5	-	3.54	4.29
Buxar	Hathilpur	6.55	5.18	3.8	4.45
Buxar	Jugia Dera	-	-	5.3	6.05

Buxar	Khochariwan	7.4	-	3.04	4.7
Bhojpur	Mharajgunj	4.95	1.78	2.02	-
Buxar	Raghunathpur	9.2	-	5.98	7.73
Buxar	BuxarSSA)	3.5	3.78	3.3	4.59
Buxar	Chausa	2	1.04	1.3	1.5
Buxar	Churamanpur DW	8.46	7.52	8.37	8.4
Buxar	Danikutia	6.75	2.5	2.2	2.17
Buxar	Dudharchak	10.7	-	6.72	7.63
Buxar	Kritpur	16.11	1.16	1.75	2.14
Buxar	Mishrvalia	5.48	1.57	1.47	2.33
Buxar	Ramobariya	8.03	-	-	6.27
Buxar	Thodagaon	10.75	1.26	-	2.9
Buxar	Dumraon	10.08	-	6.82	7.86
Buxar	Rajpur	2.57	-	-	0.99
Buxar	Barka Rajpur	7.53	7.84	3.21	4.33
Buxar	Dumri	5.17	4.6	2.9	3.1
Buxar	Durasan	8.24	6.95	5.35	5.4
Buxar	Karathar	7.18	6.31	4.55	5.23
Buxar	Manikpur	11.05	5.59	8	9.3
Buxar	Neazipur	6.49	7.04	5.11	6.15
Buxar	Sohiar	7.38	-	5.14	5.72
Darbhanga	Darbhanga	2.47	-	-	2.03
Darbhanga	Bithauli	6.57	5.54	3.11	3.14
Darbhanga	Jorja	-	6.98	4.63	5.03
Darbhanga	Bahera	6.53	5	3.6	3.74
Darbhanga	Baheri 1	4.79	3.1	1.64	2.14
Darbhanga	Pouram	7.04	6.33	4.32	4.76
Darbhanga	Rustampur	5.05	0.75	0.85	1.64
Darbhanga	Keoti	7.02	-	2.5	3.25
Darbhanga	Sakari 1	2.94	3.95	2.68	3.3
Darbhanga	Simri bithauli)	5.52	-	1.6	2.62
Gaya	Akauna	-	0.6	1.67	3.04
Gaya	Banke Bazar	7.05	2.48	3.09	5.8
Gaya	Bhadeya	8.54	0.7	2.01	3.66
Gaya	Dobhi	-	1.6	2.6	3.57
Gaya	Paligaon	5.86	1.5	6.88	8
Gaya	Bodh Gaya	7.05	2.15	3.38	3.58
Gaya	Magra	7.81	-	1.8	3.47
Gaya	Baraila More	-	-	4.75	5.45
Gaya	Fatehpur	-	5.68	4.48	5.37
Gaya	Bitho Sharif 1	4.3	3.82	7.48	10
Gaya	Chand Chowra Chowk	8.45	1.22	5.68	6.56
Gaya	Ram Kund	4.61	3.31	5.14	5.36
Gaya	Sangat Gali	8.12	2.19	5.98	6.6
Gaya	Guraru	7.11	1.75	2.75	6.62
Gaya	Raghunath Khap	-	2.83	1.72	3.88
Gaya	Baseta	-	0.73	1.69	2.65

Gaya	Konch	-	10	8.84	9.51
Gaya	Manpur	7.12	6.16	8	8
Gaya	Dangra More	8.14	6.74	3.28	4.05
Gaya	Tekari	7	5.5	2.88	4.47
Gaya	Wazirganj	7.16	2.65	0.88	2.48
Gopalganj	Manjwalia	4.72	4.25	2.39	2.8
Gopalganj	Barauli	3.39	2.86	1	2
Gopalganj	Bhojpurwa	15	3.6	1.72	2.48
Gopalganj	Bhore	6.1	3.18	0.82	2.25
Gopalganj	Rampur2	-	2.38	0.83	1.26
Gopalganj	Turkaha	3.6	1.35	0.45	1.02
Gopalganj	Yadavpur Sukal	-	-	-	0
Gopalganj	Hathua 1	5.49	2.9	1.6	2.23
Gopalganj	Jamunaha	6.52	4.19	2.14	2.82
Gopalganj	Katiya	4.93	3.86	1.59	3.56
Gopalganj	Lala Pachmawa	5.46	2.12	1.61	2.65
Gopalganj	Misirbatha 1	6.28	4.49	2.68	3.41
Gopalganj	Jalalpur2	4.87	4.16	1.85	2.5
Gopalganj	Kuchaikot	3.06	4.21	0.86	1.78
Gopalganj	Bangra	4.56	2.7	1.33	2.45
Gopalganj	Bangra Deoria	5.32	3.36	1.3	2.75
Gopalganj	Bishambarpur	5.4	3.73	2.33	2.92
Gopalganj	Lachchwar	5.14	2.1	1.37	2.49
Gopalganj	Manjhwa 1	4.77	3.16	1.83	2.43
Gopalganj	Nunachapra	-	2.19	1.26	1.73
Gopalganj	Phulwariya	5.12	3.11	2.48	2.51
Jamui	Chakai	8.8	4.7	3.9	4.72
Jamui	Tarakhakhar	12.14	10.25	8	9.89
Jamui	Aghara	7.04	4	3.8	5.65
Jamui	Jamui	11.93	12.52	7.6	9.31
Jamui	Manjhwe	6.92	-	2.6	4.95
Jamui	Ambedkar Nagar	4.47	8.5	1.5	8.7
Jamui	Chandramanita	5.8	3.5	2.3	3.5
Jamui	Harna	-	2.4	1.25	3.47
Jamui	Jhajha	10.95	1.9	-	11.25
Jamui	Gidhaur O	7.47	13.5	-	-
Jamui	Purna Khaira	3.96	2.4	2.5	2.6
Jamui	Lalmatia	11.26	9.15	7.5	9.8
Jamui	Laxmipur	10.9	5.8	5.55	4.5
Jamui	Sikandra	6.15	1.7	1.3	2.25
Jamui	Batia 1	15.07	-	11.8	15.8
Jamui	Sono	7.64	4.5	3.4	4.65
Arwal	Arwal 1	-	3.32	3.76	5.84
Arwal	Dirpal Bigha	-	1.47	1.15	3.34
Arwal	Madhubani	4.89	2.32	2.46	3.79
Jehanabad	Dholakpur	-	2	-	-
Jehanabad	Ghoshi	-	-	3.77	4.4

Jehanabad	Hulasganj	8.37	2.55	3.28	3.96
Jehanabad	Kako	9.38	1.7	5.7	5.62
Jehanabad	Lakhwar	-	2	1.62	2.84
Jehanabad	Gaurakhini	10.4	-	4.94	5.95
Jehanabad	Jahanabad hosp.	-	-	-	0
Jehanabad	Teni Bigha	3.49	0.93	1.81	2.27
Arwal	Bairbigha	-	4.65	2.99	6.65
Arwal	Bansi Surajpur	-	-	-	1.87
Arwal	Imamganj	-	1.94	2.44	3.52
Arwal	Kinjer	7.39	5.07	4.24	5.57
Jehanabad	Jhunathi	-	-	3.31	4.44
Arwal	Kurtha bdo	3.53	-	1.4	2.84
Jehanabad	Alubikha	5.26	2	2	2.72
Jehanabad	Makhdumpur	3.46	-	2.84	3.73
Kaimur	Adhaura	-	-	2.52	2.66
Kaimur	Bhabhua	12.3	-	6.1	7.69
Kaimur	Saraiya	13.55	7.53	8.04	9.25
Kaimur	Tori f.ck.post	11	6.94	4.88	5.15
Kaimur	Chainpur	9.7	8.12	3.28	3.57
Kaimur	Khariava	9.3	3.25	1.96	2.24
Kaimur	Chand in p.s.	5.3	1.3	1.3	1.3
Kaimur	Karmanasa	11.48	3.28	2.41	3.37
Kaimur	Nuawan	6	-	3.28	4.89
Kaimur	Mohania	9.9	6.51	2.99	3.85
Kaimur	Bandipur	-	-	3.64	3.69
Kaimur	Bevnaliya	9.3	6.94	3.13	3.86
Katihar	Barari-1	4.03	2.76	2.65	3.01
Katihar	Dumaria	4.88	2.51	3.34	4.12
Katihar	Kursela	4.89	1.75	3.11	4.12
Katihar	Paranpur	3.72	2.53	2.21	2.89
Katihar	Mahendrapur	2.78	1.77	2.24	3.01
Katihar	Narahaiya	2.84	2.25	2.06	2.78
Katihar	Kadwa	4.31	2.44	2.82	3.46
Katihar	Sonauli	2.3	2.42	2.58	3.23
Katihar	Hafla1	4	2.69	1.72	2.34
Katihar	Katihar	3.77	3.27	2.23	2.97
Katihar	Khiria	4.74	4.02	2.98	3.67
Katihar	Korha	3.38	3.84	3.02	3.84
Katihar	Manihari	5.78	5.41	4.64	5.18
Katihar	Basantpur	3.4	3.35	2.22	2.84
Katihar	Bastaul1	3.69	2.46	2.61	3.42
Khagaria	Pirnasara	5.45	4.48	3.81	3.56
Khagaria	Basantpur	6.53	3.94	1.95	4.41
Khagaria	Chautham	5.27	2.14	2.21	4.17
Khagaria	Maheshkhunt 1	5.9	2.82	1.4	-
Khagaria	Gandhinagar	4.98	2.87	1.47	2.9
Khagaria	Jamalpur	5.1	2.98	1.47	2.05

Khagaria	Maheshkhunt_Lohiya Chowk	6.75	3.57	2.89	4.83
Khagaria	Maheshkunt	7.36	3.23	2.47	3.78
Khagaria	Durgapur	8.36	3.81	4.12	6.65
Khagaria	Gangaut	7.97	3.76	4.07	5.62
Khagaria	Ismailpur	7.45	3.91	4.02	5.89
Khagaria	Kasimpur	7.6	2.78	2.7	5.98
Khagaria	Khagaria	7.95	4.23	3.1	6.3
Khagaria	Labhgaon	8.02	4.56	4.56	6.57
Khagaria	Ranko	6.88	2.81	3.12	5.5
Khagaria	Sabalpur	7.25	3.7	3.92	6.5
Khagaria	Sonhauli	8.56	5.66	4.53	8.8
Khagaria	Dewri	2.65	1.49	1.28	1.39
Khagaria	Mohaddipur	6.8	5.9	3.72	5.3
Kishanganj	Bahadurganj	1.65	1.45	2.5	3.18
Kishanganj	Bahadurganj B	-	2.44	2.13	2.87
Kishanganj	Gunsagar	2.56	1.68	2	2.67
Kishanganj	Kishanganj	4.16	1.96	2.18	2.94
Kishanganj	Bhagalbari	3.41	2.41	2.67	0
Kishanganj	Kochadhamin	2.31	0.87	1.85	2.56
Kishanganj	Kaswa Kaliganj	1.98	1.4	1.47	2.22
Kishanganj	Teragachhi	3.39	1.69	2.03	2.82
Kishanganj	Thakurganj	9.19	5.78	8.32	8.67
Lakhisarai	Dariyapur	8.41	-	-	7.06
Lakhisarai	Barhaiya	-	2.95	4.7	6.89
Lakhisarai	Kiul_1	1.26	1.6	2.1	1.21
Lakhisarai	Lakhisarai	10.38	11	9.5	9.95
Lakhisarai	Surajgarha1	6.65	4.15	3.3	4.12
Lakhisarai	Arma	9.09	7.35	5.2	4.81
Lakhisarai	Kajra	6.27	3.7	2.8	3.84
Lakhisarai	Rishi Paharpur	8.02	3.15	2.65	5.95
Lakhisarai	Saidpur	3.36	4.05	3.15	3.6
Madhepura	Abhiyatola	6.12	5.11	3.54	4.3
Madhepura	Chausa1	5.21	3.86	2.69	3.63
Madhepura	Ganeshpur	4.06	3.3	1.48	2.44
Madhepura	Bhimpura	4.09	2.6	2.07	2.97
Madhepura	Hatkora bazar	4	2.11	2.02	2.9
Madhepura	Madhepura	4.18	3.73	3.87	4.68
Madhepura	Surajganj	3.1	1.03	-	2.19
Madhepura	Gaushala Chowk	3.38	2.68	2.72	6.4
Madhepura	Murliganj	2.96	1.56	1.57	2.24
Madhepura	Rajui Rajni	3.86	2.48	1.98	2.83
Madhepura	Rampur	4.29	2.54	2.76	3.6
Madhepura	Barahari	3.48	2.26	2.38	3.13
Madhepura	Jiwachhapur	4.07	2.85	-	3.64
Madhepura	Singeswar	5.36	3.77	3.11	4.2
Madhepura	Gwalpara	4.06	2.68	2.04	2.99
Madhepura	Kusthan	4.61	3.4	2.5	3.23

Madhepura	Uda Kishanganj	5.04	3.88	3.03	3.8
Madhubani	Harri	8.27	1.37	2.12	3.02
Madhubani	Babubarhi	3.55	0.4	0.6	1.08
Madhubani	Narar	2.82	1.05	1.3	1.52
Madhubani	Benipatti	2.31	0.65	-	-
Madhubani	Dhakjari	2.36	1.4	1.87	2.25
Madhubani	Kapasia	2.61	1.28	1.75	1.55
Madhubani	Baurahar Chowk	4.5	3.45	3.1	4.03
Madhubani	Harlakhi	2.9	1.59	1.54	1.91
Madhubani	Jaynagar	2.68	1.2	2.66	2.08
Madhubani	Bideshwar Asthan	6.14	3.2	3.77	4.12
Madhubani	Jhanjharpur	1.68	0.78	-	0.5
Madhubani	Bentadih	3.52	1.6	1.35	-
Madhubani	Karmauli	7.68	-	-	2.5
Madhubani	Khajauli	2.98	1.25	1.17	1.83
Madhubani	Thantola	3.95	2.05	2.06	1.77
Madhubani	Jogiya	3.8	2.8	2.3	2.62
Madhubani	Ambedkar Nagar	-	0.94	1	1.56
Madhubani	Bihari	-	-	-	0
Madhubani	Madhubani	1.53	1.23	1.4	1.58
Madhubani	Bhawanipur	7.23	4.68	4.53	4.21
Madhubani	Pandaul	6.68	4.8	3.35	2.96
Madhubani	Phulparas 1	2.79	0.6	1.08	1.58
Madhubani	Shambhuar	5.61	4.55	2.78	3.37
Madhubani	Kapileshwar	4.9	2.65	3.1	3.15
Madhubani	Siswar	3.76	2.4	2.35	2.5
Madhubani	Karmnali	5.02	2.73	2.76	1.83
Madhubani	Pariharpur	2.54	4.04	2.49	3.18
Munger	Bariarpur	11.74	3.1	2.6	4.35
Munger	Singhiya chawk	4.8	3.3	3.2	3.37
Munger	Jamalpur 1	8.51	8.21	6.35	7.71
Munger	Gangta Morh	8.18	4.8	2.6	5.6
Munger	Gobadda	7.48	2.5	2	2.74
Munger	Havelikhargpur	8	2	1.15	3.11
Munger	Tarapur	6.8	6.1	3.1	4.1
Munger	Purabsarai	9.36	6.3	4.95	6.1
Munger	Rampur 2	8.6	2.8	1.2	3.53
Munger	Asarganj	4.6	4.6	3.7	3.97
Muzaffarpur	Aurai	3.15	0.04	-	0.97
Muzaffarpur	Rajkhand	5.81	2.27	1.99	2.76
Muzaffarpur	Bhagwanpur Chowk	4.72	0.57	0.4	-
Muzaffarpur	Jaffarpur	5.42	2.25	1.39	4.08
Muzaffarpur	Mahammadpur Balmi	5.99	4.1	-	-
Muzaffarpur	Bochaha	7.46	6.5	5.92	-
Muzaffarpur	Shukrahat	6.85	5.3	4.85	4.26
Muzaffarpur	Barkurwa	-	-	2.52	2.95
Muzaffarpur	Surfuddinpur	6.5	6.25	5.02	5.3

Muzaffarpur	Muzaffarpur	7.91	7.13	5.45	5.46
Muzaffarpur	Katral	6.3	4.98	2.51	4.07
Muzaffarpur	Ramnagar	8	5.03	4.46	8
Muzaffarpur	Sakri chatti	9	3.02	2.14	2.3
Muzaffarpur	Wazitpur	-	3.69	2.42	2.62
Muzaffarpur	Gargaliya	6.4	3.47	3.17	5.47
Muzaffarpur	Digra	6.01	5.58	3.92	4.43
Muzaffarpur	Japaha	6.99	5.48	4.72	5.14
Muzaffarpur	Dewaria	6.5	4.5	2.98	3.3
Muzaffarpur	Paro	5.3	3.22	1.88	2.55
Muzaffarpur	Daha Chhapra	4.71	1.78	1.26	2.64
Muzaffarpur	Parwalpatti Barauna	6.52	-	-	4.12
Muzaffarpur	Rajwara	5.9	3.84	-	3.4
Muzaffarpur	Sahebganj	7.2	3.13	1.82	2.62
Muzaffarpur	Dholi	8.75	5.4	3.87	5.72
Muzaffarpur	Mahantmanihari	7.8	5.36	5.03	5
Muzaffarpur	Seho	8	-	5.57	6.16
Nalanda	Asthwan	4.3	3.94	1.44	2.08
Nalanda	Jakhaur	-	7	3.64	5.41
Nalanda	Jangipur	8.4	7.08	4.17	6.96
Nalanda	Sare	12	-	7.32	7.88
Nalanda	B Sharif Rly Stn	4.97	2.73	0.86	1.23
Nalanda	Biharsharif	8.4	8.34	2.66	3.26
Nalanda	Maghra	4.92	4.57	3.06	3.88
Nalanda	Muraura	4.22	3.48	2.15	2.55
Nalanda	Ranabigha	10	10	10	9.42
Nalanda	Sohdh	3.62	3.18	3.1	3.33
Nalanda	Bhathar	-	4.84	3.32	3.36
Nalanda	Chandi	4.9	4.95	2.87	3.28
Nalanda	Nagarnausa	-	10.09	6.89	5.8
Nalanda	Ekangarsarai	3.35	3.13	3.22	2.77
Nalanda	Parwalpur	10	-	4.27	4.57
Nalanda	Parwalpur 1	3.45	3.82	4.06	3.48
Nalanda	Giriak	5.5	5.5	5.5	4.95
Nalanda	Pawapuri	3.9	2.97	3.18	3.73
Nalanda	Harnaut I	6.57	6.05	0.9	2.65
Nalanda	Hilsa	9.45	9.45	5.15	5.01
Nalanda	Karaiparsurai	4.92	6.23	1.77	2.41
Nalanda	Nischalganj	5.51	3.15	3.26	3.4
Nalanda	Ankuri Bazar	8.1	8.1	8.1	7.56
Nalanda	Islampur	2.47	2.66	1.74	2.09
Nalanda	Sherpur	2.9	2.86	2.1	2.44
Nalanda	Daudpur	7.4	6.79	4.14	6.39
Nalanda	Doiya	4.93	4.33	4.65	5.13
Nalanda	Heganpura	9.21	8.82	8.4	8.56
Nalanda	Paparnhosa	5.1	5.07	2.6	3.68
Nalanda	Vena	12.75	11.31	12.75	4.83

Nalanda	Bhui	6.05	5.38	6.98	7.84
Nalanda	Kundalpur	9.67	8.55	8.67	8.84
Nalanda	Nalanda	7.5	-	6.85	7.4
Nalanda	Nirpur	7.5	2.93	1.96	3.4
Nalanda	Pilkhi	7.6	1.58	2.36	1.71
Nalanda	Rajgir	10.93	6.78	5.02	6.08
Nalanda	Silao	7.15	6.87	6.47	6.09
Nalanda	Sithaura	5.5	4.49	1.9	2.69
Nalanda	Sarmera	8.9	6.54	5.89	6.25
Nawada	Tungi	9.4	8.48	4.61	4.78
Nawada	Bishunpur	6.2	3.9	3.63	-
Nawada	Hisua	9.5	9.5	4.4	-
Nawada	Roh1	6.25	4.2	3.53	-
Nawada	Kawakol ashram	11	4.3	7.12	-
Nawada	Rupau	8.24	8.24	3.6	4.12
Nawada	Khanwa	7.5	4.62	-	-
Nawada	Garhpar	8	3.99	6.06	-
Nawada	Gonama	8	8	6.22	0
Nawada	Nawada2	8.4	9.1	8.61	-
Nawada	Pakribrawan Pond	8.7	8.7	5.01	7.15
Nawada	Dopata	7.66	6.48	6.78	0
Nawada	Meskaur	3.79	8.17	2.32	3.28
Nawada	Nawabganj	4.67	4.03	-	-
Nawada	Shahpur Morh	6.36	3.1	1.78	2.52
Nawada	Warshaliganj	2.18	1.3	0.88	2.9
West Champaran	Bagaha	4.22	2.24	2.02	4.02
West Champaran	Belwa	3.04	1.75	2.29	2.61
West Champaran	Mangalpur	3.99	1.65	2.93	3.53
West Champaran	Chanpatia	7.94	3.25	3.7	4.38
West Champaran	Gurwalia	4.18	2.13	2.35	2.66
West Champaran	Banspur pipra	-	-	-	6.09
West Champaran	Lauria	4.77	1.86	2.67	3.82
West Champaran	Shishwania	4.99	1.84	2.39	3.43
West Champaran	Majhwalia	4.33	-	-	0
West Champaran	Korigawa Chowk	7.13	1.52	1.62	1.56
West Champaran	Sabuni Pokhra	5.5	4.2	-	5.5
West Champaran	Taulaha	3.69	2.16	2.63	2.59
West Champaran	Harnatanr	4.68	2.1	2.69	3.02
West Champaran	Naurangia	4.38	2.22	2.78	3.16
West Champaran	Valmikinagar	2.25	1.6	2.33	2.8
Patna	Bakhtiarpur	11.47	4.7	-	7.67
Patna	Agwanpur	5.07	2.33	0.68	2.05
Patna	Barh1	3.68	0.45	0.46	0.58
Patna	Rajpura	10.06	4.54	-	-
Patna	Shahri	4.42	1.11	1.04	1.35
Patna	Amhara	3.67	1.71	0.66	1.63
Patna	Raghopur	6.9	-	-	-

Patna	Bharatpura	2.72	0.9	1.12	1.36
Patna	Din Bigha	7.26	7.26	2.55	4.47
Patna	Dulhin Bazar	-	5.9	5.9	5.9
Patna	Mariyawa	4.25	4.25	3.26	3.85
Patna	Noniatola	5.86	2.09	2.06	3.84
Patna	Goptal	4.6	1.56	-	1.42
Patna	Khaspur	9.12	5.78	4.21	5.97
Patna	Daniyawan	10.4	10.4	10.4	9.5
Patna	Fatuha	7.55	3.07	4.2	5.75
Patna	Mokama	0	0	0	-
Patna	Darbeshpur	-	-	2.09	-
Patna	Gyaspur(purvitola)	4.83	1.95	0.85	0.52
Patna	Lalbegam	9.45	4.19	4.09	5.67
Patna	Maner	4.55	10.7	1.29	10.35
Patna	Nagwa	7.15	3	1.75	1.82
Patna	Maranchi	8.47	2.95	2.62	6.18
Patna	Faridpur_nhs	7.35	7.35	7.35	6.65
Patna	Snehitola	-	-	2.44	3.3
Patna	Bali Pakar	-	2.6	1.46	2.35
Patna	Khazpura	9.85	6.38	4.86	5.38
Patna	Mithapur_NHS	1.8	6	6	5.22
Patna	Patna-City	3.34	1.5	1.29	1.4
Patna	Bishambharpur_NHS	9.26	-	1.11	8.56
Patna	Etwarpur	5.1	1.49	1.26	6.16
Patna	Hulas Chak	6.1	6.1	6.1	5.4
Patna	Parsa Bazar	10.4	0.4	0.38	-
Patna	Deokali	9.4	9.4	3.44	8.97
Patna	Nima Halt	7	7	5.27	-
East Champaran	Shyampur	5.76	4.96	4.61	5.27
East Champaran	Dumaria	7.1	4.01	2.96	4.26
East Champaran	Radia	3.25	1.32	1.17	2.84
East Champaran	Chakial	5.65	1.1	0.63	3.07
East Champaran	Uttari Gavandra	4.76	1.32	-	3.37
East Champaran	Belai	4.04	1.7	1.83	2.82
East Champaran	Chatia	5.67	1.92	4.22	-
East Champaran	Chiraiya	-	-	-	2.85
East Champaran	Mohabbatpur	3.96	1.95	2.05	2.58
East Champaran	Bhakatiy Tola	4.47	3.22	2.84	3.34
East Champaran	Ghorashan	4.47	2.24	1.83	2.49
East Champaran	Murarpur	6	2.56	1.75	2.64
East Champaran	Sheoraha	0.74	0.64	0.78	-
East Champaran	Dharampur	4.86	-	1.95	2.83
East Champaran	Dipau	3.21	1.33	2.31	1.9
East Champaran	Rajpur	5.47	-	3.49	4.11
East Champaran	Dubey Tola	4.17	1.55	1.55	2.31
East Champaran	Husaini	5.87	4.31	-	3.17
East Champaran	Kizerpura	5.09	3.62	2.82	3.42

East Champaran	Lala Chapra	7.5	2.38	1.56	2.14
East Champaran	Rampur Kajuria	4.98	-	-	3.05
East Champaran	Sugauli_1	4.34	-	1.56	0
East Champaran	Lakhwara	2.92	3.18	0.59	1.87
East Champaran	Motihari	5.42	3.18	2.3	5.42
East Champaran	Chhauradanu	7.09	2.74	2.58	3.16
East Champaran	Bishunpur Matiyarwan	-	2.3	1.81	2.26
East Champaran	Gobindganj	3.93	1.96	-	-
East Champaran	Patahi	0	0	0	4.9
East Champaran	Belhi	-	-	-	2.92
East Champaran	Raghunathpur	2.86	1.08	-	6
East Champaran	Raxaul	4	2.77	3.33	3.52
East Champaran	Chhapwa	4.34	-	6.27	6.27
East Champaran	Bairiya Bazar	6.5	3.68	3.45	3.97
East Champaran	Nawada1	8.92	3.63	-	3.54
Purnia	Amour	5.14	2.55	2.4	2.96
Purnia	Bansbari	3.35	2.61	2.76	2.82
Purnia	Baisi2	2.24	2.2	2.98	3.67
Purnia	Chadia	3.32	2.12	2.74	3.37
Purnia	Budhia Gola	3.67	1.42	2.65	3.12
Purnia	Mangujan	3.98	2.84	3.04	3.62
Purnia	Dargaha	3.13	3.02	2.3	2.94
Purnia	Amri Kukran E	-	3.37	-	-
Purnia	Amri Kukran W	3.35	3.3	3.06	3.52
Purnia	Banmankhi	5.58	1.4	1.8	2.51
Purnia	Dhamdaha	5.16	3.71	3.11	3.87
Purnia	Kajha	4.88	3.47	2.01	2.67
Purnia	Jalalgarh	4.37	2.05	2.09	2.85
Purnia	Kasba	4.36	4.1	4.06	4.67
Purnia	Khata Hat	3.1	1.2	2.16	2.74
Purnia	Barsoni	3.17	2.48	2.87	3.34
Purnia	Purnia	2.95	2.5	2.22	3.98
Purnia	Ranipatra	4.21	2.64	2.48	4.34
Purnia	Tikapatti Chowk	3.99	2.15	-	0
Katihar	Tilka Patti	3.11	-	-	2.82
Rohats	Bikramganj pp	9.9	3.59	4.64	5.97
Rohats	Chenari hospita	12.85	4.38	4.67	14.9
Rohats	Maliabagh	7.34	3.59	4.58	5.7
Rohats	Anikut	14.2	8.11	10.45	14.2
Rohats	Karbindiatempl	10	8.72	6.36	7.61
Rohats	Dinara1	9.45	1.88	2.3	2.7
Rohats	Kochas	7.1	2.56	2.15	3.32
Rohats	Nokha in temple	-	1.29	2.12	3.31
Rohats	Bahaura	5.03	1	1.69	3.66
Rohats	Ambwalia	-	-	-	-
Rohats	Belthari	6.54	1.72	2.44	2.91
Rohats	Sirisiyan	-	2.1	-	3.68

Kaimur	Jahanabad kudra)	10.35	-	7.03	8.2
Rohats	Rajandih	10.5	1.02	1.88	3.45
Rohats	Nasriganj	11.24	4.26	5.16	11.24
Rohats	Auraiya	10	6.92	7.16	3.89
Rohats	Akbarpur in bdo	12.36	10.43	9.55	12.36
Rohats	Sasaram p.o.	-	-	-	0
Rohats	Tilothu bustand	9.1	7.64	-	8.3
Rohats	Amawan	4.68	0.19	0.02	0.56
Saharsa	Bangaon	2.88	1.67	1.5	2.05
Saharsa	Basudeva	2.5	1.14	0.93	1.46
Saharsa	Chainpur	2.84	1.43	1.38	1.75
Saharsa	Kharakuti	4.87	4.04	3.32	3.76
Saharsa	Niralatola	4.87	-	-	2.85
Saharsa	Panchgachhi	3.55	2.14	1.93	2.6
Saharsa	Patodi Bazar	3.58	2.37	2.18	2.72
Saharsa	Patodibazar	2.77	1.71	1.61	2.13
Saharsa	Potwaha	4.12	2.82	1.81	2.34
Saharsa	Saharsa1	9	4.03	3.16	3.46
Saharsa	Tulsiyahi	2.49	1.7	1.07	1.55
Saharsa	Sonbarsaraj1	5.01	2.75	3.28	4.08
Saharsa	Jamunia	3.74	2.34	2.84	2.61
Saharsa	Semribaktiarpur	4.35	1.26	-	4.35
Saharsa	Simri Bakhtiyarpur	-	2.9	2.55	3
Saharsa	Adrahch	4.14	-	-	3.16
Saharsa	Baidnathpur	4.67	1.94	2.34	2.91
Saharsa	Chandaur Purbi	4.5	3.05	2.29	2.94
Samastipur	Kalyanpur	6.3	4.5	3.46	5.32
Samastipur	Patapara	5.29	2.26	0.7	1.55
Samastipur	Singhia Ghat	8.45	4.76	3.94	5.28
Samastipur	Dalsinghsarai	7.52	6.95	-	5.46
Samastipur	Madudabad	8.13	7.82	5.16	4.97
Samastipur	Malipur	6.04	7.6	-	2
Samastipur	Basudebpur	6.63	4.9	3.16	4.05
Samastipur	Jakhra	7.12	5.85	4.31	5.32
Samastipur	Kishanpur2	10.7	7.65	4.71	5.75
Samastipur	Madudabad	8.06	-	-	8.06
Samastipur	Bajidpur	7.69	6.91	3.84	9
Samastipur	Kerian	6.3	5.81	4.55	5.03
Samastipur	Rosera	11.1	6.03	5.76	6.53
Samastipur	Harpur Aloth	9	7.41	9	7.51
Samastipur	Sarai Ranjan	9.33	7.91	6.4	10.3
Samastipur	Motipur	9.47	9.03	7.81	7.5
Samastipur	Tajpur1	9.26	8.5	6.65	-
Samastipur	Vikrampur	8.66	6.55	5.55	5.74
Samastipur	Dandia Asadpur	8.33	6.6	5.26	5.42
Samastipur	Raipur	7.89	9.45	9.45	-
Samastipur	Ujiarpur	4.96	3.2	3.68	-

Samastipur	Jathmalpur	7.81	2.15	2.83	-
Samastipur	Kuseya	10.3	8.1	6.2	6.92
Samastipur	Raghunathpur	6.78	6.73	5.13	5.57
Saran	Jalalpur	7.45	-	-	0
Saran	Manopali	6.09	3.1	1.48	2.52
Saran	Chhapra	11.91	-	1.17	2.55
Saran	Chirand	-	6.4	2.15	2.89
Saran	Daldali Bazar A	7.79	4.5	1.94	3.43
Saran	Mauna Pakri	9.14	3.4	-	0
Saran	Nagra	8.64	7.43	5	5.71
Saran	Taraiya	-	2.86	1.16	2.11
Saran	Ammi	7.53	7.55	3.34	3.71
Saran	Bishunpur	-	2.65	1.55	2.13
Saran	Ekma	5.68	3.67	1.77	2.27
Saran	Garkha	8.15	7.14	4.89	5.5
Saran	Minapur	-	6.2	2.89	3.11
Saran	Bisunpur	6.86	5.2	2.64	3.26
Saran	Rampur Kala	-	5.86	2.72	3.02
Saran	Breja	6.65	5.15	1.43	2.22
Saran	Madansath	6.56	-	-	2.86
Saran	Majhanpura	10.15	8.38	5.29	6.52
Saran	Majhanpura New	8.58	5.47	2.36	3.47
Saran	Manjhi	8.03	5.65	4	4.81
Saran	Manjhi 2	7.36	4.32	2.43	2.97
Saran	Marhaura	10.77	6.25	2.36	2.81
Saran	Masrakh	7.12	4.24	0.88	2.18
Saran	Masrakh1	4.6	4.31	1.13	1.7
Saran	Saguni	5.73	5.03	2.74	3.04
Saran	Saidpur1	-	-	-	0
Saran	Baleshara	7.17	2.86	0.77	2.02
Saran	Sanghar Tola	8.19	6.15	2.4	4.41
Saran	Chausia	-	6.6	3.6	3.91
Saran	Nayagaon	7.71	3.84	1.56	1.61
Saran	Sonepur	2.3	1.34	0.36	1.36
Sheikhpura	Ariari	-	7.46	6.26	6.69
Sheikhpura	Chewara	-	6.43	6.6	11.1
Sheikhpura	Ambari	7	6.5	-	3.85
Sheikhpura	Barbigha	6.77	6.37	6.14	6.37
Sheikhpura	Keoti 1	6.76	4.02	1.37	4.23
Sheikhpura	Koeri Bigha	7.15	6.07	4.18	5.64
Sheikhpura	Sherpar	9.9	5.21	2.14	8.8
Sheikhpura	Ghat Kusumba	-	2.47	1.37	3.11
Sheikhpura	Nemdarganj	6.5	2.8	1.2	1.87
Sheikhpura	Seikhpura	10.5	5	6.4	6.94
Sitamarhi	Belsand	3.26	-	-	1.74
Sheohar	Sarbarpur	9	2.6	9	1.85
Sheohar	Purnhaiya Bazar	5.5	3.3	3.13	3.75

Sheohar	Sasaula Khurd	4.97	2.2	2.35	1.83
Sitamarhi	Dheng	2.82	1.7	2.06	2.6
Sitamarhi	Bangaon	5.18	2	2.1	2.57
Sitamarhi	Jagwanabazar	3.48	1.33	1.64	2.27
Sitamarhi	Bhpbhana Khaptola	6.1	3.63	3.11	3.49
Sitamarhi	Kodwara Tola	3.12	1.2	1.2	1.31
Sitamarhi	Panaura	3.26	1.28	1.4	1.67
Sitamarhi	Sitamarhi	10	1.63	10	4.12
Sitamarhi	Sursand	2.46	1.8	1.92	-
Sitamarhi	Nanpur	2.62	0.75	0.98	1.14
Sitamarhi	Khairwa	3.33	2.65	2.87	1.89
Sitamarhi	Pupri	3.79	1.77	2.05	2.57
Sitamarhi	Karahniya Chowk	3.8	1.32	1.8	1.82
Sitamarhi	Kushmari	6.1	0.55	1.94	-
Sitamarhi	Thumba	-	-	0.9	1.41
Sitamarhi	Bhutahi	2.4	1	1.2	1.23
Sitamarhi	Dastiya	2.37	2.15	2.18	1.89
Siwan	Andar	6.77	4.73	4.42	5.76
Siwan	Basantpur	-	-	-	0
Siwan	Chimanpur	5.84	4.83	3.37	4.04
Siwan	Hardia	5.72	5.12	3.31	3.54
Siwan	Malmalia Chowk	5.54	-	1.88	2.69
Siwan	Sarripatti	5.21	3.44	1.52	2.05
Siwan	Darauli	8.72	4.85	4.21	5.7
Siwan	Agaya1	-	-	-	0
Siwan	Tarwara	6.38	3.97	2.08	2.58
Siwan	Chitakhal	9	2.1	1.94	3.24
Siwan	Deoria	5.82	2.16	2.31	2.65
Siwan	Maharajganj	5.66	2.94	0.92	1.4
Siwan	Patrehi	9	4.11	2	2.81
Siwan	Sadikpur	6.01	3.36	1.78	2.88
Siwan	Jamanpura	4.7	1.23	0.92	1.85
Siwan	Murarpatti	6.44	3.36	1.68	2.69
Siwan	Bhagar	6.87	3.63	2.72	4.21
Siwan	Gangapur Siswan1	-	-	-	0
Siwan	Siwan1	-	-	-	0
Supaul	Balua	2.84	1.43	1.39	0
Supaul	Bhawanipur1	2.12	1.61	1.89	2.17
Supaul	Bhimnagar	-	0.4	0.38	1.51
Supaul	Birpur	2.3	1.61	1.82	2.34
Supaul	Ratanpura1	1.95	1.26	1.97	2.35
Supaul	Balua 1	2.88	2.17	2.59	2.96
Supaul	Balua Bazar	2.14	1.35	1.83	2.35
Supaul	Bhasanpatti	3.06	0.32	0.97	3.02
Supaul	Andauli	1.85	-	1.3	2.07
Supaul	Hardi	3.9	2.44	-	3.14
Supaul	Kario	3.78	2.53	-	2.82

Supaul	Malhani	10	2.18	2	10
Supaul	Malhani New	2.81	1.89	2.55	2.17
Supaul	Supaul	3.06	1.9	2	2.45
Supaul	Thumba	3.62	1.38	2.72	2.81
Supaul	Pipra chowk	5	4.34	4.59	3.38
Supaul	Shyam Nagar	3.95	2.57	2.85	3.54
Supaul	Ganpatganj1	-	1.83	2.14	0
Supaul	Kaithtola	3.65	2.69	3.07	3.4
Supaul	Karjain	3.15	1.89	-	4.85
Supaul	Norha	2.8	1.05	2.08	2.46
Supaul	Parsarma	2.93	1.74	2.13	2.52
Supaul	Pratapganj	3.3	2.04	2.49	3.25
Supaul	Jadia	2.89	1.44	-	2.96
Supaul	Tribeniganj	3.68	-	2.95	-
Vaishali	Chak Sikandar	8.72	5.98	4.9	5.63
Vaishali	Kachanpur	9.88	5.93	3.75	4.73
Vaishali	Mathura	8.29	4.49	3.26	4.68
Vaishali	Baksama	4.62	3.85	2.12	2.32
Vaishali	Bhaluhia Garaul)	5.71	2.38	1.44	1.78
Vaishali	Chandpur Kala	10	6.28	4.19	4.46
Vaishali	Garaul	5.71	5.99	2.27	2.81
Vaishali	Harpur	7.44	7.44	5.01	5.31
Vaishali	Hajipur	8.47	6.25	2.66	3.06
Vaishali	Sahjadpur	7.81	6.78	3	3.42
Vaishali	Chakiyai	7.5	6.53	3.42	3.54
Vaishali	Kumharkal	8.42	7.08	2.81	3.55
Vaishali	Mahnar	8.64	5.89	2.45	4.45
Vaishali	Mahua1	7.71	5.25	3.31	4.18
Vaishali	Tariya Supaul	8.5	6.31	3.99	4.95
Vaishali	Patepur	7.24	-	-	0
Vaishali	Gajipur1	-	-	-	-

Major Chemical parameters of ground water samples of HNS collected during Pre-Monsoon 2018 in Bihar State

District	Location	Site Type	pH	EC	TH	Ca	Mg	Na	K	CO3	HCO3	Cl	SO4	NO3	Fluoride	TDS
Bhagalpur	madrauni chowk	Dug well	7.8	668	305	102	12	15.3	1.2	0	214	43	40	25	0.81	401
Bhagalpur	Bihpur	Dug well	7.9	797	355	110	19	8.58	0.3	0	311	32	54	34	0.19	478
Bhagalpur	Navgachhia	Dug well	8.1	1004	450	138	26	24	1.4	0	372	39	62	50	0.88	602
Bhagalpur	Akbarpur	Dug well	7.12	478	170	26	26	44	1.73	0	228	19	36	14.38	0.58	311
Bhagalpur	Bhagalpur	Dug well	7.51	522	159.979	30	21	49	1.2	0	234	39	62	1.14	0.29	339
Bhagalpur	Ghoga	Dug well	8.37	780	279.979	54	35	44	0.08	0	141	103	45	25.22	0.36	507
Bhagalpur	Harchandpur	Dug well	8.41	384	130	32	12	31	0.96	0	135	17	32	18	0.5	250
Bhagalpur	Jagnathpur	Dug well	7.23	571	195	36	26	44	1.73	0	240	39	26	33.51	0.29	371
Bhagalpur	Naugachhia	Dug well	7.86	730	334.979	80	33	39	5.93	0	357	51	64	15.55	0.27	475
Bhagalpur	Pirpainti	Dug well	7.29	814	245	38	36	58	1.57	0	264	67	75	28.37	0.21	529
Bhagalpur	sabour	Dug well	7.37	591	129.979	42	6	80	2.88	0	154	55	45	28.1	0.48	384
Bhagalpur	sultanganj	Dug well	8.17	558	174.979	16	33	50	1.57	0	271	25	81	0	0.38	363
Bhagalpur	Jagdishpur	Dug well	8.28	2180	414.979	52	69	278	24.37	0	664	248	36	25.9	1.24	1417
Bhagalpur	Kahalgaon	Dug well	7.66	1226	265	34	44	159	8.39	0	449	89	10	59.25	0.74	797
Bhagalpur	Rangara	Dug well	7.85	454	205	40	26	19	5.2	0	264	6	38	1.28	0.28	295
Bhagalpur	Marwa	Dug well	8.2	868	395	126	19	3.65	3.1	0	317	43	43	30	0.37	521
Kishanganj	Bahadurganj	Dug well	7.4	489	230	62	18	2.83	0.2	0	189	32	54	42	0.14	298
Kishanganj	Bahadurganj	Dug well	7.9	541	235	70	15	3.58	0.1	0	177	28	25	35	0.13	325
Kishanganj	gunsagar	Dug well	8.1	149	50	16	2	11	0.4	0	73	4	22	52	0.65	89
Kishanganj	Kaswa Kaliganj	Dug well	8.1	372	115	40	4	0.95	0.5	0	116	25	36	55	0.94	223
Kishanganj	Kishanganj	Dug well	7.8	1613	550	184	22	118	7.3	0	732	53	36	60	0.85	968
Kishanganj	Kochadhamin	Dug well	8.1	757	355	118	15	7.13	1.6	0	311	46	15	32	0.15	454
Kishanganj	Teragachhi	Dug well	8.2	518	240	76	12	7.26	2.1	0	195	32	14	30	0.21	311
Purnia	Amour	Dug well	8.1	986	415	150	10	32	3.4	0	323	75	62	73	0.85	592
Purnia	Amri Kukran E	Dug well	7.9	734	305	102	12	27	2.1	0	250	53	54	65	0.8	440
Purnia	Amri Kukran W	Dug well	7.8	1390	605	188	33	42	8.2	0	610	75	55	70	0.82	834

Purnia	Baisi2	Dug well	8	580	225	62	17	4.83	0.5	0	153	53	12	32	0.35	348
Purnia	Banmankhi	Dug well	8.1	1838	650	210	30	124	11	0	610	39	8	23	0.15	1103
Purnia	Bansbari	Dug well	8.1	1185	490	150	28	26	8.5	0	433	64	5	50	0.41	711
Purnia	Barsoni	Dug well	8	988	420	128	24	25	0.6	0	317	50	26	44	0.54	593
Purnia	Budhia Gola	Dug well	7.7	432	190	42	21	9.14	0.4	0	153	21	30	38	0.23	259
Purnia	Chadia	Dug well	7.9	1498	660	220	27	35	12	0	610	50	10	8	0	899
Purnia	Dargaha	Dug well	8.1	229	105	34	5	0	0.1	0	67	4	45	36	0.87	137
Purnia	Dhamdaha	Dug well	8.2	806	385	120	21	4.71	3.9	0	336	64	15	13	0.13	484
Purnia	Jalalgarh	Dug well	8	1193	415	126	24	20	4.8	0	433	46	22	35	0.17	716
Purnia	Kajha	Dug well	7.9	871	415	118	29	10	8.7	0	256	21	10	50	0	523
Purnia	Kasba	Dug well	8.1	1949	925	300	43	38	4.6	0	671	67	30	12	0	1169
Purnia	Khata Hat	Dug well	7.6	1298	410	130	21	27	3.2	0	494	64	65	69	0.94	779
Purnia	Mangujan	Dug well	7.9	442	205	62	12	5	3	0	140	11	52	39	0.61	265
Purnia	Purnia	Dug well	7.7	1174	550	162	35	14	8.1	0	482	50	0	8	0	704
Purnia	Ranipatra	Dug well	7.9	695	335	92	26	3.99	4.1	0	214	75	0	15	0	417
Purnia	Tikapatti	Dug well	8.2	203	100	30	6	0	0	0	73	14	17	25	0.15	122
Purnia	Tikapatti Chowk	Dug well	7.6	1178	515	146	36	27	3.6	0	451	4	42	65	0.23	707
Katihar	Balrampur	Dug well	7.8	657	290	84	19	15	3.7	0	189	11	45	49	0.25	394
Katihar	Barari-1	Dug well	7.9	827	385	102	32	32	6.1	0	293	32	12	14	0	496
Katihar	Basantpur	Dug well	7.8	996	475	144	28	11	2.3	0	214	64	45	25	0	598
Katihar	Bastaul1	Dug well	7.6	1200	510	142	38	39	9.2	0	494	82	20	35	0	720
Katihar	Dumaria	Dug well	7.8	417	170	48	12	16	1.6	0	92	7				250
Katihar	Haflal	Dug well	8.1	1180	555	146	46	22	8.3	0	397	82	21	39	0.75	708
Katihar	Kadwa	Dug well	7.9	851	385	102	32	17	4.3	0	250	25	37	55	0.81	511
Katihar	Katihar	Dug well	8.1	1263	400	106	33	106	1.3	0	482	67	59	123	0.75	758
Katihar	Khiria	Dug well	8.1	1025	420	124	27	33	0.9	0	317	82	46	62	0.78	615
Katihar	Korha	Dug well	8	534	175	42	17	41	3.6	0	128	18	13	42	0.35	320
Katihar	Kursela	Dug well	7.7	597	155	42	12	40	2.5	0	146	21	18	21	0.31	358
Katihar	Mahendrapur	Dug well	7.9	309	100	30	6	27	1.3	0	128	4	0	11	0	185
Katihar	Manihari	Dug well	8.1	1799	725	204	52	80	0.8	0	683	60	3	25	0	1079

Katihar	Narahaiya	Dug well	8.2	919	315	86	24	65	5.2	0	732	18	26	135	0.92	551
Katihar	Paranpur	Dug well	8.2	715	270	62	28	41	6.1	0	317	25	34	74	0.12	429
Katihar	Sonauli	Dug well	7.6	467	185	42	19	34	1.2	0	128	7	15	48	0.32	280
Araria	Araria	Dug well	7.8	585	230	64	17	28	0.7	0	146	43	35	52	0.74	351
Araria	Bathnaha_badres	Dug well	7.9	265	40	10	4	42	0.5	0	73	4	26	49	0.52	159
Araria	Bhargama	Dug well	7.8	493	205	58	15	16	1.6	0	195	7	61	65	0.98	296
Araria	Haripur	Dug well	7.6	228	75	18	7	19	0.3	0	73	4	17	33	0.13	137
Araria	Jokihat 1	Dug well	7.8	783	330	92	24	20	0.5	0	281	32	53	158	1.1	470
Araria	Matiyari	Dug well	8.1	785	270	64	27	54	2.4	0	317	28	49	85	0.9	471
Araria	Palasi	Dug well	7.9	288	40	12	2	48	0.1	0	85	4	28	77	0.62	173
Araria	Raniganj	Dug well	7.8	681	320	102	16	11	2.6	0	262	11	4	29	0.34	409
Patna	Amhara	Dug well	8	237	15	4	1	48	0.1	0	73	4	106	174	0.81	142
Patna	Faridpur	Dug well	8.2	429	155	48	9	21	2.5	0	159	7	2	11	0	257
Patna	Bali Pakar	Dug well	8.1	1524	680	212	36	38	6.3	0	580	43	35	65	0.54	914
Patna	Bharatpura	Dug well	7.9	761	230	62	18	70	5.4	0	195	18	49	87	0.98	457
Patna	Bishambharpur	Dug well	7.8	270	80	24	5	23	0.2	0	98	4	28	63	0.87	162
Patna	Bharatpura	Dug well	8	417	140	38	11	31	0.4	0	177	11	74	235	0.21	250
Patna	Bishambharpur	Dug well	8.1	236	70	20	5	21	0.1	0	79	4	51	210	0.52	142
Patna	Darbeshpur	Dug well	8.1	359	110	40	2	30	0.2	0	92	4	26	34	0.11	215
Patna	Din Bigha	Dug well	8	333	80	22	6	38	0.3	0	110	7	58	92	0.65	200
Patna	Dulhin Bazar	Dug well	7.7	668	240	70	16	41	0.9	0	207	32	29	52	0.32	401
Patna	Etwarpur	Dug well	7.9	258	40	12	2	33	2.9	0	73	4	1	12	0	155
Patna	Faridpur	Dug well	8.1	1040	445	142	22	70	10	0	409	75	24	87	0.91	624
Patna	Goptal-nhs	Dug well	8.2	363	85	24	6	21	1.1	0	128	4	13	45	0.13	218
Patna	Gyasur(purvitola)	Dug well	8	273	80	22	6	33	0.5	0	67	4	28	64	0.81	164
Patna	Hulas Chak	Dug well	7.9	299	70	20	5	23	0.2	0	73	4	35	78	0.36	179
Patna	Khaspur	Dug well	8.1	486	170	48	12	32	1.2	0	159	14	87	102	0.74	292
Patna	Khazpura	Dug well	7.6	554	150	52	5	27	2.9	0	195	18	13	15	0.85	332
Patna	Lalbegam	Dug well	7.9	725	230	64	17	58	4.1	0	250	25	54	57	0.63	435
Patna	Maner	Dug well	7.7	664	210	70	9	47	4.5	0	232	21	42	89	0.78	398

Patna	Patna city	Dug well	8.19	649	199.859	42	23	50	1.88	0	160	76	17	33.57	0.27	422
Patna	Fatuha	Dug well	7.93	617	134.911	26	17	69	5.44	0	264	36	15	43.02	0.32	401
Patna	Daniyawan	Dug well	8.56	318	109.949	28	10	24	1.33	0	117	11	68	12.58	0.54	207
Patna	Mariyawa	Dug well	7.8	398	130	42	6	51	1.3	0	146	11	107	108	0.64	239
Patna	Mithapur	Dug well	8	458	160	50	9	31	2.4	0	116	14	95	90	0.98	275
Patna	Nagwa	Dug well	8.2	818	275	90	12	58	6.3	0	311	4	22	25	0.68	491
Patna	Noniatola	Dug well	8.1	239	75	22	5	20	0.1	0	79	7	25	21	0.54	143
Patna	Parsa Bazar	Dug well	7.9	366	110	38	4	33	1.4	0	79	11	2	30	0.12	220
SARAN	Ammi	Dug well	7.9	864	320	90	23	40	0.5	0	305	46	34	63	0.51	518
SARAN	Baleshara	Dug well	7.6	490	205	62	12	14	0.7	0	201	18	17	31	0.32	294
SARAN	Bisunpur	Dug well	8.1	519	270	56	32	10	0.8	0	293	14	10	24	0.17	311
SARAN	Chausia	Dug well	8	426	180	58	9	21	1.2	0	244	7	8	15	0.23	256
SARAN	Chirand	Dug well	7.9	393	140	36	12	25	1	0	195	7	12	18	0.25	236
SARAN	Ekma	Dug well	8.1	367	130	24	17	32	0.8	0	232	7	3	2	0.05	220
SARAN	Garkha	Dug well	8.1	307	120	38	6	17	0.7	0	189	4	0	3.1	0.02	184
SARAN	Jalalpur	Dug well	7.9	409	155	44	11	26	1	0	238	11	2	4	0.02	245
SARAN	Madansath	Dug well	7.6	309	115	30	10	18	1.1	0	183	4	0	0	0.01	185
SARAN	Mahuapakri 1	Dug well	8.1	441	135	40	9	32	8.5	0	171	18	15	40	0.02	265
SARAN	Majhanpura	Dug well	7.9	433	115	36	6	31	1.2	0	153	14	5	45	0.08	260
SARAN	Majhanpura New	Dug well	8	1124	405	104	35	65	14	0	494	53	27	68	0.12	674
SARAN	Manjhi	Dug well	8.1	393	145	36	13	23	1	0	226	4	0	9.7	0	236
SARAN	Manjhi 2	Dug well	8.2	299	105	30	7	15	0.1	0	165	4	0	0	0	179
SARAN	Manopali	Dug well	7.9	521	215	74	7	33	0.8	0	244	18	16	52	0.15	313
SARAN	Marhaura	Dug well	8	598	195	46	19	45	1.2	0	207	25	35	65	0.21	359
SARAN	Masrakh	Dug well	7.8	578	190	62	9	45	1	0	293	11	6	35	0.1	347
SARAN	Masrakh 1	Dug well	7.7	815	320	94	21	38	2.5	0	244	75	28	86	0.19	489
SARAN	Minapur	Dug well	8.2	1783	560	144	49	135	29	0	262	266	102	241	0.23	1070
SARAN	Nagra	Dug well	8	359	150	42	11	12	0.13	0	195	7	0	8.6	0.01	215
SARAN	Nayagaon	Dug well	7.9	689	175	48	13	30	3.1	0	262	46	21	53	0.02	413
SARAN	Saguni	Dug well	7.9	523	190	56	12	32	1	0	244	14	4	49	0.17	314

SARAN	Saidpur1	Dug well	7.7	666	200	64	10	55	8.3	0	336	7	3	53	0.15	400
SARAN	Sanghar Tola	Dug well	8	443	180	60	7	16	5.2	0	214	11	0	45	0.06	266
SARAN	Sonepur1	Dug well	7.6	686	255	86	10	36	2.3	0	244	36	27	75	0.18	412
SARAN	Taraiya	Dug well	8	466	150	46	9	36	2.3	0	256	7	4	8	0.03	280
SIWAN	Agaya1	Dug well	7.9	433	175	56	9	19	0.2	0	214	11	2	33	0.06	260
SIWAN	Andar	Dug well	7.8	559	185	58	10	36	9.3	0	153	36	25	91	0.23	335
SIWAN	Basantpur	Dug well	8.2	440	145	42	10	37	1.2	0	201	7	9	51	0.12	264
SIWAN	bhagar	Dug well	7.7	1354	510	148	34	62	25	0	506	78	49	123	0.21	812
SIWAN	Chimanpur	Dug well	7.9	410	115	36	6	35	14	0	183	25	1	27	0.08	246
SIWAN	Chitakhil	Dug well	7.5	558	175	46	15	42	7.2	0	232	21	8	52	0.19	335
SIWAN	Darauli	Dug well	8.1	343	140	38	11	14	0.2	0	153	7	6	36	0.13	206
SIWAN	Deoria	Dug well	7.4	273	105	30	7	15	0.3	0	165	4	0	0	0	164
SIWAN	Gangapur Siswan1	Dug well	7.9	287	100	26	9	11	0.1	0	128	4	5	16	0	172
SIWAN	Jamanpura	Dug well	8.1	494	180	54	11	30	0.2	0	238	11	1	42	0.02	296
SIWAN	Hardia	Dug well	8	552	165	44	13	46	7	0	189	21	24	75	0.13	331
SIWAN	Maharajganj	Dug well	7.8	625	290	86	18	16	2.8	0	214	46	26	70	0.15	375
SIWAN	Malmalia Chowk	Dug well	7.8	710	310	98	16	26	1.5	0	317	39	5	54	0.21	426
SIWAN	Murarpatti	Dug well	7.9	475	200	58	13	7.99	18.5	0	153	18	25	74	0.24	285
SIWAN	Patrehi	Dug well	7.7	806	250	64	22	51	12	0	195	67	43	92	0.27	484
SIWAN	Sadikpur	Dug well	8.2	645	175	38	19	50	30	0	201	46	23	81	0.07	387
SIWAN	Sarripatti	Dug well	7.5	635	210	62	13	29	31	0	293	28	1	45	0.01	381
SIWAN	Siswan	Dug well	7.9	456	130	32	12	34	20	0	159	36	5	53	0.03	274
SIWAN	Siswan	Dug well	8	326	95	24	9	22	15	0	153	18	0	13	0	196
SIWAN	Tarwara	Dug well	8.1	318	110	34	6	18	3	0	171	7	0	0	0	191
GOPALGANJ	Bangra	Dug well	8	644	195	42	22	50	15	0	232	43	14	68	0.12	386
GOPALGANJ	Bangra Deoria	Dug well	8.1	410	120	36	7	30	17	0	214	7	0	32	0.12	246
GOPALGANJ	Barauli	Dug well	7.7	1007	300	88	19	82	23	0	384	75	35	64	0.18	604
GOPALGANJ	Bhojpurwa	Dug well	8	342	75	20	6	32	19	0	183	11	0	5.3	0	205
GOPALGANJ	Bhore	Dug well	8.1	510	105	28	9	56	24	0	250	14	13	21	0	306
GOPALGANJ	Bangra Deoria	Dug well	7.9	1022	310	98	16	75	28	0	372	67	35	92	0.23	613

GOPALGANJ	Bishambarpur	Dug well	7.5	255	75	16	9	7.9	29	0	153	4	0	2.1	0	153
GOPALGANJ	Deokolibazar	Dug well	7.9	271	85	24	6	13	14	0	128	7	0	15	0	163
GOPALGANJ	Hathua1	Dug well	8	457	125	30	12	25	38	0	195	43	0	12	0	274
GOPALGANJ	Jalalpur2	Dug well	8.1	869	265	76	18	70	10	0	275	67	39	89	0.13	521
GOPALGANJ	Jamunaha	Dug well	7.5	826	260	82	13	56	29	0	323	46	26	80	0.18	496
GOPALGANJ	Katiya	Dug well	7.4	235	75	24	4	15	7.2	0	134	4	1	2.3	0.08	141
GOPALGANJ	Kuchaikot	Dug well	7.9	978	160	50	9	105	65	0	378	46	19	92	0.14	587
GOPALGANJ	Lachchwar	Dug well	7.8	381	75	16	9	39	23	0	226	4	0	0	0	229
GOPALGANJ	Lala Pachmawa	Dug well	7.4	248	65	18	5	13	6	0	122	4	0	0	0	149
GOPALGANJ	Manjhwa1	Dug well	7.9	601	220	62	16	22	24	0	220	18	34	77	0.16	361
GOPALGANJ	Manjwalia	Dug well	8	947	340	84	32	48	16	0	378	46	23	82	0.24	568
GOPALGANJ	Misirbatha1	Dug well	7.6	386	100	30	6	36	10	0	195	4	14	13	0.03	232
GOPALGANJ	Nunachapra	Dug well	7.9	384	120	32	10	18	27	0	220	7	1	9	0	230
GOPALGANJ	Rampur2	Dug well	8	355	85	22	7	30	20	0	189	11	0	9.2	0	213
GOPALGANJ	Rampur2	Dug well	7.7	403	120	34	9	21	29	0	214	11	1	15	0.01	242
GOPALGANJ	Turkaha	Dug well	7.9	293	90	24	7	10	27	0	146	7	1	19	0	176
GOPALGANJ	Yadvapur Sukal	Dug well	8.2	289	90	26	6	7.55	27	0	128	7	2	25	0	173
VAISHALI	Baksama	Dug well	7.6	468	155	42	12	28	16	0	250	11	1	21	0	281
VAISHALI	Bhaluhia	Dug well	8.1	1041	355	110	19	56	25	0	427	53	21	78	0	625
VAISHALI	Chak Sikandar	Dug well	7.8	365	105	32	6	20	20	0	195	7	3	5.2	0	219
VAISHALI	Chakiyai	Dug well	7.6	682	225	68	13	42	9.5	0	195	82	17	42	0.02	409
VAISHALI	Chandpur Kala	Dug well	7.9	548	165	48	11	39	16	0	281	21	0	13	0.1	329
VAISHALI	Gajipur1	Dug well	7.6	789	215	62	15	52	31	0	293	25	24	79	0.24	473
VAISHALI	Garaul	Dug well	8.1	1069	355	102	24	68	22	0	421	67	38	63	0.13	641
VAISHALI	Hajipur	Dug well	8.2	511	195	58	12	25	6.7	0	244	28	4	23	0	307
VAISHALI	Harpur	Dug well	7.6	422	140	24	19	28	4	0	232	7	1	4.2	0	253
VAISHALI	Kachanpur	Dug well	7.9	732	265	66	24	52	5.6	0	336	18	32	65	0.04	439
VAISHALI	Kumharkal	Dug well	7.5	828	300	108	7	47	6.3	0	397	28	4	57	0.1	497
VAISHALI	Mahnar	Dug well	8.1	365	80	22	6	41	8.6	0	183	4	2	33	0.12	219
VAISHALI	Mahua1	Dug well	7.6	621	190	58	11	41	19	0	250	53	2	29	0.08	373

VAISHALI	Mathura 2	Dug well	7.8	1273	505	152	30	78	15	0	573	50	19	83	0.13	764
VAISHALI	Patepur	Dug well	7.9	351	115	28	11	12	21	0	177	7	2	15	0.04	211
VAISHALI	Sahjadpur	Dug well	8.1	428	130	42	6	32	8.9	0	195	11	7	33	0.09	257
VAISHALI	Sarai 1	Dug well	8.2	934	225	68	13	70	60	0	390	32	27	73	0.15	560
VAISHALI	Tariya Supaul	Dug well			160	42	13	8.33	35	0	201	18	2	45	0	287
MUZAFFARPUR	Aurai	Dug well	7.6	303	120	36	7	14	0.7	0	177	4	1	0	0.12	182
MUZAFFARPUR	Bhagwanpur Chowk	Dug well	7.9	712	370	62	52	0.54	0.1	0	329	64	0	15		427
MUZAFFARPUR	Bochaha	Dug well	8.1	476	225	52	23	0.3	0.1	0	262	11	1	0	0.04	286
MUZAFFARPUR	Daha Chhapra	Dug well	7.7	433	205	64	11	0.21	0.8	0	250	4	0	1.05	0.04	260
MUZAFFARPUR	Dewaria	Dug well	7.6	722	325	32	60	21	1.8	0	275	75	28	20	0.22	433
MUZAFFARPUR	dholi`	Dug well	7.9	408	190	46	18	14	0.6	0	232	21	0	0	0	245
MUZAFFARPUR	Digra	Dug well	7.8	461	270	72	22	0.2	0.5	0	329	4	0	0.4	0.04	277
MUZAFFARPUR	Gargaliya	Dug well	7.6	498	205	50	19	0.22	0.2	0	189	18	1	29	0	299
MUZAFFARPUR	jaffarpur	Dug well	7.9	346	170	32	22	0.47	0.1	0	171	7	0	21	0	208
MUZAFFARPUR	Japaha	Dug well	8	631	195	50	17	0.02	0.6	0	238	32	1	1.9	0.03	379
MUZAFFARPUR	Katra 1	Dug well	8.1	380	185	46	17	2.1	0.5	0	226	4	0	0	0	228
MUZAFFARPUR	Mahammadpur Balmi	Dug well	7.8	339	165	42	15	0.1	0.6	0	183	14	1	0	0.03	203
MUZAFFARPUR	Mahantmanihari	Dug well	7.9	578	280	52	36	0.7	0.2	0	232	25	1	63	0.03	347
MUZAFFARPUR	Muzaffarpur	Dug well	8	500	245	56	26	1.1	0.08	0	262	7	0	32	0.03	300
MUZAFFARPUR	Paro	Dug well	7.9	871	220	58	18	0.5	0.4	0	311	75	3	75	0	523
MUZAFFARPUR	Rajkhand	Dug well	7.8	201	95	8	18	0.5	0.4	0	73	7	0	35	0.03	121
MUZAFFARPUR	Rajwara	Dug well	7.9	506	240	70	16	8	0.12	0	281	7	63	20	0.05	304
MUZAFFARPUR	Ramnagar	Dug well	7.6	359	165	60	4	5	0.13	0	110	18	56	8	0.03	215
MUZAFFARPUR	Sakri chatti	Dug well	7.9	382	180	34	23	1.2	0.1	0	128	7	22	55	0.03	229
MUZAFFARPUR	Surfuddinpur	Dug well	7.6	296	125	18	19	2.6	4.2	0	122	11	7	16	0.07	178
MUZAFFARPUR	Shurahat	Dug well	7.9	686	210	70	9	24	0.6	0	275	7	3	25	0.19	412
MUZAFFARPUR	Seho	Dug well	7.6	419	200	62	11	1.4	0.11	0	183	18	3	27	0	251
MUZAFFARPUR	Wazitpur	Dug well	7.8	498	215	26	36	12	0.11	0	250	25	0	3.2	0.04	299
MUZAFFARPUR	Parwalpatti Barauna	Dug well	7.6	536	255	52	30	5.7	0.6	0	275	7	8	26	0	322
MUZAFFARPUR	Bishamberpur khutawa	Dug well	7.7	396	165	44	13	2.3	0.21	0	171	11	2	21	0	238

E CHAMPARAN	Bairiya Bazar	Dug well	7.5	317	160	50	9	3.9	0.1	0	146	18	10	19	0.08	190
E CHAMPARAN	Belai	Dug well	7.6	301	155	46	10	2.1	0.1	0	159	11	0	16	0	181
E CHAMPARAN	Bhakatiy Tola	Dug well	7.4	313	170	52	10	1.6	0.1	0	183	7	0	19	0.04	188
E CHAMPARAN	Bishunpur Matiyarwan	Dug well	7.7	429	205	62	12	2.9	0.3	0	153	25	13	42	0	257
E CHAMPARAN	Chakial	Dug well	7.5	491	165	46	12	4.3	4.5	0	165	7	2	29	0.03	295
E CHAMPARAN	Chatia	Dug well	7.6	560	225	62	17	16	0.5	0	244	4	17	51	0.03	336
E CHAMPARAN	Chhauradanu	Dug well	7.7	254	80	24	5	13	20	0	122	7	8	23	0	152
E CHAMPARAN	Dharampur	Dug well	7.9	283	130	42	6	8.5	1.6	0	116	25	9	12	0	170
E CHAMPARAN	Dipau	Dug well	7.8	100	45	10	5	2	0	0	43	12	0	0	0.05	60
E CHAMPARAN	Dubey Tola	Dug well	7.6	344	125	30	12	19	1.6	0	165	14	2	15	0.15	206
E CHAMPARAN	Dumaria	Dug well	7.4	793	275	78	19	39	2.3	0	250	46	31	76	0.08	476
E CHAMPARAN	Ghorashan	Dug well	7.6	190	55	18	2	19	0.37	0	98	11	0	2.3	0.2	114
E CHAMPARAN	Gobindganj	Dug well	7.9	1203	420	114	33	80	17	0	433	121	18	86	0.11	722
E CHAMPARAN	Husaini	Dug well	7.5	1417	490	148	29	76	42	0	580	135	2	52	0.39	850
E CHAMPARAN	Kizerpura	Dug well	7.9	499	200	74	4	18	1.5	0	183	28	3	58	0.83	299
E CHAMPARAN	Lala Chapra	Dug well	7.8	335	135	42	7	15	0.78	0	177	4	1	15	0.106	201
E CHAMPARAN	Mohabbatpur	Dug well	7.9	2052	815	244	50	85	13	0	842	153	13	126	0.26	1231
E CHAMPARAN	Motihari	Dug well	7.7	586	250	72	17	12	2.1	0	250	28	7	28	0.11	352
E CHAMPARAN	Nawada	Dug well	7.9	381	145	42	10	19	1.6	0	189	14	2	9.1	0	229
E CHAMPARAN	Patahi	Dug well	8.1	130	60	18	4	3.6	3.1	0	73	7	0	1.2	0.51	78
E CHAMPARAN	Radia	Dug well	7.5	346	155	44	11	9.7	2.1	0	183	11	1	15	0.32	208
E CHAMPARAN	Raghunathpur	Dug well	8	1259	610	172	44	6.6	1.4	0	537	14	55	135	0.23	755
E CHAMPARAN	Rajpur	Dug well	7.9	1280	475	104	52	54	39	0	561	25	24	149	0.08	768
E CHAMPARAN	Raxaul	Dug well	7.6	218	85	24	6	9.5	1.05	0	104	4	0	19	0	131
E CHAMPARAN	Sheoraha	Dug well	7.4	224	90	22	9	3.2	2.6	0	110	4	0	8.2	0.3	134
E CHAMPARAN	Shyampur	Dug well	7.5	283	100	24	10	1.2	0.3	0	110	4	0	9.4	0.48	170
E CHAMPARAN	Sugauli bazar	Dug well	7.5	256	110	26	11	5.2	0.8	0	122	14	0	7.9	0.14	154
E CHAMPARAN	Uttari Gavandra	Dug well	7.6	312	145	42	10	6.1	0.75	0	134	36	0	3.1	0.24	187
W CHAMPARAN	Bagaha	Dug well	7.7	734	335	102	19	16	2	0	268	25	42	94	0.2	440
W CHAMPARAN	Banspur pipra	Dug well	7.9	285	135	38	10	9.3	0.3	0	116	21	2	35	0.27	171

W CHAMPARAN	Belwa	Dug well	7.4	213	100	32	5	6	1.3	0	122	11	0	1.2	0.22	128
W CHAMPARAN	Bettiah	Dug well	7.6	646	255	82	12	34	4.3	0	305	18	13	52	0.06	388
W CHAMPARAN	Chanpatia	Dug well	7.5	315	150	46	9	8.8	1.1	0	153	7	5	40	0.39	189
W CHAMPARAN	Gurwalia	Dug well	7.8	534	225	64	16	18	4.1	0	189	18	8	54	0.15	320
W CHAMPARAN	Harnatanr	Dug well	8.1	1329	450	52	78	93	8.8	0	537	50	62	110	0.16	797
W CHAMPARAN	Korigawa Chowk	Dug well	7.6	399	175	54	10	9.2	1.2	0	153	18	24	25	0.23	239
W CHAMPARAN	Lauria	Dug well	7.5	327	145	42	10	10	0.3	0	128	18	9	27	0.48	196
W CHAMPARAN	Mangalpur	Dug well	7.6	432	175	50	12	17	1.2	0	153	28	9	53	0	259
W CHAMPARAN	Naurangia	Dug well	7.7	673	260	84	12	22	20	0	305	21	44	3	0	404
W CHAMPARAN	Taulaha	Dug well	7.4	232	100	36	2	5.2	0.6	0	85	7	25	5.3	0.19	139
W CHAMPARAN	Valmikinagar	Dug well	8.1	848	275	50	36	24	47	0	336	53	8	34	0	509
Darbhanga	Bahera (Brahmnnath chogma)	Dug well	7.51	614	189.86	32	27	65	0.41	0	357	12	16	2.47	0.17	399
Darbhanga	Baheri	Dug well	7.51	667	269.757	38	43	42	0	0	381	4	51	2.7	0.55	434
Darbhanga	Bithauli	Dug well	7.33	1230	484.579	68	77	55	0	0	375	213	12	1.84	0.41	800
Darbhanga	Darbhanga	Dug well	7.72	453	164.873	26	24	42	1.8	0	240	8	16	16.9	0.37	294
Darbhanga	Jorja	Dug well	7.12	598	204.833	36	28	58	3.2	0	351	8	11	BDL	0.68	389
Darbhanga	Keoty	Dug well	7.86	493	139.937	36	12	48	6.7	0	289	14	9	BDL	0.29	320
Darbhanga	Pouram	Dug well	8.21	662	259.81	44	36	55	0.2	0	387	7	47	6.8	0.81	430
Darbhanga	Sakri	Dug well	8.22	888	429.63	62	67	28	0	0	283	125	15	2.95	0.66	577
Darbhanga	Simri (bithauli)	Dug well	6.9	622	289.77	50	40	31	1.29	0	351	13	59	5	0.24	404
Madhubani	Ambedkar Nagar	Dug well	6.76	1601	352.897	62	48	179	38.5	0	443	290	12	31	0.75	1041
Madhubani	Babubarhi	Dug well	7.11	791	249.822	44	34	67	1.01	0	301	115	14	2.7	0.42	514
Madhubani	Benipatti	Dug well	7.38	340	129.91	30	13	16	0.34	0	148	23	19	BDL	0.11	221
Madhubani	Bentadih	Dug well	7.37	796	209.848	36	29	101	1.6	0	381	81	4	BDL	0.64	517
Madhubani	Bhagwatipur	Dug well	7.18	580	219.81	28	36	51	0.28	0	344	11	12	1.78	0.49	377
Madhubani	Bhawaniipur	Dug well	7.39	657	124.937	30	12	81	3.8	0	387	24	53	BDL	0.6	427
Madhubani	Bindeshwar astan	Dug well	8.13	1233	360	64	48	90	5.4	0	375	132	8	71.9	0.231	801
Madhubani	Bihari	Dug well	7.21	429	184.937	54	12	27	0.3	0	246	7	14	17.2	0.33	279
Madhubani	Dhakjari	Dug well	8.15	450	199.873	40	24	30	1.9	0	264	11	11	BDL	0.41	293
Madhubani	Harlakhi	Dug well	7.22	403	135.213	24	18	30	0.7	0	240	7	15	4	0.27	262

Madhubani	Harri	Dug well	7.17	569	184.848	26	29	53	0.26	0	289	14	8	BDL	0.52	370
Madhubani	Jaynagar	Dug well	6.98	522	110	34	6	68	4.2	0	326	3	19	5.8	0.63	339
Madhubani	Jhanjharpur	Dug well	7.44	726	220.49	48	24	79	1.24	0	357	35	14	2.2	0.29	472
Madhubani	Jogiya	Dug well	8.33	738	224.86	46	27	72	1.9	0	464	8	3	7	0.45	480
Madhubani	Pariharpur	Dug well	7.16	571	120	38	6	74	3.86	0	363	3	18	9.05	0.55	371
Madhubani	Kapasias	Dug well	8.21	320	114.937	26	12	25	0.3	0	148	6	16	11.7	0.41	208
Madhubani	Kapileshwar	Dug well	7.88	659	139.924	32	15	64	10.3	0	375	15	21	21.2	0.27	428
Madhubani	Khajauli	Dug well	8.14	933	259.846	62	26	94	5.7	0	437	84	25	5.9	0.42	606
Madhubani	Madhubani	Dug well	7.23	898	229.835	40	32	72	0	0	271	114	74	17	0.43	584
Madhubani	Narar	Dug well	8.27	1385	295	38	48	149	34.4	0	258	239	11	11.8	0.29	900
Madhubani	Pandaul	Dug well	7.57	499	229.848	44	29	10	0.56	0	301	8	11	8.7	0.3	324
Madhubani	Phulparas	Dug well	7.41	444	159.924	40	15	27	3.9	0	271	5	43	2.1	0.89	289
Madhubani	Shambhuar	Dug well	7.49	1579	429.694	82	55	94	98.1	0	744	121	12	12.8	0.14	1026
Madhubani	Siswar	Dug well	8.07	624	110	26	11	95	1.3	0	363	15	14	5.7	0.4	406
Madhubani	Thantola (khajauli)	Dug well	7.09	560	214.846	44	26	54	2.6	0	344	4	54	2.9	0.55	364
Samastipur	Sahit (Bajidpur)	Dug well	7.36	1327	400	80	48	99	1	0	394	192	44	31.91	0.23	863
Samastipur	Basudebpur	Dug well	8.41	702	304.771	50	44	31	1.24	0	387	9	51	5.65	0.53	456
Samastipur	Dalsingh sarai	Dug well	7.2	839	299.719	38	50	55	2.7	0	449	18	30	22.9	0.18	545
Samastipur	Dandia Asadpur	Dug well	7.15	634	229.848	44	29	42	1.08	0	381	4	40	7.3	0.3	412
Samastipur	Jakhra	Dug well	7.16	699	200.49	40	24	54	2.64	0	308	32	72	BDL	0.56	454
Samastipur	Jathmal pur (samastipur)	Dug well	8.38	1132	339.719	54	50	93	6.89	0	372	156	73	BDL	0.17	736
Samastipur	Kalyanpur	Dug well	7.76	992	244.822	42	34	107	17.04	0	363	113	161	7.91	0.43	645
Samastipur	Karian	Dug well	7.39	2383	880	136	131	88	61.34	0	732	141	75	141.33	0.32	1549
Samastipur	Madudabad	Dug well	8.36	1422	559.643	118	64	98	1.6	0	406	119	45	195.2	0.27	924
Samastipur	Malipur	Dug well	7.73	787	300	40	48	61	0.23	0	351	55	39	5.5	0.81	512
Samastipur	Patpara	Dug well	7.11	730	304.771	50	44	36	1.27	0	394	12	31	2.3	0.52	475
Samastipur	Raghunathpur	Dug well	7.36	681	349.719	58	50	16	1.9	0	344	28	27	2.87	0.44	443
Samastipur	Rosera	Dug well	7.55	715	214.848	38	29	39	1.2	0	308	22	47	18.32	0.29	465
Samastipur	Shahpur Patori	Dug well	7.33	682	289.771	44	44	30	0.19	0	320	9	53	BDL	0.18	443
Samastipur	Singhia ghat	Dug well	7.14	821	324.732	52	47	45	0.95	0	437	11	71	21.11	0.37	534

Samastipur	Tajpur	Dug well	8.39	1797	699.925	140	85	102	1.31	0	449	264	56	14.65	0.39	1168
Samastipur	Bhagwanpur	Dug well	7.44	684	224.833	44	28	52	1.06	0	295	18	51	2.17	0.36	445
Samastipur	Vikrampur	Dug well	7.31	814	339.719	54	50	28	1.25	0	357	28	24	12.4	0.43	529
Sheohar	Sarbarpur	Dug well	7.83	601	214.86	42	27	22	0.98	0	289	10	15	BDL	0.27	391
Sheohar	Belsand	Dug well	7.77	477	229.822	36	34	17	0.17	0	277	7	13	4.3	0.21	310
Sheohar	Sheohar (Ganneshpur)	Dug well	7.53	558	274.783	48	38	16	0.2	0	333	11	18	BDL	0.29	363
Sheohar	Purnharya Bazar	Dug well	7.17	721	274.848	62	29	51	3.78	0	344	47	13	BDL	0.57	469
Sitamarhi	Bangaon	Dug well	7.47	490	194.873	38	24	33	0.59	0	252	10	14	14.35	0.34	319
Sitamarhi	Bhupbhairo Khaptola	Dug well	7.35	399	194.846	36	26	14	0.41	0	215	8	12	BDL	0.36	259
Sitamarhi	Bhutahi	Dug well	7.44	515	174.846	28	26	33	0.23	0	289	9	12	BDL	0.32	335
Sitamarhi	Dastiya	Dug well	7.6	484	194.911	50	17	36	0.45	0	295	7	15	2.23	0.41	315
Sitamarhi	Dheng (Maniyari math)	Dug well	7.18	580	294.783	56	38	17	0.8	0	338	5	13	1.29	0.38	377
Sitamarhi	Jagwana Bazar	Dug well	7.33	464	214.86	42	27	15	0.74	0	234	5	16	15.6	0.53	302
Sitamarhi	Karhaniya chowk	Dug well	7.46	377	170.213	38	18	15	1.31	0	228	4	9	BDL	0.56	245
Sitamarhi	Kodwara Tola	Dug well	7.22	415	179.911	44	17	17	1.11	0	221	11	18	2.7	0.49	270
Sitamarhi	Kushmari	Dug well	7.54	538	180	42	18	37	0.37	0	295	15	7	0.22	0.36	350
Sitamarhi	Nanpur	Dug well	7.49	400	164.884	36	18	24	0.12	0	228	4	4	1.07	0.25	260
Sitamarhi	Punaura	Dug well	7.39	424	189.859	38	23	14	0.4	0	240	7	18	1.01	0.32	276
Sitamarhi	Pupri	Dug well	7.37	418	144.949	42	10	32	0.11	0	215	3	14	2.88	0.28	272
Sitamarhi	Sitamarhi	Dug well	7.61	382	159.886	28	22	17	1.22	0	197	7	5	BDL	0.38	248
Sitamarhi	Sursand	Dug well	8.24	461	204.833	36	28	23	1.82	0	264	8	7	0.99	0.33	300
Sitamarhi	Thumba	Dug well	7.13	339	139.897	30	16	22	1.72	0	191	8	34	2.89	0.61	220
Nalanda	Chandil	Dug well	7.81	821	219.873	48	24	75	1.77	0	320	20	16	19.65	0.9	534
Nalanda	Hilsa	Dug well	8.47	524	164.873	26	24	50	1.8	0	160	46	18	16.5	0.49	341
Nalanda	Ekangarsarai	Dug well	7.41	1260	174.886	34	22	166	4.88	0	394	128	64	61.3	1.16	819
Nalanda	Nischalganj	Dug well	8.13	971	259.808	50	33	101	9.69	0	285	110	32	19.12	0.77	631
Nalanda	Parwalpur	Dug well	8.51	1124	339.808	82	33	101	4.3	0	437	35	17	55.26	0.25	731
Nalanda	Daudpur	Dug well	8.69	771	299.822	64	34	56	0.94	0	351	46	44	23.29	0.18	501
Nalanda	Moghra	Dug well	7.48	740	259.846	62	26	53	4.8	0	326	39	19	15	0.78	481
Nalanda	Ranabigha	Dug well	7.72	979	199.924	56	15	119	7.01	0	314	166	72	24.8	0.34	636

Nalanda	Kundalpur	Dug well	8.19	906	234.873	54	24	82	4.12	0	271	57	25	21.23	0.98	589
Nalanda	Pilkhi	Dug well	8.33	612	129.897	26	16	87	1.77	0	160	114	37	8.24	0.51	398
Nalanda	Ankuri Bazar	Dug well	7.39	652	169.846	26	26	76	4.15	0	252	52	51	0	0.84	424
Nalanda	Islampur	Dug well	7.16	1777	269.872	74	21	252	49.73	0	437	225	9	106.2	0.72	1155
Nalanda	Sherpur	Dug well	8.06	350	104.91	20	13	39	0.27	0	160	20	67	8.2	0.53	228
Nalanda	Papanhosa	Dug well	7.13	908	204.937	62	12	88	12.3	0	264	88	234	6.96	1.22	590
Nalanda	Nirpur	Dug well	8.21	2478	469.683	88	61	339	6.3	0	590	289	275	105.81	1.37	1611
Nalanda	Silao	Dug well	8.32	3356	581.327	132	61	536	51.74	0	873	451	35	57.2	1.11	2181
Nalanda	Bhui	Dug well	8.11	1527	444.67	74	63	124	4.13	0	480	166	73	21.9	1.34	993
Nalanda	Pawapuri	Dug well	8.26	639	169.872	34	21	71	1.3	0	209	35	45	0	0.55	415
Nalanda	Harnaut	Dug well	8.08	981	109.91	22	13	132	76.3	0	314	72	37	54.1	0.41	638
Nalanda	Vena	Dug well	8.66	554	164.846	24	26	62	0.48	0	166	52	227	28.33	0.18	360
Nalanda	Doiya	Dug well	8.46	2632	524.529	68	86	367	3.34	0	769	302	67	22.4	0.19	1711
Nalanda	Sarmera	Dug well	7.92	499	124.922	32	11	51	1.27	0	221	22	44	5.1	0.21	324
Nalanda	Heganpura	Dug well	7.26	1220	374.757	80	43	86	8.54	0	249	200	12	0.97	1.68	793
Nalanda	Sodh	Dug well	7.65	976	194.937	58	12	140	2.4	0	301	171	23	46.7	0.36	634
Nalanda	Biharsharif Rly Stn	Dug well	8.34	852	244.86	54	27	74	9.82	0	314	118	8	0	0.35	554
Nalanda	Muraura	Dug well	8.29	1033	324.835	78	32	66	2.94	0	461	87	27	0.9	0.26	671
Nalanda	Asthwan	Dug well	7.37	1329	419.77	102	40	108	2.37	0	535	102	19	1.16	0.23	864
Nalanda	Sare	Dug well	7.99	540	109.91	22	13	69	0.97	0	178	45	8	11.35	0.24	351
Nalanda	Jangipur	Dug well	8.36	491	124.91	28	13	51	4.3	0	185	35	77	14.9	0.35	319
Sheikhpura	Barbigaha	Dug well	7.03	1038	229.795	34	35	119	7.81	0	277	117	75	5.28	0.42	675
Sheikhpura	Keoti	Dug well	8.39	1047	319.706	42	52	75	12.23	0	381	89	26	0	0.57	681
Sheikhpura	Koeribigha	Dug well	8.15	1141	229.86	48	27	135	31.28	0	498	89	19	16.2	0.94	742
Sheikhpura	Sherpar	Dug well	8.39	412	104.937	22	12	47	1.34	0	154	21	25	0	0.63	268
Sheikhpura	Nemdarganj	Dug well	8.32	444	99.91	18	13	62	4.39	0	209	18	27	1.9	0.48	289
Sheikhpura	Shekhpura	Dug well	8.17	630	184.86	30	27	57	1.85	0	283	31	185	26.4	0.37	410
Nalanda	Nimi	Dug well	7.84	2688	474.668	92	60	372	34.77	0	633	300	200	101.29	0.42	1747
Sheikhpura	Ambari	Dug well	8.24	1645	254.833	56	28	127	212.8	0	277	139	54	128.35	0.11	1069
Nawada	Shahpur More	Dug well	8.39	745	144.898	26	19	111	31.97	0	178	123	222	21.8	0.13	484

Nalanda	Sithuara	Dug well	7.27	2729	474.643	84	64	431	52.61	0	633	368	70	85	0.66	1774
Nalanda	Giriak	Dug well	8.13	1840	594.492	78	97	127	1.76	0	621	169	67	31.7	0.29	1196
Nawada	Warsaligang	Dug well	8.34	1152	359.605	26	72	118	34.8	0	477	79	29	51.37	0.88	749
Nawada	Pakribarawan	Dug well	7.82	419	129.91	30	13	40	2.79	0	191	18	18	23.6	0.32	272
Nawada	Kaukol Ashram	Dug well	7.94	560	139.937	36	12	75	1.62	0	283	10	82	15.51	1.83	364
Nawada	Rupau	Dug well	8.18	1543	334.95	60	45	157	61.83	0	381	144	23	134.58	0.29	1003
Nawada	Roh	Dug well	8.08	528	184.872	40	21	41	2.87	0	178	29	18	25.17	2.34	343
Nawada	Gunama	Dug well	7.14	825	224.86	46	27	89	1.88	0	351	89	14	19.42	0.67	536
Nawada	Nawada2	Dug well	8.32	790	329.745	58	45	58	2.45	0	400	39	18	19.57	0.21	514
Nawada	garphar	Dug well	7.86	497	164.898	34	19	50	0.58	0	166	35	6	53.77	0.49	323
Nawada	hisua	Dug well	7.37	330	99.96	34	4	33	1.26	0	154	25	23	2.65	0.16	215
Nawada	Meskaur	Dug well	8.02	490	154.872	28	21	31	6.35	0	178	17	27	32.74	1.12	319
Nawada	Khanewa	Dug well	8.27	928	289.745	42	45	58	29.33	0	351	127	47	7.09	0.03	603
Nawada	Nawaganj	Dug well	8.33	513	144.872	24	21	44	7.71	0	189	17	19	0	1.15	333
Nawada	Dopata	Dug well	8.37	602	184.86	30	27	42	4.97	0	189	82	24	0	0.71	391
Nawada	Bishunpur	Dug well	7.64	1155	384.67	50	63	97	16.87	0	510	111		2.78	0.22	751
Nawada	Tungi	Dug well	8.17	478	104.924	18	15	61	2.01	0	117	47	217	18.2	0.67	311
Gaya	Wajirganj	Dug well	7.55	2596	714.452	120	101	201	29.82	0	363	484	16	61	0.2	1687
Gaya	Fatehpur	Dug well	8.33	480	179.884	42	18	34	0.57	0	246	28	12	9.12	0.49	312
Gaya	Baraila More	Dug well	8.48	617	199.937	60	12	50	6.44	0	166	59	52	31.88	0.27	401
Gaya	Manpur	Dug well	7.46	1099	334.784	66	41	106	8.98	0	400	128	54	49.4	0.71	714
Gaya	Dobhi	Dug well	8.21	789	229.86	48	27	70	1.84	0	338	58	95	0	0.75	513
Gaya	Bhadeya	Dug well	8.17	1885	454.67	78	63	245	8.09	0	351	297	18	87.2	0.54	1225
Gaya	DangraMore	Dug well	8.18	776	264.833	60	28	68	1.82	0	385	50	56	6.47	0.77	504
Gaya	Bodhgaya	Dug well	8.29	785	219.884	58	18	70	14.7	0	289	66	56	32.5	0.38	510
Gaya	Banke bazar	Dug well	7.81	739	239.897	70	16	63	6.53	0	154	150	79	4.11	0.37	480
Gaya	Baseta	Dug well	7.16	1185	469.656	86	62	71	6.66	0	240	212	77	67.58	0.57	770
Gaya	Mangra	Dug well	7.84	1200	344.694	48	55	100	4.1	0	363	154	53	17	0.68	780
Gaya	Akauna	Dug well	7.98	796	244.833	52	28	60	1.75	0	301	79	68	1.2	0.75	517
Gaya	Rghunath Khap	Dug well	7.94	1126	364.733	62	51	114	1.82	0	363	145	96	104	0.71	732

Gaya	Guraru	Dug well	7.71	1383	544.668	120	60	87	1.72	0	308	254	316	2.87	0.69	899
Gaya	Konch	Dug well	8.24	3910	1039.071	130	174	345	77.32	0	554	577	77	171.42	0.81	2542
Gaya	Tekari	Dug well	8.34	1274	469.694	98	55	45	30.78	0	437	109	71	85.32	0.28	828
Gaya	Sangat Gali	Dug well	8.37	967	339.795	78	35	89	1.81	0	178	105	107	183	0.91	629
Gaya	Chandchaura Chowk	Dug well	7.71	1264	324.833	84	28	146	0.87	0	258	193	15	99.8	3.78	822
Gaya	Ramkund	Dug well	7.96	385	144.937	38	12	24	2.49	0	172	23	49	6.57	0.44	250
Nalanda	Bithosharif	Dug well	7.81	1570	434.694	84	55	135	5	0	547	141	14	33.82	0.34	1021
Gaya	Paligaon	Dug well	8.29	659	234.846	52	26	47	1.49	0	332	35	2	16.5	0.58	428
Gaya	Gaya college	Dug well	7.51	452	129.884	22	18	35	1.68	0	240	21	11	1.24	0.49	294
Rohtas	Akbarpur	Dug well	8.21	489	46	25.5	220	13	0.99	0	289	12	459	2.04	0.26	318
Rohtas	Amawan Gate	Dug well	7.83	1708	755	75.3	755	47	2.31	0	314	45	16	12.58	0.42	1110
Rohtas	Ambwalia	Dug well	8.15	781	285	38	46	51	1.95	0	443	28	14	0	0.77	508
Rohtas	Anikut (Anikat)	Dug well	7.64	684	290	40	46	42	3.54	0	363	35	31	9.7	0.74	445
Rohtas	Bahaura	Dug well	8.18	945	395	62	58	45	9.67	0	424	79	14	7.64	0.39	614
Rohtas	Belthari	Dug well	8.42	695	235	18	46	67	1.46	0	240	78	48	2.37	4.03	452
Rohtas	Bikramganj	Dug well	8.11	873	309.979	42	50	76	0.94	0	271	75	13	63.4	0.59	567
Rohtas	Chenari	Dug well	8.14	554	259.979	38	40	9	4.15	0	326	11	28	5.26	0.16	360
Rohtas	Dinara	Dug well	7.99	649	299.979	34	52	25	1.24	0	375	15	95	1.22	0.31	422
Rohtas	Jahanabad (Kudra)	Dug well	7.88	1055	360	44	61	84	0.83	0	308	130	13	54.28	0.21	686
Rohtas	Karbindia	Dug well	7.94	492	255	38	39	9	0.74	0	271	6	34	5.16	1.41	320
Rohtas	Karma	Dug well	8.11	643	284.979	44	43	19	1.12	0	153	68	22	64.59	0.17	418
Rohtas	Kochas	Dug well	7.61	724	260	32	44	59	1.08	0	418	12	21	5.97	1.22	471
Rohtas	Maliabagh	Dug well	8.17	661	270	56	32	29	1.88	0	363	26	20	0	0.37	430
Rohtas	Nasriganj	Dug well	8.48	395	190	32	27	5	3.37	0	178	17	61	2.45	0.83	257
Rohtas	Nokha	Dug well	7.56	1140	299.979	34	52	114	3.18	0	437	130	14	1.26	0.49	741
Rohtas	Rajandih	Dug well	8.2	822	335	34	61	54	0.91	0	449	38	13	0	1.17	534
Rohtas	Sasaram	Dug well	8.16	671	300	44	46	23	1.76	0	326	27	17	10	0.39	436
Rohtas	Sinsiyau	Dug well	7.28	1280	364.979	40	64	129	2.41	0	394	184	14	7.54	0.372	832
Rohtas	Tilothu	Dug well	8.31	674	309.979	42	50	24	4.19	0	326	33	25	10.2	0.59	438
Bhojpur	Bakhorapur	Dug well	8.23	468	190	52	15	26	2.13	0	209	18	25	24.6	0.27	304

Bhojpur	Balua	Dug well	7.21	627	250	44	34	26	0.47	0	271	37	19	7.35	0	408
Bhojpur	Barhara	Dug well	7.86	550	265	64	26	11	4.06	0	301	18	63	1.58	0.27	358
Bhojpur	Baruna	Dug well	7.72	603	160	54	6	71	0.93	0	160	64	48	48.53	0.34	392
Bhojpur	Bihayan	Dug well	8.32	729	275	50	36	29	47.35	0	363	32	28	1.28	0.19	474
Bhojpur	Birampur	Dug well	8.15	732	280	70	26	48	4.18	0	314	80	18	2.64	0.14	476
Bhojpur	Chandwa	Dug well	7.84	526	219.979	46	26	26	1.38	0	308	14	59	0	0.45	342
Bhojpur	Dhusaria	Dug well	8.27	925	380	80	44	60	5.37	0	326	89	65	32.66	0.12	601
Bhojpur	Ekauna	Dug well	7.76	914	334.979	48	52	41	8.18	0	295	66	19	93.2	0	594
Bhojpur	Farhada	Dug well	8.32	481	209.979	54	18	10	4.99	0	271	6	16	0	0.28	313
Bhojpur	Gidha	Dug well	8.39	671	290	60	34	27	2	0	375	18	19	6	0.14	436
Bhojpur	Guljarpur	Dug well	8.11	560	289.979	66	30	8	1.25	0	326	15	58	0	0.55	364
Bhojpur	Harnathkundi	Dug well	7.81	989	260	62	26	112	2.98	0	449	90	14	0	0.12	643
Bhojpur	Inglishpur	Dug well	8.09	533	224.979	60	18	25	1.85	0	301	19	17	0	0.17	346
Bhojpur	Jagatpur	Dug well	8.1	581	235	52	26	41	2.12	0	357	7	47	0	0.32	378
Bhojpur	Jarawarpur Milki	Dug well	7.99	630	274.979	60	30	29	3.15	0	351	8	125	0	0.21	410
Bhojpur	Karnemipur	Dug well	7.77	1417	390	80	46	151	7.73	0	221	217	168	79.32	0.28	921
Bhojpur	Kasap	Dug well	8.02	1322	484.979	64	79	75	2.08	0	418	129	14	18.27	0.56	859
Bhojpur	Koeri	Dug well	8.18	559	225	54	22	35	1.11	0	295	20	35	14.2	0.37	363
Bhojpur	Kulharia	Dug well	7.95	558	210	40	27	44	0.34	0	221	43	45	0	0.17	363
Bhojpur	Lodhipur	Dug well	7.88	760	305	70	32	43	1.78	0	344	42	15	29.3	0.24	494
Bhojpur	Milki	Dug well	7.97	590	254.979	52	30	20	1.84	0	363	8	31	1.22	0.54	384
Bhojpur	Mokhalisa	Dug well	8.33	467	195	34	27	15	17.33	0	228	10	43	21.8	0.22	304
Bhojpur	Mohammadpur	Dug well	8.08	683	275	68	26	43	2.64	0	264	56	49	47.3	0.14	444
Bhojpur	Nasratpur	Dug well	7.91	703	299.979	62	35	39	1.28	0	295	35	25	39	0.37	457
Bhojpur	Pauna	Dug well	8.33	1112	370	52	58	113	0.95	0	517	99	18	2.22	0.51	723
Bhojpur	Rajapur Bazar	Dug well	8.2	433	194.979	48	18	15	3.11	0	246	7	84	11.81	0.2	281
Bhojpur	Sikaddi	Dug well	8.44	1491	485	106	53	98	99.35	0	603	121	180	81.3	0.19	969
Bhojpur	Sandesh	Dug well	8.15	1684	655	114	90	107	14.65	0	320	255	74	148.34	0.29	1095
Bhojpur	Chhota Sasaram	Dug well	7.95	992	375	66	51	78	4.38	0	252	103	14	105.82	0.21	645
Bhojpur	Simaria	Dug well	8.18	544	224.979	60	18	18	3.77	0	326	7	12	2.52	0.18	354

Bhojpur	Songhatta	Dug well	8.33	508	225	54	22	19	3.24	0	301	6	17	2.27	0.38	330
Bhojpur	Udwantnagar	Dug well	7.84	734	274.979	52	35	59	1.46	0	424	10	55	0	0.45	477
Buxar	Rajpur	Dug well	7.97	1232	58.32	310	28	149	1.05	0	455	153	88	11.45	0.82	801
Buxar	Chausa	Dug well	7.99	1061	52.24	330	46	88	3.15	0	375	115	77	27.11	0.37	690
Buxar	Mishrvalia	Dug well	7.65	1627	111.78	614	62	71	2.33	0	498	233	15	31.5	0.98	1058
Buxar	Danikutia	Dug well	8.17	481	26.73	200	36	19	1.05	0	271	14	73	5.08	0.75	313
Buxar	Kritpur	Dug well	7.55	1960	94.77	515	50	142	123.1	0	584	267	30	152.98	0.72	1274
Buxar	Thodagaon	Dug well	8.34	793	71.68	375	32	30	1.36	0	351	43	42	31.5	0.95	515
Buxar	Buxar	Dug well	8.19	1042	70.47	450	64	21	0.55	0	252	169	21	21.9	0	677
Buxar	Dudharchak	Dug well	7.33	539	36.45	220	28	25	1.74	0	289	7	18	11.41	0	350
Buxar	Churamanpur	Dug well	8.13	649	37.66	220	26	58	2	0	375	7	57	18.2	0.65	422
Buxar	Ramobariya	Dug well	7.95	1295	59.53	330	34	98	155	0	492	119	12	66.6	0.77	842
Buxar	Manikpur	Dug well	7.11	666	53.46	305	34	15	3.32	0	424	4	20	0	0.29	433
Buxar	Barka Rajpur	Dug well	8.41	536	40.09	235	28	13	1.97	0	295	7	24	0	0.24	348
Buxar	Neazipur	Dug well	7.37	501	37.66	250	38	17	1.7	0	277	11	4	4.22	0.33	326
Buxar	Sohiar	Dug well	8.39	655	27.94	200	34	22	61.02	0	351	28	20	11.29	0.31	426
Buxar	Karathar	Dug well	7.65	518	23.08	160	26	55	3.94	0	295	10	76	0	0.27	337
Buxar	Dumri	Dug well	7.96	631	45.52	287	40	24	3.39	0	258	26	82	23.7	0.14	410
Buxar	Durasan	Dug well	7.28	1036	61.96	370	46	76	2.98	0	400	98	15	18.35	0.09	673
Buxar	Dumraon	Dug well	8.32	828	52.24	340	50	65	1.65	0	455	35	7	9.35	0.8	538
Buxar	Hathilpur	Dug well	8.15	551	31.59	220	36	15	4.9	0	301	6	23	43.2	0.19	358
Buxar	Brahmpur	Dug well	7.63	680	25.51	230	50	57	1.61	0	326	44	5	11.7	0.35	442
Buxar	Raghunathpur	Dug well	7.11	521	36.45	225	30	21	1.65	0	314	11	23	0	0.58	339
Buxar	Bagen Bazar	Dug well	7.98	620	36.45	275	50	29	1.81	0	326	10	7	3.5	0.462	403
Buxar	Jugia Dera	Dug well	7.99	515	31.59	210	32	29	1.88	0	289	7	6	2.21	0.37	335
Buxar	Khochariwan	Dug well	8.26	662	53.46	305	34	25	1.38	0	375	7	4	7.33	0.7	430
Buxar	Mharajgunj	Dug well	7.78	583	42.52	265	36	27	1.64	0	363	7	88	9.54	0.41	379
Munger	Asarganj	Dug well	8.21	1673	409.979	78	52	116	171	0	541	191	112	25.64	0.37	1087
Munger	Bariarpur	Dug well	7.66	1735	510	46	95	128	1.69	0	412	236	26	18.55	0.53	1128
Munger	Gangta Morh	Dug well	8.05	634	140	28	17	77	0.6	0	252	75	28	0	0.32	412

Munger	Gobadda	Dug well	8.28	901	345	38	61	47	0.81	0	461	61	23	1.27	0.77	586
Munger	Haveli Kharagpur	Dug well	8.32	462	170	26	26	34	1.74	0	240	22	27	2.3	0.19	300
Munger	Kajra	Dug well	8.24	1323	424.979	40	79	100	0.35	0	578	125	77	28.11	1.36	860
Munger	Purabsarai Navtoli	Dug well	7.31	788	260	38	40	57	3.44	0	203	71	17	27.46	0.18	512
Munger	Rampur	Dug well	7.73	369	100	20	12	31	3.86	0	160	28	41	1.3	0.08	240
Munger	Sangrampur	Dug well	8.34	399	125	22	17	36	1.75	0	141	14	45	0	0.44	259
Munger	Munger	Dug well	7.19	1324	350	48	56	132	14.32	0	424	137	76	25.58	0.09	861
Banka	Amarpur	Dug well	7.64	1290	420	68	61	98	75.36	0	517	138	63	27.65	0.38	839
Banka	Banka	Dug well	7.45	733	195	34	27	56	11.67	0	203	64	55	19.35	0.18	476
Banka	Barahat	Dug well	7.36	580	124.979	16	21	74	9.16	0	258	31	59	8.46	1.04	377
Banka	Baunsi	Dug well	8.22	900	310	76	29	57	1.53	0	129	173	16	16.49	1.31	585
Banka	Chandan	Dug well	7.52	445	165	38	17	34	1.84	0	203	22	70	15.06	0.71	289
Banka	English Morh	Dug well	7.92	639	150	40	12	42	47.29	0	221	29	36	19.37	0	415
Banka	Fullidumar	Dug well	7.82	471	149.979	26	21	53	3.94	0	228	30	57	21.8	0.37	306
Banka	katuria	Dug well	7.44	729	275	68	26	50	1.59	0	209	71	55	25.4	0.44	474
Banka	Mirzapur	Dug well	8.58	938	150	20	24	127	10.78	0	351	78	32	0	1.7	610
Banka	Panjwara	Dug well	7.91	349	134.979	24	18	21	6.44	0	154	27	30	0	0.27	227
Banka	Rajaun	Dug well	8.17	413	115	18	17	48	4.6	0	197	5	82	0	0.53	268
Banka	Rampur	Dug well	7.86	746	259.979	38	40	37	2	0	228	70	25	1.27	0.09	485
Banka	Sambuganj	Dug well	8.14	721	139.979	22	21	83	10.69	0	240	66	57	7.36	0.57	469
Banka	Tinmurty	Dug well	8.33	577	114.979	16	18	74	2.87	0	221	25	32	14.39	0.13	375
Lakhisarai	Barhaiya	Dug well	7.18	618	144.979	24	21	74	0.71	0	314	28	25	0	0.38	402
Lakhisarai	Barhaiya	Dug well	7.95	724	230	26	40	57	0.54	0	344	32	33	17.01	0.38	471
Lakhisarai	Lakhisarai	Dug well	7.55	381	140	28	17	24	1.27	0	148	29	125	15.4	0.18	248
Lakhisarai	saidpura	Dug well	7.18	1529	579.979	106	77	69	0.68	0	351	178	138	31.57	0.58	994
Lakhisarai	Arma	Dug well	8.34	2434	555	82	85	265	5.28	0	658	268	115	44.7	0.44	1582
Lakhisarai	Surajgarha	Dug well	7.22	1257	344.979	52	52	121	3.34	0	443	123	33	18.31	0.21	817
Jamui	sandipi	Dug well	7.33	549	160	22	26	60	4.1	0	203	36	27	21	0.74	357
Jamui	Laksmipur	Dug well	7.69	634	139.979	14	26	75	0.94	0	148	113	24	24.41	0.08	412
Jamui	Lalmatia	Dug well	8.31	390	105	22	12	40	1.33	0	203	4	26	12.16	0.87	254

Jamui	Gidhaur	Dug well	7.61	453	139.979	26	18	33	1.53	0	154	40	41	30.24	0.68	294
Jamui	Ambedkar nagar	Dug well	7.72	522	215	58	17	25	2.17	0	166	44	28	22.68	0.27	339
Jamui	Batia	Dug well	7.39	486	160	28	22	47	1.24	0	203	43	30	12.77	0.74	316
Jamui	Sono	Dug well	8.33	655	159.979	22	26	80	0.9	0	338	25	36	11.51	0.63	426
Jamui	Tarakhar	Dug well	8.26	471	149.979	30	18	43	2.07	0	178	36	77	28.16	0.75	306
Jamui	Chakai	Dug well	7.48	861	265	42	39	74	4.9	0	129	137	47	23.68	0.32	560
Jamui	Chandra mandih	Dug well	8.32	792	244.979	36	38	57	2.21	0	178	138	62	15	1.41	515
Jamui	Jhajha	Dug well	7.35	630	170	26	26	70	1.36	0	221	47	45	17.68	1.14	410
Jamui	Harna	Dug well	7.51	501	139.979	22	21	49	2.13	0	178	28	36	9.36	0.65	326
Jamui	Purna Khaira	Dug well	8.17	448	85	32	1	69	1.84	0	178	47	124	1.28	0.69	291
Jamui	Sikandra	Dug well	8.32	1911	359.979	30	69	83	258	0	529	235	32	31.71	0.62	1242
jamui	Jamui	Dug well	7.63	561	164.979	20	28	49	1.88	0	154	60	21	2.11	0.38	365
Jamui	Manjhwe	Dug well	8.39	615	155	18	27	75	0.85	0	289	29	88	2.13	3.27	400
Patna	Maranchi	Dug well	8.21	1219	435	70	63	63	2.82	0	424	67	43	34.46	0.51	792
Patna	Agwanpur	Dug well	7.7	843	255	50	32	76	2.1	0	301	78	51	17.94	0.4	548
Patna	Bakhtiarpur	Dug well	7.55	982	325	58	44	80	3.16	0	387	71	30	1.11	0.08	638
Patna	Barh	Dug well	8.11	843	275	50	36	72	3.67	0	363	54	93	21.84	0.429	548
Begusarai	cheria bariarpur	Dug well	7.78	663	229.918	36	34	47	0.4	0	281	25	58	0	1.29	431
Begusarai	badaalpura	Dug well	8.1	500	190	38	23	34	0.48	0	240	13	81	0	0	325
Begusarai	Bari Balia	Dug well	7.76	877	249.979	42	35	80	1.43	0	314	75	66	24.8	0.27	570
Begusarai	Bagras	Dug well	8.12	730	235	38	34	47	13.26	0	344	27	85	0	0.25	475
Begusarai	Bakhri Salona	Dug well	8.29	1151	309.979	34	55	78	30	0	363	107	34	39.33	0	748
Begusarai	baruni omile	Dug well	8.21	699	290	32	51	36	0.49	0	295	35	72	6.28	0.51	454
Begusarai	bariarpur	Dug well	7.77	945	274.979	52	35	66	18.6	0	320	95	80	16.5	0.23	614
Begusarai	bareighu	Dug well	8.01	680	260	48	34	43	0.88	0	301	25	2	10.84	0.71	442
Begusarai	begusarai	Dug well	7.36	566	255	30	44	14	0.49	0	308	11	54	3.83	0.91	368
Begusarai	Begusarai FC IB	Dug well	8.21	741	250	20	49	69	0.59	0	332	24	85	0	1.09	482
Begusarai	Bintoli Kalyanpur	Dug well	8.32	825	329.979	46	52	26	19.5	0	209	87	85	51.75	0.45	536
Begusarai	Cheria Bariarpur	Dug well	8.24	1689	330	28	63	168	29.1	0	474	203	82	27.91	3.04	1098
Begusarai	Aghara	Dug well	8.26	539	190	34	26	45	2.59	0	271	29	42	2.3	0.41	350

Begusarai	dariarpur	Dug well	8.13	674	250	34	40	27	1.81	0	295	5	39	0	0.27	438
Begusarai	gopalpur	Dug well	7.86	952	350	52	53	70	0.51	0	554	22	10	0	0.22	619
Begusarai	haridia	Dug well	7.92	585	250	36	39	35	0.71	0	326	21	12	2.34	0.23	380
Begusarai	harpur	Dug well	8.29	532	240	30	40	23	0.24	0	295	12	0	1.19	0.31	346
Begusarai	heer tola	Dug well	8.13	502	185	30	27	25	0.31	0	314	4	1	4.61	0.17	326
Begusarai	kaithma	Dug well	8.22	499	200	26	33	30	2.47	0	320	4	8	1.35	0.5	324
Begusarai	kumbidera	Dug well	8.33	633	215	38	29	47	0.72	0	381	0	72	0	0.24	411
Begusarai	kumarshan	Dug well	7.74	920	365	68	47	51	0.38	0	369	86	3	1.95	0.21	598
Begusarai	lakho	Dug well	7.95	522	220	34	33	26	0.91	0	295	4	89	0	0.15	339
Begusarai	lakhmiinia	Dug well	7.71	984	284.979	52	38	74	15.88	0	258	100	12	51.01	0.14	640
Begusarai	Manjaul	Dug well	8.08	593	250	36	39	34	0.29	0	314	19	62	0	0.25	385
Begusarai	matihani	Dug well	7.94	670	244.979	40	35	36	0.14	0	264	35	42	0	0.07	436
Begusarai	mohanpur	Dug well	8.12	455	169.979	34	21	38	0.26	0	240	8	24	0	0.51	296
Begusarai	naya nagar	Dug well	7.55	611	240	30	40	37	0.93	0	320	35	31	1.2	0.91	397
Begusarai	new jafar nagar	Dug well	8.26	717	250	36	39	43	0.59	0	295	49	1	19.9	0.74	466
Begusarai	parihara	Dug well	8.15	433	195	30	29	9	0.22	0	271	4	60	0	0.59	281
Begusarai	peernagaar	Dug well	8.12	676	274.979	32	47	36	0.9	0	308	51	0	0	0.33	439
Begusarai	Pakharia	Dug well	7.88	559	205	28	33	25	0.46	0	320	10	51	6.75	0.2	363
Begusarai	raghunathpur	Dug well	8.35	684	285	50	39	25	2.55	0	314	34	4	5.48	0.07	445
Begusarai	Rahatpur	Dug well	7.83	492	219.979	26	38	15	0.4	0	277	27	42	0	1.13	320
Begusarai	Simri	Dug well	8.24	651	204.979	40	26	55	1.25	0	283	35	12	9.24	0.42	423
Begusarai	tegra	Dug well	7.81	575	174.979	48	13	42	1.13	0	252	46	11	1.29	0.28	374
Khagaria	Basantpur	Dug well	8.11	450	185	30	27	19	0.073	0	264	10	61	2.7	0.18	293
Khagaria	Chautham	Dug well	8.33	780	126.605	30	13	140	0.41	0	320	39	41	7.84	0.4	507
Khagaria	Dewri	Dug well	7.95	672	200	36	27	61	3.91	0	314	35	89	0	0.34	437
Khagaria	Durgapur	Dug well	7.68	1038	259.979	54	30	80	41.97	0	289	91	60	84.2	0.33	675
Khagaria	gangaur	Dug well	7.54	1049	304.979	56	40	80	8.24	0	369	91	0	0	0.84	682
Khagaria	ismailpur	Dug well	7.89	482	180	52	12	30	0.71	0	277	27	0	0	0.336	313
Khagaria	jamalpur	Dug well	7.82	660	259.979	54	30	37	0.16	0	381	27	0	15.2	0.257	429
Khagaria	kasimpur	Dug well	7.99	444	215.062	44	26	20	0.59	0	264	13	54	1.57	0.23	289

Khagaria	kahgaria	Dug well	8.1	570	200	60	12	33	1.45	0	264	5	42	0	0.28	371
Khagaria	labhgaon	Dug well	7.73	682	250	56	27	51	0.57	0	320	50	21	8.22	0.27	443
Khagaria	Maheshkunt-1	Dug well	7.41	988	273.416	32	47	111	7	0	366	106	29	14.2	0.36	642
Khagaria	Maheshkunt	Dug well	7.69	1703	580	36	119	122	1.22	0	615	212	68	14.33	0.17	1107
Khagaria	Madarpur	Dug well	8.12	1509	404.979	48	69	138	0.36	0	535	145	20	48	0.3	981
Khagaria	Piransara-4	Dug well	8.17	434	205.062	40	26	18	1.14	0	221	13	16	2.5	0.27	282
Khagaria	Ranko	Dug well	7.85	440	192.058	44	20	24	0.35	0	277	3	81	0	0.33	286
Khagaria	sabalpur	Dug well	7.19	867	253.272	50	31	74	1.2	0	283	89	83	2.36	0.17	564
Khagaria	sonhauili	Dug well	7.21	1431	349.979	54	52	137	0.79	0	344	206	29	67.95	0.11	930
Suapaul	balua	Dug well	7.85	579	224.979	40	30	25	12.3	0	277	43	50	0	0.07	376
Suapaul	balua 1	Dug well	8.18	866	339.979	90	28	51	18.52	0	289	77	23	39.11	0	563
Suapaul	balua bazar	Dug well	7.66	439	224.815	44	28	9	2.47	0	240	8	27	2.21	0.11	285
Suapaul	basawanpatti	Dug well	7.9	347	160	24	24	6	0.11	0	153	4	48	2.84	0.14	226
Suapaul	bhawanipur 1	Dug well	7.25	635	265	54	32	38	2.67	0	264	36	1	0	0.2	413
Suapaul	bhimnagar	Dug well	8.31	510	180	40	19	29	7.73	0	277	11	13	14.3	0.07	332
Suapaul	birpur	Dug well	7.27	500	195.062	36	26	28	1.25	0	301	5	8	10.4	0.02	325
Suapaul	ganpatganj	Dug well	7.14	541	174.979	28	26	38	6.77	0	117	97	27	65.2	0.14	352
Suapaul	hardi	Dug well	8.01	619	253.272	50	31	31	1.87	0	320	28	39	14.2	0.04	402
Suapaul	Jadia	Dug well	8.17	530	190	44	19	37	0.2	0	234	26	8	14.12	0.08	345
Suapaul	kaithtola	Dug well	7.9	339	150	40	12	16	2.5	0	160	12	28	0	0.05	220
Suapaul	Kario	Dug well	8.14	738	210	28	34	56	10.3	0	320	45	19	0	0.31	480
Suapaul	karzain	Dug well	7.9	563	194.979	36	26	46	3.97	0	264	43	59	11.7	0.03	366
Suapaul	malhani	Dug well	7.32	535	195	46	19	37	1.92	0	221	27	42	13.7	0.12	348
Suapaul	malhani new	Dug well	7.34	540	199.979	50	18	26	18.94	0	203	41	0	14.1	0.07	351
Suapaul	Norha	Dug well	7.55	267	110	28	10	16	0.52	0	160	16	0	3.2	0.01	174
Suapaul	parsharma	Dug well	7.31	183	75	26	2	8	0.3	0	117	1	14	3.8	0	119
Suapaul	pipra chowk	Dug well	7.82	455	159.979	22	26	34	2.92	0	191	30	32	31.8	0.09	296
Suapaul	Pratap Ganj	Dug well	7.41	587	229.979	50	26	34	5.01	0	301	21	10	19.31	0.22	382
Suapaul	ratanpura	Dug well	7.74	637	220	44	27	34	16.28	0	363	21	12	5.8	0.22	414
Suapaul	Shyamnagar	Dug well	7.65	536	209.979	54	18	22	0.47	0	289	11	24	2.84	0.07	348

Suapaul	Supaul	Dug well	8.33	596	194.979	40	23	40	5.93	0	308	32	36	1.17	0	387
Suapaul	thumba	Dug well	8.23	515	225	74	10	12	0.34	0	209	22	25	25.47	0.08	335
Suapaul	teribeniganj	Dug well	7.95	539	220.144	46	26	31	0.24	0	240	28	34	0	0.05	350
Saharsa	Bajjnathpur	Dug well	7.36	414	169.979	38	18	24	0.78	0	135	45	3	5.7	0	269
Saharsa	bangaon	Dug well	8.45	260	115	30	10	12	0.51	0	117	7	10	0	0.02	169
Saharsa	basudev	Dug well	7.65	457	169.979	34	21	34	1.2	0	160	52	14	1.39	0.28	297
Saharsa	Jamunia	Dug well	8.19	240	90	32	2	15	1.29	0	130	6	19	0.91	0.08	156
Saharsa	Kharkutti	Dug well	7.31	308	145	38	12	12	0.37	0	117	22	78	14.75	0.07	200
Saharsa	Punch GACHHI	Dug well	8.22	1029	279.979	78	21	79	34.58	0	326	118	37	14.35	0	669
Saharsa	patodi bazar-1	Dug well	7.81	758	175	50	12	77	5.21	0	320	56	38	0	0.17	493
Saharsa	patodi bazar-2	Dug well	8.16	701	209.979	54	18	57	11.64	0	289	54	25	12.1	0.75	456
Saharsa	potwa	Dug well	8.19	315	139.979	30	16	7	0.57	0	129	3	32	7.24	0.12	205
Saharsa	saharsa	Dug well	7.98	735	179.979	42	18	84	3.77	0	326	54	20	9.81	0.03	478
Saharsa	simri bakhtiyarpur	Dug well	7.79	374	110	24	12	44	0.4	0	185	14	25	0	0.55	243
Saharsa	simri bakhtiyarpur1	Dug well	7.63	731	215	46	24	60	17.3	0	375	44	47	7.3	0.05	475
Saharsa	sonbarsaraj	Dug well	7.65	774	255.144	60	26	62	1.9	0	363	45	15	2.1	0.18	503
Saharsa	tulsiyahi	Dug well	7.47	448	149.979	34	16	35	0.27	0	240	22	42	0	0.11	291
Madepura	abhiyatola	Dug well	7.77	581	211.708	46	24	37	2.65	0	277	32	50	5.2	0	378
Madepura	Barhari	Dug well	7.53	824	190	44	19	58	48.3	0	289	78	34	24.58	0.77	536
Madepura	bhimpur	Dug well	8.15	602	235.144	52	26	26	1.38	0	283	35	30	0	0	391
Madepura	chausa	Dug well	8.23	628	235	34	36	42	1.6	0	357	8	15	11.8	0.14	408
Madepura	ganeshpur	Dug well	8.31	427	154.979	28	21	29	0.92	0	221	29	26	0	0.51	278
Madepura	gaushala chowk	Dug well	8.21	429	149.979	26	21	28	1.62	0	221	19	27	0	0.21	279
Madepura	Bhathkhora bazar	Dug well	8.18	647	160	32	19	79	0.6	0	320	52	38	1.99	0	421
Madepura	jiwacchapur	Dug well	8.28	383	125	30	12	22	14.98	0	172	8	26	15.73	0.15	249
Madepura	madepura	Dug well	8.35	970	210	40	27	105	14.52	0	277	113	40	33.9	0	631
Madepura	murliganj	Dug well	8.4	1173	320	68	36	121	3.39	0	554	93	6	1.21	0	762
Madepura	rajui	Dug well	7.73	239	99.979	26	9	12	0.07	0	141	1	27	0	0.19	155
Madepura	rampur	Dug well	7.94	517	179.979	46	16	32	0.86	0	283	5	10	0	0.11	336
Madepura	singneshwar	Dug well	8.18	560	230.144	50	26	41	2.51	0	277	25	20	1.22	0	364

Madepura	surajganj	Dug well	8.31	248	120	24	15	7	0.25	0	129	0	47	1.62	0.33	161
Madepura	uda kisangamnj	Dug well	8.22	768	120	28	12	123	6.31	0	197	134	79	12.78	0.66	499
Arwal	Dipalibibha	Dug well	7.8	387	114.937	26	12	34	6.3	0	129	11	28	26.31	0.23	378
Arwal	Arwal	Dug well	7.4	582	244.795	40	35	23	1.24	0	191	35	28	53.8	0.27	449
Arwal	Imamganj	Dug well	7.1	691	234.886	58	22	63	1.06	0	291	39	51	22.7	0.31	651
Arwal	Kinjer	Dug well	7.4	1001	364.733	62	51	50	31.9	0	301	79	14	74.5	0.34	566
Arwal	Jhunathi	Dug well	7	870	340	76	36	35	12.34	0	326	91	68	46.4	0.77	743
Arwal	Kurtha	Dug well	6.9	1143	390	68	53	88	8.61	0	301	110	15	113.54	0.22	250
Arwal	Bansi	Dug well	7.2	385	165	40	16	16	0.66	0	191	7	18	12.88	0.59	449
Arwal	Bairbigha	Dug well	6.9	690	210	48	22	68	1.91	0	308	43	10	BDL	0.28	172
Arwal	Madhuban	Dug well	7.1	265	100	20	12	8	5.68	0	123	3	9	14.71	0.29	408
Aurangabad	Gohbazar	Dug well	7.3	628	190	34	26	52	0.99	0	381	7	62	BDL	0.73	861
Aurangabad	Daudnagar	Dug well	7.1	1325	375	88	38	142	5.32	0	424	167	27	52.7	0.87	409
Aurangabad	Obra	Dug well	6.9	629	290	80	22	32	1.56	0	291	20	17	31.8	0.37	419
Aurangabad	Panddrawan	Dug well	7.2	644	215	46	24	48	0.94	0	332	39	55	5.8	0.72	564
Aurangabad	Baruna	Dug well	7	868	350	62	47	35	3.33	0	369	58	14	18.7	0.56	219
Aurangabad	Narai Kala	Dug well	6.9	337	130	32	12	9	2.1	0	148	11	15	9.2	0.53	429
Aurangabad	Nabinagar	Dug well	7	660	185	32	26	45	1.61	0	314	10	139	9.1	0.89	1229
Aurangabad	Mahuli	Dug well	7.4	1890	490	78	72	212	5.22	0	437	287	41	122.4	0.94	558
Aurangabad	Dhanibar	Dug well	7.1	859	355	82	36	48	0.84	0	264	98	29	88.2	0.72	736
Aurangabad	Deo	Dug well	7.3	1133	254	42	36	148	0.23	0	646	35	69	2.44	1.02	715
Aurangabad	Madanpur	Dug well	6.9	1100	305	52	43	132	0.84	0	314	154	57	29.83	1.31	608
Aurangabad	Pataya	Dug well	7.4	935	320	56	44	62	1.24	0	418	59	218	12.84	0.52	1873
Aurangabad	Aurangabad	Dug well	7.6	2881	714	108	108	296	4.93	0	590	525	27	14.6	1.14	612
Aurangabad	Rafiganj	Dug well	7.3	941	155	32	18	179	1.54	0	437	71	19	22.7	0.57	509
Aurangabad	Tinari Morh	Dug well	8.43	783	200	40	24	93	5.51	0	406	35	17	9.34	1.17	505
Aurangabad	Dhobitola	Dug well	7.1	777	250	38	38	81	1.2	0	375	43	115	41.95	0.68	1065
Aurangabad	Devhara	Dug well	7.7	1638	500	122	47	101	49	0	412	191	38	163.54	0.56	341
Aurangabad	Etwan	Dug well	7.7	525	210	56	17	31.1	2.1	0	209	35		39.93	0.53	328
Patna	A. N. College.	TW	8.3	382	145	24	20.6	45	27.68	18	244	14	5	0.3	0.6	204

Patna	Anisabad	TW	8.24	528	150	36	14.6	65.8	41.7	24	299	25	7	0.7	0.72	284
Patna	B V College 1	TW	8.3	477	175	42	17	43.2	31.76	12	250	32	10	0.4	0.58	256
Patna	Circuit House	TW	8.31	431	140	32	14.6	29	31.73	18	256	14	6	0	0.6	233
Patna	Gulzarbag	TW	8.3	1021	325	84	27.9	44.8	4.93	24	317	74	23	7.6	0.91	556
Patna	Kankarbagh	TW	8.36	501	155	30	19.4	36.8	21.59	18	195	46	11	1.8	0.82	265
Patna	Kumhrar	TW	8.21	715	215	48	23.1	38.4	41.43	18	305	53	18	1	0.81	376
Patna	Kurji	TW	8.25	550	185	34	24.3	77.6	41.6	18	403	14	5	1.1	0.56	288
Patna	A. N. College Campus 1	TW	8.23	652	215	56	18.2	35.8	21.3	18	299	43	8	2.3	0.67	341

**District wise percentage of well showing Rise, fall or no significant decline trend (2010-2019)
during Pre-Monsoon and Post-Monsoon Season**

SN	District	Pre-monsoon (in percent)			Post-monsoon (in percent)		
		Rise	Fall	No Significant trend	Rise	Fall	No Significant trend
1	Araria	100	0	67	67	33	100
2	Aurangabad	30	70	50	50	50	58
3	Banka	27	73	73	64	36	73
4	Begusarai	54	46	85	56	44	88
5	Bhagalpur	50	50	42	67	33	92
6	Bhojpur	14	86	100	89	11	67
7	Buxar	67	33	67	67	33	67
8	Darbhangha	33	67	83	38	63	88
9	Gaya	40	60	60	71	29	86
10	Gopalganj	27	73	91	77	23	100
11	Jamui	38	63	88	64	36	43
12	Jehanabad &	50	50	75	80	20	80
13	Kaimur	38	63	75	50	50	63
14	Katihar	93	7	79	93	7	93
15	Khagaria	56	44	78	92	8	77
16	Kishanganj	50	50	100	75	25	75
17	Lakhisarai	33	67	33	67	33	67
18	Madhepura	75	25	100	64	36	100
19	Madhubani	58	42	83	58	42	68
20	Munger	57	43	57	100	0	70
21	Muzaffarpur	17	83	67	32	68	68
22	Nalanda	32	68	52	21	79	59
23	Nawada	17	83	50	14	86	43
24	W. Champaran	50	50	83	25	75	83
25	Patna	24	76	33	44	56	50
26	E. Champaran	50	50	86	42	58	74
27	Purnia	63	38	63	60	40	100
28	Rohtas	0	100	67	72	28	83
29	Saharsa	44	56	78	64	36	100
30	Samastipur	50	50	80	62	38	46
31	Saran	21	79	64	48	52	65
32	Seikhpura	40	60	60	33	67	33
33	Sheohar	0	100	0	100	0	100
34	Sitamarhi	71	29	86	75	25	88
35	Siwan	0	100	64	31	69	81
36	Supaul	42	58	100	53	47	100
37	Vaishali	29	71	86	50	50	90