

Central Ground Water Board
Ministry of Water Resources, River Development
and Ganga Rejuvenation
Government of India



Ground Water Year Book 2017-18
Gujarat State and UT of Daman & Diu

Regional Office Data Centre
Central Ground Water Board
West Central Region
Ahmedabad

March 2019



CENTRAL GROUND WATER BOARD
MINISTRY OF WATER RESOURCES, RIVER DEVELOPMENT
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GOVERNMENT OF INDIA



GROUNDWATER YEAR BOOK – 2017 - 18
GUJARAT STATE AND UT OF DAMAN & DIU

REGIONAL OFFICE DATA CENTRE
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GROUNDWATER YEAR BOOK – 2017 -18
GUJARAT STATE AND UT OF DAMAN & DIU

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CENTRAL GROUND WATER BOARD
WEST CENTRAL REGION
AHMEDABAD

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FOREWORD

Central Ground Water Board, West Central Region, has been issuing Ground Water Year Book annually for Gujarat and UT of Daman & Diu by compiling the hydrogeological, hydrochemical and groundwater level data collected from the Groundwater Monitoring Wells established by the Board in Gujarat State and UT of Daman & Diu. Monitoring of groundwater level and chemical quality furnish valuable information on the ground water regime characteristics of the different hydrogeological units moreover, analysis of these valuable data collected from existing observation wells during May, August, November and January in each ground water year (June to May) indicate the pattern of ground water movement, changes in recharge-discharge relationship, behavior of water level and qualitative & quantitative changes of ground water regime in time and space. It also helps in identifying and delineating areas prone to decline of water table and piezometric surface due to large scale withdrawal of ground water for industrial, agricultural and urban water supply requirement. Further water logging prone areas can also be identified with historical water level data analysis. This year book contains the data and analysis of ground water regime monitoring for the year 2017-18.

The behavior of groundwater levels as analyzed from the existing Groundwater Monitoring Wells data and the chemical quality of groundwater is discussed in details in this report along with the thematic maps depicting the ground water scenario for different periods of measurements. The depth to water level, water level fluctuations, watertable and water quality maps have been prepared and presented in this report along with detailed discussion on each map.

The scientific officers of the Regional office have systematically collected field data from the Groundwater Monitoring Network Wells four times during the viz., May, August, November and January and the analysis of same has been presented in this report along with changes in different seasons and long term changes in water level. The water samples were collected during May 2017 were analysed in the Regional Chemical Laboratory of West Central Region Ahmedabad to bring out chemical characteristic of groundwater. As a special drive to monitor presence of arsenic in ground water, the concentration of arsenic has been measured and produced in the report.

I hope the report would be externally useful to various agencies engaged in groundwater development and management for fruitful planning in time and space.

(D P Pati)
Regional Director

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GROUNDWATER YEAR BOOK (2017-18)

GUJARAT AND UT OF DAMAN & DIU

EXECUTIVE SUMMARY

- ◆ Central Ground Water Board has set up a network of 1267 Groundwater Monitoring Wells including 394 piezometers. Initially the monitoring commenced with the establishment of 82 observation wells spread uniformly over the entire state, in the year 1969 and since then number of stations were added regularly so as to get proper hydrological information of different hydrogeological and geomorphological units.
- ◆ The density of groundwater monitoring wells is 157 Sq Km/well in Gujarat, whereas in UT of Daman & Diu, it is approximately 7 Sq. Km. per well.
- ◆ The average decadal rainfall varies from about 2203 mm in Valsad to about 478 mm in Kachchh.
- ◆ Gujarat is one of the frequent drought prone states of India. Several consecutive droughts have been experienced during last 20 years, 1986-88 was the longest and the most severe drought period experienced in the past.
- ◆ The average rainfall for 2017 is 925 mm, which is 5 percent more than the decadal average.
- ◆ Groundwater levels are being monitored four times in a year, and representative water samples for quality (inorganic constituents) are collected during pre-monsoon (May) period.
- ◆ 70% of the wells have depth to water levels in the range of 5 to 20 mbgl (meter below ground level) during pre-monsoon 2017. The water levels were deeper in Amreli, Banaskantha, Gandhinagar, Mahesana, Patan and Sabarkantha districts.
- ◆ Deeper water levels were observed mainly in the over exploited and Critical talukas are in some parts of North Gujarat and Saurashtra area.
- ◆ The shallow water levels of less than 5 mbgl were observed along the coast, Rann of Kachchh and in parts of The Dangs, Surat and Bharuch districts.
- ◆ The long term ground water scenario in comparison to pre monsoon 2017 indicates that 60% well shows fall where as in post monsoon it observed in 46% of wells.
- ◆ Deep confined aquifers exist in north Gujarat and they are grouped into, first confined aquifer ranging in depth from 78 to 162 mbgl and second confined aquifer ranging in depth from 154 to 274 mbgl.

- ◆ In parts of Mahesana and Gandhinagar districts, depth to piezometric surface during pre monsoon is more than 40m bmsl in the first confined aquifer and it is more than 120 mbmsl in second confined aquifer noticed in and around Mahesana and Patan districts.
- ◆ In general ground water quality is good in hard rock areas occupying eastern hilly part of the state, central part of Kachchh and Saurashtra plateau. In soft rock and unconsolidated formations ground water quality is variable.
- ◆ The quality of ground water deteriorates in discharge area. Quality of ground water is inferior along the coast, the Rann and in the low-lying saline tract between Saurashtra and main land Gujarat.
- ◆ The deterioration in ground water quality in the coastal areas is mainly due to over drawals causing seawater ingress which needs to be arrested.
- ◆ In Mahi Right Bank Canal and Ukai – Kakrapar canal command areas, water logging has surfaced and needs to be addressed suitably by adopting appropriate conjunctive use strategies.
- ◆ Alarming declines in groundwater levels of Central Gujarat plains and in select areas of Saurashtra and Kachchh warrant immediate attention for taking-up of recharge schemes to arrest further declines and augment the groundwater resources. The artificial recharge of groundwater especially in North Gujarat, Kachchh and in major part of Saurashtra is a necessity.
- ◆ Pointed attention of the administrators and policy makers is drawn towards adoption of artificial recharge, public awareness and other appropriate measures for ensuring adequate groundwater availability and sustainability.

GROUNDWATER YEAR BOOK, 2017-18, GUJARAT STATE AND UT OF DAMAN & DIU

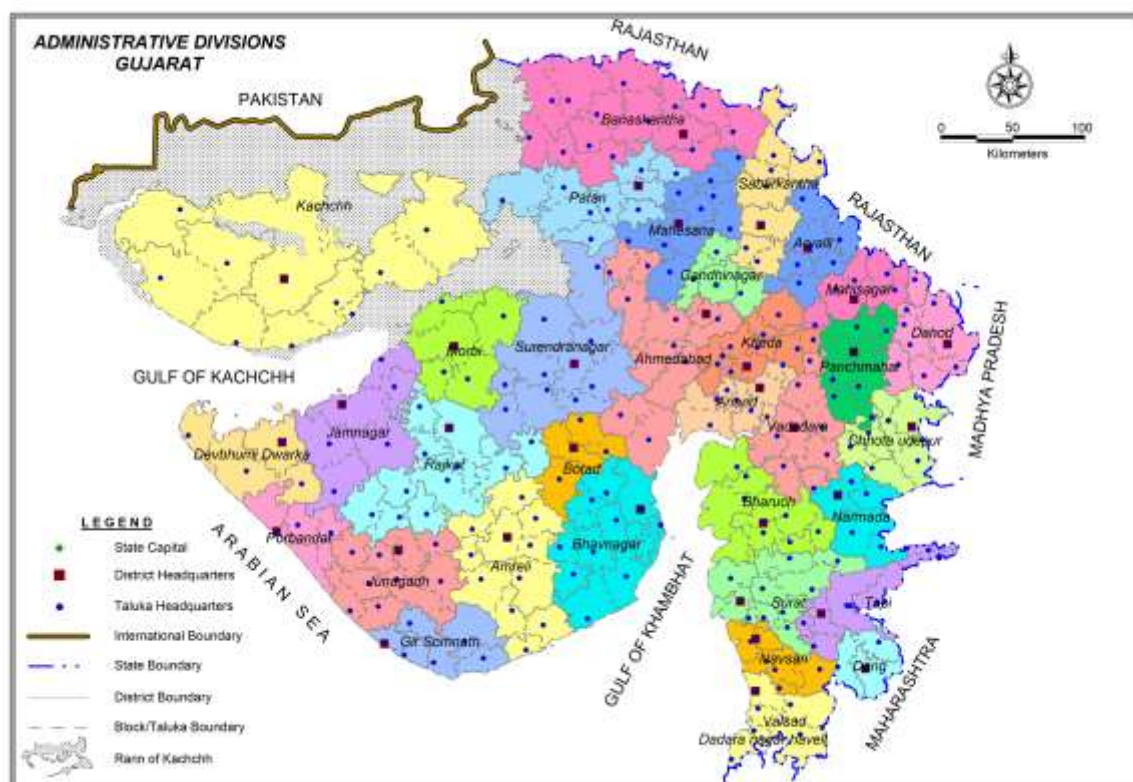
1.0 INTRODUCTION

The West Central Region of Central Ground Water Board has jurisdiction over the State of Gujarat (1,96,024 Sq. Km.) and Union Territory (UT) of Daman & Diu (112 Sq. Km.) covering an area of 1,96,136 sq km. The Gujarat State is situated between North latitudes 20° 06' 00" to 24° 42' 00" and East longitudes 68° 10' 00" to 74° 28' 00" (Fig. 1). Gujarat has nearly 1600 km long coastline, which is the longest as compared to any other state in the country. It is extending from Lakhpat in north to Daman in south. The State has common boundaries with the states of Rajasthan, Madhya Pradesh and Maharashtra and shares international border with Pakistan in northwest. UT of Daman & Diu has an area of 106 sq. km. Diu is an Island just south of Saurashtra coast and Daman is situated west of Vapi in the south.

There are 18,225 villages and 348 towns in Gujarat including 16 towns with more than 1,00,000 population. The total population is 60,383,628 of which 31,482,282 are males and 28,901,349 are females (2011 census). Out of the total population, the population of the Scheduled Caste is 4,074,447 and that of the Scheduled tribe is 8,917,174. The total population of U.T. of Daman & Diu is 243,247 of which 150,301 are males and 92,976 are females (2011 Census).

Map showing administrative divisions of Gujarat State

Fig 01



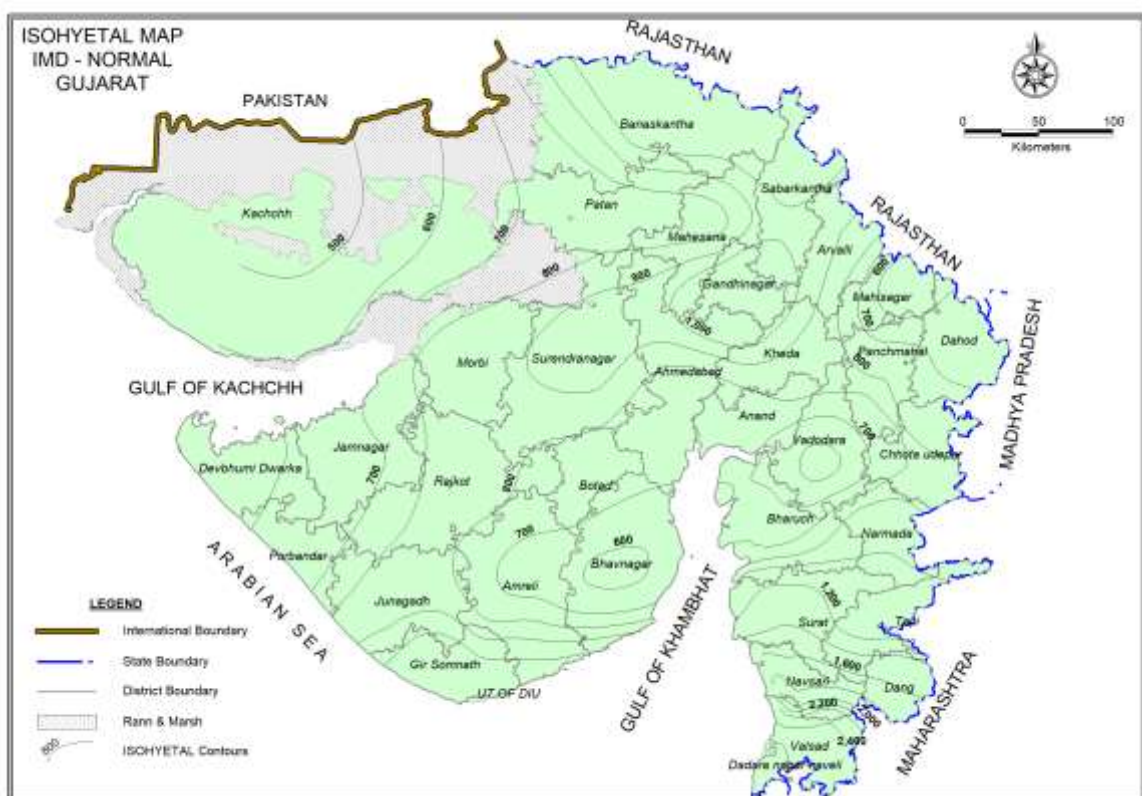
The tribal areas are located all along the interstate boundary, extending from Banaskantha district in the north to The Dangs district in the south. The tribal belt has a total geographical area of 29,560 Sq. Km. and is shown in **Fig. 1**.

The diverse physiographic, climatic, topographic and geologic conditions have given rise to diversified ground water situations in different parts of the state. Occurrence and movement of groundwater is controlled by rock formations of varied composition and structure and range in age from Archean to Recent. Similarly, the landform varies from the hilly tract to the uplands of Kachchh and Saurashtra, the alluvial plains extend from Banaskantha in the north to Valsad in the south, the low lying coastal tract surrounding the Kachchh and Saurashtra uplands and the marshy to saline tracts of the Rann of Kachchh and little Rann of Kachchh. The topography and rainfall virtually control the runoff and ground water recharge.

Droughts are frequent in north Gujarat, Saurashtra and Kachchh regions due to poor and erratic rainfall. The climate varies from humid in the south through sub-humid in the central part to semi-arid and arid in the northern and western parts. The state receives rainfall mainly during southwest monsoon period. The normal rainfall shows an erratic rainfall pattern during 2017 which shows high rainfall 2474 mm in extreme south (Valsad) to 478 mm in Kachchh district. The distribution of normal rainfall in the state is depicted in **Fig. 2**.

Map showing distribution of IMD normal rainfall

Fig 02

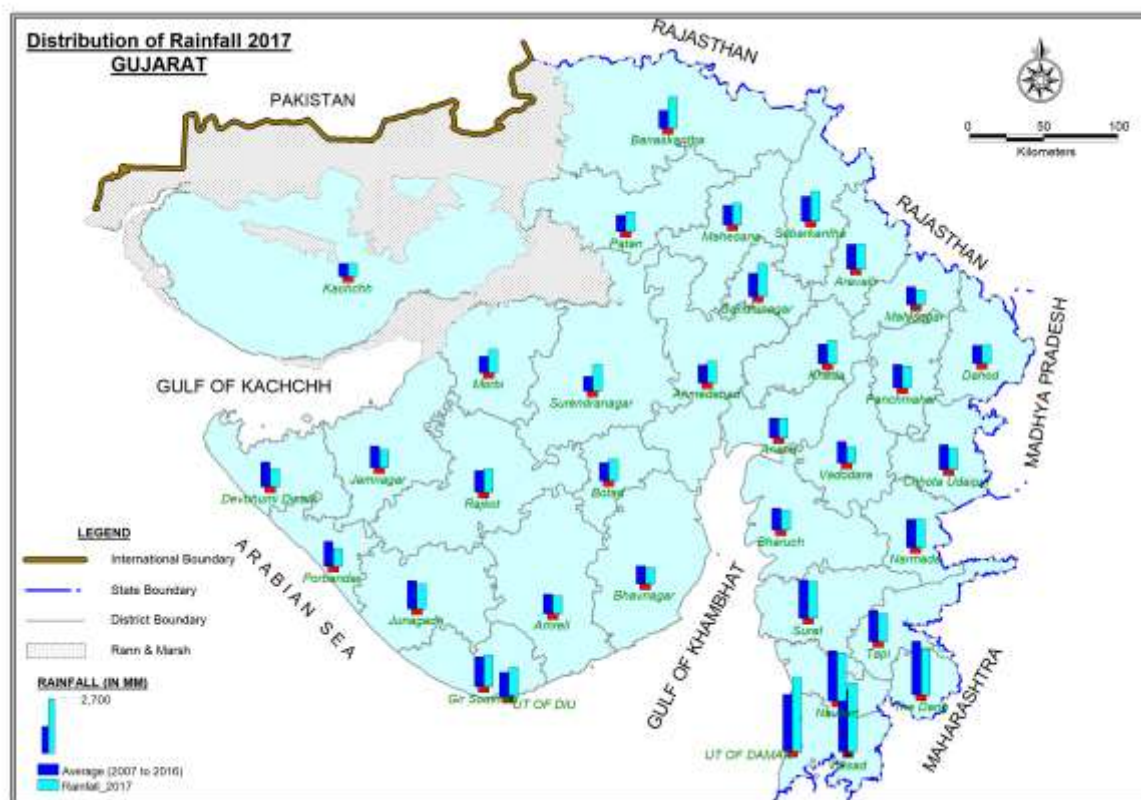


During 2017 Gujarat received 5% more rainfall than the average rainfall (Annexure I). Eight districts including UT of Daman has received average rainfall + 20% as compared to decadal average annual rainfall (2007-2016). Banaskantha,

Gandhinagar, Kheda, Patan, Morbi, Sabarkantha, Surendranagar and UT of Daman district received rainfall above normal 20%. While three districts such as Dwarka, Porbandar, Vadodara has received morethan 20% less annual rainfall as compared to decadal average annual rainfall (2007-2016). The only one district namely Banaskantha has received more than 75% rainfall as compared to decadal average raianfall during 2017. Annual rainfall during 2017, Average decadal annual rainfall (2007-2016) and its departure from average decadal annual rainfall in the Gujarat state and UT of Daman & Diu is presented in **Table 1** and map representing distribution of rainfall district wise in bars is presented as **Fig. 3**.

Table - 1
District wise Average Annual Rainfall in the Gujarat state and UT of Daman & Diu.

Sl.No	District	Rainfall 2017	Average Rainfall in mm (2007 to 2016)	Departure % (Year 2017)
1	Ahmedabad	751	664	13.13
2	Amreli	673	742	-9.30
3	Anand	715	723	-1.11
4	Aravalli	896	880	1.82
5	Banaskantha	1137	648	75.39
6	Bharuch	737	784	-5.99
7	Bhavnagar	581	653	-11.03
8	Botad	754	630	19.68
9	Chhota Udaipur	804	905	-11.16
10	Dahod	656	640	2.50
11	Gandhinagar	1193	838	42.36
12	Jamnagar	673	776	-13.27
13	Dwarka	689	899	-23.36
14	Junagadh	879	1036	-15.15
15	Gir Somnath	1126	1052	7.03
16	Kheda	856	713	20.03
17	Kachchh	478	497	-3.82
18	Mahesana	754	731	3.15
19	Narmada	993	1015	-2.17
20	Navsari	1713	1781	-3.80
21	Panchmahal	805	835	-3.59
22	Patan	741	601	23.21
23	Porbandar	649	925	-29.84
24	Rajkot	841	784	7.27
25	Morbi	852	592	43.92
26	Sabarkantha	1060	873	21.42
27	Surat	1325	1383	-4.21
28	Surendranagar	961	565	70.02
29	The Dang	1591	1896	-16.09
30	Vadodara	579	803	-27.90
31	Tapi	1028	1113	-7.64
32	Mahisagar	552	681	-18.94
33	Valsad	2474	2203	12.30
34	UT of Daman	2642	2050	28.88
35	UT of Diu	1078	919	17.30
	STATE	925	905	5



Central Ground Water Board, as a part of its national programme, has established a network of observation wells in the state of Gujarat and U.T. of Daman and Diu for periodic monitoring of groundwater levels and to study its quality variation in time and space. 1251 groundwater monitoring wells including 386 piezometers (Pz) are presently being monitored in the state of Gujarat, and 16 groundwater monitoring wells including 5 Pz are being monitored in the U.T. of Daman and Diu. The distributions of monitoring wells in different districts are given in **Table 2**.

Two distinct hydro-geological units are identified in Gujarat viz., hard rocks and soft rocks. The distributions of monitoring wells in different hydro-geological units are given in **Table 3**.

Large rivers like Narmada, Mahi, Tapi, and Sabarmati flow through the state and form their own basins. Other minor rivers have been grouped together to form river basins. In all, eight river basins have been identified by the All India Soil Survey & Land Use Department as listed below:

1. Sabarmati river basin.
2. Mahi river basin.
3. Narmada river basin.
4. Tapi river basin.
5. Luni and other drainage in the Great Rann of Kachchh
6. Draining in to Gulf of Kachchh
7. Southern Kathiawar
8. Sharavati to Tapi

The sub basins of these major river basins and the distribution of ground water monitoring wells in these different river basins are given in Annexure I. Map showing Hydrograph stations monitored during the year and their distribution in different basin and the district is presented as **Fig. 4**.

Distribution of GWMNS in the districts and major river basins

Fig 04

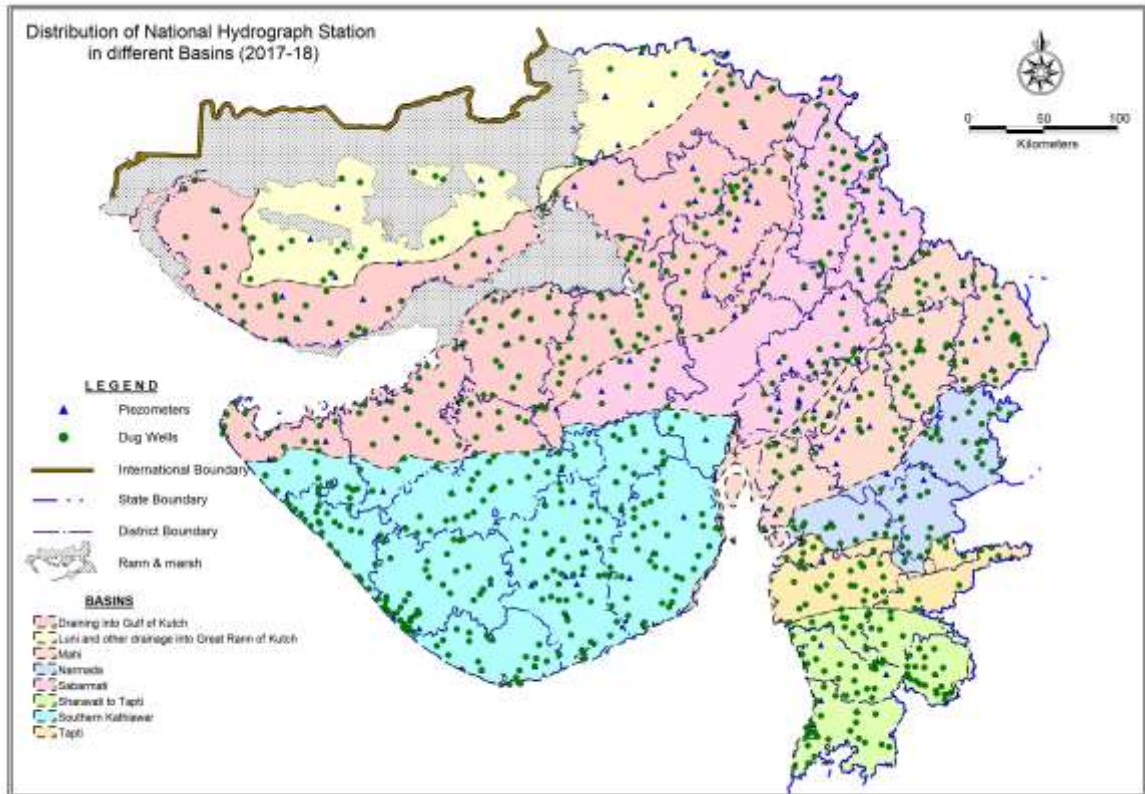


Table-02_DISTRICT WISE DISTRIBUTION OF OF GROUND WATER MONITORING WELLS MONITORED DURING 2017-18																			
Sl. No.	District	As on rest of the field season 2016-17			NHS Well As on March 2017			Monitored During MAY- 2017			Monitored During AUGUST- 2017			Monitored During November - 2017			Monitored During January - 2018		
		DW	Pz	Total	DW	Pz	Total	DW	Pz	Total	DW	Pz	Total	DW	Pz	Total	DW	Pz	Total
1	Ahmedabad	17	54	71	17	28	45	15	20	35	14	18	32	14	9	23	16	12	28
2	Amreli	47	16	63	48	14	62	45	9	54	37	8	45	31	10	41	47	12	59
3	Anand	21	15	36	15	14	29	15	14	29	15	15	30	11	10	21	15	10	25
4	Banaskantha	20	52	72	15	30	45	14	40	54	13	39	52	25	34	59	14	34	48
5	Bharuch	38	6	44	34	6	40	34	6	40	37	6	43	31	2	33	28	3	31
6	Bhavnagar	43	12	55	43	9	52	39	4	43	40	5	45	34	3	37	39	2	41
7	Dohad	26	6	32	25	6	31	23	6	29	21	6	27	25	5	30	24	6	30
8	Gandhinagar	3	30	33	2	24	26	2	31	33	2	26	28	2	26	28	2	25	27
9	Jamnagar	52	7	59	47	5	52	46	5	51	37	4	41	41	4	45	47	5	52
10	Junagadh	61	15	76	57	11	68	54	3	57	38	3	41	61	15	76	55	9	64
11	Kachchh	51	19	70	52	14	66	48	12	60	52	14	66	46	11	57	43	8	51
12	Kheda	15	13	28	15	13	28	15	12	27	13	10	23	6	13	19	13	12	25
13	Mahesana	17	44	61	16	32	48	18	39	57	16	39	55	16	40	56	14	29	43
14	Narmada	21	6	27	18	6	24	17	6	23	20	6	26	15	5	20	17	6	23
15	Navsari	23	2	25	20	2	22	19	2	21	19	2	21	20	2	22	16	1	17
16	Panchmahals	41	9	50	32	7	39	29	7	36	31	5	36	31	4	35	32	6	38
17	Patan	15	23	38	10	16	26	9	18	27	8	20	28	10	15	25	7	8	15
18	Porbandar	29	3	32	29	3	32	29	3	32	25	3	28	26	3	29	30	3	33
19	Rajkot	54	7	61	54	6	60	40	6	46	37	6	43	45	7	52	47	5	52
20	Sabarkantha	48	12	60	46	12	58	47	11	58	38	9	47	44	11	55	43	12	55
21	Surat	69	6	75	51	4	55	50	4	54	50	4	54	63	5	68	50	4	54
22	Surendranagar	46	9	55	47	4	51	24	4	28	33	4	37	33	7	40	48	5	53
23	The Dangs	30	2	32	24	1	25	21	1	22	24	1	25	29	1	30	22	1	23
24	Vadodara	47	19	66	38	21	59	33	20	53	38	21	59	32	14	46	29	21	50
25	Valsad	28	2	30	19	2	21	19	2	21	16	2	18	24	1	25	16	2	18
State Total		862	389	1251	774	290	1064	705	285	990	674	276	950	715	257	972	714	241	955
UT OF DAMAN AND DIU																			
1	U.T.of Daman	8	1	9	8	1	9	6	0	6	8	0	8	8	0	8	7	0	7
2	U.T. of Diu	3	4	7	3	2	5	5	2	7	5	2	7	2	2	4	3	2	5
	UT Total	11	5	16	11	3	14	11	2	13	13	2	15	10	2	12	10	2	12
Grand Total		873	394	1267	785	293	1078	716	287	1003	687	278	965	725	259	984	724	243	967

Table-03_DISTRIBUTION OF GROUND WATER MONITORING WELLS IN DIFFERENT HYDROGEOLOGICAL UNITS

S.No	DISTRICT	Hard Rock		Soft Rock		Total		
		DW	PZ	DW	PZ	DW	PZ	Total
1	Ahmedabad	4	0	13	54	17	54	71
2	Amreli	38	12	9	4	47	16	63
3	Anand	1	0	20	15	21	15	36
4	Banaskantha	7	1	13	51	20	52	72
5	Bharuch	12	3	26	3	38	6	44
6	Bhavnagar	34	9	9	3	43	12	55
7	Dohad	26	6	0	0	26	6	32
8	Gandhinagar	0	0	3	30	3	30	33
9	Jamnagar	28	7	24	0	52	7	59
10	Junagadh	39	15	22	0	61	15	76
11	Kachchh	9	3	42	16	51	19	70
12	Kheda	3	3	12	10	15	13	28
13	Mahesana	0	0	17	44	17	44	61
14	Narmada	19	6	2	0	21	6	27
15	Navasari	12	1	11	1	23	2	25
16	Panchmahals	34	9	7	0	41	9	50
17	Patan	0	0	15	23	15	23	38
18	Porbandar	18	1	11	2	29	3	32
19	Rajkot	38	4	16	3	54	7	61
20	Sabarkantha	38	5	10	7	48	12	60
21	Surat	42	3	27	3	69	6	75
22	Surendranagar	14	1	32	8	46	9	55
23	The dangs	30	2	0	0	30	2	32
24	Vadodara	25	10	22	9	47	19	66
25	Valsad	24	2	4	0	28	2	30
	Gujarat TOTAL	495	103	367	286	862	389	1251
UT OF DAMAN AND DIU								
1	U.T.of Daman	8	1	0	0	8	1	9
2	U.T. of Diu	0	0	3	4	3	4	7
U.T. Total		8	1	3	4	11	5	16
Grand Total		503	104	370	290	873	394	1267

2.0 HYDROGEOLOGY

The high relief areas in the eastern and north-eastern parts of the state occupied by the Deccan Traps and the Archeans respectively have steep topographic gradients resulting in high run-off, and therefore, provide little scope for groundwater recharge. The groundwater potential in this terrain is limited. The large alluvial tract extending from Banaskantha district in the north to Surat and Valsad districts in the south constitutes the largest and most potential groundwater reservoir in the state. The aquifers are extensive, thick, hydraulically connected and are moderate to high yielding. To the west of this alluvial tract, especially around the discharge areas, characteristic artesian free flow conditions are observed. Almost the entire Saurashtra and Kachchh regions are occupied by a variety of hard and fissured formations which include basalt and consolidated sedimentary formations with semi-consolidated sediments along the low-lying coastal areas. The compact and fissured nature of rocks gives rise to discontinuous aquifers with moderate yield potential. The friable semi-consolidated sandstone forms an aquifer with moderate yield potential. The coastal and deltaic areas in the state form a narrow linear strip and are underlain by Tertiary sediments and Alluvium. Though highly potential aquifers occur in these areas, salinity is a constraint for groundwater development. Groundwater withdrawal requires to be strictly regulated so that it does not exceed the annual recharge and also that it does not disturb the hydro-chemical balance leading to seawater ingress. The quality of groundwater in both hard rock and alluvial terrain is, by and large suitable except, in the coastal areas, estuarine tract and the Rann where the degree of mineralisation in ground water is rather high and salinity is common. Salinity in groundwater is also noticed in the arid and semi-arid tract. The different conditions of groundwater occurrence in the state have led to divergent groundwater situations in the areas occupied by different geological formations (**Fig. 5**). The formation-wise hydrogeological characteristics in the state of Gujarat has been broadly summarised in the **Table 4**.

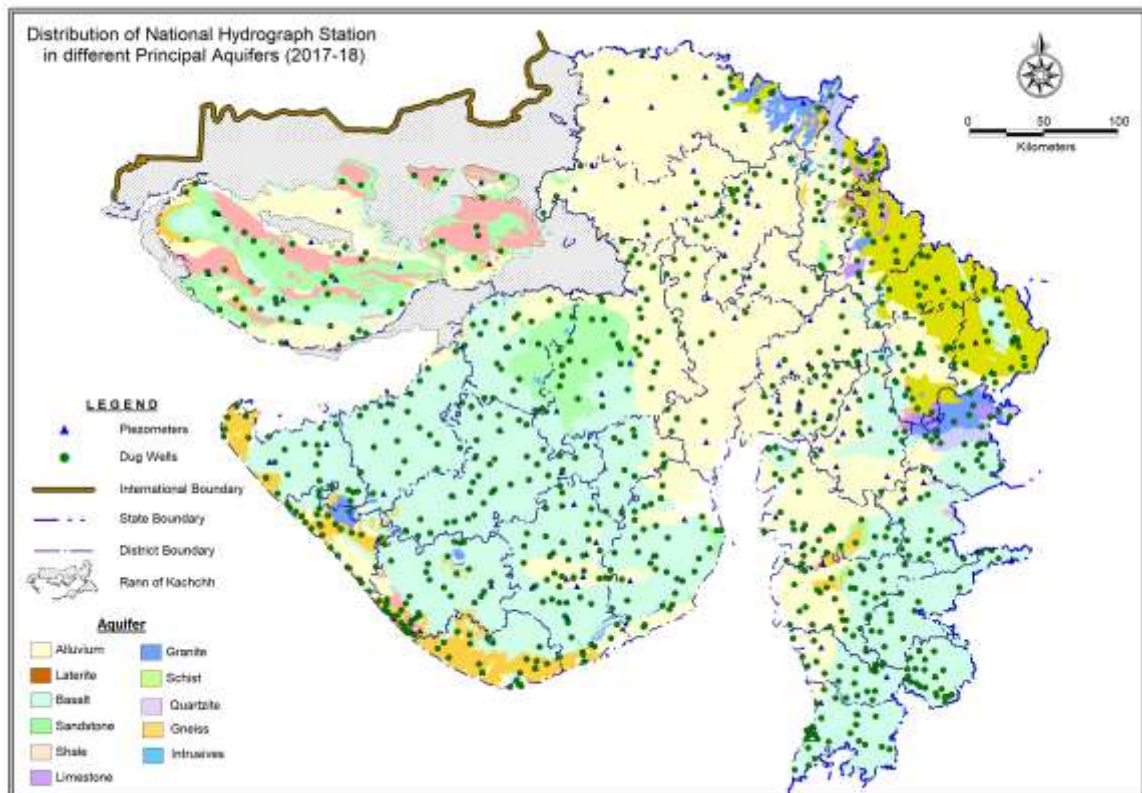
Table 4. Distribution of hydrogeological formations in Gujarat and their Potential

Age	Rock Formation	Distribution	Hydrogeological Characteristics
Porous Formation			
Quaternary to upper Tertiary	Impure limestones, limestones, sandstones, conglomerates, pebble beds, silt stones, sands, pebbles, gravels etc.	Ahmedabad, Amreli, Banaskantha, Bhavnagar, Bharuch, Kachchh, Kheda, Jamnagar, Junagadh, Rajkot, Mahesana, Surendranagar and Valsad Districts	Unconfined shallow aquifer, leaky confined/ confined and deeper aquifer. Large to moderate yield prospects: 10 to 40 lps, Storativity: 1.6×10^{-4} to 7.3×10^{-4} , Hydraulic Conductivity: 5 to 20m/day, Transmissivity: 50 to 2000m ² /day
Mesozoic	Sandstones, Shales,	Kachchh, Surendranagar, Sabarkantha and Vadodara	Discontinuous aquifers with limited thickness of 50 to 300

	Limestones and Grits	districts	meters. Limited yield prospects <15 lps, Hydraulic Conductivity: 2 to 10m/day, Transmissivity: 50 to 1000m ² /day
Fissured formation			
Mesozoic to Palaeozoic	Basalt with intertrappean clays	Uplands of saurashtra, Kachchh Region, scattered patches in Panchmahals, Sabarkantha and Vadodara districts, Continuous belt in eastern part of Bharuch, Surat and Valsad districts	Ground water occurrence restricted to weathered and fractured zones, limited to 200m, moderate yield prospects: 5 to 15 lps
Archaean and Pre-Cambrian	Granites, Gneiss, Marbles, Schists, Phyllites and Slates	Banaskantha, Sabarkantha, Panchmahals, vadodara and Kheda districts.	Ground water occurrence restricted to weathered and fractured zones having secondary porosity, limited yield prospects of 2 to 5 lps.

Map showing major hydrogeological units and distribution of Ground Water Monitoring Network Stations.

Fig 05



2.1 Achaean and Proterozoic Formation

Rocks of Archaean and Proterozoic age occupy the north-eastern and eastern parts of the state and cover extensive areas in parts of Vadodara, Kheda, Panchmahals, Sabarkantha, Mahesana and Banaskantha districts. These rocks, which include gneiss, schist, phyllite, quartzite and metamorphosed igneous intrusives do not form good aquifers due to their poor porosity and permeability. Dug wells, dug-cum-bore wells and bore wells are feasible only in favourable sites where sufficient weathered mantle and/or fractures and joints occur. The wells tapping these aquifers have maximum depth of 30 to 40 mbgl beyond which groundwater occurrence is not common. The yield of wells in these rocks varies from a few cubic meters to 100 cubic meters per day at minimal drawdown.

2.2 Mesozoic Formation

Jurassic and Cretaceous formations include Pachchham, Chari, Katrol and Bhuj Series in Kachchh, Dhrangadhra and Wadhwan sandstones in northeastern part of Saurashtra, Bagh beds along the Narmada River and Himmatnagar sandstones in Sabarkantha district. Pachchham and Chari Series are predominantly calcareous while Wadhwan sandstones and Bagh beds include some limestone. The rest are arenaceous and consist of inter-bedded sandstone and shale sequences. The most important and productive aquifer among these formations occurs in the Bhuj Series consisting of predominantly friable, soft, medium to coarse grained sandstone occurring at depths of few meters to as much as 300 meters. Tube wells constructed up to 200 mbgl in this formation yield 70 to 170 m³/hour for drawdown of about 10m. The salinity distribution in groundwater in Upper Bhuj aquifers is generally uniform with low concentration of dissolved solids in the upland and non-irrigated areas. Salinity gradually increases towards area of intensive irrigation and discharge area.

The Dhrangadhra sandstones comprise of about 400 m thick, fine to coarse grained sandstones inter-bedded occasionally with carbonaceous shale. Tubewells tapping about 100 m of aquifer thickness in this formation within a depth of 212 mbgl yield limited to moderate discharge of the order 14 to 80 m³/hour. Basic sills of 30 to 50 m thickness are found intruded in the Lower Dhrangadhra formation in the northern part of Surendranagar and Rajkot districts at Gala, Sathapur and Chuli villages. Normally, the sills mark the lower limit of fresh groundwater occurrence. In the northern part of Rajkot district and eastern part of Jamnagar districts, these sandstones have been encountered at depths of 200 – 250 mbgl below Traps, in semi- confined conditions.

The Himmatnagar sandstones are exposed in a narrow belt between Eklara and Ranasan villages in Sabarkantha district. They also occur below the traps near Dhansura (23° 24': 75° 15') at depths of 60 to 100 mbgl. Patches of these sandstones occur under the alluvial cover near Sanseli (22° 42'; 75° 25'), Madhwas (23° 24'; 73° 27') and Gugulpur (22° 15': 73° 28') and on the northern bank of Goma River. Although these sandstones are generally fine grained, hard and compact, coarse friable sandstones are observed at places near Kapadvanj. These

sandstones, when saturated to moderate depths, form potential aquifers. Tubewells tapping these aquifers yield up to 50 m³/hour.

2.3 Deccan Trap

These are essentially basaltic lava flows with a general horizontal to near horizontal disposition over a very wide area. From groundwater potential point of view, these rocks constitute moderately promising aquifers. The jointed and fractured basalts hold and transmit water in moderate quantities. The thickness of traps ranges from 100 to 150 m in Kachchh to more than 1000 m in Cambay basin.

The yields in dug wells tapping the basalts vary from insignificant quantities to 30m³/day. Higher yields have been observed at hydrogeologically favourable locations. The yield of the dug wells can be enhanced considerably by lateral and/or vertical borings. The discharge of tube wells is reported to decline at places due to presence of unsaturated porous zones at depth. The quality of groundwater in traps is generally potable.

2.4 Tertiary Formation

These rocks are exposed between Narmada and Tapi rivers in parts of Bharuch and Surat districts. They also occur in the coastal tracts of Saurashtra and Kachchh.

Gaj beds belonging to Miocene occur all along the Saurashtra coast. These consist of limestone, clay and grit mostly gypsiferous with thin sand layers. Drilling at Okha (22°28': 69°16') and Veraval (20°54': 70°25') has shown that locally, the Gaj beds extend beyond 300 m depth and the deeper zones yield meagre quantities of saline groundwater.

The quality of groundwater in Gaj beds along Saurashtra coast is slightly inferior on account of intercalated clay bands and inherent salinity of Gaj beds, which were deposited under marine conditions. However, the quality of ground water in the upper Gaj limestone is better. The chloride content in groundwater ranges from 100 to 200 mg/l between Veraval, Sil (21° 11': 70° 03') and around Porbandar.

Dwarka beds, comprising of gypsiferous and calcareous red colour clays and sandy limestone are about 150 m thick. Groundwater in the Dwarka beds is of poor quality with chloride content ranging from 500 to 700 mg/l. Yield of dug wells are of the order of 37 m³/day and tube wells yield about 22 m³/day for a drawdown of about 4 m. In the Kachchh region, the sandstones of Manchhar series form good aquifers. Tubewells, ranging in depth from 116 to 169 mbgl, yield between 68 to 136 m³/hour and the chloride content ranges between 96 and 612 mg/l. However, the Tertiary rocks, in general, do not form promising aquifers for groundwater development because of the inferior quality of groundwater. In southern Gujarat (Narmada-Tapti area), the tertiary rocks comprises of sandstone, shale and limestone intercalated with gravel which locally exceed 100 m in thickness. Ground water in these rocks is mostly brackish to saline and yields are in shallow tube wells.

2.5 Quaternary Formation

The Quaternary formations include milliolite limestone, alluvium and aeolian deposits. The milliolite limestone is of limited thickness and its occurrence is

confined to the coastal tract of Saurashtra. The alluvial and aeolian deposits extend as one continuous plain, from north to south and also as valley-fills in the hard rock terrain.

Highly cavernous milliolite limestone is locally a very productive aquifer. Dug wells tapping these limestones are capable of yielding up to 200 m³/day. These are the repositories of potable groundwater in an otherwise saline coastal belt of Saurashtra. Quaternary sediments occupy an area of about 86,680 sq km. Their thickness in the Cambay Basin is estimated to be of the order of 500 m. However, towards north in the districts of Mahesana Banaskantha and Sabarkantha, the thickness reduces to less than 50 m near the hilly tract. In general, the thickness of the alluvium in north Gujarat ranges from 40 to 500 m. In the southern Gujarat plains, the alluvium mostly overlies the basalts and the tertiary sediments. Its thickness ranges from a few meters near the rock outcrops to over 75 m in the lower reaches. The Quaternary sediments vary in character and composition. In the Cambay basin, these are predominantly composed of clay, silt and sand with "kankar". The proportion of gravels, pebbles and boulders, etc., increases towards the hilly tracts. Such areas, forming the piedmont terrain, extend for 10 to 20 km from the hills into the plains.

A number of abandoned river channels and valley fills occur in the rocky areas. These are of great significance for the development of ground water in an otherwise less promising terrain.

Groundwater in the alluvium occurs under unconfined conditions at shallow depths. In deeper horizons, it occurs under semi-confined to confined and artesian conditions. Detailed study in Mahesana, Banaskantha, Rajkot, Surendranagar, Kheda, Sabarkantha, Kachchh and Ahmedabad districts has revealed that multiple aquifers exist in major part of the alluvial plains of Gujarat up to a depth of 500 m.

These aquifers have their areas of recharge in the piedmont terrain and the hilly areas towards the east and northeast. Most of the aquifers coalesce into one phreatic aquifer in the recharge area but are identified as separate aquifers occurring under artesian conditions in the central part of the basin and in the discharge areas towards west and southwest. In parts of Mahesana and Banaskantha districts, the quaternary sediments is up to 600 m thick, comprising of 10 to 125 m thick younger alluvial deposits (Pleistocene to Recent) and 100 to 475 m thick older alluvial deposits (Pliocene to Pleistocene). The entire alluvial sequence has been divided into five major aquifers viz., A (up to 125m) or phreatic aquifer and B, C, D and E (between 125 and 600 m depth) or confined aquifers.

Due to over-exploitation, the water levels in the phreatic aquifer have declined alarmingly rendering them almost dry. Presently, first and second confined aquifers are the most exploited. The decline of water level in these aquifers is more than 40 m since 1961 at most of the area. The yield of tube wells tapping users confined aquifer vary from 20 to 40 lps.

3.0 GROUND WATER SCENARIO

Systematic and regular monitoring of groundwater levels brings out the changes taking place in the groundwater regime. The maps so generated are of immense help for regional groundwater flow modelling which serves as a groundwater management tool to provide the necessary advance information to the user agencies to prepare contingency plans in case of unfavourable groundwater recharge situation. The data also has immense utility in deciding the legal issues arising out of conflicting interests of groundwater users.

The monitoring of ground water levels has been carried out at groundwater monitoring wells four times in a year simultaneously throughout the State during the following periods.

- a) May - 20th to 30th (water level of pre-monsoon period).
- b) August - 20th to 30th (peak monsoon water level).
- c) November - 1st to 10th (water levels of post-monsoon period).
- d) January - 1st to 10th (the recession stage of water level).

Water level data of the ground water monitoring wells collected during the year 2017 – 2018 has been utilized to prepare various maps showing depth to water level and fluctuation of water level. Depth to water level maps are useful in dealing with problems of water logging and artificial recharge, where the relative position of water level with reference to the ground surface is of critical importance. Water level fluctuation maps (rise or fall) are indispensable for estimation of change in storage in the aquifer.

For the purpose of presentation, Gujarat state has been divided into three regions, namely, (a) the Kachchh region comprising Kachchh district, (b) the Saurashtra region comprising Amreli, Bhavnagar, Junagadh, Jamnagar, Porbander Rajkot and Surendranagar districts, and (c) the mainland Gujarat. The mainland Gujarat has been further subdivided into two regions, namely, North Gujarat comprising, Ahmedabad, Anand, Dahod, Banaskantha, Gandhinagar, Kheda, Mahesana, Panchmahals, Patan and Sabarkantha districts, and South Gujarat comprising Bharuch, Narmda, Navsari, Surat, The Dangs Vadodara and Valsad districts. The Union Territory of Daman & Diu has been described separately. The water level data of these open wells and piezometers are presented in the Annexure IIA and IIB.

The data is analysed for each set of measurement, and report prepared which include following maps to understand the groundwater regime in the state.

1. Depth to water level
2. Seasonal fluctuation - water level fluctuation in comparison to pre-monsoon.
3. Annul fluctuation - water level fluctuation in comparison to same month in the previous year.
4. Decadal fluctuation - water level fluctuation in the month of measurement with reference to the decadal average for the same month.

3.1 Depth to Water Level (Unconfined Aquifer)

A graphical analysis was done to understand the water level behaviours of the ground water monitoring wells in the different categories of the water levels during every monitoring period and the same is depicted in **Fig. 6 (a,b,c,d)**.

Fig 6 a

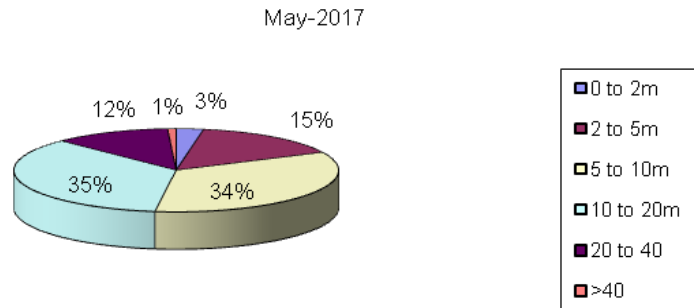


Fig 6 b

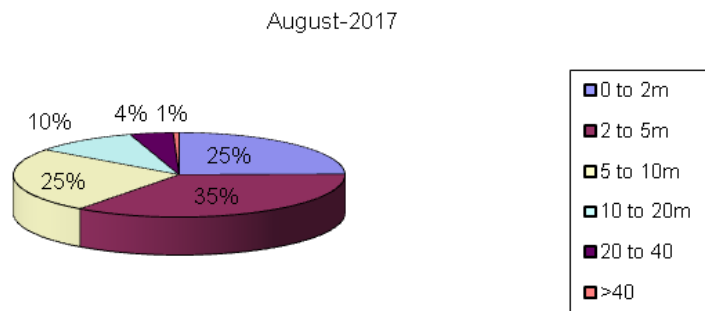


Fig 6 c

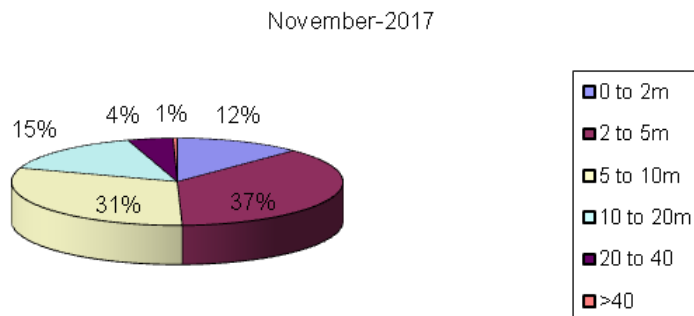
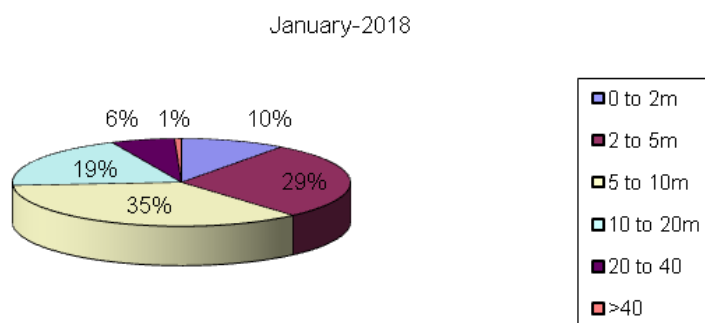


Fig 6 d



3.1.1 Depth to Water Level May 2017

In the pursuance of Fig no. 7 reveals that 69% of monitoring stations (table- 5) of the state falls in the water levels ranges 5 - 20m bgl. Water levels of 20 to 40 mbgl are observed in 12% of stations of the state and ut of Daman & Diu. Deeper water level more than 40m bgl are observed in parts of Banaskantha, Patan, Gandhinagar and Sabarkantha districts. The shallowest water level recorded is 0.13 m bgl at Mulad village in Bharuch district. The deepest water level recorded is 60.69 m bgl at Deesa in Banaskantha district.

In North Gujarat, about 69% of the monitoring stations falls in the water level range of 5 - 20 m bgl. Shallow water levels (lesser than 5 mbgl) are observed in 19% of the stations in Ahmedabad, Anand, Patan, Panchmahal, districts. Deeper water levels ranges 20 to 40 mbgl are experienced in major parts of Banaskantha, Mahesana districts and adjoining area of Ahmedabad, Kheda, Anand, Panchmahals and Sabarkantha districts. The deepest water level recorded is 60.69m bgl at Deesa in Banaskantha district where as shallowest water level of 1.10m bgl has been recorded at Radhanpur in Patan district.

In South Gujarat, more than 67% of the stations has recorded water level between 5- 20 mbgl where as 27% range less than 5m bgl. Deeper water levels of more than 20 m bgl is mainly observed in parts of Vadodara and Narmada districts. The deepest water level of 31.43m bgl is recorded at Rajpipla in Narmada district whereas the shallowest water level of 0.13m bgl has been recorded at Mulad in Bharuch district.

In Saurashtra region, about 70% of the monitoring stations shows water levels 5 - 20 mbgl. Water levels of 20 to 40 m are found as isolated patches scattered all over the region. The shallowest water level, 0.70m bgl, has been recorded at Pipli village in Surendranagar district and the deepest water level of 48.57m bgl recorded at Morjhar in Amreli district.

In Kachchh region 76% of the monitoring stations, the water level is between 5 - 20 mbgl. Western part of the area shows water level ranges 2 to 5 m bgl. The water level more than 20m occur as isolated patches scattered in the central and eastern part of the Kachchh district. The deepest water level of 36.80m bgl is recorded at Kotada and the shallowest water level of 0.46m bgl has been recorded at Haboi.

The depth to water level is in the range of 3.28 to 11.80m bgl in Daman and 4.20 to 7.20m bgl in Diu.

3.1.2 Depth to Water Level August 2017

During August 2017, the depth to water level of unconfined aquifer range from 0.10 to 57.55m bgl (**Fig 8**). Details of depth to water level in different range, from 0-2 m, 2 to 5 m, 5 to 10 m, 10 to 20m, 20 to 40 m and more than 40 mbgl are presented in table – 6. The perusal of the depth to water level reveals that 60% of

the monitoring stations falls in the ranges of 0 to 5 mbgl whereas 5 to 20 mbgl water level are observed in 35% of the area in Gujarat state and UT of Daman & Diu. Water levels of 20 to 40 mbgl are observed in Mahesana, Gandhinagar, Kheda, Banaskantha, Sabarkantha, Kachchh, Amreli, Bhavnagar, Narmada, Porbandar and Vadodara districts in isolated patches. Deeper water levels more than 40m bgl are observed in most part of Banaskantha, Mahesana, Sabarkantha and Gandhinagar districts of North Gujarat and Amreli in Saurashtra area as isolated patch. The shallowest water level 0.10 has been recorded at Lilpur in Kachchh, Khaidipada in Narmada, Kelkui in Surat, Tavi in Surendranagar districts.

In North Gujarat, about 94% of the monitoring stations fall within the water level of 20 mbgl. Shallow water levels (lesser than 5 m bgl) are observed in the area near the Gulf of Cambay and the area along the little Rann of Kachchh and in eastern part of north Gujarat region falling in Panchmahals, Dohad and Sabarkantha districts. Deeper water levels ranges from 20 to 40 mbgl in major part of Banaskantha, adjoining area of Ahmedabad and Kheda districts, adjoining area of Gandhinagar Mahesana and Sabarkantha districts. The deepest water level of 57.55m bgl is recorded at Deesa in Banaskantha district whereas the shallowest water level 0.20m bgl has been recorded at Shekhupura in Kheda district.

In South Gujarat, 96% of the monitoring stations have recorded water level below 20m bgl of which 70% alone has the water level in the range of 0 – 5m bgl. Deeper water levels of 20 to 40 m bgl are mainly observed as isolated patch in parts of Vadodara & Narmada district. The deepest water level of 29.80m bgl is recorded at Rajpipla in Narmada district whereas the shallowest water level of 0.10m bgl at Khaidipada in Narmada and Kelkui in Surat district.

In Saurashtra region, about 96% of the monitoring stations shows water levels in less than 20m bgl and water levels of 20 to 40 m are found as isolated patch in Amreli, Bhavnagar and Porbandar districts. The shallowest water level, 0.20m bgl has been recorded at Prasli of Junagadh district and the deepest water level of 45.15m bgl recorded at Morjhar in Amreli district.

In Kachchh region, in about 90% of the monitoring stations, the water level ranges less than 20m bgl. In central and east part of the area, isolated patches of water level ranges between 20 to 40 mbgl are found. The deepest water level of 38.00m bgl is recorded at Kotada and the shallowest water level of 0.10m bgl has been recorded at Lilpur.

The depth to water level in Daman ranges from 0.28mbgl at Warkund to 4.05m bgl at Dalwada where as in Diu area depth to water levels ranges from 3.24m bgl in Diu to 6.30m bgl in Pothia Bapa.

Fig- 7

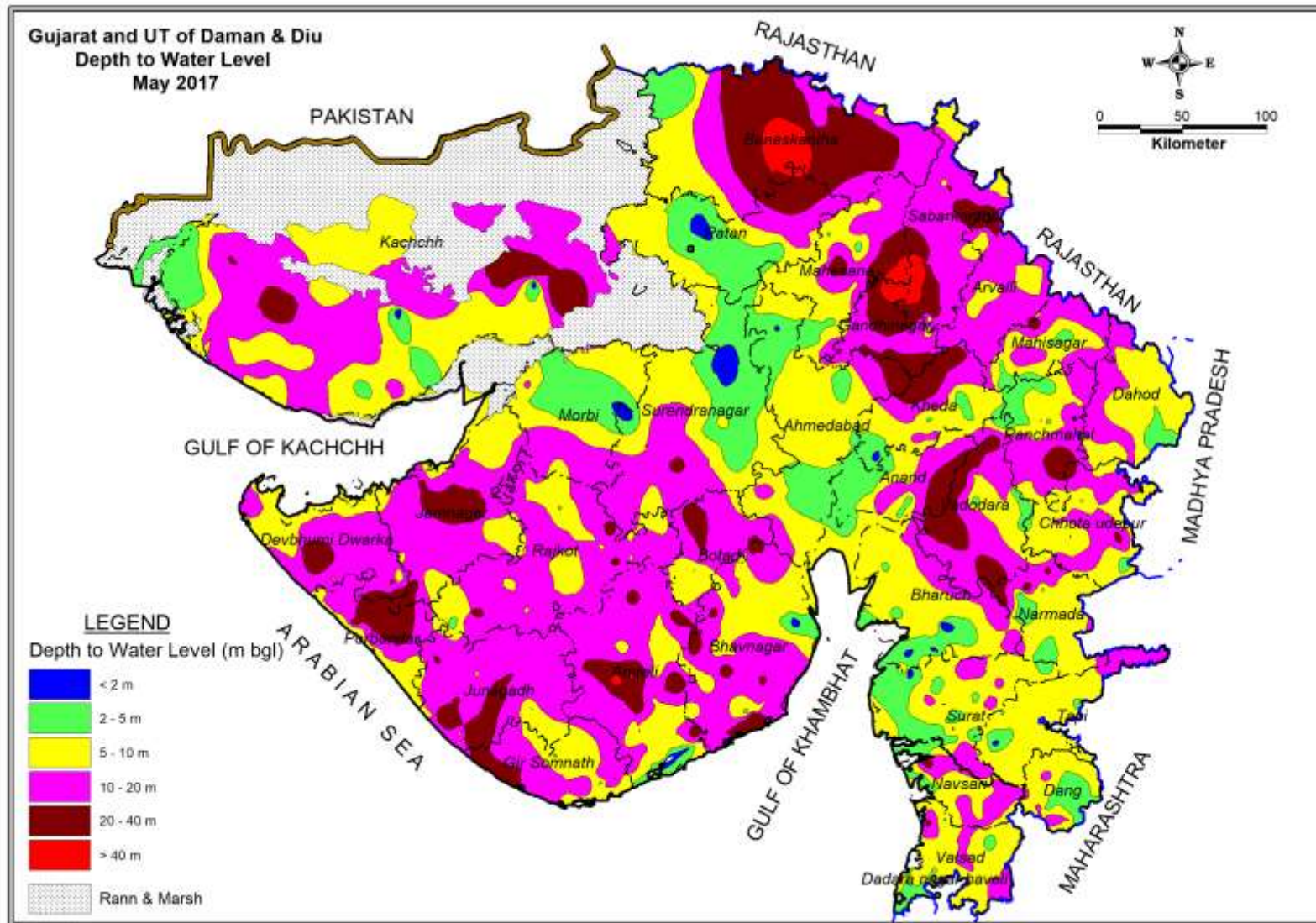


Fig- 8

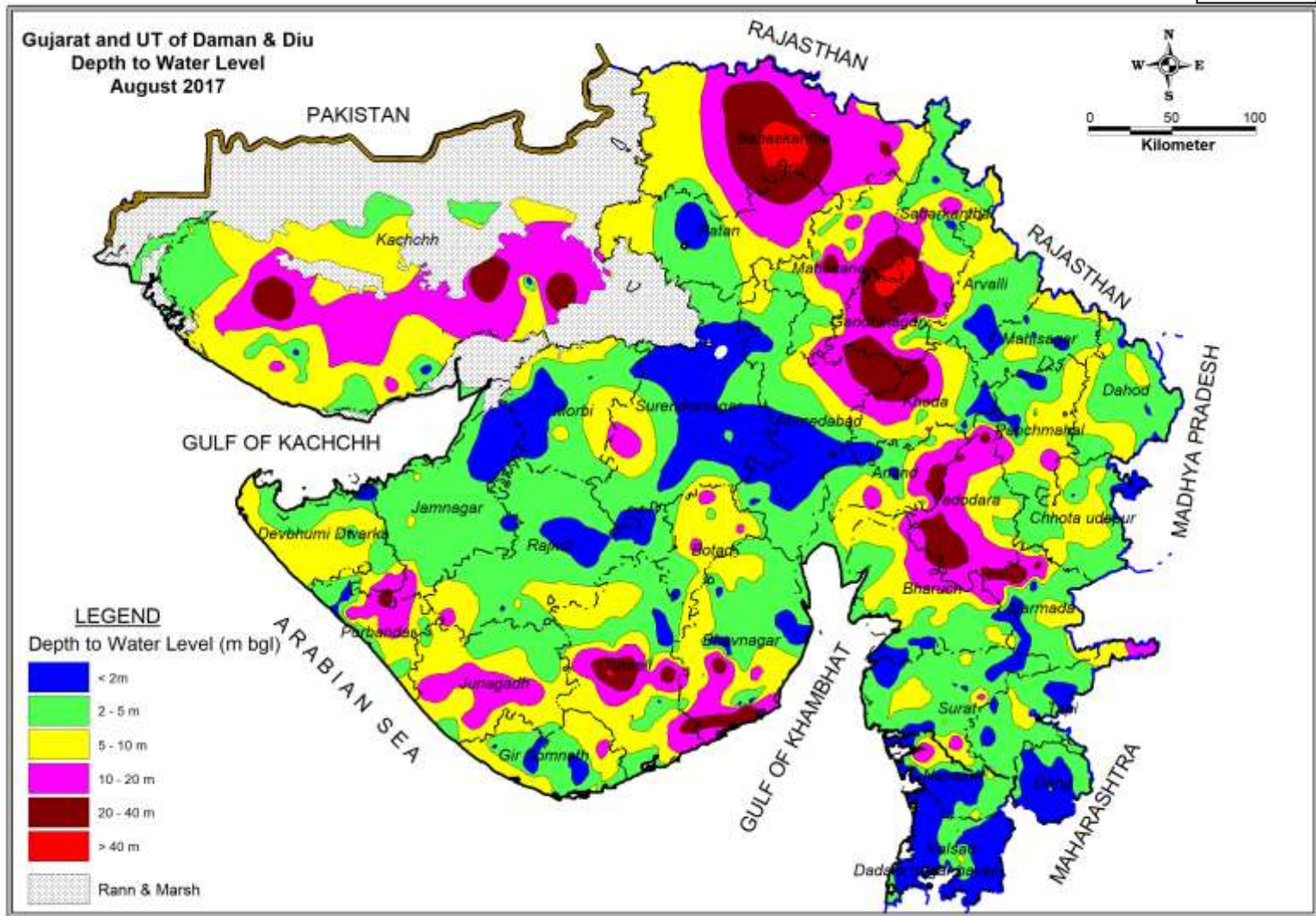


Table-5

WELL WISE CATEGORISATION OF DEPTH TO WATER LEVEL - MAY 2017

Sl.No.	District	No. of Wells Analysed	DTWL in mbgl		No of well in different Ranges					
			Min	Max	0 to 2 (m)	2 to 5(m)	5 to 10(m)	10 to 20(m)	20 to 40(m)	>40(m)
1	Ahmedabad	21	1.75	20.40	1 4.76%	9 42.86%	6 28.57%	4 19.05%	1 4.76%	0 0.00%
2	Anand	16	2.37	27.88	0 0.00%	6 37.50%	4 25.00%	4 25.00%	2 12.50%	0 0.00%
3	Banaskantha	20	2.58	60.69	0 0.00%	1 5.00%	2 10.00%	8 40.00%	8 40.00%	1 5.00%
4	Dohad	28	2.20	16.00	0 0.00%	4 14.29%	14 50.00%	10 35.71%	0 0.00%	0 0.00%
5	Gandhinagar	6	14.35	53.30	0 0.00%	0 0.00%	0 0.00%	3 50.00%	2 33.33%	1 16.67%
6	Kheda	22	1.20	38.30	1 4.55%	5 22.73%	10 45.45%	4 18.18%	2 9.09%	0 0.00%
7	Mahesana	27	2.62	29.70	0 0.00%	5 18.52%	14 51.85%	7 25.93%	1 3.70%	0 0.00%
8	Panchmahals	36	2.90	34.30	0 0.00%	7 19.44%	12 33.33%	15 41.67%	2 5.56%	0 0.00%
9	Patan	9	1.10	18.03	1 11.11%	3 33.33%	2 22.22%	3 33.33%	0 0.00%	0 0.00%
10	Sabarkantha	48	4.75	56.20	0 0.00%	1 2.08%	11 22.92%	28 58.33%	6 12.50%	2 4.17%
North Gujarat		233	1.10	60.69	3 1.29%	41 17.60%	75 32.19%	86 36.91%	24 10.30%	4 1.72%
11	Bharuch	35	0.13	14.45	3 8.57%	10 28.57%	21 60.00%	1 2.86%	0 0.00%	0 0.00%
12	Narmada	23	1.49	31.43	3 13.04%	3 13.04%	10 43.48%	4 17.39%	3 13.04%	0 0.00%
13	Navsari	21	1.53	29.82	1 4.76%	4 19.05%	9 42.86%	6 28.57%	1 4.76%	0 0.00%
14	Surat	53	0.98	19.81	2 3.77%	13 24.53%	24 45.28%	14 26.42%	0 0.00%	0 0.00%
15	The dangs	22	2.53	13.12	0 0.00%	6 27.27%	11 50.00%	5 22.73%	0 0.00%	0 0.00%
16	Vadodara	46	2.45	29.32	0 0.00%	8 17.39%	15 32.61%	16 34.78%	7 15.22%	0 0.00%
17	Valsad	20	3.44	23.67	0 0.00%	6 30.00%	7 35.00%	6 30.00%	1 5.00%	0 0.00%
South Gujarat		220	0.13	31.43	9 4.09%	50 22.73%	97 44.09%	52 23.64%	12 5.45%	0 0.00%
18	Amreli	51	1.15	48.57	3 5.88%	4 7.84%	13 25.49%	19 37.25%	10 19.61%	2 3.92%
19	Bhavnagar	41	0.75	30.80	1 2.44%	5 12.20%	10 24.39%	15 36.59%	10 24.39%	0 0.00%
20	Jamnagar	51	6.23	31.60	0 0.00%	0 0.00%	19 37.25%	22 43.14%	10 19.61%	0 0.00%
21	Junagadh	59	4.33	42.30	0 0.00%	3 5.08%	8 13.56%	35 59.32%	12 20.34%	1 1.69%
22	Porbandar	28	5.39	34.20	0 0.00%	0 0.00%	12 42.86%	9 32.14%	7 25.00%	0 0.00%
23	Rajkot	42	2.06	22.89	0 0.00%	5 11.90%	14 33.33%	20 47.62%	3 7.14%	0 0.00%
24	Surendranagar	28	0.70	24.06	3 10.71%	11 39.29%	5 17.86%	8 28.57%	1 3.57%	0 0.00%
Saurashtra		300	0.70	48.57	7 2.33%	28 9.33%	81 27.00%	128 42.67%	53 17.67%	3 1.00%
25	Kachchh	51	0.46	36.80	3 5.88%	3 5.88%	17 33.33%	22 43.14%	6 11.76%	0 0.00%
26	DAMAN	7	3.28	11.80	0 0.00%	1 14.29%	5 71.43%	1 14.29%	0 0.00%	0 0.00%
27	DIU	5	4.20	7.20	0 0.00%	1 20.00%	4 80.00%	0 0.00%	0 0.00%	0 0.00%
Daman & Diu		12	3.28	11.80	0 0.00%	2 16.67%	9 75.00%	1 8.33%	0 0.00%	0 0.00%
Grand Total		816	0.13	60.69	22 2.70%	124 15.20%	279 34.19%	289 35.42%	95 11.64%	7 0.86%

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Table-6

WELL WISE CATERGORISATION OF DEPTH TO WATER LEVEL - AUGUST 2017

Sl.No.	District	No. of Wells Analysed	DTWL in mbgl		No of well in different Ranges					
			Min	Max	0 to 2 (m)	2 to 5(m)	5 to 10(m)	10 to 20(m)	20 to 40(m)	>40(m)
1	Ahmedabad	16	0.39	12.65	5 31.25%	6 37.50%	3 18.75%	2 12.50%	0 0.00%	0 0.00%
2	Anand	14	0.68	24.43	2 14.29%	6 42.86%	2 14.29%	2 14.29%	2 14.29%	0 0.00%
3	Banaskantha	18	5.80	57.55	0 0.00%	0 0.00%	7 38.89%	9 50.00%	1 5.56%	1 5.56%
4	Dohad	26	0.90	10.35	5 19.23%	12 46.15%	8 30.77%	1 3.85%	0 0.00%	0 0.00%
5	Gandhinagar	5	3.20	49.33	0 0.00%	1 20.00%	0 0.00%	1 20.00%	2 40.00%	1 20.00%
6	Kheda	18	0.20	35.70	6 33.33%	5 27.78%	5 27.78%	1 5.56%	1 5.56%	0 0.00%
7	Mahesana	25	1.72	28.08	1 4.00%	11 44.00%	8 32.00%	4 16.00%	1 4.00%	0 0.00%
8	Panchmahals	35	0.60	15.10	8 22.86%	10 28.57%	15 42.86%	2 5.71%	0 0.00%	0 0.00%
9	Patan	5	0.30	15.68	1 20.00%	0 0.00%	2 40.00%	2 40.00%	0 0.00%	0 0.00%
10	Sabarkantha	46	0.70	48.40	8 17.39%	20 43.48%	10 21.74%	5 10.87%	2 4.35%	1 2.17%
North Gujarat		208	0.20	57.55	36 17.31%	71 34.13%	60 28.85%	29 13.94%	9 4.33%	3 1.44%
11	Bharuch	31	0.35	9.20	5 16.13%	14 45.16%	12 38.71%	0 0.00%	0 0.00%	0 0.00%
12	Narmada	20	0.10	29.80	5 25.00%	7 35.00%	4 20.00%	2 10.00%	2 10.00%	0 0.00%
13	Navsari	19	0.15	18.50	12 63.16%	3 15.79%	3 15.79%	1 5.26%	0 0.00%	0 0.00%
14	Surat	45	0.10	14.85	13 28.89%	21 46.67%	7 15.56%	4 8.89%	0 0.00%	0 0.00%
15	The dangs	22	0.15	3.20	18 81.82%	4 18.18%	0 0.00%	0 0.00%	0 0.00%	0 0.00%
16	Vadodara	34	0.27	26.77	5 14.71%	10 29.41%	10 29.41%	3 8.82%	6 17.65%	0 0.00%
17	Valsad	15	0.31	6.55	9 60.00%	4 26.67%	2 13.33%	0 0.00%	0 0.00%	0 0.00%
South Gujarat		186	0.10	29.80	67 36.02%	63 33.87%	38 20.43%	10 5.38%	8 4.30%	0 0.00%
18	Amreli	40	0.50	45.15	4 10.00%	17 42.50%	9 22.50%	4 10.00%	5 12.50%	1 2.50%
19	Bhavnagar	34	0.55	29.56	9 26.47%	11 32.35%	9 26.47%	3 8.82%	2 5.88%	0 0.00%
20	Jamnagar	34	0.73	16.65	6 17.65%	16 47.06%	10 29.41%	2 5.88%	0 0.00%	0 0.00%
21	Junagadh	39	0.20	15.41	7 17.95%	12 30.77%	14 35.90%	6 15.38%	0 0.00%	0 0.00%
22	Porbandar	25	1.60	23.05	6 24.00%	7 28.00%	7 28.00%	4 16.00%	1 4.00%	0 0.00%
23	Rajkot	37	0.22	12.14	11 29.73%	19 51.35%	6 16.22%	1 2.70%	0 0.00%	0 0.00%
24	Surendranagar	33	0.30	13.94	18 54.55%	11 33.33%	3 9.09%	1 3.03%	0 0.00%	0 0.00%
Saurashtra		242	0.20	45.15	61 25.21%	93 38.43%	58 23.97%	21 8.68%	8 3.31%	1 0.41%
25	Kachchh	42	0.10	38.00	3 7.14%	11 26.19%	14 33.33%	10 23.81%	4 9.52%	0 0.00%
26	DAMAN	7	0.28	4.05	4 57.14%	3 42.86%	0 0.00%	0 0.00%	0 0.00%	0 0.00%
27	DIU	5	3.24	6.30	0 0.00%	3 60.00%	2 40.00%	0 0.00%	0 0.00%	0 0.00%
Daman & Diu		12	0.28	6.30	4 33.33%	6 50.00%	2 16.67%	0 0.00%	0 0.00%	0 0.00%
Grand Total		690	0.10	57.55	171 24.78%	244 35.36%	172 24.93%	70 10.14%	29 4.20%	4 0.58%

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3.1.3 Depth to Water Level November 2017

The depth to water level of unconfined aquifer ranges from near ground level to 56.95m bgl (Deesa in Banaskantha district) during November 2017 (**Fig 9 and table no 7**). The perusal of the water level reveals that 95% of the total well analysed has water level less than 20m bgl, in Gujarat state and UT of Daman & Diu. Water levels of 20 to 40m bgl are observed in Ahmedabad, Anand, Banaskantha, Gandhinagar, Kheda, Mahesana, Sabarkantha, Narmada, Vadodara, Amreli, Bhavnagar, Junagarh, Jamnagar, Porbandar and Kachchh districts in isolated patches. The shallowest water level recorded is 0.10m bgl at Bari Pada in The Dangs district.

In North Gujarat, about 94% of the total well analysed falls within the water level range of 20 mbgl. Shallow water levels (less than 5 mbgl) are observed in the area near the Gulf of Cambay and the area along the little Rann of Kachchh and in eastern part of north Gujarat region such as in Panchmahals, Dohad and Sabarkantha district. Deeper water levels ranges 20 to 40 mbgl are experienced in major part Banaskantha, the adjoining area of Ahmedabad, Kheda and Gandhinagar and as isolated patch in Mahesana and Ahmedabad districts. The deepest water level of 56.95m bgl at Deesa in Banaskantha district whereas shallowest water level of 0.16m bgl has been recorded at Radhanpur in Patan district.

In South Gujarat, more than 97% of the total well has recorded water level within 20 mbgl and out of which 63% alone has the water level in the range of 5m bgl. Deeper water levels of 20 – 40 mbgl are mainly observed in isolated patch in parts of Vadodara and Narmada districts. The deepest water level of 33.90m bgl is recorded at Sunderpura in Narmada district whereas the shallowest water level of 0.10 mbgl has been recorded at Bari Pada in The Dangs district.

In Saurashtra region, about 95% of the total well shows water levels less than 20 mbgl and water levels of 20 to 40 mbgl are sporadically disbursed as isolated patches in Amreli, Bhavnagar, Porbandar and Botad district. The shallowest water level recorded is 0.30 mbgl at Pipli in Surendranagar district and the deepest water level of 45.55m bgl recorded at Morajhar in Amreli district.

In Kachchh region, in about 89% of the total well analysed, the water level ranges within 20 mbgl in major part of the district. Central and east part of the area shows water level ranges 20 to 40 mbgl, which cover about 11% of total well in Kachchh region and occur as isolated patches. The deepest water level of 37.80m bgl is recorded at Kotada and the shallowest water level of 0.31 mbgl has been recorded at Haboi.

The depth to water level is within the range of 1.40(Jempore) to 6.0m bgl (Morwad) in Daman and minimum water level in Diu is 4.17m bgl at Jalawadi dug well with deepest water level in Pothia Bapa 6.83 mbgl in Diu.

3.1.4 Depth to Water Level January 2018

A perusal of **Fig 10** and **Table 8** reveals that the depth to water level of unconfined aquifer ranges from 0.10m bgl at Malia in Rajkot district to 48.63m bgl at Lodra in Gandhinagar district during January 2018. Details of depth to water level in different range, i.e. from 0-2 m, 2 to 5 m, 5 to 10 m, 10 to 20m, 20 to 40 m and more than 40 mbgl is presented in table – 8. The perusal of the Depth To Water map reveals that about 38% of the total well analysed falls in the water level range of 0 to 5m bgl where as water level of 5 to 20 mbgl is observed in 55% of Gujarat state and UT of Daman & Diu. Water levels of 20 to 40 mbgl are observed in Anand, Banaskantha, Kheda, Gandhinagar, Sabarkantha, Narmada, Vadodara and in Saurashtra and Kachchh region as isolated patches. The deepest water level more than 40 mbgl is recorded in Amreli, Banaskantha, Gandhinagar and Sabarkantha, districts.

In North Gujarat, about 92% of the total well analysed falls with in the water level range of 20 mbgl and out of which alone 68% represent the water level range of 0 – 10m bgl. Shallow water levels (lesser than 5 mbgl) are observed in the area near the Gulf of Cambay and the area along the little Rann of Kachchh and in eastern part of north Gujarat region such as in Panchmahals, Dohad and Sabarkantha district. Deeper water levels ranges 20 to 40 mbgl are experienced in major part of Banaskantha district, the adjoining area of Kheda and Gandhinagar and Gandhinagar, Mahesana, Sabarkantha. The deepest water level of 48.63m bgl at Lodra in Gandhinagar district whereas shallowest water level of 0.55m bgl has been recorded at Laxmipura in Anand district.

In South Gujarat, about 89% of the total wells has recorded water level less than 10 mbgl and out of which 56% alone has the water level in the range of 0-5m bgl. Deeper water levels of 20 to 40m bgl mainly observed in isolated patch in major parts of Vadodara district. The deepest water level of 31.27m bgl is recorded at Rajpipla in Narmada district whereas the shallowest water level of 0.30m bgl has been recorded at Chisadia in Vadodara district.

In Saurashtra region, about 93% of the total well shows water levels less than 20m bgl and water levels of 20 to 40 mbgl are sporadically disbursed in isolated patches scattered in all areas of Saurashtra region. The shallowest water level, 0.10m bgl, has been recorded at Malia of Rajkot (Morbi) district. The deepest water level of 47.48m bgl recorded at Morjhar in Amreli district.

In Kachchh region, more than 90% of the total well analysed, the water level ranges in less than 20 mbgl in major part of the district. In central part of Kachchh, the water level ranges 20 to 40 m bgl in isolated patches. The deepest water level of

37.80m bgl is recorded at Kotada and the shallowest water level of 0.42m bgl at Lilpur.

The depth to water level is within the range of 1.94 (Jempore) to 5.98m bgl (Dalwada) in Daman whereas in Diu water level ranges 4.27m bgl at Diu dugwell to 6.89 mbgl in Pothia Bapa.

Fig- 9

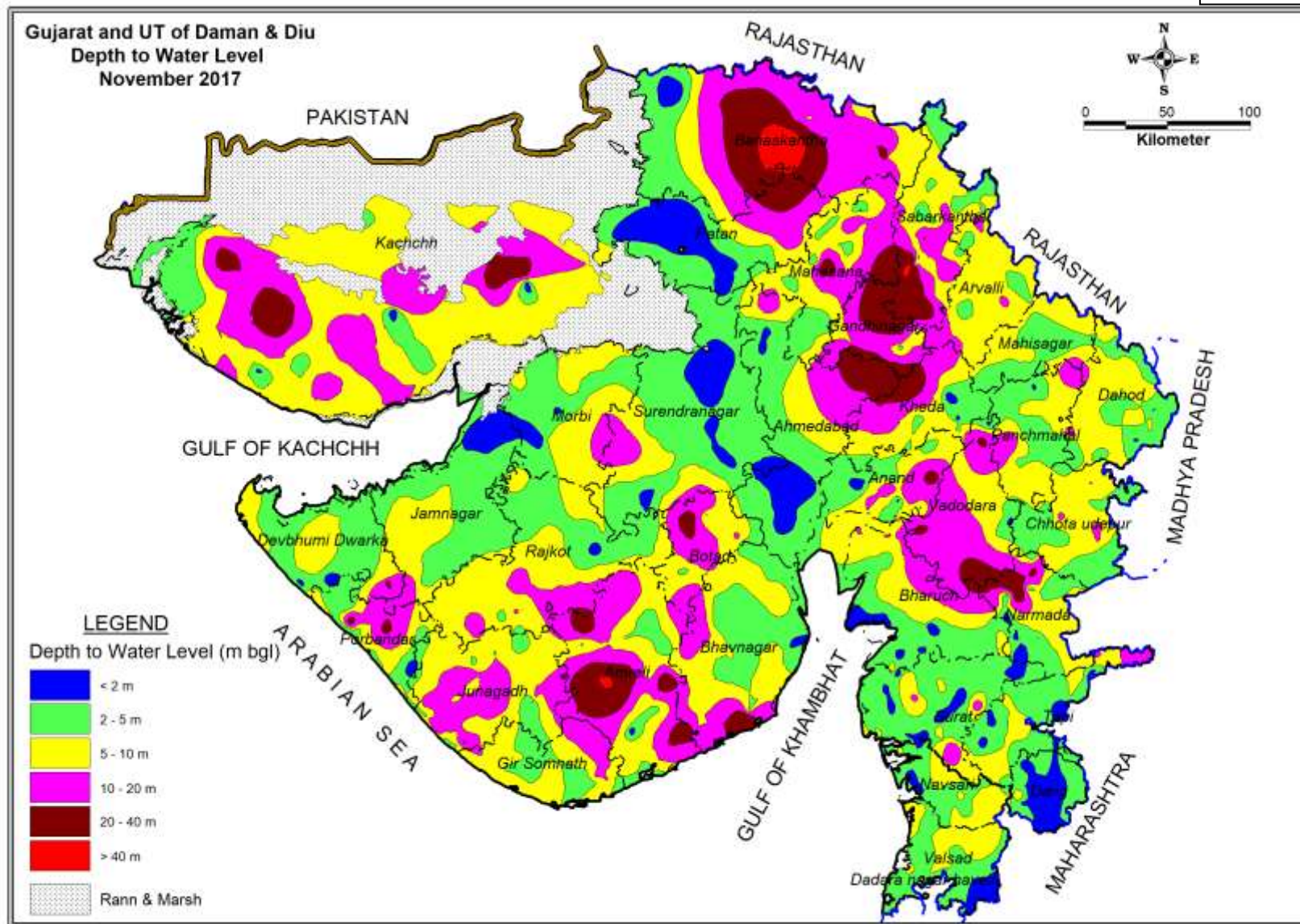


Fig- 10

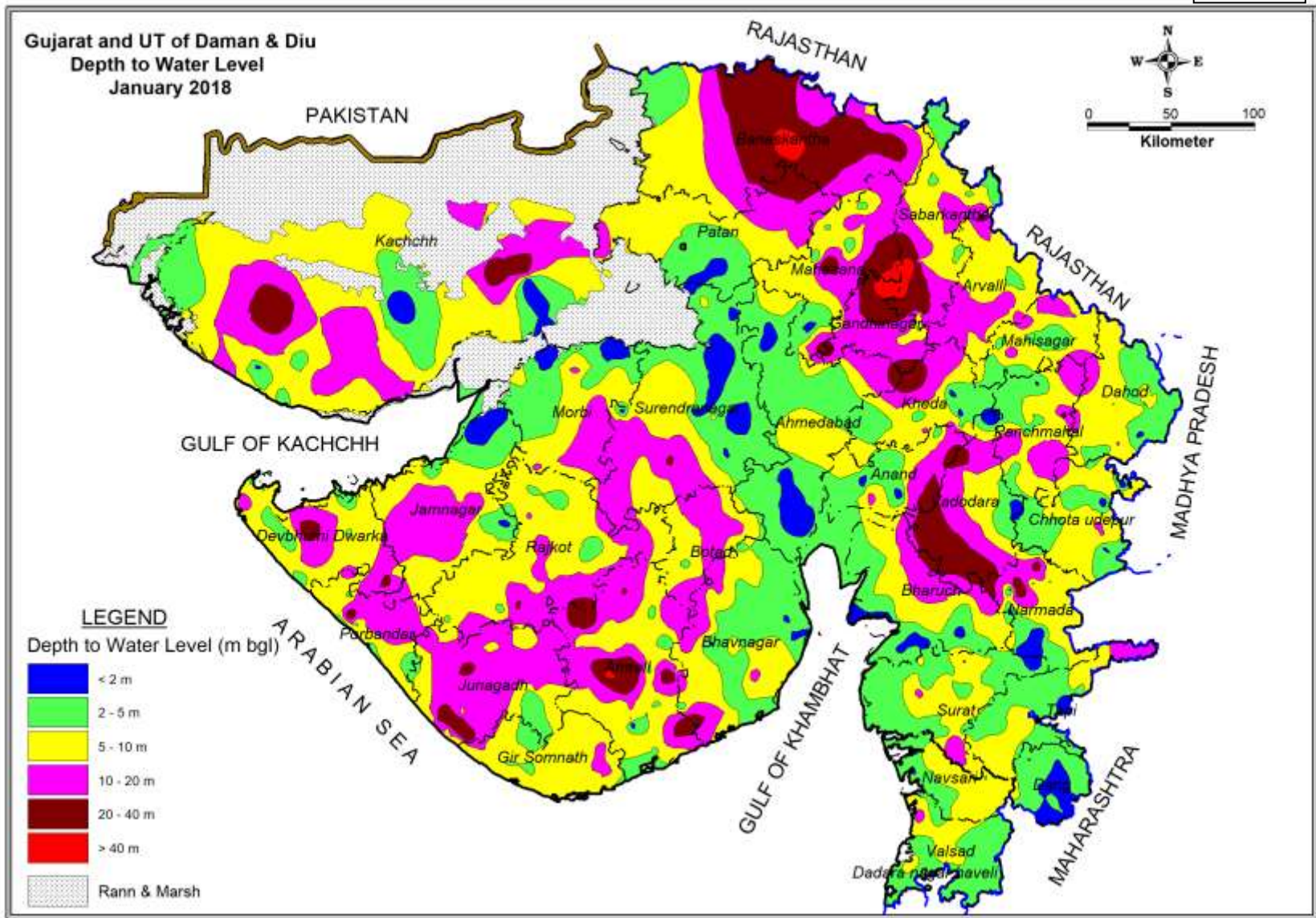


Table-7

WELL WISE CATERGORISATION OF DEPTH TO WATER LEVEL - NOVEMBER 2017

Sl.No.	District	No. of Wells Analysed	DTWL in mbgl		No of well in different Ranges					
			Min	Max	0 to 2 (m)	2 to 5(m)	5 to 10(m)	10 to 20(m)	20 to 40(m)	>40(m)
1	Ahmedabad	17	1.06	16.45	5 29.41%	6 35.29%	3 17.65%	3 17.65%	0 0.00%	0 0.00%
2	Anand	12	1.38	22.65	3 25.00%	4 33.33%	1 8.33%	3 25.00%	1 8.33%	0 0.00%
3	Banaskantha	19	1.25	56.95	1 5.26%	0 0.00%	7 36.84%	9 47.37%	1 5.26%	1 5.26%
4	Dohad	26	1.80	11.90	2 7.69%	8 30.77%	15 57.69%	1 3.85%	0 0.00%	0 0.00%
5	Gandhinagar	6	3.03	31.76	0 0.00%	1 16.67%	1 16.67%	2 33.33%	2 33.33%	0 0.00%
6	Kheda	14	1.20	33.52	2 14.29%	5 35.71%	5 35.71%	1 7.14%	1 7.14%	0 0.00%
7	Mahesana	24	1.70	27.83	1 4.17%	10 41.67%	9 37.50%	3 12.50%	1 4.17%	0 0.00%
8	Panchmahals	30	1.72	17.33	1 3.33%	13 43.33%	12 40.00%	4 13.33%	0 0.00%	0 0.00%
9	Patan	9	0.16	18.32	4 44.44%	1 11.11%	2 22.22%	2 22.22%	0 0.00%	0 0.00%
10	Sabarkantha	47	2.60	42.95	0 0.00%	13 27.66%	22 46.81%	8 17.02%	3 6.38%	1 2.13%
North Gujarat		204	0.16	56.95	19 9.31%	61 29.90%	77 37.75%	36 17.65%	9 4.41%	2 0.98%
11	Bharuch	27	0.32	10.35	6 22.22%	13 48.15%	6 22.22%	2 7.41%	0 0.00%	0 0.00%
12	Narmada	18	0.72	33.90	5 27.78%	5 27.78%	3 16.67%	2 11.11%	3 16.67%	0 0.00%
13	Navsari	23	1.15	8.50	4 17.39%	11 47.83%	8 34.78%	0 0.00%	0 0.00%	0 0.00%
14	Surat	54	0.25	16.80	13 24.07%	20 37.04%	16 29.63%	5 9.26%	0 0.00%	0 0.00%
15	The dangs	25	0.10	8.00	14 56.00%	10 40.00%	1 4.00%	0 0.00%	0 0.00%	0 0.00%
16	Vadodara	37	1.65	25.02	2 5.41%	13 35.14%	11 29.73%	8 21.62%	3 8.11%	0 0.00%
17	Valsad	21	0.90	8.75	2 9.52%	11 52.38%	8 38.10%	0 0.00%	0 0.00%	0 0.00%
South Gujarat		205	0.10	33.90	46 22.44%	83 40.49%	53 25.85%	17 8.29%	6 2.93%	0 0.00%
18	Amreli	32	0.73	45.55	2 6.25%	8 25.00%	9 28.13%	6 18.75%	6 18.75%	1 3.13%
19	Bhavnagar	30	1.69	27.52	1 3.33%	12 40.00%	10 33.33%	5 16.67%	2 6.67%	0 0.00%
20	Jamnagar	39	0.82	22.65	5 12.82%	21 53.85%	10 25.64%	2 5.13%	1 2.56%	0 0.00%
21	Junagadh	55	1.86	20.90	1 1.82%	16 29.09%	17 30.91%	20 36.36%	1 1.82%	0 0.00%
22	Porbandar	27	0.59	26.03	1 3.70%	14 51.85%	7 25.93%	3 11.11%	2 7.41%	0 0.00%
23	Rajkot	43	0.98	16.10	3 6.98%	20 46.51%	15 34.88%	5 11.63%	0 0.00%	0 0.00%
24	Surendranagar	36	0.30	14.48	8 22.22%	22 61.11%	5 13.89%	1 2.78%	0 0.00%	0 0.00%
Saurashtra		262	0.30	45.55	21 8.02%	113 43.13%	73 27.86%	42 16.03%	12 4.58%	1 0.38%
25	Kachchh	44	0.31	37.80	3 6.82%	6 13.64%	15 34.09%	15 34.09%	5 11.36%	0 0.00%
26	DAMAN	8	1.40	6.00	1 12.50%	5 62.50%	2 25.00%	0 0.00%	0 0.00%	0 0.00%
27	DIU	4	4.17	6.83	0 0.00%	2 50.00%	2 50.00%	0 0.00%	0 0.00%	0 0.00%
Daman & Diu		12	1.40	6.83	1 8.33%	7 58.33%	4 33.33%	0 0.00%	0 0.00%	0 0.00%
Grand Total		727	0.10	56.95	90 12.38%	270 37.14%	222 30.54%	110 15.13%	32 4.40%	3 0.41%

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Table-8

WELL WISE CATEGORISATION OF DEPTH TO WATER LEVEL - JANUARY 2018

Sl.No.	District	No. of Wells Analysed	DTWL in mbgl		No of well in different Ranges					
			Min	Max	0 to 2 (m)	2 to 5(m)	5 to 10(m)	10 to 20(m)	20 to 40(m)	>40(m)
1	Ahmedabad	20	1.24	15.90	5 25.00%	9 45.00%	2 10.00%	4 20.00%	0 0.00%	0 0.00%
2	Anand	14	0.55	23.71	2 14.29%	3 21.43%	3 21.43%	4 28.57%	2 14.29%	0 0.00%
3	Banaskantha	17	2.25	47.50	0 0.00%	1 5.88%	4 23.53%	7 41.18%	4 23.53%	1 5.88%
4	Dohad	28	1.10	12.10	2 7.14%	10 35.71%	14 50.00%	2 7.14%	0 0.00%	0 0.00%
5	Gandhinagar	6	8.36	48.63	0 0.00%	0 0.00%	1 16.67%	2 33.33%	2 33.33%	1 16.67%
6	Kheda	20	0.90	28.90	3 15.00%	7 35.00%	6 30.00%	3 15.00%	1 5.00%	0 0.00%
7	Mahesana	24	1.30	29.43	1 4.17%	7 29.17%	10 41.67%	4 16.67%	2 8.33%	0 0.00%
8	Panchmahals	37	1.54	19.40	2 5.41%	10 27.03%	15 40.54%	10 27.03%	0 0.00%	0 0.00%
9	Patan	4	1.56	14.80	1 25.00%	0 0.00%	1 25.00%	2 50.00%	0 0.00%	0 0.00%
10	Sabarkantha	46	2.18	46.80	0 0.00%	9 19.57%	20 43.48%	13 28.26%	3 6.52%	1 2.17%
North Gujarat		216	0.55	48.63	16 7.41%	56 25.93%	76 35.19%	51 23.61%	14 6.48%	3 1.39%
11	Bharuch	29	0.55	9.05	6 20.69%	13 44.83%	10 34.48%	0 0.00%	0 0.00%	0 0.00%
12	Narmada	23	0.65	31.27	6 26.09%	6 26.09%	5 21.74%	2 8.70%	4 17.39%	0 0.00%
13	Navsari	16	1.55	9.08	1 6.25%	7 43.75%	8 50.00%	0 0.00%	0 0.00%	0 0.00%
14	Surat	45	1.14	17.18	2 4.44%	20 44.44%	19 42.22%	4 8.89%	0 0.00%	0 0.00%
15	The dangs	21	0.59	5.58	9 42.86%	10 47.62%	2 9.52%	0 0.00%	0 0.00%	0 0.00%
16	Vadodara	35	0.30	30.20	6 17.14%	9 25.71%	11 31.43%	4 11.43%	5 14.29%	0 0.00%
17	Valsad	17	2.40	14.32	0 0.00%	9 52.94%	7 41.18%	1 5.88%	0 0.00%	0 0.00%
South Gujarat		186	0.30	31.27	30 16.13%	74 39.78%	62 33.33%	11 5.91%	9 4.84%	0 0.00%
18	Amreli	49	0.65	47.48	2 4.08%	10 20.41%	18 36.73%	9 18.37%	8 16.33%	2 4.08%
19	Bhavnagar	31	1.62	18.95	3 9.68%	15 48.39%	7 22.58%	6 19.35%	0 0.00%	0 0.00%
20	Jamnagar	44	1.30	29.30	3 6.82%	13 29.55%	16 36.36%	10 22.73%	2 4.55%	0 0.00%
21	Junagadh	56	2.00	35.90	1 1.79%	6 10.71%	24 42.86%	19 33.93%	6 10.71%	0 0.00%
22	Porbandar	27	1.64	27.88	1 3.70%	5 18.52%	13 48.15%	7 25.93%	1 3.70%	0 0.00%
23	Rajkot	46	0.10	21.75	1 2.17%	11 23.91%	22 47.83%	11 23.91%	1 2.17%	0 0.00%
24	Surendranagar	49	0.15	22.07	14 28.57%	14 28.57%	12 24.49%	8 16.33%	1 2.04%	0 0.00%
Saurashtra		302	0.10	47.48	25 8.28%	74 24.50%	112 37.09%	70 23.18%	19 6.29%	2 0.66%
25	Kachchh	43	0.42	37.80	4 9.30%	4 9.30%	14 32.56%	17 39.53%	4 9.30%	0 0.00%
26	DAMAN	7	1.94	5.98	1 14.29%	5 71.43%	1 14.29%	0 0.00%	0 0.00%	0 0.00%
27	DIU	5	4.27	6.89	0 0.00%	3 60.00%	2 40.00%	0 0.00%	0 0.00%	0 0.00%
Daman & Diu		12	1.94	6.89	1 8.33%	8 66.67%	3 25.00%	0 0.00%	0 0.00%	0 0.00%
Grand Total		759	0.10	48.63	76 10.01%	216 28.46%	267 35.18%	149 19.63%	46 6.06%	5 0.66%

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3.2 Seasonal Water Level Fluctuation

To study the effect of monsoon on the groundwater regime and subsequent utilisation of groundwater for various needs like agriculture, irrigation, Domestic etc., changes in depth to water levels with respect to May data are studied. The change in groundwater in the region over different periods is presented in Fig. 11(a,b,c) and a summary of each observation is discussed below.

SEASONAL FLUCTUATION OF WATER LEVEL DURING 2017-2018

Figure 11 a

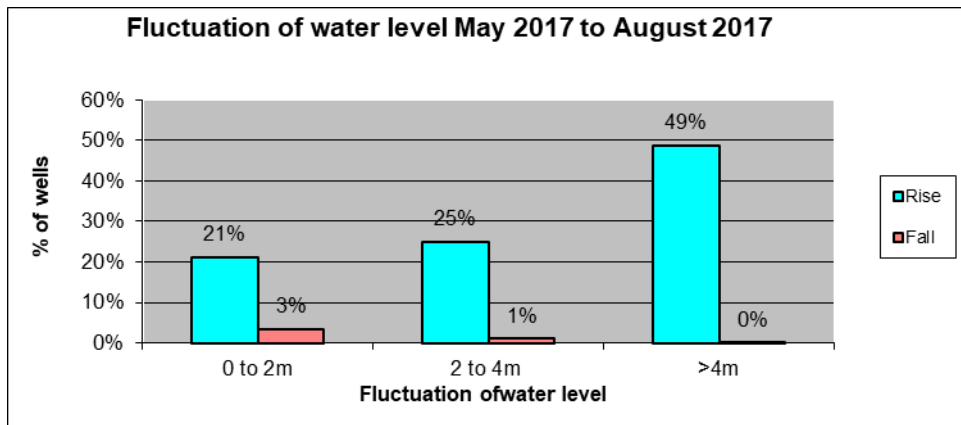


Figure 11 b

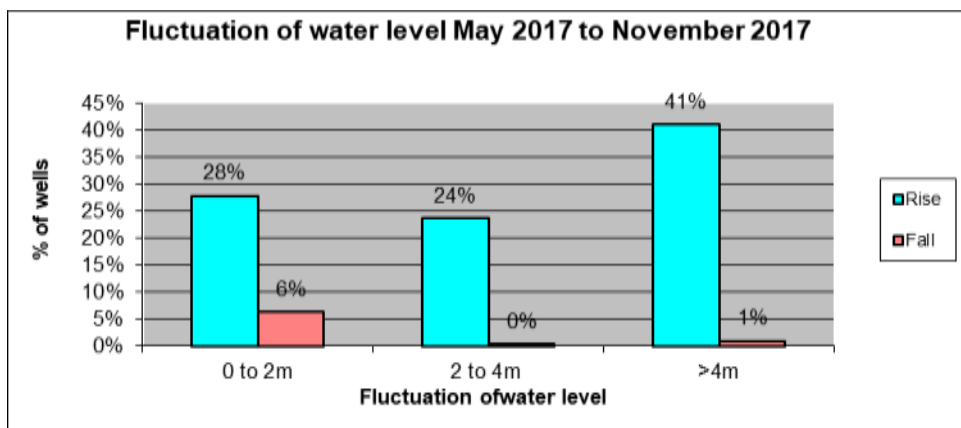
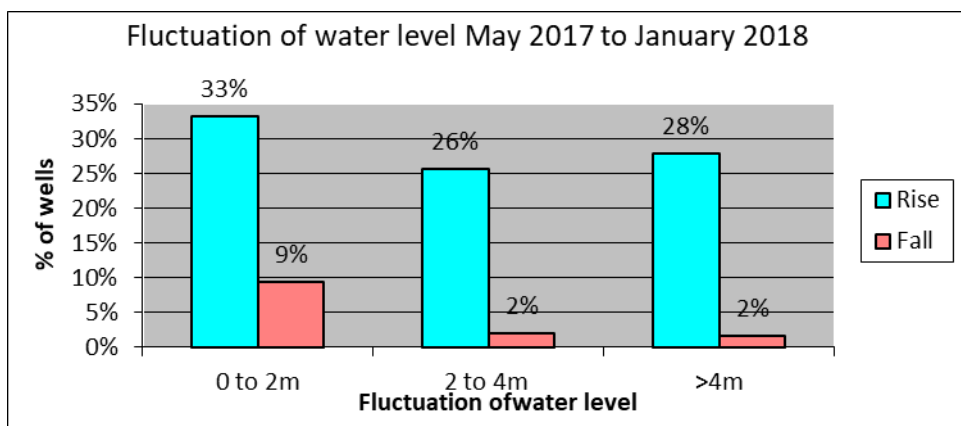


Figure 11 c



3.2.1 May 2017 to August 2017

A perusal of **Fig 12** and **Table 9** reveals that more than 95% of the total wells in Gujarat state and UT of Daman & Diu shows a rise in water level. Rise in water level are observed in the range of 0 to 2 m in 21% of wells, 2 to 4 m in 25% of well and morethan 4m in 49% of wells monitored in the state of Gujarat and UT of Daman and Diu. Fall in water level is mainly observed in parts of Saurashtra region, in small isolated patches scattered in the area of Gujarat. Fall is mainly in the range of 0 to 2 m and recorded in 5% of wells in the state and UT of Daman & Diu. The maximum rise of 28.70m is recorded at Bavliya in Panchmahals district whereas the maximum decline of 7.84m is recorded at Mulad in Bharuch district.

About 96% of the total wells observed rise of water level in the North Gujarat and most of which (44% wells) is in the range more than 4m of fluctuation of water level. Fall of 0 – 2 m range is observed in 3% of wells in Ahmedabad, Banaskantha and Sabarkantha districts in isolated patches.

In South Gujarat region, 95% of total wells shows rise in water level and in the range more than 4m in 44% of wells in the region. Rise of water level in 0 to 2 and 2 to 4m experience in about 52% of wells in the region. Fall in water level is observed maximum in the range of 0 – 2 m in 3% of wells in the South Gujarat area.

About 97% of total well in the Saurashtra region has experienced rise of water level and in the range of 0 – 2 m experienced in about 22% of wells. Rise of water level more than 4 m is predominantly found in 65% of of wells in Saurashtra area. Fall of 0 to 2m is observed in 2% of wells.

In Kachchh region, 95% of the total wells shows rise in water level. Fall of 0-2m is observed in 3% of the wells.

In UT of Daman only rise in water level is observed in August 2017 as compared to May 2017 and maximum rise is 6.14m in Daman and 2.37m in UT of Diu.

3.2.2 May 2017 to November 2017

The seasonal water level fluctuation shows rise in 92% of the total wells monitored in the Gujarat state and UT of Daman & Diu area during the Pre and Post Monsoon of 2017. Fall in water level is observed mainly in Kachchh, Saurashtra and central part of Gujarat as isolated patches due to local phenomena. In the state, the maximum rise of 32.20m is recorded at Goraj in Junagadh district whereas the maximum decline of 11.65m is observed at Kunkavav in Amreli district.(Fig 13 and Table 10).

In North Gujarat region, 95% of the total well analysed shows rise in water level. Maximum rise observed 24.85m at Bavliya in Panchmahal district. Out of the total well analysed, maximum rise (39%) is observed in the category of more than

4m. Few isolated patches of fall observed in Saurashtra, Kachchh, Valsad and Anand districts.

In South Gujarat, in total 90% of the well in the area have recorded rise and maximum (61%) is 2-4m and more than 4m. The maximum rise observed 23.22m at Tokri in Vadodara district. The fall is only in 9% of total well and maximum (8%) categorised in the range of 0 – 2 m.

Over all 94% of total well analysed show rise in water level in the entire Saurashtra. Fall is mainly in the range of 0 – 2 m and is found in isolated patches and cover 6% of the total area of region. The maximum rise observed 32.20m at Goraj in Junagadh district.

In Kachchh 80% of the total well analysed recorded rise in water level. The fall is mostly in the range of 0 – 2 m recorded in about 17% of the total well. Rise is observed in all parts of the region and mostly in the range of 0-2 m.

In UT of Daman only rise in water level has been observed with a maximum 5.80m and in UT of Diu 1.50m.

Fig- 12

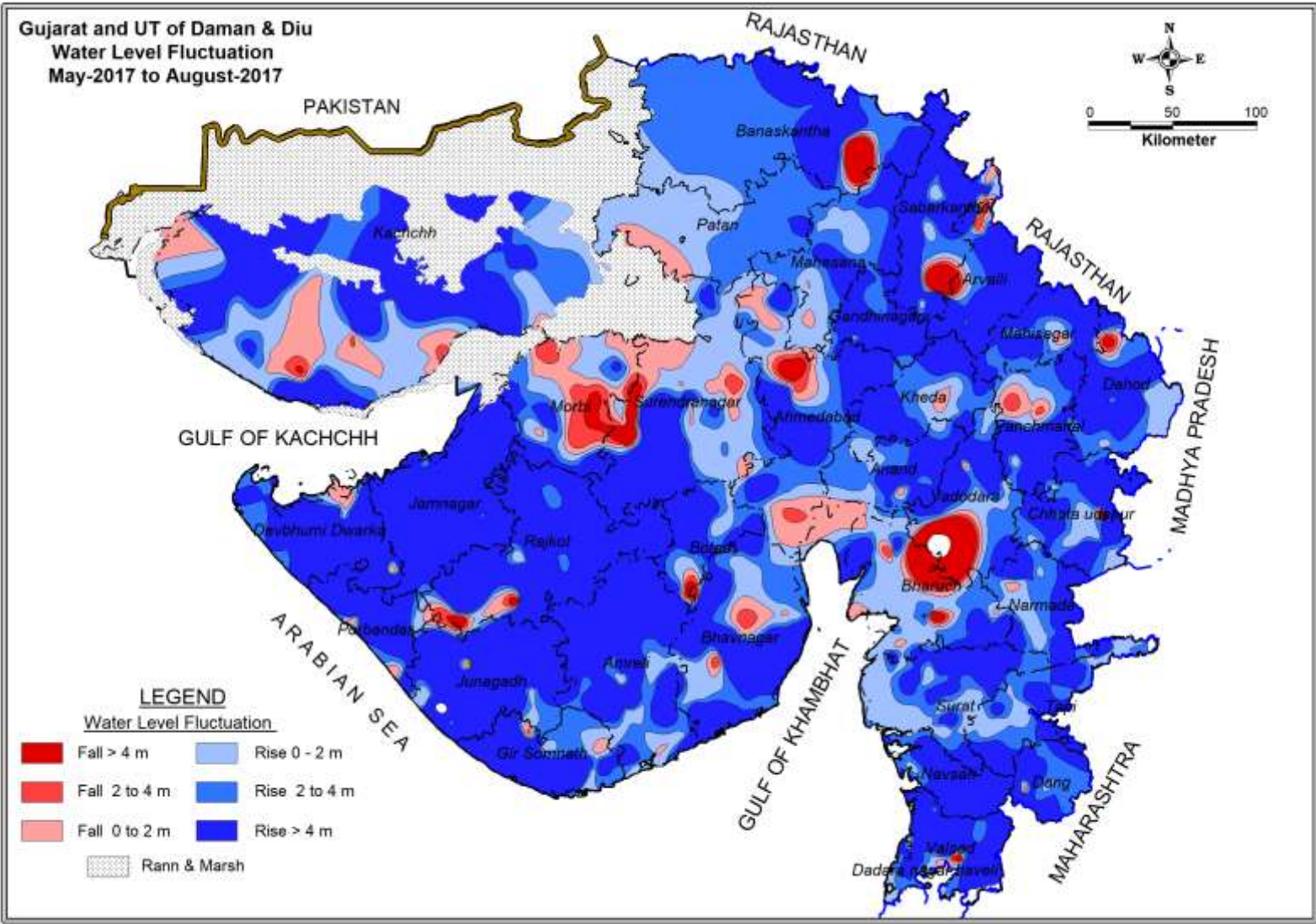


Fig- 13

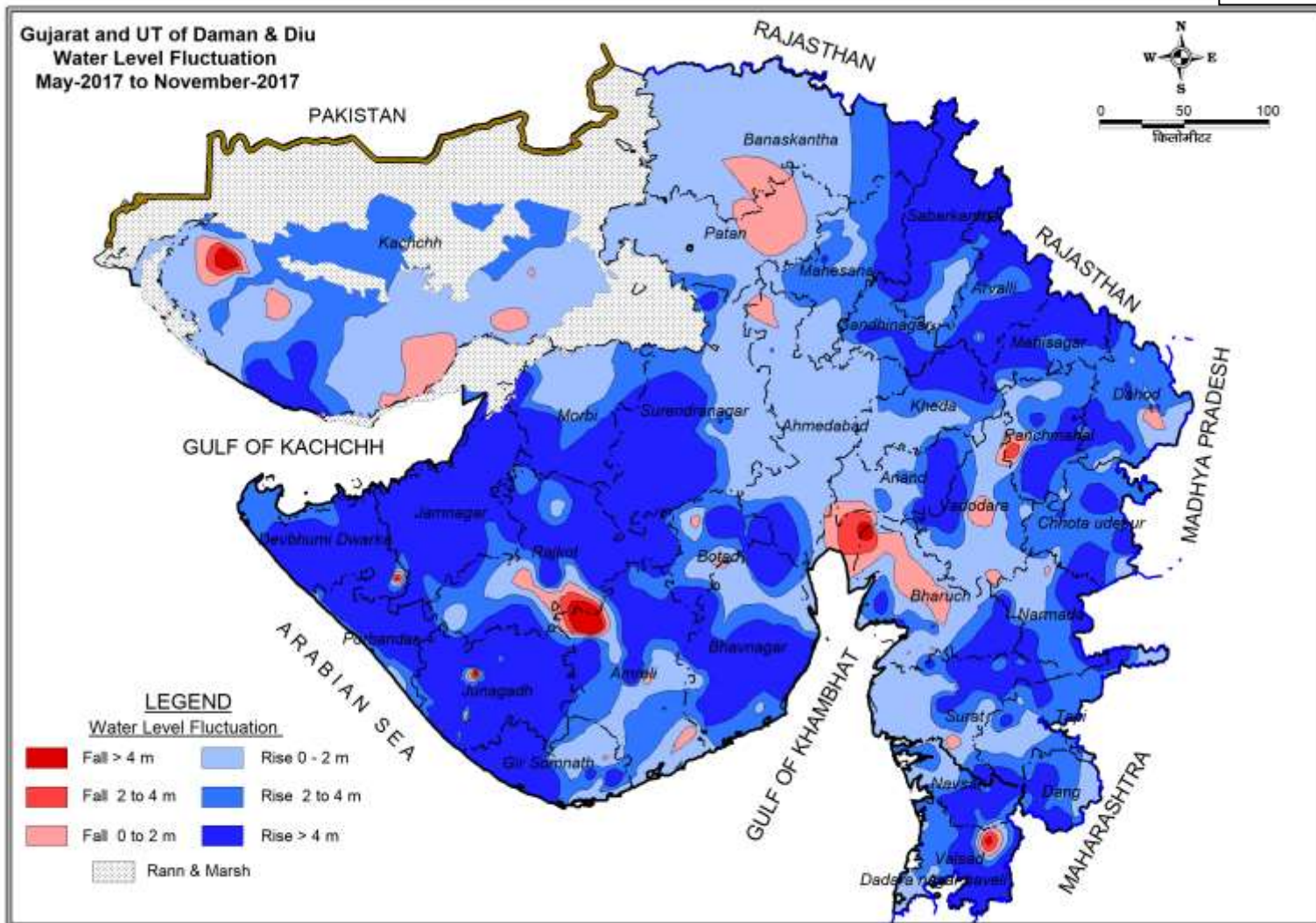


Table -9

CATEGORISATION OF CHANGES IN WATER LEVEL BETWEEN MAY 2017 TO AUGUST 2017														
Sr. No.	District Name	No of well analysed	Range of Fluctuation (m)				No. of Wells Showing Fluctuation						Total No. of Wells	
			Rise		Fall		Rise			Fall			Rise	Fall
			Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4		
1	Ahmedabad	13	0.34	10.77	1.15	1.51	3	5	3	2	0	0	11	2
							23.08%	38.46%	23.08%	15.38%	0.00%	0.00%		
2	Anand	13	1.14	22.64	1.4	1.4	3	4	5	1	0	0	12	1
							23.08%	30.77%	38.46%	7.69%	0.00%	0.00%		
3	Banaskantha	17	2.15	12.43	-	-	0	11	6	0	0	0	17	0
							0.00%	64.71%	35.29%	0.00%	0.00%	0.00%		
4	Dohad	24	0.3	9.85	-	-	7	5	12	0	0	0	24	0
							29.17%	20.83%	50.00%	0.00%	0.00%	0.00%		
5	Gandhinagar	4	0.66	3.97	-	-	1	3	0	0	0	0	4	0
							25.00%	75.00%	0.00%	0.00%	0.00%	0.00%		
6	Kheda	18	0.10	8.90	0.6	0.6	5	5	7	1	0	0	17	1
							27.78%	27.78%	38.89%	5.56%	0.00%	0.00%		
7	Mahesana	25	0.22	5.07	0.62	0.62	11	10	3	1	0	0	24	1
							44.00%	40.00%	12.00%	4.00%	0.00%	0.00%		
8	Panchmahals	33	1.08	28.7	0.3	2.8	2	10	18	2	1	0	30	3
							6.06%	30.30%	54.55%	6.06%	3.03%	0.00%		
9	Patan	5	0.8	3	-	-	2	3	0	0	0	0	5	0
							40.00%	60.00%	0.00%	0.00%	0.00%	0.00%		
10	Sabarkantha	42	0.4	26.8	-	-	1	10	31	0	0	0	42	0
							2.38%	23.81%	73.81%	0.00%	0.00%	0.00%		
	North Gujarat	194	0.1	28.7	0.3	2.8	35	66	85	7	1	0	186	8
							18.04%	34.02%	43.81%	3.61%	0.52%	0.00%		
11	Bharuch	29	0.34	10.85	0.98	7.84	16	5	4	3	0	1	25	4
							55.17%	17.24%	13.79%	10.34%	0.00%	3.45%		
12	Narmada	20	0.88	5.9	0.54	3.36	6	5	6	2	1	0	17	3
							30.00%	25.00%	30.00%	10.00%	5.00%	0.00%		
13	Navsari	19	1.29	15.3	-	-	1	5	13	0	0	0	19	0
							5.26%	26.32%	68.42%	0.00%	0.00%	0.00%		
14	Surat	44	0.27	9.25	-	-	16	9	19	0	0	0	44	0
							36.36%	20.45%	43.18%	0.00%	0.00%	0.00%		
15	The dangs	20	0.6	12.55	-	-	1	6	13	0	0	0	20	0
							5.00%	30.00%	65.00%	0.00%	0.00%	0.00%		
16	Vadodara	32	0.89	22.62	1.48	1.48	8	9	14	1	0	0	31	1
							25.00%	28.13%	43.75%	3.13%	0.00%	0.00%		
17	Valsad	14	1.09	9.3	-	-	1	4	9	0	0	0	14	0
							7.14%	28.57%	64.29%	0.00%	0.00%	0.00%		
	South Gujarat	178	0.27	22.62	0.54	7.84	49	43	78	6	1	1	170	8
							27.53%	24.16%	43.82%	3.37%	0.56%	0.56%		
18	Amreli	40	0.08	21.23	1.51	1.51	11	10	18	1	0	0	39	1
							27.50%	25.00%	45.00%	2.50%	0.00%	0.00%		
19	Bhavnagar	32	0.56	14.31	0.15	3.85	5	5	20	1	1	0	30	2
							15.63%	15.63%	62.50%	3.13%	3.13%	0.00%		
20	Jamnagar	33	1.62	24.05	1.64	1.64	2	7	23	1	0	0	32	1
							6.06%	21.21%	69.70%	3.03%	0.00%	0.00%		
21	Junagadh	37	0.67	20.97	0.6	2.65	3	3	29	1	1	0	35	2
							8.11%	8.11%	78.38%	2.70%	2.70%	0.00%		
22	Porbandar	22	1.64	21.15	-	-	1	5	16	0	0	0	22	0
							4.55%	22.73%	72.73%	0.00%	0.00%	0.00%		
23	Rajkot	29	0.96	19.49	3.18	3.18	3	3	22	0	1	0	28	1
							10.34%	10.34%	75.86%	0.00%	3.45%	0.00%		
24	Surendranagar	18	0.53	15.1	-	-	4	5	9	0	0	0	18	0
							22.22%	27.78%	50.00%	0.00%	0.00%	0.00%		
	Saurashtra	211	0.08	24.05	0.15	3.85	29	38	137	4	3	0	204	7
							13.74%	18.01%	64.93%	1.90%	1.42%	0.00%		
25	Kachchh	39	0.2	13.69	0.25	3.3	17	5	8	5	2	0	30	7
							43.59%	12.82%	20.51%	12.82%	5.13%	0.00%		
	Total	622	0.08	28.70	0.15	7.84	130	152	308	22	7	1	590	30
							20.90%	24.44%	49.52%	3.54%	1.13%	0.16%		
26	Daman	6	2.41	6.14	-	-	0	5	1	0	0	0	6	0
							0.00%	83.33%	16.67%	0.00%	0.00%	0.00%		
27	Diu	5	0.75	2.37	-	-	4	1	0	0	0	0	5	0
							80.00%	20.00%	0.00%	0.00%	0.00%	0.00%		
	UT of Daman & Diu	11	0.75	6.14	-	-	4	6	1	0	0	0	11	0
							36.36%	54.55%	9.09%	0.00%	0.00%	0.00%		
	Grand Total	633	0.08	28.70	0.15	7.84	134	158	309	22	7	1	601	30
							21.17%	24.96%	48.82%	3.48%	1.11%	0.16%		

Table -10

CATEGORISATION OF CHANGES IN WATER LEVEL BETWEEN MAY 2017 TO NOVEMBER 2017														
Sr. No.	District Name	No of well analysed	Range of Fluctuation (m)				No. of Wells Showing Fluctuation						Total No. of Wells	
			Rise		Fall		Rise			Fall			Rise	Fall
			Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4		
1	Ahmedabad	14	0.53	10.6	0.06	1.11	8	3	1	2	0	0	12	2
							57.14%	21.43%	7.14%	14.29%	0.00%	0.00%		
2	Anand	11	0.88	21.95	-	-	7	2	2	0	0	0	11	0
							63.64%	18.18%	18.18%	0.00%	0.00%	0.00%		
3	Banaskantha	18	1.33	12.47	-	-	1	7	10	0	0	0	18	0
							5.56%	38.89%	55.56%	0.00%	0.00%	0.00%		
4	Dohad	25	0.52	9.68	0.15	2.4	6	5	11	2	1	0	22	3
							24.00%	20.00%	44.00%	8.00%	4.00%	0.00%		
5	Gandhinagar	5	0.81	5.05	-	-	1	1	3	0	0	0	5	0
							20.00%	20.00%	60.00%	0.00%	0.00%	0.00%		
6	Kheda	13	0.26	6.79	-	-	7	2	4	0	0	0	13	0
							53.85%	15.38%	30.77%	0.00%	0.00%	0.00%		
7	Mahesana	24	0.27	4.7	-	-	11	10	3	0	0	0	24	0
							45.83%	41.67%	12.50%	0.00%	0.00%	0.00%		
8	Panchmahals	26	1.18	24.85	0.9	3.73	7	5	12	1	1	0	24	2
							26.92%	19.23%	46.15%	3.85%	3.85%	0.00%		
9	Patan	8	0.45	2.4	0.61	1.21	4	2	0	2	0	0	6	2
							50.00%	25.00%	0.00%	25.00%	0.00%	0.00%		
10	Sabarkantha	42	0.6	21.3	-	-	7	8	27	0	0	0	42	0
							16.67%	19.05%	64.29%	0.00%	0.00%	0.00%		
North Gujarat		186	0.26	24.85	0.06	3.73	59	45	73	7	2	0	177	9
							31.72%	24.19%	39.25%	3.76%	1.08%	0.00%		
11	Bharuch	25	0.55	7.8	0.02	5.2	8	2	6	8	0	1	16	9
							32.00%	8.00%	24.00%	32.00%	0.00%	4.00%		
12	Narmada	16	0.06	6.04	0.6	0.6	5	5	5	1	0	0	15	1
							31.25%	31.25%	31.25%	6.25%	0.00%	0.00%		
13	Navsari	18	0.33	11.6	-	-	4	7	7	0	0	0	18	0
							22.22%	38.89%	38.89%	0.00%	0.00%	0.00%		
14	Surat	47	0.25	9.15	0.36	1.6	17	14	13	2	0	0	44	2
							36.17%	29.79%	27.66%	4.26%	0.00%	0.00%		
15	The dangs	21	1.20	12.6	-	-	2	9	10	0	0	0	21	0
							9.52%	42.86%	47.62%	0.00%	0.00%	0.00%		
16	Vadodara	34	0.15	23.22	0.35	1.84	9	14	8	3	0	0	31	3
							26.47%	41.18%	23.53%	8.82%	0.00%	0.00%		
17	Valsad	18	0.14	11.2	5.12	5.12	7	3	7	0	0	1	17	1
							38.89%	16.67%	38.89%	0.00%	0.00%	5.56%		
South Gujarat		179	0.06	23.22	0.02	5.20	52	54	56	14	0	2	162	16
							29.05%	30.17%	31.28%	7.82%	0.00%	1.12%		
18	Amreli	32	0.1	14.25	0.01	11.65	10	9	8	4	0	1	27	5
							31.25%	28.13%	25.00%	12.50%	0.00%	3.13%		
19	Bhavnagar	28	0.39	28.01	0.13	0.89	8	3	15	2	0	0	26	2
							28.57%	10.71%	53.57%	7.14%	0.00%	0.00%		
20	Jamnagar	38	0.8	22.65	4.75	4.75	2	10	25	0	0	1	37	1
							5.26%	26.32%	65.79%	0.00%	0.00%	2.63%		
21	Junagadh	50	0.13	32.2	0.17	6.18	3	9	34	3	0	1	46	4
							6.00%	18.00%	68.00%	6.00%	0.00%	2.00%		
22	Porbandar	24	1	19.72	-	-	3	6	15	0	0	0	24	0
							12.50%	25.00%	62.50%	0.00%	0.00%	0.00%		
23	Rajkot	32	0.05	17.79	0.87	1.71	8	2	20	2	0	0	30	2
							25.00%	6.25%	62.50%	6.25%	0.00%	0.00%		
24	Surendranagar	23	0.31	18.5	-	-	10	2	11	0	0	0	23	0
							43.48%	8.70%	47.83%	0.00%	0.00%	0.00%		
Saurashtra		227	0.05	32.20	0.01	11.65	44	41	128	11	0	3	213	14
							19.38%	18.06%	56.39%	4.85%	0.00%	1.32%		
25	Kachchh	41	0.04	11.67	0.21	7.38	18	11	4	7	0	1	33	8
							43.90%	26.83%	9.76%	17.07%	0.00%	2.44%		
Total		633	0.04	32.20	0.01	11.65	173	151	261	39	2	6	585	47
							27.33%	23.85%	41.23%	6.16%	0.32%	0.95%		
26	Daman	7	0.66	5.8	-	-	3	1	3	0	0	0	7	0
							42.86%	14.29%	42.86%	0.00%	0.00%	0.00%		
27	Diu	4	0.37	1.5	0.22	0.22	3	0	0	1	0	0	3	1
							75.00%	0.00%	0.00%	25.00%	0.00%	0.00%		
UT of Daman & Diu		11	0.37	5.8	0.22	0.22	6	1	3	1	0	0	10	1
							54.55%	9.09%	27.27%	9.09%	0.00%	0.00%		
Grand Total		644	0.04	32.20	0.01	11.65	179	152	264	40	2	6	595	48
							27.80%	23.60%	40.99%	6.21%	0.31%	0.93%		

RODC, CGWB - WCR, Ahmedabad

3.2.3 May 2017 to January 2018

A perusal of **Fig 14** and **Table 11** reveals that about 87% of the total well in the Gujarat state and UT of Daman & Diu area have recorded rise in water level between May 2017 and January 2018. Fall in water level is observed mainly in Kachchh, Saurashtra and in central south part of Gujarat in small isolated patches distributed sporadically all over Gujarat state. In the state, the maximum rise of 27.57m is at Bora in Bhavnagar district whereas the maximum decline of 17.80m is observed at Khokharda in Junagadh district.

In North Gujarat region, water level rises mainly observed in 89% of the total well analysed and maximum rises (63%) are in 0 to 4m. Fall of water level observed in all districts of the Gujarat state distributed sporadically in isolated patches.

The 89% of the total well in the area of south Gujarat have recorded rise and maximum (67%) in the range of 0 to 4 m of rise in the region. The fall is only 11% of total well and maximum (8%) in the range of 0 – 2 m.

Over all 86% of total well analysed are shown rise in water level in the entire Saurashtra region. About 37% of areas have shown rise of water level more than 4m and 27% shows less than 2m and are found in all the districts of Saurashtra region. Fall of water level is observed in all over the region with fall less than 2m is observed in 8% of the region.

In Kachchh, 69% of the total well analysed recorded rise in water level. The fall is mostly in the range of 0 – 2 m and is observed in 28% of the total well. Rise of water level 0- 2m has been observed in 43% of the total well.

In UT of Daman and Diu both are showing rise in water level and maximum rise is 7.09m in Daman and in UT of Diu it is 1.35m.

Fig- 14

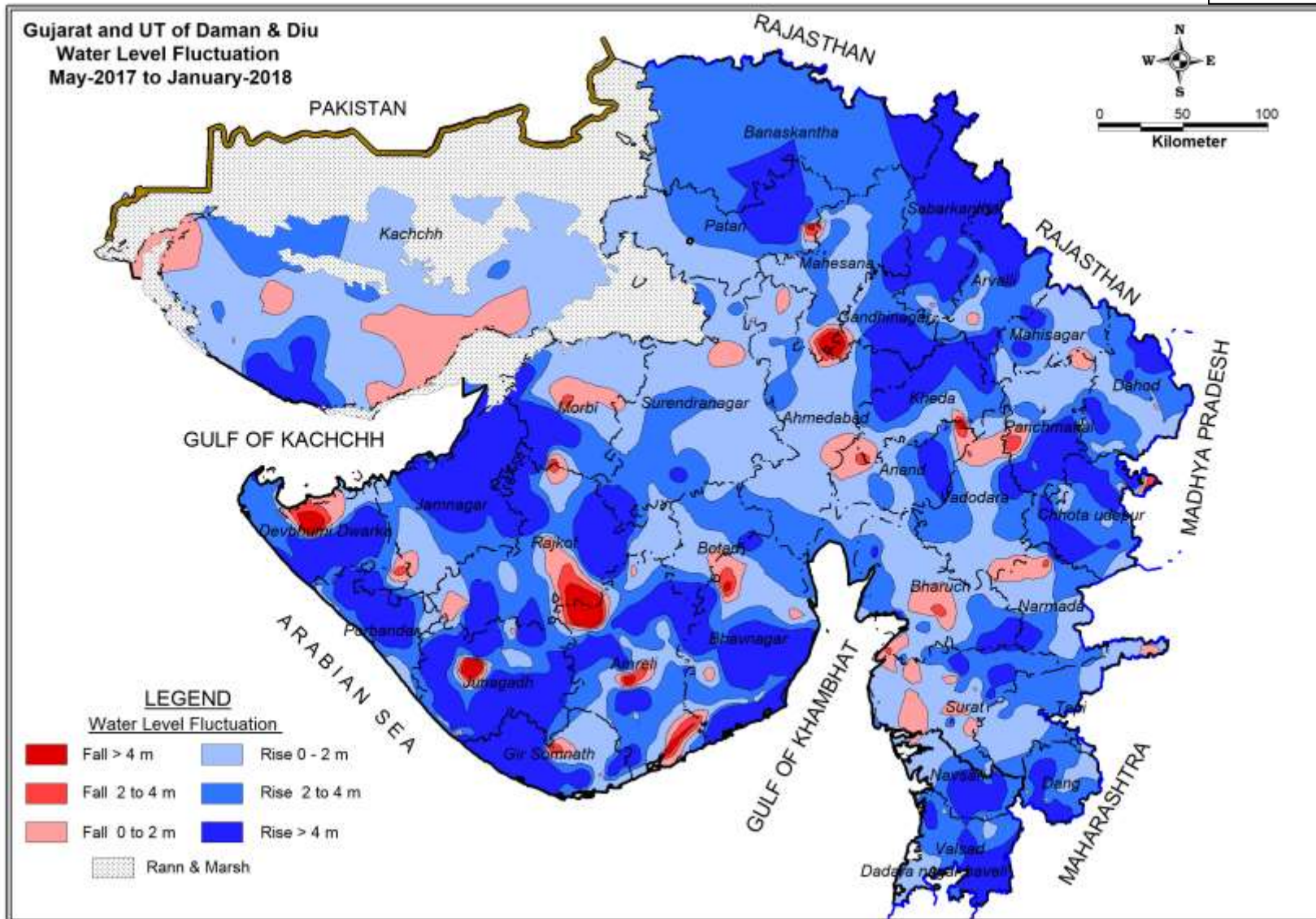


Table -11

CATEGORISATION OF CHANGES IN WATER LEVEL BETWEEN MAY 2017 TO JANUARY 2018														
Sr. No.	District Name	No of well analysed	Range of Fluctuation (m)				No. of Wells Showing Fluctuation						Total No. of Wells	
			Rise		Fall		Rise			Fall			Rise	Fall
			Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4		
1	Ahmedabad	17	0.08	3.72	0.1	0.44	9	6	0	2	0	0	15	2
							52.94%	35.29%	0.00%	11.76%	0.00%	0.00%		
2	Anand	13	1.39	7.35	2.72	6.42	2	6	3	0	1	1	11	2
							15.38%	46.15%	23.08%	0.00%	7.69%	7.69%		
3	Banaskantha	16	0.05	13.19	0.06	0.3	4	1	5	6	0	0	10	6
							25.00%	6.25%	31.25%	37.50%	0.00%	0.00%		
4	Dohad	27	0.05	6.38	0.35	0.35	11	10	5	1	0	0	26	1
							40.74%	37.04%	18.52%	3.70%	0.00%	0.00%		
5	Gandhinagar	6	1.35	6.11	-	-	1	2	3	0	0	0	6	0
							16.67%	33.33%	50.00%	0.00%	0.00%	0.00%		
6	Kheda	19	0.1	9.4	-	-	10	4	5	0	0	0	19	0
							52.63%	21.05%	26.32%	0.00%	0.00%	0.00%		
7	Mahesana	24	0.21	5.39	0.02	10.77	9	10	2	2	0	1	21	3
							37.50%	41.67%	8.33%	8.33%	0.00%	4.17%		
8	Panchmahals	33	0.5	15	0.01	3.6	10	11	7	4	1	0	28	5
							30.30%	33.33%	21.21%	12.12%	3.03%	0.00%		
9	Patan	5	0.44	7.34	5.35	5.35	3	0	1	0	0	1	4	1
							60.00%	0.00%	20.00%	0.00%	0.00%	20.00%		
10	Sabarkantha	42	0.42	14.54	0.8	1.03	4	14	22	2	0	0	40	2
							9.52%	33.33%	52.38%	4.76%	0.00%	0.00%		
	North Gujarat	202	0.05	15	0.01	10.77	63	64	53	17	2	3	180	22
							31.19%	31.68%	26.24%	8.42%	0.99%	1.49%		
11	Bharuch	28	0.01	7.4	0.05	2.91	15	5	4	2	2	0	24	4
							53.57%	17.86%	14.29%	7.14%	7.14%	0.00%		
12	Narmada	21	0.16	7.12	1.85	2.76	9	7	3	1	1	0	19	2
							42.86%	33.33%	14.29%	4.76%	4.76%	0.00%		
13	Navsari	15	0.29	10.04	0.02	0.02	6	2	6	1	0	0	14	1
							40.00%	13.33%	40.00%	6.67%	0.00%	0.00%		
14	Surat	43	0.1	7.08	0.13	1.93	21	10	5	7	0	0	36	7
							48.84%	23.26%	11.63%	16.28%	0.00%	0.00%		
15	The dangs	19	1.24	8.64	-	-	5	6	8	0	0	0	19	0
							26.32%	31.58%	42.11%	0.00%	0.00%	0.00%		
16	Vadodara	33	0.12	11.58	0.05	2.77	6	13	9	3	2	0	28	5
							18.18%	39.39%	27.27%	9.09%	6.06%	0.00%		
17	Valsad	16	0.37	9.35	-	-	9	3	4	0	0	0	16	0
							56.25%	18.75%	25.00%	0.00%	0.00%	0.00%		
	South Gujarat	175	0.01	11.58	0.02	2.91	71	46	39	14	5	0	156	19
							40.57%	26.29%	22.29%	8.00%	2.86%	0.00%		
18	Amreli	47	0.05	15.65	0.02	14.22	12	9	15	5	2	4	36	11
							25.53%	19.15%	31.91%	10.64%	4.26%	8.51%		
19	Bhavnagar	29	0.02	27.57	0.58	5.11	10	4	12	2	0	1	26	3
							34.48%	13.79%	41.38%	6.90%	0.00%	3.45%		
20	Jamnagar	43	0.2	17.2	1.2	12.20	4	13	21	2	2	1	38	5
							9.30%	30.23%	48.84%	4.65%	4.65%	2.33%		
21	Junagadh	49	0.1	20.6	0.35	17.8	11	6	25	3	1	2	42	6
							22.45%	12.24%	51.02%	6.12%	2.04%	4.08%		
22	Porbandar	24	0.6	17.45	-	-	7	10	7	0	0	0	24	0
							29.17%	41.67%	29.17%	0.00%	0.00%	0.00%		
23	Rajkot	35	0.51	14.3	0.05	3.42	9	4	13	7	2	0	26	9
							25.71%	11.43%	37.14%	20.00%	5.71%	0.00%		
24	Surendranagar	28	0.06	4.86	0.79	0.79	16	10	1	1	0	0	27	1
							57.14%	35.71%	3.57%	3.57%	0.00%	0.00%		
	Saurashtra	255	0.02	27.57	0.02	17.8	69	56	94	20	7	8	219	35
							27.06%	21.96%	36.86%	7.84%	2.75%	3.14%		
25	Kachchh	39	0.02	11.71	0.06	1.71	17	7	3	11	0	0	27	11
							43.59%	17.95%	7.69%	28.21%	0.00%	0.00%		
	Total	671	0.01	27.57	0.01	17.8	220	173	189	62	14	11	582	87
							32.79%	25.78%	28.17%	9.24%	2.09%	1.64%		
26	Daman	7	0.8	7.09	-	-	4	2	1	0	0	0	7	0
							57.14%	28.57%	14.29%	0.00%	0.00%	0.00%		
27	Diu	5	0.31	1.35	0.07	0.3	3	0	0	2	0	0	3	2
							60.00%	0.00%	0.00%	40.00%	0.00%	0.00%		
	UT of Daman & Diu	12	0.31	7.09	0.07	0.3	7	2	1	2	0	0	10	2
							58.33%	16.67%	8.33%	16.67%	0.00%	0.00%		
	Grand Total	683	0.01	27.57	0.01	17.8	227	175	190	64	14	11	592	89
							33.24%	25.62%	27.82%	9.37%	2.05%	1.61%		

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3.3 Annual Water Level Fluctuation

Annual Fluctuation in the water levels of the ground water monitoring wells during different monitoring periods were analysed graphically and depicted in **Fig. 15 (a,b,c & d)**.

Fig : 15 a

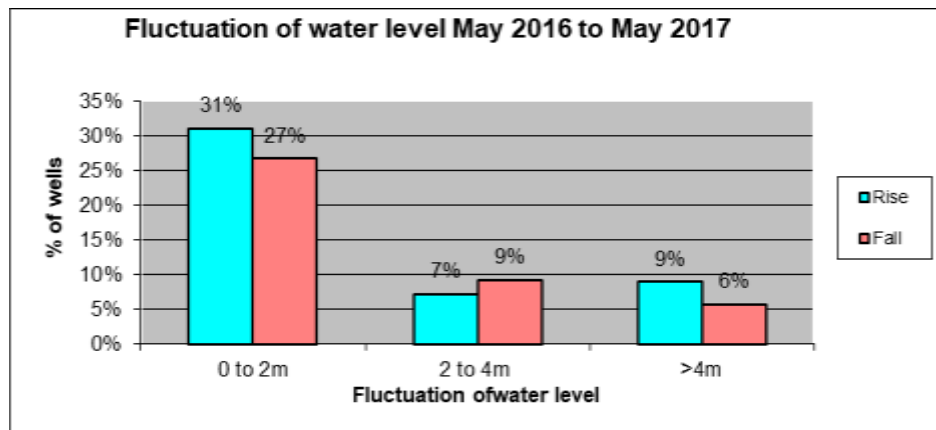


Fig : 15b

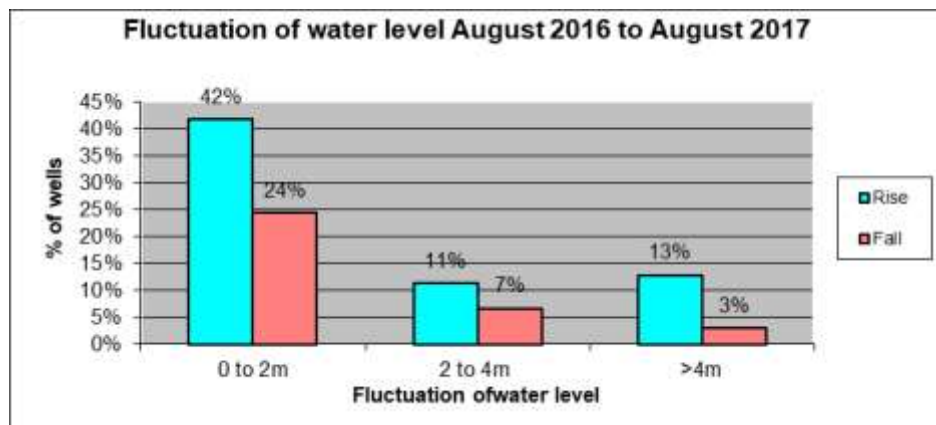


Fig: 15c

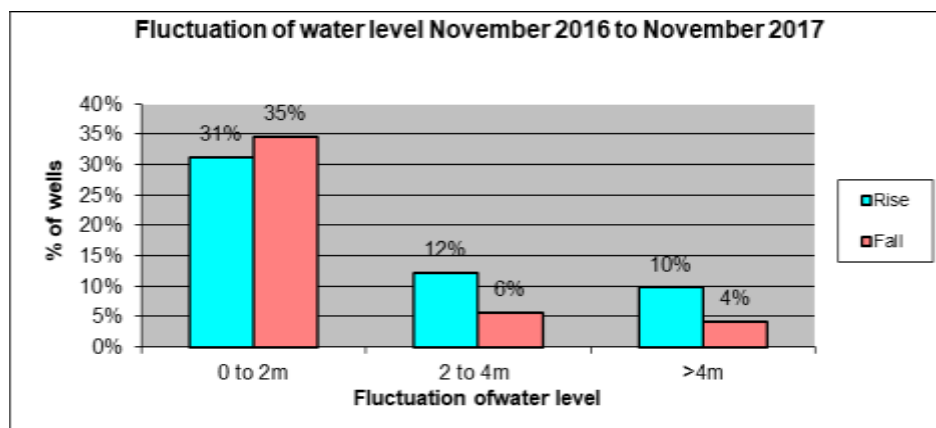
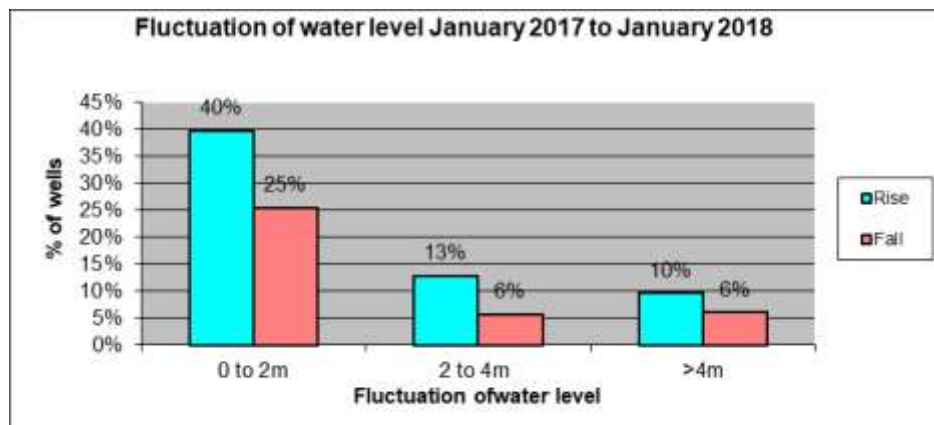


Fig : 15d



3.3.1 May 2016 to May 2017

A perusal of **Fig 16** and **Table 12** reveals that 47% of the total monitoring stations of state shows a rise in water level. Rise of 0-2 m is observed in about 31% of total well of the state. More than 4m rise in 9% of total well. Fall in water level is observed mainly in Kachchh, Saurashtra, Central part of Gujarat. Fall is mainly in the range of 0-2 m and covers about 27% of total well of the state. The maximum rise of 23.45m is recorded Amarapur PzII in Gandhinagar, whereas the maximum decline of 20.98m is recorded in Tokri of Vadodara district.

About 39% of the total wells observed fall of water level in the North Gujarat and most of which (29% of wells) is in the range of 0 to 2m. Fall of more than 4 m is mostly seen in the central part of region in Mahesana, Patan district. Rise of water level mostly observed in Mahesana, Kheda, and Sabarkantha districts. In North Gujarat, in Banaskantha district, mostly shows a rise in water level.

South Gujarat region shows fall in water level in the range of 0 to 2 m and covers an area by 26% of well in the region. Rise in water level is observed in the range of 0 to 2 m in 40% of well. Rise and fall of more than 4 m has observed at few locations.

About 46% of total well in Saurashtra region has experienced rise where as 45% shows fall. In 0 to 2m range, 22% of well shows fall where as only 21% shows rise. Fall of more than 4m is predominantly found in Porbandar, Amreli, Jamnagar, Junagarh, Rajkot, Surendranagar and Bhavnagar and covers an area by 10% of the well in Saurashtra region.

In Kachchh region, 21% of total well is experienced rise in water level where as 69% shows fall. Fall mostly ranges in 0 to 2m in an area of 52%. All over the Kachchh region shows fall with only wells in few patches of rise in the ranges of 0 to 2 m.

In UT of Daman recored both rise and fall the range is less than 4m and rise is 0 to 4m where as UT of Diu, shows fall from 0.31 to 1.48m with range of 2m.

3.3.2 August 2016 to August 2017

A perusal of **Fig 17** and **Table 13** reveals that 66% of total monitoring well in the Gujarat state and UT of Daman & Diu shows a rise in water level. Rise in water level with in range of 0 – 2 m is observed in about 42% of well. Fall in the range of 0 – 2 m experienced by 24% of well of the state. Rise of more than 2 m & 4m is found in North and Central Gujarat & Saurashtra region. The maximum rise of 26.90m is recorded at Amarapur Pz II of Gandhinagar district whereas the maximum decline of 17.63m is recorded at Adas in Anand district.

About 52% of the total well shows rise of water level in the North Gujarat and most of which (35% of well) is in the range of 0 to 2m of fluctuation of water level. Rise of more than 4m is mostly seen in 7% of well in the region mostly in adjoining area of Banaskantha and Sabarkantha, Gandhinagar districts. Fall of 0 to 4 m range is observed in 43% of well of the region. Fall of water level observed in the adjoining area of Mahesana and Sabarkantha, Kheda, Dahod districts.

In South Gujarat region, 68% of the total well shows rise in water level and out of which, 58% are in the range of 0 to 2m in the region. Similarly, 32% of total well shows fall in water level and a maximum of 28% of well are in the range of 0 to 2 m.

About 79% of the total well in the Saurashtra region experienced rise of water level and out of which, 28% of well are in the range of morethan 4 m. Fall of water level experienced in 21% of wells where 13% range less than 2m of the total number of wells analysed.

In Kachchh region, 65% of the total well in the area is experienced by a rise in water level where as 34% shows fall. Water level in range of less than 2m, about 41% of well shows rise while 25% shows fall. Fall in water level observed in west central part of the Kachchh.

In the UT of Diu shows only rise in water level with maximum of 0.63m. In UT of Daman shows both rise and fall in water level and rise is 0.14 – 0.67m and fall in the range of 0.39 to 2.64m.

Fig- 16

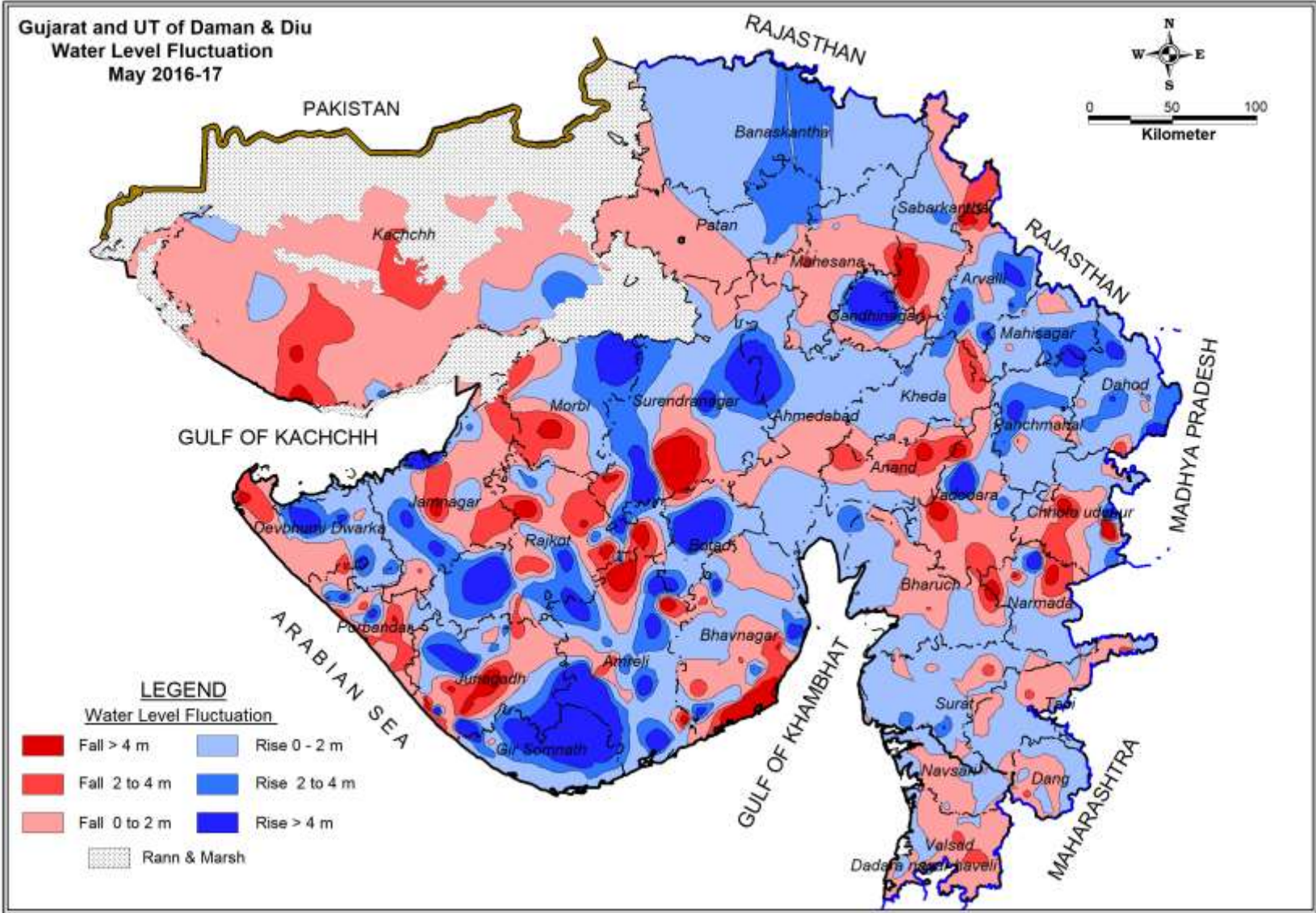


Fig- 17

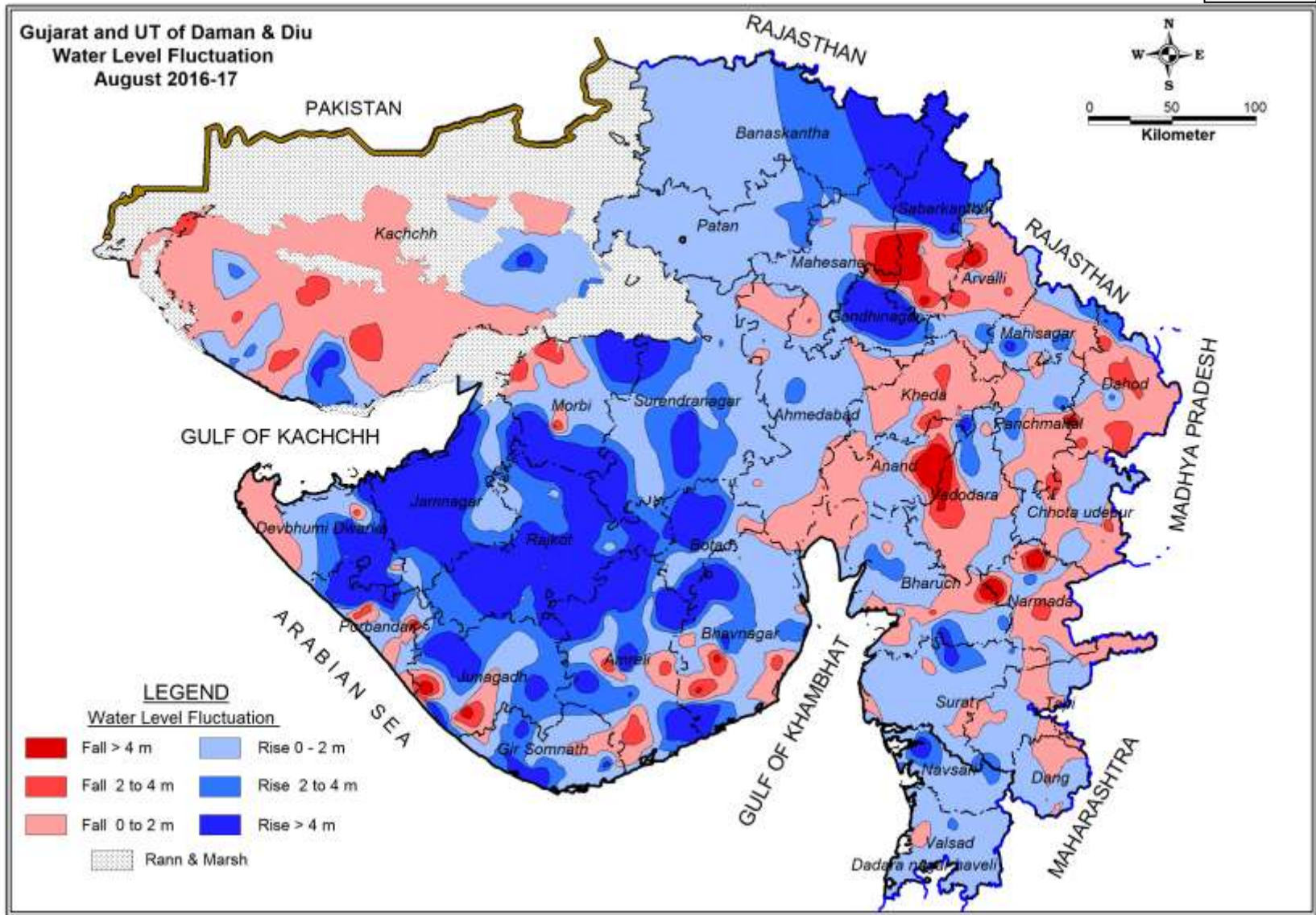


Table - 12

CATEGORISATION OF CHANGES IN WATER LEVEL BETWEEN MAY 2016 TO MAY 2017														
Sr. No.	District Name	No of well analysed	Range of Fluctuation (m)				No. of Wells Showing Fluctuation						Total No. of Wells	
			Rise		Fall		Rise			Fall			Rise	Fall
			Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4		
1	Ahmedabad	11	0.57	6.2	0.25	1.37	5	0	1	4	0	0	6	4
							45.45%	0.00%	9.09%	36.36%	0.00%	0.00%		
2	Anand	16	0.01	0.5	0.04	5.26	4	0	0	8	2	1	4	11
							25.00%	0.00%	0.00%	50.00%	12.50%	6.25%		
3	Banaskantha	19	0.1	5.2	0.2	7	7	4	1	3	1	2	12	6
							36.84%	21.05%	5.26%	15.79%	5.26%	10.53%		
4	Dohad	28	0.1	6	0.4	3.2	13	4	3	3	2	0	20	5
							46.43%	14.29%	10.71%	10.71%	7.14%	0.00%		
5	Gandhinagar	5	1.96	23.45	0.92	1.41	1	0	1	3	0	0	2	3
							20.00%	0.00%	20.00%	60.00%	0.00%	0.00%		
6	Kheda	22	0.1	3.35	0.35	3.75	10	2	0	4	2	0	12	6
							45.45%	9.09%	0.00%	18.18%	9.09%	0.00%		
7	Mahesana	27	0.05	6.07	0.01	2.69	9	0	2	14	2	0	11	16
							33.33%	0.00%	7.41%	51.85%	7.41%	0.00%		
8	Panchmahals	35	0.1	5.8	0.15	2.37	16	6	4	5	1	0	26	6
							45.71%	17.14%	11.43%	14.29%	2.86%	0.00%		
9	Patan	9	2.44	2.8	0.71	1.69	0	2	0	7	0	0	2	7
							0.00%	22.22%	0.00%	77.78%	0.00%	0.00%		
10	Sabarkantha	46	0.1	7	0.05	8.3	12	5	5	13	3	4	22	20
							26.09%	10.87%	10.87%	28.26%	6.52%	8.70%		
	North Gujarat	218	0.01	23.45	0.01	8.3	77	23	17	64	13	7	117	84
							35.32%	10.55%	7.80%	29.36%	5.96%	3.21%		
11	Bharuch	33	0.02	2.56	0.25	2.87	17	1	0	7	2	0	18	9
							51.52%	3.03%	0.00%	21.21%	6.06%	0.00%		
12	Narmada	22	0.11	10.69	0.43	6.16	9	1	1	1	1	3	11	5
							40.91%	4.55%	4.55%	4.55%	4.55%	13.64%		
13	Navsari	21	0.02	0.99	0.05	0.8	6	0	0	8	0	0	6	8
							28.57%	0.00%	0.00%	38.10%	0.00%	0.00%		
14	Surat	51	0.04	4.34	0.01	3	23	2	1	11	3	0	26	14
							45.10%	3.92%	1.96%	21.57%	5.88%	0.00%		
15	The dangs	21	0.01	0.97	0.06	2.85	7	0	0	11	1	0	7	12
							33.33%	0.00%	0.00%	52.38%	4.76%	0.00%		
16	Vadodara	44	0.27	13.43	0.12	20.98	16	2	3	8	4	4	21	16
							36.36%	4.55%	6.82%	18.18%	9.09%	9.09%		
17	Valsad	19	0.03	1.25	0.08	3.64	6	0	0	8	3	0	6	11
							31.58%	0.00%	0.00%	42.11%	15.79%	0.00%		
	South Gujarat	211	0.01	13.43	0.01	20.98	84	6	5	54	14	7	95	75
							39.81%	2.84%	2.37%	25.59%	6.64%	3.32%		
18	Amreli	38	0.1	14.39	0.19	8.82	14	4	8	3	4	3	26	10
							36.84%	10.53%	21.05%	7.89%	10.53%	7.89%		
19	Bhavnagar	35	0.76	15.13	0.02	10.57	6	2	6	8	4	2	14	14
							17.14%	5.71%	17.14%	22.86%	11.43%	5.71%		
20	Jamnagar	48	0.15	17	0.2	6.33	7	2	7	11	11	2	16	24
							14.58%	4.17%	14.58%	22.92%	22.92%	4.17%		
21	Junagadh	48	0.1	16.6	0.18	6.74	5	7	9	13	5	6	21	24
							10.42%	14.58%	18.75%	27.08%	10.42%	12.50%		
22	Porbandar	27	0.1	5.96	0.13	4.84	4	0	4	9	6	2	8	17
							14.81%	0.00%	14.81%	33.33%	22.22%	7.41%		
23	Rajkot	39	0.7	13.3	0.28	7.19	11	4	5	7	6	6	20	19
							28.21%	10.26%	12.82%	17.95%	15.38%	15.38%		
24	Surendranagar	25	0.12	10.65	0.01	14.96	7	3	5	6	0	4	15	10
							28.00%	12.00%	20.00%	24.00%	0.00%	16.00%		
	Saurashtra	260	0.1	17.00	0.01	14.96	54	22	44	57	36	25	120	118
							20.77%	8.46%	16.92%	21.92%	13.85%	9.62%		
25	Kachchh	42	0.12	3.5	0.03	5.87	7	2	0	22	4	3	9	29
							16.67%	4.76%	0.00%	52.38%	9.52%	7.14%		
	Total	731	0.01	23.45	0.01	20.98	222	53	66	197	67	42	341	306
							30.37%	7.25%	9.03%	26.95%	9.17%	5.75%		
26	Daman	7	0.22	1.51	0.16	2.7	5	0	0	1	1	0	5	2
							71.43%	0.00%	0.00%	14.29%	14.29%	0.00%		
27	Diu	3	0.31	1.48	-	-	3	0	0	0	0	0	3	0
							100.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
	UT of Daman & Diu	10	0.22	1.51	0.16	2.7	8	0	0	1	1	0	8	2
							80.00%	0.00%	0.00%	10.00%	10.00%	0.00%		
	Grand Total	741	0.01	23.45	0.01	20.98	230	53	66	198	68	42	349	308
							31.04%	7.15%	8.91%	26.72%	9.18%	5.67%		

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Table -13

CATEGORISATION OF CHANGES IN WATER LEVEL BETWEEN AUGUST 2016 TO AUGUST 2017														
Sr. No.	District Name	No of well analysed	Range of Fluctuation (m)				No. of Wells Showing Fluctuation						Total No. of Wells	
			Rise		Fall		Rise			Fall			Rise	Fall
			Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4		
1	Ahmedabad	15	0.91	10.24	0.05	1.87	4	3	1	7	0	0	8	7
							26.67%	20.00%	6.67%	46.67%	0.00%	0.00%		
2	Anand	13	0.1	1.2	1.1	17.63	8	0	0	3	1	1	8	5
							61.54%	0.00%	0.00%	23.08%	7.69%	7.69%		
3	Banaskantha	16	0.42	9.2	1.58	3.98	6	3	3	1	3	0	12	4
							37.50%	18.75%	18.75%	6.25%	18.75%	0.00%		
4	Dohad	25	0.3	4.1	0.3	7.85	1	2	1	13	7	1	4	21
							4.00%	8.00%	4.00%	52.00%	28.00%	4.00%		
5	Gandhinagar	4	1.73	26.9	0.22	3.81	1	0	1	1	1	0	2	2
							25.00%	0.00%	25.00%	25.00%	25.00%	0.00%		
6	Kheda	18	0.25	6.8	0.3	4.1	6	0	1	7	2	1	7	10
							33.33%	0.00%	5.56%	38.89%	11.11%	5.56%		
7	Mahesana	23	0.2	4.35	0.18	2.26	16	1	1	4	1	0	18	5
							69.57%	4.35%	4.35%	17.39%	4.35%	0.00%		
8	Panchmahals	33	0.2	5.45	0.05	3.8	13	3	2	14	1	0	18	15
							39.39%	9.09%	6.06%	42.42%	3.03%	0.00%		
9	Patan	5	0.5	2.14	0.28	0.28	2	2	0	1	0	0	4	1
							40.00%	40.00%	0.00%	20.00%	0.00%	0.00%		
10	Sabarkantha	46	0.25	13.32	0.02	14	13	5	3	14	4	6	21	24
							28.26%	10.87%	6.52%	30.43%	8.70%	13.04%		
	North Gujarat	198	0.1	26.9	0.02	17.63	70	19	13	65	20	9	102	94
							35.35%	9.60%	6.57%	32.83%	10.10%	4.55%		
11	Bharuch	30	0.08	4.59	0.01	2.87	15	3	1	9	2	0	19	11
							50.00%	10.00%	3.33%	30.00%	6.67%	0.00%		
12	Narmada	20	0.27	3.3	0.1	13.32	7	1	0	9	1	2	8	12
							35.00%	5.00%	0.00%	45.00%	5.00%	10.00%		
13	Navsari	19	0.12	7.3	-	-	13	5	1	0	0	0	19	0
							68.42%	26.32%	5.26%	0.00%	0.00%	0.00%		
14	Surat	44	0.03	5.12	0.02	1.7	28	4	1	11	0	0	33	11
							63.64%	9.09%	2.27%	25.00%	0.00%	0.00%		
15	The dangs	22	0.05	1.9	0.02	0.7	13	0	0	9	0	0	13	9
							59.09%	0.00%	0.00%	40.91%	0.00%	0.00%		
16	Vadodara	31	0.1	3.15	0.2	4.2	17	1	0	11	1	1	18	13
							54.84%	3.23%	0.00%	35.48%	3.23%	3.23%		
17	Valsad	13	0.03	3.62	1.1	1.1	11	1	0	1	0	0	12	1
							84.62%	7.69%	0.00%	7.69%	0.00%	0.00%		
	South Gujarat	179	0.03	7.30	0.01	13.32	104	15	3	50	4	3	122	57
							58.10%	8.38%	1.68%	27.93%	2.23%	1.68%		
18	Amreli	40	0.09	25.05	0.01	4.01	20	2	9	5	3	1	31	9
							50.00%	5.00%	22.50%	12.50%	7.50%	2.50%		
19	Bhavnagar	33	0.18	12.23	0.01	5.01	14	4	7	5	1	2	25	8
							42.42%	12.12%	21.21%	15.15%	3.03%	6.06%		
20	Jamnagar	33	0.02	12.5	0.08	2.91	11	2	12	7	1	0	25	8
							33.33%	6.06%	36.36%	21.21%	3.03%	0.00%		
21	Junagadh	38	0.05	9.37	0.31	6.08	13	5	10	6	2	2	28	10
							34.21%	13.16%	26.32%	15.79%	5.26%	5.26%		
22	Porbandar	24	0.13	13.39	1.06	5.2	6	5	7	3	2	1	18	6
							25.00%	20.83%	29.17%	12.50%	8.33%	4.17%		
23	Rajkot	35	0.06	13.85	0.02	4.39	6	11	13	2	2	1	30	5
							17.14%	31.43%	37.14%	5.71%	5.71%	2.86%		
24	Surendranagar	21	0.09	9.31	0.02	0.02	10	6	4	1	0	0	20	1
							47.62%	28.57%	19.05%	4.76%	0.00%	0.00%		
	Saurashtra	224	0.02	25.05	0.01	6.08	80	35	62	29	11	7	177	47
							35.71%	15.63%	27.68%	12.95%	4.91%	3.13%		
25	Kachchh	38	0.08	15.65	0.05	3.9	8	4	5	13	7	0	17	20
							21.05%	10.53%	13.16%	34.21%	18.42%	0.00%		
	Total	639	0.02	26.90	0.01	17.63	262	73	83	157	42	19	418	218
							41.00%	11.42%	12.99%	24.57%	6.57%	2.97%		
26	Daman	7	0.14	0.67	0.39	2.64	5	0	0	1	1	0	5	2
							71.43%	0.00%	0.00%	14.29%	14.29%	0.00%		
27	Diu	4	0.32	0.63	-	-	4	0	0	0	0	0	4	0
							100.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
	UT of Daman & Diu	11	0.14	0.67	0.39	2.64	9	0	0	1	1	0	9	2
							81.82%	0.00%	0.00%	9.09%	9.09%	0.00%		
	Grand Total	650	0.02	26.90	0.01	17.63	271	73	83	158	43	19	427	220
							41.69%	11.23%	12.77%	24.31%	6.62%	2.92%		

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3.3.3. November 2016 to November 2017

A perusal of **Fig 18** and **Table 14** reveals that 53% of total monitoring wells shows a rise and 44% shows fall in water level of the Gujarat state and UT of Daman & Diu. Fall in water level within the range of 0 to 2m is observed in about 35%, 2 – 4 m in 6% and more than 4 m in 4% of the total well in the state and UT of Daman and Diu. Rise in the water level is in the range of less than 2m and is about 31% of the total well. The maximum rise of 21.95m is recorded at Navapura in Anand district where as the maximum decline of 14.95m is recorded in Rapar of Kachchh district.

About 59% of the total well shows rise of water level in the North Gujarat and most of which (48%) shows fluctuation in the range of 0 to 4m of water level. Fall of more than 4m is mostly seen in Sabarkantha, Panchmahal in the east. Rise of 0 – 2 m range is observed in 35% of the total well found mainly in the north central part of the north Gujarat region.

In South Gujarat region, 53% of total well analyzed shows fall in water level and in the range of 0 – 2m represents 45% of well in the region. Rise of water level in 0 to 2m mainly observed in central part of south region mainly in Narmada, Surat. Rise in water level is observed maximum in the range of 0 – 2 m in 34% of the total well analyzed.

About 59% of total well in Saurashtra region has experienced rise in water level and rise in the range of more than 4m represents about 16% of the total well analysed. Fall of water level more than 4m is predominantly found in south part of Saurashtra region in Amreli, Bhavnagar, Rajkot districts. Rise in water level found in north part of the Saurashtra in Jamnagar, Rajkot districts.

In Kachchh region, 55% of the total well analysed shows rise in water level and 39% shows rise in the range of 0 – 2m. Fall of 0 – 2m is observed in 34% of total well in the east and east central part of Kachchh district. The fall more than 4m observed in isolated patches in central part.

In the UT of Daman, rise and fall both were found, the of rise is 2.7m where as fall 0.57 to 1.60m and in UT of Diu fall is 0.20 to 1.3m.

Fig- 18

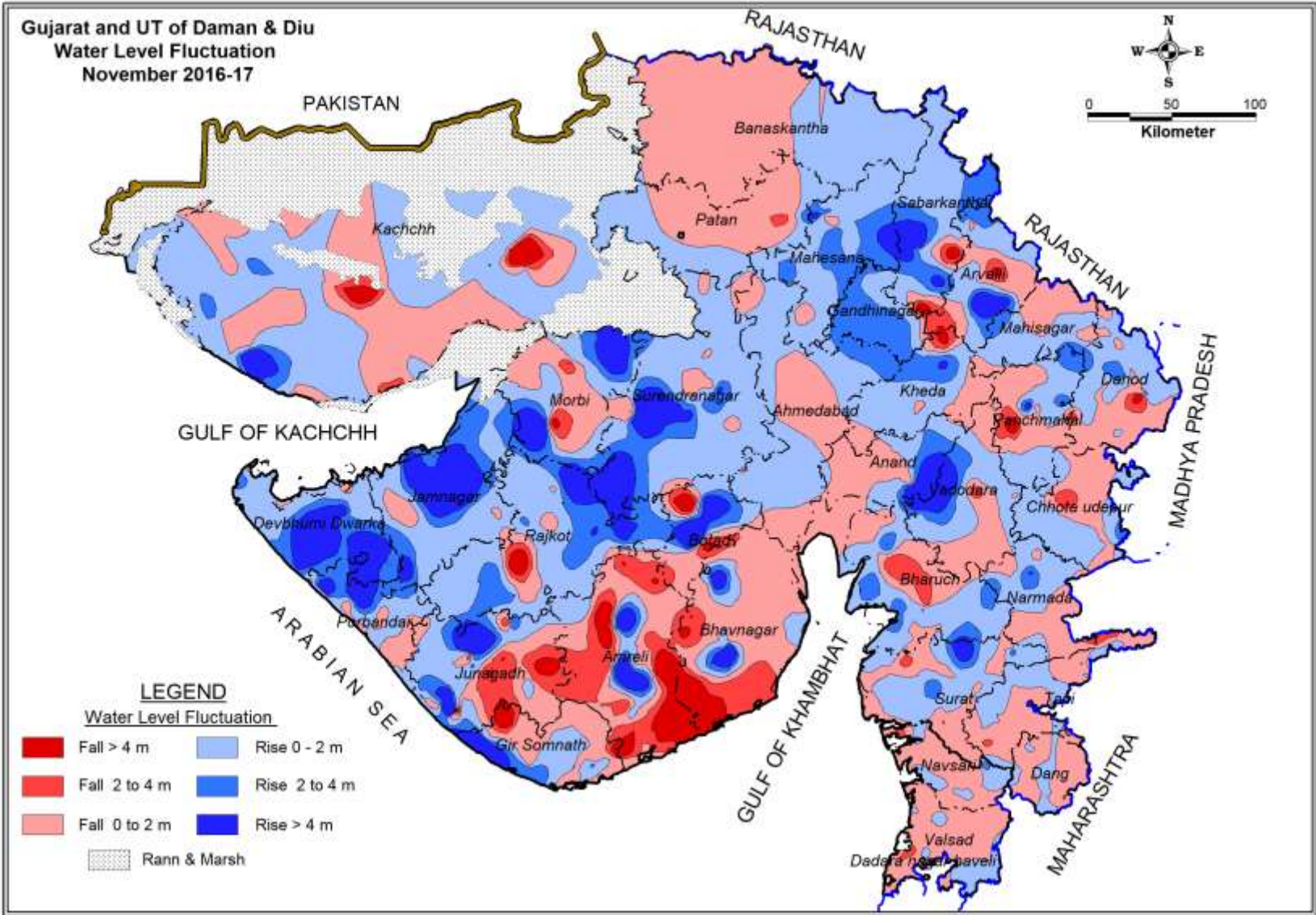


Table -14

CATEGORISATION OF CHANGES IN WATER LEVEL BETWEEN NOVEMBER 2016 TO NOVEMBER 2017														
Sr. No.	District Name	No of well analysed	Range of Fluctuation (m)				No. of Wells Showing Fluctuation						Total No. of Wells	
			Rise		Fall		Rise			Fall			Rise	Fall
			Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4		
1	Ahmedabad	15	0.14	4.93	0.05	1.53	10	1	1	3	0	0	12	3
							66.67%	6.67%	6.67%	20.00%	0.00%	0.00%		
2	Anand	10	0.1	21.95	0.34	1.04	3	1	1	5	0	0	5	5
							30.00%	10.00%	10.00%	50.00%	0.00%	0.00%		
3	Banaskantha	17	0.51	10.41	0.66	3.6	4	5	4	1	3	0	13	4
							23.53%	29.41%	23.53%	5.88%	17.65%	0.00%		
4	Dohad	26	0.23	3.45	0.09	6.32	8	2	0	13	2	1	10	16
							30.77%	7.69%	0.00%	50.00%	7.69%	3.85%		
5	Gandhinagar	3	3.01	3.63	-	-	0	3	0	0	0	0	3	0
							0.00%	100.00%	0.00%	0.00%	0.00%	0.00%		
6	Kheda	13	0.27	4.52	0.19	4.47	2	1	1	6	1	1	4	8
							15.38%	7.69%	7.69%	46.15%	7.69%	7.69%		
7	Mahesana	24	0.04	5.94	0.4	2	13	5	2	3	0	0	20	3
							54.17%	20.83%	8.33%	12.50%	0.00%	0.00%		
8	Panchmahals	29	0.2	5.9	0.23	6.05	10	2	2	11	2	1	14	14
							34.48%	6.90%	6.90%	37.93%	6.90%	3.45%		
9	Patan	8	0.19	1.95	0.9	2.52	5	0	0	2	1	0	5	3
							62.50%	0.00%	0.00%	25.00%	12.50%	0.00%		
10	Sabarkantha	46	0.05	10.7	0.05	7.1	11	6	10	13	2	3	27	18
							23.91%	13.04%	21.74%	28.26%	4.35%	6.52%		
North Gujarat		191	0.04	21.95	0.05	7.1	66	26	21	57	11	6	113	74
							34.55%	13.61%	10.99%	29.84%	5.76%	3.14%		
11	Bharuch	24	0.05	4.1	0.11	3.83	10	5	1	6	2	0	16	8
							41.67%	20.83%	4.17%	25.00%	8.33%	0.00%		
12	Narmada	16	0.08	4.31	0.19	0.67	7	1	1	6	0	0	9	6
							43.75%	6.25%	6.25%	37.50%	0.00%	0.00%		
13	Navsari	23	0.2	2.85	0.16	2.82	6	1	0	15	1	0	7	16
							26.09%	4.35%	0.00%	65.22%	4.35%	0.00%		
14	Surat	53	0.1	7.3	0.1	3.4	18	2	1	24	6	0	21	30
							33.96%	3.77%	1.89%	45.28%	11.32%	0.00%		
15	The dangs	23	0.1	0.83	0.05	2.1	6	0	0	10	1	0	6	11
							26.09%	0.00%	0.00%	43.48%	4.35%	0.00%		
16	Vadodara	31	0.17	5.54	0.01	3.6	13	2	1	12	2	0	16	14
							41.94%	6.45%	3.23%	38.71%	6.45%	0.00%		
17	Valsad	20	0.02	0.9	0.1	3.64	5	0	0	13	2	0	5	15
							25.00%	0.00%	0.00%	65.00%	10.00%	0.00%		
South Gujarat		190	0.02	7.30	0.01	3.83	65	11	4	86	14	0	80	100
							34.21%	5.79%	2.11%	45.26%	7.37%	0.00%		
18	Amreli	32	0.19	10.1	0.16	12.28	3	0	4	13	5	7	7	25
							9.38%	0.00%	12.50%	40.63%	15.63%	21.88%		
19	Bhavnagar	27	0.22	17.66	0.19	7.54	4	0	3	13	2	5	7	20
							14.81%	0.00%	11.11%	48.15%	7.41%	18.52%		
20	Jamnagar	38	0.06	13.75	0.15	1.83	14	10	10	4	0	0	34	4
							36.84%	26.32%	26.32%	10.53%	0.00%	0.00%		
21	Junagadh	48	0.25	14.4	0.1	6.44	9	11	5	15	3	5	25	23
							18.75%	22.92%	10.42%	31.25%	6.25%	10.42%		
22	Porbandar	25	0.03	11.31	0.06	1.32	9	3	5	8	0	0	17	8
							36.00%	12.00%	20.00%	32.00%	0.00%	0.00%		
23	Rajkot	42	0.04	9.85	0.03	7.83	12	11	6	10	0	3	29	13
							28.57%	26.19%	14.29%	23.81%	0.00%	7.14%		
24	Surendranagar	31	0.26	20.26	0.08	2.11	13	5	6	6	1	0	24	7
							41.94%	16.13%	19.35%	19.35%	3.23%	0.00%		
Saurashtra		243	0.03	20.26	0.03	12.28	64	40	39	69	11	20	143	100
							26.34%	16.46%	16.05%	28.40%	4.53%	8.23%		
25	Kachchh	38	0.06	11.2	0.01	14.49	15	4	2	13	2	2	21	17
							39.47%	10.53%	5.26%	34.21%	5.26%	5.26%		
Total		662	0.02	21.95	0.01	14.49	210	81	66	225	38	28	357	291
							31.72%	12.24%	9.97%	33.99%	5.74%	4.23%		
26	Daman	8	2.7	2.7	0.57	1.6	0	1	0	5	0	0	1	5
							0.00%	12.50%	0.00%	62.50%	0.00%	0.00%		
27	Diu	3	-	-	0.2	1.3	0	0	0	3	0	0	0	3
							0.00%	0.00%	0.00%	100.00%	0.00%	0.00%		
UT of Daman & Diu		11	2.7	2.7	0.2	1.3	0	1	0	8	0	0	1	8
							0.00%	9.09%	0.00%	72.73%	0.00%	0.00%		
Grand Total		673	0.02	21.95	0.01	14.49	210	82	66	233	38	28	358	299
							31.20%	12.18%	9.81%	34.62%	5.65%	4.16%		

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3.3.4 January 2017 to January 2018

A perusal of **Fig 19** and **Table 15** reveals that out of total monitoring wells, 62% shows a rise where as 37% shows fall in water level of the Gujarat state and UT of Daman & Diu. Rise in water level mainly within range of 0 – 2m is observed in about 40% of the total well in the state and UT of Daman and Diu. Rise in water level is mainly observed in Kachchh, northern and southern part of Gujarat state. Fall mainly observed in the range of 0 – 2 m covers about 25% of the total well in state. Fall of water level more than 4 m is observed mainly in Saurashtra region & east part of north Gujarat state. The maximum rise of 27.58m is recorded at Amrapura Pz II of Gandhinagar district whereas the maximum decline of 13.97m is recorded at Takatuka of Sabarkantha district.

About 68% of the total well shows rise of water level in the North Gujarat and most of which (45%) shows rise in the range of 0 to 2m. Rise of more than 4 m is mostly seen in the parts of Banaskantha, Gandhinagar, Sabarkantha districts in 9% of total well analysed in the region. Fall of 0 – 2 m range is observed in 21% of the total well observed in the area of Panchmahal, Sabarkantha districts in eastern part of north Gujarat region.

In South Gujarat region, 72% of total well analysed shows rise in water level and 54% represents in the range of 0 – 2 m of total well in the region. Rise of water level observed in the range of 2 to 4m and more than 4m in isolated patches distributed sporadically in south Gujarat region. Fall in water level observed in the range of 0 – 2m in 24% of the total well analysed lying mainly in Bharuch, Vadodara, east of Narmada and Valsad districts in the South Gujarat region.

About 55% of the Saurashtra region has experienced rise in water level and rise in the range of 0 – 2m observed in 28% of the total well analysed. Rise of water level in 14% of well observed more than 4m is predominantly found in Jamnagar, Junagadh, Porbandar, Rajkot and Surendranagar district all over the region. Fall in water level also found in all parts of region scattered mainly in Bhavnagar, Amreli, Surendranagar, Jamnagar and Junagarh districts.

In Kachchh region, both rise and fall in water level equally distributed in the region as per observation of total monitoring well. Fall of more than 4m is observed as isolated patches in the area distributed in all parts of the district. 35% of observation stations shows fall less than 2m.

In the UT of Diu shows both rise and fall of water level, the range is 0.13 to 0.93m for rise and 0.06 to 0.63m as fall. In UT of Daman, rise in water level ranges from 0.53 to 1.62m and fall in water level ranges from 0.04 to 2.48.

Fig- 19

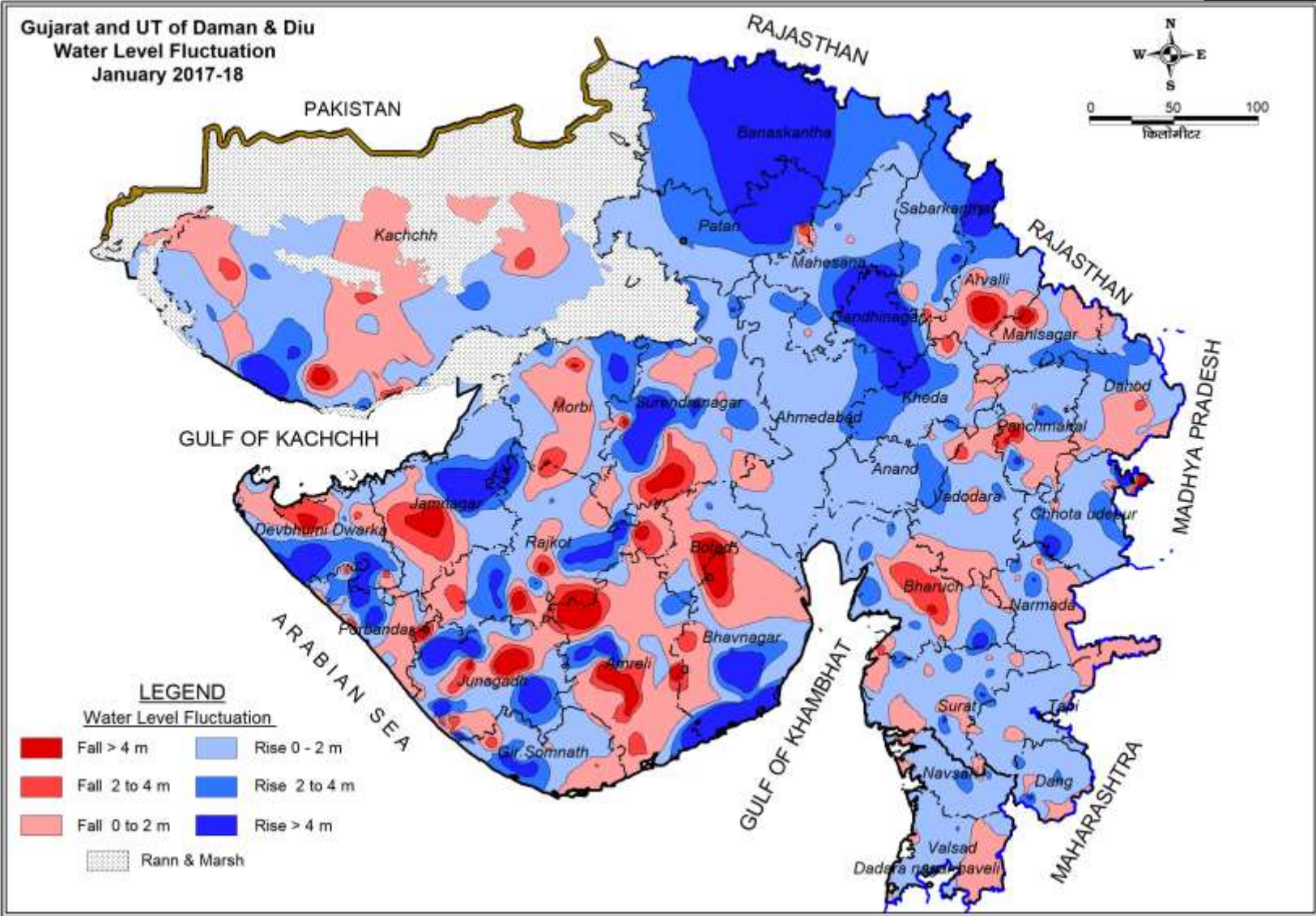


Table -15

CATEGORISATION OF CHANGES IN WATER LEVEL BETWEEN JANUARY 2017 TO JANUARY 2018														
Sr. No.	District Name	No of well analysed	Range of Fluctuation (m)				No. of Wells Showing Fluctuation						Total No. of Wells	
			Rise		Fall		Rise			Fall			Rise	Fall
			Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4		
1	Ahmedabad	19	0.20	2.61	0.74	0.74	16	2	0	1	0	0	18	1
							84.21%	10.53%	0.00%	5.26%	0.00%	0.00%		
2	Anand	13	0.4	4.15	0.25	0.25	7	4	1	1	0	0	12	1
							53.85%	30.77%	7.69%	7.69%	0.00%	0.00%		
3	Banaskantha	16	0.02	9.9	0.04	8.44	4	1	1	7	1	2	6	10
							25.00%	6.25%	6.25%	43.75%	6.25%	12.50%		
4	Dohad	25	0.25	3.76	0.13	3.15	10	2	0	10	1	0	12	11
							40.00%	8.00%	0.00%	40.00%	4.00%	0.00%		
5	Gandhinagar	6	0.57	27.58	-	-	1	1	4	0	0	0	6	0
							16.67%	16.67%	66.67%	0.00%	0.00%	0.00%		
6	Kheda	18	0.05	6.8	0.07	2.72	7	2	1	4	2	0	10	6
							38.89%	11.11%	5.56%	22.22%	11.11%	0.00%		
7	Mahesana	22	0.05	3.59	0.32	1.85	12	5	0	5	0	0	17	5
							54.55%	22.73%	0.00%	22.73%	0.00%	0.00%		
8	Panchmahals	37	0.1	5.1	0.1	9.35	19	4	2	8	1	3	25	12
							51.35%	10.81%	5.41%	21.62%	2.70%	8.11%		
9	Patan	5	0.59	7.63	4.44	4.44	3	0	1	0	0	1	4	1
							60.00%	0.00%	20.00%	0.00%	0.00%	20.00%		
10	Sabarkantha	42	0.16	11.49	0.11	13.97	12	8	8	7	3	4	28	14
							28.57%	19.05%	19.05%	16.67%	7.14%	9.52%		
	North Gujarat	203	0.02	27.58	0.04	13.97	91	29	18	43	8	10	138	61
							44.83%	14.29%	8.87%	21.18%	3.94%	4.93%		
11	Bharuch	27	0.13	6.04	0.47	4.67	15	6	1	2	2	1	22	5
							55.56%	22.22%	3.70%	7.41%	7.41%	3.70%		
12	Narmada	20	0.14	7.2	0.1	2.71	11	1	2	5	1	0	14	6
							55.00%	5.00%	10.00%	25.00%	5.00%	0.00%		
13	Navsari	16	0.12	4.08	0.04	0.29	10	1	1	4	0	0	12	4
							62.50%	6.25%	6.25%	25.00%	0.00%	0.00%		
14	Surat	41	0.08	5.08	0.01	1.81	19	4	2	15	0	0	25	15
							46.34%	9.76%	4.88%	36.59%	0.00%	0.00%		
15	The dangs	20	0.04	6.05	0.07	0.4	9	2	1	8	0	0	12	8
							45.00%	10.00%	5.00%	40.00%	0.00%	0.00%		
16	Vadodara	32	0.09	11.58	0.71	5.04	18	7	1	3	2	1	26	6
							56.25%	21.88%	3.13%	9.38%	6.25%	3.13%		
17	Valsad	16	0.26	2.43	0.06	0.33	11	1	0	4	0	0	12	4
							68.75%	6.25%	0.00%	25.00%	0.00%	0.00%		
	South Gujarat	172	0.04	11.58	0.01	5.04	93	22	8	41	5	2	123	48
							54.07%	12.79%	4.65%	23.84%	2.91%	1.16%		
18	Amreli	44	0.04	8.86	0.02	12.63	4	1	3	24	5	7	8	36
							9.09%	2.27%	6.82%	54.55%	11.36%	15.91%		
19	Bhavnagar	26	0.08	27.45	0.1	8.44	8	3	4	8	1	2	15	11
							30.77%	11.54%	15.38%	30.77%	3.85%	7.69%		
20	Jamnagar	44	0.1	10.8	0.37	5.77	20	7	6	3	4	4	33	11
							45.45%	15.91%	13.64%	6.82%	9.09%	9.09%		
21	Junagadh	53	0.02	9.7	0.1	10.05	13	7	8	14	5	6	28	25
							24.53%	13.21%	15.09%	26.42%	9.43%	11.32%		
22	Porbandar	26	0.08	8.8	0.18	4.25	9	2	4	9	1	1	15	11
							34.62%	7.69%	15.38%	34.62%	3.85%	3.85%		
23	Rajkot	45	0.29	6.55	0.13	7.5	8	6	8	15	1	7	22	23
							17.78%	13.33%	17.78%	33.33%	2.22%	15.56%		
24	Surendranagar	47	0.01	14.77	0.49	6.34	19	8	7	5	4	3	34	12
							40.43%	17.02%	14.89%	10.64%	8.51%	6.38%		
	Saurashtra	285	0.01	27.45	0.02	12.63	81	34	40	78	21	30	155	129
							28.42%	11.93%	14.04%	27.37%	7.37%	10.53%		
25	Kachchh	40	0.29	12.34	0.02	6.73	12	6	2	14	5	1	20	20
							30.00%	15.00%	5.00%	35.00%	12.50%	2.50%		
	Total	700	0.01	27.58	0.01	13.97	277	91	68	176	39	43	436	258
							39.57%	13.00%	9.71%	25.14%	5.57%	6.14%		
26	Daman	6	0.53	1.62	0.04	2.48	3	0	0	2	1	0	3	3
							50.00%	0.00%	0.00%	33.33%	16.67%	0.00%		
27	Diu	5	0.13	0.93	0.06	0.63	2	0	0	3	0	0	2	3
							40.00%	0.00%	0.00%	60.00%	0.00%	0.00%		
	UT of Daman & Diu	11	0.13	1.62	0.06	0.63	5	0	0	5	1	0	5	6
							45.45%	0.00%	0.00%	45.45%	9.09%	0.00%		
	Grand Total	711	0.01	27.58	0.01	13.97	282	91	68	181	40	43	441	264
							39.66%	12.80%	9.56%	25.46%	5.63%	6.05%		

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3.4 Long Term Ground Water Scenario

Long-term behaviour of water levels was studied by analysing the data for decadal average water levels and fluctuation of present year water level with respect to decadal average water levels. Maps showing variation in water level scenario over the decade 2007-16 for May, August, November and 2008-17 for January have been prepared to evaluate the long term changes in the groundwater regime.

3.4.1 Decadal Average Depth to Water Level

Maps showing depth to water level scenario over the decade 2008-17 have been prepared to evaluate the long term changes in the groundwater regime. Average depth to water level data is given in Annexure IV and distribution of the same is discussed below.

3.4.1.1 Pre-monsoon Water Levels (2008-17)

Decadal average water level map for the period May 2008 to May 2017 (**Fig. 20**) reveals that the decadal average water level in Gujarat is generally 0.90 to 58.96m bgl. Isolated pockets of Shallow water levels of less than 2 m are observed in one or two places in the state. Depth to water level more than 40 m observed in north Gujarat region. The maximum depth of water level observed 58.96m bgl at Deesa Pz II while minimum water level is 0.90m bgl at Lilpur in Kachchh.

The Decadal average Water levels in North Gujarat generally range from less than 2 to more than 40m bgl. Water level more than 40m are observed in isolated pockets in Banaskantha, Mahesana, Sabarkantha and Gandhinagar districts.

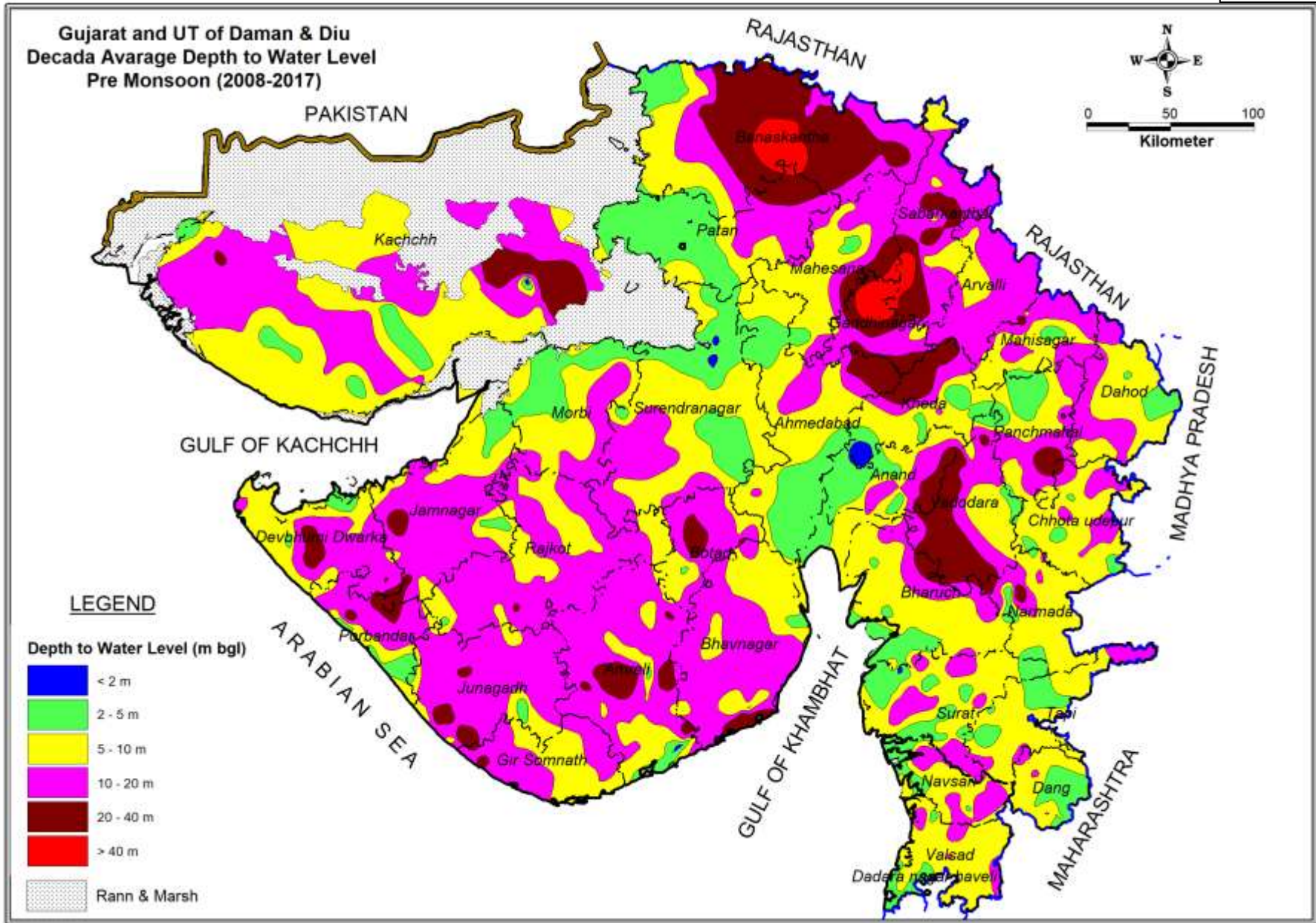
In South Gujarat, average water level is less than 2m bgl to 40m bgl. Deep water levels of 20 to 40m are observed in central part of Vadodara district which extending towards Narmada and Bharuch district and an isolated patch in Narmada district. Water level of less than 5 mbgl is found along the coast and in parts of Bharuch, The Dangs, Valsad and Surat districts.

In Saurashtra the average water level is vary from less than 2m to 40m with isolated pockets of 20 – 40m are found as in Amreli, Bhavnagar, Junagadh, Jamnagar and Porbandar districts of Saurashtra region except Surendranagar district.

In Kachchh district, range of the average water level is found from less than 2m to 40m. Deeper water levels of 20 – 40m are observed in east part of Kachchh while all other area vary with in 5 to 20m bgl.

In UT of Daman and Diu the water level in general is less than 10 mbgl. In Daman, average water level vary from 3.45 to 8.41m bgl whereas in Diu 3.78 to 9.57m bgl.

Fig- 20



3.4.1.2 Post-monsoon Water Levels (2008-17)

Decadal average water level map for the period November 2008 to November 2017 (**Fig. 21**) reveals that in major part of Gujarat state, the decadal average water level is mostly in the range of less than 2 m to more than 40m bgl. Deep water levels of more than 20m are observed mainly in Banaskantha, Mahsana and Sabarkantha districts of North Gujarat, Amreli district in Saurashtra, Vadodara district in South and Kachchh districts. Shallow water levels less than 2 m are observed in south Gujarat, along the little Rann and the parts connecting to the Gulf of Cambay and in scattered pockets in Saurashtra, Kachchh and North Gujarat. The deepest water observed 57.50m bgl at Deesa Pz II and shallowest is 0.12 at Pipli in Surendranagar district.

In North Gujarat, the water levels during post monsoon period are generally less than 20 mbgl. Deeper water levels of more than 20 mbgl are predominant in the district of Ahmedabad, Mahesana, Kheda, Banaskantha, Gandhinagar and Sabarkantha. Area along the little Rann and a portion connecting Gulf of Cambay and the little Rann has recorded water levels of less than 2 mbgl. Shallow water levels of less than 5m bgl are observed in major parts of Panchmahals, some parts of Dohad, Kheda and Anand districts.

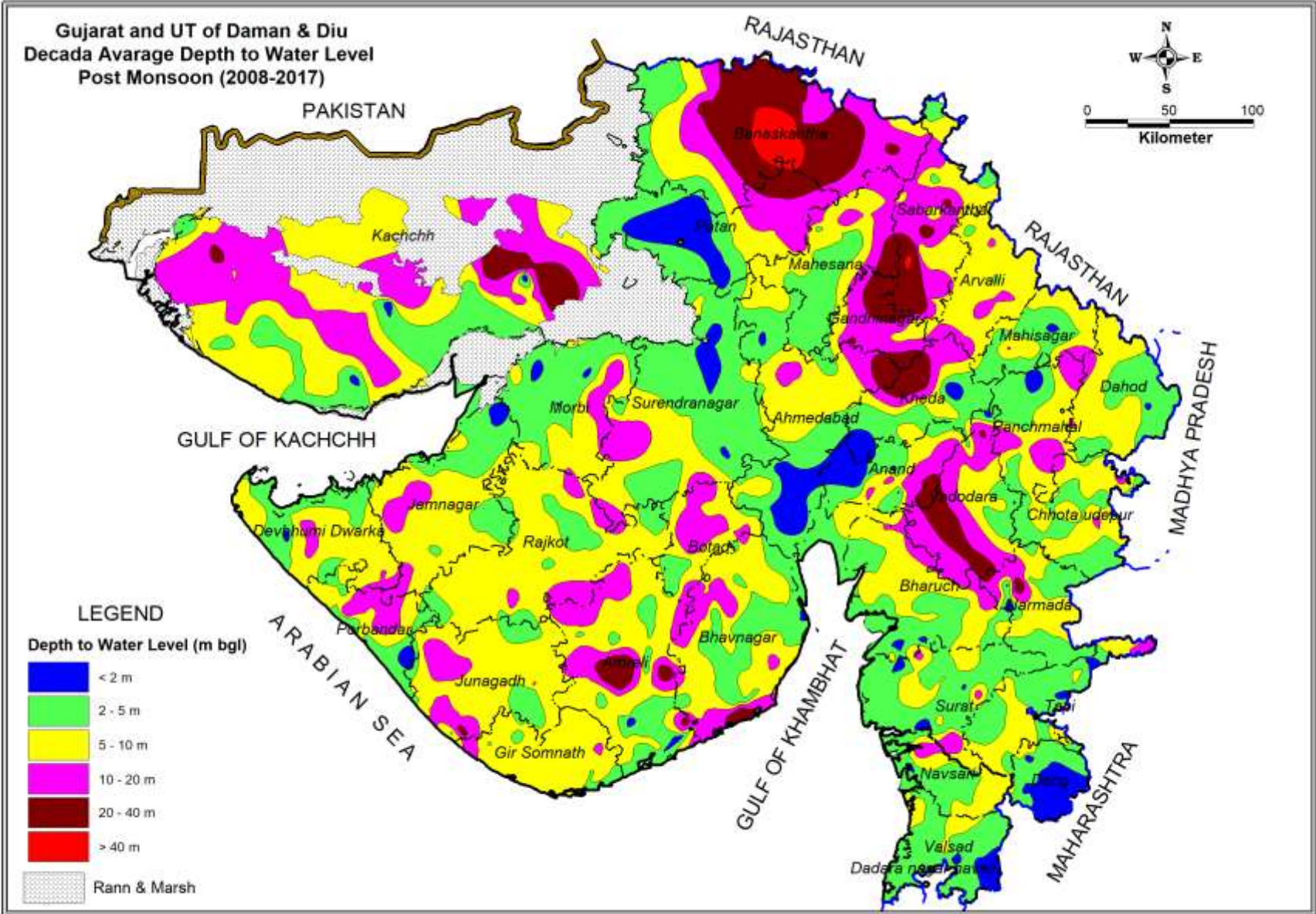
In South Gujarat, water levels are generally shallower in contrast to North Gujarat areas. The water levels are generally less than 10 mbgl. Deep water levels of more than 10 mbgl are observed in central part of Navsari district. Deeper Water level more than 20m bgl are observed mostly in Vadodara and Narmada districts. Shallow water levels of less than 5 m are recorded along the coast, The Dangs and Surat district. Water level less than 2m are also recorded in Surat and The Dangs district.

In Saurashtra Region, water levels are in the range of 2m to 20 mbgl in general. Water levels of more than 20 m are observed in small isolated pockets in Amreli and Bhavnagar districts. Shallow water levels of less than 2m are recorded in isolated pockets along the coastal parts and the parts connecting Gulf of Cambay with little Rann of the Saurashtra Region.

In Kachchh district, the average water level is generally vary from 2 to 20m except few pockets of more than 20m in the eastern part and central parts. In western parts, along cost line, water levels less than 10m bgl is observed.

In UT of Daman and Diu average water level is less than 10m bgl. In UT of Daman, water level varies from 1.71 to 5.01m bgl while in UT of Diu, 3.63 to 8.68m bgl.

Fig- 21



3.4.1 Decadal Variations

Long-term behaviour of water levels was studied by analysing fluctuation of present year water level with respect to decadal average water levels. Variation in water level scenario over the decade 2007-16 for May, August, November and 2008-17 for January have been prepared to evaluate the long term changes in the groundwater regime.

Fig. 22 (a, b, c & d) illustrates a comparison of the changes of the water levels during different seasons with their respective decadal averages.

Fig : 22 a

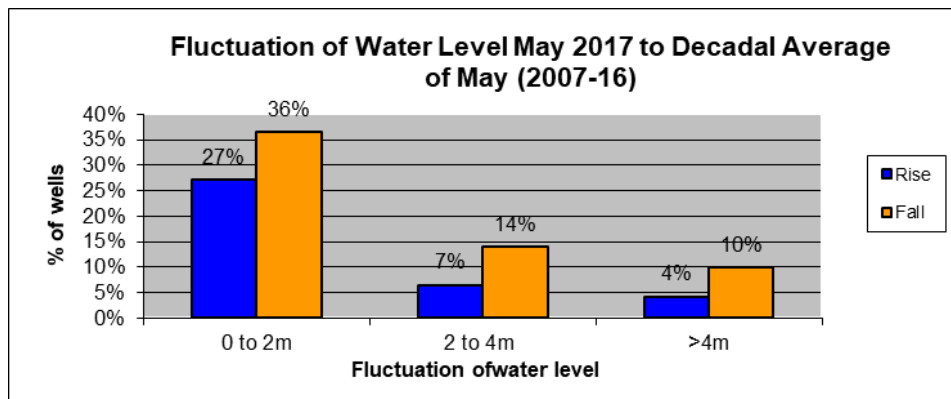


Fig : 22 b

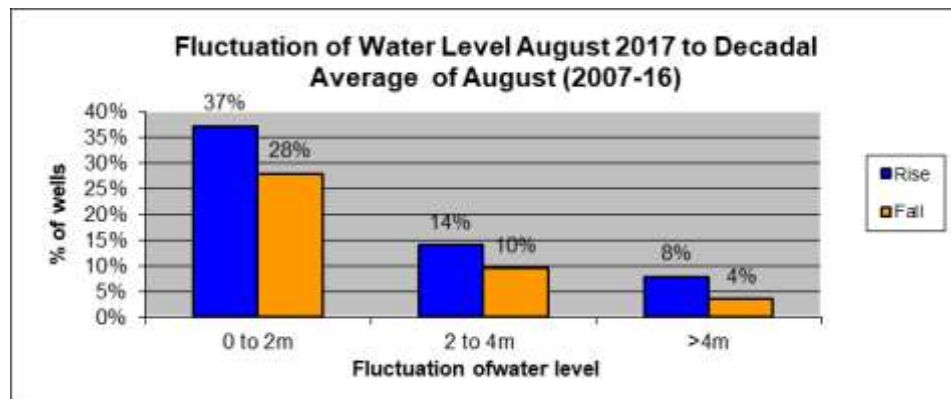


Fig : 22 c

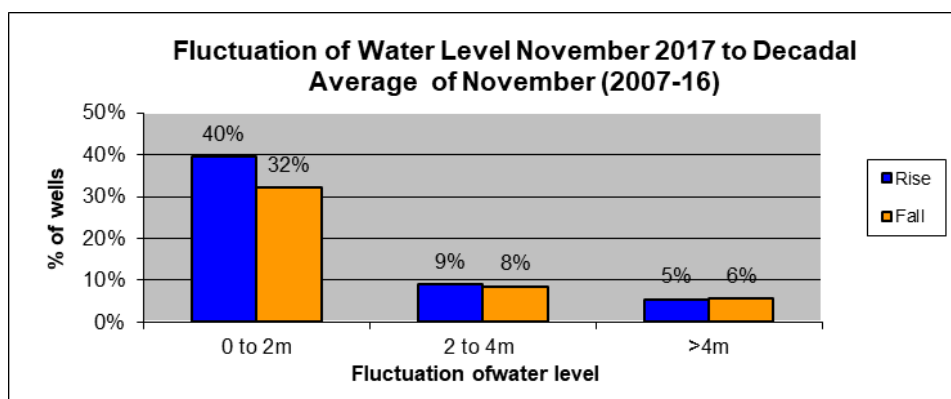
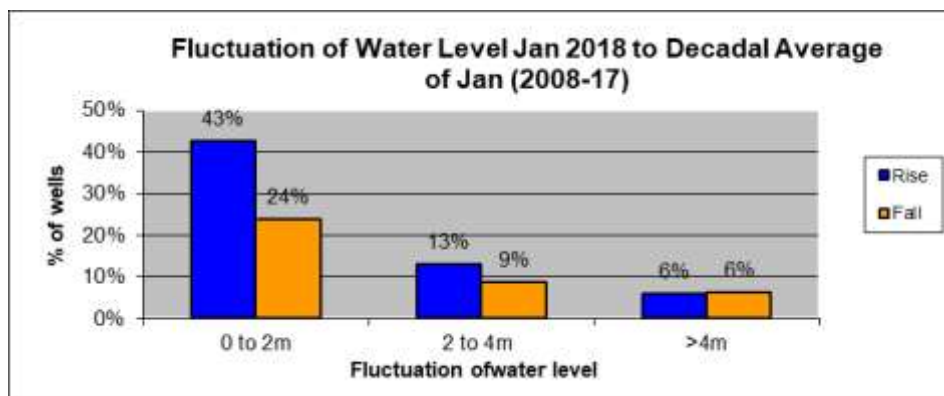


Fig : 22 d



3.4.2.1 Decadal average of May (2007-2016) to May 2017

A comparison of the water level of the May 2017 with the average water level of the May for last one decade (2007 - 2016) reveals that there is a fall of 60% of the wells monitored. Rise and fall is mostly in the range of 0 to 2m. Fall of more than 4m is observed in most of the districts of Saurashtra region, in Kachchh, Banaskantha, Sabarkantha, Mahesana, Anand, Panchmahal districts in north Gujarat. The maximum rise of 24.13m is recorded at Amrapur Pz II of Gandhinagar district whereas the maximum fall of 18.31m is recorded at Tokri in Vadodara district.

In North Gujarat 52% of wells show fall and mostly are in range of 0 to 2 m (36% of wells) in entire North Gujarat. The rise of water level is mostly less than 2 m and in about 33% of the total wells analyzed.

In south Gujarat, the major part has experienced fall (58% of wells analyzed). The fall is mainly (47% of wells) in the range of 0 -2 m. About 32% of wells recorded rise of decadal fluctuation of water level in the range of 0 to 2 m.

In Saurashtra region about 66% of wells observed fall in water level and out of which 28% wells shows fall in the range of 0 to 2m. Fall more than 4 m observed in 19% of the well analysed. Rise of water level are less than 2 m in 20% in whole region.

In Kachchh, 73% of the wells have recorded fall in water level of the district. Fall is mostly (41% of wells) in the range of 0 – 2m, where as rise of 0 – 2m is recorded in 20% of wells.

In Union Territory of Daman both rise and fall is observed. In Daman the maximum rise 0.83 m and fall 4.64 m are observed. In Diu 1.02 m rise and fall is 0.56 m recorded.

Fig- 23

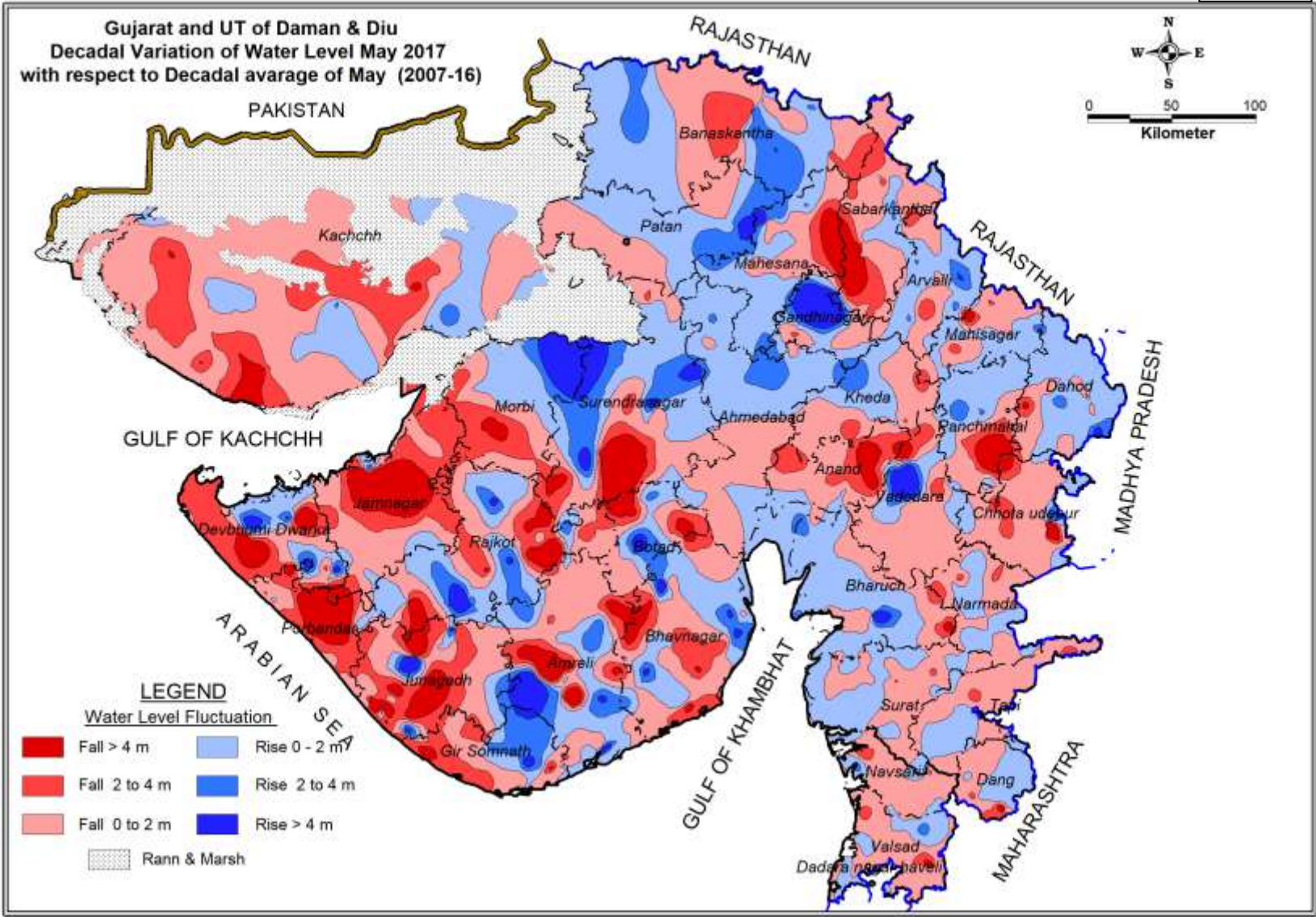


Table-16

WELL WISE CATEGORISATION OF CHANGES IN WATER LEVEL DURING MAY 2017 WITH RESPECT TO DECADAL AVERAGE OF MAY (2007 TO 2016)

Sr. No.	District Name	No of well analysed	Range of Fluctuation (m)				No. of Wells Showing Fluctuation						Total No. of Wells	
			Rise		Fall		Rise			Fall			Rise	Fall
			Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4		
1	Ahmedabad	21	0.05	3.63	0.24	5.61	11	4	0	4	1	1	15	6
2	Anand	16	0.19	0.25	0.29	6.96	3	0	0	7	4	2	3	13
3	Banaskantha	20	0.99	4.07	0.89	4.21	4	5	1	5	3	1	10	9
4	Dohad	28	0.16	4.75	0.04	4.72	12	2	1	10	1	1	15	12
5	Gandhinagar	6	1.27	24.13	0.19	2.66	1	0	1	3	1	0	2	4
6	Kheda	22	0.03	3.79	0.05	3.72	6	1	0	12	3	0	7	15
7	Mahesana	27	0.06	5.13	0.08	4.5	12	4	1	8	1	1	17	10
8	Panchmahals	36	0.2	3.4	0.07	10.54	16	3	0	11	4	2	19	17
9	Palan	9	0.07	6.63	0.12	0.95	3	2	1	3	0	0	6	3
10	Sabarkantha	48	0.23	4.43	0.13	12.34	10	5	1	21	8	2	16	31
North Gujarat		233	0.03	24.13	0.04	12.34	78	26	6	84	26	10	110	120
11	Bharuch	35	0.08	8.78	0.18	6.09	16	3	1	12	1	1	20	14
12	Narmada	22	0.02	2.13	0.01	3.66	7	1	0	9	3	0	8	12
13	Navsari	21	-	3.37	0.06	4.51	5	1	0	13	1	1	6	15
14	Surat	53	0.03	2.16	-	3.12	18	1	0	26	4	0	19	30
15	The dangs	22	0.33	0.96	0.11	7.1	7	0	0	12	2	1	7	15
16	Vadodara	46	0.04	13.43	-	18.31	12	0	4	20	5	4	16	29
17	Valsad	20	0.25	2.74	0.04	5.12	5	1	0	11	1	1	6	13
South Gujarat		219	0.02	13.43	0.01	18.31	70	7	5	103	17	8	82	128
18	Amreli	51	0.1	8.3	0.21	13.3	19	4	4	12	4	8	27	24
19	Bhavnagar	41	0.21	8.12	0.12	6.75	6	3	4	16	5	7	13	28
20	Jamnagar	51	-	7.36	-	11.09	6	1	3	13	17	11	10	41
21	Junagadh	59	-	15.01	0.1	9.14	7	4	4	18	16	10	15	44
22	Porbandar	28	0.5	5.34	0.43	14.23	2	0	1	8	9	8	3	25
23	Rajkot	42	0.09	10.86	0.14	12.44	13	2	3	11	5	8	18	24
24	Surendranagar	28	0.05	9.92	0.15	14.02	7	4	4	5	4	4	15	13
Saurashtra		300	0.05	15.01	0.10	14.23	60	18	23	83	60	56	101	199
25	Kachchh	51	0.15	2.74	0.1	5.63	10	2	0	21	10	6	12	37
26	Total	803	0.02	24.13	0.01	18.31	218	53	34	291	113	80	305	484
27	Daman	7	0.3	0.83	0.01	4.64	2	0	0	3	1	1	2	5
28	Diu	4	1.02	1.02	0.01	0.56	1	0	0	3	0	0	1	3
UT of Daman & Diu		11	0.30	1.02	0.01	4.64	3	0	0	6	1	1	3	8
Grand Total		814	0.02	24.13	0.01	18.31	221	53	34	297	114	81	308	492

3.4.2.2 Decadal average of August (2007 to 2016) to August 2017

A comparison of the water level of the August 2017 with the average water level of the August for last one decade (2007-2016) **Fig 24 & Table 17** reveals that there is a rise in (59% of well analysed). Rise is mostly in the range of 0 to 2 m. The rise of more than 2m observed mostly in Saurashtra and north Gujarat region. The maximum rise of 26.26m is recorded in Amrapura of Gandhinagar district whereas the maximum decline of 16.06m is recorded in Morjhar of Amreli district.

In North Gujarat, 57% of wells have shown rise and mostly in range of 0 to 2m (29% of wells) & 2 - 4m (15% of well). Fall of water level is located in the adjoining area of Mahesana, Gandhinagar and Sabarkantha districts of North Gujarat.

South Gujarat has experienced fall in 47% of wells analysed whereas 53% shows rise. In the range of 0 to 2 m, 38% of well shows fall while 46% of wells shows rise. More than 4m of fall in water shows in Valsad in south region.

In Saurashtra region, 69% of total well shows rise in water level where as 31% shows fall. Fall of water level in more than 4m is observed in 7% of the wells in Junagadh, Amreli, Bhavnagar, Porbandar districts. The rise in water level is mostly in central part of Saurashtra of Bhavnagar, Amreli, Junagarh and Surendranagar districts but fall in water level covers the west and south part of Saurashtra area.

In Kachchh, 65% of the wells analysed have recorded fall in water level in the district. Fall is mostly (43% of wells) in the range of 0 – 2 m. Rise is observed in 30% wells in the district in the range of 0 – 2 and 2 to 4m.

In Union Territory of Daman, rise in water level ranges from 0.02 to 1.12 m and fall is from 0.3 to 2.8 m where as in UT of Diu, rise in water level ranges from 0.1 to 0.72.

Fig- 24

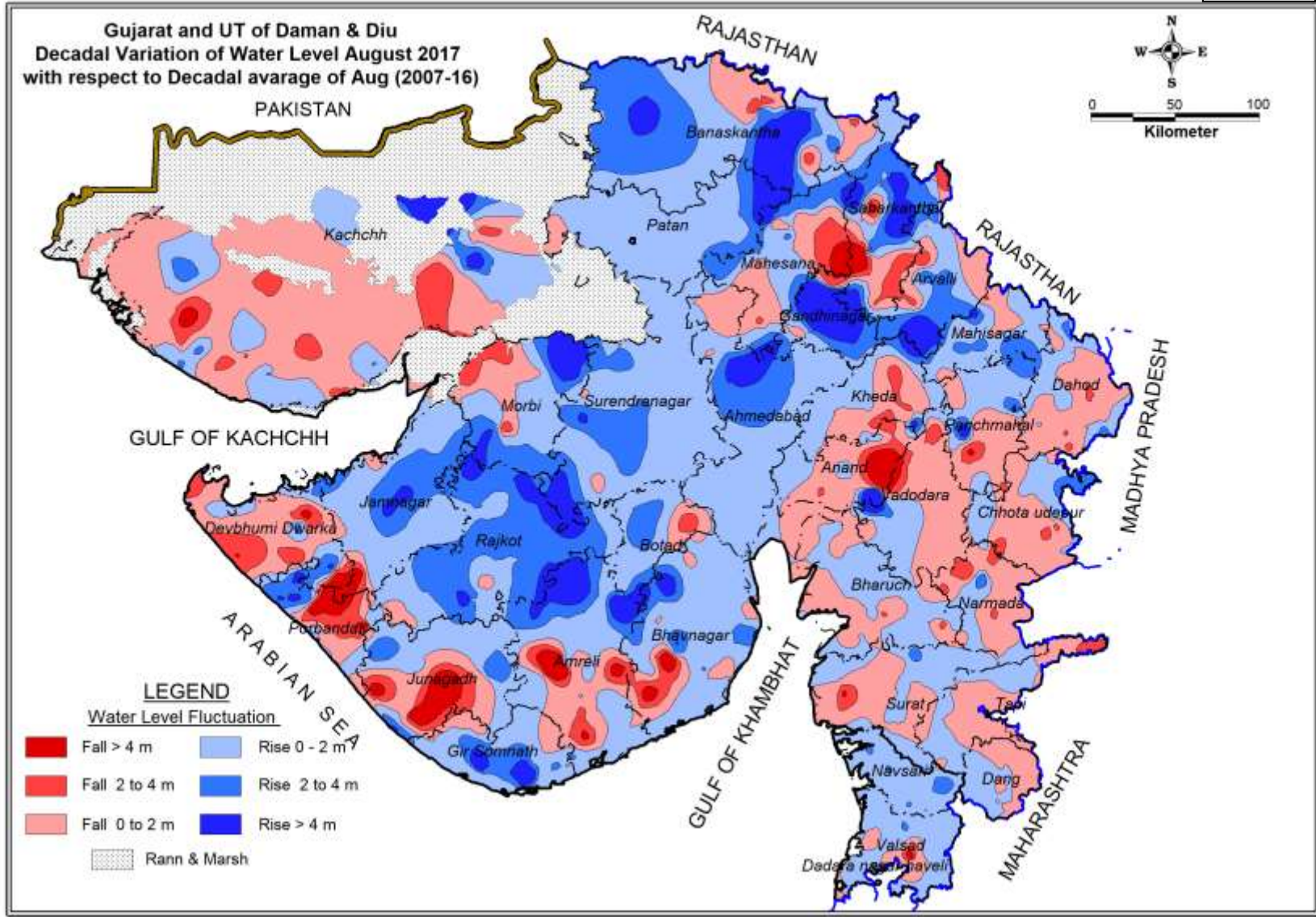


Table-17

WELL WISE CATEGORISATION OF CHANGES IN WATER LEVEL DURING AUGUST 2017 WITH RESPECT TO DECADAL AVERAGE OF AUGUST (2007 To 2016)														
Sr. No.	District Name	No of well analysed	Range of Fluctuation (m)				No. of Wells Showing Fluctuation						Total No. of Wells	
			Rise		Fall		Rise			Fall			Rise	Fall
			Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4		
1	Ahmedabad	16	0.08	8.88	0.22	3.97	9	2	1	3	1	0	12	4
						56.25%	12.50%	6.25%	18.75%	6.25%	0.00%			
2	Anand	14	0.72	17.05	0.99	10.98	2	1	1	5	3	2	4	10
						14.29%	7.14%	7.14%	35.71%	21.43%	14.29%			
3	Banaskantha	18	1.1	10.24	0.96	3.23	4	3	4	2	5	0	11	7
						22.22%	16.67%	22.22%	11.11%	27.78%	0.00%			
4	Dohad	26	0.17	2.42	0.2	2.38	5	3	0	14	4	0	8	18
						19.23%	11.54%	0.00%	53.85%	15.38%	0.00%			
5	Gandhinagar	5	4.57	26.26	0.09	3.81	0	0	2	2	1	0	2	3
						0.00%	0.00%	40.00%	40.00%	20.00%	0.00%			
6	Kheda	18	0.16	5.58	0.4	3.09	7	0	1	7	3	0	8	10
						38.89%	0.00%	5.56%	38.89%	16.67%	0.00%			
7	Mahesana	25	0.01	5.45	0.19	2.37	8	6	2	8	1	0	16	9
						32.00%	24.00%	8.00%	32.00%	4.00%	0.00%			
8	Panchmahals	35	0.27	6.35	0.03	4.75	11	3	4	14	2	1	18	17
						31.43%	8.57%	11.43%	40.00%	5.71%	2.86%			
9	Palan	5	0.18	3.09	0.2	0.2	3	1	0	1	0	0	4	1
						60.00%	20.00%	0.00%	20.00%	0.00%	0.00%			
10	Sabarkantha	46	0.27	15.55	0.04	8.85	11	13	11	3	6	2	35	11
						23.91%	28.26%	23.91%	6.52%	13.04%	4.35%			
	North Gujarat	208	0.01	26.26	0.03	10.98	60	32	26	59	26	5	118	90
						28.85%	15.38%	12.50%	28.37%	12.50%	2.40%			
11	Bharuch	31	0.03	2.14	0.07	3.34	14	1	0	14	2	0	15	16
						45.16%	3.23%	0.00%	45.16%	6.45%	0.00%			
12	Narmada	20	0.1	3.6	0.1	3.45	7	1	0	6	6	0	8	12
						35.00%	5.00%	0.00%	30.00%	30.00%	0.00%			
13	Navsari	19	0.17	3.3	0.05	0.72	13	4	0	2	0	0	17	2
						68.42%	21.05%	0.00%	10.53%	0.00%	0.00%			
14	Surat	45	0.05	2.58	0.07	4.35	18	3	0	21	2	1	21	24
						40.00%	6.67%	0.00%	46.67%	4.44%	2.22%			
15	The dangs	22	0.01	0.84	0.06	0.95	13	0	0	9	0	0	13	9
						59.09%	0.00%	0.00%	40.91%	0.00%	0.00%			
16	Vadodara	34	0.02	3.5	0.05	3.66	10	4	0	16	4	0	14	20
						29.41%	11.76%	0.00%	47.06%	11.76%	0.00%			
17	Valsad	15	0.25	2.99	0.03	5.98	10	1	0	3	0	1	11	4
						66.67%	6.67%	0.00%	20.00%	0.00%	6.67%			
	South Gujarat	186	0.01	3.60	0.03	5.98	85	14	0	71	14	2	99	87
						45.70%	7.53%	0.00%	38.17%	7.53%	1.08%			
18	Amreli	40	0.12	8.26	0.01	16.06	19	2	4	8	4	3	25	15
						47.50%	5.00%	10.00%	20.00%	10.00%	7.50%			
19	Bhavnagar	34	0.03	8.39	0	7.69	14	8	3	7	0	2	25	9
						41.18%	23.53%	8.82%	20.59%	0.00%	5.88%			
20	Jamnagar	34	0.07	4.58	0.42	5.48	14	4	3	5	4	4	21	13
						41.18%	11.76%	8.82%	14.71%	11.76%	11.76%			
21	Junagadh	39	-	9.05	0.13	8.65	15	6	4	10	1	3	25	14
						38.46%	15.38%	10.26%	25.64%	2.56%	7.69%			
22	Porbandar	25	0.13	6.12	0.06	9.79	7	5	3	2	5	3	15	10
						28.00%	20.00%	12.00%	8.00%	20.00%	12.00%			
23	Rajkot	37	0.94	6.69	0.03	4	9	13	6	6	2	1	28	9
						24.32%	35.14%	16.22%	16.22%	5.41%	2.70%			
24	Surendranagar	30	0.26	9.71	0.15	0.61	17	6	3	4	0	0	26	4
						56.67%	20.00%	10.00%	13.33%	0.00%	0.00%			
	Saurashtra	239	0.03	9.71	0.00	16.06	95	44	26	42	16	16	165	74
						39.75%	18.41%	10.88%	17.57%	6.69%	6.69%			
25	Kachchh	40	0.14	12.18	0.08	5.42	6	6	2	17	8	1	14	26
						15.00%	15.00%	5.00%	42.50%	20.00%	2.50%			
26	Total	673	0.01	26.26	0.00	16.06	246	96	54	189	64	24	396	277
						36.55%	14.26%	8.02%	28.08%	9.51%	3.57%			
27	Daman	7	0.02	1.12	0.3	2.8	4	0	0	2	1	0	4	3
						57.14%	0.00%	0.00%	28.57%	14.29%	0.00%			
28	Diu	4	0.1	0.72	-	-	4	0	0	0	0	0	4	0
						100.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
	UT of Daman & Diu	11	0.02	1.12	0.30	2.80	8	0	0	2	1	0	8	3
						72.73%	0.00%	0.00%	18.18%	9.09%	0.00%			
	Grand Total	684	0.01	26.26	0.00	16.06	254	96	54	191	65	24	404	280
						37.13%	14.04%	7.89%	27.92%	9.50%	3.51%			

3.4.2.3 Decadal average of November(2007-2016) to November 2017

A comparison of the water level of the November 2017 with the average water level of the November for last one decade (2007-2016) **Fig 25 & Table 18** reveals that there is a rise in water level in the state (54% of total well analysed). Rise and fall is mostly in the range of 0 to 2m. Fall of more than 2m is observed mostly in Saurashtra and Kachchh region, also Anand, Panchmahal in north Gujarat and Vadodara, Narmada districts in south Gujarat region. The maximum rise of 26.82m is recorded in Amrapur Pz II of Gandhinagar district whereas the maximum fall of 20.54m is recorded in Morjhar of Amreli district.

In North Gujarat 56% of wells are shown rise and mostly well are in range of 0 to 2 m (35% of wells) in entire North Gujarat. The fall of water level found in 44% of the wells of which 32% of wells were found in the range of 0 to 2m.

In South Gujarat, 55% of total well analysed show rise where as 45% shows fall. In the range of 0 to 2 m, 47% shows rise and 36% shows fall scattered in whole South Gujarat region.

In Saurashtra region about 55% of wells analysed show rise in water level and out of which 39% wells in the range of 0 to 2m. Fall of water level are experienced in 45% of the region and 28% are in the 0 to 2m.

In Kachchh, 60% of the total wells analysed are recorded fall in water level in the district. Fall is mostly (33% of wells) in the range of 0 – 2 m. Rise is observed in 40% of the wells analysed in which 33% is in the range of 0 to 2m.

In Union Territory of Daman and Diu both showing rise and fall of water level in their region. Range of rise vary from 0.32 to 0.71 in Daman where as 0.14 in Diu. Fall is vary from 0.81 to 2.44m in Daman and 0.2 to 0.96m in Diu.

Fig- 25

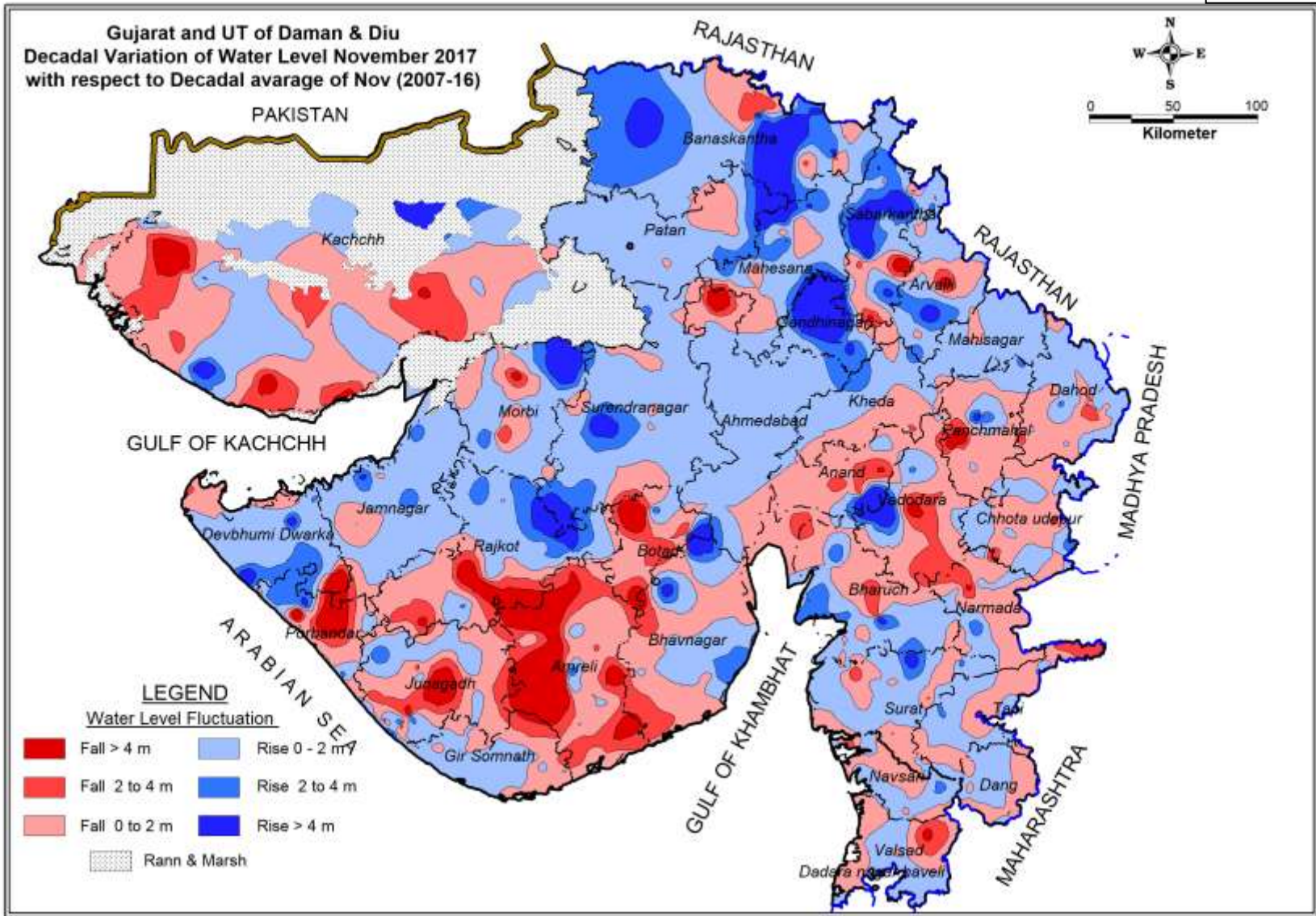


Table-18

WELL WISE CATEGORISATION OF CHANGES IN WATER LEVEL DURING NOVEMBER 2017 WITH RESPECT TO DECADAL AVERAGE OF NOVEMBER (2007 To 2016)														
Sr. No.	District Name	No of well analysed	Range of Fluctuation (m)				No. of Wells Showing Fluctuation						Total No. of Wells	
			Rise		Fall		Rise			Fall			Rise	Fall
			Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4		
1	Ahmedabad	17	0.05	2.76	0.13	9.22	10	1	0	4	1	1	11	6
2	Anand	12	0.41	18.43	0.27	4.47	3	0	1	4	3	1	4	8
3	Banaskantha	19	0.51	10.07	0.20	3.43	3	4	6	2	4	0	13	6
4	Dohad	26	0.19	2.38	0.18	3.74	11	1	0	10	4	0	12	14
5	Gandhinagar	6	0.39	26.82	-	-	4	0	2	0	0	0	6	0
6	Kheda	14	0.41	3.23	0.08	2.19	2	1	0	8	3	0	3	11
7	Mahesana	24	0.04	5.71	0.28	1.11	11	2	5	6	0	0	18	6
8	Panchmahals	30	0.15	6.15	0.03	6.36	10	2	1	15	0	2	13	17
9	Patan	9	0.61	3.06	0.12	1.77	4	1	0	4	0	0	5	4
10	Sabarkantha	47	0.03	11.22	0.08	6.99	14	9	7	12	2	3	30	17
North Gujarat		204	0.03	26.82	0.03	9.22	72	21	22	65	17	7	115	89
11	Bharuch	26	0.08	5.5	0.15	2.89	9	5	1	9	2	0	15	11
12	Narmada	18	0.05	3.81	-	4.94	7	1	0	7	2	1	8	10
13	Navsari	23	0.2	2.45	0.09	2.82	11	1	0	10	1	0	12	11
14	Surat	54	0.01	5.34	0.22	3.1	26	3	1	18	6	0	30	24
15	The dangs	25	0.09	1.17	0.53	2.38	20	0	0	4	1	0	20	5
16	Vadodara	36	-	8	0.02	5.96	11	3	1	16	4	1	15	21
17	Valsad	21	0.01	1.16	0.05	4.74	11	0	0	9	0	1	11	10
South Gujarat		203	0.01	8.00	0.02	5.96	95	13	3	73	16	3	111	92
18	Amreli	32	0.02	3.56	0.12	20.54	7	1	0	10	4	10	8	24
19	Bhavnagar	30	0.04	15.98	0.14	9.16	9	1	2	12	4	2	12	18
20	Jamnagar	39	0.06	6.72	-	8.81	19	5	3	8	2	2	27	12
21	Junagadh	55	0.01	4.19	0.05	8.75	21	4	1	18	8	3	26	29
22	Porbandar	27	0.04	4.84	0.03	9.02	6	7	1	9	0	4	14	13
23	Rajkot	43	0.02	7	0.02	7.02	20	6	3	8	1	5	29	14
24	Surendranagar	35	0.07	9.34	0.09	1.46	19	6	2	8	0	0	27	8
Saurashtra		261	0.01	15.98	0.02	20.54	101	30	12	73	19	26	143	118
25	Kachchh	43	0.23	7.14	0.17	11.91	14	1	2	14	8	4	17	26
26	Total	711	0.01	26.82	0.02	20.54	282	65	39	225	60	40	386	325
27	Daman	8	0.32	0.71	0.81	2.44	3	0	0	4	1	0	3	5
28	Diu	4	0.14	0.14	0.2	0.96	1	0	0	3	0	0	1	3
UT of Daman & Diu		12	0.14	0.71	0.20	2.44	4	0	0	7	1	0	4	8
Grand Total		723	0.01	26.82	0.02	20.54	286	65	39	232	61	40	390	333

3.4.2.4 Decadal average of January(2008-2017) to January 2018

A comparison of the water level of the January 2018 with the average water level of the January for last one decade (2008-2017) **Fig 26 & Table 19** reveals that there is a rise in water level in the state (61% of total well analysed). Rise and fall is mostly in the range of 0 to 2m. Fall of more than 4m is observed mostly in Saurashtra and Kachchh region and occur as isolated patches scattered in North Gujarat region. The maximum rise of 27.15m is recorded at Bora in Bhavnagar district whereas the maximum fall of 22.16m is recorded at Morjhar in Amreli district.

In North Gujarat 67% of wells are shown rise with mostly well are in range of 0 to 2 m (44% of wells), 33% of total well shows fall with 22% in the range of 0 – 2m. In a patch from Banaskantha, Mahesana and Sabarkantha district shows fall in water level and in isolated patches in Mahesana, Panchmahal districts.

In south Gujarat, 65% of total well analysed shows rise whereas 35% shows fall for this decadal variation. The rise and fall mainly in the range of 0 to 2 m (53% rise & 25% fall).

In Saurashtra region, about 59% of wells observed rise in water level and out of which 37% wells shows rise in the range of 0 to 2m. Rise of water level more than 4m are experienced in 7% of the total well in region as isolated patches. Fall of the water level in the region 41% of which 21% in 0 to 2m range and 11% in morethan 4m range shown in the central part of Saurashtra.

In Kachchh, 60% of the total wells analysed are recorded fall in water level in the district. Fall is mostly (55% of wells) in the range of 0 – 4 m. Rise is mainly observed in the range of 0 – 2m in central part of Kachchh and has 29% of total wells.

In Union Territory of Daman & Diu, both rise and fall is observed. The rise range from 0.33 to 1.29m and fall 0.04 to 2.16m in Daman where as rise of water level is 0.93 and fall range from 0.06 to 0.59 to in Diu.

Fig- 26

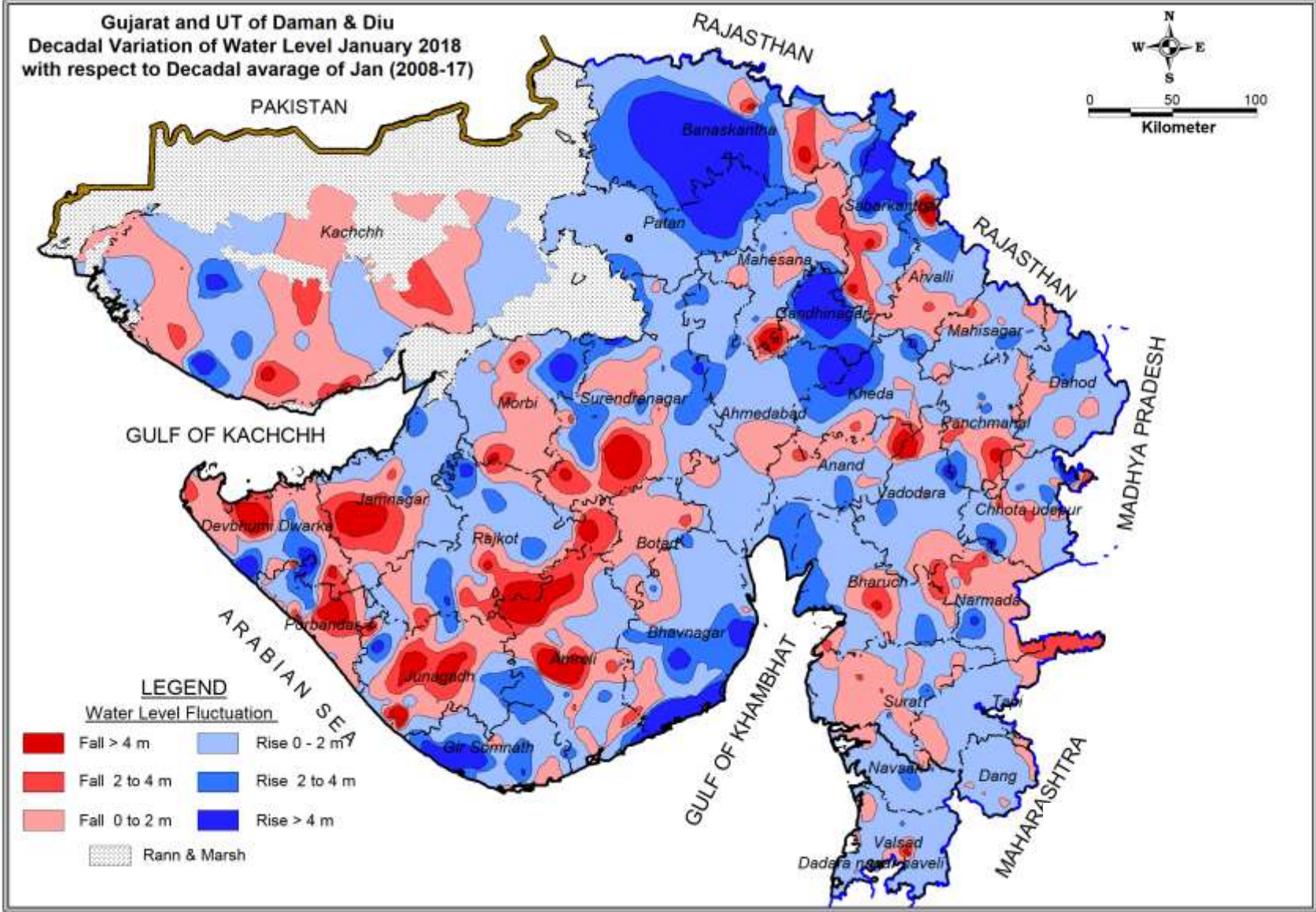


Table-19

WELL WISE CATEGORISATION OF CHANGES IN WATER LEVEL DURING JANUARY 2018 WITH RESPECT TO DECADAL AVERAGE OF JANUARY (2008 To 2017)														
Sr. No.	District Name	No of well analysed	Range of Fluctuation (m)				No. of Wells Showing Fluctuation						Total No. of Wells	
			Rise		Fall		Rise			Fall			Rise	Fall
			Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4		
1	Ahmedabad	20	0.18	2.97	0.21	3.07	12	3	0	4	1	0	15	5
2	Anand	14	0.02	3.24	0.21	2.56	7	1	0	4	2	0	8	6
3	Banaskantha	17	0.1	12.13	0.02	5.51	5	4	2	3	1	2	11	6
4	Dohad	28	0.02	4.16	0.04	2.15	14	3	1	9	1	0	18	10
5	Gandhinagar	6	1.46	26.82	0.99	0.99	2	1	2	1	0	0	5	1
6	Kheda	20	0.07	7.79	0.15	2.46	9	2	1	7	1	0	12	8
7	Mahesana	24	0.18	3.39	0.09	8.68	8	9	0	5	1	1	17	7
8	Panchmahals	37	0.43	4.36	0.03	4.88	18	5	1	7	5	1	24	13
9	Patan	5	0.15	6.02	-	-	4	0	1	0	0	0	5	0
10	Sabarkantha	46	0.01	8.02	0.02	13.97	17	8	6	7	5	3	31	15
	North Gujarat	217	0.01	26.82	0.02	13.97	96	36	14	47	17	7	146	71
11	Bharuch	29	0.01	4.27	0.14	4.76	15	6	1	5	1	1	22	7
12	Narmada	23	0.08	5.16	0.08	4.38	8	3	2	4	3	3	13	10
13	Navsari	16	0.11	4.08	0.05	0.31	10	1	1	4	0	0	12	4
14	Surat	44	0.08	4.23	0.01	2.42	17	1	1	21	4	0	19	25
15	The dangs	21	0.03	1.76	0.04	0.71	16	0	0	5	0	0	16	5
16	Vadodara	35	0.18	11.08	0.02	9.43	19	3	2	5	5	1	24	11
17	Valsad	17	0.2	2.49	0.09	5.45	13	1	0	2	0	1	14	3
	South Gujarat	185	0.01	11.08	0.01	9.43	98	15	7	46	13	6	120	65
18	Amreli	49	0.1	3.95	0.05	22.16	14	5	0	17	7	6	19	30
19	Bhavnagar	31	0.15	27.15	0.72	1.48	10	10	4	7	0	0	24	7
20	Jamnagar	44	0.02	10.25	0.11	12.8	18	5	1	10	5	5	24	20
21	Junagadh	56	0.18	9.81	0.47	11.81	23	6	6	7	4	10	35	21
22	Porbandar	27	0.02	7.61	0.03	5.61	8	4	2	9	0	4	14	13
23	Rajkot	46	0.05	6.25	0.02	6.51	22	3	3	7	7	4	28	18
24	Surendranagar	48	0.15	8.12	0.38	10.48	17	11	5	7	5	3	33	15
	Saurashtra	301	0.02	27.15	0.02	22.16	112	44	21	64	28	32	177	124
25	Kachchh	42	0.06	8.09	0.09	5.29	12	3	2	16	7	2	17	25
26	Total	745	0.01	27.15	0.01	22.16	318	98	44	173	65	47	460	285
27	Daman	7	0.33	1.29	0.04	2.16	3	0	0	3	1	0	3	4
28	Diu	5	0.93	0.93	0.06	0.59	1	0	0	4	0	0	1	4
	UT of Daman & Diu	12	0.33	1.29	0.04	2.16	4	0	0	7	1	0	4	8
	Grand Total	757	0.01	27.15	0.01	22.16	322	98	44	180	66	47	464	293

3.5 Water Table Scenario

A detailed discussion of water table scenario during different monitoring periods is described below.

3.5.1 May 2017 (Water Table in May 2017)

The water table map for pre-monsoon period (Fig. 27) reveals that the water table in different parts of the state ranges between 13.92m bmsl and 590.85m amsl (Annexure III). The water table mostly follows the topography of the area. Water table is highest along the eastern hilly tract of the eastern side and gradually reduces towards west/south west. Ground water flow direction is westward and southwest in north Gujarat and it turns to west in south Gujarat. Flow directions in Kachchh and Saurashtra are divergent in all directions from the centre of the regions where the height of the water table is 100m amsl, thus making groundwater mound in the central parts of both the Regions. The elevation of the water table is more than 400m amsl in the Banaskantha in north, Valsad and The Dangs in south, part of the main land Gujarat. Water table below mean sea level is observed in coastal Kachchh, Bhavnagar, Jamnagar, Junagadh, Porbandar and Rajkot districts in Saurashtra, Bharuch, Navsari, Surat, Vadodara and Valsad districts in south Gujarat.

3.6 Piezometric Configuration

Northern part of the north Gujarat is underlain by the unconsolidated alluvial deposits of post Miocene age and semi consolidated Mesozoic and Tertiary sediments. These sedimentary formations form the most prolific multi-aquifer system comprising several confined aquifers. Confined aquifers in this area are grouped into, first confined aquifer ranging in depth from 78 to 162 mbgl and second confined aquifer ranging in depth from 154 to 274 mbgl. These aquifers extend from the foothill of the Aravallis in the northeast to the little Rann of Kachchh in the west. The aerial extent of this multi-aquifer system is shown in the maps by dotted line. The data of the depth to water level in confined aquifer is given in Annexure IIB.

3.6.1 First Confined Aquifer – May 2017

In the alluvial area, 31 piezometers tapping the first confined aquifers were monitored and analysed during May 2017. Based on the water levels measured, an Isopiestic map was prepared (**Fig 28**). A perusal of the map shows that in general depth to piezometric surface declines from east to west. A trough of more than 10 m bmsl is found in Patan and Mahesana districts. Another trough of more than 40m bmsl is found in the adjoining area of Ahmedabad and Gandhinagar districts. The elevation of piezometric head varies from 40m bmsl at Adalaj of Gandhinagar district to 97 m amsl at Kakosi in Patan district.

Perusal of another piezometric surface map in m bgl (Fig 29) shows that, water level in the area has a maximum trough in the area of Patan and Mahesana district to depth of more than 100m bgl.

3.6.2 Second Confined Aquifer – May 2017

In the alluvial area, 35 piezometers tapping the second confined aquifers were monitored and analysed during May 2017. Based on the water levels measured, an Isopiestic map was prepared **Fig 30**. A perusal of the map shows that, a trough of more than 80m bmsl is found in adjoining area of Banaskantha, Patan and Mahesana. The elevation of piezometric head ranges from 44.27m amsl at Dhanera in Banaskantha to 122.40m bmsl at Jangral in Patan district.

Perusal of another piezometric surface map in m bgl (Fig 31) shows that, water level in the area has a maximum trough in the area of Banaskantha, Patan, Mahesana and Sabarkantha district to depth of morethan 180m bgl.

Fig 27

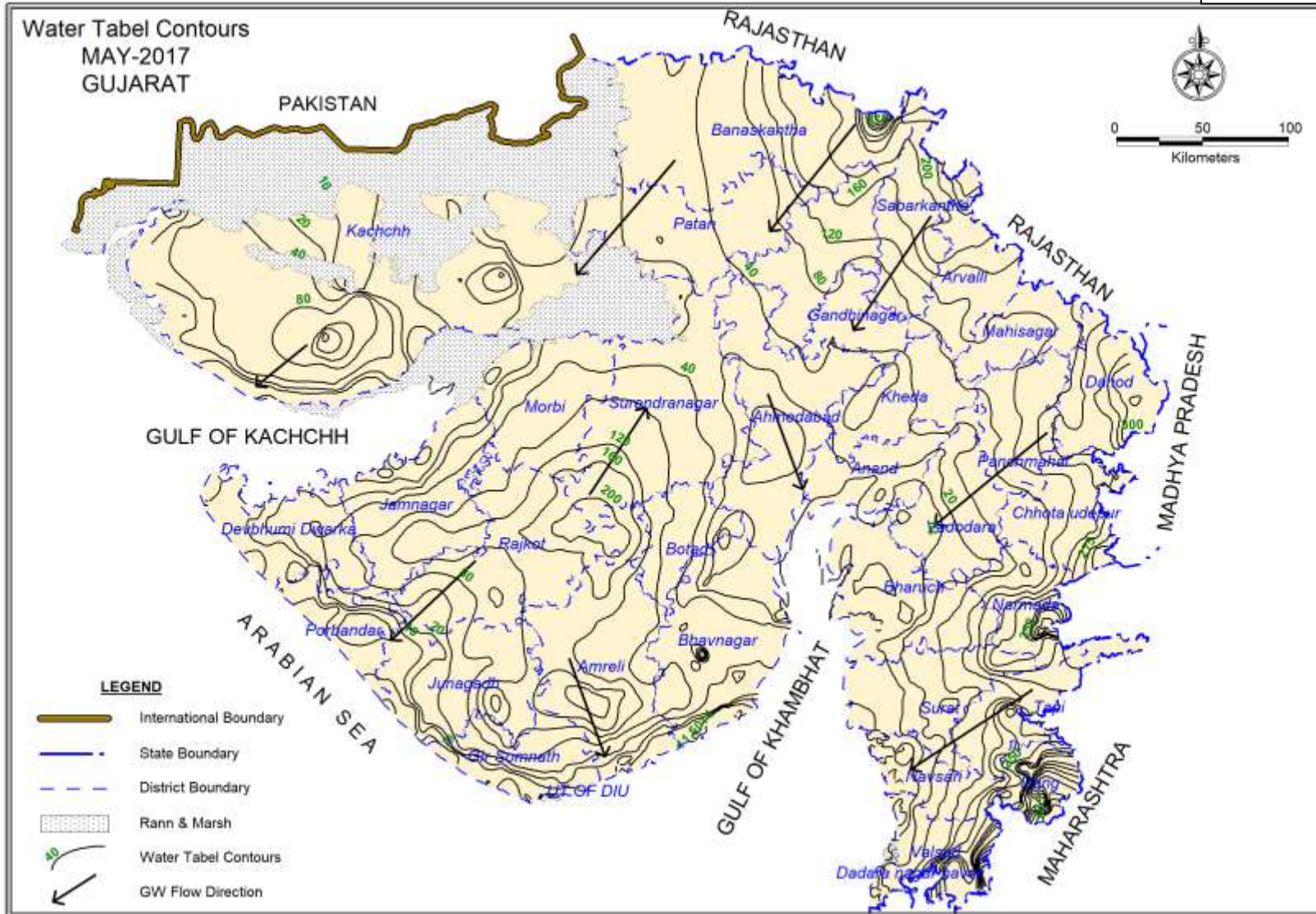


Fig 28

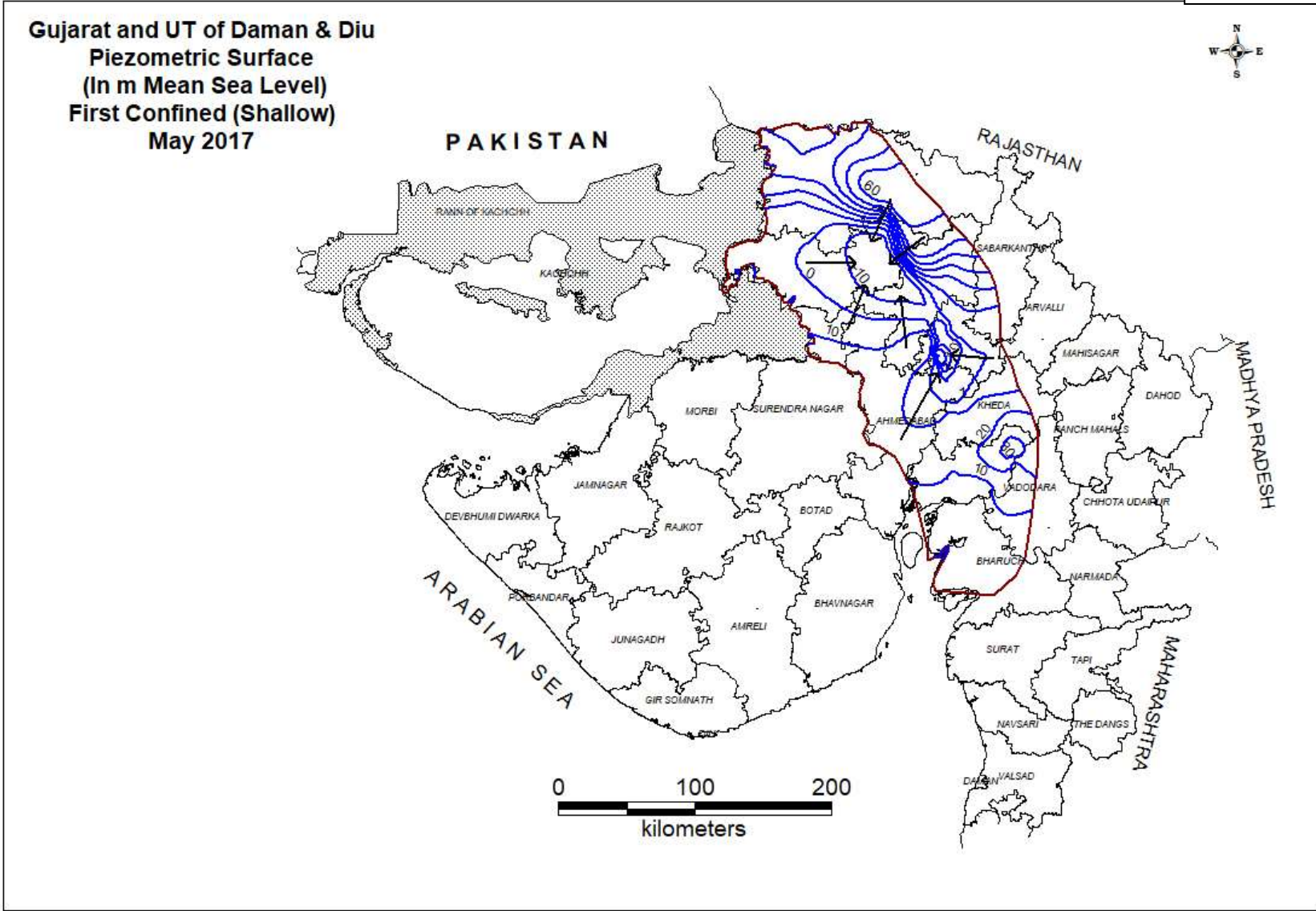


Fig 29

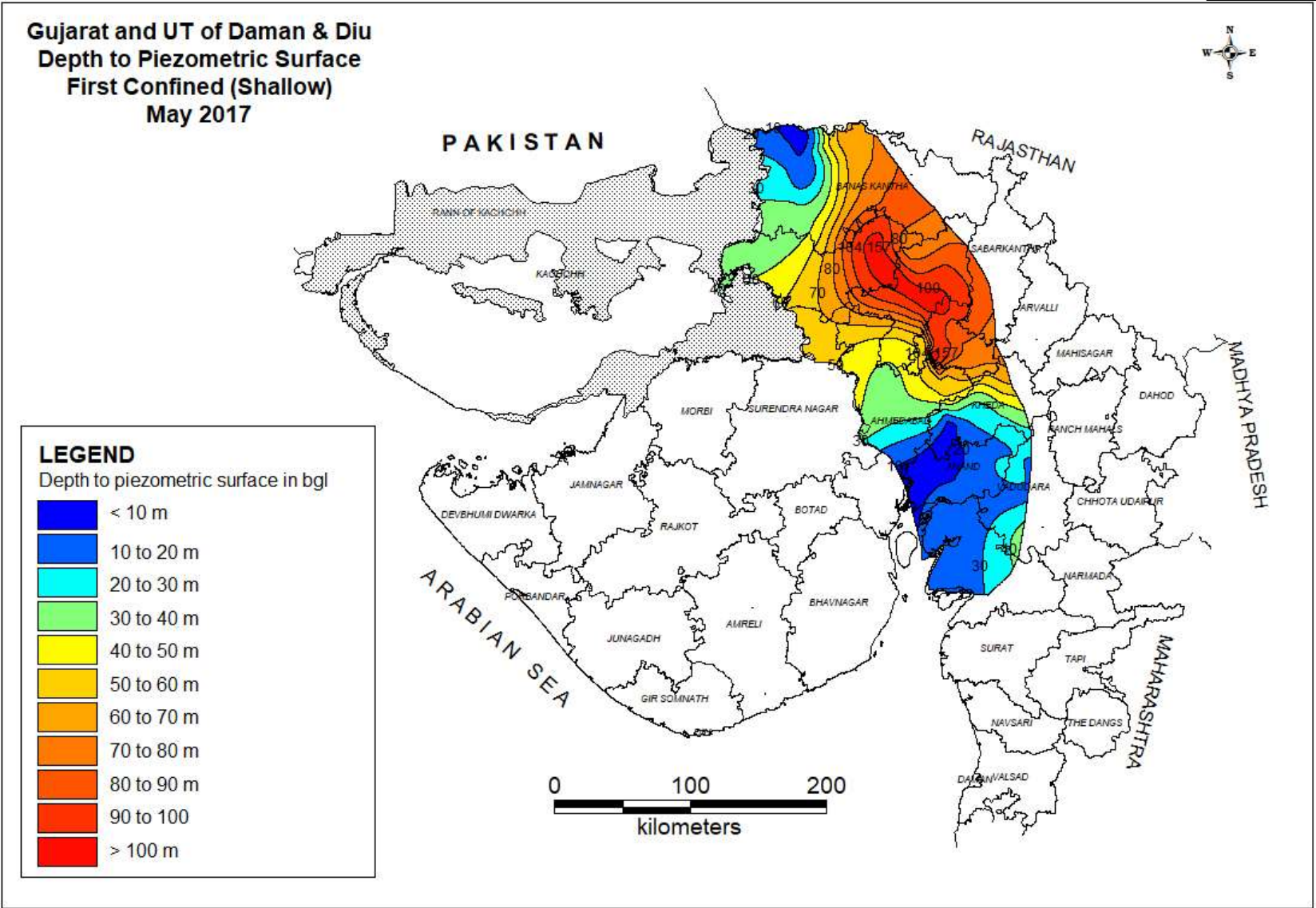


Fig 30

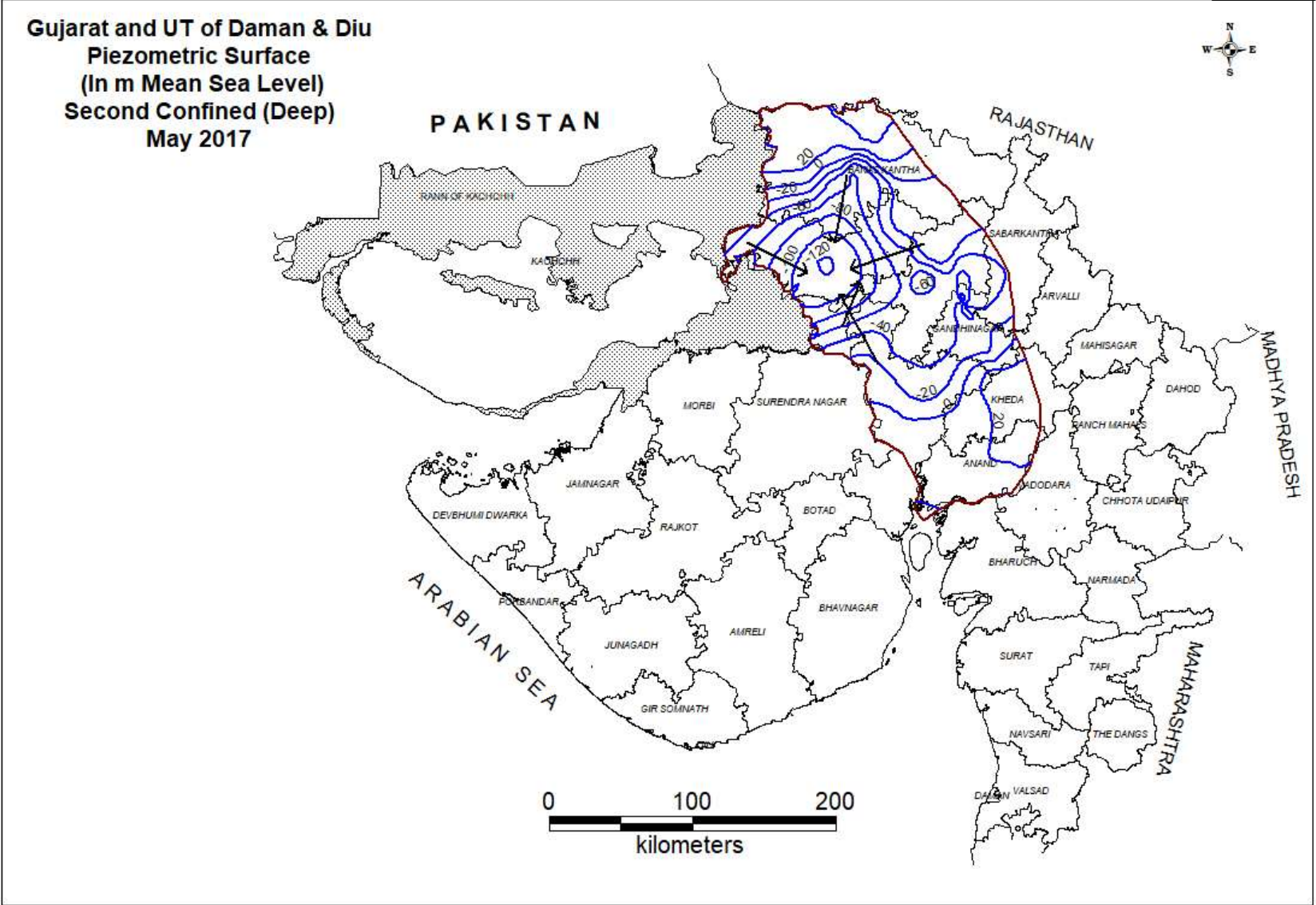
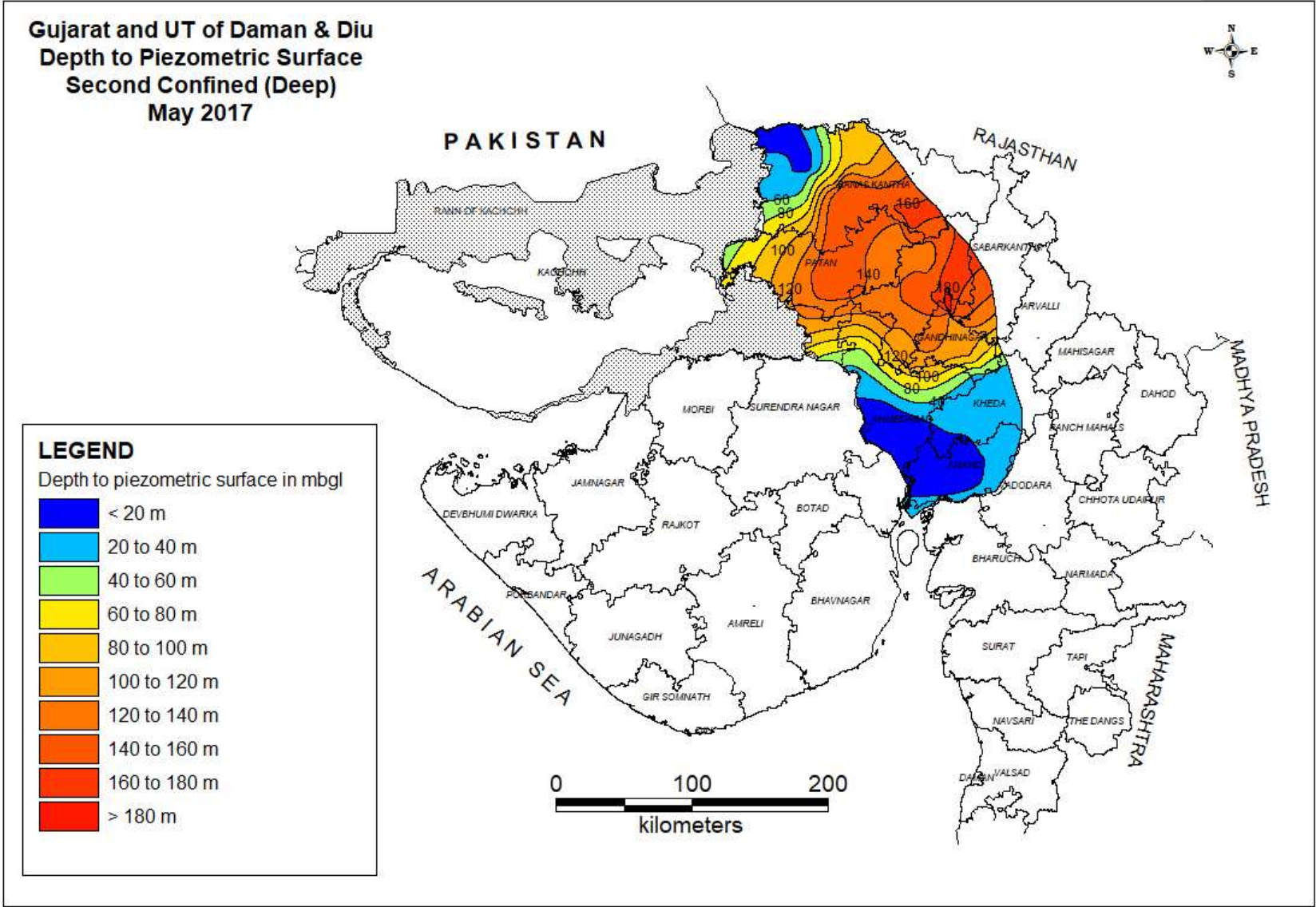


Fig 31



4. HYDROCHEMISTRY

Hydrochemistry is an interdisciplinary science that deals with the chemistry of water in the natural environment. The classical use of chemical characteristics in hydrochemistry is to provide information about the regional distribution of water qualities. At the same time, hydrochemistry has a potential use for tracing the origin and history of water. The hydrochemistry can also be of immense help in yielding information about the environment through which water has circulated. Hydrochemistry can be helpful in knowing about residence time, flow path and aquifer characteristics, as the chemical reactions are time and space dependent.

The diverse physiographic, climatic, topographic and geologic conditions have given rise to diversified groundwater situations in different parts of Gujarat State. Physiographically, Gujarat State is categorized as the Mainland, Saurashtra and Kacchh. The groundwater quality of Gujarat is variable and complex as its quality is influenced by local geology, coastal salinity, inherent salinity, and contamination and heavy withdrawal of groundwater. Gujarat has the longest coastline in the country with several creeks, as a result, during tides sea water invades inland through these creeks which in turn has impact on groundwater quality along its coasts. High chemical concentrations mostly occur in coastal regions due to seawater intrusion brought by upconing or reversal in hydraulic gradient.

4.1 Groundwater Quality Monitoring

A systematic plan for conducting water quality monitoring is called Monitoring Programme, which includes monitoring network design, preliminary survey, resource estimation, sampling, analysis, data management & reporting. Monitoring of groundwater quality is an effort to obtain information on chemical quality through representative sampling in different hydro geological units. Groundwater is commonly tapped from phreatic aquifers through dug wells in a major part of the state and through springs and hand pumps in hilly areas.

Central Ground Water Board (WCR), Ahmedabad has monitored a total number of 578 water samples collected during May 2017, for basic parameters determining pH, EC, TDS, CO₃, HCO₃, Cl, NO₃, SO₄, F, Ca, Mg, TH, Alkalinity, Na, K and SAR, involving use of instruments such as pH meter, EC meter, flame photometer, UV/ Visible Spectrophotometer and titrimetric methods. Further 578 water samples were collected for Iron analysis from the all locations of NHNS. The samples for Iron analysis was collected in 250ml Polypropylene (Tarson make) sample bottles and treated with hydrochloric acid to make the final concentration of acid 0.01 N. The Iron analysis was conducted us by Atomic Absorption spectrophotometer.

4.2 Ground water quality scenario in the state

From the analytical results it has been observed that majority of water samples collected from observation wells of CGWB in a major part of the state fall under desirable or permissible category and hence are suitable for drinking purposes. However, a small percentage of well waters are found to have concentrations of some

constituents beyond the permissible limits. Such waters are not fit for human consumption and are likely harmful to health on continuous use. Based on the results it is found that groundwater in the state is mostly of calcium bicarbonate type when the Electrical conductivity is below 750uS/cm.

There are mixed cation and mixed anions type groundwater in the state when the electrical conductance is between 750 and 3200 uS/cm and waters with electrical conductance more than 3200 uS/cm are of sodium chloride type.

A total number of 578 water samples collected and analyzed for different chemical parameters from National Hydrograph Network Monitoring Station Samples for basic parameters and for Iron analysis spread over 33 districts of Gujarat and UT of Daman & Diu, The overall results of hydro chemical analysis are attached in **Annexure V**. District wise maximum range distribution of different pollution parameters observed during analysis is summarized in the attached **Table 19**

Major quality findings are described as under: -

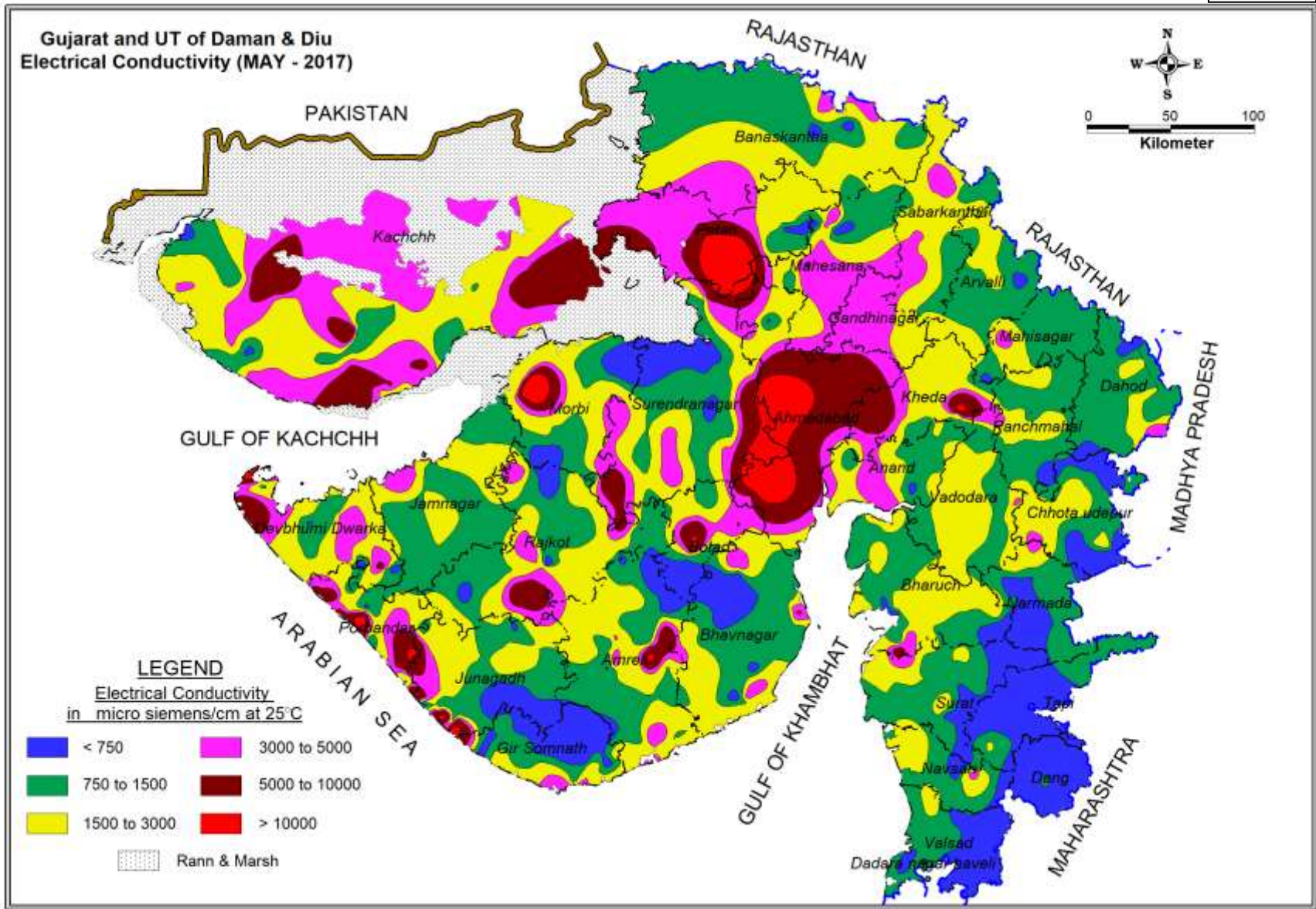
4.2.1 The Electrical conductivity

Electrical conductivity or Total dissolved solids or Salinity is the saltiness or dissolved salt contents of a water body. Different substances dissolve in water giving it taste and odour. In fact, human beings have developed senses, which are able to evaluate the potability of water. Electrical conductivity represents total number of cations and anions present in groundwater, indicating ionic mobility of different ions, total dissolved solids and saline nature of water. In general water having EC < 1500 uS/cm, is considered as fresh water, EC 1500 – 15000uS/cm, is considered as Brackish water and > 15000uS/cm is considered as saline water. In general in most parts of the state the EC value is found to be very high i.e. 3200uS/cm to 15000uS/cm and more. It was observed that out of 578 water samples 98 samples show EC value more than 3200 uS/cm, which indicates the gravity of salinity problem in the area. The map showing of electrical conductivity in state is represented in **Fig 32**.

A close observation of the **Annexure-V** reveals High **EC Values** > 3200 uS/cm have been found in 98 number of samples out of 578 total number of samples analyzed indicating saline nature of water in most part of the state. Salinity problem in Northwestern parts of the state to the extent of EC having > 10000 uS/cm, showing brackish water problem at Dhanduka 14210, Kumarkhan 10660 in **Ahmedabad**, Moti Chander 23380 in **Patan**. In **Saurashtra** area, Bhuva 11440 **Amreli**, Tatam 10930 Bhavnagar, Jalawadi 14330, Butchwada 16770 **Diu**, Aramda 13550 **Jamnagar**, Antroli 11020, Chorwad 11310, Shardagram 12080 **Junagarh**, Ratanpur 14240 **Porbander** Modpar 17600 **Rajkot**. Brackish nature of water is also eminent in Muliya 10980 **Kheda**. Location with more than 3200 uS/cm of EC values are Barwala 5090, Mandal 4222, Tagadi 3934 in **Ahmedabad**, Bherai 3561, Chalala 4292, Fifad 4239, Hinderana (Charnara) 4390, Sanaria 7103 in **Amreli**, Dali 4063, Kansari 3864, Laxmipura 4580 in **Anand**, Amirgadh 3220, Gangodra 3362 in **Banaskantha**, Motwan 3561, Sahol 5512 in **Bharuch**, Ayodhyapuram 4850, Bhumbhali 5461, Datha 4209, Ghogha 4256 in **Bhavnagar**, Diu 3545, Gontimata 4011, Vichwadi 6216 in **Diu**, Garbara 4184 in **Dahod**,

Serthapara 4692 in **Gandhinagar**, Bed 4956, Bhanvad 5893, Dwarka 9035, Khirsara 3685, Kuvadla 4373, Mojar 3514, Varwada 5892 in **Jamnagar**, Bamanwada 5200, Kalej 4499, Khambalia 5026, Kukaswada 7866 in **Junagadh**, Bambhedai 4511, Karagoga 7892, Khavada 4743, Kothara 3410, Lilpur 7350, Lodai 4144, Ratanpur Khadir 4244, Samakhiari 3401, Shinaya 5231, Sukhpur 8365, Tera 4271, Ugardi 8727, Vadala 5041 in **Kachchh**, Bar 3540, Kheda 6328, Shekhupura 3587 in **Kheda**, Dosaj 4739, Maguna 5153, Panchot 4288, Unjha 3309 in **Mahesana**, Navsari 5977 in **Nasari**, Piprala 6328, Radhanpur 4141 in **Patan**, Balej 4862, Bhavpura 7825, Kandorana 3868, Kuchhadi 5430, Miyani 3435, Oddar 7960, Palakhada 8560, Ratadi 3619, Visavada 4946 in **Porbandar**, BHalgam 4029, Jetpur Pithod 7386, Kamlapur 5577, Kolithad 4302, Movaiya 4046, Paddhari 3262 in **Rajkot**, Khedbrahma 3700, Ramgadh 3783, Silwad 4651 in **Sabarkantha**, Adriyana 7582, Moti Moldi 7380, Muli 3275, Sara 3485, Sudamda 3565, Visawadi 3522 in **Surendranagar**, Vejpur 4392 in **Vadodara** districts having EC in the range of 3200 uS/cm- 10000uS/cm. In most other parts of the state water is almost fresh with respect to EC and salinity found with in 3200 uS/cm.

Fig- 32

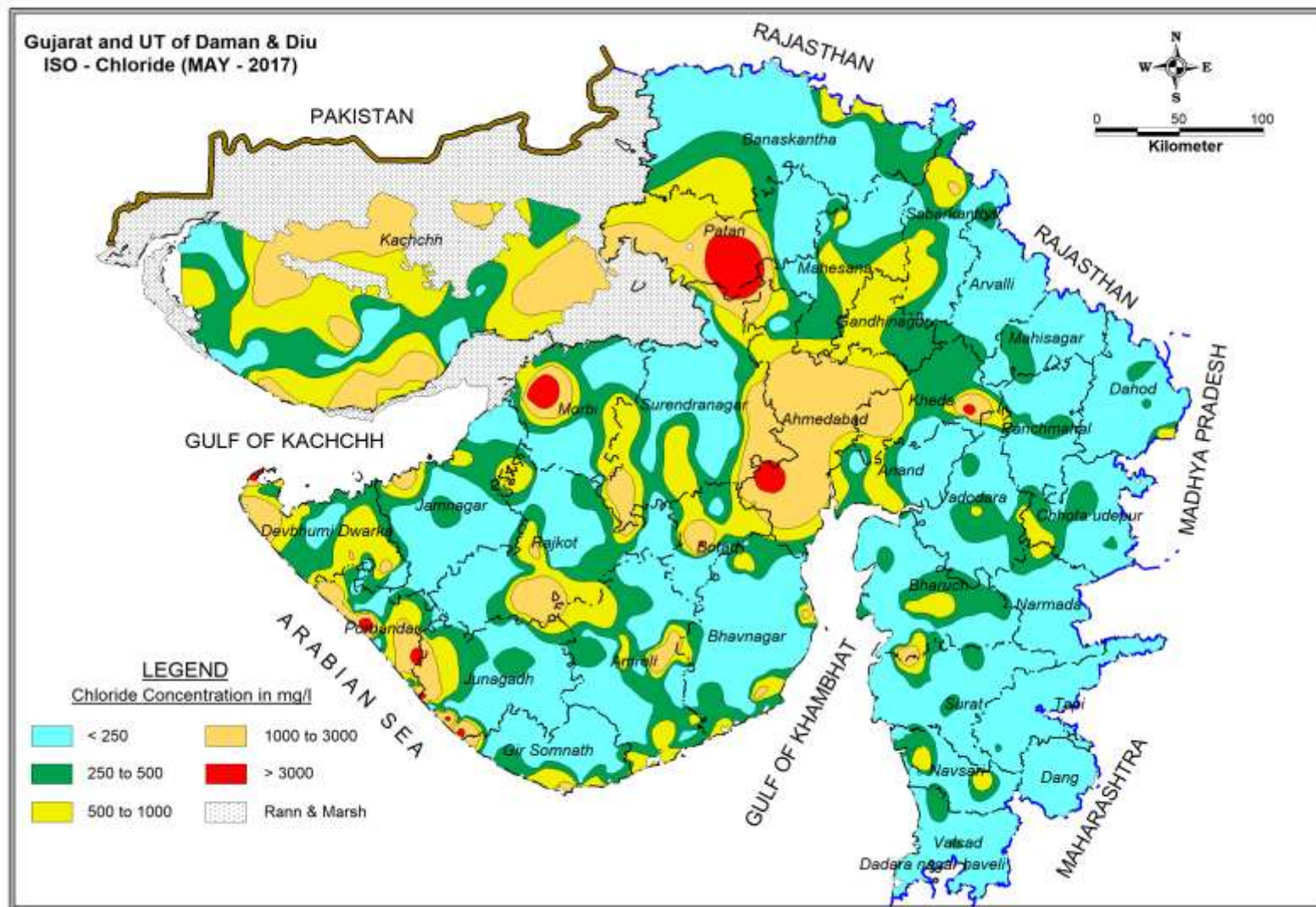


4.2.2 Chloride

Chloride is present in all natural waters being highly soluble and moves freely through soil and rock. In groundwater Chloride content is mostly below 250 mg/l except in cases where inland salinity is prevalent and in coastal areas. BIS have recommended a desirable limit of 250mg/l of chloride in drinking water; this concentration limit can be extended to 1000 mg/l of chloride in cases where no alternative source of water with desired concentration is available. The map showing distribution of Chloride in the state is represented in **Fig 33**.

A close observation of the **Annexure-IV**, High **Chloride** > 1000mg/L have been found in 58 numbers of samples out of 578 total numbers of samples analyzed indicating saline nature of water in most part of the state. The maximum chloride value is observed in scattered way in western parts of the state to the extent of Chloride having >5000 mg/L, showing high salinity problem at Jalawadi 5396 mg/l, Butchwada 5645 mg/l in Diu, Moti Chander 8652 mg/l in Patan, Modpar 6284 mg/l in Rajkot districts. Chloride values ranging between 1000 –5000 mg/L have been found in Dhandhuka 3373, Kumarkhan 2485, Mandal 1008 in Ahmedabad, Bhuva 3089, Chalala 1051, Sanaria 1243 in Amreli, Sahol 1524 in Bharuch, Bhumbhali 1385, Datha 1221, Tatam 3089 in Bhavnagar, Vichwadi 1775 in Diu, Aramda 3900, Bed 1312, Bhanvad 1454, Dwarka 2624, Khirsara 1028, Varvada 1276 in Jamnagar, Antroli 3510, Bamanwara 1666, Chorwada 3297, Kalej 1276, Khambalia 1347, Kukaswada 2481, Shardagam 3510 in Junagadh, Bambhedai 1136, Karagoga 1420, Khavada 1170, Lilpur 1667, Ratnpur Khadir 1028, Shinaya 1420, Sukhpur 2128, Ugardi 2376, Vadala 1104 in Kachchh, Kheda 1418, Muliya 3545 in Kheda, Navsari 1740 in Navsari, Piprala 1525 in Patan, Balej 1283, Bhavpura 2694, Kadegi 3368, Kandorana 1028, Kuchhadi 1773, Oddar 2482, Palkhada 2801, Ratadi 1028, Visavada 1702, Ratanpur 4503 in Porbandar, Jetpur Pithad 2414, Kamlapur 1278, Kolithad 1136, Movaiya 1008 in Rajkot, Silwad 1205 in Sabarkantha, Adriyana 1988, Moti Moldi 1775 in Surendranagar. In most of the other places chloride problem is not eminent.

Fig- 33



4.2.3 Nitrate

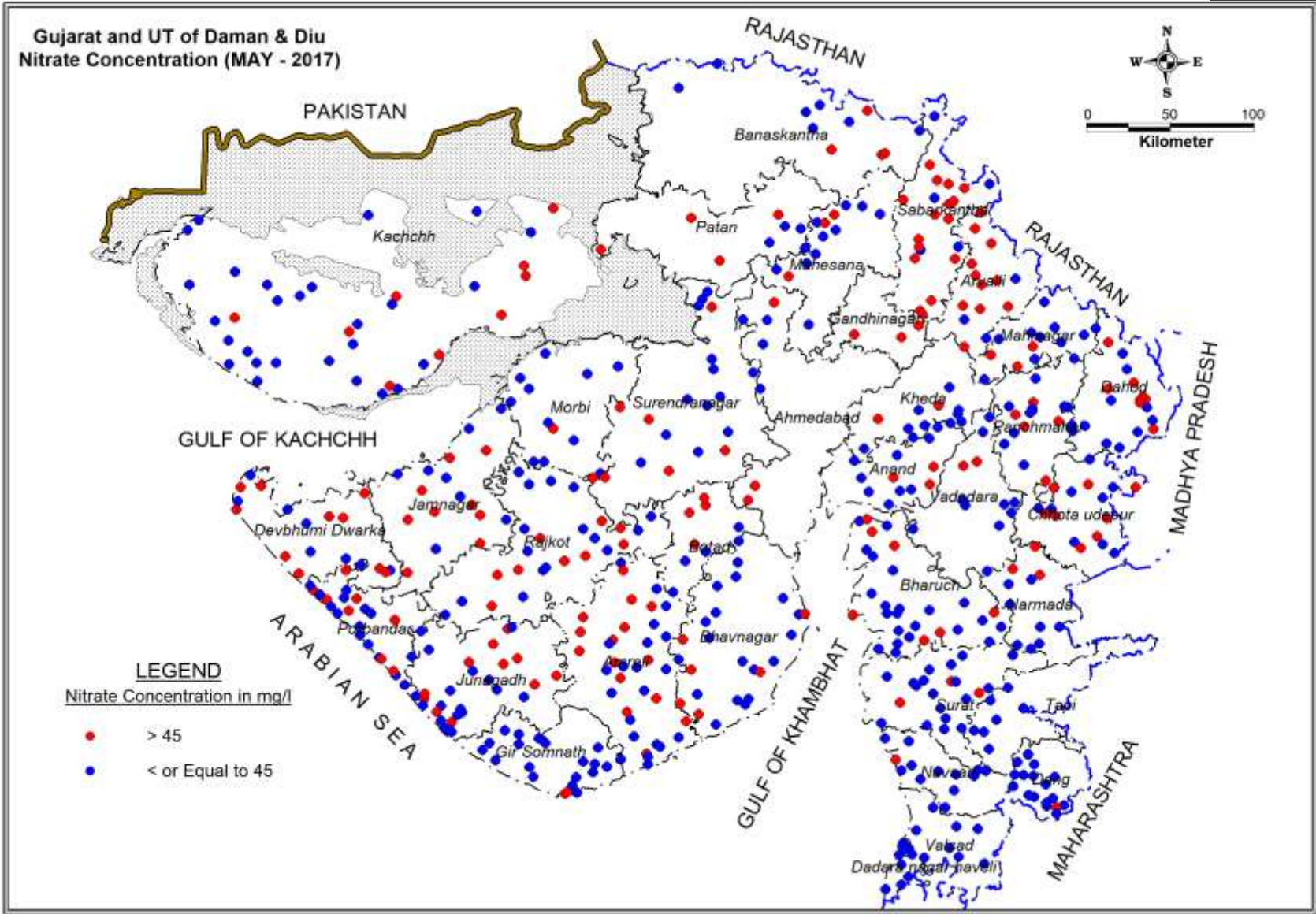
Nitrate is a naturally occurring compound that is formed in the soil when nitrogen and oxygen combine. The primary source of all nitrates is atmospheric nitrogen gas. This is converted into organic nitrogen by some plants by a process called nitrogen fixation. Dissolved nitrogen in the form of nitrate is the most common contaminant of groundwater. Nitrate in groundwater generally originates from non point sources such as leaching of chemical fertilizers and animal manure, groundwater pollution from septic and sewage discharges etc. It is difficult to identify the natural and man-made sources of nitrogen contamination of ground water. Some chemical and microbiological processes such as nitrification and denitrification also influence the nitrate concentration in ground water. The map showing distribution of nitrate in the state is represented in **Fig 34**.

As per the BIS standard for drinking water the maximum desirable limit of nitrate concentration in groundwater is 45 mg/l. Though nitrate is considered relatively non-toxic, a high nitrate concentration in drinking water is an environmental health concern arising from increased risks of methaemoglobinemia particularly to infants. Adults can tolerate little higher concentration.

Nitrate value have been found in the range of 1 to 1600 mg/l where **high Nitrate** > 45mg/L, (**Annexure V**) have been found in 189 number of samples out of 578 total number of samples analyzed indicating high nitrate pollution due to use of nitrogen containing fertilizer, domestic and agriculture waste and man made anthropogenic activities. The maximum nitrate value is observed in scattered way in all parts of the state having >100 mg/l, showing high nitrate problem at Dhandhuka 1600, Kundali 230, Rajpada 100, Tagadi 115 in Ahmedabad, Bagasara 170, Bhuva 245, Chalala 210, Dharngani 130, Goradka 150, Govadka 240, Kunkavav 190, Mandal 165, Nageshri 320, Untvad 225, Vaghania Juna 115, Bhilidi 190 in Amreli, Dharmaj 100, Mohabbatgadh, Ratanpur 126 in Banaskantha, Dudhala 120, Ghogha 300, Tatam 575 in Bhavnagar, Gontimata 175, Vichwadi 105 in Diu, Dahod Urban 150 and 170, Dahod2 215, Garbara 400 in Dahod, Paliya 144, Serthpara 370 in Gandhinagar, Balwa 110, Haripur 150, Toda 125, Vad Panchsara 185 in Jamnagar, Lilpur 130, Sukhpur 100, Vadala 100 in Kachchh, Alina 140 in Kheda, Unjha 144 in Mahesana, Namaria 175, Rasela 124 in Narmada, Piprala 180 Patan, Bakharla 105 in Porbandar, Mota Dadwa 125, Movaiya 105 in Rajkot, Boral 125, Boriya 100, Choriwad 230, Dhansura 150, Gadada 175, Gadha 140, Kesarpura (Mayal) 170, Khedbrahma 160, Malpur 105, Mathasuliya 145, Matoda 100, Modasa 120, Revas 230, Seenawad 155, Shamlaji 130, Silwad 110, Umedpura 105, Vaktapur 105 in Sabarkantha, Sudamda 165 in Surendranagar, Makni 100, Tundav 120 in Vadodara districts.

In addition to above critically nitrate affected locations, 123 water samples at different locations have been found to contain nitrate in the range of 45mg/l- 100mg/l representing of nitrate content. Other places having nitrate < 45mg/l is no problem with respect to nitrate pollution.

Fig- 34



4.2.4 Fluoride

Fluorine is a fairly common element but it does not occur in the elemental state in nature because of its high reactivity. Fluorine is the most electronegative and reactive of all elements that occur naturally within many type of rocks. It exists in the form of fluorides in a number of minerals of which fluorspar, cryolite, fluorite & fluorapatite are the most common.

Most of the fluoride found in groundwater is naturally occurring from the breakdown of rocks and soils or weathering and deposition of atmospheric particles. Most of the fluorides are sparingly soluble and are present in groundwater in small amount. The type of rocks, climatic conditions, nature of hydro geological strata and time of contact between rock and the circulating groundwater affect the occurrence of fluoride in natural water. Presence of other ions particularly bicarbonate and calcium ions also affects the concentration of fluoride in groundwater. The map showing distribution of Fluoride in the state is represented in **Fig 35**.

It is well known that small amount of fluoride (>1.0 mg/l) have proven to be beneficial in reducing tooth decay. Community water supplies commonly are treated with sodium fluoride or fluorosilicates to maintain fluoride level ranging from 0.8 to 1.2 mg/l to reduce the incidences of dental carries. However, high concentrations (>1.5mg/l) have resulted in staining of tooth enamel while higher levels of fluoride (> 5.0 mg/l) further creates the critical problems such as stiffness of bones. BIS has recommended an upper desirable limit of 1.0 mg/l of fluoride concentration in drinking water, which can be extended to 1.5 mg/l in case no alternative source of drinking water is available. Water having fluoride concentration more than 1.5mg/l is not suitable for drinking purposes.

High Fluoride >1.5mg/l, (**Annexure VI**) which is mainly attributed due to geogenic conditions ranged from 1.50 to 11.20 mg/l, have been observed in 52 water samples out of 578 water samples analyzed. Fluoride values to the extent of more than 1.5 mg/l found at Barvala 2.80, Dhandhuka 6.64, Kumarkhan 11.20, Tagadi 2.80 in Ahmedabad, Luvariya 2.0, Hinderana (Charnara) 1.52, Sanaria 1.74 in Amreli, Laxmipura 2.20, Ras 2.74 in Anand, Ganapipli 2.80, Khoda 1.60, Meda 2.40 in Banaskantha, Kondh 1.50, Panoli 1.50, Sajod 2.68 in Bharuch, Ayodhyapuram 4.40, Bora 2.20, Panvil 2.72 in Bhavnagar, Badpa 3.0, Dahod 1.66 and 2.32, Garbara 1.96, Khandania 2.0 in Dahod, Lambha 2.26, Varwala 1.50 in Jamnagar, Karagoga 3.50, Kotadi 4.25, Kotaya 4.25, Samkhiari 3.50, Tera 7.25 in Kachchh, Kheralu 2.50, Unad 4.0 in Mahesana, Dhanol 2.56, Khadeki 1.50, Natapur 1.66, Ranipura 2.04 in Panchmahal, Patan 1.50, Piprala 1.70, Shankhari 1.50 in Patan, Kolikhada 2.0 in Porbandar, Ganod 3.80 in Rajkot, Idar 2.40, Kesharpura 3.0 in Sabarkantha, Anindra 1.66, Dhama 1.68, Dhandhalpur 1.50, Muli 3.28 in Surendranagar, Chhota Udeipur 3.0, Masor 2.88, Moti Chikhli 2.20, Saidal 1.80 in Vadodara districts have been observed high prominence of fluoride problem in these areas.

4.2.5 Iron

Iron is a common constituent in soil and groundwater. It is present in water either as soluble ferrous iron or the insoluble ferric iron. Water containing ferrous iron is clear and colorless because the iron is completely dissolved. When exposed to air the water turns cloudy due to oxidation of ferrous iron into reddish brown ferric oxide.

The concentration of iron in natural water is controlled by both physico-chemical and microbiological factors. It is contributed in ground water mainly from weathering of ferruginous minerals of igneous rocks such as hematite, magnetite and sulphide ores of sedimentary and metamorphic rocks. The permissible iron concentration in groundwater is less than 1.0mg/l as per the BIS Standard for drinking water. The map showing distribution of Iron in the state is represented in **Fig 36**.

A total number of 577 water samples from selected Groundwater monitoring wells were collected separately for iron analysis after filtration and hydrochloric acid treatment. Iron values ranges from 0 to as high as 23.70 mg/l. Out of these samples 133 number of samples have been found to contain Fe value > 0.3mg/l (Annexure IV). Of which 37 samples shows more than 1.0 mg/l. Iron value at different places found more than 1.0mg/l are Amreli 1.301 mg/l, Khamba 1.132 mg/l, Kotadapitha 3.03 mg/l, Tajpur 1.618 mg/l of Amreli district, Dhasa 1.395 mg/l, Dudhala 2.07 mg/l of Bhavnagar district, Dabhel 3.169 mg/l in Khariwad Daman 1.930 mg/l of Daman, Panchwada 2.887 mg/l, Sarsava 1.347 mg/l of Dahod district, Kuda 2.241 mg/l, Lilpur 1.861 mg/l, Ratanpur Khadir 1.032 mg/l, Sedat 17.760 mg/l, Sukhpur 2.412 mg/l, Tera 2.157 mg/l, Vadala 1.476 mg/l in Kachchh district, Ubhrat in Navsari district, Javan in Panchmahal district, Dhinoj 1.047 mg/l, Moti Chander 4.736 mg/l, Patan 1.673 mg/l, Radhanpur 2.570 mg/l, Shankhari 1.539 mg/l in Patan districts, Bakharla 1.376 mg/l, Kolikheda 1.328 mg/l in Porbandar district, Hadmatia 1.834 mg/l, Lajai 1.326 mg/l, Lalavadar 1.110 mg/l, Lodhika 6.285 mg/l in Rajkot district, Boriya 3.145 mg/l, Shamlaji 2.056 mg/l in Sabarkantha district, Chavada 1.330 mg/l in Surat district, WArud 2.104 mg/l, Chikhli 1.577 mg/l, Kalibel 1.544 mg/l, Umberpada 23.710 mg/l in The Dangs district are observed locations with high magnitude of iron problem. Further 96 water samples having iron between 0.3-1.0mg/l may be considered permissible for drinking purpose in absence of alternative source. Rest of the samples may be treated as totally safe with regard to iron pollution.

Fig- 35

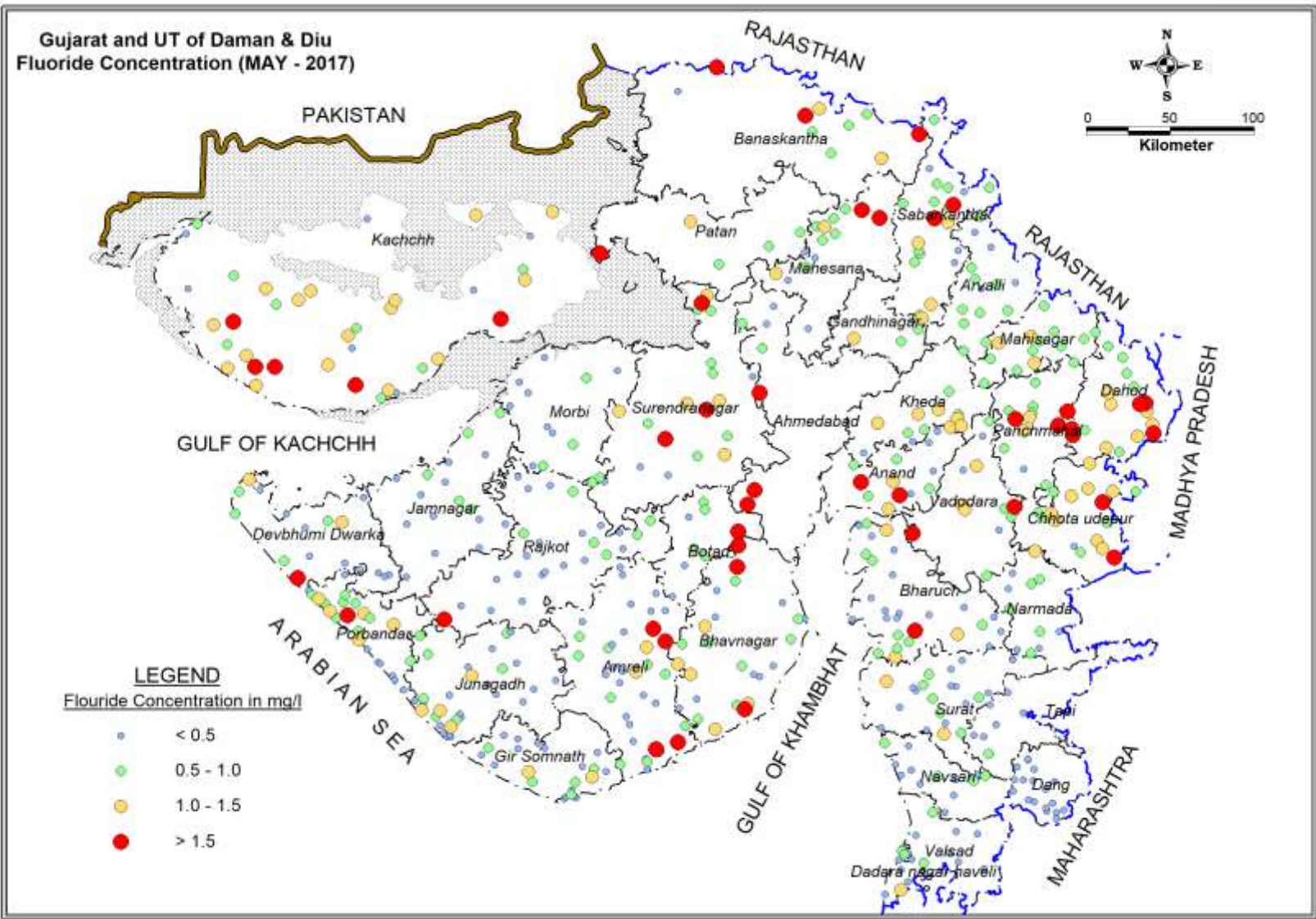
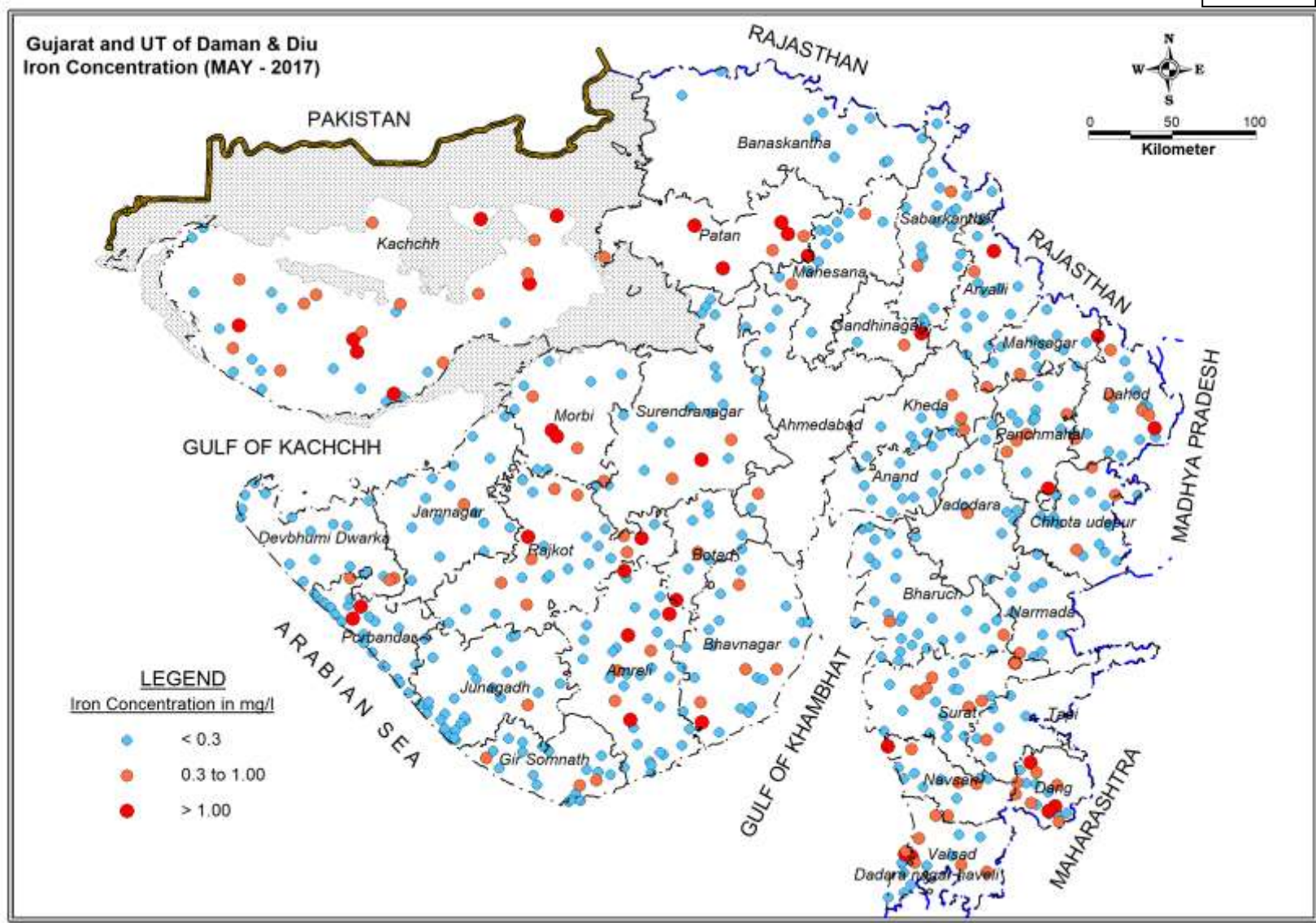


Fig- 36



QUALITY INDEX OF NATIONAL HYDROGRAPH MONITORING STATIONS OF GUJARAT AND UT OF DAMAN & DIU MAY 2017

District	No of Samples	EC in uS/cm			Cl in mg/l			NO3 in mg/l			F in mg/l			Fe in mg/l		
		Max	Min	No of samples with EC >3200	Max	Min	No of samples >1000	Max	Min	No of samples >45	Max	Min	No of samples >1.5	Max	Min	No of samples >0.3
Ahmedabad	11	14210	685	5	3373	50	3	1600	2	5	11.2	0.44	4	0.641	0	1
Amreli	39	11440	332	6	3089	14	3	320	4	16	2	0.12	4	3.03	0	7
Anand	13	4580	598	3	815	42	0	100	5	3	2.74	0.1	2	0.208	0	-
Banaskantha	11	3362	527	2	923	43	0	129	4	4	2.8	0.3	3	0.268	0	-
Bharuch	29	5512	506	2	1524	21	1	96	2	7	2.68	0.07	3	0.612	0	2
Bhavnagar	28	10930	293	5	3089	21	3	575	3	7	4.4	0	3	2.07	0	7
Daman	5	1669	752	0	263	43	0	40	3	0	0.7	0	0	3.169	0.164	4
Diu	5	16770	3545	5	5645	838	3	175	0	3	0.7	0.2	0	0.209	0	-
Dohad	20	4184	562	1	638	35	0	400	2	8	3	0.75	5	2.887	0	8
Gandhinagar	2	4692	2574	1	568	298	0	370	144	2	1.4	0.85	0	0.363	0.039	1
Jamnagar	36	13550	495	8	3900	71	6	185	2	21	2.26	0.13	2	0.496	0	3
Junagadh	47	12080	386	7	3510	43	7	96	0	11	1.25	0	0	0.396	0	4
Kachchh	36	8727	598	13	2376	57	9	130	1	9	7.25	0.2	5	17.76	0.089	19
Kheda	14	10980	678	4	3545	35	2	140	2	3	1.32	0.06	0	0.564	0.011	4
Mahesana	13	5153	582	4	884	50	0	144	0	3	4	0.3	2	0.873	0	2
Narmada	11	3188	440	0	603	21	0	175	2	3	1.15	0.34	0	0.724	0	1
Navsari	13	5977	425	1	1740	21	1	80	6	1	0.9	0.15	0	1.491	0.054	5
Panchmahals	26	2580	279	0	347	21	0	88	2	10	2.56	0.37	4	1.032	0	6
Patan	8	23380	543	3	8652	21	2	180	7	4	1.7	0.45	3	4.736	0.303	8
Porbandar	25	14240	410	11	4503	50	10	105	1	8	2	0.3	1	1.376	0	3
Rajkot	35	17600	269	7	6284	14	5	125	1	11	3.8	0	1	6.285	0	13
Sabarkantha	37	4651	700	3	1205	28	1	230	5	29	3	0.2	2	3.145	0	6
Surat	31	2748	301	0	625	14	0	65	0	3	1.37	0.24	0	1.33	0	9
Surat	1	1351	1351	0	107	107	0	17	17	0	0.29	0.29	0	0.418	0.418	1
Surendranagar	22	7582	302	6	1988	14	2	165	2	8	3.28	0.25	4	0.721	0	2
The dangs	19	1114	337	0	178	14	0	47	0	1	0.95	0.04	0	23.71	0	10
Vadodara	27	4392	360	1	815	21	0	120	4	9	3	0.37	4	0.523	0	3
Valsad	14	1900	434	0	419	14	0	36	2	0	1	0.03	0	0.712	0.06	6
Grand Total	578	23380	269	98	8652	14	58	1600	0	189	11.2	0	52	23.71	0	135

DISTRIBUTION OF GROUND WATER MONITORING WELLS IN THE MAJOR RIVER BASIN

DISTRICT_NAME	BASIN_NAME	SUB_BASIN_NAME	Total
Ahmedabad	Draining into Gulf of Kutch	Rupen	17
	Draining into Gulf of Kutch Total		17
	Luni and other drainage into Great Rann of Kutch	Mostly Great Rann Of Kutch	1
	Luni and other drainage into Great Rann of Kutch Total		1
	Sabarmati	Lb Of Sabarmati Upto Hathmati Rb Of Sabarmati And Upper Part Beyond Hathmati	22
	Sabarmati Total		43
	Southern Kathiawar	Draining Into Gulf Of Khambat	10
Southern Kathiawar Total		10	
Ahmedabad Total			71
Amreli	Southern Kathiawar	Draining Into Gulf Of Khambat Rivers draining into Arabian Sea (Western part)	58
	Southern Kathiawar Total		5
Amreli Total			63
Anand	Mahi	Upto Kadana Dam	21
	Mahi Total		21
	Sabarmati	Lb Of Sabarmati Upto Hathmati	18
	Sabarmati Total		15
Anand Total			15
Banaskantha	Draining into Gulf of Kutch	Rupen	36
	Draining into Gulf of Kutch Total		32
	Luni and other drainage into Great Rann of Kutch	Mainly Luni Mostly Great Rann Of Kutch	8
	Luni and other drainage into Great Rann of Kutch Total		32
	Sabarmati	Lb Of Sabarmati Upto Hathmati Rb Of Sabarmati And Upper Part Beyond Hathmati	40
	Sabarmati Total		1
			1
Banaskantha Total			2
Bharuch	Mahi	Upto Kadana Dam	74
	Mahi Total		13
	Narmada	Confluence With Sea To Navgam Dam	13
	Narmada Total		20
	Tapti	Sea Confluence To Ukai	20
	Tapti Total		11
Bharuch Total			11
Bhavnagar	Mahi	Upto Kadana Dam	44
	Mahi Total		1
	Southern Kathiawar	Draining Into Gulf Of Khambat Rivers draining into Arabian Sea (Western part)	54
	Southern Kathiawar Total		1
Bhavnagar Total			54
DAMAN	Sharavati to Tapti	Savitri To Tapti Sharavati To Savitri	55
	Sharavati to Tapti Total		8
DAMAN Total			1
DIU	Sharavati to Tapti	Savitri To Tapti	9
	Sharavati to Tapti Total		9
	Southern Kathiawar	Draining Into Gulf Of Khambat	7
	Southern Kathiawar Total		7
DIU Total			7
Dohad	Mahi	Kadana Dam To Jakham Confluence Upto Kadana Dam	7
	Mahi Total		16
Dohad Total			16
Gandhinagar	Draining into Gulf of Kutch	Rupen	32
	Draining into Gulf of Kutch Total		10
	Sabarmati	Lb Of Sabarmati Upto Hathmati Rb Of Sabarmati And Upper Part Beyond Hathmati	10
	Sabarmati Total		9
Gandhinagar Total			14
Jamnagar	Draining into Gulf of Kutch	North Flowing Drainage Of Jamnagar	23
	Draining into Gulf of Kutch Total		10
	Southern Kathiawar	Rivers draining into Arabian Sea (Western part)	42
	Southern Kathiawar Total		17
Jamnagar Total			17
Junagadh	Southern Kathiawar	Draining Into Gulf Of Khambat Rivers draining into Arabian Sea (Western part)	59
	Southern Kathiawar Total		9
Junagadh Total			67
Kachchh	Draining into Gulf of Kutch	South Flowing Drainage Mostly Bhuj Area	76
	Draining into Gulf of Kutch Total		41
	Luni and other drainage into Great Rann of Kutch	Mostly Great Rann Of Kutch	41
	Luni and other drainage into Great Rann of Kutch Total		29
Kachchh Total			29
Kheda	Mahi	Kadana Dam To Jakham Confluence Upto Kadana Dam	70
			1
			5

DISTRICT_NAME	BASIN_NAME	SUB_BASIN_NAME	Total
	Mahi Total		6
	Sabarmati	Lb Of Sabarmati Upto Hathmati	22
	Sabarmati Total		22
Kheda Total			28
Mahesana	Draining into Gulf of Kutch	Ruper	53
	Draining into Gulf of Kutch Total		53
	Sabarmati	Lb Of Sabarmati Upto Hathmati	2
	Sabarmati Total	Rb Of Sabarmati And Upper Part Beyond Hathmati	6
Mahesana Total			8
Mahesana Total			61
Narmada	Narmada	Confluence With Sea To Navgam Dam	22
	Narmada Total		22
	Tapti	Rb Ukai Dam To Purna Confluence	5
	Tapti Total		5
Narmada Total			27
Navsari	Sharavati to Tapti	Savitri To Tapti	25
	Sharavati to Tapti Total		25
Navsari Total			25
Panchmahals	Mahi	Kadana Dam To Jakham Confluence	3
	Mahi Total	Upto Kadana Dam	35
	Narmada	Confluence With Sea To Navgam Dam	3
	Narmada Total		3
	Sabarmati	Lb Of Sabarmati Upto Hathmati	5
	Sabarmati Total		5
	Sharavati to Tapti	Savitri To Tapti	3
	Sharavati to Tapti Total		3
Panchmahals Total			50
Patan	Draining into Gulf of Kutch	Rupen	26
	Draining into Gulf of Kutch Total	South Flowing Drainage Mostly Bhuj Area	4
	Luni and other drainage into Great Rann of Kutch	Mainly Luni	2
	Luni and other drainage into Great Rann of Kutch Total	Mostly Great Rann Of Kutch	3
	Sabarmati	Lb Of Sabarmati Upto Hathmati	3
	Sabarmati Total		3
Patan Total			38
Porbandar	Southern Kathiawar	Rivers draining into Arabian Sea (Western part)	32
	Southern Kathiawar Total		32
Porbandar Total			32
Rajkot	Draining into Gulf of Kutch	North Flowing Drainage Of Jamnagar	30
	Draining into Gulf of Kutch Total		31
	Southern Kathiawar	Draining Into Gulf Of Khambat	4
	Southern Kathiawar Total	Rivers draining into Arabian Sea (Western part)	26
Rajkot Total			30
Sabarkantha	Sabarmati	Lb Of Sabarmati Upto Hathmati	47
	Sabarmati Total	Rb Of Sabarmati And Upper Part Beyond Hathmati	13
	Sabarkantha Total		60
Sabarkantha Total			60
Surat	Narmada	Confluence With Sea To Navgam Dam	5
	Narmada Total		5
	Sharavati to Tapti	Savitri To Tapti	30
	Sharavati to Tapti Total		30
	Tapti	Lb Ukai Dam To Purna Confluence	4
Tapti Total	Sea Confluence To Ukai	36	
Surat Total			40
Surat Total			75
Surendranagar	Draining into Gulf of Kutch	North Flowing Drainage Of Jamnagar	24
	Draining into Gulf of Kutch Total	Ruper	14
	Sabarmati	Rb Of Sabarmati And Upper Part Beyond Hathmati	38
	Sabarmati Total		17
Surendranagar Total			17
Surendranagar Total			55
The dangs	Sharavati to Tapti	Savitri To Tapti	33
	Sharavati to Tapti Total		33
The dangs Total			33
Vadodara	Mahi	Upto Kadana Dam	30
	Mahi Total		30
	Narmada	Confluence With Sea To Navgam Dam	36
	Narmada Total		36
Vadodara Total			66
Valsad	Sharavati to Tapti	Savitri To Tapti	30
	Sharavati to Tapti Total		30
Valsad Total			30
Grand Total			1267

**WATER LEVELS OF THE NATIONAL HYDROGRAPH STATIONS IN GUJARAT AND UT OF DAMAN & DIU 2017-18
(PHREATIC)**

Sl.No	District	Well Name	Latt_Y	Long_X	Well_Type	May_2017	Aug_2017	Nov_2017	Jan_2018
1	Ahmedabad	Bagodara_Pz_I	22.642	72.214	Pz	7.6			8.3
2	Ahmedabad	Bagodara_Pz_II	22.642	72.214	Pz	7.45			6.75
3	Ahmedabad	Barvala	22.15	71.892	DW	14.21	11.4	10.48	11.14
4	Ahmedabad	Bopal_Pz_I	23.367	71.967	Pz				27.55
5	Ahmedabad	Bopal_Pz_II	22.378	71.986	Pz				29.75
6	Ahmedabad	Bopal_Pz_III	22.375	71.986	Pz				3.2
7	Ahmedabad	Dalod	23.272	72.058	DW	5.47	6.62	6.58	4.5
8	Ahmedabad	Devalia	22.462	72.158	DW	20.4			
9	Ahmedabad	Dhandhuka1	22.358	72.167	DW	4.3	3.05	2.71	4.2
10	Ahmedabad	Endla	23.033	72.446	DW	1.75	3.26	1.81	1.67
11	Ahmedabad	Fedra	23.034	72.45	DW	2.89	0.39	1.06	1.24
12	Ahmedabad	Gamph	23.034	72.45	DW	3.25	0.8	1.43	1.72
13	Ahmedabad	Ghuma	23.089	72.017	DW	3.25			2.5
14	Ahmedabad	Ghuma_Pz_II	23.089	72.017	Pz	3.37			
15	Ahmedabad	Hansalpur_Pz-I	23.089	72.017	Pz	40.16	23.34	26.37	29.65
16	Ahmedabad	Hansalpur_Pz-II	22.599	72.488	Pz	38.86	25.39	26.55	28.6
17	Ahmedabad	Hansalpur_Pz-III	22.631	72.297	Pz	3.59	3.25	3.06	3.48
18	Ahmedabad	Jhanjharwa_Pz_II	22.464	72.297	Pz			16.45	
19	Ahmedabad	Jholapur_Pz_I	22.9	72.017	Pz	100.85			111.5
20	Ahmedabad	Jholapur_Pz_III	22.901	72.224	Pz		6.9		
21	Ahmedabad	Kumarkhan	22.269	71.7	DW	4.9		3.15	2.61
22	Ahmedabad	Kundal	23.275	71.917	DW		2.76	6.6	
23	Ahmedabad	Kundali	22.232	72.179	DW	15.42	4.65	4.82	11.7
24	Ahmedabad	Mandal2	22.308	71.692	DW	4.17	1.57	3.52	4.27
25	Ahmedabad	Pachcham_Pz	22.158	71.771	Pz		2.25	1.39	1.36
26	Ahmedabad	Rajpada	23.003	72.374	DW	17.18	12.65	15.29	15.9
27	Ahmedabad	Salangpor	23.003	72.374	DW				13.8
28	Ahmedabad	Sanand I	23.081	72.519	Pz	70.3	15.58		119.58
29	Ahmedabad	Sanand II	23.081	72.514	Pz	23.66			17.78
30	Ahmedabad	Sola(HC)_Pz_I	23.081	72.519	Pz	68.93			69.7
31	Ahmedabad	Sola_Pz_III	23.081	72.519	Pz	12.48			
32	Ahmedabad	Tagadi1	22.296	71.947	DW	5.87	1.61	3.13	3.41
33	Ahmedabad	Ughraj1	23.367	72.1	DW	6.76			7.2
34	Ahmedabad	Upardhal1	22.85	72.146	DW	8.95			
35	Ahmedabad	Vagad(Repl)_Pz	22.36	71.868	Pz	6.9	5.1	5.22	4.7
36	Ahmedabad	Vastrapur(lake)_Pz_I	23.038	72.53	Pz				92.82
37	Ahmedabad	Vatwa Pz-II	22.953	72.616	Pz	52.62			45.61
38	Ahmedabad	Vatwa Pz-III	22.954	72.616	Pz	36.05			28.21
39	Ahmedabad	Viramgam2	23.142	72.033	DW	3.89	0.83	1.73	1.48
40	Amreli	Amreli	21.608	71.225	DW	12.04	3.2	4.87	7.42
41	Amreli	Amreli_Pz	21.613	71.225	Pz	15.23	6.02		9.27
42	Amreli	Amritvel_Pz	21.397	71.358	Pz				3.35
43	Amreli	Ankadia mota	21.646	71.108	DW	12.35	4.26	11.22	7.95
44	Amreli	Babra_Pz	21.847	71.296	Pz	13.3	4.18		9.28
45	Amreli	Badhda	21.266	71.339	DW	9.28	6.65	6.78	7.2
46	Amreli	Bagasara	21.479	70.963	DW	20.95	13.47	15.38	15.55
47	Amreli	Bhavardi1	21.108	71.258	DW	4.7	2.78	0.73	0.65
48	Amreli	Bherai	20.868	71.363	DW	2.84	2.35	2.57	3.21
49	Amreli	Bhuva	21.433	71.364	DW	4.43	3.92	4.33	4.36
50	Amreli	Chalala	21.417	71.167	DW	33.07	26.18	29.33	25.63
51	Amreli	Charkhadia_Pz	21.388	71.292	Pz	21.53			24.63
52	Amreli	Charkhadia1	21.392	71.296	DW	17.73	17	18.57	20
53	Amreli	Chavand	21.817	71.413	DW	11.33	4.62	7.67	6.35
54	Amreli	Devaliya	21.821	71.108	DW	13.75			
55	Amreli	Dharangani	21.333	71.2	DW	30.08	30	29.55	36.65
56	Amreli	Dhari	21.338	71.042	DW	14.53			13.53
57	Amreli	Dhari_Pz	21.326	71.018	Pz	12.62	9.1		10.05
58	Amreli	Dhrai Balmukand	21.834	71.217	DW	22.3	7.18	14.72	20.6
59	Amreli	Fifad	21.436	71.54	DW	5.32	4.62	5.33	5.84

Sl.No	District	Well Name	Latt_Y	Long_X	Well_Type	May_2017	Aug_2017	Nov_2017	Jan_2018
60	Amreli	Gopalpura Vanda Pz	21.375	71.492	Pz	31.33			28.49
61	Amreli	Goradka	21.225	71.411	DW	8	1.75	3.91	4.75
62	Amreli	Govadka	21.542	71.158	DW	5.84			5.86
63	Amreli	Haripur_Pz_I	21.61	71.443	Pz	9.82			6.35
64	Amreli	Hinderana	20.975	71.413	DW	5.7	4.87		4.66
65	Amreli	Hipavadli	21.379	71.615	DW	8.83	8.3	8.16	7.98
66	Amreli	Ingorala	21.233	71.2	DW	19.95			8.5
67	Amreli	Jafrabad	20.867	71.363	DW	1.77	1.29	1.94	1.65
68	Amreli	Jesar_Pz	21.371	71.67	Pz	6.55	4.55		8.12
69	Amreli	Kadiyali	21.238	71.092	DW	6.1	2.13		4.8
70	Amreli	Kerala	20.908	71.36	DW	42.58	34.45	29.15	40.35
71	Amreli	Khamba	21.397	71.217	DW	8.91	6.79	6.39	8.86
72	Amreli	Khamba_Pz	21.15	71.239	Pz	11	12.51		10.5
73	Amreli	Kotadapitha	21.142	71.254	DW	13.14			
74	Amreli	Kunkavav	21.958	71.204	DW	15.13	8.95	26.78	29.35
75	Amreli	Lathi	21.663	70.983	DW	9.47	1.85	2.93	3.7
76	Amreli	Liliya_Pz_I	21.721	71.383	Pz	6.4	3.1		5.46
77	Amreli	Lotpur	21.535	71.379	DW	-1.15			5.75
78	Amreli	Luvariya	20.963	71.433	DW	7.33			6.7
79	Amreli	Mandal	21.625	71.396	DW	27.42	23.81	28.38	31.55
80	Amreli	Morjhar	21.1	71.583	DW	48.57	45.15	45.55	47.48
81	Amreli	Nageshri	21.433	71.167	DW	4.27	2.15	3.68	4.05
82	Amreli	Piyava	21.376	71.119	DW	30.8	28.73	29.8	27.6
83	Amreli	Punjapadar	20.925	71.354	DW	8.21	4.77	6.91	5.68
84	Amreli	Salena	21.383	71.467	DW	16.77	15.38		12.02
85	Amreli	Sanaria	21.525	71.358	DW	5.3	0.5	2.87	2.86
86	Amreli	Savarkundla	21.386	71.533	Pz				49.15
87	Amreli	Tajpur	21.558	71.468	DW	23.83	2.6	9.58	16.65
88	Amreli	Timbi2	21.336	71.318	DW	12.32	3.35	9.75	4.47
89	Amreli	Trakuda	21.725	71.467	DW	11.23	8.37	7.54	8.1
90	Amreli	Untvad	20.896	71.204	DW	16.03	2.22	14.17	16.5
91	Amreli	Vaghania juna	21.017	71.281	DW	11	2.35	4.46	6.9
92	Amreli	Vanda	21.917	71.217	DW				7.19
93	Amreli	Vankiya	21.583	70.967	DW	11.07	4.7	10.64	5.94
94	Amreli	Vankiya1	21.39	71.508	DW	26.4	8.11		10.75
95	Amreli	Victor	21.521	71.136	DW	1.25			
96	Amreli	Virpur	21.233	71.25	DW	16.37			
97	Anand	Adas_DW	21.013	71.542	DW		22.05	22.65	19.7
98	Anand	Anand	21.254	71.15	DW	15.79	9.63		8.44
99	Anand	Anklav_Pz_I	22.479	73.03	Pz	27.09			26.79
100	Anand	Anklav_Pz_II	22.575	72.972	Pz	27.7			25.75
101	Anand	Anklav2	22.376	72.997	DW	27.88	24.43		22.38
102	Anand	Bandhani	22.376	72.997	DW	6.25	4.15	5.09	3.75
103	Anand	Bhadran	22.383	73.008	DW	18.29	14.2	16.68	15.2
104	Anand	Boriyani	22.542	72.817	DW	8.85	2.5	2.85	6
105	Anand	Borsad I	22.356	72.897	Pz	19.31	16.35	17.4	18.55
106	Anand	Borsad_Pz_II	22.632	73.004	Pz	16.93	14.35	14.52	16
107	Anand	Dali	22.41	72.901	DW	4.28		2.5	
108	Anand	Davalpura_Pz	22.41	72.901	Pz	4.99	0.68	1.87	
109	Anand	Dharmaj	22.275	72.767	DW	14.85		13.97	
110	Anand	Ghora	22.458	72.803	DW	7.11	5.81		2.46
111	Anand	Hariyan_Pz	22.421	72.794	Pz	6.65	3.3	2.26	
112	Anand	Kansari1	22.692	73.054	DW	13.89	12.7	11.07	11.4
113	Anand	Laxmipura	22.404	72.672	DW	3.15		1.38	0.55
114	Anand	Navapura	22.342	72.65	DW	26.56	3.92	4.61	23.71
115	Anand	Parvata	22.294	72.79	DW	7.38	4.8		13.8
116	Anand	Petlad_Pz_I	22.417	72.608	Pz	14.44	10.4	13	13.4
117	Anand	Petlad_Pz_II	22.313	72.963	Pz	15.19	9.41	12.16	22.86
118	Anand	Ras	22.714	73.127	DW	2.37	3.77	1.49	0.77
119	Anand	Tarapur Pz-I	22.475	72.8	Pz	4.03	2.65	3.1	2.35
120	Anand	Tarapur Pz-II	22.475	72.8	Pz	4.14	3	2.57	2.75
121	Anand	Tol	22.346	72.833	DW	4.98	1.9		7.7
122	Anand	Walmi_I	22.544	73.071	Pz	23.13	19.74	22	22.5
123	Anand	Walmi_II	22.486	72.661	Pz	22.52	20.32	22.02	21.72

Sl.No	District	Well Name	Latt_Y	Long_X	Well_Type	May_2017	Aug_2017	Nov_2017	Jan_2018
124	Banaskantha	Ambaji_Pz	22.486	72.661	Pz	13.29	9.29	8.75	
125	Banaskantha	Amirgadh	22.511	72.567	DW	9.5	6.95	6.8	9.56
126	Banaskantha	Balodhar_Pz-I	22.511	72.982	Pz	154.57	146.7	144.5	143.7
127	Banaskantha	Balodhar_Pz-II	22.508	72.982	Pz	137.53			104.4
128	Banaskantha	Balodhar_Pz-III	24.336	72.847	Pz				44.7
129	Banaskantha	Bhabhar iii	24.406	72.642	Pz	33.42	29.35	27.88	33.47
130	Banaskantha	Bharol1	24.231	71.912	DW	2.58		1.25	2.25
131	Banaskantha	Biyok_Pz-I	24.231	71.913	Pz	-	51.07	49.95	48.12
132	Banaskantha	Biyok_Pz-II	24.06	71.596	Pz	35.05	22.26	32.27	33.5
133	Banaskantha	Danta	24.529	71.542	DW	11.16	8.34	8.2	
134	Banaskantha	Dantiwada	24.272	71.655	DW	34.43	29.6	28.68	34.38
135	Banaskantha	Dantiwada	24.189	72.765	DW	27.59			
136	Banaskantha	Deesa Pzi	24.189	72.761	Pz	74.22	71.93	70.6	68.47
137	Banaskantha	Deesa Pzii	24.257	72.188	Pz	60.69	57.55	56.95	47.5
138	Banaskantha	Dhanera Pz- II	24.257	72.188	Pz				72.5
139	Banaskantha	Dhanera Pz-I	24.503	72.186	Pz	91.73	84.42	86.37	84.42
140	Banaskantha	Ganapipli	24.506	72.029	DW	12.45	8.6	8	9.32
141	Banaskantha	Gangodra	24.297	72.947	DW	22.68	18.05	17.67	15.2
142	Banaskantha	Iqbalgarh	24.436	72.365	DW	30.82	18.39	18.35	29.45
143	Banaskantha	Jalotra Pz-I	24.346	72.538	Pz	20.66	17.57	17.42	19.88
144	Banaskantha	Jalotra Pz-II	24.141	72.585	Pz		17.37	16.72	19.65
145	Banaskantha	Jhat	24.377	72.126	DW	16.01			
146	Banaskantha	Khoda	24.377	72.126	DW	22.54	18.83	18.13	21.3
147	Banaskantha	Kidotar	24.488	72.353	DW	17.75	14.83	14.8	18
148	Banaskantha	Lakhani i	24.658	71.767	Pz	82.51	120.64	114.58	78.98
149	Banaskantha	Mahi_Pz	24.394	72.628	Pz	162.62	148.73		
150	Banaskantha	Meda	24.314	71.818	DW	15.5	13.3	12.66	15.8
151	Banaskantha	Mohabbat gadh	24.314	71.818	DW	22	17.8	17.1	17.3
152	Banaskantha	Naroli Pzi	24.029	72.381	Pz	7.99	6.02	5.83	8.25
153	Banaskantha	Naroli Pzii	24.531	71.697	Pz	6.65	4.71	4.68	7.55
154	Banaskantha	Naroli Pziii	24.397	72.285	DW	7.95	5.8	5.78	8.14
155	Banaskantha	Palanpur_Pz	24.636	71.753	Pz	40.37	36.93	36.3	39.73
156	Banaskantha	Palanpur2	24.636	71.753	DW	27.15	19.42	19.1	27.35
157	Banaskantha	Rah Pz-III	24.167	72.728	Pz	42.25	39.93	44.32	42.2
158	Banaskantha	Rah_Pz I	24.616	71.639	Pz	52.44	47.93	46.88	46.34
159	Banaskantha	Rah_Pz II	24.616	71.639	Pz	47.14	43.4	43.28	43.27
160	Banaskantha	Rasna(Repl)_Pz_I	24.616	71.639	Pz	86.91	84.92	82.9	81.95
161	Banaskantha	Ratanpur2	24.172	72.45	DW	20.72	17.23	17.37	13.97
162	Banaskantha	Sodapur	24.194	72.433	DW	12.16	8.01	7.83	12.29
163	Banaskantha	Takarwada Pz-I	24.496	71.836	Pz	162.05	153.42	150.67	155.75
164	Banaskantha	Tharad Pzi	24.496	71.836	Pz	12.66	8.24	8.32	8.48
165	Banaskantha	Tharad Pzii	24.496	71.836	Pz	12.49	8.47	8.25	8.22
166	Banaskantha	Tharad Pziii	24.218	72.248	Pz	12.47	8.55	8.42	8.27
167	Banaskantha	Vav ii	24.175	72.746	Pz	21.49	23.7	21.53	24.15
168	Banaskantha	Vav i	24.025	72.502	Pz	24.79	21.3	19.8	23.9
169	Banaskantha	Vinchivadi PZ-I	24.025	72.502	Pz	63.17	59.29	56.32	63.8
170	Banaskantha	Vinchivadi Pz-II	24.401	72.296	Pz	60.94	55.74	54.15	61.32
171	Bharuch	Arethi	24.108	72.331	DW	14.45	3.6	6.65	7.05
172	Bharuch	Bharuch	24.385	71.619	DW	6.14	3.55	6.41	9.05
173	Bharuch	Bharuch I	24.385	71.619	Pz	8.04	5.7	4.74	5.7
174	Bharuch	Bharuch li	24.385	71.619	Pz	9.08	8.18		
175	Bharuch	Bhensli	24.361	71.511	DW	3.25	2.75	1.74	2.25
176	Bharuch	Chhindra	24.358	71.508	DW	9.12	7.18	9.98	8.18
177	Bharuch	Dahegam	24.586	71.933	DW	5.15	7.03	10.35	4.6
178	Bharuch	Hansot	24.586	71.933	DW	3.95		3.4	4.6
179	Bharuch	Ilav	24.278	72.261	DW	8.19		6.17	4.65
180	Bharuch	Jambusar	21.613	73.435	DW	8.57	6.25		
181	Bharuch	Jambusar2	22.058	72.592	DW	8.2			
182	Bharuch	Jetpur1	21.7	73.004	DW	2.55	0.96		4.9
183	Bharuch	Jokhla	21.708	73	DW	2.77			1.1
184	Bharuch	Juna borbhata	21.708	73	DW	8.5	4	4.12	7.3
185	Bharuch	Kadodara	21.725	72.75	Pz	9.33	5.8		7.1
186	Bharuch	Kalak1	22.127	72.67	DW		3.65	2.36	5.2
187	Bharuch	Kaswa	22.185	72.597	DW	7.94	6.75		

Sl.No	District	Well Name	Latt_Y	Long_X	Well_Type	May_2017	Aug_2017	Nov_2017	Jan_2018
188	Bharuch	Kavi	21.583	72.808	DW	7.97	7.11	7	6.2
189	Bharuch	Kondh	21.45	72.8	DW	4.92	2.4	2.92	4.7
190	Bharuch	Luhara	22.053	72.806	DW	2.08	3.2	0.86	0.75
191	Bharuch	Mahegam1	22.05	72.8	DW	7.3	5.45	1.21	0.9
192	Bharuch	Modoliya	21.492	72.708	DW	8.87			6.48
193	Bharuch	Mokhdi	21.596	73.169	DW	9.84	4.04		2.54
194	Bharuch	Motwan	21.675	72.975	DW	2.06	1.72	2.08	1.4
195	Bharuch	Mulad	21.763	72.639	DW	0.13	7.97	0.32	
196	Bharuch	Mungaj	22.019	72.763	DW		0.35	3.27	
197	Bharuch	Navetha	21.683	72.817	DW	6.65	6.1	3.46	6.7
198	Bharuch	Netrang(Rep)_Pz	21.529	73.354	DW	9.79	4.1	4.82	
199	Bharuch	Netrang1	22.194	72.639	DW	8.96	7.3	2.46	
200	Bharuch	Nirnavi	21.581	73.068	DW	8.69	6.8	3.26	4.8
201	Bharuch	Panoli	21.675	72.558	DW	1.44	1	1.62	0.55
202	Bharuch	Raymal	21.683	72.758	DW	1.26	2.24	1.34	1.25
203	Bharuch	Roja tankaria	21.633	73.296	DW	8.17	7.35	9.67	6.75
204	Bharuch	Sahol	21.533	73.288	DW	3.82	0.65		
205	Bharuch	Sajod	21.556	72.888	DW	5.01	4.4	4.12	2.2
206	Bharuch	Sarod	21.683	73.019	DW	9.92	9.2	10.2	8.05
207	Bharuch	Simodra	21.688	73.384	DW	6.43	3.95		3.45
208	Bharuch	Sindhav	21.708	72.831	DW	6.56			2.03
209	Bharuch	Tankari	21.642	73.367	DW	4.25	2.26	2.94	3.5
210	Bharuch	Utraj	21.633	73.367	DW	4.9	4.55	3.52	3.1
211	Bhavnagar	Ayodhayapuram	21.792	72.668	DW	8.32	7.76	7.93	8.3
212	Bhavnagar	Bhavnagar1	21.538	72.975	DW	6.52	3.75	5.63	4.65
213	Bhavnagar	Bhudel	21.521	72.821	DW	0.75	0.9		1.75
214	Bhavnagar	Bhumbhali	21.917	72.792	DW	3.43	2.68	2.84	3.38
215	Bhavnagar	Bhutia	21.473	72.81	DW	22.3			
216	Bhavnagar	Bora	21.617	72.924	DW	30.12	27.76	27.52	2.55
217	Bhavnagar	Chowk Pz	22.158	72.758	Pz	25.71	29.56		
218	Bhavnagar	Datha	21.742	73.208	DW	5.19	1.09	4.17	4.49
219	Bhavnagar	Dhasa	22.027	72.636	DW	6.91	1.05		
220	Bhavnagar	Dudhala	21.992	72.675	DW	14.03		9.37	
221	Bhavnagar	Gadhada1	21.592	72.825	Pz	9.6	8.2	8.21	7.25
222	Bhavnagar	Gadhada2	21.573	73.155	DW	4.91	3.84	4.27	4.36
223	Bhavnagar	Gariyadhar	21.711	71.842	DW	23.62	9.31	11.92	12.85
224	Bhavnagar	Ghogha1	21.96	71.886	DW	3.92			2.5
225	Bhavnagar	Jalia	21.767	72.15	DW		7.67	18.83	18.95
226	Bhavnagar	Kardej	21.692	72.158	Pz	29.02	26.5		
227	Bhavnagar	Khijadiya	21.679	72.244	DW	14.45	9.62	11.49	11.7
228	Bhavnagar	Kundheli	21.747	71.7	DW	23.53	15.96		13.8
229	Bhavnagar	Longadi	21.191	71.929	DW	4.05	1.5		2.7
230	Bhavnagar	Lonjdhara	21.429	71.764	DW	30.8		2.79	
231	Bhavnagar	Mahuva1	21.221	71.95	DW	20.26			
232	Bhavnagar	Motivadal	21.8	71.508	DW	4.99	2.97		3.39
233	Bhavnagar	Ningala	21.138	71.658	DW	11.49	7.06	11.62	12.07
234	Bhavnagar	Palitana1	21.968	71.582	DW	9.63	1.8	5.04	5.16
235	Bhavnagar	Palitana2	21.967	71.579	DW	15.55	2.37	5.61	6.85
236	Bhavnagar	Paliyad2	21.747	71.722	DW	23.61			
237	Bhavnagar	Panchpipla	21.543	71.565	DW	5.28	0.55		1.62
238	Bhavnagar	Panvi1	21.683	72.279	DW	10.1	2.5	4.74	3.87
239	Bhavnagar	Pasvi	21.8	71.617	DW	16.46			
240	Bhavnagar	Piparla	21.752	72.031	DW		2.67	2.57	3.15
241	Bhavnagar	Porbada	21.638	71.7	DW	13.53	5.52	8.32	8.63
242	Bhavnagar	Sajnasar	21.379	71.981	DW	12.5	2.07	2.48	2.25
243	Bhavnagar	Sandhida	21.214	71.883	DW	5.53	2.22	3.64	4.03
244	Bhavnagar	Satanes	22.097	71.897	DW	16.57		2.84	3.21
245	Bhavnagar	Shantinagar	21.096	71.767	DW	12.7	11.62	7.27	8.8
246	Bhavnagar	Talaja2	21.161	71.908	DW	12.26	7.55	7.4	8.28
247	Bhavnagar	Tansa	21.197	71.55	DW	16.65	4.76	6.82	7.2
248	Bhavnagar	Tardhera	22.018	71.7	DW	24.75		25.64	
249	Bhavnagar	Tatam	21.525	71.824	DW	20.67	12.02	18.14	
250	Bhavnagar	Timbi2	21.522	71.839	DW	5.6	0.85	4.82	10.71
251	Bhavnagar	Trapaj	22.256	71.564	DW	15.92	8.97	6.43	

Sl.No	District	Well Name	Latt_Y	Long_X	Well_Type	May_2017	Aug_2017	Nov_2017	Jan_2018
252	Bhavnagar	Umrala	21.55	71.721	DW	14.02	6.52		
253	Bhavnagar	Vadal	22.075	71.892	DW	13.5	1.7	3.48	3.59
254	Bhavnagar	Vallbhipur	21.292	71.967	DW	5.22	4.28	4.04	4.28
255	Bhavnagar	Vavdi	21.636	71.919	DW	7.75	0.62	1.69	1.7
256	DAMAN	Ambawadi	21.8	71.7	DW	5.11	2.7	3.3	4.31
257	DAMAN	Bhimpur k.falia	21.425	71.913	DW		0.6	5.35	
258	DAMAN	Dabhel	21.688	71.758	DW	5.56	1.6	4.9	4.49
259	DAMAN	Dalwada	21.442	71.838	DW	7.93	4.05	3.25	5.98
260	DAMAN	Jempore	21.246	71.65	DW	3.28	0.74	1.4	1.94
261	DAMAN	Khariwad daman	21.367	72.017	DW	7.13	3.31	3.63	4.55
262	DAMAN	Morwad	21.508	72.125	DW	11.8		6	4.71
263	DAMAN	Warkund	22.229	71.604	DW	6.42	0.28	2.2	3.27
264	DIU	Chakarteeth_Pz	22.058	71.633	Pz	6.3	5.55	6.52	6.6
265	DIU	Diu	21.832	71.766	DW	4.2	3.24		4.27
266	DIU	Gomtimata	21.425	72.096	DW	6.22	3.85	4.72	4.87
267	DIU	Jalawadi	21.847	71.808	DW	5.4	3.55	4.17	4.32
268	DIU	Pothia Bapa	21.477	71.806	DW	7.2	6.3	6.83	6.89
269	Dohad	Ambakatch	21.883	71.878	DW	3.1		1.8	1.55
270	Dohad	Bapda	21.883	71.875	DW	8.5	2.25	3.6	6.4
271	Dohad	Dabhava	21.568	72.198	DW	5.78	2.65		4.3
272	Dohad	Dadhela	21.778	71.933	DW	6.15	2.25	2.15	4.95
273	Dohad	Dahod	20.403	72.844	DW	2.2	1.9		1.1
274	Dohad	Dahod2	20.458	72.871	DW	6.87		9.27	6.82
275	Dohad	Devgadh Baria	20.411	72.886	DW	11.7	7	7	7.8
276	Dohad	Devgadh bariya	20.443	72.852	DW	13.85	5.4	7.75	8.3
277	Dohad	Dhanpur	20.424	72.85	DW	13.65	8.85	7.85	10.55
278	Dohad	Dohad_Urban1	20.378	72.827	DW	6.1	4.2	5.58	5.87
279	Dohad	Dohad_Urban2	20.425	72.846	DW	9.1	4.25	4.45	6.05
280	Dohad	Dohad_Urban3	20.435	72.831	DW	8.02	2.62	2.62	3.32
281	Dohad	Fatepura(Karodia)	20.408	72.86	DW	12.8	5.5	8.7	
282	Dohad	Garada	20.708	70.969	DW		0.9	1.9	
283	Dohad	Garbara	20.715	70.949	DW	3.66	1.85	2.55	3.11
284	Dohad	Jhalod	20.708	70.876	DW	9	7	6.8	3.51
285	Dohad	Jhalod1	20.722	70.933	DW	7.1	3.1	5.5	4.46
286	Dohad	Kanjetha	20.702	70.912	DW	10.75	7.25	6.8	8.65
287	Dohad	Khandania	22.667	74.22	DW	12.9	10.35	11.9	12.1
288	Dohad	Limkheda	22.67	73.842	DW	8	3.5	5.6	6.2
289	Dohad	Mirakhedi	22.583	73.904	DW	6.65			4.58
290	Dohad	Panchwada	22.838	74.067	DW	5.2	4	5.35	3
291	Dohad	Pipero	22.84	74.263	DW	12.25	7.45	7.45	8.76
292	Dohad	Salaya1	22.825	74.233	DW	16		6.32	9.62
293	Dohad	Sarsava	22.7	73.914	DW	11.55	1.7	4.45	9.46
294	Dohad	Sukhsar	22.7	73.917	DW		5.45		6.9
295	Dohad	Thada	22.633	74.104	DW	10.3	3.2	5.95	5.74
296	Dohad	Tokarba	22.858	74.249	DW	5.21	3.55	3.85	4.05
297	Dohad	Varamkheda	22.845	74.267	DW	3	1	4.8	3.35
298	Dohad	Wadia	22.84	74.234	DW	8.34	2.84	6.14	7.34
299	Gandhinagar	Adalaj_Pz_I	23.254	74.029	Pz	104.16	100.2	97.85	96.84
300	Gandhinagar	Adalaj_Pz_II	23.165	74.123	Pz	84.67	82.5	80.52	76.65
301	Gandhinagar	Adalaj_Pz_III	22.681	74.313	Pz	24.26	23.6	23.45	20.91
302	Gandhinagar	Amrapur Pzi	23.093	74.147	Pz	112.82	109.73	104.43	110.06
303	Gandhinagar	Amrapur Pzii	23.092	74.133	Pz	84.24	81.66	79.53	74.49
304	Gandhinagar	Amrapur Pziii	22.581	74.114	Pz	34.79	32.4	31.76	31.45
305	Gandhinagar	Charada Pz -II	22.704	73.838	Pz	100.77		97.97	97.4
306	Gandhinagar	Charada_Pz_I	23.004	74.158	Pz	194.6	191.1	194.42	189.06
307	Gandhinagar	Chiloda_Pz_I	22.831	73.986	Pz	113.34			107.73
308	Gandhinagar	Chiloda_Pz_II	22.933	74.2	Pz	113.45	99.94		108.55
309	Gandhinagar	Dahegam I	22.729	74.308	Pz	74.56	70.16	67.62	68.53
310	Gandhinagar	Dahegam II	22.647	74.09	DW		3.2	3.03	
311	Gandhinagar	Gandhinagar	22.808	73.892	Pz	91.83			
312	Gandhinagar	Kalol(Nest)_Pz_II	23.228	73.977	Pz	130.03	52.21	50.78	
313	Gandhinagar	Kalol(Nest)_Pz_III	23.15	74.05	Pz	62.6	59.41	57.77	56.13
314	Gandhinagar	Kalol(Rep)_Pz_II	22.949	74.089	Pz	54.43	52.58		49.62
315	Gandhinagar	Kasturinagar(IFFCO)	22.604	74.038	DW	14.35	11.67	9.85	13

Sl.No	District	Well Name	Latt_Y	Long_X	Well_Type	May_2017	Aug_2017	Nov_2017	Jan_2018
316	Gandhinagar	Lodra	22.8	74.275	DW	53.3	49.33		48.63
317	Gandhinagar	Mansa	22.9	74.05	Pz	119.58	116.67	114.8	113.5
318	Gandhinagar	Nardipur i	23.175	72.558	Pz	96.31	94.45	92.26	91.56
319	Gandhinagar	Paliya	23.175	72.558	DW	14.47		10.17	8.36
320	Gandhinagar	Pethapur_Pz-I	23.175	72.558	Pz	112.01	109.73		
321	Gandhinagar	Pethapur_Pz-II	23.374	72.705	Pz	83.89	82.37	80.92	77.82
322	Gandhinagar	Sardhav Pz -I	23.374	72.705	Pz	118.46	117.73	113.6	111.68
323	Gandhinagar	Serthapara1	23.374	72.705	DW	15.15		10.1	10.66
324	Jamnagar	Amaliya Chokri	23.482	72.652	DW	7.2	3.69	3.3	4
325	Jamnagar	Ambardi	23.482	72.652	DW	6.29	7.93	11.04	9.49
326	Jamnagar	Amran_Pz	23.227	72.739	Pz	7.47	2.1	1.99	2.09
327	Jamnagar	Amran1	23.227	72.739	DW	6.55	0.84	2.6	2.6
328	Jamnagar	Aramda	23.171	72.842	DW	8.4	5.45	5.7	3.6
329	Jamnagar	Balwa	23.171	72.842	DW	22.72	15.22	14.12	
330	Jamnagar	Bed1	23.258	72.472	DW	10.64	3.57	4.72	5.64
331	Jamnagar	Bedanpur	23.258	72.472	DW	7.8	2.25	1.5	1.3
332	Jamnagar	Bhadthar	23.258	72.472	DW	15.1			
333	Jamnagar	Bhanvad	23.243	72.485	DW	15.9	3.6	6.37	11.8
334	Jamnagar	Bhatia	23.19	72.553	DW	20.21			
335	Jamnagar	Bhatiya	23.464	72.72	DW	6.85			2.08
336	Jamnagar	Bhogat1	23.423	72.665	DW	11.25	8.05	4.1	7.45
337	Jamnagar	Changa	23.332	72.567	DW	22.95			14.15
338	Jamnagar	Dhrol2	23.179	72.842	DW	6.36	0.91	2.16	2.41
339	Jamnagar	Dudhai2	23.267	72.673	DW	7.65	0.73	1.11	1.55
340	Jamnagar	Dwarka	23.267	72.673	DW	9.3	7.4	7.53	7.6
341	Jamnagar	Gordhanpur	23.3	72.567	DW	21.6	5.25	2.45	8.3
342	Jamnagar	Haripur2	23.297	72.574	DW	24.61			15.81
343	Jamnagar	Haryana	23.297	72.574	DW	10.3			
344	Jamnagar	Jambuda	23.194	72.567	DW	10.74			5.44
345	Jamnagar	Jamjodhpur	22.24	69.125	Pz	7.25	2.7	4.5	6.15
346	Jamnagar	Jamnagar1	21.916	69.858	DW	7.15	4.3	2.17	4.25
347	Jamnagar	Jamnagar2	22.822	70.546	Pz	10.54		4.07	3.19
348	Jamnagar	Juvanpur	22.829	70.563	DW	17.1			29.3
349	Jamnagar	Kajuda	22.433	69.042	DW	7.05	1.49	2.2	6.85
350	Jamnagar	Kalawad	21.904	69.958	DW	6.23	2.51	2.64	2.43
351	Jamnagar	Kalyanpur2	22.438	69.9	DW	31.6		9.4	14.9
352	Jamnagar	Khambhaliya	22.683	70.317	DW	15.9	9.51	2.97	6.55
353	Jamnagar	Khirsara	22.079	69.579	DW	14.19	8.89	2.71	9.22
354	Jamnagar	Kuvadla	21.928	69.796	DW	11.05	9.43	2.67	8.05
355	Jamnagar	Lalpur1	22.092	69.301	DW	14.4	5.22	8.25	13.7
356	Jamnagar	Lambha 1	22.094	69.267	DW	14		1.38	3.1
357	Jamnagar	Modpar	21.992	69.246	DW	17.4			
358	Jamnagar	Mojap	22.35	70.042	DW	12.17	9.48	9.02	9.64
359	Jamnagar	Mota kalawad	22.567	70.417	DW	23.45	16.65	22.65	25.35
360	Jamnagar	Motagop	22.792	70.504	DW	9.52	2.4	5.8	
361	Jamnagar	Moti khavdi	22.246	68.958	DW	11.33			
362	Jamnagar	Moti matli	22.45	70.001	DW	26.65	2.6	4	9.45
363	Jamnagar	Nikava	22.271	70.333	DW	7.2	1.76	2.1	1.5
364	Jamnagar	Pindara1	22.608	70.263	DW	7	2.05	3.5	10.2
365	Jamnagar	Raval	22.525	70.204	DW	9.75		0.82	6.8
366	Jamnagar	Salaya	21.906	70.031	DW		2.09	2.74	3.54
367	Jamnagar	Samrasar1	22.471	70.05	DW	7.9	4.17	4.7	4.9
368	Jamnagar	Seth vadala	22.458	70.079	DW	12.8	2.34	3.2	10.7
369	Jamnagar	Sumana	22.171	69.367	DW	13.95			
370	Jamnagar	Toda	22.333	69.708	DW	11.85			9.02
371	Jamnagar	Vad panchasara	22.217	70.383	DW	20.15	3.18	7.18	14.85
372	Jamnagar	Vadtara	22.017	69.392	DW	11		7.6	12.2
373	Jamnagar	Varwada	22.21	69.646	DW	18.6			15.6
374	Jamnagar	Vijarkha	21.979	69.6	DW	20.6	2.56	5.1	9.54
375	Jamnagar	Vinjalpur	22.201	69.583	DW	11.7	1.3	3.55	4.4
376	Junagadh	Ajotha	22.192	69.961	DW	20.99	4.94	4.94	4.87
377	Junagadh	Alwani	21.899	69.324	DW	4.85			
378	Junagadh	Amervel Nes	22.019	69.884	DW	6.6	0.63	2.67	2.62
379	Junagadh	Anandpur	21.858	69.808	DW	20.3		11.2	18.6

Sl.No	District	Well Name	Latt_Y	Long_X	Well_Type	May_2017	Aug_2017	Nov_2017	Jan_2018
380	Junagadh	Ankolvadi	22.367	68.983	DW		4.98		
381	Junagadh	Antroli	21.908	69.829	DW				5.54
382	Junagadh	Arena	22.038	69.875	DW	14.33	2.98	5.81	8.03
383	Junagadh	Bamanwara	22.388	69.867	DW	14.91	7.67	7.71	11.31
384	Junagadh	Bantva	22.317	70.264	DW	20.7	5.85	9.2	9.9
385	Junagadh	Bhatsimroli	22.192	70.533	DW	22.3		13.3	
386	Junagadh	Bhim Deval	22.247	69.258	DW	13.1	2.35	5.23	5.62
387	Junagadh	Bilkha	21.93	69.492	DW	16	5.65	6.77	15.4
388	Junagadh	Budhecha	22.306	69.604	DW	8.93	4.08	6.29	
389	Junagadh	Chokli	22.375	69.104	DW	19.6		8.66	20.5
390	Junagadh	Chorwad	22.033	70.125	DW	8.32		4.42	6.72
391	Junagadh	Dhokadva	22.108	70.167	DW	10.7	11.3	10.87	10.7
392	Junagadh	Gadu	22.063	70.383	DW	29.6		20.9	27.6
393	Junagadh	Galodar	22.233	70.117	DW	28.26	15.41	5.46	18.16
394	Junagadh	Gangda_Pz	22.208	69.5	Pz	8.3	5.03	4.54	5.5
395	Junagadh	Girgadhada	22.292	68.967	DW	5.65	1.23	4.74	4.88
396	Junagadh	Goraj1	22.417	70.183	DW	42.3		10.1	24.35
397	Junagadh	Govindpura2	22.15	69.6	DW	29.1	8.13	8.47	8.5
398	Junagadh	Jambur[madhapar	20.902	70.518	DW	10.81	2.51	3.52	3.63
399	Junagadh	Jamvala1	21.009	70.726	DW	4.66	3.85	4.99	9.16
400	Junagadh	Jargla Jargali	21.41	70.518	DW	9.03	0.9	3.27	
401	Junagadh	Junagadh	21.047	70.665	Pz	12.35		10.05	10.45
402	Junagadh	Junagadh1	21.236	70.007	DW	12		4.4	7.2
403	Junagadh	Juthal	21.081	70.176	DW	11.71	6.18	13.23	8.43
404	Junagadh	Kalej	21.221	70.056	DW	15.1	14.43	11.9	
405	Junagadh	Kanek	21.488	70.083	DW	16.42			8.1
406	Junagadh	Kansari	21.224	70.183	DW	12.86	9.75	10.37	11.6
407	Junagadh	Kasia Naka Check Post	20.978	70.609	DW			1.86	2
408	Junagadh	Kesariya1	21.439	70.6	DW	14.75	1.29		7.35
409	Junagadh	Kewarda	21.096	70.217	DW	20.5		9.86	16.3
410	Junagadh	Khambalia1	21.602	70.542	DW	10.33			8.63
411	Junagadh	Khokharda	21.042	70.217	DW	9	11.65	15.18	26.8
412	Junagadh	Khorada1	20.958	71.071	DW	12.25	3.2	3.67	8.65
413	Junagadh	Khoras ahir	21.054	70.279	DW	11.55		7.31	14.05
414	Junagadh	Kodinar	21.147	70.275	DW	15.6	6.75		7.26
415	Junagadh	Kodinar1	20.858	71.167	DW	17	6.17	7.46	9.55
416	Junagadh	Kukarwada	20.925	70.917	DW	10.3		6.65	12.3
417	Junagadh	Lohej	21.183	70.154	DW	16	6.75	10.5	
418	Junagadh	Mandawad	20.946	70.396	DW	14.51		10.19	8.1
419	Junagadh	Mangrol	21.029	70.608	DW	18.1	1.96	16.4	10.34
420	Junagadh	Mangrol1	20.985	70.769	DW			15.39	17.4
421	Junagadh	Manketara	20.983	70.763	DW	32.3		16.4	23.5
422	Junagadh	Mendarda	20.881	70.984	DW			17.05	17.45
423	Junagadh	Mendarda1	21.509	70.462	DW	23	12.56	17.26	15
424	Junagadh	Moraj	21.517	70.458	DW	13	1.53	5.18	5.66
425	Junagadh	Patla	21.167	70.267	DW	12.1		3.2	5.3
426	Junagadh	Prachi_Pz	21.249	70.058	DW	19.6			5.45
427	Junagadh	Prasli	21.031	70.242	DW	18.1	0.2	3.33	3.7
428	Junagadh	Prempara	20.87	71.051	DW	19.6	12.75	11.38	11.59
429	Junagadh	Sametar	21.27	70.681	DW	20.7	6.8	10.28	12.8
430	Junagadh	Saradiya	20.796	70.942	DW	16.2	2.55	3	15.9
431	Junagadh	Sepa	21.267	70.208	DW			15.7	35.9
432	Junagadh	Seriakhan	21.044	70.192	DW	21.23		13.08	
433	Junagadh	Shardagram	21.421	70.317	DW	15.6			15.5
434	Junagadh	Sil	21.064	70.174	DW	7.74	5.64	3.99	5.04
435	Junagadh	Sil bandar	21.371	70.339	DW		7.21	6.02	5.77
436	Junagadh	Talala_Pz	20.8	70.692	Pz	11.4	5.45	6.44	
437	Junagadh	Talala1	20.8	70.692	DW	12.74	4.17	5.63	7.79
438	Junagadh	Una1	21.054	70.208	DW				7.6
439	Junagadh	Una2	21.167	70.067	DW	4.33	2.75	4.2	4.68
440	Junagadh	Vadal	21.143	70.096	DW	18.4			
441	Junagadh	Vanthali ii	21.358	70.746	DW	17.36	3.92	4.28	10.12
442	Junagadh	Visavadar	21.125	70.108	DW	15.75			0.59
443	Kachchh	Asambia mota_Pz	21.15	70.129	Pz	9.25	7.45		

Sl.No	District	Well Name	Latt_Y	Long_X	Well_Type	May_2017	Aug_2017	Nov_2017	Jan_2018
444	Kachchh	Asambia mota1	21.325	70.44	DW	16.45	8	14.51	14.63
445	Kachchh	Balasar	21.325	70.433	Pz	7.77	8.3	8.08	8.33
446	Kachchh	Bambhdai	20.983	70.436	DW	6.08	5.8		
447	Kachchh	Bhadia mota	21.604	70.569	DW		4.4	5.25	5.56
448	Kachchh	Bhadreshwar	20.922	70.613	DW	9.4	8.2	11	11.11
449	Kachchh	Bhuj (Circuit House)	20.851	70.669	DW	15.57		15.38	16.27
450	Kachchh	Chandranagar	20.838	70.555	DW	7.8	8.3	5.56	6.04
451	Kachchh	Dayapar	21.3	70.7	DW	21.15		28.53	
452	Kachchh	Deshalpur rapar	20.854	71.121	DW	13.05	11.9	10.46	12.9
453	Kachchh	Devisar	21.589	70.038	DW	12.45	12.7	10.66	11.31
454	Kachchh	Dholavira	21.117	70.219	DW	11.35	3.45		10.7
455	Kachchh	Dunai	21.133	70.249	DW	10.71	10.51	9.3	10.17
456	Kachchh	Gadhsisa	21.104	70.153	Pz	-		67.25	67.25
457	Kachchh	Gagodar	21.186	70.046	DW	29.5	26.6		
458	Kachchh	Gandhidham1	21.224	70.056	DW		6.15	5.61	5.62
459	Kachchh	Gandhidham2	21.064	70.538	DW	8.3	6.65		
460	Kachchh	Haboi	21.051	70.525	DW	0.46		0.31	0.44
461	Kachchh	Kakarwa	20.825	71.044	DW	17.45			
462	Kachchh	Karagoga	20.825	71.042	DW	3.2	2.1		
463	Kachchh	Kharai_1	21.609	70.502	DW	3.2	2.35	2.58	3
464	Kachchh	Kharoi	21.471	70.328	DW	9.25		8.35	8.25
465	Kachchh	Khavada	21.339	70.749	DW	7.35	3.59	4.89	5.12
466	Kachchh	Khavda	22.968	69.451	Pz	3.4	2.2		
467	Kachchh	Kotada	22.968	69.438	DW	36.8	38	37.8	37.8
468	Kachchh	Kotadi	23.844	70.669	DW	10.32	11.42	8.19	8.51
469	Kachchh	Kotaya	22.939	69.083	DW	13.07	9.6	1.4	1.36
470	Kachchh	Kothara	22.983	69.333	DW	7.82	6.67	7.14	7.88
471	Kachchh	Kuda	22.9	69.9	DW	28.1	25.7	26	25.48
472	Kachchh	Kumbhariya	23.25	69.667	DW	7.75	7.4	7.32	
473	Kachchh	Lakhpat	23.45	69.4	DW	7.95		4.55	5.22
474	Kachchh	Lilpur	23.633	68.871	DW	0.56	0.1	0.42	0.42
475	Kachchh	Lodai	23.747	70.679	DW	15.8		14.43	
476	Kachchh	Luni	23.403	69.329	DW	9.23	8.3	10.4	10.46
477	Kachchh	Madhapar	23.883	70.217	Pz	47.87	60.47	51.23	51.68
478	Kachchh	Mandvi	23.433	69.754	Pz	28.35	39.55	30.93	31.19
479	Kachchh	Mandvi (Shitla Mata)	23.05	69.5	DW	12.39		6.57	5.25
480	Kachchh	Mata no madh	23.106	69.341	DW	12.67	4.97	10.4	10.73
481	Kachchh	Mathak1	23.417	70.8	DW			9.74	9.65
482	Kachchh	Mau Moti_1	23.083	70.142	DW	8.8	3.9	2.48	2.62
483	Kachchh	Mothala	23.076	70.151	DW	5.73	4.01		
484	Kachchh	Moti cher	23.358	69.867	DW	4.21	5.01	4.06	4.92
485	Kachchh	Mundra	23.475	70.404	DW	6.6	2.55	5.9	6.81
486	Kachchh	Naliya	22.942	69.663	DW	11.35	11.35	10.11	10.52
487	Kachchh	Naliya (Bus S)	23.463	68.686	DW	13.44		10.27	10.51
488	Kachchh	Nirona	23.454	70.35	Pz	17.47	17.2	15.19	16.01
489	Kachchh	Rapar2	23.839	69.731	DW	26.76	18.76	26.97	26.29
490	Kachchh	Ratanpur Khadir1	23.844	69.732	DW	16.09	2.4	9.6	17.6
491	Kachchh	Ratanpur(maum.)	23.377	69.199	DW		1.3		
492	Kachchh	Rawapar	23.042	69.192	DW	14.7		11.7	11.75
493	Kachchh	Rudramata	23.042	69.075	DW	11.4		8.4	9.06
494	Kachchh	Samkhiari	23.162	68.912	DW	6.58		7.03	8
495	Kachchh	Sedat	23.534	70.44	DW	12.8	15.05	11.85	12.02
496	Kachchh	Shinaya	23.341	70.724	DW	2	1	2.8	2.86
497	Kachchh	Sukhpar	23.823	68.775	DW	15.75	14.6	13.8	14.61
498	Kachchh	Suthri	23.511	70.65	DW	10.8	7.9	10.76	10.8
499	Kachchh	Tera	23.4	69.892	DW	13.77	13.37		
500	Kachchh	Tunga	22.873	69.812	DW	6.1	6.1		
501	Kachchh	Ugardi	23.232	69.697	DW	26.6	29.9	27.23	27.76
502	Kachchh	Vadala	22.842	69.371	DW	12	11.3	11.4	11.41
503	Kachchh	Vinjhan1	22.833	69.333	DW	9.05	3.85	5.53	6.08
504	Kheda	Alina	23.533	68.95	DW	8.5	9.1	8.24	8.4
505	Kheda	Alindra	22.997	70.025	DW	10.8	10.7	9.15	10.7
506	Kheda	Balasinor	23.076	69.299	DW	4.2	2.6	3.02	3.66
507	Kheda	Balasinor1	22.95	69.8	DW	10.35	1.8	3.56	4.94

Sl.No	District	Well Name	Latt_Y	Long_X	Well_Type	May_2017	Aug_2017	Nov_2017	Jan_2018
508	Kheda	Bar	23.208	69.125	DW	5.44	1.34		3.14
509	Kheda	Boriyavi	23.758	68.675	DW	9	3.3		
510	Kheda	Dakor	22.828	69.721	DW	7.6	5.8	5.87	5.9
511	Kheda	Juna vasadra	23.256	68.84	DW	4.45	2.15		3.95
512	Kheda	Kalesar	23.267	68.833	DW	6.7	1.15	3.77	1.4
513	Kheda	Kapadvanj	23.465	69.525	DW	14.32	8.42	8.28	10.68
514	Kheda	Kheda	23.567	70.638	DW	6.9			2.35
515	Kheda	Ladvel	23.861	70.363	DW			1.2	1.6
516	Kheda	Ladvel_1	23.108	69.292	DW	3.25			
517	Kheda	Mahudha	23.517	69.075	DW	4.26	2.25	2.89	3
518	Kheda	Matar I	23.392	69.708	Pz	21.32	10.82		16.4
519	Kheda	Matar II	23.3	70.508	Pz	7.13	3.13		5.13
520	Kheda	Muliyad	23.171	69.638	DW	3.1	2.75	1.22	0.9
521	Kheda	Nadiad Pz-I	23.033	70.054	Pz	20	19.8	18.85	18.9
522	Kheda	Nadiad2	23.208	69.617	DW	11.35	5.8		9.75
523	Kheda	Nes_Pz	23.034	68.915	Pz	9.82	0.92	8.67	8.52
524	Kheda	Sarkhej_I	23.283	68.947	Pz	25.35	25.35	23.95	24.05
525	Kheda	Sarkhej_II	23.818	69.855	Pz	34.45	34.45	29.66	31.95
526	Kheda	Sarkhej_Pz-III	23.463	69.138	Pz	38.3	35.7	33.52	28.9
527	Kheda	Shekhupura	22.916	69.856	DW	1.2	0.2		
528	Kheda	Thasra	23.1	69.025	DW	5.55	1.9	3.2	2.92
529	Kheda	Vaso	22.808	73.058	DW	7.1			5.95
530	Kheda	Virpur_Pz	22.701	72.977	Pz	7.8	5.15		6.6
531	Kheda	Vyas vasna	22.958	73.336	DW	23.4		17.61	18.77
532	Mahesana	Asjol	22.95	73.325	DW	7.71	4.2	4.08	7.02
533	Mahesana	Bhandupara	23.168	73.411	DW	9.61	7.05	6.85	
534	Mahesana	Budasan	22.636	72.909	DW	4.54	3.17	3.02	2.34
535	Mahesana	Daran_Pz-I	22.763	73.169	Pz	101.45	96.51	94.33	101.8
536	Mahesana	Daran_Pz-II	23.083	73.363	Pz	44.75	41.87	40.49	45.05
537	Mahesana	Daran_Pz-III	22.721	73.192	Pz	2.62	2.06	2.05	2.3
538	Mahesana	Dharpura	23.004	73.092	DW	7.51	4.67	5.3	7.3
539	Mahesana	Dosaj	22.738	72.704	DW	5.79	4.27	3.82	6.18
540	Mahesana	Jaska(Sy_4")Pz_II	22.913	73.115	Pz	15.9	14.45	14.72	14.56
541	Mahesana	Jaska(Sy_8")Pz_I	22.783	72.942	Pz	56.97	54.3	54.9	
542	Mahesana	Jotana Pzi	22.71	72.668	Pz	132.35	125.4	122.54	142.17
543	Mahesana	Jotana Pziii	22.71	72.668	Pz	16.73	15.14	14.5	15.84
544	Mahesana	Kalyanpur	22.783	73.177	DW	5.76	4.59	4.52	3
545	Mahesana	Karalli (i)	22.711	72.867	Pz	133.21	126.1	123.17	131.4
546	Mahesana	Karalli (iii)	22.683	72.883	DW	10.95	9.65	9.43	9.47
547	Mahesana	Karalli II	22.708	73.203	Pz	45.34	43.24	41.1	42.31
548	Mahesana	Kheralu (deep)	22.986	72.881	Pz	48.07	43.95	43.37	46.34
549	Mahesana	Kheralu(shallow)	22.986	72.881	DW	5.95	1.72	1.7	3.27
550	Mahesana	Kheralu1	22.986	72.881	DW	11.92	6.85	9.1	8.33
551	Mahesana	Maguna	22.575	72.625	DW	9.24	6.36	6.47	5.38
552	Mahesana	Mau	22.794	73.211	DW	9.09			
553	Mahesana	Mehsana v	22.661	72.754	DW	29.7	28.08	27.83	29.43
554	Mahesana	Mehsana I	23.193	73.485	Pz	155.29	149.43	144.44	149.09
555	Mahesana	Mehsana II	23.106	73.104	Pz	155.55	149.85	144.97	149.7
556	Mahesana	Mehsana III	23.508	72.183	Pz	102.76	99.36	96.82	101.63
557	Mahesana	Mewad	23.725	72.383	Pz	12.03	11.27	11.05	12.05
558	Mahesana	Modhera II	23.288	72.375	Pz	87.53	52.4	51.71	53.58
559	Mahesana	Modhera i	23.206	72.28	Pz	-		5.69	6.71
560	Mahesana	Modhera iii	23.206	72.28	Pz	8.81	5.95	5.07	6.89
561	Mahesana	Motipura_Pz_III	23.206	72.28	Pz	74.14	77.03	76.81	
562	Mahesana	Padhadya	23.546	72.113	DW	12.78	10.63	10.38	12.3
563	Mahesana	Panchot	23.533	72.485	DW	6.99	2.2	2.4	2.76
564	Mahesana	Rampura1	23.842	72.45	DW	8.12	5	5.5	5.62
565	Mahesana	Sihi	23.824	72.535	DW	8.4	5.89	5.72	8.42
566	Mahesana	Suraj	23.824	72.535	Pz	30.75	29.14	28.37	28.01
567	Mahesana	Tarabh	23.474	72.288	DW	8.73	7	7.18	6.04
568	Mahesana	Thol Pz -IV	23.474	72.288	Pz	112.82	109.89	104.82	109.5
569	Mahesana	Thol Pz- V	23.467	72.297	Pz	16.03	15.1		26.8
570	Mahesana	Thol I	23.127	72.193	Pz	69.31	66.62	64.45	
571	Mahesana	Timba_1	23.804	72.486	DW	16.7			11.31

Sl.No	District	Well Name	Latt_Y	Long_X	Well_Type	May_2017	Aug_2017	Nov_2017	Jan_2018
572	Mahesana	Unad1	23.804	72.486	DW	16.02	12.57	11.32	13.06
573	Mahesana	Unawa	23.804	72.486	DW	4.03	3.38	3.3	
574	Mahesana	Unjha	23.898	72.611	DW	7.3	4.5	4.37	4.38
575	Mahesana	Vidaj	23.898	72.611	DW	4.62	5.24	3.66	1.3
576	Mahesana	Visnagar iv	23.888	72.613	Pz	3	2.78	2.73	2.01
577	Narmada	Agar(Rep)_Pz	23.578	72.289	Pz	11.97	7.6	10.85	4.85
578	Narmada	Almadi	23.51	72.519	DW	7.35	1.45	1.81	
579	Narmada	Amayar	23.598	72.399	DW	9.25			
580	Narmada	Baman Phalia_Pz	23.598	72.399	Pz	21.94	18.25	15.9	20.8
581	Narmada	Chikada	23.598	72.399	DW	5.45	0.64	2.85	2.9
582	Narmada	Chuli	23.598	72.399	DW	12.23	7.73	6.32	6.03
583	Narmada	Dediapada	23.533	72.383	DW			2.66	2.25
584	Narmada	Dev Mogra	23.717	72.467	DW	7	4.25		6.6
585	Narmada	Garudeshwar	23.717	72.467	DW	11.69	10.8	9.65	10.7
586	Narmada	Hirapura	23.534	72.604	DW	4.56	0.45	3.04	4.3
587	Narmada	Jankh	23.534	72.604	DW	3.58	2.7		0.7
588	Narmada	Kanbi pitha	23.534	72.604	DW	1.49	4.85		0.75
589	Narmada	Kewadia_Pz	23.523	72.533	Pz	7.82	4.2	2.95	4.9
590	Narmada	Khaidipada	23.629	72.342	DW	5.3	0.1	0.72	0.8
591	Narmada	Khota amba	23.892	72.517	DW	1.89	0.64	1.12	1.29
592	Narmada	Namaria	23.8	72.35	DW	5.16	3.7	3	2.4
593	Narmada	Nani singlot	23.39	72.307	DW	9.8	7.3	7.72	7.6
594	Narmada	Rajpipla	23.758	72.458	DW	31.43	29.8	29.5	31.27
595	Narmada	Ralda	23.131	72.376	DW	4.6	2.65	1.95	0.65
596	Narmada	Rasela	23.297	72.376	DW	13.15			15
597	Narmada	Rasulpura_Pz	23.131	72.376	Pz	22.34	22.9	22.94	25.1
598	Narmada	Ringani	23.131	72.376	DW	1.66	2.2	1.6	1.05
599	Narmada	Selemba 1	23.987	72.759	DW	7.05			6.8
600	Narmada	Sunderpura	23.846	72.717	DW			33.9	30.6
601	Narmada	Umran	23.767	72.363	DW	8	5.9		5.4
602	Navsari	Abrama	23.798	72.394	DW	1.53	0.24	1.2	1.55
603	Navsari	Anklas	23.247	72.3	DW	11	6.66	8.5	9.08
604	Navsari	Chadav	23.7	72.533	DW	13.2	5.3	4.5	4.53
605	Navsari	Chinam	22.031	73.657	DW	3.27	0.84		2.98
606	Navsari	Dandi	21.609	73.511	DW	3.8	1.5	2.8	3.18
607	Navsari	Doldha	21.547	73.767	DW			3.2	
608	Navsari	Duvada	21.798	73.379	DW	6.38	0.25	5.7	
609	Navsari	Eru	21.521	73.646	DW			2.5	
610	Navsari	Hond	21.555	73.476	DW	9.2		4.1	
611	Navsari	Kaliyari	21.633	73.583	DW	12.02	1.25	2.6	4.14
612	Navsari	Kantasvel	21.585	73.724	DW	8.2	1.11	4.75	5.21
613	Navsari	Khergam	21.892	73.65	DW	8.15	1.3	3.3	4.14
614	Navsari	Khudvel	21.868	73.6	DW			5.75	6.47
615	Navsari	Manav Khadak	21.492	73.597	DW	5.3	1.6	2.9	
616	Navsari	Navsari	21.521	73.646	DW	29.82	18.5		
617	Navsari	Navsari 1	21.883	73.701	DW	5.87		1.97	4.55
618	Navsari	Onjal	21.514	73.519	DW	6.31	1.42	4.55	5.14
619	Navsari	Panikhadak	21.733	73.475	DW	13.5	3	6.8	8.24
620	Navsari	Parjan	22.044	73.622	DW			5.5	
621	Navsari	Pipalkhed	21.669	73.667	DW	17.45	2.15	5.85	7.41
622	Navsari	Rankuva	21.875	73.5	DW	7.48	0.3	3.6	
623	Navsari	Rumla	21.61	73.653	DW			5.6	
624	Navsari	Sari_khurd	21.925	73.492	DW	4.05	1.4	1.15	2.64
625	Navsari	Ubhrat	21.967	73.625	DW	4.35	0.15	1.75	
626	Navsari	Unai	21.842	73.467	DW	9.56	5.74		7
627	Navsari	Vansda	21.61	73.763	DW	11.4	4.8	6.75	7.15
628	Panchmahals	Bavaliya	21.847	73.536	DW	8.06	4.16	5.31	7.29
629	Panchmahals	Bavaliya_Pz	21.488	73.883	Pz	30.2	1.5	5.35	17.4
630	Panchmahals	Chhabanpur	20.863	72.9	DW	10	5.7	7.75	8.18
631	Panchmahals	Dhanol	20.604	73.283	DW	4.5	1.3		2.2
632	Panchmahals	Gadhar	20.619	73.267	DW		1.2	2.9	3.78
633	Panchmahals	Godhra	20.831	73.334	DW			4.21	
634	Panchmahals	Godhra_UR1	20.992	72.886	DW	5.73	3.18	3.78	7.46
635	Panchmahals	Godhra_UR2	20.892	72.808	DW	10.25	8.05	2.38	7.81

Sl.No	District	Well Name	Latt_Y	Long_X	Well_Type	May_2017	Aug_2017	Nov_2017	Jan_2018
636	Panchmahals	Godhra_UR3	20.807	73.228	DW	9.18	1.18	3.38	1.54
637	Panchmahals	Godhra2	20.829	73.058	DW	4.14	6.94	2.34	4.15
638	Panchmahals	Jambughoda	20.936	72.926	DW	6.75	7.05	5.32	6.25
639	Panchmahals	Jambughoda1	20.739	73.046	DW	3.9	3.95		6
640	Panchmahals	Javan	20.725	73.15	DW	9.1	4.53		7.15
641	Panchmahals	Jokha	20.797	73.292	DW	8.28		3.88	
642	Panchmahals	Kalol_UR1	20.633	73.096	DW	13.6	15.1	17.33	17.2
643	Panchmahals	Kalol_UR2	20.772	73.186	DW			12.21	13.07
644	Panchmahals	Kantha	20.674	73.233	DW	4.57	2.15	2.73	2.68
645	Panchmahals	Khadki_Vadiya	20.805	73.267	DW	14.3	1.6	15.2	15.79
646	Panchmahals	Khanpur	20.95	72.933	DW	12.6	5.75		11.84
647	Panchmahals	Kothamba	20.958	72.935	DW	4.4	1.9		2.45
648	Panchmahals	Limbadia peti	20.833	72.842	DW	5.1	1.9	3.45	2.74
649	Panchmahals	Lunawada	20.649	73.167	DW	11.46	5.86	6.71	7.99
650	Panchmahals	Malekpur1	21.011	72.839	DW	3.43	2.35		2.37
651	Panchmahals	Morwa (Hadaf) Pz-I	20.675	73.283	Pz	12.9	7.5		11.3
652	Panchmahals	Natapur	20.813	73.158	DW	9	5.5	6.75	6.88
653	Panchmahals	Palla Rajgarh Pz	20.81	73.153	Pz	34.3	12.5		19.3
654	Panchmahals	Pandarvada	20.689	73.159	DW	15.56	6.16	5.16	
655	Panchmahals	Pavagadh	20.788	72.954	DW	10.36	5.66	5.54	7.01
656	Panchmahals	Ranipura	21.008	72.746	DW	10.9	5.9	5.3	5.9
657	Panchmahals	Santrampur	20.85	73.342	DW	9.3		5.4	6.6
658	Panchmahals	Santrampur1	20.764	73.363	DW	8.8	4.2	4.28	6.37
659	Panchmahals	Santrood1	23.325	73.569	DW	15.55	6.4	9.2	13.5
660	Panchmahals	Shehra	23.307	73.555	DW	2.9	0.6	1.72	1.7
661	Panchmahals	Shivrajpur	22.828	73.613	DW	12.5	3.9	7	8.3
662	Panchmahals	Suliyat	22.759	73.507	DW	18.35	6.4	14.8	19.4
663	Panchmahals	Tarkanda	23.15	73.775	DW	13.3	6.4	4.4	8.95
664	Panchmahals	Tarvada	22.793	73.607	DW	15.2			
665	Panchmahals	Timbi2	22.769	73.591	DW				3.1
666	Panchmahals	Tuwa	22.78	73.607	DW		2.8	4.75	3.27
667	Panchmahals	Ucharpi Pz	22.771	73.633	Pz	19.4	8.85		12.6
668	Panchmahals	Vejalpur	22.369	73.725	DW	6.15	4.7	4.7	3.8
669	Patan	Bhutia vasna i	22.373	73.723	Pz	23.75	24.6	23.25	
670	Patan	Biliya(Temple)_Pz_I	22.401	73.685	Pz	76	25.3	38.16	75.46
671	Patan	Biliya(Temple)_Pz_II	23.062	73.62	Pz	49.05	49.15	76.77	46.4
672	Patan	Chanasma i	22.6	73.443	Pz		68.11		78.01
673	Patan	Dharmoda	22.59	73.451	DW	3.37		3.98	
674	Patan	Dhinoj1	23.178	73.652	DW	9.65	7.5	7.4	
675	Patan	Jangral Pzi	22.662	73.5	Pz	146.4	144.53	147.53	
676	Patan	Jangral Pzii	23.37	73.677	Pz	131.38	135.43		137.6
677	Patan	Kakosi Pz-I	23.019	73.519	Pz	138.2	135.3	134.53	
678	Patan	Kakosi Pz-II	23.204	73.6	Pz	38.67	39.4	34.98	
679	Patan	Lanwa Pz-I	23.129	73.608	Pz	130.5	156.6	124.66	
680	Patan	Matarwadi I	23.231	73.736	Pz	103.22	97.75	104.21	100.96
681	Patan	Matarwadi II	22.918	73.844	Pz	-			
682	Patan	Moti chander	22.857	73.821	DW	2.75		1.61	1.56
683	Patan	Patan2	22.523	73.701	DW	18.03	15.68	17.58	
684	Patan	Piprala_1	23.375	73.633	DW	10.7	9.8	9.86	10.26
685	Patan	Radhanpur2	22.488	73.556	DW	1.1	0.3	0.16	0.1
686	Patan	Sander	22.725	73.758	DW	9.45			14.8
687	Patan	Sankheshwar	23.171	73.908	DW	2.79		0.39	
688	Patan	Santhalpur	23.192	73.908	DW			1.39	
689	Patan	Shankhari	22.803	73.793	DW	17.11	14.11	18.32	9.77
690	Patan	Sidhada	22.954	73.625	Pz	-	1.8	2.97	3.05
691	Porbandar	Adityana	22.425	73.592	DW	29.6	17.9	12.82	12.15
692	Porbandar	Adwana2	23.062	73.851	DW	19.49	7.7		15.75
693	Porbandar	Babda	22.546	73.529	DW	16.2	2	3.14	8.2
694	Porbandar	Bakharla	22.606	73.522	DW	27.01	5.86	7.29	15.01
695	Porbandar	Balej	22.508	73.508	DW		2	2.9	7
696	Porbandar	Balej_1	22.804	73.471	DW	9			
697	Porbandar	Bhod	23.119	73.472	DW	29.24	17.94	24.34	
698	Porbandar	Degam	22.696	73.558	DW	19.35			
699	Porbandar	Hanumangadh1	23.73	71.68	DW	34.2	23.05		

Sl.No	District	Well Name	Latt_Y	Long_X	Well_Type	May_2017	Aug_2017	Nov_2017	Jan_2018
700	Porbandar	Kadegi	23.73	71.68	DW	5.39		0.59	1.64
701	Porbandar	Kandorna	23.917	72.1	DW	29.68	13.78	15.58	18.88
702	Porbandar	Khambodar	23.888	72.399	DW	14.1	1.6	2.11	4.2
703	Porbandar	Kolikhada	23.888	72.399	DW	31.08	19.04	26.03	27.88
704	Porbandar	Kuchhadi	23.711	72.115	DW	5.75	1.75	2.23	2.55
705	Porbandar	Kutiyana_Pz	23.697	72.069	Pz	11.85	7.65	4.25	11.05
706	Porbandar	Kutiyana1	23.663	72.279	DW		2.75	3.46	10.23
707	Porbandar	Miyani	23.695	71.694	DW	8.45		7.45	7.25
708	Porbandar	Mocha	23.706	71.675	DW	7.5	5.25	6.11	6.8
709	Porbandar	Mojiwana	24.002	72.306	DW	18.65	2	3.65	9.05
710	Porbandar	Navibandar	24.002	72.306	DW	6.48	3.18	3.68	4.48
711	Porbandar	Oddar	23.687	72.249	DW	9.15	3	6.75	6.45
712	Porbandar	Palkhada1	23.868	72.147	DW	11.98	2.17	4.56	8.48
713	Porbandar	Pata	23.594	71.781	DW	7.5		4.96	5.7
714	Porbandar	Porbandar	23.842	72.124	DW	7.5	4.4	2.9	3.6
715	Porbandar	Porbandar1	23.655	71.086	DW		5.26	3.36	9.61
716	Porbandar	Ranavav2	23.825	71.614	DW	26.47	7.8	10.52	14.7
717	Porbandar	Ratadi	23.767	72.254	DW	8.14	1.69	5.01	6.84
718	Porbandar	Ratia	23.522	71.791	DW	7.5	5.86	6.5	6.9
719	Porbandar	Simar	23.758	71.175	DW	11.6		3.95	8.9
720	Porbandar	Tukda	23.779	72.163	DW	5.98	2.03	2.68	2.88
721	Porbandar	Visavada Mul Dwarka	23.806	71.299	DW	11.1	2.9	5.1	8.4
722	Rajkot	Amar nagar	21.709	69.711	DW			3.05	4.01
723	Rajkot	Bhada jodiya	21.917	69.6	DW			12.3	13.3
724	Rajkot	Bhadla	21.77	69.588	DW	22.89	3.4	5.1	11.48
725	Rajkot	Bhalgam	21.765	69.661	DW	17.42	2.34	8.28	
726	Rajkot	Chhatar	21.371	69.875	DW	6.35		2.05	9.77
727	Rajkot	Chordi	21.81	69.408	DW	14.53	2.89	5.36	15.3
728	Rajkot	Dadia	21.659	69.821	DW	11.73	2.95	6.42	13.03
729	Rajkot	Dhoraji	21.71	69.606	DW	21.73			9.63
730	Rajkot	Ganod	21.793	69.803	DW	4.19		3.35	4.48
731	Rajkot	Gogavadar	21.451	69.983	DW	6.35	3.14	6.06	7.7
732	Rajkot	Hadmatia	21.648	69.883	DW	12.58	7.94	9.05	5.21
733	Rajkot	Halenda	21.808	69.601	DW	9.24	0.22	0.98	2.52
734	Rajkot	Jamkandorna	21.7	69.614	Pz	13.16	7.06	12.9	12.42
735	Rajkot	Jamwali	21.683	69.55	DW	7.1			8.13
736	Rajkot	Jasapur	21.622	69.997	DW	9.7	3.52	8.99	8.78
737	Rajkot	Jasdan	21.631	70.017	DW	8.77	3.71	4.23	8.26
738	Rajkot	Jasdan2	21.833	69.389	DW	10.17		2.41	9
739	Rajkot	Jetpur	21.348	69.889	DW	9.21	3.1	4.9	
740	Rajkot	Jetpur Pithad	21.886	69.6	DW			8.15	11.98
741	Rajkot	Jetpur pithad.	21.446	69.792	DW	14.19	4.46		
742	Rajkot	Kalithad1	21.567	69.681	DW	10.2			8.4
743	Rajkot	Kalyanpur2	21.758	69.488	DW		0.54	1.65	
744	Rajkot	Kamlapur	21.297	69.942	DW				14.72
745	Rajkot	Kamlapur1	21.645	69.643	DW	9.11	0.78	4.02	
746	Rajkot	Khamta	21.642	69.625	DW	14.98			6.25
747	Rajkot	Khirsara1	21.683	69.746	DW	19.6			10.45
748	Rajkot	Lajai	21.72	69.512	DW	10.71	2.29	2.7	3.25
749	Rajkot	Lalavadar	21.601	69.658	DW	15.59	1.27	3.38	14.3
750	Rajkot	Lodhika	21.438	69.806	Pz	12.91	2.49	6.12	11.66
751	Rajkot	Lodhika1	21.947	69.686	DW	10.9	2.26	4.83	6.47
752	Rajkot	Macchukunda	21.516	69.729	DW			9.25	7.01
753	Rajkot	Malia	21.786	69.446	DW	2.06	5.24	2.01	0.1
754	Rajkot	Modpar1	22.933	70.808	DW	3.06	1.35	2.05	2.25
755	Rajkot	Morbi	21.663	70.342	Pz	4.78	2.3	2.42	4.51
756	Rajkot	Morvi	22.183	71.092	DW	2.6	1.64	1.87	5.2
757	Rajkot	Mota Dadwa	22.442	71.083	DW	16.55	0.68	3.78	4.22
758	Rajkot	Mota dhansura	22.504	70.754	DW	10.42	6.69	5.39	5.4
759	Rajkot	Motagundala	21.917	70.749	DW		1.81	3.82	3.57
760	Rajkot	Movaiya	22.092	70.733	DW	10.05	3.17	6.6	5.96
761	Rajkot	Neknam	21.746	70.286	DW	17.18			10.65
762	Rajkot	Nichi mandal	21.675	70.179	DW		2.91	3.99	7.15
763	Rajkot	Padadhari1	21.967	70.875	DW	8.5	3.06		

Sl.No	District	Well Name	Latt_Y	Long_X	Well_Type	May_2017	Aug_2017	Nov_2017	Jan_2018
764	Rajkot	Patanvav	21.978	70.623	DW		6.29	7.3	10.69
765	Rajkot	Pedhla	22.683	70.808	DW		5.89	10.93	21.75
766	Rajkot	Rajkot	22.092	71.05	DW	5.06	2.47	3.78	3.48
767	Rajkot	Rajkot1	21.897	70.492	DW	4.63	3.11	4.22	4.68
768	Rajkot	Ranpur1	21.933	70.767	DW	13.04	2.8	7.65	
769	Rajkot	Ribda	21.892	70.483	DW	12.36	1.09	6.15	9.67
770	Rajkot	Sardhar1	22.044	71.214	DW	9.65	0.85		2.43
771	Rajkot	Sindhavadar	22.058	71.221	DW			8.48	10.85
772	Rajkot	Targhari	21.756	70.619	DW	6.49		2.32	4.43
773	Rajkot	Umralli	23.022	70.918	DW	10.14		11.85	7.4
774	Rajkot	Upleta1	21.775	70.633	DW	6.67			8.06
775	Rajkot	Upleta3	22.019	70.66	DW		12.14	16.1	
776	Rajkot	Vinchhia	22.658	70.733	DW	6.64	1.85	2.2	6.02
777	Rajkot	Viranagar	22.146	71.2	DW	21.46	3.73	4.32	7.16
778	Rajkot	Virpur1	22.152	71.2	DW	10.68	6.17	11.55	7.33
779	Rajkot	Wankaner-1	22.475	70.55	Pz		3.69		
780	Sabarkantha	Abhapur	22.242	70.646	DW				5.9
781	Sabarkantha	Alwakampa	22.717	70.779	DW	12.25	1.4	6.43	13.28
782	Sabarkantha	Anwarpura Pz	22.133	71.304	Pz	42.2	29.8	38.4	39.9
783	Sabarkantha	Atarsumba	22.133	70.632	DW	11.37	1.8		
784	Sabarkantha	Atarsumba_2	22.142	70.642	DW			5.6	
785	Sabarkantha	Bayad_Pz	23.001	70.896	Pz	10.65		9.5	9.5
786	Sabarkantha	Bhadreshwar	23.092	70.763	DW			20.8	
787	Sabarkantha	Bhiloda_Pz	22.9	70.667	Pz	6.35	3.45	3.6	
788	Sabarkantha	Bhiloda2	22.825	70.858	DW		4.1		
789	Sabarkantha	Boral	22.817	70.842	DW	18.65	5.2	9.2	9.83
790	Sabarkantha	Boriya	21.998	70.994	DW	8.4	3.45	6.5	6.2
791	Sabarkantha	Chandap_DW	22.958	70.617	DW	17.15	2.6	11.9	12.8
792	Sabarkantha	Chandap_Pz	21.735	70.501	Pz	15.49	2.1	8.7	10
793	Sabarkantha	Choriwad	22.45	70.608	DW	23.41	18.41	13.81	17.45
794	Sabarkantha	Derol Pz-II	22.504	70.696	Pz	56.2	48.4	42.95	46.8
795	Sabarkantha	Dhansura1	22.858	70.95	DW	8	5.3	3.97	
796	Sabarkantha	Gadada	22.447	70.608	DW	12.9	7.65	6.63	9.45
797	Sabarkantha	Gadha	21.644	70.261	DW	19.3	11	5.7	
798	Sabarkantha	Hamirpur	21.751	70.592	DW	16.4	3.8	11.1	13.74
799	Sabarkantha	Harsol1	22.306	70.808	DW	17.45			12.95
800	Sabarkantha	Himmatnagar_Pz	22.3	70.8	Pz	10.45	7.45	7.85	7.3
801	Sabarkantha	Idar	22.367	70.929	DW	9.25	1.75	4	5.88
802	Sabarkantha	Jhaloti	22.125	70.767	DW	11.5	4.4	5.85	5.73
803	Sabarkantha	Karanpur	22.146	70.989	DW	16.7	0.7	5.3	12.9
804	Sabarkantha	Kesharpura	23.006	70.707	DW	25.8	12.35	12.75	13.69
805	Sabarkantha	Kesharpura_Mayal	22.335	70.959	DW	5.33			3.03
806	Sabarkantha	Khedbrahma_Pz	22.55	70.892	Pz	4.75	1.2	2.85	2.82
807	Sabarkantha	Khedbramha_1	22.383	70.667	DW	21.8	2.75	7.3	8.85
808	Sabarkantha	Kherwada	21.919	70.604	DW	14.5		4.1	4.07
809	Sabarkantha	Kuski_Pz	21.749	70.275	Pz	23.85		8.45	14.22
810	Sabarkantha	Malpur_1	21.67	70.183	DW	13	4.3	7.74	10.35
811	Sabarkantha	Malpur_Pz	22.208	71.379	Pz	12.5			8.73
812	Sabarkantha	Mathasuliya	22.025	71.125	DW	14.08	9.33	13.33	4.93
813	Sabarkantha	Matoda	21.85	70.696	DW	19.85	3.2	6.5	5.31
814	Sabarkantha	Medasana	22.621	70.929	DW	9.5	4	4.95	9.08
815	Sabarkantha	Meghraj_1	23.964	73.258	DW	6.5	3.28	3.7	3.04
816	Sabarkantha	Modasa	23.275	73.208	DW	7.08	4.43	6.08	4.91
817	Sabarkantha	Panvath/porvad	23.406	72.846	DW		3.13	3.38	
818	Sabarkantha	Poshina2	23.986	73.208	DW	7.8	2.7	3.8	2.96
819	Sabarkantha	Punasan	23.986	73.212	DW	6.75	3.4	4.35	4
820	Sabarkantha	Ramgarh	23.217	73.229	DW	12.18	8.98	8.98	9.74
821	Sabarkantha	Ratanpur	23.746	72.979	DW	17.1			
822	Sabarkantha	Revas	23.767	73.25	DW	19.25	1.2	12.15	13.5
823	Sabarkantha	Sabalwad	23.767	73.272	DW	14.9	11.7	2.6	5.5
824	Sabarkantha	Sathamba	23.253	73.213	DW	15.15	0.85	6.45	10.06
825	Sabarkantha	Seenawad	23.125	73.208	DW	11.4	2	9.1	5.56
826	Sabarkantha	Shamlaji	23.243	72.941	DW	14.4	7.15	8.81	8.65
827	Sabarkantha	Silwad	23.923	72.853	DW	11.8	2.4	6	7.61

Sl.No	District	Well Name	Latt_Y	Long_X	Well_Type	May_2017	Aug_2017	Nov_2017	Jan_2018
828	Sabarkantha	Takatuka_1	23.932	72.857	DW	35.4	8.6	14.1	21.97
829	Sabarkantha	Umadpura	23.9	73.119	DW	15.15	3.8	14.3	14
830	Sabarkantha	Varvada	23.599	72.903	DW		12.8	8.5	13.5
831	Sabarkantha	Veipur_Pz	23.35	73.2	Pz	20.57	4.45	5.65	7.31
832	Sabarkantha	Vijaynagar	23.575	73.253	DW	9.15	5.5		2.18
833	Sabarkantha	Vijaynagar_Pz	23.708	72.942	Pz		5.25	4.25	5.71
834	Sabarkantha	Virpur_1(Himmat)	23.408	73.458	DW	16.75		4.45	12.4
835	Sabarkantha	Virpur_1(Himmat)	23.378	73.017	Pz		4.65		
836	Sabarkantha	Waliampura Pz	23.608	72.971	Pz	38.6	38.2	38	39.4
837	Surat	Aarda Boratha	23.842	73.038	DW			7.4	
838	Surat	Allu	23.95	73.338	DW	3.98	2.61	3.55	4.81
839	Surat	Anita	23.333	73.3	DW			6.3	
840	Surat	Bardoli	23.915	73.145	DW	6.83		3.35	
841	Surat	Bedchit	23.322	72.949	DW	9.6	2.8	6.6	8.14
842	Surat	Bhatkol	24.036	73.044	DW	3.9	3.55	3.65	3.77
843	Surat	Bhurvel (ukai)	24.029	73.05	DW	7	2.37	2.9	3.28
844	Surat	Chapawadi	23.969	73.234	DW	7.7	2.4	1.5	4.23
845	Surat	Chavada	23.639	73.369	DW	4.3			
846	Surat	Digas	23.345	73.464	DW	10.16	4.6	3.8	8.27
847	Surat	Dungri	23.342	73.468	DW	11.4	3.6	2.25	4.32
848	Surat	Gandhinagar	23.603	73.154	DW	6.42			
849	Surat	Gangadhra	24.111	73.008	DW	10.85	5.43	8.35	5.77
850	Surat	Gangtha	23.512	73.274	DW	19.81		11	
851	Surat	Jesingpura[sg]	23.496	73.508	DW	7.4	6.8	6.82	7.03
852	Surat	Jhankhavav	23.463	73.308	DW	7.4	2.9	4.4	5.47
853	Surat	Jhankhvav	23.897	73.332	DW	9.61	3.45	4.45	5.45
854	Surat	Juna umarpada	24.375	73.033	DW	5.96	0.7	3.5	3.26
855	Surat	Juna Umarpada2	23.669	73.174	DW	6.43	0.75	0.5	3.26
856	Surat	Kadod 1	23.605	72.919	DW	5.72	4.55		5.5
857	Surat	Karanjvel	24.208	72.999	DW	6.57	3.25	5.2	6.43
858	Surat	Kasal	23.821	73.117	DW	8.9	1.95	2.9	4.97
859	Surat	Kathor	23.874	72.963	DW	11.98	9.3	11.2	11.54
860	Surat	Katradevi	23.175	73.338	DW			2.4	3.4
861	Surat	Kelkui	23.486	73.399	DW	1	0.1	1	
862	Surat	Khedwada (Ashram Falia	23.686	73.367	DW	7.33	5.5	5.6	
863	Surat	Kherwa	24.008	73.117	DW			0.7	5.32
864	Surat	Madhi 1	23.847	73.308	DW			3.8	
865	Surat	Mahuva2	23.851	73.305	DW	17.75	14.85	16.8	17.18
866	Surat	Malda	23.304	72.964	DW	10.6	1.35	4	3.94
867	Surat	Mandvi2	23.442	73.057	DW	14	12.5	13.6	8.82
868	Surat	Mota	23.797	73.221	DW	3.07	2.2	1.05	5
869	Surat	Moti Sarkui	24.008	73.354	DW	8.67	2.3	4.45	5.52
870	Surat	Motichher	24.007	73.333	DW	4.4	0.55	1.35	3.6
871	Surat	Navi pardi	23.783	72.933	DW	3.48	2.68	2.48	3.08
872	Surat	Nizar	23.652	72.954	DW	15.37	14.05	14.55	15.5
873	Surat	Nizar1	23.933	73.033	DW	13.5	10.3		
874	Surat	Nogama	23.351	72.971	DW	3.78	1.74	0.84	4.01
875	Surat	Olpad2	21.488	74.115	DW	2.46	0.65	1.8	2.16
876	Surat	Palsana	21.063	73.192	DW	2.89	1.19	1.49	1.85
877	Surat	Paneshwar	21.399	72.856	DW	12.99	5.8	4.6	10.31
878	Surat	Paniwara	21.158	72.989	DW			6.25	
879	Surat	Puna	21.115	73.1	DW	12.76	6.65	8.3	9.75
880	Surat	Puna1	20.95	73.351	DW	10.2	4.25	6.3	7.18
881	Surat	Sachin town	21.38	73.004	DW	2.4	1.68	1.9	3.53
882	Surat	Sarbhon	21.225	73.579	DW	3.3	2.85	4.9	3
883	Surat	Sayan	21.151	73.394	DW	7.8			7.7
884	Surat	Sultanabad	21.475	73.595	DW	5.74	4.87	5.21	
885	Surat	Surat_DW	21.248	73.026	DW		6.25	1.3	
886	Surat	Tadkeshwar	21.408	73.133	DW	8.8		5.5	
887	Surat	Tawali	21.164	73.696	DW	8.46	3.52	5.8	6.83
888	Surat	Ten-bardoli	21.119	73.075	DW	6.9		4.2	5.98
889	Surat	Tokarwa 1	21.525	74	DW	8.1	1.98	5.6	6.22
890	Surat	Uchchhal	21.171	73.554	DW	11.5			
891	Surat	Ushker	21.45	73.329	DW	5.44	3.05	5.8	6.7

Sl.No	District	Well Name	Latt_Y	Long_X	Well_Type	May_2017	Aug_2017	Nov_2017	Jan_2018
892	Surat	Vadade-Khurd	21.467	72.953	DW	3.2	1.05	0.9	1.14
893	Surat	Vaheval	21.458	73.492	DW	9.61	1.5	5.25	8.76
894	Surat	Valod	21.449	73.487	DW	5.31	3.2	4	4.35
895	Surat	Vyara1	21.221	73.219	DW	4.32	4.05	3.7	3.8
896	Surat	Wadoli	21.013	73.458	DW	0.98		0.25	2.73
897	Surendranaga	Adriyana	21.322	73.127	DW	4.35			3.92
898	Surendranaga	Anindra	21.292	72.929	DW	3.93	1.42	2.85	1.7
899	Surendranaga	Bajana	21.415	73.428	DW		0.3	1.26	1.22
900	Surendranaga	Bamanbor	21.042	73.323	DW	12.18	3.76	5.8	9.24
901	Surendranaga	Chotila1	21.281	73.465	DW	14.26		4.12	11.49
902	Surendranaga	Dasada	21.419	73.96	DW		2.59	3.79	3.97
903	Surendranaga	Dasada1	21.142	73.254	DW	3			0.46
904	Surendranaga	Dedadra	21.134	73.249	DW	5.86	0.78	1.35	5.55
905	Surendranaga	Dhama	21.021	73.146	DW	10.26	4.34	5	7.7
906	Surendranaga	Dhandhalpur 1	21.367	73.35	DW	9.08	3.06	1.5	7.17
907	Surendranaga	Dheduki 1	21.254	73.296	DW	10.87			8
908	Surendranaga	Ghansyam Gadh	21.17	73.069	DW		0.34	2.34	4.04
909	Surendranaga	Halvad2	21.279	73.35	DW	7.02	2.55	4.26	6.41
910	Surendranaga	Jhinjhuwada	21.213	73.362	DW	6.67	2.93	2.82	3.86
911	Surendranaga	Juna Devaliya 1	21.322	72.971	DW	2.8	1.9	2.36	2.03
912	Surendranaga	Kharaghoda	21.481	74.2	DW				1.75
913	Surendranaga	Kherwa	21.477	74.191	DW	1.45	0.59	1.14	1.21
914	Surendranaga	Kukavati	21.291	73.214	DW		1.2	4.65	2.71
915	Surendranaga	Lakhtar	21.342	72.758	DW	3.58	3.05	2.31	2.85
916	Surendranaga	Latuda	21.078	72.992	DW		0.2		1.18
917	Surendranaga	Limbdi1	21.454	73.198	DW	2.7	0.69	1.16	1.52
918	Surendranaga	Limbdi-Pz	21.539	74.069	Pz	2.98	0.62	1.69	1.76
919	Surendranaga	Mathak	20.924	73.233	DW		8.99	9.72	13.08
920	Surendranaga	Miani	20.929	73.229	DW				1.06
921	Surendranaga	Modhvana	21.092	72.875	DW		0.59	1.07	0.68
922	Surendranaga	Moti Moladi	21.058	73.092	DW	14.72	2.44	4.96	12.23
923	Surendranaga	Muli	21.306	72.911	DW	11.69	2.89	3.81	9.91
924	Surendranaga	Nava Raisngpur	21.092	72.725	DW		7.49	9.15	11.59
925	Surendranaga	Olak	21.246	72.786	DW		3.39	2.75	2.87
926	Surendranaga	Pipli	21.376	73.902	DW	0.7		0.3	1.49
927	Surendranaga	Rajsitapur	21.117	73.1	DW	9.52	1.32	2.75	6.85
928	Surendranaga	Ranipet	21.31	73.851	DW				15.37
929	Surendranaga	Ratanpur1	21.172	73.769	DW		5.83	6.99	7.62
930	Surendranaga	Sara	21.341	73.098	DW	1.06			1
931	Surendranaga	Sarla	21.252	73.817	DW	12.31		3.82	9.34
932	Surendranaga	Sayala	20.837	73.288	DW	24.06		5.56	22.07
933	Surendranaga	Shiyani	21.05	73.267	DW	4.2	2.68	2.9	3.34
934	Surendranaga	Soldi	21.444	73.049	DW				9.82
935	Surendranaga	Sudamda	21.108	73.396	DW	15.39	0.29	2.92	10.53
936	Surendranaga	Sukhpar1	21.425	72.829	DW		1.4	2.45	2.47
937	Surendranaga	Surel	23.425	71.708	DW				1.35
938	Surendranaga	Surendranagar	22.81	71.706	Pz	3.38	1.24	2.19	2.28
939	Surendranaga	Surendranagar2	23.117	71.783	DW		0.15	3.9	5.75
940	Surendranaga	Tarnetar	22.417	71.042	DW		13.94	14.48	14.3
941	Surendranaga	Tavi 1	22.425	71.182	DW		0.1		0.15
942	Surendranaga	Than	23.32	71.824	DW				16.13
943	Surendranaga	Vanala	23.321	71.829	DW		1.08	2.43	4.62
944	Surendranaga	Visawadi	22.775	71.733	DW	4.51		3.02	2.78
945	Surendranaga	Vitthalgarh	23.113	71.663	DW	3.7			3.16
946	The dangs	Aherdi	23.385	71.679	DW	3.92	0.9	1.45	2.68
947	The dangs	Ahwa_Pz	22.381	71.351	Pz	3.4	2.8	2.2	1.8
948	The dangs	Ahwa1	22.501	71.322	DW	3.44	0.96	0.7	1.48
949	The dangs	Bari Pada	22.993	71.498	DW	12.7	0.15	0.1	
950	The dangs	Bari pada	22.898	71.557	DW			3.35	5.58
951	The dangs	Bhenskatri	23.107	71.484	DW			8	
952	The dangs	Bori Gaotha 1	23.021	71.188	DW	9.4		4.1	
953	The dangs	Chikhli	23.35	71.658	DW	9.46	1.2	1	1.18
954	The dangs	Chinchnogaatha	22.979	71.009	DW	7.04	1.31	2.41	2.6
955	The dangs	Chinchpada	23.188	71.75	DW		1.05	1.1	2.36

Sl.No	District	Well Name	Latt_Y	Long_X	Well_Type	May_2017	Aug_2017	Nov_2017	Jan_2018
956	The dangs	Dhumkal	23.004	71.746	DW	3.95	1.26	2.2	1.39
957	The dangs	Gadad	23.123	71.48	DW	5.15	0.97	2.05	
958	The dangs	Ghubita	22.858	71.783	DW	2.53	0.52	0.3	0.87
959	The dangs	Jakana	22.813	71.608	DW	10.35	1.79	1.55	1.71
960	The dangs	Jamalpada	22.567	71.813	DW	7.05	2.16	4.8	5.35
961	The dangs	Kalibel	22.572	71.808	DW	3.52	0.95	0.8	1.31
962	The dangs	Mahal	22.842	71.058	DW	6.6	3.2	3	3.26
963	The dangs	Malegaon	23.113	71.129	DW	5.95	0.25	0.2	0.59
964	The dangs	Nadak khadi	22.881	71.736	DW	6.61	0.72	0.95	2.14
965	The dangs	Nana pada	22.421	71.11	DW	10.88	1.33	2.58	3.13
966	The dangs	Sakarpatal	22.65	71.467	DW		1.26	1.3	2
967	The dangs	Sodmal	22.742	71.262	DW	12.32	1.25	1.8	3.94
968	The dangs	Subir	22.919	71.863	DW	6.8	0.78	1	2.44
969	The dangs	Umberpada	23.06	71.734	DW	5.35	0.65	1.35	2.99
970	The dangs	Vaghai	22.842	71.592	DW	13.12	2.4		4.24
971	The dangs	Vazat Amba	22.708	71.217	DW	7.74		5	
972	Vadodara	Alladpur	22.858	71.271	DW	10.37	8		10.2
973	Vadodara	Amreshwar	22.8	71.197	DW	3.73		1.65	1.75
974	Vadodara	Asala	22.733	71.367	DW	12.22	5.19	5.05	5.1
975	Vadodara	Asar	22.533	71.483	DW		11.5	12.94	
976	Vadodara	Baladgam	22.667	71.829	DW	13	8.45	11.25	10.65
977	Vadodara	Bhindol	22.994	71.416	DW			5.72	8.8
978	Vadodara	Bodeli	22.454	71.485	DW	7.28		2.9	
979	Vadodara	Chavaria	23.008	71.283	DW	12.3	9.65		10.9
980	Vadodara	Chella Karamsiya Pz	23.479	71.619	Pz	3.58	2.5		
981	Vadodara	Chhaliyar	22.724	71.671	DW	23.7	22.01	22.1	
982	Vadodara	Chhota udepur	22.717	71.608	DW	8.72		4.34	0.6
983	Vadodara	Chisadia	22.642	71.217	DW	11.88			0.3
984	Vadodara	Chitral PZ_II	22.72	71.852	Pz	25.63	23.14	24.1	23.2
985	Vadodara	Chitral Pz-I	22.579	71.2	Pz	25.65	22.74	24.47	22.52
986	Vadodara	Chota udepur	22.433	71.921	DW	8.36			
987	Vadodara	Devat (thadgam)	23.342	71.733	DW	10.27	8.95	7.42	7.6
988	Vadodara	Ferkuva	22.988	71.975	DW	6.33	0.27	3.74	9.1
989	Vadodara	Ghamodi	22.558	71.654	DW	8.32	1.38	4.82	8.95
990	Vadodara	Ghayaj ii	20.692	73.617	Pz	25.12	20.6	18	21.3
991	Vadodara	Govindpura	20.759	73.686	DW	7.87	4.6	4.98	4.2
992	Vadodara	Handod2	20.758	73.683	DW		26.77		28.07
993	Vadodara	Jojh	20.64	73.691	DW	13.42	6.9	10.3	9
994	Vadodara	Juna samalya	21.004	73.558	DW	11.05		10.06	11.1
995	Vadodara	Karamasiya	20.811	73.503	DW	13.2			4.4
996	Vadodara	Kevadi	20.658	73.688	DW	6.42	3.5	5.15	3.8
997	Vadodara	Kosindra Pz-I	20.808	73.553	Pz	4.84		2.72	
998	Vadodara	Makni	20.638	73.775	DW	10.75			
999	Vadodara	Masor	20.646	73.792	DW	14.34	13.45	12.95	
1000	Vadodara	Moti chikhali	20.638	73.775	DW	3.49	2.3	3.34	2.2
1001	Vadodara	Panwad	20.8	73.738	DW	9.78	1.89	7.42	7.3
1002	Vadodara	Patiyapura	20.633	73.746	DW	8.11	6.65	5.38	4.5
1003	Vadodara	Pavi	20.732	73.521	DW	4.7	1.68		2.1
1004	Vadodara	Pitha	20.921	73.581	DW	9	2.72	4.99	3.96
1005	Vadodara	Raypura i	20.917	73.679	Pz	15.52	15.7	15.8	15.4
1006	Vadodara	Saidal	20.6	73.746	DW	2.84		2.04	0.4
1007	Vadodara	Saidivasana	20.804	73.613	DW	6.7	2.2	3	1.6
1008	Vadodara	Sankarda	20.7	73.583	Pz	27.23			31.35
1009	Vadodara	Sankarda1	20.719	73.557	DW	27.7			
1010	Vadodara	Sankheda	20.867	73.617	DW	28.03	21.1		30.2
1011	Vadodara	Segwa chouki ii	20.922	73.581	Pz	42.87	35.8	37.7	
1012	Vadodara	Segwa chowki I	20.683	73.725	Pz	36.09	33.15	37.2	27.9
1013	Vadodara	Sengpur	20.764	73.504	DW	11.75	4.5	4.76	7.5
1014	Vadodara	Sinor	20.878	73.518	DW	24.67	20.9	25.02	25.4
1015	Vadodara	Tokri	22.147	74.028	DW	29.32	6.7	6.1	
1016	Vadodara	Tundav	22.483	73.203	DW	9.72	11.2	7.46	9.6
1017	Vadodara	Vadodara I	22.305	73.272	Pz	16.52	14.05	13.65	11.5

SI.No	District	Well Name	Latt_Y	Long_X	Well_Type	May_2017	Aug_2017	Nov_2017	Jan_2018
1018	Vadodara	Vadodara li	22.305	73.272	Pz	6.42	5.5	7.72	6.2
1019	Vadodara	Vadodara_Kevada Bag	22.293	73.198	DW	10.13	8.7		
1020	Vadodara	Vadodara_ONGC	22.269	73.213	DW	13.66		15.5	
1021	Vadodara	Vadodara_Sama	22.343	73.201	DW	3.57			
1022	Vadodara	Vadshala Pzi	22.163	73.169	Pz	29.3		29.85	21.7
1023	Vadodara	Vadtalav Pz	22.259	73.784	Pz	13.86		10.9	
1024	Vadodara	Vagudan	22.067	74.142	DW	6.93	3.5	2.43	4
1025	Vadodara	Vega	22.159	73.413	DW	7.11	3.75	4.85	4.05
1026	Vadodara	Veipur2	22.747	73.356	DW	2.45	0.8	1.74	0.4
1027	Vadodara	Waghach	22.071	73.851	DW			5.91	
1028	Vadodara	Waghodia Pz	22.364	73.377	Pz	10.54	4.55	6.7	5.7
1029	Valsad	Awadha	20.517	73.288	DW	3.63	0.31	8.75	2.4
1030	Valsad	Chavshala	20.328	73.326	DW	8.72		2.2	
1031	Valsad	Dahli (bhilad)	20.258	72.883	DW	4.72	0.69	2.99	3.66
1032	Valsad	Dharampur 3	20.531	73.163	DW	12.35	5.4	8.5	8.32
1033	Valsad	Dharampur1	20.536	73.171	DW	10.2	2.2	5.0	6.25
1034	Valsad	Dungri	20.689	72.949	DW	10		6.35	
1035	Valsad	Fali	20.313	73.376	DW	12.2		1.0	
1036	Valsad	Huda	20.291	73.409	DW			0.9	
1037	Valsad	Kanadu	20.325	72.842	DW	5.9	0.85	4.7	5.31
1038	Valsad	Kaparda	20.342	73.217	DW	8.25	2.09	2.45	2.87
1039	Valsad	Karwad	20.363	72.975	DW	4.62	0.92	3.4	3.26
1040	Valsad	Lakadmal	20.467	73.158	DW	9.9	1.48	3.6	4.36
1041	Valsad	Mandwa 1	20.366	73.18	DW	11.18	6.55		7.25
1042	Valsad	Motaponda	20.358	73.042	DW			5.2	
1043	Valsad	Muli1	20.633	73.025	DW	4.6	0.97	2.6	3.04
1044	Valsad	Nanaponda	20.414	73.121	DW	10.62	2.2	5.8	7.2
1045	Valsad	Tithal	20.6	72.9	DW	8.02		6.4	6.94
1046	Valsad	Tumb	20.217	72.842	DW	3.44	1.2	3.3	2.69
1047	Valsad	Udwada	20.464	72.918	DW	6.35	1.55	2.35	3.19
1048	Valsad	Umargaon	20.192	72.75	DW	4.18	3.09	3.6	3.81
1049	Valsad	Valsad1	20.606	72.928	DW	23.67			14.32
1050	Valsad	Vapi Balitha	20.38	72.904	DW	10.2	0.9	6.1	8.5
1051	Valsad	Wankal	20.56	73.09	DW			6.3	

**WATER LEVELS OF THE NATIONAL HYDROGRAPH STATIONS IN GUJARAT AND UT OF DAMAN
& DIU 2017-18 (CONFINED)**

DISTRICT	SITE_NAME	AQUIFER_TY	Long_X	Latt_Y	Elevation GL	May_2017 in m bgl	WT_Elevation m MSL
Ahmedabad	Vatwa Pz-II	Con_Aq_I	72.62	22.95	46	52.62	-6.62
Anand	Hariyan_Pz	Con_Aq_I	72.67	22.40	15	6.65	8.35
Anand	Kathana_Pz_I	Con_Aq_I	72.79	22.29	25	18.1	6.9
Anand	Sarsa_Pz_I	Con_Aq_I	73.07	22.54	52	19.47	32.53
Anand	Tarapur Pz-I	Con_Aq_I	72.66	22.49	24	4.03	19.97
Banaskantha	Bhabhar iii	Con_Aq_I	71.60	24.06	37	33.42	3.58
Banaskantha	Deesa Pzi	Con_Aq_I	72.19	24.26	143	74.22	68.78
Banaskantha	Naroli Pzi	Con_Aq_I	71.64	24.62	54	7.99	46.01
Banaskantha	Naroli Pzii	Con_Aq_I	71.64	24.62	54	6.65	47.35
Banaskantha	Rasna(Repl)_Pz_I	Con_Aq_I	72.25	24.22	154	86.91	67.09
Banaskantha	Tharad Pzii	Con_Aq_I	71.62	24.39	46	12.49	33.51
Banaskantha	Vav ii	Con_Aq_I	71.51	24.36	52	21.49	30.51
Banaskantha	Vinchivadi PZ-I	Con_Aq_I	71.93	24.59	102	63.17	38.83
Gandhinagar	Adalaj_Pz_I	Con_Aq_I	72.56	23.18	64	104.16	-40.16
Gandhinagar	Amrapur Pzii	Con_Aq_I	72.71	23.37	94	84.24	9.76
Gandhinagar	Charada Pz -II	Con_Aq_I	72.65	23.48	110	100.77	9.23
Gandhinagar	Dahegam I	Con_Aq_I	72.84	23.17	74	74.56	-0.56
Gandhinagar	Gandhinagar II	Con_Aq_I	72.64	23.23	75	91.83	-16.83
Gandhinagar	Kalol(Rep)_Pz_II	Con_Aq_I	72.49	23.24	71	54.43	16.57
Gandhinagar	Nardipur i	Con_Aq_I	72.57	23.33	81	96.31	-15.31
Kheda	Matar II	Con_Aq_I	72.67	22.71	27	7.13	19.87
Kheda	Nadiad Pz-I	Con_Aq_I	72.87	22.71	36	20	16
Mahesana	Mehsana III	Con_Aq_I	72.40	23.60	91	102.76	-11.76
Patan	Biliya(Temple)_Pz_I	Con_Aq_I	72.40	23.89	133	76	57
Patan	Kakosi Pz-II	Con_Aq_I	72.31	24.00	136	38.67	97.33
Patan	Matarwadi I	Con_Aq_I	72.15	23.87	86	103.22	-17.22
Vadodara	Raypura i	Con_Aq_I	73.09	22.28	30	15.52	14.48
Vadodara	Sankarda	Con_Aq_I	73.12	22.44	38	27.23	10.77
Vadodara	Segwa chouki ii	Con_Aq_I	73.38	22.01	41	42.87	-1.87
Vadodara	Segwa chowki I	Con_Aq_I	73.38	22.01	41	36.09	4.91

DISTRICT	SITE_NAME	AQUIFER_TY	Long_X	Latt_Y	Elevation GL	May_2017 in m bgl	WT_Elevation m MSL
Vadodara	Vadodara I	Con_Aq_I	73.27	22.30	36	16.52	19.48
Ahmedabad	Bagodara_Pz_I	Con_Aq_II	72.21	22.64	12	7.6	4.4
Ahmedabad	Hansalpur_Pz-I	Con_Aq_II	72.02	23.09	23	40.16	-17.16
Ahmedabad	Sanand I	Con_Aq_II	72.37	23.00	35	70.3	-35.3
Anand	Anklav_Pz_I	Con_Aq_II	73.00	22.38	35	27.09	7.91
Anand	Petlad_Pz_I	Con_Aq_II	72.80	22.48	33	14.44	18.56
Anand	Walmi_I	Con_Aq_II	72.98	22.51	49	23.13	25.87
Banaskantha	Balodhar_Pz-I	Con_Aq_II	71.91	24.23	94	154.57	-60.57
Banaskantha	Dhanera Pz-I	Con_Aq_II	72.03	24.51	136	91.73	44.27
Banaskantha	Lakhani i	Con_Aq_II	71.82	24.31	82	82.51	-0.51
Banaskantha	Mahi_Pz	Con_Aq_II	72.38	24.03	159	162.62	-3.62
Banaskantha	Takarwada Pz-I	Con_Aq_II	72.33	24.11	157	162.05	-5.05
Banaskantha	Tharad Pzi	Con_Aq_II	71.62	24.39	46	12.66	33.34
Banaskantha	Vav i	Con_Aq_II	71.51	24.36	52	24.79	27.21
Gandhinagar	Amrapur Pzi	Con_Aq_II	72.71	23.37	94	112.82	-18.82
Gandhinagar	Charada_Pz_I	Con_Aq_II	72.65	23.48	110	194.6	-84.6
Gandhinagar	Chiloda_Pz_I	Con_Aq_II	72.74	23.23	74	113.34	-39.34
Gandhinagar	Mansa	Con_Aq_II	72.67	23.42	105	119.58	-14.58
Gandhinagar	Pethapur_Pz-I	Con_Aq_II	72.67	23.27	81	112.01	-31.01
Gandhinagar	Sardhav Pz -I	Con_Aq_II	72.57	23.30	82	118.46	-36.46
Gandhinagar	Sardhav Pz-II	Con_Aq_II	72.57	23.30	82	137.53	-55.53
Kheda	Matar I	Con_Aq_II	72.67	22.71	27	21.32	5.68
Kheda	Sarkhej_I	Con_Aq_II	72.88	22.99	53	25.35	27.65
Mahesana	Daran_Pz-I	Con_Aq_II	72.28	23.21	48	101.45	-53.45
Mahesana	Jotana Pzi	Con_Aq_II	72.29	23.47	74	132.35	-58.35
Mahesana	Karalli (i)	Con_Aq_II	72.49	23.80	133	133.21	-0.21
Mahesana	Mehsana I	Con_Aq_II	72.40	23.60	91	155.29	-64.29
Mahesana	Mehsana II	Con_Aq_II	72.40	23.60	91	155.55	-64.55
Mahesana	Motipura_Pz_I	Con_Aq_II	72.60	23.53	111	162.51	-51.51
Mahesana	Suraj	Con_Aq_II	72.31	23.39	68	30.75	37.25
Mahesana	Thol Pz -V	Con_Aq_II	72.38	23.13	58	112.82	-54.82
Patan	Jangral Pzi	Con_Aq_II	71.69	23.69	24	146.4	-122.4
Patan	Jangral Pzii	Con_Aq_II	71.68	23.71	20	131.38	-111.38

DISTRICT	SITE_NAME	AQUIFER_TY	Long_X	Latt_Y	Elevation GL	May_2017 in m bgl	WT_Elevation m MSL
Patan	Kakosi Pz-I	Con_Aq_II	72.31	24.00	136	138.2	-2.2
Patan	Lanwa Pz-I	Con_Aq_II	72.25	23.69	77	130.5	-53.5
Vadodara	Chitral Pz-I	Con_Aq_II	72.95	22.18	23	25.65	-2.65

Groundwater Table of Gujarat state and UT of Daman and Diu during May 2017

DISTRICT_NAME	SITE_NAME	Latt_Y	Long_X	May_2017	Elevation_GL	WT_May_17
Ahmedabad	Bagodara_Pz_II	22.6417	72.2139	7.45	11.7	4.25
Ahmedabad	Barvala	22.1500	71.8917	14.21	28	13.79
Ahmedabad	Bopal_Pz_III	23.0386	72.4578		44	
Ahmedabad	Dalod	23.3667	71.9667	5.47	31.1	25.63
Ahmedabad	Devalia	22.3778	71.9861	20.4	24.5	4.1
Ahmedabad	Dhandhuka1	22.3750	71.9861	4.3	22.6	18.3
Ahmedabad	Endla	23.2722	72.0583	1.75	34.3	32.55
Ahmedabad	Fedra	22.4622	72.1583	2.89	8	5.11
Ahmedabad	Gamph	22.3583	72.1667	3.25	15.8	12.55
Ahmedabad	Ghuma	23.0333	72.4458	3.25	44.2	40.95
Ahmedabad	Ghuma_Pz_II	23.0339	72.4497	3.37	44.7	41.33
Ahmedabad	Hansalpur_Pz-III	23.0889	72.0167	3.59	23.8	20.21
Ahmedabad	Hazipur Garden_Pz_III	23.0414	72.5908		50.1	
Ahmedabad	Jholapur_Pz_III	22.9875	72.2042		27.9	
Ahmedabad	Koth III	22.4639	72.2967		8	
Ahmedabad	Kumarkhan	22.9000	72.0167	4.9	16.9	12
Ahmedabad	Kundal	22.9014	72.2236		22	
Ahmedabad	Kundali	22.2694	71.7000	15.42	80.3	64.88
Ahmedabad	Mandal2	23.2750	71.9167	4.17	24.9	20.73
Ahmedabad	Pachcham_Pz	22.2322	72.1789		9.2	
Ahmedabad	Rajpada	22.3083	71.6917	17.18	81	63.82
Ahmedabad	Salangpor	22.1583	71.7708		58.9	
Ahmedabad	Sola_Pz_III	23.0806	72.5186	12.48	52.5	40.02
Ahmedabad	Tagadi1	22.2958	71.9472	5.87	22.9	17.03
Ahmedabad	Ughraj1	23.3667	72.1000	6.76	44.9	38.14
Ahmedabad	Upardhal_Pz	22.8458	72.1389		13.4	
Ahmedabad	Upardhal1	22.8500	72.1458	8.95	20	11.05
Ahmedabad	Vagad(Repl)_Pz	22.3603	71.8681	6.9	40.3	33.4
Ahmedabad	Vastrapur_lake_II(2)	23.0383	72.5297		45.8	
Ahmedabad	Viramgam2	23.1417	72.0333	3.89	29	25.11
Ahmedabad	Visalpur_Pz-II	22.9186	72.4878		35.9	
Amreli	Amreli	21.6083	71.2250	12.04	127	114.96
Amreli	Amreli_Pz	21.6125	71.2250	15.23	128	112.77
Amreli	Amritvel_Pz	21.3972	71.3583		99.3	
Amreli	Anida_Pz	21.6819	70.9278		163.4	
Amreli	Ankadia mota	21.6458	71.1083	12.35	153	140.65
Amreli	Badhda	21.2658	71.3389	9.28	175.6	166.32
Amreli	Bagasara	21.4792	70.9625	20.95	152	131.05
Amreli	Bhavardi1	21.1083	71.2583	4.7	190.8	186.1
Amreli	Bherai	20.8681	71.3625	2.84	8	5.16
Amreli	Bhuva	21.4328	71.3639	4.43	86.2	81.77
Amreli	Chalala	21.4167	71.1667	33.07	134.9	101.83
Amreli	Charkhadia_Pz	21.3875	71.2917	21.53	112.1	90.57
Amreli	Charkhadia1	21.3917	71.2958	17.73	112	94.27
Amreli	Chavand	21.8167	71.4125	11.33	116.2	104.87
Amreli	Devaliya	21.8208	71.1083	13.75	153	139.25
Amreli	Dhantardi	21.0222	71.6208		9.9	
Amreli	Dharangani	21.3333	71.2000	30.08	167	136.92
Amreli	Dhari	21.3375	71.0417	14.53	205	190.47
Amreli	Dhari_Pz	21.3264	71.0181	12.62	211	198.38
Amreli	Dhrai Balmukand	21.8342	71.2172	22.3	191.4	169.1
Amreli	Fifad	21.4361	71.5403	5.32	66.6	61.28
Amreli	Gokharwala	21.5000	71.2583		101	
Amreli	Gopalpura Vanda Pz	21.3750	71.4917	31.33	98	66.67
Amreli	Goradka	21.2250	71.4111	8	134.3	126.3

DISTRICT_NAME	SITE_NAME	Latt_Y	Long_X	May_2017	Elevation_GL	WT_May_17
Amreli	Govadka	21.5417	71.1583	5.84	113	107.16
Amreli	Hinderana	20.9747	71.4128	5.7	28.6	22.9
Amreli	Hipavadli	21.3789	71.6147	8.83	93.2	84.37
Amreli	Ingorala	21.2333	71.2000	19.95	266.6	246.65
Amreli	Ishwaria	21.6333	71.2667		138	
Amreli	Jafrabad	20.8667	71.3625	1.77	16.8	15.03
Amreli	Jesar_Pz	21.3714	71.6703	6.55	95.8	89.25
Amreli	Jira	21.2375	71.0917		287	
Amreli	Junasavar_Pz	21.4639	71.3889		83.2	
Amreli	Kadiyali	20.9083	71.3603	6.1	8.3	2.2
Amreli	Kerala	21.3972	71.2167	42.58	127.4	84.82
Amreli	Khamba	21.1500	71.2389	8.91	219.6	210.69
Amreli	Khamba_Pz	21.1417	71.2542	11	201.9	190.9
Amreli	Kotadapitha	21.9583	71.2042	13.14	202.1	188.96
Amreli	Kunkavav	21.6625	70.9833	15.13	173.1	157.97
Amreli	Lathi	21.7208	71.3833	9.47	121	111.53
Amreli	Lotpur	20.9625	71.4333	-1.15	17.2	18.35
Amreli	Luvariya	21.6250	71.3958	7.33	100.1	92.77
Amreli	Mandal	21.1000	71.5833	27.42	46.1	18.68
Amreli	Manila Pz	21.4333	71.1667		129	
Amreli	Morjhar	21.3761	71.1186	48.57	171	122.43
Amreli	Nageshri	20.9250	71.3542	4.27	11	6.73
Amreli	Piyava	21.3833	71.4667	30.8	98	67.2
Amreli	Punjabadar	21.5250	71.3583	8.21	91.1	82.89
Amreli	Salena	21.3861	71.5333	16.77	92.6	75.83
Amreli	Sanaria	21.5578	71.4681	5.3	85.7	80.4
Amreli	Tajpur	21.7250	71.4667	23.83	113.9	90.07
Amreli	Timbi2	20.8958	71.2042	12.32	34.9	22.58
Amreli	Trakuda	21.0167	71.2806	11.23	81.1	69.87
Amreli	Untvad	21.9167	71.2167	16.03	192.1	176.07
Amreli	Vaghania juna	21.5833	70.9667	11	152	141
Amreli	Vanda	21.3897	71.5075		86	
Amreli	Vankiya	21.5208	71.1361	11.07	120.4	109.33
Amreli	Vankiya1	21.2333	71.2500	26.4	233.1	206.7
Amreli	Vavdi Pz	21.3583	71.1917		150	
Amreli	Victor	21.0125	71.5417	1.25	7	5.75
Amreli	Virpur	21.2542	71.1500	16.37	242	225.63
Anand	Anand	22.5750	72.9722	15.79	42.3	26.51
Anand	Anklav2	22.3833	73.0083	27.88	37	9.12
Anand	Bandhani	22.5417	72.8167	6.25	34.2	27.95
Anand	Bhadran	22.3556	72.8972	18.29	28.1	9.81
Anand	Dali	22.2750	72.7667	4.28	23.9	19.62
Anand	Davalpura_Pz	22.4583	72.8028	4.99	28.3	23.31
Anand	Dharmaj	22.4208	72.7944	14.85	23.7	8.85
Anand	Ghora	22.6917	73.0542	7.11	51.9	44.79
Anand	Kansari1	22.3417	72.6500	13.89	14	0.11
Anand	Laxmipura	22.4167	72.6083	3.15	15.8	12.65
Anand	Navapura	22.3125	72.9625	26.56	31	4.44
Anand	Ras	22.3458	72.8333	2.37	24.1	21.73
Anand	Tarapur Pz-II	22.4861	72.6611	4.14	25.1	20.96
Banaskantha	Ambaji_Pz	24.3361	72.8472	13.29	454.4	441.11
Banaskantha	Amirgadh	24.4056	72.6417	9.5	227.3	217.8
Banaskantha	Asodar	24.4167	71.8167		89.1	
Banaskantha	Bharol1	24.5292	71.5417	2.58	33.9	31.32
Banaskantha	Danta	24.1889	72.7653	11.16	279.6	268.44
Banaskantha	Dantiwada	24.2775	72.2614	27.59	158.7	131.11
Banaskantha	Deesa Pzii	24.2567	72.1875	60.69	143	82.31
Banaskantha	Ganapipli	24.2972	72.9472	12.45	259.2	246.75
Banaskantha	Gangodra	24.4361	72.3653	22.68	196.6	173.92

DISTRICT_NAME	SITE_NAME	Latt_Y	Long_X	May_2017	Elevation_GL	WT_May_17
Banaskantha	Iqbalgarh	24.3458	72.5375	30.82	210	179.18
Banaskantha	Jalotra Pz-II	24.1411	72.5847		252.8	
Banaskantha	Jhat	24.4875	72.3528	16.01	193.6	177.59
Banaskantha	Jorapura	24.3797	72.2897		167	
Banaskantha	Khoda	24.6583	71.7667	22.54	60.9	38.36
Banaskantha	Kidotar	24.3944	72.6278	17.75	222.3	204.55
Banaskantha	Kuchwada	24.4667	72.2528		198	
Banaskantha	Manglore	24.5139	71.6972		54.5	
Banaskantha	Meda	24.3972	72.2847	15.5	173.7	158.2
Banaskantha	Miyal iii	24.6361	71.7528		58.4	
Banaskantha	Mohabbat gadh	24.1667	72.7278	22	252.4	230.4
Banaskantha	Naroli Pziii	24.6164	71.6386	7.95	50.3	42.35
Banaskantha	Palanpur2	24.1944	72.4333	27.15	216.9	189.75
Banaskantha	Panthawada	24.4931	72.3042		224.1	
Banaskantha	Rampura	24.4708	72.3167		203.9	
Banaskantha	Ratanpur2	24.1750	72.7458	20.72	262	241.28
Banaskantha	Sankad	24.4972	71.9750		119.3	
Banaskantha	Sihori i	24.0500	71.9389		72.7	
Banaskantha	Sodapur	24.4014	72.2958	12.16	173.3	161.14
Banaskantha	Tharad Pziii	24.3850	71.6194	12.47	46.3	33.83
Banaskantha	Vadgamda	24.4083	71.6917		62.1	
Bharuch	Arethi	21.6125	73.4353	14.45	158.4	143.95
Bharuch	Bhadkodra	22.0583	72.5917		6.9	
Bharuch	Bharuch	21.7000	73.0042	6.14	6	-0.14
Bharuch	Bhensli	21.7250	72.7500	3.25	8	4.75
Bharuch	Chhindra	22.1267	72.6697	9.12	11.6	2.48
Bharuch	Dahegam	22.1847	72.5972	5.15	11.6	6.45
Bharuch	Hansot	21.5833	72.8083	3.95	13.9	9.95
Bharuch	Ilav	21.4500	72.8000	8.19	13	4.81
Bharuch	Jambusar	22.0528	72.8056	8.57	13.9	5.33
Bharuch	Jambusar2	22.0500	72.8000	8.2	12	3.8
Bharuch	Jetpur1	21.4917	72.7083	2.55	8	5.45
Bharuch	Jokhla	21.5958	73.1692	2.77	46	43.23
Bharuch	Juna borbhata	21.6750	72.9750	8.5	4	-4.5
Bharuch	Kalak1	22.0186	72.7631		8.5	
Bharuch	Kaswa	21.6833	72.8167	7.94	11	3.06
Bharuch	Kavachiya	21.5292	73.3542		109.1	
Bharuch	Kavi	22.1936	72.6394	7.97	15.9	7.93
Bharuch	Kondh	21.5806	73.0681	4.92	35.1	30.18
Bharuch	Luhara	21.6750	72.5583	2.08	10	7.92
Bharuch	Mahegam1	21.6833	72.7583	7.3	6.1	-1.2
Bharuch	Modoliya	21.6333	73.2958	8.87	81.2	72.33
Bharuch	Mokhdi	21.5333	73.2875	9.84	78	68.16
Bharuch	Motwan	21.5556	72.8875	2.06	12.3	10.24
Bharuch	Mulad	21.6833	73.0194	0.13	9.2	9.07
Bharuch	Mungaj	21.6883	73.3839		155.2	
Bharuch	Navetha	21.7078	72.8306	6.65	9.4	2.75
Bharuch	Netrang	21.6417	73.3667		125.9	
Bharuch	Netrang(Rep)_Pz	21.6417	73.3667	9.79	125.9	116.11
Bharuch	Netrang1	21.6333	73.3667	8.96	128	119.04
Bharuch	Nirnavi	21.7917	72.6681	8.69	8.7	0.01
Bharuch	Panoli	21.5375	72.9750	1.44	26	24.56
Bharuch	Raymal	21.5208	72.8208	1.26	12.9	11.64
Bharuch	Roja tankaria	21.9167	72.7917	8.17	7.2	-0.97
Bharuch	Sahol	21.4728	72.8097	3.82	12.2	8.38
Bharuch	Sajod	21.6167	72.9236	5.01	9.9	4.89
Bharuch	Sarod	22.1583	72.7583	9.92	19.2	9.28
Bharuch	Simodra	21.7417	73.2083	6.43	34.8	28.37
Bharuch	Sindhav	22.0269	72.6361	6.56	6	-0.56

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Bharuch	Tankari	21.9917	72.6750	4.25	6.1	1.85
Bharuch	Utraj	21.5917	72.8250	4.9	6	1.1
Bharuch	Valia1	21.5725	73.1553		47.1	
Bhavnagar	Ambala	21.7111	71.8417		55.1	
Bhavnagar	Ayodhayapuram	21.9603	71.8864	8.32	17.4	9.08
Bhavnagar	Bhavnagar1	21.7667	72.1500	6.52	24.9	18.38
Bhavnagar	Bhudel	21.6917	72.1583	0.75	33.2	32.45
Bhavnagar	Bhumbhali	21.6794	72.2442	3.43	7.8	4.37
Bhavnagar	Bhutia	21.7472	71.7000	22.3	59	36.7
Bhavnagar	Bora	21.1911	71.9289	30.12	18.6	-11.52
Bhavnagar	Chowk Pz	21.4292	71.7639	25.71	55.7	29.99
Bhavnagar	Datha	21.2208	71.9500	5.19	30.9	25.71
Bhavnagar	Dhasa	21.8000	71.5083	6.91	90	83.09
Bhavnagar	Dudhala	21.1375	71.6583	14.03	53	38.97
Bhavnagar	Gadhada2	21.9667	71.5792	4.91	83.1	78.19
Bhavnagar	Gariyadhar	21.5431	71.5653	23.62	97.6	73.98
Bhavnagar	Ghogha1	21.6833	72.2792	3.92	12	8.08
Bhavnagar	Jalia	21.8000	71.6167		70	
Bhavnagar	Khijadiya	21.6375	71.7000	14.45	95	80.55
Bhavnagar	Kundheli	21.3794	71.9806	23.53	40.8	17.27
Bhavnagar	Longadi	21.2139	71.8833	4.05	38.5	34.45
Bhavnagar	Lonjdihara	22.0972	71.8972	30.8	23.1	-7.7
Bhavnagar	Mahuva1	21.0958	71.7667	20.26	21	0.74
Bhavnagar	Malvav Pz	21.1606	71.9083		33.7	
Bhavnagar	Motivadal	21.1972	71.5500	4.99	114.6	109.61
Bhavnagar	Ningala	22.0181	71.7000	11.49	56.3	44.81
Bhavnagar	Palitana1	21.5250	71.8236	9.63	67.6	57.97
Bhavnagar	Palitana2	21.5222	71.8389	15.55	58.3	42.75
Bhavnagar	Paliyad	22.2556	71.5583		114.9	
Bhavnagar	Paliyad2	22.2556	71.5639	23.61	109.5	85.89
Bhavnagar	Panchpipla	21.5500	71.7208	5.28	81.9	76.62
Bhavnagar	Panvi1	22.0750	71.8917	10.1	16	5.9
Bhavnagar	Pasvi	21.2917	71.9667	16.46	51	34.54
Bhavnagar	Piparla	21.6364	71.9189		93.6	
Bhavnagar	Porbada	21.8000	71.7000	13.53	45	31.47
Bhavnagar	Sajnasar	21.4250	71.9125	12.5	66	53.5
Bhavnagar	Sandhida	21.6875	71.7583	5.53	84	78.47
Bhavnagar	Satanes	21.4417	71.8375	16.57	85.1	68.53
Bhavnagar	Shantinagar	21.2458	71.6500	12.7	123	110.3
Bhavnagar	Sihor	21.7083	71.9542		47.8	
Bhavnagar	Talaja1	21.3611	72.0361		16.6	
Bhavnagar	Talaja2	21.3667	72.0167	12.26	21	8.74
Bhavnagar	Tansa	21.5083	72.1250	16.65	83.9	67.25
Bhavnagar	Tardhera	22.2292	71.6042	24.75	112	87.25
Bhavnagar	Tatam	22.0583	71.6333	20.67	79.1	58.43
Bhavnagar	Timbi2	21.8317	71.7661	5.6	29.3	23.7
Bhavnagar	Trapaj	21.4250	72.0958	15.92	54	38.08
Bhavnagar	Umrالا	21.8472	71.8083	14.02	23.3	9.28
Bhavnagar	Vadal	21.4769	71.8061	13.5	253.7	240.2
Bhavnagar	Vallabhipur1	21.8833	71.8778		16	
Bhavnagar	Vallbhipur	21.8833	71.8750	5.22	16	10.78
Bhavnagar	Vavdi	21.5681	72.1981	7.75	70.6	62.85
DAMAN	Ambawadi	20.4028	72.8444	5.11	14.3	9.19
DAMAN	Bhimpur k.falia	20.4583	72.8708		9.1	
DAMAN	Dabhel	20.4111	72.8861	5.56	16.6	11.04
DAMAN	Dalwada	20.4431	72.8519	7.93	22.2	14.27
DAMAN	Daman	20.4242	72.8503		17	
DAMAN	Jempore	20.3778	72.8269	3.28	13.3	10.02
DAMAN	Khariwad daman	20.4250	72.8458	7.13	14	6.87

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DAMAN	Khariwad daman1	20.4250	72.8458		14	
DAMAN	Morwad	20.4353	72.8311	11.8	19	7.2
DAMAN	Ringwada	20.4014	72.8722		20.3	
DAMAN	Warkund	20.4081	72.8597	6.42	9.3	2.88
DIU	Chakarteeth_Pz	20.7083	70.9689	6.3	7.2	0.9
DIU	Diu	20.7147	70.9486	4.2	6	1.8
DIU	Vanakbarh_Pz	20.7111	70.8778		8.8	
Dohad	Dabhava	22.5833	73.9042	5.78	240	234.22
Dohad	Dadhela	22.8375	74.0667	6.15	262.2	256.05
Dohad	Dahod	22.8403	74.2625	2.2	305.1	302.9
Dohad	Dahod2	22.8250	74.2333	6.87	310	303.13
Dohad	Devgadh Baria	22.7000	73.9139	11.7	200.7	189
Dohad	Devgadh bariya	22.7000	73.9167	13.85	207	193.15
Dohad	Dhanpur	22.6333	74.1042	13.65	258	244.35
Dohad	Fatepura(Karodia)	23.2542	74.0292	12.8	187.7	174.9
Dohad	Garbara	22.6806	74.3125	3.66	353.7	350.04
Dohad	Jhalod	23.0931	74.1472	9	269.5	260.5
Dohad	Jhalod1	23.0917	74.1333	7.1	273.2	266.1
Dohad	Kanjetha	22.5806	74.1139	10.75	252.9	242.15
Dohad	Khandania	22.7042	73.8375	12.9	219.8	206.9
Dohad	Limbdi2	23.0042	74.1583	6.1	277	270.9
Dohad	Limkheda	22.8306	73.9861	8	205.1	197.1
Dohad	Mirakhedi	22.9333	74.2000	6.65	323	316.35
Dohad	Panchwada	22.7292	74.3083	5.2	327.1	321.9
Dohad	Pipero	22.6472	74.0903	12.25	244.1	231.85
Dohad	Salaya1	22.8083	73.8917	16	200.3	184.3
Dohad	Sukhsar	23.1500	74.0500		196	
Dohad	Tokarba	22.6042	74.0375	5.21	231.9	226.69
Dohad	Varamkheda	22.8000	74.2750	3	298	295
Dohad	Wadia	22.9000	74.0500	8.34	229	220.66
Gandhinagar	Adalaj_Pz_III	23.1750	72.5583	24.26	64.1	39.84
Gandhinagar	Amrapur Pziii	23.3736	72.7050	34.79	94	59.21
Gandhinagar	Dahegam II	23.1708	72.8417		75.2	
Gandhinagar	Kasturinagar(IFFCO)	23.1903	72.5528	14.35	74.1	59.75
Gandhinagar	Lodra	23.4639	72.7203	53.3	110.9	57.6
Gandhinagar	Paliya	23.1792	72.8417	14.47	78	63.53
Gandhinagar	Serthapara1	23.1944	72.5667	15.15	66.8	51.65
Jamnagar	Ambardi	21.9164	69.8581	6.29	82.4	76.11
Jamnagar	Amran_Pz	22.8222	70.5458	7.47	13	5.53
Jamnagar	Amran1	22.8292	70.5625	6.55	12.1	5.55
Jamnagar	Aramda	22.4333	69.0417	8.4	6.8	-1.6
Jamnagar	Balwa	21.9042	69.9583	22.72	116	93.28
Jamnagar	Bed1	22.4375	69.9000	10.64	16	5.36
Jamnagar	Bedanpur	22.6833	70.3167	7.8	13	5.2
Jamnagar	Bhadthar	22.0792	69.5792	15.1	47.9	32.8
Jamnagar	Bhanvad	21.9278	69.7958	15.9	62.9	47
Jamnagar	Bhatia	22.0917	69.3014	20.21	36.3	16.09
Jamnagar	Bhatiya	22.0944	69.2667	6.85	20.3	13.45
Jamnagar	Bhogat1	21.9917	69.2458	11.25	9.1	-2.15
Jamnagar	Changa	22.3500	70.0417	22.95	41	18.05
Jamnagar	Dhrol2	22.5667	70.4167	6.36	32.2	25.84
Jamnagar	Drafa	21.9583	70.0750		102	
Jamnagar	Dudhai2	22.7917	70.5042	7.65	14	6.35
Jamnagar	Dwarka	22.2458	68.9583	9.3	12.1	2.8
Jamnagar	Gordhanpur	22.4500	70.0014	21.6	13.7	-7.9
Jamnagar	Haripur2	22.2708	70.3333	24.61	86.1	61.49
Jamnagar	Haryana	22.6083	70.2625	10.3	11	0.7
Jamnagar	Jambuda	22.5250	70.2042	10.74	8	-2.74
Jamnagar	Jamjodhpur	21.9056	70.0306	7.25	101	93.75

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Jamnagar	Jamnagar1	22.4708	70.0500	7.15	22.1	14.95
Jamnagar	Jamnagar2	22.4583	70.0792	10.54	16	5.46
Jamnagar	Juvanpur	22.1708	69.3667	17.1	44	26.9
Jamnagar	Kajuda	22.3333	69.7083	7.05	22	14.95
Jamnagar	Kalavad1	22.2164	70.3889		94.2	
Jamnagar	Kalawad	22.2167	70.3833	6.23	87.8	81.57
Jamnagar	Kalyanpur2	22.0167	69.3917	31.6	38	6.4
Jamnagar	Khambalia	22.2167	69.6500		42.1	
Jamnagar	Khambhaliya	22.2097	69.6458	15.9	38.4	22.5
Jamnagar	Khirsara	21.9792	69.6000	14.19	38.1	23.91
Jamnagar	Kuvadla	22.2014	69.5833	11.05	44	32.95
Jamnagar	Lalpur	22.1917	69.9389		77.2	
Jamnagar	Lalpur1	22.1917	69.9611	14.4	74.7	60.3
Jamnagar	Latipur	22.6333	70.5250		40	
Jamnagar	Modpar	21.8583	69.8083	17.4	87.5	70.1
Jamnagar	Mojap	22.3667	68.9833	12.17	9.9	-2.27
Jamnagar	Mojap1	22.3667	68.9833		9.9	
Jamnagar	Mota kalawad	21.9083	69.8292	23.45	69	45.55
Jamnagar	Motagop	22.0375	69.8750	9.52	101	91.48
Jamnagar	Moti khavdi	22.3875	69.8667	11.33	23	11.67
Jamnagar	Moti matli	22.3167	70.2639	26.65	75.2	48.55
Jamnagar	Navi Madhi_Pz	22.0833	69.1214		23.1	
Jamnagar	Nikava	22.1917	70.5333	7.2	126	118.8
Jamnagar	Pindara1	22.2472	69.2583	7	14.9	7.9
Jamnagar	Raval	21.9297	69.4919	9.75	7.4	-2.35
Jamnagar	Salaya	22.3056	69.6042		7.5	
Jamnagar	Samrasar1	22.3750	69.1042	7.9	9	1.1
Jamnagar	Seth vadala	22.0333	70.1250	12.8	148.9	136.1
Jamnagar	Sumana	22.1083	70.1667	13.95	164	150.05
Jamnagar	Toda	22.0625	70.3833	11.85	146.9	135.05
Jamnagar	Vad panchasara	22.2333	70.1167	20.15	96	75.85
Jamnagar	Vadtara	22.2083	69.5000	11	43.1	32.1
Jamnagar	Varwada	22.2917	68.9667	18.6	14	-4.6
Jamnagar	Vijarkha	22.4167	70.1833	20.6	29.2	8.6
Jamnagar	Vinjalpur	22.1500	69.6000	11.7	61	49.3
Junagadh	Ajotha	20.9019	70.5181	20.99	29.5	8.51
Junagadh	Ajotha_Pz	20.8889	70.4708		12.7	
Junagadh	Alwani	21.2306	70.6375	4.85	216	211.15
Junagadh	Amervel Nes	21.0089	70.7258	6.6	143.5	136.9
Junagadh	Ankolvadi	21.0472	70.6583		138.2	
Junagadh	Ankolvadi 1	21.0469	70.6647		142.4	
Junagadh	Antroli	21.2361	70.0069		5.1	
Junagadh	Arena	21.0806	70.1764	14.33	11.6	-2.73
Junagadh	Bamanwara	21.2208	70.0556	14.91	12.2	-2.71
Junagadh	Bantva	21.4875	70.0833	20.7	22	1.3
Junagadh	Bhatsimroli	21.2236	70.1833	22.3	44.1	21.8
Junagadh	Bhim Deval	20.9775	70.6092	13.1	80	66.9
Junagadh	Bilkha	21.4389	70.6000	16	95.4	79.4
Junagadh	Budhecha	21.0958	70.2167	8.93	24.1	15.17
Junagadh	Chorwad	21.0417	70.2167	8.32	18	9.68
Junagadh	Dhokadva	20.9583	71.0708	10.7	74.9	64.2
Junagadh	Dolasa	20.8208	70.8583		19	
Junagadh	Gadu	21.0542	70.2792	29.6	31	1.4
Junagadh	Galodar	21.1472	70.2750	28.26	53.9	25.64
Junagadh	Gangda_Pz	20.8583	71.1667	8.3	21.8	13.5
Junagadh	Girgadhada	20.9250	70.9167	5.65	84	78.35
Junagadh	Goraj1	21.1833	70.1542	42.3	37	-5.3
Junagadh	Govindpura2	20.9458	70.3958	29.1	27	-2.1
Junagadh	Jambur madhapar	21.0292	70.6083	10.81	113	102.19

DISTRICT_NAME	SITE_NAME	Latt_Y	Long_X	May_2017	Elevation_GL	WT_May_17
Junagadh	Jamvala	20.9847	70.7694		103.3	
Junagadh	Jamvala1	20.9833	70.7625	4.66	97	92.34
Junagadh	Jargla Jargali	20.8808	70.9842	9.03	54.9	45.87
Junagadh	Junagadh	21.5094	70.4622	12.35	100.4	88.05
Junagadh	Junagadh1	21.5167	70.4583	12	90.1	78.1
Junagadh	Juthal	21.1667	70.2667	11.71	61.9	50.19
Junagadh	Kalej	21.2486	70.0583	15.1	13.3	-1.8
Junagadh	Kanek	21.0306	70.2417	16.42	13.3	-3.12
Junagadh	Kansari	20.8700	71.0511	12.86	44.4	31.54
Junagadh	Kasia Naka Check Post	21.2703	70.6806		169.3	
Junagadh	Kesariya	20.8000	70.9417		30	
Junagadh	Kesariya1	20.7964	70.9419	14.75	28.5	13.75
Junagadh	Keshod	21.2958	70.2583		48	
Junagadh	Kewarda	21.2667	70.2083	20.5	52.2	31.7
Junagadh	Khambalia1	21.0444	70.1917	10.33	11	0.67
Junagadh	Khokharda	21.4208	70.3167	9	37.2	28.2
Junagadh	Khorada1	21.0639	70.1736	12.25	11.3	-0.95
Junagadh	Khoras ahir	21.3708	70.3389	11.55	47	35.45
Junagadh	Kodinar	20.8000	70.6917	15.6	15	-0.6
Junagadh	Kodinar1	20.8000	70.6917	17	15	-2
Junagadh	Kukaswada	21.0542	70.2083	10.3	14	3.7
Junagadh	Lohej	21.1667	70.0667	16	15.2	-0.8
Junagadh	Maktupur1	21.1431	70.0958		15.8	
Junagadh	Mandawad	21.3583	70.7458	14.51	131	116.49
Junagadh	Mangrol	21.1250	70.1083	18.1	13.9	-4.2
Junagadh	Mangrol1	21.1306	70.1194		18.6	
Junagadh	Manketara	21.1500	70.1292	32.3	25.9	-6.4
Junagadh	Mendarda	21.3250	70.4403		87.4	
Junagadh	Mendarda1	21.3250	70.4333	23	86	63
Junagadh	Menekwara	21.3917	70.2708		31.9	
Junagadh	Moraj	20.9833	70.4361	13	55.7	42.7
Junagadh	Patla	21.6042	70.5692	12.1	106.2	94.1
Junagadh	Prachi_Pz	20.9219	70.6133	19.6	53.9	34.3
Junagadh	Prasli	20.8508	70.6692	18.1	23.1	5
Junagadh	Prasnawada_Pz	20.8383	70.5550		17	
Junagadh	Prempara	21.3000	70.7000	19.6	146	126.4
Junagadh	Sametar	20.8542	71.1208	20.7	31	10.3
Junagadh	Sepa	21.1167	70.2194		40.4	
Junagadh	Seriakhan	21.1333	70.2486	21.23	47.7	26.47
Junagadh	Shardagram	21.1042	70.1528	15.6	10.7	-4.9
Junagadh	Sil	21.1856	70.0464	7.74	11.1	3.36
Junagadh	Sil bandar	21.2236	70.0556		13.2	
Junagadh	Sultanpur	21.1792	70.1625		40	
Junagadh	Talala_Pz	21.0639	70.5383	11.4	94.4	83
Junagadh	Talala1	21.0514	70.5250	12.74	87.3	74.56
Junagadh	Una1	20.8250	71.0444		29.8	
Junagadh	Una2	20.8250	71.0417	4.33	31	26.67
Junagadh	Vanthali ii	21.4708	70.3278	17.36	32.7	15.34
Junagadh	Veraval	20.9531	70.3389		17.8	
Junagadh	Veraval2	20.9125	70.3750		7	
Junagadh	Visavadar	21.3389	70.7486	15.75	135	119.25
Kachchh	Adesar_Pz	23.5583	70.9833		36.9	
Kachchh	Asambia mota_Pz	22.9681	69.4514	9.25	68	58.75
Kachchh	Asambia mota1	22.9681	69.4375	16.45	61	44.55
Kachchh	Bambhdai	22.9389	69.0828	6.08	7.7	1.62
Kachchh	Bandiya	23.3986	69.0167		85.3	
Kachchh	Bhadia mota	22.9833	69.3333		62.8	
Kachchh	Bhadreshwar	22.9000	69.9000	9.4	10	0.6
Kachchh	Bhuj (Circuit House)	23.2500	69.6667	15.57	105	89.43

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Kachchh	Chandranagar	23.4500	69.4000	7.8	61	53.2
Kachchh	Dayapar	23.6306	68.9000	21.15	100.3	79.15
Kachchh	Dayapar1	23.6333	68.8708		103.2	
Kachchh	Deshalpur rapar	23.7472	70.6792	13.05	13.7	0.65
Kachchh	Devisar	23.4028	69.3292	12.45	82.6	70.15
Kachchh	Dholavira	23.8833	70.2167	11.35	23.8	12.45
Kachchh	Dhori	23.4375	69.7511		12.7	
Kachchh	Dhori1	23.4333	69.7542	16.03	14.9	-1.13
Kachchh	Dunai	23.0500	69.5000	10.71	108	97.29
Kachchh	Gagodar	23.4167	70.8000	29.5	43	13.5
Kachchh	Gandhidham1	23.0833	70.1417		17.8	
Kachchh	Gandhidham2	23.0756	70.1514	8.3	12.5	4.2
Kachchh	Haboi	23.3583	69.8667	0.46	111.6	111.14
Kachchh	Kakarwa	23.4750	70.4042	17.45	58.1	40.65
Kachchh	Karagoga	22.9417	69.6625	3.2	51	47.8
Kachchh	Kharoi	23.4542	70.3500	9.25	39	29.75
Kachchh	Khavada	23.8389	69.7306	7.35	16.8	9.45
Kachchh	Kotadi	23.0417	69.1917	10.32	77	66.68
Kachchh	Kotaya	23.0417	69.0750	13.07	35.2	22.13
Kachchh	Kothara	23.1619	68.9119	7.82	30.7	22.88
Kachchh	Kuda	23.5344	70.4403	28.1	59.1	31
Kachchh	Kukma	23.2250	69.7750		117	
Kachchh	Kumbhariya	23.3411	70.7236	7.75	31.4	23.65
Kachchh	Lakhpat	23.8231	68.7750	7.95	14.4	6.45
Kachchh	Lakhpat_Pz	23.8186	68.7669		17.1	
Kachchh	Lilpur	23.5111	70.6500	0.56	123.3	122.74
Kachchh	Lodai	23.4000	69.8917	15.8	27	11.2
Kachchh	Luni	22.8733	69.8117	9.23	13	3.77
Kachchh	Mandvi (Mahadev Temple)	22.8333	69.3333		12.1	
Kachchh	Mandvi (Shitla Mata)	22.8333	69.3333	12.39	12.1	-0.29
Kachchh	Mata no madh	23.5333	68.9500	12.67	91.1	78.43
Kachchh	Mathak1	22.9972	70.0250		28.3	
Kachchh	Mokha	22.9500	69.8000		41	
Kachchh	Mothala	23.2083	69.1250	5.73	83	77.27
Kachchh	Moti cher	23.7583	68.6750	4.21	16	11.79
Kachchh	Mundra	22.8278	69.7208	6.6	7.2	0.6
Kachchh	Naliya	23.2558	68.8400	11.35	23.9	12.55
Kachchh	Naliya (Bus S)	23.2667	68.8333	13.44	20.8	7.36
Kachchh	Rapar	23.5750	70.6417		54	
Kachchh	Rapar2	23.5667	70.6375	26.76	63	36.24
Kachchh	Ratanpur Khadir1	23.8608	70.3631	16.09	37	20.91
Kachchh	Ratanpur(maum.)	23.1083	69.2917		139.9	
Kachchh	Rawapar	23.5167	69.0750	14.7	71	56.3
Kachchh	Rudramata	23.3917	69.7083	11.4	40.9	29.5
Kachchh	Samkhiari	23.3000	70.5083	6.58	41.9	35.32
Kachchh	Sedat	23.1714	69.6375	12.8	221	208.2
Kachchh	Shinaya	23.0333	70.0542	2	40	38
Kachchh	Shivlakha	23.3750	70.6236		97.3	
Kachchh	Sukhpar	23.2083	69.6167	15.75	120.1	104.35
Kachchh	Tera	23.2833	68.9472	13.77	46.4	32.63
Kachchh	Vinjhan1	23.1000	69.0250	9.05	47	37.95
Kheda	Alina	22.8083	73.0583	8.5	49	40.5
Kheda	Balasinor	22.9583	73.3361	4.2	92	87.8
Kheda	Balasinor1	22.9500	73.3250	10.35	92	81.65
Kheda	Bar	23.1681	73.4111	5.44	147.3	141.86
Kheda	Chaklashi	22.6542	72.9458		41.1	
Kheda	Dakor	22.7625	73.1694	7.6	60.3	52.7
Kheda	Juna vasadra	23.0833	73.3625	4.45	102.9	98.45
Kheda	Kalesar	22.7208	73.1917	6.7	59	52.3

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Kheda	Kapadvanj	23.0042	73.0917	14.32	73.1	58.78
Kheda	Kheda	22.7375	72.7042	6.9	25	18.1
Kheda	Ladvel	22.9083	73.1208		69.1	
Kheda	Mahudha	22.7833	72.9417	4.26	40	35.74
Kheda	Nadiad2	22.6833	72.8833	11.35	37.8	26.45
Kheda	Nes_Pz	22.7083	73.2028	9.82	61.6	51.78
Kheda	Nes_Pz(Sy)	22.7083	73.2028		61.6	
Kheda	Sarkhej_Pz-III	22.9861	72.8806	38.3	54.3	16
Kheda	Shekhupura	22.5750	72.6250	1.2	24	22.8
Kheda	Thasra	22.7944	73.2111	5.55	63.9	58.35
Kheda	Vaso	22.6611	72.7542	7.1	32	24.9
Kheda	Virpur_Pz	23.1931	73.4853	7.8	103.7	95.9
Kheda	Vyas vasna	23.1056	73.1042	23.4	85.9	62.5
Mahesana	Asjol	23.5083	72.1833	7.71	55.9	48.19
Mahesana	Bhandupara	23.7250	72.3833	9.61	101	91.39
Mahesana	Budasan	23.2875	72.3750	4.54	62	57.46
Mahesana	Dabhoda Pz-I	23.9497	72.6956		211.3	
Mahesana	Daran_Pz-III	23.2064	72.2797	2.62	49.3	46.68
Mahesana	Dharpura	23.5458	72.1125	7.51	51	43.49
Mahesana	Dosaj	23.8417	72.4500	5.79	131	125.21
Mahesana	Jaska(Sy_4")Pz_II	23.8236	72.5347	15.9	145.5	129.6
Mahesana	Jotana Pzii	23.4739	72.2878		73.8	
Mahesana	Kalyanpur	23.1269	72.1931	5.76	34.3	28.54
Mahesana	Karalli (iii)	23.8042	72.4861	10.95	132.3	121.35
Mahesana	Kheralu(shallow	23.8978	72.6106	5.95	176.1	170.15
Mahesana	Kheralu1	23.8875	72.6125	11.92	174	162.08
Mahesana	Maguna	23.5778	72.2889	9.24	72.6	63.36
Mahesana	Mau	23.5103	72.5192	9.09	100.6	91.51
Mahesana	Modhera iii	23.7167	72.4667	8.81	116.9	108.09
Mahesana	Padhadya	23.5225	72.5333	12.78	105.9	93.12
Mahesana	Panchot	23.6292	72.3417	6.99	82.1	75.11
Mahesana	Rampura Kot Juna Pz-I	23.7292	72.8019		130.9	
Mahesana	Rampura1	23.8917	72.5167	8.12	160	151.88
Mahesana	Sihi	23.8000	72.3500	8.4	111	102.6
Mahesana	Tarabh	23.7583	72.4583	8.73	122.1	113.37
Mahesana	Thol Pz-IV	23.1306	72.3761	16.03	57.1	41.07
Mahesana	Unad1	23.8458	72.7167	16.02	170	153.98
Mahesana	Unawa	23.7667	72.3625	4.03	110	105.97
Mahesana	Vidaj	23.2472	72.3000	4.62	56.6	51.98
Mahesana	Visnagar iv	23.7000	72.5333	3	124.9	121.9
Narmada	Agar(Rep)_Pz	22.0311	73.6567	11.97	59.9	47.93
Narmada	Almadi	21.6089	73.5108	7.35	168.6	161.25
Narmada	Amayar	21.5472	73.7667	9.25	193.2	183.95
Narmada	Baman Phalia_Pz	21.7983	73.3792	21.94	90.2	68.26
Narmada	Chikada	21.5208	73.6458	5.45	239.1	233.65
Narmada	Chuli	21.5547	73.4756	12.23	199	186.77
Narmada	Dediapada	21.6333	73.5833		167.7	
Narmada	Dev Mogra	21.5853	73.7239	7	397.1	390.1
Narmada	Garudeshwar	21.8917	73.6500	11.69	42	30.31
Narmada	Hirapura	21.8681	73.6000	4.56	65	60.44
Narmada	Jankh	21.4922	73.5969	3.58	206.8	203.22
Narmada	Kanbi pitha	21.5208	73.6458	1.49	239.1	237.61
Narmada	Kewadia_Pz	21.8828	73.7006	7.82	60.9	53.08
Narmada	Khaidipada	21.5139	73.5194	5.3	219.8	214.5
Narmada	Khota amba	21.7333	73.4750	1.89	155.2	153.31
Narmada	Namaria	22.0444	73.6222	5.16	61.9	56.74
Narmada	Nani singlot	21.6694	73.6667	9.8	242.8	233
Narmada	Ralda	21.6100	73.6525	4.6	265	260.4
Narmada	Rasela	21.9250	73.4917	13.15	30.9	17.75

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Narmada	Ringani	21.8417	73.4667	1.66	73	71.34
Narmada	Selemba	21.6083	73.7583		367.2	
Narmada	Selemba 1	21.6100	73.7633	7.05	382.8	375.75
Narmada	Sunderpura	21.8472	73.5361		64.5	
Narmada	Sunderpura_Pz	21.8389	73.5347		69	
Narmada	Umran	21.4881	73.8831	8	111.3	103.3
Navsari	Abrama	20.8625	72.9000	1.53	4	2.47
Navsari	Anklas	20.6194	73.2667	11	116.1	105.1
Navsari	Chadav	20.8311	73.3344	13.2	73.5	60.3
Navsari	Chinam	20.9917	72.8861	3.27	7.8	4.53
Navsari	Dandi	20.8917	72.8083	3.8	4	0.2
Navsari	Duvada	20.8286	73.0575	6.38	23	16.62
Navsari	Hanumanbari	20.7750	73.3792		104.2	
Navsari	Hond	20.7389	73.0458	9.2	20.5	11.3
Navsari	Kaliyari	20.7250	73.1500	12.02	47	34.98
Navsari	Kantasvel	20.7972	73.2917	8.2	69.1	60.9
Navsari	Khergam	20.6333	73.0958	8.15	41.2	33.05
Navsari	Limzar	20.7403	73.2564		95.9	
Navsari	Manav Khadak	20.6742	73.2333	5.3	81	75.7
Navsari	Moti Valzar	20.8050	73.2667	7.51	72	64.49
Navsari	Navsari	20.9500	72.9333	29.82	15.9	-13.92
Navsari	Navsari 1	20.9581	72.9350	5.87	6.8	0.93
Navsari	Onjal	20.8333	72.8417	6.31	10.8	4.49
Navsari	Onjal1	20.8333	72.8417		10.8	
Navsari	Panikhadak	20.6492	73.1669	13.5	62.1	48.6
Navsari	Pipalkhed	20.6750	73.2833	17.45	134.1	116.65
Navsari	Rankuva	20.8125	73.1583	7.48	38	30.52
Navsari	Sari khurd	20.7875	72.9542	4.05	5.1	1.05
Navsari	Ubhrat	21.0083	72.7458	4.35	3	-1.35
Navsari	Unai	20.8500	73.3417	9.56	80.1	70.54
Navsari	Vansda	20.7644	73.3631	11.4	108.8	97.4
Panchmahals	Bavaliya	23.3250	73.5694	8.06	157.4	149.34
Panchmahals	Bavaliya_Pz	23.3067	73.5550	30.2	166.1	135.9
Panchmahals	Gadhar	23.1500	73.7750		149	
Panchmahals	Godhra	22.7833	73.6097		119.7	
Panchmahals	Godhra2	22.7708	73.6333	4.14	128	123.86
Panchmahals	Jambughoda	22.3694	73.7250	6.75	107	100.25
Panchmahals	Jambughoda1	22.3728	73.7228	3.9	104.4	100.5
Panchmahals	Kadana	23.2889	73.8333		103.9	
Panchmahals	Kothamba	23.0194	73.5194	4.4	92.4	88
Panchmahals	Limbadia peti	23.2042	73.6000	5.1	91	85.9
Panchmahals	Lunawada	23.1292	73.6083	11.46	102.9	91.44
Panchmahals	Malekpur1	23.2306	73.7361	3.43	110.1	106.67
Panchmahals	Morwa (Hadaf)	22.9256	73.8472		145.1	
Panchmahals	Morwa (Hadaf) Pz-I	22.9181	73.8444	12.9	148.1	135.2
Panchmahals	Natapur	22.8572	73.8206	9	154	145
Panchmahals	Palla Rajgarh Pz	22.5228	73.7008	34.3	191.7	157.4
Panchmahals	Pandarvada	23.3750	73.6333	15.56	158.1	142.54
Panchmahals	Pavagadh	22.4875	73.5556	10.36	127	116.64
Panchmahals	Ram patel na m.	23.1292	73.6917		108	
Panchmahals	Ranipura	22.7250	73.7583	10.9	174	163.1
Panchmahals	Santrampur	23.1708	73.9083	9.3	136.2	126.9
Panchmahals	Santrampur1	23.1917	73.9083	8.8	143.9	135.1
Panchmahals	Santroad	22.8000	73.8125		164	
Panchmahals	Shehra	22.9542	73.6250	2.9	125.9	123
Panchmahals	Shivrajpur	22.4250	73.5917	12.5	100	87.5
Panchmahals	Suliyat	23.0622	73.8508	18.35	148.4	130.05
Panchmahals	Tarkanda	22.5458	73.5292	13.3	103.1	89.8
Panchmahals	Tarvada	22.6056	73.5222	15.2	95.2	80

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Panchmahals	Timbi2	22.5083	73.5083		126.8	
Panchmahals	Tuwa	22.8042	73.4708		82	
Panchmahals	Ucharpi Pz	23.1192	73.4717	19.4	104.1	84.7
Panchmahals	Vejalpur	22.6958	73.5583	6.15	104.9	98.75
Patan	Dharmoda	23.6972	72.0694	3.37	60.2	56.83
Patan	Dhinoj1	23.6625	72.2792	9.65	80	70.35
Patan	Harij iii	23.6864	71.8972		43.6	
Patan	Moti chander	23.5944	71.7806	2.75	27.4	24.65
Patan	Nedra	23.8875	72.3167		120	
Patan	Patan2	23.8417	72.1236	18.03	80.7	62.67
Patan	Radhanpur	23.8222	71.6167		28.6	
Patan	Radhanpur2	23.8250	71.6139	1.1	27	25.9
Patan	Sander	23.7667	72.2542	9.45	89	79.55
Patan	Sankheshwar	23.5219	71.7908	2.79	25.5	22.71
Patan	Santhalpur	23.7583	71.1750		9	
Patan	Shankhari	23.7792	72.1625	17.11	80	62.89
Patan	Varahi	23.7833	71.4500		13	
Patan	Vauva(Repl)_Pz	23.7986	71.0903		15.1	
Porbandar	Adityana	21.7086	69.7108	29.6	23.5	-6.1
Porbandar	Adwana2	21.9167	69.6000	19.49	20	0.51
Porbandar	Babda	21.7700	69.5881	16.2	15.3	-0.9
Porbandar	Bakharla	21.7647	69.6611	27.01	46.8	19.79
Porbandar	Balej	21.3708	69.8750		6	
Porbandar	Bhavpura	21.8097	69.4083	11.01	10.1	-0.91
Porbandar	Bhod	21.6589	69.8211	29.24	21.9	-7.34
Porbandar	Degam	21.7103	69.6056	19.35	18.5	-0.85
Porbandar	Hanumangadh1	21.7931	69.8028	34.2	72.5	38.3
Porbandar	Kadegi	21.4506	69.9833	5.39	10	4.61
Porbandar	Kandorna	21.6478	69.8833	29.68	22	-7.68
Porbandar	Khambodar	21.8083	69.6014	14.1	21.9	7.8
Porbandar	Kolikhada	21.6997	69.6142	31.08	19	-12.08
Porbandar	Kuchhadi	21.6833	69.5500	5.75	0.1	-5.65
Porbandar	Kutiyana_Pz	21.6222	69.9972	11.85	10.7	-1.15
Porbandar	Kutiyana1	21.6306	70.0167		21.1	
Porbandar	Miyani	21.8333	69.3889	8.45	10	1.55
Porbandar	Mojiwana	21.8858	69.6003	18.65	21	2.35
Porbandar	Navibandar	21.4458	69.7917	6.48	9	2.52
Porbandar	Oddar	21.5667	69.6806	9.15	9.3	0.15
Porbandar	Palkhada1	21.7583	69.4875	11.98	13	1.02
Porbandar	Pata	21.2972	69.9417	7.5	5.3	-2.2
Porbandar	Porbandar	21.6450	69.6425	7.5	7	-0.5
Porbandar	Porbandar1	21.6417	69.6250		8	
Porbandar	Ranavav2	21.6833	69.7458	26.47	29.8	3.33
Porbandar	Ratadi	21.7203	69.5119	8.14	6.1	-2.04
Porbandar	Simar	21.9469	69.6858	11.6	54.6	43
Porbandar	Tukda	21.5161	69.7286	5.98	6.9	0.92
Porbandar	Visavada Mul Dwarka	21.7856	69.4464	11.1	16.8	5.7
Rajkot	Amar nagar	22.9333	70.8083		33	
Rajkot	Bhada jodiya	21.6625	70.3417		61	
Rajkot	Bhadla	22.1833	71.0917	22.89	230	207.11
Rajkot	Bhalgam	22.4417	71.0833	17.42	179.9	162.48
Rajkot	Chhatar	22.5042	70.7542	6.35	97	90.65
Rajkot	Chordi	21.9167	70.7486	14.53	127.4	112.87
Rajkot	Dadia	22.0917	70.7333	11.73	153.2	141.47
Rajkot	Dhoraji	21.7458	70.2858	21.73	44	22.27
Rajkot	Ganod	21.6750	70.1792	4.19	30.9	26.71
Rajkot	Gavidrad	22.4000	70.7958		108	
Rajkot	Gogavadar	21.9667	70.8750	6.35	154.9	148.55
Rajkot	Gondal	21.6886	70.1692		27.7	

DISTRICT_NAME	SITE_NAME	Latt_Y	Long_X	May_2017	Elevation_GL	WT_May_17
Rajkot	Hadmadiya	21.9781	70.6231		134.9	
Rajkot	Hadmatia	22.6833	70.8083	12.58	80	67.42
Rajkot	Halenda	22.0917	71.0500	9.24	212	202.76
Rajkot	Jamwali	21.9333	70.7667	7.1	131	123.9
Rajkot	Jasapur	21.8917	70.4833	9.7	99	89.3
Rajkot	Jasdan	22.0444	71.2139	8.77	200.5	191.73
Rajkot	Jasdan2	22.0583	71.2208	10.17	205	194.83
Rajkot	Jetpur	21.7561	70.6194	9.21	89.6	80.39
Rajkot	Jetpur Pithad	23.0219	70.9181		26.6	
Rajkot	Jetpur pithad.	21.7750	70.6333	14.19	84	69.81
Rajkot	Kalithad1	22.0194	70.6603	10.2	126.7	116.5
Rajkot	Kalyanpur2	22.6583	70.7333		63.2	
Rajkot	Kamlapur	22.1458	71.2000		243	
Rajkot	Kamlapur1	22.1519	71.1997	9.11	245.1	235.99
Rajkot	Khamta	22.4750	70.5500	14.98	73	58.02
Rajkot	Khirsara1	22.2417	70.6458	19.6	124.9	105.3
Rajkot	Lajai	22.7167	70.7792	10.71	62.1	51.39
Rajkot	Lalavadar	22.1333	71.3042	15.59	254.8	239.21
Rajkot	Lodhika1	22.1417	70.6417	10.9	159.1	148.2
Rajkot	Macchukunda	23.0014	70.8958		26.3	
Rajkot	Malia	23.0917	70.7625	2.06	6	3.94
Rajkot	Maliya	23.0894	70.7564		8.1	
Rajkot	Maliya 1	23.0947	70.7731		7.2	
Rajkot	Modpar1	22.9000	70.6667	3.06	23.9	20.84
Rajkot	Morvi	22.8167	70.8417	2.6	46.8	44.2
Rajkot	Mota Dadwa	21.9983	70.9939	16.55	164.3	147.75
Rajkot	Mota dhansura	22.9583	70.6167	10.42	9.3	-1.12
Rajkot	Motagundala	21.7347	70.5014		81.4	
Rajkot	Movaiya	22.4500	70.6083	10.05	70.1	60.05
Rajkot	Neknam	22.5042	70.6958	17.18	86	68.82
Rajkot	Nichi mandal	22.8583	70.9500		72	
Rajkot	Padadhari1	22.4472	70.6083	8.5	70.1	61.6
Rajkot	Patanvav	21.6444	70.2611		81.8	
Rajkot	Pedhla	21.7514	70.5917		97.6	
Rajkot	Rajkot	22.3056	70.8083	5.06	118.3	113.24
Rajkot	Rajkot1	22.3000	70.8000	4.63	133	128.37
Rajkot	Ranpur1	22.3667	70.9292	13.04	164	150.96
Rajkot	Ribda	22.1250	70.7667	12.36	173	160.64
Rajkot	Sardhar1	22.1458	70.9889	9.65	213.6	203.95
Rajkot	Sardhar2	22.1417	70.9833		216	
Rajkot	Sarvad	23.0064	70.7069		18	
Rajkot	Sindhavadar	22.5500	70.8917		104	
Rajkot	Targhari	22.3833	70.6667	6.49	84.1	77.61
Rajkot	Umrali	21.9194	70.6042	10.14	101.3	91.16
Rajkot	Upleta1	21.7486	70.2750	6.67	45.6	38.93
Rajkot	Upleta3	21.6703	70.1828		34.9	
Rajkot	Vinchhia	22.2083	71.3792	6.64	171	164.36
Rajkot	Viranagar	22.0250	71.1250	21.46	181	159.54
Rajkot	Virpur1	21.8500	70.6958	10.68	113.9	103.22
Rajkot	Wankaner-1	22.6208	70.9292		81	
Sabarkantha	Abhapur	23.9642	73.2581		491.4	
Sabarkantha	Alwakampa	23.2747	73.2083	12.25	104	91.75
Sabarkantha	Anwarpura Pz	23.4056	72.8456	42.2	113.1	70.9
Sabarkantha	Atarumba	23.9861	73.2083	11.37	275.1	263.73
Sabarkantha	Bayad_Pz	23.2167	73.2292	10.65	104	93.35
Sabarkantha	Bhadreshwar	23.7458	72.9792		167.1	
Sabarkantha	Bhiloda_Pz	23.7667	73.2500	6.35	210	203.65
Sabarkantha	Bhiloda2	23.7667	73.2722		204.9	
Sabarkantha	Bibipur1	23.2528	73.2125		103.7	

DISTRICT_NAME	SITE_NAME	Latt_Y	Long_X	May_2017	Elevation_GL	WT_May_17
Sabarkantha	Boral	23.1250	73.2083	18.65	104.1	85.45
Sabarkantha	Boriya	23.2428	72.9408	8.4	80.8	72.4
Sabarkantha	Chandap_Pz	23.9319	72.8569	15.49	163.9	148.41
Sabarkantha	Choriwad	23.9000	73.1194	23.41	218.6	195.19
Sabarkantha	Derol Pz-II	23.5994	72.9025	56.2	142.6	86.4
Sabarkantha	Dhansura	23.3500	73.2000		131	
Sabarkantha	Dhansura1	23.3500	73.2000	8	131	123
Sabarkantha	Gadha	23.7083	72.9417	19.3	165.9	146.6
Sabarkantha	Hamirpur	23.4083	73.4583	16.4	148	131.6
Sabarkantha	Harsol	23.3722	73.0250		109.6	
Sabarkantha	Harsol1	23.3778	73.0167	17.45	116.5	99.05
Sabarkantha	Himmatnagar_Pz	23.6083	72.9708	10.45	137.1	126.65
Sabarkantha	Idar	23.8417	73.0375	9.25	200.1	190.85
Sabarkantha	Jhaloti	23.9500	73.3375	11.5	317	305.5
Sabarkantha	Karanpur	23.3333	73.3000	16.7	134	117.3
Sabarkantha	Khedbrahma_Pz	24.0361	73.0444	4.75	200.2	195.45
Sabarkantha	Mahiyapur	23.3750	73.4167		152	
Sabarkantha	Malpur_Pz	23.3417	73.4681	12.5	150.1	137.6
Sabarkantha	Matoda	24.1111	73.0083	19.85	208	188.15
Sabarkantha	Meghraj	23.4958	73.5083		163.9	
Sabarkantha	Modasa	23.4625	73.3083	7.08	146.9	139.82
Sabarkantha	Panvath/porvad	23.8972	73.3319		267.4	
Sabarkantha	Poshina1	24.3708	73.0250		288	
Sabarkantha	Poshina2	24.3750	73.0333	7.8	286.1	278.3
Sabarkantha	Punasan	23.6694	73.1736	6.75	239.2	232.45
Sabarkantha	Ratanpur	24.2083	72.9986	17.1	215.2	198.1
Sabarkantha	Revas	23.8208	73.1167	19.25	199	179.75
Sabarkantha	Sabdajinamuvada	23.2708	72.9250		97.1	
Sabarkantha	Sathamba	23.1750	73.3375	15.15	148	132.85
Sabarkantha	Seenawad	23.4864	73.3986	11.4	163.1	151.7
Sabarkantha	Shamlaji	23.6861	73.3667	14.4	218.9	204.5
Sabarkantha	Silwad	24.0083	73.1167	11.8	224	212.2
Sabarkantha	Takatuka	23.8472	73.3083		253.7	
Sabarkantha	Varvada	23.4419	73.0567		119.5	
Sabarkantha	Vejpur_Pz	23.7972	73.2208	20.57	215.9	195.33
Sabarkantha	Vijaynagar	24.0083	73.3542	9.15	356.2	347.05
Sabarkantha	Vijaynagar_Pz	24.0069	73.3333		350.5	
Sabarkantha	Virpur (Himmat)	23.6542	72.9583		147	
Sabarkantha	Virpur (Idar)	23.7833	72.9333		174	
Sabarkantha	Wadali	23.9333	73.0333		217	
Sabarkantha	Waliampura Pz	23.3511	72.9708	38.6	109	70.4
Surat	Aarda Boratha	21.4875	74.1150		107	
Surat	Allu	21.0625	73.1917	3.98	41.9	37.92
Surat	Asarma	21.4583	73.0583		25.2	
Surat	Bardoli	21.1153	73.1000	6.83	34.4	27.57
Surat	Bedchit	20.9500	73.3514	9.6	73.6	64
Surat	Bhatkol	21.3803	73.0042	3.9	27	23.1
Surat	Bhurvel (ukai)	21.2250	73.5792	7	85	78
Surat	Chapawadi	21.1514	73.3936	7.7	85.1	77.4
Surat	Chavada	21.4747	73.5950	4.3	222.7	218.4
Surat	Digas	21.2483	73.0256	10.16	26.9	16.74
Surat	Dungri	21.4083	73.1333	11.4	48	36.6
Surat	Gandhinagar	21.1642	73.6956	6.42	110	103.58
Surat	Gangadhra	21.1186	73.0753	10.85	28.1	17.25
Surat	Gangtha	21.5250	74.0000	19.81	117	97.19
Surat	Jesingpura[sg]	21.1708	73.5542	7.4	214.1	206.7
Surat	Jhankhavav	21.4500	73.3292	7.4	116	108.6
Surat	Jhankhvav	21.4667	72.9528	9.61	30.6	20.99
Surat	Juna umarpada	21.4583	73.4917	5.96	235.7	229.74

DISTRICT_NAME	SITE_NAME	Latt_Y	Long_X	May_2017	Elevation_GL	WT_May_17
Surat	Kadod 1	21.2214	73.2189	5.72	22.1	16.38
Surat	Karanjvel	21.0128	73.4581	6.57	111.7	105.13
Surat	Kasal	21.3222	73.1269	8.9	38.2	29.3
Surat	Kathor	21.2917	72.9292	11.98	21	9.02
Surat	Kelkui	21.0419	73.3233	1	62.9	61.9
Surat	Khedwada (Ashram Falia)	21.2811	73.4653	7.33	57.3	49.97
Surat	Kherwa	21.4189	73.9597		113.7	
Surat	Kosamba	21.4667	72.9528		30.6	
Surat	Madhi	21.1417	73.2542		44	
Surat	Madhi 1	21.1336	73.2486		44.2	
Surat	Mahuva2	21.0208	73.1458	17.75	31.9	14.15
Surat	Malda	21.3667	73.3500	10.6	88.3	77.7
Surat	Mandvi2	21.2542	73.2958	14	40.8	26.8
Surat	Mota	21.1703	73.0686	3.07	26.8	23.73
Surat	Moti Sarkui	21.2792	73.3497	8.67	43.5	34.83
Surat	Motichher	21.2125	73.3622	4.4	57.4	53
Surat	Navi pardi	21.3222	72.9708	3.48	23.2	19.72
Surat	Nizar	21.4806	74.2000	15.37	118.8	103.43
Surat	Nizar1	21.4772	74.1906	13.5	119.9	106.4
Surat	Nogama	21.2908	73.2144	3.78	51.2	47.42
Surat	Olpad2	21.3417	72.7583	2.46	9	6.54
Surat	Palsana	21.0778	72.9917	2.89	16.6	13.71
Surat	Paneshwar	21.4542	73.1983	12.99	55.8	42.81
Surat	Paniwara	21.5394	74.0694		117.1	
Surat	Pankheda	21.4333	73.2167		62.1	
Surat	Puna	20.9236	73.2333	12.76	50.7	37.94
Surat	Puna1	20.9292	73.2292	10.2	52.9	42.7
Surat	Sachin town	21.0917	72.8750	2.4	11	8.6
Surat	Sarbhon	21.0583	73.0917	3.3	27.1	23.8
Surat	Sayan	21.3056	72.9108	7.8	17.3	9.5
Surat	Sultanabad	21.0917	72.7250	5.74	2	-3.74
Surat	Surat	21.1750	72.8056		12.3	
Surat	Tadkeshwar	21.3808	73.0764	8.8	41.9	33.1
Surat	Tawali	21.3761	73.9017	8.46	132	123.54
Surat	Ten-bardoli	21.1167	73.1000	6.9	33.8	26.9
Surat	Tokarwa	21.3072	73.8500		150	
Surat	Tokarwa 1	21.3100	73.8511	8.1	152.7	144.6
Surat	Uchchhal	21.1719	73.7692	11.5	119.7	108.2
Surat	Ushker	21.3406	73.0978	5.44	34.2	28.76
Surat	Vadade-Khurd	21.2517	73.8169	3.2	111.6	108.4
Surat	Vaheval	20.8372	73.2878	9.61	68	58.39
Surat	Valod	21.0500	73.2667	5.31	54.1	48.79
Surat	Vyara1	21.1083	73.3958	4.32	80.9	76.58
Surat	Wadoli	21.4250	72.8292	0.98	10	9.02
Surendranagar	Adriyana	23.4250	71.7083	4.35	22	17.65
Surendranagar	Anindra	22.8103	71.7058	3.93	58.4	54.47
Surendranagar	Bajana	23.1167	71.7833		10	
Surendranagar	Bamanbor	22.4167	71.0417	12.18	193.8	181.62
Surendranagar	Chotila1	22.4250	71.1817	14.26	197	182.74
Surendranagar	Dasada	23.3200	71.8242		27	
Surendranagar	Dasada1	23.3208	71.8292	3	26	23
Surendranagar	Dedadra	22.7750	71.7333	5.86	51	45.14
Surendranagar	Degam	23.1133	71.6628		11	
Surendranagar	Dhama	23.3853	71.6794	10.26	19.3	9.04
Surendranagar	Dhandhalpur 1	22.3814	71.3508	9.08	186.4	177.32
Surendranagar	Dheduki 1	22.5006	71.3217	10.87	151.5	140.63
Surendranagar	Dhrangadhra 2	22.9925	71.4981		50.3	
Surendranagar	Dhrangadhra2	22.9583	71.4972		70.4	
Surendranagar	Gamda	22.8983	71.5569		75.2	

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Surendranagar	Ghansyam Gadh	23.1067	71.4842		14.1	
Surendranagar	Halvad2	23.0208	71.1875	7.02	45.1	38.08
Surendranagar	Jhinhuwada	23.3500	71.6583	6.67	18	11.33
Surendranagar	Juna Devaliya 1	22.9794	71.0089	2.8	46.2	43.4
Surendranagar	Kharaghoda	23.1875	71.7500		8	
Surendranagar	Kherwa	23.0042	71.7458	1.45	39	37.55
Surendranagar	Khodu	22.8000	71.4833		100	
Surendranagar	Kukavati	23.1228	71.4797		10.6	
Surendranagar	Lakhtar	22.8583	71.7833	3.58	42	38.42
Surendranagar	Latuda	22.8131	71.6081		72.4	
Surendranagar	Limbdi1	22.5667	71.8125	2.7	51	48.3
Surendranagar	Limbdi-Pz	22.5722	71.8083	2.98	47.9	44.92
Surendranagar	Malaniyad	23.1194	71.2544		10.3	
Surendranagar	Mathak	22.8400	71.0578		85.6	
Surendranagar	Mathak2	22.8417	71.0583		86	
Surendranagar	Miani	23.1125	71.1292		21	
Surendranagar	Modhvana	22.8814	71.7356		45.6	
Surendranagar	Moti Moladi	22.4208	71.1103	14.72	194.8	180.08
Surendranagar	Muli	22.6500	71.4667	11.69	110	98.31
Surendranagar	Nava Raisngpur	22.7419	71.2617		100.3	
Surendranagar	Olak	22.9186	71.8633		25	
Surendranagar	Pipli	23.0600	71.7342	0.7	26	25.3
Surendranagar	Rajsitapur	22.8417	71.5917	9.52	72	62.48
Surendranagar	Ranipet	22.7083	71.2167		126.1	
Surendranagar	Ratanpur1	22.8583	71.2708		85.1	
Surendranagar	Sara	22.8000	71.1972	1.06	85	83.94
Surendranagar	Sarla	22.7333	71.3667	12.31	118	105.69
Surendranagar	Sayala	22.5333	71.4833	24.06	122	97.94
Surendranagar	Sayla1	22.5375	71.4875		120	
Surendranagar	Shiyani	22.6667	71.8292	4.2	36	31.8
Surendranagar	Soldi	22.9939	71.4156		60.3	
Surendranagar	Sudamda	22.4542	71.4850	15.39	114	98.61
Surendranagar	Sukhpar1	23.0083	71.2833		55.8	
Surendranagar	Surel	23.4792	71.6194		23.1	
Surendranagar	Surendranagar	22.7236	71.6708	3.38	66	62.62
Surendranagar	Surendranagar2	22.7167	71.6083		75	
Surendranagar	Tarnetar	22.6417	71.2167		125.8	
Surendranagar	Tavi 1	22.7203	71.8517		29	
Surendranagar	Than	22.5792	71.1997		139.6	
Surendranagar	Vanala	22.4333	71.9208		27.8	
Surendranagar	Visawadi	23.3417	71.7333	4.51	28.8	24.29
Surendranagar	Vitthalgarh	22.9875	71.9750	3.7	21	17.3
Surendranagar	Warod	22.5583	71.6542		75	
The dangs	Aherdi	20.6917	73.6167	3.92	355.7	351.78
The dangs	Ahwa_Pz	20.7589	73.6861	3.4	470.6	467.2
The dangs	Ahwa1	20.7583	73.6833	3.44	463.8	460.36
The dangs	Bari Pada	20.6400	73.6914	12.7	440.6	427.9
The dangs	Bhenskatri	20.7681	73.5417		352.8	
The dangs	Bhenskatri 1	21.0039	73.5581		155.8	
The dangs	Bori Gaotha 1	20.8108	73.5031	9.4	124.8	115.4
The dangs	Chikhli	20.6583	73.6875	9.46	397.4	387.94
The dangs	Chinchnogaatha	20.8083	73.5528	7.04	171.9	164.86
The dangs	Chinchpada	20.6375	73.7750		596	
The dangs	Dhumkal	20.6458	73.7917	3.95	484.5	480.55
The dangs	Gadad	20.6375	73.7750	5.15	596	590.85
The dangs	Ghubita	20.8000	73.7375	2.53	462	459.47
The dangs	Jakana	20.6333	73.7458	10.35	458.4	448.05
The dangs	Jamalpada	20.7317	73.5206	7.05	273.6	266.55
The dangs	Kalibel	20.9208	73.5806	3.52	172.9	169.38

DISTRICT_NAME	SITE_NAME	Latt_Y	Long_X	May_2017	Elevation_GL	WT_May_17
The dangs	Mahal	20.9167	73.6792	6.6	212	205.4
The dangs	Malegaon	20.6000	73.7458	5.95	553.5	547.55
The dangs	Mheskatri	20.9453	73.5583		164.3	
The dangs	Nadak khadi	20.8042	73.6125	6.61	207.3	200.69
The dangs	Nana pada	20.7000	73.5833	10.88	236.8	225.92
The dangs	Sakarpatal	20.7194	73.5569		232	
The dangs	Sodmal	20.8667	73.6167	12.32	342.5	330.18
The dangs	Subir	20.9222	73.5806	6.8	170.7	163.9
The dangs	Umberpada	20.6833	73.7250	5.35	361.2	355.85
The dangs	Vaghai	20.7639	73.5044	13.12	158.4	145.28
The dangs	Vazat Amba	20.8783	73.5183	7.74	217.7	209.96
Vadodara	Alladpur	22.2500	73.7167	10.37	83	72.63
Vadodara	Amreshwar	22.2278	73.4833	3.73	51	47.27
Vadodara	Asala	22.3833	73.9333	12.22	136	123.78
Vadodara	Asar	22.2036	74.0106		175.7	
Vadodara	Baladgam	22.1375	74.0083	13	159.9	146.9
Vadodara	Bhindol	22.2000	73.9000		109	
Vadodara	Bodeli	22.2708	73.7167	7.28	86.9	79.62
Vadodara	Chavaria	22.1875	73.9875	12.3	151	138.7
Vadodara	Chella Karamsiya Pz	22.3967	73.4322	3.58	70.6	67.02
Vadodara	Chhaliyar	22.6667	73.3167	23.7	50.1	26.4
Vadodara	Chhota udepur	22.3083	74.0167	8.72	151	142.28
Vadodara	Chisadia	22.4000	74.1333	11.88	203.9	192.02
Vadodara	Chitral PZ_II	22.1819	72.9458	25.63	22.9	-2.73
Vadodara	Chota udepur	22.3083	74.0167	8.36	151	142.64
Vadodara	Devat (thadgam)	22.1000	73.9833	10.27	159.1	148.83
Vadodara	Ferkuva	22.3667	74.2083	6.33	241	234.67
Vadodara	Ghamodi	22.3667	74.0750	8.32	174	165.68
Vadodara	Ghayaj ii	22.2333	73.0542	25.12	29.2	4.08
Vadodara	Govindpura	22.2111	73.7414	7.87	78.8	70.93
Vadodara	Handod2	22.0736	73.0458		26.5	
Vadodara	Jojh	22.4417	73.9625	13.42	164	150.58
Vadodara	Juna samalya	22.5042	73.2833	11.05	55	43.95
Vadodara	Kaprali	21.9792	73.9417		228.8	
Vadodara	Karamasiya	22.4208	73.4194	13.2	75	61.8
Vadodara	Kevadi	22.5167	73.9417	6.42	198.4	191.98
Vadodara	Kosindra Pz-I	22.1467	73.7556	4.84	83.3	78.46
Vadodara	Makni	22.2250	73.6792	10.75	73.1	62.35
Vadodara	Masor	22.1417	72.9083	14.34	21	6.66
Vadodara	Moti chikhali	22.0111	74.0833	3.49	296.6	293.11
Vadodara	Naswadi Pz-I	22.0367	73.7289		105.6	
Vadodara	Panwad	22.2000	74.0417	9.78	174	164.22
Vadodara	Patiyapura	22.2750	73.4417	8.11	60	51.89
Vadodara	Pavi	22.3417	73.8333	4.7	102	97.3
Vadodara	Pitha	22.2542	73.6417	9	71	62
Vadodara	Rasulpur	22.6000	73.2333		52	
Vadodara	Saidal	22.2833	73.5028	2.84	65.6	62.76
Vadodara	Saidivasana	22.0583	74.0167	6.7	217.8	211.1
Vadodara	Sankarda1	22.4389	73.1222	27.7	39.9	12.2
Vadodara	Sankheda	22.5389	73.1750	28.03	51.3	23.27
Vadodara	Sengpur	22.0375	73.8875	11.75	162	150.25
Vadodara	Sinor	21.9125	73.3417	24.67	39.7	15.03
Vadodara	Suskal	22.2917	73.7792		91	
Vadodara	Tokri	22.1472	74.0278	29.32	164.8	135.48
Vadodara	Tundav	22.4833	73.2028	9.72	44.7	34.98
Vadodara	Vadodara li	22.3047	73.2717	6.42	36.3	29.88
Vadodara	Vadshala Pz-II	22.1631	73.1694		25.2	
Vadodara	Vadtalav Pz	22.2586	73.7839	13.86	97	83.14
Vadodara	Vagudan	22.0667	74.1417	6.93	262.7	255.77

DISTRICT_NAME	SITE_NAME	Latt_Y	Long_X	May_2017	Elevation_GL	WT_May_17
Vadodara	Vega	22.1594	73.4125	7.11	46.2	39.09
Vadodara	Veipur1	22.7417	73.3542		74.8	
Vadodara	Veipur2	22.7472	73.3556	2.45	70.7	68.25
Vadodara	Waghach	22.0708	73.8500		110.9	
Vadodara	Waghodia Pz	22.3639	73.3769	10.54	66.4	55.86
Vadodara	Wankaner2	22.5389	73.1750	36.97	51.3	14.33
Valsad	Atul	20.5417	72.9667		24.1	
Valsad	Awadha	20.5167	73.2875	3.63	156.5	152.87
Valsad	Chavshala	20.3283	73.3258	8.72	242.9	234.18
Valsad	Dahli (bhilad)	20.2583	72.8833	4.72	42.1	37.38
Valsad	Dharampur 3	20.5308	73.1625	12.35	69.9	57.55
Valsad	Dharampur1	20.5364	73.1706	10.2	78.5	68.3
Valsad	Dungri	20.6886	72.9494	10	15.8	5.8
Valsad	Fali	20.3131	73.3761	12.2	500.6	488.4
Valsad	Kanadu	20.3250	72.8417	5.9	43.1	37.2
Valsad	Kaparda	20.3417	73.2167	8.25	337	328.75
Valsad	Karwad	20.3625	72.9750	4.62	25	20.38
Valsad	Lakadmal	20.4667	73.1583	9.9	68.8	58.9
Valsad	Mandwa	20.3667	73.1750		131	
Valsad	Motaponda	20.3583	73.0333		44.8	
Valsad	Muli1	20.6333	73.0250	4.6	32	27.4
Valsad	Nanaponda	20.4139	73.1208	10.62	63.3	52.68
Valsad	Tithal	20.6000	72.9000	8.02	6	-2.02
Valsad	Tumb	20.2167	72.8417	3.44	20	16.56
Valsad	Udwada	20.4636	72.9181	6.35	20	13.65
Valsad	Umargaon	20.1917	72.7500	4.18	10	5.82
Valsad	Valsad1	20.6056	72.9278	23.67	17.4	-6.27
Valsad	Vapi Balitha	20.3803	72.9044	10.2	25.7	15.5

MEAN DECADAL WATER LEVELS OF THE NATIONAL HYDROGRAPH STATIONS IN GUJARAT AND UT OF DAMAN & DIU (PHERATIC) 2008-17					
DISTRICT	LOCATION	LAT_Y	LONG_X	PRE_MONSOON	POST_MONSOON
Ahmedabad	Bagodara_Pz_II	22.64	72.21	6.75	5.44
Ahmedabad	Barvala	22.15	71.89	9.31	8.25
Ahmedabad	Bopal_Pz_III	23.04	72.46	5.64	4.88
Ahmedabad	Dalod	23.37	71.97	6.66	5.76
Ahmedabad	Devalia	22.38	71.99	17.53	16.14
Ahmedabad	Dhandhuka1	22.38	71.99	4.23	3.08
Ahmedabad	Endla	23.27	72.06	3.61	2.16
Ahmedabad	Fedra	22.46	72.16	2.73	1.51
Ahmedabad	Gamph	22.36	72.17	3.13	1.79
Ahmedabad	Ghuma	23.03	72.45	5.52	3.59
Ahmedabad	Ghuma_Pz_II	23.03	72.45	6.43	4.30
Ahmedabad	Hansalpur_Pz-III	23.09	72.02	4.05	3.11
Ahmedabad	Hazipur Garden_Pz_III	23.04	72.59	19.55	18.65
Ahmedabad	Jhanjharwa_Pz_II	23.41	72.06		11.84
Ahmedabad	Jholapur_Pz_III	22.99	72.20	24.54	12.37
Ahmedabad	Koth III	22.46	72.30	10.80	10.86
Ahmedabad	Kumarkhan	22.90	72.02	5.28	4.32
Ahmedabad	Kundal	22.90	72.22	11.18	7.47
Ahmedabad	Kundali	22.27	71.70	16.28	7.30
Ahmedabad	Mandal2	23.28	71.92	4.72	3.13
Ahmedabad	Pachcham_Pz	22.23	72.18	2.76	1.31
Ahmedabad	Rajpada	22.31	71.69	19.97	14.56
Ahmedabad	Salangpor	22.16	71.77	18.73	11.52
Ahmedabad	Sola_Pz_III	23.08	72.52	12.33	10.10
Ahmedabad	Tagadi1	22.30	71.95	7.37	3.31
Ahmedabad	Ughraj1	23.37	72.10	7.99	5.97
Ahmedabad	Upardhal_Pz	22.85	72.14	9.80	4.83
Ahmedabad	Upardhal1	22.85	72.15	10.80	8.88
Ahmedabad	Vagad(Repl)_Pz	22.36	71.87	7.42	5.70
Ahmedabad	Vastrapur_lake_II(2)	23.04	72.53	21.05	20.05
Ahmedabad	Viramgam2	23.14	72.03	3.45	1.87
Ahmedabad	Visalpur_Pz-II	22.92	72.49	8.83	6.12
Amreli	Amreli	21.61	71.23	12.41	5.93
Amreli	Amreli_Pz	21.61	71.23	14.18	7.83
Amreli	Amritvel_Pz	21.40	71.36	3.10	3.17
Amreli	Anida_Pz	21.68	70.93	7.03	3.97
Amreli	Ankadia mota	21.65	71.11	10.29	7.17
Amreli	Badhda	21.27	71.34	9.98	7.19
Amreli	Bagasara	21.48	70.96	16.47	12.26
Amreli	Bhvardi1	21.11	71.26	5.47	0.89
Amreli	Bherai	20.87	71.36	3.09	2.46
Amreli	Bhuva	21.43	71.36	4.67	3.88
Amreli	Chalala	21.42	71.17	28.94	26.87
Amreli	Charkhadia_Pz	21.39	71.29	21.67	19.60
Amreli	Charkhadia1	21.39	71.30	19.01	17.19
Amreli	Chavand	21.82	71.41	10.47	5.77
Amreli	Devaliya	21.82	71.11	13.48	10.59
Amreli	Dhantardi	21.02	71.62	7.50	4.38
Amreli	Dharangani	21.33	71.20	30.61	30.31
Amreli	Dhari	21.34	71.04	13.30	10.55
Amreli	Dhari_Pz	21.33	71.02	20.66	9.69
Amreli	Dhrai Balmukand	21.83	71.22	21.68	10.99
Amreli	Fifad	21.44	71.54	5.67	4.76
Amreli	Gokharwala	21.50	71.26	8.10	8.10
Amreli	Gopalpura Vanda Pz	21.38	71.49	26.31	24.03
Amreli	Goradka	21.23	71.41	11.52	4.12

DISTRICT	LOCATION	LAT_Y	LONG_X	PRE_MONSOON	POST_MONSOON
Amreli	Govadka	21.54	71.16	6.47	3.35
Amreli	Hinderana	20.97	71.41	4.80	3.73
Amreli	Hipavadli	21.38	71.61	9.11	8.25
Amreli	Ingorala	21.23	71.20	15.92	9.30
Amreli	Ishwaria	21.63	71.27	24.57	21.95
Amreli	Jafrabad	20.87	71.36	2.39	2.16
Amreli	Jesar_Pz	21.37	71.67	6.79	7.02
Amreli	Jira	21.24	71.09	9.67	4.49
Amreli	Junasavar_Pz	21.46	71.39	5.00	5.03
Amreli	Kadiyali	20.91	71.36	6.23	2.91
Amreli	Kerala	21.40	71.22	37.30	32.40
Amreli	Khamba	21.15	71.24	9.76	4.78
Amreli	Khamba_Pz	21.14	71.25	13.04	8.43
Amreli	Kotadapitha	21.96	71.20	13.90	9.92
Amreli	Kunkavav	21.66	70.98	17.98	19.61
Amreli	Lathi	21.72	71.38	8.43	2.42
Amreli	Lotpur	20.96	71.43	5.66	5.17
Amreli	Luvariya	21.63	71.40	10.30	4.86
Amreli	Mandal	21.10	71.58	27.21	24.13
Amreli	Manila Pz	21.43	71.17	19.29	17.05
Amreli	Morjhar	21.38	71.12	36.58	29.24
Amreli	Nageshri	20.93	71.35	5.55	2.96
Amreli	Piyava	21.38	71.47	28.50	24.48
Amreli	Punjabadar	21.53	71.36	11.28	5.10
Amreli	Salena	21.39	71.53	13.77	12.90
Amreli	Sanaria	21.56	71.47	5.40	2.62
Amreli	Tajpur	21.73	71.47	20.34	9.47
Amreli	Timbi2	20.90	71.20	9.78	6.24
Amreli	Trakuda	21.02	71.28	10.72	5.51
Amreli	Untvad	21.92	71.22	15.25	10.89
Amreli	Vaghania juna	21.58	70.97	10.67	4.59
Amreli	Vanda	21.39	71.51	12.52	5.17
Amreli	Vankiya	21.52	71.14	10.68	5.74
Amreli	Vankiya1	21.23	71.25	15.48	6.19
Amreli	Vavdi Pz	21.36	71.19	38.15	33.46
Amreli	Victor	21.01	71.54	1.49	0.77
Amreli	Virpur	21.25	71.15	17.92	10.17
Anand	Adas_Pz	22.48	73.03		7.54
Anand	Anand	22.58	72.97	11.31	7.25
Anand		(blank)	(blank)		
Anand	Anklav2	22.38	73.01	23.97	21.62
Anand	Bandhani	22.54	72.82	5.24	3.47
Anand	Bhadran	22.36	72.90	16.63	14.72
Anand	Dali	22.28	72.77	4.61	3.18
Anand	Davalpura_Pz	22.46	72.80	3.57	1.58
Anand	Dharmaj	22.42	72.79	12.37	10.73
Anand	Ghora	22.69	73.05	6.00	3.56
Anand	Kansari1	22.34	72.65	13.39	10.49
Anand	Laxmipura	22.42	72.61	3.01	1.14
Anand	Navapura	22.31	72.96	25.31	22.27
Anand	Ras	22.35	72.83	2.41	1.82
Anand	Tarapur Pz-II	22.49	72.66	3.73	2.25
Banaskantha	Ambaji_Pz	24.34	72.85	12.09	7.66
Banaskantha	Amirgadh	24.41	72.64	11.43	11.27
Banaskantha	Asodar	24.42	71.82	29.32	29.32
Banaskantha	Bharol1	24.53	71.54	3.82	3.67
Banaskantha	Bhorol_Pz_I	24.53	71.54		5.82
Banaskantha	Danta	24.19	72.77	10.37	8.18
Banaskantha	Dantiwada	24.28	72.26	29.39	26.90
Banaskantha	Deesa Pzii	24.26	72.19	58.96	57.50

DISTRICT	LOCATION	LAT_Y	LONG_X	PRE_MONSOON	POST_MONSOON
Banaskantha	Ganapipli	24.30	72.95	11.34	8.52
Banaskantha	Gangodra	24.44	72.37	21.44	14.51
Banaskantha	Iqbalgarh	24.35	72.54	29.56	26.34
Banaskantha	Jalotra Pz-II	24.14	72.58	17.37	15.77
Banaskantha	Jhat	24.49	72.35	15.87	13.76
Banaskantha	Jorapura	24.38	72.29	20.73	15.34
Banaskantha	Khoda	24.66	71.77	21.72	19.49
Banaskantha	Kidotar	24.39	72.63	19.24	17.42
Banaskantha	Kuchwada	24.47	72.25	24.08	23.26
Banaskantha	Manglore	24.51	71.70	9.25	9.46
Banaskantha	Meda	24.40	72.28	11.74	9.83
Banaskantha	Miyal iii	24.64	71.75	19.73	18.01
Banaskantha	Mohabbat gadh	24.17	72.73	22.35	18.30
Banaskantha	Naroli Pziii	24.62	71.64	10.10	8.49
Banaskantha	Palanpur2	24.19	72.43	29.56	27.58
Banaskantha	Panthawada	24.49	72.30	29.50	
Banaskantha	Rampura	24.47	72.32	19.80	
Banaskantha	Ratanpur2	24.18	72.75	17.34	14.52
Banaskantha	Sankad	24.50	71.98	36.00	36.00
Banaskantha	Sihori i	24.05	71.94	21.87	
Banaskantha	Sodapur	24.40	72.30	15.07	12.52
Banaskantha	Tharad Pziii	24.39	71.62	14.01	12.75
Banaskantha	Vadgamda	24.41	71.69	28.36	28.37
Banaskantha	(blank)	24.19	72.76	36.32	34.40
Bharuch	Arethi	21.61	73.44	9.66	6.01
Bharuch	Bhadkodra	22.06	72.59	6.11	4.60
Bharuch	Bharuch	21.70	73.00	6.78	3.87
Bharuch	Bhensli	21.73	72.75	3.35	2.25
Bharuch	Chhindra	22.13	72.67	9.59	9.34
Bharuch	Dahegam	22.18	72.60	7.68	8.08
Bharuch	Hansot	21.58	72.81	4.67	3.26
Bharuch	Ilav	21.45	72.80	7.09	6.28
Bharuch	Jambusar	22.05	72.81	6.92	7.41
Bharuch	Jambusar2	22.05	72.80	8.09	4.26
Bharuch	Jetpur1	21.49	72.71	3.61	2.07
Bharuch	Jokhla	21.60	73.17	3.21	0.91
Bharuch	Juna borbhata	21.68	72.98	6.98	5.54
Bharuch	Kalak1	22.02	72.76	7.54	4.92
Bharuch	Kaswa	21.68	72.82	7.19	5.00
Bharuch	Kavachiya	21.53	73.35	6.26	3.68
Bharuch	Kavi	22.19	72.64	7.05	6.03
Bharuch	Kondh	21.58	73.07	4.98	3.10
Bharuch	Luhara	21.68	72.56	4.00	2.86
Bharuch	Mahegam1	21.68	72.76	6.19	4.23
Bharuch	Modoliya	21.63	73.30	8.87	7.85
Bharuch	Mokhdi	21.53	73.29	9.54	5.27
Bharuch	Motwan	21.56	72.89	2.63	2.15
Bharuch	Mulad	21.68	73.02	7.94	5.48
Bharuch	Mungaj	21.69	73.38	7.31	3.27
Bharuch	Navetha	21.71	72.83	6.83	5.40
Bharuch	Netrang	21.64	73.37	9.73	6.11
Bharuch	Netrang(Rep)_Pz	21.64	73.37	9.48	5.92
Bharuch	Netrang1	21.63	73.37	7.11	3.08
Bharuch	Nirnavi	21.79	72.67	9.79	6.65
Bharuch	Panoli	21.54	72.98	2.56	1.74
Bharuch	Raymal	21.52	72.82	2.22	1.50
Bharuch	Roja tankaria	21.92	72.79	9.13	8.18
Bharuch	Sahol	21.47	72.81	3.58	1.83
Bharuch	Sajod	21.62	72.92	4.20	3.56
Bharuch	Sarod	22.16	72.76	11.90	10.23

DISTRICT	LOCATION	LAT_Y	LONG_X	PRE_MONSOON	POST_MONSOON
Bharuch	Simodra	21.74	73.21	6.71	4.22
Bharuch	Sindhav	22.03	72.64	7.76	7.14
Bharuch	Tankari	21.99	72.68	4.71	2.94
Bharuch	Utraj	21.59	72.83	4.70	3.87
Bharuch	Valia1	21.57	73.16	4.41	2.96
Bhavnagar	Ambala	21.71	71.84	19.63	15.27
Bhavnagar	Ayodhayapuram	21.96	71.89	9.56	7.30
Bhavnagar	Bhavnagar1	21.77	72.15	7.28	5.45
Bhavnagar	Bhudel	21.69	72.16	4.99	2.91
Bhavnagar	Bhumbhali	21.68	72.24	2.93	2.33
Bhavnagar	Bhutia	21.75	71.70	18.93	13.57
Bhavnagar	Bora	21.19	71.93	26.59	26.08
Bhavnagar	Chowk Pz	21.43	71.76	24.51	23.40
Bhavnagar	Datha	21.22	71.95	4.74	3.75
Bhavnagar	Dhasa	21.80	71.51	5.89	2.87
Bhavnagar	Dudhala	21.14	71.66	13.67	7.52
Bhavnagar	Gadhada2	21.97	71.58	4.78	4.13
Bhavnagar	Gariyadhar	21.54	71.57	19.15	11.53
Bhavnagar	Ghogha	21.68	72.28		3.68
Bhavnagar	Ghogha1	21.68	72.28	4.18	1.66
Bhavnagar	Jalia	21.80	71.62	18.64	14.19
Bhavnagar	Khijadiya	21.64	71.70	11.71	9.79
Bhavnagar	Kundhdi	21.38	71.98		1.75
Bhavnagar	Kundheli	21.38	71.98	20.66	16.78
Bhavnagar	Longadi	21.21	71.88	5.38	3.54
Bhavnagar	Lonjdhara	22.10	71.90	25.56	17.73
Bhavnagar	Mahuva1	21.10	71.77	19.15	18.27
Bhavnagar	Malvav_Pz	21.16	71.91	29.82	24.24
Bhavnagar	Motivadal	21.20	71.55	7.89	3.35
Bhavnagar	Ningala	22.02	71.70	14.14	8.19
Bhavnagar	Palitana1	21.53	71.82	10.25	6.42
Bhavnagar	Palitana2	21.52	71.84	12.74	6.10
Bhavnagar	Paliyad	22.26	71.56	17.45	8.56
Bhavnagar	Paliyad2	22.26	71.56	19.85	6.11
Bhavnagar	Panchpipla	21.55	71.72	6.65	2.23
Bhavnagar	Panvi1	22.08	71.89	9.67	3.93
Bhavnagar	Pasvi	21.29	71.97	15.93	9.03
Bhavnagar	Piparla	21.64	71.92	7.48	2.33
Bhavnagar	Porbada	21.80	71.70	12.97	9.79
Bhavnagar	Sajnasar	21.43	71.91	10.09	3.91
Bhavnagar	Sandhida	21.69	71.76	4.97	2.39
Bhavnagar	Satanes	21.44	71.84	16.07	4.34
Bhavnagar	Shantinagar	21.25	71.65	11.96	5.71
Bhavnagar	Sihor	21.71	71.95	4.60	
Bhavnagar	Talaja1	21.36	72.04	9.25	
Bhavnagar	Talaja2	21.37	72.02	10.96	7.12
Bhavnagar	Tansa	21.51	72.13	14.51	8.21
Bhavnagar	Tardhera	22.23	71.60	20.73	17.75
Bhavnagar	Tatam	22.06	71.63	25.38	18.83
Bhavnagar	Timbi2	21.83	71.77	12.77	10.51
Bhavnagar	Trapaj	21.43	72.10	15.70	10.47
Bhavnagar	Umrالا	21.85	71.81	13.05	10.25
Bhavnagar	Vadal	21.48	71.81	12.52	3.51
Bhavnagar	Vallabhipur1	21.88	71.88	5.88	4.68
Bhavnagar	Vallbhipur	21.88	71.88	5.68	4.28
Bhavnagar	Vavdi	21.57	72.20	11.27	2.99
DAMAN	Ambawadi	20.40	72.84	5.80	3.65
DAMAN	Bhimpur k.falia	20.46	72.87	7.71	4.51
DAMAN	Dabhel	20.41	72.89	4.42	2.41
DAMAN	Dalwada	20.44	72.85	7.96	2.39

DISTRICT	LOCATION	LAT_Y	LONG_X	PRE_MONSOON	POST_MONSOON
DAMAN	Daman	20.42	72.85	8.41	3.08
DAMAN	Jempore	20.38	72.83	3.52	1.71
DAMAN	Khariwad daman	20.43	72.85	4.49	2.61
DAMAN	Khariwad daman1	20.43	72.85	5.35	3.52
DAMAN	Morwad	20.44	72.83	8.09	5.01
DAMAN	Ringwada	20.40	72.87	3.45	1.73
DAMAN	Warkund	20.41	72.86	6.24	2.41
DIU	Chakarteeth_Pz	20.71	70.97	6.31	6.18
DIU	Diu	20.71	70.95	3.78	3.63
DIU	Vanakbarh_Pz	20.71	70.88	9.57	8.68
Dohad	Dabhava	22.58	73.90	5.50	2.91
Dohad	Dadhela	22.84	74.07	8.46	4.51
Dohad	Dahod	22.84	74.26	3.74	2.57
Dohad	Dahod2	22.83	74.23	8.75	6.24
Dohad	Devgadh Baria	22.70	73.91	11.49	7.60
Dohad	Devgadh bariya	22.70	73.92	13.44	7.83
Dohad	Dhanpur	22.63	74.10	12.82	8.11
Dohad	Fatepura(Karodia)	23.25	74.03	12.94	8.49
Dohad	Garbara	22.68	74.31	7.89	3.77
Dohad	Jhalod	23.09	74.15	9.77	7.39
Dohad	Jhalod1	23.09	74.13	8.76	6.09
Dohad	Kanjetha	22.58	74.11	10.22	6.47
Dohad	Khandania	22.70	73.84	12.91	10.34
Dohad	Limbdi2	23.00	74.16	4.61	2.63
Dohad	Limkheda	22.83	73.99	8.43	5.50
Dohad	Mirakhedi	22.93	74.20	6.54	3.51
Dohad	Panchwada	22.73	74.31	6.08	4.46
Dohad	Pipero	22.65	74.09	12.79	6.63
Dohad	Salaya1	22.81	73.89	12.53	5.83
Dohad	Sukhsar	23.15	74.05	9.76	7.26
Dohad	Tokarba	22.60	74.04	6.09	3.57
Dohad	Varamkheda	22.80	74.28	2.37	1.52
Dohad	Wadia	22.90	74.05	7.94	4.90
Gandhinagar	Adalaj_Pz_III	23.18	72.56	23.98	23.77
Gandhinagar	Amrapur Pziii	23.37	72.71	55.47	51.87
Gandhinagar	Dahegam II	23.17	72.84	9.31	7.16
Gandhinagar	Kasturinagar(IFFCO)	23.19	72.55	12.74	11.13
Gandhinagar	Lodra	23.46	72.72	53.87	50.94
Gandhinagar	Paliya	23.18	72.84	13.16	10.78
Gandhinagar	Pethapur_Pz-III	23.27	72.67		0.00
Gandhinagar	Serthapara1	23.19	72.57	13.68	11.91
Jamnagar	Ambardi	21.92	69.86	11.29	6.28
Jamnagar	Amran_Pz	22.82	70.55	4.32	2.10
Jamnagar	Amran1	22.83	70.56	5.07	2.15
Jamnagar	Aramda	22.43	69.04	5.48	4.56
Jamnagar	Balwa	21.90	69.96	21.53	13.47
Jamnagar	Bed1	22.44	69.90	8.79	5.45
Jamnagar	Bedanpur	22.68	70.32	6.15	3.81
Jamnagar	Bhadthar	22.08	69.58	15.10	8.11
Jamnagar	Bhanvad	21.93	69.80	13.69	7.39
Jamnagar	Bhatia	22.09	69.30	12.83	5.76
Jamnagar	Bhatiya	22.09	69.27	4.31	1.55
Jamnagar	Bhogat1	21.99	69.25	8.82	4.40
Jamnagar	Changa	22.35	70.04	16.26	12.52
Jamnagar	Dhrol2	22.57	70.42	4.91	2.72
Jamnagar	Drafa	21.96	70.08	15.02	6.55
Jamnagar	Dudhai2	22.79	70.50	3.93	1.68
Jamnagar	Dwarka	22.25	68.96	7.98	7.79
Jamnagar	Gordhanpur	22.45	70.00	12.12	7.10
Jamnagar	Haripur2	22.27	70.33	19.15	5.76

DISTRICT	LOCATION	LAT_Y	LONG_X	PRE_MONSOON	POST_MONSOON
Jamnagar	Haryana	22.61	70.26	8.43	6.32
Jamnagar	Jambuda	22.53	70.20	7.78	3.68
Jamnagar	Jamjodhpur	21.91	70.03	7.32	4.98
Jamnagar	Jamnagar1	22.47	70.05	11.71	3.90
Jamnagar	Jamnagar2	22.46	70.08	7.34	3.87
Jamnagar	Juvanpur	22.17	69.37	23.04	10.92
Jamnagar	Kajuda	22.33	69.71	7.04	4.42
Jamnagar	Kalavad1	22.22	70.39	6.87	5.46
Jamnagar	Kalawad	22.22	70.38	4.23	3.11
Jamnagar	Kalyanpur2	22.02	69.39	23.89	10.47
Jamnagar	Khambalia	22.22	69.65	8.06	2.68
Jamnagar	Khambhaliya	22.21	69.65	9.76	4.51
Jamnagar	Khirsara	21.98	69.60	14.12	4.97
Jamnagar	Kuvadria	22.20	69.58	15.21	8.39
Jamnagar	Lalpur	22.19	69.94	26.48	14.20
Jamnagar	Lalpur1	22.19	69.96	13.14	6.63
Jamnagar	Latipur	22.63	70.53	8.92	5.19
Jamnagar	Modpar	21.86	69.81	17.40	10.02
Jamnagar	Mojap	22.37	68.98	8.51	7.00
Jamnagar	Mojap1	22.37	68.98	7.85	
Jamnagar	Mota kalawad	21.91	69.83	23.12	15.29
Jamnagar	Motagop	22.04	69.88	9.52	6.48
Jamnagar	Moti khavdi	22.39	69.87	10.17	7.62
Jamnagar	Moti matli	22.32	70.26	19.93	7.01
Jamnagar	Navi Madhi_Pz	22.08	69.12	5.71	1.94
Jamnagar	Nikava	22.19	70.53	4.45	2.68
Jamnagar	Pindara1	22.25	69.26	8.11	4.29
Jamnagar	Raval	21.93	69.49	7.69	3.10
Jamnagar	Salaya	22.31	69.60	2.97	2.48
Jamnagar	Samrasar1	22.38	69.10	5.06	3.45
Jamnagar	Seth vadala	22.03	70.13	11.25	4.50
Jamnagar	Sumana	22.11	70.17	12.75	9.42
Jamnagar	Toda	22.06	70.38	13.18	6.10
Jamnagar	Vad panchasara	22.23	70.12	16.62	7.71
Jamnagar	Vadtara	22.21	69.50	12.45	8.38
Jamnagar	Varwada	22.29	68.97	14.87	8.91
Jamnagar	Vijarkha	22.42	70.18	10.36	6.22
Jamnagar	Vinjalpur	22.15	69.60	9.81	5.38
Junagadh	Ajotha	20.90	70.52	19.91	6.85
Junagadh	Ajotha_Pz	20.89	70.47	12.15	6.74
Junagadh	Alwani	21.23	70.64	3.31	2.32
Junagadh	Amervel Nes	21.01	70.73	4.91	2.09
Junagadh	Ankolvadi	21.05	70.66	11.19	5.56
Junagadh	Ankolvadi 1	21.05	70.66	7.75	6.46
Junagadh	Antroli	21.24	70.01	6.71	4.29
Junagadh	Arena	21.08	70.18	11.52	6.35
Junagadh	Bamanwara	21.22	70.06	10.17	5.24
Junagadh	Bantva	21.49	70.08	19.34	11.39
Junagadh	Bhatsimroli	21.22	70.18	22.30	10.55
Junagadh	Bhim Deval	20.98	70.61	12.65	5.10
Junagadh	Bilkha	21.44	70.60	13.77	7.87
Junagadh	Budhecha	21.10	70.22	7.58	4.28
Junagadh	Chorwad	21.04	70.22	6.93	4.12
Junagadh	Dhokadva	20.96	71.07	12.80	10.20
Junagadh	Dolasa	20.82	70.86	10.74	4.12
Junagadh	Gadu	21.05	70.28	34.86	22.16
Junagadh	Galodar	21.15	70.28	22.73	8.44
Junagadh	Gangda_Pz	20.86	71.17	8.61	4.69
Junagadh	Girgadhada	20.93	70.92	8.18	7.01
Junagadh	Goraj1	21.18	70.15	33.96	11.02

DISTRICT	LOCATION	LAT_Y	LONG_X	PRE_MONSOON	POST_MONSOON
Junagadh	Govindpura2	20.95	70.40	25.66	9.60
Junagadh	Jambur[madhapar	21.03	70.61	8.60	3.62
Junagadh	Jamvala	20.98	70.77	9.07	4.31
Junagadh	Jamvala1	20.98	70.76	6.73	5.81
Junagadh	Jargla Jargali	20.88	70.98	13.80	2.91
Junagadh	Junagadh	21.51	70.46	12.80	9.95
Junagadh	Junagadh1	21.52	70.46	11.33	5.97
Junagadh	Juthal	21.17	70.27	9.28	8.81
Junagadh	Kalej	21.25	70.06	13.96	9.73
Junagadh	Kanek	21.03	70.24	14.19	6.85
Junagadh	Kansari	20.87	71.05	15.41	10.79
Junagadh	Kasia Naka Check Post	21.27	70.68	5.41	2.49
Junagadh	Kesariya	20.80	70.94	20.42	5.32
Junagadh	Kesariya1	20.80	70.94	14.25	9.37
Junagadh	Keshod	21.30	70.26	9.63	
Junagadh	Kewarda	21.27	70.21	15.50	9.51
Junagadh	Khambalia1	21.04	70.19	8.89	8.23
Junagadh	Khokharda	21.42	70.32	22.54	13.44
Junagadh	Khorada1	21.06	70.17	9.16	7.34
Junagadh	Khoras ahir	21.37	70.34	13.35	8.95
Junagadh	Kodinar	20.80	70.69	11.97	6.91
Junagadh	Kodinar1	20.80	70.69	13.76	9.26
Junagadh	Kukaswada	21.05	70.21	10.05	6.44
Junagadh	Lohej	21.17	70.07	9.53	8.73
Junagadh	Maktupur1	21.14	70.10	10.17	9.12
Junagadh	Mandawad	21.36	70.75	14.29	9.30
Junagadh	Mangrol	21.13	70.11	17.32	16.36
Junagadh	Mangrol1	21.13	70.12	13.59	12.41
Junagadh	Manketara	21.15	70.13	32.66	18.48
Junagadh	Mendarda	21.33	70.44	17.59	9.86
Junagadh	Mendarda1	21.33	70.43	16.63	9.99
Junagadh	Menekwara	21.39	70.27	13.80	
Junagadh	Moraj	20.98	70.44	10.16	4.86
Junagadh	Patla	21.60	70.57	8.94	2.87
Junagadh	Prachi_Pz	20.92	70.61	18.35	7.12
Junagadh	Prasli	20.85	70.67	16.88	4.41
Junagadh	Prasnowada_Pz	20.84	70.56	20.71	13.94
Junagadh	Prempara	21.30	70.70	19.53	10.18
Junagadh	Sametar	20.85	71.12	16.49	9.56
Junagadh	Sepa	21.12	70.22	25.48	20.28
Junagadh	Seriakhan	21.13	70.25	18.41	14.15
Junagadh	Shardagram	21.10	70.15	11.55	10.45
Junagadh	Sil	21.19	70.05	7.23	5.69
Junagadh	Sil bandar	21.22	70.06	9.35	6.35
Junagadh	Sultanpur	21.18	70.16	15.13	0.00
Junagadh	Talala_Pz	21.06	70.54	11.34	6.37
Junagadh	Talala1	21.05	70.53	11.73	7.25
Junagadh	Una1	20.83	71.04	9.37	6.08
Junagadh	Una2	20.83	71.04	5.72	3.50
Junagadh	Vanthali ii	21.47	70.33	11.68	5.69
Junagadh	Veraval	20.95	70.34	16.10	11.52
Junagadh	Veraval2	20.91	70.38	6.86	2.40
Junagadh	Visavadar	21.34	70.75	15.78	9.43
Kachchh	Adesar_Pz	23.56	70.98	4.85	3.00
Kachchh	Asambia mota_Pz	22.97	69.45	7.36	7.64
Kachchh	Asambia mota1	22.97	69.44	12.32	10.00
Kachchh	Bambhdai	22.94	69.08	5.78	5.17
Kachchh	Bandiya	23.40	69.02	7.44	5.10
Kachchh	Bhadia mota	22.98	69.33	6.41	4.21
Kachchh	Bhadreshwar	22.90	69.90	8.06	6.82

DISTRICT	LOCATION	LAT_Y	LONG_X	PRE_MONSOON	POST_MONSOON
Kachchh	Bhuj (Circuit House)	23.25	69.67	14.58	13.16
Kachchh	Chandranagar	23.45	69.40	7.35	5.79
Kachchh	Dayapar	23.63	68.90	17.64	18.31
Kachchh	Dayapar1	23.63	68.87	21.61	22.45
Kachchh	Deshalpur rapar	23.75	70.68	13.08	10.59
Kachchh	Devisar	23.40	69.33	13.07	11.69
Kachchh	Dholavira	23.88	70.22	10.29	8.19
Kachchh	Dhori	23.44	69.75	16.89	14.98
Kachchh	Dhori1	23.43	69.75	15.78	14.56
Kachchh	Dudhai Saline	23.32	70.13		33.95
Kachchh	Dunai	23.05	69.50	10.29	8.86
Kachchh	Gagodar	23.42	70.80	29.36	27.16
Kachchh	Gandhidham1	23.08	70.14	9.07	6.32
Kachchh	Gandhidham2	23.08	70.15	6.55	4.41
Kachchh	Haboi	23.36	69.87	2.22	1.27
Kachchh	Kakarwa	23.48	70.40	16.38	15.09
Kachchh	Karagoga	22.94	69.66	3.50	1.51
Kachchh	Kharoi	23.45	70.35	5.99	4.56
Kachchh	Khavada	23.84	69.73	6.07	5.14
Kachchh	Kotadi	23.04	69.19	9.36	9.52
Kachchh	Kotaya	23.04	69.08	9.58	7.81
Kachchh	Kothara	23.16	68.91	5.13	4.52
Kachchh	Kuda	23.53	70.44	26.20	23.90
Kachchh	Kukma	23.23	69.78	13.63	13.03
Kachchh	Kumbhariya	23.34	70.72	7.67	7.09
Kachchh	Lakhpatt	23.82	68.78	8.72	5.66
Kachchh	Lakhpatt_Pz	23.82	68.77	1.94	1.41
Kachchh	Lilpur	23.51	70.65	0.90	0.70
Kachchh	Lodai	23.40	69.89	13.91	14.41
Kachchh	Luni	22.87	69.81	9.11	7.09
Kachchh	Mandvi (Mahadev Temple)	22.83	69.33	3.63	2.73
Kachchh	Mandvi (Shitla Mata)	22.83	69.33	7.54	4.07
Kachchh	Mata no madh	23.53	68.95	10.47	9.82
Kachchh	Mathak1	23.00	70.03	10.37	9.46
Kachchh	Mokha	22.95	69.80	12.91	12.45
Kachchh	Mothala	23.21	69.13	4.18	2.91
Kachchh	Moti cher	23.76	68.68	4.01	3.79
Kachchh	Mundra	22.83	69.72	5.83	4.79
Kachchh	Naliya	23.26	68.84	9.72	8.83
Kachchh	Naliya (Bus S)	23.27	68.83	10.46	8.39
Kachchh	Rapar	23.58	70.64	21.23	23.67
Kachchh	Rapar2	23.57	70.64	27.38	25.40
Kachchh	Ratanpur Khadir1	23.86	70.36	16.99	14.19
Kachchh	Ratanpur(maum.)	23.11	69.29	4.56	4.55
Kachchh	Rawapar	23.52	69.08	14.10	13.81
Kachchh	Rudramata	23.39	69.71	8.86	5.19
Kachchh	Samkhiari	23.30	70.51	8.30	4.02
Kachchh	Sedat	23.17	69.64	13.09	12.58
Kachchh	Shinaya	23.03	70.05	2.98	3.25
Kachchh	Shivlakha	23.38	70.62	17.17	11.18
Kachchh	Sukhpar	23.21	69.62	13.94	14.22
Kachchh	Tera	23.28	68.95	11.62	11.02
Kachchh	Vinjhan1	23.10	69.03	8.62	6.38
Kheda	Alina	22.81	73.06	10.35	7.75
Kheda	Balasinor	22.96	73.34	4.21	2.84
Kheda	Balasinor1	22.95	73.33	7.64	4.06
Kheda	Bar	23.17	73.41	6.23	3.37
Kheda	Chaklashi	22.65	72.95	4.47	2.36
Kheda	Dakor	22.76	73.17	7.19	5.45
Kheda	Juna vasadra	23.08	73.36	4.98	3.48

DISTRICT	LOCATION	LAT_Y	LONG_X	PRE_MONSOON	POST_MONSOON
Kheda	Kalesar	22.72	73.19	4.43	1.91
Kheda	Kapadvanj	23.00	73.09	13.24	8.63
Kheda	Kheda	22.74	72.70	6.09	3.45
Kheda	Ladvel	22.91	73.12	2.51	0.98
Kheda	Mahudha	22.78	72.94	4.36	2.82
Kheda	Nadiad2	22.68	72.88	8.68	5.88
Kheda	Nes_Pz	22.71	73.20	8.95	7.04
Kheda	Nes_Pz(Sy)	22.71	73.20	8.22	6.11
Kheda	Sarkhej_Pz-III	22.99	72.88	39.92	36.43
Kheda	Shekhupura	22.58	72.63	1.17	0.83
Kheda	Thasra	22.79	73.21	5.08	2.40
Kheda	Vaso	22.66	72.75	6.54	3.98
Kheda	Virpur_Pz	23.19	73.49	9.23	5.03
Kheda	Vyas vasna	23.11	73.10	24.66	17.24
Mahesana	Asjol	23.51	72.18	8.12	4.68
Mahesana	Bhandupara	23.73	72.38	9.15	8.64
Mahesana	Budasan	23.29	72.38	5.75	2.67
Mahesana	Dabhoda Pz-I	23.95	72.70	31.21	
Mahesana	Daran_Pz-III	23.21	72.28	3.09	2.09
Mahesana	Dharpura	23.55	72.11	8.86	7.63
Mahesana	Dharusana	23.53	72.48		33.45
Mahesana	Dosaj	23.84	72.45	9.13	8.12
Mahesana	Jaska(Sy_4")Pz_II	23.82	72.53	14.22	13.72
Mahesana	Jotana Pzii	23.47	72.29	15.12	15.62
Mahesana	Kalyanpur	23.13	72.19	5.71	5.14
Mahesana	Karalli (iii)	23.80	72.49	11.22	10.82
Mahesana	Kheralu(shallow	23.90	72.61	7.49	5.68
Mahesana	Kheralu1	23.89	72.61	13.39	9.87
Mahesana	Maguna	23.58	72.29	8.85	5.99
Mahesana	Mau	23.51	72.52	9.29	7.10
Mahesana	Modhera iii	23.72	72.47	9.97	8.83
Mahesana	Padhadya	23.52	72.53	11.38	11.10
Mahesana	Panchot	23.63	72.34	6.88	4.63
Mahesana	Rampura Kot Juna Pz-I	23.73	72.80	34.00	33.66
Mahesana	Rampura1	23.89	72.52	9.18	8.17
Mahesana	Sihi	23.80	72.35	12.89	11.07
Mahesana	Tarabh	23.76	72.46	8.15	6.35
Mahesana	Thol Pz-IV	23.13	72.38	18.68	18.24
Mahesana	Unad1	23.85	72.72	11.24	10.38
Mahesana	Unawa	23.77	72.36	4.82	3.78
Mahesana	Vidaj	23.25	72.30	5.27	3.45
Mahesana	Visnagar iv	23.70	72.53	3.04	2.28
Narmada	Agar(Rep)_Pz	22.03	73.66	10.30	7.71
Narmada	Almadi	21.61	73.51	7.35	1.66
Narmada	Amayar	21.55	73.77	8.04	4.33
Narmada	Baman Phalia_Pz	21.80	73.38	19.18	16.23
Narmada	Chikada	21.52	73.65	5.37	3.31
Narmada	Chuli	21.55	73.48	12.23	6.03
Narmada	Dediapada	21.63	73.58	7.88	6.16
Narmada	Dev Mogra	21.59	73.72	7.00	5.69
Narmada	Garudeshwar	21.89	73.65	11.48	9.16
Narmada	Hirapura	21.87	73.60	5.61	3.93
Narmada	Jankh	21.49	73.60	3.51	1.04
Narmada	Kanbi pitha	21.52	73.65	3.34	1.63
Narmada	Kewadia_Pz	21.88	73.70	5.79	3.15
Narmada	Khaidipada	21.51	73.52	5.30	0.45
Narmada	Khota amba	21.73	73.48	1.88	1.26
Narmada	Namaria	22.04	73.62	4.53	3.37
Narmada	Nani singlot	21.67	73.67	9.79	6.89
Narmada	Ralda	21.61	73.65	4.55	2.10

DISTRICT	LOCATION	LAT_Y	LONG_X	PRE_MONSOON	POST_MONSOON
Narmada	Rasela	21.93	73.49	13.38	14.72
Narmada	Ringani	21.84	73.47	2.02	1.78
Narmada	Selemba	21.61	73.76	8.86	7.35
Narmada	Selemba 1	21.61	73.76	7.17	5.95
Narmada	Sunderpura	21.85	73.54	30.85	29.95
Narmada	Sunderpura_Pz	21.84	73.53	30.50	27.25
Narmada	Umran	21.49	73.88	8.18	7.80
Navsari	Abrama	20.86	72.90	4.17	1.51
Navsari	Anklas	20.62	73.27	10.13	8.26
Navsari	Chadav	20.83	73.33	10.77	6.03
Navsari	Chinam	20.99	72.89	3.15	2.07
Navsari	Dandi	20.89	72.81	3.89	2.58
Navsari	Duvada	20.83	73.06	5.42	5.40
Navsari	Hanumanbari	20.78	73.38	14.90	
Navsari	Hond	20.74	73.05	8.84	4.88
Navsari	Kaliyari	20.73	73.15	11.51	3.05
Navsari	Kantasvel	20.80	73.29	8.20	4.55
Navsari	Khergam	20.63	73.10	8.28	3.33
Navsari	Limzar	20.74	73.26	5.10	4.50
Navsari	Manav Khadak	20.67	73.23	4.14	3.43
Navsari	Moti Valzar	20.81	73.27	7.58	4.13
Navsari	Navsari	20.95	72.93	27.53	20.10
Navsari	Navsari 1	20.96	72.94	5.38	2.94
Navsari	Onjal	20.83	72.84	6.20	4.28
Navsari	Onjal1	20.83	72.84	6.30	4.19
Navsari	Panikhadak	20.65	73.17	12.61	6.73
Navsari	Pipalkhed	20.68	73.28	16.70	6.06
Navsari	Rankuva	20.81	73.16	7.48	2.26
Navsari	Sari_khurd	20.79	72.95	4.04	2.42
Navsari	Ubhrat	21.01	72.75	4.69	2.46
Navsari	Unai	20.85	73.34	8.92	5.78
Navsari	Vansda	20.76	73.36	11.36	8.80
Panchmahals	Bavaliya	23.33	73.57	8.91	4.86
Panchmahals	Bavaliya_Pz	23.31	73.56	23.66	4.90
Panchmahals	Gadhar	23.15	73.78	12.69	4.48
Panchmahals	Godhra	22.78	73.61	4.06	2.70
Panchmahals	Godhra2	22.77	73.63	6.41	5.79
Panchmahals	Jambughoda	22.37	73.73	7.02	5.68
Panchmahals	Jambughoda1	22.37	73.72	3.75	2.99
Panchmahals	Kadana	23.29	73.83	3.43	2.42
Panchmahals	Kothamba	23.02	73.52	4.60	2.63
Panchmahals	Limbadia peti	23.20	73.60	5.78	2.73
Panchmahals	Lunawada	23.13	73.61	10.04	7.27
Panchmahals	Malekpur1	23.23	73.74	3.03	1.79
Panchmahals	Morwa (Hadaf)	22.93	73.85	10.71	7.66
Panchmahals	Morwa (Hadaf) Pz-I	22.92	73.84	13.32	10.60
Panchmahals	Natapur	22.86	73.82	8.75	6.49
Panchmahals	Palla Rajgarh Pz	22.52	73.70	25.20	13.53
Panchmahals	Pandarvada	23.38	73.63	15.43	5.49
Panchmahals	Pavagadh	22.49	73.56	10.11	5.88
Panchmahals	Ram patel na m.	23.13	73.69	7.49	3.86
Panchmahals	Ranipura	22.73	73.76	9.07	5.50
Panchmahals	Santrampur	23.17	73.91	9.55	5.59
Panchmahals	Santrampur1	23.19	73.91	9.82	5.32
Panchmahals	Santroad	22.80	73.81	13.65	9.90
Panchmahals	Shehra	22.95	73.63	3.84	1.58
Panchmahals	Shivrajpur	22.43	73.59	12.02	6.44
Panchmahals	Suliyat	23.06	73.85	19.62	16.64
Panchmahals	Tarkanda	22.55	73.53	12.31	4.46
Panchmahals	Tarvada	22.61	73.52	13.27	11.92

DISTRICT	LOCATION	LAT_Y	LONG_X	PRE_MONSOON	POST_MONSOON
Panchmahals	Timbi2	22.51	73.51	6.75	3.68
Panchmahals	Tuwa	22.80	73.47	5.03	3.30
Panchmahals	Ucharpi Pz	23.12	73.47	17.06	10.17
Panchmahals	Vejalpur	22.70	73.56	6.44	4.29
Patan	Dharmoda	23.70	72.07	6.22	5.65
Patan	Dhinoj1	23.66	72.28	12.62	10.36
Patan	Harij iii	23.69	71.90	11.06	5.23
Patan	Moti chander	23.59	71.78	2.59	1.58
Patan	Nedra	23.89	72.32	28.24	32.01
Patan	Patan2	23.84	72.12	17.28	15.98
Patan	Radhanpur	23.82	71.62	8.23	
Patan	Radhanpur2	23.83	71.61	2.00	0.73
Patan	Sander	23.77	72.25	15.19	13.79
Patan	Sankheshwar	23.52	71.79	2.84	1.35
Patan	Santhalpur	23.76	71.18	2.41	2.02
Patan	Shankhari	23.78	72.16	17.85	17.15
Patan	Varahi	23.78	71.45	3.98	1.80
Patan	Vauva(Repl)_Pz	23.80	71.09	4.53	3.75
Porbandar	Adityana	21.71	69.71	23.34	12.07
Porbandar	Adwana2	21.92	69.60	13.36	8.88
Porbandar	Babda	21.77	69.59	14.93	5.24
Porbandar	Bakharla	21.76	69.66	22.46	11.16
Porbandar	Balej	21.37	69.88	5.56	2.90
Porbandar	Bhavpura	21.81	69.41	9.96	7.01
Porbandar	Bhod	21.66	69.82	25.01	17.13
Porbandar	Degam	21.71	69.61	18.37	14.13
Porbandar	Gosa	21.50	69.74		-0.60
Porbandar	Hanumangadh1	21.79	69.80	24.12	15.04
Porbandar	Kadeji	21.45	69.98	2.63	0.59
Porbandar	Kandorna	21.65	69.88	19.76	11.60
Porbandar	Khambodar	21.81	69.60	12.66	4.32
Porbandar	Kolikhada	21.70	69.61	29.55	19.11
Porbandar	Kuchhadi	21.68	69.55	3.08	2.33
Porbandar	Kutiyana_Pz	21.62	70.00	13.65	4.73
Porbandar	Kutiyana1	21.63	70.02	13.32	4.99
Porbandar	Miyani	21.83	69.39	7.54	6.98
Porbandar	Mojiwana	21.89	69.60	14.60	5.87
Porbandar	Navibandar	21.45	69.79	4.94	4.17
Porbandar	Oddar	21.57	69.68	6.58	5.94
Porbandar	Palkhada1	21.76	69.49	12.45	7.00
Porbandar	Pata	21.30	69.94	5.53	4.27
Porbandar	Porbandar	21.65	69.64	5.64	2.51
Porbandar	Porbandar1	21.64	69.63	4.32	3.51
Porbandar	Ranavav2	21.68	69.75	15.12	6.08
Porbandar	Ratadi	21.72	69.51	7.21	5.07
Porbandar	Simar	21.95	69.69	15.87	6.83
Porbandar	Tukda	21.52	69.73	3.92	2.49
Porbandar	Visavada Mul Dwarka	21.79	69.45	9.31	7.46
Rajkot	Amar nagar	22.93	70.81	3.38	3.11
Rajkot	Bhada jodiya	21.66	70.34	16.74	8.59
Rajkot	Bhadla	22.18	71.09	17.85	11.49
Rajkot	Bhalgam	22.44	71.08	15.45	7.78
Rajkot	Chhatar	22.50	70.75	5.89	3.70
Rajkot	Chordi	21.92	70.75	10.30	6.89
Rajkot	Dadia	22.09	70.73	12.45	7.90
Rajkot	Dhoraji	21.75	70.29	17.24	10.34
Rajkot	Ganod	21.68	70.18	4.53	3.43
Rajkot	Gavridad	22.40	70.80	9.84	7.69
Rajkot	Gogavadar	21.97	70.88	10.86	5.62
Rajkot	Gondal	21.69	70.17	5.17	2.86

DISTRICT	LOCATION	LAT_Y	LONG_X	PRE_MONSOON	POST_MONSOON
Rajkot	Hadmadiya	21.98	70.62	6.39	5.45
Rajkot	Hadmatia	22.68	70.81	8.67	5.95
Rajkot	Halenda	22.09	71.05	9.10	2.67
Rajkot	Jamwali	21.93	70.77	6.31	3.92
Rajkot	Jasapur	21.89	70.48	12.70	9.09
Rajkot	Jasdan	22.04	71.21	8.97	5.78
Rajkot	Jasdan2	22.06	71.22	11.37	7.10
Rajkot	Jetpur	21.76	70.62	17.80	5.42
Rajkot	Jetpur Pithad	23.02	70.92	14.61	7.41
Rajkot	Jetpur pithad.	21.78	70.63	15.51	8.28
Rajkot	Kalithad1	22.02	70.66	8.59	5.42
Rajkot	Kalyanpur2	22.66	70.73	7.34	4.11
Rajkot	Kamlapur	22.15	71.20	15.30	10.88
Rajkot	Kamlapur1	22.15	71.20	11.85	7.71
Rajkot	Khamta	22.48	70.55	13.34	7.10
Rajkot	Khirsara1	22.24	70.65	18.57	8.30
Rajkot	Lajai	22.72	70.78	6.76	3.91
Rajkot	Lalavadar	22.13	71.30	12.28	6.27
Rajkot	Lodhika1	22.14	70.64	9.57	5.45
Rajkot	Macchukunda	23.00	70.90	5.94	4.30
Rajkot	Malia	23.09	70.76	2.56	2.47
Rajkot	Maliya	23.09	70.76	3.18	
Rajkot	Maliya 1	23.09	70.77	2.30	
Rajkot	Modpar1	22.90	70.67	3.15	2.12
Rajkot	Morvi	22.82	70.84	3.51	1.97
Rajkot	Mota Dadwa	22.00	70.99	12.19	5.58
Rajkot	Mota dhansura	22.96	70.62	8.42	5.40
Rajkot	Motagundala	21.73	70.50	9.16	5.13
Rajkot	Movaiya	22.45	70.61	11.25	7.67
Rajkot	Neknam	22.50	70.70	15.46	9.68
Rajkot	Nichi mandal	22.86	70.95	6.98	4.18
Rajkot	Padadhari1	22.45	70.61	7.21	5.50
Rajkot	Patanvav	21.64	70.26	15.99	7.62
Rajkot	Pedhla	21.75	70.59	21.63	13.33
Rajkot	Rajkot	22.31	70.81	5.50	3.48
Rajkot	Rajkot1	22.30	70.80	8.85	5.52
Rajkot	Ranpur1	22.37	70.93	14.99	11.23
Rajkot	Ribda	22.13	70.77	11.99	6.53
Rajkot	Sardhar1	22.15	70.99	6.20	3.77
Rajkot	Sardhar2	22.14	70.98	5.63	2.23
Rajkot	Sarvad	23.01	70.71	2.56	1.40
Rajkot	Sindhavadar	22.55	70.89	11.36	9.48
Rajkot	Targhari	22.38	70.67	8.23	5.26
Rajkot	Umrli	21.92	70.60	9.58	5.88
Rajkot	Upleta	21.76	70.47		6.92
Rajkot	Upleta1	21.75	70.28	7.40	4.61
Rajkot	Upleta3	21.67	70.18	9.90	12.67
Rajkot	Vinchhia	22.21	71.38	5.05	3.03
Rajkot	Viranagar	22.03	71.13	10.47	6.63
Rajkot	Virpur1	21.85	70.70	10.37	6.27
Rajkot	Wankaner-1	22.62	70.93	6.35	5.03
Sabarkantha	Abhapur	23.96	73.26	7.85	6.89
Sabarkantha	Alwakampa	23.27	73.21	13.70	7.88
Sabarkantha	Anwarpura Pz	23.41	72.85	38.66	37.73
Sabarkantha	Atarumba	23.99	73.21	10.67	6.45
Sabarkantha	Bayad_Pz	23.22	73.23	10.01	9.04
Sabarkantha	Bhadreshwar	23.75	72.98	26.84	23.92
Sabarkantha	Bhiloda_Pz	23.77	73.25	8.51	3.47
Sabarkantha	Bhiloda2	23.77	73.27	9.05	4.95
Sabarkantha	Bibipur1	23.25	73.21	17.02	12.98

DISTRICT	LOCATION	LAT_Y	LONG_X	PRE_MONSOON	POST_MONSOON
Sabarkantha	Boral	23.13	73.21	18.32	12.25
Sabarkantha	Boriya	23.24	72.94	7.43	6.19
Sabarkantha	Chandap_Pz	23.93	72.86	14.27	9.92
Sabarkantha	Choriwad	23.90	73.12	25.86	20.92
Sabarkantha	Derol Pz-II	23.60	72.90	45.43	40.89
Sabarkantha	Dhansura	23.35	73.20	8.86	
Sabarkantha	Dhansura1	23.35	73.20	10.04	5.77
Sabarkantha	Gadha	23.71	72.94	19.23	15.74
Sabarkantha	Hamirpur	23.41	73.46	16.32	11.30
Sabarkantha	Harsol	23.37	73.03	13.19	8.90
Sabarkantha	Harsol1	23.38	73.02	15.53	9.83
Sabarkantha	Himmatnagar_Pz	23.61	72.97	9.19	7.88
Sabarkantha	Idar	23.84	73.04	8.76	4.76
Sabarkantha	Jhaloti	23.95	73.34	11.10	5.71
Sabarkantha	Karanpur	23.33	73.30	13.16	10.71
Sabarkantha	Khedbrahma_Pz	24.04	73.04	5.18	2.29
Sabarkantha	Mahiyapur	23.38	73.42	30.00	21.82
Sabarkantha	Malpur_Pz	23.34	73.47	15.60	8.23
Sabarkantha	Matoda	24.11	73.01	16.97	10.70
Sabarkantha	Meghraj	23.50	73.51	13.51	
Sabarkantha	Modasa	23.46	73.31	7.40	6.41
Sabarkantha	Panvath/porvad	23.90	73.33	9.96	6.60
Sabarkantha	Poshina1	24.37	73.03	7.28	
Sabarkantha	Poshina2	24.38	73.03	7.70	4.19
Sabarkantha	Punasan	23.67	73.17	7.19	5.75
Sabarkantha	Ratanpur	24.21	73.00	14.55	12.58
Sabarkantha	Revas	23.82	73.12	20.91	14.10
Sabarkantha	Sabdajinamuvada	23.27	72.93	7.00	7.05
Sabarkantha	Sathamba	23.18	73.34	15.85	7.02
Sabarkantha	Seenawad	23.49	73.40	11.47	4.67
Sabarkantha	Shamlaji	23.69	73.37	13.56	10.09
Sabarkantha	Silwad	24.01	73.12	13.35	8.75
Sabarkantha	Takatuka	23.85	73.31	11.27	11.16
Sabarkantha	Varvada	23.44	73.06	14.46	12.21
Sabarkantha	Vejpur_Pz	23.80	73.22	18.14	5.92
Sabarkantha	Vijaynagar	24.01	73.35	9.51	2.88
Sabarkantha	Vijaynagar_Pz	24.01	73.33	12.95	5.77
Sabarkantha	Virpur (Himmat)	23.65	72.96	10.81	5.38
Sabarkantha	Virpur (Idar)	23.78	72.93	13.97	5.27
Sabarkantha	Wadali	23.93	73.03	29.37	19.02
Sabarkantha	Waliampura Pz	23.35	72.97	37.30	36.58
Surat	Aarda Boratha	21.49	74.12	7.69	6.02
Surat	Allu	21.06	73.19	3.91	3.19
Surat	Asarma	21.46	73.06	6.92	
Surat	Bardoli	21.12	73.10	6.86	4.24
Surat	Bedchit	20.95	73.35	10.11	5.94
Surat	Bhatkol	21.38	73.00	4.16	3.25
Surat	Bhurvel (ukai)	21.23	73.58	4.76	2.70
Surat	Chapawadi	21.15	73.39	6.81	3.26
Surat	Chavada	21.47	73.60	3.65	2.08
Surat	Digas	21.25	73.03	11.44	5.39
Surat	Dungri	21.41	73.13	10.81	3.46
Surat	Gandhinagar	21.16	73.70	5.99	3.00
Surat	Gangadhra	21.12	73.08	9.93	8.09
Surat	Gangtha	21.53	74.00	19.81	9.97
Surat	Jesingpura[sg]	21.17	73.55	7.72	6.63
Surat	Jhankhavav	21.45	73.33	7.40	4.58
Surat	Jhankhvav	21.47	72.95	9.60	4.61
Surat	Juna umarpada	21.46	73.49	5.33	2.69
Surat	Kadod 1	21.22	73.22	5.55	7.90

DISTRICT	LOCATION	LAT_Y	LONG_X	PRE_MONSOON	POST_MONSOON
Surat	Karanjvel	21.01	73.46	8.12	5.48
Surat	Kasal	21.32	73.13	7.25	3.99
Surat	Kathor	21.29	72.93	12.97	9.64
Surat	Kelkui	21.04	73.32	2.03	2.10
Surat	Khedwada (Ashram Falia)	21.28	73.47	7.39	5.90
Surat	Kherwa	21.42	73.96	5.84	1.39
Surat	Kosamba	21.47	72.95	19.74	18.03
Surat	Madhi	21.14	73.25	5.42	3.86
Surat	Madhi 1	21.13	73.25	8.41	4.57
Surat	Mahuva2	21.02	73.15	17.75	16.18
Surat	Malda	21.37	73.35	8.13	3.24
Surat	Mandvi2	21.25	73.30	13.83	11.51
Surat	Mota	21.17	73.07	3.22	2.49
Surat	Moti Sarkui	21.28	73.35	8.96	4.82
Surat	Motichher	21.21	73.36	4.34	3.07
Surat	Navi pardi	21.32	72.97	3.26	3.35
Surat	Nizar	21.48	74.20	14.97	12.49
Surat	Nizar1	21.48	74.19	11.06	8.66
Surat	Nogama	21.29	73.21	3.14	1.90
Surat	Olpad	21.34	72.75		3.56
Surat	Olpad2	21.34	72.76	2.37	2.14
Surat	Palsana	21.08	72.99	2.63	1.61
Surat	Paneshwar	21.45	73.20	13.78	8.87
Surat	Paniwara	21.54	74.07	6.15	4.85
Surat	Pankheda	21.43	73.22	8.24	
Surat	Puna	20.92	73.23	12.52	8.33
Surat	Puna1	20.93	73.23	9.89	6.25
Surat	Sachin town	21.09	72.88	3.85	2.31
Surat	Sarbhon	21.06	73.09	3.80	2.93
Surat	Sayan	21.31	72.91	7.26	5.25
Surat	Sultanabad	21.09	72.73	5.92	4.84
Surat	Surat	21.18	72.81	14.98	13.52
Surat	Tadkeshwar	21.38	73.08	8.80	6.58
Surat	Tawali	21.38	73.90	7.77	5.08
Surat	Ten-bardoli	21.12	73.10	7.44	3.71
Surat	Tokarwa	21.31	73.85	10.70	4.85
Surat	Tokarwa 1	21.31	73.85	8.10	5.13
Surat	Uchchhal	21.17	73.77	11.65	8.17
Surat	Ushker	21.34	73.10	5.36	5.05
Surat	Vadade-Khurd	21.25	73.82	3.16	1.06
Surat	Vaheval	20.84	73.29	11.15	5.46
Surat	Valod	21.05	73.27	5.04	2.93
Surat	Vyara1	21.11	73.40	4.28	3.84
Surat	Wadoli	21.43	72.83	1.70	0.91
Surendranagar	Adriyana	23.43	71.71	3.06	3.22
Surendranagar	Anindra	22.81	71.71	7.35	2.45
Surendranagar	Bajana	23.12	71.78	2.32	2.28
Surendranagar	Bamanbor	22.42	71.04	10.22	6.76
Surendranagar	Chotila1	22.43	71.18	9.53	5.54
Surendranagar	Dasada	23.32	71.82	4.68	3.78
Surendranagar	Dasada1	23.32	71.83	2.37	1.94
Surendranagar	Dedadra	22.78	71.73	4.37	3.00
Surendranagar	Degam	23.11	71.66	3.02	1.95
Surendranagar	Dhama	23.39	71.68	8.01	5.57
Surendranagar	Dhandhalpur 1	22.38	71.35	9.36	3.21
Surendranagar	Dheduki 1	22.50	71.32	13.74	9.75
Surendranagar	Dhrangadhra 2	22.99	71.50	9.13	7.95
Surendranagar	Dhrangadhra2	22.96	71.50	20.75	20.75
Surendranagar	Gamda	22.90	71.56	11.74	3.51
Surendranagar	Ghansyam Gadh	23.11	71.48	7.77	2.64

DISTRICT	LOCATION	LAT_Y	LONG_X	PRE_MONSOON	POST_MONSOON
Surendranagar	Halvad2	23.02	71.19	14.95	12.25
Surendranagar	Jhinjhuvada	23.35	71.66	6.96	5.34
Surendranagar	Juna Devaliya 1	22.98	71.01	3.77	1.78
Surendranagar	Kharaghoda	23.19	71.75	1.91	1.59
Surendranagar	Kherwa	23.00	71.75	3.96	1.39
Surendranagar	Khodu	22.80	71.48	15.26	
Surendranagar	Kukavati	23.12	71.48	7.83	3.76
Surendranagar	Lakhtar	22.86	71.78	5.75	3.32
Surendranagar	Latuda	22.81	71.61	4.98	3.38
Surendranagar	Limbdi1	22.57	71.81	3.10	1.81
Surendranagar	Limbdi-Pz	22.57	71.81	2.68	1.90
Surendranagar	Malaniyad	23.12	71.25	3.36	3.61
Surendranagar	Mathak	22.84	71.06	5.55	9.72
Surendranagar	Mathak2	22.84	71.06	13.33	12.84
Surendranagar	Miani	23.11	71.13	2.35	2.10
Surendranagar	Modhvana	22.88	71.74	5.36	1.97
Surendranagar	Moti Moladi	22.42	71.11	10.82	7.70
Surendranagar	Muli	22.65	71.47	9.33	7.57
Surendranagar	Nava Raisngpur	22.74	71.26	17.45	9.51
Surendranagar	Olak	22.92	71.86	7.01	3.51
Surendranagar	Pipli	23.06	71.73	1.04	0.12
Surendranagar	Rajsitapur	22.84	71.59	7.29	3.52
Surendranagar	Ranipet	22.71	71.22	10.58	9.18
Surendranagar	Ratanpur1	22.86	71.27	7.82	5.75
Surendranagar	Sara	22.80	71.20	3.10	2.67
Surendranagar	Sarla	22.73	71.37	14.38	9.76
Surendranagar	Sayala	22.53	71.48	12.16	5.80
Surendranagar	Sayla1	22.54	71.49	5.35	
Surendranagar	Shiyani	22.67	71.83	4.49	3.31
Surendranagar	Soldi	22.99	71.42	20.53	8.20
Surendranagar	Sudamda	22.45	71.49	5.95	2.83
Surendranagar	Sukhpar1	23.01	71.28	8.49	3.67
Surendranagar	Surel	23.48	71.62	6.21	3.27
Surendranagar	Surendranagar	22.72	71.67	3.47	2.00
Surendranagar	Surendranagar2	22.72	71.61	5.69	5.65
Surendranagar	Tarnetar	22.64	71.22	17.51	15.26
Surendranagar	Tavi 1	22.72	71.85	1.95	2.36
Surendranagar	Than	22.58	71.20	18.58	18.41
Surendranagar	Vanala	22.43	71.92	4.06	2.80
Surendranagar	Visawadi	23.34	71.73	5.74	3.30
Surendranagar	Vitthalgarh	22.99	71.98	8.72	6.76
Surendranagar	Warod	22.56	71.65	7.29	5.20
The dangs	Aherdi	20.69	73.62	4.66	1.59
The dangs	Ahwa_Pz	20.76	73.69	3.68	2.52
The dangs	Ahwa1	20.76	73.68	4.42	1.19
The dangs	Bari Pada	20.64	73.69	11.54	0.66
The dangs	Bhenskatri	20.77	73.54	8.44	7.82
The dangs	Bhenskatri 1	21.00	73.56	8.89	
The dangs	Bori Gaotha 1	20.81	73.50	9.26	4.99
The dangs	Chikhli	20.66	73.69	9.21	1.13
The dangs	Chinchnogaatha	20.81	73.55	7.46	2.26
The dangs	Chinchpada	20.64	73.78	5.83	1.22
The dangs	Dhumkal	20.65	73.79	4.37	1.27
The dangs	Gadad	20.64	73.78	5.07	1.94
The dangs	Ghubita	20.80	73.74	2.73	0.76
The dangs	Jakana	20.63	73.75	4.81	1.10
The dangs	Jamalpada	20.73	73.52	6.98	4.95
The dangs	Kalibel	20.92	73.58	3.22	1.06
The dangs	Mahal	20.92	73.68	5.80	3.13
The dangs	Malegaon	20.60	73.75	3.43	0.60

DISTRICT	LOCATION	LAT_Y	LONG_X	PRE_MONSOON	POST_MONSOON
The dangs	Mheskatri	20.95	73.56	11.48	9.84
The dangs	Nadak khadi	20.80	73.61	5.97	2.07
The dangs	Nana pada	20.70	73.58	7.98	2.63
The dangs	Sakarpatal	20.72	73.56	5.77	1.52
The dangs	Sodmal	20.87	73.62	11.26	2.30
The dangs	Subir	20.92	73.58	6.63	1.37
The dangs	Umberpada	20.68	73.73	5.77	1.63
The dangs	Vaghai	20.76	73.50	12.55	8.85
The dangs	Vazat Amba	20.88	73.52	6.71	3.95
The dangs	(blank)	20.64	73.69		1.73
Vadodara	Alladpur	22.25	73.72	8.41	7.51
Vadodara	Amreshwar	22.23	73.48	4.84	3.60
Vadodara	Asala	22.38	73.93	11.32	6.42
Vadodara	Asar	22.20	74.01	17.20	12.94
Vadodara	Baladgam	22.14	74.01	13.00	9.88
Vadodara	Bhindol	22.20	73.90	8.86	4.96
Vadodara	Bodeli	22.27	73.72	3.28	1.35
Vadodara	Chavaria	22.19	73.99	12.30	11.55
Vadodara	Chella Karamsiya Pz	22.40	73.43	3.87	2.29
Vadodara	Chhaliyar	22.67	73.32	21.41	20.71
Vadodara	Chhota udepur	22.31	74.02	7.27	3.78
Vadodara	Chisadia	22.40	74.13	11.88	11.52
Vadodara	Chitral PZ_II	22.18	72.95	25.30	24.81
Vadodara	Chota udepur	22.31	74.02	8.34	4.32
Vadodara	Dabhoi	22.14	73.41		2.36
Vadodara	Devat (thadgam)	22.10	73.98	10.15	6.74
Vadodara	Ferkuva	22.37	74.21	7.54	4.64
Vadodara	Ghamodi	22.37	74.08	8.50	5.46
Vadodara	Ghayaj ii	22.23	73.05	26.48	24.45
Vadodara	Govindpura	22.21	73.74	6.40	3.89
Vadodara	Handod2	22.07	73.05	31.23	29.13
Vadodara	Jojh	22.44	73.96	12.76	8.68
Vadodara	Juna samalya	22.50	73.28	12.50	11.28
Vadodara	Kaprali	21.98	73.94	7.53	2.67
Vadodara	Karamasiya	22.42	73.42	11.56	7.20
Vadodara	Kevadi	22.52	73.94	7.01	4.56
Vadodara	Kosindra Pz-I	22.15	73.76	3.02	2.95
Vadodara	Makni	22.23	73.68	9.51	8.53
Vadodara	Masor	22.14	72.91	13.39	12.00
Vadodara	Moti chikhali	22.01	74.08	4.05	3.11
Vadodara	Naswadi Pz-I	22.04	73.73	14.80	
Vadodara	Panwad	22.20	74.04	13.92	5.52
Vadodara	Patiyapura	22.28	73.44	8.57	5.53
Vadodara	Pavi	22.34	73.83	4.58	3.62
Vadodara	Pitha	22.25	73.64	8.59	5.67
Vadodara	Rasulpur	22.60	73.23	5.21	4.31
Vadodara	Saidal	22.28	73.50	3.14	1.96
Vadodara	Saidivasana	22.06	74.02	6.11	2.92
Vadodara	Sankarda1	22.44	73.12	31.54	27.25
Vadodara	Sankheda	22.54	73.18	23.99	19.74
Vadodara	Sengpur	22.04	73.89	10.23	5.63
Vadodara	Sinor	21.91	73.34	23.76	22.23
Vadodara	Suskal	22.29	73.78	6.74	4.52
Vadodara	Tokri	22.15	74.03	13.55	6.08
Vadodara	Tundav	22.48	73.20	13.60	9.51
Vadodara	Vadala	22.48	73.32		6.12
Vadodara	Vadodara li	22.30	73.27	6.54	5.23
Vadodara	Vadshala Pz-II	22.16	73.17	13.25	
Vadodara	Vadtalav Pz	22.26	73.78	12.42	9.48
Vadodara	Vagudan	22.07	74.14	6.88	5.30

DISTRICT	LOCATION	LAT_Y	LONG_X	PRE_MONSOON	POST_MONSOON
Vadodara	Vega	22.16	73.41	6.06	3.92
Vadodara	Veipur1	22.74	73.35	2.91	1.98
Vadodara	Veipur2	22.75	73.36	2.50	1.89
Vadodara	Waghach	22.07	73.85	9.25	6.04
Vadodara	Waghodia Pz	22.36	73.38	7.02	5.16
Vadodara	Wankaner2	22.54	73.18	40.95	36.95
Valsad	Atul	20.54	72.97	8.49	4.16
Valsad	Awadha	20.52	73.29	5.34	4.40
Valsad	Chavshala	20.33	73.33	5.32	1.41
Valsad	Dahli (bhilad)	20.26	72.88	4.68	2.66
Valsad	Dharampur 3	20.53	73.16	12.56	8.88
Valsad	Dharampur1	20.54	73.17	10.37	5.21
Valsad	Dungri	20.69	72.95	10.00	5.80
Valsad	Fali	20.31	73.38	11.86	1.04
Valsad	Kanadu	20.33	72.84	6.26	3.63
Valsad	Kaparda	20.34	73.22	6.27	2.57
Valsad	Karwad	20.36	72.98	4.60	3.55
Valsad	Lakadmal	20.47	73.16	8.27	3.70
Valsad	Mandwa	20.37	73.18	6.38	1.41
Valsad	Motaponda	20.36	73.03	7.81	6.37
Valsad	Muli1	20.63	73.03	3.49	2.29
Valsad	Nanaponda	20.41	73.12	10.23	5.60
Valsad	Tithal	20.60	72.90	7.94	6.18
Valsad	Tumb	20.22	72.84	4.95	3.32
Valsad	Udwada	20.46	72.92	6.88	2.24
Valsad	Umargaon	20.19	72.75	4.00	3.72
Valsad	Valsad1	20.61	72.93	20.76	9.94
Valsad	Vapi Balitha	20.38	72.90	9.97	4.60

WATER QUALITY DATA OF NATIONAL HYDROGRAPH MONITORING STATIONS OF GUJARAT AND UT OF DAMAN & DIU MAY 2017

S.No	District	Taluka	Location	pH	EC	TDS	TH	Ca	Mg	Na	K	CO3	HCO3	Cl	NO3	SO4	F	Alk	Fe
1	Ahmedabad	BARWALA	Barvala	8.25	5090	3410	450	80	60	937	0.3	0	891	959	24	346	2.80	730	0.033
2	Ahmedabad	DHANDHUKA	Dhandhuka1	8.23	14210	9521	1300	180	207	3220	9.9	0	1013	3373	1600	1290	6.64	830	0.641
3	Ahmedabad	VIRAMGAM	Endla	8.17	685	459	220	52	22	49	13.6	0	305	50	2	2	0.44	250	0.000
4	Ahmedabad	VIRAMGAM	Kumarkhan	8.19	10660	7142	800	140	109	1875	7.2	0	988	2485	32	443	11.20	810	0.082
5	Ahmedabad	RANPUR	Kundali	8.03	1300	871	280	64	29	210	3.7	0	305	85	230	171	0.50	250	0.000
6	Ahmedabad	MANDAL	Mandal2	8.18	4222	2829	460	64	73	772	6.1	0	549	1008	3	235	0.56	450	0.000
7	Ahmedabad	RANPUR	Rajpada	8.11	1094	733	650	104	95	147	12.8	0	610	256	100	20	0.89	500	0.161
8	Ahmedabad	DHANDHUKA	Tagadi1	8.26	3934	2636	620	48	122	620	22.8	0	488	994	115	46	2.80	400	0.016
9	Ahmedabad	MANDAL	Ughraj1	8.13	2628	1761	900	248	68	184	41.4	0	390	625	68	30	0.45	320	0.050
10	Ahmedabad	VIRAMGAM	Viramgam2	8.18	2654	1778	360	80	39	445	6.9	0	288	582	3	245	0.70	236	0.002
11	Ahmedabad	Barwala	Barla	Leaked Out															0.159
12	Amreli	AMRELI	Amreli	7.80	1132	758	340	56	49	129	0.3	0	268	156	56	127	0.13	220	1.301
13	Amreli	KUNDLA-SAVAR	Badhda	8.28	1561	1046	470	48	90	146	1.0	0	232	391	18	23	0.12	190	0.004
14	Amreli	BAGASARA	Bagasara	8.11	2401	1609	600	80	97	278	0.7	0	195	497	170	188	0.50	160	0.000
15	Amreli	KHAMBHA	Bhavardi1	7.88	946	634	290	32	51	77	3.1	0	293	71	41	79	0.26	240	0.258
16	Amreli	JAFRABAD	Bherai	8.28	3561	2386	640	64	117	515	21.1	0	622	838	9	42	0.43	510	0.133
17	Amreli	KUNDLA-SAVAR	Bhuva	8.14	11440	7665	1150	80	231	2354	68.5	0	854	3089	245	916	0.88	700	0.138
18	Amreli	DHARI	Chalala	7.62	4292	2876	1240	56	268	412	0.7	0	207	1051	210	283	0.15	170	0.962
19	Amreli	KUNDLA-SAVAR	Charkhadia1	8.47	2284	1530	120	40	5	477	3.7	192	647	156	35	50	1.15	850	0.059
20	Amreli	LATHI	Chavand	8.13	528	354	200	36	27	52	0.3	0	268	28	14	40	0.35	220	0.162
21	Amreli	DHARI	Dharangani	7.82	1690	1132	420	72	58	185	0.3	0	207	341	130	57	0.40	170	0.000
22	Amreli	KUNDLA-SAVAR	Goradka	7.72	1488	997	590	112	75	73	0.3	0	207	270	150	69	0.31	170	0.000
23	Amreli	AMRELI	Govadka	7.77	3157	2115	740	112	112	380	0.9	0	293	625	240	229	0.34	240	0.014
24	Amreli	JAFRABAD	Jafrabad	7.87	2749	1842	200	72	5	499	39.1	0	85	753	18	119	0.48	70	0.045
25	Amreli	DHARI	Kerala	8.28	1746	1170	250	56	27	287	4.6	0	598	241	31	13	0.25	490	0.073
26	Amreli	KHAMBHA	Khamba	8.15	979	656	260	28	46	105	1.7	0	305	64	75	82	0.20	250	1.132
27	Amreli	BABRA	Kotadapitha	7.99	338	226	150	36	24	19	3.0	0	183	14	8	14	0.20	150	3.030
28	Amreli	KUNKAVAV-VADIA	Kunkavav	7.80	2390	1601	720	124	100	250	1.5	0	85	680	190	65	0.40	70	0.024
29	Amreli	LATHI	Lathi	7.90	1258	843	280	36	46	177	0.4	0	354	178	49	77	0.25	290	0.090
30	Amreli	JAFRABAD	Lotpur	8.24	2368	1587	340	48	54	390	3.2	0	305	497	13	206	0.89	250	0.190
31	Amreli	LATHI	Luvariya	8.28	1085	727	140	28	17	221	7.2	0	549	50	29	68	2.00	450	0.152
32	Amreli	RAJULA	Mandal	7.77	2854	1912	820	136	117	266	5.1	0	256	639	165	136	0.50	210	0.069

S.No	District	Taluka	Location	pH	EC	TDS	TH	Ca	Mg	Na	K	CO3	HCO3	Cl	NO3	SO4	F	Alk	Fe
33	Amreli	DHARI	Morjhar	8.00	734	492	230	28	39	66	0.8	0	244	107	18	5	0.31	200	0.000
34	Amreli	JAFRABAD	Nageshri	7.55	3189	2137	1100	184	157	215	9.9	0	232	639	320	198	0.15	190	0.042
35	Amreli	KUNDLA-SAVAR	Piyava	8.28	1484	994	180	12	36	280	0.3	0	549	78	41	185	0.65	450	0.230
36	Amreli	LILIA	Punjapadar	8.42	993	665	70	24	2	189	4.7	96	256	43	8	38	1.25	370	0.382
37	Amreli	LATHI	Tajpur	8.07	332	222	130	32	12	24	2.2	0	146	28	10	13	0.20	120	1.618
38	Amreli	JAFRABAD	Timbi2	7.72	2623	1757	420	32	83	404	18.4	0	378	582	30	126	0.70	310	Leaked
39	Amreli	KHAMBHA	Trakuda	7.99	940	630	210	72	7	125	9.8	0	207	156	32	60	0.42	170	0.000
40	Amreli	BABRA	Untvad	7.85	982	658	340	76	36	72	0.5	0	183	99	225	22	0.34	150	0.070
41	Amreli	BAGASARA	Vaghania juna	7.90	1785	1196	280	40	44	276	8.4	0	500	199	115	88	0.64	410	0.097
42	Amreli	AMRELI	Vankiya	8.21	936	627	110	24	12	181	1.2	0	378	99	31	24	0.87	310	0.234
43	Amreli	RAJULA	Victor	8.92	1322	886	90	10	12	248	11.2	48	403	128	4	27	1.66	410	0.000
44	Amreli	DHARI	Virpur	8.07	1024	686	450	104	46	61	14.0	0	488	78	25	48	0.50	400	0.329
45	Amreli	Amreli	Bhilidi	7.70	1867	1251	610	96	90	169	0.4	0	207	369	190	121	0.34	170	0.234
46	Amreli	Savar Kundla	Fifad	8.28	4239	2840	360	16	78	799	0.7	0	1025	753	42	138	1.40	840	0.000
47	Amreli	Jafrabad	Hinderana(Charnara)	8.28	4390	2941	180	24	29	937	11.7	0	854	937	10	160	1.52	700	0.060
48	Amreli	Savar Kundla	Hipavadli	9.24	2417	1619	280	24	54	429	0.5	192	854	85	70	10	1.45	1020	0.098
49	Amreli	Jafrabad	Kadiyali	8.05	695	466	200	60	12	79	5.0	0	232	107	6	22	0.50	190	0.103
50	Amreli	Lalia	Sanaria	7.88	7103	4759	1300	160	219	1262	0.8	0	378	1243	16	1863	1.74	310	0.194
51	Anand	ANAND	Adas_DW	7.93	1389	931	620	68	108	68	1.3	0	539	99	88	108	0.43	442	0.000
52	Anand	ANKLAV	Anklav2	8.15	1675	1122	660	64	120	112	1.5	0	744	106	50	96	0.80	610	0.000
53	Anand	PETLAD	Bandhani	8.19	1447	969	380	112	24	153	29.0	0	512	177	42	4	0.90	420	0.089
54	Anand	BORSAD	Bhadran (Utiyapara)	7.88	598	401	340	76	36	21	1.5	0	281	43	5	86	0.20	230	0.208
55	Anand	Anand	Boriyavi	8.09	1442	966	390	72	50	172	25.0	0	647	135	18	25	0.10	530	0.000
56	Anand	CAMBAY	Dali	8.20	4063	2722	950	200	108	501	19.0	0	1220	674	36	42	1.38	1000	0.013
57	Anand	PETLAD	Dharmaj	8.28	2604	1745	550	120	60	400	0.7	0	1135	248	100	49	1.30	930	0.00
58	Anand	UMRETH	Ghora	7.83	1709	1145	560	188	22	150	15.0	0	525	220	36	107	0.44	430	0.029
59	Anand	CAMBAY	Kansari1	8.18	3864	2589	850	140	120	580	1.2	0	622	815	32	392	0.83	510	0.029
60	Anand	CAMBAY	Laxmipura	8.40	4580	3069	650	100	96	780	3.4	156	598	780	10	449	2.20	750	0.000
61	Anand	UMRETH	Parvata	8.05	1165	781	330	56	46	153	0.8	0	573	78	30	52	1.09	470	0.000
62	Anand	BORSAD	Ras	8.47	1487	996	150	32	12	296	4.9	234	220	135	22	5	2.74	570	0.000
63	Anand	Tarapur	Tol	8.12	667	447	240	56	24	58	5.5	0	354	42	7	8	0.68	290	0.000
64	Banaskantha	AMIRGADH	Amirgadhd	8.12	3220	2157	700	120	26	370	2.7	0	549	533	84	215	0.65	450	0.144
65	Banaskantha	THARAD	Bharol1	8.15	752	504	220	68	12	68	9.9	0	329	43	4	31	0.30	270	0.061
66	Banaskantha	DANTIWADA	Dantiwada1	7.88	527	353	180	44	17	37	0.7	0	183	43	22	28	0.65	150	0.143

S.No	District	Taluka	Location	pH	EC	TDS	TH	Ca	Mg	Na	K	CO3	HCO3	Cl	NO3	SO4	F	Alk	Fe
67	Banaskantha	DANTA	Ganapipli	7.85	819	549	160	40	14	104	1.3	0	268	57	38	45	2.80	220	0.268
68	Banaskantha	DANTIWADA	Gangodra	8.03	3362	2253	1000	240	97	326	10.5	0	390	923	38	35	1.35	320	0.238
69	Banaskantha	AMIRGADH	Iqbalgarh	8.28	614	411	170	20	29	60	1.0	0	146	71	35	48	0.50	120	0.175
70	Banaskantha	THARAD	Khoda	8.28	1247	835	80	192	0	235	11.0	0	390	114	17	87	1.60	320	0.000
71	Banaskantha	DEESA	Meda	8.00	1120	750	130	24	4	190	2.1	0	342	99	29	88	2.40	280	0.001
72	Banaskantha	DANTA	Mohabbat gadh	7.81	2007	1345	540	168	29	117	2.7	0	159	369	129	28	1.20	130	0.042
73	Banaskantha	PALANPUR	Palanpur2	8.28	1755	1176	100	20	12	344	0.8	0	439	199	88	126	0.75	360	0.012
74	Banaskantha	DANTA	Ratanpur2	7.66	1348	903	390	100	34	83	4.0	0	134	199	126	71	0.40	110	0.028
75	Bharuch	BHARUCH	Bharuch	7.91	2644	1771	750	140	96	282	1.8	0	464	603	6	111	0.30	380	0.018
76	Bharuch	VAGRA	Bhensli	8.27	693	464	160	32	19	106	13.0	0	317	78	6	13	0.40	260	0.002
77	Bharuch	Jambusar	Chhindra	8.21	1103	739	360	72	43	96	47.0	0	403	121	68	10	0.26	330	0.059
78	Bharuch	JAMBUSAR	Dahegam	7.88	828	555	330	84	29	56	31.0	0	354	64	3	65	0.07	290	0.006
79	Bharuch	JAMBUSAR	Jambusar2	8.04	1000	670	330	88	26	108	18.4	0	439	64	50	70	0.11	360	0.018
80	Bharuch	HANSOT	Jetpur1	8.20	1754	1175	440	96	48	210	38.0	0	708	191	30	16	0.90	580	0.000
81	Bharuch	Valia	Jokhla	8.12	942	631	260	92	7	116	0.7	0	451	78	15	15	1.20	370	0.000
82	Bharuch	BHARUCH	Kaswa	7.24	683	458	310	64	36	35	20.0	0	366	42	10	17	0.12	300	0.000
83	Bharuch	VALIA	Kavachiya	8.03	506	339	200	48	19	36	0.3	0	281	21	17	3	0.30	230	0.041
84	Bharuch	JAMBUSAR	Kavi	8.41	1823	1221	200	32	29	159	300	120	561	128	60	20	0.50	660	0.002
85	Bharuch	VALIA	Kondh	8.10	1232	825	220	28	36	206	1.4	0	427	156	46	52	1.50	350	0.000
86	Bharuch	VAGRA	Luhara	8.47	2676	1793	650	100	96	200	250	204	536	284	96	114	0.34	779	0.044
87	Bharuch	BHARUCH	Mahegam1	8.07	656	440	200	60	12	60	7.7	0	317	43	10	0	0.30	260	0.530
88	Bharuch	ANKLESVAR	Motwan	8.02	3561	2386	850	180	96	462	12.5	0	439	744	16	400	0.80	360	0.142
89	Bharuch	Jhagadia	Mungaj	8.00	2435	1631	650	120	84	300	12.3	0	573	496	49	80	0.47	470	0.066
90	Bharuch	BHARUCH	Navetha	7.70	2637	1767	900	180	108	183	46.0	0	403	567	2	149	0.08	330	0.025
91	Bharuch	VAGRA	Nirnavi	8.13	860	576	290	56	36	98	16.6	0	476	50	5	35	0.45	390	0.000
92	Bharuch	ANKLESVAR	Panoli	7.94	2271	1522	500	80	72	307	0.5	0	610	354	50	113	1.50	500	0.195
93	Bharuch	HANSOT	Raymal	7.86	787	527	240	48	29	77	6.9	0	305	99	7	8	0.67	250	0.075
94	Bharuch	AMOD	Roja tankaria	8.03	762	511	240	56	24	87	13.6	0	317	106	5	12	0.34	260	0.117
95	Bharuch	Hansot	Sahol	7.31	5512	3693	2450	660	192	200	3.8	0	180	1524	8	529	1.00	148	0.110
96	Bharuch	ANKLESVAR	Sajod	8.84	1710	1146	170	16	31	343	2.5	192	390	128	20	67	2.68	640	0.075
97	Bharuch	JAMBUSAR	Sarod	8.02	1880	1260	410	44	72	246	6.6	0	1061	35	15	10	1.10	870	0.103
98	Bharuch	JHAGADIA	Simodra	8.29	1837	1231	300	36	50	257	4.3	0	281	418	13	19	0.33	230	0.022
99	Bharuch	Jambusar	Sindhav	8.07	1100	737	280	36	46	130	23.6	0	451	121	5	14	0.50	370	0.012
100	Bharuch	JAMBUSAR	Tankari	8.67	3000	2010	950	120	156	250	50.0	192	281	461	43	238	0.58	550	0.011

S.No	District	Taluka	Location	pH	EC	TDS	TH	Ca	Mg	Na	K	CO3	HCO3	Cl	NO3	SO4	F	Alk	Fe
101	Bharuch	HANSOT	Utraj	8.09	800	536	190	32	26	106	1.8	0	439	35	3	6	0.68	360	0.069
102	Bharuch	Valia	Chiklata	7.77	860	576	290	52	38	67	0.4	0	390	57	35	4	0.80	320	0.025
103	Bharuch	Valia	Temroloya	7.82	562	377	190	68	5	60	1.5	0	281	43	26	6	0.40	230	0.612
104	Bhavnagar	Vallabhipur	Ayodhyapuram (Narayan dham)	8.28	4850	3250	220	56	19	1061	1.0	0	1464	866	11	66	4.40	1200	0.000
105	Bhavnagar	BHAVNAGAR	Bhavnagar1	8.28	902	604	180	16	32	155	0.3	0	317	142	14	40	0.47	260	0.000
106	Bhavnagar	BHAVNAGAR	Bhumbhali	8.01	5461	3659	1200	120	219	687	19.8	0	390	1385	12	369	0.56	320	0.081
107	Bhavnagar	Mahuva	Bora	8.28	1433	960	50	12	7	320	1.8	0	671	85	40	35	2.20	550	0.000
108	Bhavnagar	TALAJA	Datha	7.96	4209	2820	480	48	88	756	4.8	0	293	1221	4	128	1.08	240	0.197
109	Bhavnagar	GADHADA	Dhasa	8.07	514	344	230	52	24	18	12.3	0	244	36	18	3	0.00	200	1.395
110	Bhavnagar	MAHUVA	Dudhala	8.01	1699	1138	460	56	78	175	2.8	0	403	270	120	25	0.75	330	2.070
111	Bhavnagar	GADHADA	Gadhada2	8.17	744	498	250	96	15	68	1.6	0	329	57	20	29	0.28	270	0.000
112	Bhavnagar	GARIADHAR	Gariyadhar	7.95	1987	1331	600	96	88	180	3.4	0	232	405	70	158	0.55	190	0.000
113	Bhavnagar	GHOOGHA	Ghogha	8.19	4256	2852	400	32	78	762	63.2	0	488	909	300	110	0.38	400	0.137
114	Bhavnagar	PALITANA	Khijadiya	8.70	1195	801	70	12	10	242	0.3	120	122	142	7	81	1.20	300	0.000
115	Bhavnagar	Talaja	Kundheli	8.28	296	198	120	24	15	23	2.3	0	146	21	3	16	0.35	120	0.031
116	Bhavnagar	MAHUVA	Longadi	8.12	667	447	110	16	17	100	22.2	0	281	64	4	1	0.54	230	0.000
117	Bhavnagar	MAHUVA	Mahuva	8.28	2990	2003	160	40	15	620	1.4	0	854	540	37	3	1.23	700	0.000
118	Bhavnagar	MAHUVA	Motivadal	7.99	1171	785	400	48	68	97	6.2	0	329	149	95	49	0.28	270	0.060
119	Bhavnagar	GADHADA	Ningala	8.27	1150	771	110	24	12	225	1.7	0	476	114	20	27	0.75	390	0.000
120	Bhavnagar	PALITANA	Panchpipla	7.96	921	617	190	32	27	124	0.1	0	366	78	36	17	0.65	300	0.028
121	Bhavnagar	VALLABHIPUR	Panvi1	8.28	2129	1426	120	24	15	465	9.6	0	976	199	12	29	2.72	800	0.031
122	Bhavnagar	PALITANA	Sajnasar	8.11	1145	767	450	136	27	77	10.8	0	476	114	30	37	0.75	390	0.424
123	Bhavnagar	SIHOR	Sandhida	8.13	555	372	220	28	36	36	2.4	0	268	43	15	4	0.35	220	0.101
124	Bhavnagar	MAHUVA	Shantinagar	8.13	2358	1580	940	184	117	135	10.9	0	610	355	38	187	0.31	500	0.439
125	Bhavnagar	TALAJA	Talaja2	8.02	1314	880	490	32	88	105	0.5	0	281	249	66	75	0.38	230	0.000
126	Bhavnagar	BOTAD	Tardhera	8.21	2052	1375	680	176	56	220	2.0	0	73	660	64	99	0.15	60	0.156
127	Bhavnagar	GADHADA	Tatam	7.33	10930	7323	4450	540	754	450	59.8	0	195	3089	575	374	0.97	160	0.486
128	Bhavnagar	UMRALA	Timbi2	8.21	293	196	100	28	7	23	4.0	0	122	28	7	3	0.33	100	0.211
129	Bhavnagar	TALAJA	Trapaj	8.16	1498	1004	650	16	148	67	25.0	0	610	170	31	26	0.20	500	0.530
130	Bhavnagar	Vallabhipur	Vallbhipur	8.18	545	365	100	24	10	80	2.2	0	159	78	6	25	0.57	130	0.889
131	Bhavnagar	Ghogha	Vavdi	8.28	756	507	260	20	51	62	0.8	0	281	78	33	24	0.54	230	0.092
132	Daman	Daman	Dabhel	7.97	1297	869	370	76	44	135	0.4	0	488	171	3	15	0.33	400	3.169
133	Daman	Daman	Dalwada	8.07	752	504	230	44	29	80	2.2	0	378	43	31	7	0.00	310	0.534

S.No	District	Taluka	Location	pH	EC	TDS	TH	Ca	Mg	Na	K	CO3	HCO3	Cl	NO3	SO4	F	Alk	Fe
134	Daman	Daman	Jempur	8.09	1033	692	290	56	36	112	22.2	0	512	64	12	11	0.40	420	0.293
135	Daman	Daman	Khariwad daman	8.14	1299	870	230	24	29	194	16.4	0	561	121	3	14	0.65	460	1.930
136	Daman	Daman	Warkund	7.71	1669	1118	510	60	88	158	1.0	0	512	263	40	23	0.70	420	0.164
137	Diu	DIU	Diu	8.28	3545	2375	360	40	63	635	41.2	0	561	838	0	79	0.40	460	0.000
138	Diu	DIU	Gomti Mata	8.19	4011	2687	720	56	14	583	40.0	0	476	937	175	112	0.20	390	0.103
139	Diu	DIU	Jalawali	7.54	14330	9601	4250	760	57	1674	45.2	0	134	5396	2	66	0.20	110	0.116
140	Diu	Diu	Butchwada	8.12	16770	11236	3000	320	535	2650	55.8	0	281	5645	50	407	0.70	230	0.209
141	Diu	Diu	Vichwadi	8.25	6216	4165	1800	260	280	580	55.8	0	293	1775	105	191	0.35	240	0.005
142	Dohad	Dhanpur	Ambakatch	7.92	1803	1208	540	72	86	163	7.2	0	842	128	9	10	1.20	690	0.044
143	Dohad	DEVGAD BARIA	Badpa	7.74	996	667	220	40	29	164	1.1	0	512	78	20	21	3.00	420	0.691
144	Dohad	LIMKHEDA	Dadhela	7.59	961	644	350	64	46	80	4.6	0	451	78	43	5	1.15	370	0.120
145	Dohad	DOHAD	Dahod Urban-1	7.67	1052	705	370	92	34	63	0.4	0	281	78	150	40	1.03	230	0.183
146	Dohad	DOHAD	Dahod Urban-2	7.56	2315	1551	640	104	122	210	6.6	0	500	298	170	115	1.66	410	0.293
147	Dohad	DOHAD	Dahod Urban-3	7.55	1583	1061	380	72	48	201	2.4	0	610	184	46	10	2.32	500	
148	Dohad	DOHAD	Dahod2	7.33	2454	1644	750	200	60	214	3.7	0	470	390	215	94	0.75	385	0.950
149	Dohad	DEVGAD BARIA	Devgad Baria	7.70	990	663	320	64	38	75	2.3	0	390	85	12	29	0.87	320	0.208
150	Dohad	GARBADA	Garbara	7.91	4184	2803	1000	160	144	479	21.4	0	720	638	400	203	1.96	590	0.199
151	Dohad	JHALOD	Jhalod1	7.73	562	377	220	52	22	73	1.8	0	268	42	7	88	0.84	220	0.049
152	Dohad	DHANPUR	Kanjetha	7.86	785	526	310	72	31	60	3.2	0	451	35	9	11	0.84	370	0.081
153	Dohad	DEVGAD BARIA	Khandania	7.71	1000	670	660	76	113	43	1.5	0	378	92	20	279	2.00	310	0.000
154	Dohad	JHALOD	Limbdi	7.24	2300	1541	630	156	58	210	7.7	0	512	440	34	8	0.90	420	0.111
155	Dohad	JHALOD	Mirakhedi	7.74	957	641	380	116	22	63	1.3	0	427	64	74	13	0.90	350	0.000
156	Dohad	GARBADA	Panchwada	7.09	1219	817	430	80	55	115	3.5	0	647	92	3	12	1.15	530	2.887
157	Dohad	FATEPURA	Sarsava	7.31	805	539	360	116	17	29	7.5	0	403	35	21	23	0.80	330	1.347
158	Dohad	FATEPURA	Sukhsar	7.62	964	646	300	64	34	91	2.1	0	427	57	60	15	0.83	350	0.306
159	Dohad	DHANPUR	Tokarba	7.42	910	610	340	128	5	53	3.9	0	403	71	2	18	1.00	330	0.053
160	Dohad	DOHAD	Varamkheda	7.46	764	512	330	76	34	38	1.2	0	354	50	44	12	1.18	290	0.325
161	Dohad	LIMKHEDA	Wadia	7.44	876	587	300	52	46	82	5.6	0	403	64	48	14	1.16	330	0.706
162	Gandhinagar	DEHGAM	Paliya	8.18	2574	1725	580	56	107	258	1.8	0	464	298	144	208	0.85	380	0.363
163	Gandhinagar	GANDHINAGAR	Serthapara1	7.52	4692	3144	1300	80	268	572	62.8	0	1196	568	370	432	1.40	980	0.039
164	Jamnagar	BHANVAD	Ambardi	7.98	495	332	210	56	17	40	1.4	0	146	99	34	7	0.29	120	0.330
165	Jamnagar	JODIYA	Amran1	7.73	2469	1654	900	68	175	170	2.7	0	439	461	40	209	0.30	360	0.000
166	Jamnagar	Okhamandal	Aramda	7.75	13550	9079	3000	280	552	1800	18.5	0	281	3900	2	1062	1.25	230	0.006
167	Jamnagar	Jamjodhpur	Balwa	8.06	1062	712	380	68	50	96	0.2	0	183	156	110	121	0.26	150	0.000

S.No	District	Taluka	Location	pH	EC	TDS	TH	Ca	Mg	Na	K	CO3	HCO3	Cl	NO3	SO4	F	Alk	Fe
168	Jamnagar	JAMNAGAR	Bed1	7.48	4956	3321	1700	260	252	365	6.4	0	403	1312	13	266	0.30	330	0.038
169	Jamnagar	JODIYA	Bedanpur	8.00	843	565	210	48	22	134	2.2	0	293	92	12	114	0.50	240	0.000
170	Jamnagar	BHANVAD	Bhanvad	7.61	5893	3948	1900	320	264	621	2.3	0	232	1454	94	870	0.43	190	0.000
171	Jamnagar	KALYANPUR	Bhogat1	7.82	1008	675	370	88	36	91	7.4	0	207	163	7	151	0.88	170	0.000
172	Jamnagar	JAMNAGAR	Changa	7.74	1493	1000	410	84	48	152	0.5	0	329	227	58	95	0.35	270	0.000
173	Jamnagar	DHROL	Dhrol2	8.10	1673	1121	350	96	26	219	0.9	0	110	369	65	149	0.39	90	0.000
174	Jamnagar	JODIYA	Dudhai2	8.29	977	655	180	36	22	161	2.8	0	195	99	5	213	0.94	160	0.000
175	Jamnagar	OKHAMANDAL	Dwarka	7.65	9035	6053	2300	240	408	1100	14.8	0	183	2624	62	711	0.83	150	0.000
176	Jamnagar	KALAVAD	Haripur2	7.80	1230	824	460	112	43	90	1.8	0	195	163	150	135	0.60	160	0.000
177	Jamnagar	JAMNAGAR	Jambuda	7.52	2330	1561	1000	280	72	100	0.2	0	183	603	68	144	0.39	150	0.008
178	Jamnagar	JAMNAGAR	Jamnagar2	7.79	1247	835	390	64	55	120	0.5	0	293	191	45	96	0.58	240	0.000
179	Jamnagar	KALYANPUR	Juvanpur	8.28	733	491	260	40	38	75	0.7	0	159	113	45	90	0.30	130	0.000
180	Jamnagar	KHAMBHALIA	Kajuda	7.78	1560	1045	520	112	58	136	0.4	0	195	340	56	119	0.44	160	0.000
181	Jamnagar	KALAVAD	Kalawad	7.75	1389	931	510	84	72	93	3.6	0	439	156	49	85	0.35	360	0.085
182	Jamnagar	OKHAMANDAL	Kalyanpur	7.91	1369	917	360	72	43	170	0.3	0	256	255	35	121	0.35	210	0.000
183	Jamnagar	KALYANPUR	Khirsara	6.86	3685	2469	1600	320	192	160	1.4	0	159	1028	40	303	0.39	130	0.000
184	Jamnagar	KHAMBHALIA	Kuvadria	7.93	4373	2930	1300	220	180	400	2.6	0	439	957	80	360	1.10	360	0.000
185	Jamnagar	LALPUR	Lalpur1	8.13	857	574	340	92	26	57	1.6	0	305	71	55	65	0.15	250	0.000
186	Jamnagar	OKHAMANDAL	Lambha 1	7.90	1882	1261	400	84	46	221	9.1	0	220	390	68	79	2.26	180	0.000
187	Jamnagar	OKHAMANDAL	Mojap	8.26	3514	2354	800	260	36	445	40.9	0	927	674	52	1	0.85	760	0.000
188	Jamnagar	BHANVAD	Mota kalawad	8.07	889	596	270	56	31	92	0.4	0	293	71	48	85	0.40	240	0.496
189	Jamnagar	KALAVAD	Moti matli	7.92	868	582	180	56	10	115	0.6	0	232	128	29	31	0.64	190	0.430
190	Jamnagar	KALAVAD	Nikava	7.12	1120	750	360	84	36	123	9.1	0	390	142	8	94	0.30	320	0.026
191	Jamnagar	KALYANPUR	Pindara 1	8.08	3173	2126	950	180	120	300	4.9	0	268	745	36	277	0.43	220	0.000
192	Jamnagar	KALYANPUR	Raval	8.27	2699	1808	700	200	48	300	28.9	0	232	603	96	214	0.26	190	0.000
193	Jamnagar	OKHAMANDAL	Samrasar 1	8.28	1378	923	290	64	31	200	1.4	0	207	248	62	144	0.40	170	0.000
194	Jamnagar	JAMJODHPUR	Seth vadala	7.86	1494	1001	610	80	98	90	4.5	0	561	121	33	140	0.26	460	0.064
195	Jamnagar	KALAVAD	Toda	7.89	990	663	460	100	50	44	0.4	0	195	106	125	137	0.30	160	0.000
196	Jamnagar	LALPUR	Vad panchasara	7.54	1984	1329	720	164	74	151	3.6	0	220	340	185	223	0.13	180	0.101
197	Jamnagar	KHAMBHALIA	Vadtara	8.11	791	530	280	92	12	71	0.2	0	183	92	76	87	0.53	150	0.000
198	Jamnagar	OKHAMANDAL	Varwada	8.29	5892	3948	1500	200	240	660	63.1	0	598	1276	38	564	1.50	490	0.149
199	Jamnagar	JAMNAGAR	Vijarkha	7.75	1017	681	330	76	34	100	0.4	0	268	142	13	109	0.30	220	0.000
200	Junagadh	VERAVAL	Ajotha	7.97	1692	1134	530	84	13	152	1.5	0	171	419	38	87	0.35	140	0.070
201	Junagadh	TALALA	Alwani	7.95	643	431	250	36	39	36	0.3	0	268	57	7	20	0.31	220	0.396

S.No	District	Taluka	Location	pH	EC	TDS	TH	Ca	Mg	Na	K	CO3	HCO3	Cl	NO3	SO4	F	Alk	Fe
202	Junagadh	Talala	Amervel Nes	8.11	571	383	180	28	27	50	1.9	0	244	57	0	7	0.00	200	0.213
203	Junagadh	JUNAGADH	Anandpur	7.76	2238	1499	830	160	103	100	0.00	0	159	482	80	156	0.70	130	0.000
204	Junagadh	MANGROL	Antroli	7.98	11020	7383	2800	580	324	1190	37.0	0	220	3510	26	163	0.48	180	0.000
205	Junagadh	MANGROL	Bamanwara	7.54	5200	3484	2050	360	276	230	6.6	0	61	1666	48	77	0.35	50	0.000
206	Junagadh	MANAVADAR	Bantva	8.27	2825	1893	900	220	84	230	2.1	0	378	745	28	2	0.60	310	0.000
207	Junagadh	Talala	Bhim Deval	8.10	898	602	280	60	32	94	4.7	0	232	129	35	77	0.36	190	0.113
208	Junagadh	JUNAGADH	Bilkha	8.29	1963	1315	800	104	130	98	2.2	0	500	277	66	147	0.48	410	0.000
209	Junagadh	MALIA	Budhecha	7.87	1231	825	400	68	55	100	3.7	0	110	213	66	160	1.00	90	0.000
210	Junagadh	JUNAGADH	Chokli	8.53	1300	871	350	40	60	131	0.6	48	73	163	96	175	0.74	140	0.000
211	Junagadh	MALIA	Chorwad	7.48	11310	7578	4100	1320	192	685	16.0	0	232	3297	31	636	0.45	190	0.065
212	Junagadh	UNA	Dhokadva	8.25	535	358	230	32	36	35	1.8	0	207	57	0	53	0.00	170	0.000
213	Junagadh	MALIA	Galodar	6.86	835	559	300	44	46	47	0.2	0	207	99	18	73	0.30	170	0.000
214	Junagadh	UNA	Girgadhada	8.05	625	419	200	44	22	45	0.8	0	220	50	33	19	0.05	180	0.100
215	Junagadh	MANGROL	Goraj1	8.16	1085	727	240	28	41	163	3.4	0	220	149	34	164	1.25	180	0.000
216	Junagadh	VERAVAL	Govindpura2	7.90	507	340	180	28	5	29	1.6	0	183	50	13	11	0.00	150	0.366
217	Junagadh	TALALA	Jambur[madhapar	7.97	692	464	250	32	41	59	1.2	0	293	85	8	10	0.0	240	0.087
218	Junagadh	UNA	Jamvala1	8.28	386	259	130	32	12	29	0.4	0	122	50	7	15	0.20	100	0.000
219	Junagadh	Una	Jargla Jargali	8.07	444	297	170	32	22	28	0.3	0	183	43	12	9	0.15	150	0.081
220	Junagadh	JUNAGADH	Junagadh1	8.05	1180	791	360	76	41	83	2.0	0	146	184	70	97	0.23	120	0.000
221	Junagadh	MALIA	Juthal	8.29	763	511	300	56	38	55	3.1	0	232	121	7	48	0.30	190	0.000
222	Junagadh	MANGROL	Kalej	7.54	4499	3014	2000	360	364	150	3.1	0	85	1276	47	378	0.82	70	0.000
223	Junagadh	MENDARDA	Kanedipur	7.96	594	398	210	52	19	40	0.1	0	232	57	11	15	0.41	190	0.000
224	Junagadh	Una	Kansari	8.28	1360	911	340	60	46	162	5.9	0	439	206	34	9	0.65	360	0.241
225	Junagadh	Una	Kesariyaji_1	7.88	1136	761	270	60	290	136	3.4	0	220	220	33	41	0.65	180	0.366
226	Junagadh	KESHOD	Kewarda	8.28	1960	1313	290	88	17	311	4.0	0	146	496	29	109	0.48	120	0.000
227	Junagadh	MALIA	Khambalia1	7.85	5026	3367	1100	260	108	610	20.0	0	73	1347	12	414	0.38	60	0.000
228	Junagadh	VANTHALI	Khokharda	8.16	1677	1124	510	88	70	141	1.1	0	134	319	60	194	0.30	110	0.000
229	Junagadh	MANGROL	Khorada1	8.04	2698	1808	700	180	60	297	31.0	0	439	567	6	163	0.48	360	0.000
230	Junagadh	VANTHALI	Khoras ahir	8.45	1235	827	300	32	53	160	1.2	72	171	149	11	157	1.00	260	0.000
231	Junagadh	KODINAR	Kodinar1	8.19	2629	1761	580	56	107	340	0.7	0	268	682	34	92	0.75	220	0.000
232	Junagadh	MALIA	Kukawada	7.56	7866	5270	2350	740	120	700	2.4	0	61	2481	28	244	0.35	50	0.039
233	Junagadh	MANGROL	Manketara	7.78	1700	1139	430	100	43	174	3.0	0	122	305	47	223	0.76	100	0.000
234	Junagadh	MENDARDA	Mendarada1	8.13	1035	693	190	44	19	128	0.2	0	134	163	35	92	0.40	110	0.029
235	Junagadh	VERAVAL	Moraj	7.76	726	486	220	64	15	69	0.2	0	153	135	14	36	0.94	125	0.000

S.No	District	Taluka	Location	pH	EC	TDS	TH	Ca	Mg	Na	K	CO3	HCO3	Cl	NO3	SO4	F	Alk	Fe
236	Junagadh	BHESAN	Patla	8.46	557	373	200	32	29	43	0.6	48	73	43	8	81	0.45	140	0.000
237	Junagadh	Kodinar	Prasli	8.02	844	565	180	28	5	119	8.2	0	281	121	17	18	1.10	230	0.055
238	Junagadh	VISAVADAR	Prempara	8.01	1039	696	420	84	51	46	0.7	0	292	128	85	28	0.21	239	0.270
239	Junagadh	UNA	Sametar	8.27	466	312	180	20	32	41	3.3	0	183	50	8	39	0.04	150	0.043
240	Junagadh	VANTHALI	Saradiya	8.20	1186	795	270	44	38	173	0.6	0	220	227	18	120	0.76	180	0.000
241	Junagadh	MANGROL	Seriakhan	8.16	970	650	210	40	26	118	7.3	0	171	142	19	102	0.77	140	0.000
242	Junagadh	MANGROL	Shardagram	7.57	12080	8094	2350	400	324	1700	11.0	0	122	3510	18	879	0.45	100	0.028
243	Junagadh	MANGROL	Sil	8.13	596	399	220	40	29	41	1.6	0	134	57	22	94	1.00	110	0.000
244	Junagadh	TALALA	Talala1	7.82	793	531	290	40	46	67	1.5	0	305	92	19	37	0.20	250	0.000
245	Junagadh	UNA	Una2	8.28	2564	1718	380	40	68	407	4.9	0	586	426	40	135	1.20	480	0.349
246	Junagadh	Visawada	Jetalwad	7.86	830	556	330	40	56	42	0.2	0	244	99	80	15	0.08	200	0.000
247	Kachchh	MANDVI	Bambhdai	7.94	4511	3022	800	160	98	600	4.5	0	464	1136	6	89	1.45	380	0.203
248	Kachchh	MUNDRA	Bhadreshwar	7.92	2440	1635	740	164	81	216	10.9	0	439	568	8	30	0.35	360	0.239
249	Kachchh	BHUJ	Bhuj1	7.99	1085	727	290	80	22	107	13.0	0	293	92	18	130	0.60	240	0.358
250	Kachchh	NAKHATRANA	Chandranagar	8.24	3130	2097	1100	220	134	290	36.2	0	671	638	23	238	1.05	550	0.437
251	Kachchh	RAPAR	Deshalpur rapar	8.24	2217	1485	480	88	56	265	25.7	0	317	433	22	153	0.25	260	0.747
252	Kachchh	NAKHATRANA	Devisar	8.10	3023	2025	900	200	97	277	56.8	0	427	674	39	148	1.40	350	0.368
253	Kachchh	MANDVI	Dunai	7.91	1150	771	360	80	39	150	2.1	0	525	149	10	30	1.30	430	0.281
254	Kachchh	GANDHIDHAM	Gandhidham1	7.51	1125	754	380	92	37	105	22.7	0	384	142	70	30	1.20	315	0.750
255	Kachchh	BHUJ	Haboi	8.21	1418	950	330	60	44	160	12.1	0	281	220	18	111	1.10	230	0.089
256	Kachchh	MUNDRA	Karagoga	8.35	7892	5288	450	80	61	1873	6.2	72	2855	1420	27	2	3.50	2460	0.271
257	Kachchh	ABDASA	Kharai_1	7.68	3019	2023	1050	340	49	293	14.5	0	366	675	4	402	0.20	300	0.2
258	Kachchh	BHACHAU	Kharoi	7.91	1484	994	510	88	71	110	8.3	0	329	241	12	119	0.40	270	0.357
259	Kachchh	BHUJ	Khavada	7.91	4743	3178	1300	240	170	560	16.1	0	281	1170	21	574	0.40	230	0.416
260	Kachchh	NAKHATRANA	Kotada	8.14	2740	1836	750	200	61	326	7.8	0	305	638	8	277	0.90	250	0.250
261	Kachchh	MANDVI	Kotadi	8.26	2653	1778	260	28	46	480	5.0	0	756	447	41	1	4.25	620	0.587
262	Kachchh	ABDASA	Kotaya	8.15	1608	1077	250	40	37	256	1.6	0	476	256	13	28	4.25	390	0.168
263	Kachchh	ABDASA	Kothara	7.85	3410	2285	600	160	49	426	25.4	0	561	639	17	132	0.90	460	0.711
264	Kachchh	RAPAR	Kuda	7.94	2156	1445	550	136	51	290	30.0	0	854	255	49	70	1.25	700	2.241
265	Kachchh	LAKHPAT	Lakhpat1	7.74	1436	962	480	112	49	145	13.6	0	476	220	10	77	0.80	390	0.181
266	Kachchh	RAPAR	Lilpur	8.10	7350	4925	2350	420	316	721	39.3	0	378	1667	130	1073	1.40	310	1.861
267	Kachchh	BHUJ	Lodai	7.99	4144	2776	1250	280	134	401	27.7	0	317	780	50	676	1.10	260	0.529
268	Kachchh	Mundra	Luni	7.98	2585	1732	350	80	37	410	10.1	0	354	589	12	95	0.50	290	0.119
269	Kachchh	LAKHPAT	Mata no madh	7.06	980	657	330	112	12	97	8.1	0	281	149	21	75	0.95	230	0.372

S.No	District	Taluka	Location	pH	EC	TDS	TH	Ca	Mg	Na	K	CO3	HCO3	Cl	NO3	SO4	F	Alk	Fe
270	Kachchh	LAKHPAT	Moti cher	7.72	598	401	250	56	27	31	11.6	0	220	92	3	2	0.25	180	0.234
271	Kachchh	ABDASA	Naliya1	8.23	2337	1566	140	24	20	424	4.0	0	647	341	27	19	1.00	530	0.172
272	Kachchh	RAPAR	Rapar2	8.30	3153	2113	1150	260	122	297	39.3	0	244	638	50	616	0.95	200	0.338
273	Kachchh	BHACHAU	Ratanpur Khadir	8.20	4244	2843	1200	160	195	487	17.5	0	451	1028	16	388	1.25	370	1.032
274	Kachchh	BHACHAU	Samkhiari	7.77	3401	2279	750	120	110	510	14.3	0	662	852	48	49	3.50	543	0.103
275	Kachchh	BHUJ	Sedat	8.01	853	572	290	44	44	82	5.3	0	305	106	8	57	0.20	250	17.760
276	Kachchh	GANDHIDHAM	Shinaya	7.87	5231	3505	850	260	49	721	8.1	0	317	1420	3	119	0.95	260	0.122
277	Kachchh	BHUJ	Sukhpar	7.81	8365	5605	2800	420	29	860	6.5	0	256	2128	100	1282	1.35	210	2.412
278	Kachchh	ABDASA	Suthri	8.10	869	582	180	44	17	128	5.5	0	329	114	6	17	1.05	270	0.235
279	Kachchh	ABDASA	Tera	8.23	4271	2862	600	80	98	728	5.6	0	1171	710	47	145	7.25	960	2.157
280	Kachchh	NAKHATRANA	Ugardi	8.21	8727	5847	1600	280	219	1410	16.8	0	146	2376	18	1088	1.20	120	0.228
281	Kachchh	MUNDRA	Vadala	7.19	5041	3377	1100	200	146	620	22.8	0	769	1104	100	151	1.05	630	1.476
282	Kachchh	ABDASA	Vinjan1	8.15	612	410	220	36	32	58	8.6	0	293	57	1	20	1.15	240	0.173
283	Kheda	MAHUDHA	Alina	7.87	2817	1887	750	160	84	338	7.5	0	512	567	140	134	1.00	420	0.177
284	Kheda	NADIAD	Alindra	8.29	843	565	300	48	43	63	0.8	0	439	35	8	17	0.96	360	0.043
285	Kheda	BALASINOR	Balasinor1	7.86	678	454	280	72	24	52	0.6	0	207	106	32	43	0.70	170	0.305
286	Kheda	VIRPUR	Bar	8.24	3540	2372	1250	240	156	180	190	0	1257	496	42	80	1.00	1030	0.258
287	Kheda	NADIAD	Boriyavi	8.03	1345	901	350	96	26	174	25.0	0	622	135	12	15	0.06	510	0.026
288	Kheda	THASRA	Dakor	8.09	2173	1456	410	76	53	329	14.8	0	1000	191	19	14	1.20	820	0.044
289	Kheda	BALASINOR	Juna vasadra	7.94	1355	908	590	148	53	54	2.5	0	549	149	46	5	0.67	450	0.138
290	Kheda	THASRA	Kalesar	8.73	1390	931	325	36	55	189	0.8	0	720	71	13	29	1.32	590	0.371
291	Kheda	KHEDA	Kheda	7.52	6328	4240	1850	380	216	635	38.0	0	1244	1418	70	121	1.00	1020	0.073
292	Kheda	KATHLAL	Ladvel	8.04	1988	1332	430	76	58	260	8.7	0	659	298	20	10	0.95	540	0.564
293	Kheda	MAHUDHA	Mahudha	7.98	2280	1528	460	64	72	320	31.0	0	830	305	36	8	1.00	680	0.168
294	Kheda	Tharsa	Muliyad	7.32	10980	7357	2800	40	432	1430	21.0	0	305	3545	6	564	0.80	250	0.301
295	Kheda	NADIAD	Nadiad2	8.17	1290	864	500	72	77	60	0.7	0	644	64	2	8	0.57	528	0.139
296	Kheda	MATAR	Shekhupura	8.87	3587	2403	500	120	48	492	260.0	144	598	603	11	270	0.15	730	0.011
297	Mahesana	BECHARAJI	Asjol	8.23	760	509	270	88	12	49	22.6	0	268	64	66	11	0.4	220	0.873
298	Mahesana	VISNAGAR	Bhandupara	7.42	2920	1956	300	44	46	430	20.2	0	366	497	9	207	0.85	300	0.000
299	Mahesana	BECHARAJI	Dharpura	8.45	2609	1748	360	56	53	401	44.7	54	610	227	22	285	1.25	590	0.000
300	Mahesana	UNJHA	Dosaj	7.75	4739	3175	550	160	36	568	92.7	0	268	884	87	221	0.55	220	0.055
301	Mahesana	KHERALU	Kheralu1	8.11	1486	996	310	36	53	214	0.0	0	464	163	19	135	2.50	380	0.444
302	Mahesana	MAHESANA	Maguna	8.12	5153	3453	1400	180	232	598	27.3	0	1000	91	31	1655	0.65	820	0.000
303	Mahesana	MAHESANA	Panchot	7.91	4288	2873	1400	120	268	295	76.2	0	378	817	8	535	0.35	310	0.013

S.No	District	Taluka	Location	pH	EC	TDS	TH	Ca	Mg	Na	K	CO3	HCO3	Cl	NO3	SO4	F	Alk	Fe
304	Mahesana	KHERALU	Rampura 1	8.12	873	585	190	32	26	123	2.1	0	378	50	7	65	0.90	310	0.234
305	Mahesana	UNJHA	Sihi	8.06	708	474	180	36	21	62	31.2	0	232	57	13	29	0.85	190	0.000
306	Mahesana	VISNAGAR	Tarabh	7.98	582	390	190	32	26	49	7.5	0	256	50	0	13	0.50	210	0.000
307	Mahesana	KHERALU	Unad 1	8.28	1014	679	180	28	26	163	0.9	0	464	57	22	43	4.00	380	0.004
308	Mahesana	UNJHA	Unjha	8.11	3309	2217	850	100	146	270	55.1	0	451	533	144	179	1.10	370	0.068
309	Mahesana	KADI	Vidaj	8.50	2320	1554	250	53	29	415	105.3	84	342	355	28	193	0.30	420	0.000
310	Narmada	NANDOD	Garudeshwar	7.83	1200	804	450	48	79	76	3.2	0	549	85	51	1	0.68	450	0.059
311	Narmada	NANDOD	Hirapura	7.90	730	489	270	52	34	47	2.0	0	390	28	11	2	0.74	320	0.000
312	Narmada	Dediapada	Jankh	7.81	487	326	240	48	29	14	0.2	0	268	21	15	7	0.50	220	0.057
313	Narmada	DEDIAPADA	Kanbi pitha	7.87	680	456	380	80	43	27	4.1	0	456	28	11	15	0.35	374	0.021
314	Narmada	Dediapada	Khaidipada	7.84	618	414	260	60	26	38	1.4	0	342	35	8	5	0.34	280	0.724
315	Narmada	NANDOD	Khota amba	7.62	784	525	300	64	34	49	1.4	0	415	28	21	7	0.67	340	0.000
316	Narmada	TILAKWADA	Namaria	7.85	3188	2136	1250	140	216	190	1.9	0	671	603	175	103	1.15	550	0.074
317	Narmada	Dediapada	Ralda	8.04	440	295	210	32	31	14	0.2	0	244	21	2	7	0.68	200	0.000
318	Narmada	NANDOD	Rasela	8.01	1831	1227	610	188	34	181	38.4	0	476	347	124	16	0.44	390	0.069
319	Narmada	NANDOD	Ringani	8.02	467	313	240	52	26	14	1.6	0	244	28	4	25	0.46	200	0.000
320	Narmada	Sagbara	Salemba 1	7.69	857	574	380	72	48	34	1.1	0	378	78	19	16	0.34	310	0.035
321	Navsari	JALALPORE	Abrama	8.28	2554	1711	760	104	122	458	15.9	0	464	909	16	60	0.42	380	0.202
322	Navsari	VANSDA	Chandav	7.65	973	652	340	92	27	65	0.2	0	366	99	15	25	0.76	300	0.216
323	Navsari	JALALPORE	Chinam	8.28	2852	1911	320	40	54	364	318	0	939	440	20	100	0.15	770	0.340
324	Navsari	JALALPORE	Dandi	7.88	1626	1089	360	56	54	200	51.3	0	512	206	80	15	0.20	420	0.146
325	Navsari	GANDEVI	Duvada	8.26	945	633	300	48	44	101	1.4	0	488	50	13	34	0.90	400	0.172
326	Navsari	CHIKHLI	Kaliyari	7.67	907	608	370	64	54	44	0.3	0	342	99	41	10	0.20	280	0.054
327	Navsari	CHIKHLI	Khergam	7.96	757	507	220	72	10	73	0.9	0	329	64	14	5	0.23	270	0.430
328	Navsari	VANSDA	Moti Valzar	7.83	802	537	320	64	39	47	0.6	0	342	64	8	40	0.76	280	0.117
329	Navsari	NAVSAARI	Navsari 1	7.65	5977	4005	1800	300	256	627	5.5	0	390	1740	6	338	0.42	320	0.382
330	Navsari	JALALPORE	Onjal	7.99	1501	1006	380	88	39	170	6.0	0	378	191	7	154	0.40	310	0.215
331	Navsari	CHIKHLI	Rankuva	7.97	425	285	130	36	10	40	0.6	0	107	21	12	85	0.30	88	0.347
332	Navsari	GANDEVI	Sari_khurd	8.56	1393	933	250	40	36	210	17.0	60	305	227	19	15	0.40	350	0.133
333	Navsari	JALALPORE	Ubhrat	8.05	772	517	200	56	15	93	17.5	0	342	57	19	22	0.65	280	1.491
334	Panchmahals	Jambughoda	Jambughoda	7.82	830	556	250	64	22	92	1.5	0	305	78	76	25	0.55	250	0.000
335	Panchmahals	GODHRA	Chhabanpur	7.91	985	660	330	80	31	76	1.3	0	403	78	54	8	0.75	330	0.000
336	Panchmahals	Kalol	Dhanol	8.15	2580	1729	200	60	12	523	2.4	0	964	319	56	38	2.56	790	0.155
337	Panchmahals	SANTRAMPUR	Gadhar	7.28	1104	740	440	120	34	56	3.5	0	427	99	36	38	0.84	350	0.019

S.No	District	Taluka	Location	pH	EC	TDS	TH	Ca	Mg	Na	K	CO3	HCO3	Cl	NO3	SO4	F	Alk	Fe
338	Panchmahals	GODHRA	Godhra UR_1	7.44	1373	920	400	120	24	129	1.2	0	439	149	45	66	0.90	360	0.073
339	Panchmahals	GODHRA	Godhra UR_2	7.57	1051	704	390	112	26	53	1.6	0	390	50	41	75	1.30	320	0.144
340	Panchmahals	GODHRA	Godhra UR_3	7.84	279	187	160	40	14	11	1.7	0	146	21	2	30	0.40	120	0.116
341	Panchmahals	JAMBUGODHA	Javan	7.10	554	371	250	68	19	33	18.1	0	256	43	50	8	0.55	210	1.032
342	Panchmahals	LUNAWADA	Jokha	7.59	1253	840	430	116	34	102	10	0	622	78	15	15	1.20	510	0.004
343	Panchmahals	KALOL	Kalol UR_1	7.72	1504	1008	530	84	77	117	4.6	0	671	142	22	12	0.55	550	0.382
344	Panchmahals	LUNAWADA	Kantha	7.57	1063	712	330	96	34	113	1.5	0	488	99	12	21	0.90	400	0.000
345	Panchmahals	GODHRA	Khadeki	7.85	1842	1234	460	44	84	180	1.6	0	744	78	4	118	1.50	610	0.601
346	Panchmahals	KHANPUR	Khanpur	7.3	962	645	360	100	26	71	1.1	0	415	92	45	5	0.50	340	0.000
347	Panchmahals	LUNAWADA	Kothamba	7.94	2050	1374	650	140	72	185	3.1	0	586	347	62	23	0.86	480	0.300
348	Panchmahals	LUNAWADA	Limbadia peti	7.31	1050	704	380	68	50	73	1.6	0	537	57	8	8	1.05	440	0.000
349	Panchmahals	LUNAWADA	Lunawada	7.05	1254	840	430	132	24	87	16.2	0	427	149	54	11	0.55	350	0.000
350	Panchmahals	LUNAWADA	Malekpur1	7.4	800	536	320	68	36	60	3.2	0	439	50	13	6	0.75	360	0.000
351	Panchmahals	MORWA (HADAF)	Natapur	7.65	800	536	300	20	60	61	2.3	0	378	50	34	19	1.66	310	0.058
352	Panchmahals	HALOL	Pavagadh	7.57	1004	673	490	132	38	38	1.9	0	488	99	21	13	0.37	400	0.168
353	Panchmahals	GHOGHAMBA	Ranipura	7.76	2134	1430	730	96	118	144	4.2	0	537	340	88	39	2.04	440	0.000
354	Panchmahals	SANTRAMPUR	Santrampur1	7.49	1142	765	380	108	26	90	1.0	0	500	92	10	23	0.75	410	0.124
355	Panchmahals	MORWA (HADAF)	Santroad_1	7.85	814	545	280	60	31	70	2.6	0	378	64	32	3	0.90	310	0.559
356	Panchmahals	SHEHERA	Shehra	7.95	1823	1221	310	52	43	240	77	0	842	128	31	20	0.80	690	0.000
357	Panchmahals	MORWA (HADAF)	Suliyat	7.59	1185	794	430	156	10	76	7.7	0	500	106	29	8	0.84	410	0.074
358	Panchmahals	GODHRA	Tuwa	7.87	769	515	260	72	19	71	12.4	0	366	71	6	6	0.55	300	0.017
359	Panchmahals	KALOL	Vejalpur	7.58	1753	1175	660	100	98	140	7.5	0	512	276	49	103	1.45	420	0.322
360	Patan	CHANASMA	Dharmoda1	8.21	946	634	230	56	22	157	31.9	0	512	71	8	41	0.55	420	0.303
361	Patan	CHANASMA	Dhinoj1	7.93	1427	956	300	60	36	210	43.5	0	476	213	7	53	0.45	390	1.047
362	Patan	SAMI	Moti chander	7.71	23380	15665	5700	80	900	3480	49.9	0	952	8652	50	79	0.85	780	4.736
363	Patan	PATAN	Patan2	8.08	2409	1614	330	92	24	450	39.7	0	1116	191	60	66	1.50	915	1.673
364	Patan	SANTALPUR	Piprala	8.26	6328	4240	1200	160	195	1040	2.4	0	905	1525	180	375	1.70	742	0.423
365	Patan	RADHANPUR	Radhanpur2	8.03	4141	2774	1050	220	122	565	68.6	0	1098	922	70	1	1.25	900	2.570
366	Patan	PATAN	Sander	8.00	543	364	190	48	17	50	11.6	0	281	21	7	30	0.55	230	0.434
367	Patan	PATAN	Shankhari	8.28	719	482	230	28	39	103	15.6	0	366	78	10	29	1.50	300	1.539
368	Porbandar	RANAVAV	Adityana	7.96	623	417	220	44	26	91	8.1	0	256	113	24	24	1.00	210	0.026
369	Porbandar	PORBANDAR	Adwana2	8.08	1991	1334	440	68	65	300	0.7	0	293	397	68	220	0.40	240	0.381
370	Porbandar	PORBANDAR	Babda	8.28	1703	1141	270	32	46	300	10.0	0	378	319	8	142	0.68	310	0.130
371	Porbandar	PORBANDAR	Bakharla	7.82	1594	1068	500	64	82	150	4.4	0	256	312	105	81	0.66	210	1.376

S.No	District	Taluka	Location	pH	EC	TDS	TH	Ca	Mg	Na	K	CO3	HCO3	Cl	NO3	SO4	F	Alk	Fe
372	Porbandar	PORBANDAR	Balej	7.60	4862	3258	1900	300	276	346	33.0	0	110	1283	64	649	0.49	90	0.000
373	Porbandar	PORBANDAR	Bhavpura	7.60	7825	5243	2700	560	312	610	16.0	0	122	2694	56	29	0.70	100	0.037
374	Porbandar	KUTIYANA	Kadegi	7.91	10580	7089	2750	420	408	1200	30.0	0	207	3368	26	341	0.65	170	0.119
375	Porbandar	RANAVAV	Kandorna	8.04	3868	2592	1250	280	132	400	2.7	0	183	1028	50	440	1.00	150	0.000
376	Porbandar	PORBANDAR	Khambodar	8.12	1268	850	360	48	58	143	5.9	0	366	135	20	153	0.88	300	0.000
377	Porbandar	PORBANDAR	Kolikhada village-2	8.20	1889	1266	230	32	36	350	1.2	0	586	170	47	216	2.00	480	1.328
378	Porbandar	PORBANDAR	Kuchhadi	7.96	5430	3638	1350	140	240	680	70.0	0	268	1773	18	57	0.65	220	0.122
379	Porbandar	PORBANDAR	Miyani	8.29	3435	2301	1150	240	132	272	56.0	0	390	957	27	30	0.40	320	0.000
380	Porbandar	KUTIYANA	Mocha	7.74	2808	1881	1100	180	156	150	20.0	0	122	709	26	280	0.38	100	0.000
381	Porbandar	PORBANDAR	Navibandar	7.98	1440	965	250	48	33	220	28.0	0	281	312	37	21	0.3	230	0.000
382	Porbandar	PORBANDAR	Oddar	8.29	7960	5333	1700	180	300	1160	33.0	0	207	2482	25	463	1.40	170	0.000
383	Porbandar	PORBANDAR	Palkhada 1	7.99	8560	5735	2100	560	168	1050	4.0	0	268	2801	70	99	0.54	220	0.000
384	Porbandar	PORBANDAR	Pata	8.03	1412	946	300	52	41	193	7.3	0	220	277	26	117	0.30	180	0.034
385	Porbandar	RANAVAV	Ranavav2	8.16	996	667	410	108	34	72	4.3	0	366	149	18	35	0.95	300	0.000
386	Porbandar	PORBANDAR	Ratadi	8.08	3619	2425	800	140	108	495	7.5	0	354	1028	37	81	1.10	290	0.000
387	Porbandar	PORBANDAR	Ratia	7.83	3170	2124	900	180	108	283	87.0	0	134	922	86	17	0.48	110	0.000
388	Porbandar	PORBANDAR	Simar	8.11	410	275	170	40	17	30	1.8	0	195	50	1	2	0.30	160	0.114
389	Porbandar	PORBANDAR	Tukda	8.26	800	536	180	44	20	110	40.0	0	305	78	44	20	0.46	250	0.000
390	Porbandar	PORBANDAR	Visavada	7.88	4946	3314	1600	320	192	511	64	0	281	1702	32	20	1.10	230	0.000
391	Porbandar	Porbander	Ratanpur	7.90	14240	9541	2050	220	360	2560	46.0	0	256	4503	5	928	0.50	210	0.000
392	Porbandar	Porbander	Amtroli	Leaked out															0.000
393	Rajkot	JASDAN	Bhadla	8.28	1932	1294	360	96	29	297	1.8	0	195	327	48	325	0.44	160	0.041
394	Rajkot	WANKANER	Bhalgam	8.01	4029	2699	1200	280	122	379	4.1	0	378	923	13	367	0.84	310	0.387
395	Rajkot	TANKARA	Chhatar	7.93	353	237	110	20	15	33	0.7	0	183	14	4	7	0.50	150	0.183
396	Rajkot	GONDAL	Chordi	7.92	3056	2048	1240	280	131	118	1.7	0	281	840	5	59	0.13	230	0.215
397	Rajkot	GONDAL	Dadia	8.14	948	635	300	108	7	73	2.0	0	317	71	49	55	0.37	260	0.040
398	Rajkot	DHORAJI	Dhoraji 1	7.95	2167	1452	640	168	41	212	0.6	0	293	383	48	263	0.35	240	0.124
399	Rajkot	UPLETA	Ganod	8.63	2207	1479	180	16	34	453	0.6	60	854	199	10	60	3.80	800	0.099
400	Rajkot	RAJKOT	Gavridad	8.22	269	180	110	28	10	18	1.3	0	146	14	1	8	0.14	120	0.309
401	Rajkot	GONDAL	Gogavadar	7.89	1754	1175	490	64	80	181	26.3	0	622	220	47	19	0.45	510	0.225
402	Rajkot	TANKARA	Hadmatia	8.05	1245	834	320	72	34	143	5.1	0	439	135	80	12	0.40	360	1.834
403	Rajkot	RAJKOT	Halenda	8.18	1519	1018	520	72	83	120	3.5	0	500	213	43	29	0.65	410	0.261
404	Rajkot	GONDAL	Jamwali	8.28	321	215	120	24	15	26	2.9	0	146	28	5	12	0.20	120	0.082
405	Rajkot	JAMKANDORNA	Jasapur	7.58	1274	854	500	104	58	64	9.9	0	488	128	47	17	0.40	400	0.532

S.No	District	Taluka	Location	pH	EC	TDS	TH	Ca	Mg	Na	K	CO3	HCO3	Cl	NO3	SO4	F	Alk	Fe
406	Rajkot	JASDAN	Jasdan2	7.93	2000	1340	700	184	58	145	2.0	0	329	355	48	191	0.35	270	0.313
407	Rajkot	JETPUR	Jetpur pithad.	7.68	7386	4949	3000	1020	109	367	3.2	0	85	2414	6	264	0.00	70	0.567
408	Rajkot	JASDAN	Kamlapur	7.72	5577	3737	1800	320	243	432	4.6	0	463	1278	48	474	0.47	380	0.439
409	Rajkot	Gondal	Kolithad1	7.76	4302	2882	1150	44	24	460	3.8	0	73	1136	25	429	0.30	60	0.333
410	Rajkot	TANKARA	Lajai	7.75	2292	1536	720	104	112	190	6.8	0	317	540	8	91	0.35	260	1.326
411	Rajkot	JASDAN	Lalavadar	8.14	742	497	280	60	32	70	2.2	0	342	50	24	57	0.65	280	1.110
412	Rajkot	LODHKA	Lodhika1	8.28	2894	1939	780	136	83	302	0.9	0	500	611	34	120	0.50	410	6.285
413	Rajkot	MALIYA	Malia	8.02	1664	1115	390	96	36	184	29.3	0	427	298	15	1	0.25	350	0.264
414	Rajkot	MORVI	Modpar1	7.63	17600	11792	3850	540	608	3260	24.2	0	293	6284	28	1628	0.32	240	0.305
415	Rajkot	GONDAL	Mota dadwa	7.81	1787	1197	710	112	105	98	0.3	0	256	327	125	139	0.25	210	0.215
416	Rajkot	MALIYA	Mota dhansura	7.80	2359	1581	580	160	44	266	8.9	0	268	540	35	133	0.03	220	0.134
417	Rajkot	PADDHARI	Movaiya	7.70	4046	2711	1580	352	170	195	0.7	0	159	1008	105	334	0.25	130	0.228
418	Rajkot	TANKARA	Neknam	8.05	385	258	170	32	22	27	1.5	0	195	28	9	20	0.30	160	0.000
419	Rajkot	PADDHARI	Padadhari	8.06	3262	2186	720	160	78	455	14.5	0	720	653	31	153	0.48	590	0.274
420	Rajkot	RAJKOT	Ranpur1	7.88	2087	1398	740	184	68	112	9.7	0	415	398	44	36	0.70	340	0.347
421	Rajkot	RAJKOT	Sardhar2	7.97	845	566	250	64	22	75	0.4	0	317	78	36	11	0.44	260	0.000
422	Rajkot	PADDHARI	Targhari	8.22	1017	681	360	76	41	80	1.4	0	281	170	24	39	0.30	230	0.113
423	Rajkot	JETPUR	Umrli	7.91	1581	1059	600	152	54	75	3.8	0	244	241	47	173	0.30	200	0.117
424	Rajkot	UPLETA	Upleta1	8.15	642	430	250	40	36	54	3.9	0	232	78	18	48	0.33	190	0.269
425	Rajkot	JASDAN	Vinchhia	8.13	840	563	220	48	24	108	2.1	0	415	50	8	34	0.60	24	0.139
426	Rajkot	JASDAN	Viranagar	8.28	2602	1743	640	80	107	295	1.3	0	525	426	42	198	0.85	430	0.096
427	Rajkot	RAJKOT	Ribda	Leaked out															0.009
428	Sabarkantha	WANKANER	Wankaner-1	8.22	956	641	280	68	27	105	5.3	0	390	107	24	14	0.70	320	0.900
428	Sabarkantha	Dhansura	Alwa Kampa	7.91	1310	878	460	68	70	113	0.8	0	659	85	33	15	0.50	540	0.000
429	Sabarkantha	VIJAYNAGAR	Atarumba1	7.71	990	663	480	116	46	46	2.2	0	403	113	60	38	0.20	330	0.000
430	Sabarkantha	BHILODA	Bhiloda2	7.92	1488	997	500	76	74	92	0.8	0	403	191	64	42	0.40	330	0.000
431	Sabarkantha	BAYAD	Boral	8.04	2901	1944	950	360	12	260	1.2	0	756	352	125	279	0.64	620	0.000
432	Sabarkantha	Talod	Boriya	7.70	2192	1469	580	136	58	225	0.8	0	451	418	100	20	0.50	370	3.145
433	Sabarkantha	IDAR	Chandap_DW	8.08	1373	920	490	108	53	100	4.1	0	403	177	95	44	0.80	330	0.000
434	Sabarkantha	VADALI	Choriwad	7.92	2351	1575	1100	280	96	67	2.8	0	451	461	230	29	0.60	370	0.000
435	Sabarkantha	DHANSURA	Dhansura	7.93	1200	804	460	100	50	77	1.1	0	451	92	150	4	0.60	370	0.037
436	Sabarkantha	MODASA	Gadada	7.88	1700	1139	640	120	82	122	2.9	0	451	234	175	55	0.93	370	0.342
437	Sabarkantha	HIMATNAGAR	Gadha1	8.03	3171	2125	750	140	96	360	2.1	0	537	603	140	110	1.15	440	0.043
438	Sabarkantha	TALOD	Harsol1	8.28	1424	954	370	60	53	176	2.1	0	659	99	50	27	1.10	540	0.000

S.No	District	Taluka	Location	pH	EC	TDS	TH	Ca	Mg	Na	K	CO3	HCO3	Cl	NO3	SO4	F	Alk	Fe
439	Sabarkantha	IDAR	Idar	8.51	1700	1139	540	68	89	181	3.7	60	500	220	70	45	2.40	510	0.043
440	Sabarkantha	DHANSURA	Karanpur	7.91	828	555	320	84	26	65	0.6	0	378	71	50	7	0.75	310	0.000
441	Sabarkantha	TALOD	Kesarpara(Mayal)	7.91	1431	959	580	160	43	60	2	0	317	198	170	28	0.60	260	0.000
442	Sabarkantha	Vadoli	Kesharpura	8.58	1586	1063	230	36	34	290	1.1	72	561	128	65	36	3.00	580	0.167
443	Sabarkantha	KHEDBRAHMA	Khedbramha_1	7.65	3700	2479	1600	402	132	150	2.1	0	354	922	160	180	0.68	290	0.102
444	Sabarkantha	MALPUR	Malpur_1	8.01	910	610	480	96	58	24	0.6	0	342	57	105	80	0.75	280	0.012
445	Sabarkantha	HIMATNAGAR	Mathasuliya	7.86	1210	811	500	128	43	74	22.6	0	439	120	145	11	0.30	360	0.000
446	Sabarkantha	KHEDBRAHMA	Matoda	7.74	2980	1997	1250	72	257	123	25.0	0	512	603	100	149	0.20	420	0.082
447	Sabarkantha	MODASA	Medasana	7.93	1175	787	430	84	53	87	0.7	0	427	128	62	33	0.80	350	0.005
448	Sabarkantha	MODASA	Megraj_1	7.99	700	469	280	88	14	46	3.0	0	366	43	5	13	0.36	300	0.215
449	Sabarkantha	MODASA	Modasa2	7.70	1248	836	500	128	43	82	3.1	0	329	156	120	85	0.24	270	0.000
450	Sabarkantha	KHEDBRAHMA	Poshina2	8.19	2304	1544	950	200	108	129	6.6	0	854	213	34	189	0.86	700	0.201
451	Sabarkantha	BHILODA	Punasan	7.89	872	584	310	80	26	61	0.8	0	390	57	26	19	0.28	320	0.000
452	Sabarkantha	HIMATNAGAR	Ramgarh	7.99	3783	2535	1100	160	168	360	26.9	0	683	886	65	3	0.75	560	0.447
453	Sabarkantha	IDAR	Revas	7.90	1869	1252	700	148	79	95	5.6	0	403	227	230	61	1.00	330	0.013
454	Sabarkantha	BAYAD	Sathamba	8.09	1290	864	540	88	77	63	3.2	0	610	92	25	22	0.75	500	0.014
455	Sabarkantha	MODASA	Seenawad	7.64	1744	1168	700	200	48	105	12.4	0	561	231	155	12	0.50	460	0.082
456	Sabarkantha	BHILODA	Shamlaji	7.72	1600	1072	620	180	41	56	9.1	0	610	71	130	33	0.35	500	2.056
457	Sabarkantha	KHEDBRAHMA	Silwad	7.70	4651	3116	1800	200	312	280	9.8	0	512	1205	110	170	0.86	420	0.898
458	Sabarkantha	BHILODA	Takatuka_1	8.05	1836	1230	490	64	79	230	1.2	0	525	355	58	4	0.76	430	0.000
459	Sabarkantha	Talod	Umedpura	8.02	1512	1013	440	60	70	210	0.4	0	647	177	105	25	1.10	530	0.280
460	Sabarkantha	VIJAYNAGAR	Vijaynagar1	7.83	1100	737	330	72	36	105	4.5	0	427	128	16	11	0.50	350	0.076
461	Sabarkantha	HIMATNAGAR	Virpur_1(Himmat)	8.05	900	603	240	76	12	84	0.8	0	403	28	45	13	0.75	330	0.084
462	Sabarkantha	Himmatnagar	Vaktapur	8.12	2919	1956	950	160	132	280	2.4	0	488	638	105	154	0.86	400	0.000
	Sabarkantha	VADALI	Vadali																0.117
463	Surat	VADALI	Wadali	7.98	2748	439	700	152	78	310	2.6	0	439	625	12	105	0.93	360	0.272
464	Surat	BARDOLI	Allu	8.06	610	409	250	24	46	47	0.5	0	342	36	6	14	0.52	280	0.149
465	Surat	VYARA	Bedchit	7.64	1583	1061	610	92	92	110	0.2	0	500	263	23	42	0.65	410	0.100
466	Surat	Mangrol	Bhatkol	8.02	865	580	200	32	29	115	1.2	0	366	92	3	13	0.90	300	0.357
467	Surat	UMARPADA	Chavada2	7.79	363	243	170	36	19	23	0.5	0	220	21	5	4	0.40	180	1.330
468	Surat	Kemraj	Digas	8.28	898	602	160	4	36	169	0.7	0	512	36	40	21	0.89	420	0.064
469	Surat	MANGROL	Dungri	7.74	1491	999	420	88	49	180	7.2	0	610	185	44	10	0.38	500	0.267
470	Surat	SONGADH	Jesingpura[sg]	7.87	668	448	280	28	51	24	1.0	0	342	28	2	9	0.24	280	0.184
471	Surat	UMARPADA	Juna umarpada	8.05	458	307	170	40	17	25	1.1	0	207	28	7	8	0.40	170	0.437

S.No	District	Taluka	Location	pH	EC	TDS	TH	Ca	Mg	Na	K	CO3	HCO3	Cl	NO3	SO4	F	Alk	Fe
472	Surat	Bardoli	Kadod 1	8.14	522	350	110	24	12	80	0.5	0	268	28	7	17	0.46	220	0.438
473	Surat	KAMREJ	Kathor	7.90	1489	998	400	24	83	163	0.6	0	586	178	0	18	0.43	480	0.614
474	Surat	Valod	Kelkui	7.96	463	310	190	56	12	26	0	0	232	36	1	3	0.25	190	0.820
475	Surat	Songarh	Kherwada	7.92	591	396	160	28	22	66	1.3	0	268	36	20	15	0.40	220	0.195
476	Surat	MANDVI	Mandvi2	7.76	1014	679	280	44	41	109	0.5	0	329	92	65	59	0.56	270	0.455
477	Surat	Bardoli	Mota	8.18	2481	1662	540	40	107	345	1.6	0	573	511	20	69	0.89	470	0.074
478	Surat	VYARA	Moti Chher	7.73	462	310	130	36	10	46	1.4	0	171	43	31	2	0.35	140	0.197
479	Surat	Mandavi	Moti Sarkui	7.87	722	484	210	48	22	60	0.5	0	256	50	32	31	0.42	210	0.162
480	Surat	KAMREJ	Navi pardi	7.88	1509	1011	370	52	34	231	9.9	0	464	249	16	117	0.52	380	0.506
481	Surat	MANDVI	Nogama	7.84	804	539	220	40	29	80	0.2	0	256	64	46	52	0.45	210	0.069
482	Surat	OLPAD	Olpad2	8.19	1713	1148	180	24	29	290	61.7	0	732	156	29	12	1.37	600	0.150
483	Surat	PALSANA	Palsana	7.94	930	623	200	32	29	126	7.4	0	366	107	2	18	0.30	300	0.265
484	Surat	MANGROL	Paneshwar	7.78	1617	1083	490	132	39	128	1.3	0	195	383	16	45	0.42	160	0.069
485	Surat	BARDOLI	Sarbhon	8.07	1042	698	220	24	39	140	1.3	0	464	78	17	16	1.03	380	0.173
486	Surat	CHORASI	Sultanabad	8.21	1226	821	290	36	49	146	18.6	0	488	115	28	19	0.25	400	0.044
487	Surat	KAMREJ	Syan	7.92	1733	1161	550	64	95	150	0.6	0	342	376	35	28	0.44	280	0.945
488	Surat	BARDOLI	Ten-bardoli	8.12	617	413	230	24	29	36	0.2	0	293	36	10	7	0.43	240	0.272
489	Surat	UCHCHHAL	Uchchhal1	7.74	803	538	280	36	46	57	0.7	0	305	57	48	32	0.35	250	0.092
490	Surat	MANDVI	Ushker	7.74	790	529	160	32	19	107	2.3	0	317	36	35	50	0.42	260	0.078
491	Surat	Mahuva	Vaheval	7.52	788	528	300	76	27	48	0.3	0	366	57	17	8	0.40	300	0.050
492	Surat	VALOD	Valod	8.01	446	299	160	28	22	80	0.1	0	268	28	2	69	0.30	220	0.000
493	Surat	VYARA	Vyara1	8.06	301	202	90	20	10	38	2.4	0	183	14	0	2	0.30	150	0.287
494	Surat	Chorasi	Gavier	7.70	1351	905	500	92	66	92	13.1	0	488	107	17	127	0.29	400	0.418
495	Surendranagar	DASADA	Adriyana	8.03	7582	5080	1350	160	231	1172	35.0	0	268	1988	31	777	1.35	220	0.162
496	Surendranagar	Wadhvan	Anindra	8.04	650	436	260	56	29	38	5.5	0	293	50	7	20	1.66	240	0.087
497	Surendranagar	CHOTILA	Bamanbor	8.28	656	440	210	36	29	66	1.7	0	220	71	50	29	0.50	180	0.000
498	Surendranagar	Dasada	Dhama	8.07	1783	1195	280	40	44	266	54.4	0	549	234	46	31	1.68	450	0.012
499	Surendranagar	Sayla	Dhandhalpur 1	8.28	990	663	180	36	22	152	3.8	0	439	71	23	26	1.50	360	0.056
500	Surendranagar	Sayla	Dhedhuki 1	8.07	1142	765	280	56	34	127	4.6	0	305	185	4	36	0.45	250	0.104
501	Surendranagar	HALVAD	Halvad2	8.00	302	202	130	32	12	25	2.2	0	183	14	2	11	0.35	150	0.000
502	Surendranagar	DASADA	Jhinjhwada	8.02	982	658	230	36	34	103	11.1	0	366	99	8	3	0.94	300	0.000
503	Surendranagar	Halvad	Juna Devliya 1	8.16	1346	902	220	48	24	204	8.0	0	427	199	27	5	0.80	350	0.235
504	Surendranagar	DASADA	Kherwa	7.98	968	649	190	44	19	132	8.0	0	305	149	3	9	0.85	250	0.094
505	Surendranagar	LAKHTAR	Lakhtar	8.04	796	533	160	44	12	108	9.1	0	329	78	3	7	1.41	270	0.024

S.No	District	Taluka	Location	pH	EC	TDS	TH	Ca	Mg	Na	K	CO3	HCO3	Cl	NO3	SO4	F	Alk	Fe
506	Surendranagar	LIMBDI	Limbdi 1	7.90	3175	2127	400	72	54	393	155.0	0	1257	270	51	270	1.40	1030	0.270
507	Surendranagar	Chotila	Moti Moladi	7.70	7380	4945	3100	320	559	200	1.1	0	268	1775	48	710	0.45	220	0.128
508	Surendranagar	MULI	Muli	8.28	3275	2194	260	48	34	635	1.2	0	622	696	42	90	3.28	510	0.096
509	Surendranagar	Dasada	Pipli	7.96	536	359	160	28	22	62	7.5	0	220	57	8	24	0.65	180	0.046
510	Surendranagar	DHRANGADHRA	Rajsitapur	8.65	1325	888	110	20	13	256	5.0	72	317	192	11	0	1.38	380	0.000
511	Surendranagar	MULI	Sara	7.65	3485	2335	720	192	58	447	11.4	0	354	738	70	276	1.30	290	0.002
512	Surendranagar	MULI	Sarla	8.00	1424	954	410	108	34	156	32.1	0	464	199	70	25	0.80	380	0.110
513	Surendranagar	LIMBDI	Shiyani	7.83	1059	710	200	68	7	145	9.3	0	317	135	40	28	0.58	260	0.721
514	Surendranagar	Sayla	Sudamda	7.59	3565	2389	1220	304	112	260	2.2	0	195	809	165	323	0.25	160	0.310
515	Surendranagar	DASADA	Visawadi	8.05	3522	2360	640	120	83	508	17.8	0	366	795	95	221	0.85	300	0.000
516	Surendranagar	LAKHTAR	Vitthalgarh	7.88	2863	1918	560	184	24	392	29.7	0	366	525	22	330	0.44	300	0.079
517	The dangs	WADHWAN	Warod	7.99	991	664	230	64	17	154	34.5	0	464	85	23	40	0.95	380	2.104
518	The dangs	The dangs	Aherdi	7.80	337	226	180	40	19	29	0.3	0	220	21	6	27	0.04	180	0.277
519	The dangs	The dangs	Ahwal	7.73	893	598	300	76	27	63	12.3	0	256	114	23	44	0.10	210	0.089
520	The dangs	The Dangs	Ambapada	8.20	367	246	190	48	17	20	0.5	0	244	21	3	1	0.20	200	0.346
521	The dangs	The Dangs	Bori Goatha 1	7.76	477	320	240	64	19	18	0.3	0	220	28	16	43	0.25	180	0.532
522	The dangs	The Dang	Boripada	7.74	380	255	190	52	15	14	0.0	0	195	28	7	13	0.36	160	0.000
523	The dangs	The dangs	Chikhli	7.89	400	268	200	52	17	21	0.2	0	244	14	1	24	0.05	200	1.577
524	The dangs	The dangs	Chinchnogaatha	7.57	656	440	290	76	24	13	0.4	0	244	50	41	13	0.20	200	0.016
525	The dangs	The dangs	Dhumkal	7.69	362	243	170	28	12	29	3.1	0	244	14	1	11	0.20	200	0.142
526	The dangs	The dangs	Ghubita	7.59	407	273	190	52	15	34	0.7	0	256	21	4	20	0.15	210	0.566
527	The dangs	The dangs	Jakana	8.24	548	367	240	68	17	17	0.7	0	195	43	47	17	0.20	160	0.123
528	The dangs	The dangs	Kalibel	7.61	1114	746	470	96	56	62	16.6	0	354	178	9	51	0.12	290	1.544
529	The dangs	The dangs	Malegaon	7.94	394	264	170	48	12	17	0.7	0	195	28	6	2	0.25	160	0.603
530	The dangs	The dangs	Nadak khadi	7.99	442	296	210	44	24	21	0.5	0	244	21	15	12	0.36	200	0.165
531	The dangs	The dangs	Nana pada	7.92	396	265	190	48	17	15	0.4	0	244	14	2	1	0.12	200	0.471
532	The dangs	The dangs	Sodmal	7.87	413	277	200	52	17	17	0.3	0	244	21	3	4	0.20	200	0.337
533	The dangs	The dangs	Subir	7.74	393	263	170	40	17	24	1.2	0	207	28	4	8	0.20	170	0.230
534	The dangs	The dangs	Umberpada	7.83	359	241	180	44	17	27	0.1	0	244	21	0	8	0.15	200	23.710
535	The dangs	The dangs	Vazat Amba	7.70	441	295	220	48	24	15	0.2	0	232	28	9	14	0.12	190	0.085
536	Vadodara	SANKHEDA	Alladpur	8.25	1582	1060	520	108	60	138	21.1	0	659	156	35	25	1.15	540	0.022
537	Vadodara	DABHOI	Amreshwar	8.02	2852	1911	900	100	156	230	11.2	0	354	638	17	176	0.52	290	0.058
538	Vadodara	CHHOTA UDAIPUR	Asala	7.63	1109	743	420	152	10	48	0.9	0	232	184	74	8	1.12	190	0.059
539	Vadodara	SAVLI	Chhaliyar	8.41	794	532	270	20	53	66	1.3	72	195	35	20	64	0.48	280	0.000

S.No	District	Taluka	Location	pH	EC	TDS	TH	Ca	Mg	Na	K	CO3	HCO3	Cl	NO3	SO4	F	Alk	Fe
540	Vadodara	CHHOTA UDAIPUR	Chhota udepur	8.20	1188	796	280	64	29	154	5.0	0	586	78	11	6	3.00	480	0.017
541	Vadodara	KAVANT	Devat (thadgam)	8.04	1360	911	540	76	84	80	2.9	0	598	113	49	18	1.49	490	0.054
542	Vadodara	CHHOTA UDAIPUR	Ferkuva	8.02	1086	728	490	108	53	35	7.4	0	403	106	46	44	0.58	330	0.014
543	Vadodara	CHHOTA UDAIPUR	Ghamodi	7.08	360	241	120	44	2.4	30	1.1	0	159	21	4	18	1.25	130	0.523
544	Vadodara	SANKHEDA	Govindpura	8.07	1798	1205	400	44	70	220	35	0	415	291	48	77	1.30	340	0.028
545	Vadodara	SAVLI	Juna samalya	8.10	1610	1079	390	60	58	200	34	0	427	220	50	112	1.40	350	0.010
546	Vadodara	Vadodara City	Kevada Bag	8.29	1590	1065	170	24	26	310	4.1	0	683	142	38	45	1.22	560	0.195
547	Vadodara	CHHOTA UDAIPUR	Kevadi	7.95	476	319	190	48	17	36	2.1	0	207	28	14	42	1.22	170	0.372
548	Vadodara	SANKHEDA	Makni	7.98	1586	1063	570	128	60	107	4.8	0	244	170	100	267	0.50	200	0.032
549	Vadodara	PADRA	Masor	8.37	1272	852	150	20	24	250	2.1	132	293	50	10	140	2.88	460	0.044
550	Vadodara	KAVANT	Moti chikhali	8.23	545	365	200	28	31	44	0.6	0	207	28	22	60	2.20	170	0.087
551	Vadodara	Vadodara City	ONGC	8.41	2988	2002	700	120	96	370	2.0	144	293	532	7	245	1.40	480	0.450
552	Vadodara	KAVANT	Panwad	8.10	855	573	380	76	46	35	11.4	0	159	92	56	142	0.60	130	0.153
553	Vadodara	VAGHODIA	Patiyapura	8.19	1034	693	390	44	67	90	3.4	0	378	106	21	101	0.80	310	0.000
554	Vadodara	JETPUR PAVI	Pavi	7.96	2549	1708	750	160	84	270	7.8	0	281	461	17	414	1.03	230	0.000
555	Vadodara	SANKHEDA	Pitha	8.13	1830	1226	580	88	86	150	29.6	0	476	262	29	111	0.90	390	0.000
556	Vadodara	VAGHODIA	Saidal	8.64	3112	2085	550	140	48	489	7.0	60	659	496	10	241	1.80	640	0.000
557	Vadodara	KAVANT	Saidivasana	8.54	2937	1968	700	120	96	375	40.0	192	171	461	12	369	1.00	460	0.000
558	Vadodara	NASVADI	Sengpur	7.97	596	399	270	44	38	31	0.7	0	195	50	60	54	0.53	160	0.000
559	Vadodara	SINOR	Sinor	8.14	1303	873	620	92	94	40	13.6	0	512	106	39	99	0.54	420	0.000
560	Vadodara	SAVLI	Tundav	8.18	1758	1178	480	52	84	144	71.0	0	329	284	120	19	0.38	270	0.000
561	Vadodara	DABHOI	Vega	8.18	1206	808	320	48	48	140	22.0	0	293	256	16	4	0.37	240	0.004
562	Vadodara	SAVLI	Veipur2	7.97	4392	2943	1350	240	180	364	50.0	0	610	815	24	438	0.70	500	0.000
563	Valsad	Naswadi	Waghach	7.79	434	291	210	48	22	13	0.4	0	244	14	2	16	0.12	200	0.378
564	Valsad	DHARAMPUR	Awadha	7.75	672	450	180	36	22	73	0.3	0	342	36	5	2	0.15	280	0.093
565	Valsad	KAPRADA	Chavshala	7.72	664	445	230	72	12	40	12.4	0	305	43	7	0	0.14	250	0.685
566	Valsad	UMBERGAON	Dahli (bhilad)	7.87	770	516	270	56	32	53	0.1	0	317	64	11	24	0.16	260	0.174
569	Valsad	DHARAMPUR	Dharampur 3	7.66	691	463	300	68	32	33	0.6	0	329	57	6	15	0.24	270	0.234
570	Valsad	UMBERGAON	Kanadu	8.05	522	350	180	40	19	38	0.5	0	256	28	2	10	0.47	210	0.198
571	Valsad	PARDI	Karwad	7.99	968	649	250	52	29	99	10.8	0	427	71	8	5	0.65	350	0.116
572	Valsad	KAPRADA	Mandwa	7.91	467	313	170	44	15	28	0.9	0	195	36	17	6	0.03	160	0.381
573	Valsad	VALSAD	Muli 1	8.04	1900	1273	460	136	29	230	1.6	0	268	419	10	127	0.63	220	0.712
574	Valsad	KAPRADA	Nanaponda	7.44	1516	1016	400	132	19	165	0.6	0	268	284	11	119	0.20	220	0.061
575	Valsad	UMBERGAON	Tumb	7.97	864	579	240	36	36	90	0.8	0	366	71	9	23	1.00	300	0.060

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576	Valsad	PARDI	Udwada	7.71	1090	730	340	68	41	99	1.3	0	317	171	36	21	0.25	260	0.623
577	Valsad	UMBERGAON	Umargaon	8.00	991	664	270	44	39	106	5.3	0	415	92	18	13	0.23	340	0.150
578	Valsad	PARDI	Vapi (Balitha)	7.94	646	433	210	56	19	53	1.1	0	159	50	17	105	0.22	130	0.313



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