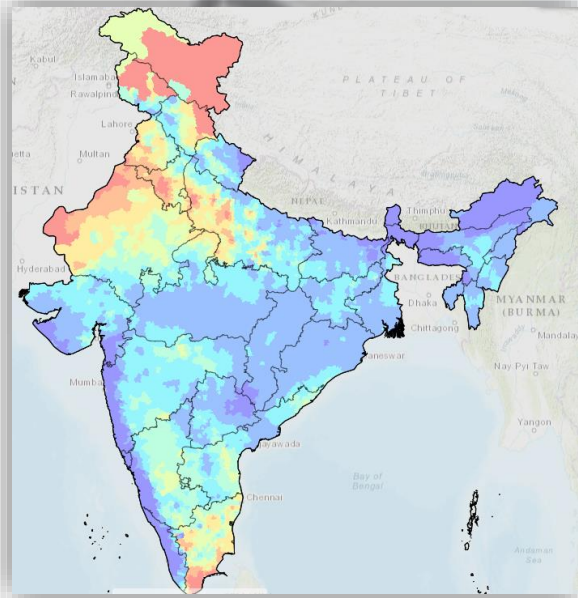




सत्यमेव जयते



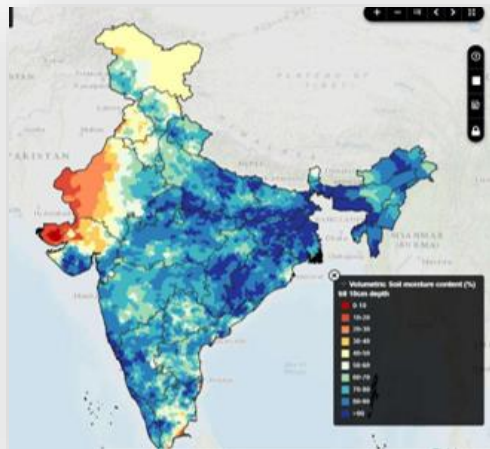
**India – WRIS**  
**India**  
**Water**  
**Resources**  
**Information**  
**System**



## CONCEPTUALIZATION



A *'Single Window Solution'* for comprehensive, authoritative and consistent data & information of India's *water resources* in a standardized national GIS framework for planning, development and management of water resources in the country.



Empowering citizens with **accurate, adequate and contemporary information** on the state of water resources of the country and enlightened public involvement in **water management decisions**.



## OBJECTIVE



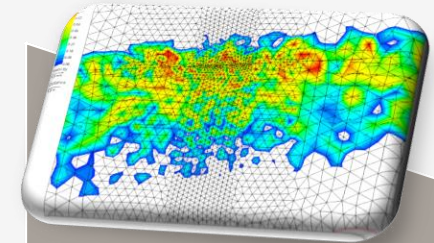
To collect available data from varied sources, generate new database, organize in standardized GIS format and provide scalable web-enabled information system.



To provide tools to create value added maps by way of multi-layer stacking of GIS database so as to provide integrated view to the water resources scenarios.



To provide easier, faster access, sharing of nationally consistent and authentic water resources data through a centralized database and application server to all water resources departments / organizations.



To provide foundation for advanced modeling and Spatial Decision Support Systems (SDSS) including automated data collection system.

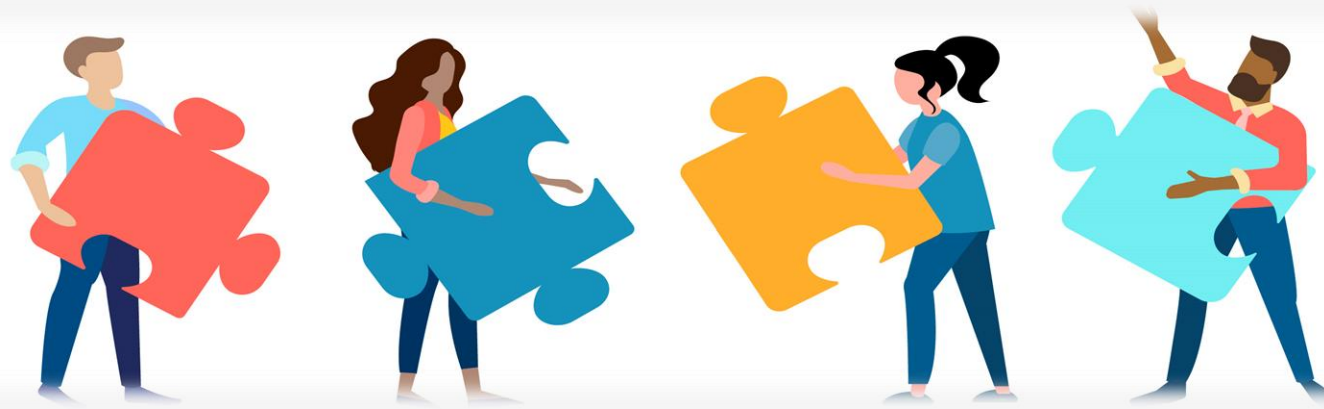




# ORGANISATION



- *NWIC is a Subordinate Office created on 28<sup>th</sup> March 2018 under DoWR, RD & GR*
- **Mandate:** *National custodian of water resources data.*
- *Headed by a Joint Secretary level officer.*
- **NWIC's roles:**
  - *Collecting water resources data from varied sources, generate database and organize in standardized GIS format*
  - *Maintaining, updating, collating water resources data and information on GIS Platform*
  - *Sharing and disseminating hydro-meteorological data amongst central and state government organizations, research institutes, planners, general public etc.*
  - *Development of tools for report preparation, inputs for planning and decision support systems*



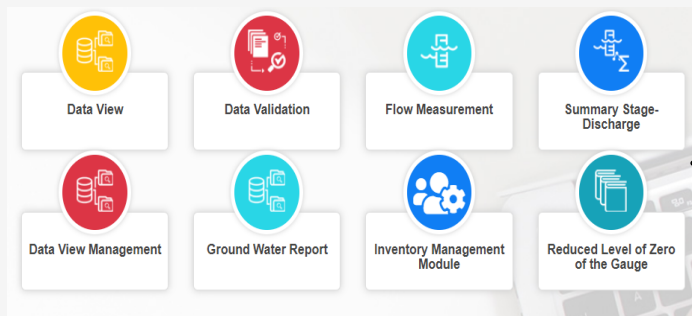
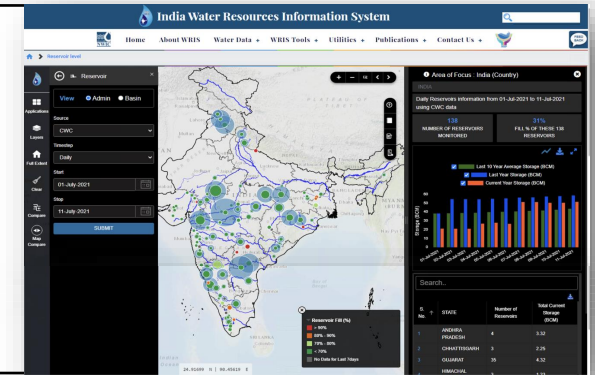


# Two Platforms: India-WRIS & WIMS



## India-WRIS

- Data dissemination platform on GIS framework for all water resources and allied themes data.
- Dynamic time series data is displayed through dashboard
- Other Water resources and allied theme data of semi dynamic and static nature & utilities displayed through modules developed in-house



## WIMS

- Time series data entry and collection platform developed (india-water.gov.in)
- WIMS has provisions for manual data entry through PC, also integration from INSAT & GPRS for real time telemetry data for stations commissioned under NHP

# WRIS

# WIMS



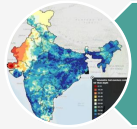
Nature

GIS based Data Dissemination Platform



Data

All spatial, dynamic time series, Semi-dynamic & Static data



Modules

34 Modules, 2 Tools & 8 Utilities for Surface, Ground Water & Allied Themes



Users

Open for General Public



Servers

6VMS (Development) & 8 VMs (Production)



Hosting (Production)

NIC Cloud



Hosting (Development)

NWIC, Delhi



PostgreSQL



PostgreSQL

Data Collection Platform

Only Time Series Data

12 Real Time/ Near Real Time Modules for Surface & Ground Water

Authorized User Access for data generating agency (Centre/State)

6VMs (Development) & 6VMs (Production)

Tata Cloud

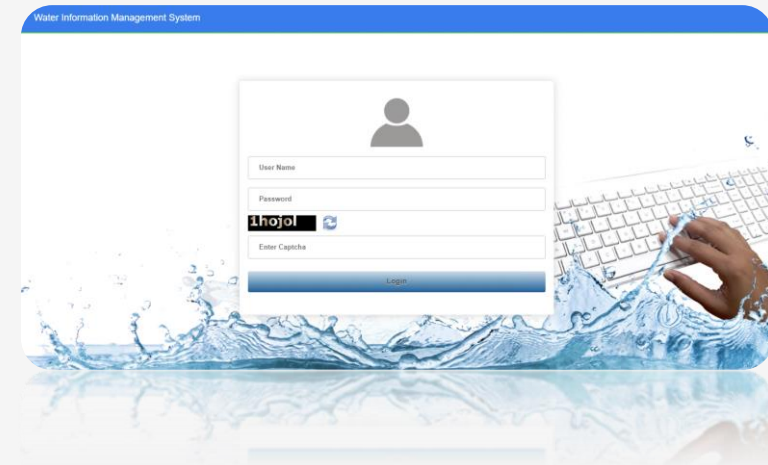
NWIC, Delhi

APIs for Time Series Data Sharing

# WIMS

## IMPORTANT PARAMETERS

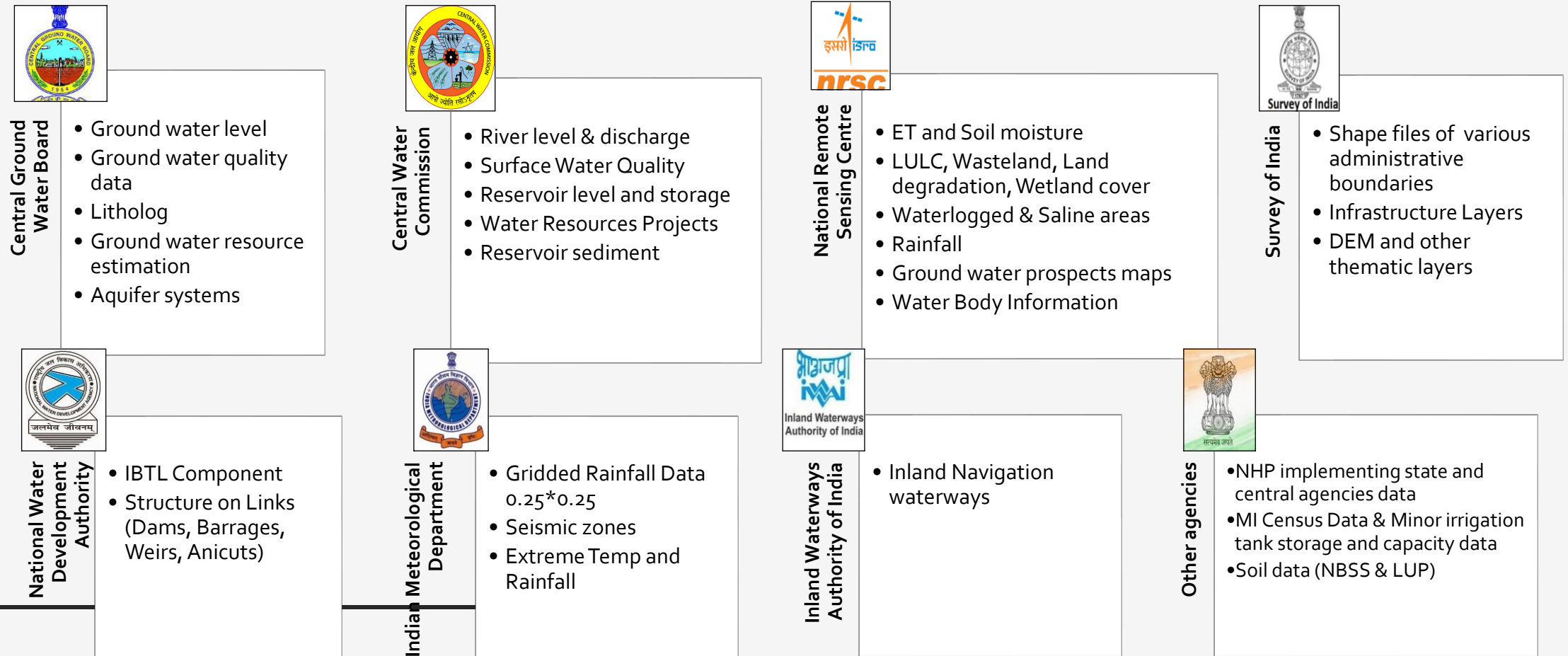
S. No.	Water Data Component
1	Reservoir Water level
2	River Water level
3	River Discharge
4	Ground water level
5	Surface Water Quality
6	Ground water Quality
7	Rainfall
8	Sediment
9	Other Meteorological Parameters





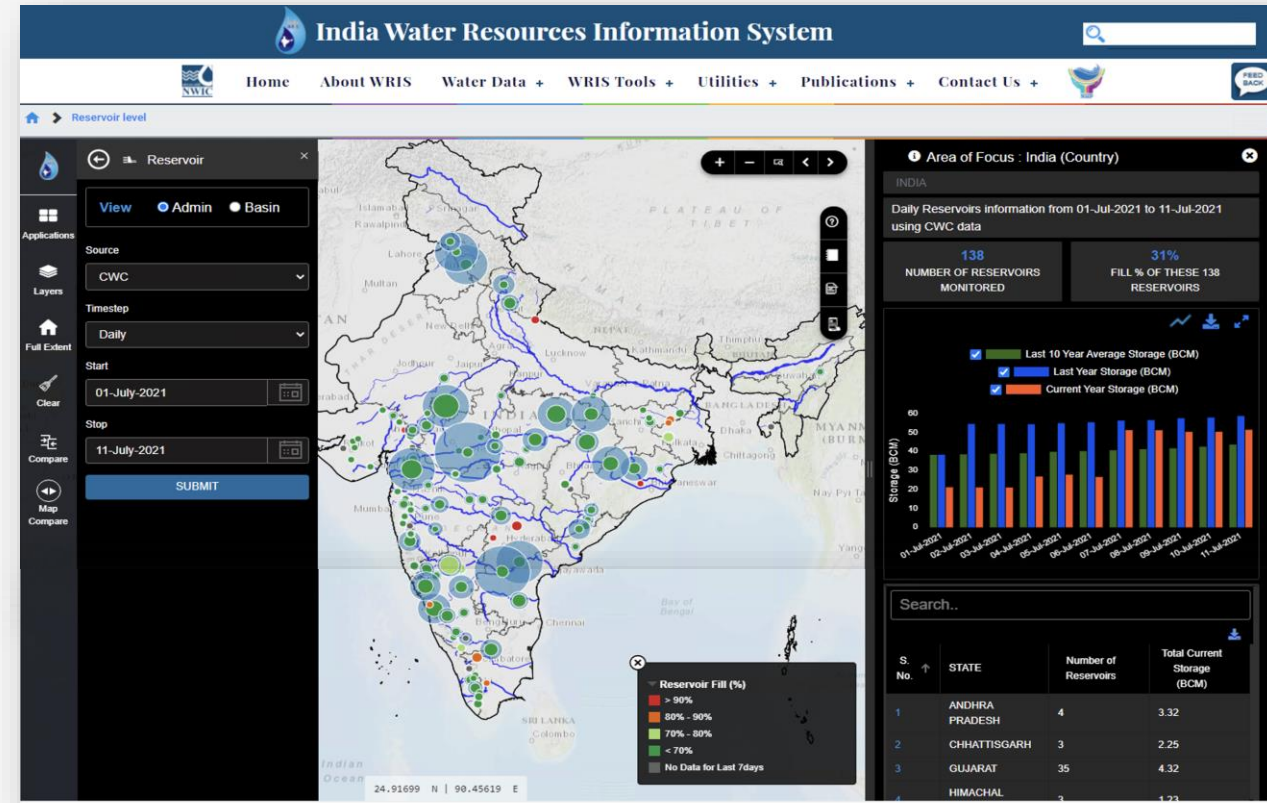
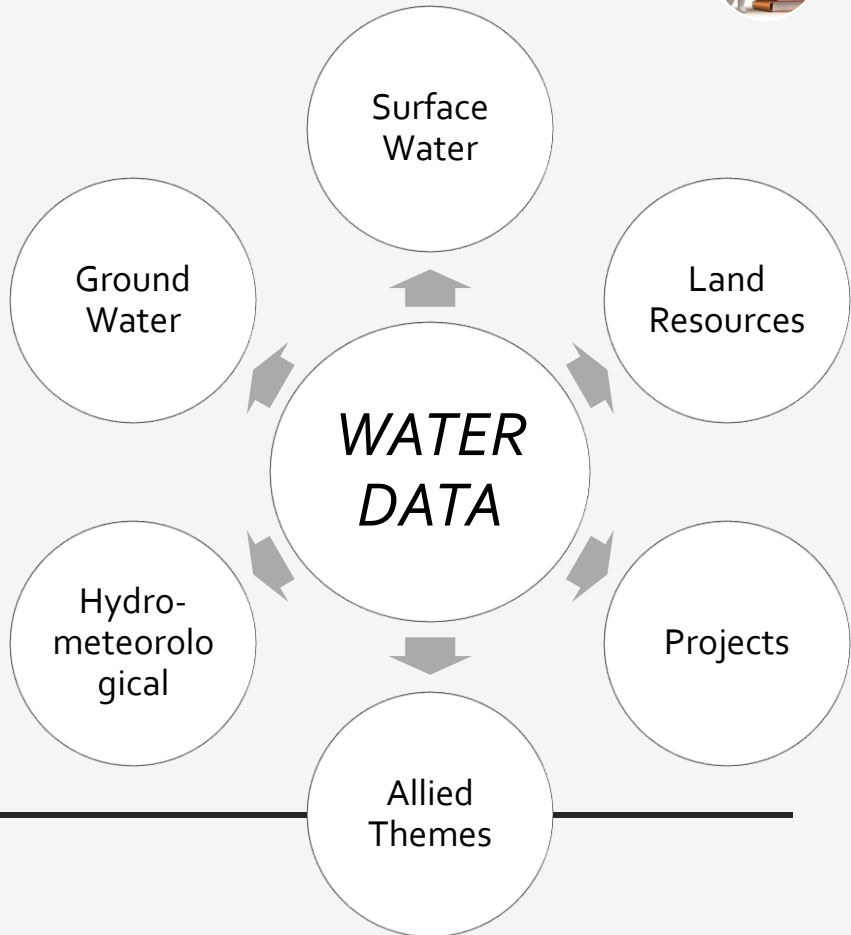
# India-WRIS

- WIMS – core data e.g. water level, water quality etc.
- Allied theme data from various central and state departments



# India-WRIS

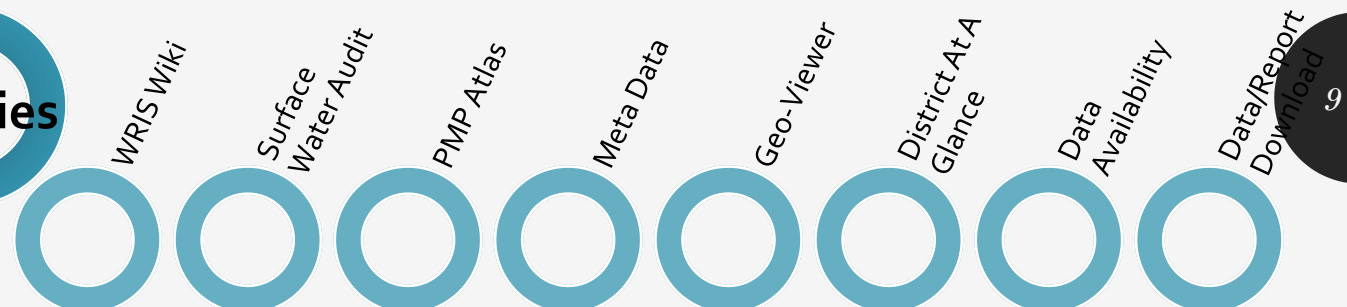
<https://indiawris.gov.in>



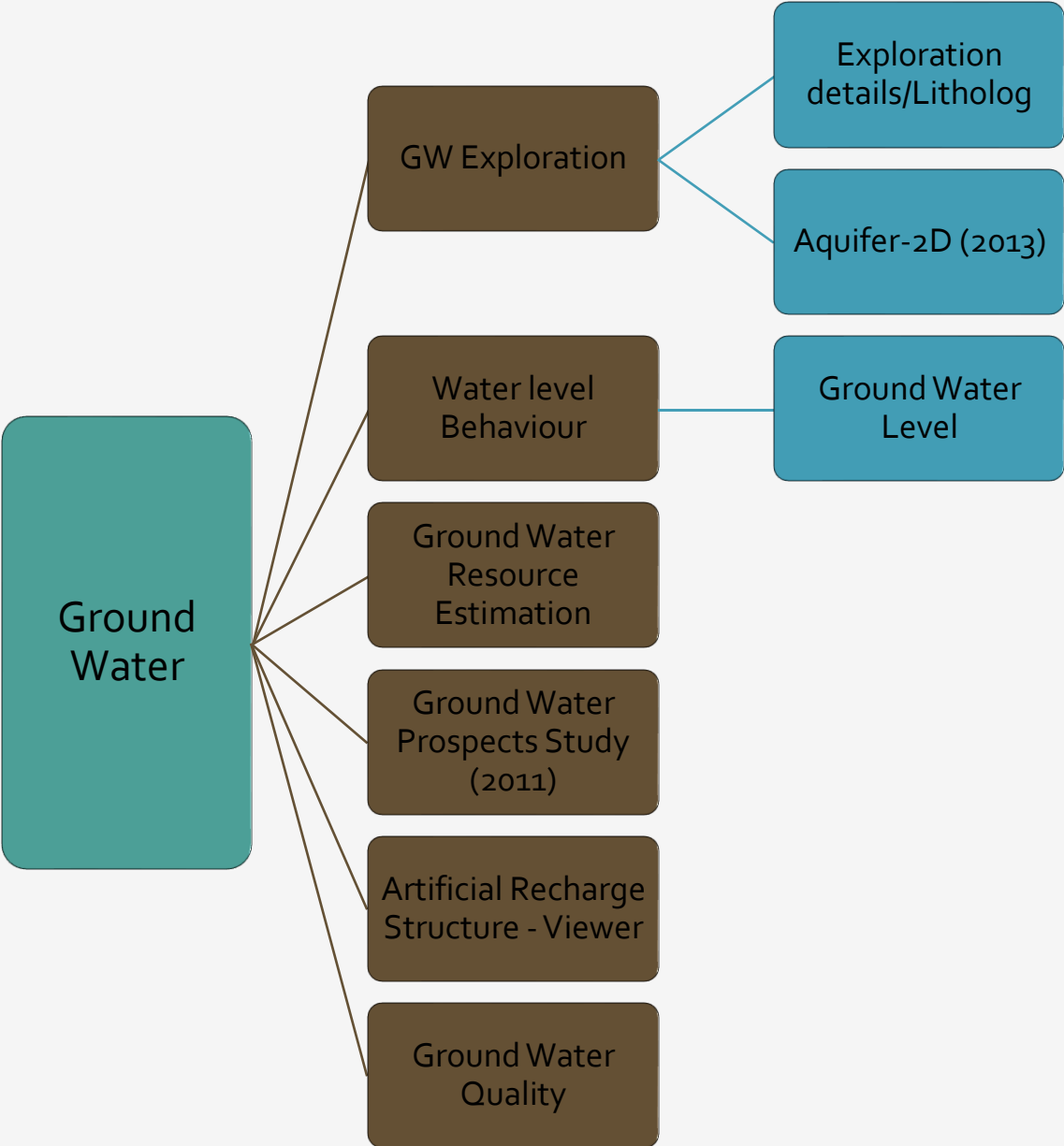
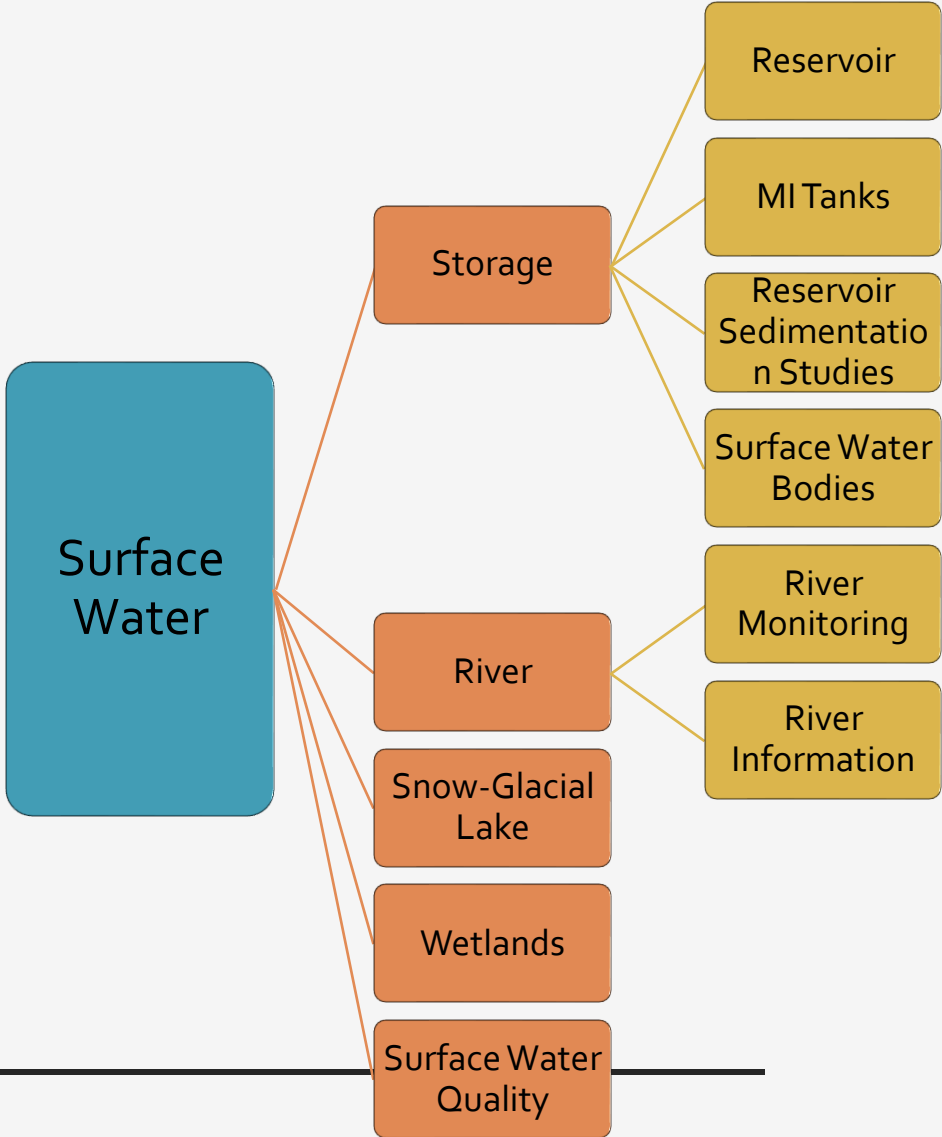
## WRIS Tools

- Online Web Editor
- Artificial Recharge Structure-Data Entry

## Utilities

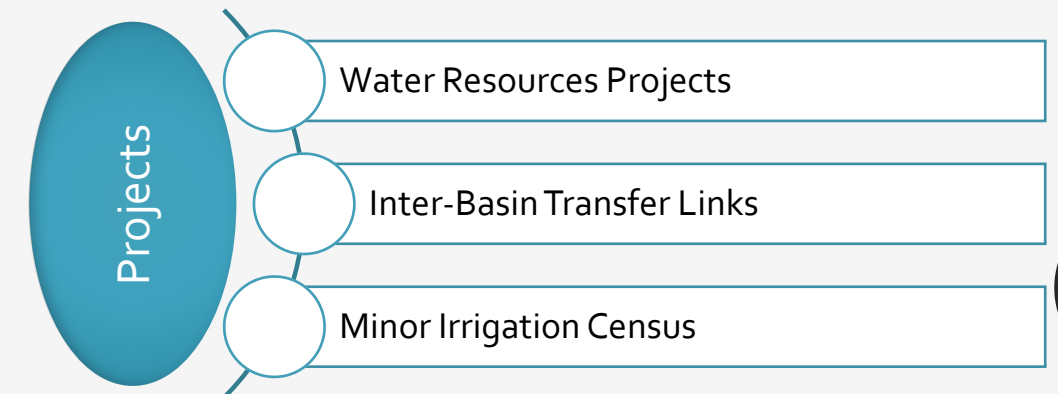
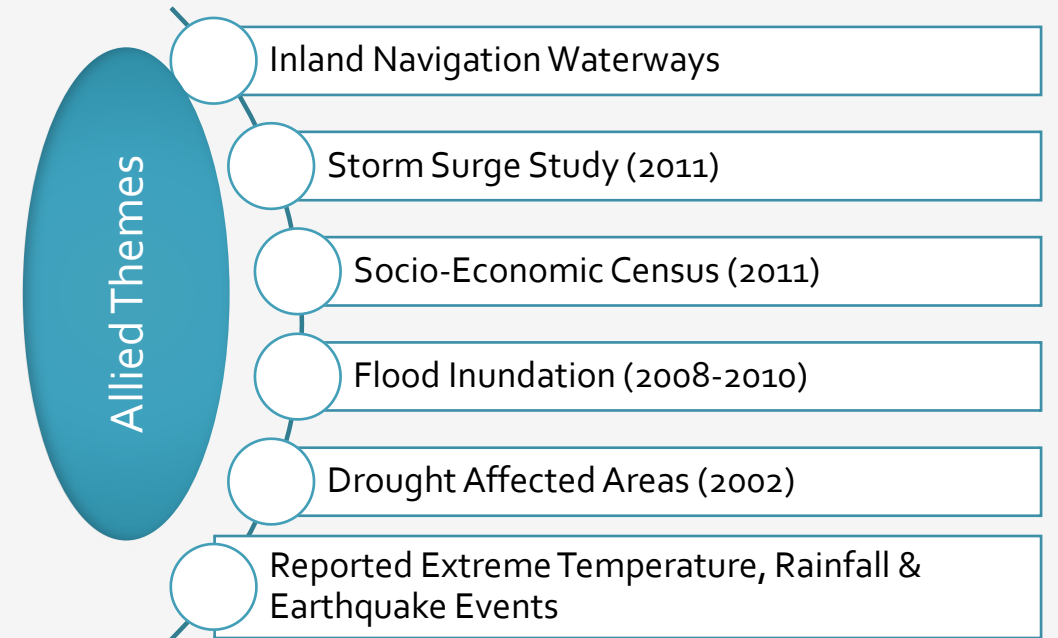
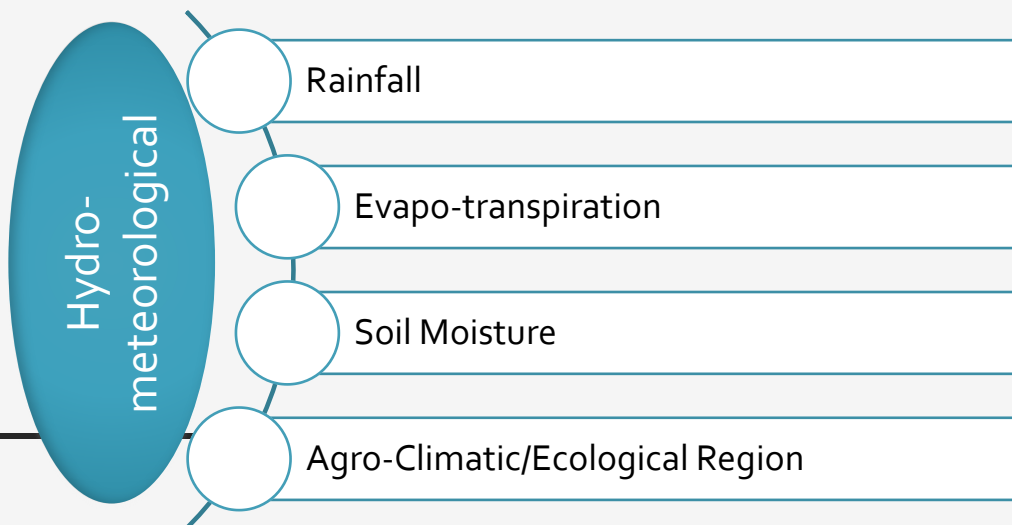
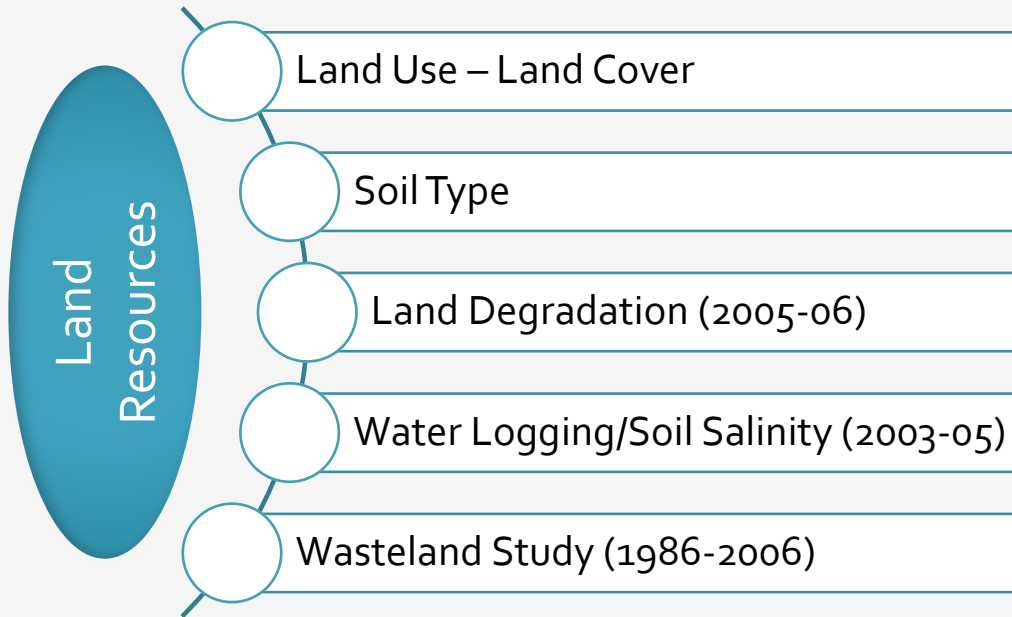


# Water data

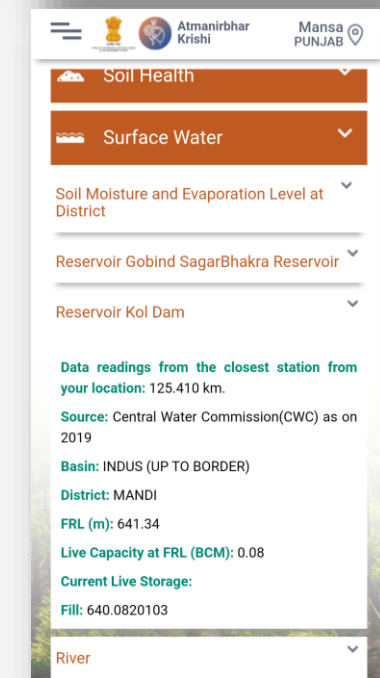
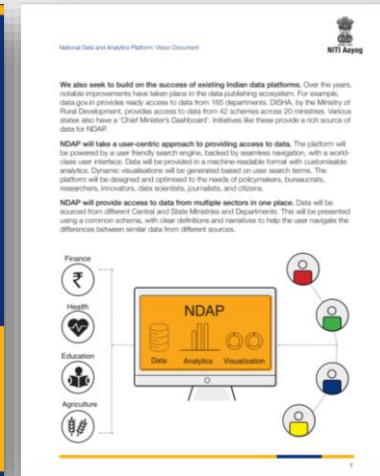
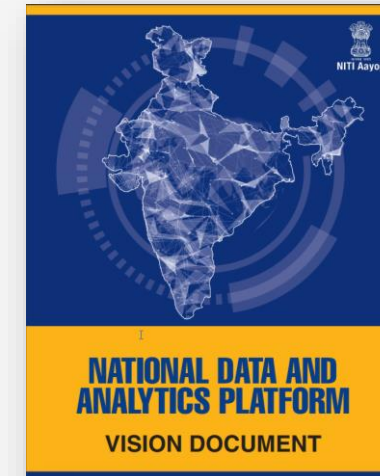
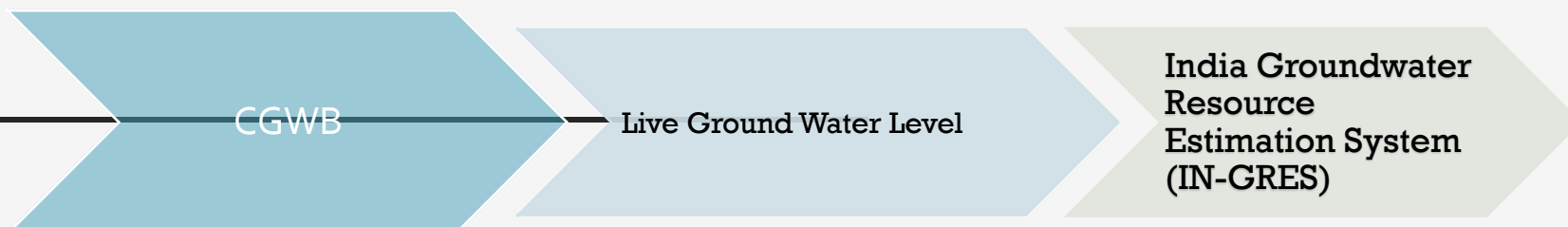
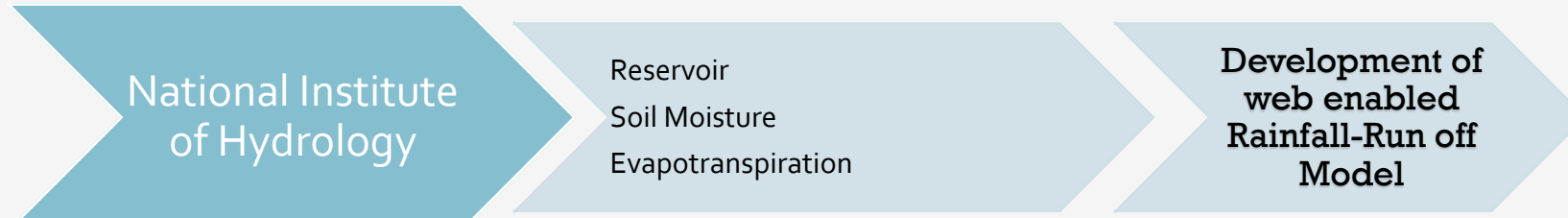
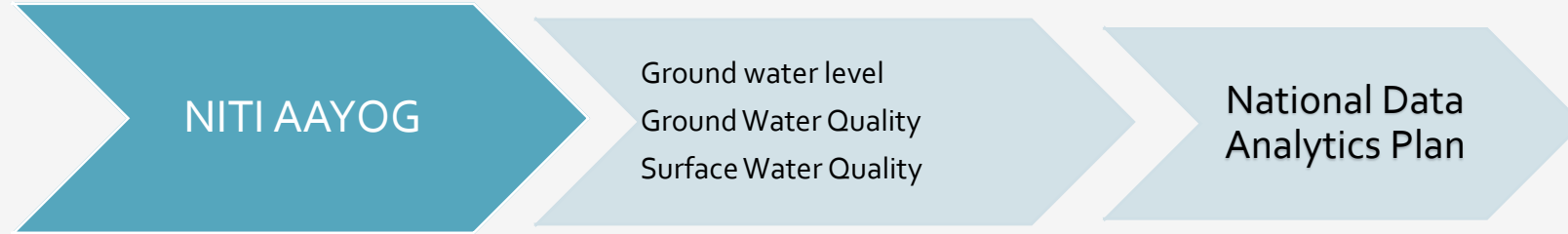




# Water data



# Data Dissemination through API



**Data readings from the closest station from your location 3.480 km.**

**Source** CGWB - Kotra as on 2016

**Basin**

[Know more](#)

Calcium [Ca]	29.00 mg/L
Magnesium [Mg]	32.98 mg/L
Sodium [Na]	313.00 mg/L
Potassium [K]	184.00 mg/L
Carbonate [CO3]	0.00 mg/L
Bicarbonate [HCO3]	695.00 mg/L
Chloride [Cl]	239.00 mg/L
Sulphate [SO4]	140.00 mg/L
Nitrate [NO3]	77.00 mgN/L
Fluoride [F]	0.95 mg/L
Thorium [Th]	208.00
Residual Sodium Carbonate [rsc]	7.23



## SYSTEM OVERVIEW

# India-WRIS

Water  
Data

Dynamic Real time  
Semi-Dynamic  
Static data

WRIS  
Tools

Input Data Builders

Utilities

Value Added Products

WIMS

Surface Water and  
Ground water Data



Manual / Telemetry data management





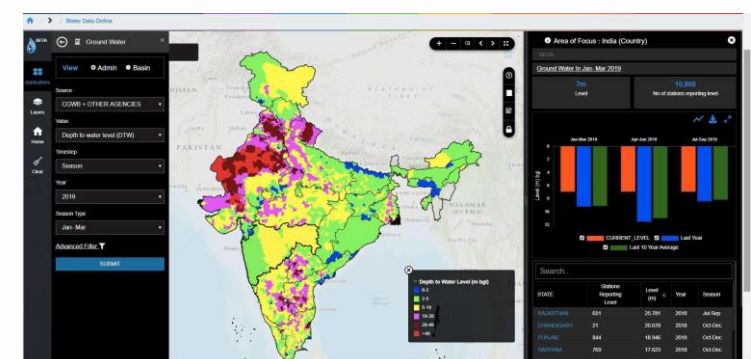
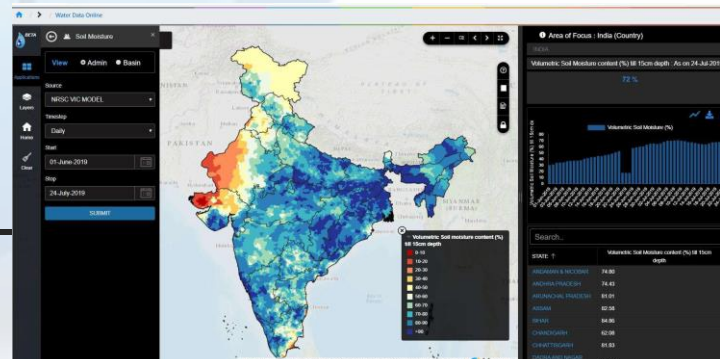
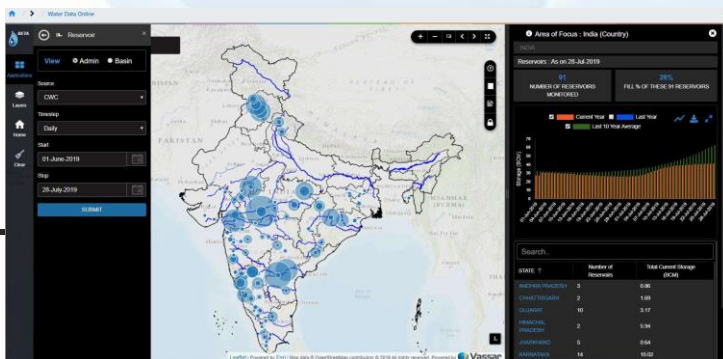
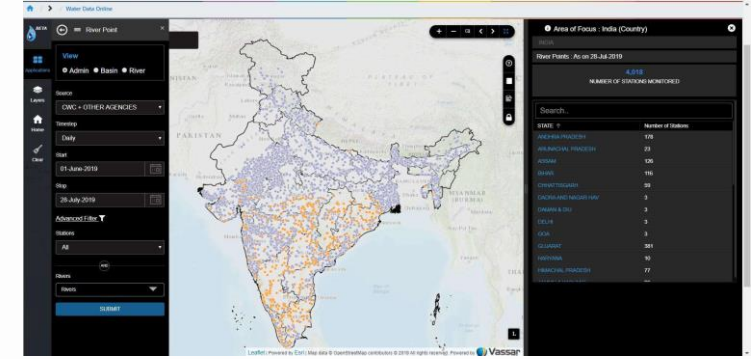
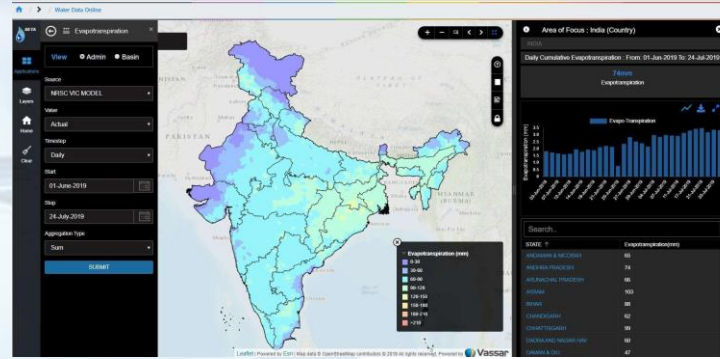
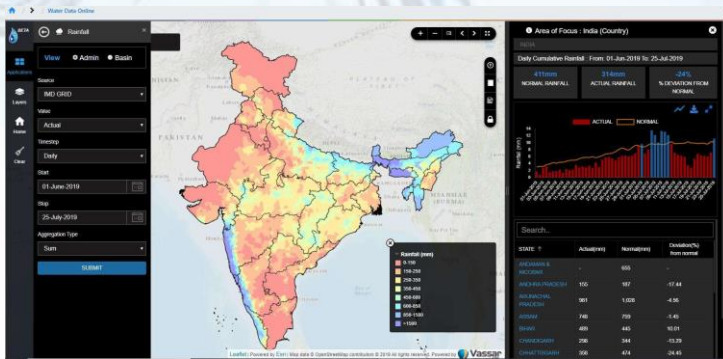
# India – Water Resources Information System

## India-WRIS



### Water Data – Dynamic Data Modules

- Historical and real-time data of **Rainfall, Reservoir, River Point, Evapo-transpiration, Soil Moisture, surface water quality, Ground water and Groundwater quality.**
- Powerful visualizations like heat maps, tables, charts to view and analyze the data at different administrative and hydrological hierarchies





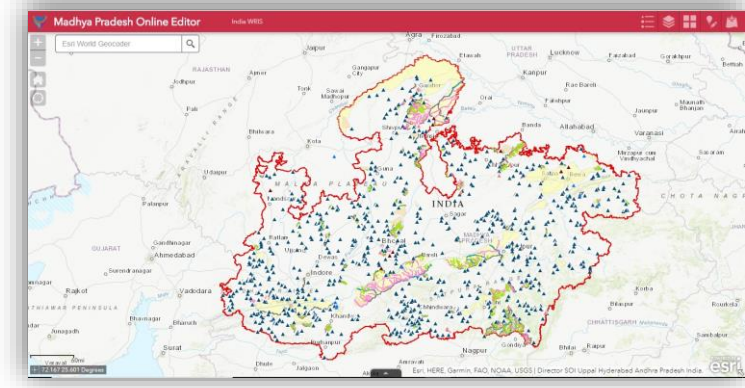
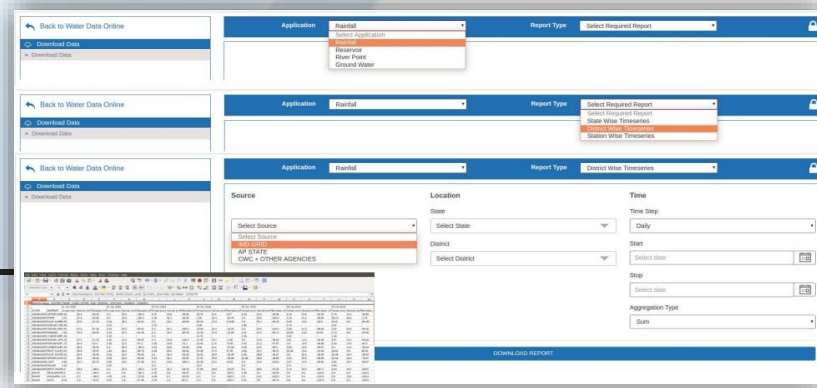
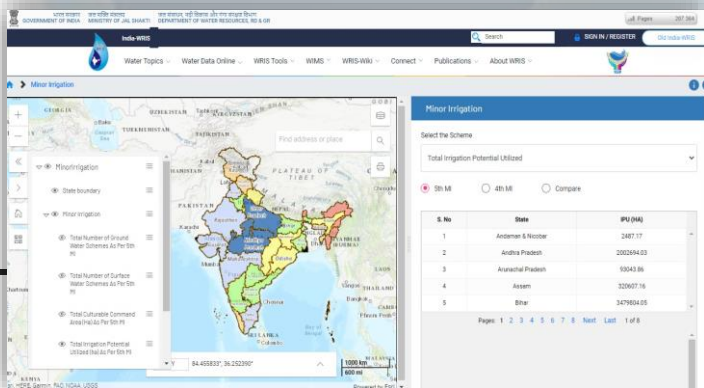
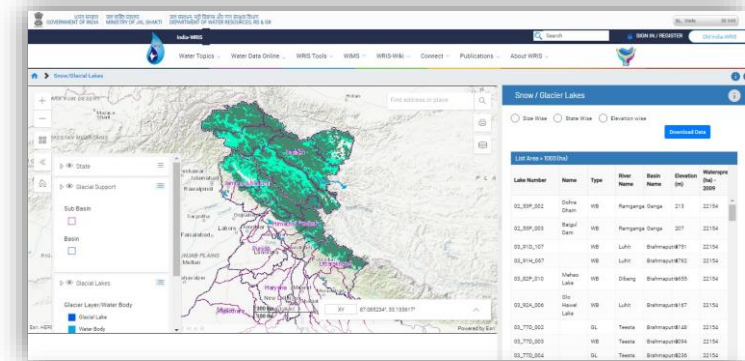
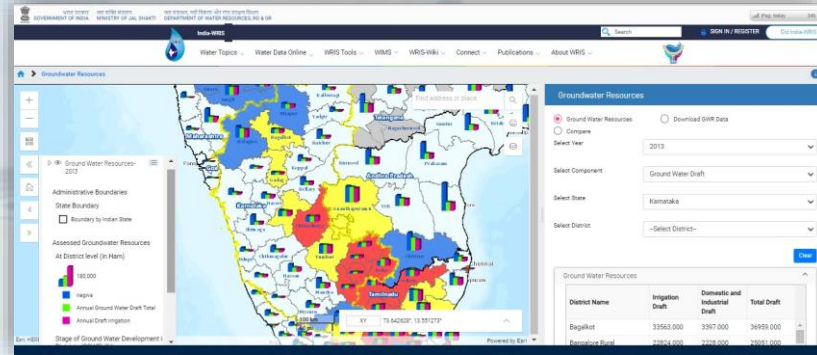
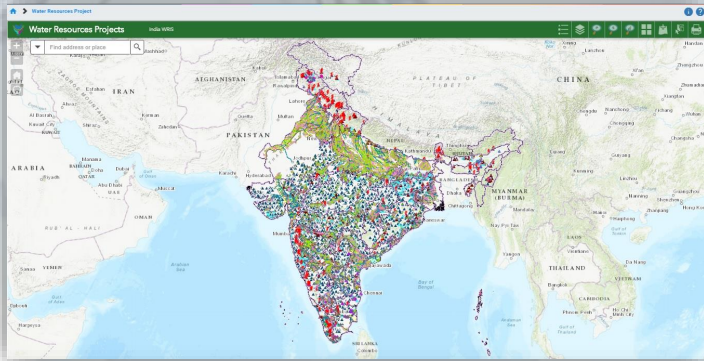
# India – Water Resources Information System

## India-WRIS



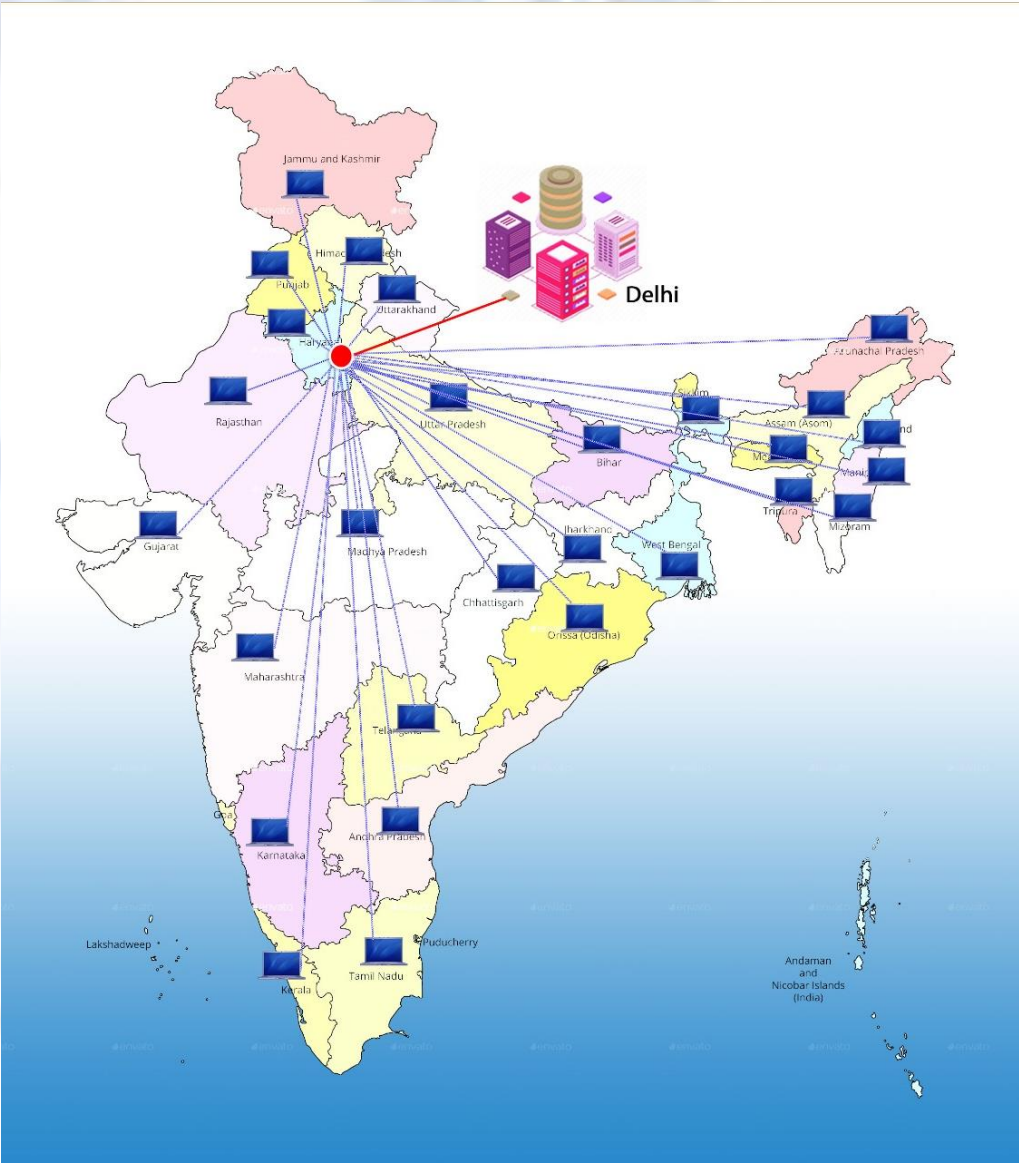
### Water Data – Semidynamic & Static Modules

- Semi-dynamic / static data of Ground Water Resources, MI Census, Litholog, Snow-Glacial lakes, Water Resources Projects etc.





# DATA AGENCIES







<https://indiawris.gov.in/wris/#/>



भारत सरकार  
GOVERNMENT OF INDIA

जल शक्ति मंत्रालय  
MINISTRY OF JAL SHAKTI

जल संसाधन, नदी विकास और गंगा संरक्षण विभाग  
DEPARTMENT OF WATER RESOURCES, RD & GR

राष्ट्रीय जल सूचना-विज्ञान केंद्र  
NATIONAL WATER INFORMATICS CENTRE



## India Water Resources Information System



FEED  
BACK



Home

About WRIS

Water Data +

WRIS Tools +

Utilities +

Publications +

Contact Us +



### Artificial Recharge Structure

The term Artificial Recharge refers to the process of human intervention through which ground water recharge is augmented at the rate much higher than those under natural conditions. The Artificial Recharge Structure (ARS) module in India-WRIS developed under National Water Informatics Centre (NWIC), MoJS has been built for the management of centralized artificial recharge structure database. The module facilitates user agencies/ Nodal departments (Central/ State/ UT's/ Other) to populate the information pertaining to all the artificial recharge structures constructed under various schemes through authorized user login and the information collected is disseminated to public through India-WRIS web portal.

[View More](#)



**INDIA-WRIS MODULES : A WALK THROUGH  
34 MODULES, TOOLS (2) & UTILITIES (8)**

---





Home About WRIS **Water Data** - WRIS Tools + Utilities + Publications + Contact Us +

**Surface Water** - Storage - MI Tanks

Ground Water + River + Reservoir

Land Resources + Snow-Glacial Lake Reservoir Sediment Studies

Hydro-meteorological + Surface Water Quality Surface Water Bodies

Allied Themes + Wetlands

Projects +

**Ground Water Quality**  
Explore water quality for ground water

[View More](#)

Home About WRIS **Water Data** - WRIS Tools + Utilities + Publications + Contact Us +

**Surface Water** - Storage +

Ground Water + **River** - **River Information**

Land Resources + Snow-Glacial Lake River Monitoring

Hydro-meteorological + Surface Water Quality

Allied Themes + Wetlands

Projects +

**Surface Water Quality**  
Explore water quality for surface water

[View More](#)

Home About WRIS **Water Data** - WRIS Tools + Utilities + Publications + Contact Us +

Map Sat Hy

**WRIS Wiki**  
India WRIS Wiki gives an overview of water resources.

**Surface Water** +

**Ground Water** - **GW Exploration** - **Aquifer-2D (2013)**

Land Resources + Water Level Behaviour + Exploration details/Litholog

Hydro-meteorological + Ground Water Resource Estimation

Allied Themes + Ground Water Prospects Study (2011)

Projects + Artificial Recharge Structure - Viewer

Ground Water Quality

**Ground Water Quality**  
Explore water quality for ground water

[View More](#)

Home About WRIS **Water Data** - WRIS Tools + Utilities + Publications + Contact Us +

**Surface Water** +

**Ground Water** - **GW Exploration** +

Land Resources + **Water Level Behaviour** - **Ground Water Level**

Hydro-meteorological + Ground Water Resource Estimation

Allied Themes + Ground Water Prospects Study (2011)

Projects + Artificial Recharge Structure - Viewer

Ground Water Quality

**Ground Water Quality**  
Explore water quality for ground water

[View More](#)

Home About WRIS **Water Data** - WRIS Tools + Utilities + Publications + Contact Us +

**Surface Water** +

Ground Water +

**Land Resources** - **Land Degradation (2005-06)**

Hydro-meteorological + Land Use - Land Cover

Allied Themes + Soil Type

Projects + Water Logging/Soil Salinity (2003-05)

Wasteland Study (2005-2006)

**Water Resources Projects**  
The total irrigation potential for major comprehensive database of India's water project entities.

[View More](#)

Home About WRIS **Water Data** - WRIS Tools + Utilities + Publications + Contact Us +

**Surface Water** +

Ground Water +

Land Resources +

**Hydro-meteorological** - **Rainfall**

Allied Themes + Evapo-transpiration

Projects + Soil Moisture

Agro-Climatic Ecological Region

**Groundwater**  
The water flowing beneath the earth's surface is subject to temporal variation caused by seasonal changes in water availability.

[View More](#)

Home About WRIS **Water Data** - WRIS Tools + Utilities + Publications + Contact Us +

**Surface Water** +

Ground Water +

Land Resources +

Hydro-meteorological +

Allied Themes - **Inland Navigation Waterways**

Projects + Storm Surge Study (2011)

Socio-Economic Census (2011)

Flood Inundation (2008-2010)

Drought Affected Areas (2002)

Reported Extreme Temperature, Rainfall & Earthquake Events

**Surface Water Quality**  
Explore water quality for surface water

[View More](#)

Home About WRIS **Water Data** - WRIS Tools + Utilities + Publications + Contact Us +

**Surface Water** +

Ground Water +

Land Resources +

Hydro-meteorological +

Allied Themes +

Projects - **Water Resources Projects**

Inter-Basin Transfer Links

Minor Irrigation Census

**Live Telemetry**  
The stations established by the Central Water Resources Board and the State agencies throughout the country measure important hydrological and meteorological data on a real time basis for immediate action and planning.

[View More](#)



[Home](#)
[About WRIS](#)
[Water Data +](#)
[WRIS Tools -](#)
[Utilities +](#)
[Publications +](#)
[Contact Us +](#)

[Online Web Editor](#)  
[Artificial Recharge Structure Data Entry](#)

### Reservoir Information

Currently more than ninety major reservoirs which account for 75% of the total storage capacity are monitored by the Central Water Commission. Knowing the existing water level and the stored volume is important for reservoir operation and achieving optimum flood protection and irrigation benefits.

[View More](#)

[Home](#)
[About WRIS](#)
[Water Data +](#)
[WRIS Tools +](#)
[Utilities -](#)
[Publications +](#)
[Contact Us +](#)

[Data Availability](#)  
[Data/Report Download](#)  
[District MA Glance](#)  
[Geo Viewer](#)  
[Meta Data](#)  
[PMP Atlas](#)  
[Surface Water Audit](#)  
[WRIS Wiki](#)

### Artificial Recharge Structure

The term Artificial Recharge refers to the process of human intervention through which the water table is recharged at a rate much higher than those under natural conditions. The Artificial Recharge Structure Information System (ARIS) has been built for the management of central water resources. It facilitates user agencies/ Nodal departments (Central/ State/ UT's/ Other) to register and monitor structures constructed under various schemes through authorized user login on the India-WRIS web portal.

[View More](#)

[Home](#)
[About WRIS](#)
[Water Data +](#)
[WRIS Tools +](#)
[Utilities +](#)
[Publications -](#)
[Contact Us +](#)

[Atlas](#)  
[Basin Reports](#)  
[Compendium](#)  
[Groundwater Year Book](#)  
[Pre-generated Maps](#)  
[Project Documents](#)  
[Wasteland Distribution Atlas](#)  
[Waterlogging and Salinity Assessment](#)

### Reservoir Information

Currently more than ninety major reservoirs which account for 75% of the total storage capacity are monitored by the Central Water Commission. Knowing the existing water level and the stored volume is important for reservoir operation and achieving optimum flood protection and irrigation benefits.

[View More](#)

[Home](#)
[About WRIS](#)
[Water Data +](#)
[WRIS Tools +](#)
[Utilities +](#)
[Publications +](#)
[Contact Us -](#)

[Contact Details](#)  
[External Links](#)

### Groundwater

The water flowing beneath the earth surface is an important part of the hydrology in a catchment area. The level of groundwater is subject to temporal variation caused by seasonal rainfall and abstraction. This fluctuation is an important information for a holistic understanding of water availability.

[View More](#)

## CLASSIFICATION OF MODULES





## CLASSIFICATION OF MODULES

### Dynamic Modules

- Rainfall (mm)
- Reservoir (Level)
- River Monitoring (Level & Discharge)
- Ground Water Level (BGL Meter)
- Water Quality – Groundwater
- Water Quality – Surface water
- Evapotranspiration (mm)
- Soil Moisture (%)
- Minor Irrigation Tanks

## CLASSIFICATION OF MODULES

### Dynamic Modules

- Rainfall (mm)
- Reservoir (Level)
- River Monitoring (Level & Discharge)
- Ground Water Level (BGL Meter)
- Water Quality – Groundwater
- Water Quality – Surface water
- Evapotranspiration (mm)
- Soil Moisture (%)
- Minor Irrigation Tanks

### Semi Dynamic Modules

- Groundwater Resources
- Snow-Glacial Lake
- Reservoir- Sedimentation studies
- Water Resources Project
- Minor Irrigation Census
- LULC
- Wasteland
- Land Degradation
- Extreme Events – Flood Inundation/Drought Prone Area Program/Earthquake-Rainfall-Temperature
- Artificial Recharge Structure Viewer

## CLASSIFICATION OF MODULES

### Dynamic Modules

- Rainfall (mm)
- Reservoir (Level)
- River Monitoring (Level & Discharge)
- Ground Water Level (BGL Meter)
- Water Quality – Groundwater
- Water Quality – Surface water
- Evapotranspiration (mm)
- Soil Moisture (%)
- Minor Irrigation Tanks

### Semi Dynamic Modules

- Groundwater Resources
- Snow-Glacial Lake
- Reservoir- Sedimentation studies
- Water Resources Project
- Minor Irrigation Census
- LULC
- Wasteland
- Land Degradation
- Extreme Events – Flood Inundation/Drought affected areas/Earthquake-Rainfall-Temperature
- Artificial Recharge Structure Viewer

### Static Modules

- Litholog
- Aquifer
- Surface Water Bodies
- River Information
- Socio Economic Census
- Groundwater Prospects
- Region-Agro-Climatic / Agro Ecological
- Soil
- Water Logging & Soil Salinity
- Wet Land
- Inland Navigation Waterways
- Inter-Basin Transfer Links
- Storm Surge Study

## CLASSIFICATION OF MODULES

### Dynamic Modules

- Rainfall (mm)
- Reservoir (Level)
- River Monitoring (Level & Discharge)
- Ground Water Level (BGL Meter)
- Water Quality – Groundwater
- Water Quality – Surface water
- Evapotranspiration (mm)
- Soil Moisture (%)
- Minor Irrigation Tanks

### Semi Dynamic Modules

- Groundwater Resources
- Snow-Glacial Lake
- Reservoir- Sediment studies
- Water Resources Project
- Minor Irrigation Census
- LULC
- Wasteland
- Land Degradation
- Extreme Events – Flood Inundation/Drought affected areas/Earthquake-Rainfall-Temperature
- Artificial Recharge Structure Viewer

### Static Modules

- Litholog
- Aquifer
- Surface Water Bodies
- River Information
- Socio Economic Census
- Groundwater Prospects
- Region-Agro-Climatic / Agro Ecological
- Soil
- Water Logging & Soil Salinity
- Wet Land
- Inland Navigation Waterways
- Inter-Basin Transfer Links
- Storm Surge Study

### Tools + Utilities

- Online Web Editor
- Artificial Recharge Structure Data Entry
- Data / Report Download Tabular)
- Data Availability
- Geo Viewer
- WRIS WIKI
- Metadata
- District at a glance
- Probable Maximum Precipitation Atlas
- Surface Water Audit



# 1. Dynamic Modules

**Applications**

Surface water

- Rainfall
- Reservoirs
- River Points
- Evapotranspiration
- Soil Moisture
- Water Quality
- Minor Irrigation Tanks

Ground water

- Water Audit
- Content Management

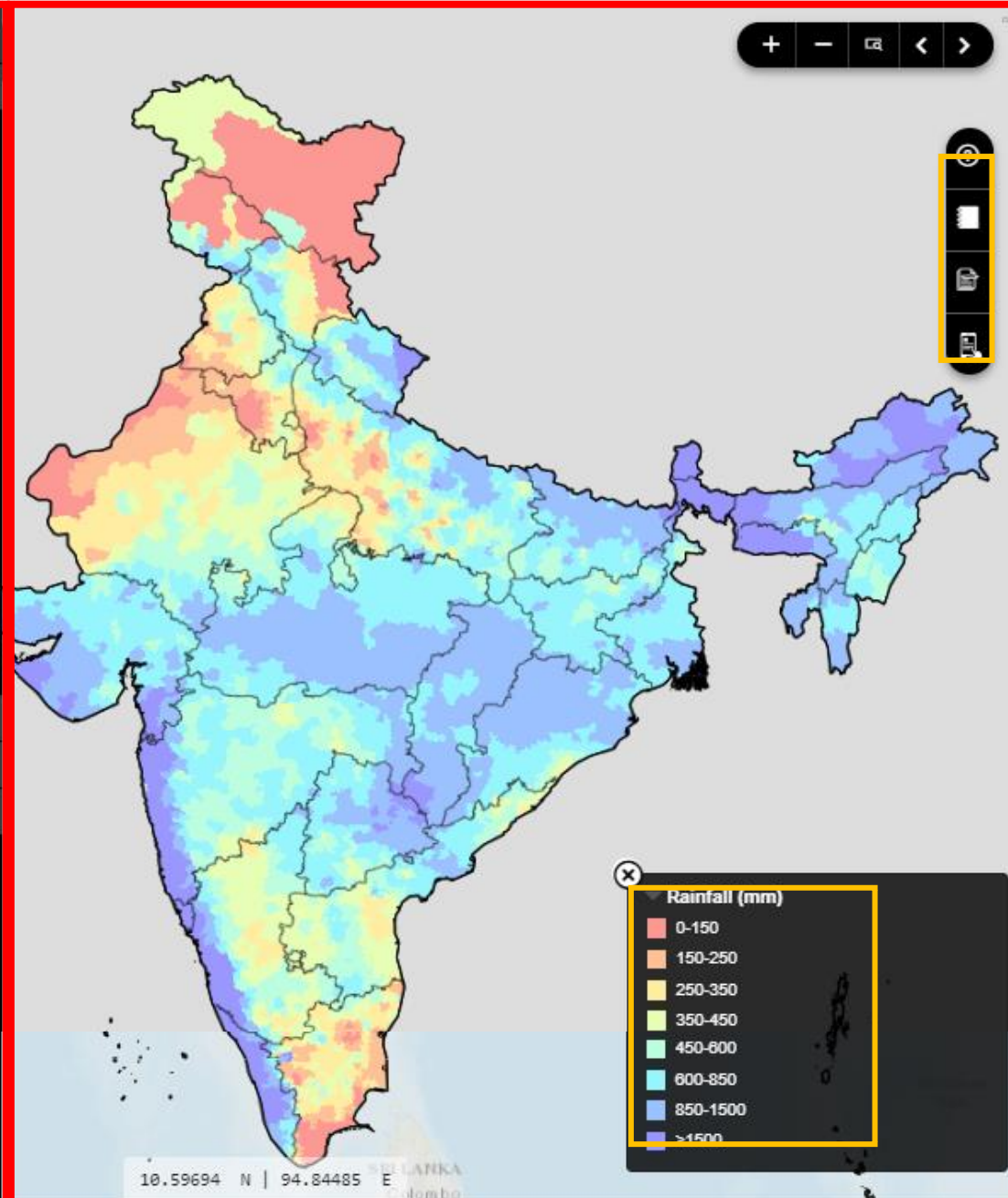
Applications

Layers

Full Extent

Clear

Map Compare



**Area of Focus : India (Country)**

INDIA

Daily Cumulative Rainfall information from 01-Jun-2020 to 17-Sep-2020 using IMD GRID data

<b>850mm</b>	<b>749mm</b>	<b>-12%</b>
NORMAL RAINFALL	ACTUAL RAINFALL	% DEVIATION FROM NORMAL

**Rainfall (mm)**

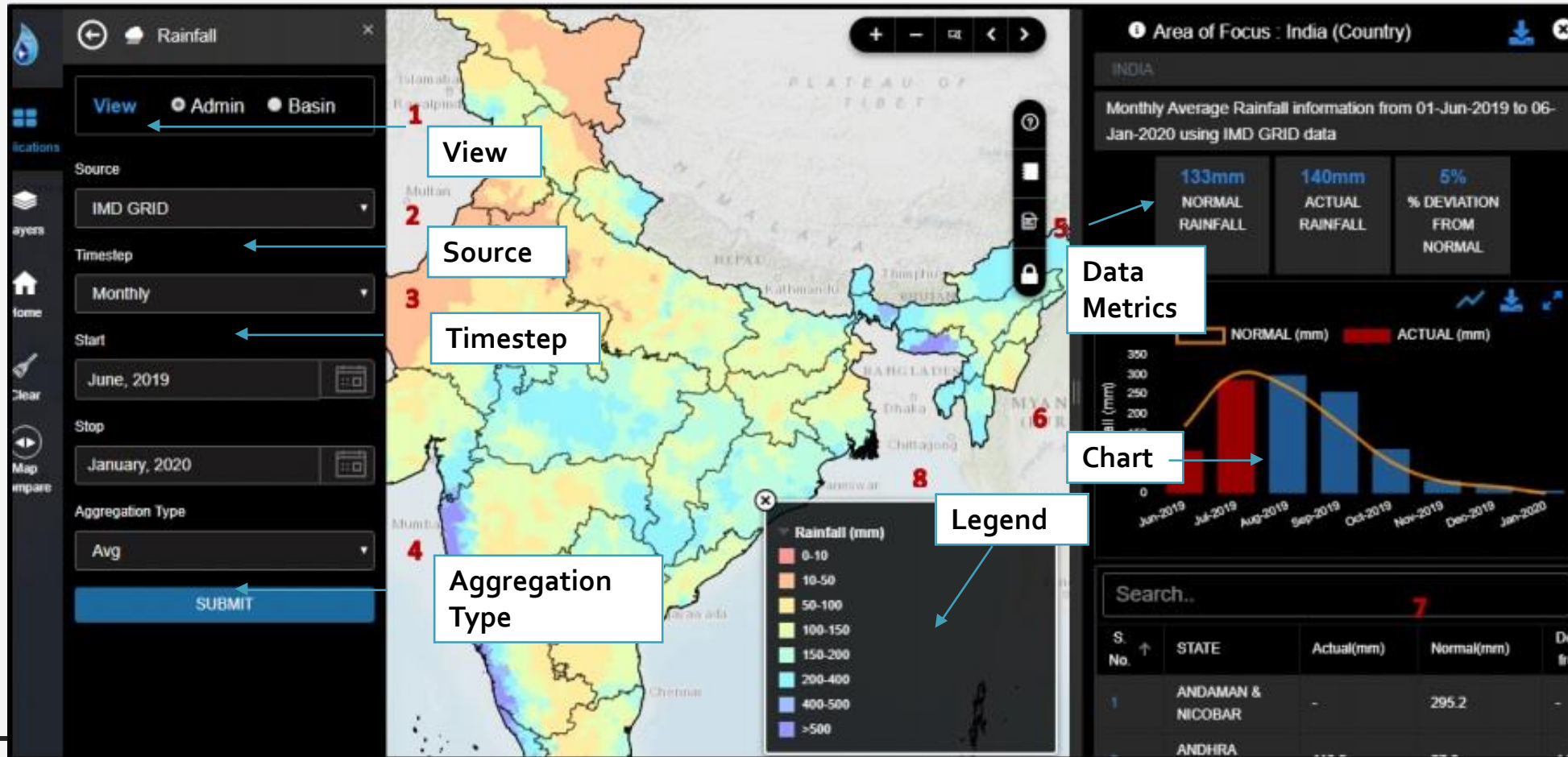
Legend:  NORMAL (mm),  ACTUAL(< NORMAL) (mm),  ACTUAL(> NORMAL) (mm)

**Search..**

S. No.	STATE	Actual(mm)	Normal(mm)	Deviation( from norm)
7	ANDAMAN & NICOBAR	-	1,261.8	-
8	ANDHRA	520.5	415.0	27.51

## 1.1 Rainfall

- Normal, Actual rainfall and subsequent deviation of rainfall for different parts in India with different permutations and combinations of source, view, frequency and aggregation types.



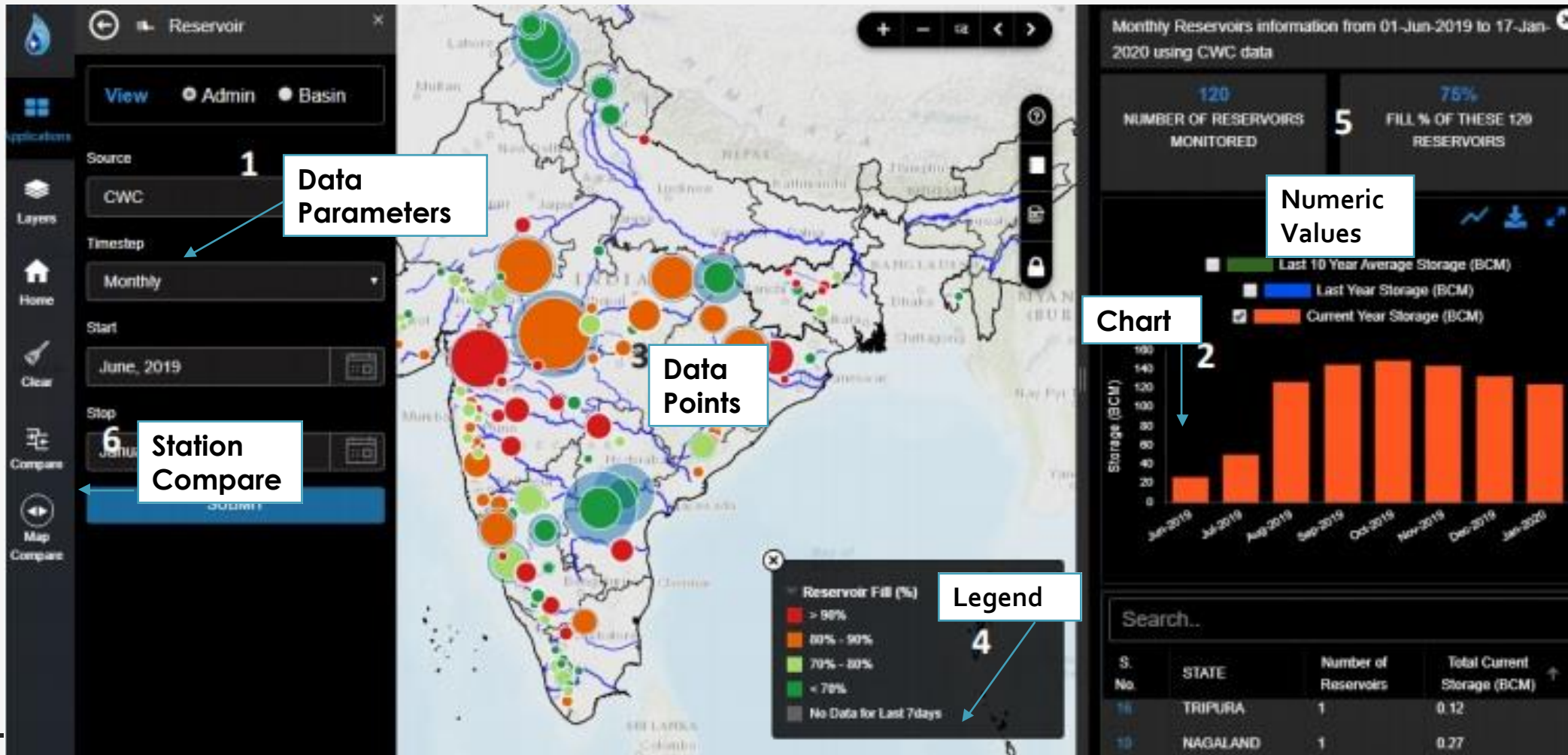
IMD Gridded/Central and State Agency Data

Data Visualization – Heat maps/Charts/Stats/Admin view/Basin view



## 1.2 Reservoir

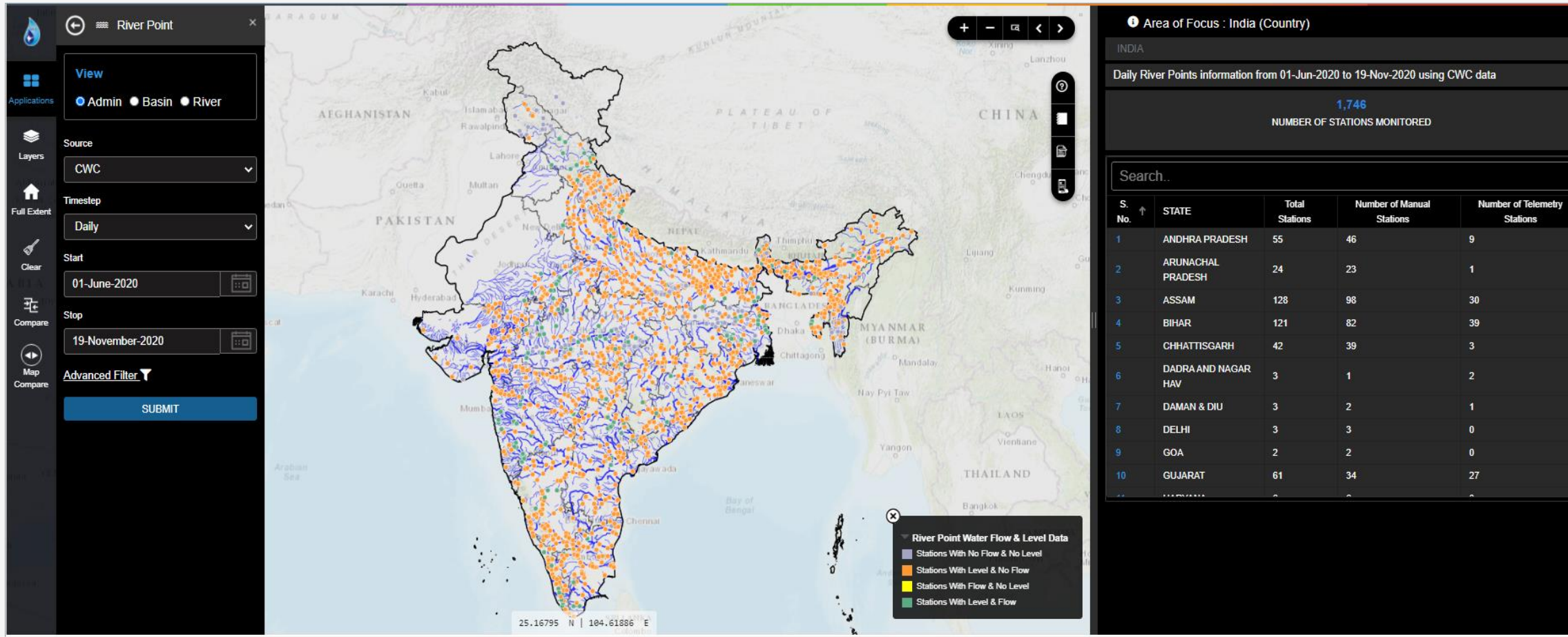
- Volume of water (in billion cubic meters) stored in reservoirs across the country.



Monitoring Reservoirs recent water level and storage data

## 1.3 River Monitoring

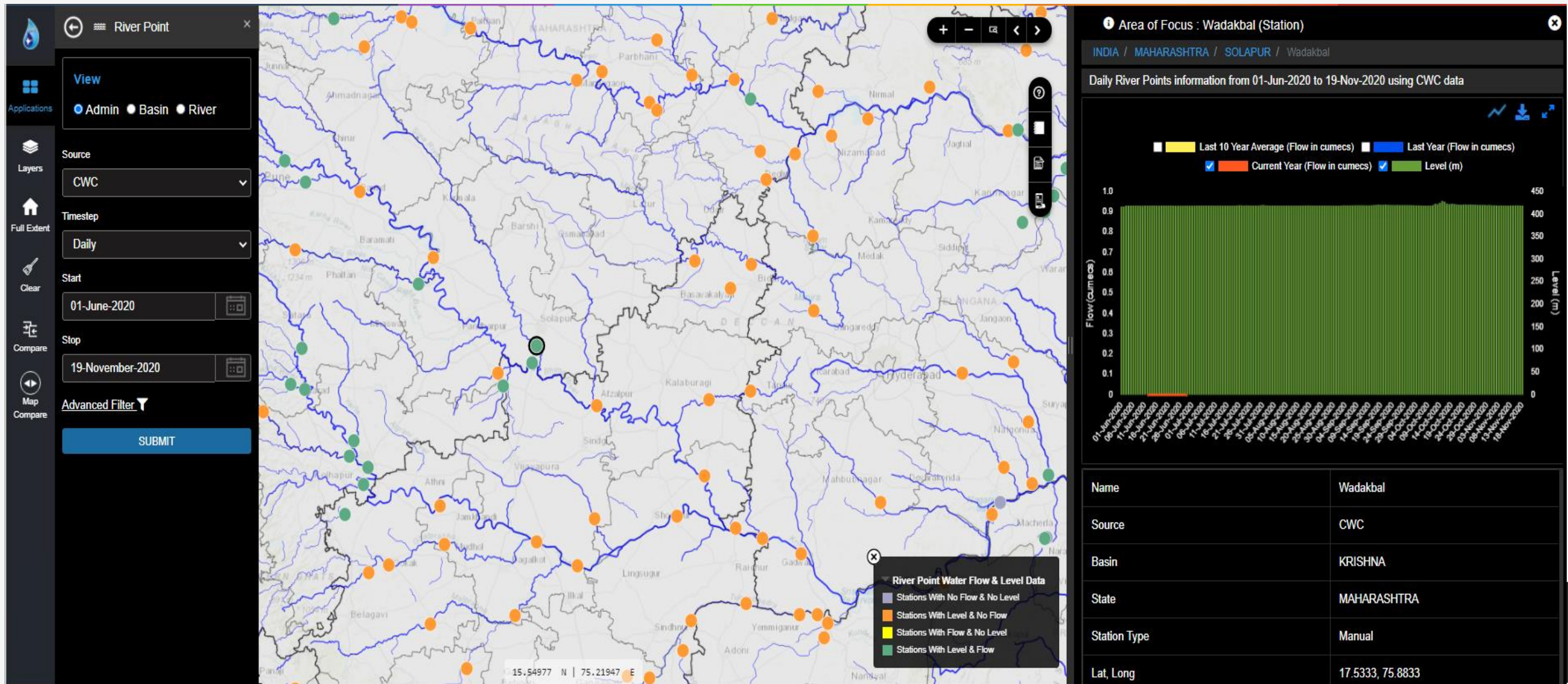
- Station wise flow and level data of each river points monitored on each river.



Agency wise – Stations with water level and flow data Within range most recent data color code depiction

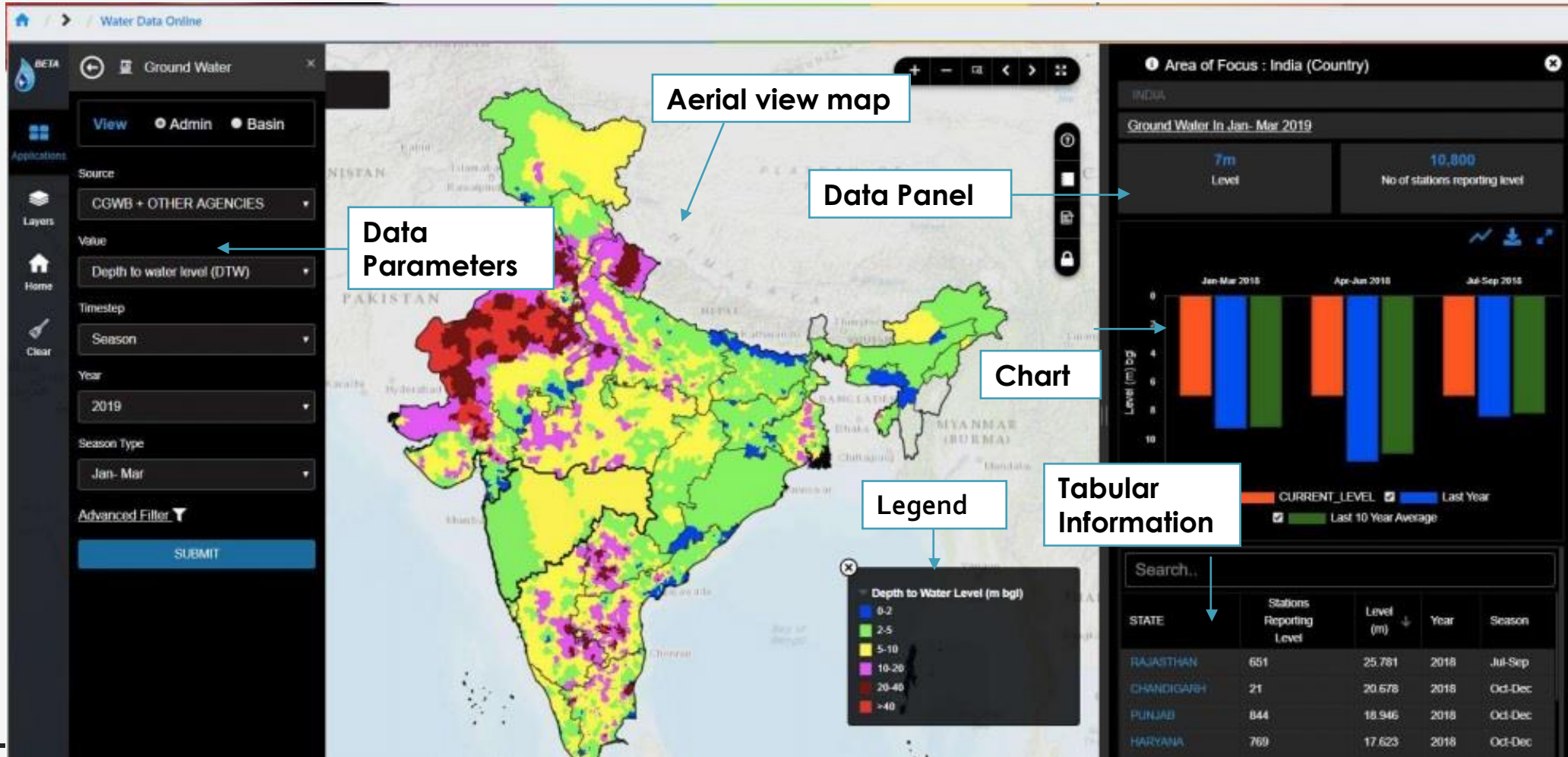


## River Points – Stations data view – Level and Discharge



## 1.4 Groundwater Level

- Station wise depth to water level of monitoring wells for a given time period or season
- visualization of depth to water level contour maps



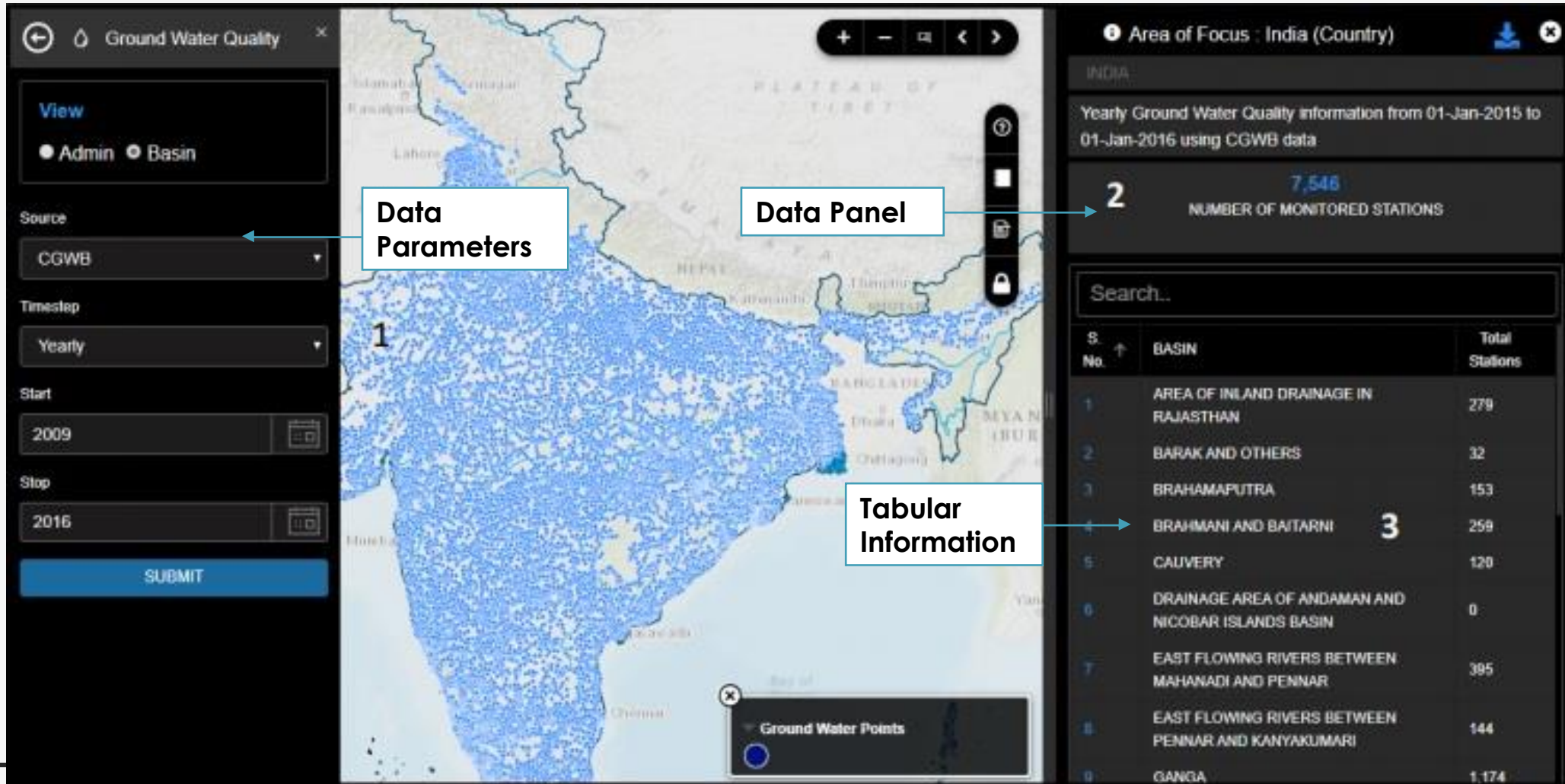
CGWB and State data

Data Visualization –  
Heatmaps/Charts/Stats/  
Admin view/Basin view



## 1.5 Water Quality – Groundwater

- Station wise ground water quality information for a given time period

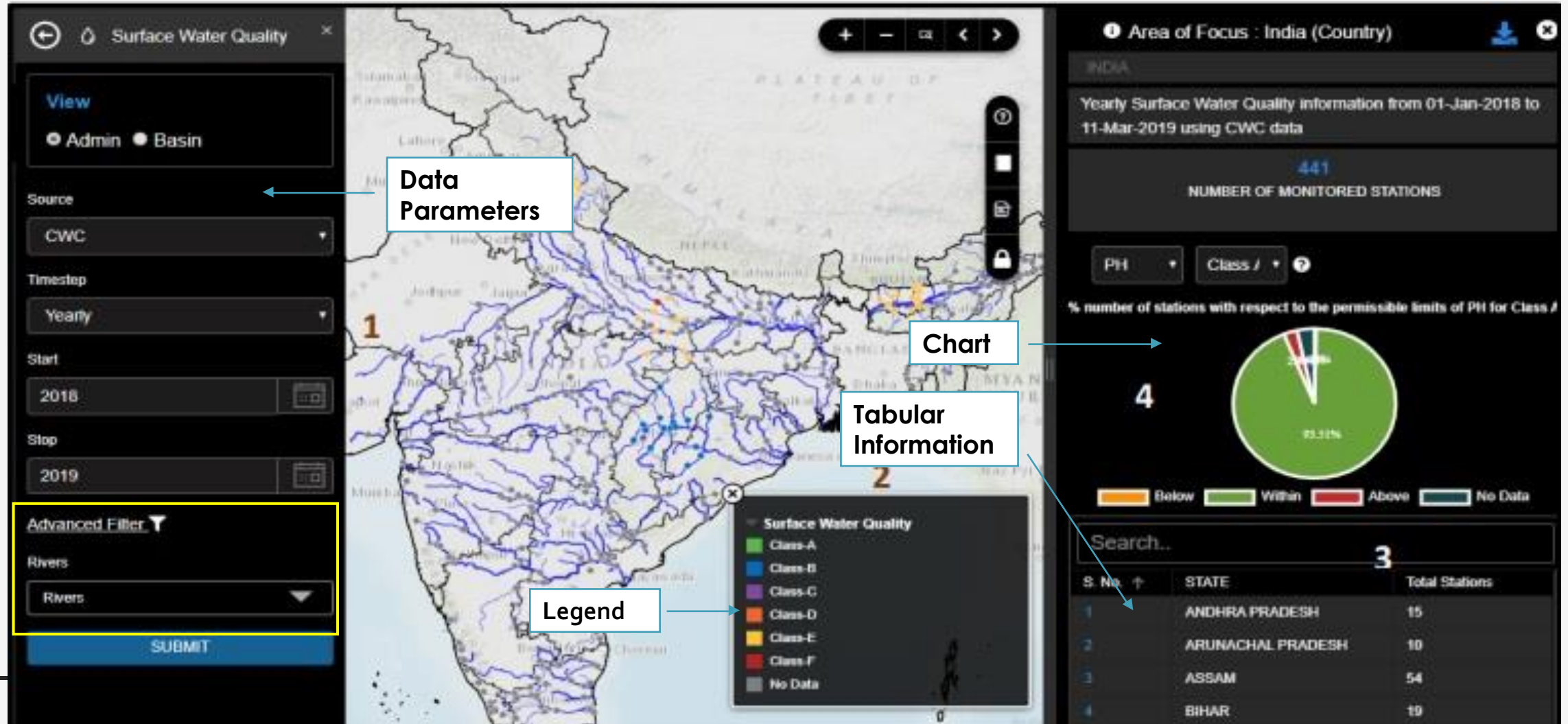




## 1.6 Water Quality – Surface Water

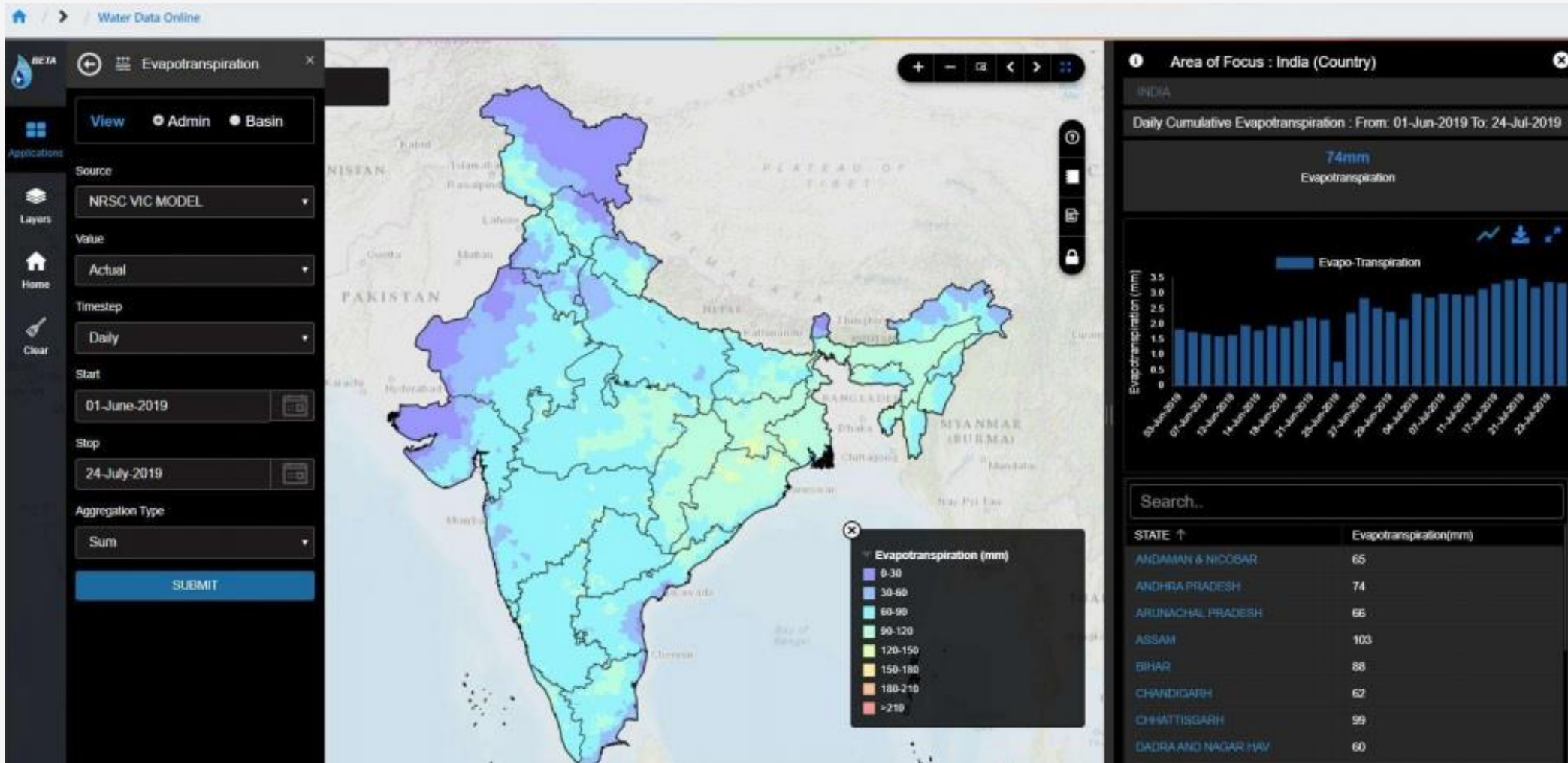
-Station wise surface (river) water quality information

-percentage of water stations falling within or above permissible limits for each class



## 1.7 Evapotranspiration

- VIC model based evapo-transpiration data for different states and basin (grid wise)

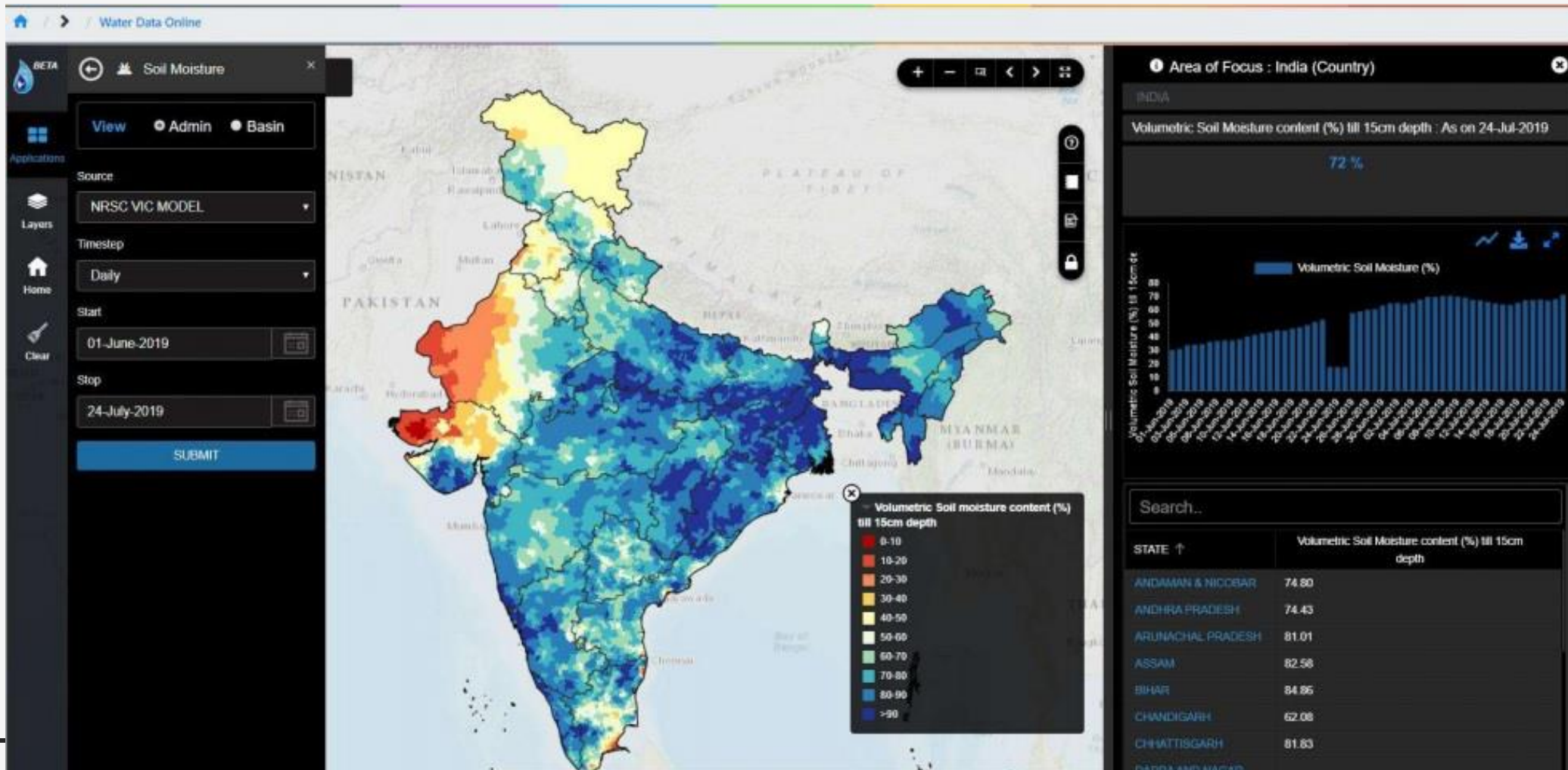


NRSC VIC Model Gridded data

Data Visualization – Heatmaps/Charts/Stats/ Admin view/Basin view

## 1.8 Soil Moisture

- Volume of soil moisture content in terms of percentage (up to 15 cm depth)



NRSC VIC Model Gridded data

Data Visualization – Heatmaps/Charts/Stats/ Admin view/Basin view



# 1.9 Minor Irrigation Tanks

- Minor or small reservoir (irrigation tanks) water capacity.

Minor Irrigation Tanks

View Admin Basin

Source: APWRIMS

Timestep: Yearly

Start: 2018

Stop: 2020

SUBMIT

Area of Focus : Andhra pradesh (State)

INDIA / ANDHRA PRADESH

Yearly Minor Irrigation Tanks information from 01-Jan-2018 to 31-Jul-2020 using data

37,974 NUMBER OF MITANKS MONITORED

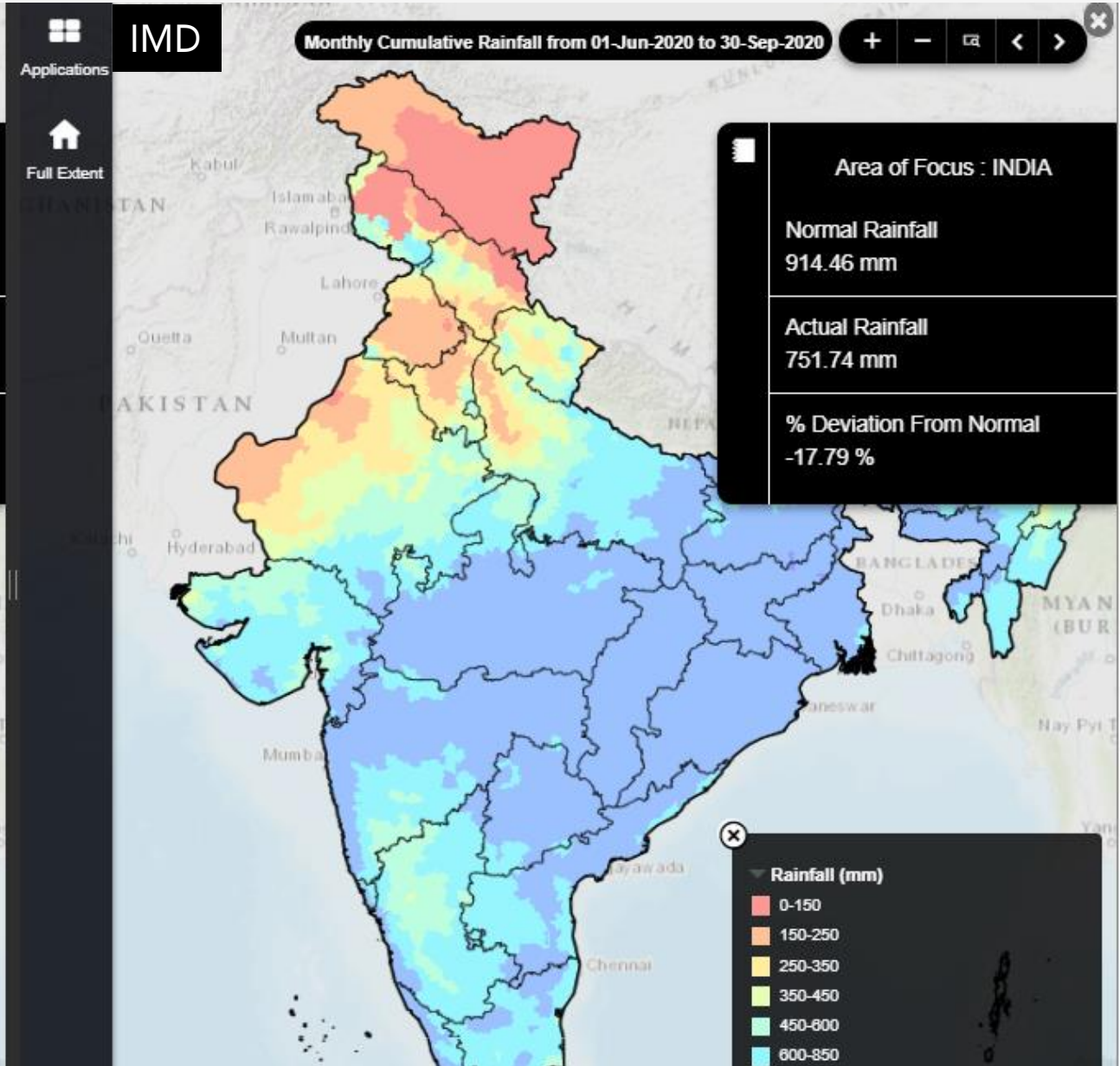
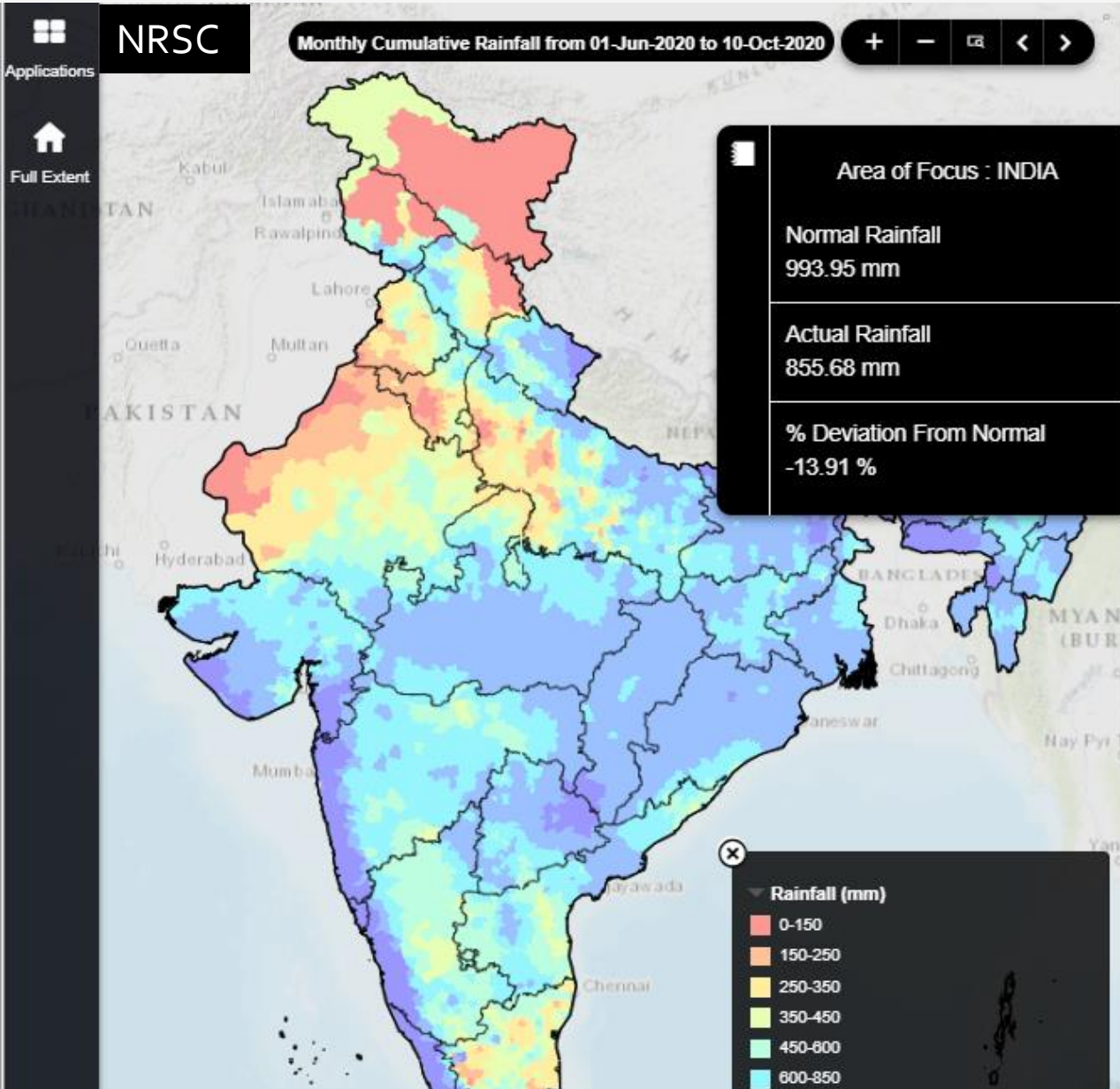
34% FILL % OF THESE 37,974 MITANKS

Legend: Current Year Storage (BCM), Last Year Storage (BCM), Last 10 Year Average Storage (BCM)

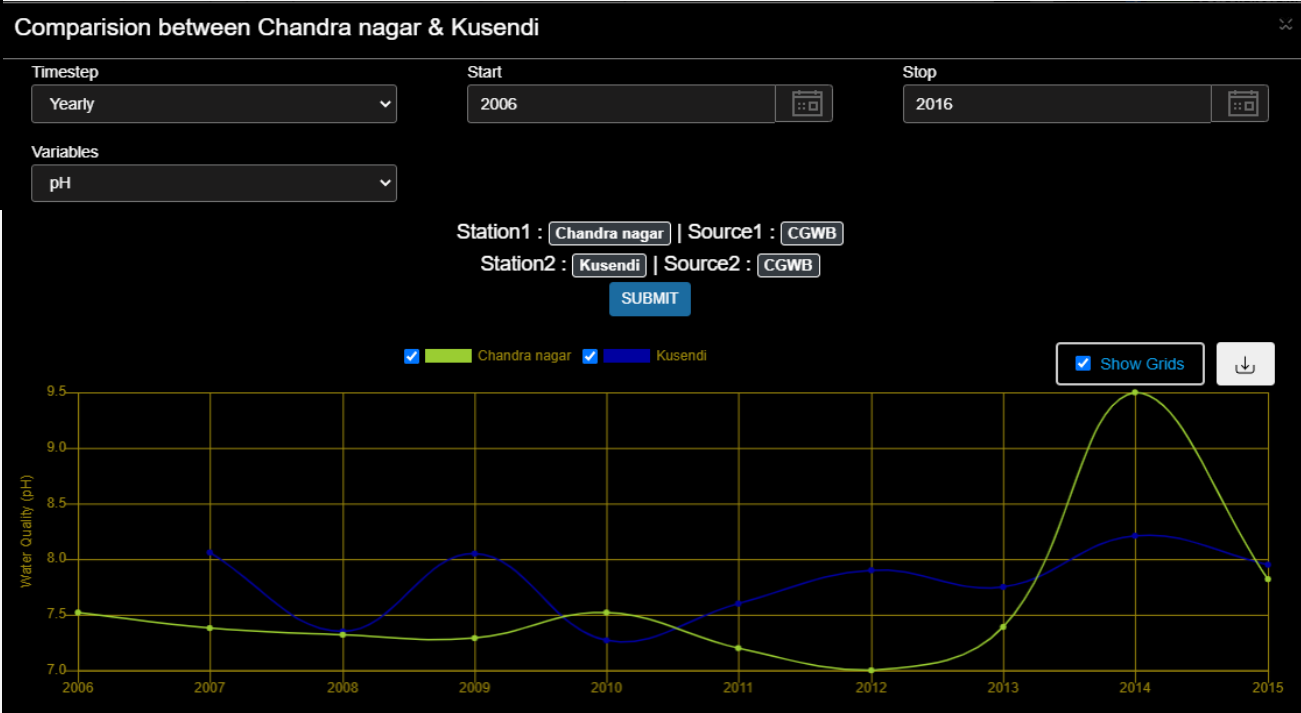
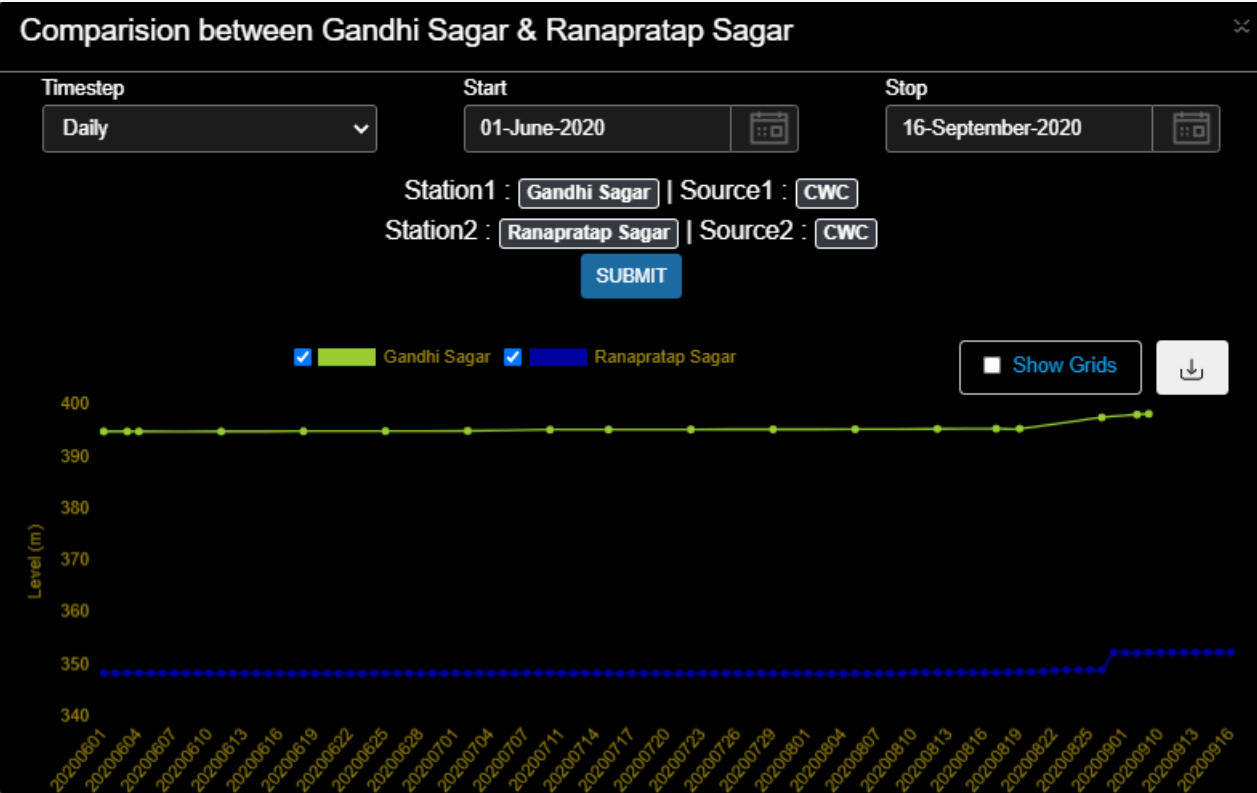
Search..

S. No.	DISTRICT	Number of MITanks	Total Capacity (BCM)	Total Storage (BCM)	Fill (%)
1	ANANTAPUR	1,426	0.67	0.15	21.77
2	CHITTOOR	7,613	0.90	0.25	27.47
3	EAST GODAVARI	1,683	0.35	0.11	32.22

# Map Compare Tool



# Data Comparison Tool





## 2. Semi Dynamic Modules

### 2.1 Groundwater Resources Estimation

-Ground water resources assessment carried out jointly by Central Ground Water Board and State Ground Water Departments for year 2009, 2011, 2013 AND 2017.

The screenshot displays the 'Ground Water Resource Estimation' web application. On the left is a navigation sidebar with options like 'Find address', 'Basemap Gallery', 'Layer List', and 'Print'. The main area features a map of India with 3D bar charts for each state, representing groundwater resources. The control panel on the right includes radio buttons for 'Ground Water Resources' (selected), 'Download GWR Data', and 'Compare'. It also has dropdown menus for 'Select Year' (2017), 'Select Component' (Ground Water Draft), and 'Select State' (--Select State--). Below the controls is a table titled 'Ground Water Resources'.

State Name	Irrigation Draft	Domestic and Industrial Draft	Total Draft
Andaman & Nicobar	0.000	0.010	0.010

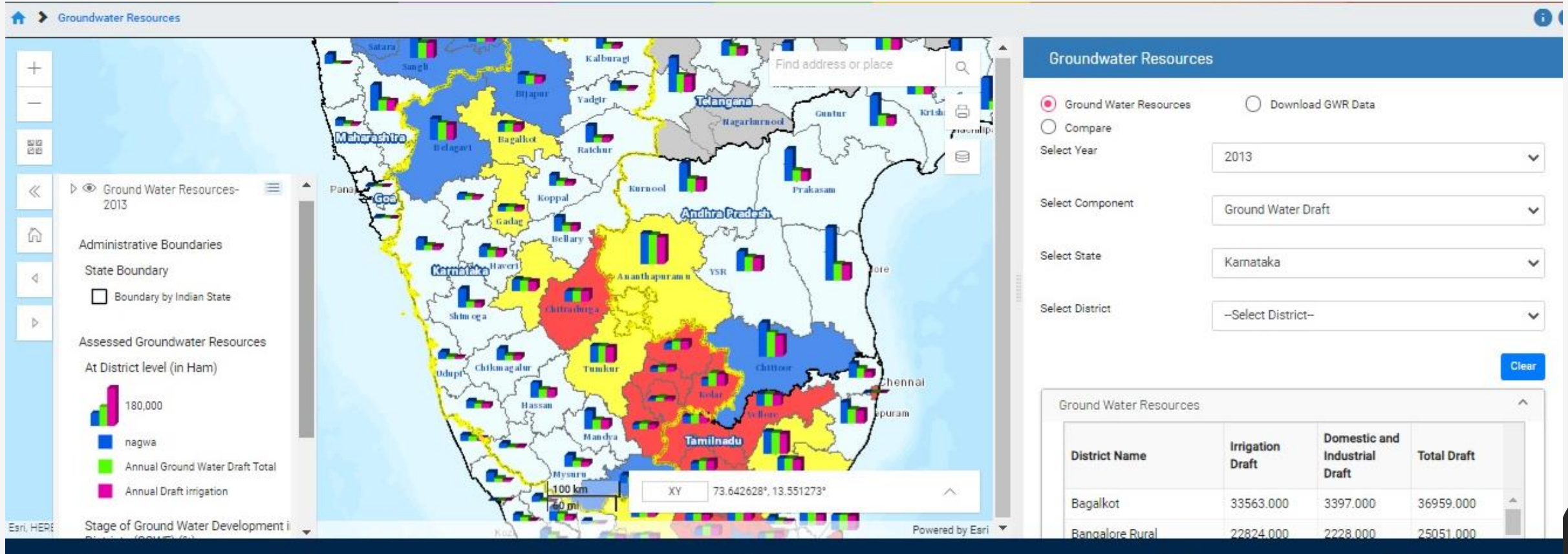
On the far right, a 'User Guide – Ground Water Resource Estimation' sidebar provides introductory text and a list of steps to follow.

This document is intended to provide all the necessary information about the module, describing all the functions and tools available as well as to provide users with easy navigation guidance through which user may easily explore module and download information.

The following steps may be followed to get access to the tools and their functionalities:

1. The main or home page of the

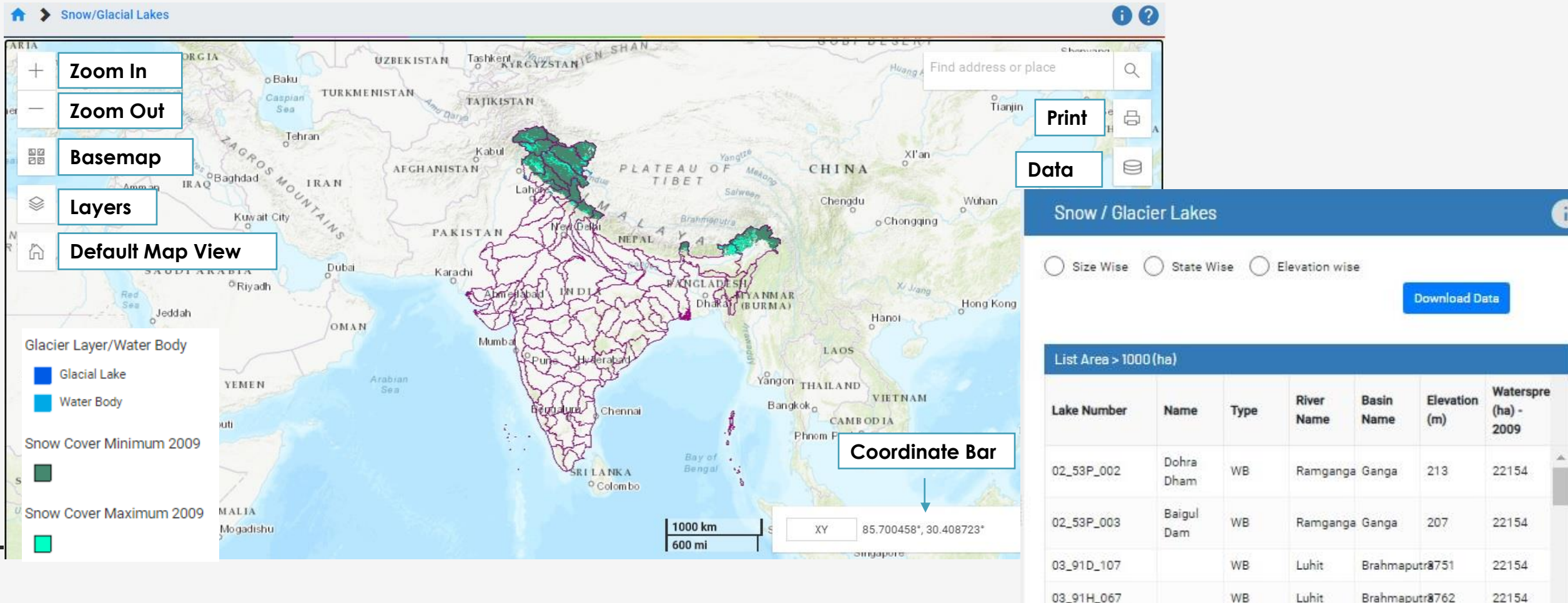
## Information in terms of groundwater drafts, net ground water availability and stage of groundwater development





## 2.2 Snow-Glacial Lake

- Snow cover extent, glacial lakes & water bodies of the Indian Himalayan regions - satellite derived product  
 - available for the years 2011-2020 covering the major river basins namely, Indus, Ganga and Brahmaputra.





## 2.3 Reservoir Sedimentation studies

- displays the result of sediment study done using remote sensing method and hydrographic survey in different reservoirs spread across India.

The screenshot shows a web application interface. On the left is a map of India with regions color-coded: Northern (blue), Central (orange), Eastern (green), Western (purple), and Southern (pink). On the right is a table titled 'Sediment' with tabs for 'Remote Sensing Survey' and 'Hydrographic Survey'. The table lists five reservoirs with their respective codes, states, and basins.

Reservoir Name	Reservoir Code	State	Basin
Kaddam Project (K.N.R.Project)	R00554	Andhra Pradesh	Godavari
Kinnarasani Reservoir	R01907	Andhra Pradesh	Godavari
Mallavaram	R00584	Andhra Pradesh	Pennar
Musi Reservoir	R02095	Andhra Pradesh	Krishna
Nagarjuna Sagar	R00587	Andhra Pradesh	Krishna

*Reservoir Sediment Study*

This screenshot shows a zoomed-in view of the Eastern and Southern regions of India. A 'Unit-Wise Selection' menu is open, showing options for 'Administrative' and 'Basin'. Below it is a 'State' dropdown menu. The 'Sediment' table on the right is identical to the one in the previous screenshot.

Two screenshots showing the unit-wise filter and information view. The left screenshot shows a 'Reservoir Information' dialog box with fields for Reservoir Name, Reservoir Code, State, and Basin. The right screenshot shows a 'Reservoir Information' dialog box with fields for Reservoir Name, Reservoir Code, State, and Basin, along with a 'Details' tab.

*Unit wise filter and information view*

## 2.4 Water Resources Projects

-Information on irrigation, hydro-power and multi-purpose projects

- It provides a spatial inventory of:

-connected water resources structures,

-mapping the location of dams, barrages, weirs, anicuts, reservoirs, canals, command areas, hydropower plants and pumping stations.

The screenshot shows a web-based GIS application interface. The main map displays a spatial inventory of water resources projects across India and surrounding regions. The interface includes a toolbar with various icons for navigation and data management. A sidebar on the right displays a 'Multi-Attribute Query Projects' panel with a table of project details.

**Map Interface Elements:**

- Zoom In**: Button for increasing map scale.
- Zoom Out**: Button for decreasing map scale.
- Default Extent**: Button to reset the map to its default view.
- My Location**: Button to center the map on the user's current location.
- Global Search**: Search bar for finding specific locations.
- Add Data**: Button to add new data layers to the map.
- Legend**: Panel for viewing and managing map layers.
- Layer List**: List of active data layers.
- Multi-Attribute Query Projects**: Panel for performing spatial queries on the data.
- Basemap**: Panel for selecting the background map style.
- Chart Tool**: Panel for generating charts from the data.
- Print**: Button to print the map.
- Selection**: Panel for selecting features on the map.

**Multi-Attribute Query Projects Panel:**

Tasks	Results
Irrigation Projects_Query result	...
Number of features found: 1	
MMIRR: Agra Canal Major Irrigation Project_Uttar Pradesh	
Irrigation Project Name	Agra Canal Major Irrigation Project_Uttar Pradesh
Project Code	J103261
Type	Major
River	Yamuna
Status	Completed
Inter-Basin	No
Inter-Country	None
Project Sharing	Interstate
Year of Start of work	
Work started in 5yr Plan	Pre-Plan
Year of Completion Of Year	1873
Completed in 5yr Plan	Pre-Plan
Year Of Approval by Planning Comission	
Approved Cost (Rs Crore)	
Actual Cost (Rs Crore)	1.33
Culturable Command Area (Th Ha)	327.00
Ultimate	47.00



## 2.5 Minor Irrigation Census

- 4<sup>th</sup> & 5<sup>th</sup> Minor irrigation census.

- Six layers at district level :

1. ground water schemes

3. Water Distribution devices

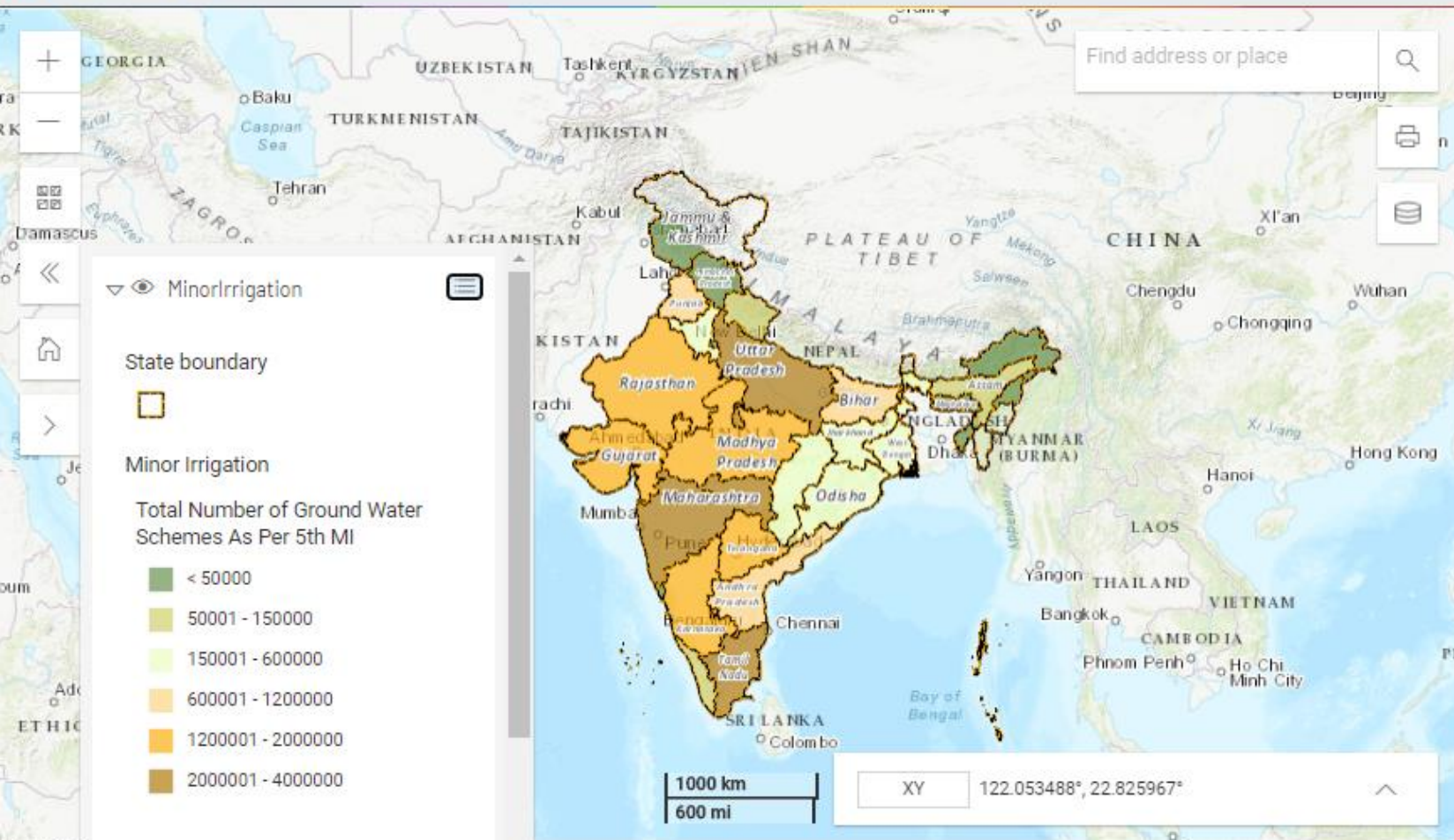
5. Total Irrigation potential utilized

2. surface water schemes

4. Total Irrigation potential created

6. Culturable command area

Minor Irrigation



### Minor Irrigation

Select the Scheme

Ground Water Schemes

5th MI

4th MI

Compare

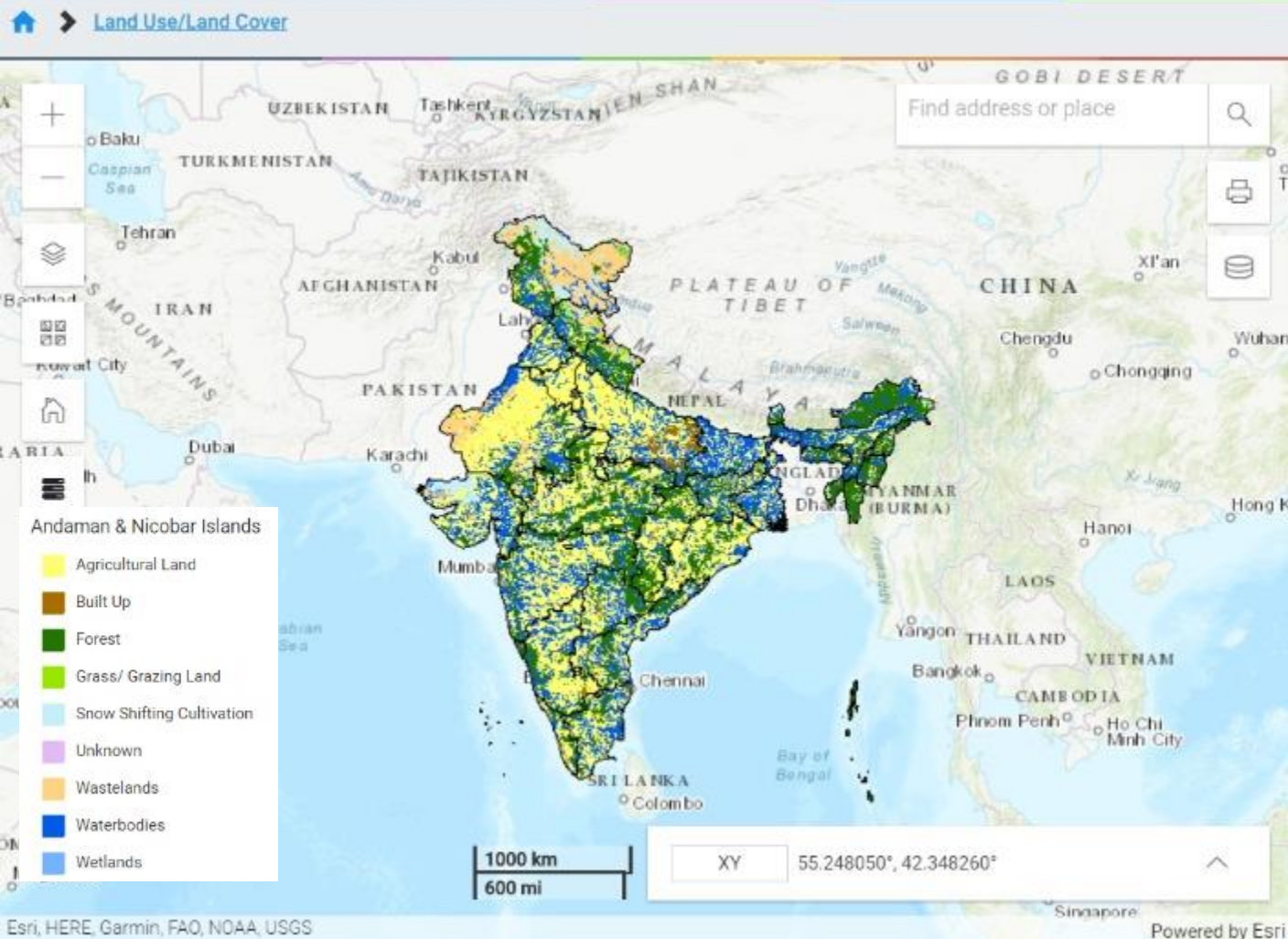
S. No	State	Dugwells (Nos)	Shallow Tubewells (Nos)	Deep Tubewells (Nos)	Total (Nos)
1	Andaman & Nicobar	1334	23	-	1357
2	Andhra Pradesh	212030	398205	377950	988185
3	Arunachal Pradesh	21	15	27	63
4	Assam	215	127267	623	128105
5	Bihar	22877	607833	12787	643497

Pages: 1 2 3 4 5 6 7 8 Next Last 1 of 8



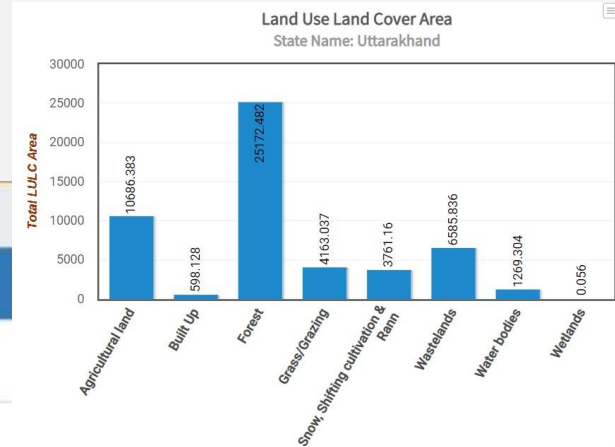
## 2.6 LULC

Land use/land cover maps (1:250,000 scale) for 2005-2018 (yearly) by National Remote Sensing Centre (NRSC).



Country : India

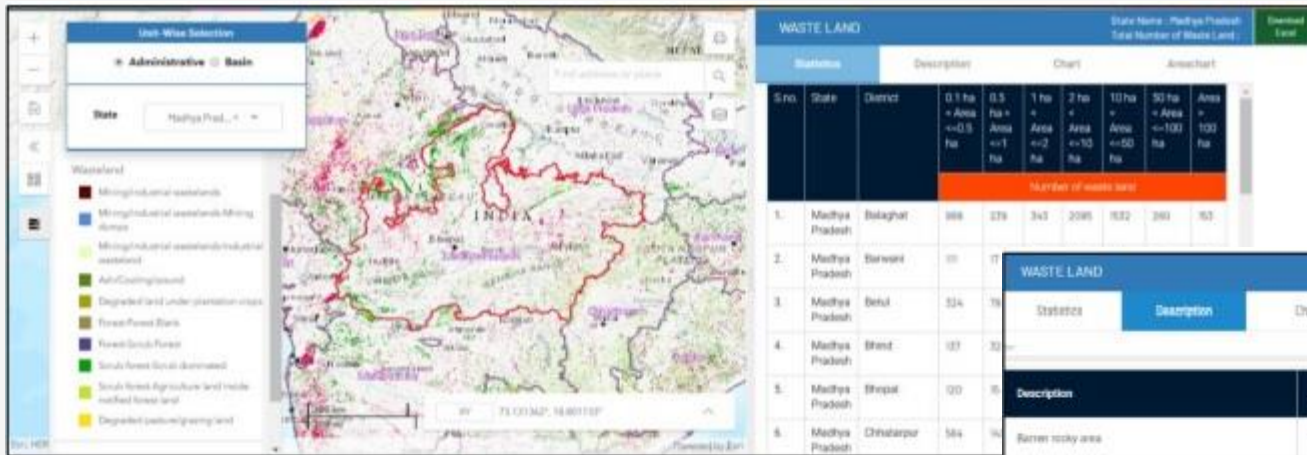
Statistics Chart



Id	State	Land Use Level Three	Land Use Main Class	Land Use Level Two	Area Sqkm
1	Andaman & Nicobar	Agricultural Plantation	Agricultural Plantation	Agricultural Land	57.40
2	Andaman & Nicobar	Lagoon, creeks, mud flats etc.	Coastal	Wetlands	91.15
3	Andaman & Nicobar	Saltpans	Coastal	Wetlands	0.91
4	Andaman & Nicobar	Cropped in 2 seasons	Cropland	Agricultural Land	2.73
5	Andaman & Nicobar	Cropped in more than 2 seasons	Cropland	Agricultural Land	0.06
6	Andaman & Nicobar	Kharif	Cropland	Agricultural Land	216.62
7	Andaman & Nicobar	Rabi	Cropland	Agricultural Land	70.16

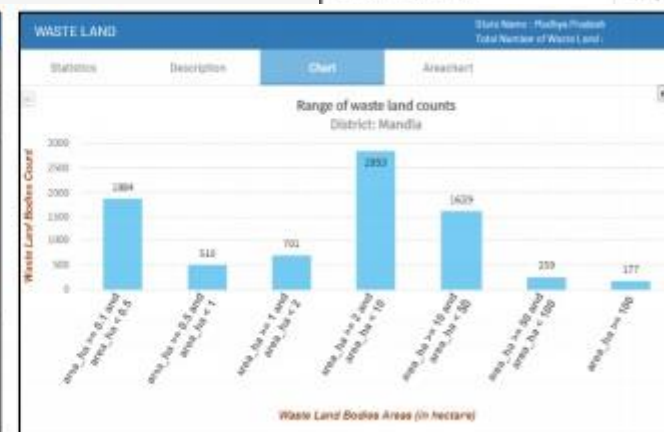
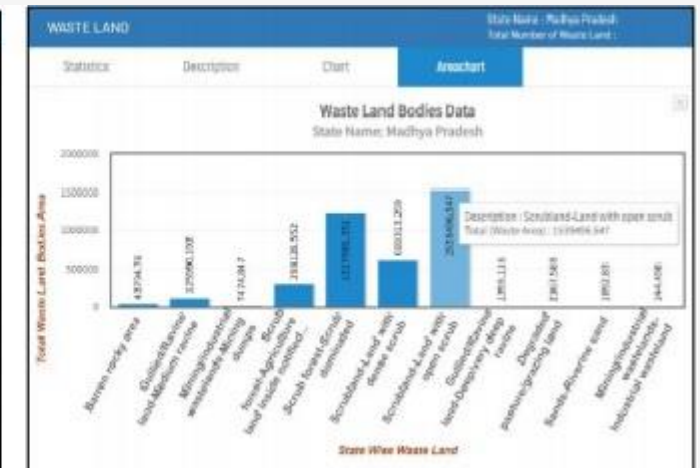
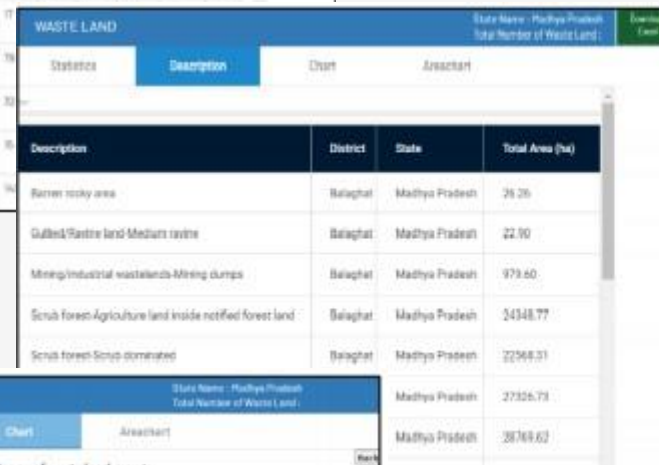
## 2.7 Wasteland

- Distribution and the spatial extent of the wasteland
- based on 2005-06 satellite data (prepared by NRSC in collaboration with various partner institutions)



Unit-wise selection and statistics

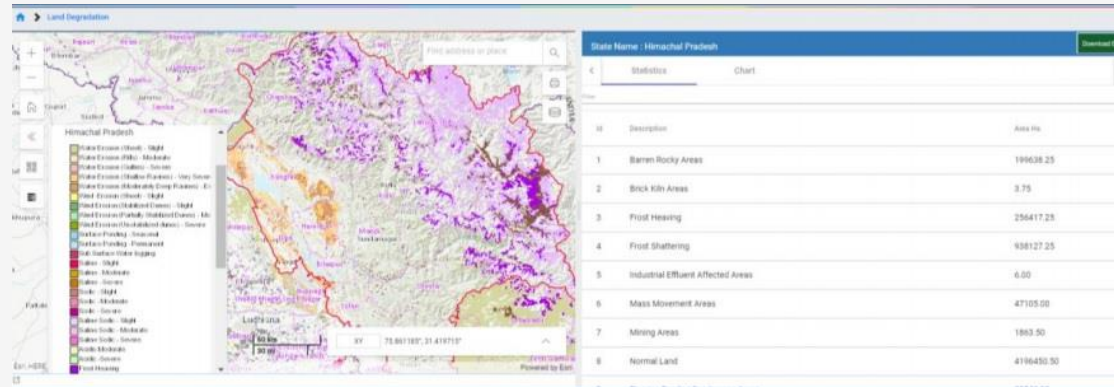
Classes under wasteland statistics and charts



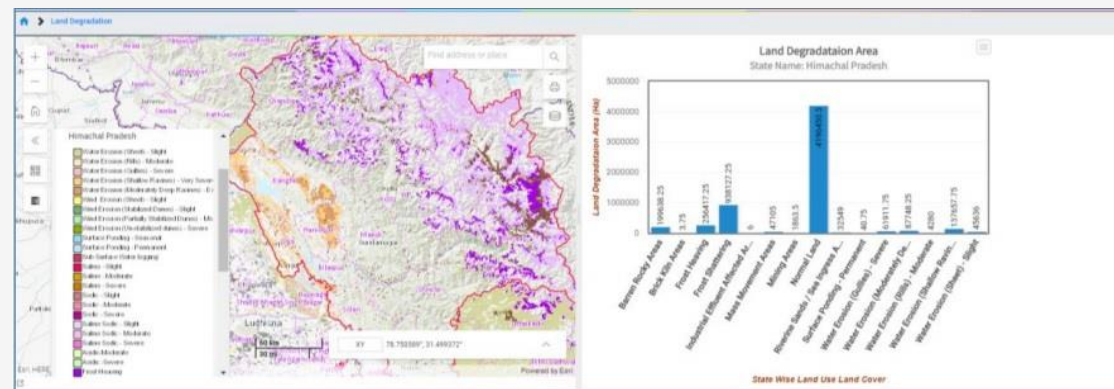
Number of wastelands in unit selected with area wise distribution chart

## 2.8 Land Degradation

- Spatial distribution, extent and the area under land degradation (available for 8 states only)
- It represents areas under various forms of land degradation processes, its type and severity level.



State Selection and Statistics

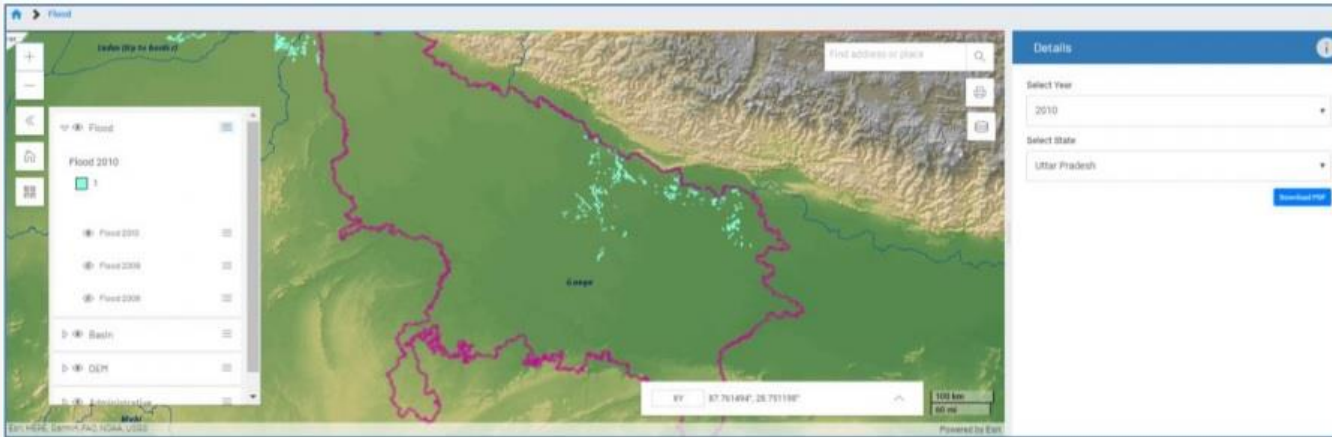


State selection and Chart

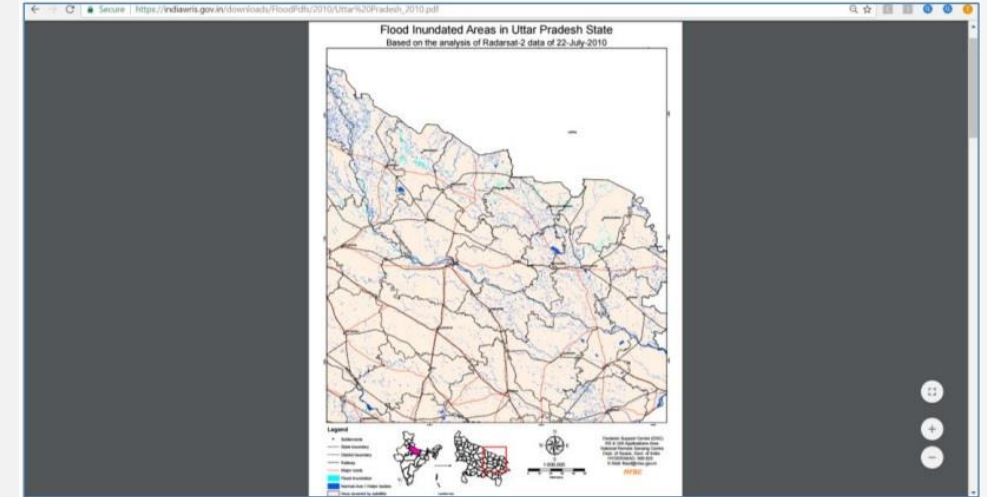


## 2.9 Hydro-met Extremes

- Flood inundated area based on satellite derived images for three years viz., 2008, 2009 and 2010

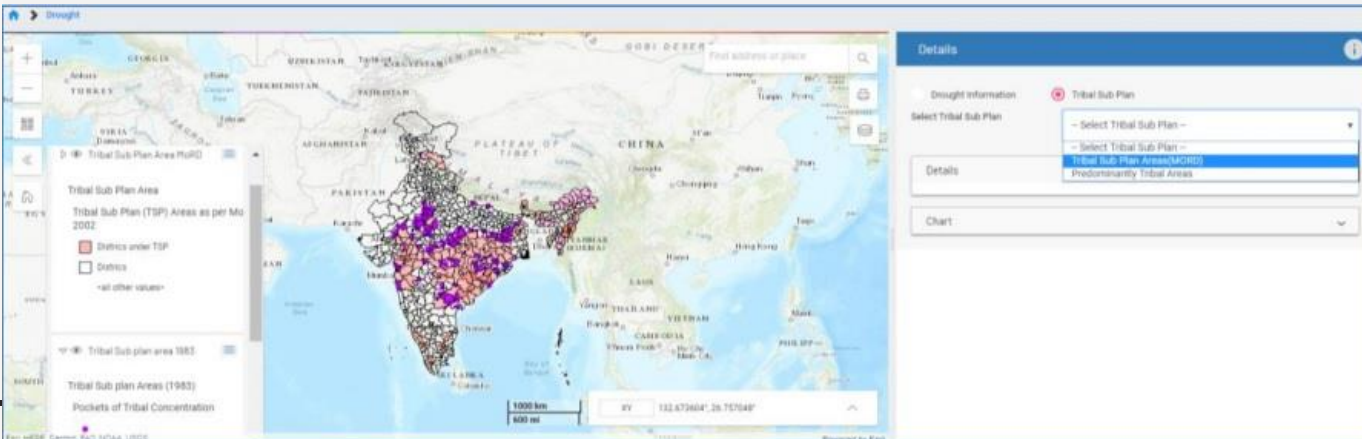


*Flood - State selection and pdf downloads*

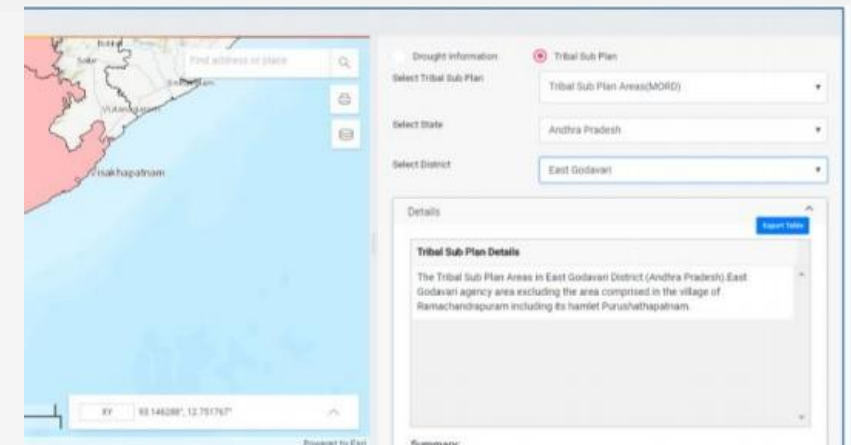


*Flood pdfs*

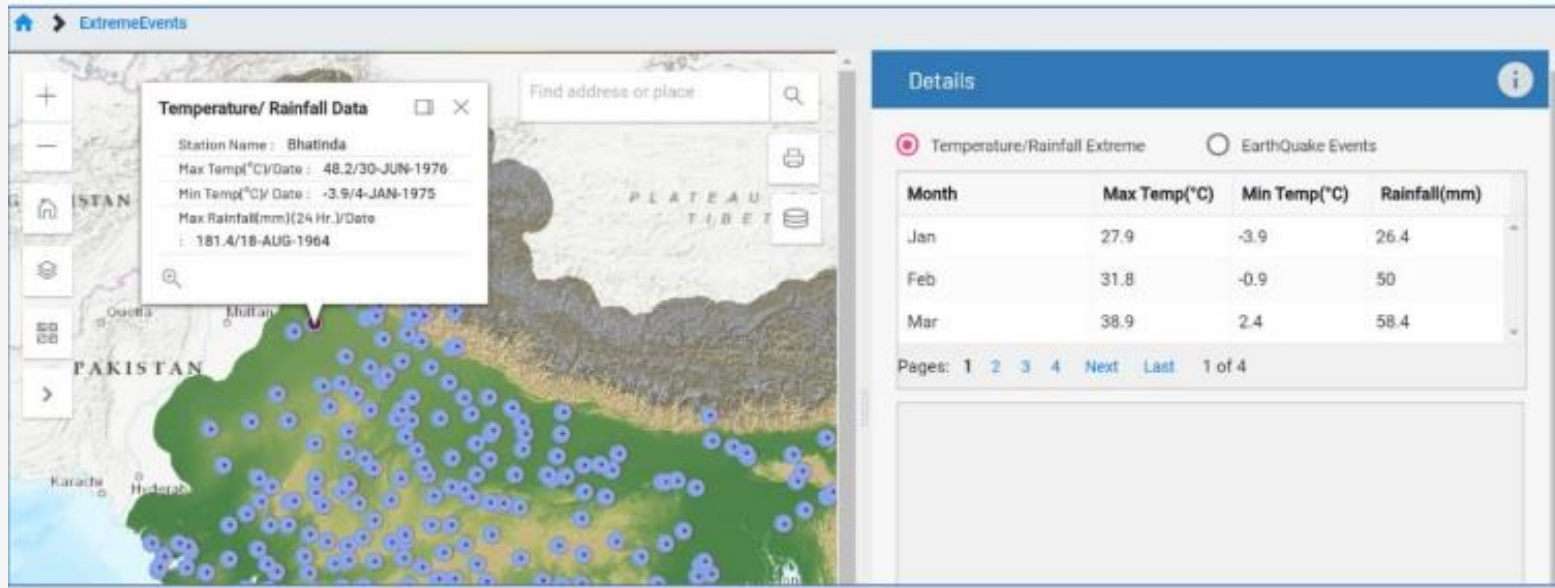
- Drought Prone Area based on the information generated under two main themes i.e. Areas under Drought Prone Development and Desertification Development & Tribal Sub-Plan Areas in the Country



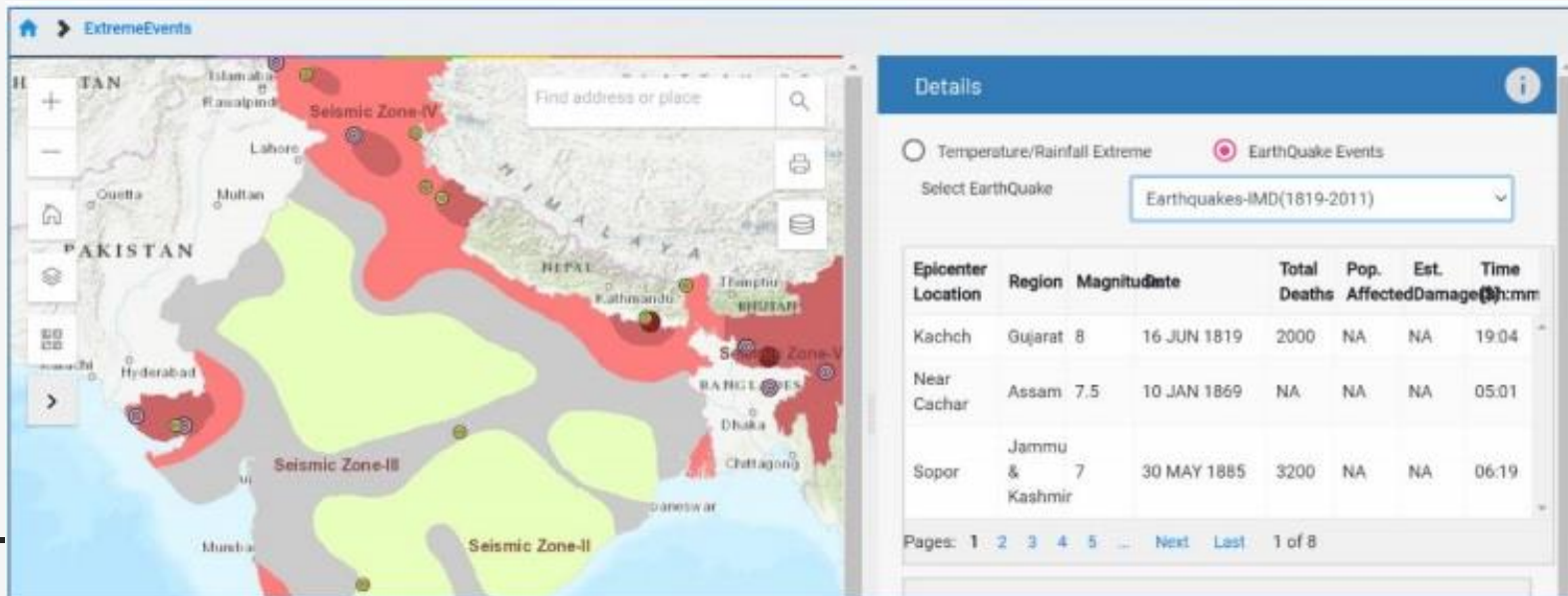
*Drought – Tribal sub plan*



*Drought – District selection and statistics*



*Temperature / Rainfall Extremes*



*Earthquake*

## 2.10 Artificial Recharge Structure - Viewer

- Provides holistic picture of the existing artificial recharge structures in a structured manner.
- User can view/download the data through map or in the form of tables.
- Pre-generated Reports are available for easy and quick access of the information
- 9 types of reports

The screenshot shows the 'Artificial Recharge Structure - Viewer' interface. On the left, there are navigation controls: Zoom in (+), Zoom out (-), Default Extent (house icon), Basemap Gallery (grid icon), and Layers (stack icon). A 'Global Search' bar is at the top with the placeholder 'Find address or place'. On the right, there are 'Print' and 'Data Panel' buttons. The map displays India with various recharge structures marked by colored dots (red, green, blue, yellow, orange). A 'Coordinate Bar' at the bottom shows 'XY 40.168721°, 5.541259°'. The bottom right corner says 'Powered by Esri'.

Summary View  Report Download

Boundary Wise Selection  
Administrative Boundary

Type of Structure  
All Structure Types

Sub Type of Structure  
- Select Sub Type of Structure -

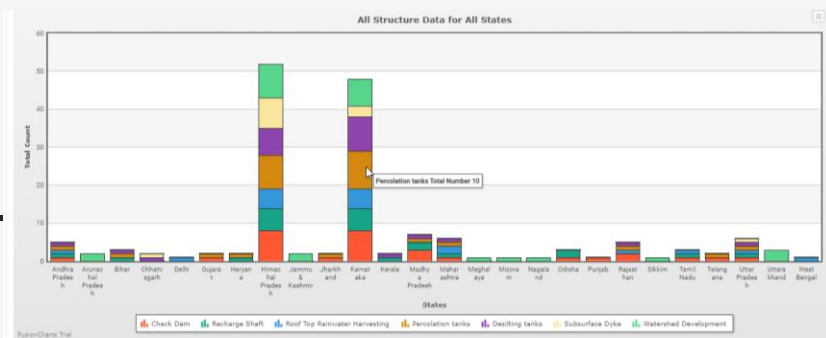
State  
All States

District  
- Select District -

Block  
- Select Block -

[Download Data](#) [Clear](#)

Summary				
Sr No	State Name	Count	Storage Capacity (Cub. Meter)	Total Expenditure (Rupees)
1	Andhra Pradesh	5	18,360	12,60,000
2	Arunachal Pradesh	2	3,700	4,70,000
3	Bihar	3	12,670	8,50,000
4	Chhattisgarh	2	2,383	5,80,000
5	Delhi	1	1,088	2,10,000
6	Gujarat	2	3,748	5,20,000
7	Haryana	2	14,600	5,60,000
8	Himachal Pradesh	52	1,46,512	81,20,000



Report Download

-Select the Required Report-

- Select the Required Report-
- Administrative Unit Wise
- Hydrological Basin Wise
- Year Of Completion
- Agency Wise
- Artificial Recharge Structure Type
- Complete Basin Report
- Complete State Report
- Urban / Rural



# 3. Static Modules

## 3.1 Exploration details/Litholog

- Provides the litholog of boreholes
- Information provided in terms of major lithology & aquifer zones (encountered / tapped)
- Individual bore logs with static parameters have been represented graphically.

Home About WRIS Water Data + WRIS Tools + Utilities + Publications + Contact Us +

Find address

Basemap Gallery

Layer List

Print

Litholog Well Locations

Well type

- Exploratory Well
- Observation Well
- Piezometer Well
- Others

User Guide – Exploration Details/Litholog

This document is intended to provide all the necessary information about the module, describing all the functions and tools available as well as to provide users with easy navigation guidance through which user may easily explore module and download information.

The following steps may be followed to get access to the tools and their functionalities:

1. The main or home page of the module consists of different

## Individual Bore details

Well Location : Kotar  
Well ID: L00667  
State: Madhya Pradesh  
District: Satna

Depth (m)

Litholog

Aquifer Material

- Non-Aquifer (Alluvium, Sirbu Shale, Bhandar limestone & Ganurgarh Shale)

Year of observation: 2002  
Distance of Observation Well: 1.94715774  
Year of Drilling: 2006-07  
Depth Drilled (m): 142.90000305  
Depth of Construction (m): -

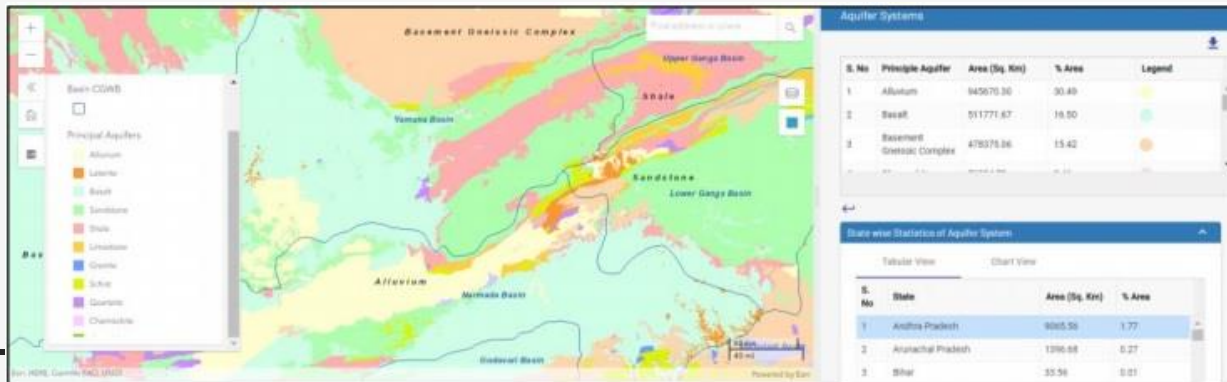
Year of observation: 2002  
Distance of Observation Well: 1.94715774  
Year of Drilling: 2006-07  
Depth Drilled (m): 142.90000305  
Depth of Construction (m): -

### 3.2 Aquifer-2D

- 14 Principal Aquifer Systems &
- 42 Major Aquifers.
- In addition, Aquifer thickness, depth of first aquifer and aquifer material
- Map is available for view for the states having lithology data.



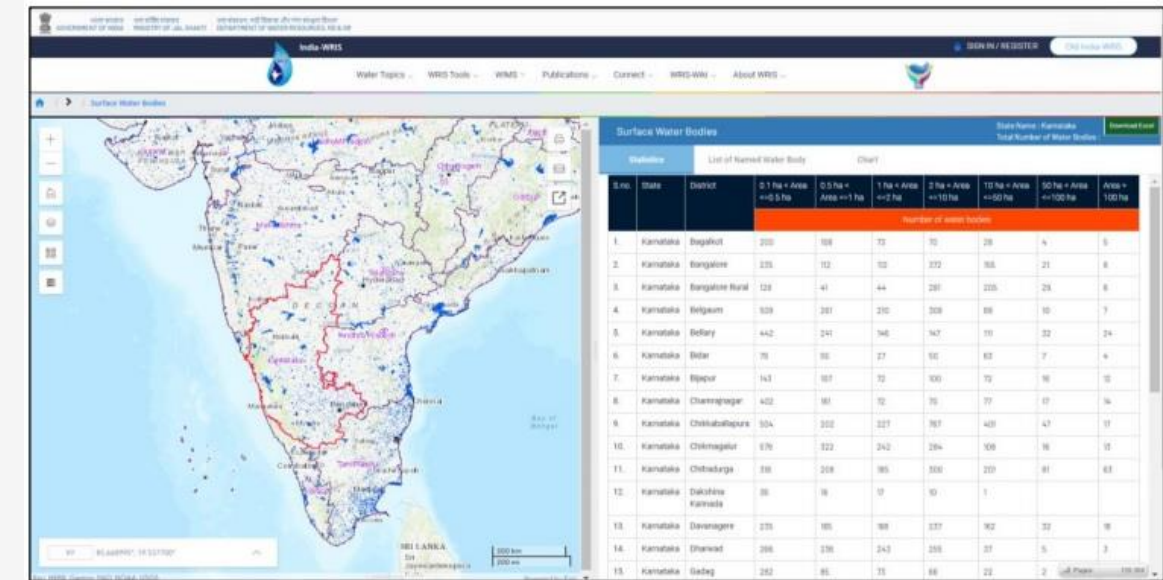
Aquifer Systems



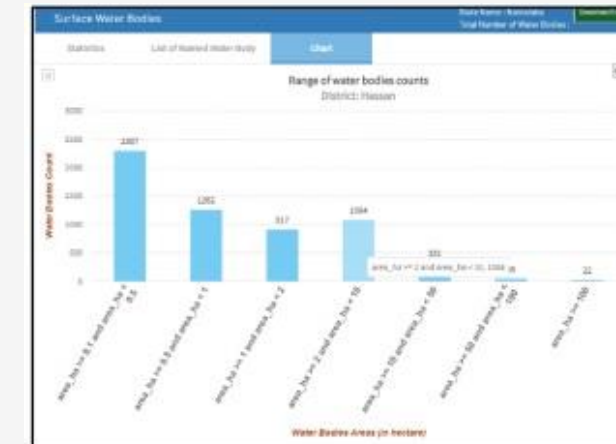
Aquifers statistics state level

### 3.3 Surface Water Bodies

- Spatial distribution, extent and no. of surface Water Bodies mapped across nation.
- waterbodies under different area classes.



Surface Water Bodies – Unit Selection - Statistics



Drill down charts



### 3.4 River Information

- Provides various hydrological boundaries (basin, sub-basin and water shed along with river layer) by different agencies



*Global search*

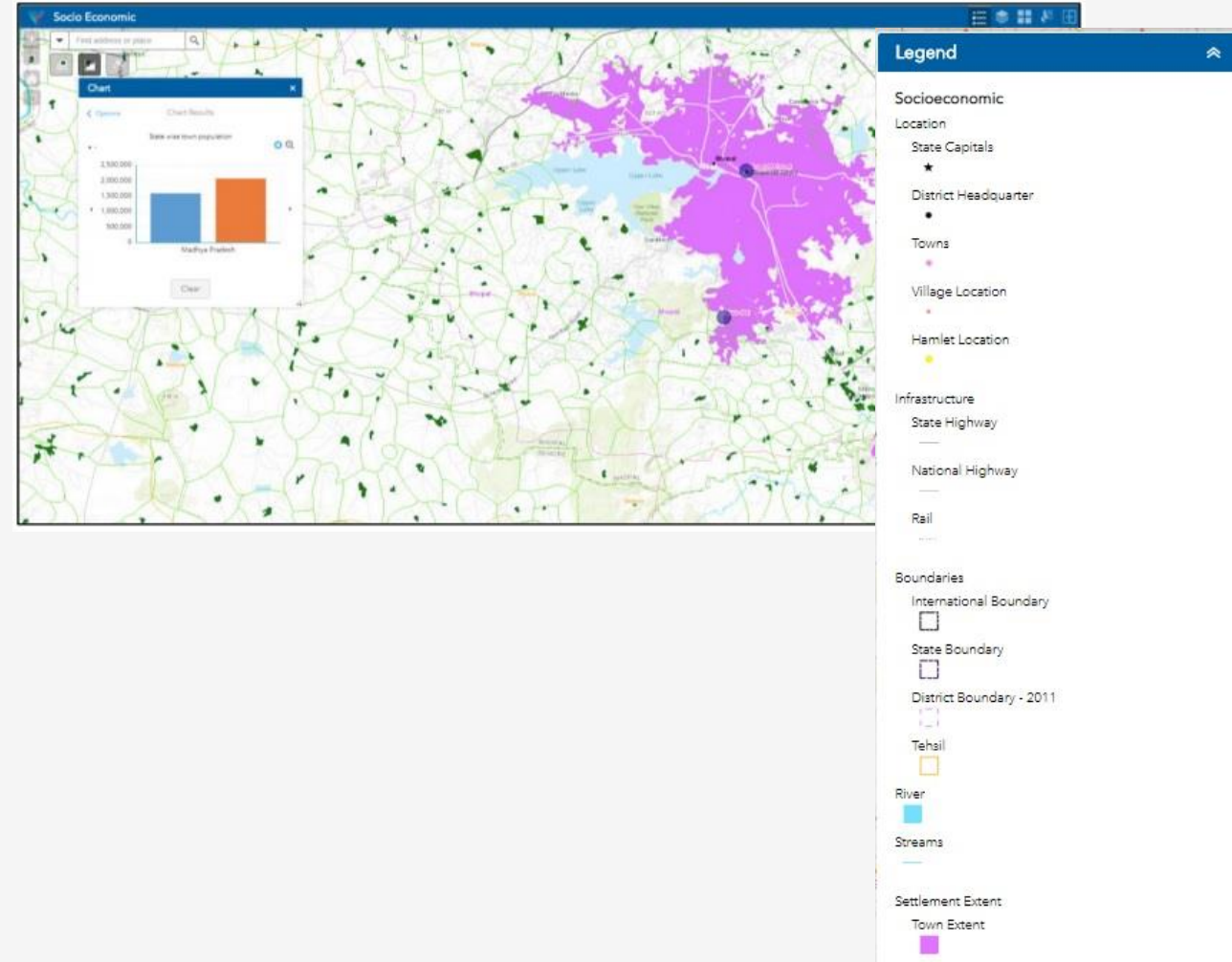


*Zoom to feature*

### 3.5 Socio Economic Census

- Information regarding hierarchy of Administrative boundaries, settlement information for urban and rural sets

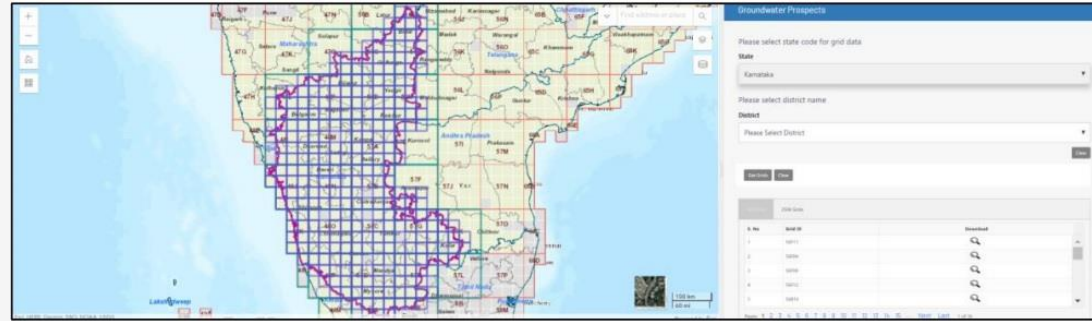
- Village boundary layer (declared by SOI) also provided



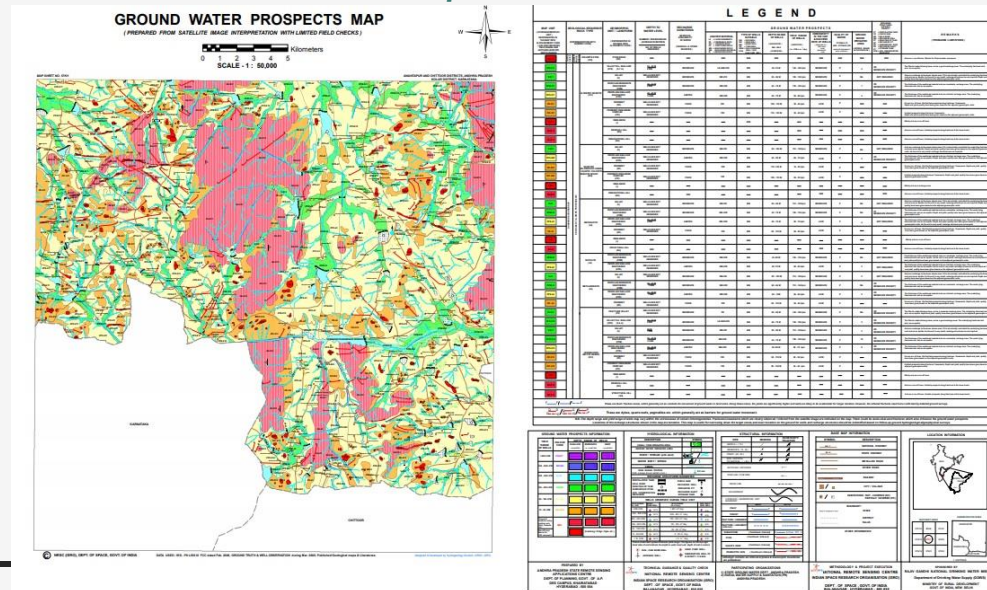


### 3.6 Groundwater Prospects

- Provides information regarding potential areas in terms of ground water availability (both quantity and quality).
- Maps are provided on 1:50,000 scale.



Groundwater Prospects Grid in selected state



Downloads – View of the map with legend

### 3.8 Soil

- Distribution of soil layer for entire country
- represents variation of soils in terms of texture, depth, slope, erosion and productivity.

Soil

State Name : Madhya Pradesh

Download Excel

Soil Depth | Soil Erosion | Soil Productivity | Soil Slope | Soil Texture

Statistics | Chart

SN.	State	District	Description	Area in (ha)
1	Madhya Pradesh	Alirajpur	Deep,Moderately deep, slightly/moderately shallow (depth>50cm)	193196.421
2	Madhya Pradesh	Alirajpur	Extremely shallow (< 10cm)	3512.861
3	Madhya Pradesh	Alirajpur	Shallow (25-50cm)	107187.948
4	Madhya Pradesh	Alirajpur	Very shallow (10-25 cm)	17582.564
5	Madhya Pradesh	Anuppur	Deep,Moderately deep, slightly/moderately shallow (depth>50cm)	322332.317
6	Madhya Pradesh	Anuppur	Extremely shallow (< 10cm)	
7	Madhya Pradesh	Anuppur	Shallow (25-50cm)	
8	Madhya Pradesh	Anuppur	Very shallow (10-25 cm)	

State Selection and Statistics

Soil Report

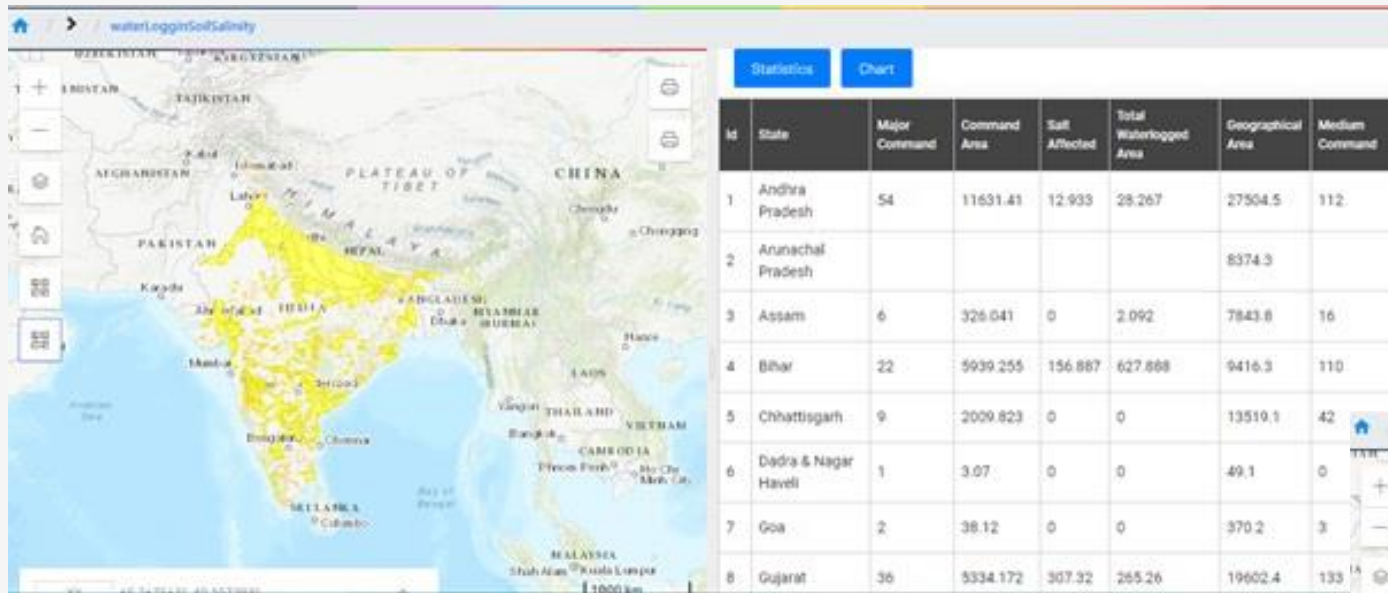
Date : May 21, 2020, 5:04:52 PM

Area	State	Description	District	Tbl
27.878	BR	DATA NOT AVAILABLE	Araria	soil_depth
27051.012	BR	Deep,Moderately deep, slightly/mod	Araria	soil_depth
42175.627	BR	Deep,Moderately deep, slightly/mod	Arwal	soil_depth
2363.175	BR	Extremely shallow (< 10cm)	Arwal	soil_depth
15238.104	BR	Shallow (25-50cm)	Arwal	soil_depth
278805.358	BR	Deep,Moderately deep, slightly/mod	Aurangabad	soil_depth
8929.316	BR	Extremely shallow (< 10cm)	Aurangabad	soil_depth
19734.39	BR	Shallow (25-50cm)	Aurangabad	soil_depth
7648.153	BR	Very shallow (10-25 cm)	Aurangabad	soil_depth
273201.17	BR	Deep,Moderately deep, slightly/mod	Banka	soil_depth
6374.313	BR	Extremely shallow (< 10cm)	Banka	soil_depth
398.223	BR	Shallow (25-50cm)	Banka	soil_depth
18105.346	BR	Very shallow (10-25 cm)	Banka	soil_depth
166834.29	BR	Deep,Moderately deep, slightly/mod	Begusarai	soil_depth
19452.714	BR	Extremely shallow (< 10cm)	Begusarai	soil_depth
207398.749	BR	Deep,Moderately deep, slightly/mod	Bhagalpur	soil_depth
37141.194	BR	Extremely shallow (< 10cm)	Bhagalpur	soil_depth
204434.052	BR	Deep,Moderately deep, slightly/mod	Bhojpur	soil_depth
23630.923	BR	Extremely shallow (< 10cm)	Bhojpur	soil_depth
159949.252	BR	Deep,Moderately deep, slightly/mod	Buxar	soil_depth
4348.298	BR	Extremely shallow (< 10cm)	Buxar	soil_depth
218254.686	BR	Deep,Moderately deep, slightly/mod	Darbhanga	soil_depth
1858.278	BR	Extremely shallow (< 10cm)	Darbhanga	soil_depth
411454.386	BR	Deep,Moderately deep, slightly/mod	Gaya	soil_depth

Data in Excel format

### 3.9 Water logging & Soil salinity

- Provides statistical analysis of water-logging area and soil salinity under major and medium commands in different State along with chart view.



Water Logging and Soil Salinity Module

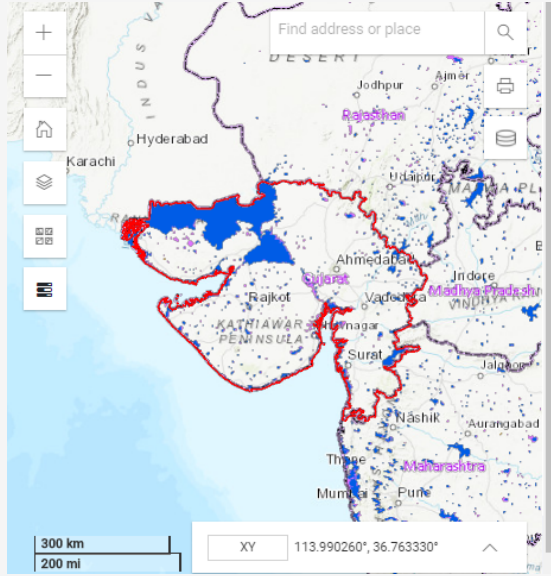
Statistics and Charts





### 3.10 Wet Lands

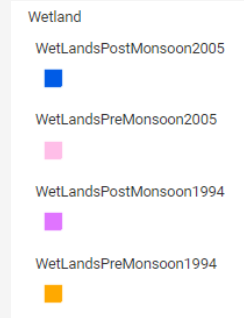
- Spatial distribution and extent of wetlands for the year 1994 & 2005 (pre and post monsoon)
- Satellite based product



State Name : Gujarat

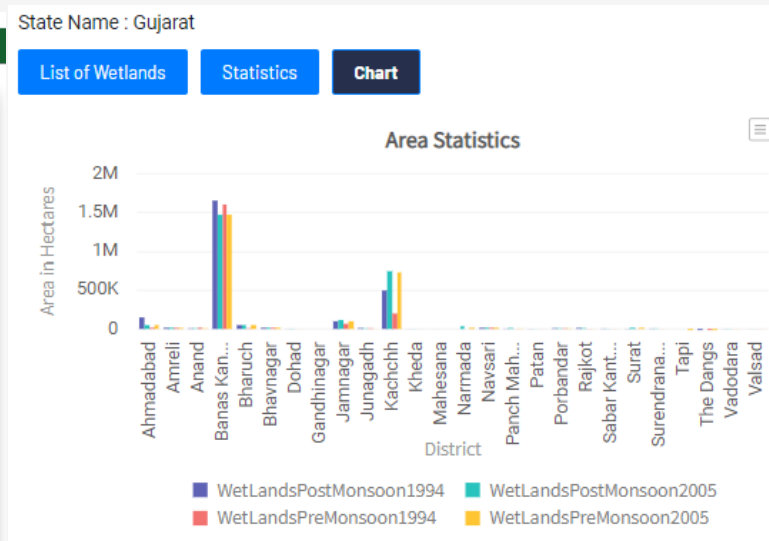
[List of Wetlands](#) [Statistics](#) [Chart](#) [Download Excel](#)

SN.	State	District	Location of Wetland	Nature of Wetland	Basin	Sub Basin	Type of Wetland	Wet Name	Wet Time	Area
1	Gujarat	Ahmadabad	Inland	Natural	Sabarmati	Sabarmati Lower	Ox-bow lakes/cut off meanders		WetLandsPostMonsoon1994	58.3
2	Gujarat	Ahmadabad	Inland	Natural	Sabarmati	Sabarmati Lower	Lake/ponds		WetLandsPostMonsoon1994	1596
3	Gujarat	Ahmadabad	Inland	Natural	Sabarmati	Sabarmati Lower	Lake/ponds		WetLandsPostMonsoon1994	7940
4	Gujarat	Ahmadabad	Inland	Man-made	Sabarmati	Sabarmati Lower	Reservoirs		WetLandsPostMonsoon1994	141.1
5	Gujarat	Ahmadabad	Coastal	Natural	Sabarmati	Sabarmati Lower	Sand/beach/spit/bar		WetLandsPostMonsoon1994	81.3
6	Gujarat	Ahmadabad	Coastal	Natural	Sabarmati	Sabarmati Lower	Sand/beach/spit/bar		WetLandsPostMonsoon1994	700



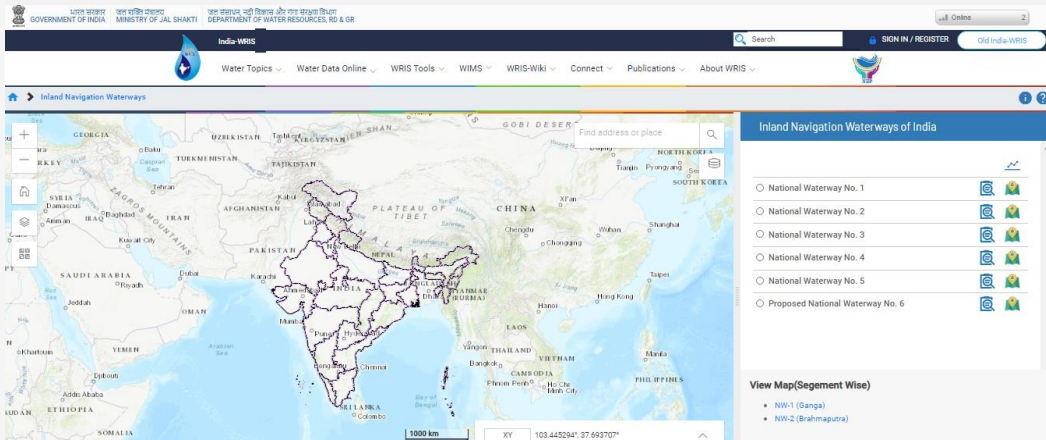
[List of Wetlands](#) [Statistics](#) [Chart](#) [Download Excel](#)

SN.	District	WetLands Post Monsoon 1994 (Area (Ha))	WetLands Post Monsoon 2005 (Area (Ha))	WetLands Pre Monsoon 1994 (Area (Ha))	WetLands Pre Monsoon 2005 (Area (Ha))
1	Ahmadabad	164343.409	56361.360	22562.365	50663.856
2	Amreli	19665.688	18458.501	14537.872	13911.876
3	Anand	9362.729	9660.722	17612.530	9793.457
4	Banas Kantha	1656868.764	1485024.998	1619283.244	1480469.808
5	Bharuch	53121.648	52327.808	10696.383	51730.916
6	Bhavnagar	27311.142	30875.074	15610.027	25066.474
7	Dohad	2700.005	5694.024	1110.373	1226.156
8	Gandhinagar	459.647	84.101	149.130	59.738



### 3.11 Inland Navigation Waterways

- Brief summary of all inland waterways along with the maps as well as all relevant information.
- 5 Navigation Waterways namely,
  - (a) the Ganga (NW-1),
  - (b) the Brahmaputra (NW-2),
  - (c) the West Coast Canal (NW-3),
  - (d) Kakinada-Puducherry Canals system along with Godavari and Krishna rivers (NW-4) and
  - (e) East Coast Canal with Brahman River and Mahanadi delta (NW-5).
- Sixth proposed navigation waterway (The Barak – NW-6).



Inland Navigation Waterways

National Waterway-1	
Salient Features	
1. Name	National Waterway-1
2. State of destination	Source on National Waterway 1 at 230 Km from Durg
3. Total length	1465 Km
4. Source details	1) Hooghly (Upper Port) - 500 Km 2) Farakka (Lower Port) - 400 Km 3) Farakka (Lower Port) - 565 Km
5. Route No.	1/1/1/1/1
6. Route No.	1/1/1/1/1
7. Route No.	1/1/1/1/1
8. Route No.	1/1/1/1/1
9. Route No.	1/1/1/1/1
10. Route No.	1/1/1/1/1
11. Route No.	1/1/1/1/1
12. Route No.	1/1/1/1/1
13. Route No.	1/1/1/1/1
14. Route No.	1/1/1/1/1



Downloads – Salient features and Map



Overview of Waterway



### 3.12 Interbasin Transfer Links

- Information and maps of the various components of the Inter Basin Transfer Links.
- Detailed structures and water bodies associated for Peninsular component
- Published maps of NWDA in .pdf format are available for Himalayan component.



Himalaya Inter Basin Transfer Link



Downloads – Map view of links



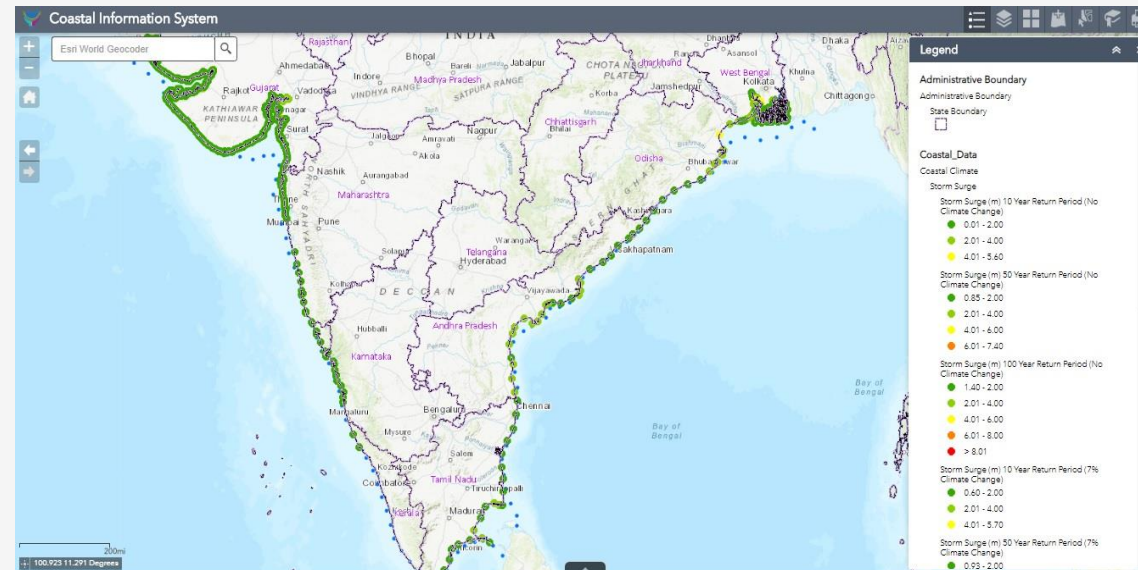
Zoom to link on click





### 3.13 Storm Surge Study

-Storm Surge are provided at a distance of 10 km for Gujarat, Maharashtra, and West Bengal and rest of the coast line at 50 km interval.

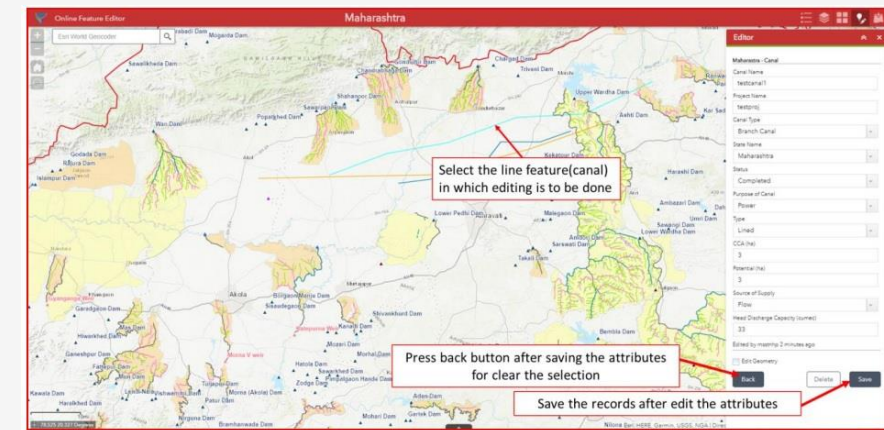
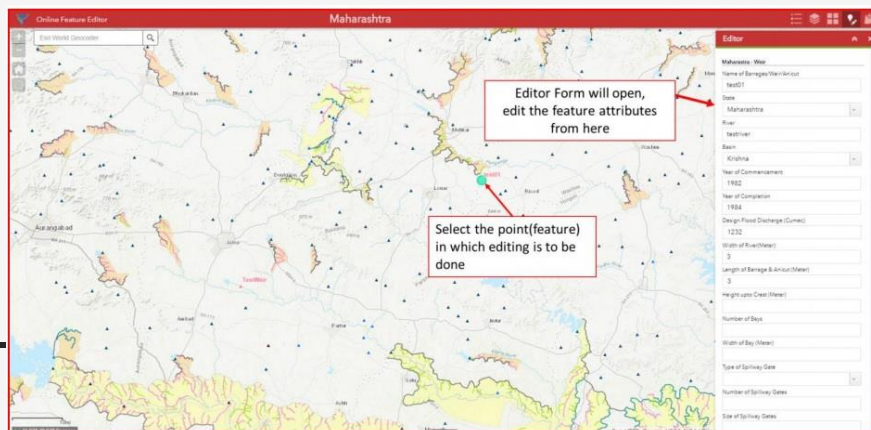
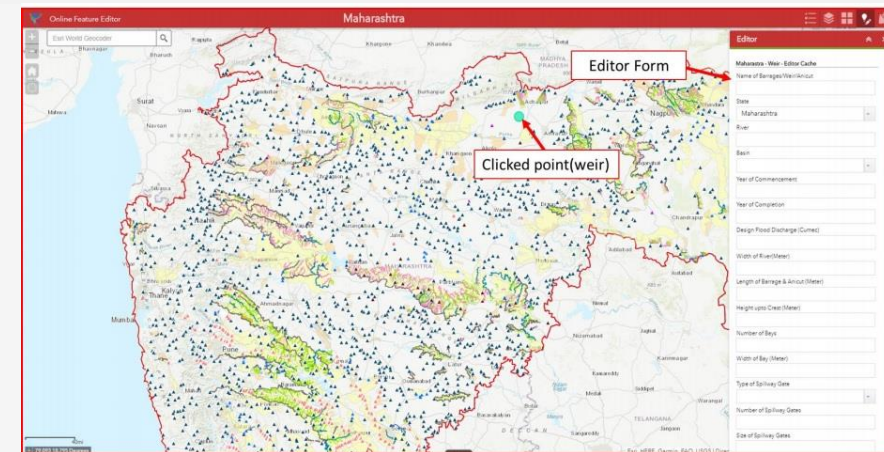
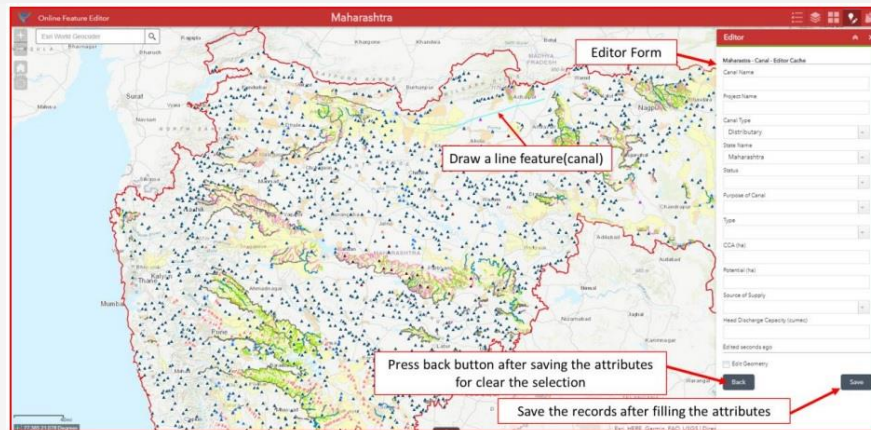


Coastal Information System

## 4. Tools

### 4.1 Online Web Editor

- To provide a platform for the state agencies to upload the water resources information
- Add/edit/delete the features and attributes online for six themes namely, dam, barrage, weir, anicut, lift and canal for further dissemination at India-WRIS platform.
- State users can update Irrigation Projects with authorized access.





## 4.2 ARS – Data Entry

- Data Entry Platform to ingest the attribute data directly into the India WRIS database.

- Create features such as
- Edit Existing features
- Download Data

2 sections in Data Entry Form:

Part A: Primary Field Related To 'Location Details'

Part B: Secondary field are for 'structure details' such as like width, height, storage capacity etc.

### Login Based

Sign in

Please sign in to access the item on <https://gis.indiawris.gov.in/portal> (item)

Username:  
\*\*\*\*\*

Password:  
\*\*\*\*\*

OK Cancel



# ARS – Data Entry

## Create new feature–

- Primary and Secondary data form
- Select Structure type & Subtype
- Plot point – Latitude/Longitude
- Autofill of details (grey fields) based on location
- Upload image facility
- Add details for the fields
- Save

2 sections in Data Entry Form:

---Part A

Primary Field Related To 'Location Details'

Artificial Recharge Structure

Primary Data

Type of Structure: Check Dam | Sub Type of Structure: Check Dam

Latitude (Degree Decimal): Latitude.. | Longitude (Degree Decimal): Longitude | Plot Point

Upload: File: Choose File | No file chosen | State: State

District\*: District | Tehsil/block\*: Tehsil/block..

Location Type (Urban/Rural): URBAN | City Name\*: City name..

Address: Address.. | Pin\*: Pin Code

Basin Name\*: Name of Basin.. | Sub Basin Name\*: Name of Sub Basin..

Watershed Code\*: Watershed Code | Structure Code\*: Structure code

Next → | Close

---Part B

Secondary field are for 'structure details' such as like width, height, storage capacity etc. <D:\data collection sheet.xlsx>

Artificial Recharge Structure

Secondary Data

Type of Agency\*: CENTRAL | Name of Agency/Owner\*: Name of Agency..

Source of Funding (Name of the scheme)\*: Drought Prone Areas Programme (DPAP) | Height of Structure (Meter): Height of structure..

Length of Structure (Meter): Length of structure.. | Storage Capacity (Cub.Meter)\*: Storage capacity..

Functional Status (Existing/Closed): EXISTING | Expenditure (Rupees)\*: Expenditure..

Year of Completion (YYYY)\*: Year of completion.. | Month\*: -Select Month-

Prev | Save | Close



# ARS – Data Entry

## Edit existing feature–

- Select Structure to edit
- Add/update details for the fields in primary & secondary form
- Upload image facility
- Save

Artificial Recharge Structure

**Primary Data**

Type of Structure: Check Dam  
Sub Type of Structure: Check Dam

Latitude (Degree Decimal): 13.576  
Longitude (Degree Decimal): 79.377  
Please click on map to get accurate lat/long for your point

Upload: File: Choose File No file chosen Image Not Available

State\*: Andhra Pradesh

District\*: Chittoor  
Tehsil/block\*: Tirupati (Rural)

Location Type (Urban/Rural): URBAN  
City Name\*: Chittor

Address: Pahadganj  
Pin\*: 2232323

Basin Name\*: West flowing rivers of Kutch and Saurashtra including Luni  
Sub Basin Name\*: Palar and other

Watershed Code\*: C18PAL39  
Structure Code\*: APC18PAL39A10001

Next → Close

Artificial Recharge Structure

**Secondary Data**

Type of Agency\*: CENTRAL  
Name of Agency/Owner\*: INSTITUTION 3

Source of Funding (Name of the scheme)\*: Drought Prone Areas Programme (DPAP)  
Height of Structure (Meter): 3

Length of Structure (Meter): 22  
Storage Capacity (Cub.Meter)\*: 22

Functional Status (Existing/Closed): EXISTING  
Expenditure (Rupees)\*: 120000

Year of Completion (YYYY)\*: 2021  
Month\*: JAN

← Prev Save Close



# 5. Utilities

## 5.1 Data/Report Download (Tabular)

- Offers download of time series data
- Various types of reports already generated, for ease of data assessment and usage.
- Also has a comparison dashboard for comparing the reservoirs and river points data.

The screenshot displays the 'Water Data Online' interface with several panels for downloading data. The top panel shows the 'Application' dropdown menu with options: Rainfall, Reservoir, River Point, and Ground Water. The 'Report Type' dropdown is set to 'Select Required Report'. Below this, a panel for 'Ground Water' shows the 'Report Type' dropdown with options: State wise Level Report, District wise Level Report, and State Wise Station Level Report. A third panel shows the 'Source' dropdown set to 'COWB + OTHER AGENCIES' and the 'Location' dropdown set to 'DELHI'. The 'Time' section includes 'Time Step' (Daily), 'Start' date, and 'Stop' date. A fourth panel shows the 'Application' dropdown set to 'Rainfall' and the 'Report Type' dropdown with options: Select Required Report, State Wise Timeseries, District Wise Timeseries, and Station Wise Timeseries. The bottom panel shows the 'Source' dropdown set to 'AP STATE' and the 'Location' dropdown set to 'CWC + OTHER AGENCIES'. The 'Time' section includes 'Time Step' (Daily), 'Start' date, 'Stop' date, and 'Aggregation Type' (Sum). A 'DOWNLOAD REPORT' button is visible at the bottom.

The screenshot displays the 'Storage Comparison' dashboard. The top panel shows the 'Application' dropdown set to 'Reservoir' and the 'Report Type' dropdown set to 'Select Required Report'. Below this, a panel shows the 'Report Type' dropdown with options: Select Required Report, Change Reservoirs, Storage Timeseries, and Storage Comparison. A third panel shows the 'Report Type' dropdown set to 'Level & Storage Bulletin'. The 'Source' dropdown is set to 'AP STATE'. The 'Location' section includes 'View' (Admin), 'State' (Select State), 'District' (Select District), and 'Reservoir' (Select Reservoir). The 'Time' section includes 'Date' (Select date). A data table is visible at the bottom left, showing columns for 'Station Name', 'Station Code', 'Station Type', 'Station Category', 'Station Status', 'Station Address', 'Station Coordinates', 'Station Elevation', 'Station Capacity', 'Station Volume', 'Station Area', 'Station Perimeter', 'Station Length', 'Station Width', 'Station Height', 'Station Depth', 'Station Diameter', 'Station Radius', 'Station Circumference', 'Station Surface Area', 'Station Volume', 'Station Weight', 'Station Density', 'Station Mass', 'Station Force', 'Station Pressure', 'Station Temperature', 'Station Humidity', 'Station Wind Speed', 'Station Wind Direction', 'Station Rainfall', 'Station Snowfall', 'Station Icefall', 'Station Fogfall', 'Station Cloudfall', 'Station Dewfall', 'Station Frostfall', 'Station Hailfall', 'Station Sleetfall', 'Station Snowmelt', 'Station Ice melt', 'Station Snowmelt Rate', 'Station Ice melt Rate', 'Station Snowmelt Volume', 'Station Ice melt Volume', 'Station Snowmelt Area', 'Station Ice melt Area', 'Station Snowmelt Length', 'Station Ice melt Length', 'Station Snowmelt Width', 'Station Ice melt Width', 'Station Snowmelt Height', 'Station Ice melt Height', 'Station Snowmelt Depth', 'Station Ice melt Depth', 'Station Snowmelt Diameter', 'Station Ice melt Diameter', 'Station Snowmelt Radius', 'Station Ice melt Radius', 'Station Snowmelt Circumference', 'Station Ice melt Circumference', 'Station Snowmelt Surface Area', 'Station Ice melt Surface Area', 'Station Snowmelt Volume', 'Station Ice melt Volume', 'Station Snowmelt Weight', 'Station Ice melt Weight', 'Station Snowmelt Density', 'Station Ice melt Density', 'Station Snowmelt Mass', 'Station Ice melt Mass', 'Station Snowmelt Force', 'Station Ice melt Force', 'Station Snowmelt Pressure', 'Station Ice melt Pressure', 'Station Snowmelt Temperature', 'Station Ice melt Temperature', 'Station Snowmelt Humidity', 'Station Ice melt Humidity', 'Station Snowmelt Wind Speed', 'Station Ice melt Wind Speed', 'Station Snowmelt Wind Direction', 'Station Ice melt Wind Direction', 'Station Snowmelt Rainfall', 'Station Ice melt Rainfall', 'Station Snowmelt Snowfall', 'Station Ice melt Snowfall', 'Station Snowmelt Icefall', 'Station Ice melt Icefall', 'Station Snowmelt Fogfall', 'Station Ice melt Fogfall', 'Station Snowmelt Cloudfall', 'Station Ice melt Cloudfall', 'Station Snowmelt Dewfall', 'Station Ice melt Dewfall', 'Station Snowmelt Frostfall', 'Station Ice melt Frostfall', 'Station Snowmelt Hailfall', 'Station Ice melt Hailfall', 'Station Snowmelt Sleetfall', 'Station Ice melt Sleetfall'.

# Utilities

## Groundwater data download

-Groundwater Level - State-wise | District wise | Station wise | Report of Seasonal Fluctuation | Report of Annual Fluctuation | Report of Decadal Water Level Fluctuation | Report of Depth to Water Level | Report of Trends of Water Level

The screenshot displays the web application interface for downloading groundwater data. It is divided into two panels. The top panel shows the initial selection screen with a navigation menu on the left containing 'Back to Water Data Online' and 'Download Data'. The main area has 'Application' set to 'Ground Water' and 'Report Type' set to 'Select Required Report'. A dropdown menu for 'Application' is open, listing 'Rainfall', 'Reservoir', 'River Point', and 'Ground Water'. The bottom panel shows a more detailed configuration screen. The 'Application' is 'Ground Water' and 'Report Type' is 'Select Required Report'. A dropdown menu for 'Report Type' is open, listing various report options, with 'Report of Trends of Water Level' selected. The 'Source' is set to 'CGWB + OTHER AGENCIES'. The 'Location' section has 'State' set to 'DELHI' and a dropdown menu for 'State' is open, listing Indian states including 'UTTAR PRADESH'. The 'Frequency' is set to 'Daily'. There are 'Start' and 'Stop' date selection fields, each with a calendar icon.

# Utilities

## River Monitoring stations data download

Level and flow

The screenshot shows a web application interface for downloading data from River Monitoring stations. The interface is divided into a left sidebar and a main content area. The sidebar contains a 'Back to Water Data Online' link and a 'Download Data' menu item. The main content area has a top navigation bar with 'Application' set to 'River Point' and 'Report Type' set to 'Level & Flow Timeseries'. Below this, there are three columns of filters: 'Source' (set to 'CWC'), 'Location' (with 'View' set to 'Admin', 'State' set to 'Select State', 'District' set to 'Select District', and 'River Point' set to 'Select River Point'), and 'Time' (with 'Time Step' set to 'Daily', 'Start' set to 'Select date', and 'Stop' set to 'Select date'). A 'FEED BACK' button is located in the top right corner. At the bottom of the main content area, there is a note: '(\*) marked locations are classified. Please [Login](#) to access Data.' and a prominent blue 'DOWNLOAD REPORT' button.

Title	Location	Time
Source CWC	View Admin State Select State District Select District River Point Select River Point	Time Step Daily Start Select date Stop Select date

(\*) marked locations are classified. Please [Login](#) to access Data.

DOWNLOAD REPORT



# Utilities

## Reservoir data download

- Level & Storage Bulletin | Storage & Level Time-series | Storage Comparison | Level Timeseries | Storage Timeseries

The screenshot displays a web interface for downloading reservoir data. On the left, there is a sidebar with a 'Back to Water Data Online' link and a 'Download Data' section containing a 'Download Data' link. The main content area has a top navigation bar with 'Application' set to 'Reservoir' and 'Report Type' set to 'Level & Storage Bulletin'. A dropdown menu is open under 'Report Type', listing options: 'Level & Storage Bulletin', 'Select Required Report', 'Level & Storage Bulletin', 'Storage Timeseries', 'Storage Comparison', 'Level Timeseries', and 'Level & Storage Timeseries'. Below the navigation bar, there are two columns: 'Source' and 'Location'. The 'Source' column has a 'Select Source' dropdown. The 'Location' column includes a 'View' dropdown set to 'Admin', a 'Select date' field with a calendar icon, and three more dropdowns for 'State', 'District', and 'Reservoir', each with a 'Select' label. At the bottom of the form is a large blue button labeled 'DOWNLOAD REPORT'.



# Utilities

## Water Quality data download

- Groundwater Sites | Surface Water Sites

The image displays two screenshots of a web application interface for downloading water quality data. The browser address bar shows the URL: `indiaiwris.gov.in/wris/#/waterData`.

**Top Screenshot (Surface Water Quality Station Wise):**

- Application:** Water Quality (dropdown menu open with options: Select Application, Rainfall, Reservoir, River Point, Ground Water, Water Quality).
- Report Type:** Surface Water Quality Station Wise (dropdown menu).
- Source:** Select Source (input field).
- Time:** Time Step (Monthly), Start (Select date), Stop (Select date).
- Location:** District (Select District), Station (Select Station).

**Bottom Screenshot (Ground Water Quality Station Wise):**

- Application:** Water Quality (dropdown menu).
- Report Type:** Ground Water Quality Station Wise (dropdown menu open with options: Select Required Report, Surface Water Quality Station Wise, Ground Water Quality Station Wise).
- Source:** Select Source (input field).
- Location:** View (Admin), State (Select State), District (Select District), Station (Select Station).
- Time:** Time Step (Monthly), Start (Select date), Stop (Select date).
- Buttons:** DOWNLOAD REPORT, Pag Index.



## **5.2 Data Availability**

- Availability of time series data of telemetry and manual stations as per State/Agency/Basin wise.
- Color code is provided to display the recent data availability and availability report download for selected unit is also provided through this module.

## **5.3 Geoviewer**

- Tool to visualize all the different sets of data on a single application for a comparative and interlinked view to derive a holistic picture with overlay.

## **5.4 WRIS Wiki**

- Comprehensive information for the water resources assets and projects of the country is made available through WRIS Wiki application.

## **5.5 Metadata**

- Metadata module offers the information about the different GIS layers, its source, Citation and other details.
-

# Utilities

## 5.2 Data Availability

-Availability of time series data of telemetry and manual stations as per State/Agency/Basin wise.

-Color code is provided to display the recent data availability and availability report download for selected unit is also provided through this module.

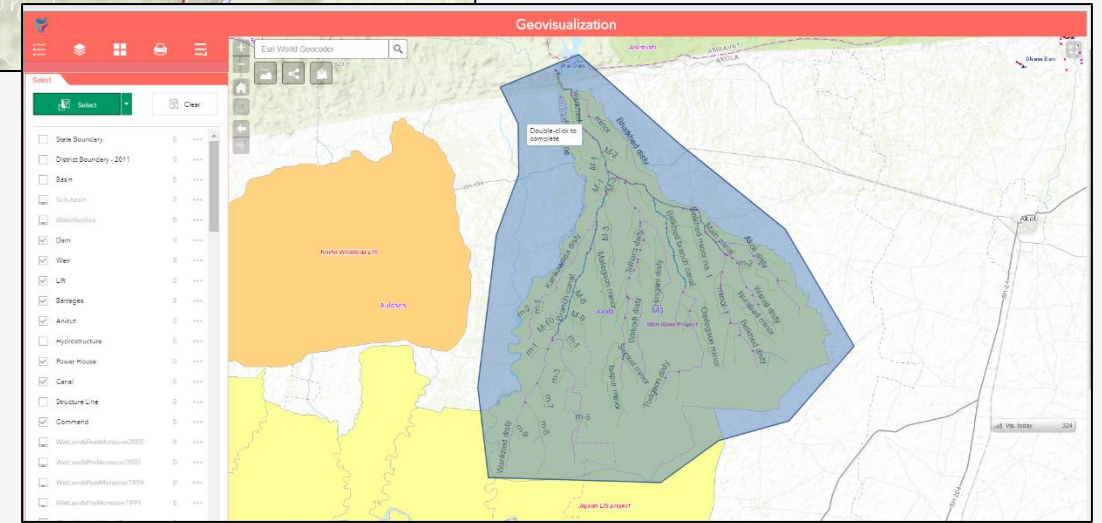
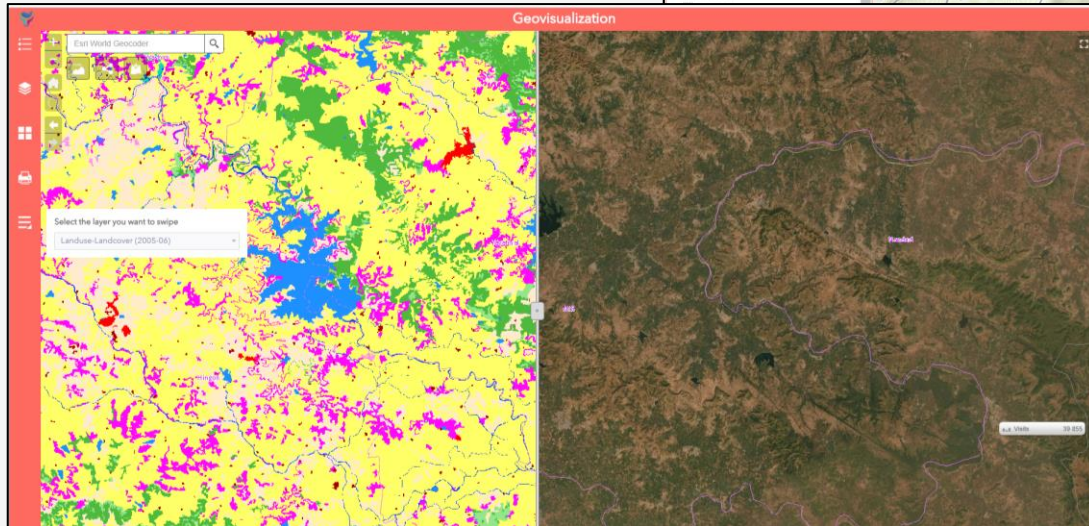
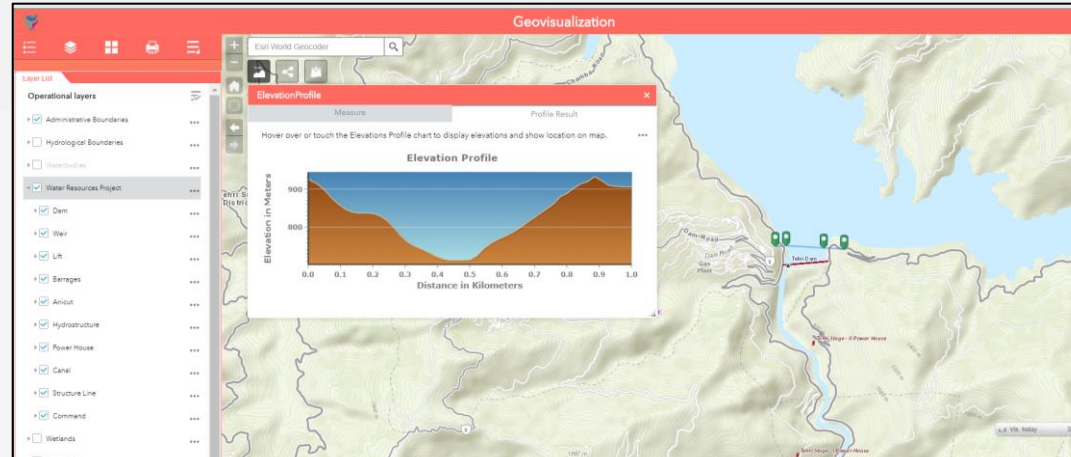
S.No.	Parameter Name	Number of Stations	Data Availability Dates	Action
1.	Surface Water Level - Manual	41	01-11-1970 – 26-07-2019	...
2.	Surface Water Level - Telemetric	39	11-08-1965 – 26-07-2019	...
3.	Ground Water Level - Manual	2528	05-01-1996 – 05-11-2018	...

S.No.	Station Name	Station Code	From Date	To Date	Availability Type	Open on Field
1	UP_Agri, Bhauk. Ahs. PMV, Kalyanaria	010118PU	02-07-2018	02-07-2018	●	●
2	UP_Agri, Achharia's, Junior School, Raibha	010118PU	04-04-2018	19-07-2019	●	●
3	UP_Agri, City U.P. Tourism Office	010118PU	25-03-2019	26-05-2019	●	●
4	UP_Agri, Achharia's, Junior School, Mithra	010118PU	04-04-2018	25-07-2019	●	●
5	UP_Agri, Achharia's, Junior School, Mithra	010118PU	04-04-2018	25-07-2019	●	●
6	UP_Agri, Behrouz B. Columbia	010118PU	04-04-2018	25-07-2019	●	●
7	UP_Agri, Agri. City (HBT)	010118PU	25-03-2019	26-05-2019	●	●

# Utilities

## 5.3 Geoviewer

- Tool to visualize all the different sets of data on a single application for a comparative and interlinked view to derive a holistic picture with overlay.





## 5.4 WRIS Wiki

- Comprehensive information for the water resources assets and projects of the country is made available through WRIS Wiki application.
- Available information has been organized under following heads:

- *Water Resources of India - An overview*
- *Rivers of India*
- *River Basins – Facts at a glance*
- *Major & medium irrigation projects*
- *Inland Navigation Waterways*
- *Inter-Basin Water Transfer Links*
- *Ground Water Resources*
- *Hydro-Meteorological sites*
- *State wise Information*
- *Legal Instruments on Rivers in India*
- *Inter State Water Dispute*

**India's Water Wealth**

Water is one of the most important renewable natural resources for supporting life. With the increasing population of India as well as its all-round development, the utilization of water is also increasing at a fast pace. On an average, India receives annual precipitation (including snowfall) of about 4000 km<sup>3</sup>. However, there exist considerable spatial and temporal variations in the distribution of rainfall and hence in availability of water in time and space across the country. It is estimated that out of the 4000 km<sup>3</sup> water, 1000 km<sup>3</sup> is average annual potential flow in rivers available as water resource. Out of this total available water resource, only 1122 km<sup>3</sup> is utilized (500 km<sup>3</sup> from surface water resources and 422 km<sup>3</sup> from ground water resources). The water demand in the year 2000 was 624 km<sup>3</sup> and it is likely to be 1083 km<sup>3</sup> by the year 2025. Due to rapid rise in population and growing economy of the country, there will be continuous increase in demand for water, and it will become scarce in the coming decades (Refer Table-1).

**Table 1: Water Availability Facts at a Glance**

Area of the country as % of World Area	2.4%
Population as % of World Population	17.1%
Water as % of World Water	6%
Rank in per capita availability	132
Rank in water quality	122
Average annual rainfall	1180 mm (world average 1115 mm)
Range of distribution	150-1180 mm
Range Rainy days	5-150 days, mostly during 15 days in 100 hrs
Range PET	1000-2500 mm
Per capita water availability (2010)	1480 m <sup>3</sup>

According to the international norms, a country can be categorized as 'water stressed' when water availability is less than 1700 m<sup>3</sup> per capita per year whereas classified as 'water scarce' if it is less than 1000 m<sup>3</sup> per capita per year. In India, the availability of surface water in the years 1991 and 2011 were 2300 m<sup>3</sup> and 1962 m<sup>3</sup>. However, it has been projected that per capita surface water availability is likely to be reduced to 1401 m<sup>3</sup> and 1181 m<sup>3</sup> by the years 2025 and 2050, respectively. The Per capita water availability in the year 2012 was 1588 m<sup>3</sup> against 5200 m<sup>3</sup> of the year 1991 in the country.

**Table 2: India's Water Resources**

S.No.	Water Resource at a Glance	Quantity (km <sup>3</sup> )	Percentage
-------	----------------------------	-----------------------------	------------

## 5.5 Metadata

- Metadata module offers the information about the different GIS layers, its source, Citation and other details.

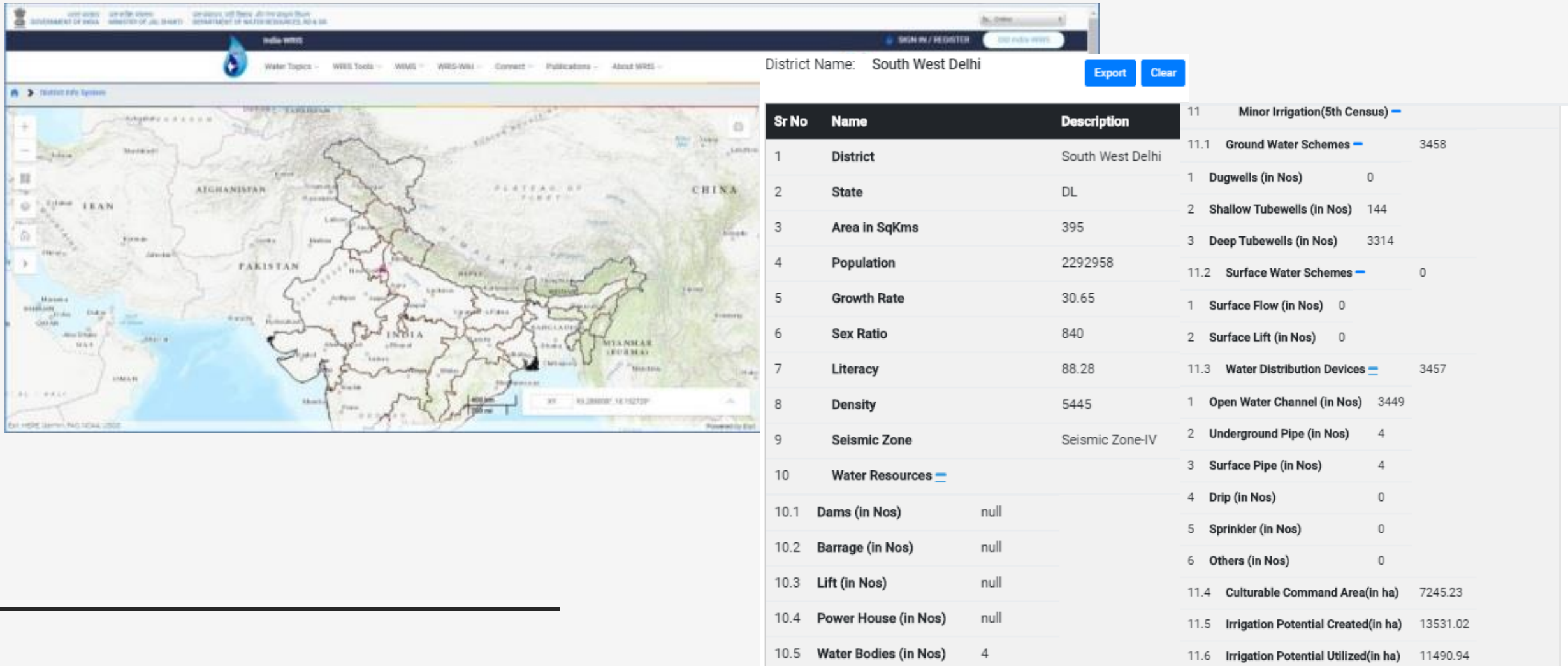
The metadata can be viewed in three formats –

- HTML
- XML
- JSON

The screenshot displays the 'Meta Data' interface. At the top, there is a navigation bar with 'Search', 'Map', and 'About' tabs, and a 'Sign In' button. Below the navigation bar, there is a search bar with a 'Search' button. To the left of the search bar, there are several filter categories: Map (with radio buttons for 'Any', 'Intersects', and 'Within'), Time Period, Date, Owner, Topic Category, Metadata Type, Organizations, Keywords, and Source of Origin. Each filter category has a gear icon for settings. To the right of the search bar, there is a 'Filters' section. Below the filters, there is a 'Results' section showing a list of metadata items. The first item is 'AIBP HYDROSTRUCTURE' with a date of '2020-08-10 gptadmin' and a description: 'This layer contains the hydrostructures in 55 AIBP projects of India delineated under 'Assessment of Irrigation Infrastructure and Irrigation potential for Accelerated Irrigation Benefit Programme (AIBP) using Cartosat satellite data' funded projects by National Remote Sensing Centre (NRSC)'. Below the description are links for 'HTML', 'XML', and 'JSON'. The second item is 'ARS' with a date of '2021-01-13 gptadmin' and links for 'HTML', 'XML', 'JSON', and 'Links'. The third item is 'ARS' with a date of '2021-02-20 gptadmin' and links for 'HTML', 'XML', 'JSON', 'Links', 'Add to Map', and 'Preview'. The fourth item is 'ARS' with a date of '2021-02-22 gptadmin' and links for 'HTML', 'XML', 'JSON', and 'Links'. The results section also includes a 'By Relevance' dropdown, a '340 items' count, and pagination controls for 'Page 1'.

## 5.6 District at a glance

- acts as a tool to provide first level of information of at a glance.
- Overview of the national level scenario of water resources at a district level scale.



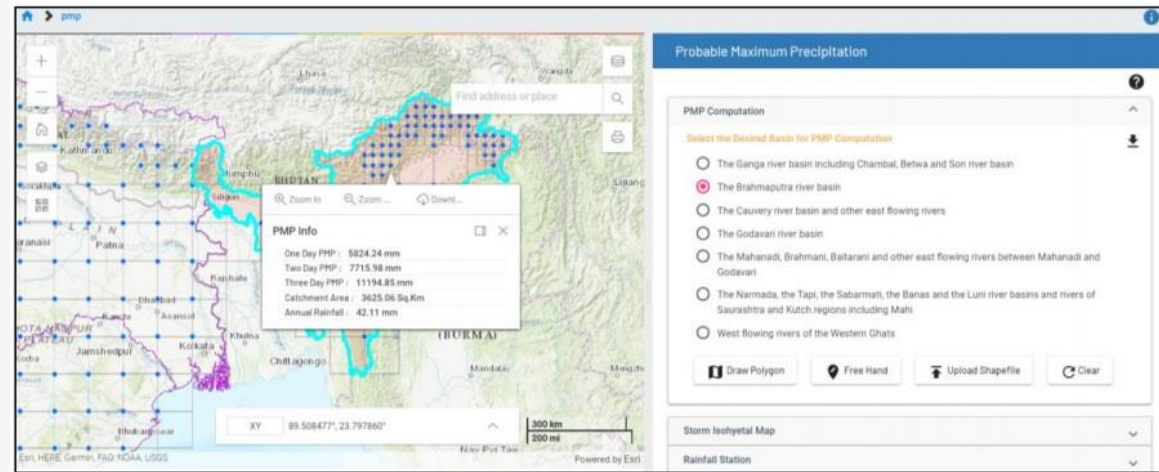
The screenshot displays the India WRS (Water Resources System) web application interface. On the left, a map of India is shown with a red dot indicating the location of South West Delhi. The main content area is titled "District Name: South West Delhi" and features an "Export" button and a "Clear" button. Below this, a table provides a comprehensive overview of the district's water resources and socio-economic indicators.

Sr No	Name	Description
1	District	South West Delhi
2	State	DL
3	Area in SqKms	395
4	Population	2292958
5	Growth Rate	30.65
6	Sex Ratio	840
7	Literacy	88.28
8	Density	5445
9	Seismic Zone	Seismic Zone-IV
10	Water Resources	
10.1	Dams (in Nos)	null
10.2	Barrage (in Nos)	null
10.3	Lift (in Nos)	null
10.4	Power House (in Nos)	null
10.5	Water Bodies (in Nos)	4
11	Minor Irrigation(5th Census)	
11.1	Ground Water Schemes	3458
1	Dugwells (in Nos)	0
2	Shallow Tubewells (in Nos)	144
3	Deep Tubewells (in Nos)	3314
11.2	Surface Water Schemes	0
1	Surface Flow (in Nos)	0
2	Surface Lift (in Nos)	0
11.3	Water Distribution Devices	3457
1	Open Water Channel (in Nos)	3449
2	Underground Pipe (in Nos)	4
3	Surface Pipe (in Nos)	4
4	Drip (in Nos)	0
5	Sprinkler (in Nos)	0
6	Others (in Nos)	0
11.4	Culturable Command Area(in ha)	7245.23
11.5	Irrigation Potential Created(in ha)	13531.02
11.6	Irrigation Potential Utilized(in ha)	11490.94

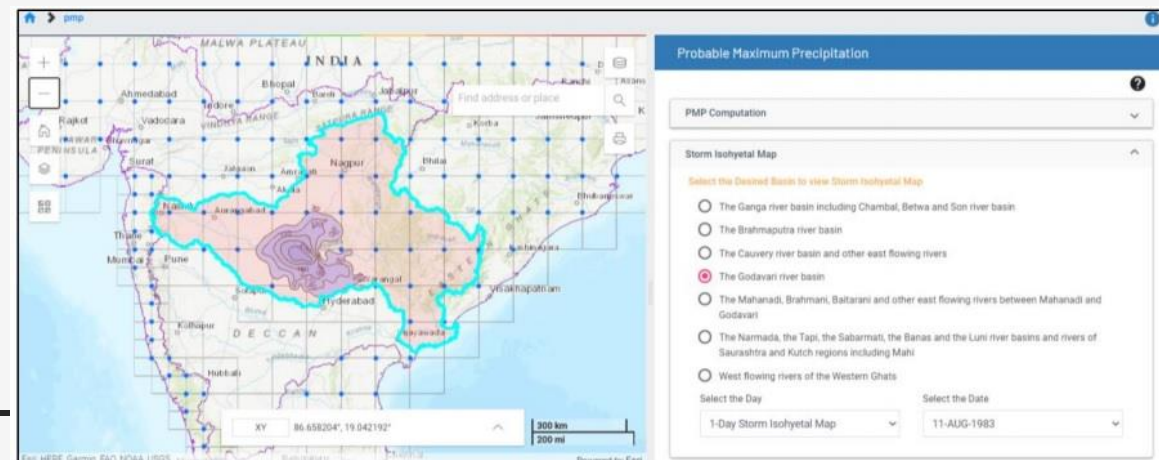


## 5.7 Probable Maximum Precipitation (PMP)

- PMP value will be computed for an area of interest
- Query area limit is 500 Sq. km.



*PMP Computation - Result*



*Storm Isohyetal Map*



# India Water Resources Information System



Home About WRIS Water Data + WRIS Tools + Utilities + Publications + Contact Us +



Please enter comments here if any (Max 50 Characters)

For specific suggestions, write to us on  
[helpdesk-nwic@gov.in](mailto:helpdesk-nwic@gov.in)

Reset Submit

## Reservoir Information

Currently more than ninety major reservoirs which account for 75% of the total storage capacity are monitored by the Central Water Commission. Knowing the existing water level and the stored volume is important for reservoir operation and achieving optimum flood protection and irrigation benefits.

[View More](#)

Contact Us at [helpdesk-nwic@gov.in](mailto:helpdesk-nwic@gov.in)

*Thank you*