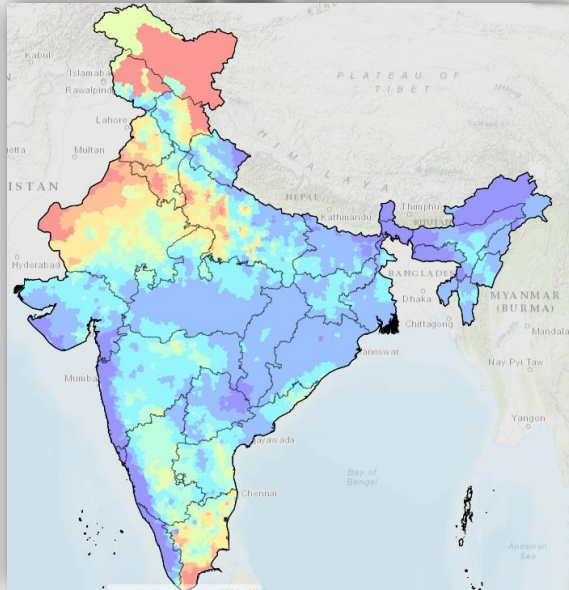




सत्यमेव जयते



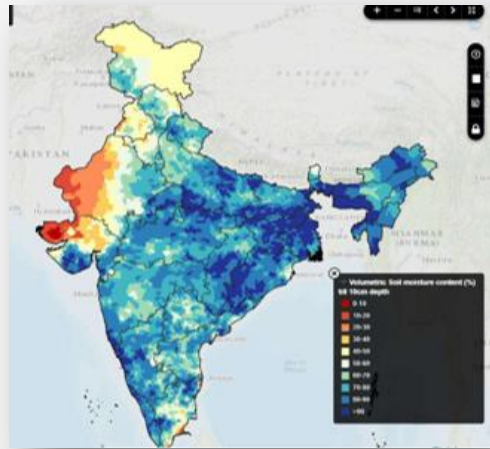
# India – WRIS India Water Resources Information System



## 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



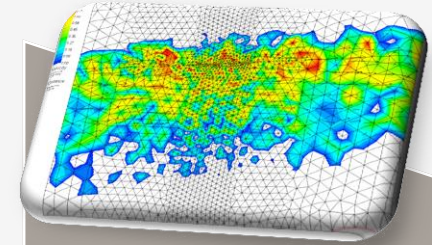
To collect available data from varied sources, generate new database, organize in standardized GIS format and provide scalable web-enabled information system.



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.





## 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



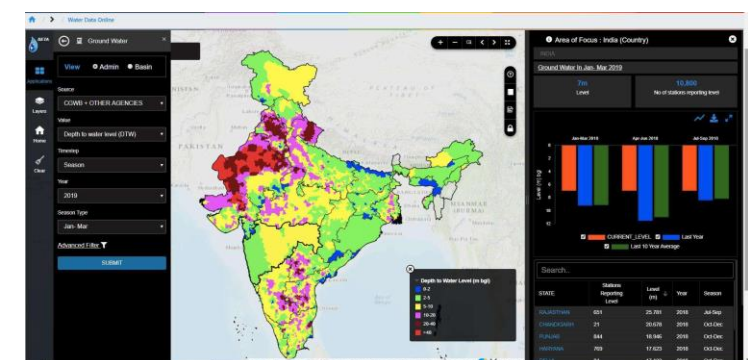
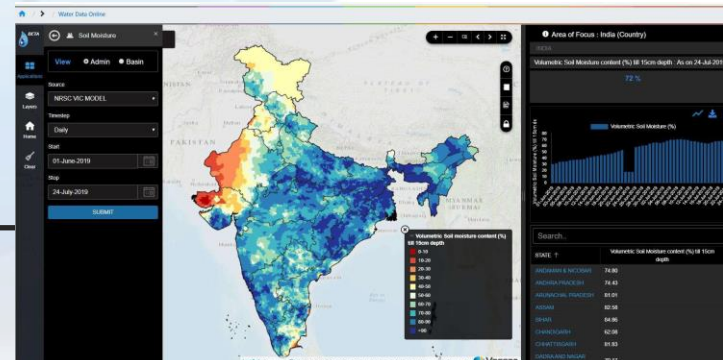
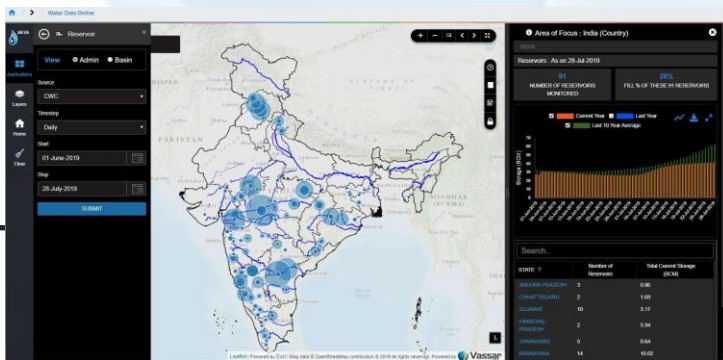
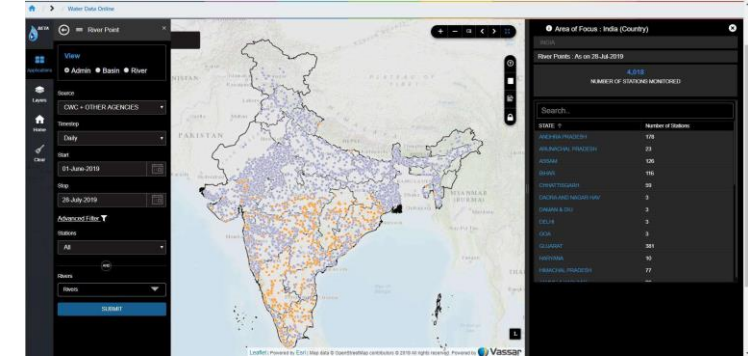
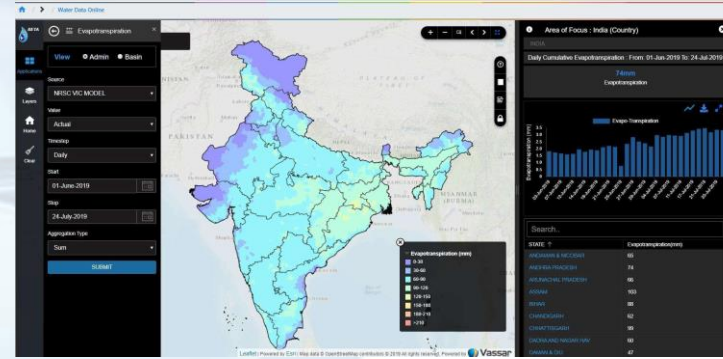
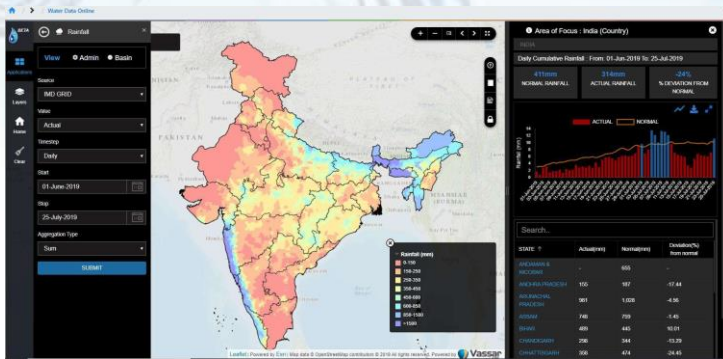
# India – Water Resources Information System

## 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







# Data Available in WRIS



## Central Ground Water Board

- Ground water observation well location and GW level
- Ground water quality sites and data
- Litholog well location and survey data
- Ground water resource estimation
- Aquifer systems
- Basin-CGWB



## Central Water Commission

- Hydrological Observation Stations
- Surface Water Quality Stations
- Reservoir level and storage
- Glacial Lake and Water Body
- Rainfall
- WRP projects
- Reservoir sedimentation studies
- Shape files AIBP Canal, Command Area, Hydro Structure
- PMP atlas-major basins



## National Remote Sensing Centre

- ET and Soil moisture
- Flood inundation maps.
- LULC, Wasteland, Land degradation, wetland cover
- Waterlogged Area and Saline areas
- Rainfall gridded data
- Ground water prospects maps
- Forest Cover – Classes



## Survey of India

- Shape files of International Boundary
- State Boundary
- District Boundary
- Village Boundary
- Infrastructure Layers



# Data Available in WRIS



## National Water Development Authority

- Shape files
- IBTL Component
- Structure on Links (Dams, Barrages, Weirs, Anicuts)
- Detailed Links (canal, Tunnel, etc.)



## Indian Meteorological Department

- Gridded Rainfall Data 0.25\*0.25
- Seismic zones
- Extreme Temp and RF
- District-wise Rainfall Monitoring Station Location (DRMS)
- Earthquake events



Inland Waterways  
Authority of India

## Inland Waterways Authority of India

- Reports on
  - Beacon
  - Harbour Limit
  - Navigation Canal
  - Rail Road Bridge
- River(Inland Navigation)
- Settlement Location
- Waterways



## Other agencies

- NHP implementing state and central agencies data (RF, water quality, Reservoir level, etc)
- MI Census Data
- Minor irrigation tank storage and capacity data
- 2011 census data (upto village level)
- Parliament and assembly constituency boundary
- Soil data (NBSS-LUP)
- Water tourism sites (States)
- DPAP and DDP (MoRD)
- Reports related to WR collected from State WRD and local state 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



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BACK



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### 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)**

---



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**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

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

Land Resources + Snow-Glacial Lake River Monitoring

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Explore water quality for surface water

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Map Sat Hy

**WRIS Wiki**  
India WRIS Wiki gives an overview of the 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

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Explore water quality for ground water

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

**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**

[View More](#)

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

**Surface Water** +

Ground Water +

Land Resources +

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

Allied Themes + Evapo-transpiration

Projects + Soil Moisture

Agro-Climatic Ecological Region

**Groundwater**

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

**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**

[View More](#)

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**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.

**Surface Water** +

Ground Water +

Land Resources +

Hydro-meteorological +

Allied Themes +

Projects - **Water Resources Projects**

Inter-Basin Transfer Links

Minor Irrigation Census

**Live Telemetry**

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[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.

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[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 the structures constructed under various schemes through authorized user login on the India-WRIS web portal.

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

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[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

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### 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



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- 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

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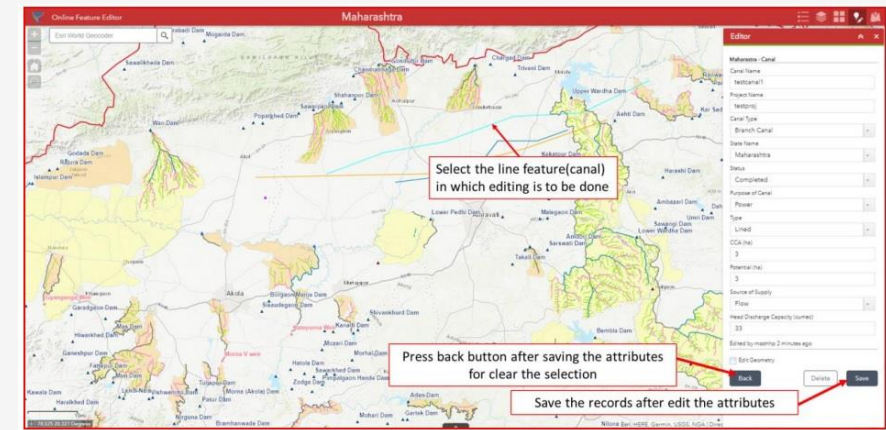
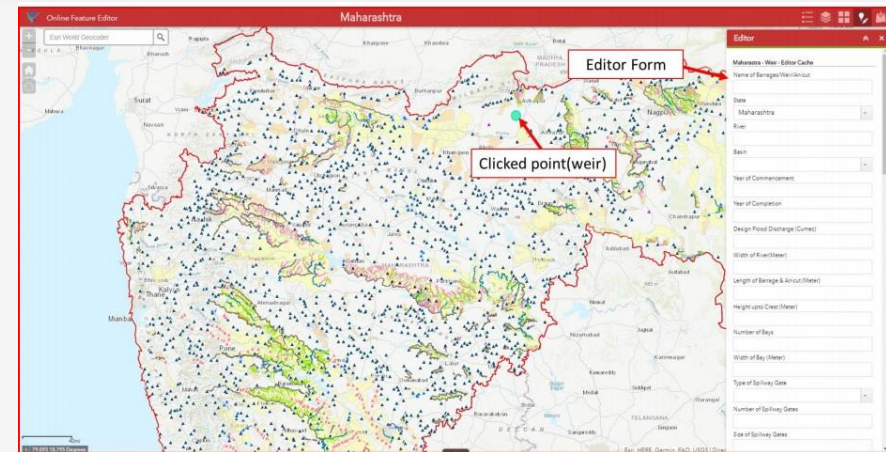
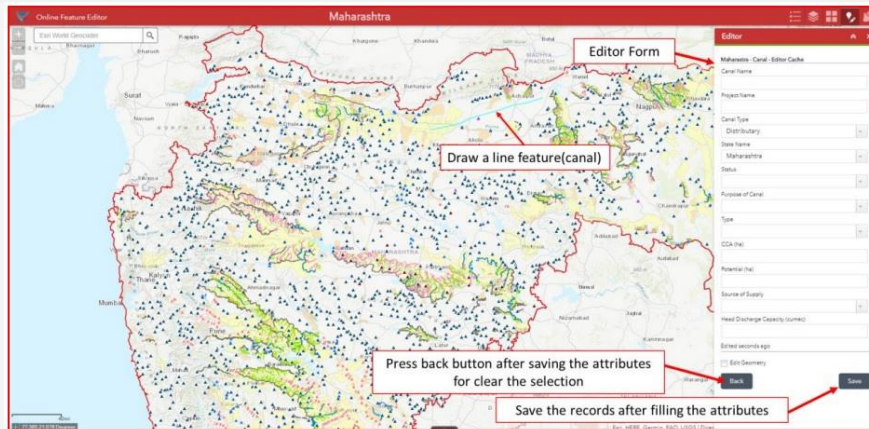
### Tools + Utilities

- 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

# Tools

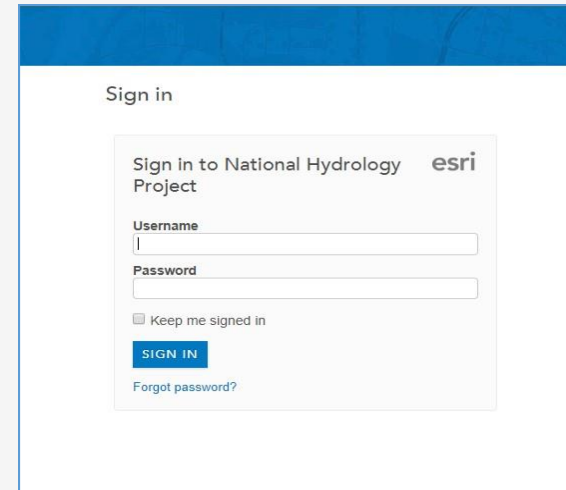
## A. Online Web Editor

- 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.



# Online Web Editor

- Each individual state agency user will use a valid username and password for login to the system.
- Sign in to navigate to the online feature editor's main page.
- Map viewer is zoomed to the state extent and different features for the state are visible.



Sign in

Sign in to National Hydrology Project **esri**

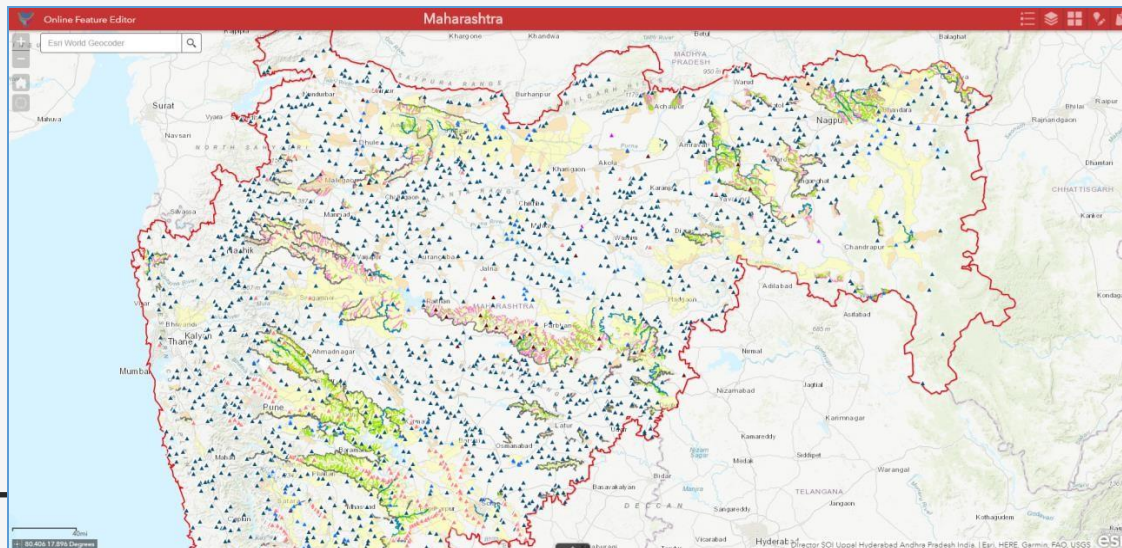
Username  
|

Password

Keep me signed in

**SIGN IN**

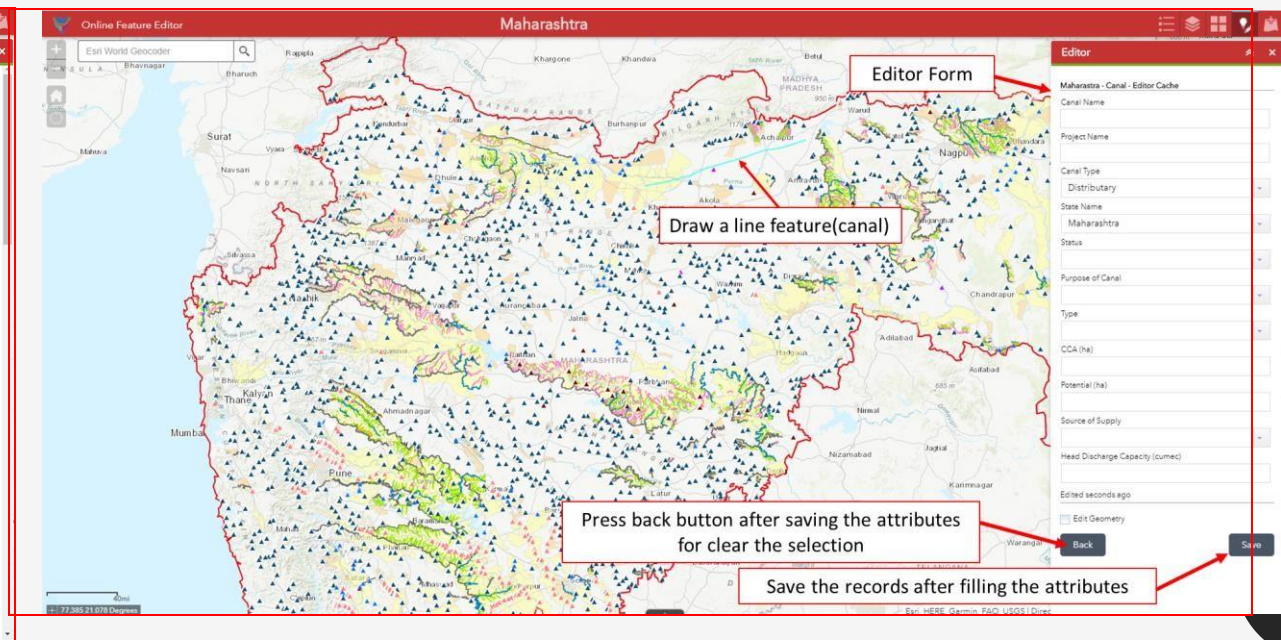
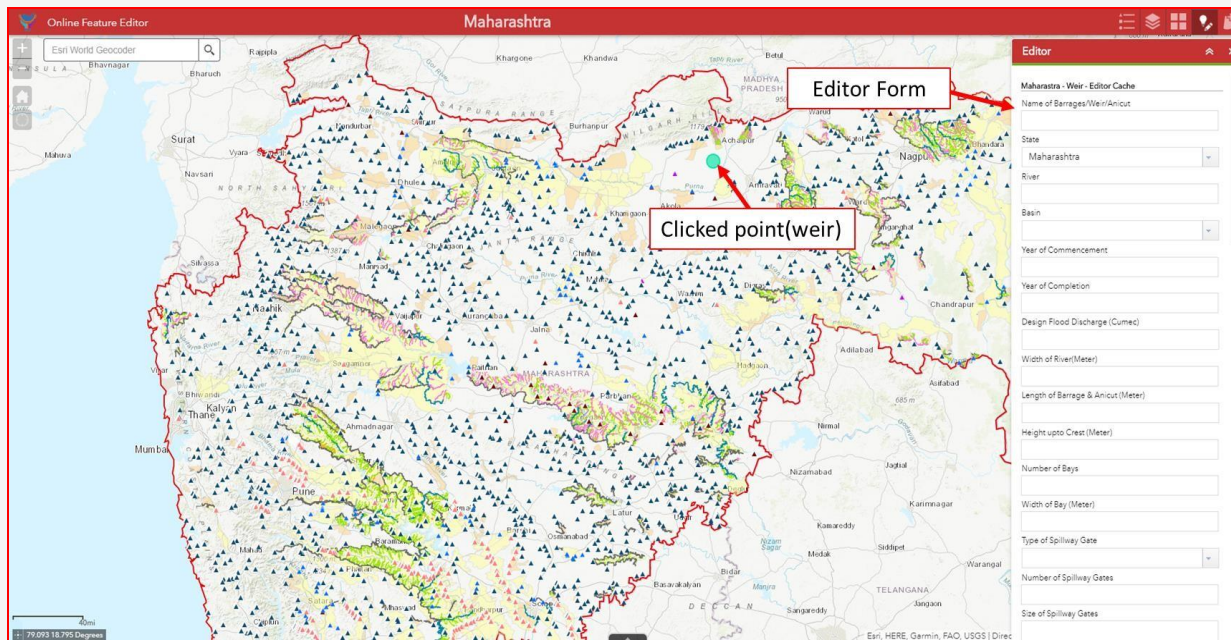
[Forgot password?](#)



# Online Web Editor

## Add Feature

- This is the main editing tool to add / edit / delete a new / existing (add by the same user) feature in the different themes like Weir, Lift, Dam etc.
- Editor Form - Attributes



# Online Web Editor

## Edit Feature

- The user has to click on the editor tool then click on the point or line feature to edit.
- All the attributes related to that feature will open in the form.
- User can fill or edit the attributes in the form and then save the record.

The image displays two screenshots of the Online Feature Editor interface, illustrating the steps for editing a feature.

**Left Screenshot:** Shows the editor form open on the right side of the map. A red box highlights the "Editor" form, with an arrow pointing to it and the text: "Editor Form will open, edit the feature attributes from here". Another red box highlights a point feature on the map, with an arrow pointing to it and the text: "Select the point(feature) in which editing is to be done". The form contains fields for Name of Barrages/Weir/Arcut, State, River, Basin, Year of Commencement, Year of Completion, Design Flood Discharge (Cumec), Width of River (Meter), Length of Barrage & Arcut (Meter), Height upto Crest (Meter), Number of Bays, Width of Bay (Meter), Type of Spillway Gate, Number of Spillway Gates, and Size of Spillway Gates.

**Right Screenshot:** Shows the editor form open on the right side of the map. A red box highlights a line feature (canal) on the map, with an arrow pointing to it and the text: "Select the line feature(canal) in which editing is to be done". Another red box highlights the "Back" button at the bottom of the form, with an arrow pointing to it and the text: "Press back button after saving the attributes for clear the selection". A third red box highlights the "Save" button at the bottom of the form, with an arrow pointing to it and the text: "Save the records after edit the attributes". The form contains fields for Canal Name, Project Name, Canal Type, State Name, Status, Purpose of Canal, Power, Type, CCA (ha), Potential (ha), Source of Supply, Flow, Head Discharge Capacity (cumec), and Edited by.

## B. Artificial Recharge Editor

### Artificial Recharge Structure (ARS) Module

1. Single Point Access & Database
2. Data Entry Dashboard
  1. Authorized user login (State & Agency wise)
  2. User can populate all information pertaining to ARS constructed under various schemes
  3. Generate reports for their data entry





## India Water Resources Information System

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- WRIS Tools -**
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Online Web Editor

**Artificial Recharge Structure  
Data Entry**

### Water Resources Projects

The total irrigation potential for major and medium irrigation projects is estimated at 58.4 million hectares. This module comprises a comprehensive database of India's water resources for irrigation projects and explains the complex relationship between different irrigation project entities.

View More

Agencies



# ARS – Data Entry

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

## Smart Editor –

➤ Create features such as

- Check dams
- De-silting tanks
- Percolation tanks
- Recharge shaft
- Roof top rainwater harvesting
- Watershed development and
- sub-surface dyke

➤ Edit Existing features

➤ Download Data

**Login Based**

Sign in

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

Username:

Password:



# 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’

The screenshot shows the 'Primary Data' section of the 'Artificial Recharge Structure' form. It includes fields for 'Type of Structure' (Check Dam), 'Sub Type of Structure' (Check Dam), 'Latitude (Degree Decimal)', 'Longitude (Degree Decimal)', 'Upload' (Choose File), 'State\*', 'District\*', 'Tehsil/block\*', 'Location Type (Urban/Rural)' (URBAN), 'City Name\*', 'Address', 'Pin\*', 'Basin Name\*', 'Sub Basin Name\*', 'Watershed Code\*', and 'Structure Code\*'. A 'Plot Point' button is located next to the longitude field. At the bottom, there are 'Next' and 'Close' buttons.

---Part B

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

The screenshot shows the 'Secondary Data' section of the 'Artificial Recharge Structure' form. It includes fields for '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..), and 'Month\*' (-Select Month-). At the bottom, there are 'Prev', 'Save', and 'Close' buttons.



# 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 (dropdown)  
Sub Type of Structure: Check Dam (dropdown)

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) (dropdown)

Location Type (Urban/Rural): URBAN (dropdown)  
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 (dropdown)  
Name of Agency/Owner\*: INSTITUTION 3

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

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

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

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

← Prev Save Close

# ARS Types and Sub Types



**CHECK DAMS**

|                                      |
|--------------------------------------|
| Check Dam                            |
| Nala Bund                            |
| Cement Plug                          |
| Gully Plug                           |
| Check Dam with associated structures |
| Vented Dam                           |



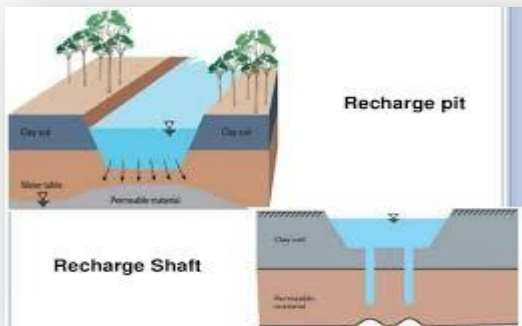
**ROOF TOP RAINWATER HARVESTING**

|                               |
|-------------------------------|
| RTRWH <50m                    |
| RTRWH area 50 to 300 sq. m.   |
| RTRWH area 300 to 1000 sq. m. |
| RTRWH area > 1000 sq. m.      |



**DESILTING TANKS**

|                              |
|------------------------------|
| Desilting of Tanks           |
| Revival of Tank              |
| Revival of Mauns             |
| Revival of Ahar Payne        |
| Modification of Village Pond |



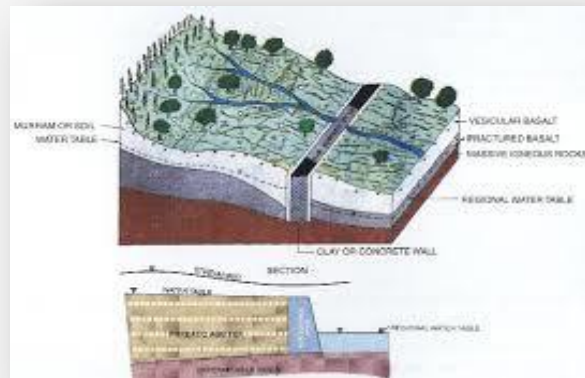
**RECHARGE SHAFT**

|                                  |
|----------------------------------|
| Recharge Shaft                   |
| Recharge Shaft & Recharge Trench |
| Recharge well (Bore well)        |
| Recharge well (Dug well)         |
| Recharge well (Tube well)        |
| Injection wells                  |



**PERCOLATION TANKS**

|                             |
|-----------------------------|
| Percolation Tank            |
| Percolation Pond            |
| Farm Pond                   |
| Village Pond                |
| Farm Pond with Recharge Pit |
| Chal khal (Bawdi)           |



**SUB SURFACE DYKE**

|  |                                       |
|--|---------------------------------------|
| Springshed Development/Watershed Development | Springshed Development                |
|  | Watershed Development                 |
|  | Diversion of flow from Nala & Springs |
|  | Contour Bund                          |
|  | Contour Trench                        |
|  | Gabion                                |

# Data Entry Form - Template

| Artificial Recharge Structure Data Entry Format (Check Dam) |                            |                             |                        |        |           |               |          |      |                                |                                      |   |                 |                       |  |   |                                 |                            |                                      |                       |                            |                      |  |
|---|----------------------------|-----------------------------|------------------------|--------|-----------|---------------|----------|------|--------------------------------|--------------------------------------|---|-----------------|-----------------------|--|---|---------------------------------|----------------------------|--------------------------------------|-----------------------|----------------------------|----------------------|--|
| *Mandatory Fields   |                            | PRIMARY                     |                        |        |           |               |          |      |                                |                                      |   | SECONDARY       |                       |  |   |                                 |                            |                                      |                       |                            |                      |  |
| 1   | 2                          | 3                           | 4                      | 5      | 6         | 7             | 8        | 9    | 10                             | 11                                   | 1                                       | 2               | 3                     | 4                                      | 5   | 6                               | 7                          | 8                                    | 9                     | 10                         |                      |  |
| ARS No.   | Latitude (Degree Decimal)* | Longitude (Degree Decimal)* | Sub Type of Structure* | State* | District* | Tehsil/Block* | Village* | Pin* | Location Type (Urban / Rural)* | Address (Required in Urban Location) | City Name* (Required in Urban Location) | Type of Agency* | Name of Agency/owner* | Source of Funding (Name of the scheme) | Height of Structure (Meter in above ground level) | Length of the Structure (Meter) | Storage capacity (Cub. M)* | Functional Status (Existing/ Closed) | Expenditure (Rupees)* | Year of Completion* (YYYY) | Photograph (Yes/No)* |  |
| 4   | Structure No.1             |                             |                        |        |           |               |          |      |                                |                                      |   |                 |                       |  |   |                                 |                            |                                      |                       |                            |                      |  |
| 5   | Structure No.2             |                             |                        |        |           |               |          |      |                                |                                      |   |                 |                       |  |   |                                 |                            |                                      |                       |                            |                      |  |
| 6   | Structure No.3             |                             |                        |        |           |               |          |      |                                |                                      |   |                 |                       |  |   |                                 |                            |                                      |                       |                            |                      |  |
| 7   | Structure No.4             |                             |                        |        |           |               |          |      |                                |                                      |   |                 |                       |  |   |                                 |                            |                                      |                       |                            |                      |  |
| 8   | Structure No.5             |                             |                        |        |           |               |          |      |                                |                                      |   |                 |                       |  |   |                                 |                            |                                      |                       |                            |                      |  |
| 9   | Structure No.6             |                             |                        |        |           |               |          |      |                                |                                      |   |                 |                       |  |   |                                 |                            |                                      |                       |                            |                      |  |
| 10  | Structure No.7             |                             |                        |        |           |               |          |      |                                |                                      |   |                 |                       |  |   |                                 |                            |                                      |                       |                            |                      |  |
| 11  | Structure No.8             |                             |                        |        |           |               |          |      |                                |                                      |   |                 |                       |  |   |                                 |                            |                                      |                       |                            |                      |  |
| 12  | Structure No.9             |                             |                        |        |           |               |          |      |                                |                                      |   |                 |                       |  |   |                                 |                            |                                      |                       |                            |                      |  |
| 13  | Structure No.10            |                             |                        |        |           |               |          |      |                                |                                      |   |                 |                       |  |   |                                 |                            |                                      |                       |                            |                      |  |
| 14  | Structure No.11            |                             |                        |        |           |               |          |      |                                |                                      |   |                 |                       |  |   |                                 |                            |                                      |                       |                            |                      |  |
| 15  | Structure No.12            |                             |                        |        |           |               |          |      |                                |                                      |   |                 |                       |  |   |                                 |                            |                                      |                       |                            |                      |  |
| 16  | Structure No.13            |                             |                        |        |           |               |          |      |                                |                                      |   |                 |                       |  |   |                                 |                            |                                      |                       |                            |                      |  |
| 17  | Structure No.14            |                             |                        |        |           |               |          |      |                                |                                      |   |                 |                       |  |   |                                 |                            |                                      |                       |                            |                      |  |
| 18  | Structure No.15            |                             |                        |        |           |               |          |      |                                |                                      |   |                 |                       |  |   |                                 |                            |                                      |                       |                            |                      |  |
| 19  |                            |                             |                        |        |           |               |          |      |                                |                                      |   |                 |                       |  |   |                                 |                            |                                      |                       |                            |                      |  |

Page 1

# Utilities

## 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 shows the 'Download Data' interface for Ground Water. The 'Application' dropdown is set to 'Ground Water'. The 'Report Type' dropdown is open, showing options: 'Select Required Report', 'State wise Level Report', 'District wise Level Report', and 'State Wise Station Level Report'. Below the dropdowns, there are three main sections: 'Source', 'Location', and 'Time'. The 'Source' dropdown is set to 'COWB + OTHER AGENCIES'. The 'Location' section includes 'State' (set to 'DELHI') and a list of states including KARNATAKA, KERALA, LAKSHDWEEP, MADHYA PRADESH, MAHARASHTRA, MANIPUR, MEGHALAYA, MIZORAM, NAGALAND, ORISSA, PONDICHERRY, PUNJAB, RAJASTHAN, SIKKIM, TAMILNADU, TELANGANA, TRIPURA, UTTARACHAL, and WEST BENGAL. The 'Time' section includes 'Time Step' (set to 'Daily'), 'Start' date, and 'Stop' date. A 'DOWNLOAD REPORT' button is visible at the bottom.

The screenshot shows the 'Storage Comparison' dashboard. The 'Application' dropdown is set to 'Reservoir'. The 'Report Type' dropdown is open, showing options: 'Select Required Report', 'Level & Storage Bulletin', 'Storage Timeseries', and 'Storage Comparison'. Below the dropdowns, there are three main sections: 'Source', 'Location', and 'Time'. The 'Source' dropdown is set to 'AP STATE'. The 'Location' section includes 'View' (set to 'Admin'), 'State' (set to 'Select State'), 'District' (set to 'Select District'), and 'Reservoir' (set to 'Select Reservoir'). The 'Time' section includes 'Date' and 'Select date'. A data table is visible at the bottom left, showing columns for 'Date', 'Level', 'Storage', and 'Comparison'.

# 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 an 'Application' dropdown menu with options: 'Select Application', 'Rainfall', 'Reservoir', 'River Point', and 'Ground Water'. The 'Report Type' dropdown is set to 'Select Required Report'. The bottom panel shows the configuration screen after selecting 'Ground Water'. The 'Source' dropdown is set to 'CGWB + OTHER AGENCIES'. The 'Location' dropdown is set to 'DELHI', with a list of states including KARNATAKA, KERALA, LAKSHDWEEP, MADHYA PRADESH, MAHARASHTRA, MANIPUR, MEGHALAYA, MIZORAM, NAGALAND, ORISSA, PONDICHERRY, PUNJAB, RAJASTHAN, SIKKIM, TAMILNADU, TELANGANA, TRIPURA, UTTAR PRADESH, UTTRANCHAL, and WEST BENGAL. The 'Report Type' dropdown is set to 'Report of Trends of Water Level'. The 'Frequency' dropdown is set to 'Daily'. There are 'Start' and 'Stop' date selection fields, each with a 'Select date' button and 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 header with 'Application' set to 'River Point' and 'Report Type' set to 'Level & Flow Timeseries'. Below the header, 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 blue 'DOWNLOAD REPORT' button.

Back to Water Data Online

Download Data

» Download Data

Application: River Point

Report Type: Level & Flow Timeseries

FEED BACK

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

(\*) 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' button with a calendar icon, and three more dropdowns for 'State', 'District', and 'Reservoir', all currently set to 'Select...'. At the bottom of the form is a large blue button labeled 'DOWNLOAD REPORT'.

# Utilities

## Rainfall data download

- Rainfall - State wise | District wise | Station-wise | Basin-wise

The screenshot displays a web application interface for downloading rainfall data. It is organized into three main sections, each with a 'Download Data' button and a 'Download Report' button.

- Section 1:** Application: Rainfall, Report Type: Select Required Report. A dropdown menu is open showing options: Rainfall (selected), Reservoir, River Point, and Ground Water.
- Section 2:** Application: Rainfall, Report Type: Select Required Report. A dropdown menu is open showing options: Select Required Report, State Wise Timeseries, District Wise Timeseries (selected), and Station Wise Timeseries.
- Section 3:** Application: Rainfall, Report Type: District Wise Timeseries. This section is expanded to show filters:
  - Source:** Select Source, IMD GRID (selected), AP STATE, CWC + OTHER AGENCIES.
  - Location:** State: Select State, District: Select District.
  - Time:** Time Step: Daily, Start: Select date, Stop: Select date, Aggregation Type: Sum.

At the bottom of the interface, there is a 'DOWNLOAD REPORT' button and a preview of a data table with columns for dates and numerical values.

# Utilities

## Water Quality data download

- Groundwater Sites | Surface Water Sites

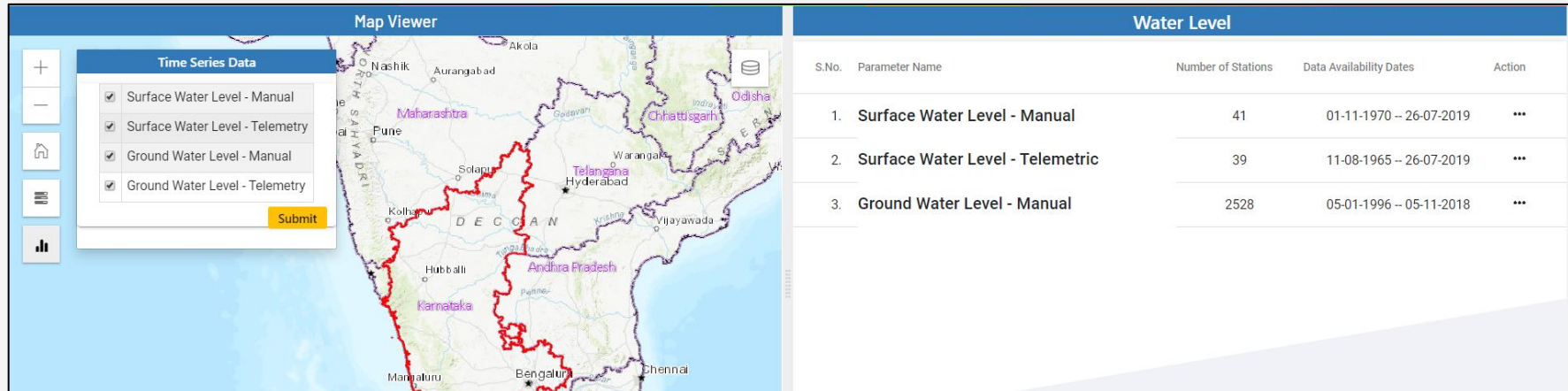
The image displays two screenshots of the 'Water Quality data download' interface. The top screenshot shows the 'Surface Water Quality Station Wise' report type. The 'Application' dropdown is open, showing options: Select Application, Rainfall, Reservoir, River Point, Ground Water, and Water Quality. The 'Report Type' is set to 'Surface Water Quality Station Wise'. The 'Time' section includes 'Time Step' (Monthly), 'Start' (Select date), and 'Stop' (Select date). The 'Source' field is 'Select Source'. The 'District' field is 'Select District' and the 'Station' field is 'Select Station'. The bottom screenshot shows the 'Ground Water Quality Station Wise' report type. The 'Application' is 'Water Quality'. The 'Report Type' dropdown is open, showing options: Select Required Report, Surface Water Quality Station Wise, and Ground Water Quality Station Wise. The 'Location' section includes 'View' (Admin), 'State' (Select State), 'District' (Select District), and 'Station' (Select Station). The 'Time' section includes 'Time Step' (Monthly), 'Start' (Select date), and 'Stop' (Select date). The 'Source' field is 'Select Source'. The 'DOWNLOAD REPORT' button is visible at the bottom of the form.

# Utilities

## 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.



**Map Viewer**


**Time Series Data**

- Surface Water Level - Manual
- Surface Water Level - Telemetry
- Ground Water Level - Manual
- Ground Water Level - Telemetry

**Submit**

**Water Level**

| 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 | ...    |

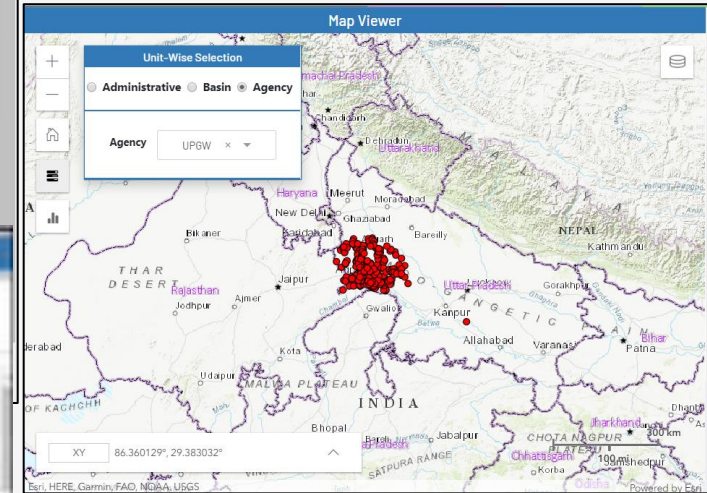


**Map Viewer**

**Station-wise Information**

Agency Name: UPGR - Selected Agency: UPGR

| S.No. | Station Name                             | Station Code | From Date  | To Date    | Availability Type | Down on Feet |
|-------|--|--------------|------------|------------|-------------------|--------------|
| 1     | UP_Agri, Break Atn, PMV, Kalamaria       | 010118PU     | 02-07-2018 | 02-07-2018 | ●                 | ●            |
| 2     | UP_Agri, Achharia, 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, Junior School, Mithra | 010118PU     | 04-04-2018 | 25-07-2019 | ●                 | ●            |
| 5     | UP_Agri, Achharia, Junior School, Mithra | 010118PU     | 04-04-2018 | 25-07-2019 | ●                 | ●            |
| 6     | UP_Agri, Behrouz St, Columbus            | 010118PU     | 04-04-2018 | 25-07-2019 | ●                 | ●            |
| 7     | UP_Agri, Agri City (HBT)                 | 010118PU     | 25-03-2019 | 26-05-2019 | ●                 | ●            |



**Map Viewer**

**Unit-Wise Selection**

Administrative  Basin  Agency

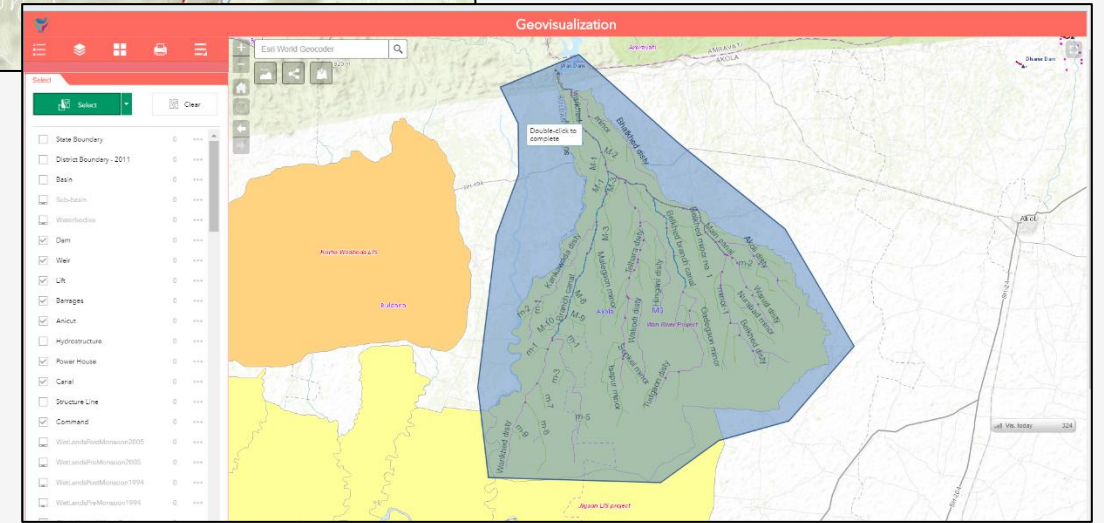
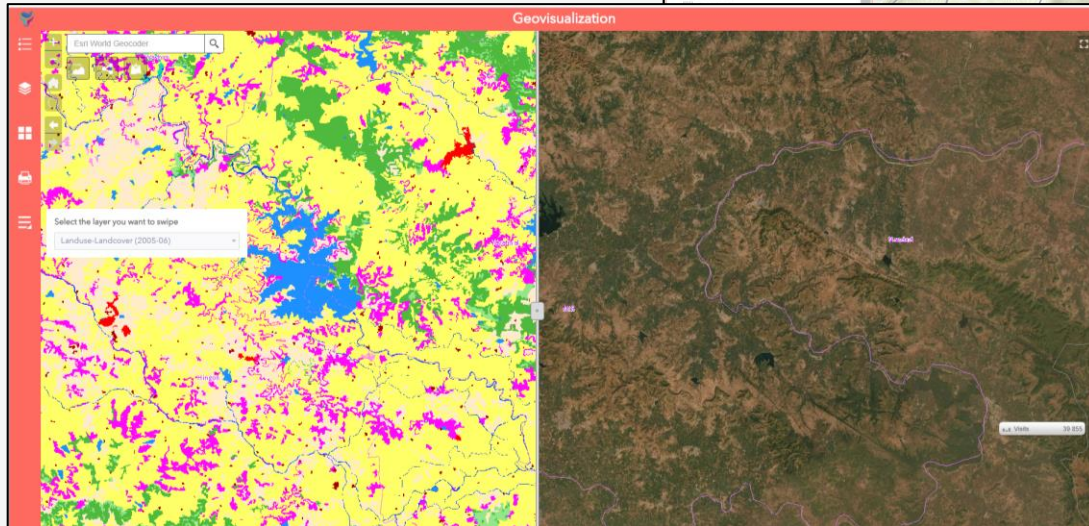
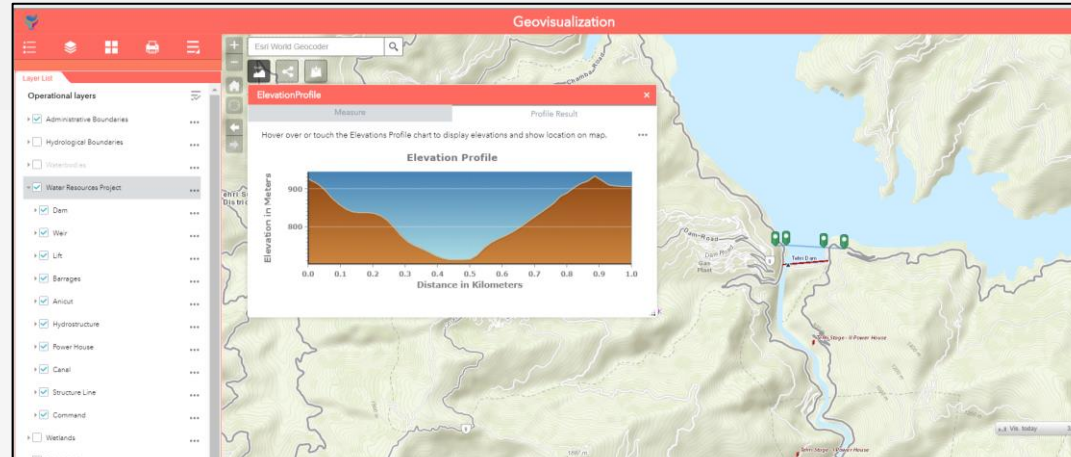
Agency: UPGR x

XY: 86.360129°, 29.383032°

# Utilities

## 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.



## 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*

The screenshot shows the 'India's Water Wealth' article on the WRIS Wiki. The page includes a navigation menu on the left, a main content area with a paragraph and a table, and a table caption below.

**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 1723 km<sup>3</sup> is utilized (500 km<sup>3</sup> from surface water resources and 420 km<sup>3</sup> from ground water resources). The water demand in the year 2000 was 824 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                  | 100-1180 mm                                 |
| Range Rainy days                       | 5-150 days, mostly during 15 days in 100 mm |
| Range PET                              | 1000-3500 mm                                |
| Per capita water availability (2010)   | 1500 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 2306 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 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'.

# Utilities

## 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 WIS web application interface. On the left is a map of India with a red dot indicating the location of South West Delhi. The central panel shows a data table for the selected district. The right panel provides a detailed view of the 'Minor Irrigation(5th Census)' data.

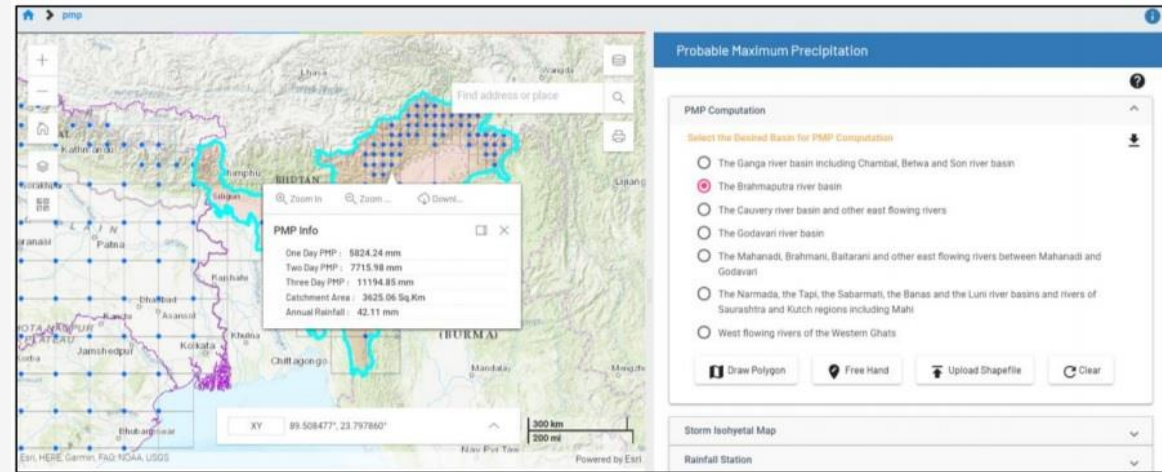
| Sr No  | Name                                 | Description      |
|--------|--------------------------------------|------------------|
| 1      | District                             | South West Delhi |
| 2      | State                                | DL               |
| 3      | Area in SqKms                        | 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     | <b>Water Resources</b>               |                  |
| 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     | <b>Minor Irrigation(5th Census)</b>  |                  |
| 11.1   | <b>Ground Water Schemes</b>          |                  |
| 11.1.1 | Dugwells (in Nos)                    | 0                |
| 11.1.2 | Shallow Tubewells (in Nos)           | 144              |
| 11.1.3 | Deep Tubewells (in Nos)              | 3314             |
| 11.2   | <b>Surface Water Schemes</b>         |                  |
| 11.2.1 | Surface Flow (in Nos)                | 0                |
| 11.2.2 | Surface Lift (in Nos)                | 0                |
| 11.3   | <b>Water Distribution Devices</b>    |                  |
| 11.3.1 | Open Water Channel (in Nos)          | 3449             |
| 11.3.2 | Underground Pipe (in Nos)            | 4                |
| 11.3.3 | Surface Pipe (in Nos)                | 4                |
| 11.3.4 | Drip (in Nos)                        | 0                |
| 11.3.5 | Sprinkler (in Nos)                   | 0                |
| 11.3.6 | 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         |



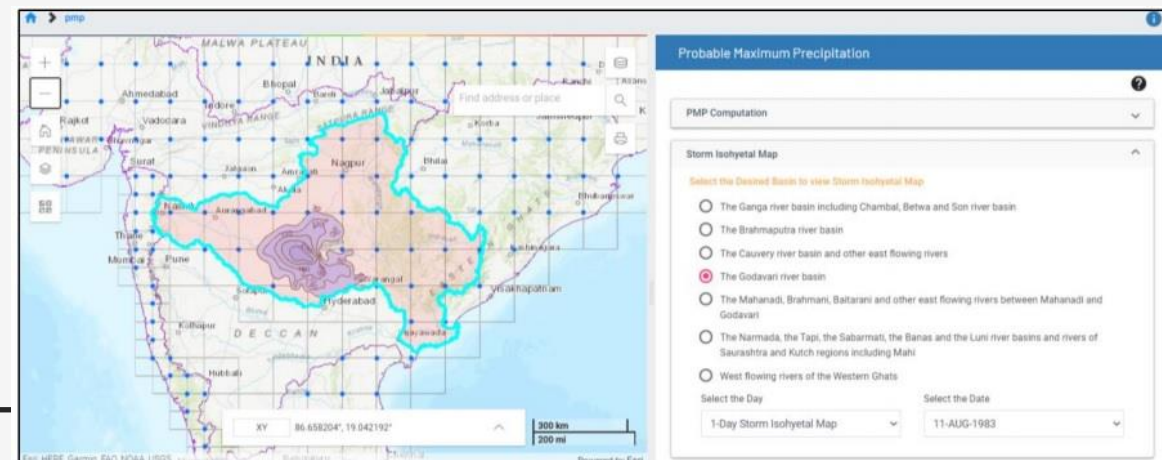
# Utilities

## 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

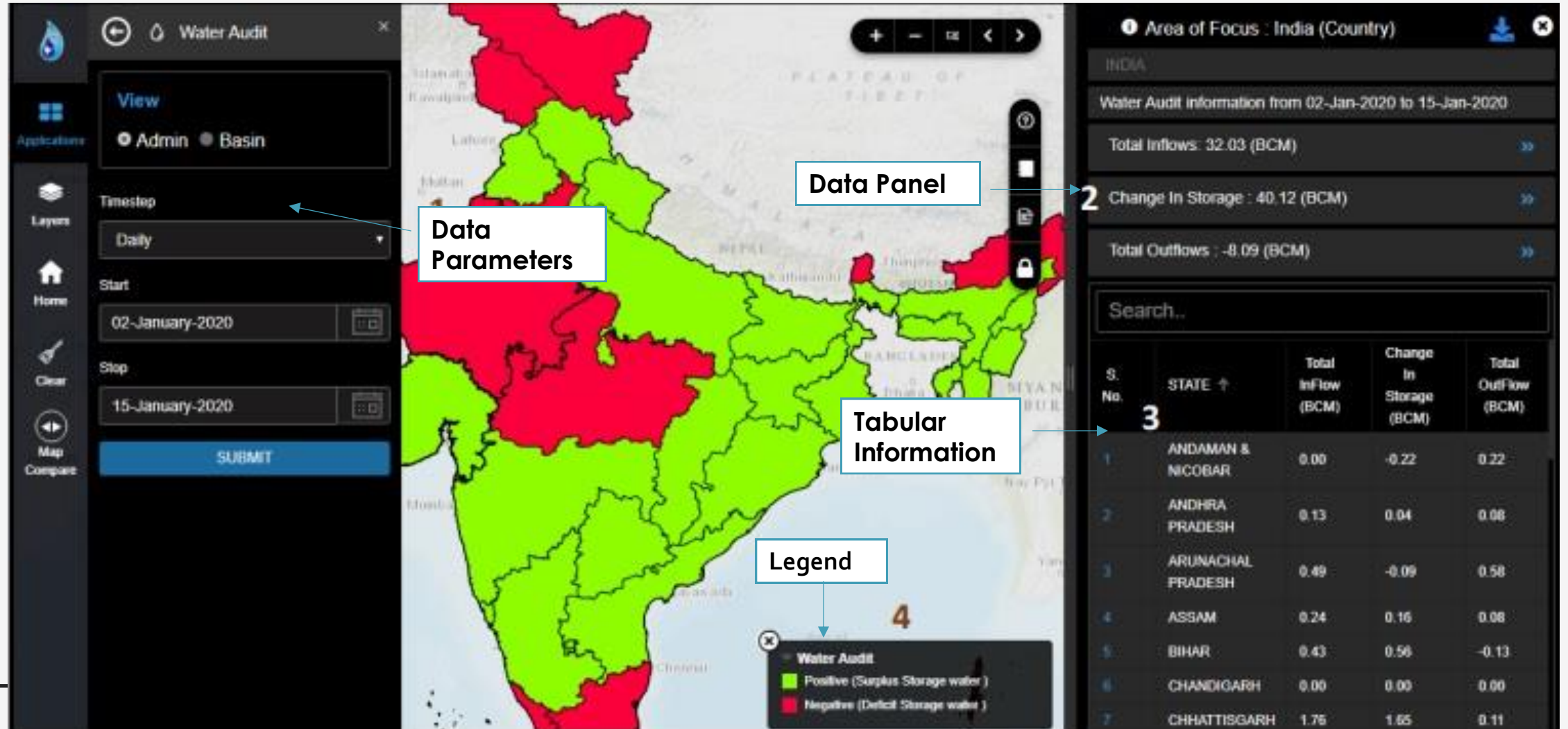


Storm Isohyetal Map

# Utilities

## 8 Surface Water Audit

- Inflows and outflows in an area and its change in storage for a particular time period.
- displays the excess and low water storage in different parts of the country





# India Water Resources Information System



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## 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**