NWIC
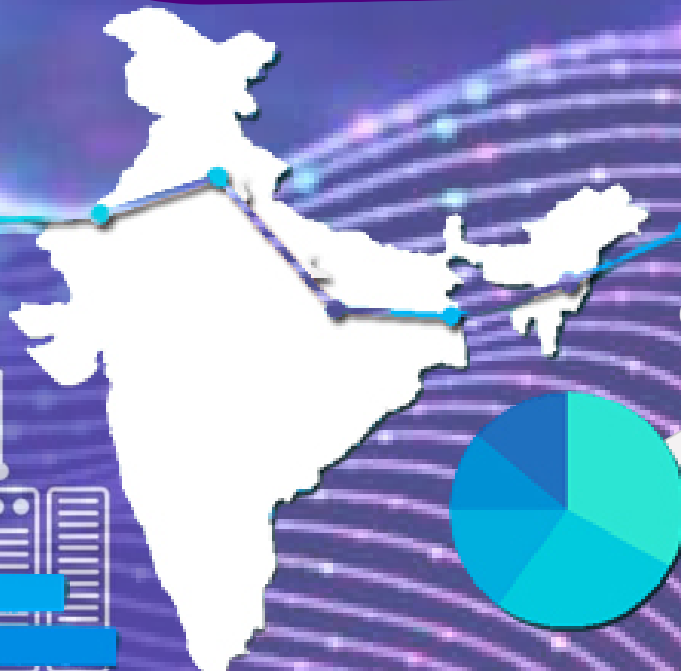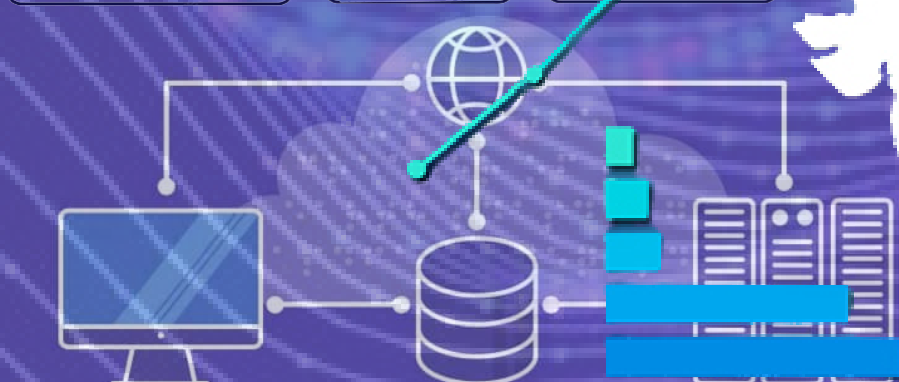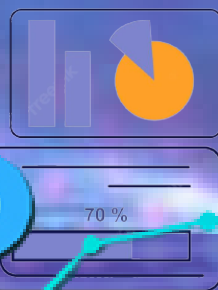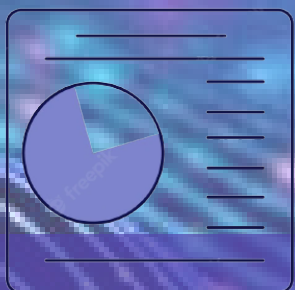
भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन, नदी विकास और गंगा संरक्षण विभाग
GOVERNMENT OF INDIA
MINISTRY OF JAL SHAKTI
DEPARTMENT OF WATER RESOURCES, RD & GR

सत्यमेव जयते

7th IWW 2022

INDIA WATER RESOURCES INFORMATION SYSTEM
(India-WRIS)

WATER INFORMATION MANAGEMENT SYSTEM
## (WIMS)
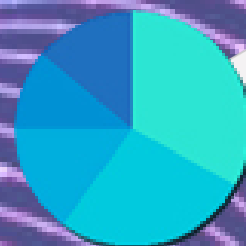
NWIC

INTRODUCTION

For sustainable and informatics-based management of water resources through seamless access to real-time and historical water data, National Water Informatics Centre (NWIC) was set up by the Government of India in March 2018 as a Central repository of nationwide water resources data. NWIC is mandated to collect, collate, update, manage and disseminate water data. For discharging its mandate NWIC is managing two IT-based platforms viz (i) India-WRIS - For the dissemination of data and (ii) WIMS - For online collection and storage of data.
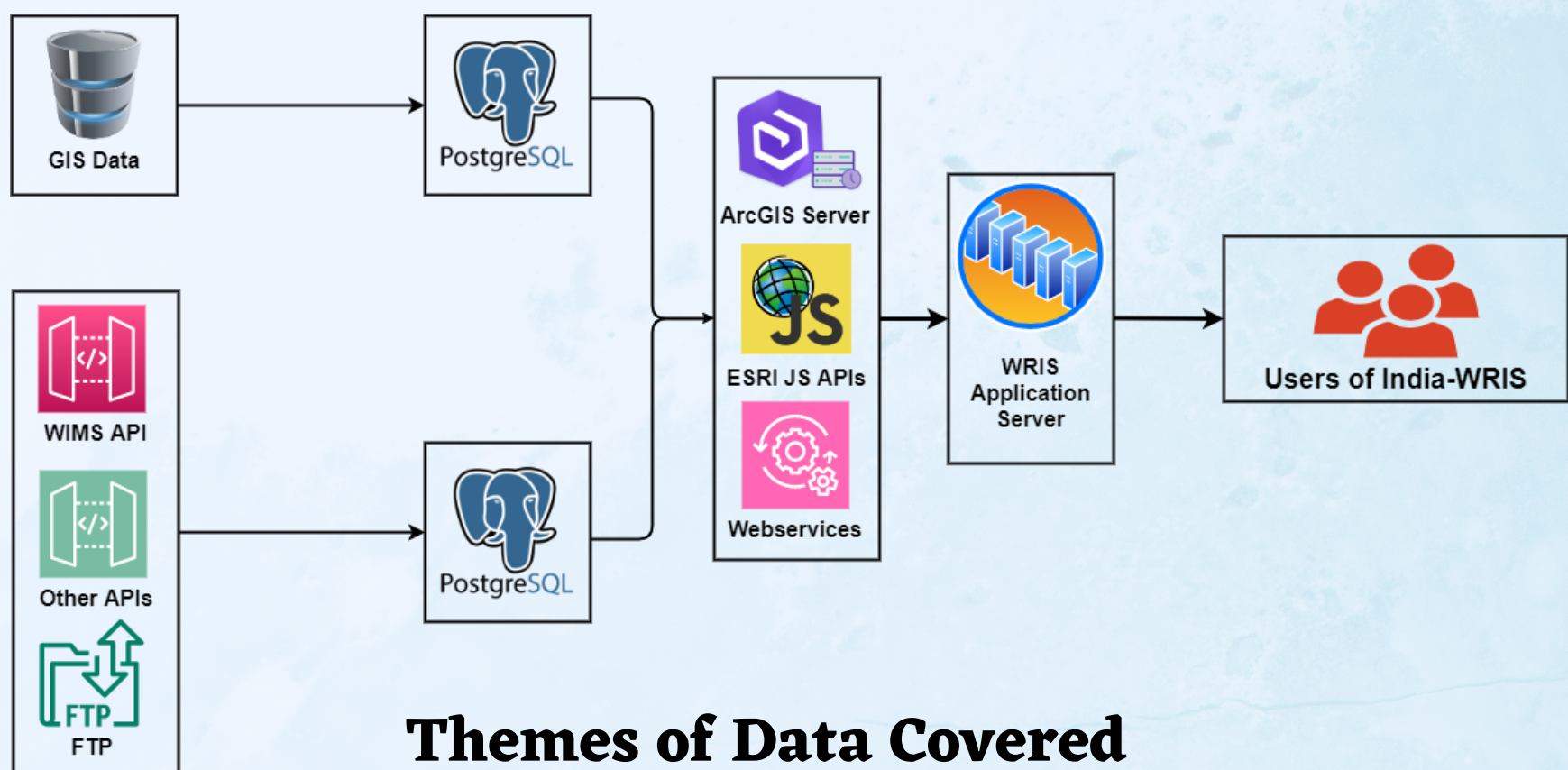
India-WRIS

India Water Resources Information System (India-WRIS) is a web-enabled public platform for the display and dissemination of water data. The time-series data on parameters like rainfall, river water levels & discharge, reservoir levels, surface and groundwater quality and groundwater levels etc. collected through WIMS along with data on other hydro-meteorological parameters and allied themes is displayed through maps and dashboard on a GIS framework over the portal. The platform enables users and policy planners to have a comprehensive, credible and contextual view of India's water resources for monitoring, planning & management purposes.
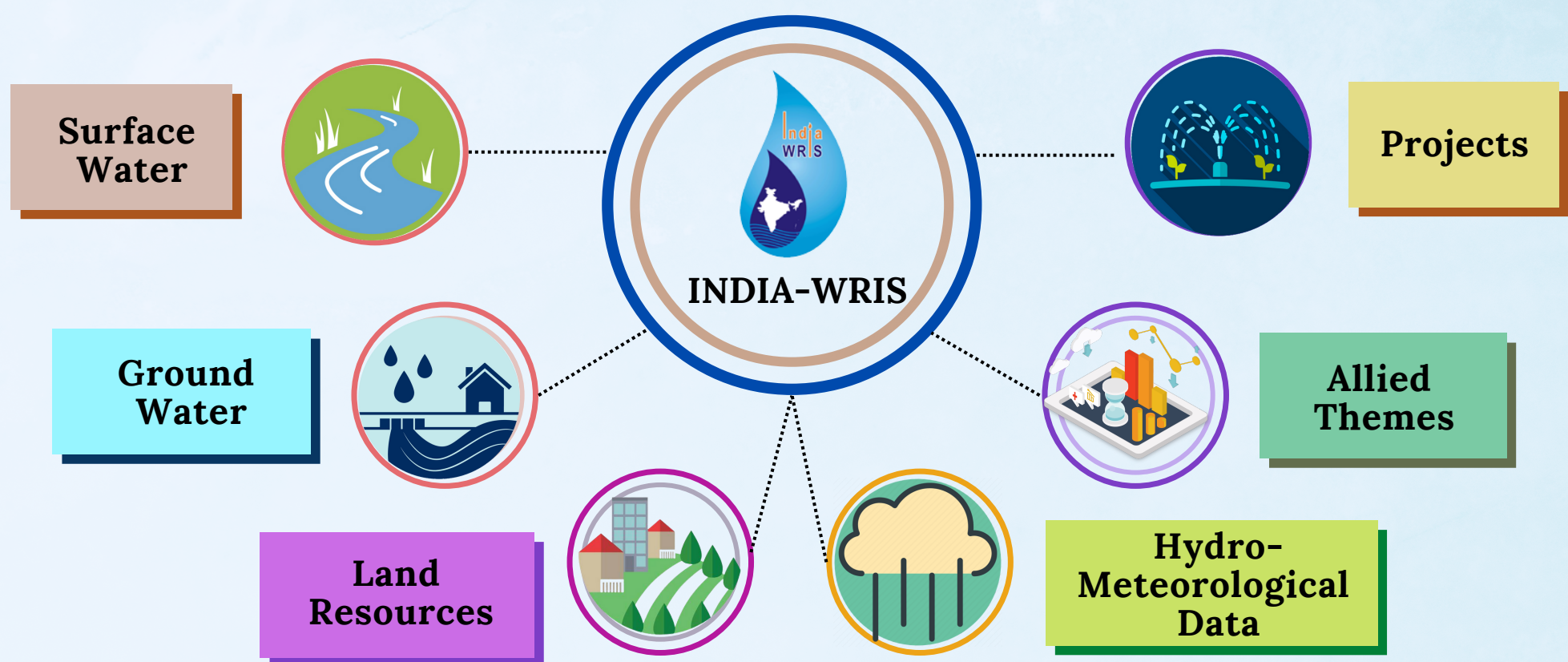
System Overview

34 Modules

6 Utilities

6 Themes

2 Tools

128 GIS Layers
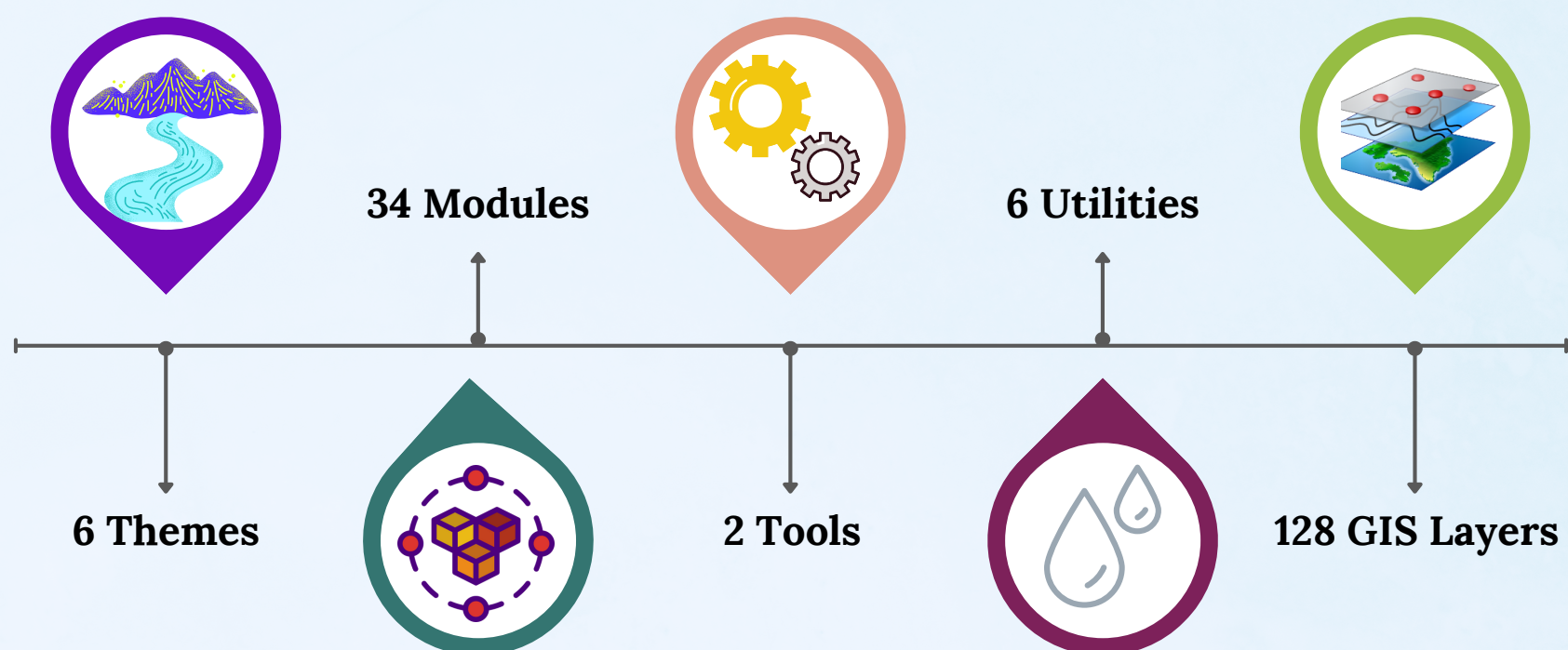
India-WRIS Application Architecture

Themes of Data Covered

Surface Water	Projects
Ground Water	Allied Themes
Land Resources	Hydro-Meteorological Data

INDIA-WRIS

Data Types of India-WRIS

Based on the time interval & frequency of Data Updation, the data hosted on the platform is classified into three groups namely; 'Dynamic', 'Semi-Dynamic' & 'Static'.
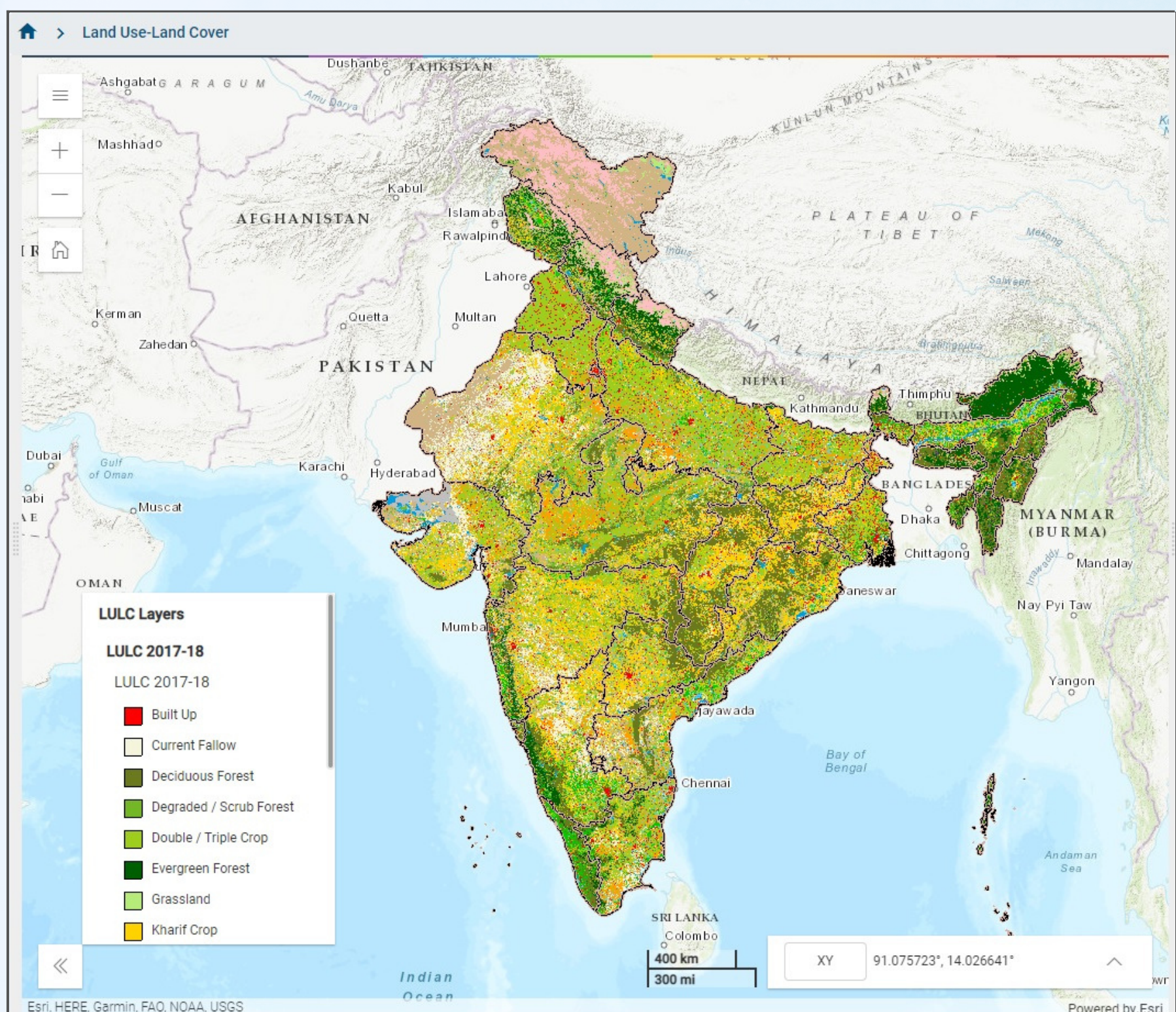
DYNAMIC DATA GROUP

This group represents real-time data updated at a daily or designated frequency on parameters like reservoir storage, river level and discharge, surface water quality, groundwater level & groundwater quality and other hydro-meteorological parameters including rainfall, evapotranspiration, and soil moisture.

SEMI - DYNAMIC DATA GROUP

It includes data collected at larger intervals on completion of periodic studies/ assessments and covers modules like Water Resources Projects, LULC, Groundwater Resources Estimation etc.

STATIC DATA GROUP

This group shows results of some non-repetitive projects/ researches commissioned by the Government at different levels and data that remain unchanged over long periods such as Aquifer 2D, Soil Type, Agro-Climatic/Ecological Regions etc.

Classification of Modules

Dynamic Modules

- Rainfall
- Reservoir (Level and Storage)
- River Monitoring (Level and Discharge)
- Groundwater Level
- Groundwater Quality
- Surface Water Quality
- Evapotranspiration
- Soil Moisture

Semi-Dynamic Modules

- Groundwater Resources Estimation
- Surface Water Bodies
- Snow-Glacial Lake
- Water Resources Projects
- Minor Irrigation Census
- Land Use and Land Cover
- Wasteland Study
- Wetlands
- Inland Navigation Waterways
- Inter-Basin Transfer Links
- Artificial Recharge Structure - Viewer
- Forest/Tree Cover

Static Modules

- Land Degradation (2015-16)
- Aquifer 2D (2013)
- Reservoir Sediment Studies
- Exploration Details/Litholog
- River Information
- Socio-Economic Census
- Groundwater Prospects Study (2011)
- Agro-Climatic/Ecological Region
- Reported Extreme Temperature, Rainfall and Earthquake events
- Flood Inundation (2008-10)
- Drought affected areas (2002)
- Soil Type
- Water Logging/Soil Salinity (2003-05)
- Storm Surge Study (2011)

Tools & Utilities

- Online Web Editor
- Artificial Recharge Structure - Data Entry
- District at a glance
- Data/Report Download
- Data Availability
- Geo-Viewer
- WRIS wiki
- Metadata
- PMP Atlas

Tools & Utilities

TOOLS

Online Web Editor and ARS Data Entry are the two modules in the WRIS platform which allow authorized users to add, update and delete data.

UTILITIES

Utility modules i.e. Data/Report Download, Geoviewer, Metadata etc. facilitate data downloads, report generation, data visualization, querying of data etc.

Key Developments under India-WRIS

New Modules

- An Artificial Recharge Structure "Viewer & Editor" and Forest/Tree Cover Modules have been added to the India-WRIS platform.
- Two modules - "Jal Dharohar'" and "Jal Itihaas" - capturing all water bodies and water heritage structures are under development.

Data Enrichment

As of now, many modules have been enhanced, including LULC data from 2005 to 2018 in LULC module, census data from 2011 in Socio-Economic module, Snow-Glacial Lake module updated with data for 2021 (June-Oct) and data on 7929 water resources structures and 2161 water resource projects in WRP module.

Revamping of existing Modules

A number of modules of India-WRIS have been revamped and it is a continuous process. These modules include Soil Moisture, Evapotranspiration, Reservoir etc.
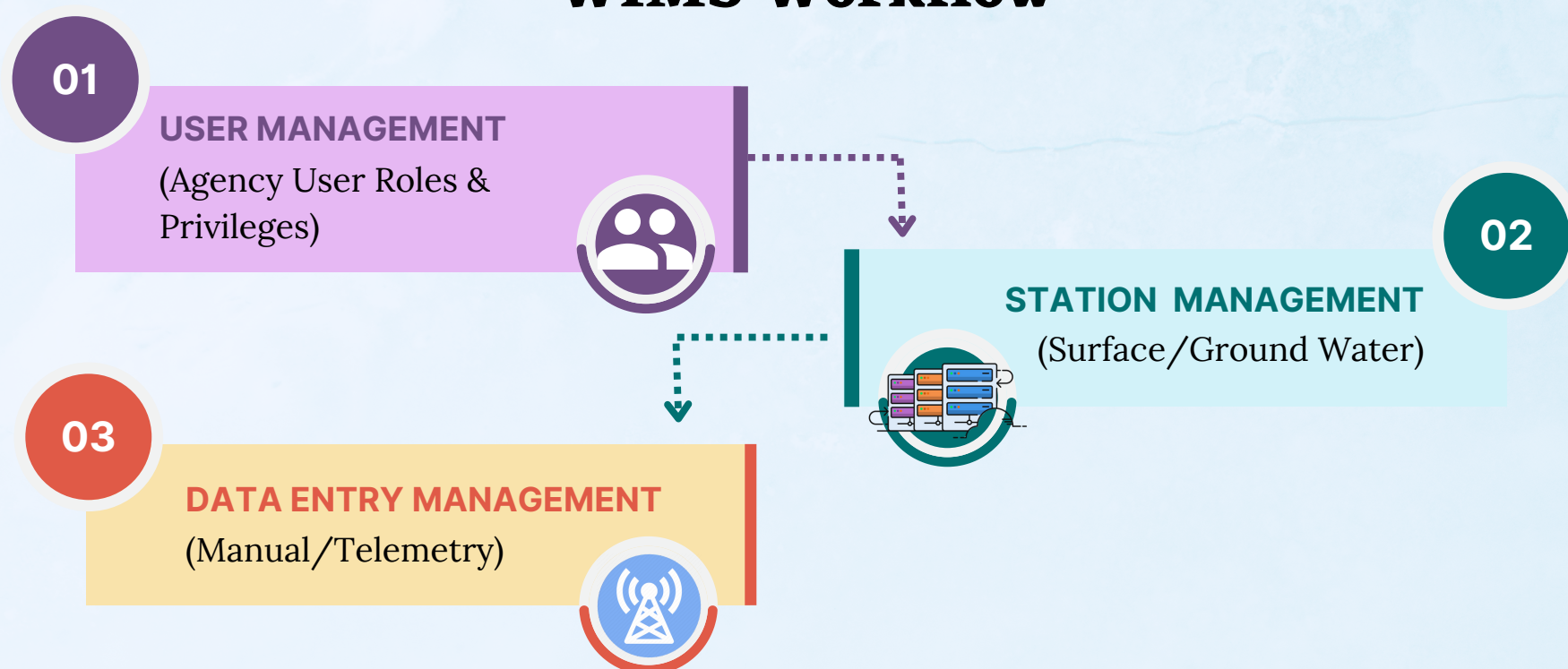
Publications

Glacial lake Atlas of Ganga River Basin & Indus River Basin are now available for download.
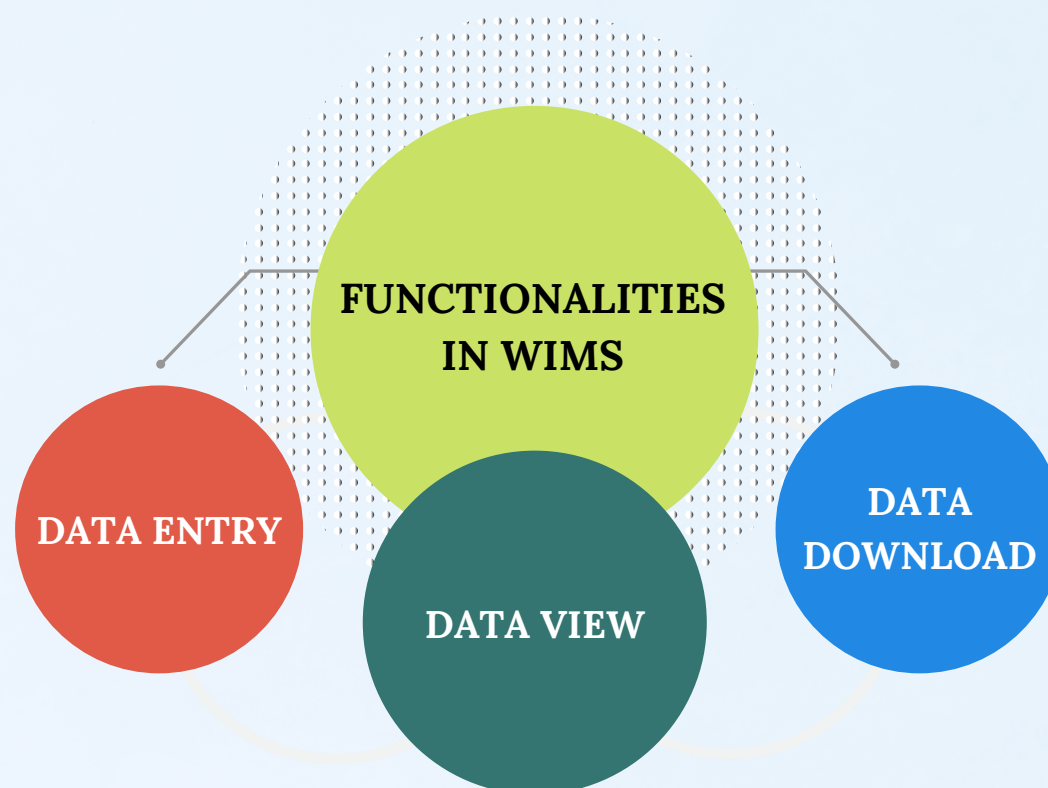
WIMS

Water Information Management System (WIMS) is an integrated web-based data collection platform for all Central and State agencies to share the data related to Surface & Groundwater. Apart from web-based manual data entry, it also allows transmission of data in an automated manner through telemetric sensors from data points/stations spread across the country.

WIMS Workflow

01

USER MANAGEMENT
(Agency User Roles & Privileges)

02

STATION MANAGEMENT
(Surface/Ground Water)

03

DATA ENTRY MANAGEMENT
(Manual/Telemetry)

Objectives of WIMS

FUNCTIONALITIES IN WIMS

DATA ENTRY

**DATA VIEW**

DATA DOWNLOAD

Key features of WIMS

- A Real-time Data Acquisition System (telemetry) modules for compiling and storing of different parameters related to Surface and Groundwater and allied themes.

- Acts as a repository for historical and time series data to be used by Central and State agencies.
- Provides facilities for downloading reports of various parameters as well as import/export utilities.
- Free access to implementing agencies under NHP which can be extended to other departments, whenever required.

Important Parameters in WIMS
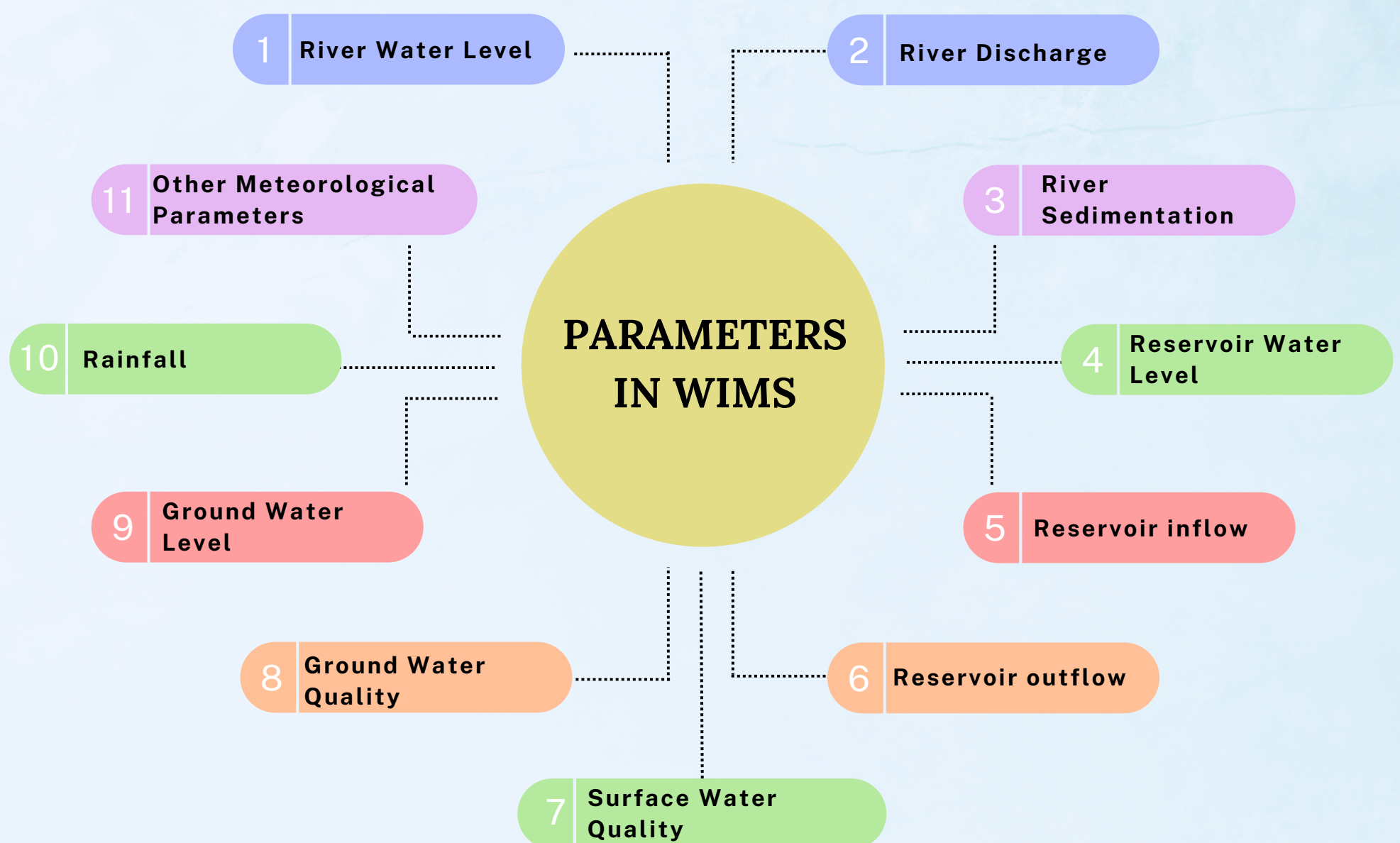
Data Collection Mechanism of WIMS

Manual Data Entry

The WIMS Platform contains different data-entry forms that can be accessed by authorized users/ source agencies to insert data manually on the above parameters, using unique login credentials.
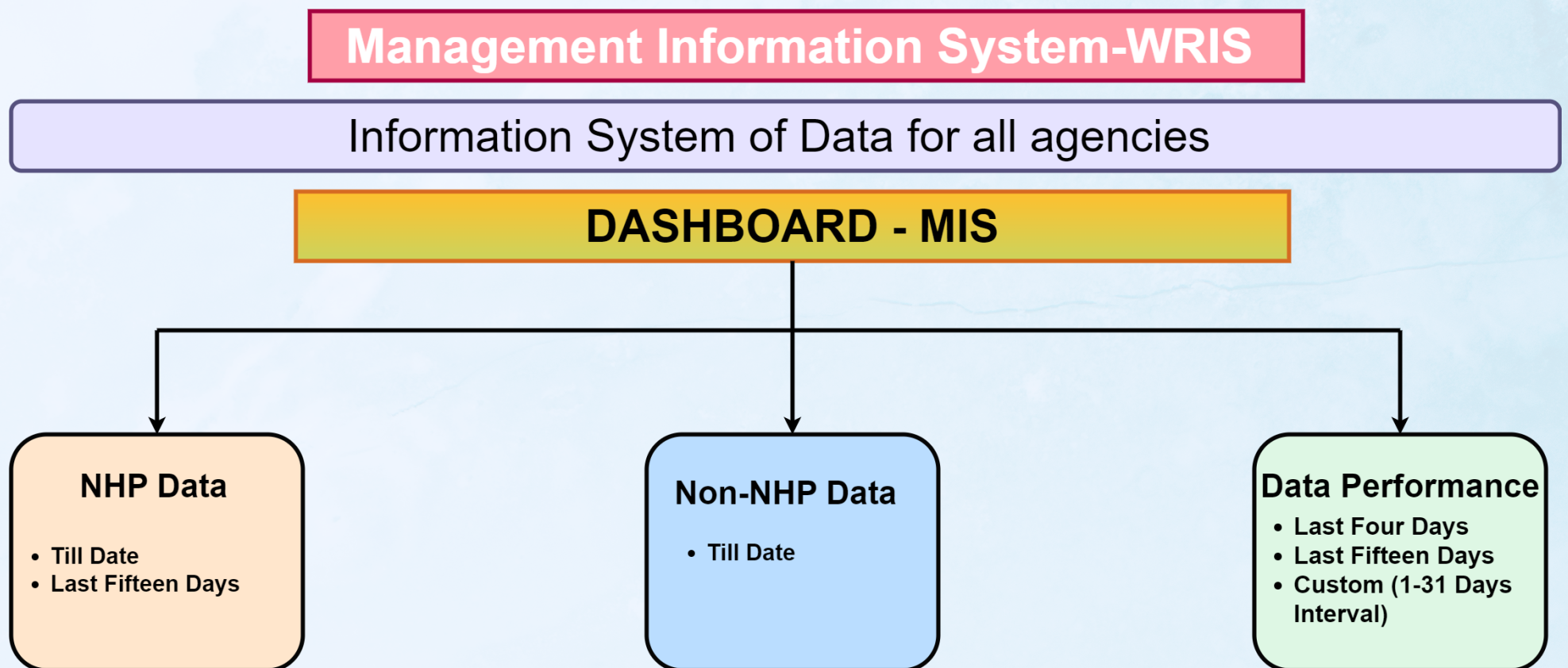
Telemetry Data Network

Apart from the regular manual data entry procedure, the WIMS system uses INSAT and GPRS transmission network to capture raw data from various telemetry stations across the country.
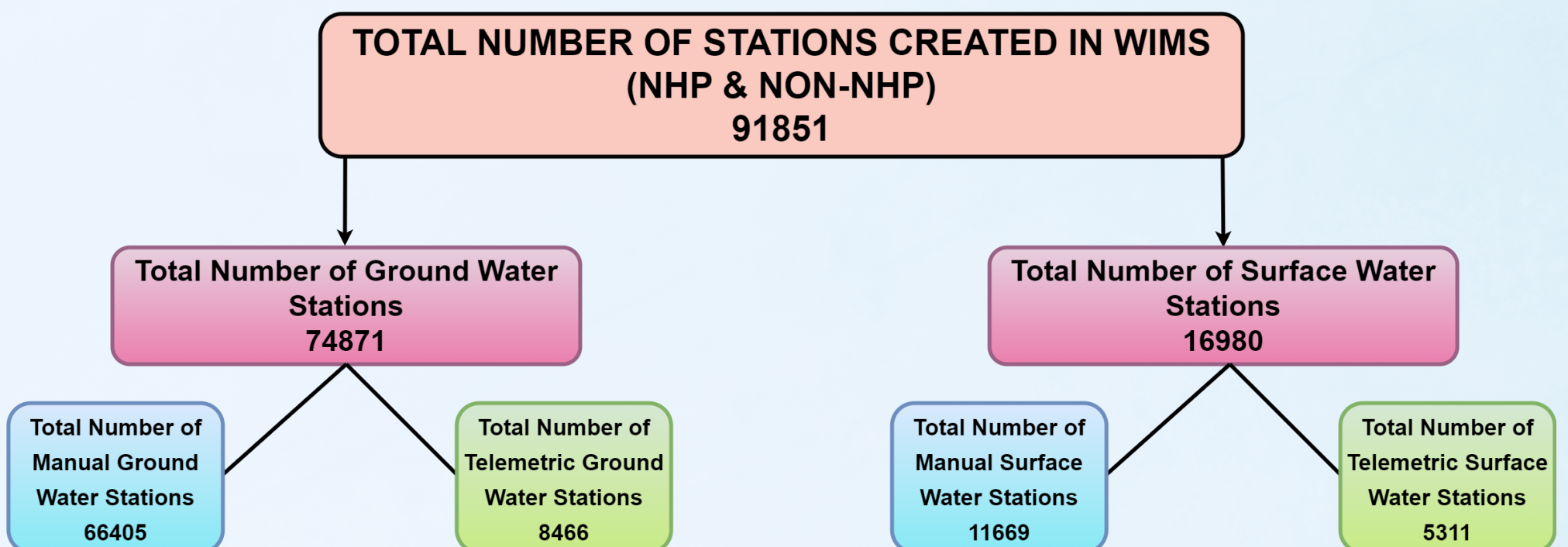
MIS Dashboard of WIMS

The MIS system provides information on agency-wise data availability for various parameters measured for the performance evaluation of Telemetry sites.

Application URL: https://india-water.gov.in/mis/

Management Information System-WRIS

Information System of Data for all agencies

DASHBOARD - MIS

NHP Data

- Till Date
- Last Fifteen Days

Non-NHP Data

- Till Date

Data Performance

- Last Four Days
- Last Fifteen Days
- Custom (1-31 Days Interval)

WIMS At a Glance

TOTAL NUMBER OF STATIONS CREATED IN WIMS (NHP & NON-NHP)
91851

Total Number of Ground Water Stations
74871

Total Number of Surface Water Stations
16980

Total Number of Manual Ground Water Stations
66405

Total Number of Telemetric Ground Water Stations
8466

Total Number of Manual Surface Water Stations
11669

Total Number of Telemetric Surface Water Stations
5311

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