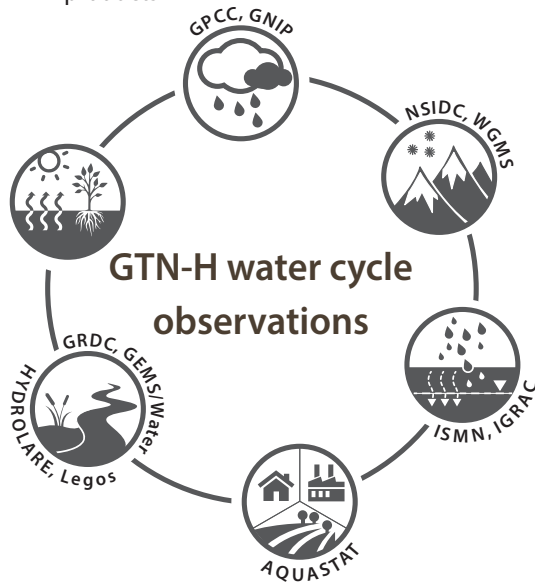


## Goals of GTN-H

- Aims at a global hydrological network of the leading global water data centres
- Plans and implements projects that facilitate access to hydrological networks and observation data, and generates derived products
- Forms an essential component for integrated global and regional hydrological products



## Main Objectives

The main objective of the GTN-H is to make available data from existing global hydrological observation networks and to enhance their value through integration. GTN-H thus underpins the generation of datasets suitable for:

- Research in the areas of global and regional climate change
- Environmental monitoring and assessments
- Hydrology and water resource management

The GTN-H is a joint effort of the Global Climate Observing System (GCOS) and the World Meteorological Organization (WMO). Additionally, it represents the observational arm of the Group on Earth Observations / Integrated Global Water Cycle Observations Theme (GEO/IGWCO).



## The Global Terrestrial Network – Hydrology



[www.gtn-h.info](http://www.gtn-h.info)

### International Centre for Water Resources and Global Change

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## About GTN-H

GTN-H links the existing world water data centres for integrated observations of the global water cycle.

Global data centres collect and harmonize water data worldwide and make the global data sets available to the public again.

Already in 2001, this Global Terrestrial Network was established to support a range of climate and water resource objectives, building on existing networks and data centres, and producing value-added products through enhanced.

## Observations of the Global Terrestrial Water Resources

Life on earth is closely linked to the availability of water and its variability. However, global change means that the demands placed on water resources are constantly increasing.

According to the IPCC conclusion in the 5th Assessment Report, it is likely that human activities have influenced the global water cycle since 1960.

Particularly over land, in-situ data provide long-term records of changes in the various components of the hydrological cycle, focusing on the essential climate variables (gcos.wmo.int). In addition, satellite-based remote sensing of water-related parameters is becoming increasingly important to assess changes of the global water cycle. Here, in-situ observations are necessary for the calibration and validation of remote sensing and model information.

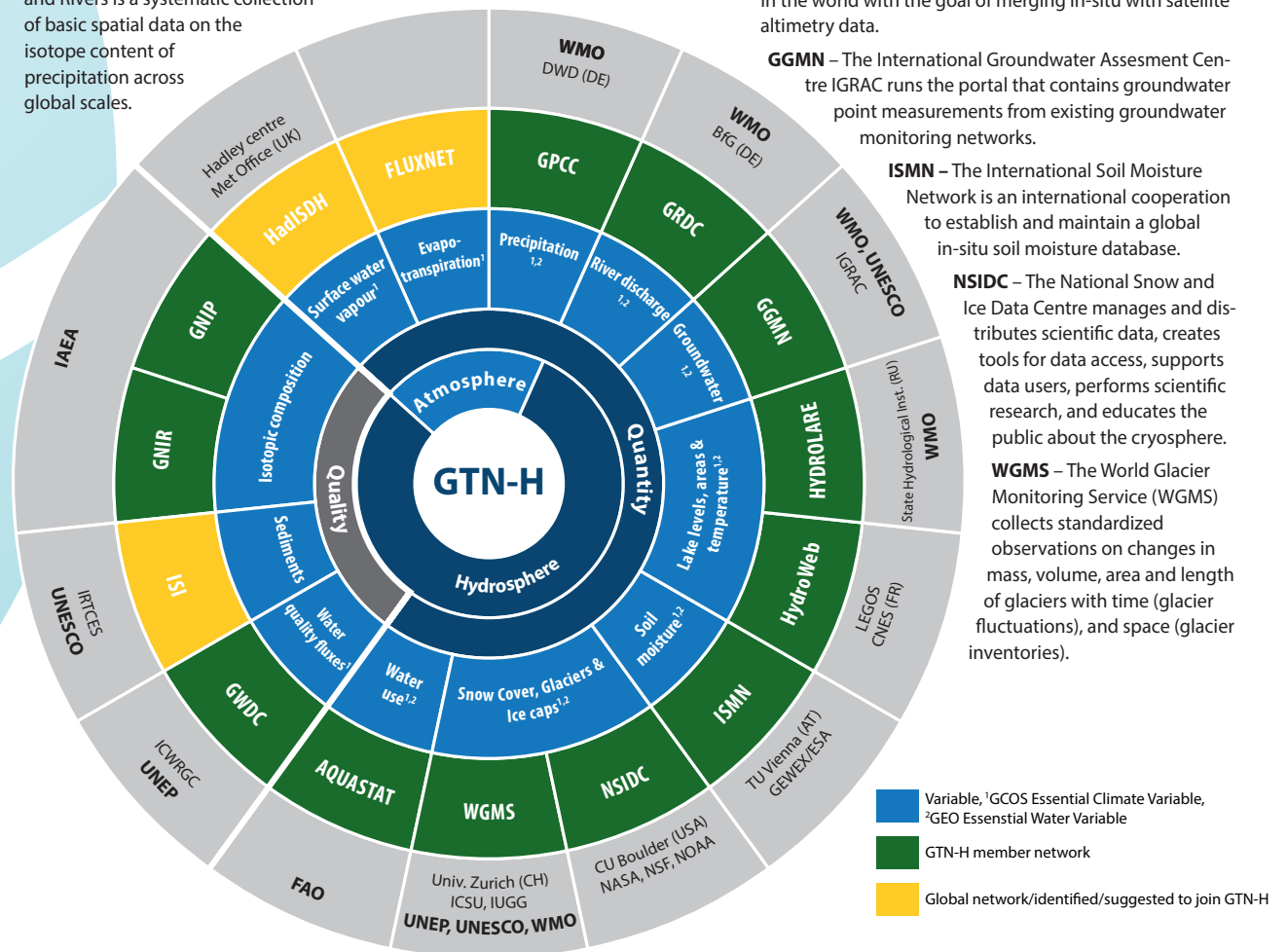
## Data Centers

Most of these relevant Global Data Centres are members of the GTN-H:

**AQUASTAT** – the global information system of the Food and Agricultural Organisation of the United Nations (FAO) on water and agriculture.

**GWDC** – Within the framework of GEMS/Water (UNEP) the GEMS/Water Data Centre hosts the global water quality database GEMStat with monitoring data with more than 4000 stations in 75 countries.

**GNIP/GNIR** – The Global Network of Isotopes in Precipitation and Rivers is a systematic collection of basic spatial data on the isotope content of precipitation across global scales.



**GPCC** – Established in 1989, the Global Precipitation Climatology Center has been assigned by WMO to collect, quality assure, process and grid world-wide in-situ data of measurements of rain and snowfall, collected by rain gauges.

**GRDC** – The Global Runoff Data Centre provides a unique collection of river discharge data collected at daily or monthly intervals from nearly 9000 stations in 157 countries.

**HYDROLARE** – The International Data Centre on Hydrology of Lakes and Reservoirs develops and updates an international database on hydrological regime of lakes and reservoirs.

**HydroWeb** – operates a database, for lakes and reservoirs in the world with the goal of merging in-situ with satellite altimetry data.

**GGMN** – The International Groundwater Assessment Centre IGRAC runs the portal that contains groundwater point measurements from existing groundwater monitoring networks.

**ISMN** – The International Soil Moisture Network is an international cooperation to establish and maintain a global in-situ soil moisture database.

**NSIDC** – The National Snow and Ice Data Centre manages and distributes scientific data, creates tools for data access, supports data users, performs scientific research, and educates the public about the cryosphere.

**WGMS** – The World Glacier Monitoring Service (WGMS) collects standardized observations on changes in mass, volume, area and length of glaciers with time (glacier fluctuations), and space (glacier inventories).