

Global Runoff Data Centre (GRDC)

Status Report

*GEWEX - GHP Panel Meeting
3 – 5 October 2016
Gif-sur-Yvette, France*

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GRDC operational environment

*Operates under the auspices of the
World Meteorological Organisation (WMO)*



*on the advice of an
International Steering Committee*

*with the financial support of the
Federal Republic of Germany*



*within the
Federal Institute of Hydrology*





GRDC Main functions

Acquisition and storage of global historical discharge data and associated metadata

*Dissemination of historical discharge data and derived data products of more than 9200 stations in 160 countries
("One-stop shop")*

Note:

The GRDC does not have its own monitoring infrastructure and thus is not substituting the functions of the National Hydrological Services

*Ownership of the data remains with the original Data Provider
(National Hydrological Services)*

GRDC Data Users

The GRDC supports the climate-related programmes and projects of the United Nations and their special organisations such as the:

- *Implementation Plan for the Global Observing System for Climate in Support of the UNFCCC (GCOS-IP)*
- *Global Terrestrial Network for Hydrology (GTN-H)*
- *GCOS (Global Climate Observing System)*
- *GEO (Group on Earth Observations)*
- *GEWEX (Global Energy and Water Exchanges Project)*
- *GRDC – GEMS/Water products on chemical loads*
- *GRDC Freshwater Fluxes to the World Oceans products*
- *EU funded projects...*

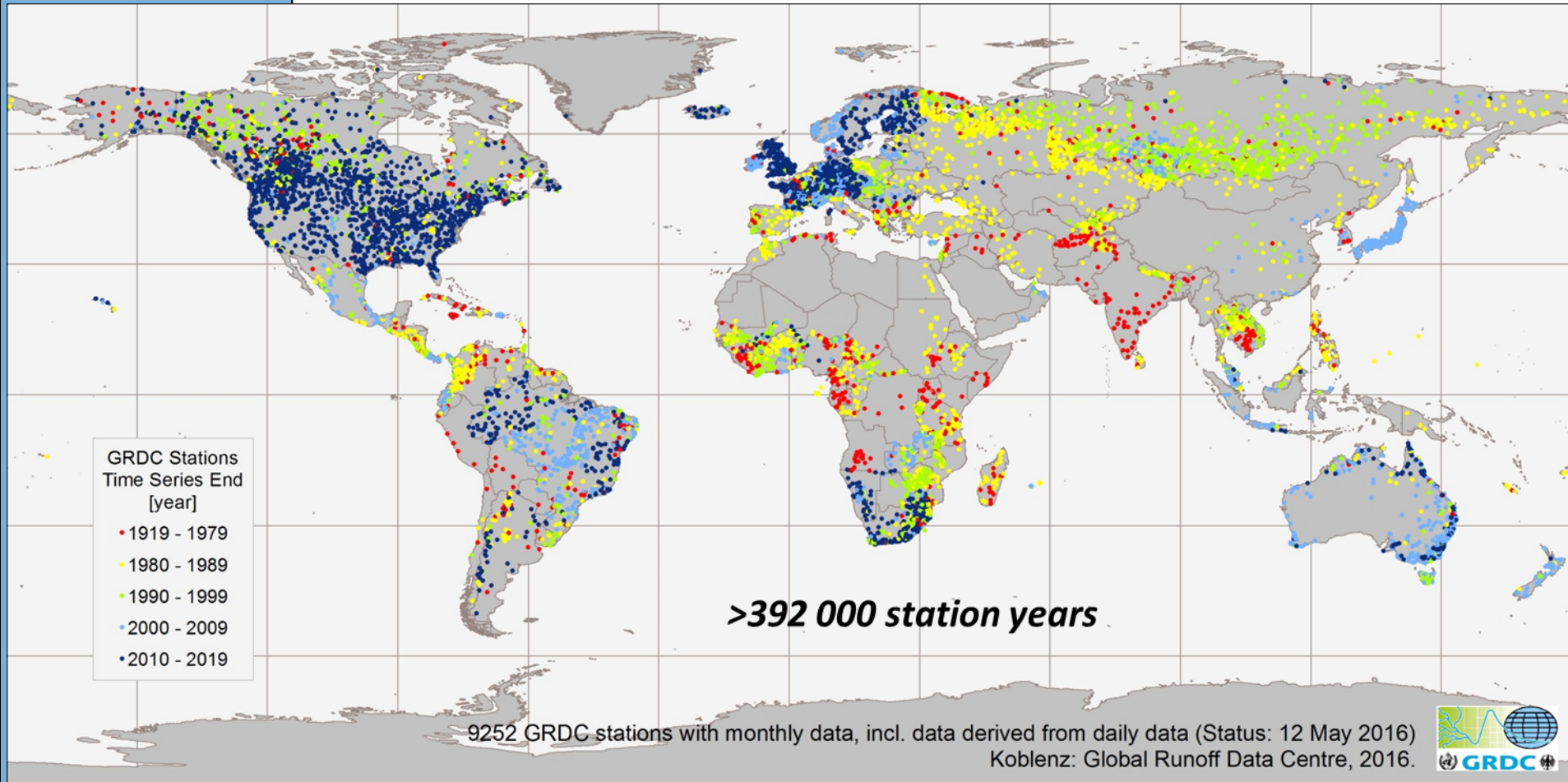
And the international scientific community on:

- *Global change*
- *Climate and hydrological modelling*
- *Climate services*
- *Research and assessment*



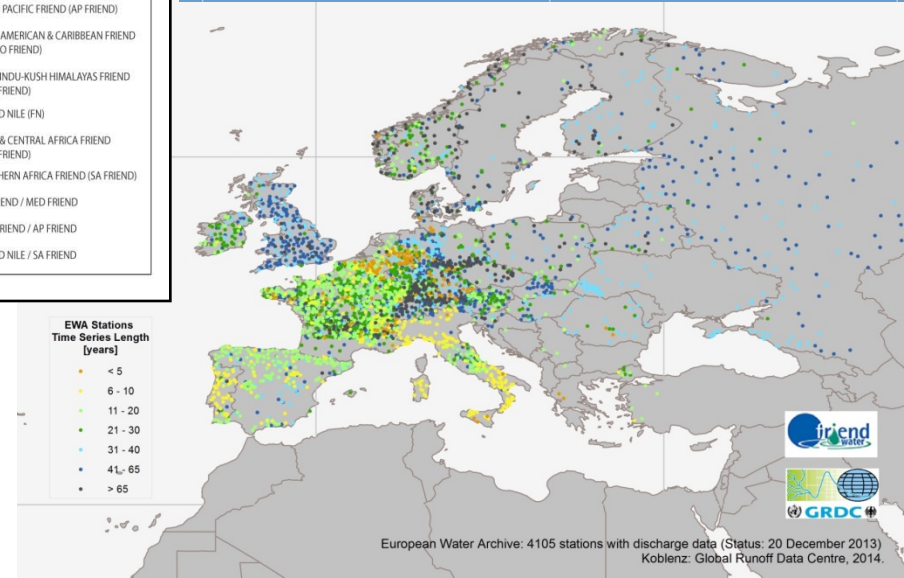
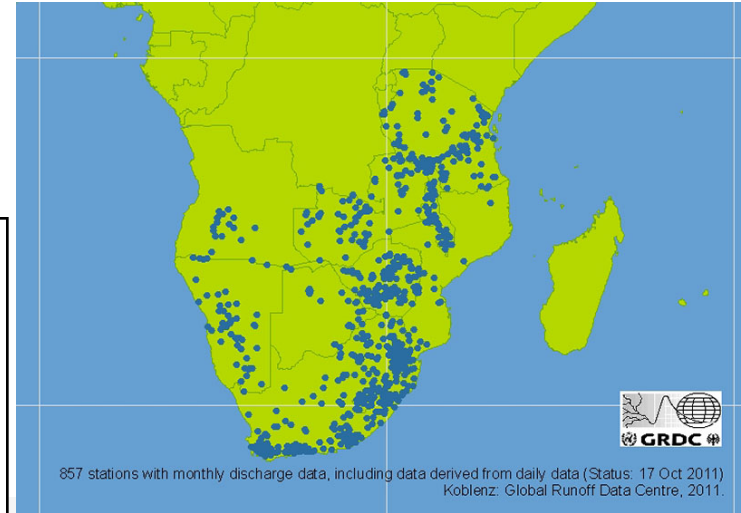
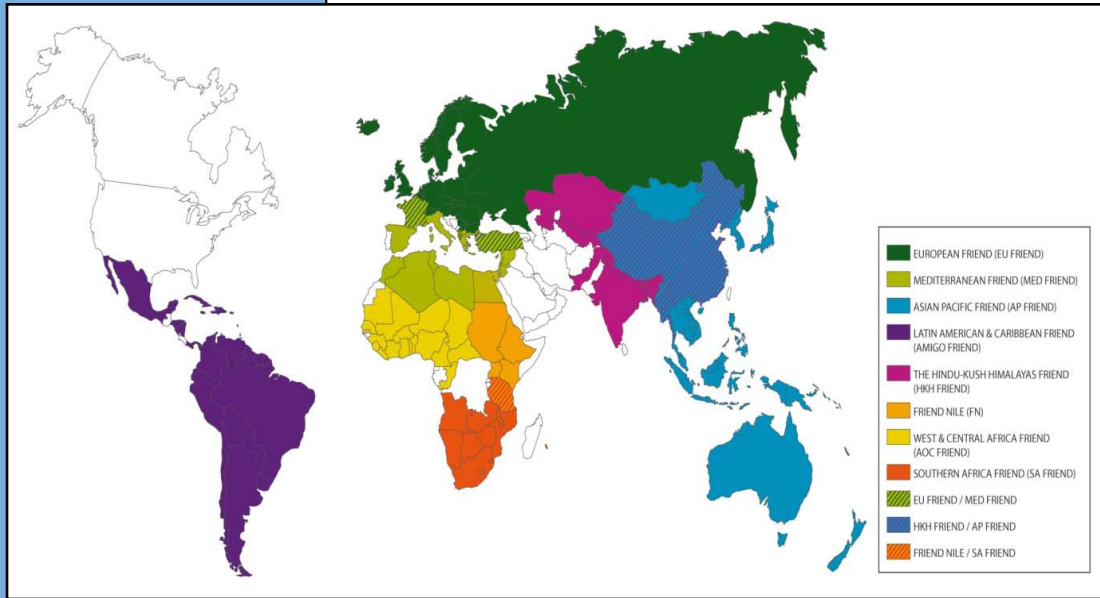
GRDC Main Database

regular updates of relevant historical discharge data required



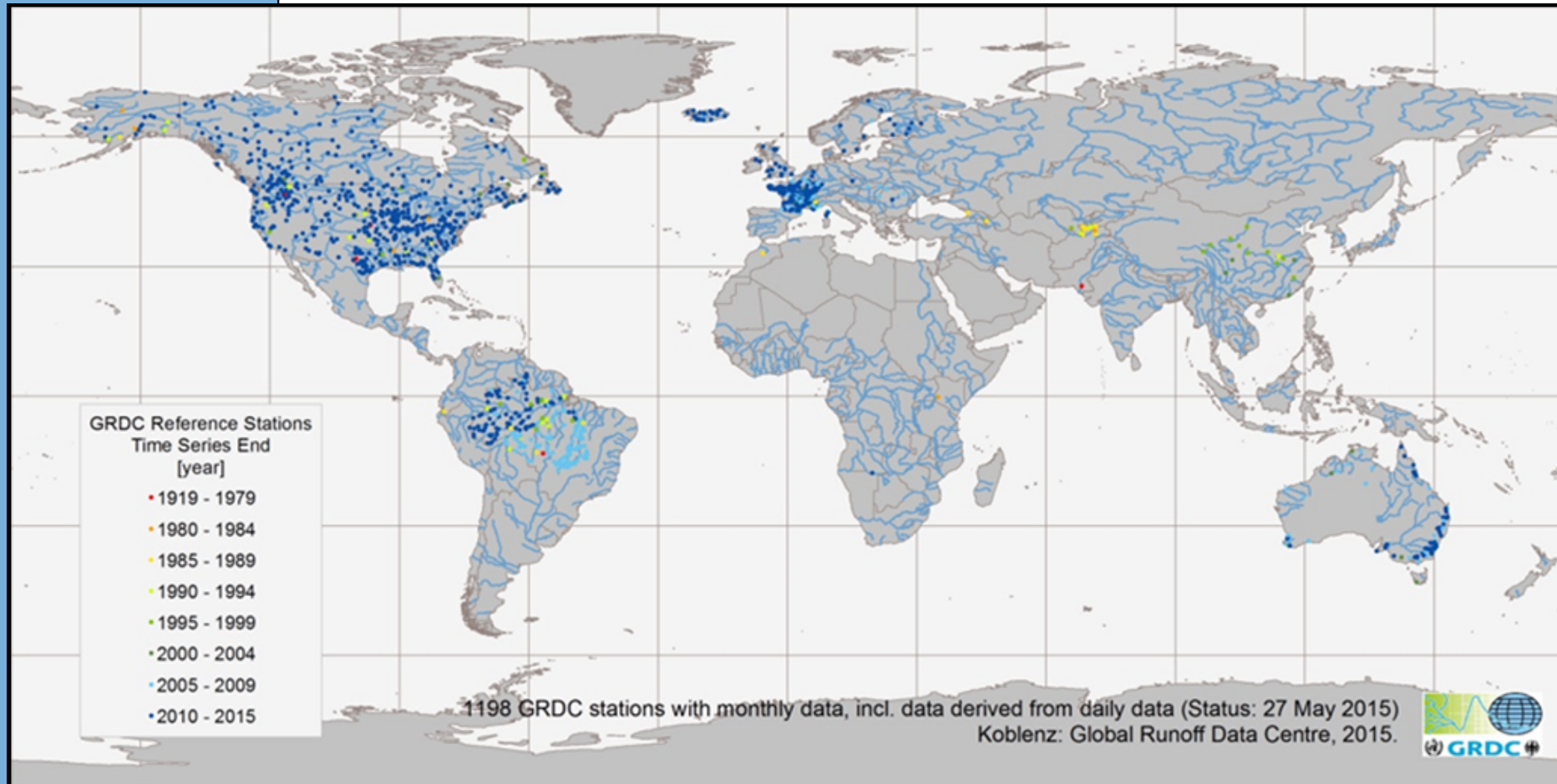


Integration of UNESCO FRIEND-Water Databases



Climate Sensitive Stations and/or Reference Stations

33 Countries that have reported climate sensitive stations to WMO and or GRDC

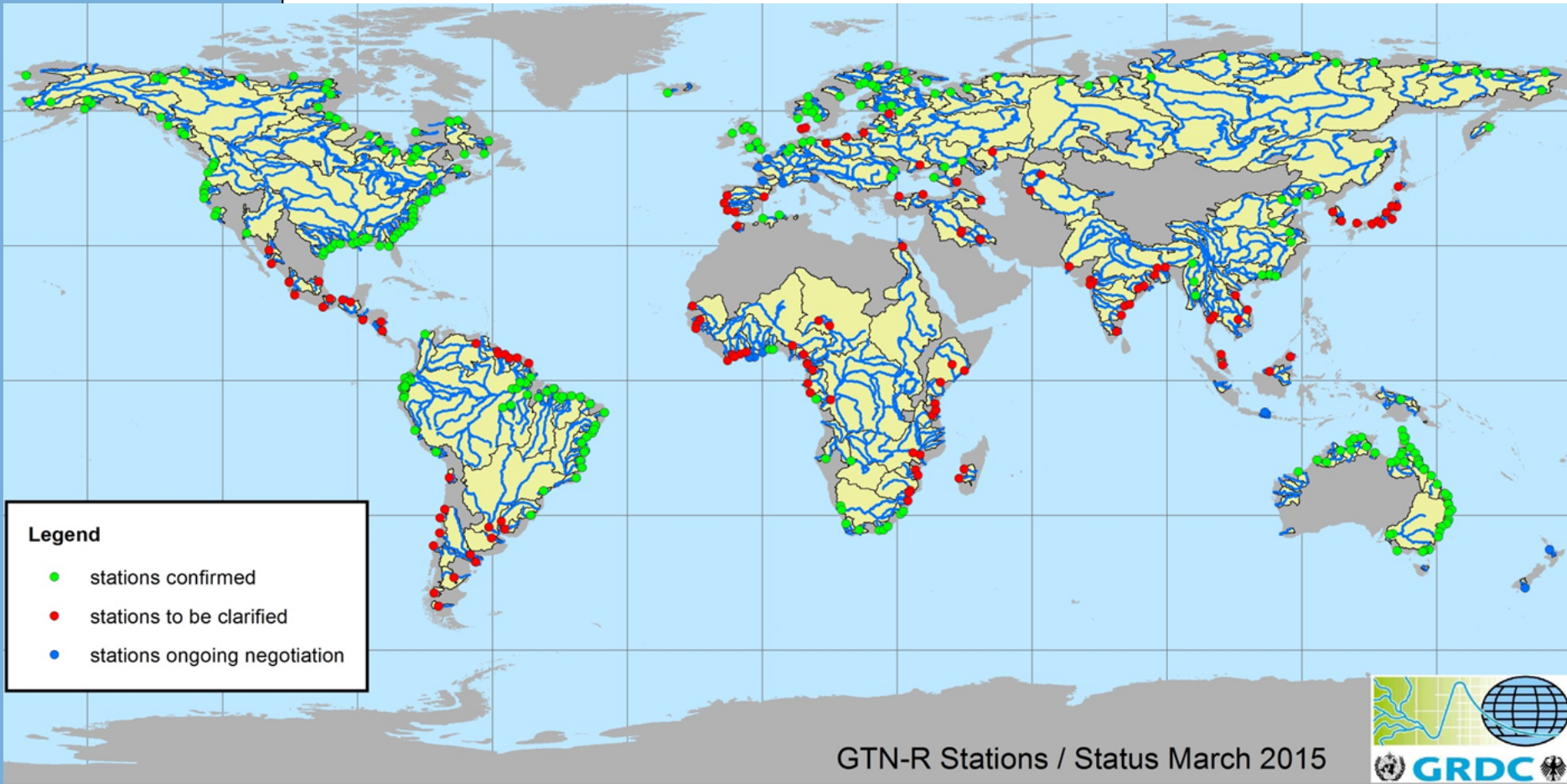




GRDC Station Selection for the Global Terrestrial Network for River Discharge (GTN-R) and Integration into the GEOSS Common Infrastructure GCI

280 Stations confirmed

160 Stations to be clarified





Registration of GRDC Services in the GEOSS Portal



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[GEOSS Registry Publication Portal](#)

Search GEOSS Resource

Free Text Search:



Advanced Search (Define more query conditions: Resource Category, Societal Benefit Areas, GEO affiliation)

(Leaving all search fields blank will return a list of all registered Resources)

8 Matched Resource (✓ indicates Approved)

1.	Global Terrestrial Network for River Discharge (GetCapabilities for Sensor Observation Service)	Details	✓
2.	Global Terrestrial Network for River Discharge (dataset in WaterML 2.0)	Details	✓
3.	Global Freshwater Fluxes into the World Ocean for use within GIS clients	Details	✓
4.	Long-Term Mean Monthly Discharges and Annual Characteristics of GRDC Stations	Details	✓
5.	Global Runoff Data Centre	Details	✓
6.	Global Freshwater Fluxes into the World Oceans	Details	✓
7.	World-wide Hydrogeological Mapping and Assessment Programme	Details	✓
8.	Global Runoff Data Centre (GRDC) Streamflow Stations	Details	✓

(This public search page is provided as a convenience to allow users to browse and search the GEOSS Component and Service Registry. The information found here is intended to assist software developers and data integrators in identifying registered GEO resources at a high level. The information stored in this Registry is used by the GEOSS Clearinghouse to develop a more comprehensive list of GEO Resources. The GEOSS Web Portal candidates are required to support search into detailed Clearinghouse and Registry resources.)

Please note that only approved Components will be listed here.

Last updated: Wed Sep 23 2015





Interactions with other GEWEX Panels or parts of WCRP and others:

- **CLiC** - *Maintaining the Arctic Runoff Database (ARDB) as a subset of the GRDC database in support of CliC, ACSYS and the evolving ArcticHYCOS*
- **UNESCO IHP FRIEND-Water** – *Integrating river discharge databases in to GRDC with country permission (SA FRIEND completed, European FRIEND busy, more to follow)*
- **Global Climate Observing System (GCOS)** – *Maintaining and expanding the Global Terrestrial Network for River Discharge (GTN-R) as a baseline network in support of GCOS, UNFCCC, GTN-Hydrology and Group on Earth Observations (GEO)*
- **WMO Commission for Hydrology (CHy)** – *Maintaining and expanding the river discharge data for WMO defined "Climate Sensitive Stations"*



Contributions to GEWEX Science Questions

- *The GRDC contributes to the GSQ 2, 3 & 4*
- *The GRDC is recognised since 1995 by GEWEX as an affiliated Global Organisation*
- *The GRDC provides river discharge data to GEWEX activities*
- *The GRDC aims to provide quality assured discharge data to the research community*
- *The GRDC offers to include GHP discharge data and products after project termination*

Plans for next year

- *Updating GRDC Operations*
- *Implement new operational system to support GRDC functionality*
- *Cater for temporal high-resolution discharge data, water level and water temperature data*
- *Implementation of WMO/OGC HDWG developed standards*
- *Implement and improve web services for data provisioning*

Plans for next 1 – 3 years

Data acquisition

- *Historical discharge data updates for under-represented regions*
- *Institutionalisation of data provision*
- *Near real-time data for GTN-R*
- *Integration of FRIEND-Water databases*

Standardisation

- *Standardisation of hydrologic data exchange formats and hydrologic feature models within the hydrological community in support of the WMO CHy and National Hydrological Services (results from WMO/OGC Hydrology Domain Working Group activities)*

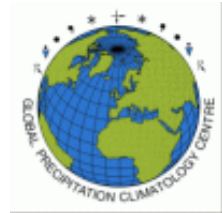


Partner Data Centres

Precipitation: GPCC

gpcc.dwd.de

Global Precipitation Climatology Centre
Offenbach, Germany



Water Quality: GEMS/Water GEMStat

<http://www.gemstat.org>

Global Environment Monitoring System of UNEP DEWA
Koblenz, Germany



Groundwater: IGRAC

<http://www.igrac.net>

International Groundwater Resources Assessment Centre
Delft, The Netherlands



Lakes and Reservoirs: HYDROLARE

www.hydrolare.ru

International Centre on the Hydrology of Lakes and Reservoirs
St. Petersburg, Russia





Global Runoff Data Centre Koblenz, Germany
...more than 27 Years GRDC

Main Objectives

Data Provision

Data Services

Website

Products

Cooperation

Partner Centres

Thank you for your attention!

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