

WMO RA VI Hydrology Forum  
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# WMO Global Hydrometry Support Facility (WMO HydroHub)

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WEATHER CLIMATE WATER



WORLD  
METEOROLOGICAL  
ORGANIZATION



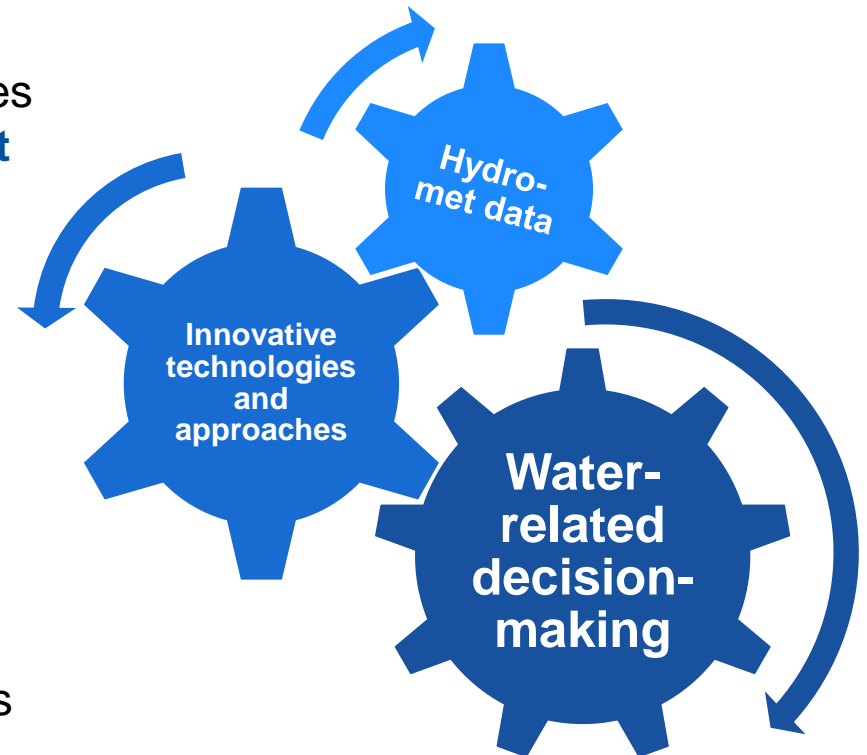
Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

Swiss Agency for Development  
and Cooperation SDC

# Global Hydrometry Support Facility (WMO HydroHub)

The WMO HydroHub aims to help countries – mainly through National Meteorological and Hydrological Services – in their **data collection, management and dissemination**, in a way that leverages innovative technologies and approaches.

It does so by making the **portfolio of expertise** of WMO Members – from science to technology to services – accessible, in view of **increasing the base of hydrometeorological data** available to end-users from various economic sectors.



# Objectives



Enhance and sustain **efficient and innovative hydrological monitoring systems** around the world



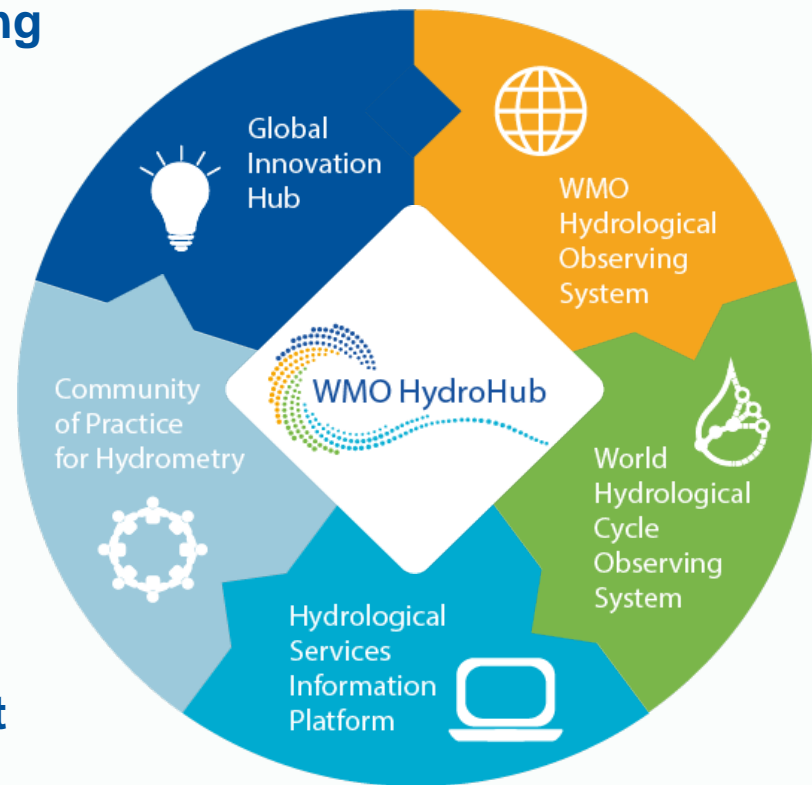
Foster the use of hydrometeorological data for **evidence based policy and decision-making** in support of Integrated Water Resources Management and Disaster Risk Reduction, especially in transboundary settings



Facilitate the modernization and improvement of operational hydrology through operational uptake of **innovative hydrometric technologies and services** by National Meteorological and Hydrological Services

# Strategic Priority Areas and Components

1. Building Hydrological **Monitoring Capacity**
2. Embedding **Innovation** in Hydrometry
3. Enabling Hydrological **Data Sharing**
4. Connecting the **Global Water Monitoring Community**
5. Providing a **Global Focal Point for Hydrometry**



# World Hydrological Cycle Observing System (WHYCOS)

Strengthens the **technical, human and institutional capabilities** of NMHSs in hydrological data collection and information product development and dissemination.



**HYCOS:** Independent regional projects tailored on the needs expressed by countries, the building blocks of the WHYCOS programme.

**GUIDELINES:** A common approach to the development, implementation and governance of HYCOS components.

**TRAINING MATERIALS:** A broad range of presentations, documents and publications about all aspects of hydrological observations.

# New Operating Model for WHYCOS

- ❖ Based on the new WHYCOS strategy that builds on **five major Principles** that are drawn from the latest WHYCOS Guidelines and the 2011 WHYCOS Assessment.
- ❖ Next HYCOS projects are aligned with the DPO Work Programme, i.e. **provision of technical expertise and advice** for the delivery of sound hydrological products.
- ❖ Builds on three pillars:
  1. Country/regional assessments
  2. In-project support
  3. Long-term support



# Upcoming HYCOS projects

- ❖ Senegal
- ❖ Indian Ocean
- ❖ Congo



# Global Innovation Hub

Strengthens fit-for-purpose and sustainable monitoring capabilities through **innovation**.

## Key innovation areas:

**HYDROMETRY:** Operational uptake of innovative technologies and emerging monitoring schemes, such as crowd sourcing and remote sensing (incl. satellite).

**DATA MANAGEMENT:** Pragmatic solutions to introduce new technologies and paradigms into the operational routines of National Meteorological and Hydrological Services (NMHSs) and other stakeholders.

**MANAGEMENT PROCESSES:** Good management practices, including case studies, guidance material, templates for recurring administrative tasks and other knowledge products.





# 1st Innovation Call

- ❖ **15 applications received from 8 countries**, including diverse topics and targeting over 12 countries.
- ❖ **NORTHERN WIDGET LLC**, a corporation organized under the laws of Minnesota, the United States of America was selected as winner.
- ❖ Working on facilitating operationalization and scaling of an **open source, open hardware low-cost technology** for a data logger and water level sensor.
- ❖ 15 data loggers will be built together **with the national hydrological services** in Bhutan and Afghanistan.
- ❖ Documentation is created in English, Pashto and Dari which will allow the services to **self-manufacture and self-maintain** the devices in the future.
- ❖ Implementation started in **February 2019 and will run for 9 months**.

# Innovation Workshop

- ❖ 11-13 March 2019 at the New York University, New York.
- ❖ Co-organized by the WMO HydroHub together with **IAHS MOXXI & CandHy and CUAHSI**.
- ❖ Brought together **researchers, users, and instrumentation developers**.
- ❖ Aim was to **discuss how to overcome barriers to the advancement of hydrological observations** and to improve operational uptake of innovative hydrometry technologies and monitoring approaches.

# Innovation Camps

- ❖ Innovation Camps look at **supporting innovation in hydrometry**.
- ❖ **Challenges** are defined in a given geographical area.
- ❖ Group of around 30 experts from **various backgrounds**, all involved with the defined challenge.
- ❖ Aim is to produce **creative results/solutions** within maximum a week.
- ❖ Participants will work in **small groups** and report back to all on their progress on a regular basis.
- ❖ By the end of the event, each groups will be expected to **pitch their solutions** to a Selection Board.
- ❖ First Innovation Camp is planned for **September 2019**.

# WMO Hydrological Observing System (WHOS)

A premier online portal to **near real-time and historical data** made freely and openly available by National Hydrological Services around the world.



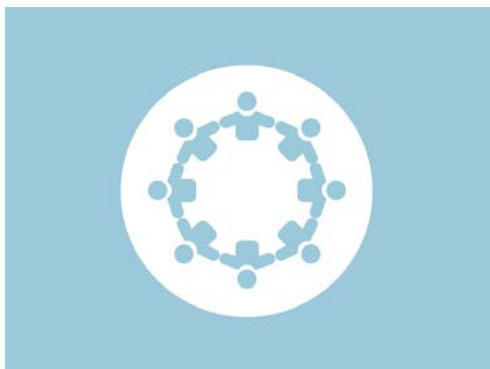
**INTERACTIVE POTAL:** An interface to those NMHSs that make their real-time and historical stage and discharge data available online.

**WIGOS:** A service-oriented framework linking hydrologic data providers and users through an information system enabling data registration, data discovery, and data access.

**PROTOTYPES:** Regional examples currently being developed for Arctic HYCOS, La Plata basin and Sava basin.

# Community of Practice for Hydrometry

Allows NMHSs and others to **exchange experiences** and provide sustainable **mutual support** in relation to their hydrometeorological data collection and management activities.



**PARTNERSHIP:** Support to experts to identify the right partners for discussion to solve common practical problems and to foster dialogue among practitioners.

**EXISTING NETWORKS:** Approximately 3000 experts from the WMO working bodies of Technical Commissions and Regional Associations.

**PLATFORM:** Web-based tools to allow the global hydrometry community to share knowledge and provide technical assistance to each other.

# Launch of the CoP

- ❖ Objectives: 1. Practitioner support; 2. Learning; 3. Collaboration; 4. Help Center.
- ❖ Initial **Working Groups** have been defined.
- ❖ CoP membership will comprise both the **WMO community and the wider global hydrometry**.
- ❖ **Pilot testing** of the CoP is planned in May 2019.
- ❖ **Launch** of the CoP is planned in June 2019.
- ❖ Any interest in **joining the discussions**, please send an email to [hydrohub@wmo.int](mailto:hydrohub@wmo.int)

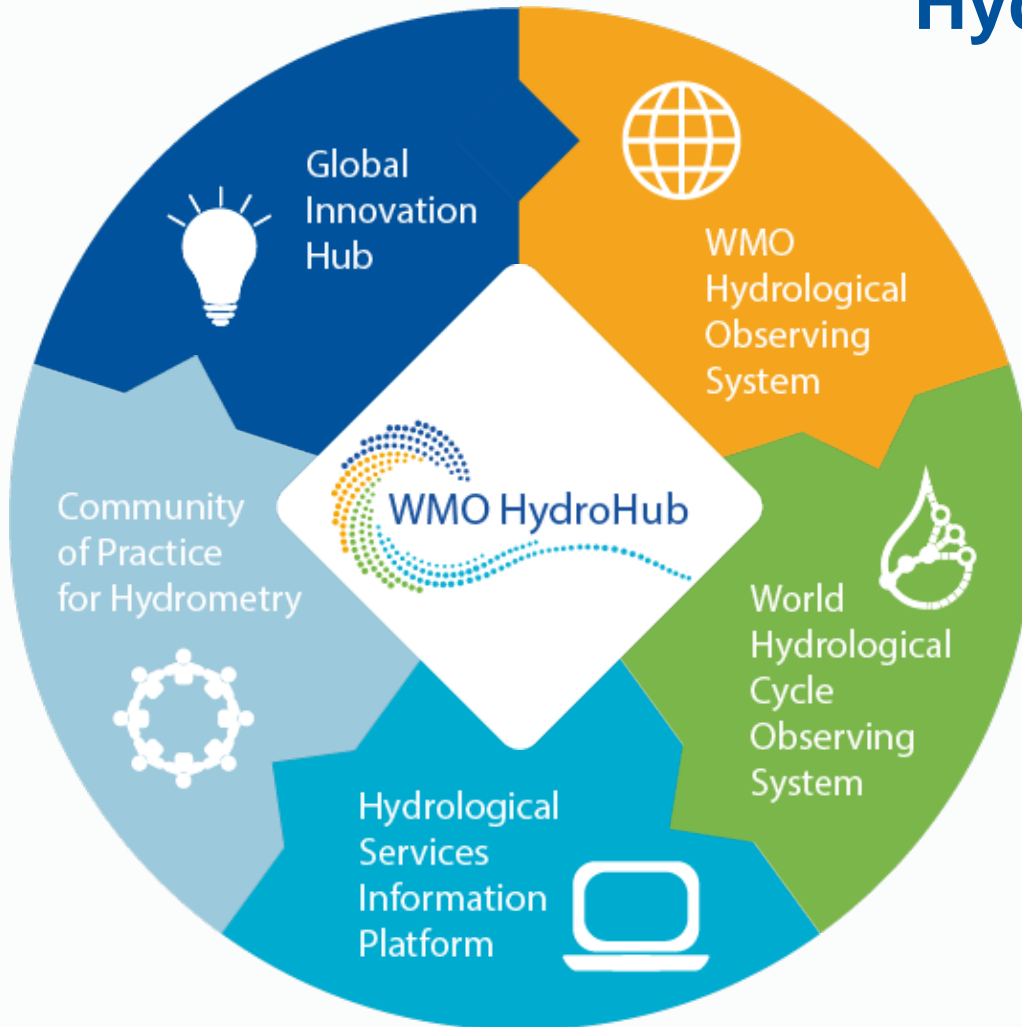


# Hydrological Services Information Platform



Provides potential funders of hydrometeorological projects with current information on governmental and non-governmental **water monitoring organizations**, and their capabilities, structure, and network- and data-sharing characteristics.

# HydroHub and RAVI



❖ What do we **need**?

❖ What can we **do**?

**“World Café”  
discussion later today**





Thank you

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<http://hydrohub.wmo.int>

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