Catalysing Innovation for Improved Hydrological Monitoring

WMO HydroHub – the Global Hydrometry Support Facility

Region
Global

Partner
WMO

Background information
Today, data on water remain scarce, fragmented and difficult to access and interpret. This hampers effective decision-making for integrated water resources management (IWRM), translating into water insecurity.

Project objective
To help expand a reliable and sustainable basis of hydro-meteorological data and information services in support of informed decision- and policy-making in water management at global, transboundary, national and local levels.

Beneficiaries
National hydromet services and local water users.

Costs
Total: CHF 4,724,000

SDC: CHF 2,400,000

Duration
09.2021-08.2026

Section Water
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Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Agency for Development and Cooperation SDC

Reliable hydro-meteorological observations and forecasts are critical to implement better water resources management practices and policies, and reduce water insecurity. The Global Hydrometry Support Facility (WMO HydroHub) makes its wide range of expertise – from science to technology and services – available as tailored services to WMO member states to support end-users' access to hydro-meteorological data and services from various economic sectors. These connections help increase the availability of hydro-meteorological data – catalysed by innovative technologies and approaches – to foster evidence-based policy- and decision-making in water resources management.

As countries across the world increasingly experience water scarcity, the need for water data has become essential. Indeed, rising demand for freshwater, coupled with increased volatility in global climate patterns, means that robust and timely information to support decisions about the allocation and management of water resources is more valuable than ever. Yet data on water remains scarce, fragmented, and frequently difficult to access and interpret. Around two thirds of hydrological observation networks in developing countries are reported to be in poor or declining condition.

This is what prompted SDC to support the launch of WMO's Global Hydrometry Support Facility (or HydroHub) in 2016. The objectives were to build operational systems and capacity in hydrometry and water monitoring, expand the base of hydrological data and exchange capabilities, and facilitate free and open data sharing.

SDC has decided to continue its support in the coming years as part of a **second phase (2021-2026)**, with a view to attracting and engaging with additional donors, and integrating some activities into broader development projects. The aim remains to ensure the availability of quality-assured hydrological data over areas of the world where such data are currently lacking, thereby helping to accelerate the delivery of the 2030 Agenda.

More specifically, Phase II of **the WMO HydroHub aims to enhance the capacities of National Meteorological and Hydrological Services (NMHSs) in sustainable operation and effective delivery of hydrological monitoring services for disaster risk reduction, social and economic development and environmental protection**. This is done through the implementation of a portfolio of ten activities including trainings and learning exchanges, calls for innovation, workshops, and ministerial roundtables.

The project has **three main expected outcomes**:

1. **Increased Capacity**: Improved technical expertise of NMHS staff will allow for sustainably operated hydrometeorological monitoring systems with enhanced data management and improved national and international data sharing.
2. **Operationalised Innovation**: NMHSs will continuously develop and innovate their hydrometric approaches and technologies in collaboration with academia and the private sector.
3. **Optimised Engagements and Investments**: NMHSs catalyse development opportunities and impact for the overall hydromet community through strengthened internal and external engagements that offer greater visibility, knowledge sharing and communication.

The project has had many significant achievements over the past five years:

- The design and dissemination of a Global Hydrology Survey that captured key information on governmental and non-governmental organisations responsible for operational hydrology within countries, to identify capacity gaps at the regional and national levels.
- The establishment of a partnership with the Inter-American Development Bank (IDB) to conduct country-wide needs and capabilities assessments of NMHSs and other relevant organisations in Costa Rica and Panama.
- Two Calls for Innovation to foster the operational uptake of innovative approaches and technologies by NMHSs in a way that makes their operations more cost-effective and sustainable. These led to project implementation in Belize, Bhutan, the Indian Himalayan region and Tanzania.
- The WMO Hydrological Observing System (WHOS) was implemented in the La Plata and Arctic basins, and is being implemented in the Dominican Republic, which already led to 13 countries freely exchanging and using hydromet data across their boundaries. The implementation of WHOS was supported by the National Research Council of Italy (CNR).
- The development of a distance learning course on hydrological data sharing to close the knowledge gap on basic ICT and readily available data exchange standards, and contribute to the advancement of interoperable hydrological data exchange among NMHSs worldwide.



Additional information: https://hydrohub.wmo.int/en/home