



AGENDA ITEM 5: WEATHER, CLIMATE, HYDROLOGICAL AND RELATED ENVIRONMENTAL SERVICES

AGENDA ITEM 5.3: Hydrological services and support of sustainable water management

DRAFT RESOLUTION

Draft Resolution 5.3(2)/1 (Cg-18)

MAJOR HYDROLOGICAL INITIATIVES

THE WORLD METEOROLOGICAL CONGRESS,

Recalling

- (1) The Abridged Final Report of the Fifteenth Session of the Commission for Hydrology (CHy) (WMO-No. 1184),
- (2) Decision 49 (EC-69) – WMO priority actions in hydrology and water resources management,
- (3) Decision 5 (EC-69) – Flood forecasting,
- (4) Decision 14 (EC-69) – Support the development of actions based on the Global Climate Observing System,
- (5) Resolution 16 (EC-70) - Guidance on ongoing hydrology and water resources initiatives,
- (6) Resolution 18 (EC-70) - Outcomes of the special dialogue on water,
- (7) Abridged Final Report of the Extraordinary Session of the Commission for Hydrology (2019) (WMO-No. 1230),

Decides that the following ongoing hydrological activities and systems, in view of their relevance to the fulfilment of the long-term ambitions (L-TAs) for the operational hydrological community (see [Annex 1 of Cg-18/Doc. 5.3\(1\)](#)), are fundamental pillars that support the WMO Strategic Plan and its further development:

- (1) **Quality Management Framework – Hydrology and its further implementation:** with the aim of promoting a stronger culture of compliance and quality assurance, CHy decided to engage in an in-depth review, to be completed by 2021, of its technical and regulatory material, ensuring alignment with other WMO regulatory material and its consistency with other sources of standardization such as ISO. This work started from Technical Regulation vol. III – Hydrology and will also include the review of existing material and guidance and the development of new material, responding to Members' requirements including innovative technologies and citizen science; [Contributes to L-TA (4)]

- (2) **Assessment of the performance of flow measurement instruments and techniques:** the development of software to assist National Hydrological Services (NHSs) in the assessment of the uncertainty of river discharge measurements is nearing completion and will be widely distributed to WMO Members under the coordination of the Management Committee of Project X; the project will continue to provide support and advice to members on flow measurement techniques, including innovative approaches; [Contributes to L-TA (4) and (5)]
- (3) **The Global Hydrometry Support Facility (HydroHub):** the implementation of Hydrological Cycle Observing System (HYCOS) components according to Members' priorities, under the new World Hydrological Cycle Observing System (WHYCOS) framework and integrating innovative monitoring approaches, is being revamped. Innovation in hydrometry is being harmonised into the hydromet development activities that are financed by the international donor community. A community of practice is being built to support hydrometric requirements of NHSs and an information system developed for stakeholders. The Meteorological, Climatological and Hydrological (MCH) Database Management System will, in coordination with climate data management systems continue to be developed and implemented according to hydrological and climatological needs and the existing MCH community of practice will be extended to other languages in addition to English; [Contributes to L-TA (4) and (6)]
- (4) **Hydrological data operations and management:** the implementation of the WMO Hydrological Observing System (WHOS) Phase II, in accordance with its Implementation Plan endorsed by EC-71, with its governance and architecture compliant with the WMO Integrated Global Observing System (WIGOS), the WMO Information System (WIS) and the Global Data-processing and Forecasting System (GDPFS), will be extended to other regions, on the basis of the successful experiences in the Plata and Sava river basins, as well as in the Arctic; the contributions of global data centres (GRDC, GPCC, IGRAC, HYDROLARE, federated under the Global Terrestrial Network – Hydrology (GTN-H)) are relevant for the GCOS Implementation Plan and their role, especially in the implementation of WHOS, will be reviewed in order to enhance it; [Contributes to L-TA (4) and (6)]
- (5) **The WMO Flood Forecasting Initiative and hydrological contributions to disaster risk management, including flood (APFM) and drought (IDMP) management:** assessment guidelines for End-to-End Early Warning Systems for flood forecasting and to assist Members in the assessment of their flood forecasting capabilities are being finalized and are being implemented through extrabudgetary resources in Burkina Faso and Dominican Republic, with additional donor interest being expressed for their implementation in Ecuador and other RA III/IV countries. Phase III of the project for the advancement and sustainability of a flash flood guidance system with global coverage project started in March 2019. It will allow additional benefits to be accrued to Members including further development and implementation of the Flash Flood Guidance System (FFGS), with advanced features such as landslide susceptibility, urban flash flood forecasting, riverine flood forecasting, and seasonal prediction. Cooperation with the Global Water Partnership (GWP) in the implementation of APFM and IDMP continues and is being reaffirmed through an MoU; [Contributes to L-TA (1), (2), (3) and (5)]
- (6) **WMO Global Hydrological Status and Outlook System (HydroSOS):** HydroSOS, launched in 2018, will continue to be implemented building on the existing efforts from a number of Members to produce regular analyses of the current national hydrological condition complemented by forward looking assessments of how the water situation may change over sub-seasonal to seasonal time scales, and taking into consideration the need to link this initiative closely with other related WMO activities such as WIGOS (in particular by making use of the opportunities provided by WHOS) and the Global

Data-processing and Forecasting System. Pilot projects have been initiated in the Lake Victoria and Ganges-Brahmaputra basins to test the concept, with the ultimate objective of reaching global coverage; This activity can be supported by the Dynamic Water Resources Assessment Tool (DWAT) which allows the assessment of the impacts of land-use changes within the basin over time on water availability. DWAT can be used to assess a wide variety of scenarios as well as the interactions between climate, water and landscape on the availability of water resources; [Contributes to L-TA (2), (3), (6) and (7)]

- (7) **Capacity building in hydrology and water resources management:** the WMO strategy for capacity building in hydrology and water resources management agreed by CHy and endorsed by EC, will continue guiding the activities. Current developments consist of the distance learning course on hydrometry for field hydrologists, developed for the Pacific small islands and later adapted for African countries, being further adapted for other regions. A distance learning course on hydrological data sharing using the WHOS Phase II approach will be developed and the first edition delivered in early 2020; [Contributes to L-TA (1), (2), (4), (6) and (7)]
- (8) **The World Water Data Initiative (WWDI):** together with the World Bank and the Australian Government among other key partners, will promote modern national strategies, including an open data policy, to improve water information and contribute to reinforce the capabilities of countries and other data providers in building and operating hydro-meteorological monitoring networks as well as successful water data management. Together with the HydroHub, identify barriers to effective monitoring and propose approaches for overcoming them, including innovative solutions and modernization of standardization processes; [Contributes to L-TA (6) and (7)]

Requests the Executive Council to provide guidance for implementing WMO's activities to address the long-term ambition (8) "Water quality is known" through involvement in relevant initiatives currently underway at a global and regional level;

Noting that the governance structure of the above initiatives requires formal representation of the Commission for Hydrology, which will be disbanded according to the Transition Plan of the ongoing WMO Reform,

Having considered the importance of accelerating the implementation of hydrological activities to raise the impact of WMO while strengthening synergies between them and with other WMO activities,

Further requests the Executive Council to take the necessary steps to ensure the continuity and acceleration of ongoing hydrological initiatives informed by the Long-term Ambitions, taking advantage of the organizational arrangements proposed in EC-71/Doc. 3(2);

Urges Members to encourage and support relevant national experts participating in the hydrological activities and systems.
