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| WEATHER CLIMATE WATER | **World Meteorological Organization****COMMISSION FOR OBSERVATION, INFRASTRUCTURE AND INFORMATION SYSTEMS****Second Session**24 to 28 October 2022, Geneva | **INFCOM-2/INF. 4.3** |
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## FOLLOW UP OF EC REQUEST ON THE GUIDANCE PUT FORWARD BY THE WATER AND CLIMATE COALITION

## MAPPING OF WATER AND CLIMATE COALITION

*[note: this INF document is the same as* [*SERCOM-2/INF. 9.2*](https://meetings.wmo.int/SERCOM-2/_layouts/15/WopiFrame.aspx?sourcedoc=/SERCOM-2/InformationDocuments/SERCOM-2-INF09-2-MAPPING-WATER-AND-CLIMATE-COALITION_en.docx&action=default)*]*

**Introduction**

1. World Meteorological Congress through [Resolution 6 (Cg-Ext(2021))](https://library.wmo.int/doc_num.php?explnum_id=11113/#page=193) requested the Executive Council based on advice of the Hydrological Coordination Panel to review the guidance put forward by Water and Climate Coalition (WCC) and to develop recommendations to be taken up by the technical commissions, the Research Board and the regional associations, as appropriate.

2. In June 2022, Executive Council, through its [Resolution 5 (EC-75)](https://meetings.wmo.int/EC-75/_layouts/15/WopiFrame.aspx?sourcedoc=/EC-75/English/2.%20PROVISIONAL%20REPORT%20(Approved%20documents)/EC-75-d05-3(1)-AMENDMENTS-ROP-TECHNICAL-COMMISSIONS-approved_en.docx&action=default) - Review of the guidance put forward by the WCC, requested technical commissions, in cooperation with other relevant bodies to map proposed WCC activities to the WMO Plan of Action for Hydrology, and further submit proposals to EC-76 describing how WMO should respond to other requirements from the Water and Climate Leaders call, based on the WMO Plan of Action for Hydrology.

**About the Water and Climate Coalition**

3. The Secretary-General of WMO, together with the Heads of nine United Nations Entities[[1]](#footnote-2) and the Global Water Partnership (GWP), took the initiative to co-organize the WCC (further referred to as “the Coalition”) in response to the call of the Secretary-General of the United Nations to accelerate the implementation of SDG 6, as a multi-stakeholder initiative under the [SDG 6 Accelerator Framework](https://www.unwater.org/sdg6-action-space/), which was launched at the High-level Political Forum on 9 July 2020 by UN Secretary-General Guterres and the UN- Water Chair (WMO Reference: letter 15534/2020/WATER/CC).

4. The main objectives of the Coalition are to provide:

1. Guidance for high-level policy development through its group of Water and Climate Leaders;
2. A platform for its Members to partner on concrete activities to implement solutions that address the gaps of water and climate challenges. The Coalition’s aims will focus on catalysing tangible actions and activities for water and climate (including emphasis on the involvement of younger generations – e.g. through the UN1FY initiative).

5. The Coalition is aiming to provide tangible action, activities and policy support in the field of water and climate, and to facilitate a special focus on data, information, monitoring systems and operational capacity.

6. The WCC is open for a wide range of stakeholders from scientific organizations, the private sector, NGOs, UN Organizations, Member States and civil society (WMO Reference: 22853/2020/DSG/W). Being a member of the Coalition is on a voluntary basis, it is a non-bureaucratic community of like-minded individuals and organizations and aims to create a movement rather than to function as a structure or an organization. Membership duration is self-determined and, as a general rule, linked to the duration required to implement activities. The Coalition is set to create action through positive motivation. It is guided by a Steering Committee, composed of the 11 Founding members and six elected Coalition members. The objective is to engage and align different players to generate trust and momentum through implementing concrete activities on a national, regional and global scale (Figure 1).

7. The Coalition secretariat at WMO is hosting an online [Activity Marketplace](https://www.water-climate-coalition.org/activity-marketplace/) that brings members together to work on concrete projects. Among the Coalition’s activities, there are several for which WMO has been requested by the Coalition to be an implementing partner:

* [Global Water Data Portal](https://www.water-climate-coalition.org/activity/test-1/) )
* [HydroSOS](https://www.water-climate-coalition.org/activity/fit-for-purpose-monitoring-systems/) ) Global water information services
* Global Annual state of the water report )
* [Future Water Availability](https://www.water-climate-coalition.org/activity/activity-1/)
* [Water Information Sharing Exchange – WISE](https://www.water-climate-coalition.org/activity/water-information-sharing-exchange-wise/) (together with GWP)
* [Operational Global and Regional Hydrological Modelling Community](https://www.water-climate-coalition.org/activity/operational-global-and-regional-hydrological-modelling-community/)
* [Call for Partners: WMO-UNEP Global Hydrological Operations Platform](https://www.water-climate-coalition.org/activity/call-for-partners-wmo-unep-global-hydrological-operations-platform/) (together with UNEP)
* [Training for Operational Hydrology](https://www.water-climate-coalition.org/activity/activity-2/)

More information and current membership can be found on [www.water-climate-coalition.org](https://www.water-climate-coalition.org/).



**Figure 1: The structure of Water and Climate Coalition**

***The Group of Water & Climate Leaders***

8. The Water & Climate Leaders were invited by WMO Secretary-General and the UN-Water Chair, to provide guidance for high-level policy development. The [Group](https://www.water-climate-coalition.org/leaders/) consists of 16 current and former Heads of state, prime ministers and ministers, as well as representatives from intergovernmental organizations, the private sector, research institutions, and youth organizations. In line with and supporting the WMO Hydrological Action Plan Output A.1, the Leaders aim to increase presentation/communication and understanding of value proposition, benefits and risk analysis, and value of hydrological services to foster understanding by ministries and governments.

9. The Leaders [have called for](https://www.water-climate-coalition.org/wcc/wp-content/uploads/2022/03/Call_for_action.pdf):

* **An integrated water and climate approach**—Recognizing the role of water for informed decision making in climate change mitigation and adaptation action
* **International support to improve water data and information for a climate ready world**—Working together to operationalize a Global Water Information Services that provides status, assessment, and outlook for smart climate and water-related decisions
* **Partners to join the Leaders in the implementation**—Support solutions for sound decision making: a water and climate stocktake, a cryosphere information mechanism, a new financing rationale, local engagement, and river basin cooperation
* **Recognizing the need to protect glaciers**—Understanding the role of glaciers as one of the most critical sources of freshwater and uniting forces in preserving these resources through an International Year of Glacier Preservation 2025

10. In June 2022, an [Action Plan for Integrated Water and Climate Agenda](https://www.water-climate-coalition.org/wcc/wp-content/uploads/2022/06/Endorsed_Action_plan.pdf) has been endorsed by the Leaders. It suggests six “data driven solutions”:

* Global Water Information Services (consisting of HydroSOS, Global Water Data Portal and Global Annual Water Report,
i.e. among the main contributions from WMO)
* Water and Climate Stocktake
* Glacier Preservation and Cryosphere Information System
* Financing Principles
* Local Engagement
* Strengthening of Regional Cooperation

11. The Water and Climate Leaders advocate for the integration of these solutions to be part of the climate change agenda implementation process and provide this Action Plan as an input to the UN 2023 Water Conference.

**The WMO Plan of Action for Hydrology**

12. The WMO Plan of Action for Hydrology has been adopted by Extraordinary Session of Congress in 2021 ([Resolution 4 (Cg-Ext (2021)](https://library.wmo.int/doc_num.php?explnum_id=11113/#page=36)). The Plan of Action, as a guiding document for hydrological contribution to overall WMO vision and strategic goals, comprises 134 activities planned to achieve eight long-term ambitions for Hydrology:

* No one is surprised by a flood
* Everyone is prepared for drought
* Hydroclimate and meteorological data support the food security agenda
* High-quality data supports science
* Science provides a sound basis for operational hydrology
* We have a thorough knowledge of the water resources of our world
* Sustainable development is supported by hydrological information
* Water quality is known.

13. Each activity is described including definition of milestones, deliverables and identification of main implementing body within the WMO structure in alignment with current work plans of those bodies. HCP is monitoring and evaluating progress and report to Congress and its Hydrological Assembly. Currently, an [online version](https://www.hydroref.com/wmo/hcp/index.php) of the Plan of Action with the milestones corresponding to each of its activities is being finalized to serve as a living document to support decisions, recommendations and planning of work of all concerned bodies.

14. It is critical to note that any activity of WMO in the WCC is based on the Plan of Action for Hydrology and based on existing WMO programmes, systems and activities and their further development via workplans of the intergovernmental technical commissions and other relevant WMO bodies, in delivering support to Members. As specified by the World Meteorological Congress (Res. 6 Cg-Ext (2021)), the Coalition should be perceived as a channel to contribute to the implementation of the WMO Vision and Strategy for Hydrology and its associated Plan of Action and, consequently, increase its impacts and help to mobilize the necessary resources.

15. Therefore, WCC activities for which WMO had been suggested to be a leading implementing body were mapped to activities from the Plan of Action for Hydrology. Mapping result is provided in the [Annex](#_ANNEX_1).

**Way forward**

16. Conforming to [Decision 5 (EC-75)](https://meetings.wmo.int/EC-75/_layouts/15/WopiFrame.aspx?sourcedoc=/EC-75/English/2.%20PROVISIONAL%20REPORT%20(Approved%20documents)/EC-75-d05-3(1)-AMENDMENTS-ROP-TECHNICAL-COMMISSIONS-approved_en.docx&action=default), and with the mapping completed, technical commissions, in cooperation with the HCP, Research Board, and other relevant bodies, having identified synergies between proposed WCC activities and the WMO Plan of Action for Hydrology, are requested to accelerate implementation and increase the impact of aligned ongoing activities of technical commissions through the WCC, and to further submit proposals to EC-76 describing how WMO should respond to other requirements from the Water and Climate Leaders call, based on the WMO Plan of Action for Hydrology.

## ANNEX

## MAPPING OF WCC ACTIVITIES SUPPORTING THE IMPLEMENTATION OF WMO PLAN OF ACTION FOR HYDROLOGY

| **Water and Climate Coalition Activity** | **WMO Plan of Action for Hydrology** |  |
| --- | --- | --- |
| **Activity** | **Milestones(end date)** | **Responsibility** | **Critical condition** |
| **Future Water Availability****Description:**Enable WMO Members to quantify and communicate impacts of climate change on water availability at different scales (river basin, national, regional, etc.)Establishing a community of people and organizations for developing, enhancing and applying global and regional hydrological models in an operational mode:- To improve the knowledge about the status and outlook of the available water resources (taking into account surface and subsurface water, along with snow and ice) under a changing climate.-To support the operational capacity of countries, regions and underpin the foundation of policy making, on a global scale.**Activity Outcomes**1) Link all existing global scale hydrological modelling initiatives (Establishment of the Operational Global and Regional Hydrological Modelling Community)2) Create a hydro and climate modelling system that spans the globe 3) Link model validation, interpretation and communication activities4)Apply and improve operational models, tools and platforms on a regional and global scale to:5) Assess current water availability6) Produce (sub-) seasonal hydrological outlooks7) Generate decadal hydrological outlooks under climate change8)Support in the development of the annual water report.9). Support in HydroSOS implementations (regional and global scale)**Estimated Activity Milestones**1. Integrated water and climate outlook in all WMO regions by 2023
2. Phases: following launch, it is expected to have a testing and study phase, then move to an operational phase
 | B.7.1: Global Data-processing and Forecasting System (GDPFS) – development of hydrological centres, including regional forecasting centres/systems | **2024:** First hydrological GDPFS Centre | SC-ESMP | Any WCC delivery must be GDPFS compliant and HydroSOS coordinated |
| B.7.2: Creation of an inventory of worldwide and regional free and public data and products for flood forecasting and an inventory of international interoperable models and platforms | **2025**: Launching the CoP FF with update inventory of freely available data, products, models, and platforms for flood forecasting | SC-HYD |
| C.2.1: (i) Identification of requirements on globally/regionally produced information for use in drought assessment, modelling and prediction at the national scale by NHSs, and (ii) Development of an interface for NHSs to search, use and interpret the products | **2023** | SC-ESMP |
| C.2.2: Establishment of global centres on drought within GDPFS and training of NMHSs to process and apply the information to the local context | **2025** | SC-ESMP |
| C.2.3: Operational guidance and tools for verification of available products" | **2025** | SC-ESMP |
| F.4.1: Development of tools and modules to assess and analyse the uncertainty of extreme conditions are available | **2030** | RB |
| G.3.1: Global products for local use – Regional Specialized Hydrological Centre (RSHC) of GDPFS provide to Members WRA products, including training products and tools for interpretation | **2027** GDPFS Hydrological Centres for WRA or WRM | SC-HYD |
| **HydroSOS****Description:**Support WMO Members to enhance monitoring capabilities to assess what the current water availability is and to estimate future needs availability relations by means of operationalizing the Hydrological Status and Outlook System (HydroSOS)**Activity Outcomes**1) Assist Members in developing and implementing national and transboundary scale HydroSOS projects2) Deliver regional HydroSOS implementation plans and exemplary HydroSOS clusters3) Facilitate development of Global HydroSOS portal4) Present a prototype state of the world’s water resources report**Estimated Activity Milestones**1. Finalize HydroSOS pilot phase report (2021)

2. Pilot: Annual water report – 2021 to be launched at COP27 (2022) | G.1.1: Implementation of HydroSOS at the global scale, | **2030** (number of Members contributing to HydroSOS) | SC-HYD and JET-HYDMON | Guided by the HydroSOS implementation plan |
| G.2.3: Launch of the product and support of its use and sharing | 2022: Preliminary report on water in 20212023: Preliminary report on water in 2022 for HA | SC-HYD and JET-HYDMON | Final production will be through HydroSOS system, Members coordinated (focal points involved) |

| **Water and Climate Coalition Activity** | **WMO Plan of Action for Hydrology** |  |
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| **Activity** | **Milestones** | **Responsibility** | **Critical condition** |
| **Global Water Data Portal****Description:**Develop, with partners, the SDG6 data portal further into the “Global Water Data Portal” – an interface providing unified access to all UN and national physical water data holdings. This will significantly increase Member's capabilities to guarantee better planning and decision making.**Activity Outcomes**1. Provide a list of all relevant water data and information portals
2. Design one integrated entry point for the different portals
3. Link data through APIs (contingent upon data owners’ authorization)
4. Describe and support the provision of services based on a unified data portal and highlight their benefits

**Estimated Activity Milestones**Data and information sharing | H.2.2: Partnership with FAO (AquaStat) and UNESCO established to develop a plan to define which data/information/products produced by Members should be collected in global databases supporting the SDGs | **2023** One water data portal concept note  | HCP  | Alignment with existing WMO web presentations |
| H.2.3: Define set of parameters to monitor and support sustainable development on a long-term scale in cooperation with relevant organizations | **2023** One water data portal concept note | SC-HYD and JET-HYDMON |
| H.3.4: Software (possibly a cloud solution) for computation of parameter defined under H.2.3 | **2026** | SC-IMT |
| H.3.5: Presentation of data sets for evaluation – web presentation of data sets for SDGs | **2027** | SC-IMT |
| **Water Information Sharing Exchange – (WISE)****Description:**The WISE Initiative assists key decision-makers and stakeholders from different sectors to identify their needs for actionable water and climate data, information, and services. In addition, WISE seeks to overcome gaps by sharing existing data and generating new data, building trust and engagement between stakeholders, and ensuring that data sharing platforms meet the strictest security and data protection needs. Furthermore, the initiative aims to build upon and complement existing data sources and endeavours involving the public and private sectors, civil society, and academia. Finally, it aims to encourage countries and other stakeholders to learn from each other on common challenges, to establish sustained structures that engage all relevant stakeholders in improving water and climate data for more informed decision making.**Activity Outcomes**The outcomes include that countries will: 1. Strengthen their data sharing platforms and actively use them to translate water and climate data into helpful information for decision-makers. 2. Actively share data on water quantity and quality between stakeholders. 3. Improve their scores on the data-related questions on SDG 6.5.1.**Estimated Activity Milestones**Kick-off expected in 2022 I Pilot phase reports expected in 2024 I Quantifiable progress in the SDG 6.5.1 scores of the pilot countries in the 2024 Data Drive. | H.2.3: Define set of parameters to monitor and support sustainable development on a long-term scale in cooperation with relevant organizations | **2023**: One water data portal (concept note)- review of requirements | JET-HYDMON  | WIS/WHOS compliant, HydroSOS aligned |
| H.3.4: Software (possibly a cloud solution) for computation of parameter defined under H.2.3 | **2026** | SC-IMT |
| H.3.5: Presentation of data sets for evaluation – web presentation of data sets for SDGs | **2027** | SC-IMT |

| **Water and Climate Coalition Activity** | **WMO Plan of Action for Hydrology** |  |
| --- | --- | --- |
| **Activity** | **Milestones** | **Responsibility** | **Critical conditions** |
| **Call for Partners: WMO-UNEP Global Hydrological Operations Platform****Description:**National Meteorological and Hydrological Services (NMHS) face myriad challenges to improve the quality and the relevance of their services to the growing needs of society, and especially those arising from floods, droughts, and water availability or security risks due to climate change. These challenges can include:- Lack of information products and datasets to help understand and manage water resources ​- Lack of information products and datasets to better manage increasingly more frequent extreme weather events, such as floods and droughts, brought by climate change ​- Lack of capacity to predict future trends and hydroclimate patterns to better plan and adapt to climate change The overarching goal of the proposed work is to pilot an operational global hydrologic platform to assess the status of global water resources and provide flood and drought warnings. The platform will address some of the challenges brought by climate change, which have been listed above.**Activity Outcomes**1. The first operational platform supported and facilitated by WMO and UNEP2. Connects to WMO regional climate and water centres for seasonal outlooks3. Works at different geographical scales, from basin, national, regional and global4. Fills the information gaps for the forecast of water availability in data scarce regions5. Open and direct access for users**Estimated Activity Milestones**1. Regional portal developed for pilot basin taking other available models in the area into the ensemble (2023)
2. Scaling up to a global scale platform supporting ensemble modelling. (potential HydroSOS global platform)
 | G.1.1: Implementation of HydroSOS at the global scale, | Pilot portal development (2023) | SC-HYD and JET-HYDMON  | HydroSOS compliant |
|  | Global portal with model ensembles (2024) |  |
|  | **2030** (number of Members contributing to HydroSOS) |  |
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| **Training for Operational Hydrology****Description:**Close the human capacity gap in operational hydrology by means of improved WMO training programmes, including distance learning courses on hydrometry, data management and data sharing for hydrologists worldwide.**Activity Outcomes**1) Develop and update open modules for data and information2) Training of trainers3) Offer WMO certificate of quality for trained operational hydrologists**Estimated Activity Milestones**Courses and physical training facilities in place by 2023 | C.5.1: Capacity building activities organized through the Integrated Drought Management Programme (IDMP), including curricula and training material based on needs identification, developed to enhance Members’ drought management capacities and capabilities | **2023** CD strategy | CDP | WMO Capacity Building Strategy compliant |
| C.5.2: Training materials based on curricula developed to support Members" | **2027** | CDP |  |
| E.2.2: Training materials and e-learning on QMF | **2025** | CDP |  |
| G.4.3: Training curriculum for WRA developed as a part of the capacity development strategy of the WMO | **2023** CD strategy | CDP |  |
| G.4.4: E-learning training course(s) for water resources assessment" | **2025** | CDP |  |
| I.2.1: Water quality training materials development | **2023:** Identification of priorities**2025:** Priority training materials ready | CDP |  |

1. UNEP, FAO, UNESCO, UNU, WHO, UNICEF, UNECE, IFAD, UNDP [↑](#footnote-ref-2)