



## Sixth Meeting of the Pacific Meteorological Council (PMC-6)

Sustaining Weather, Climate, Water and Ocean Services for a Resilient Blue Pacific

14-16 August 2023, Sofitel Fiji Resort and Spa, Denarau, Nadi, Fiji

### Agenda item 12.2: WMO HydroHub and HydroSOS

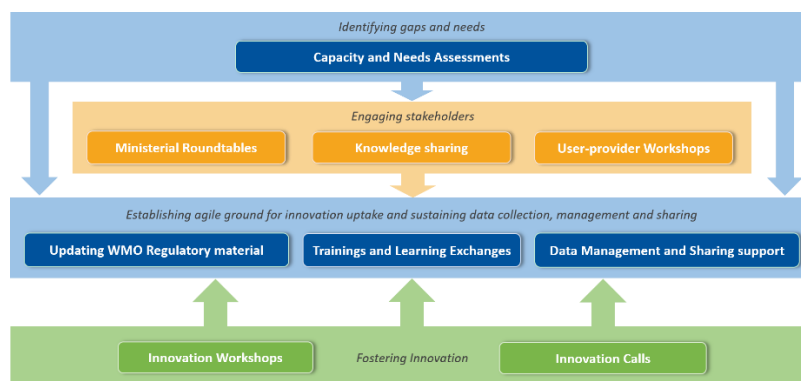
#### Purpose of the paper:

1. To update the Council on two water-related WMO initiatives, namely the Global Hydrometry Support Facility (WMO HydroHub) and the Global Hydrological Status and Outlook System (HydroSOS), specifically on activities that are planned or ongoing in the Pacific region.
2. To raise awareness of the Council on the benefits of investing in operational hydrology through conducting Social-Economic Benefits (SEB) analysis for the region.
3. To recommend that the Pacific National Meteorological and Hydrological Services (NMHSs) take the lead in implementing and seeking resources for WMO HydroHub and HydroSOS, in the region.

#### Background:

##### WMO HydroHub

1. The Global Hydrometry Support Facility (WMO HydroHub) Phase II started in September 2021 for a period of 5 years – with main financial support of the Swiss Agency for Development and Cooperation (SDC) – aiming at enhancing and sustaining NMHSs' hydrological monitoring and information for the effective delivery of hydrological services for disaster risk reduction, social and economic development, and environmental protection. To do so, three outcomes have been identified, namely 1) Increasing capacities; 2) Operationalizing innovation; and 3) Enhancing engagement. Innovative approaches are the core of the WMO HydroHub, supporting general hydrological monitoring efforts through, e.g., the WHYCOS program.
2. A portfolio of 10 activities is carried out in the Phase II of the project:



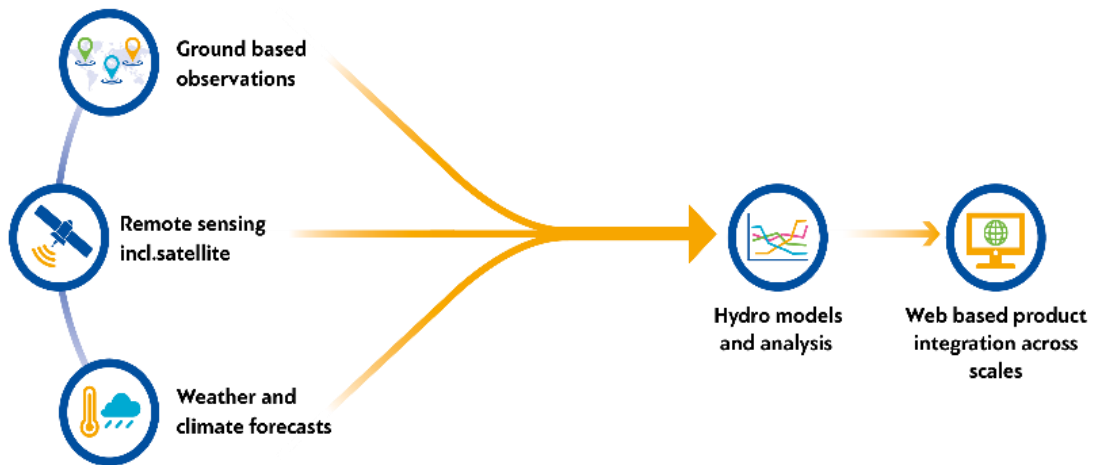
Descriptions of each of the activities are available on the [WMO HydroHub website](https://www.pacificmet.net/hydrohub).

3. During the WMO HydroHub Phase II, the activities listed have been identified in the Pacific region. A status update is also provided.
  - **Innovation Call (ongoing):** The Project titled “Non-contact measurement of river flows in the Pacific region, using innovative surface image velocimetry and stereoscopic methods”, is currently being implemented in Fiji by the National Institute of Water and Atmospheric Research (NIWA) in partnership with the Fiji Meteorological Service (FMS) and the Pacific Community (SPC), aiming at developing a novel stage triggered stereoscopic camera station for capturing flash floods.
  - **User-Provider Workshops in Fiji and Samoa (in preparation):** User-Provider Workshops aim at engaging NMHSs with the existing and potential users of their services through an open dialogue. The user community targets main actors from public and private sectors that rely on hydrological data for their well-functioning. The main objectives of the workshops are to (1) showcase the portfolio of the NMHSs’ data services; (2) present the needs and requirements of existing and potential data users; (3) showcase any hydrological data collection activities carried out by data users; (4) Showcase best practices; and (5) put forward recommendations for strengthening collaborations/Public-Private Engagements (PPEs) and feedback mechanisms between NMHSs and data users. The workshops are planned to be carried out in Q4 2023.
  - **Ministerial Roundtable (in preparation):** Ministerial Roundtables aim at raising the awareness of Finance Ministers on the importance and value of hydrological monitoring. Socio-Economic Benefits analysis (SEB analysis) being the backbone of such Ministerial Roundtables, discussions around how best to move forward the activity in the Pacific region were held with the WMO Senior Economic and Societal Impacts Officer. The outcomes of the discussions suggest that one efficient avenue would be to start by raising awareness on the importance of investing in hydrological monitoring through SEB analysis. Updating the Council on this activity is a first step towards this goal and will help frame future steps. A Ministerial Roundtable in the Pacific is planned during the Phase II of WMO HydroHub, possibly in Q4 2024.
  - **Learning Exchange (planned in 2024):** The outcomes of the Innovation Call and the User-Provider Workshops will help frame the Learning Exchange activity. The activity is planned in Q3/Q4 2024.

### HydroSOS initiative

1. The [WMO Hydrological Status and Outlook System](#) (HydroSOS) initiative supports countries by providing an operational system that is capable of assessing the current hydrological status of its water resources and its likely outlook in the near-future (weeks to sub-seasonal) for the benefit of its users. HydroSOS has the following objectives:
  - To provide easy access to hydrological status and outlook using products from the National Meteorological and Hydrological Services (NMHSs) through a WMO web-based platform;
  - To use data (including in situ, satellite and models) and analysis, complemented with information from downscaling of global models where potential gaps are identified;
  - To be used by and for NMHSs as well as other stakeholders for decision making related to water resources;
  - To support decisions related to the use of water resources;

- To be owned and operated by NMHSs.



- HydroSOS was envisioned in the former Commission for Hydrology (CHy) and now overseen by the WMO Hydrological Assembly, was approved during the 18<sup>th</sup> Session of the World Meteorological Congress ([Resolution 25 Cg-18](#)). As a first step, a pilot phase was initiated where HydroSOS was implemented in target pilot basins. Following the successful completion of the pilot phase, the Extraordinary session of the Congress held in 2021 approved the End of the Pilot Phase Report. It further directed the WMO Regional Associations to develop regional implementation plans to start the operationalization of the global HydroSOS and to present these plans at the at the 19<sup>th</sup> session of the World Meteorological Congress (Cg-19) ([Resolution 5 Cg-Ext 2021](#)).
- The 18<sup>th</sup> session of the WMO Regional Association V (RA V-18), which also includes the Pacific Island Countries and Territories (PICTs) requested the RA V Working Group on Hydrology and Water Resources (RA V WG-HWR) to develop the regional implementation plan to be presented at Cg-19 ([Resolution 4 RA V-18](#)).
- Members from RA V nominated focal points for HydroSOS to prepare national HydroSOS plans during the first face-to-face RA V HydroSOS Workshop in Christchurch, New Zealand. The WMO Regional Hydrological Adviser for RA V was tasked with the overall responsibility of coordinating these efforts and consolidating the RA V HydroSOS implementation plan.
- Cg-19 approved the [RA V HydroSOS implementation plan](#) and further requested the Regional Associations to present progress on the implementation of HydroSOS at the future sessions of the Congress with the aim of reviewing their structure and viability ([Draft Resolution 4/3 Cg-19](#)).
- The RA V HydroSOS implementation plan outlines the following next steps:

- a. Identify technical and financial resources with the support of WMO and other regional/multilateral organizations to setup HydroSOS at national and regional level;
  - b. Pilot the implementation of HydroSOS in the region with an initial focus on developing status products;
  - c. Pilot a regional hydrological outlook forum by collaborating with WMO Regional Centres;
7. WMO together with SPC, Secretariat of the Pacific Regional Environment Programme (SPREP) and the NMHSs of Fiji, Samoa, Solomon Islands and Vanuatu are also working on an Adaptation Fund proposal to setup integrated flood and drought management and early warning systems that would build on the WMO HydroHub and HydroSOS initiative.

## Recommendations

The Meeting is invited to:

- **Note** the progress of WMO HydroHub and HydroSOS initiatives in the Pacific region and, collaborate with the WMO Regional Association V to periodically monitor its implementation and coordination with related activities;
- **Further note** that the WMO HydroHub and the HydroSOS initiatives are complementary and encourages continued integration of their activities;
- **Request** the Council to help mobilize technical and financial resources to strengthen hydrological monitoring and services, and to aid the implementation of HydroSOS and WMO HydroHub in the Pacific region;
- **Encourage** the implementation of SEB analysis in the region to raise awareness of the importance of investing in hydrological monitoring.