



TERMS OF REFERENCE

Junior Professional Officer (JPO) Associate Scientific Officer (Hydrological Science to Operations) P2

Organizational Unit:

Science and Innovation Department & Services Department

Title of Supervisors:

Director Science and Innovation / Director Hydrology, Water and Cryosphere

The Challenge:

Water is essential to human health, economic development, and peace and security. Yet within ten years, more than half of the world's population will be living under water stressed conditions; more than a billion people will face absolute water scarcity and lack the water to meet human, economic, and environmental needs. Future climate changes will exacerbate these conditions - affecting the timing, distribution, and intensity of rainfall events; decreasing available water storage (snow and ice, groundwater, reservoirs); and contributing to water-related disasters such as flood, droughts, and other water-related disasters. These changes will contribute to energy and food insecurity, state fragility and failure, mass migration and humanitarian disasters, and insecurity at the regional, national, and individual level.

Water security is human security. Being water secure, means that people have access to sustainable supplies of water of the right quality and quantity to meet their domestic, social, economic, and environmental needs without living in fear of floods and droughts. Achieving water security and the water-dependent/water-related Sustainable Development Goals requires the sound management of water resources across both space and time at all scales. This cannot be done without providing all stakeholders, including the public, with sound knowledge of the hydrological system and associated processes; an understanding of the interconnections between water, land, and air; and access to trusted and reliable data – across space and time – that can be used to inform decision making.

The mission of the World Meteorological Organization (WMO) is to “protect the safety and welfare of humanity by improving and increasing access to meteorological and hydrological information and services”. The WMO’s vision is to improve meteorological and hydrological observation, modelling, and forecasting to better serve societal needs. In 2021, the WMO Congress approved the Vision and Strategy for hydrology and associated Plan of Action including the Hydrological Research Strategy 2022-2030, “Operational Hydrology Research Priorities”.

Responsibilities:

Under the supervision of the Director SI and Director HWC the JPO will:

- Support the WMO Research Strategy on Hydrology in close coordination with the Hydrological Coordination Panel, the Research Board, the Infrastructure and Services Commissions as well as other partners/organizations, in particular the International Hydrology Program of UNESCO, ICSU and IUGG;
- Work with Regional Associations to make sure regional scientific hydrological requirements are the basis of regional hydrological roadmaps, including science to operations action area of WMO's 8 long-term ambitions in hydrology
- Ensure regional scientific organizations and capacity are linked to the development of hydrological workstreams in relevant SCs of the TCs;
- Organise regional science to operation hydrology capacity building and information events/material/webinars;
- Support activities related to the global kilometer scale modelling initiative with special emphasis on the cryosphere, floods and droughts.
- Help building local and regional test beds and pilot arrangements to take up/evaluate new scientific developments in operational hydrological services;
- Showcase, through scientific evidence, the value of uptake of new scientific findings into observing, monitoring and modelling tools related to operational hydrology;
- Promote and organise citizen science and its application to operational hydrology;
- Help regions formulating their regional hydrological research and development priorities and transform those into practical partnerships that include science, NMHSs and private sector; and
- Promote and organise information platforms for Members that allows access to research and development funding.

Results Expected:

Develops, implements, monitors and evaluates assigned activities related to hydrology research. Addresses the scientific and knowledge gaps necessary to improve the delivery of hydrologic information and services (i.e., operational hydrology, including the cryosphere or flood and droughts). Drafts background papers, analysis, sections of reports and studies, inputs to publications, etc. Develops and maintains effective and harmonious working relationships with members of the relevant departments in WMO and outside. Regional science updates on improvement of operation capacity through scientific advancement.

Qualifications:

Education:

Advanced university degree (Master's degree or equivalent) in Hydrology or a related field (Earth System Science, Meteorology, Climatology, Water Resources Engineering etc.). A first-level university degree in combination with qualifying experience may be accepted in lieu of the advanced university degree.

Experience:

At least two years of relevant professional experience in a national or international organisation with strong exposure to hydrology, meteorology; experience in communicating scientific results to broad public.

Other requirements

Ability to effectively and efficiently work with Microsoft Office applications. Knowledge of state-of-the-art communication tools. Excellent communication skills. Desire and ability to work efficiently in a multicultural environment.

Language:

Excellent knowledge of English (both oral and written). Knowledge of other official languages of the Organization would be an advantage.

(Note: The official languages of the Organization are Arabic, Chinese, English, French, Russian and Spanish.)

Learning Elements:

On completion of the assignment, the JPO will have:

- Deep understanding of the WMO's vision on the improvement of hydrological observation, modeling, and forecasting to better serve societal needs, including the Vision and Strategy for hydrology and associated Plan of Action including the Hydrological Research Strategy 2022-2030, "Operational Hydrology Research Priorities".
- Deep understanding of global trends in big weather, climate, hydrology and related knowledge and skills.
- Comprehend applicable practice in big weather, climate, hydrology etc, and a general understanding of related international organization practices.
- Complete WMO mandatory trainings.
- Carry out the main analyze processes, and understand the challenges of the function area in a multicultural environment of an international specialized UN Organization.
- Demonstrate strong oral and written communication skills, and opportunity to attend UN language training organized by UNOG.
- Develop and maintain relations with various stakeholders and develop networks with considerable insight into big weather, climate, hydrology etc practices within the UN system.