

Plan of Action for Hydrology (PoA)

8th Meeting of the Capacity Development Panel (CDP)

Silvana Alcoz, SO

Nirina Ravalitera, SO

SD/HWC/HWR

Hydrological Forecasting and Capacity Development Unit

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CD in the Plan of Action for Hydrology 2022-2030

Cg-18 approved **8 long-term ambitions** to address the global water challenge and decided to develop a **Vision and Strategy on Hydrology and Associated [Plan of Action](#)** (Resolution 24 (Cg-18) to fulfill those ambitions.

The **Hydrological Coordination Panel (HCP)** developed such **Vision and Strategy and associated Plan of Action** as requested by EC-71, and they were adopted by Congress through **Resolution 4 Cg-Ext(2021)**.

IMPORTANT: The Plan of Action is a **living document**. It is **currently under review**. During HCP 6 (17-19 Jan 2024) it was decided to compile minor or moderate changes by 21 March 2024 for submission as information document to EC-78, to **update the online version of the Plan of Action consequently by 19 April 2024**

CD through the elaboration of regulatory and guidelines/guidance publications

SERCOM - SC-HYD is currently working on:

- New edition of the Guide to Hydrological Practices – Volume II (WMO N168) - Management of Water Resources and Applications of Hydrological Practices
- Second edition of WMO N1072 – Guide to Flood Forecasting and Early Warning
- New edition of WMO N1003 - Guidelines for Managers of National Hydrological Services
- Guidance on Quality Management Systems for quality assured hydrological data and products
- Guidance on the use of satellite data for flood forecasting and product requirements

CD through the elaboration of regulatory and guidelines/guidance publications (continues)

- Guidelines on Socio-Economic Benefit Analysis of Flood Forecasting Services
- Guidelines on Transboundary Flood Risk Management
- Guidance for Water Use, Allocation, and Accounting in the Water-Energy-Food-Ecosystems nexus, including case studies
- Guidelines on Impact-based Forecasting for Hydrology (Floods and Droughts)
- Guidelines on Enhanced Communication between Users and Forecasters for Floods and Droughts
- Guidance on national/basin level assessments for Water and Climate Change Mitigation Measures Interdependencies



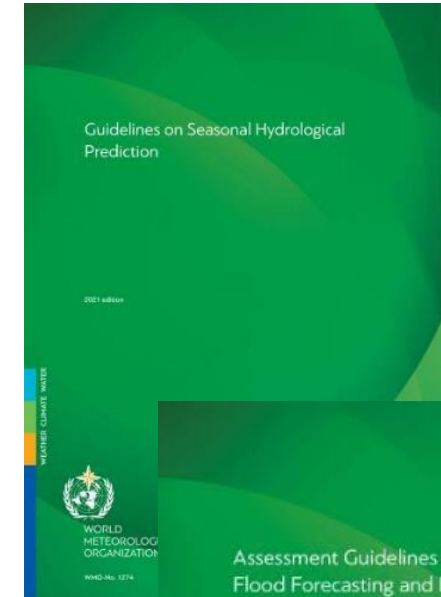
Need of more experts involved. Special needs on water quality.

CD through regulatory and guidelines/guidance publications: Training Materials & Training Delivery

PoA - Activity E.2.2 from

Prioritization decided during SC-HYD 2:

1. The assessment guidelines for End-to-End Flood Forecasting and Early Warning Systems for Flood Forecasting (WMO-No 1286). Second course will be launched for RA I in 2024.
2. The Guidelines on Seasonal Hydrological Prediction (WMO-No. 1274)
3. The guide on Flood Risk Mapping
4. The guidelines on Impact based forecasting for Hydrology



Capacity Development formats

- **Fully Autonomous** (not implemented yet) – self-learning platform to reach a wider audience
- Distance Learning courses with instructors
- **New format** Distance Learning training course **for field technicians**
- Face-to-face training courses
- Combination of formats

Reaching a wider audience among NHSs

Methodology:

- Preparation of autonomous learning modules (based on existing ones) that are interactive, with quizzes, and certification
- Reach NHSs Authorities and introduce them to the available training options

Topics:

- Basic Hydrological Sciences courses
- Advance topics in hydraulics, hydrological sciences, hydrometeorology

Challenges (given limited budget):

- Elaboration of interactive modules with interactive quizzes (animated for example)/surveys. What tools and methodologies are recommended?
- To reach all (English, French, Spanish, Russian, Arabic). How to reduce the cost of translations (for the customized modules)? What reliable tools are available? Is it possible to link those tools to technical glossaries?
- Coordination within WMO to avoid duplication of training materials and to be cost-effective

Pilot format for distance learning courses for field technicians

METHODOLOGY:

- Participants are asked to film themselves doing field work, following instructions and examples provided to them.
- Videos are analyzed by the instructor(s) who will develop a customized curriculum based on the outcomes of the videos.
- Instructors prepare a tailored curriculum based on the identified needs
- Tailored online training is provided (6-7 weeks). Forum available to answer any questions. Two webinars, one at the beginning for orientation and one at the end for general feedback. Participants are evaluated with quizzes.
- Participants send a second video doing the field work at the end of the training to verify that what has been taught has been properly assimilated.
- Certification depends on successfully completed the theoretical and the practical evaluations.
- Survey for general evaluation of the training and feedback



Example of 1 recording received from 1 of the participants.

Pilot format for distance learning courses for field technicians

Advantages:

- Less costly than a face-to-face training
- Provides a better understanding of the local practices/instruments and situation to the instructors than a typical on-line training course.
- Tailored training

Challenges (given limited budget):

- Elaboration of animated quizzes/surveys. What tools and methodologies are recommended?
- To reach all (English, French, Spanish, Russian, Arabic). How to reduce the cost of translations (for the customized modules)? What reliable tools are available? Is it possible to link those tools to technical glossaries? If available, we could test them in our pilot projects.

CD- room for improvement for greater impact

- What can be incorporated into the process **to ensure that what is taught is later integrated to on the job**? Success stories? For example: in a Training of Trainer course, report a training done sharing the knowledge received as a requirement for certification.
- What mechanisms are used **to ensure participants have the right profile** for the training? (Participants are many times nominated not having the right profile in spite that the requirements were included in the invitation). Success stories? For example: online course with a quiz before accepting a participant for a face-to-face course.
- Is there a mechanism **to measure the impact of the trainings**?
- **Training of Trainers**, what must be included in the curriculum besides specific technical topics, and which should be the requirements to be a participant?

Engaging with RTCs and Increasing Partnerships for enriched and more cost-effective CD

Challenges:

- Increase the activity of RTCs in hydrology
- Coordination among partners' agendas for joint implementation
- Nominations of experts from partners to support WMO activities

Example of ongoing partnership supporting SIDS/LDC (Caribbean and Pacific Islands)

International modules on **water quality and ground water** are developed using **UCAR/COMET** modules interacting with **WMO Members from the Caribbean and Pacific Islands**, so that their needs are specifically addressed.

LETTER OF AGREEMENT (herein referred to as the "Agreement")

between

the University Corporation for Atmospheric Research

3090 Center Green, Boulder, CO 80301-2252, USA
(herein referred to as "UCAR")

and

the World Meteorological Organization

7bis Avenue de la Paix
Case Postale No. 2300,
CH-1211 Geneva 2,
Switzerland
(herein referred to as "WMO")

(also referred to as "Party" individually or "Parties" collectively)

(2023)



Example of ongoing partnership supporting CD linking science and operational hydrology

IAHS Academy

Cairo, Egypt, 20-27 July 2024



Lecturers & Topics under consideration

- Simon Papalexiou, Rainfall model simulations
- Melissa Haeffner, Human-Water Feedbacks (link with IAHS Panta Rhei book)
- Salvatore Manfreda, Advanced monitoring techniques and image analysis
- Giuseppe Formetta, Distributed hydrological modelling

E-learning training course(s) on marketing tailored to the characteristics of NHSs (activity A.4.1 of the POA)

Methodology (under consideration)

- Gather products/services provided by NHSs and how/what is their marketing strategy.
- Training on marketing best practices and tools (how to valorize services/products, identification of target audience/market, market analyses, usage of the different communication channels (e.g. social medias) to enhance the visibility of the NHSs services/products).

Challenges:

- Identify partners, instructors/experts with knowledge in marketing and NHSs

Developing a Database and a WMO CD Checklist

Objectives

- Most Extra-budgetary (XB) projects have a capacity development component.
Assist project managers in planning and implementing CD activities
- Tracking of CD activities in XB projects
- Identify synergies (reduce/share costs, training material, and human resources)
- Standardize methodologies to implement CD activities

Thank you



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