How to integrate hydrological and water management activities in the proposed new WMO structure?
How did we get here?

EC-70 requested an extraordinary session of CHy to:

• Define path forward for major WMO developments in hydrology; and

• Propose the necessary organizational arrangements for the hydrological community to deliver on relevant strategic objectives defined in the WMO Strategic Plan.

CHy Advisory Working Group-augmented met in October 2018:

• AWG Member + Regional Hydrological Advisers;

• Laid the groundwork for CHy-Ext., including the principles to be followed and structure of pre-session online discussion.
AWG-augmented approach

Reform process is an opportunity to:

• **Enhance** the support WMO provides to hydrologists worldwide;
• **Increase** the visibility and involvement of the hydrological community in WMO activities and structures;
• **Elevate** the contribution WMO makes to the global water agenda.

Two main concerns needed to be thought about:

1. **Maintaining seamless approach**: Impact of the proposed new two-Commission structure vis-à-vis the current end-to-end approach of CHy;
2. **Avoiding disenfranchising community**: The importance of proper representation of the hydrological community in the different components of the new structure.
1. How can we maintain the current **seamless approach to water issues** according to the **hydrological value chain**?
2. How can we ensure **inclusive representation** of hydrology in the new structure?
Doc. 3

Draft Recommendation to Cg-18...[To be complemented in session]

INF. 3

Section 2: Description of the WMO reform process.

Section 3: Overview of past and existing hydrological programmes and structure in WMO.

Section 4: Set of principles the AWG-augmented agreed upon and proposes to CHy-Ext. as the basis for evaluating the different structural alternatives.

Section 5: Two alternative options in relation to the future organizational arrangements for the hydrological community.

Section 6: Next steps.
Key recommendations for any future organizational arrangements for hydrology

AWG-augmented developed some principles (Inf. 3, p. 11) and noted important points (Doc. 3, p. 2-3) which it is suggested are used when assessing options. Including:

• The importance of retaining and coordinating the current end-to-end WMO approach to water issues;
• The need to integrating the normative aspects of WMO hydrological activities in the two technical commissions;
• The need to balance adding value to common issues and recognition that hydrology is a distinct discipline, independent of, though related to meteorology;
• The capability of addressing uniquely hydrological problems and issues should be maintained;
Key recommendations for any future organizational arrangements for hydrology

Continued...

• There is a need to maximize the active engagement of NHSs and their hydrologists in both the governance and delivery of the Organization's water-related activities;

• It is essential to ensure proper representation of hydrological experts in the relevant components of the new structure;

• It is important to retain a forum where each Member is allowed to record its position and express its opinion as regards all issues related to operational hydrology and water resources management;
Key recommendations for any future organizational arrangements for hydrology

Continued...

• The Organization's efforts across different technical sub-divisions of hydrology, different regions, with different external water partners and key national hydrological stakeholders should be aligned;

• We need more and better partnerships with NGOs, scientific partners, other UN Organizations, the private sector, and other relevant stakeholders in hydrology;

• It should be noted that other UN agencies addressing water issues are currently working to strengthen and expand their hydrology, water resources and related portfolios;

• The importance for the Organization to maintain and further enhance its reputation and visibility as a serious, objective, scientific and technical actor in hydrology and water resources management.
Suggested Reform Options (Inf. 3, Section 5, p. 12)

• AWG-augmented developed and examined a suite of alternative organizational structures.
  – Some options were discarded.
  – Two options were shortlisted which are consistent with the WMO Convention.
  – Participants to CHy-Ext have the possibility to propose a new, different option.

• Only one consensus option with detailed description/ToRs for any additional structures should be recommended by CHy-Ext to Cg-18.

• EC-SOP will provide its comments to Cg-18 on the CHy-Ext recommendation.
Discarded Options (Inf. 3, p. 20)

- **Retaining (or directly replacing) CHy:** would go against the spirit of the WMO reform and Article 2 (e) of the Convention, namely “…to further close cooperation between Meteorological and Hydrological Services”.

- **Creating a Virtual Hydrological Forum:** too difficult to manage, hard to understand for Members.

- **Joint WMO-IOC Advisory Board Model:** the organizational landscape for hydrology is very different and such a structure would not deliver benefits required by internal hydrological constituency.

- **More extreme options:** not to be in line with the intents of the Reform as would potentially result in disruption of global hydrological activities carried by WMO.
Shortlisted Options (Inf. 3, p. 12-20)

**OPTION A:**
Try to fit all hydrological activities under the proposed two Commissions with no additional structures for hydrology (i.e. EC-70)

**OPTION B:**
Option A + a Hydrological Assembly to ensure representation and coordination (i.e. EC-70 +)

- Common aim to concentrate implementation under the two Technical Commissions as much as possible.
**OPTION A:** Map CHy topics on to new structure

**Infrastructure Commission**
- Earth observing systems and measurement networks
- Methods of observations, measurements and instrumentation
- Data, products and information exchange and life cycle management
- Data processing for applied Earth system modelling and prediction
- Aeronautical meteorological services
- Marine meteorological and oceanographic services
- Agrometeorological and climatological services
- Hydrological services
- Public services and disaster risk reduction

**Services Commission**

Either an Expert Team under each Standing Committee or add a Standing Committee on Hydrology

World Hydrological Cycle Observing System (WHYCOS)
WMO Hydrological Observing System (WHOS)
Innovation Hub

Global Hydrological Status and Outlook System (HydroSOS)
Quality Management Framework – Hydrology (QMF-H)

End-to-End Early Warning Systems
Flash Flood Guidance System
Associated Programme on Flood Management
Option A AWG-augmented Evaluation

Remaining Questions (Inf. 3, p. 13):

• Some form of joint inter-commission mechanism would be needed for hydrological activities;
• RA Working Groups for Hydrology would need to establish interactions with all relevant subsidiary bodies under the TCs and with Research Board;
• Responsibility for coordinating WMO input to external water related collaboration would need to be decided on a case-by-case basis;
• Special arrangements for activities of a purely hydrological nature would need to be found.
Option A AWG-augmented Evaluation

Advantages (Inf. 3, p. 15):

• Maintains streamline structure envisaged by EC.
• Enhances coordination and integration across disciplines.
• In principle, it fosters cooperation between the meteorological and hydrological communities.
Option A AWG-augmented Evaluation

Key Concerns (Inf. 3, p. 14):

• Greater integration but limited self-determination for hydrological community as it would report to Congress and EC through TCs;

• Loss of dedicated forum for hydrology within WMO may be detrimental to mobilisation of NHS experts;

• Level to which it recognizes the topical uniqueness depends on how cross-cutting and purely hydrological issues are dealt with;

• The end-to-end nature of current WMO hydrological support may be compromised;

• Lack of single primary point of entry for NHSs may complicate access and affect engagement;

• Representation of hydrologists will be dependent on nomination by PRs and decision of Management Groups.
Option A AWG-augmented Evaluation

Other Issues for further consideration (Inf. 3, p. 15):

- Costs incurred by NHSs in engaging with WMO may increase;
- Lack of decision making forum may disenfranchise Member’s hydrological community > need to seek greater alignment with remaining intergovernmental fora for hydrology;
- Loss of visible hydrological identity for WMO.
**OPTION B:** Give hydrologists a voice and forum to enhance global and regional co-operation through a Hydrological Assembly
Hydrological Assembly

- **Strategic** in nature leaving technical work to the two TCs.
- **Translates** WMO strategic priorities and Congress decisions related to water into work plans.
- Guides Organization’s contributions to the global, region and national water agendas through the coordination of join hydrological activities with other bodies inside WMO and more widely.
- Advises Congress and Executive Council on scientific and political water-related grand challenges.
- Ensures proper representation of hydrological and water resources management experts in the Technical Commissions and in the Research Board.
Hydrological Assembly

- **Interaction with TCs:** Help guide activities being undertaken in the TCs where they relate to hydrology.
- **Interaction with RAs:** Regional Hydrological Advisers part of the Bureau, close interaction with hydrological WGs to ensure region specific solutions/support.
- **Interaction with External Partners:** Operational hydrology represents a small part of the global water agenda. HA will provide a focal point for collaboration with WMO and visible presence for WMO on global water stage.
- **Delivery of discipline specific activities:** prevent these falling between the gaps.
Hydrological Assembly

Practicalities:

• Established by Congress in accordance with Article 8 (h) of the WMO Convention.

• All Members able to nominate participants;

• Composed of Directors of National Hydrological Services, Water Resources Management organizations, or their equivalent, designated by Members.

• Inter-session management and coordination mechanism, the Hydrological Bureau.
Hydrological Bureau

- Ensures **inter-session management** of hydrology and water resources management issues across WMO to encourage seamless delivery of water-related services.
- Manages the support WMO provides to Members in their development of new and enhanced capabilities in hydrology and water resources.
- Maintains and strengthens WMO’s key **strategic cooperation** with relevant governmental and non-governmental organizations in the area of hydrology.
- Helps the Organization adapt to **evolving global water priorities** (current activity of EC TF on Water).
- Interacts with but **doesn’t duplicate Technical Coordination Committee**.
Hydrological Bureau

- Suggested composition:
  - Chair and Vice-Chair(s) of Hydrological Assembly;
  - Chair of SC on Hydrological Services of Services Commission;
  - One of the three Vice Chairs of Infrastructure Commission;
  - Six Regional Hydrological Advisers;
  - Representative of Research Board;
  - Chairs of water-related Study Groups or other Expert Teams;
  - Invited partners (IHP-UNESCO, IAHS, IAHR...).

- Meets annually and virtually more frequently.
Option B AWG-augmented Evaluation

Key advantages (Inf. 3, p. 18):

- Ensures representation of Member’s hydrological needs and ensures continued support in all areas.
- Balanced approach which will deliver greater integration and maintain self-determination.
- Hydrological coordination will maintain end-to-end nature of WMO’s current hydrological support by integrating across the Organization.
- Single primary point of entry for NHSs minimises costs of engagement.
- Congress/EC receive direct input from hydro. community enabling quick & coherent WMO response to changing global water agenda.
- NHSs part of decision making process reducing risk of disenfranchisement.
- Maximises hydrological engagement in subsidiary bodies.
Article 2 of WMO Convention

Sets Strategic Plan with priorities for operational hydrology and close cooperation between NMSs and NHSs.

Formulates a hydrological work programme.

Coordinates the work programme and supports hydrological activities within the two commissions and RAs.

“To promote activities in operational hydrology and to further close cooperation between Meteorological and Hydrological Services”
Article 2 of WMO Convention

“To promote activities in operational hydrology and to further close cooperation between Meteorological and Hydrological Services”

Sets Strategic Plan with priorities for operational hydrology and close cooperation between NMSs and NHSs

Collates water related ambitions and suggests candidates for hydrological positions

Helps the Organization adapt to evolving global water priorities and maintain partnerships
Option B AWG-augmented Evaluation

Summary (Inf. 3, p. 19):

• **Balances** integration and topical uniqueness;
• **Preserves** end-to-end nature of hydrological service provision;
• **Provides** degree of self-determination for hydrological community ensuring they have a formal role in taking decisions about activities they will largely resource and undertake;
• **Strengthens** WMO ability to deliver to the global water agenda through partnerships.
Recap of AWG-augmented recommendations

• AWG-augmented took a structured approach to developing and assessing options.
• The opportunities the reform process presents should be taken but risks should be mitigated.
• Status quo of retaining or replacing CHy is not recommended.
• Proceeding with no compromises for hydrology (OPTION A) is likely to result in greater risks than benefits for WMO in relation to water.
• A balanced approach that creates integrated hydrological structure to support NHSs while also realizing the opportunities of the reform is likely to be the most beneficial (OPTION B).
• It is strongly suggested that CHy-Ext recommend one consensus option with detailed description and ToRs to Cg-18.
Thank you
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