

## Report on Outcomes

### Online Workshop: Stakeholder Consultation #1 Preparatory Workshop "Hydrological data and WMO Data Policy"

**Monday 19 October 2020, 08:00h to 11:00h CEST for Regions II, V, 16:00h to 19:00h  
CEST for Regions I, III, IV, VI**

In preparation for the WMO Data Conference, this online workshop asked stakeholders to discuss key topics in order to achieve a fit-for-purpose representation of hydrology data sharing in the unified data policy under preparation for approval by WMO Congress in 2021. Discussions centred around the following topics:

1. *WMO Vision and action plan for operational hydrology*
2. *WMO Data conference and Resolution 42 from a hydrological data sharing perspective*
3. *Benefits of a unified WMO data policy for hydrology*
4. *Geographical/administrative scales of hydrological data sharing*
5. *Essential and desirable hydrological to be shared*

The meeting was chaired by Jan Daňhelka, Chair of the WMO Hydrological Assembly and Chair of the WMO Hydrological Coordination Panel (HCP); Hydrological Adviser (Czech Republic); Director for Hydrology (Czech Hydrometeorological Institute Republic).

#### Speakers:

- Michel Jean, President of the WMO Infrastructure Commission
- Silvano Pecora, Vice President of the WMO Infrastructure Commission and Vice-Chair of the WMO Hydrological Coordination Panel
- Sue Barrell, Chair of the WMO Study Group on Data Issues and Policies (SG-DIP)
- Anthony Rea, Director WMO Infrastructure Department
- Johannes Cullman, WMO Director for Water, Snow and Ice
- Lars-Peter Riishojgaard, Director Earth System Branch and Deputy Director WMO Infrastructure Department
- Dominique Berod, Head a.i. of Earth System Monitoring Division (on behalf of Silvana Alcoz, Regional Hydrological Advisor of RA III and Vice-Chair of the WMO Study Group on Data Issues and Policies (SG-DIP)

Approximately 220 stakeholders participated in the topic discussions, including the following stakeholders:

- Hydrological Advisers (around 35)
- WMO experts (around 90)
- NHMSs

- Researchers
- Consultants
- International Organizations
- WMO global data centres (2 out of 3)

After an introduction, the meeting focused on discussions, supported by a simple poll system. Poll results are only for consultation and shall not be considered as a formal result.

### **Summary of Outcomes**

#### **Views on Question 1: Benefits of a unified WMO data policy for hydrology, and does Resolution 42 meet the hydrological requirements?**

1. It is generally recognized that sharing hydrological data is important, notably for improving flood forecast accuracy and for water management (knowledge of inflows from upstream).
2. Data are already shared in many countries and regions, especially for research.
3. In many countries, data are collected by different institutions; national and UN coordination is required. Trustworthiness of data sources is an issue. A unified data policy can help engaging with different stakeholders, including within a country.
4. A revised data policy would simplify the dialogue with multiple stakeholders.
5. Lack of political will is a major issue, resulting in an imbalance of investments and benefits, and asymmetry (cost of data collection born by one entity and benefits generated by another one). Publishing regular reports on data exchange may motivate stakeholders.
6. Some countries have problems sharing data for security and legislative reasons. Separate discussions with those countries should be considered.
7. There is a need for adopting and implementing standards for data quality and data format (WaterML 2.0 must be popularized).
8. Commercial activities based on data are related to specific legislation.

The poll showed the following results:

- A majority of participants think Resolution 42 can meet the major hydrological data sharing requirements. But at the same time, only about 40% of people answering the poll indicated they would **not** have a major issue implementing the current draft.
- Major obstacles for sharing are related to national and institutional data policies and financing schemes and, to a lesser extent, missing technical skills and lack of understanding the benefits of data sharing.

#### **Views on Question 2: What are the desirable and feasible geographical/administrative scales of hydrological data sharing: national, transboundary and/or global? Are there known issues at any of those scales?**

1. Data exchange is needed primarily at national and transboundary (regional) scales. It is recognized that the global scale is necessary as well, as part of the strategic approach towards Earth System monitoring and prediction, and for climate analyses.
2. For potential global exchange of data, a prioritization of data requirements is needed (selection of a subset of stations and/or variables), e.g. for calibration of global models. Certain participants expressed awareness both that water-food security is a

major challenge, and that water footprint could be a frame for exchanging data at global scale.

3. Thematic data collection (example: Arctic Hycos) with clear objectives is important to show the value of cooperation and to motivate governments to share data, as many of them are not ready to allow data sharing with global centres.
4. Similarly, developing more national and regional hydrological products would, in turn, help stakeholders see more clearly the importance of collaborating internationally.
5. Requirements for timeliness and time scale need to be defined as well.
6. Global data centres can support the process of sharing data.

The poll showed following results:

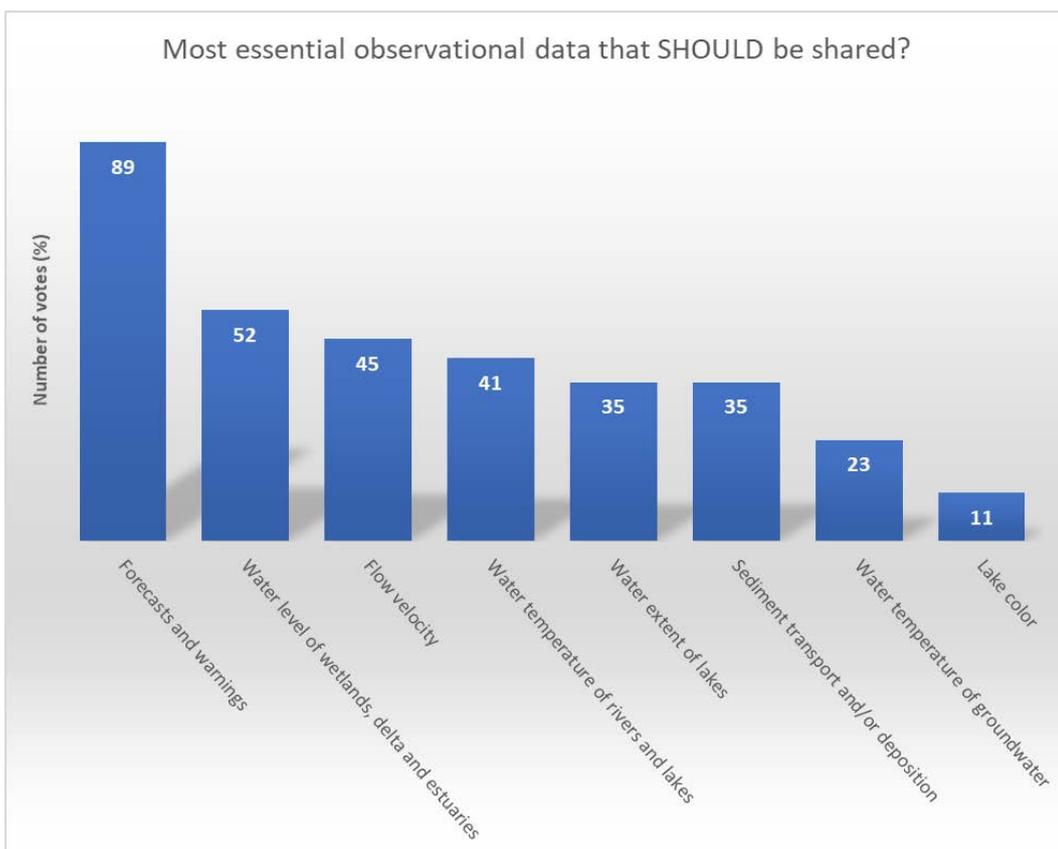
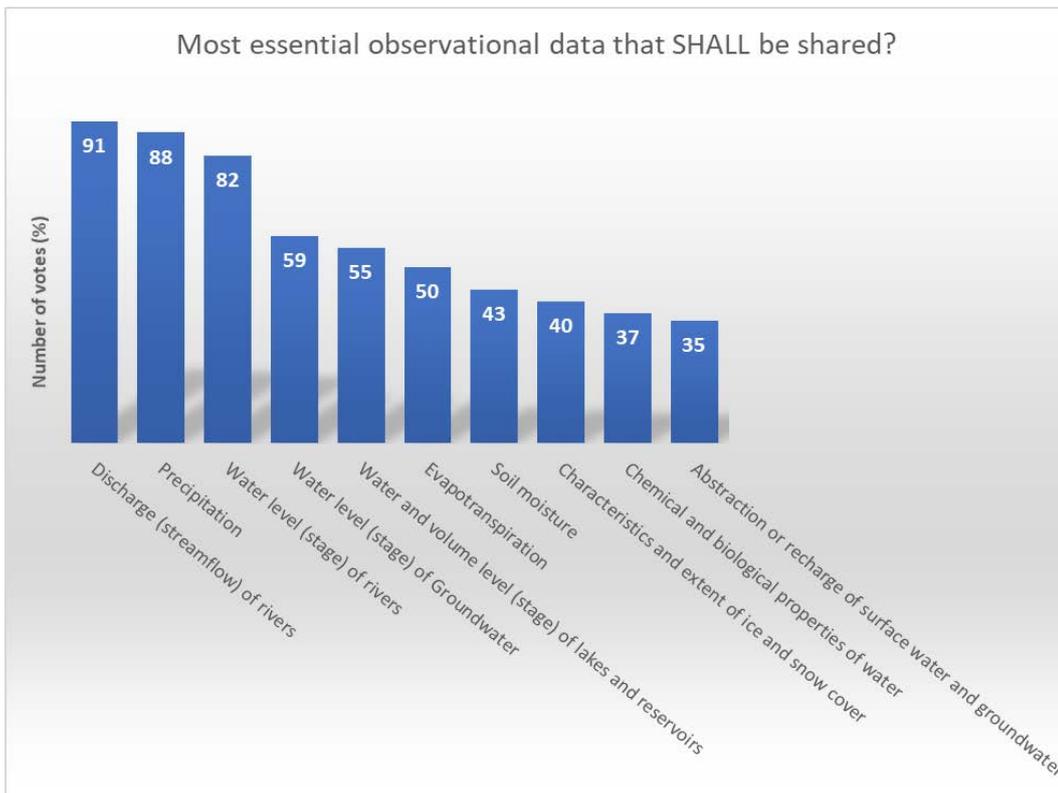
- Participants expressed needs for more data sharing primarily at a transboundary scale. (National and global scale had essentially equal scores - both were less important than transboundary.) Only a few participants said they personally would not agree to share data at global scale.

**Views on Question 3: What are the essential hydrological variables that shall be shared and what are the desirable hydrological variables that should be shared?**

1. Data having an impact on society must be identified and prioritized.
2. Lack of funding for installation, operation and maintenance restrains data collection and hence data sharing.
3. Data must be checked and accurately described: metainformation is to be shared as well, including description of data format and standard used.
4. Exchange of real-time data, forecasting and other products to improve services is required. A recommendation on hydrological model products to be used in the broader context of earth system modelling is important.
5. Cooperation between in situ and satellite observations is important; the WMO global Lake and Reservoir data centre is a good example (HYDROLARE).
6. Both (near) real-time data and quality-assured data are required, e.g., hourly data for flood forecast or long time series for climate analyses for instance. But it is important to discriminate between real-time and historical data, as countries may show more readiness to share for instance yearly data.
7. It is useful to identify a set of priority stations and then agree on which data need to be exchanged and what metadata needs to be registered.

The poll showed following results:

- A large majority of participants agreed that establishment of a basic reference network would stimulate data sharing.
- Regarding sharing of essential observational data, the results of the voting were the following:



### Summary of Major Outcomes

1. Participants expressed a general willingness to share data for flood and droughts and for climate models, being aware, at the same time, that limitations and difficulties exist in legal, technical and financial areas.

2. Although all space and time scales are required, it seems easier to get agreement to share historical data, and data at the transboundary scale
3. National and institutional policies may hinder data sharing. It is necessary to demonstrate the benefits of sharing data - particularly the economic benefits via improved services - showing how data impact society at all scales, to increase therefore political will. Only a political action plan can resolve this situation.
4. There already are good examples of hydrological data sharing, e.g., in Latin America, showing benefits and a win-win situation.
5. Sharing forecast products can be a key motivator.
6. Solving technical issues is essential, but having the right data policy, with related funding, is even more important.
7. Permanent monitoring structures are required. In the current situation, many National Hydrological Services (NHSs) depend on revenues from selling data. It was recognized that a sustainable solution and a new business model is required for setting up and maintaining/operating measurement networks, noting that GBON and SOFF can serve as good examples. This new approach will require strong political support.
8. An NHS will be supported, and certainly not punished, if it cannot share some of the requested data. Capacity building is necessary. It is particularly expected for WMO to support NHSs in building data-sharing systems, including a common data format (WHOS and WaterML 2.0).
9. Data from other providers, including non-governmental ones, must be included as well.
10. WMO regulations and projects can help support and motivate countries.