

## 2023 Geneva Triologue on Open Innovation for Education

### WMO HydroHub Acceleration Table "Creating Innovative and Sustainable Water Monitoring Around the World"

On 16 March 2023 at the European Organization for Nuclear Research (CERN), the WMO HydroHub worked with the invited Partners to (1) discover more about the proposed challenge "**Creating Innovative and Sustainable Water Monitoring Around the World**" and (2) discuss possible solutions in tackling it and a way to move forward with specific activities.

The work was organized in two phases:

1. *Discovery phase*: focused on brainstorming, sharing views and experiences around the challenge.
2. *Design phase*: focused on exploring more in-depth some impactful and feasible ideas/solutions from the previous phase, for addressing the challenge.

The main highlights that came out during the *Discovery phase* are:

- Various **innovative technologies** for water monitoring (e.g., sensors, cameras, lidar-based systems) are already available on the market, but their operationalization and upscaling remain a challenge. The barriers to this are often:
  - not agile standards and regulations,
  - ineffective communication,
  - cultural practices.
- **Communication and education** on the importance of water and its monitoring are essential:
  - E.g., in some places there is often a lack of public awareness on the importance of water and the challenges associated with it.
- There is a need to **motivate and incentivize citizens** to collect water data:
  - It is important to understand what can motivate citizens to collect data in a specific context and how to maintain their motivation over the long term.
  - Training of citizens to collect data is essential and can be facilitated through local "leaders/champions".
  - It is important to understand if there are any open-source methodologies that have already been adopted by countries for citizen science data collection and integration.

- **Funding for sustainable water monitoring** remains a challenge that might be addressed by:
  - Putting forward the findings of the assessments of the Socio-Economic Benefits (SEB) of hydrological services.
  - Establishing funding mechanisms that include data users as potential funders (e.g., insurance companies).

The following ideas/solutions to address the challenge came out during the *Design phase*:

1. **Use communication** as a mean to incentivize citizens to collect data:
  - making the information interesting and attractive (e.g., can be in a form of videos on why we need data and how to collect data);
  - considering the importance of “champions” to incentivize citizens.
2. **Define and conduct pilot studies** in different contexts on:
  - what is missing in terms of water monitoring?
  - how to incentivize citizens to collect data?
3. **Develop a series of guidance material** on citizen science data collection and integration including:
  - a description of existing methods, approaches, and tools to collect data
  - a description of methodologies for the acceptance of citizen science data
  - case studies providing incentives for citizen science data collection and use
4. **Aggregate** the sources of available water data (e.g., platforms, websites, data sharing systems)
5. Explore options to **find financing and/or raise funding** for sustainable water monitoring.