ITU Webinar Episode 12: Interoperability of IoT and satellite data for Earth Observation supporting sustainable development
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Solving the Interoperability and Standardization Gaps: WMO approach

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WEATHER CLIMATE WATER
TEMPS CLIMAT EAU

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World Meteorological Organization
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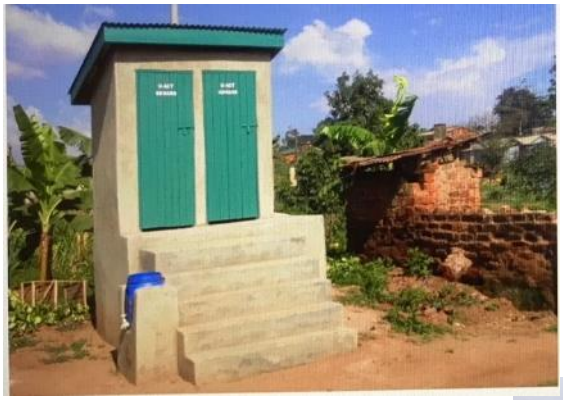
Climate challenges are water challenges



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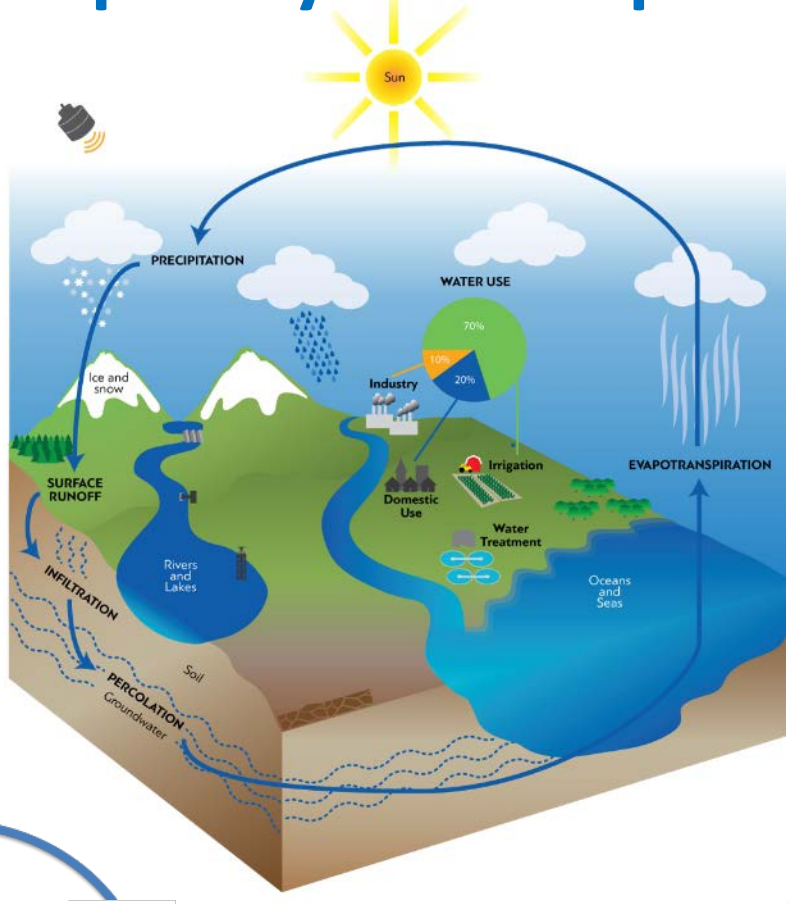
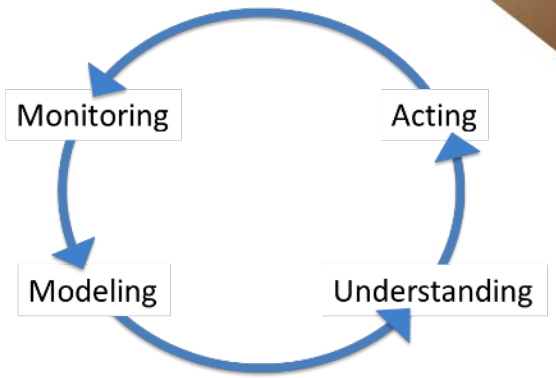
Complexity of multiple cycles





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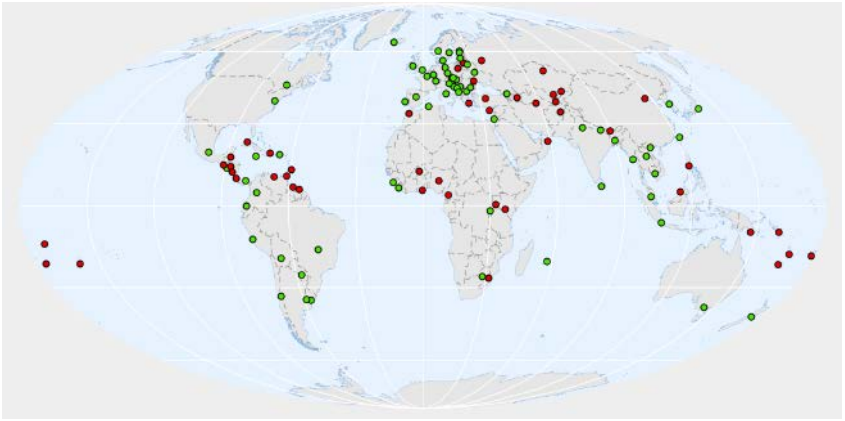
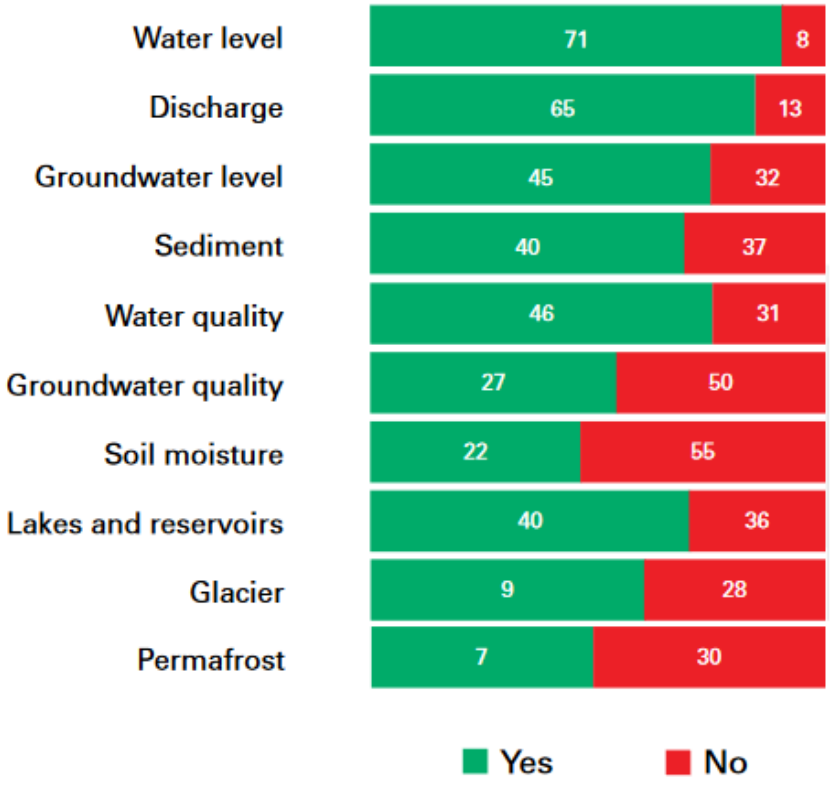
Data most wanted, but often not available





2/3 national water monitoring networks in decline

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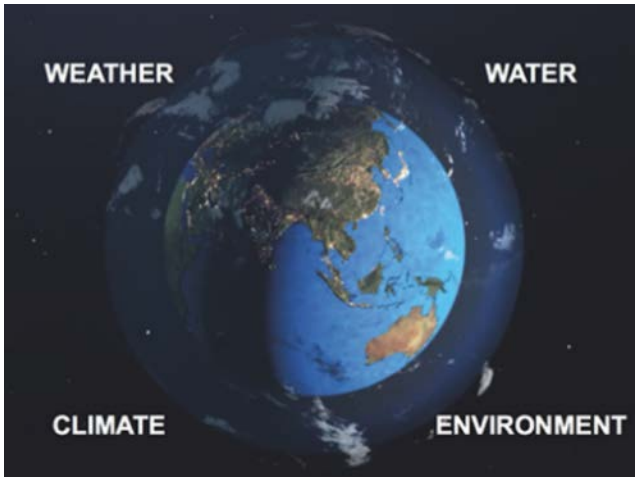
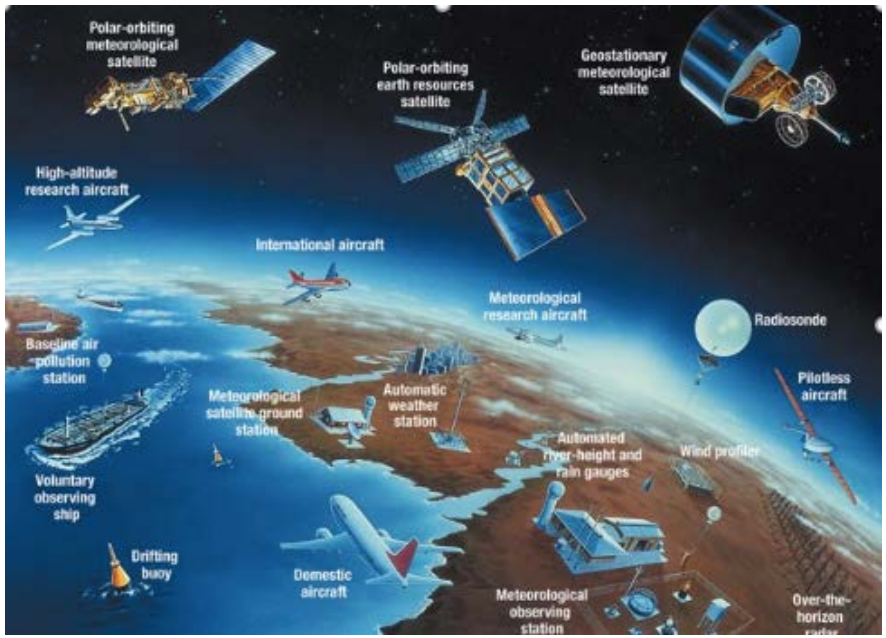
Towards a holistic approach to Earth monitoring

- **Integrated information for better understanding and modeling of Earth processes**
- **Integration of multi-source data**
- **Common basic tools for data management**
  - **Interoperability**
  - **Quality assessment**
  - **Make providers and users life easier**





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Policy basis for Earth System approach: historical decisions from WMO Congress in October 2021

Concept note for hydrological and ocean variables into GBON to be prepared

WMO Unified Data Policy

- Increased international exchange of observations by all Members **(Core and recommended data)**
- Return of high-quality model output to all Members

See the WMO Bulletin 70(2), 2021 on data sharing

Global Basic Observing Network

- Example of regulatory implementation of data policy
- Increased exchange of observations by all Members, **facilitated by both Data Policy** and **SOFF**

Systematic Observations Financing Facility

- Technical and financial support for **GBON** implementation where it is most needed
- Building on **GBON regulations**

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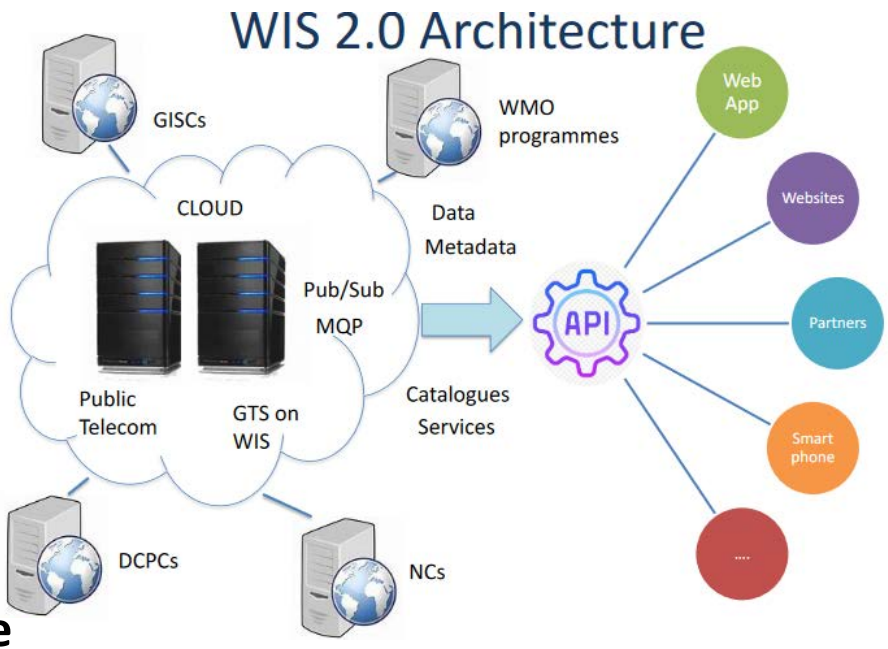
Technical framework for data sharing: WIS 2.0

- **Web services and cloud technology for publishing data, improved data discovery with search engines**

- **Integration of multi-source data**
- **11 common principles for all monitoring networks**

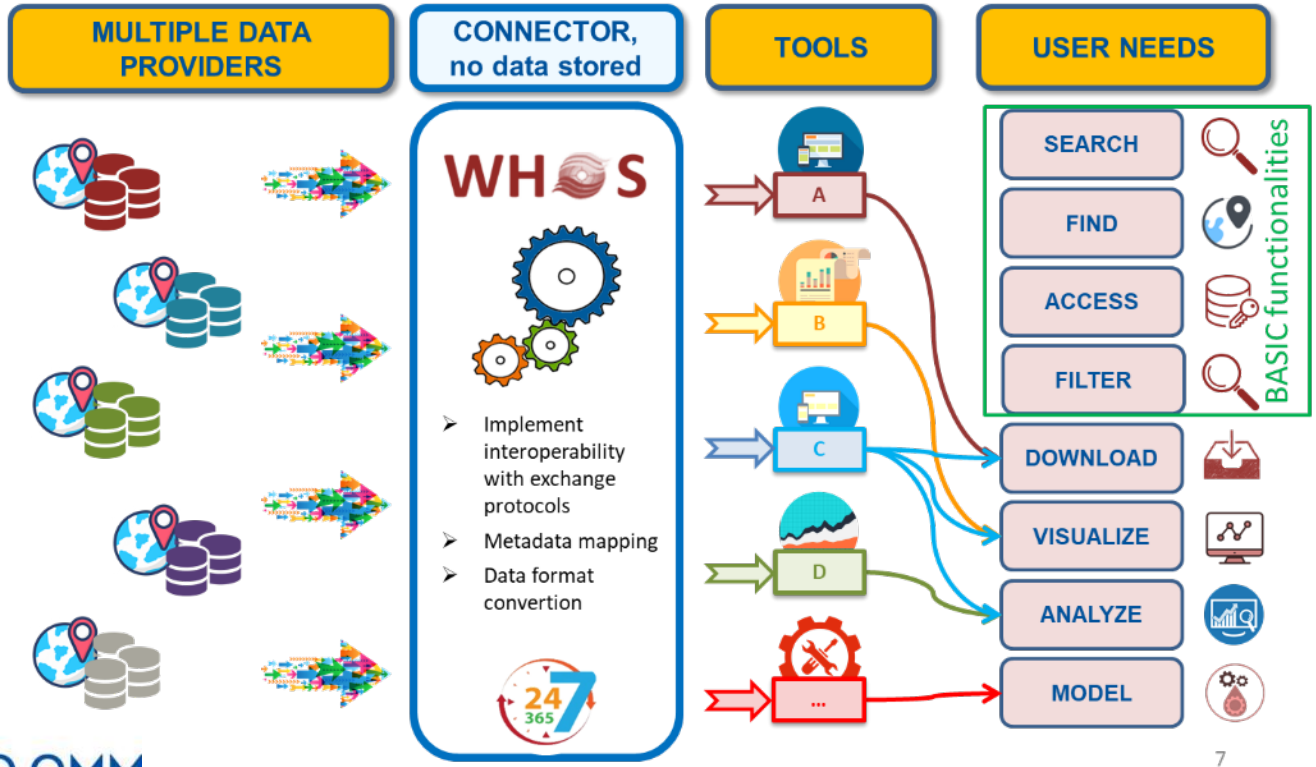
- **Nobody left behind: appropriate technnology**
  - **Interoperability**
  - **Quality assessment**
  - **Make providers and users life easier**

- **Demonstration projects ongoing**



Discovering and using hydrological data: the WMO Hydrological Observing System WHOS

- Interoperability of data systems thank standardized data format WaterML 2.0 on-going, focus on water quality parameters.
- Training session to be launched
- WHOS-Arctic and La Plata web portal launched in 2021, global implementation to come



Preparing the new generation of water monitoring

- New 5 year phase as of July 2021 of WMO HydroHub funded by Switzerland and other donors expected

- Think global and sustainable, from user requirements to solutions

- Embark innovative monitoring approaches, including low-cost sensors, IoT, citizen observations, video processing, satellite altimetry, AI, machine learning, …

- Building bridges:
  - Technique and politics
  - Traditional and emerging technologies
  - Academia, administration and private
- Build trust!

Non nova, sed nove

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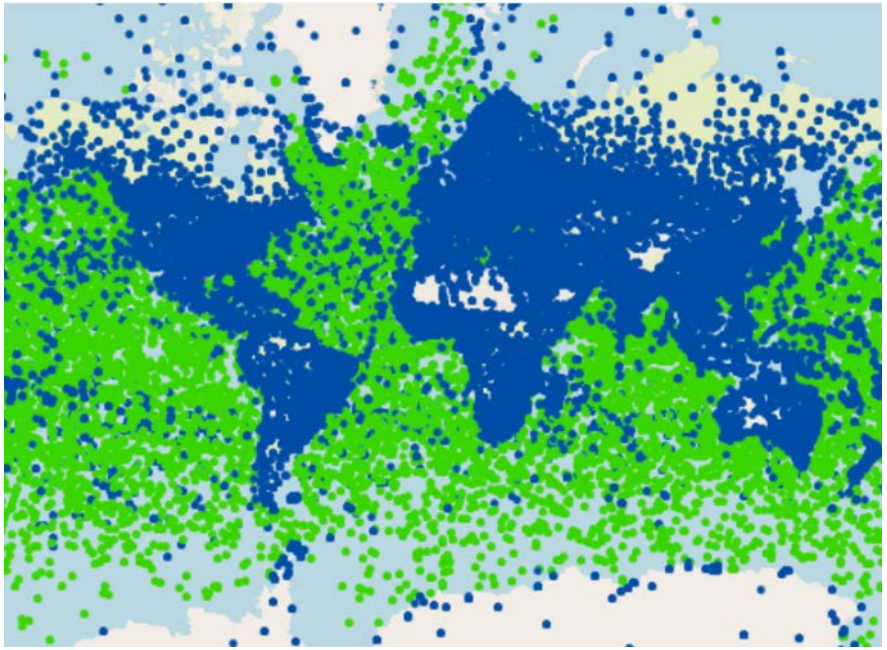
Technical framework for metadata management: OSCAR

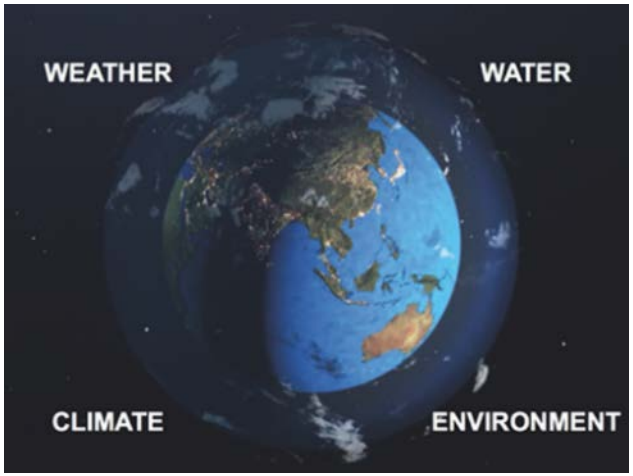
- OSCAR: Observing Systems Capability Analysis and Review Tool
- Key component of the WMO Integrated Global Observing System WIGOS

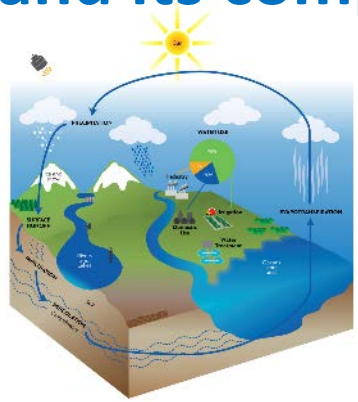


- OSCAR/Surface is WMO's official repository of WIGOS metadata for all surface-based observing stations and platforms

Conclusion: Earth System as a new paradigm helping to understand its complexity

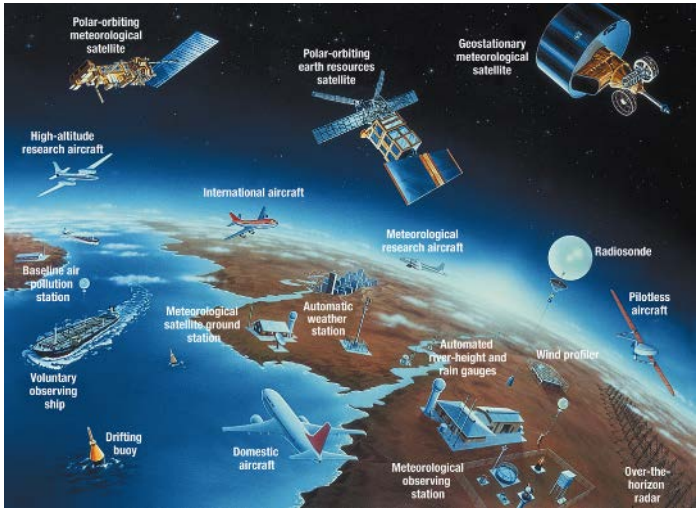
Innovation





Interconnected

Interoperable



- Common, affordable technologies
- Beyond technical solution: trust building among players
- Co-design approach
- Sustainability
- Shared data are used data: better visibility for data providers

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Thank you

Gracias

Merci

Спасибо

谢谢

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