Global Terrestrial Network of Water Resources Observation Infrastructures

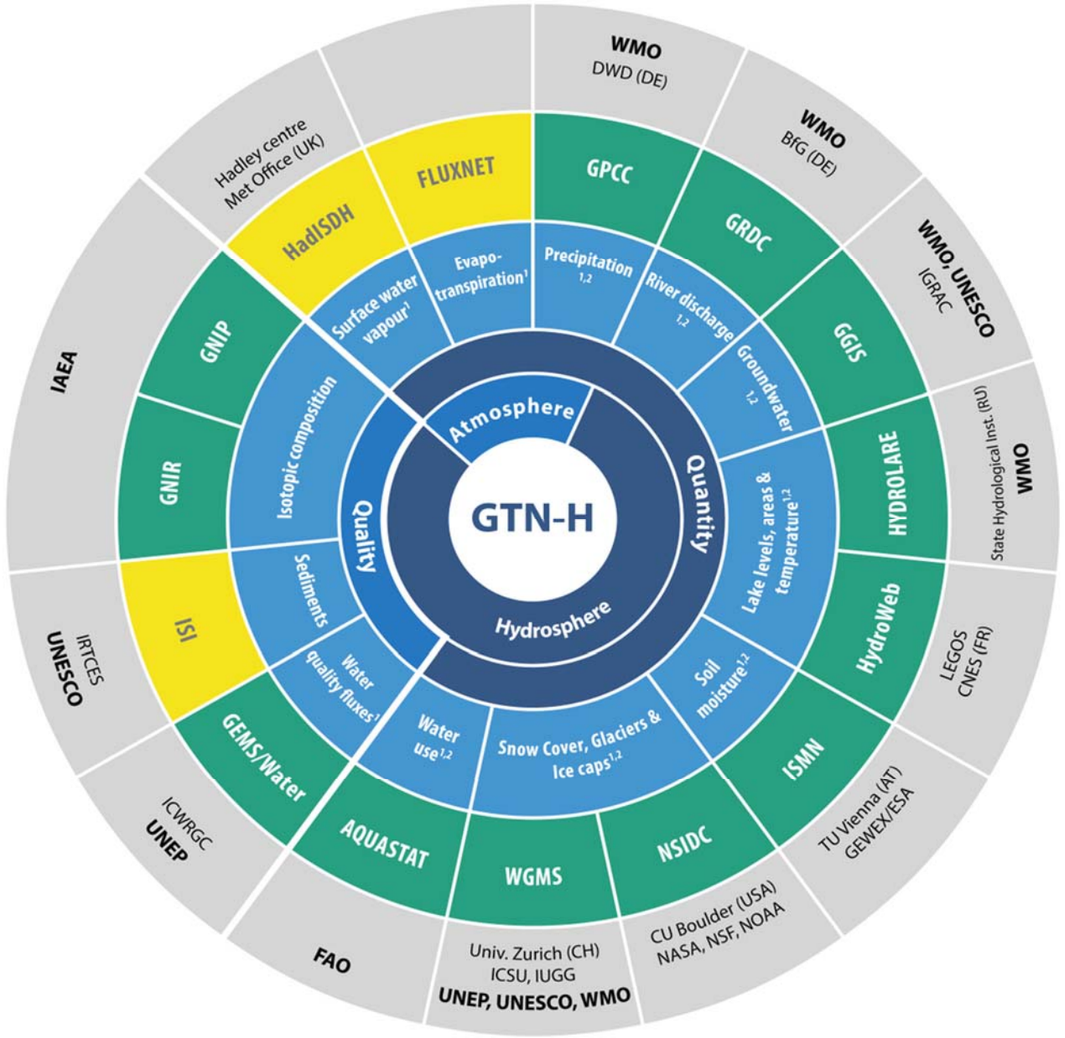
The Global Terrestrial Network – Hydrology (GTN-H)

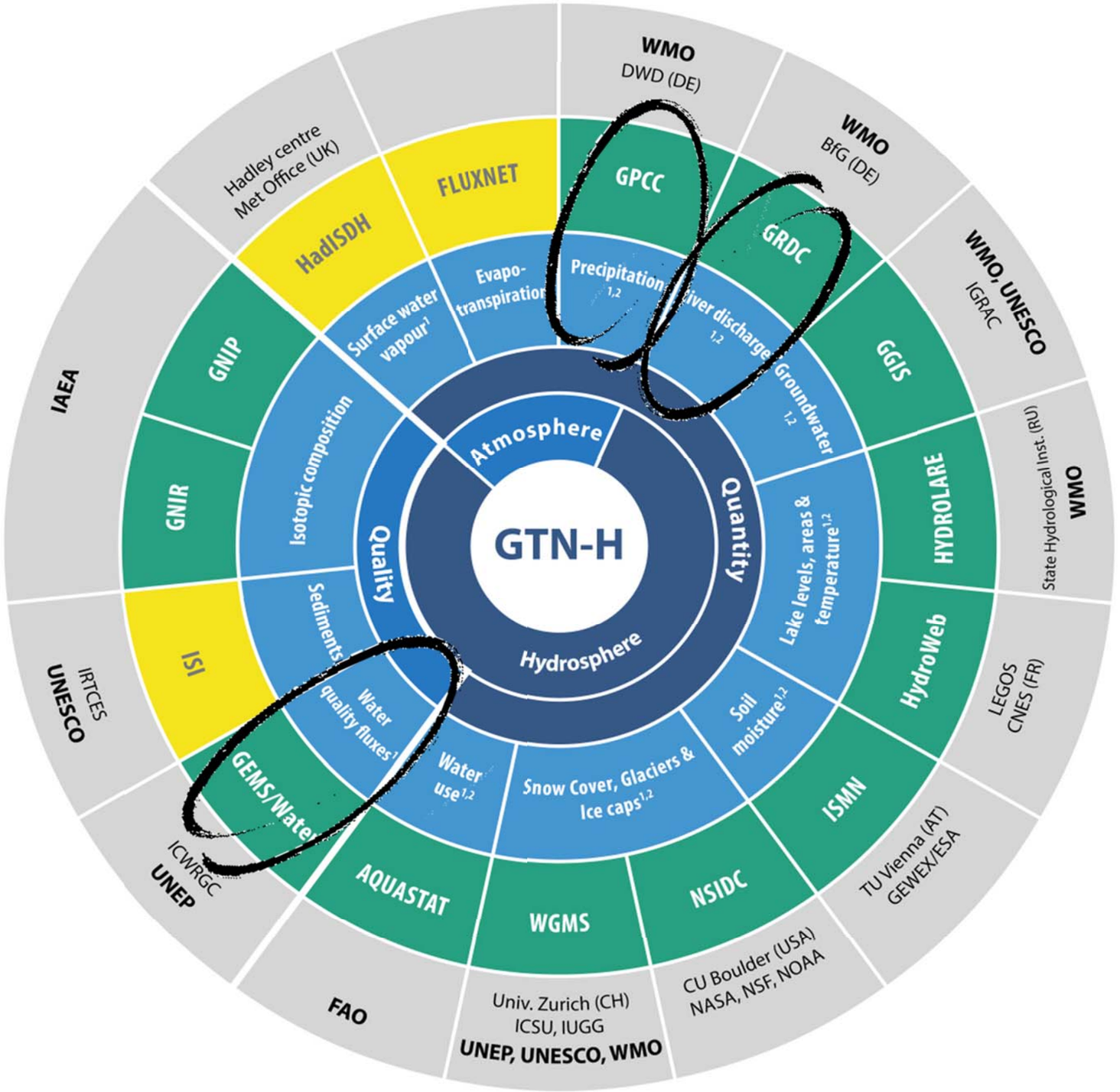
Stephan Dietrich (ICWRGC)

GTN-H and the existing operational global data centers of essential water variables

Network of the global water data centres, most of them operating under the umbrella of UN organizations.

Joint programme of the World Meteorological Organization (WMO) and the Global Climate Observing System (GCOS); implemented in 2001





Water variable

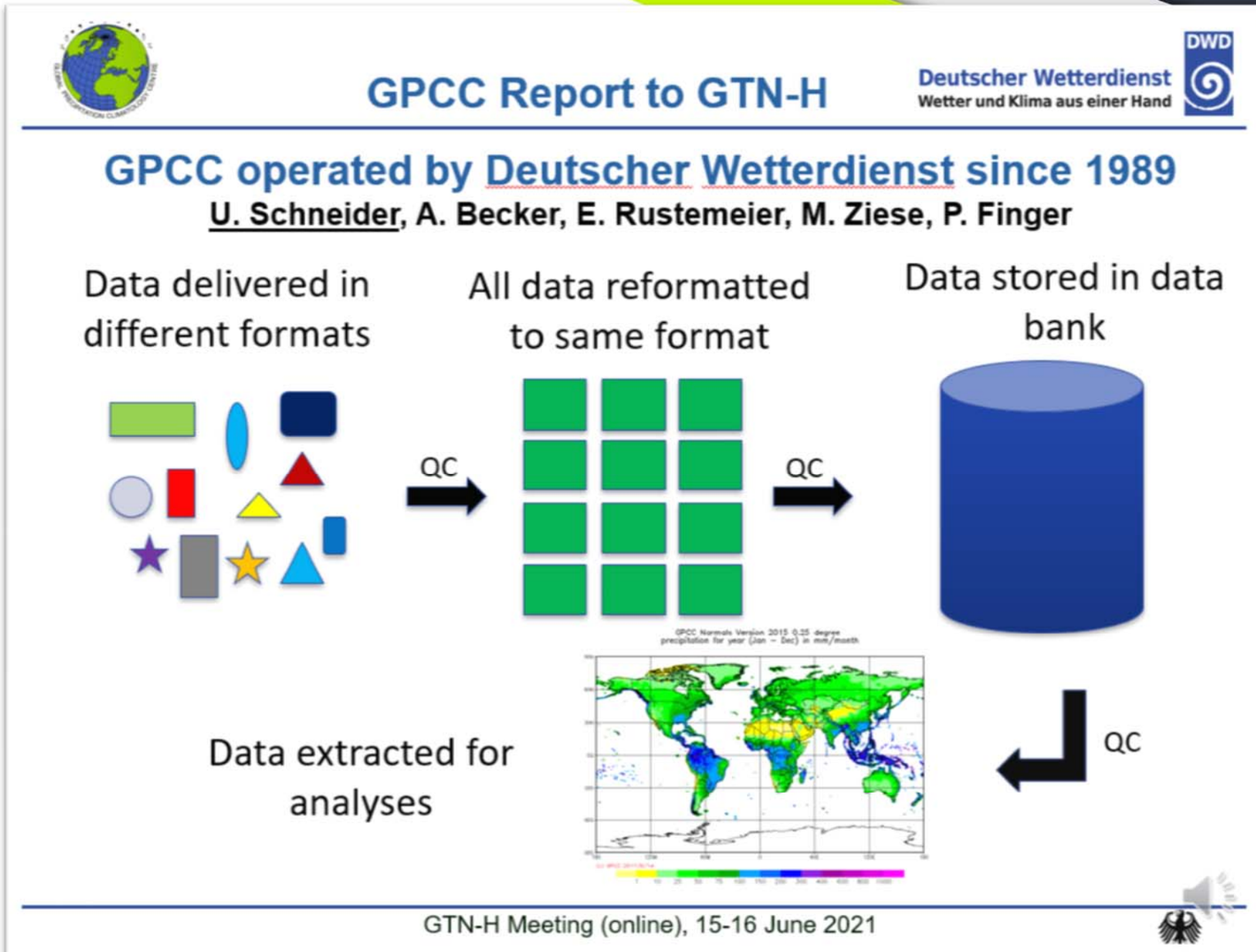
GTN-H member

Contact suggested

Host / **custodian**

What are the commons of the data centres within GTN-H?

- **Focus**: Harmonization of observation data used in many programmes/products.
- **Major incentives**: Provision of reliable and high-quality harmonized data.
- **Improvement** through knowledge exchange, networking and stakeholder interaction.



United Nations Educational, Scientific and Cultural Organization

Regional Centre on Urban Water Management (under the auspices of UNESCO)

GTN-H – What is the added value?

More information

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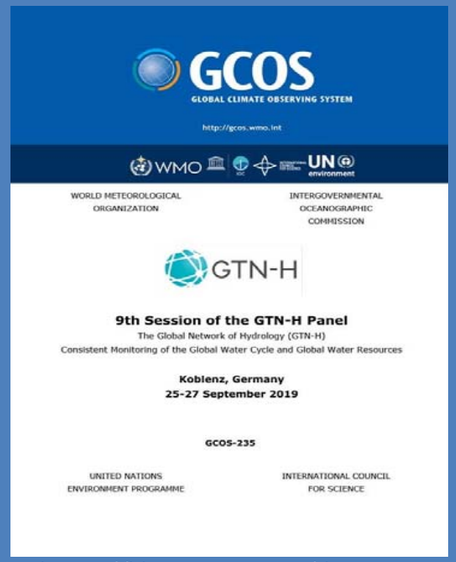
GCOS report No. 235 (2020)



https://library.wmo.int/doc_num.php?explnum_id=10389

- The 12 world water data centres and networks, federated within the GTN- H, cover most relevant variables of freshwater observations (focus on in situ observations).
- Often they operate under auspices of UN organizations (e.g. WMO, FAO, UNEP or UNESCO).
- These data centres have great experience in providing homogenized and quality-assured water observations.
- They provide long-term operational services to the scientific communities and stakeholders worldwide – some since decades.

Group photo from the last GTN-H panel meeting (GTN-H-10), June 15-16 2021.

Thank you

Closing the water cycle from observations across scales: Where do we stand?

Dorigo, Dietrich et al. (BAMS, in press):

- assessed the capability of available observations of the water cycle,
- provide the most-recent observation based global assessment of the water cycle and water storages,
- **discuss gaps in existing observation systems,**
- **formulate guidelines for future water observation strategies**.

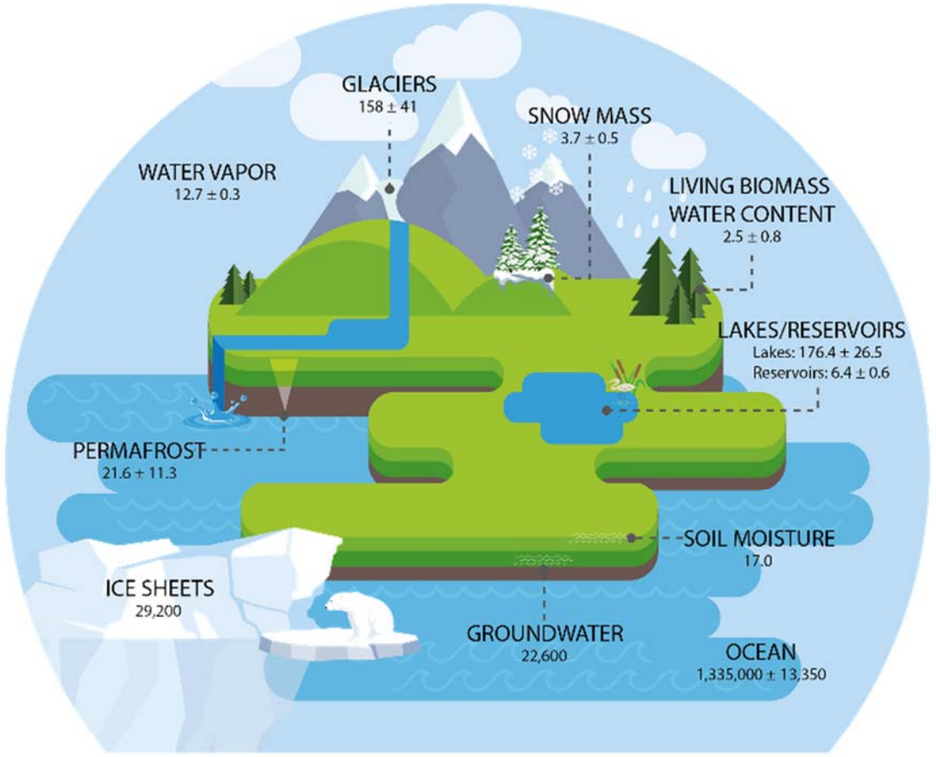


Fig. 1. Observed estimates of global water cycle storages (in 10^3 km^3) and their uncertainties.

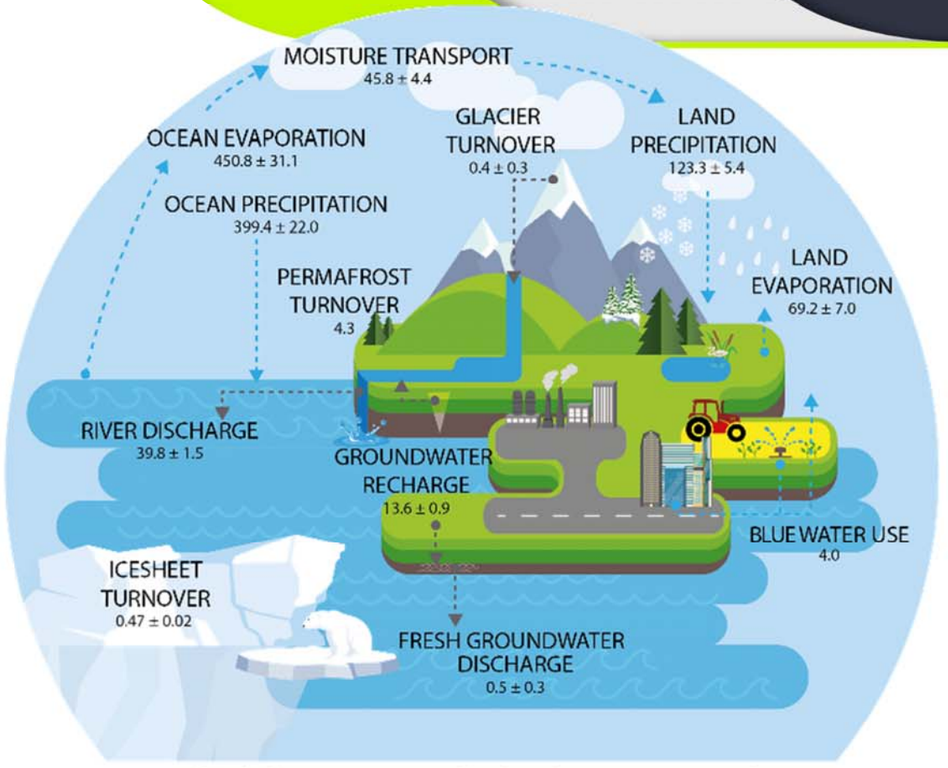


Fig. 2. Observed estimates of annual global water cycle fluxes in 10^3 km^3 .

United Nations Educational, Scientific and Cultural Organization | Regional Centre on Urban Water Management (under the auspices of UNESCO)

GCOS | WMO | IOC | International Science Council | UN environment

United Nations Educational, Scientific and Cultural Organization | International Centre for Water Resources and Global Change under the auspices of UNESCO

GTN-H and its multilateral network