The background of the slide is a scenic landscape featuring a calm body of water in the foreground, likely a lake or a wide river. In the middle ground, there are lush green mountains. The sky is a clear, bright blue with scattered white clouds. The overall atmosphere is peaceful and natural.

Guidelines on monitoring and assessment of transboundary waters History and outlook

Jos Timmerman
Waterframes - The Netherlands

Why monitoring?

Part of the enabling environment:

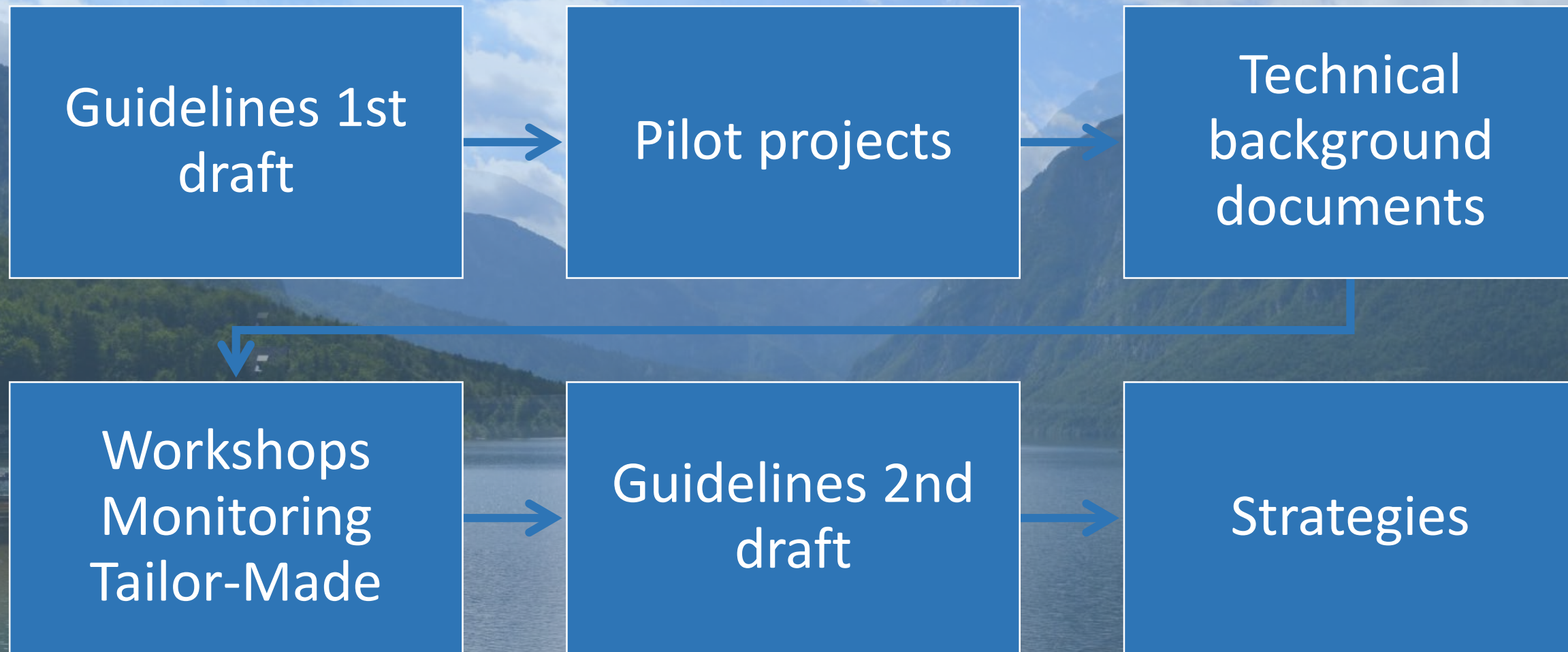
- Policies
- Legal setting
- Institutional setting
- Financial arrangements
- Information

Why monitoring?

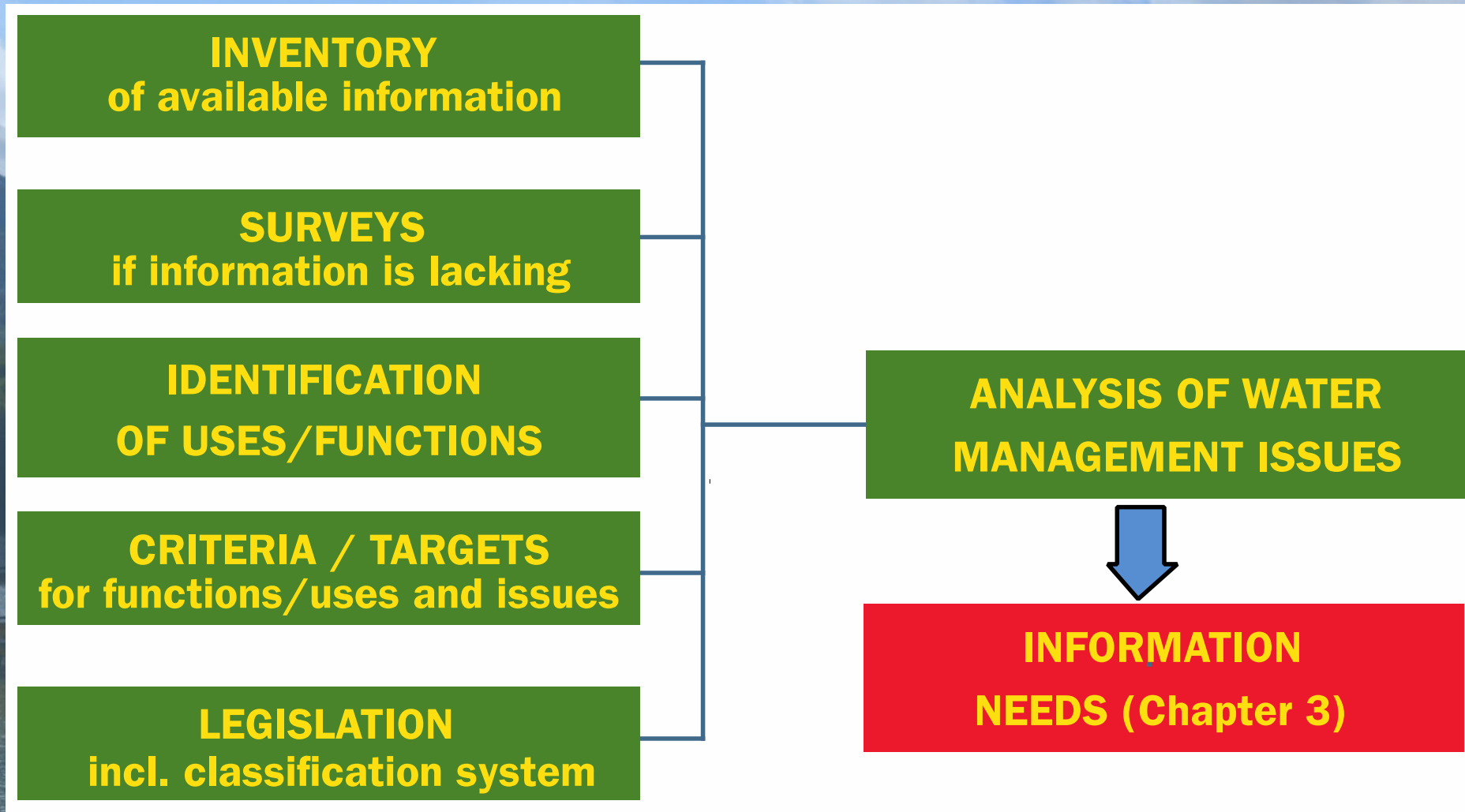
SDG 6.5.2 Proportion of transboundary basin area within a country that has an operational arrangement for water cooperation

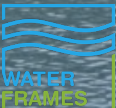
1. Existence of a joint body
2. Regular, formal communication between riparian countries (at least once a year)
3. Joint or coordinated management plans or objectives
4. Regular exchange of data and information (at least once a year)

Recapitulation strategies development



Developing information needs





UNECE

Switzerland

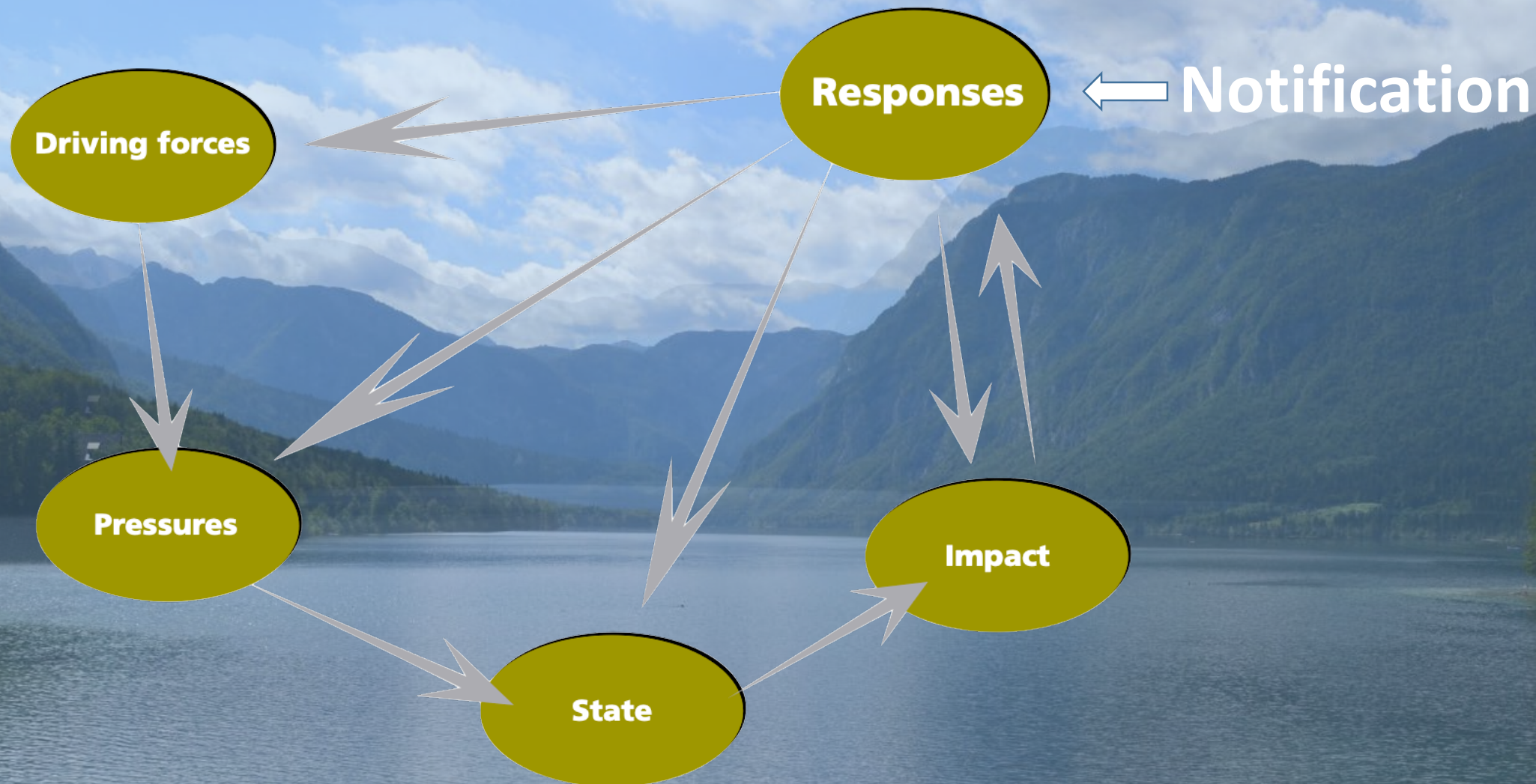
Technical documents

- [Biological Assessment Methods for Watercourses](#)
- [State of the Art on Monitoring and Assessment of Rivers](#)
- [Quality Assurance](#)
- [Guidance to operation of water quality laboratories](#)
- [An inventory of transboundary estuaries and their current monitoring practices](#)
- [Good Practices for Monitoring and Assessment of Transboundary Rivers, Lakes and Groundwaters](#)
- [Monitoring of International Lakes: Background Paper for the Guidelines on Monitoring and Assessment of Transboundary and International Lakes](#)

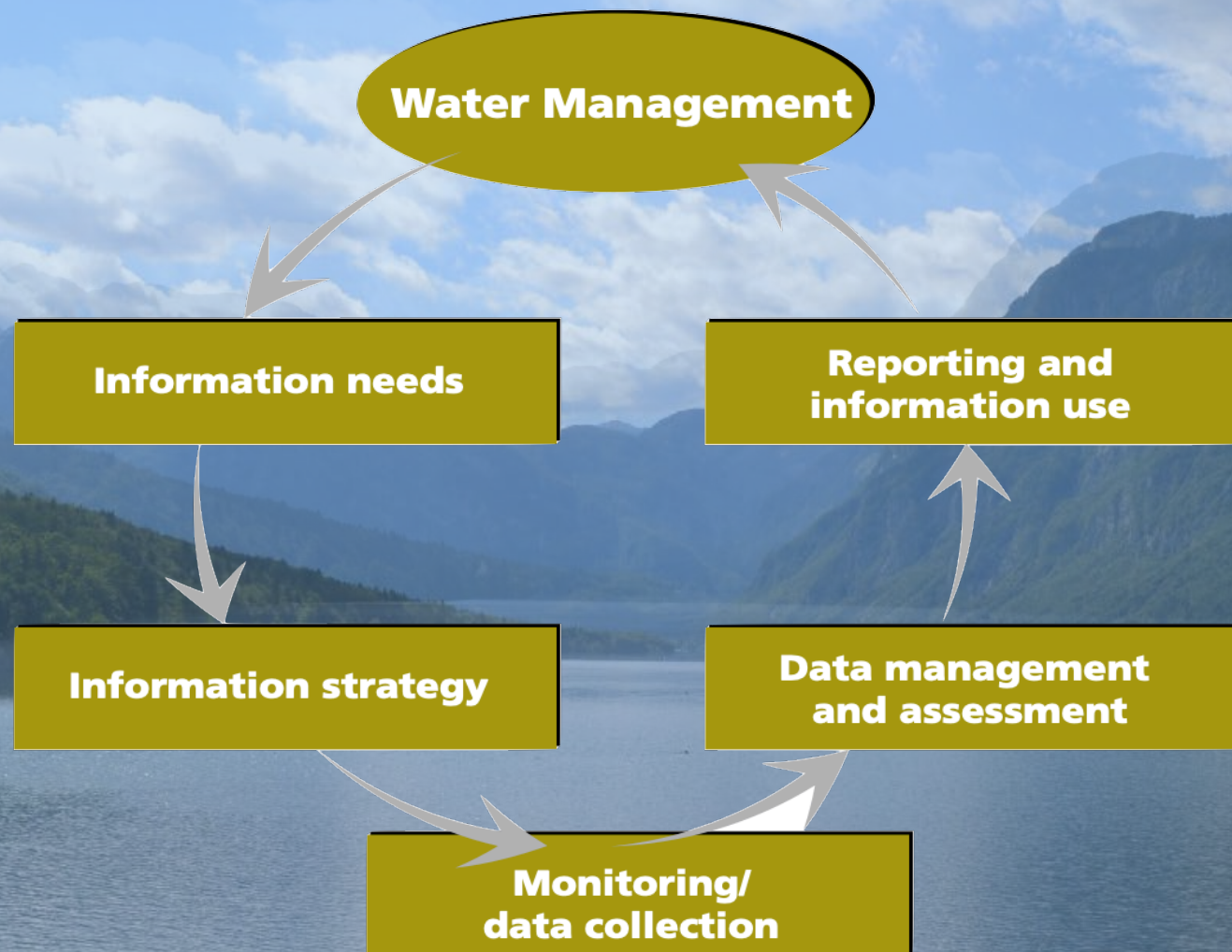
Guidelines and strategies

- [Strategies for Monitoring and Assessment of Transboundary Rivers, Lakes and Groundwaters](#)
- [Guidelines on Monitoring and Assessment of Transboundary and International Lakes — Part A: Strategy Document](#)
- [Guidelines on Monitoring and Assessment of Transboundary and International Lakes — Part B: Technical Guidelines](#)
- [Guidelines on Monitoring and Assessment of Transboundary Rivers: First Review of the 1996 Guidelines on Water-quality Monitoring and Assessment of Transboundary Rivers](#)
- [Guidelines on Monitoring and Assessment of Transboundary Groundwaters: First Review of the 1996 Guidelines on Water-quality Monitoring and Assessment of Transboundary Rivers](#)

DPSIR



Monitoring and Assessment Cycle



Water data and information management are particularly needed for

Sectorial water management

- Drinking water supply
- Irrigation
- Energy
- Health
- Transportation

...

Integrated Water sector planning

- local level
- Basin level
- National level
- Transboundary basins
- Regional level

Climate change adaptation

Disaster risk reduction

- Flood
- Shortage
- Drought

...

Reporting

- Global (ex SDG)
- Regional (ex EU)
 - National statistics
 - Specific conventions

...

Specific decision taking

- Operational management
- Territory management
- Emergency situation

...

Other water sector activities

- Regulatory aspects,
- Partners/ Public Information

....

First reporting cycle 2017-2018

Main difficulties to data exchange:

- Harmonization
- Lack of resources
- Lack of capacity
- Lack of agreements
- Inadequate technical infrastructure
 - Lack of common databases
 - Lack of monitoring networks
 - Outdated scientific knowledge
 - Incompatibility

Types of data which are exchanged

- River flow data is widely exchanged among the basins at high frequencies (75%)
- Groundwater level (32%) and surface water abstraction (28%)
- Water quality data is exchanged by less than half of basins (44%)

(IWMI study)

Initial assessment

- Strategic approach is largely valid
- ‘Technological’ developments ask for updating technical guidelines
- Possibly strengthen procedures for data management and data exchange
- Improve sustainability aspects / financing / legal basis

‘Technological’ developments

- Remote sensing and Geographical Information Systems (GIS)
- Emission registration
- Citizen science
- Drones
- Sensors
- International databases and models where information can be found

(Workshop on monitoring and SDGs, May, Delft, The Netherlands)