Methods for monitoring and assessing transboundary waters

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Why joint monitoring?

You cannot manage what you do not measure

Oh, so you are also implementing water management?
Why joint monitoring?

Part of the enabling environment for water management:

• Policies
• Legal setting
• Institutional setting
• Financial arrangements
• Information
Why joint 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)
M&A in the Water Convention

- Monitoring and assessment cooperation and information exchange have a firm basis in the provisions of the Water Convention
- Both general obligations and obligations specific to Riparian parties promote sharing of information
- Joint monitoring and assessment of transboundary waters for water quantity and quality is a core requirement
- Data exchange in transboundary basins among the obligations
What information do you need?
Who are the users of the information?
The information that you don’t get
Water data and information management are particularly needed for:

- **Sectorial water management**
  - Drinking water supply
  - Irrigation
  - Energy
  - Health
  - Transportation

- **Integrative Water management**
  - Local level
  - Basin level
  - National level
  - Transboundary basins
  - Regional level

- **Climate change adaptation**

- **Disaster risk reduction**
  - Flood
  - Shortage
  - Drought

- **Reporting**
  - Global (e.g., SDG)
  - Regional (e.g., EU)
  - National statistics
  - Specific conventions

- **Specific decision taking**
  - Operational management
  - Territory management

- **Other water sector activities**
  - Regulatory aspects
  - Partners/Public Information
Key documents – tested in pilot projects
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
Enhancing transboundary water cooperation in the MENA region - progress, challenges and opportunities, 3-4 March 2020, Beirut
Monitoring and Assessment Cycle

Water Management

Information needs

Reporting and information use

Information strategy

Data management and assessment

Monitoring/data collection

 Emirates University

Monitoring and Assessment Cycle

Information needs

Reporting and information use

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Water Management
## Developing information needs

### Analysis of water management issues

<table>
<thead>
<tr>
<th>Inventory of available information</th>
<th>Identification of uses and functions</th>
<th>Criteria and targets for functions / uses and issues</th>
<th>Legislation including classification system</th>
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**Surveys if information is lacking**
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%)
‘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)
Outcomes of Working Group on M&A

• Further attention to financing monitoring as well as exchange of data and information
• Update the strategic guidelines on monitoring and assessment
• Use regional meetings to get feedback
• Possibly:
  • Collection of lessons learned and good practices in transboundary data exchange
  • Organize training workshops or regional workshops
  • Provide tailored assistance and support for developing joint or coordinated monitoring or data exchange
  • Inventory of technological developments that can support monitoring and assessment
  • Review and update selected technical transboundary monitoring and assessment guidelines
Enhancing transboundary water cooperation in the MENA region - progress, challenges and opportunities, 3-4 March 2020, Beirut

Information is not enough
Information has to tell a story
Thank you for your attention
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