


FIRST VIRTUAL THINK TANK ROUNDTABLE
DIGITAL TRANSFORMATION CHALLENGES AND OPPORTUNITIES FOR WEST
AFRICAN RIVER BASIN DEVELOPMENT ORGANIZATIONS

**Water Information Systems for
River Basin Development
Organisations: Potential of
Digitalisation**


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INTERNATIONAL NETWORK
OF BASIN ORGANIZATIONS



INBO : International Network of Basin Organisations
Overall presentation

- Created in 1994
- Headoffice in Paris
- 192 members
- 71 countries
- 8 regional sub-networks
- Technical Permanent Secretariat

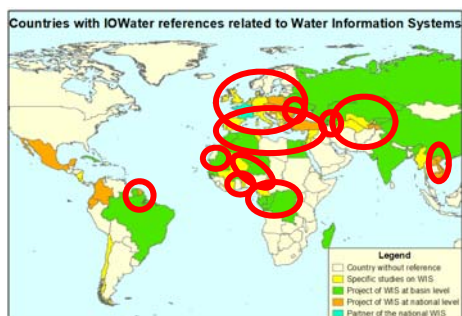


International
Office
for Water

- **Main objective :**
Promote and better
organize IWRM at
(transboundary) basin
scale



INBO/IOWater: 25 years supporting transboundary, national and basin organizations in the development of their Water Information System

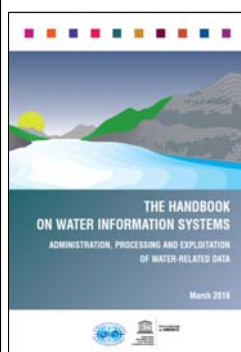


○ Projects with activities at transboundary level

... with some specific actions in relation to transboundary basin data management:

- FFEM-EECCA project developed with the “Working Group on Monitoring and Assessment” of the “Convention of the Protection and Use of Transboundary Watercourses and International Lakes”/UNECE
- Euro Mediterranean water information system
- Various projects on including transboundary water data reinforcing with new data exchange procedures
- Various project /actions related to data management valorization related projects

HANDBOOK ON WATER INFORMATION SYSTEMS



- Joined production from INBO/UNESCO with contributions from WMO, WWDI(WMO/BoM-Australia), under the coordination of IOWater
- Underlines why water data management is so important for efficient water resource management
- Introduces **five main processes** to be considered :



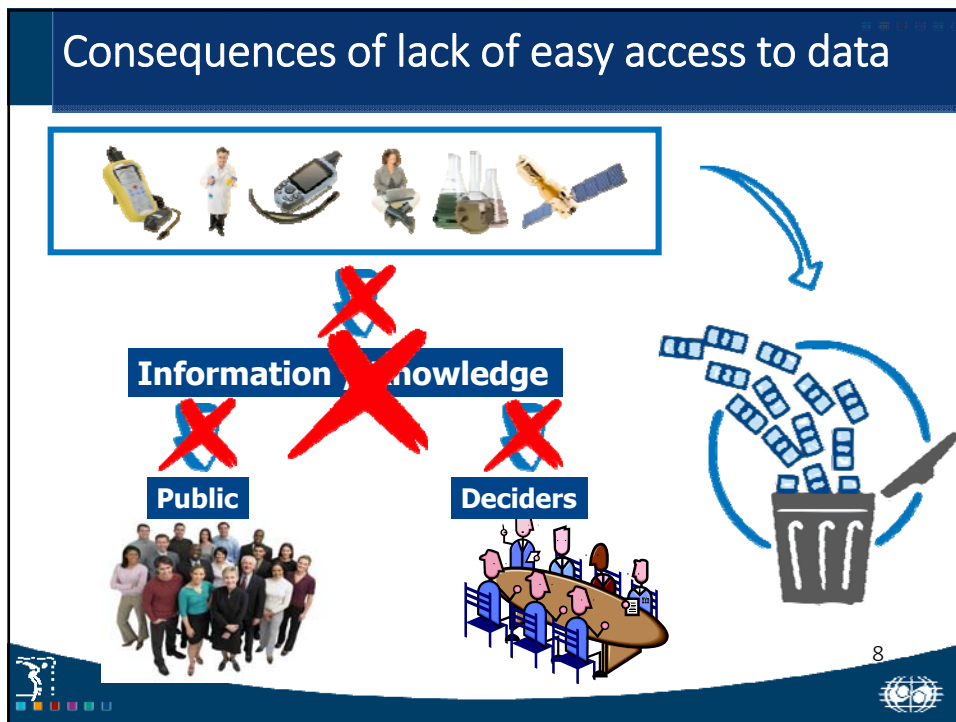
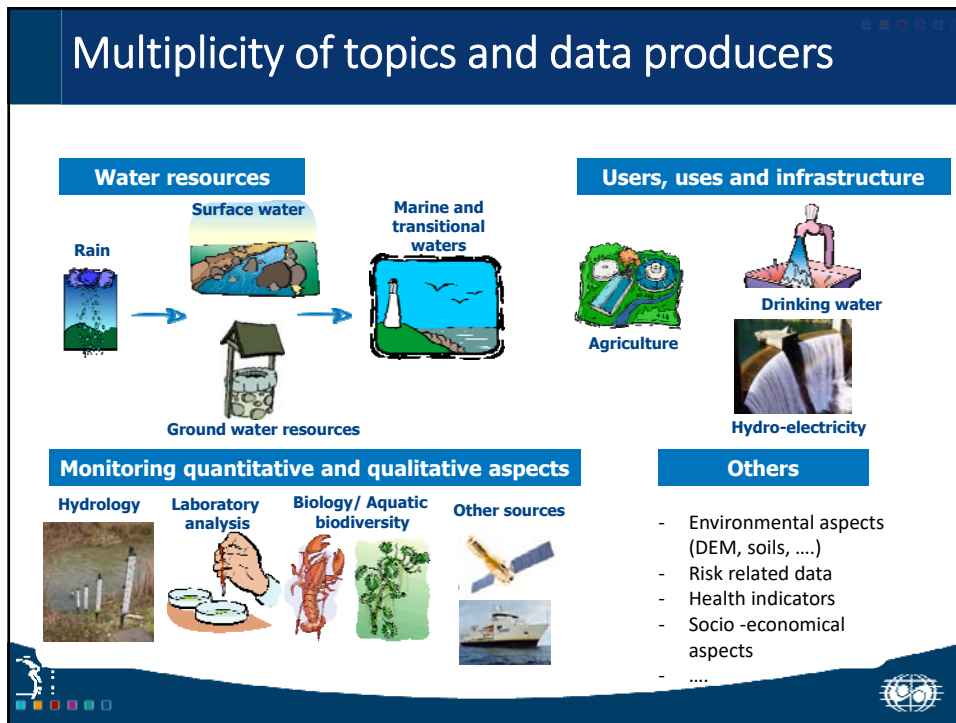
- Presents a picture of the main challenges and case studies showing how information systems are implemented to meet needs in various water sector management domains ... with a total **47 case studies** from all continents provided by the partners and by INBO network members
- Firstly addressed to water-sector decision-makers (considering the importance of water data management in IWRM) and to all organization willing to reinforce their capacities in data production, data administration and data exploitation for a better water resource management
- Available at <https://www.riob.org/pub/HandBook-SIE-en/>

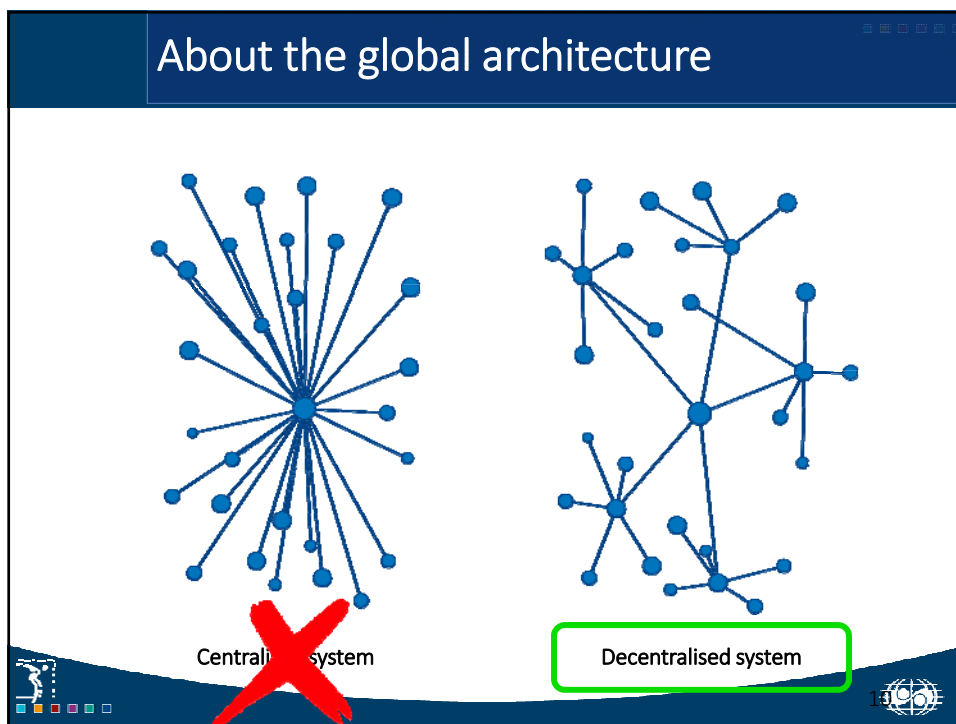
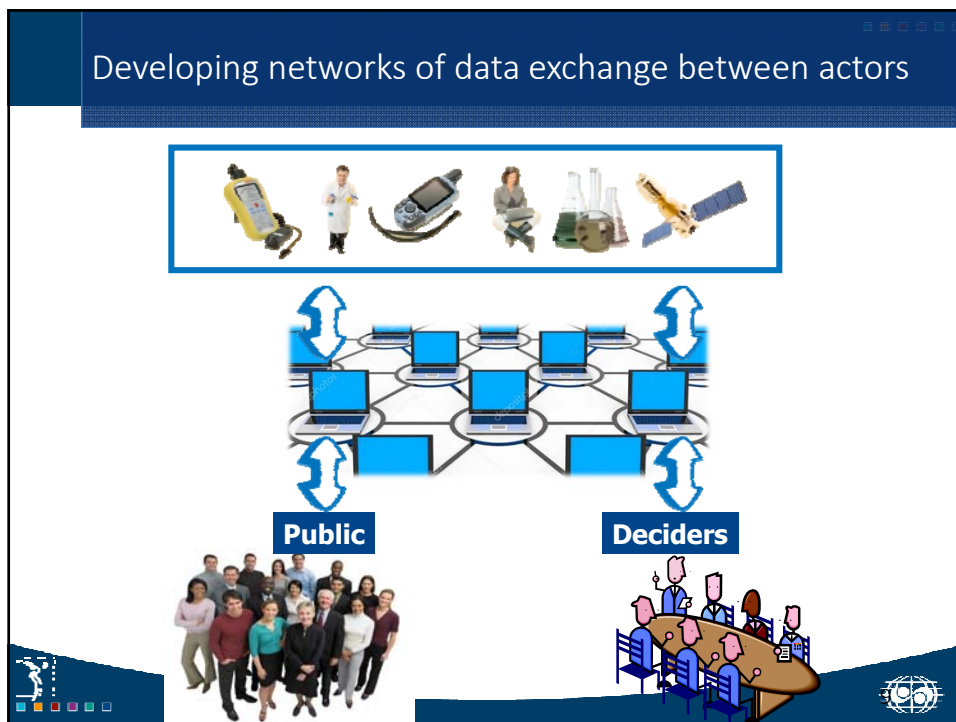
REMIND OF KEY CHALLENGES FOR DATA MANAGEMENT AT TRANSBOUNDARY LEVEL

- **WATER IS A RESOURCE WITHOUT BORDER**
 - MORE THAN 270 TRANSBOUNDARY LAKE AND RIVER BASINS, MORE THAN 600 TRANSBOUNDARY AQUIFER SYSTEMS
 - 45% OF THE WORLD'S LAND MASS AND 40% OF THE WORLD POPULATION CONCERNED
- **KNOWLEDGE: A PREREQUISITE FOR WATER MANAGEMENT: "WE CANNOT MANAGE SOMETHING THAT WE DO NOT KNOW"**
- **THE REGULAR EXCHANGE OF DATA AND INFORMATION IS FUNDAMENTAL AMONG OTHERS FOR ESTABLISHING GOOD COOPERATION BETWEEN COUNTRIES.**
- **IN MANY CASES THE EXCHANGES OF INFORMATION AND DATA BETWEEN COUNTRIES ARE VERY POOR**
 - LACK OF POLITICAL WILLING / LACK OF ADAPTED TRANSBOUNDARY REGULATION/ LACK OF NATIONAL WATER DATA POLICY RELYING ON AD-HOC PROCEDURES AND TOOLS, LACK OF DATA PRODUCTION AND DATA SERVICE PROVIDING STRATEGY
 - ... AND WHEN IT EXISTS, THE DATASETS PRODUCED BY VARIOUS INSTITUTIONS AT NATIONAL AND LOCAL LEVEL ARE OFTEN DISPERSED, NOT HOMOGENEOUS AND SOMETIME NOT DIGITIZED/ NOT QUALITY CONTROLLED/ NOT SHARED AND UNDER USED (EVEN AT NATIONAL LEVEL), AND WITHOUT METADATA (LACK OF TRACEABILITY)
- **THERE IS A NEED TO REINFORCE DATA PRODUCTION AND TO SUPPORT THE DEVELOPMENT OF WATER INFORMATION SYSTEMS AND THE INTEROPERABILITY OF DATA AND DATABASES FOR A BETTER TRANSBOUNDARY BASINS AND GROUNDWATER MANAGEMENT**

Water data and information management particularly needed for

Sectorial water management	Integrated Water sector planning	Climate change adaptation	Risk management	Reporting	Specific decision taking	Other water sector activities
<ul style="list-style-type: none"> - Drinking water supply - Irrigation - Energy - Health -Transportation ... 	<ul style="list-style-type: none"> - local level - Basin level - National level - Transboundary basins - Regional level 	<ul style="list-style-type: none"> - Hydrological regime modification - Sea water level rising - 	<ul style="list-style-type: none"> - Flood - Shortage - Drought - ... 	<ul style="list-style-type: none"> -Global (ex SDG) -Regional (ex EU) - National statistics - Specific conventions - ... 	<ul style="list-style-type: none"> - Operational management - Territory management - Emergency situation - ... 	<ul style="list-style-type: none"> -Regulatory aspects, - Partners/ Public Information





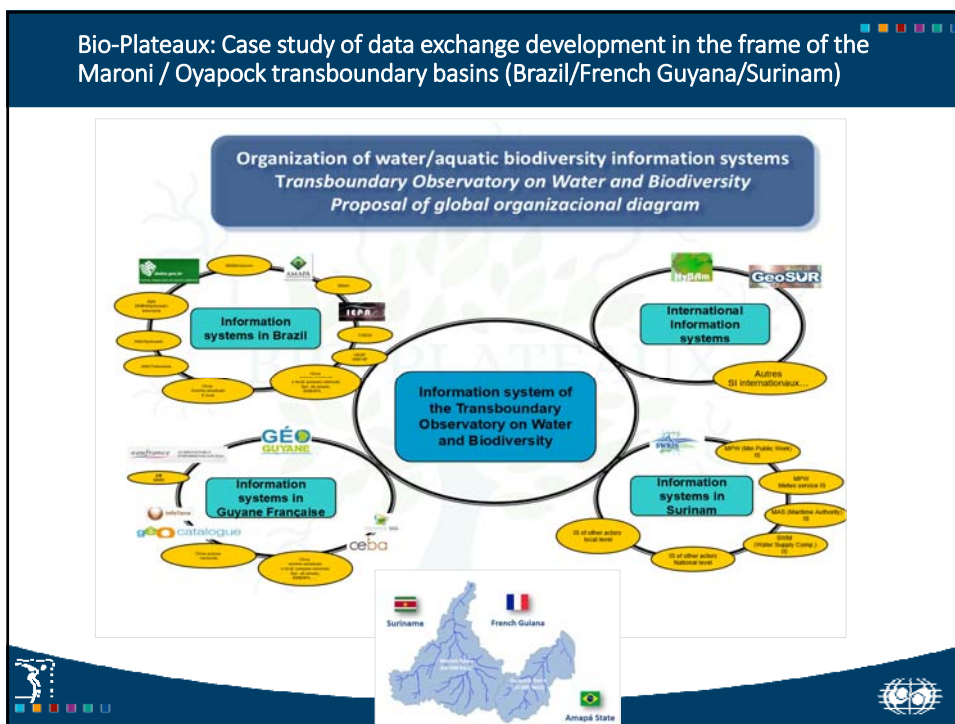
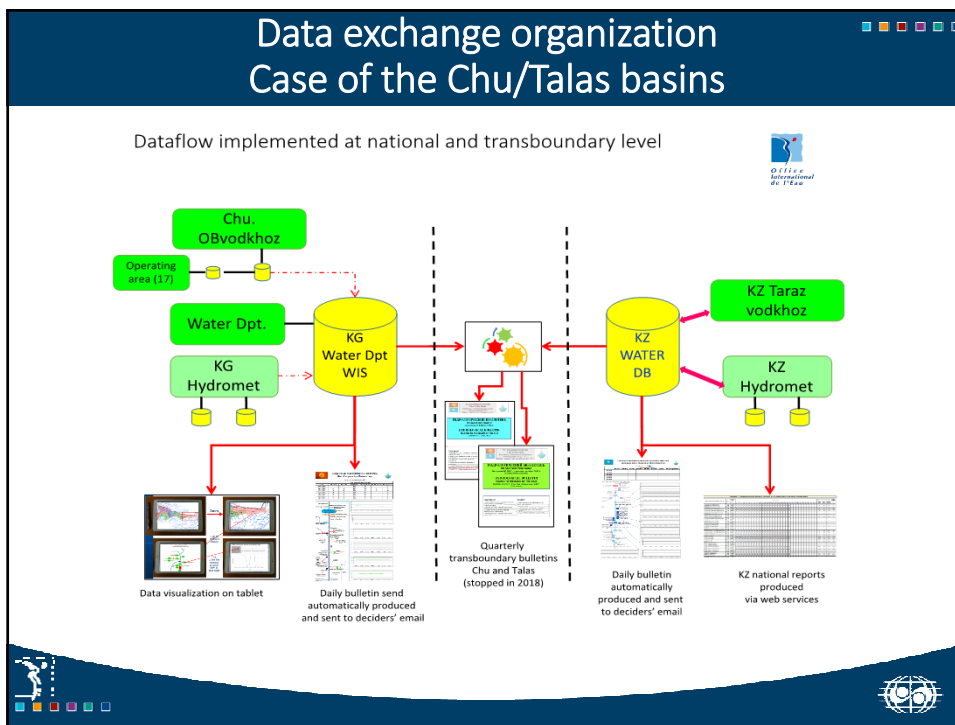
The SEIS principles: A good example of procedures for data management/sharing

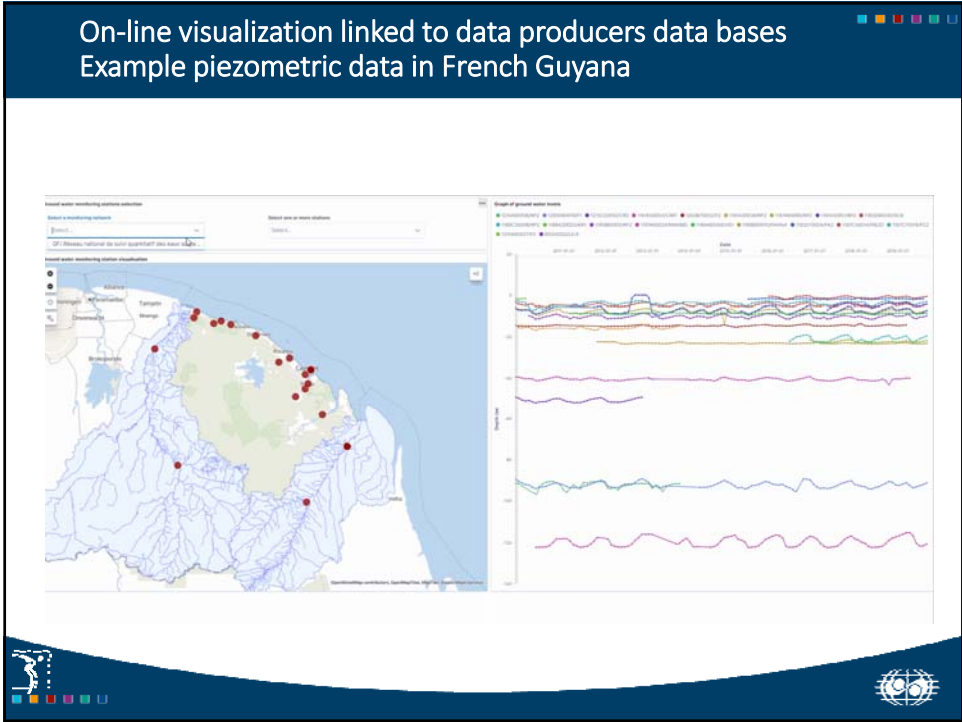
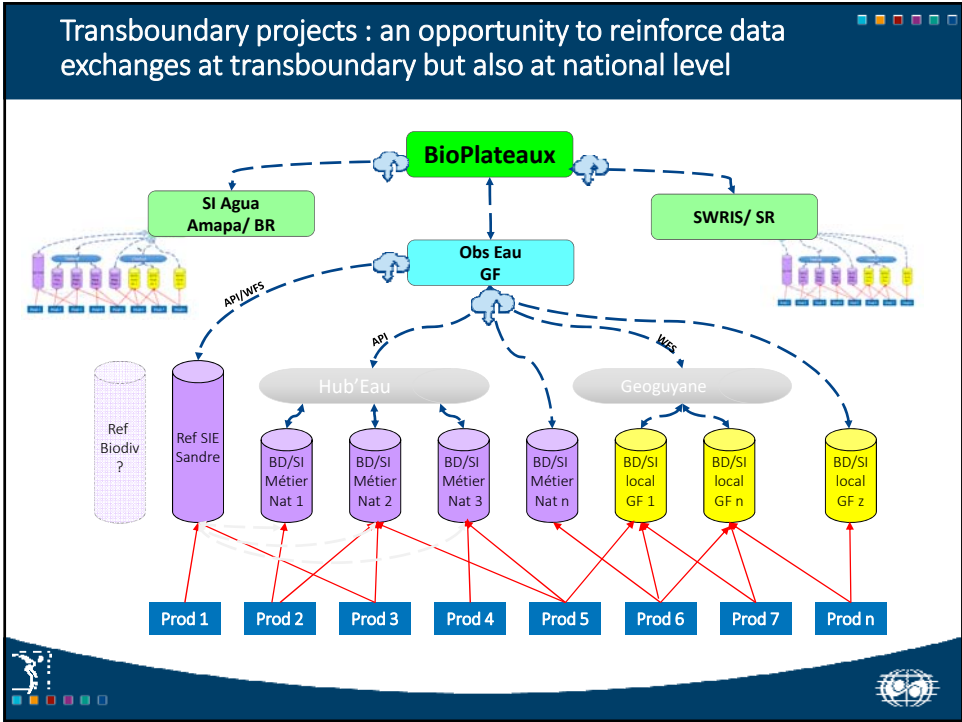
On 1st of February 2008, the Commission adopted a Communication on **SEIS (Shared Environmental Information System)**. The principles are described as follows:

- Information should be **managed as close as possible to its source**;
- Information should be **collected once, and shared with others for many purposes**;
- Information should be **readily available to public authorities and enable them to easily fulfil their legal reporting obligations**;
- Information should be **readily accessible to end-users, primarily public authorities at all levels from local to European, to enable them to assess in a timely fashion the state of the environment and the effectiveness of their policies, and to design new policy**;
- Information should also be **accessible to enable end-users, both public authorities and citizens, to make comparisons at the appropriate geographical scale (e.g. countries, cities, catchments areas) and to participate meaningfully in the development and implementation of environmental policy**;
- Information should be **fully available to the general public, after due consideration of the appropriate level of aggregation and subject to appropriate confidentiality constraints, and at national level in the relevant national language(s); and**;
- Information sharing and processing should be supported through common, free open standards.

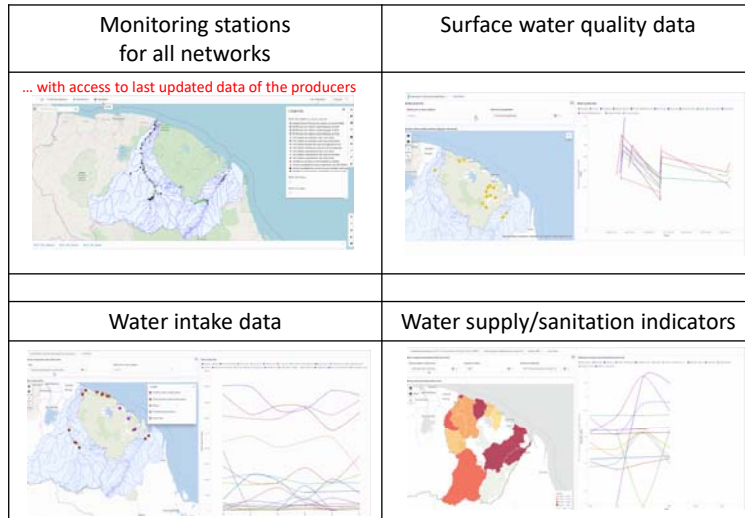
Applying these principles at the level of transboundary basin organisations (TBO)

- **Need to adapt data management to the TBO configuration / organisation**
 - **Some TBO without executive agency**
 - Case of Chu/Talas basin
 - **Some TBO with operational executive agency**
 - Case of OMVS/MRC/OMVG
 - **Some TBO with project aiming to structure executive agency**
 - Case of Bio plateaux (Oyapock/ Maroni)
- **Need to build considering existing systems in coordination with national organisations**
 - Most of the data are produced at national level



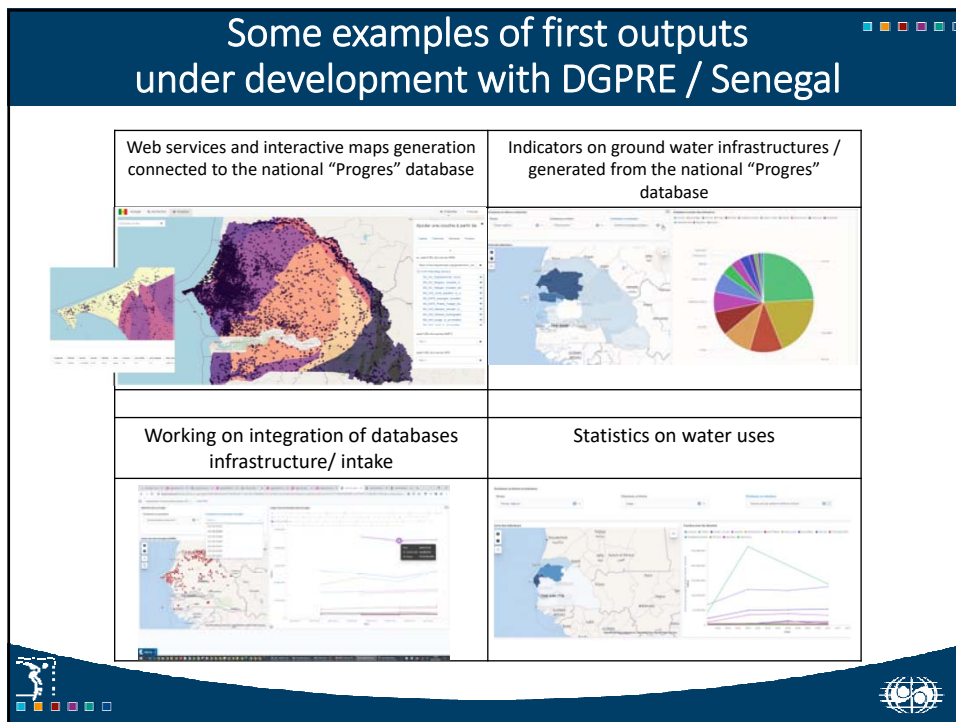
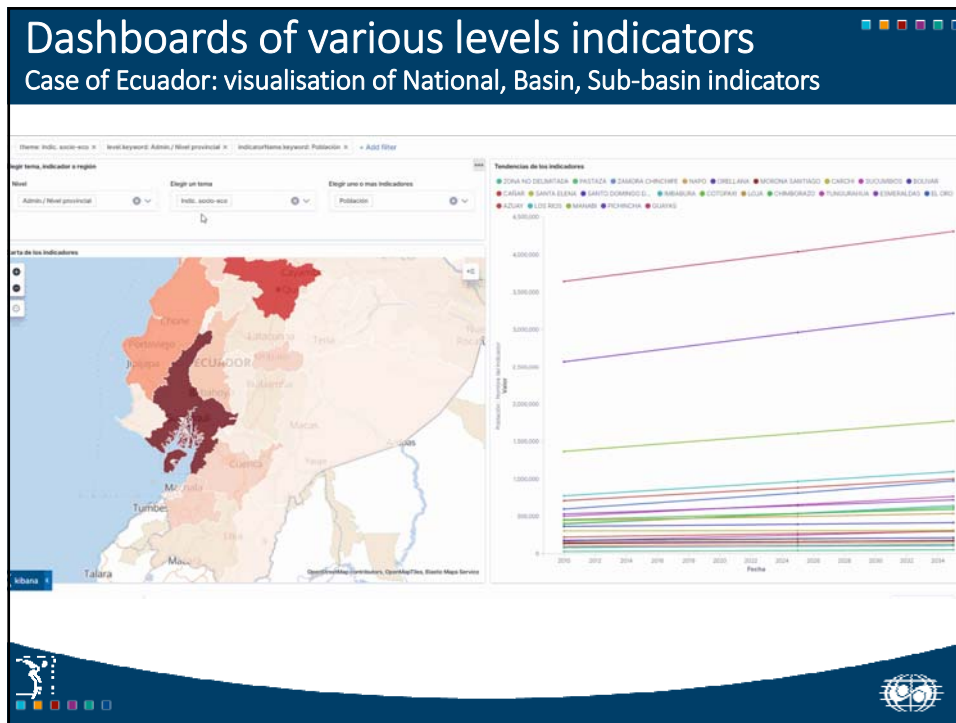


On-line visualization linked to data producers data bases Other topics: Examples with real data





Daily bulletins automatically produced and sent to final users email addresses








Key points / recommendations for data and information management at transboundary basin level

- Data/information management is a key instrument for an effective water sector policy (transboundary / national / local water resource management ; surface and ground water)
- Adoption of good governance / basic principles is important
 - Data management as close as possible to the source
 - Building on existing situation in collaboration with national/local actors and reinforcing their capacities
 - Adoption of element of common language, common referentials, common procedures
 - Involving final users (crowd sourcing)
 -
- Adapt the system to the structure, objectives and needs
- Consider the new technologies
 - Today IT issues are no more issues /we know how to develop interoperability (automatic data exchanges) whatever the format / structure
 - Huge potential of remote sensing (water quantity, water quality, water uses, ...)
- Taking benefit of the experience of others countries / basins

Thanks for your attention and at your disposal for any questions



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