10th World Water Forum, Bali
Basin Segment Day - High level session on Water Information Systems
Wednesday, May 22nd, 12:50 - 14:20

Water Information Systems for an Improved Water Resources Management in Central Asia

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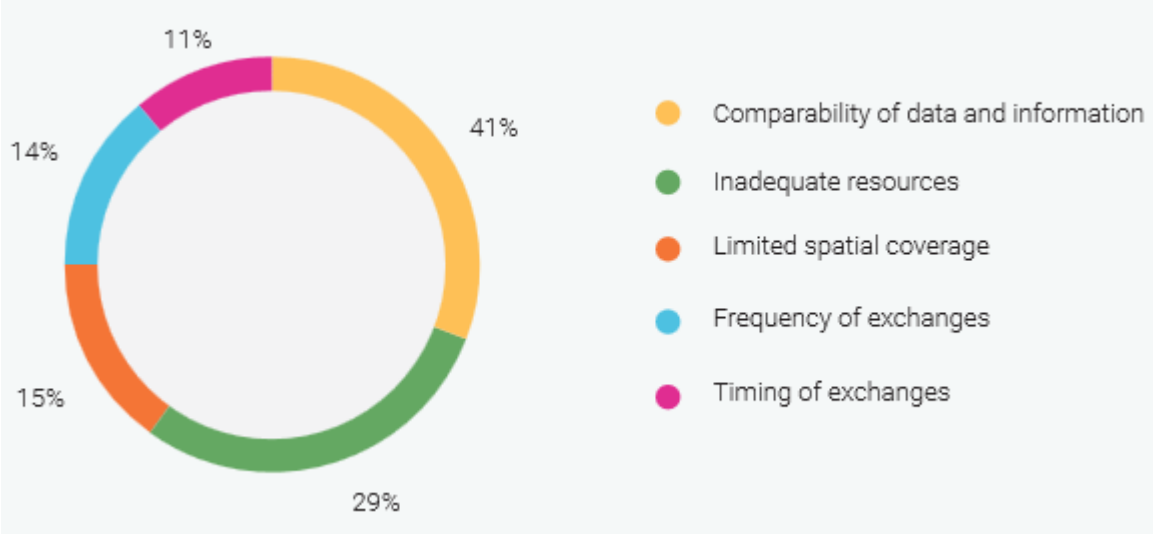
SDG 6.5.2 national reports (2021):

- **The SDG 6 Global Acceleration Framework** recognizes the importance of data availability, generation, validation, standardization and information exchange as means by which to **build trust** among decision makers (UN-Water, 2020).
- **Countries understand the benefits of data and information exchange (SDG 6.5.2)** in understanding of the main pressures relating to a particular transboundary water system; allowing for better appreciation of the issues and problems faced by other basin countries; highlighting improved possibilities for early warning and alarm systems; developing a better understanding of data gaps; helping harmonize methodologies and standards for data gathering, leading to better project design; and offering more effective river basin management planning.

Difficulties and challenges to data exchange



2021 SDG 6.5.2.

- "data on **aquifers** often remain a major obstacle for reporting countries"
- "to work together to improve both the quality and coverage of data, including by harmonizing data and including SDG 6.5.2 activities in the work of **regional and basin organizations**."

Information exchange: the role of joint bodies

The Water Convention

Joint bodies - preferential platform for data and information exchange

The tasks of joint bodies [...] to serve as a forum for the exchange of information on existing and planned uses of water and related installations that are likely to cause transboundary impact (Art 9(2))

Practice in Central Asia

Joint body: Interstate Commission for Water Coordination

Mandate: from riparian countries to establish and maintain a unified water information system

Institutional memory: Scientific Information Center, a mandate (not project) based organisation

Expertise: Local experts with int'l partners not vice versa

Regular connections to decision makers and users

Ownership cannot be transferred; **co-production** is the must. CaWater-Info.net is still operated by individuals who created it.

Technologies. Remote sensing & GIS technologies help increase transparency, water use efficiency & improve cost effectiveness

DATA, INFORMATION AND KNOWLEDGE MANAGEMENT

Database and regional information system

Practical tool for assessment of water-related situation in the region on the base of the data on available water resources, their distribution, reservoir operation regimes; water losses, environmental flows, etc.

Analytics/ models

- Water use efficiency monitor in Central Asia (WUEMoCA)
- Scenarios of water management in the Amu Darya and Syr Darya basins

Knowledge base

- 14 thematic knowledge bases
- Tools: e-library, glossary, synopses and training materials
- Hierarchical classification system with 15 sections

Publications

- Disseminates its publications between government officials, senior officials, development partners, and academia in Central Asia and outside;
- Over 1000 books and brochures in more than 500 000 copies

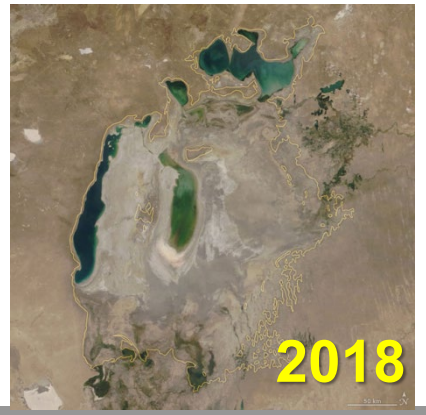
Combination of Remote Sensing & Ground Data: Monitoring of the dried bed of the Aral Sea

2005-2024
15 Expeditions

2010-2024
Regular remote sensing based monitoring (SIC)

Field Expeditions

- **Integrated assessment** – soil, flora, groundwater, forest, topography, landscape for **1570 points** across **2500 km** (35 soil profiles)
- 30 days **600 th ha** out of 3,2 mln ha in Uzb (total 5.5 mln)
- **Natural & Anthropogenic landscape:** mining infrastructure, cutting furrows for planting
- **Risk zone mapping** – ecological unstable areas
- Revised approach to **ground thruting & RS images interpretation**:
  - Water-Soil-Vegetation Recognition based on spectral indexes: reed in water, dust on plants, saksaul & tamarisk

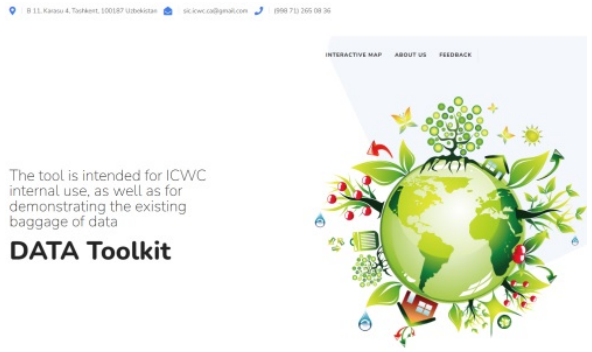


UN Multi-Partner Human Security Trust Fund for the Aral Sea region

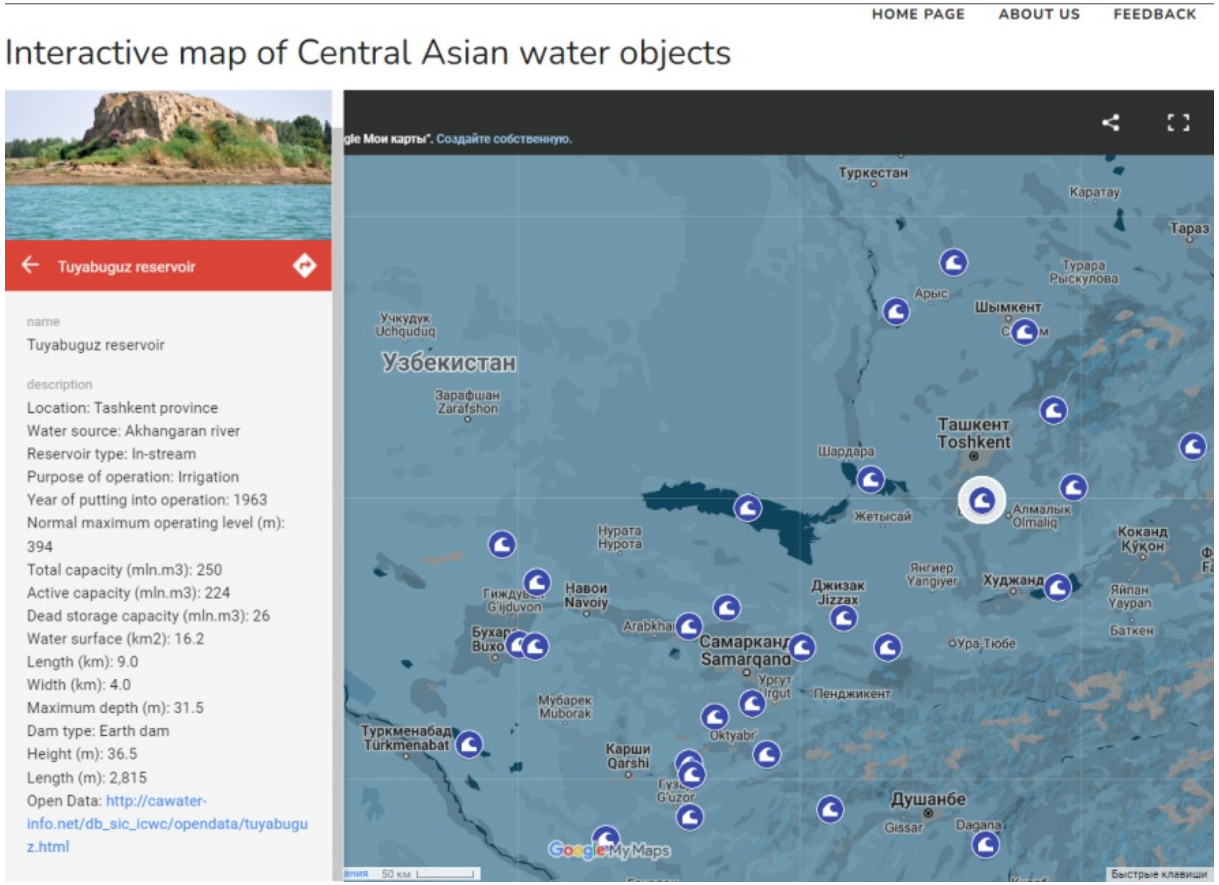
Enhancement of the Regional Information System

test version of online interface

cawater-info.net/db_sic_icwc/



from RIS to integrated decision support system



WATER-ENERGY-LAND USE LINKAGES

Nexus solutions for a climate resilient Central Asia

OECD BETTER POLICIES FOR BETTER LIVES

UNECE

European Bank for Reconstruction and Development

Food and Agriculture Organization of the United Nations

Supported by:

Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection

based on a decision of the German Bundestag

IKI INTERNATIONAL CLIMATE INITIATIVE

Conclusions

- We need **inclusive and sustainable information systems** that adapt to the environment, involve relevant stakeholders (nexus) and support the knowledge lifecyle by creating, evaluating and integrating knowledge into decision-making and water management practices
- Technological transformations and digitalizing conventional processes can lead to **data-driven intelligence** for better-informed water policies. But it is an expensive and political sensitive matter
- There is a need for **leadership and transformation in mindsets –** in the way we think, analyze and make use of data for better management and cooperation. RBOs can fulfil a leadership role.
- **Investment** in joint acquisition/exchange of data, information and knowledge and innovative solutions on transboundary basins is of particular importance.