



RIVER BASIN OPERATIONS

River basins around the world are facing complex problems from growing populations and urbanization, increasing temperatures, and extreme hydrologic events and natural disasters. As a result, water managers are challenged to meet competing demands between water and food security issues and economic, social, and environmental needs.

At the RTI Center for Water Resources, we understand the diverse needs of river basin management and can work with you to make informed, data-driven decisions by implementing robust river basin models. These models feed into real-time forecasting systems, inform water rights and water allocation models, guide irrigation and agricultural water use, and optimize reservoir systems operations. Additionally, these models allow for scenario analysis of the potential impacts of dams; river diversions; climate change; and other economic, natural, and human impacts in the basin.

We offer customizable solutions that fit your needs—whether we are monitoring systems and providing you with the data or are building a system for you to implement and manage.

**Modeling, optimizing,
and guiding
operations of
managed river and
reservoir systems**





FEATURED PROJECT

Water Resources Decision Support System for the Syr Darya River Basin

Client: United States Agency for International Development (USAID)

Country: Tajikistan, Turkmenistan, Uzbekistan, Kazakhstan,
and Kyrgyzstan

Sector: Water Supply

Related Services: River Basin Operations



RTI designed a decision support system to improve the capacity for planning, controlling, and allocating water resources in the Syr Darya River Basin. We implemented the National Weather Service's River Forecast System in prototype river basins in Central Asia to provide snowmelt forecasts. We also developed a five-year Performance Monitoring Plan for the Central Asian Republic's Water Users Association Support Program to develop the skills and capabilities to effectively plan, maintain, and manage their on-farm irrigation and drainage systems.

ADDITIONAL RIVER BASIN OPERATIONS SERVICES

Data collection, preparation, and analysis

Hydrologic and hydraulic modeling
and calibration

Identification of water resources issues
and baseline planning needs

Capacity development for river basin
planning and modeling

Planning studies to define reservoir
operating policy

Reservoir model development and optimization
using a variety of models and customized tools

Ensemble-based reservoir optimization using
stochastic sampling

Operational forecast system implementation
using standard or customized systems



Center for Water Resources

rti.org/cwr

cwr@rti.org