

# MIKE HYDRO BASIN

## River basin management and planning

MIKE HYDRO Basin is a **multipurpose, map-based decision support tool** for integrated water resources analysis, planning and management of river basins. MIKE HYDRO Basin is **designed for analysing water sharing issues** at international, national or local river basin scale. It's a comprehensive yet simple product for investigating options and **making reliable decisions**.

### APPLICATIONS

The conceptual modelling approach for water resource evaluations as implemented in MIKE HYDRO Basin allows you to conduct a diversity of management and planning related applications.

#### TYPICAL APPLICATIONS

MIKE HYDRO Basin is the ideal software for:

- Multisector solution alternatives to water allocation and water shortage problems
- Climate change impact assessments on water resources availability and quality
- Exploration of conjunctive groundwater and surface water usage
- Optimisation of reservoir and hydropower operations
- Evaluation and improvement of irrigation scheme performance
- Integrated water resources management (IWRM) studies

### MODULES

MIKE HYDRO Basin includes multiple calculation modules and model components for effective water resources modelling.

Key modules and model components include:

- A model framework with a map-based graphical user interface that is comprehensive, intuitive and easy to use
- Catchment and river delineation tools
- Water movement calculations
- Catchments rainfall and runoff calculations
- Water usage calculation from multiple types of water users
- Global ranking of water users
- Reservoir and hydropower calculations
- Reservoir sedimentation
- Data assimilation
- Scripting and programming
- Water quality modelling using MIKE ECO Lab
- Results presentation

### STAKEHOLDER ENGAGEMENT

Stakeholder engagement is crucial when preparing management plans for water resources usage in river basins.

MIKE HYDRO Basin can be integrated as a key model component in decision support systems like MIKE OPERATIONS. Data collection and processing together with dissemination of model simulation results ensure the most objective and optimal decisions.

#### SERIOUS GAMES STAKEHOLDER ENGAGEMENT

Increase the stakeholder engagement through serious gaming of water resources planning in your river basin by converting your MIKE HYDRO Basin model into a serious game framework. Stakeholders can thereby actively participate in obtaining an optimal solution for water resources management in their respective basins. Aqua Republica is a demonstration example of a serious game framework, utilising MIKE HYDRO Basin models and simulation engine.

For more information about Aqua Republica and serious games, see page 42.

### BENEFITS

MIKE HYDRO Basin provides an easy-to-use, map-based modelling framework for water resources management and planning in river basins.

It includes all model features required in most projects for efficient and accurate water resources modelling.

Mature and reliable river basin simulations capability obtained from more than a decade long record of project applications.

Comprehensive and effective model components for IWRM applications and decision support systems.

Water resource planning without limits.



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