

## **Hydrological model and WEB-GIS for water resource management at a basin scale**

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**Abstract** Water resources management at the basin scale foresees a deep knowledge of the data upon which all the allocation plans of the available water are developed. This consideration means that different kinds of data and information, e.g. hydrological, soil and terrain, water use and distribution, existing hydraulic works and environmental constraints are to be taken into account. Obviously, all this information must be collected, validated, continuously updated, and most of all, shared amongst all the participants in the complex process of water management. Particularly, hydrological and water use data show high uncertainties that are not due to technical issues concerning the process of collection and validation, but mainly to the fact that they are not widely shared and agreed amongst the basin authorities and stakeholders. For this reason a different approach that exploits the potentials of GIS engines and the WWW has been developed in order to provide a common platform that could allow the sharing of all the information collected and validated so far. This tool also offers computational and modelling engines to help in sharing the entire decision process so that more effective water resources management plans could be developed and possible controversies could be prevented.

**Key words** model; data; reservoir; decision support system; water management; environmental use; GIS; WEB