

#### **4. FREEWAT, a HORIZON 2020 Project to Build Open Source Tools for Water Management: A European Perspective**



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**Abstract:**

FREEWAT is a HORIZON 2020 EU-project. FREEWAT's main result will be an open source and public domain GIS integrated modelling environment for simulation of water quantity and quality in surface water and groundwater with an integrated water management and planning module. FREEWAT aims at promoting water resource management by simplifying the application of Water Framework Directive and related Directives. Specific objectives of FREEWAT are: coordinate previous EU and national funded research to integrate existing software modules for water management in a single environment into the GIS based FREEWAT and support the FREEWAT application in an innovative participatory approach gathering technical staff and relevant stakeholders (policy and decision makers) in designing scenarios for application of water policies. The open source characteristic of the platform creates an initiative "ad includendum", as further institutions or developers may contribute to development.

The main expected impacts of FREEWAT are to help produce scientifically and technically sound decisions and policy making based on innovative data analysis tools and to support a participatory approach through all phases of a project, from scenario generation to the final stage of discussion. Activities are carried out on two lines: (i) integration of modules to fulfill the end-users requirements, including tools for producing feasibility and management plans; (ii) a set of activities to fix bugs and to provide a well-integrated interface for the different tools implemented. Through creating a common environment among water research/professionals, policy makers, and implementers, FREEWAT's main impact will be on enhancing a science- and participatory approach and evidence-based decision making in water resource management, hence producing relevant and appropriate outcomes for policy implementation.