FREEWAT

Free and Open Source Software Tools for Water Resource Management

EU HORIZON 2020 Project

FREEWAT is an EU HORIZON 2020 project aiming at promoting water resource management by simplifying the application of the Water Framework Directive and other EU water related Directives using innovative GIS integrated open source and public domain ICT simulation tools (the FREEWAT platform) in a participatory framework.

OBJECTIVES

The EU H2020 FREEWAT main specific objectives are:

- to coordinate previous EU and national funded research to integrate existing software modules for Water Resource Management (WRM) in a single environment;
- to provide EU Governing Bodies, Authorities, Water Utilities and Environmental Companies/water professionals with innovative, free and open source software tools having friendly usability;
- to build capacity in the use of scientific software technologies, by improving the professional level of technical and managerial personnel involved in WRM issues in public institutions and private companies;
- to support the FREEWAT application in an innovative participatory approach gathering technical staff and relevant stakeholders in scenario creation and simulations to apply and develop appropriate water policies;
- optimising the use of water resource monitoring data, by obtaining results for the solution of issues such as: water availability and quality, groundwater pollution monitoring and remediation, seawater intrusion;
- building a web based community of users and developers of the free and open source FREEWAT platform;
- contributing to the creation of innovative companies and work places that will exploit and continue the integration, development and training on the FREEWAT platform.

OUTCOMES

The FREEWAT platform will be integrated as plugin into the QGIS GIS desktop and will be based on groundwater and solute transport numerical models (from the MODFLOW USGS family). The final version of the FREEWAT platform will include:

- a dedicated module for water management and planning that will help to manage and aggregate all the distributed data coming from simulated scenarios;
- module for simulating lake in WRM;
- a whole module for calibration, uncertainty and sensitivity analysis;
- a module for solute transport in the unsaturated zone;
- a module for crop growth and water requirements in agriculture;
- Observations Analysis Tools (OAT);
- tools for dealing with groundwater quality issues;
- tools for the analysis, interpretation and visualization of hydrogeological data

The FREEWAT platform will be applied to 10 case studies within the EU, 3 case studies in neighbouring countries (Switzerland, Turkey and Ukraine) and to a large trans-boundary aquifer in Africa.

CONSORTIUM

Project coordinator

Dr. Rudy Rossetto

E-mail: r.rossetto@sssup.it

Phone: +39 050 883 506

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 642224

Visit our website

www.freewat.eu

ict4water.eu