XXXV CONVEGNO NAZIONALE DI IDRAULICA E COSTRUZIONI IDRAULICHE

Bologna, 14-16 Settembre 2016

THE H2020 FREEWAT PROJECT FOR DEVELOPING A GIS-INTEGRATED PLATFORM FOR WATER RESOURCE MANAGEMENT

G. De Filippis[1], I. Borsi[2], L. Foglia[3], M. Cannata[4], E. Vàzquez-Suñé[5] e R. Rossetto[1]

[1]Scuola Superiore Sant'Anna, Pisa (Italy), g.defilippis@sssup.it, r.rossetto@sssup.it
[2]TEA SISTEMI S.p.A., Pisa (Italy), iacopo.borsi@tea-group.com
[3]Technische Universität Darmstadt, Darmstadt (Germany), laura.foglia74@gmail.com
[4]Scuola universitaria professionale della Svizzera italiana, Lugano (Switzerland), massimiliano.cannata@supsi.ch
[5]IDAEA - CSIC, Barcelona (Spain), enric.vazquez@idaea.csic.es

16-0147

FREEWAT
Free and Open Source Software Tools for Water Resource Management

EIP Water Online Market Place
Matchmaking for water Innovation

MAR Solutions - Managed Aquifer Recharge Strategies and Actions (AG128)

ict4water.eu

THE FREEWAT PROJECT

FREEWAT is an HORIZON 2020 project financed by the EU Commission under the call WATER INNOVATION: BOOSTING ITS VALUE FOR EUROPE.
FREEWAT aims at promoting water resource management by simplifying the application of the Water Framework Directive and other EU water-related Directives by means of an innovative GIS-integrated open source and public domain ICT tool (the FREEWAT platform) for the simulation of water quantity and quality in surface- and ground-water with an integrated water management and planning module.
The FREEWAT platform aims at producing scientifically & technically sound decisions and policy making based on:

- data and innovative data analysis tools and
- a *participatory approach* not only in the final stage of discussion, but also during the phase of scenario generation.

The open source characteristics of the platform allow to consider FREEWAT an initiative "*ad includendum*", as further research institutions, private developers etc. may contribute to the platform development.

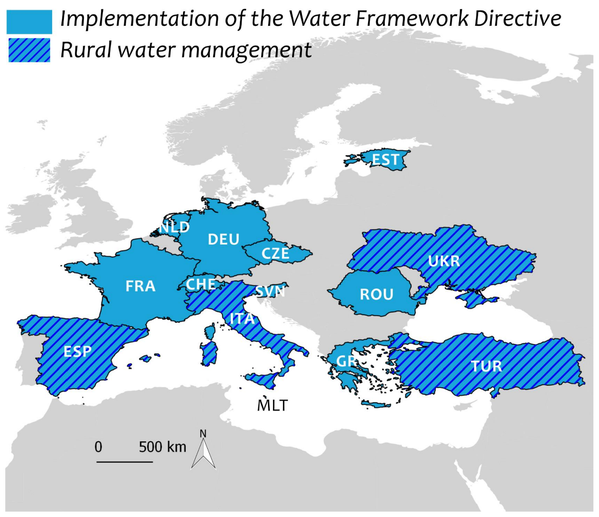
FREEWAT NUMBERS

- 19 Partners
- About 100 people trained
- 54 institutions involved
- More that 220 stakeholders involved
- 14 case studies (9 devoted to the application of the Water Framework Directive; 5 devoted to rural water management)

Partners

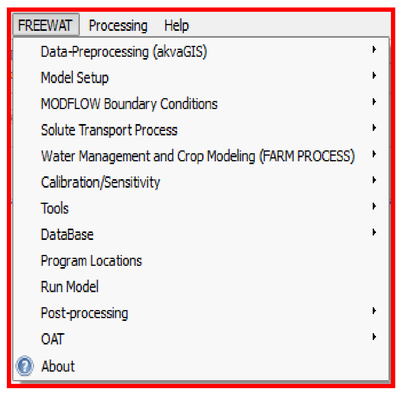
Coordination: Rudy Rossetto - r.rossetto@sssup.it
Institute of Life Sciences, Scuola Superiore Sant'Anna (Italy)

CASE STUDIES



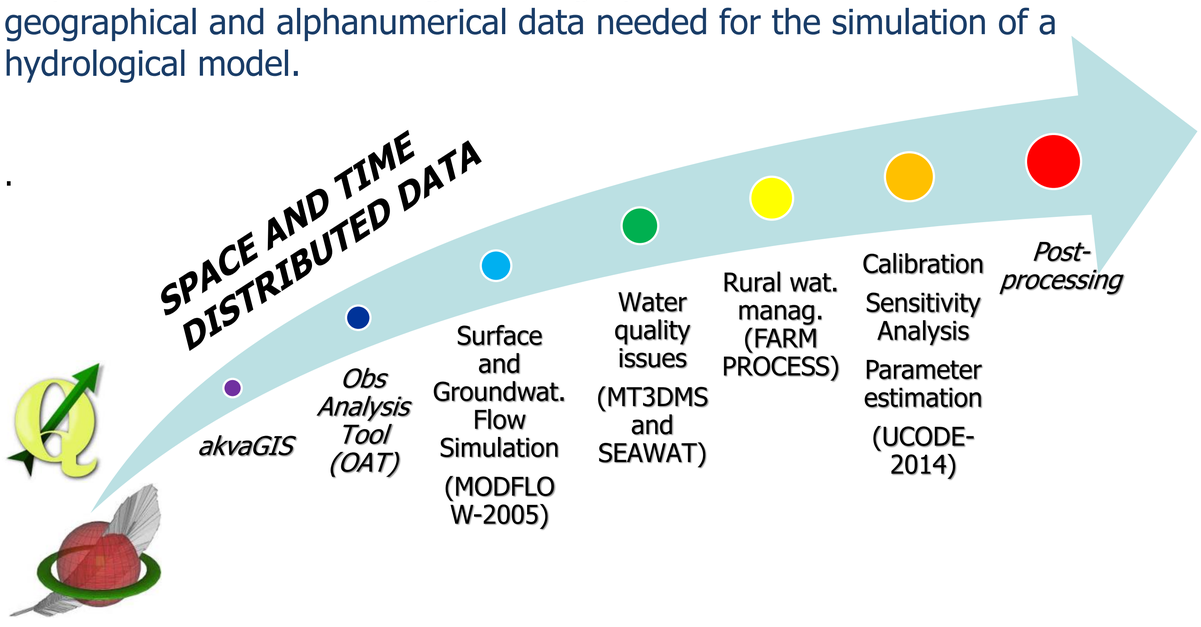
FREEWAT UP-TO-DATE

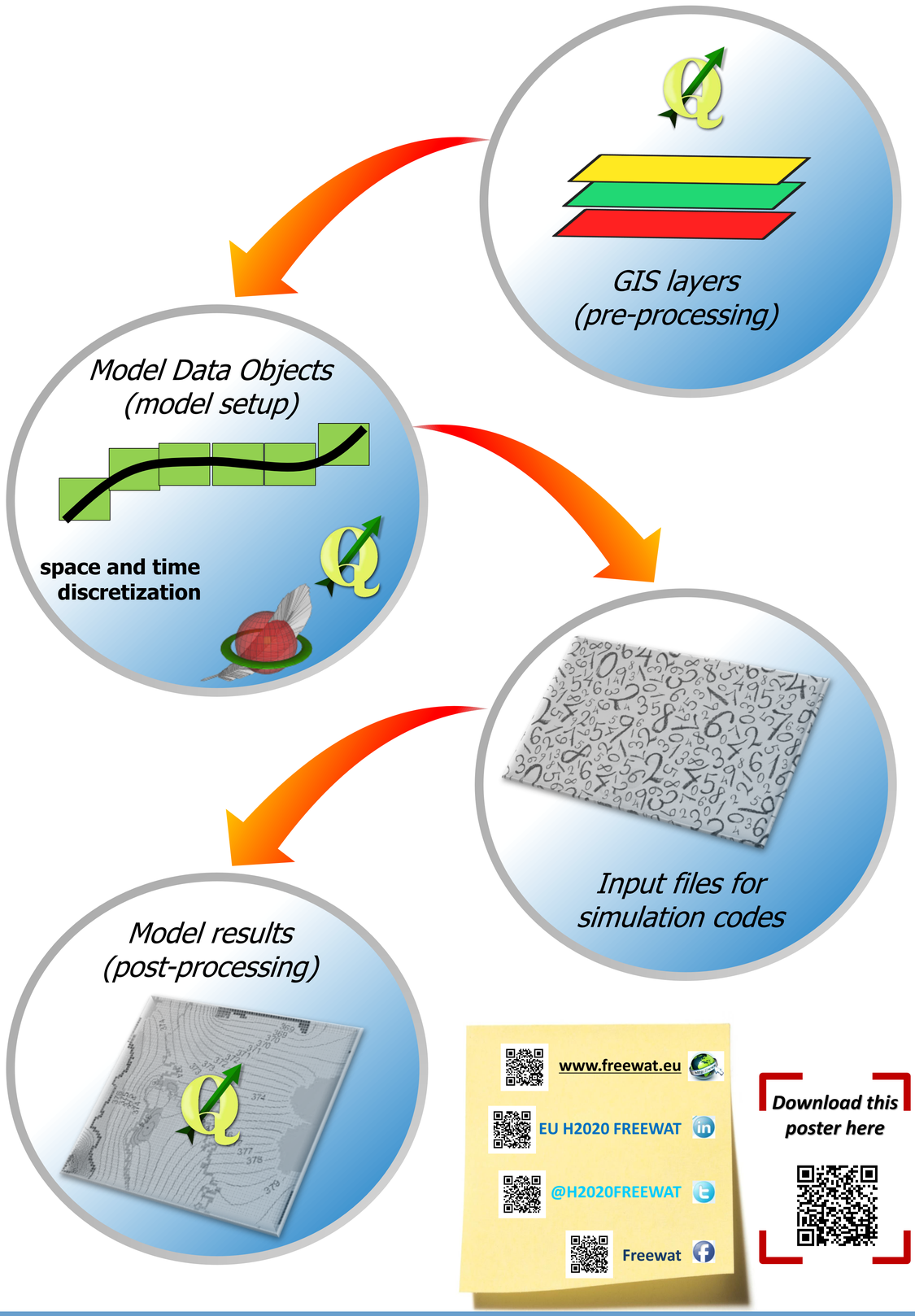
The FREEWAT platform, developed as a plugin integrated in QGIS, is conceived as a canvas, where several simulation codes, based on the hydrological cycle, hydrochemical or economic-social processes, might be virtually integrated in a unique GIS desktop, so coupling the power of GIS geo-processing and post-processing tools in spatial data analysis to that of simulation software.
Coupling is guaranteed in FREEWAT through a tight coupling approach, where GIS and hydrological model engines work separately, but the first provides the interface where data are pre-processed, run and then visualized.



The FREEWAT hydrological model is based on fully distributed and physically-based numerical codes, mainly from the open source USGS MODFLOW family.

A spatial database was designed using SpatiaLite DBMS to store and handle geographical and alphanumerical data needed for the simulation of a hydrological model.





www.freewat.eu
EU H2020 FREEWAT
@H2020FREEWAT
Freewat

Download this poster here

References
Rossetto R, Borsi I, Foglia L, 2015. FREEWAT: FREE and open source software tools for WATer resource management. Rendiconti Online Societa Geologica Italiana, 35:252-255. DOI: 10.3301/ROL.2015.113

Aknowledgements
This paper is presented within the framework of the project FREEWAT, which has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement n. 642224.
This poster content reflects only the authors' views and the European Union is not liable for any use that may be made of the information contained therein.