FREEWAT
Free and Open Source Software Tools for Water Resource Management
EU HORIZON 2020 Project

FREEWAT

FREE and open source software tools for WATer resource management

Submission of peer-reviewed papers

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Contents

Glossary and definitions

EU	European Union
FREEWAT	FREE and open source software tools for WATer resource Management
GA	Grant Agreement
WRM	Water Resource Management

Abstract

The FREEWAT project aims at promoting water resource management by simplifying the application of the Water Framework Directive and other related Directives. Such approach is based on the following two main pillars:

- the availability of a platform, FREEWAT (which is free and open source, www.freewat.eu), allowing management of spatial and temporal data in a geographic environment, and providing the capability to elaborate these data by means of numerical simulations to produce water use scenarios for Water Resource Management (WRM);

- the involvement of relevant stakeholders (such as policy makers, river basin authorities, local authorities dealing with WRM, environmental protection agencies, farmers' associations and networks, industrial associations, water professionals, environmental associations and/or groups of citizens) from the first phase of the process to ensure the credibility on data, scenarios and policies to be implemented.

The hereby deliverable consists in the published/accepted peer-reviewed papers on FREEWAT project activities and results in national/international scientific-technical journals. A comprehensive list of the papers submitted is provided. The target of at least seven papers was achieved and overcome, as 12 papers were published/accepted either online or in printed form. Target journals have been not only ISI ones, but also technical ones devoted to technological transfer.

Four additional papers, presenting H2020 FREEWAT outcomes, have been submitted/are at present under review in outstanding scientific journals.

The multidisciplinary coverage and impact of the submitted papers have been possible thanks to the high partners' commitment. Open access solutions have been pursued, making all the papers available and downloadable from the project website. All the published/accepted papers are attached to this report in the compressed folder *D8.7_FREEWAT_papers.zip*.

1 Introduction

The present Deliverable consists in the accepted peer-reviewed papers on FREEWAT project activities and results submitted in national/international scientific-technical journals as worked out in Work Package 8.

The Grant Agreement (GA) foresaw the acceptance for publication of at least one peer-reviewed article (end of first year), two peer-reviewed articles (end of second year), four peer-reviewed articles end of the project (with also the involvement of IST- SUPSI).

A minimum of seven scientific papers was expected to be published. Target journals had to be not only ISI ones, but also technical ones devoted to technological transfer. Open access solutions had to be followed. The aim of these documents is that of briefly describing the scientific and technical community project progresses and outcomes.

2 Peer-reviewed papers

In the present Section we provide details on the peer-revoewed papers accepted for publication or published and submitted. A comprehensive list of the papers submitted, is provided (Tab. 1). The target of at least seven papers was achieved and overcome, as 12 papers were published/accepted either online or in printed form within 30 September 2017. A whole special issue of the Italian Journal of Groundwater was dedicated to the FREEWAT project achievements and it is available in digital free form or in printed copy.

Four additional papers, presenting H2020 FREEWAT outcomes, have been submitted and are at present under review in outstanding scientific journals.

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Paper n.	Partner submitting the paper	Journal	Title	Editor	Published/Accepted	Type of paper (scientific/technical)
1	IST- SUPSI	Geoengineering Environment and Mining	The Observation AnalysisTool: a free and open sourcetool for time series analysis for groundwater modelling	GEAM	Published	scientific/tech
2	TSNUK	Italian Journal of Groundwater	Modelling the impact of rural land use scenarios on water management: a FREEWAT approach to the Bakumivka catchment case study, Ukraine	Page Press/Acque Sotterranee Associazione	Published	scientific/tech
3	ERU	Italian Journal of Groundwater	Modelling surface water-groundwater interactions at the Palas Basin (Turkey) using FREEWAT	Page Press/Acque Sotterranee Associazione	Published	scientific/tech
4	RT	Italian Journal of Groundwater	The H2O20 FREEWAT participated approach for the Follonica-Scarlino aquifer case study. A common space to generate shared knowledge on the value of water	Page Press/Acque Sotterranee Associazione	Published	scientific/tech
5	IEI	Italian Journal of Groundwater	Slovenian test case Vrbanski Plato aquifer in the EU HORIZON 2020 FREEWAT project	Page Press/Acque Sotterranee Associazione	Published	scientific/tech
6	SSSA	Italian Journal of Groundwater	Spatial analysis and simulation tools for groundwater management: the FREEWAT platform	Page Press/Acque Sotterranee Associazione	Published	scientific/tech
7	IST- SUPSI	Spatial Information Research	Open source GIS platform for water resource modelling: FREEWAT approach in the Lugano Lake	Springer	Published	scientific
8	TSNUK	Ukrainian Geographical Journal	International Project FREEWAT on planning and management of water resources: objectives and implementation process	Ukraine National Academy of Sciences	Published	scientific
9	SSSA	Rendiconti online Società Geologica Italiana	Software tools for sustainable water resources management: the GIS-integrated FREEWAT platform	Società Geologica Italiana	Published	scientific
10	SSSA	Rendiconti online Società Geologica Italiana	FREEWAT: FREE and open source software tools for WATer resource management	Società Geologica Italiana	Published	scientific
11	NTUA/AMDC	European Water	Management of coastal hydrosystems through the application of free and open source software tool FREEWAT	EWRA	Published	scientific/tech
12	BUGS	Grundwasser	Das Bremerhavener Grundwasser im Klimawandel - eine FREEWAT Fallstudie	Springer	Accepted	scientific

Table 1. List of accepted/published papers as result of the FREEWAT project.

Paper n.	Partner submitting the paper	Journal	Title	Editor	Published/Accepted	Type of paper (scientific/technical)
1	SSSA/TUDa	Groundwater	FREEWAT, a free and open source, GIS-integrated, hydrological modeling platform	Wiley	under revision	scientific
2	SSSA	Environmental Modelling and Software	Integrating free and open source tools and distributed modelling codes in GIS environment for data-based groundwater management	Elsevier	submitted	scientific
3	NTUA/AMDC	Environmental Earth Sciences	Free/open source hydrochemical & hydrogeological GIS integrated analysis tool for the interpretation of hydrological processes in groundwater systems	Elsevier	submitted	scientific
4	CSIC	Computers and Geosciences	An Open Source tool for sustainable water quantity and quality management	Elsevier	submitted	scientific

Table 2. List of submitted papers as result of the FREEWAT project.

3 Conclusions

The impact of FREEWAT has been maximised by the intense scientific activities carried out, demonstrated by the number of papers prepared and published in national and international journal.

A total number of 12 papers was submitted and accepted for publication after peer-reviewed process. A special issue on FREEWAT on the Italian Journal of Groundwater was released on 30th September 2017. Additionally, four other papers have been submitted to outstanding international scientific journals All the papers are accessible online from the FREEWAT web-site.

This activity contributed to achieving the objective of reaching a very large community at international level.

Document History

20.09.2017 Release of v1.0 for Steering Group revision

20.10.2017 Release of version v1.1 for final Steering Group revision

30.11.2017 Release of version v2.0 after further Coordinator's review