

## Sustainable coastal groundwater management through innovative governance in a changing climate

G. P. Karatzas

*School of Chemical and Environmental Engineering, Technical University of Crete, Greece*

\* e-mail: [corresponding.gkaratzas@mred.tuc.gr](mailto:corresponding.gkaratzas@mred.tuc.gr)

### Abstract

The need for the implementation of innovative governance of water resources in general and coastal aquifers in particular taking into account the technological development as well as socio-economic factors has become a worldwide necessity. The main goal of the present research is to implement a new innovative governance approach of coastal aquifers between multiple water users and beneficiaries under severe changing climate conditions in 4 countries located in the both sides of the Mediterranean Sea (Greece, Tunisia, Italy and Turkey).

For this aim, this project intends to establish an adapted multi-criteria decision supporting system (DSS) and Geographical Information System (GIS) platform with an online access for water stakeholders and policy makers. This DSS and platform will be based on: i) an active and continuous social participation and learning, ii) the use of advanced technologies and tools, such as optical sensors and remote sensing capacities, iii) the use of various available numerical models (Feflow and Modflow) for the prediction of these coastal aquifers quantity and quality progress in time and iv) the use of smart, adapted and visualized web applications.

On the other hand, this project will permit the preservation of the studied coastal aquifers against anthropogenic pollution through the promotion of the local water management concept which is based on the 4R principles (Reduce; Recycle; Reuse and Recover).

The main outcomes of this project will be communicated and disseminated by using the best practices and means for the highest profit of all the concerned actors.



The PRIMA programme is supported and funded under Horizon 2020, the Framework European Union's Programme for Research and Innovation

