



## Press Release

### MEDSAL Project

**Salinization of critical groundwater reserves in coastal Mediterranean areas: Identification, risk assessment and sustainable management with the use of integrated modelling and smart ICT tools**

#### **1. Presentation of the project:**

The press releases are intended for regular information on the progress of the project and addressed to large public.

Four press releases are planned to generate interest of the public and scientific media: one at project start, two during the implementation phase (months 12 and 24) and, the final one at the end of the project (month 36).

#### **Project Acronym: MEDSAL**

Program **PRIMA 2018 - Section 2; Topic 1.1.1: MEDSAL** responds to **Call Section 2** and specifically to **Topic 1.1.1** "Water resources availability and quality within catchments and aquifers" of **Thematic Area 1** "Management of Water"

**Title:** Salinization of critical groundwater reserves in coastal Mediterranean areas: Identification, risk assessment and sustainable management with the use of integrated modeling and smart ICT tools.

**Budget: 1,390,000 € - It is a joint program to be undertaken in the frame of Euro-Mediterranean cooperation network of funding organisations from members of Mediterranean countries and associated states of the EU.**

**Duration: 36 months, during which the consortium will submit 69 deliverables at fixed dates corresponding to 8 work packages.**

**Consortium Agreement finalized and signed by all partners in June 2019**

**Date and Place of the Kick-off meeting : September 23 & 24, 2019, Thessaloniki, Greece.**

## **2. Participant' Partners :**

**1 - Hellenic Agricultural Organization, Soil and Water Resources Institute (SWRI) - Athens, Greece. Contact: Dr. Evangelos Tziritis - Project Coordinator**

**2 - Center for Research and Technology – HELLAS, Information Technologies Institute (CERTH) - Thessaloniki, Greece. Contact: Dr. Petros Daras**

**3 - Mobilisation and Water Resources Management Laboratory, Batna 2 University (MGRE) - Batna, Algeria. Contact: Pr. Mohamed Redha Menani**

**4 - Technische Hochschule Lübeck / Architecture & Civil Engineering, Laboratory for Hydrology and International Water Management (THL) - Lübeck, Germany. Contact: Dr. Christoph Külls**

**4a - UIZ Umwelt und Informations technologie Zentrum GmbH (UIZ) - Berlin, Germany. sub-contractor of THL Contact: Dr. Jay Krishna Thakur**

**5 - Cyprus University of Technology, Department of civil engineering and geomatics (CUT) - Limassol, Cyprus. Contact : Pr. Phaedon Kyriakidis.**

**6 - Polytechnic University of Bari, DICATECh Dept ( POLIBA) - Bari, Italia. Contact : Pr. Maria Dolores Fidelibus.**

**7 - Faculty of Science of Tunis, Department of Geology (FST) - El-Manar, Tunisia Contact: Dr.Fadoua Hamzaoui Azaza**

**8. Mersin University, Faculty of Engineering (MEU) - Mersin, Turkey Contact: Dr. Cüneyt Güler**

### 3. Pilot sites

Pilot site	Country/ aquifer type
Bouficha	Tunisia/ Porous
Bouteldja	Algeria/ Porous
Rhodope	Greece/ Porous
Salento	Italy/ Karstic
Samos	Greece/ Porous
Tarsus	Turkey/ Porous

### 4. Overview on the project :

The MEDSAL Project aims to secure availability and quality of groundwater reserves in Mediterranean coastal areas, which are amongst the most vulnerable regions in the world to water scarcity and quality degradation. This will be addressed by providing a novel holistic approach, towards the sustainable management of coastal aquifers, which are affected by increased (single or multi-source) groundwater salinization risk, especially under the variable meteo-climatic conditions of the Mediterranean and the rapidly changing socio-economic context.

It is evident that salinization limits and menaces the availability of groundwater resources in the most populated and productive coastal areas of the Mediterranean. As a phenomenon, salinization is a complex process often related to multiple causes such as lack of internal drainage, seawater intrusion, increased evaporation of water-logged areas, upconing of deep-brines by over-abstraction, geogenic factors (e.g. evaporite dissolution, etc) and pollution. Thereby, MEDSAL aims at developing innovative methods to identify various sources and processes of salinization and at providing an integrated set of modelling tools that capture the dynamics and risks of salinization. In this context, MEDSAL will provide a classification of groundwater salinization types for Mediterranean coasts and innovative methods to detect these types, also in complex karstic and data-scarce environments. These outcomes will be reached by a better integration of hydrogeochemical and environmental isotope data with physical-based groundwater flow and transport models and advance geostatistics. Artificial intelligence and deep learning methods will be also used to improve detection of patterns in multi-dimensional hydrogeochemical and isotope data.

MEDSAL is expected to have significant impact on water resources availability and quality by improving the identification and definition of adequate strategies and measures for the protection and management of salinization in coastal aquifers. Specifically, MEDSAL is expected to: a) Deliver new tools for the identification of variable (multi-induced) and often cascading salinization sources and processes, b) Identify new patterns and develop new

proxies for monitoring, assessment and forecasting of groundwater salinization in areas with scarce data and/or limited financial and human resources,c) Elaborate tailor-made risk assessment and management plans by coupling salinization forecasts with climate change impacts and future scenarios,d) Develop a public domain web-GIS Observatory for monitoring, alerting, decision support and management of coastal groundwater reserves around Mediterranean. The project is separated in 7 work packages with specific tasks and whose leading is entrusted to each of the project partners.

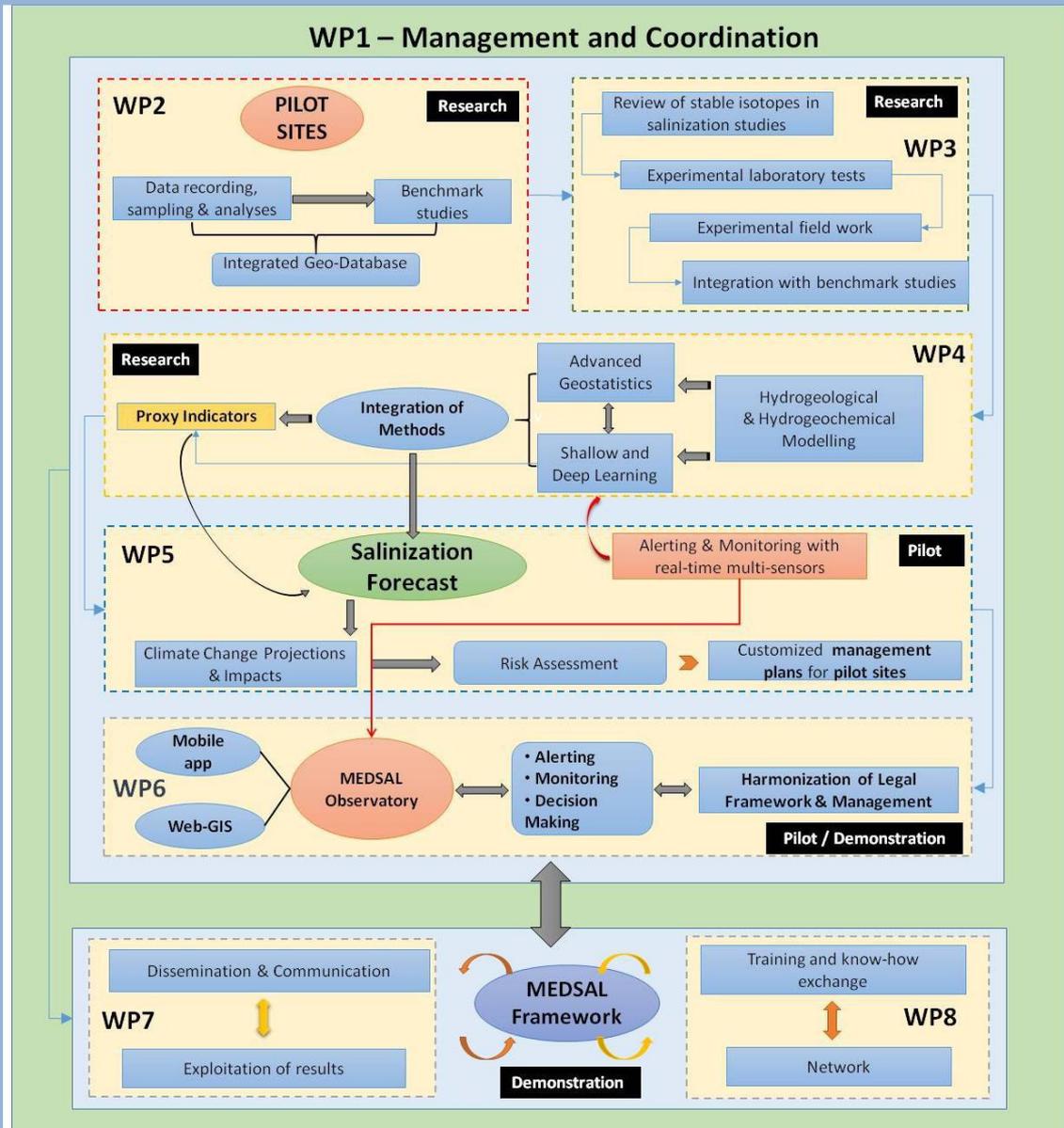


Fig 1. Work packages of MEDSAL Project

#### References :

Prima project proposal : Salinization of critical groundwater reserves in coastal Mediterranean areas: Identification, Risk Assessment and Sustainable Management with the use of integrate modelling and smart ICT tools