# MEDSAL

## 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

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**Greece** — Center for Research and Technology -HELLAS, Information Technologies Institute (CERTH)

**Algeria** — Mobilisation and Water Resources Management Laboratory, Batna 2 University (MGRE)

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**Italy** — Polytechnic University of Bari, DICATECh Dept (POLIBA)

**Tunisia** — Faculty of Science of Tunis, Department of Geology (FST)

**Turkey** — Mersin University, Faculty of Engineering (MEU)

**Section 2. Multi-topic**

**Budget and Duration: 1,390,000 €, 36 months**

**Coordinator:** SWRI Soil and Water Resources Institute

MEDSAL

PRIMA — PARTNERSHIP FOR RESEARCH AND INNOVATION IN THE MEDITERRANEAN AREA

# Main objectives

**Main Objective:** MEDSAL aims to develop an integrated Framework for monitoring, protection and management of coastal groundwater reserves subject to increased salinization risks, due to overexploitation and rapid changes occurring from relevant climatic/non-climatic drivers.

The proposed **MEDSAL Framework** will integrate and fuse different **tools and models** to:

- Identify groundwater salinization sources (single or multi-sourced) and decipher their governing processes;
- Forecast the spatiotemporal evolution of primary (salinization) and secondary (e.g. induced post-contamination due to geochemical and/or other interactions) cascading effects and impacts;
- Perform a risk assessment under variable climatic projections and stresses;
- Develop a public web-GIS Observatory to support monitoring, alerting and management of coastal Mediterranean aquifers.

# Methodology / Approach
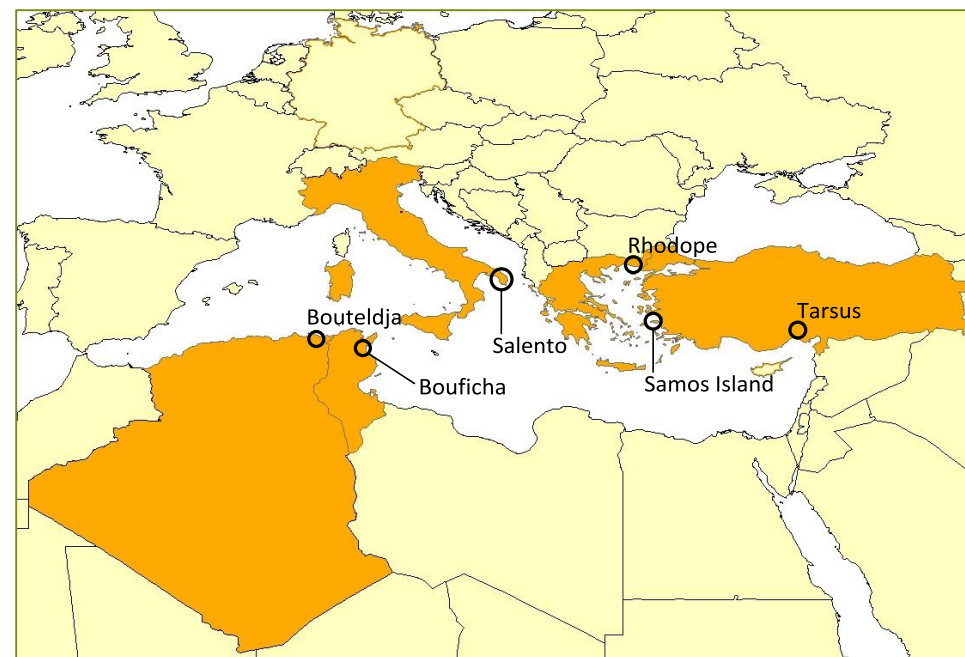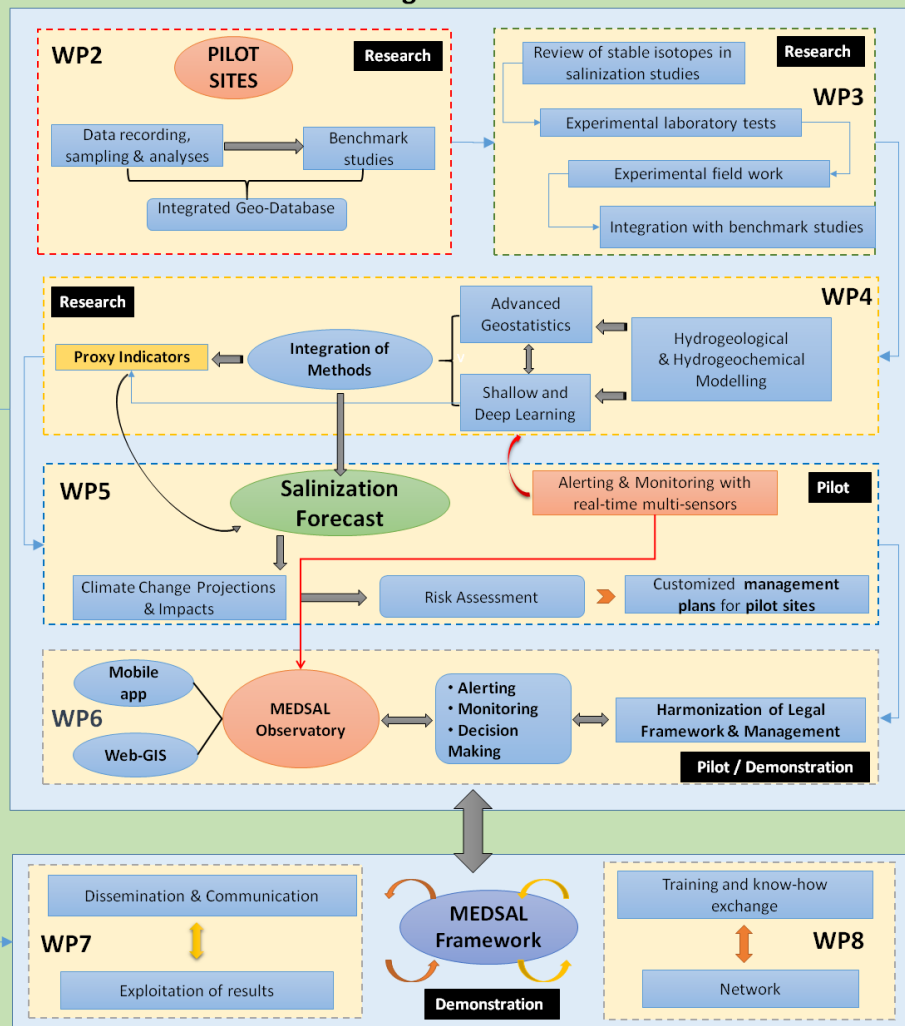
# Expected impacts

**Novel integrated approaches** (e.g. tools, proxy indicators, models) for the accurate swift assessment and more efficient management of **GWS risk** in Mediterranean coastal aquifers

Secure **availability** and **quality** of **groundwater** reserves in Mediterranean coastal areas

Enhance **resilience** and **adaptation** to **climate change impacts** and increased **fresh water demands**