

Overall goal

The long-term aim of AGREEMAR is to optimise the hydrological balance in Mediterranean countries by developing governance models, management strategies, costs-benefits analyses, technical specifications and simulation tools to optimise the water storage in aquifers, enabling increased resilience to climate change.

Specific objectives

- **To validate**, optimise and up-scale adaptive and innovative water management strategies, such as MAR solutions, and use of non-conventional water sources to augment aquifer storage.
- **To improve** the cross-sectoral uptake of MAR for climate change adaptation and to ensure the adoption of integrated governance models that will guarantee long-term, safe and efficient implementation, based on environmental, social and economic indicators.
- **To facilitate** strengthening the institutional and management capacities of stakeholders to take up the integrated approach for planning and implementation of MAR.
- **To adopt** participative approaches to reduce barriers and fortify linkages among water resources managers and water users thus reducing conflicts and increasing social trust.
- **To demonstrate** how the innovative approach for planning and implementation of MAR will lead to better use of freshwater and preservation of natural ecosystem services.

Contact

Project coordinator

Dr. Catalin Stefan
Technische Universität Dresden
Institute of Groundwater Management
Research Group INOWAS

Address

📍 Helmholtzstr. 10
01069 Dresden, Germany
☎ +49 351 463-44144
✉ catalin.stefan@tu-dresden.de
🌐 www.agreemar.inowas.com



Project partners



LABORATÓRIO NACIONAL DE ENGENHARIA CIVIL



Funding

The AGREEMAR project is funded by National Funding Agencies from Germany, Cyprus, Portugal, Spain, and Tunisia under the Partnership for Research and Innovation in the Mediterranean Area (PRIMA). The PRIMA programme is supported under Horizon 2020 by the European Union's Framework for Research and Innovation. Project duration: June 2022 - May 2025.

Project sponsored by:



AGREEMAR

Adaptive agreements on benefits sharing for managed aquifer recharge (MAR) in the Mediterranean region



Demonstration regions

The project will enable the creation of specific MAR agreements supported by regional feasibility mapping and numerical groundwater modelling at island, regional and local scale.



Alentejo and Algarve regions, PORTUGAL

Increasing water availability and quality by making use of non-conventional water sources for MAR (e.g., flash floods, treated wastewater).

Partner: Laboratório Nacional de Engenharia Civil (LNEC), PORTUGAL



Júcar Water District, SPAIN

Conjunctive use of groundwater and surface water; improving water quality and increased availability of recovered water for irrigation; enabling efficient MAR implementation.

Partner: Universitat Politècnica de València (UPV), SPAIN



Chiba watershed, TUNISIA

Improving the water quality and increase the availability of recovered water for irrigation; guarantee lifetime duration of MAR schemes by integrated planning.

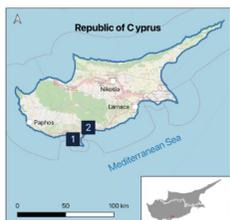
Partner: Institut National Agronomique de Tunisie (INAT), TUNISIA



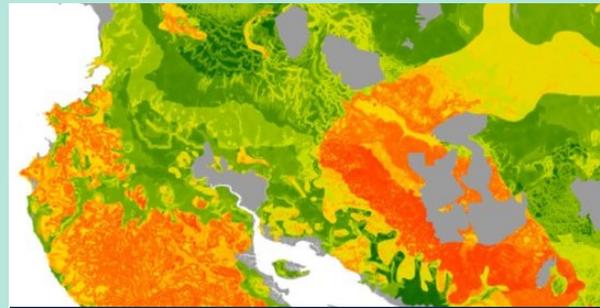
Republic of CYPRUS

Increasing the availability of recovered water for irrigation and improved groundwater quality.

Partner: ERATOSTHENES Centre of Excellence, CYPRUS

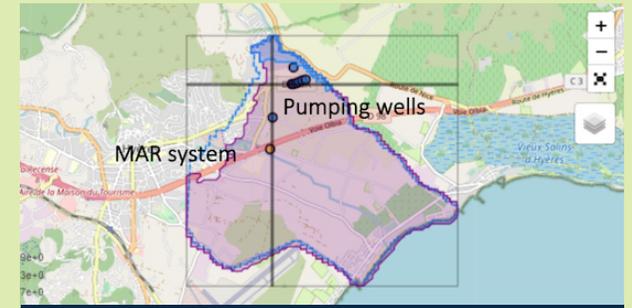


Research approach



MAR geospatial feasibility mapping

Development of a methodology for the selection of feasible locations for MAR application based on the integration of demand for groundwater-dependent services, conventional and non-conventional water sources, and intrinsic hydrogeological conditions.



Validation through groundwater modelling

Validation of the feasibility maps through numerical models at watershed and local scale to assess the improvements in reliability, vulnerability and resilience provided by the inclusion of MAR schemes in water management schemes.



Adaptive governance frameworks and agreements

Development of a general participatory governance framework at regional level and implementation of co-created location-specific agreements for MAR benefits sharing endorsed by cross-sectoral stakeholder groups.



Participative stakeholders' engagement

Implementation of a participative multi-actor approach for fostering the engagement of stakeholders from different societal sectors and actor groups in all stages of project development.