



Newsletters

Newsletter

3

February 2024

Highlights

- Validation of the MAR feasibility maps in Cyprus and Spain
- Second annual AGREEMAR project meeting in Valencia, Spain
- Stakeholders engagement activities in Tunisia
- Presentation of project activities at conferences and networking events

Funded by

Financial support has been provided by PRIMA; a program supported by the European Union



What is AGREEMAR?

AGREEMAR (*"Adaptive agreements on benefits sharing for managed aquifer recharge in the Mediterranean region"*) is a project funded under the PRIMA 2021 program for three years (Jun 2022 – May 2025).

Work plan

AGREEMAR includes six work packages that cover stakeholders' engagement, feasibility mapping, groundwater modelling, governance frameworks and agreements, and project management.

About the project

AGREEMAR will develop an adaptive governance framework integrated with a set of management tools that will assist water policy makers and water managers to reach sustainable water resources management.

Demo sites

AGREEMAR approach will be validated at four case studies from Cyprus, Portugal, Spain and Tunisia, which will enable its integration into a larger context in the Mediterranean basin and worldwide.

Objectives

AGREEMAR aims to optimize the hydrological balance by developing governance models, management strategies, technical specifications and simulation tools.

Partners

AGREEMAR includes universities, public companies and national research centres from Germany, Spain, Cyprus, Portugal and Tunisia, together with stakeholders from four Mediterranean regions.

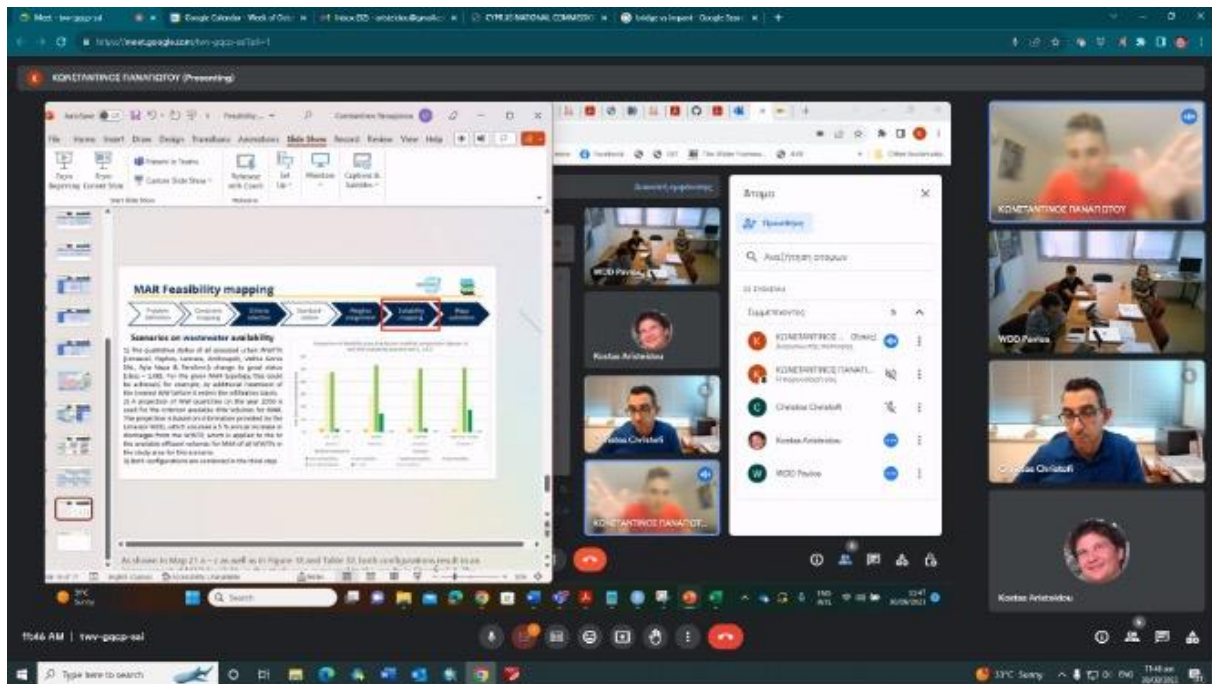


Discover more...

Events

Online workshop for the validation of MAR feasibility maps in Cyprus, 30 August 2023

The outcomes of the multi-criteria decision analysis, along with the assumptions/limitations applied to derive the feasibility maps, were discussed on 30 August 2023 with the key stakeholders in Cyprus, particularly members of the Geological Survey and Water Development Department.



Online workshop with members of Geological Survey of Cyprus and Water Development Department on 30 August

A step-by-step description of the proposed methodology, the classification of the physical criteria for each thematic layer and associated where discussed to validate them. Subsequently, the resulting suitability maps were presented, which were generally accepted by the stakeholders.

In addition, the Cypriot team presented a number of modifications/improvements which are expected

to be applied to the feasibility mapping, which were further elaborated and eventually validated by the stakeholders. It was agreed to meet again during the forthcoming months to present the updated maps in a wider audience that will involve members from additional sectors of the Water Development Department.

Events

Project mid-term meeting in Valencia, Spain, 7-8 September 2023

Between 7-8 September 2023, the AGREEMAR consortium met in Valencia, Spain for the second annual project meeting. The event included one day of workshops and one day of field trips and was organised by the project partners at the Universitat Politècnica de València (UPV).



Group photo of AGREEMAR team members and local stakeholders at Algar reservoir near Valencia, Spain, 8 September 2023

The general scope of the mid-term meeting was to provide an overview on the progress of project activities and to discuss the upcoming tasks and deliverables. The format of the meeting included presentations from work package leaders and from coordinators of demo regions. With just three months before the project's half-time, the activities were conducted in a timely manner with all due deliverable reports published in time. A concentrated discussion took place around work package 2 (MAR feasibility mapping), work package

4 (MAR modelling) and work package 5 (local agreements).

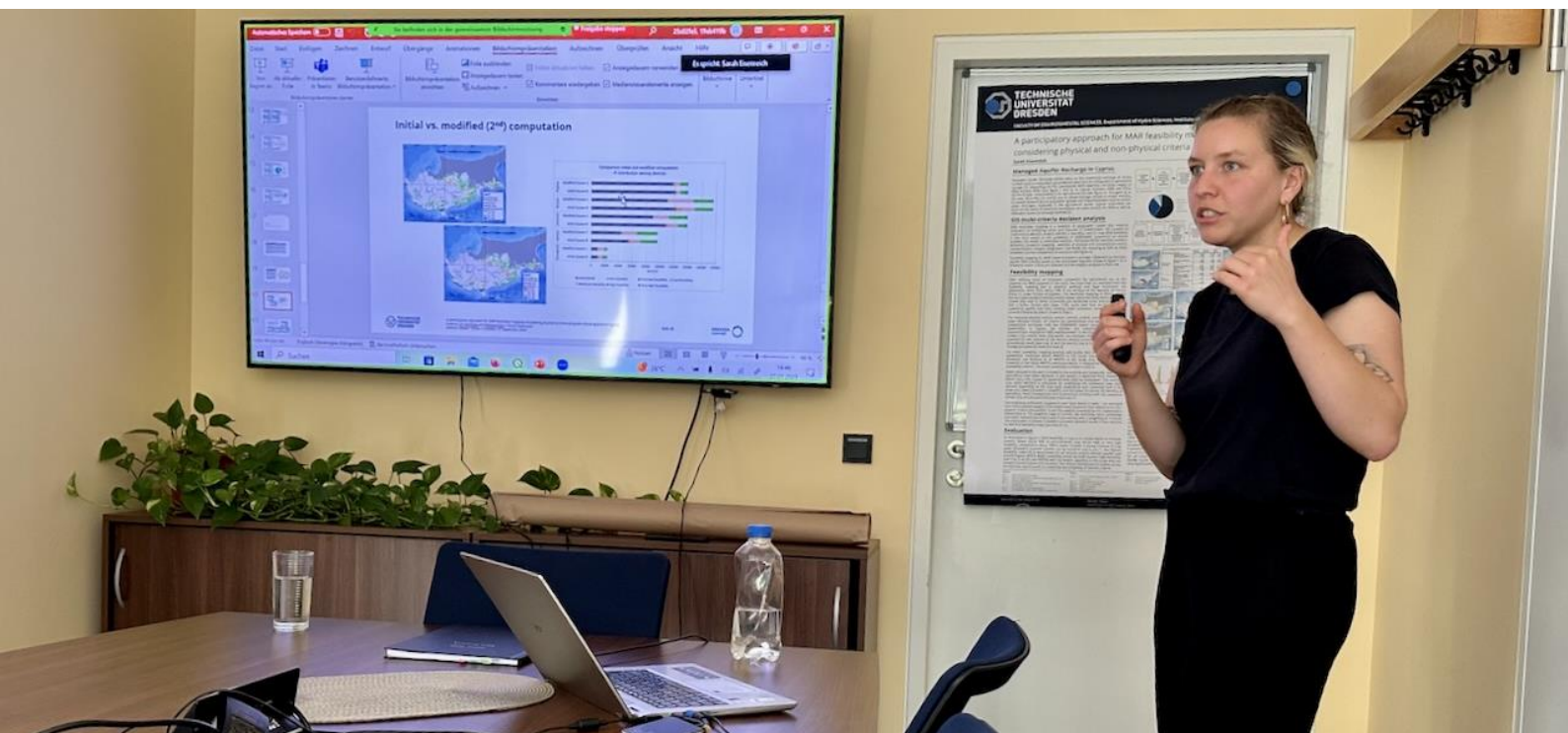
During the second day, the project partner UPV organised a day-trip to visit the two case studies of the project: the Algar dam and the Belcaire pond. The trips enabled an open, constructive discussion between the project members and the local stakeholders and the collection of further information and understanding of local challenges of water resources management in Valencia, Spain.

Download the minutes of the meeting (deliverable D6.4b):
<https://www.agreemar.inowas.com/deliverables>.

Events

Sarah Eisenreich defended her Master's thesis on MAR feasibility mapping in Cyprus, 27 September 2023

On 27 September 2023, Sarah Eisenreich defended at TU Dresden her Master's thesis with the title "A participatory approach for MAR feasibility mapping considering physical and non-physical criteria applied to Cyprus". The thesis was conducted in collaboration with the ERATOSTHENES Centre of Excellence, Cyprus.



Sarah Eisenreich defended her Master's thesis on 27 September 2023

On 27 September 2023 we had the first defense of a Master's student within the framework of the AGREEMAR project. Sarah Eisenreich graduated the Master programme on Hydrology at the Department of Hydrosociences of TU Dresden. Her graduation thesis was entitled "A participatory approach for MAR feasibility mapping considering physical and non-physical criteria applied to

Cyprus". The work was supervised by Dr. Catalin Stefan and co-supervised by Dr. Konstantinos Panagiotou from the ERATOSTHENES Centre of Excellence in Cyprus. The focus of the thesis was on the application of a GIS-based multi-criteria decision analysis for the compilation of MAR feasibility maps in Cyprus.

Events

Presentation of the final MAR feasibility maps, the constellation analysis and visit to the physical models with the Water Authority of Alentejo (APA/ARH-Alentejo), 18 October 2023

On 18 October 2023, the final MAR feasibility maps developed by the AGREEMAR team at LNEC (improved after discussion with APA/ARH-Alentejo on 27 July 2023 meeting) were presented to the main regional stakeholder at the demo region in Portugal, the Water Authority of Alentejo (APA/ARH-Alentejo).



Presentation of MAR feasibility maps in Portugal to the Water Authority of Alentejo on 18 October 2023

The meeting audience was welcomed by the LNEC's Hydraulics Department Head and APA/ARH-Alentejo Director. A first introduction to constellation analysis method was also presented showing its potential to set up the scene concerning stakeholder's interaction within AGREEMAR purpose.

The Q&A session that followed allowed for the AGREEMAR team to clarify the potential uses of the project outcomes. Finally, a short visit to the ongoing physical models, within APA/ARH-Alentejo's overall interest, was conducted in LNEC's Hydraulics Department pavilion.

A more detailed program is available online: <https://shorturl.at/yFGQ1>.

Events

INOWAS web-based modelling platform presented at the International Riverbank Filtration Conference in Dresden, 16-18 October 2023

From 16 to 18 October 2023, the Division of Water Sciences at the Dresden University of Applied Sciences organised the International Riverbank Filtration Conference. The conferences offered a great opportunity to present the latest developments of the web-based groundwater modelling platform INOWAS.



Dr. Jana Glass presented the groundwater modelling platform during the International Riverbank Filtration Conference in Dresden, 16-18 October 2023 (photo: Cristina Sandhu, HTWD)

On behalf of Research Group INOWAS and the AGREEMAR consortium, Dr. Jana Glass attended the International Riverbank Filtration Conference in Dresden and contributed with an oral presentation entitled: "The INOWAS groundwater management platform: web-based tools for real-time monitoring

and numerical modelling at managed aquifer recharge sites". We thank very much the conference organisers for the opportunity provided and also the participants for the interesting discussions during the conference.

Events

National Civil Engineering Award 2023 for Prof. Joaquín Andreu, PI of UPV team in the AGREEMAR project, 25 October 2023

On 25 October 2023, Prof. Joaquín Andreu, PI of the UPV team in the AGREEMAR project, was honoured with the National Civil Engineering Award 2023, delivered by the Ministry of Transport, Mobility, and Urban Agenda.



The Minister of Transport, Mobility and Urban Agenda, Raquel Sánchez, has presented the award to Professor Andreu for his brilliant professional career (photo: IIAMA)

The distinguished career of Prof. Andreu in the UPV includes roles such as Founding Director of the Research Institute of Water and Environmental Engineering, Director of the School of Engineering of UPV, Director of the Department of Hydraulic Engineering and Environment, and Principal Investigator of the Water Engineering Research Group. With an impressive portfolio, he has also led over 50 research projects and contracts, served as the Technical Director of the Júcar River Basin Agency, and provided guidance to international institutions such as the Inter-American Development Bank, the Asian Development Bank (India, Indonesia, Vietnam, and the Philippines), and the World Bank (Brazil and Mexico).

Notably, Joaquín is the ‘father’ of the AQUATOOL Decision Support System, a reference tool for implementing the European Water Framework Directive that has been employed in over 20 countries. The award ceremony not only recognized Joaquín’s exceptional contributions but also served as a platform to spotlight the AGREEMAR project. Both the Spanish Ministry and Joaquín took the opportunity to highlight some of the main findings of AGREEMAR during their speeches, emphasizing its importance in the fields of water engineering and environmental sustainability.

Huge congratulations, Joaquín!

Events

Meeting between INAT and the Tunisian Association of Nature and Environment Protection (ATPNE) in Korba, Tunisia, 13 November 2023

On 13 November 2023, INAT team met the representatives of the Tunisian Association of Nature and Environment Protection (ATPNE). The NGO has the objective of contributing to nature and environment protection in CapBon peninsula in general and specifically in the Korba region. ATPNE Korba is active in dealing with the biodiversity of Korba lagoon and it is one of the most relevant stakeholders of the AGREEMAR project in Chiba demo region.



On 13 November 2023, INAT team met with representatives of Meeting between INAT and the Tunisian Association of Nature and Environment Protection (ATPNE) in Korba, Tunisia (photo: INAT)

During the meeting, INAT team introduced the AGREEMAR project and highlighted the importance of ecological demand in MAR feasibility mapping in Chiba basin. The ATPNE team reported that they have an ongoing investigation of the lagoon, and they noticed some fauna change due to the received amount of treated wastewater from Korba WWTP. However, they can't specify for the moment

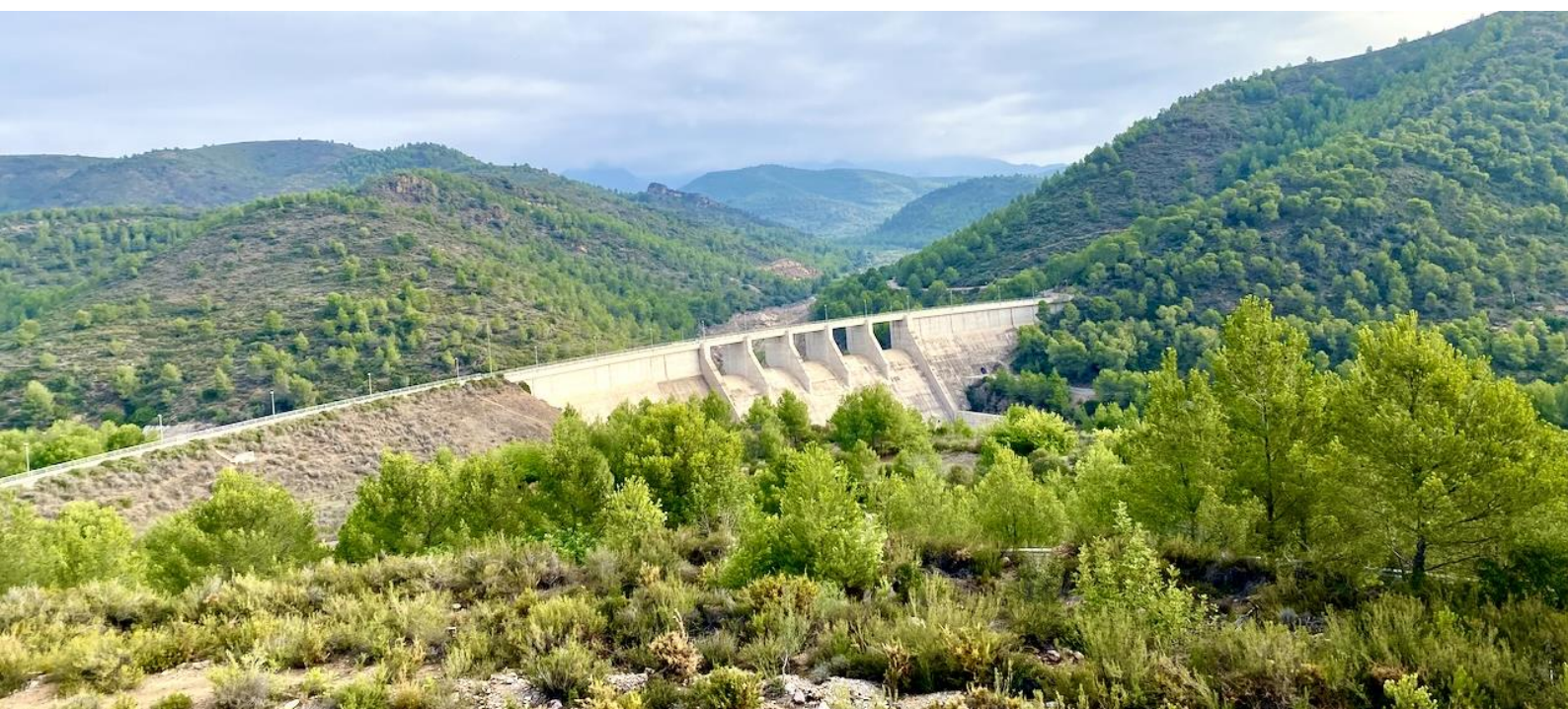
the exact ecological demand of the lagoon because of the lack of hydrological and biological data. ATPNE team showed a high interest in agreements and proposed to be a part of it.

The two teams agreed to pursue collaboration and the involvement of ATPNE in the future events that will be organised by AGREEMAR in Tunisia.

Events

Validation of feasibility maps for the AGREEMAR demo region in Spain by the Júcar Basin Authority, 17 November 2023

On Friday, 17 November 2023, the UPV team of the AGREEMAR project met with the Water Commissary and the Hydrological Planning Office of the Júcar Basin Authority to validate the MAR feasibility maps and their weighting coefficients.



UPV team met on 17 November 2023 with the Water Commissary and the Hydrological Planning Office of the Júcar Basin Authority to validate the MAR feasibility maps and their weighting coefficients (photo Algar dam: Catalin Stefan)

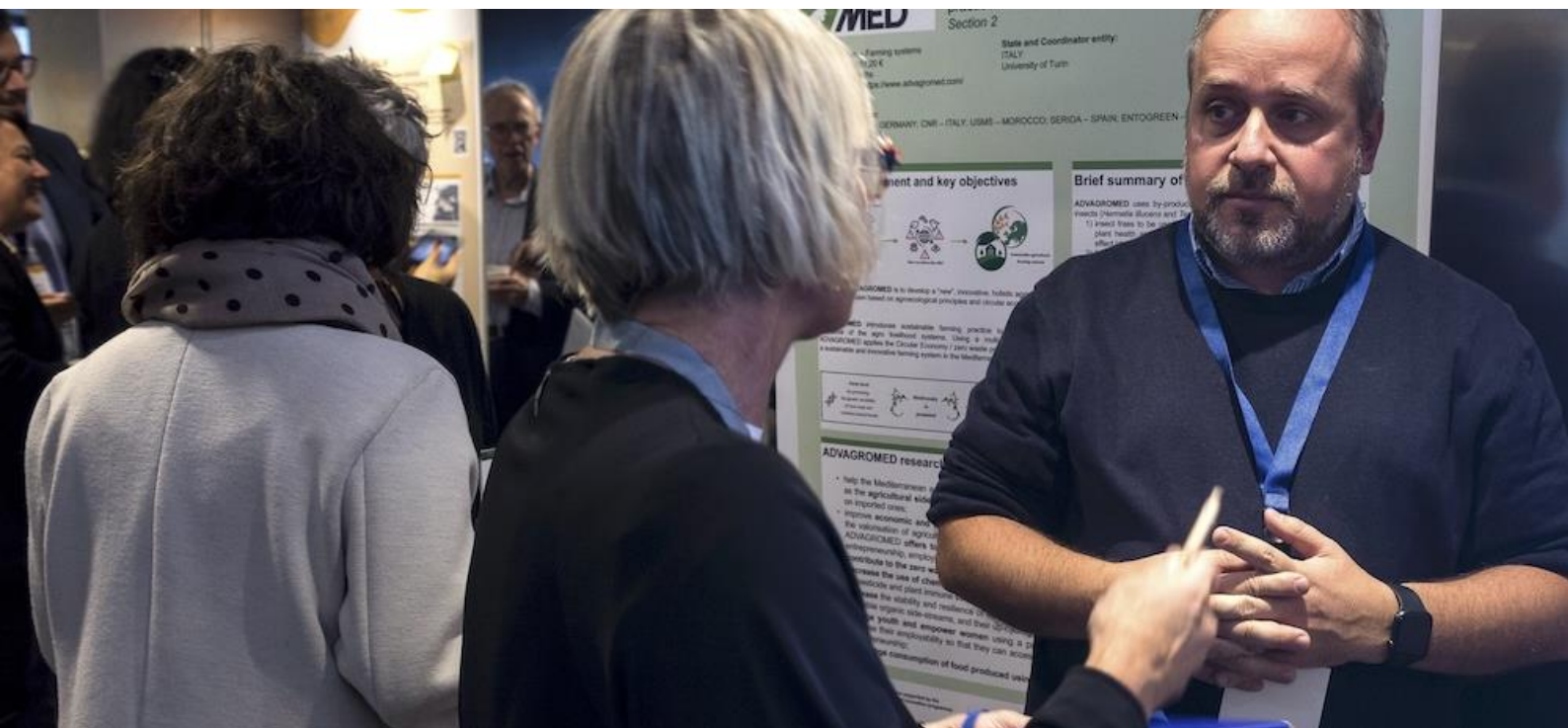
The team presented a comprehensive overview of the proposed methodology, including different suitability maps for intrinsic suitability, water availability, and water demand, all of which received general validation. Subsequently, a constructive discussion on the weighting coefficients for each element took place, leading to the validation of the final feasibility maps. The methodology was

embraced as a practical tool to continue stakeholder engagement in MAR. Additionally, key advancements of the AGREEMAR project were presented, contributing to the comprehensive discussions. The meeting also covered diverse topics, including brainstorming on the potential application of a MAR governance framework in Spain and discussions on MAR legislation.

Events

AGREEMAR was represented at the PRIMA Project Day event in Sitges (Barcelona), Spain, 21 November 2023

On 21 November 2023, PRIMA Foundation organised a meeting of all projects funded through the PRIMA Call 2021 and 2022 from both Section 1 and Section 2 funding lines. The meeting was organised in Sitges, south of Barcelona, Spain and brought over 70 project coordinators and consortium members with PRIMA Project Officers and members of the PRIMA Secretariat Team.



Dr Catalin Stefan, coordinator of AGREEMAR project, met with representatives of other PRIMA-funded projects in Sitges, Spain, on 21 November 2023 (photo: PRIMA Foundation)

The PRIMA Project Day was a comprehensive, in-person gathering centred around PRIMA projects. The meeting had two main objectives:

To foster networking and cultivate synergies among participants, while reinforcing collaboration between the Mediterranean's two shores;

To offer valuable insights into crucial project-related facets and provide an opportunity to engage with the PRIMA Secretariat team and National Funding Agencies, creating a platform for discussions on pertinent project implementation matters, as well as the exchange of innovative ideas.

In the morning, a dedicated PRIMA Kick-Off session for projects selected in the PRIMA Calls for Proposals 2022, encompassing both Section 1 and 2, provided the participants with insights into various critical aspects, including reporting guidelines and procedures, utilization of the PRIMA MEL (Monitoring, Evaluation, and Reporting) platform, administrative management, best practices, and communication obligations.

On behalf of the entire AGREEMAR consortium, we would like to express our gratitude for this opportunity and thank also other project coordinators for the interesting exchange of ideas.

Publications

Conference contributions

- Stefan, C. (2023) AGREEMAR: **Adaptive agreements on benefits sharing for managed aquifer recharge in the Mediterranean region**. Poster at the PRIMA Project Day. Sitges, Spain, 21 November 2023.
- Glass, J., Junghanns, R., Stefan, C. (2023) **The INOWAS groundwater management platform: web-based tools for real-time monitoring and numerical modelling at managed aquifer recharge sites**. Presentation at the International Riverbank Filtration Conference, Dresden, Germany, 16-18 October 2023.

Press articles

- Reunión del proyecto AGREEMAR para optimizar la gestión de los acuíferos mediterráneos (Engl. AGREEMAR project meeting to optimise the management of Mediterranean aquifers) *RETEMA*, 27.09.2023. <http://bit.ly/3MUVqBr>
- Arranca el proyecto europeo Agreeemar sobre recarga gestionada de acuíferos (Engl.: European AGREEMAR project on managed aquifer recharge gets underway) *TECNOAQUA*, 17.10.2022. <https://bit.ly/3R6iXAn>
- Projeto PRIMA AgreeMAR: Questionário sobre Gestão da Recarga de Aquíferos (MAR). Newsletter nº 207 (engl.: (Engl.: Project PRIMA AgreeMAR: Questionnaire on Managed Aquifer Recharge (MAR)) *APRH*, 25.11.2022. <https://bit.ly/3XM0pbe>
- Projeto agreeMAR visita a ETAR da Comporta (Engl.: Project agreeMAR visits the Comporta WWTP) *AgdA – Águas Públicas do Alentejo*, 22.11.2022. <https://bit.ly/3j8WaqQ>

Reports

Project deliverables

Project deliverables

Deliverable #D1.2
Awareness and outreach

Funded by: Financial support has been provided by PRIMA, a program supported by the European Union

D1.2 Awareness and outreach campaign

The present report provides an overview of awareness raising and outreach activities from the start of the project until 30 November 2023. The dissemination channels include on-site and online participative stakeholder workshops at various stages of the project, participation in scientific conferences and workshops, publication of project deliverables, development and consolidation of a general identity image through a modern corporate design that includes also templates, logos, flyers and brochure, website etc.

Project deliverables

Deliverable #D2.3
MAR feasibility maps validated for each demo region

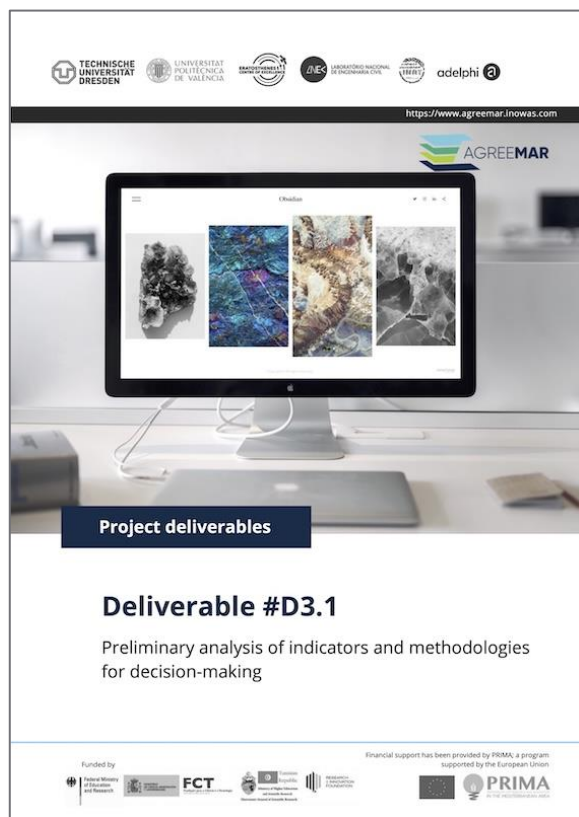
Funded by: Financial support has been provided by PRIMA, a program supported by the European Union

D2.3 MAR feasibility maps validated for each demo region

Deliverable 2.3 is dedicated to the development of feasibility maps for each demo region based on the adaptive methodology described in Deliverable 2.2 which integrates two workflows centred on expert-based input and active stakeholder participation. This report focuses on providing a step-by-step description of the methodology used for creating the MAR feasibility maps, including problem definition, constraint mapping, criteria selection, standardization of criteria values, weights assignment, feasibility mapping and validation.

Reports

Project deliverables



D3.1 Preliminary analysis of indicators and methodologies for decision-making

Deliverable D3.1 provides a preliminary analysis of indicators and methodologies for decision-making. It highlights the importance of integrated water management and the use of indicators in Managed Aquifer Recharge (MAR) projects. The report highlights the significance of addressing hydric stress in the Mediterranean region and explores the concept of comprehensive recharge and recovery. It also promotes the consideration of alternative conjunctive use of surface water and groundwater resources to reduce expenses. The findings underscore the value of environmental, socio-economic, and governance indicators in assessing the sustainability and effectiveness of water management practices in MAR projects.



D6.4b Minutes of the AGREEMAR mid-term meeting, 7-8 September 2023, Valencia, Spain

This report summarizes the AGREEMAR mid-term meeting that took place on 7 and 8 September 2023 at the main Campus of Universitat Politècnica de València (UPV), Valencia, Spain. In total 14 participants from all six project partners gathered to discuss the conducted and future work in the AGREEMAR project. The mid-term meeting was divided into two parts: a) Presentations on the progress of project activities, b) Field trip to the Spanish case study sites including meetings with local stakeholders.

Funded by



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