



MARSOL: Demonstrating Managed Aquifer Recharge as a Solution to Water Scarcity and Drought

Christoph Schueth

Technische Universität Darmstadt, Institute of Applied Geosciences, Darmstadt, Germany (foglia@geo.tu-darmstadt.de)

Southern Europe and the Mediterranean region are facing the challenge of managing its water resources under conditions of increasing scarcity and concerns about water quality. Already, the availability of fresh water in sufficient quality and quantity is one of the major factors limiting socio economic development. Innovative water management strategies such as the storage of reclaimed water or excess water from different sources in Managed Aquifer Recharge (MAR) schemes can greatly increase water availability and therefore improve water security. Main objective of the proposed project MARSOL is to demonstrate that MAR is a sound, safe and sustainable strategy that can be applied with great confidence and therefore offering a key approach for tackling water scarcity in Southern Europe.

For this, eight field sites were selected that will demonstrate the applicability of MAR using various water sources, ranging from treated wastewater to desalinated seawater, and a variety of technical solutions. Targets are the alleviation of the effect of climate change on water resources, the mitigation of droughts, to countermeasure temporal and spatial misfit of water availability, to sustain agricultural water supply and rural socio-economic development, to combat agricultural related pollutants, to sustain future urban and industrial water supply and to limit seawater intrusion in coastal aquifers.

Results of the demonstration sites will be used to develop guidelines for MAR site selection, technical realization, monitoring strategies, and modeling approaches, to offer stakeholders a comprehensive, state of the art and proven toolbox for MAR implementation. Further, the economic and legal aspects of MAR will be analyzed to enable and accelerate market penetration. The MARSOL consortium combines the expertise of consultancies, water suppliers, research institutions, and public authorities, ensuring high practical relevance and market intimacy.