

# Groundwater Recharge of Samos Island, Greece

## Factors and Response to Extremes

*Saeed Shams*

The project aims at determining the groundwater recharge of the coastal aquifer in the south of the island Samos. The master thesis will involve a review of groundwater recharge studies in the Eastern Mediterranean in different environments and provide a summary of these studies in terms of recharge rates, research gaps and methods.

The study will involve laboratory work on stable isotope profiles that have been collected in autumn 2017 and derive groundwater recharge rates from 3 of these stable isotope profiles. The master thesis will include an analysis and modeling of an existing isotope profile measured at FHL in September 2017.

Based on the results of stable isotopes in soil water and taking into account the groundwater recharge assessment e.g. by Zagana et al. (2007) the impact of climate variability on groundwater recharge and groundwater availability in the coastal aquifer is to be analyzed and assessed.

## References

Zagana, E., Külls, C., Udluft, P., & Constantinou, C. (2007). Methods of groundwater recharge estimation in eastern Mediterranean – a water balance model application in Greece, Cyprus and Jordan. *Hydrological Processes*, 21(18), 2405–2414.

Zagana, E., Obeidat, M., Külls, C., & Udluft, P. (2007). Chloride, hydrochemical and isotope methods of groundwater recharge estimation in eastern Mediterranean areas: a case study in Jordan. *Hydrological Processes*, 21(16), 2112–2123.

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