

# 1): Impacts of changing precipitation intensity on groundwater recharge and risks to groundwater availability in the Mediterranean

**Time frame:** As soon as possible

**Supervision:** Collaborative supervision by the International Centre for Water Resources and Global Change and Technische Universität München/Goethe Universität Frankfurt

## **Tasks:**

- Use existing outputs from multiple global hydrological models to investigate how changing precipitation under different climate scenarios impacts groundwater recharge in the Mediterranean.
- Use an existing analysis of changes in global groundwater recharge to investigate the vulnerability of the Mediterranean region to changes in groundwater availability with climate change.
- The findings are ought to be discussed in the framework and findings of the MedECC report.

## **Suggested research questions:**

- How is precipitation intensity linked, temporally and spatially, with groundwater recharge in the Mediterranean according to different global hydrological models?
- How much do the model outputs differ in response time and quantity and how can the difference be explained?
- How does this link develop under different climate change scenarios?
- How is groundwater availability changing in the Mediterranean due to climate change?
- How do these changes compare to current predictions of total water availability in the Mediterranean? Are there spatial differences?

## **Required skills/background:**

- Study background in Geosciences (Hydrology, Geography)
- Affinity with scripting languages is necessary (preferably Python)
- Interest in working with large datasets and global models
- Sufficient English-skills

## **Contact:**

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