BSc thesis offered at the Chair of Hydrogeology

Environmental effects of managed aquifer recharge (MAR)

Motivation:
Climate change induces changes in precipitation patterns, with fewer but more intensive precipitation events (frequent heavy rain) and higher evapotranspiration. This leads to increased flooding and more severe droughts: with the consequence of drier soils and decreased groundwater recharge.

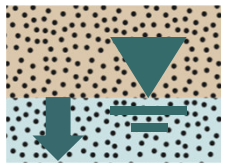
This Bachelor thesis is embedded within an EU-project focusing on the **Danube region**, where different possibilities of artificial groundwater (recharge managed aquifer recharge MAR) are investigated, for improving groundwater resources.

In this thesis you will investigate environmental effects of MAR methodologies, which can be both positive (such as stabilizing groundwater-dependent ecosystems) or negative (such as loss of terrestrial ecosystems or mobilization of pollutants). Baseline questions include: *What can happen if MAR technologies are applied? What are potential consequences with respect to hydrology, compounds (pollutants, nutrients) and ecosystems?*

Interreg Danube Region — Co-funded by the European Union

InnoWATCCH

https://interreg-danube.eu/projects/innowatcch



Description:
- Literature review of current impact assessment approaches applicable for MAR
- Optional: Water balance estimation of different scenarios without and with MAR installations
- Optional: estimating chemical fate scenarios

Requirements:
- Interest in the topic of environmental impact assessment
- Basic knowledge in hydrogeology and biogeochemistry

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