[SE2]: Vomb Trough water resources

BlueTransition
How to make my region
climate resilient

Interreg
North Sea

Co-funded by
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Blue Transition

Pilot summary

Problem:
Facing the growing of population and future scenarios of climate change (likely an increase of droughts), the management of surface and ground water resources is essential to ensure sufficient and non-polluted water.
The Vomb Trough constitutes an important groundwater reservoir and is one of the largest aquifers in Southern Sweden. A possible increasing surface and groundwater extraction in combination with climate changes will likely have an impact on the water supply, biosphere and the biodiversity of the region.

In our pilot, we aim to address the following challenges:
- Improve the understanding of the interconnections between the groundwater of the Vomb area and its wetlands and lakes
- Improve artificial infiltration and extraction of groundwater
- Build a conceptual model and establish a water budget
- Address issues of climate adaptation for groundwater quantity and quality management
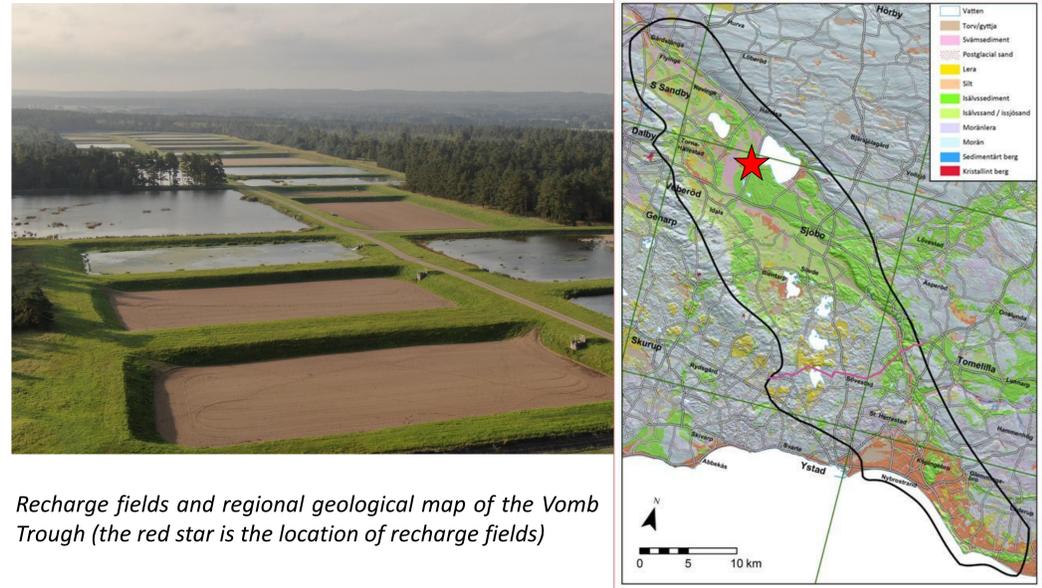
Recharge fields and regional geological map of the Vomb Trough (the red star is the location of recharge fields)
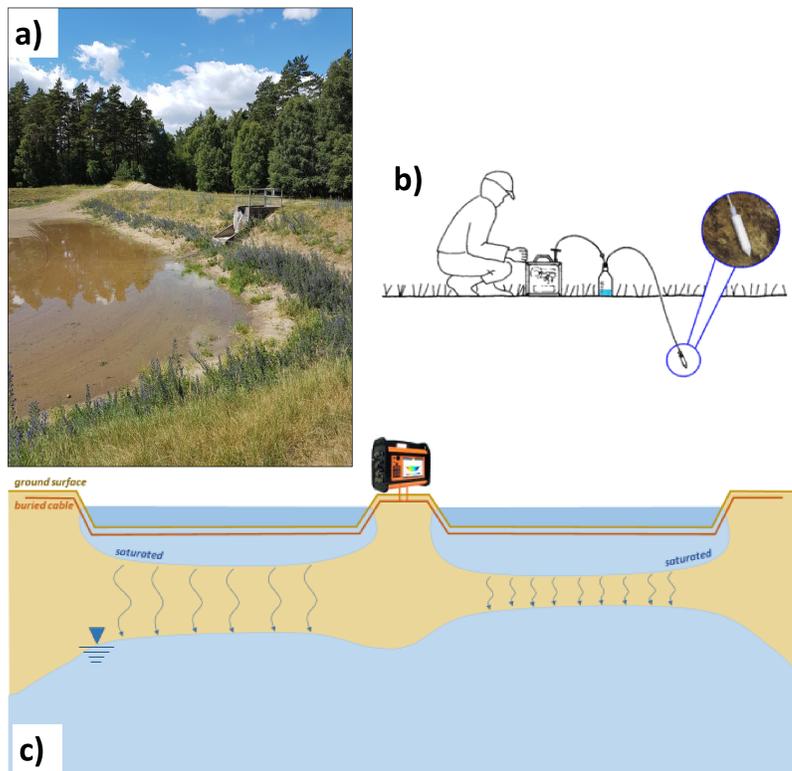
a) Infiltration pond; b) permanent water sampling; c) sketch of DCIP monitoring

Activities

Water resources mapping
- Collection of previous baseline information: geology, hydrology, geotechnics and geophysics (including SkyTEM data)
- Ground-based geophysical surveys (e.g., DCIP, TEM, MRS, GPR, seismics)
- Conceptual hydrogeological model
- Calibrated hydrological model to interconnect surface and ground water

Monitoring of an infiltration pond in a managed aquifer recharge plant
- Long term monitoring of geophysical (DCIP, TDR, GPR) and hydrological (pressure sensors) parameters for assessing the hydrological development of the infiltration pond and its relation with the groundwater
- Microbiological and chemical monitoring of water and filter media

Monitoring of wetlands
- Geophysical monitoring of wetlands (GPR, DCIP) during different seasons
- Conceptual hydrogeological model of the interactions between wetlands, surface and groundwater

Governance

- Stakeholder workshops
- **Recommendation report (groundwater vulnerability)**
- Regular meetings with Sydvatten (water supply company)
- Sharing hydrological models with water utilities and municipalities
- Social Media Presence
- Press Releases

NSVA
Interkommunalt bolag
Bildat 2009
200 anställda

Sydvatten
Kommunägt aktiebolag
Bildat 1966
110 anställda

VA SYD
Kommunalförbund
Bildat 2008
450 anställda

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