Universität Stuttgart
Versuchseinrichtung zur
Grundwasser- und Altlastensanierung
(VEGAS)

Versuchseinrichtung zur Grundwasser- und Altlastensanierung – VEGAS
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M.Sc. Topic

How Does Weather and Land Surface Influence Shallow Subsurface Soil Temperature?

Motivation

Many technological installations in the subsurface are affected by soil temperature:

- drinking water supply grids
- shallow geothermal energy
- district heating grids
- buried power transmission lines

These are all installed in the first few meters below ground surface and therefore the soil temperature in the vicinity of these installations is strongly governed by the soil surface boundary.

We want to quantify the influence of the soil surface on temperature in the shallow subsurface using field data, numerical models, and statistical methods.

Therefore we are looking for two Master students who are interested in performing experimental work, obtaining field data, and statistical analysis of the obtained data, or interested in numerical modelling of coupled heat and moisture transport in the shallow subsurface.

Supervision: Samuel Scherrer, M.Sc., PD Dr.-Ing. Claus Haslauer

Formulation of Problem/Examiners: Samuel Scherrer, M.Sc., PD Dr.-Ing. Claus Haslauer, PD Dr.-Ing. Sergey Olyadishkin (LS3), Dr.-Ing. Esad Osmancevic (RBS Wave)

Starting Date: As soon as possible / to be discussed

We'd be happy to hear from you and happily discuss details of the project with you!

meteorology
vegetation, land cover
soil
pipe (material, water)
water table