



Universität  
Basel

## Research Project

# Mapping soil properties at high spatial resolution using remote sensing datasets and machine learning approaches

### Project funded by own resources

**Project title** Mapping soil properties at high spatial resolution using remote sensing datasets and machine learning approaches

**Principal Investigator(s)** [Alewell, Christine](#) ;

**Project Members** [Gupta, Surya](#) ;

**Organisation / Research unit**

Departement Umweltwissenschaften / Umweltgeowissenschaften (Alewell)

**Project Website** <https://duw.unibas.ch/en/research-groups/environmental-geoscience/research-group-alewell/>

**Project start** 01.04.2022

**Probable end** 31.03.2024

**Status** Completed

Spatial soil maps are essential for monitoring, management, and conservation. Maps of soil properties are available from regional to global scales, with global maps being urgently needed for global modelling and management endeavours (from soil degradation to climate change modelling and assessments).

Objectives:

1. To link soil organic carbon, soil texture, nitrogen, and phosphorus to various remote sensing parameters (vegetation, topography, climate) and using machine learning algorithm.
2. To generate high resolution (20-30 m) spatial response and uncertainty maps of Switzerland
3. To compare the accuracy with different available maps

### Financed by

University funds

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