



Digital Soil Sensing and Mapping - Lessons from the iSOIL Project

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High-resolution soil property maps are a major prerequisite for specific protection of soil functions and the restoration of degraded soils, as well as for sustainable land use and environmental management. In this context iSOIL - an EU project which is funded within the 7th Framework Program of the European Commission - will develop, validate and evaluate necessary concepts and strategies to transfer geophysical sensor data to digital soil maps. This requires the integration of advanced soil sampling approaches, multiple geophysical techniques, as well as digital soil mapping approaches. Thus, it is a challenge to find an optimal combination of geophysical sensors and to determine optimized mapping techniques that can be used on diverse levels of data availability and different landscape settings.

This talk will show various results and findings from different test sites of the iSOIL project. It comprises results and discussion of different sampling and mapping schemes for correlating geophysical measurements with multiple soil properties, and the comparison and analysis of different data mining regression approaches such as random forests and support vector machines.

We will also point to problems within the digital soil sensing and mapping approach, discuss sensing and mapping at the landscape scale, will show approaches to preprocess sensor signals and put some open questions to discussion.