



## **iSOIL: Interactions between soil related sciences – Linking geophysics, soil science and digital soil mapping**

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High-resolution soil property maps are one major prerequisite for the specific protection of soil functions and restoration of degraded soils as well as sustainable land use, water and environmental management. To generate such maps the combination of digital soil mapping approaches and remote as well as proximal soil sensing techniques is most promising. However, a feasible and reliable combination of these technologies for the investigation of large areas (e.g. catchments and landscapes) and the assessment of soil degradation threats is missing. Furthermore, there is insufficient dissemination of knowledge on digital soil mapping and proximal soil sensing in the scientific community, to relevant authorities as well as prospective users. As one consequence there is inadequate standardization of techniques. At the poster we present the EU collaborative project iSOIL within the 7th framework program of the European Commission.

iSOIL focuses on improving fast and reliable mapping methods of soil properties, soil functions and soil degradation risks. This requires the improvement and integration of advanced soil sampling approaches, geophysical and spectroscopic measuring techniques, as well as pedometric and pedophysical approaches. The focus of the iSOIL project is to develop new and to improve existing strategies and innovative methods for generating accurate, high resolution soil property maps. At the same time the developments will reduce costs compared to traditional soil mapping.

iSOIL tackles the challenges by the integration of three major components:

- (i) high resolution, non-destructive geophysical (e.g. Electromagnetic Induction EMI; Ground Penetrating Radar, GPR; magnetics, seismics) and spectroscopic (e.g., Near Surface Infrared, NIR) methods,
- (ii) Concepts of Digital Soil Mapping (DSM) and pedometrics as well as
- (iii) optimized soil sampling with respect to profound soil scientific and (geo)statistical strategies.

A special focus of iSOIL lies on the sustainable dissemination of technologies and concepts developed in the projects through workshops for stakeholders and the publication of a handbook “Methods and Technologies for Mapping of Soil Properties, Function and Threat Risks”. Besides, the CEN Workshop offers a new mechanism and approach to standardization. During the project we decided that the topic of the CEN Workshop should focus on a voluntary standardization of electromagnetic induction measurement to ensure that results can be evaluated and processed under uniform circumstances and can be comparable. At the poster we will also present the idea and the objectives of our CEN Workshop “Best Practice Approach for electromagnetic induction measurements of the near surface” and invite every interested person to participate.