



## **Compiling as reliable as possible functional soil maps by exploiting spatio-temporal features of Kreybig Digital Soil Information System**

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There is much more utilizable information originating from soil surveys, than it was processed on published map series and in reports, and what is provided by simply archiving them digitally. A true SSIS can and should reach higher levels of digital processing. Integration of an SSIS within appropriate spatial data infrastructure and its updating with efficient field correlation make an inherent refinement and upgrading of the system possible as well as the estimation of the reliability of the system. Field verification/correlation completed with appropriate data collection, and the inclusion of newly accessed data into SSIS can also significantly increase its reliability. This verification should be carried out by the reambulation of the originally mapped areas and the dug profiles accompanied with new samplings at the revisited sites assessing current soil status.

In two pilot areas we integrated all information collected during Kreybig survey (independently if it was incorporated and published in its products) with (i) appropriate spatial information on topography, landuse and terrain together with (ii) soil data originating from recent field reambulation. We exploited all available and applicable information fragments of the original work on spatial features of both soil mapping units and soil profiles (shape, topology, proximity, spatial correlation etc.). As a result we produced soil maps with the most detailed spatial resolution which can be produced at this scale based on Kreybig soil mapping concept.

However the thematic information related to soil entities could not have been totally

renewed. The driving force of field work was the concept of the potential use of the resulted maps, that is their functionality together with a strong economic restriction. As a consequence we designed the data collection in a way that the recent profile related information could be spatially extended to as large part of the mapped area as possible. For the characterization of the spatial reliability of thematic information we introduced a simple indicator function, which is presented together with its thematic soil map. Two functional soil maps were compiled for the pilot areas: (i) agricultural suitability of the soils and (ii) sensitivity of soils to physical and chemical degradation.

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