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The consortium GLADSOILMAP

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Soils have critical relevance to global issues, such as food and water security, climate regulation, sustainable energy, desertification and biodiversity protection. All these examples require accurate national soil property information and there is a need to scientific support to develop reliable baseline soil information and pathways for measuring and monitoring soils. Soil sustainable management is a global issue, but effective actions require high-resolution data about soil properties. Two projects, GlobalSoilMap and SoilGrids, aim at delivering the first generation of high-resolution soil property grids for the globe, the first one by a bottom-up approach (from country to globe), the latter by top-down (global). The GLObAl Digital SOIL MAP (GLADSOILMAP) consortium brings together world scientific leaders involved in both projects. The consortium aims at developing and transferring methods to improve the prediction accuracy of soil properties and their associated uncertainty, by using legacy soil data and ancillary spatial information. This approach brings together new technologies and methods, existing soil databases and expert knowledge. The consortium aims at transferring methods to achieve convergence between top-down and bottom-up approaches, and to generate methods for delivering maps of soil properties. These maps are essential for communities from climate and environmental modeling to decision making and sustainable resources management at a scale that is relevant to soil management. The consortium will ensure links with the numerous actors in geosciences of the world, and will contribute to improving their skills in digital mapping and their national and international legibility. The actions include 4 main Work Packages (WP) subdivided into several tasks that are summarized below:

WP0 Management of the project

WP1 Legacy and ancillary data for Digital Soil Mapping (DSM)

Test the potential of new ancillary data for DSM

Explore methodologies to merge and/or harmonize different products

Propose methods for harmonizing products to a common date

WP2 Methods for sampling, modelling and mapping soils in space and time

Testing and developing new methods/models for prediction

Testing methods for estimating complete probability distribution

WP3 Methods for estimating model and map uncertainty

Develop methods of uncertainty spatial assessment

Develop methods do deal with censored data/soft data

Solve the question of influence on the age of the rescued soil data on predictions

WP4 Scientific outreach and capacity building

Produce an exhaustive review of GlobalSoilMap initiatives and results all over the world

Revise and update the GlobalSoilMap specifications by keeping them at the state-of-the-art level

Show relevance of gridded, Global, DSM by use cases and communication to end users

The added value of the consortium is to allow a direct scientific exchange between members that should result in synthesis papers, in the identification of the major knowledge gaps, and in extending, deepening and disseminating knowledge of DSM, with the final aim to contribute to the achievement of global soil maps. Another added value of the consortium will certainly be to foster the creation of new ideas.

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