Digital soil mapping and GlobalSoilMap. Main advances and ways forward

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Abstract

In this concluding paper, we summarize the main advances coming forward from the joint conference of the International Union of Soil Sciences (IUSS) Working Groups (WG) "Digital Soil mapping" (DSM) and "GlobalSoilMap". We outline the increased availability of data and covariates. Large efforts to rescue legacy data and to put them in a harmonized format are ongoing in many parts of the world. New countries are joining the GlobalSoilMap initiative. During the same time, significant progress have been made in the countries which were among the first to develop GlobalSoilMap products. We stress the recent trends in tools used for predictive mapping of soil properties. Some solutions were proposed to solve issues about data privacy. We give examples on how to move from DSM soil digital soil mapping assessment. Aligning our research with ongoing activities within the Global Soil Partnership of the FAO has been proven successful. A need was expressed to work on the uncertainty of indicators of prediction performances and to re-evaluate validation strategies. It is necessary to develop more intuitive metrics for uncertainty assessment for interpreting and evaluating soil maps. The main progresses, remaining issues and challenges and the way forward are summarized and we propose ambitious working plans and road-maps for the two WGs and stress their complementarities. (C) 2020 Elsevier B.V. All rights reserved.

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