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Population, extension and some functional applications of DOSoReMI.hu, the renewed Hungarian Soil Spatial Data Infrastructure

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Hungarian Soil Spatial Data Infrastructure has been recently renewed in the frame of DOSoReMI.hu initiative. Soil property, soil type and functional soil maps were compiled. The set of the applied digital soil mapping techniques has been gradually broadened incorporating and eventually integrating geostatistical, machine learning and GIS tools and very recently spatially non-exhaustive ancillary observations, which has been also hypothesized to be successfully utilizable within DSM framework. (i) Vast, digitally processed legacy soil data, (ii) a spectrum library compiled by the measurements of 6600 soil samples with countrywide origin, (iii) and the results of a nationwide citizen science campaign targeted to collect proxy data on soil health were involved.

Soil property maps have been compiled partly according to international specifications (GlobalSoilMap.net, GSOC, GSASmap), partly to fulfill specific demands on the final products. Secondary (derived) soil features were also predicted. (i) Soil hydraulic properties were mapped applying generalized pedotransfer functions; (ii) spatial assessment of certain provisioning and regulating soil functions was carried out by the involvement of soil property maps in digital process/crop models. The nationwide, thematic digital soil maps compiled in the frame and spin-off of our research is utilized in a number of ways, for the support of national activities (LDN, SDGs, ESS assessment). A new soil portal was also elaborated for publishing of the created DSM products together with the result of their accuracy assesment.

Our paper will present

- the new approaches for the population and extension of DOSoReMI.hu, and
- various national functional applications of DOSoReMI.hu.

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