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Estimating and spatialising Soil Organic Carbon stocks and uncertainties based on a convenience sampling scheme - a case study from southern Belgium

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Abstract

The quantification and the spatialisation (i.e., addressing the questions 'How much?' and 'Where?' respectively) of reliable SOC densities (Mg C ha-1) and stocks (Tg C) baselines and associated uncertainties are fundamental to detect the gains or losses in SOC, and to locate sensitive areas with low SOC density levels. Here, we aim to both quantify SOC stocks and spatialize SOC density at regional scale (southern Belgium) based on data from one non-design-based nor model-based sampling scheme. To this end, we developed a computation procedure based on Digital Soil Mapping