

Interactive comment on “Estimating soil organic carbon stocks of Swiss forest soils by robust external-drift kriging” by M. Nussbaum et al.

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This paper presents a Digital Soil Mapping approach for estimating Carbon stocks at national scale from a limited set of legacy measured profiles and a set of available soil covariates. This is a very convincing paper, thanks both to the solid rationales provided for selecting appropriate methods at each stage of the mapping process (selection of covariates, choice of a robust spatial model, estimation of uncertainty and validation methods) and to the results obtained, that are deeply examined and put in perspective in a very detailed discussion section. Furthermore, this paper is very well written and nicely illustrated. Even if most of the methods that are chained in this approach are not new (and were published before), their synergistic uses in this specific context of low soil input Digital Soil Mapping are by themselves innovative. My only small concern is

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that we cannot truly evaluate the added value of using the proposed robust external-drift kriging because a comparison with a more classical model is not provided in this paper. I strongly recommend the reading of this paper by the Digital Soil mappers that are asked to perform the same task, like e.g. in the ongoing GlobalSoilmap project. I also think that it contains useful references on Carbon stocks for European mountainous regions.

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