

Interactive comment on “Comment on “Soil organic stocks are systematically overestimated by misuse of the parameters bulk density and rock fragment content” (Poeplau et al., 2017, SOIL, 3, 61–66)” by Eleanor U. Hopley et al.

Anonymous Referee #2

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I agree with both groups of authors that always extra care need to be taken in order to minimize both systematic bias as well as random error in SOC stock calculations and try to get as best as possible a handle on the error propagation effects due to the associated predictions/measurements of bulk density and rock fragment. Although to my understanding (and after reading C. Poeplau’s reply), the calculations as proposed in both studies will not yield different results, important elements which may introduce potentially much larger sources of uncertainty are not considered here in this thread and/or do not receive the attention required according to their relative importance, such

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as: (i) the fact that often the really large stones are not considered, because they do not fit within the sample (see also comment R1 → the rock fragment content in the soil samples are often not representative for the rock fragment content on the site), (ii) the effects of using equal mass versus equal depth basis for SOC stock predictions, (iii) the effect of using PTFs, (iv) the SOC content determination method (e.g. W&B, LOI, dry combustion), (v) the sampling strategy, (vi) the interpolation technique / modelling or statistical approach considered in the context of landscape level stock estimations, . . . So, when taking all these other sources of uncertainty into consideration, one may state that the relevance/importance of the discussion as presented in this thread reduces considerably. Consequently, despite the fact that it is certainly worth to have a debate on this matter, I have my serious doubts if the interactive comment interface of a high impact factor journal, such as SOIL, is the most appropriate environment to hold this debate, and therefore, I suggest to close the discussion here (and that the two groups of authors potentially get in touch and write a common review paper on the various sources of factors affecting the uncertainty of SOC stock predictions).

Interactive comment on SOIL Discuss., <https://doi.org/10.5194/soil-2017-23>, 2018.

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