SOIL Discuss.,
https://doi.org/10.5194/soil-2018-28-RC2, 2018

Interactive comment on "Using deep learning for Digital Soil Mapping" *by* José Padarian et al.

Anonymous Referee #1

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The authors mention that : Figure 5: Actually, it is perfectly possible to have a lower error in the test dataset. That would be the case if the SOC content of the samples are relatively low (which is the case for this test dataset) because the error is higher in samples with larger SOC content. A lower error in the test dataset is not an indication of overfitting. A larger error would be an indication of overfitting.

If the test dataset has a lower mean value than the dataset on which the model is fitted, then there are some potential problems in how the test dataset was selected. Test dataset should be representative of the whole population. I think this is fundamental to test, after the comments from the authors.

Also the test dataset is only 49 sampling points versus the 1744 (with augmented data). Was the split repeated?

If the test dataset is representative of the whole population and still has lower errors,

then could the authors please find some other cases in the literature when this happens?

A model that performs better on a completely independent dataset it is rather exceptional.

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