



Posted on behalf of a colleague who would like to remain anonymous

Dylan Beaudette

Community comment on "How well does Digital Soil Mapping represent soil geography? An investigation from the USA" by David G. Rossiter et al., SOIL Discuss., <https://doi.org/10.5194/soil-2021-80-CC3>, 2021

My only critical comment in the pdf concerns what appears to be a mis-characterization of POLARIS uncertainty estimates. Otherwise the paper is well written and provides a thoughtful comparison on the differences amongst soil datasets.

Specific comments:

Line 60: Does it? Domain expertise seems critical to know when these ML models are overfit.

Line 242: PSP used a "classification" forest, thus how could it has also used a quantile "regression" forest? The PSP is based on a weighted average of soil components.

Line 405 / Table 1: What is with the units in this table? The RMSD is different by a pH of 4-6? You're multiplying by 10? Why?

Figure 3: I love visuals, but in this case a simple correlation matrix would be more informative.

Table 2: I would have figured that gNATSGO would have had the highest nugget because it is the most detailed, but I suppose this is an artifact of the polygons.

Figure 11: Red-Green is a bad color scheme for folks (like me) whose vision is color deficient.

Figure 12: Any thoughts on the use of a consistent color scheme across all thematic maps?

Figure 13: Shouldn't you have a legend for the gridded soil maps? Also, IMO I find the transparency and orientation distracting.