

Interactive comment on “Assessing biogeochemical and human-induced drivers of soil organic carbon to inform restoration activities in Rwanda” by Leigh Ann Winowiecki et al.

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Thank you for the comments on the manuscript, which are very valuable.

Comment 1: We agree that the discussion can be expanded and strengthened, particularly with regards to aligning it with the title of the manuscript. We will also add additional references as suggested. We are expanding the discussion around site-specific effects as suggested, including a more in-depth analysis of interactions and statistical tests. This includes including a discussion around implications for management and how these data compare to other landscapes in SSA. We will further explore the main drivers of SOC, as suggested.

C1

Comment 2: We will include additional statistical tests (in the methods and the results) to explore significance of key variables, including SOC.

Comment 3: We will also expand the section on the LDSF in order to reduce the effort required by readers to familiarize themselves with the methodology from other papers/sources.

Comment 4: Yes, we will better explore the effect of climate, great suggestion.

Comment 5: We will also expand on the methods section, providing more details as requested. We will look for available soil classification systems to include as site description. Since the vegetation classes are results of the field surveys, we will keep this in the results but perhaps include other references for the vegetation description in the site description within the methods. Thanks for the suggestion to turn Figure 2 into a table.

Comment 6: On MIR predictions and correlations between SOC and $\delta^{13}\text{C}$. We will certainly explore this for this particular data set. However, it does not seem to be the case that SOC and $\delta^{13}\text{C}$ are strongly correlated, therefore we do think the prediction are detecting isotopic differences. We will add a figure for this and also include a more thorough discussion.

Thanks for the many minor comments and suggestions, which are very good, and also for noticing some missing cross-references, which we will correct.

Interactive comment on SOIL Discuss., <https://doi.org/10.5194/soil-2020-67>, 2020.

C2