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Dear Dr. Ito,

Thank you for taking the time to serve as the editor for our manuscript "Modeling the impact of agricultural land use and management on U.S. carbon budgets." We have revised our manuscript for publication in Biogeosciences per your suggestions. We agree that including RSME and R^2 are useful to readers and have updated Figure 3 and the text to report those values (RSME = 13.1 kg C m^{-2}; R^2 = 0.015). We have also revised lines 222-223 in the text to read, "Although CLM soil depth (3.8 m) is deeper than the observations (1 m), since nearly two-thirds of SOC is found within the top 1 m (Jobbagy and Jackson, 2000), the bulk of the soil carbon is still captured in the observations". Finally, we share your concern regarding the soil depth mismatch, so we report the new RSME (18.8 kg C m^{-2}) and R^2 (no change) in the paper when adding the extra 36% SOC to the observations. We also report the changes to the boxplot (Figure 2) by this multiplier. However, we should note that using such a factor is not very useful for evaluating model. It is likely that depending on the age of the carbon in the soil, soil type and other climatological factors, the fraction of carbon in top 1m compared to the rest of column will be highly variable and at this time saying anything beyond a qualitative statement on where the carbon primarily resides, may not be very useful for the reader. Unfortunately, the soil datasets available at this time are not really designed for studies such as this and major effort is needed to bring these datasets to a format that will be more useful for comparing with gridded models, such as the one used here.   Given these reservations and since Figure 2 and 3 were only slightly shifted as a result we did not include an additional plot since it might be confusing for readers. We also feel that by using a multiplier to adjust for deeper carbon rather than using a statistical approach based on soil properties would increase the uncertainty of the observations.

Please feel free to contact me if you have any questions.

Thank you,

Beth Drewniak