

Review 2: “CropSuite - A comprehensive open-source crop suitability model considering climate variability for climate impact assessment” (egusphere-2024-2526)

General comments

Thanks to the authors for their revisions. I have a few more minor comments. (Line numbers in my notes refer to the tracked-changes version.)

Colors

- Re: the colorbars of Figs. 10(a) and 12(a, d)
 - There are indeed no points where a one-pixel change results in a categorical color difference, but there are some very sharp gradients. [This blog post](#) explains why this isn't great for figure design (even when not considering color vision deficiencies). In your case I actually think such gradients could be okay, but only if they (approximately) line up with the boundaries between your suitability bins (0/1, 32/33, 74/75).
 - Look at the difference between, e.g., 16 and 24, where it goes from gray to red. This stark difference contrasts with the fact that those are both categorized as “unsuitable” according to Table 3.
 - The “perceptually uniform sequential colormaps” at the [“Choosing colormaps in Matplotlib” webpage](#) are great choices without this issue that still work under red-blindness and green-blindness.
 - The [GMD Guidelines for Authors section on Figures & Tables](#) recommends strongly that figures should be made accessible to people with color vision deficiency. I'm not sure “other people use the same inaccessible color scheme” is a good enough reason to ignore that.
 - Also note that the FAO plot linked doesn't actually use red, but rather brown. So it's not the same color scale anyway. (Not that the FAO scale is any more colorblind-friendly.)
- If keeping some colorblind-friendly maps out of the main text, they should be included in the supplemental PDF, not in a separate 5 GB (!) file. They should also be referenced in the captions of the figures in question.

Other

- Reviewer 2 had the following comment: “In theory, I would expect a smaller area in this study because this study considers additional climate variability. However, Figure 8 shows a larger area by this study. Can the authors explain more about this?” The authors changed Fig. 8 to not consider climate variability for consistency with GAEZ, which makes sense, and they note that when variability *is* considered, more

area is considered unsuitable (i.e., the purple bars shrink and orange bars grow between Figs. 8 and S4). However, the reviewer's original comment still stands: There are still a lot of crops where a substantial fraction of their CropSuite-suitable area is GAEZ-unsuitable. The Results or Discussion might benefit from highlighting this and perhaps investigating the reasons for one such crop (e.g., cabbage).

- Fig. 9: Some of the bars (e.g., rye) seem to have changed color (i.e., climatically suitable area value) pretty dramatically between the original manuscript and the revision. What happened there?
- Figs. 9 and S5 look identical to my eyes; please double-check that the correct figures were both included.
- Fig. S5 caption: "modulo" should be "mode." Sorry for the confusion in my original comment.
- Fig. 12a: Color bar label is only partially visible.
- Great job with the Fig. 13b redesign.
- Thank you for the response to my "Do there tend to be any patterns in the discrepancies that might explain them?" question. Please consider including something like that in the Results or Discussion (sorry if it's there and I missed it!).