

Interactive comment on “Development and testing of scenarios for implementing Holocene LULC in Earth System Model Experiments” by Sandy P. Harrison et al.

Anonymous Referee #1

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This paper outlines planned work under the auspices of the LandCover6K working group to generate new estimates of Holocene land use/land cover (LULC) for use in climate model experiments. The proposed framework is novel in several regards, including explicit incorporation of archaeological information into the land cover estimates (e.g., 14C population estimates) and verification of the reconstruction using independent pollen networks and carbon cycle model simulations coupled with atmospheric CO₂ estimates from ice cores.

I confess, this is a difficult manuscript to judge because it really is just a proposal. All these ideas outlined are great and, if executed, I believe will make significant contri-

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butions towards providing higher fidelity estimates of past LULC. The team assembled (assuming every on the author list is a full participant) is excellent, and certainly has the appropriate experience and set of skills. I guess the one thing that's lacking is really a "proof of concept", even for just a limited region. The authors mention some preliminary work that is being done, but this is not really discussed in any great detail. There's also a lack of any sort of timeline, research plan (who is funding this work? where will it be done? who will do what work?), or the current state of availability/processing of all the archaeological data that will be assembled to the new reconstruction.

At the end, i guess i'll recommend acceptance pending minor revisions. The proposed work sounds great, but it is completely unclear to me if this is the sort of paper GMD wants to publish.

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