

Additional Response to Topical Editor’s comments on “The PMIP4 contribution to CMIP6 - Part 2: Two Interglacials, Scientific Objective and Experimental Design for Holocene and Last Interglacial Simulations” by Otto-Bliesner et al.

Topical Editor comment:

1. *The second response to reviewer #3 does not seem to reflect on the question, is that a copy/paste mistake?*

Reviewer #3 comment

a) The authors correctly highlight uncertainties arising from prescribing or simulating Holocene and Eemian vegetation patterns. The authors recommend using the reconstruction by Hoelzmann et al. (1998) for Holocene North Africa. Is this still the best reconstruction? What about the reconstructions mentioned in the papers cited by the authors or by Lézine et al. (2011), Larrasoana et al. (2013), : : :? Perhaps there are good reasons to still use Hoelzmann’s et al data. But this should be critically reassessed.

A critical assessment of the various vegetation reconstructions for Holocene North Africa is beyond the scope of this experimental design paper in light of the reduced Tier 2 PMIP4 simulations in the revised paper. We agree that there are other vegetation reconstructions than that of by Hoelzmann et al. (1998) for Holocene North Africa as noted in our initial submission of this manuscript as well as those mentioned by Lézine et al. (2011), Larrasoana et al. (2013), and others. Even if Hoelzmann might not be the best reconstruction, there is still a lack of a reconstruction to use in these regions as boundary conditions for climate models. We proposed this one, because previous simulations are available using this reconstruction, so that model results could also be compared with this previous results. However, as recognised by the reviewers there were too many sensitivity experiments proposed as part of this working group, which explains why we decided to only propose idealised experiments. These idealised experiment are there to understand model results, not to propose realistic simulations. We hope that during the course of the PMIP4 phases other reconstructions will be made available and tested by a subset of modeling groups directly working on this subject.