

Interactive comment on “PMIP4-CMIP6: the contribution of the Paleoclimate Modelling Intercomparison Project to CMIP6” by Masa Kageyama et al.

Anonymous Referee #3

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This manuscript details the contribution of the paleoclimate modeling community to the new Coupled Modelling Intercomparison Project. For this phase the PMIP community is planning to expand its contribution significantly, including 5 different periods or experiments. In order that as many modelling groups as possible participate in this effort a clear modelling setup. This manuscript gives an overview of the rationale and broadly outlines the experimental setup. Hence the importance of this paper is clear

General Comments

I find the manuscript a bit long without going into the specific details of each experiment. This is ok as it is mentioned that there will be special papers for each one of them. I would suggest shortening section 1, and section 2 could benefit for a clearer discussion

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on current modelling gaps.

I have also personal comment. Having worked with the past1000 simulations, it would be very useful if all the modelling groups planning to run this experiment, would run it up to present. (850-2005 CE instead of stopping in 1850).

Figures: I am not familiar with the journal's policy in this respect, but it seems odd to me to use so many previously published figures. Also the quality and style of the figures is too diverse. For example, please use just one projections for all maps.

There is a lot of inconsistent naming of the experiments throughout the text. Please use either “midHolocene” or “MH”. “LM” or “past1000” and so on.

Specific comments

Page3, Line 13: Missing comma after However. Or are you using “however = to whatever extent” ? Page3, Lines 14-15: used twice “well outside” Page 5, line34: include years for “the last interglacial”. Page 6, line 1: ...of participating MODELLING groups. Page 6, line5: in this section maybe include the CMIP6 questions? Page6, line 7: is “How does the Earth System respond to forcing” question 1? How many questions are there? Please introduce a bit better. Page 6, line35: define DECK Page 7, line 20: change “interesting” for “valuable” Page 7, lines 41-42: please be consistent between title and text about MH and LGM. Page 10, line 24: question: is there a separate paper with specifics? Page10, line 34: needs a reference. Page 11, line 36: there is a typo. Page 13, line 27: delete “web sites”. Its repeated. Page 17: line 22: delete “the” Figure 1: needs more information of the different panels. Very hard to understand at this point

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