

The original version of this manuscript was reviewed at Climate of the Past (<https://www.clim-past-discuss.net/cp-2018-106/> doi:10.5194/cp-2018-106). As the online review there shows, two positive reviews and some interesting comments from the community were received and responded to. The coordinator of the PMIP4 special issue in GMD and CP decided that the manuscript should have been submitted to GMD rather than CP. This is because it is very clearly a model experiment description. Therefore, the paper was withdrawn from CP, revised in accordance with the initial review at CP, and then submitted to GMD. The authors helpfully provided me with the diff file for their revision compared to the version reviewed at CP. After some further revision at the initial editor's decision stage to make sure that the manuscript more or less complied with GMD requirements, I decided that it was sufficient to recall the two original CP reviewers. Both agreed to review, but only one has actually provided a review. I have decided to draw a line under the other reviewer's repeated promises to respond soon, and have now checked carefully through their review at CP (reviewer 2 in the CP version), and the author's response. I conclude (as you see in my short review!) that the authors adequately responded to that reviewer. Therefore, please revise the manuscript in accordance with the new comments from Reviewer 1 and my additional comments below, which were mostly brought to my attention by Reviewer 1's original review at CP.

We thank the Editor for facilitating the transfer of the manuscript from Climate of the Past to Geoscientific Model Development. Please find our answer to comments in blue as well as suggested text changes in green.

1. In order for "recommend" to be interpreted as "should" you need to include a sentence in the manuscript where you state that this is your new definition of this word. Otherwise it will be misinterpreted. So, either define "recommend", or change "recommend" to "should" where relevant.

We have changed "recommend" into should.

2. Some information on the merger of the ice sheets was provided in the response to the reviewer, but I do not see this in the manuscript. Readers need to know what you have done. As well as a clear description, can you also provide the individual ice sheets and the code as well as the final result?

Some information on the merger has been added in section 4.1:

"The merger involves no extra smoothing, beyond that inherent in the GIA solver which involves transformation to spherical harmonics. The merger involves a simple masking operation with the mask boundary through Nares Strait, Baffin Bay, Davis Strait, and the Labrador Sea. Examination of the resultant topography shows small merger artifacts around Nares Strait ranging to a few hundred metres in elevation difference."

The combined ice-sheet, as well as the individual Northern Hemispheric ice-sheet and the Greenland ice-sheet have been uploaded onto Research Data Australia repository

at . http://handle.unsw.edu.au/1959.4/resource/collection/resdatac_874/1

The data will be published and the doi assigned on June 21st.

3. A similar theme for the Red Sea records... I am not convinced that the sea-level evolution result is reproducible from what you have written, so providing the associated data and code used to derive the new result would be very useful.

The text, section 6 details the methodology taken to generate the new sea-level chronology. All the information necessary to redo the new chronology is in the Supplementary table 5, which shows the new tie points as well as associated comments.

4. The data availability section needs updating to include the information that the forcings are included in the supplement. All forcings should be in the manuscript itself, or in the supplement, or on a public repository with a unique and persistent identifier (such as a DOI)

The supplementary information includes the combined ice-sheet forcing, the meltwater scenarios, as well as the new sea-level chronology. The greenhouse gas forcing is already published and has a DOI that is provided. In addition, the combined ice-sheet forcing as well as the individual ice-sheets have been uploaded to Research Data Australia repository, where they will be publicly available and a DOI will be given on June 21st.

The data availability section has been updated to point the reader to the forcing files:

“The combined ice-sheet and meltwater scenarios are available in the Supplement. The GHG data can be found at [\url{https://doi.org/10.1594/PANGAEA.871273}](https://doi.org/10.1594/PANGAEA.871273). The combined ice-sheet, as well as the separate Northern Hemispheric and Greenland ice-sheets are also publicly available on the Research Data Australia repository

at http://handle.unsw.edu.au/1959.4/resource/collection/resdatac_874/1 and doi [\textbf{to be added on June 21}](https://doi.org/10.1594/PANGAEA.871273). In addition, all the forcing files as well as the paleo-data described in the manuscript are available on the PMIP4 wiki: [\url{https://pmip4.lsce.ipsl.fr/doku.php/exp_design:degla_t2}](https://pmip4.lsce.ipsl.fr/doku.php/exp_design:degla_t2).”