

Response to the Editor

The reviewers appreciate the effort put into addressing their comments and now judge it acceptable for publication (once the minor comments from Referee # 1 are addressed). In my read through, I have noted a number of easy to address issues. Unless you disagree with any of the comments, the response to editor need only be "all comments addressed" along with a latex-diff (or tracked changes) showing the requested changes/clarifications/corrections.

Thank you for the time you spent reading the manuscript and your comments, all of which have been addressed.

Regarding your comment on conversion from m^3 to mSLE, we would like to clarify that we do not use a conversion factor to derive the ice volume in mean sea level equivalent. Instead, we isolate the grounded volume that is above sea level (from the total volume, in millions of km^3 in the main text) that we then divide by the present-day ocean area, after multiplication by the density ratio. We have added a sentence in the main text to clarify this point.

Sincerely yours,

Louise Abot, on behalf of all co-authors

Response to Reviewer #1's comment

I would like to thank the authors for their thorough response to my comments. They have clarified some important issues and substantiated their results further with many additional model simulations.

I only have a few very minor additional comments on the revised manuscript (line numbers refer to the tracked changes version):

L. 40 and 43: The definition of the Last glacial period as between does not seem standard and needs a reference. Why would the glacial period terminate at the LGM?

Thank you for your comment, we have added references and corrected an error concerning the end date of the LGM.

L. 40-43: I think that here it would be important to mention already that millennial-scale climate variability (DO events) associated with transitions in the AMOC is expected to affect sub-surface temperatures. Maybe just move up lines 59-62?

Thank you, we have moved up these lines.

Fig. 1b,c: the contour lines make the panels a bit difficult to read. Maybe use a style similar to Fig. 3e or f instead?

Thank you, we have reworked this figure with lighter contours.

Fig. 4: why are the calving and basal melt fluxes reported as negative values?

It was an arbitrary convention to count negatively what goes out of the cap. We have changed it. Thank you for this comment.

L. 197: HS5 -> HS4

Thank you, we corrected it.

L. 201: the 220 ppm should be either the CO₂ concentration or an equivalent radiative CO₂ concentration accounting also for the radiative forcing of other GHGs

Thank you, it was a mistake, it has been corrected.

L. 368: lower -> weaker?

Thank you, we changed it.

Thank you again for your careful reading and all the comments.

Sincerely yours,

Louise Abot, on behalf of all co-authors