

Dear Nicolas Jourdain,

Thank you for these clarifying and important comments which helped to improve the quality of our paper. We have addressed them all in the revised manuscript. Our replies are indicated in blue.

1- I don't think that you have addressed the main comment of Referee #1. This comment was about the difference between two variables: the ice flux across the grounding line and changes in the volume above floatation. These two variables are strongly related but not exactly the same (as in the example provided by Referee #1, and possibly in case of variations in the surface mass balance). This (minor?) caveat should be mentioned.

Thanks for pointing this out, we misinterpreted this comment in our previous revision. We have added a paragraph in the Discussion (L. 592-598) which mentions this caveat between grounding line ice discharge and changes in the volume above flotation.

2- There are now several mentions to results "presented in the IPCC AR6" with a simple reference to Fox-Kemper et al. (2021). I think this needs to be clarified as chapter 9 of IPCC AR6 contains various numbers related to ISMIP6 (e.g., CMIP5/CMIP6 forced, raw or emulated, including or not the historical dynamical response) and LARMIP2 (all models or subset). You should probably use the exact naming convention that is used in Table 9.3 of this chapter, and explicitly indicate "Fox-Kemper et al. (2021, their Tab. 9.3)". On a similar note, please be more explicit about the SMB contribution that you remove from the ISMIP6 projections (SMB from ISMIP6 or as provided in Table 9.3?).

Good point. We use emulated ISMIP6 (incl. historical dynamic response) and LARMIP-2 (all models). We have added references to Table 9.3 in the text and explain in the caption of our Table 8 exactly which values we use in our comparison. For SMB we have used the values provided in Table 9.3 as explained now in the caption. We also adapted the naming convention of Table 9.3 in our Table 8. Furthermore, we added 'emulated' to ISMIP6 throughout the text, when we make a comparison with the ISMIP6 emulator results.

3- Regarding your response to the minor point of Referee #1 about the AntMean (originally MeanAnt) vs PIGL calibration used in ISMIP6: the upper bound of "ISMIP6 CMIP5-forced" in IPCC-AR6 Table 9.3 does correspond to PIGL (see Seroussi et al. 2020's Fig. 12d) and the emulation of ISMIP6 presented in Table 9.3 does give an important probability for coefficients within the PIGL range (see Fig. 3c of Edwards et al. 2021). I therefore ask you to reconsider this comment and to reformulate your conclusion that you obtain a stronger sensitivity than ISMIP6.

Thank you for this clarification. This does indeed affect our conclusions in the comparison with emulated ISMIP6, since we base our comparison on the basal melt sensitivity parameters. This means that emulated ISMIP6 uses a higher median basal melt sensitivity than the median of the AntMean calibration, and also higher than our sensitivity based on the calibration on the Amundsen region. Despite the higher basal melt sensitivity in emulated ISMIP6, the projections are lower than our projections based on the Amundsen calibration, suggesting that methodological differences other than the basal melt sensitivity explain the differences between our projections and emulated ISMIP6.