

Dear Editor,

Thanks a lot your corrections and remarks improving a lot our manuscript!

You will find a revised version dealing with all the constructive remarks from you and the reviewer. The main changes are:

- a sentence explaining why we have chosen  $SMB=0$  as mass lost threshold by referring to Noel et al. (2021).
- a new paragraph at the end of Section 3 discussing the interest of performing such simulations with other RCMs/GCMs.
- a new figure in supplementary showing the SMB time series.
- Fig. 2 with larger fonts.

Thanks for considering this revised version.

Best regards,

Xavier, on the behalf of all the co-authors