Reply to Editor comments

General comments:

Editor:

"To the authors,

I appreciate your thoughtful comments, but I disagree with your conclusion. These nuances are precisely what lead to differences between model results, and help inform future practitioners, and therefore are worthwhile to comment on. It is particularly relevant in this case, as I already stated, since the ice-sheet model is identical and run at the same high resolution. In the paragraph comparing with other models, you cite Yang et al. (2022) along with other studies. And you discuss various reasons why differences might arise when comparing to other studies. Therefore, on L990, before the sentence "Together, ...", it would be quite appropriate to comment concisely on the points you mention in your last response.

Best regards,
Alex"

Authors:

We have now added these sentences to the end of the relevant paragraph in line with the editor comments:

"Together, these differences may help explain the higher volumes obtained in our results. We further note that the study by Yang et al. (2022) model lLGM GrIS sea-level contributions of 2.5 ± 0.25 m SLE (vs 6 - 7.5 m in this work), despite also using PISM and a 5 x 5 km model resolution (Fig. 18). This large discrepancy highlights the potent role of differences in input forcings and model parameterisations, and the importance of constraining them through wide parameter space explorations and quantitative model-data comparisons. Indeed, LGM-to-present GrIS simulations by Yang et al. (2022) were not constrained by any observations, and we find many of our ensemble simulations with lower scores at the *local-LGM extent* test matching their reported lLGM sea-level contributions (Figs. 10, 12)."