

Geosci. Model Dev. Discuss., referee comment RC1
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Comment on gmd-2022-188

Anonymous Referee #1

Referee comment on "Barotropic tides in MPAS-Ocean (E3SM V2): impact of ice shelf cavities" by Nairita Pal et al., Geosci. Model Dev. Discuss.,
<https://doi.org/10.5194/gmd-2022-188-RC1>, 2022

Dear Authors,

Thank you for your contribution and the work that you have presented in this manuscript. I have read your paper with great interest. The work presented here falls within the scope of the journal, and the work has been carried out using sound scientific knowledge and principles. Enclosed here are some minor comments

L-16 Precise amplitude and frequency? Needs further explanation

Fig 2- can the resolution of this figure be improved?

All the equations presented should be centered. Refer to journal guideline

L-69-70 Can be rewritten as it may create confusion for the readers

Fig A1- Is it possible to remove the dark background in this figure

The inclusion of ice self-cavities significantly improves the overall tidal prediction; however, how do the effect of altering geometry near the ground line and grounding zone impact the prediction accuracy?

Apart from these minor comments, the overall work that has been presented is significant, well written, and structured and should be considered for publication as the impact of this work will enable accurate tidal prediction, which will facilitate and enable us to predict global climate variability.