

Dear authors,

Your revised manuscript and your response to their initial comments have now been evaluated by two referees. Although both found some improvements in the manuscript, they (and I concur with them) consider that your manuscript still need to be improved before it can be accepted for publication.

You will find their assessment below or attached

I also have myself some comments (attached).

To facilitate and speed up the review process, please attach to your revised manuscript a cover letter detailing the changes you have made in response to my comments.

Best regards,

Etienne Berthier

Editor's comments:

Although it has been improved, there is still room for improvements and simplifications of the notations. They are still difficult to follow. What about replacing i_0 by 1961 (or 1960?) and i_1 by 1990 right away in the equations as these dates are not variable? Is there a point in using symbols instead of the actual limits of the reference period?

P3 L21-22. Still unclear. Either omit or explain well right away. Also be careful about the year where the reference period starts (sometime 1960 sometime 1961).

P4 L1. At this stage, "reference" has not been introduced/defined.

P4 L5. Not end of sentence (not full stop)

P4 L17. Maybe start a new paragraph here? Or better connect the sentence "In Sasgen et al." with the earlier part of the paragraph

P5 L5. Full stop missing

P5 L10. No comma

P5 L16. Use "found" instead of "find" if you describe here the result of your earlier study.

P6 L5. RACMO versions: sometime v2 sometime v2.3. Homogenize.

P9 L19. what is a long time period? 30 years? 10 years? Unclear.

P10 L18. For clarity, rephrase to “where, after 2000, F^{II} may be higher than F_0^{II} ”.

P13 L15. “Using a simulation based on the IOM...”. I think this is what leads one of the referees to the state that the reasoning is circular. In the manuscript (and not only in the rebuttal letter), can you convince us and all readers that this is not the case?

P15 L12. “only for those”

P15 L23. Grammatical structure of the sentence is not OK.

P16 L8. “I.e. e all”. At this stage in the review process, make sure no such typographic errors remains in the paper.

P20 L22. Cap letter for “The”

P21 L9. Space missing

P21 L9. Basaed -> based

Figure 3. The lower legend “Method 2 (with ref, D-09)”. “D-08” instead. L9. Why this is then written $D^{\text{D-08}}$ in the caption (i.e. with superscript?). This is really disturbing for the reader that has a very hard time following your reasoning because of these changing notations.

Table 1. In the sake of unbiased comparison with altimetry (ICESat), authors should also provide the result they get when simply considering the 2003-2009 time period. This was also requested by the referees. Would make the comparison more meaningful.