

Reply to reviewer#1, Robert McNabb

Summary

In this manuscript, the authors have investigated the source of an apparent slowdown in the mass loss of the Juneau and Stikine Icefields, Alaska, by comparing multiple studies and data sources, re-processing the data used in a consistent fashion. They contend that the source of the signal seen is due to the use of the SRTM C-band DEM by two studies, Melkonian and others (2014) and Melkonian and others (2016), and not due to an actual slowing in the rate of mass loss for the glaciers studied. The authors show that the unknown penetration depth of the SRTM C-Band radar signal into snow and ice causes a significant underestimation of elevation lowering, and therefore volume and mass losses for the two icefields. I think that the methods described in the manuscript are sound, and the results well-presented and reasonable. As such, I have only minor comments on the manuscript, otherwise recommending that it be accepted for publication in The Cryosphere.

Minor comments

I. 85: Does this mean less than 0.5% of the icefield, after processing the DEMs and masking clouds, blunders, etc.?

Reply: The sentence has been clarified and now reads “Images in which valid elevation data covered less than 0.5% of the icefield areas were excluded, ...”

I. 88: Why the RGI v5.0, rather than v6.0?

Reply: At the time of our study, RGI v6.0 was not published. Anyway, outlines are unchanged for the study area between RGI 5.0 and 6.0.

I. 132: Make sure the minus sign is on the same line as the number.

Reply: Thanks, we will be careful while proof-reading the article.

I. 134: It’s not clear to me what you mean by “statistically different for the JIF” - can you elaborate on this?

Reply: We improved the text by adding “, i.e. the JIF mass balances do not overlap given the error bars.”

I. 181: “for both datasets”

Reply: Corrected here (and elsewhere in the MS).

Table 1: It might be good to plot these data, perhaps as a supplemental figure, to ease the comparison of the values and mesh with your opening discussion statement.

Reply: Supplementary Figure S2 added and referred to in the opening discussion statement

I. 271: I’m not sure what this sentence is meant to be saying - it seems like you stopped mid-thought while writing it.

Reply: Sorry of the typo. “is linked to the” has now been removed.