

Thank you to Dr. Nanna Karlsson for helpful comments that have improved the manuscript. The full content of comments and responses are below.

Reviewer Comments in **black** and responses in **red**

Comment from Nanna B. Karlsson

There are some overlaps between the dataset presented here and a dataset published last year (<https://dataverse.geus.dk/dataset.xhtml?persistentId=doi:10.22008/FK2/BOVBVR>), described in Karlsson et al., 2023 (<https://geusbulletin.org/index.php/geusb/article/view/8338>). The latter (which I will refer to as K2023) constrains the freshwater flux on a glacier-basin scale for all of Greenland but only considers the flux from the marine-terminating glaciers. As such, I consider this manuscript led by Moon as a natural and important step forward. I think it would be appropriate if the authors mention the improvement that their dataset offers compared to K2023 and why this step is necessary.

I am curious to know why the authors did not include the basally-derived melt in their dataset. This is included in the K2023 dataset and as such could easily be lifted from that dataset. The basal melt is a small but non-negligible freshwater term typically of the order of 5-10% of the total mass loss from the marine-terminating glaciers.

Best,

Nanna B. Karlsson

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Thank you for bringing our attention to this complementary dataset. This prompted an expanded section 3.2 regarding the methods for freshwater flux, which now includes the definition of freshwater flux, discussion of the exclusion of in-fjord glacier-derived ice melt, and notes and discussion on the exclusion of basal melt. For the latter, we now note the complementary Karlsson et al. 2023 dataset and discuss how it or data from Karlsson et al. 2021 could be used to supplement our dataset and provide a rough estimate of the influence on results. Unfortunately, current funding for this research effort has ended and it was not possible for us to undertake sampling and full freshwater dataset revisions for this manuscript to add detailed basal melt to the final data products.