The Cryosphere

Anonymous Reviewer

A comparison of supraglacial meltwater features throughout contrasting melt seasons: Southwest Greenland

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Overall comments:

Upon reviewing the updated manuscript by Glen et al. (2024), it is clear the authors have made sufficient improvements and taken all the previous reviewer (2) comments on board.

(1) The author/s acknowledged that their original methdological approach was limited in its ability to sufficiently delineate supraglacial channels and further mapping has been undertaken to improve this dataset, including the use of the Yang et al. (2015) methodology and adjusted NDWI thresholds. The addition of the new channel and slush dataset has greatly improved the drainage mapping of this work and would like to commend the author/s on the work that has gone into this. This method of channel delineation is well used and justified (including the use and value of thresholds) and further adjustments of the slush dataset is also notable.

(2) The authors have better defined the term *'supraglacial channels'*, which is now clear to the reader.

(3) As recommended, Figure 1 has been revised with additional zoom in/out panels to provide further detail of the distribution and differences of lakes, channels and slush between 2018 and 2019.

(4) Figure 3 has been revised, showing the quantification differentiation between lake, channel and slush features.

(5) The new supplementary figure showing the seasonal evolution of meltwater features across both years is a good addition. As mentioned by the author, the figure is difficult to see (increase image DPI?) but appreciate it will also be uploaded as a GIF, which will nicely show the drainage transition through the seasons.

(6) In regards to the ice velocity revisions, I feel the author/s have taken sufficient steps to provide better differentiation of drainage and refreezing events (particularly at different elevations), taken measures to provide the uncertainty of the ITS_LIVE data used and sufficiently acknowledged these uncertainties in-text (including higher uncertainties at higher elevations). Additionally, the speculative statement about ice velocity and refreezing events has been removed.

(7) Good to see cross references made of the subset of refreezing lakes with two independent datasets of buried lakes (from SAR).

(8) All minor comments have been acted upon.

Overall, I am happy with the response by the author/s to the previous review (2) comments and to publish as is (with the updated supplementary information).