

Interactive comment on “Brief Communication: 2014 velocity and flux for five major Greenland outlet glaciers using ImGRAFT and Landsat-8” by A. Messerli et al.

Anonymous Referee #3

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General comments: This paper provides velocity flowline measurements for 5 Greenland glaciers over a 1-year period and mean velocity and flux measurements. I agree with comments by both of the other anonymous reviewers, particularly the more detailed comments made by Referee #2. Other than an update on the most recent Jakobshavn speedup, this paper does not provide new information about any of the glaciers examined or advance our understanding of the evolution of glacier velocity, either through characterizing the changes or understanding the mechanisms involved.

Specific comments: 6237(top paragraph): The authors discuss glaciers with little or no floating ice tongues and glaciers with extensive floating ice tongues in the same way here, without acknowledging the expected differences in terminus changes and
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velocity for the two cases. They also suggest different climate influences for northern glaciers, but then go on to provide no details or evidence of such a difference.

6239 (15): What is “large” displacement? Was there anything to be learned about the processing technique and its limits from these pairs? I also agree with Referee #2’s comments about the authors’ use of error values.

6240(full paragraph): It is not clear to me why the authors try so hard to create a mean velocity estimate for each glacier. In fact, I think estimates and discussion of the variation in flux during different time periods might be more interesting and would avoid the awkward methods applied to overcome seasonal bias in the dataset.

Figure 1: There are some clearly anomalous velocity pixels on K, H, and J that suggest to me that there is still work to be done on the processing methods and corrections. It would be appropriate to either choose another color scale that will also allow for more detail to show up for P and N or to use different color scales for P/N and H/K/J.

Figure 2. I agree with comments that the scales for P and N are inappropriate and don’t allow for visualization of the velocity details.

Interactive comment on The Cryosphere Discuss., 8, 6235, 2014.