

Response by Jan Pronk and others to Daniel Farinotti his comment on tc-2021-90.

We would like to thank the editor for his look on our almost finished manuscript. His comments we mainly focusing on improving notating, logic, and flow, which helped to improve the text considerably. Also, we decided to change, in line with the editor's and referee's suggestion, the title to: 'Contrasting Surface Velocities Between Lake- and Land-Terminating Glaciers in the Himalayan Region'. Please see the specific comments for all the changes made.

- Line 16-17: Rewrote the sentence to give more clarity on the numbers. Also, made from here onwards the number of significant digits consistent throughout the text.
- Line 19: Changed to 'accelerate towards'
- Line 20: We followed the editor's suggestion, please see the manuscript for the changes.
- Line 121: We changed 'coverage' to 'percentage of glacierised area covered'.
- Line 160: It is possible to get a non-November central date with just November imagery. For example, lets assume you've got one image from Nov. 2016 and one from Nov. 2017, you'll find a central date of June 2017. However, to gain clarity, we decided to remove the 'central date' column and elaborate on the date range in the caption.
- Line 171: We thank the editor for this comment and changed 'Iteration Step' to 'Iteration Stepsize'. This is simply the step the algorithm 'jumps' to the next spot to calculate the new velocity again.
- Line 180: We removed the part 'in addition to the glacierised areas' to improve the flow of this line.
- Line 200: We added to line 201: 'The number 1.483 is a scale factor that relates the MAD to the standard deviation.'
- Line 278: We thank the editor for spotting this mistake, and corrected this accordingly in the new manuscript.
- Line 303: Added 'which is on the low side compared to values used at marine terminating outlet glaciers (i.e., Enderlin et al., 2013; Nick et al., 2009).'
- Line 372: Removed 'g_c' from the manuscript.
- Line 384: Changed this to: "(median: 18.83 m yr^{-1} ; IQR uncertainty range: 17.55 to 18.06 m yr^{-1})". And kept the older, shorter, notation the same thereafter.
- Line 395: Removed all the '-' signs in front of the slope values in the manuscript.
- Line 406: We thank the editor for his suggestion and adopted those in the manuscript.
- Line 412: Changed this to 'at those northwards flowing glaciers'
- Line 448: We agree with the editor that some clarification was needed, and rewrote the relevant sentence accordingly (please see the manuscript).
- Line 454: We removed the reference to Matplotlib and Python from the manuscript.
- Line 534 – 540: We agree that overall some improvement was needed here. We therefore followed the suggestions from the editor and restructured sentences when needed (please see the manuscript).
- Line 549: We changed this into 'heterogeneity in velocity'.
- Line 555: We changed this into 'acceleration towards the termini'.
- Line 558: We agree with the editor and changed 'the frontal boundary condition' into 'changes in the force balance at the glacier termini'.
- Line 581: We thank the editor for spotting this mistake and changed this into 'is indicative for'.
- Line 613 – 626: We agree that this section especially needed some structuring as it appeared to be a little 'jumpy' with contradicting statements. Please see this relevant section with the improved flow on the importance of ice-thickness.
- Line 635: We thank the editor for spotting this mistake and removed 'Himalayan' in the new manuscript.

- Line 639: We clarified this line by changing ‘for all these rapid changes’ into ‘With such a feedback mechanism’.
- Line 669: We followed the editor’s suggestion and removed the spectral details from the manuscript.

Best regards,

Jan Pronk & others.