

Review of - *Monthly velocity of the Mont Blanc glaciers derived from Sentinel-2 between 2016-2023*

By *Fabrizio Troilo, Niccolò Dematteis, Francesco Zucca, Martin Funk, Daniele Giordan.*

This is the second review of this manuscript, which creates a new multitemporal velocity map for all glaciers in the Mont Blanc Massif using Sentinel-2 imagery and analyses the seasonal velocity changes in detail. In the previous review, I noted that the paper contained much useful data, but required a number of modifications before being ready for publication in this journal. Overall, I think the authors have done an excellent job addressing our review comments and have produced a manuscript which is both clearer and more robust than the previous iteration. I have included some brief points below, and recommend this paper be published following these minor corrections.

L1 - I wonder if adding the word 'massif' to the title makes sense? I like the change relative to the previous iteration. Another idea could be to add 'seasonal variation' in there somewhere which is now an important element of the manuscript.

Also, if I understand correctly your timeseries now stretches to 2024, so that would be the correct date.

L13 Unless you think you have sub-m precision, I would round these to the nearest m.

L21 "Glacier flow was one of"

L129 This new combined section, with material moved around, works much better.

L151 2023 -> 2024

L180 Give the year for this glacierized area since this will vary.

L191 2023 -> 2024

L235 2023 -> 2024

L240 2023 -> 2024

L251 I still think you need a note here about the challenge of a seasonal cycle when fitting a linear trend. Since the cycle is truncated at the start and end of the timeseries this will can affect trends (and outlier robustness will not help as these are not outliers).

L265 Mer de Glace is larger than either glacier here, so this needs rewording. Also I am curious what values you find for the Mer de Glace icefall (Seracs du Geant) as I'd expect them to be on this order.

L275 Again no mention of the situation at the largest glacier. Any particular reason why not?

L 303 It would be interesting to see the same plot for flow direction/orientation, at least to ensure that none of the high velocities are erroneous.

L308 I am not sure you have made a case here why PCA represents the overall glacier velocity well here for Fig 8. Why is this better than e.g. a smoothed velocity timeseries.

L339 2023 -> 2024

L430 Table 2: The % difference might be a useful metric to include as well here.

L455-456 'expert based check or further post-processing'? I am not sure if we want to conclude that manual intervention is unavoidable.

L458 Here and everywhere – change to 2016-2024.

L464 'Significative' – not the word you want. Change to 'significant' if you mean in the statistical sense, or 'large'/etc if not.

L466 'a methodological point...'

L472 I am not sure this is 'more complete and widespread' exactly, perhaps 'higher spatial and temporal resolution' or something similar?

-Max