

Interactive comment on “Revealing glacier flow and surge dynamics from animated satellite image sequences: examples from the Karakoram” by F. Paul

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The paper presented by Paul is somewhat unusual for TC, since it is more about communication within science, and to the public, than about new scientific findings. It is not so much that the image sequences presented in the paper add scientific insight per se; the (important) point is rather that the information – which quantitatively needs to be extracted using other methods – becomes a lot more accessible and intuitive. This point is also acknowledged by the author.

I am convinced that there needs to be room in a journal like TC for this kind of publica-

C870

tion, but this should be an editorial decision. Given the format of TC, I also believe it is justified to be published as a research article; but should there be reservations, I can imagine that the author might be able to shorten the manuscript and to publish it as a brief communication.

The manuscript is very well written, and I only have a few suggestions/questions that should be addressed before acceptance.

General comment:

- The greatest value of the submission probably is found in the animated images in the supplement. They are great – but I think there are two changes that might enhance their use: (i) add a progressing bar showing the time line (at least with start and end year), (ii) add a break (perhaps 2-3 frames) between end and beginning of the sequence. (I also find the sequences very quick, and slowing down the frame rate might be good – but this is probably a matter of taste, and hard to say without trying.)
I think particularly adding a bar is essential, as the uneven distribution of images in time (P2602, L23-25) implies a non-linear time line.

Specific comments:

- P2600 L4: I would say that the sequences do not necessarily provide new insights in these phenomena, but they make the insights more intuitive and accessible.
- Fig. 1: The green square in the inset is very small; perhaps you can zoom a bit further into the map shown in the inset.

C871

- P2603 L4 (and elsewhere): The term laminar is a bit ambiguous, I think, because based on Reynolds number, I am relative sure also surging glaciers show laminar (as opposed to turbulent) flow. Admittedly, I don't have a better word...
- P2603 L7: why mention the name of Liligo particularly, but not the two northern ones?
- P2604 L20-21: It could also be related to the debris distribution, which itself could be affected by the surge.
- Sect. 3.2 and 4.1 have the same heading, and Sect. 3.2 contains actually not much information on how to identify surge-type glaciers (instead, it is mostly discussed what would not work). The two sections are also of similar content to some degree, and I would suggest merging them.

Interactive comment on The Cryosphere Discuss., 9, 2597, 2015.