

Earth Surf. Dynam. Discuss., referee comment RC2
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Comment on esurf-2021-85

Ronald Pöppl (Referee)

Referee comment on "Suspended sediment and discharge dynamics in a glaciated alpine environment: identifying crucial areas and time periods on several spatial and temporal scales in the Ötztal, Austria" by Lena Katharina Schmidt et al., Earth Surf. Dynam. Discuss., <https://doi.org/10.5194/esurf-2021-85-RC2>, 2022

Suspended sediment and discharge dynamics in a glacierized alpine catchments = hot topic in science, but also for managers and policymakers (in line with reviewer 1) and the topic fits the scope of ESurf. In principal, the paper is well written and scientifically sound. However, I have some **minor to moderate** concerns which should be addressed by the authors before this interesting piece of work is ready for publication (see also attached .pdf):

General comments:

- 1) Results sections contain a lot of data interpretation and discussion content, which should be moved to the discussion section. Moreover, concluding remarks are presented in the results sections (not appropriate).
- 2) The introduction is a bit minimalistic. More could be said about the importance of this topic, also in water and sediment management contexts. The importance of connectivity is mentioned in the introduction, but not addressed in the rest of the paper?!
- 3) Outlook/perspectives are missing.
- 4) Very unusual heading titles in the results section.

5) No spaces between numbers and units, and no commas in large numbers have been used.

Specific comments:

1) Lines 160-165: Temporal resolution of automatic sampler probing? Criteria for sampling time (event-based)?

2) Line 196: Why "3 mm"? Why not 4, 5 or 7?

3) Lines 209-210: "Therefore, we did not classify the events with respect to precipitation events." ... possible implications?

4) Lines 229- 231: Is this assumption valid? More susceptible to erosion: yes, but unfrozen?

5) Page 14: Move Fig. 8 below the para in which it is mentioned in the text.

Please also note the supplement to this comment:

<https://esurf.copernicus.org/preprints/esurf-2021-85/esurf-2021-85-RC2-supplement.pdf>