

Response to editor recommendations

We thank the editor, Tobias Bolch, for his feedback and recommendations. Our response is given below in italics.

Dear Professor Haeberli, dear authors,

First of all, I like to thank you for the important contribution to TC with its open discussion. This is another excellent example of the value of the open discussion where not only reviewers but also the community can post comments.

Thanks.

I have now read the reviews and the provided public comments in detail. The reviewers are overall supportive, but ask for some clarifications. I'd like to specifically mention two comments of Rev#01:

She/he suggested to add some clearer definitions of the terminology which I think would be valuable.

We agree and now introduce a new section 2 about terms, geophysical characteristics and RGIK guidelines for landform interpretation.

It might also be a good idea to revisit the term Ice-Debris landform as suggested by S. Harrison in his comment and also *Ice-Debris Complex* as used in my 2019 paper (Bolch et al., 2019, ESPL, which is already cited in your perspective paper).

These two terms may have their place in a very general "overview" sense. The Gruben and Yerba Loca sites, for instance, with their multiple ice- and debris-related phenomena may collectively be called ice-debris complexes. Climate-related inventory and monitoring work relating to permafrost and glaciers, however, must apply more differentiated, precisely defined concepts as illustrated in the RGIK/IPA recommendations and in our invited perspective. This is the reason why they are not contained in the RGIK guidelines and are not commonly applied in research about mountain permafrost and related creep phenomena.

She/he also suggested to provide a more detailed overview of the existing contrasting views. This is in line with my initial review where I wrote "I recommend to include a more critical discussion and the related papers by other groups with slightly different views (e.g., but not only, Whalley, 2020, who also discussed the Gruben site, Knight et al., 2019 and/or other work by S. Harrison's group)".

The full comment of review 1 reads as follows:

Contrasting views: The authors point out work by others that presents somewhat differing views on the distinction between RG and DG and RG genesis. Section 4 in particular is critical of these works. The authors have strong arguments that can stand alone and are not further strengthened by dismissive comments towards others. I would suggest revisiting this section and either expanding the overview of contrasting work for a more comprehensive picture (e.g. Knight et al, 2019; Jones et al, 2019, and others) or finding a more concise way of introducing the following sections.

We welcome this differentiated feedback, prefer to follow the second recommendation in the review, and therefore eliminate potentially dismissive statements with related references. Reference is now made to the literature overview by Janke and Bolch (which needs no repetition) and to the Harrison/Whalley community comments with their references, together with our response. With this, interested readers have access to the literature about contrasting views.

Providing more detailed information and a more in-depth discussion about the contrasting views view would also be very beneficial regarding the community comments. The contribution by Stephan Harrison in general supportive and well written, while the comment by Brian Whalley is more critical. It is a perspective paper where it is fine to keep your opinion and I do not expect to consider all suggested references, but it would make the paper much stronger if the contrasting views would be better

presented and discussed in more depth. This would then help that the opinions “converge” and will in particular be helpful for those scientists that are now starting to investigate rock glaciers.

The critically reflected test presented in our invited perspective concerns technical recommendations prepared by experts on behalf of international organizations and policy-relevant, climate-oriented programs. The focus is thereby on current/ongoing evolution of permafrost and related creep phenomena in cold mountains. The argumentation in our perspective as well as in the work of RGIK/IPA strictly relates to the available, quantitatively measured evidence concerning physical (especially thermal) conditions, subsurface ice characteristics, related material properties, flow processes, response to climate change, and the involved scales in space and time. There are no contrasting “opinions” or “views” about the related measurement-based findings. Rather than finding a compromise between diverging theoretical opinions about “landform origins”, our aim and the strategy of RGIK/IPA is to build on the scientific consensus about the rich existing measured evidence.

I am inviting you to provide a point-to-point reply to all detailed comments by the reviewers and also a detailed reply to the community comments. I will then make a decision how to proceed.

Thank you again for choosing TC for your perspective and best regards,

Tobias Bolch - Editor