

Reviewer Comments (in black), **my response** (in blue) and **revised manuscript passages** (in dark orange)

Change of 'Altitude' to 'Elevation'

After my last published paper, Tim McVicar wrote me last week and explained me that I misuse the term altitude. I read his paper (McVicar & Körner, 2012) and understand my mistake. In this paper, I repeated my mistake. Therefore, I change the term 'altitude' into 'elevation' within this revision.

Anonymous Referee #3

Minor revision - the Abstract states that 'Future work should quantify rockfall patterns and link these patterns to climatic drivers'. However, this recommendation is not reiterated in the Conclusion, and, as far as I can see, it is not stated clearly or developed in more detail in the Discussion. As written in the Abstract this suggestion seems like an afterthought, and I'd like to see more development/detail included in the Discussion to this effect.

Thank you for this valuable comment. To reiterate the statement, I included two new sentences in the discussion. In the section on thermal stresses I state that "Consequently, thermal stresses will play a more important role in preparing and triggering rockfall in the future." I add a follow-up sentence "Future work should quantify rockfall and link rockfall patterns to modelled or measured thermal stresses". After discussing the influence of climate change on cryogenic stresses, I add a statement "Rockfall should be quantified and linked to climatic drivers to predict the effects of climate change on rockfall more accurately." In the conclusion, I close the loop and state: "To quantify rockfall patterns and link rockfall patterns to climatic drivers should be the objective of future work".

Technical corrections:

L9 – 'fractured' should be 'fracture' Done.

L18 – correct to 'on daily time scales' Done.

L19 – correct to 'On a seasonal scale...' Done.

L20 – correct to '...ice segregation-induced fracture opening...' Done.

L21 – change 'irreversible' to 'irreversibly' Done.

L23 – change to 'on an annual scale' Done.

L22 – correct to '..and increase temperature extremes and will, therefore, affect the number...' Done.

L25 - I think 'Alpine' should be 'alpine'. Your study is 'Alpine'-focused, but the implications of your findings go beyond the Alps, therefore suggest you use lowercase 'alpine', as per line 9. Also, L30 – I think this should be 'alpine' too. Check remainder of manuscript – there are numerous instances of use that need checking.

I followed the recommendation of the reviewer and changed 'Alpine' to 'alpine' in the manuscript.

The order of in-text citations needs checking and correcting throughout so that where more than one citation occurs, these are ordered by date (earliest first). There's no logic to your system at present.

I revised the citations and in-text citations are now ordered by date starting from old to young.

L52 – correct to 'expansion-induced' Done.

L84 – 'air-dried' Done.

L234 – 'break down'. Also L370. Done.

L290 – correct to 'On an annual time scale' Done.

L333 – correct to '...are not acting in isolation and other...' Done.

L335 – correct to '...As soon as cracks exist, daily...' Done.

L338 – correct to '...changes in snow duration...' Done.

L375 – change to '...suggests that ice segregation caused slow fracture opening, which was reversed by ice relaxation.' Done.

(note - there are more typos and minor grammatical errors than I've listed here, but I'll defer to the copy-editing team to pick these up and correct them in due course)

Thanks for correcting the typos. I found some more and hope that the text is now (more) correct.