

CC1: ['Comment on essd-2023-431'](#), Ionut Cristi Nicu:

Dear Authors,

Congrats on trying to improve the general understanding of cryospheric hazards through the sharing of significant features in the Qilian Mountains. However, your paper needs some improvements regarding readability and consensus regarding the use of specific terms that refer to cryospheric hazards. Also, the paper would highly benefit from some changes made by a native English speaker. Some specific comments are made in the attached .pdf file.

Some general comments refer to the fact that the paper lacks a bit of international context and of the fact that more references should be added. Those referring to the automatic mapping of RTS features by using deep learning should also be highlighted.

The dataset is of high importance in today's climate context.

Kind regards!

Dear Dr. Nicu,

We sincerely appreciate your recognition of our work and the valuable insights you have provided. Your suggestions regarding improving the readability of the paper, ensuring terminology consistency, and incorporating more international perspectives are highly valued. We have carefully considered the specific feedback you outlined in the attached .pdf file and made necessary modifications and enhancements to our manuscript based on these suggestions.

However, we have decided to retain the term "hillslope thermokarst" in the manuscript, as opposed to changing it to "cryospheric hazards" after thorough deliberation. Because cryospheric hazards encompass various types such as glacier hazards, ice jams, ice floods, snow disasters, frozen ground hazards, our research focuses only on a subset of these (Shijin, W. and Jiahong, W.: Characteristics, Influence of Cryosphere Disaster and Prospect of Discipline Development, 2018. ). Using the term "cryospheric hazards" might inadvertently exaggerate the scope of our study. Nonetheless, we sincerely appreciate the suggestion you provided for us. Below we address each specific comment provided in the attached .pdf file. Thank you again for your thoughtful feedback, and we look forward to further improving our work based on your insights.

Line1: you mean Inventory

AC: Thank you, we have rectified this spelling error in the revised manuscript.

Line54: reference missing here

AC: We have added references to new articles in the manuscript to substantiate this statement.

Line89: thermo-erosion gullies

AC: Thank you, we have corrected this spelling error in the manuscript.

Line120: confusing wording

AC: Thank you; we have amended it to "calculate" in the revised manuscript.

Line161: please offer a more complete definition and context for the formation of RTSs. Have a look at this paper <https://doi.org/10.1007/s10346-021-01684-8> and of the references it contains

AC: Thank you for your recommendation; we have incorporated this new citation into the manuscript to enrich our perspectives.

Line188: correct is thawing

AC: Thank you for your feedback; we have addressed and corrected this error.

Due to the numerous changes, we invite you to review our updated manuscript.

We sincerely appreciate your valuable input and time.

Best regards !