

We thank Xiangying Li very much for the comments on our manuscript. We have addressed concerns and suggestions of Xiangying Li carefully. In the following, we provide point-by-point response to each comment (blue texts are our responses, while black texts are original comments).

1.The language is poor and should be revised and polished by a native English speaker at least.

Response: We think there might be some misunderstanding caused by different language habits. The manuscript has been fully revised two times by one of our co-authors named Hamish Pritchard, who is a native English speaker from British Antarctic Survey. He also has published many papers about glacier changes in many journals (e.g., *nature*; *Front in Climates*; *Journal of Geophysical Research*) and has a lot of experiences in scientific paper writing. We attached the versions of the manuscript revised by Hamish Pritchard with annotations.

2.Some terminology or expression should be corrected throughout the full text. For example, some should be glacial melt, glacial terminal, proglacial lake, changes in glacial area ...,

Response: We have read through the manuscript and checked the terms.

3.For the discussion on an increase in glacier populations as well as the response of authors “The reason for the increased glacier number but decreased area is that intact glaciers break down into several smaller glaciers in the process of glacier ablation”. This is fully wrong and should be corrected throughout the full text because a glacier can change to 2 branches rather than 2 glaciers.

Response: The disagreement may come from two expressions of the same phenomenon. In the process of glacier ablation, one intact glacier breaks up into two parts, also counted by two glaciers in Chinese Glacier Inventory (CGI) I and CGI II. Some studies also reported that the area of glaciers decreases but the number of glaciers increased (Tielidze and Wheate 2018; Wu et al., 2016).

Tielidze, L. G., & Wheate, R. D.: The greater caucasus glacier inventory (Russia, Georgia and Azerbaijan), *The Cryosphere*, 12(1), 81-94.

Wu, K. Q., Liu, S. Y., Guo, W. Q., Wei, J. F., Xu, J. L., & Bao, W. J., et al.: Glacier change in the western Nyainqentanglha Range, Tibetan Plateau using historical maps and Landsat imagery: 1970-2014, *J MT Sci Engl*, 13(8), 1358–1374, <https://doi.org/10.1007/s11629-016-3997-0>, 2016.

4.Figure 1 is not clear and the classification for legend and glaciers is not easy to understand for readers. For example, in situ glaciers, others glaciers, In addition, some figures should be removed or merged into one figure.

Response: Thanks, we have revised the legend in Figure 1 as follows.

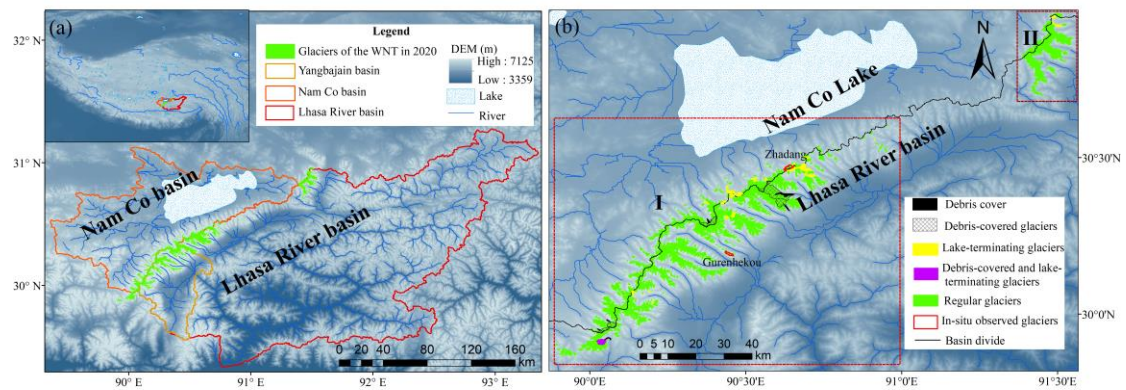


Figure 1 (a) Overview of study area. (b) Glacier distribution. Label I in the large, red dotted rectangle represents the SW section of the WNT and Label II in the small, dark red dotted rectangle represents the NE section.

5. I agree to the comments from RC1 “the authors can consider some discussion about the influence of glacier change on hydrology.... It is very important for the manuscript, also for HESS”. This is extremely necessary for this study and should be a key point in the conclusions.

Response: We have added the impact of glacier ablation on hydrology when we responded the comments from RC1. The part was also summarized in the conclusion. At the present stage, this journal only requires us to upload the document responding to the reviewer's comments, and the final revised manuscript should be uploaded later.

6. Relevant methods on glacier change can refer to published literature by some scholars. A lot of work has been done by Chinese scholars focusing on debris-covered glaciers (Haidong Han, et al.), proglacial lakes (Qiao Liu, Xin Wang, et al.), and changes in glacial area, elevation, mass balance, ... (Donghui Shangguan, Wanqin Guo, Shiyin Liu, et al.).

Response: We have added the impact of glacier ablation on hydrology when we responded the comments from RC1.