

## **Author's response:**

Dear Dr. Tobias Bolch:

Thank you very much for your careful review of our manuscript.

We have scrutinized the issues you mentioned and found a critical error in our calculations which may be the cause of the discrepancy between the results of your calculations and those provided in the previous manuscript. In previous calculations, due to an operational error, we did not select the correct thickness of the rock glacier to which we would be applying the Cicoira *et al.* (2021) method to calculate ice content, which led to an underestimation of the water content of the rock glacier under the 50% and 60% ice content assumptions. We apologize for the problem and sincerely thank you for spotting it. We have updated the corrected results in the latest manuscript and provided more detailed statistics in Table 5. At the same time, a number of rounding problems have been corrected in the manuscripts.

It is perhaps important to note that the calculation method we used was to calculate the water storage for each rock glacier in Excel, and then to calculate the water storage for the whole region or subregion through statistics and selection. All equations are as in the methods section of the manuscript.

In addition, we have also added the results of the rock glacier water reserves calculated based on different methods to the supplement and an example of calculations of rock glacier water storage using Cicoira *et al.* (2021) with an assumption of 40 per cent ice content. We hope that these results will help you and the readers to better understand the manuscript.

Sincerely, thank you again for your ongoing series of efforts to enhance this manuscript!

Looking forward to hearing from you.

Best regards.

Yours sincerely,

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