

General comments

This research addresses the lack of continually and methodologically consistent mapping of glacial lakes in the transboundary region of the Nepalese Himalaya. Using both Sentinel-1 and Sentinel-2 imagery, they are able to use the strengths of each data source to compensate for the limitations of the other, allowing for better coverage of lake maxima during monsoon season with Sentinel-1 and more precise delineation of small features with Sentinel-2. This method was based on an automatic processing chain using DeeplabV3 deployed in ArcGIS Pro using manual lake delineations as the training reference data.

Overall, this manuscript is well written and thorough, clearly explaining and evaluating various aspects of the dataset. I believe this dataset will be very useful for other researchers assessing GLOF hazard risks and modeling projections of future glacial lake development.

From my point of view, the authors have thoroughly and satisfactorily addressed the comments of the reviewers in the first revision round, addressing the majority of my concerns of the first draft as well. In regards to the revised version, I have one main point I think could be improved upon, as follows.

While I understand why the results are discussed considering the two datasets as separate entities (Sentinel-1 and Sentinel-2), it makes it difficult for the reader to gain a holistic overview of the total number lakes and their total area. It is unclear in several sections how many of the lakes reported for Sentinel-1 and Sentinel-2 are actually found in both datasets versus how many are found only in one of the datasets. For example, in Tables 3 and 4, it is interesting to see the differences in how many lakes are found in each sensor's dataset, but it would also be useful to know the combined unique number of lakes (and the total area) across both datasets. This could be accomplished by dividing both of the first two columns in Table 3 (no. of lakes and total area) into three numbers (1. only detected by S1, 2. detected by both, 3. only detected by S2) instead of total values for each sensor. Or perhaps you'd prefer to show that in some other form in a separate table or graph. The other section that could benefit from this additional effort would be in Section 4.3. Here, the statistics for number of lakes over the years are given separately for each dataset, but the combined unique number of lakes (and the total area) per year within the basins would bring more insight to the overall trend and not just the differences in what the sensors captured.

Specific comments

Table 4: It is not mentioned in the caption which number is bold (S1 or S2)