General Feedback:

Overall, the authors have carefully revised the manuscript, incorporating the feedback from the reviewers, which is greatly appreciated. The result is an improved manuscript that, along with the dataset and results, will make a valuable contribution. However, I have a few comments that I would like to see addressed before final approval:

Major Comments

The co-registration of your SfM and LiDAR products is still unclear. In your answer, you say that you used Ground Control Points to do so:

“All of the surveys were co-registered using ground control points(..). Linear, horizontal, and vertical shifts were applied to align all digital elevation models to these GCPs.”

In the text you say that:

“GCPs surveyed using the base/rover equipment were used to co-register the UAS data. Linear, horizontal, and vertical shifts were applied to align all SfM and lidar DEMs to the GCPs.”

I would be interested in what GCPs were used? If only optical GCPs were used, how were they identified in the LiDAR point clouds? What were the magnitudes of applied shifts for sfm vs lidar? I think this could be another advantage of LiDAR sensors that could be discussed with your data: Were the GCPs really needed for the LiDAR data? What is the benefit of the additional effort?

Minor Comments

L16: Add a sentence on why a better understanding is needed for your specific environment.

L23: Avoid saying 0 cm.

L24: Remove “also”

L39: Add examples to static and dynamic fluxes/variables

L47: Numerous… various.. This sentence needs to be revised.

L78: This reasoning is not very convincing. “Growing need for understanding of UAS sensor’s strengths and weaknesses”. I would agree, but I don’t see the link to the next sentence: “However, it is challenging to measure shallow snowpacks”. As this is the key motivation of this work, I suggest rephrasing. Suggestion: 1) Need for new, multi-temporal data sets. 2) This is specifically the case for transition periods and shallow snowpacks (consider citing https://doi.org/10.1016/j.earscirev.2024.104751) 3) Various sensors exists with strengths and weaknesses that need to be investigated for your specific hardware and environment.

L91: are discussed in Sections 4.3 and 4.4…. this should be your result section!

L110: Great! I missed that in your introduction/motivation. Maybe add a sentence on: https://doi.org/10.1016/j.earscirev.2024.104751

L270: (Figure 3)

Section 4.3: I found it confusing to see Figure 6 (“Mean relative difference” – exploring the snow distribution) right after Figure 5 (“lidar and sfm difference”- exploring the system differences). It was not directly clear what difference you are talking about in this section. Maybe you could use more easy to follow acronyms or write one additional introduction sentence in this section.

L335: Not easy to follow. I can see in Figure 5 that relative difference maps are similar during accumulation period. During ablation (March?), I can see more white areas, but not the "consistent spatial patterns" that you are talking about. Maybe add some numbers/letters to guide the reader to the individual features you are talking about/comparing? Are the white areas areas with no snow? Please add to the caption/legend what white areas are.

L398ff: Are these your values or the literature values? I suggest providing your RMSE values and the ranges suggested by the literature.

L432: Similar to comment above, I would recommend to be more precise: "By comparing maps of snow depth change…" You compared MRD not maps of snow depth change, right? Shouldn't this paragraph be included into the next section?

L440: This first sentence could be repharsed.

Figure S2: Legend and scale bar are missing.