Boardman et al. assess the contributions of perennial snow and ice to seasonal streamflow in the Wind River Range using lidar scans in five watersheds spanning from 2019-2023. The experiment is well-executed and provides important advances regarding the contributions of depleting PSI features to streamflow. My comments focus mostly on the presentation and organization of the information within the manuscript. Some aspects could be improved by providing additional reader context and more explicitly stating how sections relate to the research questions.

General comments:

The science presented in this paper is sound and well-executed. However, there are instances where the reader would benefit from additional context in 1. Why the research is necessary/important, and 2. How a specific part of the paper relates to the overall goals of the investigation.

Some examples of this are in the methods section. For example, section 3.2 could be improved by adding an opening paragraph discussing the importance of snow density and the difficulties of measuring it (not sensed by lidar). Then, begin to describe the process of constraining snow density throughout the study site. While most readers may know this, it is important to zoom out and frame the importance of different sections.

The opening paragraph of section 3 lays out the general structure of the methods section. This paragraph could be expanded to explain *why* each part is carried out and how it relates to the goals of the study. Second, a flow chart type diagram could be useful in visualizing how each part of the study fits together.

Overall, the methods section could be improved by delineating the technical and conceptual methodologies. The methods section goes into density modeling, georeferencing of lidar data, streamflow imputation, and other highly technical details. These are important parts of the study, but the length of these technical sections makes it difficult to understand how all the pieces fit together. Some kind of reorganization of the more/less technical aspects could improve readability. Possibly just adding an opening sentence/paragraph about each section's importance prior to going into the details could suffice.

The results section faces similar difficulties as the methods. In general, improving opening sentences to ensure that the readers understand what the section is talking about, how it relates to the research questions, and how the figures fit into the story is key. The introduction does a great job of framing the investigation and defining research questions. In some cases, it is unclear how each of the results sections relates to the research questions. The opening paragraph of Section 4.3 is an example of when the authors do a good job framing the section - this should be emulated in other areas. This is addressed further in the line-by-line comments.

The advantages of understanding wind and topography effects on PSI loss could be stated more explicitly. To me, an advantage of this study is that PSI loss effects could be predicted based on wind/topo alone without needing the lidar surveys etc. Could this work be expanded on beyond

the wind river range? The impacts of this study could be more explicitly stated in the discussion section.

Line-by-line comments:

15: ‘assess’ may be more appropriate than ‘conduct’ for the lidar surveys.

23: What does ‘favorable topography’ mean? Suggest re-wording.

35: Temporal variability of what? Re-word for clarity.

46: May be helpful to define ELA for the readers.

52: Define lidar?

65: Suggest the hydrograph ‘represents’ as opposed to ‘determines’

74-75: I’m not sure what space-for-time means here. Also, I’m not sure what the purpose of the last sentence of this paragraph is.

95: The wording for question three could be improved. Should it be: ‘are *differences* in inter-watershed patterns primarily the result of…’ Also ‘topographically mediated’ seems to be extraneous and makes the question harder to follow.

131: This sentence is a key driver of the study and should be further up.

202: Suggest adding an opening sentence mentioning why density is important.. simple, but helpful to the reader to zoom out a bit.

299: This paragraph does not follow well with the preceding paragraphs. Suggest moving or improving the opening sentence.

386-393: The opening of this paragraph which discusses the imputation of the Torrey Creek streamflow distracts from the main methods used in the paper. The important part of this section is how streamflow is used to interpret PSI mass loss, not the method for streamflow imputation.

431: Adding additional reader context here could be helpful. Something along the lines of: ‘To understand the percent of streamflow contributions of PSI mass loss, we first must quantify PSI mass loss…’ Also, explain why it is important that we quantify the differences for each type of PSI feature.

466: The opening sentence could be improved. What will you be discussing in this section? How does it relate to the research questions?

485: This paragraph is difficult to follow. Explain why you are comparing the hypsometry of snow/PSI. I am particularly unsure about the meaning of the sentence which starts with ‘By only considering snow hypsometry within the perimeters…’

513: This opening is great. The explanation of why this section is important as well as what exactly is being analyzed in the following figure. This should serve as a model for other sections.

Fig. 7: The figure or the caption should contain the names of the PSI features as described in the text.

Figure 11. It is difficult to visualize differences between the top and bottom rows. Maybe a difference plot as well?

541: Hard transition. This could be a different subsection? Or at least an opening sentence saying: ‘we now examine the relative roles of topographic features on snow distribution at different SWE depths’. It also could be helpful to frame why the depth analysis is important.

630: Is there a figure/table that relates to this statement?