Comments to: Unprecedented Twenty-First Century Glacier Loss on Mt. Hood, Oregon, U.S.A.

General feedback:
The manuscript provides a novel dataset on glacier outlines on Mt. Hood. Area and length changes provide valuable insights into the glacier dynamics and reaction to climate change. The text is well written but I did not focus on linguistic or grammatical errors in my review.
I would suggest some restructuring of the Methods and Results sections. Also, the creation of Data and Study region sections would be recommended. The results should focus on the area change rates (between the time periods) and the change in elevation of the terminus. Changes of topographic parameters as a proxy for glacier mass balance would give the data more weight and a better insight into climatic changes.

Abstract:
L9-19 "the 21st century behaviour of glaciers on Mt. Hood has not been directly documented". This is a bold statement since global studies like Hugonnet et al. 2021 (https://doi.org/10.1038/s41586-021-03436-z) document studies also on Mt. Hood. These elevation changes, clipped to your and 2004 outlines would give you elevation as well as volume change rates as for the glaciers.

L15 Also mention in brackets the long-term change rates (% a^{-1}).
L20 The study from Hugonnet does not analyse retreat but glacier elevation change.
L25-30 I would not list the number of glaciers that disappeared since this largely depends on the glacier sample. I would rather cite relative area changes of the specific regions.

Figure 1: Three inlets are not necessary. One should be enough to locate the study region. Also, satellite images as background might increase visibility.

Figure 2: Name (a) and (b). Possibly Figures 1 and 2 can be merged into one since they are showing similar data. Also, add to the figure caption that in (a) the glacier coverage of the topographic map is from the 50s.

L40: Why does Fig.1 show that data on the recent behaviour is limited? I would say Fig. 1 shows that there is data since 1907.
L61 importance not import

Introduction:
Include also volcanic history and shorten the paragraph about water and climate.

Methods
Restructure the methods section, rename it to data and methods create subsections:

1. GPS frontal positions and length changes
2. Repeat photographs (describe what you want to read out of these images)
3. Glacier inventories and mapping (list used satellite images and outline datasets)
4. Uncertainties (refer to more literature. E.g. 10.3189/2013AoG63A296)

I would also recommend to check high resolution satellite images (ESRI imagery base map) to verify your outlines. Also write clrear if you only consider debris free ice or also debris covered parts and make it consistent for all glaciers.

L80: Volcanic Activity to Introduction
L88: How did you map the glaciers, manual delineation? Please explain the approach in more detail. How did you calculate the length changes? Did you create flowlines and if so how?

L129: How have the differing glacier response times be considered?

Results:
General comments

1. I would restructure the results section. List first results regarding the entire Mt Hood glaciers (absolute and relative area changes, also area change rates (per year)) and change of topographic parameters. Then describe the individual glaciers.
2. Also, parts of the results section are very descriptive. You could also create a study region section where you describe each individual glacier. In the results section I would focus on the changes.
3. For the change assessment, you should calculate the change of mid-point elevation = (Min+Max)/2 this can used as a change of ELA and compared to Temperature changes. Also, check how to calculate mass balance estimates from length changes. Check literature (10.3189/s0260305500015834, 10.1016/S0921-8181(02)00223-0)
4. For all glaciers, include 1907 areas and list changes since then. For all glaciers, list relative area changes, like this they are better comparable.
5. It is not clear to me what you did with the repeat photographs. Please describe the results of these photographs.

Table 1: Please also include changes in minimum elevation.

Accum. Zone Slope: How did you separate the accumulation zone? If not described list the general slope. Include all area values into the table or create a separate table for these. Also, the headwall height might not be that relevant since it should not change substantially over time.

L141: Part about volcanic age to methods section
Fig.3-6 possibly put to supplement except for one or two examples. If in the paper than highlight what you can see in the image with annotations. Otherwise it is hard to interpret the images.
L174: Flow not flour
L291: Give relative area changes
L293-298: This can be written a bit more condensed. For example: The glacier had an area of 9.98 km^2 in 1907, shrunk to 7.11 km^2 in 2000 (-30%) and 4.3 km^2 in 2023 (-60%). Also include area change rates per year
Fig. 8: As for Fig. 7: Do not show Figures before they are cited in the Text. This is one of your main findings. Highlight this and describe area changes more in the text (and Table 1).

L317: Accumulation area vs accumulation zone. Check consistency
3.3 Decadal rates: I would split the study period into two parts: 1907-2000 and 2000-2023. Then calculate relative area change rates (per decade but also possibly per year). Store these values in a table. Figure 10 complements these findings very well. Absolute changes are largely dependent on the glacier's size.

Fig. 10 Not sure what the grey area indicates. Is it the uncertainty? If so, why is it so high after 2000? Please explain in the figure caption. Also, absolute area changes are not comparable as the change depends on the area.

3.4 Glacier- climate relationship
Discuss glacier response time, since this has a large influence on the correlation to the climate. Since the glaciers on Mt. Hood are fairly steep, and small and have an oceanic climate, the response time might not be very long, but it is noteworthy nevertheless. Correlating length changes directly with temperature/precipitation is risky. The approach should be better defended. Also, what is the relationship between area and temperature?

You could calculate temperature changes from ELA changes (mid-point elevation change) and compare these with the temperature observations.

L367: Include references to figures in the text and do not list all figures and tables before the main chapter.

Fig.11: instead of length changes show relative area changes.

Discussion

I am missing a section where you compare relative area change rates with glaciers from other regions. The glaciers you compare them to should also be roughly the same size.

L452: Also, what outlines/parameters the models used might have a large influence. Check.

L470: Would rename melt water to excess meltwater contribution (or imbalance contribution). It does not describe the meltwater which includes the seasonal meltwater. But in general, discussing peak water seems difficult from your data since you don't have runoff or mass change measurements. You could include data from Hugonnet et al. 2021 to calculate the volume change.

Conclusion

List main findings: area changes, length changes, and increase in change rates (with values).