This manuscript presents a valuable new dataset of borehole thermometry and ground-penetrating radar observations from six small Swiss glaciers, addressing an important gap in our understanding of the thermal structure of small Alpine glaciers. The study has the potential to make a meaningful contribution to the field, particularly through the combination of direct temperature measurements, geophysical observations, and long-term mass balance records. However, I believe the manuscript would benefit from substantial revisions to improve its clarity, presentation, and interpretation before the conclusions can be fully supported.

My principal comments relate to the overall organisation of the manuscript. This would improve the flow of the manuscript and make the interpretation of the thermal structures considerably easier to follow. In addition, the manuscript would benefit from greater methodological detail, particularly regarding calibration, and measurement uncertainties. Given that many of the reported temperature differences are small, a more explicit treatment of measurement uncertainty is important. Several figures could also be revised to improve clarity, including clearer symbology, integration of complementary datasets, and more effective figure layouts. Finally, more comprehensive engagement with the existing literature and additional supporting references would lend credence to the authors interpretations. The specific comments below are intended to help improve the clarity, robustness, and overall presentation of the manuscript.

Overall,I think this is a noteworthy manuscript that has had a lot of work and time put into its data collection and analysis and with consideration of the points detailed below, would be an excellent fit for The Cryosphere.

General comments

Structure of methods: As it stands, I feel the information within the methods section is good, but some restructuring could aid the reader in understanding the process. As it stands the thematic order is Drilling, Temperatures, GPR, Temperatures, Temperature interpolation, Mass balance modelling. I would suggest a minor restructure, beginning with the geophysics, then moving on to temperature measurements etc as this would be easier to follow.

Results section: I find the results section hard to follow as it stands. Firstly, this should be clearly split into Results then Discussion as at the moment the mixing of the two makes it hard to follow. Secondly, I feel the data should either be presented as discrete datasets (temperature, GPR etc) or done by site integrating all datasets within one section to explain what is being observed at that glacier. I prefer the later of these options and although this will involve some restructuring the content will largely remain the same. Begin with the non-polythermal glaciers then move onto the polythermal sites which then makes the discussion flow better. You can then come together in the discussion section for an explanation of processes and comparison between sites (Sections 4.4, 4.5 and 4.6).

Figure 6-8: Following my above suggestion, I would advise integrating Figure 4 within Figures 6-8 for the relevant glaciers. This would allow us as the reader to see how the temperatures have evolved at depth over a season and how this then can be interpreted to the polythermal structure described. I also feel the symbology of these figures could be reworked to clearly distinguish what is a scale and what is a location/depth.

Referencing of processes: The authors describe processes in sufficient detail throughout the paper, however there are multiple instances where these processes need to be cited in the established literature and referenced throughout, lending credence to their argument.

Specific comments

Line 4: Perhaps name these 3 glaciers given you name other glaciers in the following sentence.

Line 23: I suggest re-phrasing this not to include "high-altitude" as this is a comparative term, perhaps around a specific altitude or just use the term accumulation zone.

Line 33: Unclear whether you are referring to a comparison between different glaciers or different components of the same glacier

Line 34: I suggest referencing: Hock 2005 and Brock et al., 2010

Line 38, This has been extensively researched in Antarctica so perhaps rephrase around comparatively little research in alpine and high-mountain environments?

Line 48, this is true for alpine environments but consider the role of debris cover in high-altitude glaciers and perhaps make this statement more specific.

Line 82: I would like to see some more information here, namely how were the holes drilled, what thermistors did you use and what is its uncertainty, were the thermistors calibrated prior to deployment, what depths were the thermistors deployed to? I appreciate some of this information is in S.I. however, a sentence or two would help me understand your method. I now see this is explained partially later on but I still think some details here could help.

Line 85: please define deep in the context of this paper

Figure 1: I appreciate some scale is apparent given the gripping of panels b-g, however for easier comparison please could you add a scale bar to each panel.

Figure 1 and 2: I wonder if these figures could be combined with the overview images being added as inserts? I appreciate this may make the figure messy but could be worth considering.

Figure 3: Move to SI

Line 117: was this accuracy from calibration you conducted or from the manufacturer? This is quite low accuracy considering the data you are analysing

Line 125: was this accuracy from calibration you conducted or from the manufacturer?

Lines 126 -130: This information answers my above questions but please integrate it within the relevant text for each thermistor, which would make it easier to follow from the readers perspective. State how your calibration improved the uncertainty for each.

Line 136: Why did you change antenna frequency?

Line 137: What was the uncertainty of this receiver? Was this carried by the operator or mounted on the radar? If carried by the operator has the data been offset?

Line 144: How high a precision, do you have some measure of uncertainty?

Line 212: Split results and Discussion

Line 218: please add uncertainty to these and all measured temperature values, especially given the magnitude of your data.

Line 221, what data is this referring to, please reference a figure

Sections 4.2 and 4.3 I would present these sections clearly differentiating your results from your interpretation (whether it is or isn't polythermal) to more easily split the results.

Lines 296 to 314: This section on GPR appears to me without a clear lead on, please see my suggestion for restructuring in main comments.

Section 4.4: Here you are presenting interpretations before clearly laying out all of your results (GPR sections etc). This should be clearly split.

Pages 16-18: small lines of text are hard to follow. Collate this text on a separate page top the figures.

Figure 6-8: At present I am finding these figures hard to follow and my main questions are:

- Is the black dashed line in panel A and C the isotherm or glacier bed, this is unclear when compared to panel B
- I would invert your temperature scale so it increases as it moves right across the page, this is more standard and coincidentally is similar to the profiles drawn in panel A which will make it easier to follow.
- I cannot see seasonal changes in the figure given that it is average, consider integrating Figure 4 within this as this will make the changes clearer
- Symbology between each panel could be more distinct.

Lines 369 -382: An interesting discussion of the processes but this should be grounded in the established literature and referenced throughout, lending credence to your argument.

Line 383: This is not high elevation when compared to some other glaciated regions, rephrase.

Line 397: reference required

Line 400: reference required