Dear Martin Hoelzle,

Thank you for your constructive comments on our manuscript. We have addressed all the points you raised, and provide the detailed answers below. All technical corrections have been accepted as suggested, and are not listed in detail here.

Line / item / section	Comment	Answer
Authorship	However, I was slightly surprised to see only two authors listed for such an extensive project. For instance, a related publication on Greenland and the Canadian Arctic by Løkkegaard et al. (2023) had 27 authors, highlighting the collective efforts that often underpin these kinds of long-term measurements. Acknowledging the people responsible for gathering this invaluable data, sometimes over decades, is crucial. In this case, I noted that some contributors were neither listed in the authorship nor recognized as data collectors in the Zenodo list provided by the authors (https://doi.org/10.5281/zenodo.11516611). This omission also extends to the paper's acknowledgments, where funding institutions, such as universities, research organizations, and other key contributors, deserve proper recognition. A key recommendation would be to ensure that all individuals and institutions responsible for the data collection over these many years are appropriately credited, either in the Zenodo list or directly in the paper's acknowledgments. Proper attribution not only honors the hard work of these researchers but also strengthens the scientific integrity of the study.	The short author list was by no means an attempt to draw citations away from anyone, but simply a result of many unanswered emails and calls for data sharing, which ultimately pushed us do the vast majority of the work by ourselves and by hand (i.e. M. Jacquemart & E. Welty). We have now ammended this by making all data curators and data collectors are now co-authors on the dataset. They were also able to suggest others that had made a meaningful contribution to the project, so the list has gotten a bit longer. We also invited everyone to become a co-author on the paper, but all dataset co-authors turned down that invitation. We convinced Guillem Carcanade and Marcus Gastaldello to join the author team for the publication because they contributed substantially larger efforts than others to the dataset (see author contributions). Beyond this, we have added a table with the names of all authors involved in the publications from which we sourced the data – as a reasonable but not perfect proxy of who might have been involved in collecting the original data – to the appendix. This is referenced in the introduction and in the paper acknowledgments. In the paper, we have outlined the following authorship policy: *Anyone who submits data to glenglat will be invited to become a co-author on future releases of the dataset (see detailed authorship policy at https://github.com/mjacqu/glenglat/tree/main?tab=readme-ov-file#authorship-policy).* To further highlight the efforts that led to the original data collection, we have also added columns borehole.investigators and borehole.funding, which can be used to store information about the people and institutions that carried out the original work as well as the funding bodies. These columns are intended rather for submitted datasets, and we did not go back to published sources to retrieve information to back-fill these columns. The co-authors on the dataset in its current form are: M. Jacquemart E. Welty G. Carcanade L. van Tricht G. Flowers S. Sugiyama T. Gurung R. Prinz J. Abermann J. Steiner M. Barandun O. Gagliardini C. Vincent L. Thompson Zang T.

		M. Gastaldello M. Hoelzle
Data accessibility	Another critical point is the long-term accessibility of this dataset. I strongly suggest that the authors integrate their data fully within the World Glacier Monitoring Service (WGMS) framework. This would ensure that the information remains accessible to the broader research community and is housed within a recognized database infrastructure. Since one of the authors is already affiliated with the WGMS, this integration would be a natural step and would provide consistency and oversight for future data use.	With regard to the long-term accessibility of the dataset, we believe that Zenodo fits these requirements well (Zenodo is maintained by CERN, the European Organization for Nuclear Research). Less certain is the release of future versions, though we (the current authors) envision continuing to maintain and expand the dataset with some regularity for as long as we stay in our current or similar positions. The World Glacier Monitoring Service (WGMS) does not currently have the funding to officially take on the curation of additional datasets. However, if there is sufficient interest from the community, glenglat could be proposed as a GTN-G (Global Terrestrial Network for Glaciers) dataset and receive sporadic support from the WGMS, an IACS Working Group, etc in much the same way as GlaThiDa (Glacier Thickness Dataset). In the near term, we hope that it gains enough name recognition to attract future data submissions, encouraging and justifying future releases.
47	In the project GLAMOS (Glacier Monitoring Switzerland) continuous englacial temperature monitoring was introduced as a permanent process within glacier observations of Switzerland.	We have expanded the statement on the motivation of collecting englacial temperatures to the following: *To gain an understanding of glacier dynamics and englacial temperatures directly (e.g., Agassiz, 1847; Blatter and Haeberli, 1984; Clarke et al., 1984; Copland et al., 2003; Ryser et al., 2013; Gilbert et al., 2010; Vincent et al., 2020; Troilo et al., 2021; Karuss et al., 2022), in connection with the retrieval of ice cores used to reconstruct past climatic changes (e.g., Thompson et al., 1990, 2018; Kinnard et al., 2006; Schwikowski et al., 2013; Kinnard et al., 2020), or as part of operational glacier monitoring efforts to document current climate change (e.g., Hoelzle et al., 2020).*
96	why not joining all measurements, this paper, Løkkegaard et al. (2023) and Vandecrux et al. (2023) in one database?	It would be technically straightforward (though certainly laborious as well) to do this with the dataset from Løkkegaard et al. (2023), but less useful for Vandecrux et al., (2023) since that contains mostly 10m temperatures and mass balance information. Such an effort should not be ruled out, but would require a lot of community organizing and dedicated funding. Therefore, we chose to follow the generally accepted separation of glaciers vs. ice sheets. On this topic, the original manuscript already includs the following statement: *Depending on community needs, it may be worth combining these datasets into one, for lower maintenance overhead, ease of use, and because the distinction between ice sheet and glacier will become increasingly arbitrary as glaciers detach from the retreating ice sheet margins.*
115	what does this statement really mean? ‘Some columns were added later in the data compilation process, therefore not all field are equally well populated.’ Maybe give some examples or if possible complete them now? Correct also field into fields	As we incorporated more and more data, the database structure was adjusted to fit the evolving needs. This means that columns that were added later are sometimes blank for records that had already been added, since we did not always have the time to revisit them. We have now done much, if not all of this work. Therefore, we have moved the original statement to the section on Future Additions and have adjusted it to say the following: *We have done our best to populate all fields of the database, but certain columns were added at a later*

		stage of the database creation process, and we were not able to revisit every source every time. Therefore, not all columns are equally well populated. Additions to or refinements of existing entries are welcome any time, either by emailing the authors or by creating an issue at https://github.com/mjacgu/glenglat/issues. Community members are also welcome to take on existing issues and contribute to the improvement of the dataset in this way. Current examples of this are the borehole.investigators and borehole.funding, which only contain few entries as the information was supplied to us by the data submitters.
287	Error analysis: The authors have provided a thorough analysis of various sources of error within the dataset, particularly focusing on digitization errors. However, I would like to suggest that the authors expand the scope of their error analysis to include additional critical aspects related to the measurements themselves. Specifically, it would be highly beneficial to include the following information in the database if it is existing: 1. Calibration of Thermistors/DTS and other Systems: Accurate temperature measurements are heavily reliant on the calibration of thermistors, distributed temperature sensing (DTS) systems, and other instrumentation used in glacier thermal monitoring. Providing details on how the instruments were calibrated, including the frequency of recalibration and any potential drift over time, would give readers a better understanding of the measurement precision and reliability. 2. Measurement Error Considerations: The authors report a mean error of approximately ±0.14°C at a depth of 15 to 20 meters. While this may seem minor, in the context of longterm glacier temperature monitoring, such an error could significantly affect the interpretation of subtle temperature trends. Based on my own experience at Colle Gnifetti, I have observed that an error of ±0.14°C for a single measurement is already quite large for long-term monitoring, especially when attempting to assess historical temperature changes that are often much smaller than the current rapid changes we are witnessing. Reducing this error margin is crucial for accurately detecting and interpreting the long-term thermal evolution of glaciers. At Colle Gnifetti, for example, we observed a temperature change of approximately +1.52°C at a depth of around 20 meters between 1992 and 2023, with an annual increase of approximately +0.046°C per year (Gastaldello et al., in review). In such cases, even small measurement	Thank you for this comment. We have re-written section 3.4 (Error analysis) and now provide a comprehensive discussion about the different sources of error, how these are reported in the literature, and how we can estimate their impact on the comparability and accuracy of the data contained in glenglat.

	inaccuracies can have a compounding effect over time, making it harder to identify these slow but critical temperature changes. Therefore, I recommend that future studies aim to reduce measurement error as much as possible to allow for more precise long-term monitoring. Achieving smaller errors would be crucial, particularly for distinguishing past changes from recent and accelerating warming trends.	
320	you could cite here some existing examples, which are already using models for validation or calibration: e.g. Licciulli et al. 2019, Mattea et al. 2021, Gastaldello et al. 2024 Licciulli, C., Bohleber, P., Lier, J., Gagliardini, O., Hoelzle, M., and Eisen, O., 2019, A full Stokes ice-flow model to assist the interpretation of millennial-scale ice cores at the high-Alpine drilling site Colle Gnifetti, Swiss/Italian Alps: Journal of Glaciology, v. 66, no. 255, p. 3548. Mattea, E., Machguth, H., Kronenberg, M., Van Pelt, W. J. J., Bassi, M., and Hoelzle, M., 2021, Firn changes at Colle Gnifetti revealed with a high-resolution process-based physical model approach: The Cryosphere, v. 15, p. 3181–3205. Gastaldello, M., Mattea, E., Hoelzle, M., and Machguth, H., in review, Modelling Cold Firn Evolution Colle Gnifetti, Swiss/Italian https://doi.org/10.5194/egusphere-2024-2892, 2024.	Thank you for providing these references. We believe that this particular sentence in the conclusions does not require references, but some of these sources have been included as references in the text elsewhere.
Tables 1-4	I would suggest that the authors also would include which type of thermistors/DTS or other systems were used. For re-evaluation processes, it is highly recommended to know about the type of measurement equipment.	This is a valuable input, but it would require us to revisit every source, which is currently out of the scope of this project (which has already become much larger than it was initially intended to be). For the moment, we have left a trace of this recommendation as a github issue (https://github.com/mjacqu/glenglat/issues/98), which we or any community member could take on in the future. We have also added the following statement to the text (under Future Additions): *Community members are also welcome to take on existing issues and contribute to the improvement of the dataset in this way.*
215	please add some references (e.g., Dyurgerov, M. B., and Dwyer, J. D., 2001, The steepening of glacier mass balance gradients with northern hemisphere warming: Zeitschrift für Gletscherkunde und Glazialgeologie, v. 36, p. 107-118.)	It was not entirely clear to us, how the provided reference relates to the statement in the original manuscript. However, we have added two reference to the statement, namely: Bohleber, P., 2019. Alpine Ice Cores as Climate and Environmental Archives, in: Oxford Research Encyclopedia of Climate Science. https://doi.org/10.1093/acrefore/9780190228620.013.743 and Vance, T.R., Roberts, J.L., Moy, A.D., Curran, M.A.J., Tozer, C.R., Gallant, A.J.E., Abram, N.J., van Ommen, T.D., Young, D.A., Grima, C., Blankenship, D.D.,

		Siegert, M.J., 2016. Optimal site selection for a high-resolution ice core record in East Antarctica. Climate of the Past 12, 595–610. https://doi.org/10.5194/cp-12-595-2016