

Response to Nina Kirchner

Comments received on 27 December 2024

Thank you for the thorough and helpful review of our manuscript “Multi-annual patterns of rapidly draining supraglacial lakes in Northeast Greenland.” We appreciate the acknowledgment of the importance of this dataset and are thankful for the constructive feedback.

We will gladly integrate the comments mentioned in your review. Specifically, we will present a more thorough motivation in our introduction and will create a consistent terminology for simultaneous/chain drainages by using the term “cascading drainage” as used in Christoffersen et al. (2015). Furthermore, it appears that the manuscript from Otto et al. (2022) was indeed overlooked and will be integrated in our discussion section. Additionally, we can understand the basis for the comment concerning the integration of slow drainages into the analysis. The volume of each lake was tracked over the melt season, which in theory would allow slow drainages to be identified. However, we found it difficult to precisely quantify the exact conditions for which a slow drainage could be identified, since the entire lake often does not fully drain when drained slowly and the volumes of lakes can fluctuate throughout the melt season, making it difficult to discern slow drainage from temperature-driven fluctuation. Thus, we will exclude the analysis of slow drainages from this study. The following comment concerning the storage of drained water englacially, however, raises an interesting point, which we will gladly address in the discussion. Finally, we appreciate the detailed comments regarding concision, clarity, and consistency. We will integrate all suggested changes to the text to improve its readability and to clarify vague or unspecified terminology or reasoning.

Thank you again for your constructive review.

Sincerely,

Katrina Lutz and co-authors