

Warm proglacial lake temperatures and thermal undercutting enhances rapid retreat of an Arctic glacier

Dear Editor and Reviewers,

Thank you for your careful reviews of the article and carefully considered suggestions for improvements. We have tried to incorporate these suggestions for improvement as far as possible, whilst trying to strike the balance between the broad range of datasets (given the lack of previous studies) whilst also trying to simplify the narrative and improve the navigability of the article. Given the paucity of previous process based studies from lacustrine terminating Arctic glaciers, we feel that an observation based article, such as this, is important to publish. As it provides temperature data directly from the ice front and a characterisation of the glacier-lake system; thus providing an important basis to inform future studies for further hypothesis development and closer constraining of the interlinkages in the system. This is essential for understanding how the system will respond to future warming from Arctic Amplification.

Given the diverse nature of the methods used to build an overview of a complex and dynamic system, we have chosen to maintain the methodological based objectives and improved signposting to improve the navigability between these different sections for the reader. We have also provided a graphical abstract to map out the different components of the study for the reader. We feel that although the amalgamation of different methodologies at different timescales is perhaps non-optimal, the lack of previous studies at such sites in the Arctic necessitates this approach to build up understanding of such dynamic systems in a rapidly changing part of the climate system.

Best regards,

The authorship team.