

Interactive comment on “Coupled modelling of subglacial hydrology and calving-front melting at Store Glacier, West Greenland” by Samuel J. Cook et al.

Samuel J. Cook et al.

sc690@cam.ac.uk

Received and published: 16 July 2019

Dear Reviewer

Thank you for taking the time to read our manuscript. We agree with your comments about needing to improve our comparisons to observations and we accept that we could do more to clarify the rationale and targeting of the paper.

As regards the choice of parameters and the model sensitivity to these, the values were taken from previously published work (Gagliardini and Werder, 2018) and sensitivity analysis of the GlaDS model was undertaken by Werder et al. (2013). We accept

C1

that this is not necessarily directly applicable to our model domain, but a full sensitivity analysis seems both unnecessary and outside the scope of this paper. We are also aware that a full validation of the model needs to be undertaken, and this will be the subject of future work, but we also felt that it was not suitable for this paper, as the model presented here is not the fully-coupled version we are working towards. We feel that the results from this idealised uncoupled model are interesting enough, however, to justify publication at this stage.

Once again, we thank you for your comments, which will allow us to improve the paper.

Interactive comment on The Cryosphere Discuss., <https://doi.org/10.5194/tc-2019-104>, 2019.

C2