

Reviewer Comment Response

1 Editor Comments

Dear Koi McArthur and co-authors,

Thank you for the revised version of your manuscript and for addressing the comments from the referee thoroughly. I am happy to recommend the manuscript for publication in *The Cryosphere* (pending a few technical corrections that I list below).

Your work provides a convincing argument for the careful treatment of subglacial processes in model studies, and importantly the results you present will inform future studies of subglacial properties and ice-sheet dynamical behaviour.

Best,

Nanna B. Karlsson

Thank you Nanna, we are pleased to hear that you think our manuscript is almost ready for publication. We address your comments below in blue text.

Additional private note (visible to authors and reviewers only):

Two very minor notes:

- Eqs. 3 and 4: due to the way LaTeX displays track changes it is difficult for me to check that these equations are correct. Please double-check when you submit your revised version that the equations are correct.

Yes, sorry, we see that the track changes made the equation formatting very strange. We have confirmed that the equations are correct.

- I was a bit confused by the use of the word “hydrology” as an adjective, e.g., “hydrology system” or “hydrology pressure”. From a grammatical point of view, I would expect the adjective of “hydrology” to be “hydrologic”. Perhaps there is a distinction between the two terms that I am not aware of but please check.

We have changed all instances of “hydrology system” and “hydrology pressure” to “hydrologic system” and “hydrologic pressure” respectively.

Congratulations on a very nice manuscript.

Nanna