

Interactive comment on “Resolving the influence of temperature forcing through heat conduction on rockglacier dynamics: a numerical modelling approach” by Alessandro Cicoira et al.

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Received and published: 14 January 2019

First I'd like to apologize for the delay in submitting my comments. Unforeseeable circumstances did not allow me to review the paper earlier.

Cicoira et al. present a well written manuscript on a numerical study of rock glacier creep with the objective of understanding seasonal changes in surface deformation. Overall the manuscript reads well and follows a logical flow. Assumptions and limitations of the model are reasonably explained. I also do, in general, agree with the author's conclusion. One aspect I'd like to see included is a presentation of the depths of the zero annual amplitude, and a discussion that relates those depths with the limited

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success of explaining seasonal changes in deformation via conduction. With temperatures being the driver for the creep, no seasonal change in the velocity would be expected if the temperatures remain constant.

The manuscript could also benefit from some editorial improvements and I made several suggestions in the annotated version attached to this comment.

Please also note the supplement to this comment:

<https://www.the-cryosphere-discuss.net/tc-2018-176/tc-2018-176-RC2-supplement.pdf>

Interactive comment on The Cryosphere Discuss., <https://doi.org/10.5194/tc-2018-176>, 2018.

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