

Response to the Editor

To the authors,

The manuscript is very well written and the message is clear and interesting. Furthermore, you have thoroughly addressed all reviewer comments. I only have some additional minor suggestions below before proceeding with publication.

Best regards, Alex

Thank you for your handling of our manuscript, your helpful comments, and your interest in our study! With your help, we feel we have now addressed any lingering issues.

Specific comments:

L4: precede retreat => preceding retreat

Done. L4

L49: "elucidate dynamic changes" is not very precise (and "elucidate" is repetitive with start of paragraph). Consider rephrasing for clarity. What do the inverse methods produce more explicitly?

We have made this statement more specific to the utility of inverse methods in estimating stresses for our study. L49-50

L75: "surface strain rate" <= This should rather be clarified by another sentence. In this depth-integrated formulation, this should represent the depth-averaged strain rate, correct? Then, since vertical shearing is neglected, it could be stated that the surface strain rate is equal to the depth-averaged strain rate, which allows the link to the observations. I think being explicit here is more appropriate.

Yes, you are correct. We have added an additional sentence clarifying this point. L75, L78-79

L135: following Taylor (1996); van der Veen, C.J. (2013) => following Taylor (1996) and van der Veen, C.J. (2013)

Done. L136

L164: (Fig. 2 and 3); coupled => (Fig. 2 and 3). Coupled

Done. L165-166

L165-166: implies that \leq this implies that

Done. L166

L192: retreat \Rightarrow retreat,

Done. L193

L202: Umi \Rightarrow Umiamako

Done. L203