

Review – Stutz et al., TCD – Mid-Holocene thinning of David Glacier: Chronology and Controls

This is a review for the revised version of the above. All line numbers refer to the author tracked changes version of the manuscript. Below are a few minor comments on the new draft that mostly refer to style and clarity rather than anything substantive...

L178 – need to clarify if the bed geometry is taken from the transect or is width integrated (see [Sergienko, 2012](#))

L193 – a sentence describing the success/otherwise of the modern day experiments would be informative

Figure 7 – though I note the author’s response to my previous comment on this figure, I still feel that panel A especially would benefit from some level of transparency being applied to the grey age model lines. The potential age distributions for each elevation will not be normally distributed, and given the solid block of grey on the plot currently, coupled with the 95% confidence intervals this may give a false impression of this to the reader. Depending on level of confidence in the dates, by applying a transparency to each grey age model line it would also help the reader to pin down whether the apparent acceleration in thinning between 120 and 60 m is reflected in the age modelling. Whether this needs addressing in part depends whether the authors assume thinning rates to be linear/there is insufficient confidence in the dates at each elevation to capture variations in thinning rates, and if this is the case it should be stated in section 3.4. As the authors have already responded once to this comment I defer to the editor on whether this should be changed.

Section 5.1 – again noting the previous response of authors (comment on section 5.2 in previous review), while I agree that the information in here is important, all but the last paragraph should be placed in the background section of the paper. This will allow the last paragraph in this section where results of the study are referred to, to be expanded upon and placed more into direct context with previous work. I acknowledge this may be more a stylistic comment on my part, though think it would allow for a more complete discussion.

L447-454 – should try to make clear from the start of the paragraph that the authors are linking interactions with adjacent glaciers to changes in buttressing (thus making the link to the model experiments conducted more clear). Initially reading the first part of this paragraph was left thinking why experiments in changing the flux from tributaries wasn’t tested, and at the moment it’s only at the end of the paragraph that the reasoning for mentioning this becomes apparent.

Figure 12A – from the legend there’s a similarity between the bold orange line and the symbol for iceberg scour. This should be clarified.

L487 – suggest change “periods of onshore thinning” to “rates and magnitudes of onshore thinning” given that the model does not match up with real years.

L494-6 – actually think this sentence goes too far the other way and the first clause underplays the findings of the paper slightly. I agree it could be a template for future studies in some cases, though would suggest concisely flagging in the final paragraph that melt and buttressing changes appear to trigger retreat (i.e. on L493, instead of saying “offers clues” could say “as well as highlighting the role of moderate buttressing and submarine melt changes being potentially able to trigger rapid change in sectors of Antarctica and Greenland”, or something roughly to that effect)