Paper No.: NHESS 2019-376.R1

Author(s): Strzelcki and Kaskolski

Title: Arctic tsunamis threaten coastal landscapes and communities – survey of Karrat Isford 2017 tsunami effects in Nuugaatsiaq, western Greenland

Thank you to the authors for revising their paper. It is improved, but I remain underwhelmed. The authors state that the lack of detail in their observation is at least partly related to having only spent 2.5 days on site. But this, in my opinion, does not negate the fact that the observations are pretty sparse. I cannot recommend publication in its current state.

Although I have not downloaded the data to examine in detail, it appears that there are two dozen ArcticDEM strips covering the study area, including several immediately post-tsunami. Have the authors tried downloading these in order to do a quantitative assessment of erosion and deposition? In the previous version, this was suggested (by both reviewers) and while the authors use ArcticDEM to produce a contour map, they don't really take full advantage of the data. I am disappointed to see it not acted upon.

SPECIFIC COMMENTS

L502 – If you are going to state that arctic tsunamis have been increasing in frequency, you need to back that statement up with data or at least citations.

L512 – Including (Taan Fjord, 2015) parenthetically makes it look like a paper by someone called Taan Fjord. This also appears on line 772.

L515 – You state that climate change played a role in the Paatuut landslide and tsunami but fail to demonstrate this. Dahl-Jensen et al (2004) do not invoke climate change, permafrost thaw, or glacial retreat in their analysis, nor do Buchwal et al (2015), both of which you cite in support of your statement.

L527 – You state that "We followed the post-tsunami traces mapping described in the seminal paper of Szczuciński (2012) on post-depositional changes of onshore tsunami deposits", but key to Szczuciński's efforts were careful and detailed field observations. Such observations are lacking in the current manuscript.

L545 – The new paragraphs about the physiography of the study area are a welcome addition but the English needs some editing. Some of the descriptions (in Vegetation section) are Results.

L615 – While the information about the settlement history is interesting, I'm not sure most of it is relevant here.

L639 – Why is 'Event' uppercase? There are numerous other places where spelling and grammar need to be addressed. I do not point any further issues here.

L786 – I am no expert in social science, but if the authors are reporting interviews with residents, surely they need approval from their ethics board.

L870 – Replace 'man-made' infrastructure with 'built' infrastructure.

L877 – The Taan Fiord landslide was not an Arctic event.

L882 – As most readers are likely unfamiliar with the coast of West Greenland, provide an approximate distance between Sigguup Nunaa and Qeqertarsuaq.

L895 – I'm not sure whether a bulleted Conclusion section is allowed by the journal.

L898 – You state a 'majority' of buildings were destroyed, but then provide the number of 48%. This is not a majority, though it is a lot.

L913 – While warming may increase the numbers and severity of landslides going forward, it is not an obvious contributing factor in the current example. Either prove that it was, or remove this statement.

L947 – The statement that data can be made available implies there are observations that were made that are not reported in full. What additional data exist? Since my main criticism is a lack of data/robust observations, these would be most welcome.

L965 – You include Bloom et al in the references but it is not cited in the paper.

L1007 – You cite Haeussler et al in the references but it is not cited in the paper.

Fig 6 – The legend should be within panel (a) since it is not relevant to the lower panels. The right-hand panels are also not lettered.

Fig XX – there is a figure that is unlabeled (the old caption for Fig 4 seems deleted but no new fig caption is added). It is unclear where the yellow buildings were moved *from*. Is this figure deleted? I am confused.