To clarify a few issues brought up in RC1
Greg Balco

Community comment on "Reversible ice sheet thinning in the Amundsen Sea Embayment during the Late Holocene" by Greg Balco et al., The Cryosphere Discuss., https://doi.org/10.5194/tc-2022-172-CC1, 2022

Thanks to Jason Briner for a helpful review, which is appreciated. This author comment does not represent the final response by all authors, but is intended to clarify some areas of Dr. Briner's review in such a way as to potentially be helpful to readers or other reviewers.

First, with regard to comment (2) in the review, the drill sites are frozen at the bed. Under present and Holocene climate, they would be expected to remain so unless covered by hundreds of meters of ice for thousands of years. Thus, significant erosion or till emplacement during late Holocene ice thickening, during which ice would have most likely been tens of meters thicker than present, is most likely glaciologically impossible. Erosion and till emplacement are likely feasible only under LGM conditions when the site was covered by hundreds of meters of ice. This is, in fact, an omission from the paper that is likely important for readers' understanding.

Second, regarding comment (1), the evidence associating tens of meters of thinning at the Kay Peak site with tens of kilometers of grounding line retreat is solely the observation that both of these things have happened simultaneously in recent decades.

Finally, with regard to photos of cores and sample sites, nearly 200 site, sample, and core photos from Kay Peak Ridge are available online through the ICE-D database. URLs needed to locate these photos are listed in the supplementary data tables, but they are fairly deep within the supplementary data and may not be immediately obvious. For convenience, the URL for a summary page describing the Kay Peak Ridge site is:

https://version2.ice-d.org/antarctica/site/KAYPK/

That page includes links to pages describing each sample individually, which include photos. For example, this URL:

https://version2.ice-d.org/antarctica/sample/19-KP-001-BR/

displays information and photos about sample 19-KP-001-BR.

Core photos are also included in the ICE-D database. For convenience, direct URLs to the full-length composite photos of each core are: