

Dear Reinhard,

Thank you for the helpful technical comments. I have done most of them, and the few I have not I explain why. Answers to all your comments are below.

Regards,

Ken Mankoff

+ [X] Avoid line breaks between numbers and units (e.g. p1/15) with "100-m" instead of "100 m".

I'm not actually writing LaTeX but something that exports and I don't have this level of control. I make sure these breaks don't appear during the proofing.

+ [X] P3/159 What is this uncertainty based on? (Alternatively, provide cross-link to section 4.3.3)

Added: (Sect. 4.3.3)

+ [X] State somewhere in the MS that elevation is referenced to "sea level" throughout (and not, for example, WGS84).

Added: Both DEMs are referenced to the WGS84 ellipsoid.

+ [X] Figs 8, 9 - 17 add spatial scalebar in (a). Consider increasing line thickness (particularly the blue line is sometimes hard to see).

Done

+ [X] Figs 9 - 17: consider removing the x-axis (which is same as in d). This may add some clarity and reduce confusion from some data points below the x-axis (e.g. Fig 12)

Done

+ [X] Fig 18 is "Frequency" the correct y-label? I would feel better with "counts" or something like that. Frequency, at least for me, should have units of "Hz".

Changed to "Count" and "Cumulative counts"

+ [X] Reconsider the wording of "resolution" in conclusion and elsewhere. For example, the 100 m gridding of the ArcticDEM was a choice of the gridding algorithm and may or may not reflect the "spatial resolution" of the sensor applied. Often, I think, the word "gridding" is more adequate, but I leave this open to the authors.

I've changed 'resolution' to 'gridded' (or similar) in many places in the text. I've opted to keep it as 'resolution' in the conclusion because I think it helps with sentence clarity, because the '100 m spatial resolution' is paired with '1 day temporal resolution'.

+ [X] Acknowledgements: Consider thanking the reviewers. I think they did a commendable job.

Added (citations to the ESSD comments via DOI): The editor and two anonymous reviewers provided valuable feedback and helped improve this paper (Anonymous, 2020a, b)