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Interactive comment on "High-resolution ice thickness and bed topography of a land-terminating section of the Greenland Ice Sheet" *by* K. Lindbäck et al.

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General comments

This paper is a competent presentation of a compilation of three radar ice-sounding surveys for a section of the West Greenland Ice Sheet. The dataset covers an area that has seen a lot of previous work and that remains an area of interest for many researchers, so the dataset presented here will be useful in the long term. Some of the data has been published before but the integration of those data with new datasets to provide a full DEM for the area makes a new presentation justifiable.

Scientific comments

The paper provides adequate descriptions of the data acquisition and processing, together with a thorough assessment of the measurement errors and precision. There is then an account of how the different surveys were assimilated and the final DEMs produced. These sections on data quality are useful and provide those who would use the datasets realistic limits on the resolution. The bed topography map is largely free of artefacts apart from one clearly erroneous N-S flight line in the NW of the area surveyed which suggests a slight lapse in the data editing process.

The section on results is just a very brief summary but that is appropriate to a data presentation paper that is not seeking to answer any particular hypothesis.

Technical corrections

Page 131; line25: replace 'aim' with 'aims'

131/26: replace the phrase 'continental-scale glacial periods' with 'continental-scale glaciations'

132/2: replace 'officially unnamed' with 'informally named'

133/16: insert 'to' after 'relative'

135/2: insert 'measurement of' before 'distance'

135/22: replace 'allow for liquid water' with 'therefore contains liquid water'

136/14: replace 'inherited' with 'inherent'

136/19:replace 'the antenna footprint is large' with 'the ice is thick' - It is not the antenna footprint that is relevant here, that metric does not appear in the calculation of the Fresnel Zone. What is relevant is the radius of the wavefront when it impinges on the bed.

138/6: State the vertical reference here (WGS84 ellipsoid presumably)

139/22: replace’ relative’ with ’relatively’

139/23: replace ’larger’ with ’greater’

Interactive comment on Earth Syst. Sci. Data Discuss., 7, 129, 2014.