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Supplement of

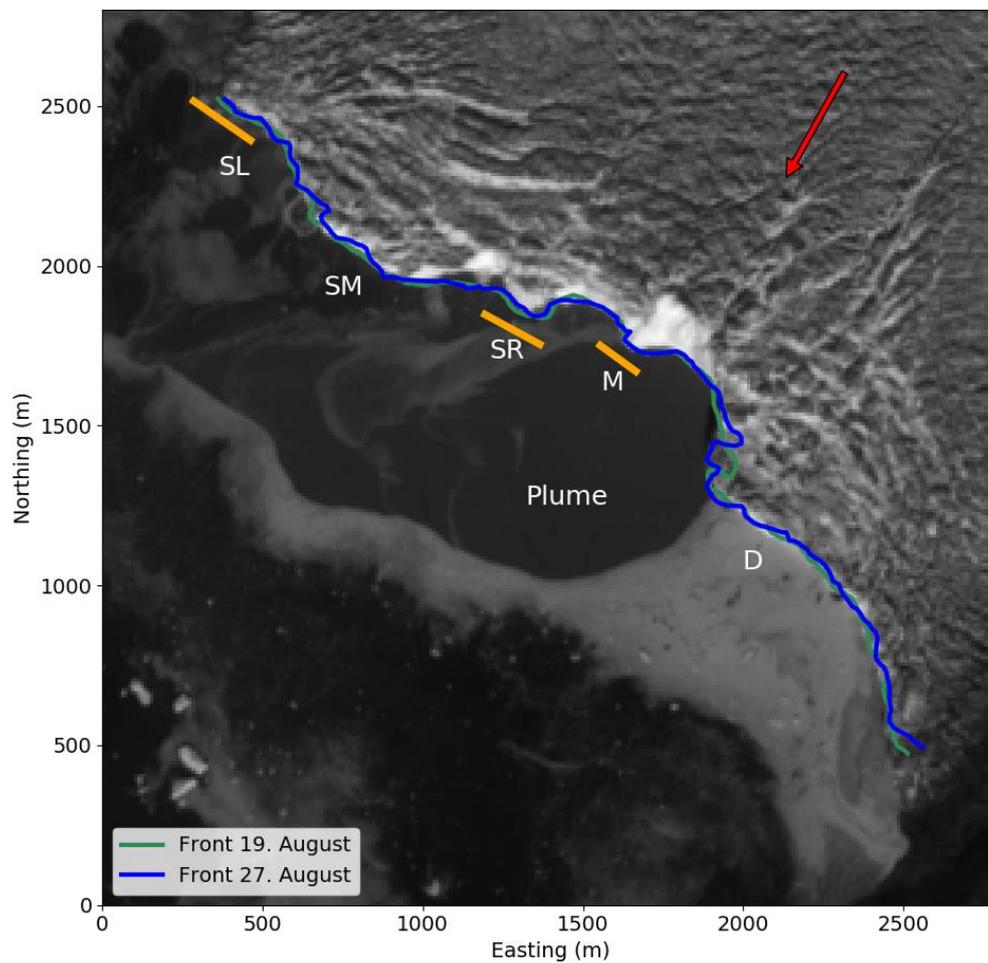
Calving event size measurements and statistics of Equip Sermia, Greenland, from terrestrial radar interferometry

Andrea Walter et al.

Correspondence to: Andrea Walter (andrea.walter@geo.uzh.ch)

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Supplement



5 **Figure S1: Front positions at the beginning and the end of the observation period in August 2019. The red arrow indicates the main direction of ice flow. Background: Sentinel-2A scene from 3 August 2016 (from ESA Copernicus Science Hub: <https://scihub.copernicus.eu>).**

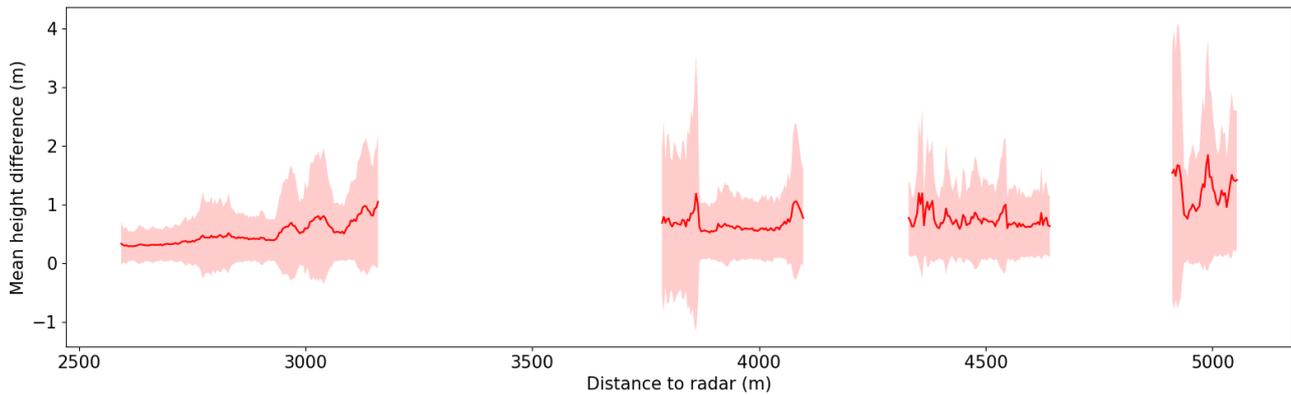
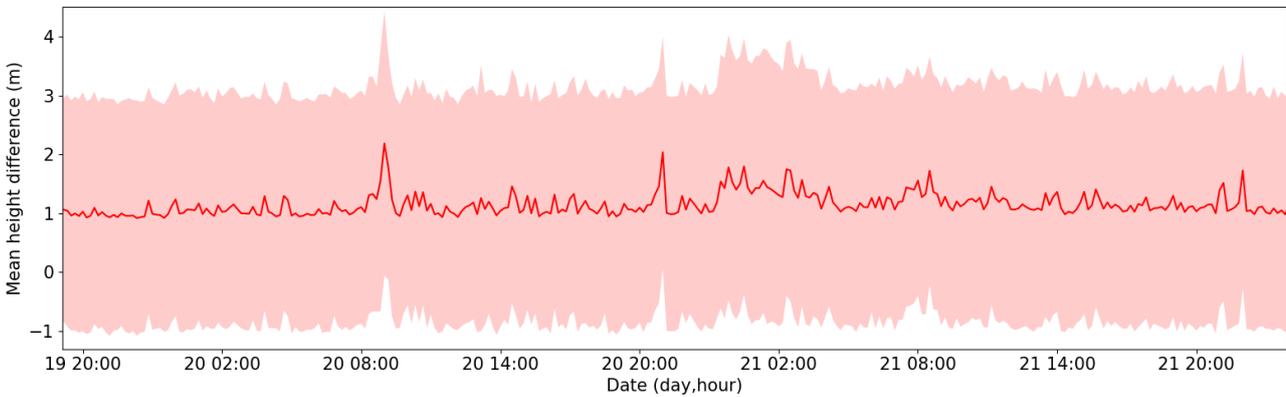


Figure S2: Mean height difference (solid red line) for the stable terrain of all the TRI derived DEMs with distance to the TRI. The shaded area shows the standard deviation.



5 **Figure S3: Mean height difference (solid red line) for the stable terrain of all the TRI derived DEMs over time for the first observation period (19 to 21 August 2019). The shaded area shows the standard deviation.**

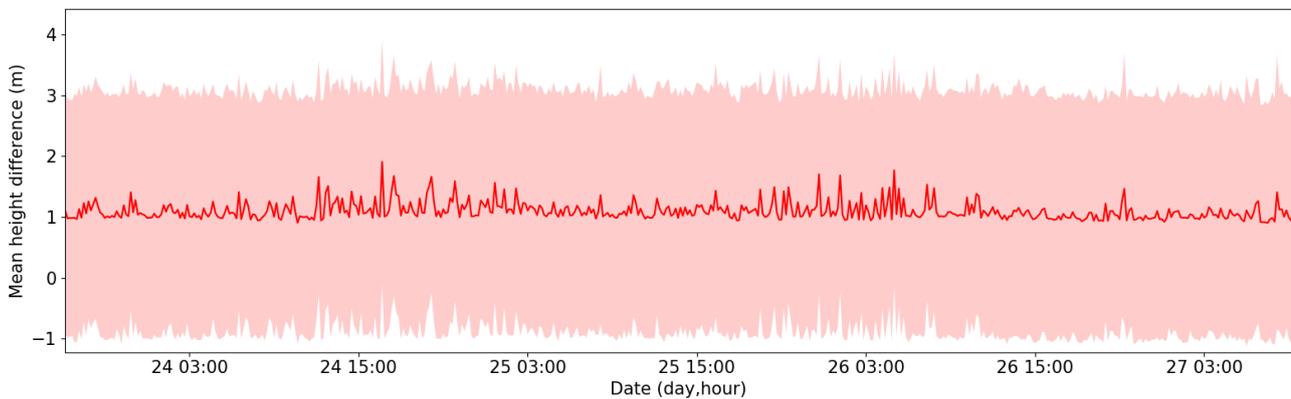


Figure S4: Mean height difference (red solid line) for the stable terrain of all the TRI derived DEMs over time for the second observation period (23 to 27 August 2019). The shaded area shows the standard deviation.

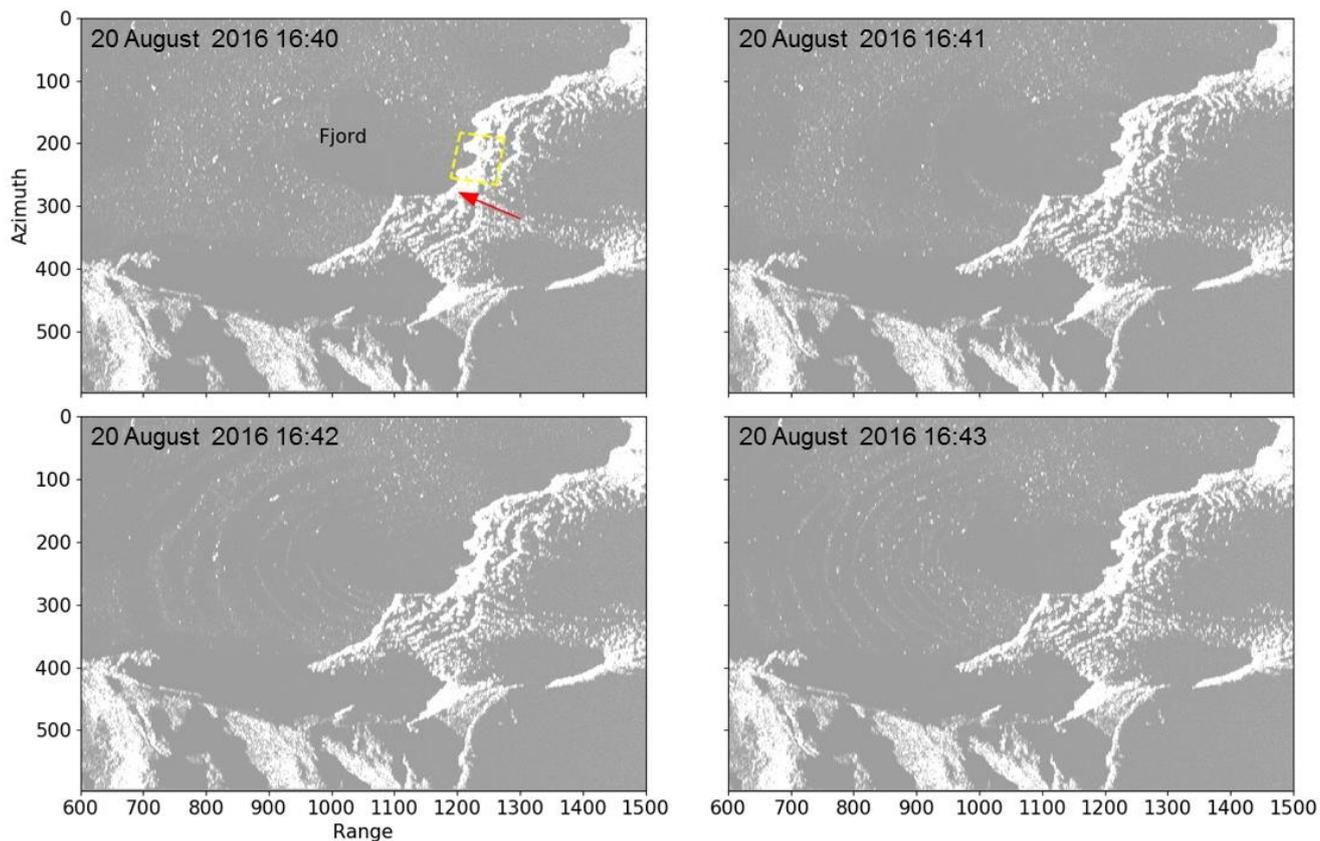
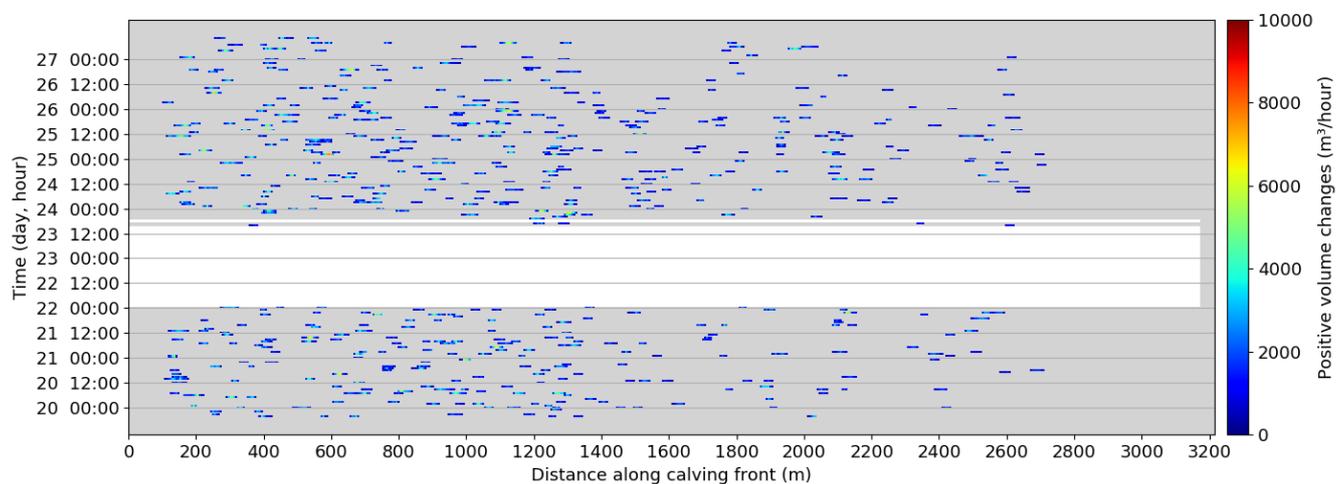


Figure S5: Calving event on 20 August 16:40 UTC shown as a time-sequence of 4 radar multi-look images in radar geometry. The red arrow indicates the general flow direction of the glacier and the yellow box marks the location of the calving event.



5 Figure S6: Observed positive changes in m^3 along the front over time (20th to 27th August 2019). The positive changes were calculated using a threshold in elevation difference of 5 m, a minimum size of 10 pixels, a minimum width of the bounding box of 3 pixels in both directions and the shape condition.

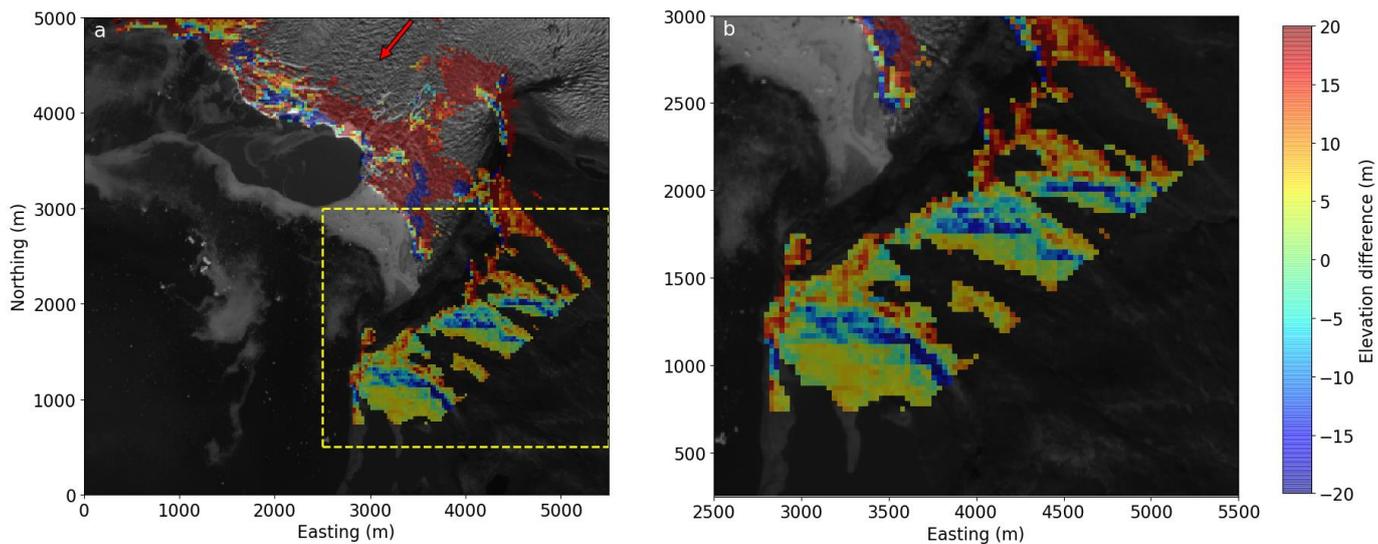
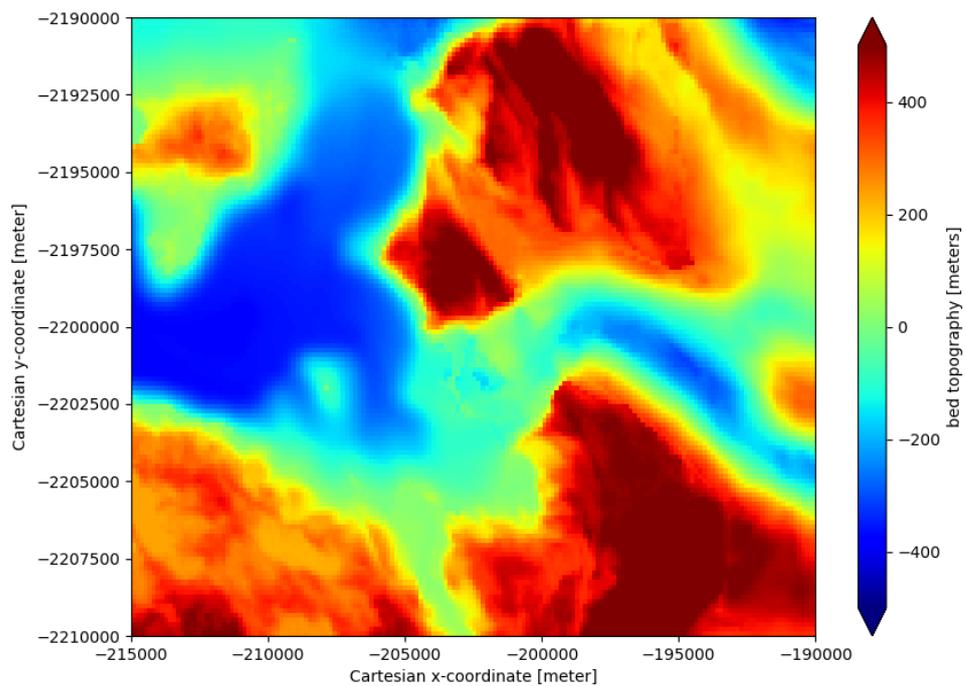


Figure S7: Difference between a TRI derived DEM and the Arctic DEM (Porter et al., 2018). Background: Sentinel-2A scene from 3 August 2016 (from ESA Copernicus Science Hub: <https://scihub.copernicus.eu>).



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Figure S8: Bed topography from BedMachine v3 (Morlighem et al. 2017) used in this study site.

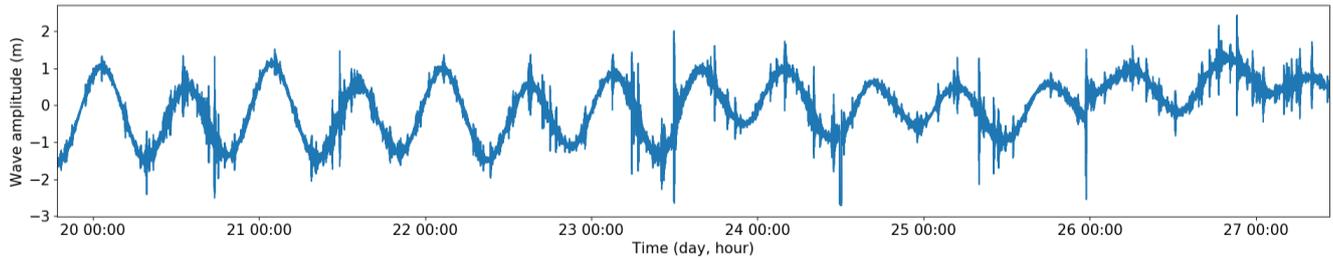
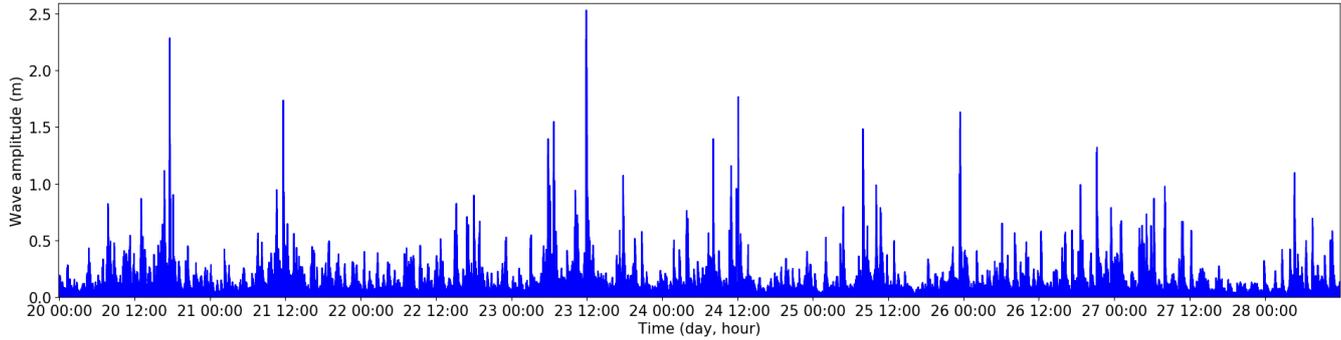


Figure S9: Unfiltered pressure sensor data during the observation period (20 to 27 August 2019) measured in the fjord opposite the calving front.



5 Figure S10: Calving waves detected with a pressure sensor during the observation period from 20 to 27 August 2019

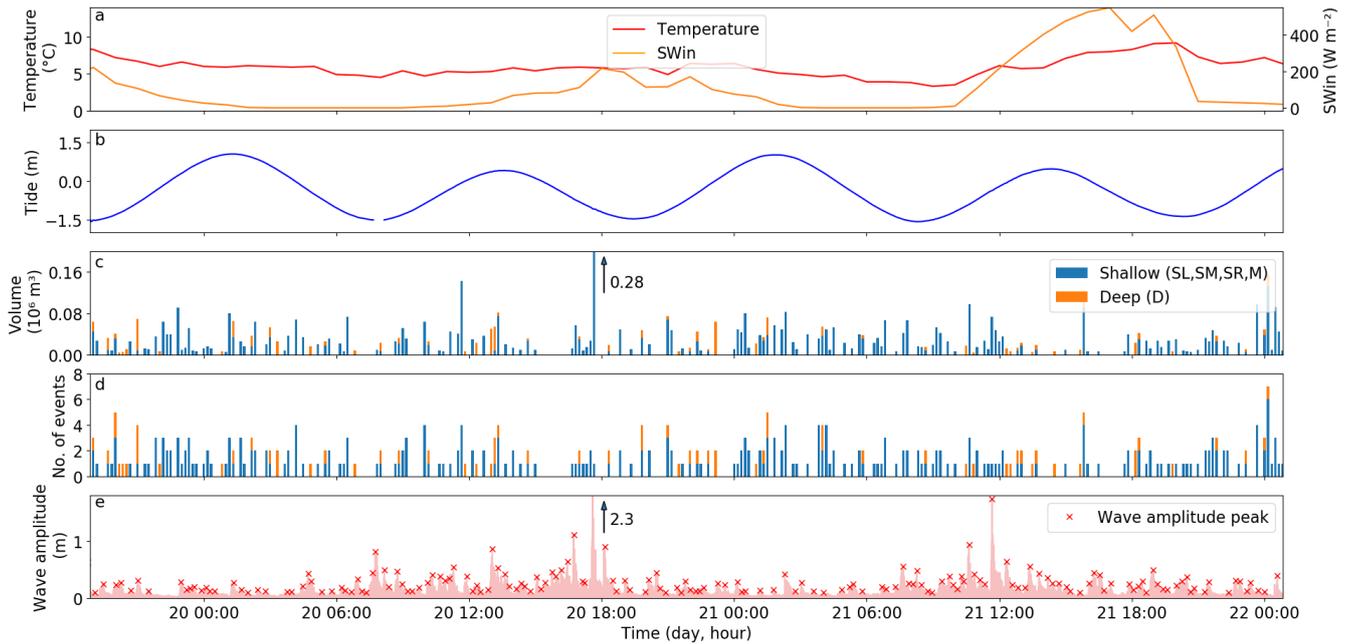


Figure S11: Comparison between forcing and detected calving during a 3 day period. (a) Air temperature and incoming shortwave radiation from the AWS1. (b) Tides in meters. (c) Volume of calving events in m^3 for the shallow and deep sectors. (d) Number of

calving events. The calving events in the deep sector are plotted above those in the shallow sector. (e) Pressure sensor derived wave amplitudes and detected peaks.