

Timing and characterization of glacier calving events from surface waves

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The surface wave field in a tidewater glacial fjord in western Greenland is explored using a single high sampling rate submerged pressure sensor. Glaciogenic ocean waves, assumed to be forced by calving events, are observed with an average frequency of approximately 3 per hour. Spectra of observed waves exhibit linear frequency dispersion, presumably related to the distance from the wave source. Analysis of the dispersion characteristics permits an inference of the timing and location of calving from the glacier face.