The Cryosphere Discuss.,
doi:10.5194/tc-2016-85-RC4, 2016

The Cryosphere Discussions
Open Access
EGU

Interactive comment on "A Two-Station Seismic Method to Localize Glacier Calving" *by* M. J. Mei et al.

Anonymous Referee #1

Received and published: 11 July 2016

>Based on my reading of Köhler 2015, it seems like the method is manual phase-picking of P/S waves to generate a backazimuth and distance, as their array is regional and thus far enough to distinguish different phases? We have added Koubova's description of beamforming, though it seems to rely on having a backazimuth already (which we do not have in our case until after the location is determined).

We (revealing my identity here) used an array at near-regional distance to pick P and S waves and to measure the backazimuth. That was done both manually (for the largest events), but also automatically. However, my point here was just that you should mention the alternative to locate complex seismic signals (such as calving) with local small-aperture arrays. If you have 2 or 3 of these arrays close to the terminus, azimuth intersection allows to locate the events without having to identify / pick individual seismic phases. Of course application of this method is limited by instrument availability.

Printer-friendly version

Discussion paper

>Agreed – the Brune model was intended as a comparison to see if it were a rupture, what size it would be. Do you think we should not mention Brune at all, or qualify it more (that it may not be a rupture signal at all, but if it is, then it has size 50m)?

Since there is still some ongoing discussion about the source mechanisms of calving events, you may keep it. However, in this case you should mention and briefly discuss the other source candidates as well.

Interactive comment on The Cryosphere Discuss., doi:10.5194/tc-2016-85, 2016.