



## **Using reflection seismics to identify and monitor the basal conditions of Russell Glacier South West Greenland.**

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Russell Glacier is a land terminating glacier in South West Greenland. Survey site SHR lies at several kilometers from the terminus and is closely monitored. In recent years in Summer months, site SHR has seen unusual high ice velocities of up to 400m/a which have been linked to increased Summer melt. To capture the probably changing basal conditions of Russell Glacier at SHR we carried out two seismic surveys at site SHR, one in September 2013 at the end of the melt season and one in May 2014 at the start of the melt season. The seismic data were recorded using a 300m snow streamer and explosives. The data reveal an ice thickness of about 550m and 30 to 40m thick accreted subglacial sediments with varying degrees of water saturation in both ice and sediment. We speculate the increased ice velocity is caused by sediments that become temporarily liquefied in the Summer months.