



Subglacial regime of ice stream D, West Antarctica

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We present the results of a seismic reflection experiment performed near the grounding line of ice stream D, West Antarctica, sited to capture temporal variations at the bed of the ice stream. Seismic reflections were collected along a 500 m section of the bed over a two-day period, with the seismic array positioned parallel to ice flow (Ice flow velocities average >600 m/yr in this region, with daily fluctuations that appear to be related to the tides.). The observed reflections reveal variations in both the amplitude and signature of the ice-bed reflection during this time period, indicative of ongoing seismic property changes at the ice-bed interface. These variations may be related to the tides or some other factor, such as a subglacial water system, that is influencing streaming ice flow. A better understanding of these temporal changes occurring at the bed of the West Antarctic ice streams will lead to a clearer picture of present and future drainage of the West Antarctic Ice Sheet.