

How is the Ice Stream C doing on a daily basis?

Slawek Tulaczyk¹, H. Camas Tung¹, and Ian Howat¹

This study is to continuously measure the daily change of surface elevation and ice velocity in Ice Stream C (ISC) area from 2004 to 2005. High resolution GPS receivers were placed along the stream flow in Antarctic Summer 2004 that ran year long and received geographic information every day until the Antarctic Summer 2005.

Our data reveal the deviation of surface elevation along the flow of ice stream in ISC area in a daily scale. There was ~2 meters of surface elevation change over one year. The elevation increase in the upstream was more dramatic and less steady. The error for most of our data point falls within centimeters. The continuous GPS surveys with Ice-Penetrating Radar and numerical simulation provide us a better observation and prediction of the Antarctic Ice Stream behavior.

¹ Department of Earth and Planetary Sciences, University of California, Santa Cruz, CA 95064