Geophysical Research Abstracts,
Vol. 10, EGU2008-A-09229, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-09229
EGU General Assembly 2008

Measuring iceberg motion in Ilulissat Icefjord

J. Brown (1), M. Truffer (2), R. Fatland (3), M. Fahnestock (4)

(1) VAW/ETH Zurich, 8092 Zurich, Switzerland [brown@vaw.baug.ethz.ch], (2) Geophysical Institute, University of Alaska, Fairbanks, AK 99775-7320, United States [truffer@gi.alaska.edu], (3) Vexcel-Microsoft, 1690 38th St, Boulder, CO 80301 [rob.fatland@microsoft.com], (4) CSRC/EOS, University of New Hampshire, Durham, NH 03824, United States [mark.fahnestock@unh.edu]

Accurate measurement of iceberg motion near the terminus of Jakobshavn Isbræ presents a challenge for standard methods. The large distances traveled during calving events and the potential for rollover make optical surveying and standard GPS deployment impractical. By connecting a GPS receiver card to a low-power Linux computer with a wireless device, we create an inexpensive device from which we can retrieve data even if the device is not recoverable. This system was deployed on two icebergs near the terminus of Jakobshavn Isbræ, providing 1 Hz coverage of a calving event in which the icebergs moved nearly 3 km in 2 hours. We also observed oscillations with 3 hour period and 50 cm amplitude (the tidal amplitude is less than 1 meter). This motion is still unexplained considering that the expected seiche frequency for the fjord is only 15 minutes.