



The ‘dark’ side of the Greenland Ice Sheet: 2009 updated long term melting trends, remotely controlled boats on supraglacial lakes and cryokonite holes.

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In this talk I will report recent results from different projects concerning melting over the Greenland Ice Sheet.

In particular, I will focus on three aspects: first, I will show results updating the long-term melting trends (1979 – 2009) derived with spaceborne satellite data will discuss the 2009 melting season.

Second, I will present results of an experiment aiming at improving the monitoring of supraglacial lakes from visible and near-infrared satellite data and will present seasonal trends of these surface features. At the beginning of July 2009, we collected lake depth data and satellites-like data to evaluate satellites products used to study supraglacial lakes and improve monitoring techniques. We used a remotely controlled boat equipped with a GPS, fishfinder, spectrometer and microcomputer to collect these data.

Third, while on the ice sheet, we also collected samples of cryoconite (that dark powdered material responsible for dark holes in the ice). I will report the results of preliminary analysis of this material by using Scanning Electronic Microscopy (SEM, for analyzing the composition) and a spectrometer (to characterize the visible and near-infrared properties).

The following people contributed to the results here reported: Nick Steiner (CUNY), M. Jenkins (National Geographic), X. Fettweis (University of Liege), Adam Lewinter and James Balog (Extreme Ice Survey), Gina Stovall and Gordon Green (CCNY).

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