

ICE MASS LOSS IN NORTHWESTERN GREENLAND

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Greenland is losing ice mass under the changing climate conditions. Not only at the Greenland ice sheet which is currently drawing widespread attention, ice is rapidly decreasing at glaciers and ice caps that are physically separated from the ice sheet. Overview of the changes have been monitored by satellite observations, but further investigations including field measurements are required to capture the details and mechanisms of the changes.

To better understand the recent ice volume change and its drivers in Greenland, we have initiated a research project as a part of GRENE Arctic Climate Change Research Project. The goal of the project is to quantify the mass change of an ice sheet drainage basin and peripheral glaciers and ice caps in northwestern Greenland. Field and satellite data will be collected to accurately evaluate ongoing changes, and the data will be utilized to improve future prediction by numerical modeling. Our field base is Qaanaaq, a small village in the northwestern coast of Greenland. In the summer 2012, we performed field observations on an ice cap and reconnaissance of calving glaciers in the region. In this contribution, we present the overview of the research project and initial results of satellite data analyses and field activities in 2012.

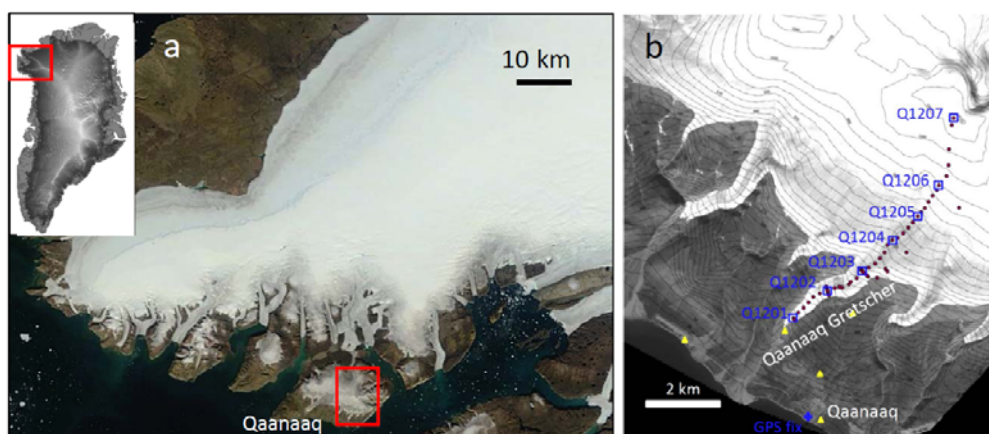


Figure 1. (a) Satellite image of the study area, northwestern Greenland. (b) The ice cap studied in the 2012 field campaign. Locations of survey stakes, GPS and ice radar measurement sites are indicated.