



## **Seasonal observations at 79°N Glacier from remote sensing and in-situ data**

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Supraglacial lakes are suggested to play a key role in the seasonal acceleration of Greenland's outlet glaciers. Several studies exist which successfully link the occurrence of lake drainages to regional modulations of ice flow once hydrological connections allow for lubricating the ice sheet base. However, so far all case studies were conducted in western Greenland where supraglacial lakes develop and drain frequently. Here we intend to monitor lake drainages in the catchment area of 79°N Glacier located in north-eastern Greenland and link drainage events to the seasonal acceleration of ice flow. The detection of lake drainages is obtained from a dense time series of Sentinel-1 and -2 satellite acquisitions. Large spatial scale variations in ice flow are investigated on the basis of Sentinel-1 intensity offset tracking results while more detailed investigations are based on TerraSAR-X derived velocity fields accompanied by local GPS measurements. Preliminary results suggest a seasonal acceleration of ~10% with its peak in the beginning of August.