

Project acronym: DATECH3

Project title: **Asynchronous evolution of glaciers in Greenland Based on Be-10 surface exposure dating technique**

Project leader: Melody Biette, Laboratoire de Géographie Physique, CNRS, Meudon France

Discipline: Earth Sciences & Environment

Station(s): Zackenberg Research Station (Greenland), Sermilik Research Station (Greenland)

Our project will be conducted at the Zackenberg Research Station and at the Sermilik Research Station. The main idea of the project is to use a dating approach to build a robust glacier chronology of the ice margin in the north-eastern part of Greenland to test the hypothesis of an asynchronous evolution of mountain glaciers between the west and the east of Greenland during the last millennium and explore possible climate drivers of these glacier changes such as NAO or AMO.

To this end, we will investigate the recent fluctuations of two glaciers near Zackenberg station and one glacier near Kulusuk based on their moraine records which have been already identified. These data will be compared to already published cosmogenic moraine chronologies from glaciers located on the west of Greenland. The methods used will be mapping and sampling sequences of moraines which have been deposited during the last millennium and building a chronology based on surface exposure dating technique (cosmogenic nuclide Be-10).

This research will benefit from our previous experience conducted at Zackenberg on glacier landforms formed during the Late glacial period and other investigations conducted at Disko Arctic Station. Samples will be analysed at our laboratory using the standard procedure. Results will be published in international journals.