

The interaction between ice loss and hydrology, Russell Glacier, Greenland

Expedition leader – Abbigale Bennett

Expedition dates – 03/08/2015 – 07/09/2015

The Greenlandic ice sheet is a fantastic resource in the measurement of climate change in terms of ice loss. The fluctuations of glacier melt have been measured closely over the past century and the factors about how and why have been greatly theorised. On our expedition we studied the glacier's ice loss and hydrology as a whole, including factors which affect the ice loss such as debris cover and roughness of the ice, the velocity of the glacier, supraglacial hydrology and jökulhlaups.

We flew from Copenhagen airport on the 3rd August and got into Kangerlussuaq in the evening of the same day. We stayed overnight in the Kangerlussuaq International Science Station (KISS) and bought our food from the local supermarket the next morning. The hour and a half bus ride to our base camp began, boasting views of glacier calved mountain valleys, glacial lakes and reindeer. Having arrived at the camp, we hauled all our kit from the road to the camp, a 150m journey over hummocky ground.

The trip began with our party being 10 strong, including Professor Andrew Russell, Dr Rachel Carr, Alex Cumming, James Linighan, Abbigale Bennett, Sophie Battinson, Stephen Cox, Daniel Leicester, Timothy Kempf and Helen O'Riordan. The lecturers helped us to settle into camp life and introduced us to the safe areas of the glacier on which to carry out our research. After four days of searching on the glacier for suitable sites, our sites were selected and we began to collect data.



The lecturers, their field assistants and Helen O'Riordan left on the 12th August, which left us undergraduates wild camping in the barren Greenlandic landscape by ourselves. The real work commenced, which included motivating ourselves to trek the 40 minutes to our field site every day, predicting weather patterns, collecting water from safe sites, cooking meals big enough for five, and washing in freezing cold conditions in the lake. These trials and tribulations were made up for by the northern lights, wildlife, spectacular sunsets and laughter with friends.

The most challenging thing about this expedition was summoning energy to carry out tasks. At the beginning, we did not make our lunches filling enough for the amount of exercise we were doing, and therefore felt fatigued and run down. After a while, we got the hang of meals which were filling enough to get us through the day, but not too much as to



deplete our food supplies too quickly. With a helpful second food shop from our colleague, Helen, on the 12th August and a surprise gift of Nutella from our driver, Magnus, we were able to ration our food by the correct amount, and had enough to survive on with no leftovers.

I think it is safe to say it is the most challenging, incredible experience we will ever have. For undergraduates to be able to go to one of the most remote areas in the world and carry out scientific study is extremely rare and we feel so lucky to have been a part of it.

