

Expedition Report

As part of my final year I am required to complete an Independent Geographic Study (IGS) which makes up a large part of my degree in Environmental Geography. Students are required to design a research project, do the fieldwork involved and write a dissertation from the results. My interests from my previous two years of the degree had been in glaciers and glacial environments and for my IGS I was looking to do work in this area. With assistance from the QMUL Expeditions Fund I was able to make this possible and over the summer I spent 6 weeks in Svalbard. Along with two other colleagues and for a short time our supervisor we carried out research from the 16th July to the 30th August.



Nordenskiöldtoppenbreen, my study site for the 6 weeks I spent in Svalbard. This photo is from one of the few days of good weather we had on the glacier

Svalbard is an archipelago (a group of islands) and is located in the Arctic Circle between 74°N and 81°N. It is Norwegian territory. During the summer it receives twenty four hour daylight and during the winter the sun doesn't rise. The main settlement, where I was based, is Longyearbyen. With a permanent population of roughly two thousand people along with students and tourists it's a busy town. Outside of the town though, it is primarily a wilderness with a large percentage of the country glaciated. This makes it a perfect place to do this kind of research.

The benefit of studying here though is The University Centre in Svalbard (UNIS). This university is a centre for arctic studies and through my supervisor Dr. Sven Lukas and his colleague in UNIS Dr. Doug Benn we were registered as students in the university. This allowed access to the student accommodation and any equipment we needed in the field. Without this our expedition would never have happened.

Being a remote and extreme environment special training was required before any field work was undertaken. This was done through the UNIS logistics department. There were a number of talks on general safety on glaciers, weather conditions and other basics. One of the main reasons for the safety briefings is because of a unique danger that is present, polar bears. While the likelihood of encountering a bear is minimal the training and field protocol is mandatory.

Once you leave Longyearbyen you are required to be in at least a group of two people. Within this group there must be a rifle and flare gun. Our rifle training started with a theory session followed by a hands on session. During this we were shown how to handle, maintain and fire the rifle. It is worth noting that after I fired the rifle on the range that was the last time it was fired! Because I was in the arctic and working on a glacier there was specific equipment required. I was lucky as I have been doing mountaineering over the last few years that I had the majority of the equipment needed.

One lesson that was quickly learnt in the field was that you have to be flexible when it comes to the scope of the project. The original glacier I was meant to work on looked to be a suitable distance on a map but in reality it was an almost five hour trek each way so changing glacier was the only option. The glacier I was working on, Nordenskiöldtoppenbreen, was a ninety minute walk from Longyearbyen and barring illness or minor injuries I was at the study site at least five days a week.

My research is focused on the processes occurring at the debris margin of the glacier. I spent my time in the field mapping and profiling the debris margin, making process observations and digging out pits along two transects to identify the depth of the debris cover over the underlying ice. The weather was the biggest difficulty for doing research. The conditions were so changeable that within 10mins of clear blue skies and sunshine you could be enveloped in freezing fog reducing visibility to less than 10m. Learning to be aware of the changeable conditions became an invaluable skill.

Temperatures fluctuated about 25°C over the six weeks but it never got above 7°C in town and 0°C.

When I wasn't in the field I had time to explore the surrounding area both with my colleagues and with a number of other students as well as getting the chance to try out some other activities. As it was 24 hour daylight it meant that even after a day of fieldwork it was possible to go on other hikes and having a glacier that was 10 minutes from the accommodation it was nice to get out there on a

regular basis. Other activities that I did over the six weeks included kayaking, overnight trips with other UNIS students and I even went swimming in the sea, the temperature of the water was 3.8°C.

My time in Svalbard was a once in a life experience. Being able to spend that amount of time in such a unique environment and conducting interesting research was invaluable. When I complete my final year I am looking to pursue a similar line of study at masters' level. The assistance provided by the expedition fund was invaluable and my sincere thanks go out to the Expeditions Committee for accepting my request for funding.