

Diary 13 – 4 September 2013

'If you hold your hand underneath the exhaust pipe, the cold water in your gloves will be heated up!' Juri is reminding us, that you can get a bit of warmth in your hands by holding them close to the engine we use to core in the permafrost. We are above 74 degrees north and it starts to feel. It has been a windy week with quite some precipitation and after a day of coring, our gloves and boots are dripping with wet snow.

Now Graham is nodding while holding the engine we core with. It is time to pull up the drill. All of a sudden, we forget about cold fingers and wet feet, only to focus on the end of the coring barrel. Is it filled with a permafrost core or is it empty? Suvi smiles: yes, there is something in the barrel. A nice permafrost core from a periglacial nival fan pulled up from the underground, giving us a unique insight in the geomorphological development since the Holocene, and now the rest of us nod and smile at each other. The tough and muddy job does get easier in collaboration with others.

Back at the station, Cecilie gets busy in the lab. We need to know more about the carbon and nitrogen contents in the samples, and she is the right person to do it. Sometimes the sharing of a workload comes without much discussion, and the collaborators participate with equally good contributions. This is the case in our group. We are here at Zackenberg as part of a PhD-course funded by Perma-Nordnet, Centre for Permafrost (CENPERM) at University of Copenhagen and the University Centre in Svalbard (UNIS). Hanne Christiansen and Bo Elberling have taken the initiative, and we are excited to be able to participate in this course on the geomorphological development of the Zackenberg valley since the Late Weichselian glaciation. Even so, we have had time for an excursion to Revet, 40 km west of Zackenberg, which served as a contrasting site in terms of seasonal temperatures and precipitation. At Revet (yes, all but the Danes are struggling with the pronunciation), we camped next to the small trapper-station Moskusheimen, and thus got our own slice of North-eastern Greenlandic history. According to Graham, the station has had Henry Rudi – the polar bear king – as one of its most notable inhabitants, owing to the shooting of 713 polar bears in over two-decades of trapping. On one side of our research spectrum, the presence of Bordeaux-red *Betula nana* shrubs told us a story of slightly different meso-climatic conditions than found around Zackenberg, while the highly active river delta and moraines in terraces was studied to give us an indication of sedimentation rates, sea-level drop and coastal landforms developing since the Late Weichselian.

The week is now coming to its end, even though a regional drill on evacuating personnel has postponed our travel back. Excellent food, excellent company and excellent weather forecasts by Ole Humlum has made life and research at the station an enjoyable micro-cosmos, and the fact that we are soon leaving give rise to mixed emotions. Including questions such as: does the rest of the World still exist? We think it does, and are thus getting ready to board the Twin Otter in a few days: here we come, a wiser geomorphological version of us!

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