

## Diary 2: 8 – 29 May 2013

Geese fighting for the few wet spots left in what normally are ponds and lakes, withering plants looking as if they will never get back in shape again, only a small snow patch left in ZEROCALM-2 ... yet another extreme year on the fluctuating snow cover and climate curves from the arctic Zackenberg ecosystem.

Although I love skiing and seriously miss it this year, I cannot help to enjoy the outlook for another year of new patterns and record events. It seems as if "normal" is not a term that exists up here. Last year people skied until mid-June and muskoxen walked long distances to find a little spot with shallow snow allowing them to find sparse food underneath – this year we have record little snow giving the muskoxen access to food almost everywhere – even in the fen areas. Only the lemmings might find it difficult to escape the foxes since deep snow patches for their winter nests are not frequent. And the skis – they were stored for the summer in mid-May.



*Snow cover at Zackenberg May 2013. Photo: Mikkel Tamstorf.*

Following the record low snow, we also had a warm first half of May resulting in a record early break-up of the river (disregarding the winter glacial lake floods). Late evening on Sunday 19 May, we drove the Argo up the riverbed and surprisingly met running water only 300 m north of the station. This was a relief to Jørgen Skafte, who has been fighting to find snow for the water supply. The water tanks are now full of crystal clear melt water from the surrounding hillsides.

These last three weeks at the station have seen two main goals: starting and keeping the BioBasis and GeoBasis programmes running and drilling holes for the foundation of a new bridge that are planned for installation in September this year. We (Palle Smedegaard from BioBasis, Tower (very strong guy for the drilling work) and myself (GeoBasis manager and drilling rookie) arrived on 8 May exchanging news from the world and locally with the glaciologist that was on their way out. Maria Rask Pedersen from GeoBasis and Jørgen Skafte

(Station Manager) greeted us new comers (although all familiar to Zackenberg) with happy faces (maybe mostly because we brought new supplies of vegetables, eggs and cream?).



*Drilling holes for the foundation of the new bridge at the Zackenberg May 2013. Photo: Mikkel Tamstorf.*

While Palle and Maria has kept the ecosystem monitoring going they also have kept the recurring competition between the programs of first observation of arriving bird species running. One should think that the biologists always take the trophy in that competition - but no, GeoBasis rules again (at least as of this morning).

During the last 1½ year, Flemming Tamstorf with help from others have worked hard to secure funding for a new bridge that will ensure easy and secure access to the western part of the valley with decreasing pressure on the heavily monitored and investigated eastern tundra and wetlands. The bridge will be a steel construction with a 45 m span crossing the bridge approx. 400 m north of the station. Access to the bridge will be along the existing road turning west just north of the GeoBasis eddy covariance station. The bridge was planned for the original crossing site next to the station but last year's extreme flood showed this part of the riverbanks not to be stable enough – therefore a more stable site was chosen.

The drilling of holes for the new bridge has only been possible due to the access to the UNIS drill rig that was used for the boreholes to install permafrost temperature sensor strings in September last year.

Tower, Jørgen and I started up hauling the 700+ kg heavy sledge and drill rig to the new bridge site and started drilling on the western side of the river. By sheer luck (and good timing) the last hole on the western riverbank was completed one hour after the river broke up giving us time for a hurried escape to the eastern side through ankle deep melt water. The entire drilling of the eight boreholes was completed after two weeks of hard work and new experiences (including a frozen-in drill core). Now follows the planning for the building of the bridge in September.



Although the weather have been varying with a lot of wind this May spring is here for certain now and when we fly out on Wednesday we will leave the valley in person but not in thoughts. What will the next record event be this year – early break-up of the fiord? Record low greenness due to the dry conditions? Biologists getting more first observations than GeoBasis? We do not know yet but surely will be surprised when (not if) it happens.

Mikkel Tamstorf



*Grouse at Zackenberg, May 2013. Photo: Mikkel Tamstorf.*