

## Diary 6 - 10 April 2012

### “No possibility for landing at Zackenberg”

#### Zackenberg

This was the message we received on Iceland, well on our way to Zackenberg in Northeast Greenland to launch the land-based component of a comprehensive winter research campaign; an initiative by the Arctic Research Centre (ARC, Aarhus University) and its partners in the Arctic Science Partnership (ASP), the Greenland Climate Research Centre (GCRC, Nuuk) and University of Manitoba (Canada).



*Inside the Twin Otter. On our way to Daneborg with lots of equipment and food.  
Photo: Mads C. Forchhammer.*

Not to worry though. Notwithstanding the apparent logistic drawback, this was certainly not going to stop us. As the first of a total of 14 researchers, four of us touched down at Daneborg yesterday and were then transported to Zackenberg by snow scooters. A quite exiting but also a rather cold entrance to our late-winter research period.

So in the next 3 weeks, the research at Zackenberg embraces a range of projects which, in broad terms, will investigate how late-winter conditions affect the terrestrial and freshwater ecosystems function and gas-flux dynamics, thereby setting the scene for what we observe during the summer period. In addition, two research groups will investigate the local glaciers and how they, among other things, may contribute to the floods we observe in the Zackenberg River almost every year.



*Zackenberg valley. First day in the field, mapping the distribution of muskoxen.  
Photo: Mads C. Forchhammer.*

Today, two of us started mapping the distribution of muskoxen in the central valley around the Zackenberg field station. In late winter, their distribution is primarily governed by snow and in this year with a large amount of snow, we found most of them on the windblown but very sparsely vegetated ridges across the landscape. However, as the snow melts and the summer sets in, these large herbivores will move down to the valley floor grazing on the more lush fen vegetation.



*Lone musk ox bull grazing at one of the windblown ridges in the landscape. Not much food to be found there. Photo: Mads C. Forchhammer.*

In the following days, we will continue measuring snow depth within and outside the musk ox feeding areas. Using this information in a detailed landscape snow-model, we can look at how different snow-regimes may affect the interactions between muskoxen and vegetation. This will, combined with our ongoing exclosure experiments during summer, enable us to investigate further the potential coupling of seasonal dynamics of flux of greenhouse gasses with seasonal plant growth, grazing activities and activity of soil microorganisms.

Mads C. Forchhammer

Read more on <http://www.natur.gl/en/news/>