## Diary 24 - 9 October 2012

## Zackenberg

I had agreed to write a weekly letter in the beginning of October. The last week I have thought about what to write and how to make my field work sound both interesting and sexy, but without luck. However this letter may be interesting after all. After today this weekly letter can be spiced up with the story about three polar bears in the Zackenberg valley. I was out in the fen measuring carbon dioxide and methane as I am always doing. Maria, the lovely GeoBasis assistant, was also in the fen, checking the different gas flux stations. We were looking at the snow white slope of Aucellabjerg and talking about the four musk oxen that were running about 200 metres up the slope. We talked about, how these strange animals sometimes just start to run for no good reason. But these were not crazy, because they were running away from something. 100 meters behind the musk oxen there were three polar bears, a mother and two large cubs. I don't think that the polar bears were hunting the musk oxen, but they did not feel like staying. We called the others on the radio. Lars the BioBasis assistant that never goes down on equipment watch the three polar bears with his big set of binoculars, while Jørgen could see them from the station with the telescope. The mother was leading the two cubs north and at two a clock they were so far away that we could not see them anymore. It was an amazing sight and once again this autumn we are reminded of that there really are polar bears in Northeast Greenland.



Photo: Julie Maria Falk.

I am working on my Ph.D. project, were I am looking at how grazing by the musk oxen are affecting the carbon dioxide and methane emission, production and uptake. The project started in 2010 and since the beginning I have dreamt about being able to measure the gas fluxes in the autumn. I wanted to follow especially the methane cycle to the end of the season. So far this has been a success; as I now can measure zero methane emission at several of my plots. I have about 1½ week left here in Zackenberg and I think that most of my measuring sites will have reached winter stage with almost no methane emission and then the mission is completed this year.



Photo: Julie Maria Falk.

The two monitoring programmes GeoBasis and BioBasis are still running without problems, thanks to the hard working people, Maria and Lars. The station is running with water, electricity and mails thanks to Jørgen. And after yesterday's hard work and hazard of getting water up frozen hoses, we can again take our weekly showers – thank you Jørgen. The fjord has started to freeze up. The mountains are snow white. The river is quiet, as most of the water is frozen. Very few birds are left in the valley. The few snow buntings that are here are living in constant fear of being killed by one of the falcons. Maria and Lars were witnesses to the brutal murder of a snow bunting down by the river yesterday. The musk oxen are gathering in big groups and the day length is getting shorter. These are all signs of that winter approaching.

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