

## Scientific report of the Polar ecology course – geosciences

***Winter expedition 2016***

Press release: April 10, 2016

With the support of Norway Grants instructors from Masaryk University in Brno and 10 students from different Czech universities took part in the Winter Polar Geosciences Course, which took place between 21 March and 4 April in Svalbard, Longyearbyen. The course was not focused only on scientific topics as snow physical properties, snow cover conditions in relationship with landscape morphological features and specific winter atmospheric conditions, but also on the proper behaviour in the field during winter and some ecological aspects. All participants underwent the course of surviving the winter/Arctic conditions; they took part in avalanche search and rescue training where they practice how to use the avalanche transceiver and snow probes when rescuing people from avalanche. They have also undergone a safety course to get familiar with weapons, which are necessary to carry all the time for the protection against polar bears and, of course, they were educated about behaviour of polar bears and how to react when you encounter one. Fortunately we did not meet any.



*Sea shore during winter in Longyearbyen, Svalbard (photo Jan Russnák)*



*Setting the snow characteristics (photo Martin Lulák)*

The students with teachers usually worked in several groups. “Meteorological group” installed and took care about automatic weather station and monitored specific winter atmospheric conditions and then processed the measured values. All participants wished to be lucky with the famous aurora borealis; however, we did not see any. The other group was focused on Remote sensing methods and by the use of Unmanned Aerial Vehicle they mapped the area of Todalen. The third group focused more on biological, biochemical and environmental disciplines - they collected samples of snow for analyses of heavy metals pollution and did microbiological investigations for bacteria and their resistance against antibiotics. The last two groups were focused on snow - they practised how to measure and describe the snow characteristics by digging the snow pits, how the orographic situation changes the snow deposition by measuring the snow depth, or they explored the fresh avalanche site or ice cave environment.



*Exploring the ice cave (photo Klára Hajšmanová)*

On 29th March earthquake of magnitude 5.0 was recorded in Svalbard, 119km ESE of Longyearbyen which we felt just as a mild shake of the stations floor.



*Processing the samples of snow for heavy metal analyses (photo Kristián Brat)*



*Student avalanche search and rescue training (photo Jan Russnák).*