

Site Survey for the broadband seismometer installation at the Polish Polar Station Hornsund, 15 – 18 June 2007

The IPY Project [*The Dynamic Continental Margin Between the Mid-Atlantic-Ridge System \(Mohs Ridge, Knipovich Ridge\) and the Bear Island Region*](#) is an international project in which different seismological methods are jointly applied to investigate in detail tectonics, seismic activity and structure of the crust and uppermost mantle in the area.

Key elements of the project are the upgrade of existing seismic stations with modern broadband seismometers and high quality recording equipment at the [Polish Polar Station Hornsund](#) and on [Hopen](#) Island.

The broadband sensor on Hopen will replace the now existing short period seismometer. This is not possible at Hornsund where a new site for the broadband sensor had to be prepared. To find an appropriate place to install the broadband sensor STS-2 a site survey was needed, which was made during a very short trip to Hornsund.

Participants:

doc. Dr. habil. Wojciech Debski, Polish Academy of Sciences, which runs the Hornsund station
Dr. Johannes Schweitzer, NOR SAR, IPY Project Leader

Travel:

15 June ~22:00 flight from Gardermoen, Oslo to Longyearbyen, Svalbard
16 June ~01:00 arrival in Longyearbyen
16 June ~01:45 continue with the yacht “MS Eltanin” for Hornsund
17 June ~01:40 arrival at Hornsund
17 June ~08:40 – ~ 11:20 site survey
17 June ~13:30 departure from Hornsund with the yacht “MS Eltanin” for Longyearbyen
18 June ~13:00 arrival at Longyearbyen
18 June ~14:55 flight from Longyearbyen back to Gardermoen
18 June ~19:10 arrival at Gardermoen

To find a place, which has no environmental problems (water, no bedrock, too close to areas used by the people of the station, ...) and which has no logistical problems (length of power and data cables, distortion of or by other measuring equipment,...), the whole area around the Hornsund station was inspected in detail. A very nice site to install the new broadband seismometer was found not very far from the existing magnetic observatory.

The plan is to install at this site the STS-2 seismometer and to install the recording unit and digitizer in the station. In this case, only an absolute minimum of the sensitive electronics will be exposed to the harsh Arctic climate.

The installation itself is then planned for September 2007 in parallel with the planned upgrade of the seismometer station on Hopen.