



Institute of Geophysics, Polish Academy of Sciences -  
IG PAS

**SYSSELMESTEREN  
PÅ SVALBARD**

Att.: Marzena Osuch

Our date:  
19.01.2022

Our reference  
22/00154-2

Your date:  
14.01.2022

## **Reply to research application – monitoring ground temperature - Hornsund - IG PAS - 2022 - RiS-ID 11889**

We refer to research application submitted 14.01.2022 regarding fieldwork on ground temperature in Hornsund in the period 25.04.-08.05.2022.

### **Fieldwork description**

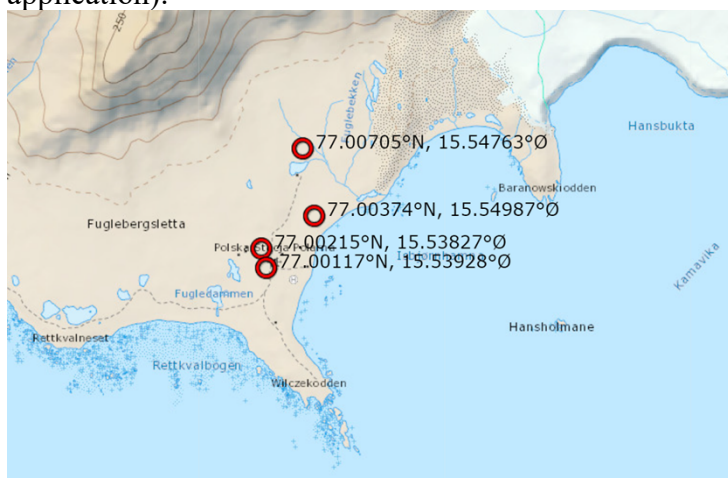
*This application is partially in correspondence to a research application regarding scientific drilling in Hornsund - RiS - ID10748 with the reference to the permission given from the Governor's office no. 18/00044 -8. The monitoring of ground temperatures in Hornsund has been carried out in instrumented boreholes since 2017 as described in SESS report 2018 and 2019 (Christiansen et al: Permafrost temperatures and active layer thickness in Svalbard during 2017/2018 (PermaSval)). After two years of ongoing measurements, some problems occurred with two of the thermistor strings and as it is impossible to take the string out of the ground we would like to set the new ones replacing those that do not work properly.*

*Fieldwork will be held 25.04- 08.05.2022 and two boreholes will be restored and equipped with ground temperature sensors. The locations are as follows: lat="77.003743" lon="15.549874" borehole Lisek 20 m deep lat="77.007051" lon="15.547630" borehole Brzuchorzeska 20 m deep.*

*In addition, two boreholes 10 m deep will be drilled and equipped with piezometric pipes. The proposed locations are next to borehole Lola (77.002152;15.538271) and borehole Brzydal (77.001173;15.539277. These piezometers will be applied for monitoring groundwater levels and serve as reference points in the case of GPR measurements.*

*Special care will be undertaken when using drilling rig gm50g t combi. To ensure there will be no damage, the drilling rig will be driven during the freezing period with frozen ground and maximum snow accumulation. All waste from the drilling will be cleaned. Boreholes will be only 7 cm in diameter. All equipment and all waste items will be removed.*

Borehole locations are shown on the map below (generated from the references given in the application):



## Regulations

Regulations on the national parks Sør-Spitsbergen, Forlandet and Nordvest-Spitsbergen, on the nature reserves Nordaust-Svalbard and Sørøst-Svalbard, and on the nature reserves for birds on Svalbard.

### Section 3. Purpose of the national parks

The purpose of protecting the areas is to maintain large, continuous and largely undisturbed areas of natural environment on land and in the sea with intact habitats, ecosystems, species, natural ecological processes, landscapes, cultural heritage and cultural environments. The areas are to be maintained as reference areas for research purposes and for opportunities to experience Svalbard's natural and cultural heritage.

Sør-Spitsbergen national park is particularly intended to safeguard:

- an area with a spectacular landscape including characteristic jagged alpine mountain formations, coastal plains and glaciers
- several localities of varying sizes with cliff-nesting seabird colonies, breeding and wintering areas for ducks (particularly common eider) and important areas of polar bear habitat
- important structures and sites and cultural environments with traces of earlier whaling activities, overwintering hunters and trappers, mining activities, tourism, research and the Second World War.

### Section 6. Protection against development and disturbance

The areas above are protected against all forms of development, including the construction of buildings and installations of all types, mining, oil exploration and production, extraction of deposits and other activities that involve physical disturbance of the terrain or disturbance of the natural environment.

### Section 11. Exemptions

The Governor may permit:

- d) scientific studies, provided that these will not be contrary to the purpose of the national park

## The Governor's considerations

Hornsund is within South-Spitsbergen national park and the regulations relating to the national parks Sør-Spitsbergen, Forlandet and Nordvest-Spitsbergen, on the nature reserves Nordaust-Svalbard and Sørøst-Svalbard, and on the nature reserves for birds on Svalbard comes to an act.



Fieldwork applied for in the period 25.04-08.05.2022 includes drilling of four boreholes in total, two of them 20 meters deep and two 10 meters deep. Motorized drilling rig gm50g t combi will be used. The fieldwork locations are located near the Polish Polar Research Station in Hornsund. In e-mail dated 17.01.2022, the applicator informs that parts of this fieldwork were originally planned for in 2020, but due to covid-19 the fieldwork was postponed to 2022. The Governor of Svalbard gave in 2020 permission to the fieldwork (ref. 19/01215-5).

Two drilled boreholes will be equipped with geoprecision thermal strings. The applicator informs in an additional email 15.01.2022 that this equipment is still working in other boreholes and are recommended for any environment. These strings are 20 m long and with diameter: cable 5 mm / sensor: 8 mm. temperature sensors and two boreholes with piezometric pipes. Regarding problems with new thermal strings, the applicator states that the drilling team is very experienced in drilling in different environments.

Drilling of boreholes in the ground is considered as an activity that needs permission. The drilling activity will potentially be of disturbance. According to the regulations relating to large conservation areas and bird reserves in Svalbard section 11, letter d, the Governor may grant permission for scientific purposes as long as this is not in conflict with the purpose of the national park. This does not necessarily mean that permission is given. Generally, fieldwork should be carried out outside protected areas. In this particular case, the Governor must consider if the activity is in conflict with the purpose of Sør-Spitsbergen National Park.

According to the description in the application, the drilling rig will be driven during freezing period with frozen ground and maximum snow accumulation to ensure no damage. The boreholes will be 7 cm in diameter. It is possible to cover these holes afterwards by using surrounding materials. If drilling is done on frozen and snow-covered ground by competent operators, we expect that no traces of the activity will be visible.

The drilling activity is considered as limited in time. As described in the application, the need for two new boreholes is a result of problems with existing holes where it is impossible to take the strings out of the ground. To prevent need for new boreholes in the future following an increase of reversible installations in the ground, the project leader should ensure the method to be as good as possible.

The fieldwork activity is considered as temporary and with a minimal effect on the landscape. The purpose of the activity is scientific, where the activity takes place from the Polish Polar station in Hornsund where research is well established by the applicator. The results from the fieldwork may be of importance for the management authorities. By following the conditions set to the permission, the Governor consider the fieldwork applied for is not in conflict with the purpose of the national park and will not affect the conservation values.

### **The Governor's decision**

The Governor of Svalbard grants the Polish Academy of Science att. Marzena Osuch permission to drill two boreholes as described in the application in Hornsund in the period 28.04.-08.05.2022.

The permission is given under the provisions of the Regulations relating to the national parks Sør-Spitsbergen, Forlandet and Nordvest-Spitsbergen and relating to the nature reserves Nordaust-Svalbard and Sørøst-Svalbard and the nature reserves for birds §11 d.



The Governor's permission is granted on the following conditions:

- Special care must be undertaken when using the drilling rig to ensure that no damage to nature occurs.
- The installations must be marked with the owner's name, institution, contact information, RiS-ID, date of deployment and retrieval.
- All equipment and all waste items are to be removed and brought back. Garbage shall not be burned, except clean untreated wood.
- These exemptions are only valid for the people included in the project.
- This permission must be brought along during the fieldwork.
- The project shall submit a report from the fieldwork including photos of the drilling locations in the RiS database by 01.11.2022.

Please notice that your planned fieldwork outside Management Area 10 requires notification to the Governor according to the regulation FOR-1991-10-18-671 on travel in Svalbard (the Tourism Regulation). The notification form is available here: [Notification of travel plans for individual travellers; residents, visitors and researchers.](#)

**Duty of care**

The Governor calls attention to the duty of care in the Svalbard Environmental Protection Act § 5 first sentence, «Any person who is staying in or operates an undertaking in Svalbard shall show due consideration and exercise the caution required to avoid unnecessary damage or disturbance to the natural environment or cultural heritage.» The Governor requests particular attention regarding wildlife.

**Right to complain**

According to Norwegian law you are entitled to complain about the present decision. Written complaints must be submitted within three weeks of receiving this letter. The complaint must be submitted to the Governor.

Regards

Kristin Heggelund  
Head of Environment Protection

Ingvild Øyjordet  
Adviser Nature Management

<i>This document is approved and expedited electronically without signature</i>
---

**Copy**  
Miljødirektoratet