

University of Silesia, faculty of earth sciences



**SYSSELMESTEREN
PÅ SVALBARD**

Att.: Dariusz Ignatiuk

Our date:
28.07.2021

Our reference
16/01186-79

Your date:
14.06.2021

Reply to research application - RiS-ID 10511 - glacier transformation related to climate change in Hornsund area

The Governor refers to your application dated 14.06.2021, RiS-ID 10511, concerning your interdisciplinary research to improve the understanding of glaciers and the polar environment and their transformation related to climate change.

Application

The project's overall goal is to detect, quantify, and explain processes of evolution of Svalbard glaciers, including their land marine neighbourhood.

The implementation of the project requires use of the following installations and technical equipment:

- (1) long-range terrestrial laser scanner (TSL) approx. 2 weeks interval
- (2) the low-level aerial photogrammetry from UAV
- (3) Short interval (1 s) time-lapse camera to register the calving of Paierlbreen and Hansbreen deployed temporary for approx. 2 weeks on slopes in their neighbourhood
- (4) Longer interval (3h) time-lapse camera located on the Hansbreen lateral moraine. UTM: 33X E514461 N8549611 for one year until September 2022.
- (5) GPS receivers deployed temporary for approx. ten days at the surface of frontal parts of Hansbreen and Paierlbreen
- (6) Ground-penetrating radar (GPR - frequencies: 30 MHz, 100 & 200 MHz) along walking routes on the glacier's surface in selected test areas in frontal and lateral parts of Hansbreen, Werensioldbreen and S Hornbreen.
- (7) CTD soundings of the seawater column near fronts of tidewater glaciers; Hornbreen and Hambergbreen from the s/y Magnus Zarembo and open boat with an outboard engine.

In the first phase of studies of Hornbreen and Hambergbreen tidewater glaciers (2-5 August), monopulse echo-sounder and CTD seawater soundings will be done from the s/y Magnus Zarembo.

Temporary installations for approximately one week periods of the GPS receivers on the glacier surface will use short removable stakes. All instruments and accessories, including short stakes, will

be collected back after the survey period. Similarly, time-lapse cameras will be mounted on a tripod chassis placed on lateral moraines and fasten to the ground by loading by local loose boulders without any artificial screw mounting to the bedrock. The camera boxes and their supports will be collected in August 2021, except the one recording the Hansbreen cliff every 3h, planned to operate until September 2022.

The portable radar (GPR) control unit with small antennas pulled on the ice surface will be used along walking routes on the glacier's surface. GPR profiling will be done in selected test areas on frontal and lateral parts of Hansbreen, Werenskioldbreen and S Hornbreen.

Samples of water, seawater and sediments will be collected and examined in respect to chemical, mineralogical, and biological parameters.

The field work is planned to be performed during 2 separate periods: 1st -25th of August 2021 and 31st of August – 6th of September 2021. One of the cameras planned to be deployed on the Hansbreen cliff is applied to be left behind to operate until September 2022. All the field-locations applied for is within the Hornsund area, within South-Spitsbergen national park, c.f. figure 1.

According to the application, field activity will be performed within walking distance from the Hornsund Station. Further, a small open boat (6 m) with an outboard engine will be used for local transport of researchers and instruments from the Polish Polar Station Hornsund within the fjord area in the period of: 2 – 24 August 2021, from time to time, not daily.



According to the application, the University of Silesia plan for the field work in conjunction with the filming/research plans of the BBC Natural History Division with the r/v OceanXplorer. It is



informed that parts of the scientific field work applied for require helicopter support from the r/v OceanX, and that the fieldwork will have the following support of the 'OceanX' team:

- (a) multibeam survey of unexplored areas of seabed at the terminus of Hansbreen, Paierlbreen and Hornbreen, and Hamergbreen additionally,
- (b) side-scan sonar mapping of the vertical subsea ice wall of Hansbreen, Paierlbreen and possibly Hornbreen
- (c) collection of samples of subglacial meltwater from submarine outflows, include full depth profiles if possible. Shipboard rosette, ROV and submersible CTD.
- (d) use of helicopter to access frontal part of Paierlbreen to deploy GPS stations and Hansbreen if desirable due to walking between crevasses security reasons
- (e) helicopter transport of researchers with the GPR/GPS equipment to the S part of Hornbreen/Hamergbreen glacier system. Up to 2 days of work - first half of August 2021, but exact dates depend strongly on the weather conditions.

The application states the following (quotation; our underline):

“The University of Silesia plan for the field campaign is in conjunction with the filming/research plans of the BBC Natural History Division with the r/v OceanXplorer in the Hornsund area. Their application for permission on research in collaboration with us and movie shooting in the same area has to be submitted to the Governor of Svalbard separately.”

Regulations

The Svalbard Environmental Protection Act of 15 June 2001 apply. According to the Act section 25 all species of flora and fauna, including their eggs, nests and lairs, are protected. Section 37 give the Governor the authority to grant exemptions for scientific purposes or when other special reasons so indicate.

The field work is planned within South-Spitsbergen National Park where the Regulation relating to the national parks South-Spitsbergen, Forlandet and North West - Spitsbergen, on the nature reserves North East-Svalbard and South East-Svalbard, and on the nature reserves for birds on Svalbard apply. According to the Regulation section 9, plants and fossils are not to be removed, and shall be protected against damage and disturbance of every kind that is not caused by regular traffic. Furthermore section 6 determines that these areas are protected against all measures that can impact landscape, terrain, or disturbance of the environment, included different installations.

According to § 11 d in the Regulation, the Governor may grant exemptions for scientific purposes as long as this is not in conflict with the purpose of the national park.

The Governor's considerations

As we interpret the current RIS application (ID 10511), BBC/OceanX will submit separate applications for the helicopter transport issues concerning both for scientific field work and for filming purposes, c.f. last paragraph in the section “Application” above. Please note that if the purpose of helicopter transport is scientific, scientists will have to apply for such permissions as a part of a RIS-application, or as a separate application connected to a RIS-application. When you apply for helicopter traffic it is required with detailed information on your flight schedule; where you plan to land, if (and why) you need to fly below the limits in the protected areas applied for (300m or 500m depending on the area), and as exactly as possible when your flights will take place.



Landings and traffic with helicopter with the purpose of filming requires separate permissions. Our permissions are to be specified both for the purpose of the traffic and for the crew. It is prohibited for filmcrew (or any other person which is not part of the scientific crew) to join a scientific helicopter flight unless this is explicitly applied for and specified in a permission from the Governor. Please also note that the opportunity for granting permissions for helicopter landings or for flying below the height-limit in protected areas for other than scientific reasons or work of importance to the public interest is very limited.

The current RIS-application does not contain the necessary information for being processed as an application for scientific helicopter traffic, even though the Governor has asked for a more detailed description of the use of helicopters related to the fieldwork. Thus, we do not process this issue as a part of the current reply. Please also note that use of ROV or equivalent vessels may require a special permission in Svalbard, and thus cannot be used without prior application.

The application contains little detailed description of the measuring equipment, e.g. size, design, weight and so on. Nevertheless, we assume that the equipment is possible to carry on foot, and thus modest in size. Further on, the measures are of temporary character and will, as we consider, not impact landscape, terrain or disturbance of the environment, cf. the Regulation section 6. We assume that the choice of placement and installation of all equipment and all traffic on foot or by boat in the purpose of outplacing the equipment and sampling of data will be made carefully to avoid any negative impact on resident flora or fauna, cf. the Regulation section 6 and the Act section 25.

The purpose of the measures is clearly scientific, and the project is due to the application part of an interdisciplinary research conducted in Hornsund which contribute to data collection relevant for understanding effects of climate change in arctic environment.

Flying with drones does not require a special permission from the Governor itself. In accordance with The Svalbard Environmental Protection Act it is however prohibited to disturb birds and animals. More detailed information is given in attachment 1.

On this basis the Governor consider that we can grant permission for the scientific measures and installations as described in the application. We emphasize that issues concerning helicopter traffic and the use of ROV or equivalent vessels have not been processed or decided due to lack of information. The use of helicopters, submersibles and ROV will require a separate permission from the Governor. An application must be submitted and must contain detailed description on your flight schedule; where you plan to land, if (and why) you need to fly below the limits in the protected areas applied for (300m or 500m depending on the area), and as exactly as possible when your flights will take place. The same applies for the use of submersibles and ROV. Only activities related to the RiS-project is relevant for the application.

The Governor's decision

The Governor has considered your application and made the following decision:

Under the provisions of the Svalbard Environmental Protection Act of 15 June 2001, § 37 and the Regulation for bird sanctuaries and larger nature protection areas on Svalbard of 1 June 1973, § 11 d, The Governor grants the University of Silesia by project owner Michal Cieply permission to sample freshwater, seawater and sediments, and install the instruments as described and located in



the application in South-Spitsbergen National park during the two periods 1st -25th of August 2021 and 31st of August – 6th of September 2021. One of the time-lapse cameras located on the Hansbreen lateral moraine, UTM: 33X E514461 N8549611, can be deployed for one year until September 2022.

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

- Digging and sampling must be done with special care, as to minimize negative impact on flora, fauna and terrain. The holes/ traces produced by the installation and sampling shall be made as little visible as possible.
- The installations shall be removed, and sufficient clearing shall be made by the end of the permit, at the latest 6th of September 2021.
- The time-lapse camera located on the Hansbreen lateral moraine, UTM: 33X E514461 N8549611, shall be removed and sufficient clearing shall be made by the end of the permit, at the latest 1st of September 2021.
- All deployed equipment must be labelled with project name, name of institution and project owner, RIS-number, dates of permission and relevant contact information.
- The project owner shall provide for the immediate reporting of possible accidents/ irregularities to the Governor.
- The project shall submit reports from the field work by **1st of November 2021 and 1st of November 2022**. The template for this report can be found on the Governors web pages.
- All equipment you bring during the field trip, and all waste items, are to be removed and brought back to Longyearbyen when the field expedition is finished. Garbage shall not be burned, except clean untreated wood.
- When carrying out the projects, the researchers shall show consideration towards other users of the areas in such a way that the research does not seem provoking or destroy people's wilderness experience.
- These exemptions are only valid for the people included in the projects.
- A copy of this permission must be brought along during the fieldwork.

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."*

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



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Advisor nature management

This document is approved and expedited electronically without signature

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Miljødirektoratet
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