NORCE
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Att.: Stijn De Schepper

SYSSELMANNEN PÅ SVALBARD

THE GOVERNOR OF SVALBARD
ГУБЕРНАТОР СВАЛЬБАРДА

Our date:	*Our reference*	*Your date:*
29.06.2021	21/01599-2	23.06.2021

Reply to research application - RiS-ID 11769 - A genetic view into past sea ice variability in the Arctic

The Governor refers to your application dated 23.06.2021, RiS-ID 11769, concerning your project "*A genetic view into past sea ice variability in the Arctic*".

Application
The project is part of a main project focusing on developing novel methods and tools for reconstructing sea ice on geological time scales. The chosen approach involves extracting and analysing the genetic information stored in marine arctic sediments.

To achieve the objectives of the cruise, the applicant plans to collect:

1. Surface sediments (multicorer) from a large geographical and sea ice type range. The multicorer uses four transparent plastic core liners of 60 cm length, an 11 cm outer and 10.56 cm inner diameter. The multicore is lowered on a winch rope through the water column and when it reaches the seafloor, a weight of ca. 400 kg pushes the cores into the sediments. This will make 4 holes of 10.6 cm diameter, maximally penetrating 60 cm in the sea floor, and max. recovering 2544 cm^2 (but most likely in the order of 1500–2000 cm^2).

2. Sediment records (gravity corer) in key locations. The gravity corer takes up to 500 cm long sediment cores. The device is made of a steel pipe, with a plastic liner and core catcher which is pressed into the sediment with the help of gravity. Core maximum diameter = 10.6 cm, max. length 500 cm, max. recovery 5300 cm^2 sediment but most likely in the order of 2500–3500 cm^2.

3. Phytoplankton tows (upper 50 m of water column).

4. Water samples (CTD with 6 or 12 water-bottle rosette) for assessing phytoplankton biodiversity at different depths in the water column.

5. Multibeam: Hydrographic data is collected with two hull-mounted multibeam (multistråle ekkolodd EM302 and EM710). The Kongsberg EM302 multibeam operates with 30 kHz and uses 135 beams with a bandwidth of 150 degrees. This is used for sea floor mapping down to 7000 m

water depth. The Kongsberg EM 710 multibeam used to map the seafloor down to 2000 m water depth operates with 95 kHz and uses 111 rays with a bandwidth of 150 grader. Sub-bottom profiler: The Topas PS40 Sub bottom profiler for high resolution mapping of the seafloor in water depth less than 2000 m. An 80% relative bandwidth, low frequency signal is formed in the water column by means of non-linear interaction between two high frequency signals (centered symmetrically around 40 kHz).

The multicoring activities may result in unforeseen capture of organisms living on the seafloor (e.g., starfish, worms). These will put these back overboard where possible.

The samples will be collected in the target area, which are summarised as "regions with land-fast, annual, seasonal and no sea ice cover", travelling and working on RV Kronprins Haakon. The focus is on northern Svalbard, from close to the coast and out into the Arctic Ocean (Sophia Basin, Yermak Plateau). Locations of fieldwork listed in the application is both outside protected areas, and within Nordvest-Spitsbergen national park and Nordaust-Svalbard nature reserve.

Regulations
The Svalbard Environmental Protection Act of 15 June 2001 apply. According to the Act section 25 all species of flora and fauna are protected. This includes both marine and terrestrial species, except commercial fishery species. Section 37 gives the Governor the authority to grant exemptions for scientific purposes or when other special reasons so indicate.

The field work is planned within Nordvest-Spitsbergen national park and Nordaust-Svalbard nature reserve 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 sections 8 and 9 (Nordvest-Spitsbergen national park) and sections 25 and 26 (Nordaust-Svalbard nature reserve), flora and fauna shall be protected against damage and disturbance. Furthermore sections 6 and 23 states that these areas are protected against all measures that can impact landscape, terrain, or disturbance of the environment, included different installations.

According to the Regulation §§ 11 d and 28 c, the Governor may grant exemptions for scientific purposes if this does not conflict with the purposes of the national park or the nature reserve.

The Governor's considerations
The equipment described for sediment coring are modest in size. The corers will impact a very restricted area of the seabed and cause a very temporary disturbance. Possibly negative impact on the fauna will be local, and will as we consider, cause insignificant risk of notable negative impact on the current populations. We assume that placement of all equipment will be made carefully to avoid any negative impact on marine flora or fauna, cf. the Regulation sections 6 and 23 and the Act section 25.

The purpose of the measures is clearly scientific. On this basis the Governor consider that we can grant permission for collecting the marine sediment samples necessary for the survey both outside protected areas as described in the application, cf. the Act section 37, and within Nordvest-Spitsbergen national park and Nordaust-Svalbard nature reserve, cf. the Regulation sections 11 and 23.

The phytoplankton tows, water samples and multibeam surveys will, as we consider, not have any notable impact on the environment, and do not require any special permission according to the regulations relating to the Svalbard Environmental Protection Act of 15 June 2001 No. 79 or 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.

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 and 23 c, The Governor grants Norwegian Research Centre AS (NORCE) by project owner Stijn De Schepper permission to collect marine sediment samples necessary for the survey as described and located in the application in South-Spitsbergen national park and Nordaust-Svalbard nature reserve during the period 30th of June – 11th of July 2021.

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

- Sampling must be done with special care, as to minimize negative impact on marine flora and fauna.
- The project owner shall provide for the immediate reporting of possible accidents/ irregularities to the Governor.
- The project shall submit a report from the field work by **1st of November 2021.** 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 brought back to Longyearbyen when the field expedition is finished.
- The fieldworkers must show consideration for other users and strive to avoid negative impact on 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

Håkon Larsen
Acting Head of Environment Protection

Ingunn Løvdal
Advisor nature management

This document is approved and expedited electronically without signature