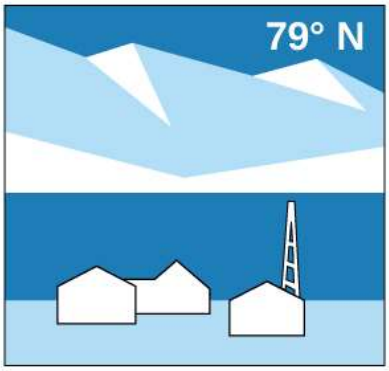

Ny-Ålesund Science Managers Committee

NySMAC
Handbook and Agreements

22.10.2021

Introduction

In the early 1990s research institutions present in Ny-Ålesund acknowledged that the research activities in Ny-Ålesund had increased considerably and that the Norwegian Government had pointed to Ny-Ålesund as the centre for science in Svalbard. They recognized the vulnerability of the natural environment and the potential impacts of human activities, and the need for better co-ordination and collaboration among scientific institutions working in Ny-Ålesund, and thus they decided to establish Ny-Ålesund Science Managers Committee – NySMAC in 1994.

The above is a shortening of the beginning of the founding article for NySMAC from 1994. Since then NySMAC has promoted cooperation and coordination in research and monitoring in Ny-Ålesund, provided advice and comments on both scientific and non-scientific activities, and promoted collaboration, mutual understanding and friendship.

This handbook is written for NySMAC representatives and managers of the institutions present in Ny-Ålesund, and outlines agreements discussed at previous NySMAC meetings. The handbook will be updated whenever needed, and will always reflect the current status.

Just as the Researchers Guide to Ny-Ålesund gives the researchers without previous knowledge about Ny-Ålesund relevant information they need in order to carry out their research project on site, the NySMAC handbook has been developed to give the institution/science managers in Ny-Ålesund information they might need to fill their role.

Key documents

NySMAC has developed the following key documents

- NySMAC Founding article (from 1994, and updated in 2000), signed by the directors of the six founding members
- NySMAC term of reference (2020) agreed by NySMAC in 2020
- NySMAC strategy plan (2021-2025) agreed by NySMAC in 2021

This handbook will complement the existing documents and replace the NySMAC Charter document (last updated in 2017).

Formal framework

In addition, the Norwegian Government has developed the following governing documents for the continued development of the research station

- Meld. St. 32 (2015–2016) Report to the Storting (white paper)
- Strategy for research and higher education in Svalbard (2018)
- Ny-Ålesund Research Station – research strategy (2019)

The white paper from 2016 announced new roles for the Norwegian Polar Institute and for Kings Bay AS in Ny-Ålesund, and also announced that a research strategy for Ny-Ålesund was going to be developed.

The Norwegian Government published its *Strategy for research and higher education in Svalbard* in May 2018, outlining the main priorities and ambitions for research and higher education for Svalbard as a whole. Given the central role Ny-Ålesund has in Svalbard research, the Government tasked the Research Council of Norway, in cooperation with relevant stakeholders, research institutions and ministries with developing a research strategy specifically for Ny-Ålesund research station. The *Ny-Ålesund research strategy* was published in May 2019.

The research strategy defines expectations regarding quality, cooperation, openness, data-sharing and sharing of results, with the intention to contribute to release the full potential of Ny-Ålesund research and collaboration and thereby increase the impact of the research and monitoring performed in and around Ny-Ålesund even further.

Brief history of Ny-Ålesund

Founded and owned by Kings Bay AS, Ny-Ålesund was originally established as a mining community in 1916. Coal was extracted from 1916 to 1929 and a fishing station and a hotel was established between 1930 and 1940. During World War 2 everyone on Svalbard was evacuated. Coal mining operations started again straight after the war, but were hindered by a series of major accidents. Mining operations ended in 1963 after a major accident on November 5th 1962, where 21 people died. Anyhow since the 1960s research the main activity in Ny-Ålesund.

Scientific observations on a regular basis began in 1964 when the European Space Research Organisation (ESRO) opened a satellite telemetry station in Ny-Ålesund. In 1966 ESRO was joined by the Tromsø Northern Lights Observatory. In 1968 the Norwegian Polar Institute established year-round activities and in 1972 Cambridge University (UK) started with summer field activities.

The first regular Norway – Svalbard air-link in September 1975 with one flight per week made Svalbard much more accessible and the numbers of scientists and expeditions increased dramatically. The Norwegian Government saw the importance of a location for field-based science in Svalbard and chose Ny-Ålesund with its varied topography rich in polar flora and fauna and existing infrastructure including a harbor and airstrip.

Over time with more and more institutions and countries establishing long term programs and activities, it became clear that a body should be set up to facilitate research activities, mitigate and avoid conflicts, and promote collaboration, mutual understanding and friendship. Consequently Ny-Ålesund Science Managers Committee (NySMAC) with one member from each institution engaged in long-term activities in Ny-Ålesund, and with Kings Bay as an observer, was established.

Ny-Ålesund research station

Ny-Ålesund Research Station is one of the world's northernmost year-round research stations, providing unique access to a natural polar laboratory and world class laboratory facilities.

More than 20 research institutions are engaged in long-term research and monitoring activities in Ny-Ålesund. The diverse international presence provides unique opportunities for collaboration.

Ny-Ålesund flagship programmes

NySMAC has established four flagship programmes which cover most of the research and monitoring projects and programmes in Ny-Ålesund to coordinate and promote integration between scientists and across disciplines.

- The Atmosphere flagship focuses on measurements from the surface up to the upper atmosphere utilizing a wide array of different techniques and instruments.
- The Glaciology flagship studies the cryosphere around Ny-Ålesund, especially fast-flowing, surge type, polythermal and calving glaciers.
- The Terrestrial ecosystems flagship brings together all studies on plant, animals, soil, permafrost and lakes, and coordinates field manipulations and study sites.

- The Kongsfjorden system flagship is a high Arctic marine environment, which is often influenced by influx of warmer Atlantic waters, and thus highly sensitive to climate change in the Arctic and is the main scope of this flagship program.

The flagship programs are networks that bring together scientists working in Ny-Ålesund to enhance holistic approaches through long-term observations, process understanding and modelling. The flagship programmes are led by a scientific committee with a chair and a co-chair, and are open to all scientists who are either actively engaged in studies in the area, or who wish to develop new insights based on monitoring and research in the area. All scientists in Ny-Ålesund should be engaged and contribute to the flagship to further develop the science and work together to identify areas where additional effort is needed. The scientists are also expected to take advantage of opportunities for synergies arising from the diversity of the international community and its many research disciplines, including cross-flagship activity. The flagship programmes function as arenas for contact, coordination and cooperation in science.

Research strategy framework

Research and monitoring activities in Ny-Ålesund are to be within the natural sciences and should use the unique infrastructure and field possibilities that the area offers. The area around Ny-Ålesund is a limited resource and several research and monitoring activities are dependent on pristine conditions. With reference to the Ny-Ålesund Mission Statement and the Norwegian White Paper (2015-2016) the research in Ny-Ålesund is to take environmental concerns into account and be within the Land-use plan and the Svalbard Environmental Protection Act.

The number of tourists and other visitors should therefore be limited to a minimum.

The historic environment in Ny-Ålesund is unique and an important cultural heritage site on Svalbard. Cultural heritage research in Svalbard is therefore welcome in Ny-Ålesund.

The Norwegian Polar Institute

In Norway, The Norwegian Polar Institute (NPI) is the central institute for environmental monitoring and mapping and for scientific research in the Polar Regions. NPI is a directorate under the Ministry of Climate and Environment that:

- performs Norway's host role in Ny-Ålesund and is responsible for implementation and follow-up of the strategy locally.
- is the point of contact for scientific research and associated activities, and has the overall on-site responsibility for ensuring coordination.
- has the overall responsibility to ensure that all activities at the station are in line with the strategy and has the final authority to approve access.
- holds weekly meetings attended by representatives of other organiations working in Ny-Ålesund.
- hosts the NySMAC Secretariat.

Kings Bay AS

Kings Bay AS is a limited company, entirely owned by the Ministry of Climate and Environment in Norway. Kings Bay owns the land that comprises the Brøggerhalvøya Peninsula and Ny-Ålesund. As owner, the company is responsible for the safety in the area and for the land-use plan. Kings Bay operate, maintain and develop infrastructure in Ny-Ålesund, including the airlink to Ny-Ålesund, and provide other necessary facilities and services for researchers. Kings Bay serves as the point of contact to the Governor of Svalbard regarding safety matters, is in charge of port and airport

operations, and provides board, lodging and other logistics in Ny-Ålesund. The company is responsible for safeguarding cultural heritage sites on their property.

NySMAC institutions

NySMAC consists of members and observers.

Members

NySMAC currently have 18 members:

- Alfred Wegener Institute (AWI) , Germany
- Andøya Space (AS), Norway
- Chinese Arctic and Antarctic Administration (CAA), China
- German Research Centre for Geosciences (GFZ), Germany
- The French Polar Institute (IPEV), France
- Korea Polar Research Institute (KOPRI), Republic of Korea
- National Centre for Polar and Ocean Research (NCPOR), India
- National Institute for Polar Research (NIPR), Japan
- Natural Environment Research Council (NERC), UK
- NILU – Norwegian Institute for Air Research, Norway
- Norwegian Mapping Authority (NMA), Norway
- Norwegian Polar Institute (NPI), Norway
- Norwegian Research Centre AS (NORCE), Norway
- Stockholm University (SU), Sweden
- The National Research Council (CNR), Italy
- The University Centre in Svalbard (UNIS), Norway
- UiT- The Arctic University of Norway, Norway
- University of Groningen (UG), The Netherlands

NySMAC members with key role

Ten of the NySMAC members have a special role in Ny-Ålesund in that they have long-term rental agreements with Kings Bay, and host research projects as well as media requests in Ny-Ålesund initiated by researchers or media from their respective countries.

The following ten institutions host their own national projects:

- Alfred Wegener Institute (AWI) and the French Polar (IPEV) in the joint AWIPEV
- Chinese Arctic and Antarctic Administration (CAA), China
- Korea Polar Research Institute (KOPRI), Republic of Korea
- National Centre for Polar and Ocean Research (NCPOR), India
- National Institute for Polar Research (NIPR), Japan
- Natural Environment Research Council (NERC), UK
- Norwegian Polar Institute (NPI), Norway[1]
- The National Research Council (CNR), Italy
- University of Groningen (UG), The Netherlands

Some of these institutions are also involved in (transnational) access program, hosting also multi-national collaborative projects.

[1] Projects from the Norwegian Mapping Authority is not hosted by NPI, but they host their own projects.

Observers

There are four observers to NySMAC:

- **Kings Bay AS.** Described above.
- **The Research Council of Norway** (RCN). RCN is a national strategic and funding agency for research activities and serves as the key advisor on research policy issues to the Norwegian Government. RCN identifies Norway's research needs, recommends national priorities, and use their funding mechanisms to translate national research policy goals into action.
- **Svalbard Science Forum** (SSF). SSF aims to increase cooperation and coordination within Svalbard research. SSF was established in 1998 to promote open sharing of data and reduction of the environmental impact of research activities in the archipelago. All research communities in Svalbard is represented in SSF, with NySMAC as the Ny-Ålesund representative. RCN serves as chair of the SSF and is responsible for administering the permanent secretariat in Longyearbyen. SSF administers the *Svalbard Strategic Grant* and *Arctic Field Grant* programmes and operates the Research in Svalbard portal (RIS).
- **Svalbard Integrated Arctic Earth Observing System** (SIOS). SIOS is a Norwegian-initiated international large-scale research infrastructure consortium that aims to establish a broadly distributed regional observing system for long-term measurements in and around Svalbard to address Earth System Science questions. The consortium brings long-term measurements together into a coherent and integrated observational programme, where researchers can cooperate to access instruments, acquire data and address questions that would not be practical or cost effective for a single institution or nation alone. The knowledge centre is located in Longyearbyen and offers coordinated services for the research community.

The project approval process; establishing research projects

The ten institutions listed above have the responsibility to assess and approve the scientific projects they are hosting. Researchers from institutions in countries not listed above should approach NPI-Sverdrup with a request to have their project hosted there. The Norwegian NMA host their own projects.

These ten institutions are expected to ensure that the projects they host comply with the Ny-Ålesund research strategy, minimize project overlap, ensure that the projects are of high international caliber and that environmental concerns are addressed. In cases of doubt, the institution is encouraged to discuss the project with NySMAC and/or NPI.

Approved projects must register their details and book a stay in Ny-Ålesund through the RiS portal.

Scientists conducting research and monitoring in Svalbard must familiarize themselves with all applicable regulations. As a general rule, most field activities require a permit from the Governor of Svalbard. The web based Researchers Guide to Ny-Ålesund provides an overview of requirements for research projects to Ny-Ålesund. Informing NySMAC is not a substitute from submitting a formal application to the Governor of Svalbard or other Norwegian authority.

The host institutions are expected to provide all visiting researchers with a verbal in-brief when they arrive in Ny-Ålesund. The in-brief should as a minimum cover safety policy and safe operation (more on this on page 10), information about restrictions on radio frequency use, local Ny-Ålesund rules and communication.

Access programs

Some host institutions in Ny-Ålesund are taking part in access programs that provide access (free of cost) to some of the institutions/infrastructure in Ny-Ålesund. Currently the INTERACT Transnational Access Program and the SIOS Access Program are operational. SSF also runs a dedicated program to support field work to the Arctic: Arctic Field Grant.

Media visits

Media organizations planning to visit Ny-Ålesund must do so as an approved guest of one of the ten institutions following similar principles as for hosting science projects. The Norwegian Polar Institute (NPI) is the overall host at Ny-Ålesund Research Station. In addition to being contact point for Norwegian media organizations, NPI will also be the point of contact for media organizations from countries without a physical presence in Ny-Ålesund.

The host institutions should ask the media actors to complete the media visit form when they request to come to Ny-Ålesund. Media visit approved by the host institution, must be posted on the PID forum. The media visit must be approved by the host before transportation to/from Ny-Ålesund or accommodation in Ny-Ålesund can be booked through Kings Bay AS.

Media visitors cannot expect that scientists or local staff are available for interviews on short notice. To ensure that visits are as productive and efficient as possible, it is important to start the planning process well in advance, and set up a program for the media visit, seen the guidelines for media visits (PDF).

NPI will keep a complete list of media visits to the research station. The hosting institution must therefore always inform NPI at visit.nya@npolar.no about their media visits as early as possible.

Stakeholders and VIP visits

Institutions, agencies or others who wish to submit a request for an official political visit to Ny-Ålesund should do so through their embassy in Oslo, who will then approach the relevant Norwegian ministry.

Following the formal request to the embassy, NPI, in close dialogue with relevant Norwegian government ministries, will plan the visit in collaboration with Kings Bay and with the research institutions that will have a role in connection with the visit.

NPI hosts all official visits to Ny-Ålesund. Official visits include for political leadership of a government ministry and parliamentary committees, but it also includes representatives of the leadership of research institutions or research agencies. The latter visists should not go through the embassy in Oslo, but approach NPI directly.

To facilitate planning and development of a programme for all official visits, a request for the visits should be submitted to NPI (visit.nya@npolar.no) as early as possible.

Information flow

Webpage

The research station has its own webpage at https://nyalesundresearch.no/. Information about and for NySMAC is a central part of this. The webpage contains both an open document archive and the password-protected NySMAC document archive.

The webpage contains both a News and Events section. NySMAC members and individual scientists are encourages to contribute with popular science articles to the News section.

NySMAC meetings

NySMAC members are expected to attend NySMAC meetings twice yearly.
The spring meeting normally takes place as part of the ASSW(exceptions can be made when ASSW takes place is in a country where there are no NySMAC members,or if distance is prohibitive), while the fall meeting is normally hosted by one of the members institutions. A list of past NySMAC meetings can be found on the web.

Institution reports and presentations at NySMAC meetings

The NySMAC member representatives are expected to submit a short written report to the NySMAC secretariat prior to the NySMAC meeting. NySMAC institutions are asked to provide (as a minimum) specific information on: new activity/new initiatives; new instruments/installations in Ny-Ålesund or in the field; reporting on activities in the past; list of activities; ongoing monitoring; use of radio emitting devices; activities that require use of the airspace; location, land use; media visits; Master/PhD courses.

In addition, NySMAC members are expected to deliver an oral presentation of about 10 min at each NySMAC meeting. The focus should be on past activities at fall meetings and on planned activities at the spring meetings.

The written reports and a copy of the meetings presentations are available through the closed NySMAC archive.

NySMAC PID

The NySMAC Project Information and Discussion (PID) forum is an internal forum where NySMAC members discuss issues relevant to NySMAC members and share information about new projects of special interest between meetings. NySMAC agreed in 2015 that projects doing any of the following should be reported on PID: large number of people; removal of natural material; chemicals in the nature; handling of animals or birds; master or PhD courses; projects actively using radio frequencies; operation of UAVs; installations in the field.

The forum is not open to the public, and a user account is required. The NySMAC Secretariat administers the user accounts.

Details about the NySMAC PID Forum

The forum Projects should be used to inform about specific research projects. Other NySMAC institutions can comment or ask question to the posted project information. If issues can not be resolved through a discussion in the forum they need to be brought to the next NySMAC meeting for decision. The forum General can be used for more general, not science projects specific, issues.

Each NySMAC member institution has two accounts: one editor and one reader account. Logged in as an editor one can post information to the fora, logged in as a reader one can only read the post.

Technical FAQ for the forum is available from the FAQ site. The NySMAC Secretariat can help to resolve any issues with the fora.

Safety focus

In the NySMAC strategy, NySMAC states that the research station should be known as a station with the best routines for Arctic safety, and that NySMAC will have focus on improving safe operations both in the field and in the laboratories, by:

- promote safe operations and share best practices in the field and in the laboratories,
- discuss accidents and incidents to learn from them and improve procedures,
- develop common recommendations and procedures.

NySMAC has agreed that the in-brief provided by the host institution to visiting researchers when they arrive in Ny-Ålesund should cover at least the following safety information:

- General information of safety in Ny-Ålesund
- Ny-Ålesund accident and incident policy (listed bellow)
- Medical care
- Fire regulations and procedures
- Radio training and communication procedures
- Field hazards

Furthermore, according to the respective project requirements:

- Rifle training and handling
- Lab and chemical safety
- Boating regulations
- Airspace regulations
- If applicable: snow scooter training, boat training, glacier training, navigation training

The hosting institutions are expected to monitor and record field activity in a suitable manner, and take action and inform the watchman if field personnel are late returning to Ny-Ålesund.

The institutions on site are expected to share new information concerning field safety, including the position of crevasses, polar bear sightings and avalanche dangers to Kings Bay watchman, at weekly meetings in Ny-Ålesund and on the white board in Ny-Ålesund.

Safety training

NySMAC has agreed that anyone planning to carry a rifle or flare pistol in Ny-Ålesund or the surrounding area must attend a safety course focusing on polar bear behavior, weapon handling and local regulations provided by Kings Bay. If the person prove to be competent, Kings Bay can provide a pass certificate, which is valid for three years. Kings Bay also provide refreshment courses, which are recommended annually.

Both UNIS and NPI provide safety training for scientists and students in Longyearbyen. For practical reasons and parity, NySMAC agreed pass certificates resulting from courses provided in Svalbard by the three Norwegian institutions Kings Bay, NPI and UNIS, and furthermore from AWI are acceptable at Ny-Ålesund.

As of June 2021, Norwegian rules for rental of firearms were changed. These changes have implications for researchers to Ny-Ålesund. Details of the changes are given in the Researchers guide to Ny-Ålesund.

NySMAC accident and incident plan

NySMAC has an accident and incident plan agreed by NySMAC in Paris 2004[2]

- Station chiefs are responsible for his or her personnel.
- Careful assessment of the accident or incident by the station manager.
- Assess the merit of self help i.e. launching a rescue. Consideration must be given to safety of personnel, their skills, experience and ability to deal with the specific emergency.
- The decision to call the rescue services in Longyearbyen is the sole responsibility of the station manager.
- Before calling the rescue service in Longyearbyen the station manager will inform the Kings Bay watchman.

Environmental focus

Local impacts on the environment must be kept at the lowest possible level to maintain the Ny-Ålesund area as a near pristine environment. This has been clearly stated as a goal from the Norwegian government and was also adopted by NySMAC in the Mission Statement for Ny-Ålesund.

Research and other activity in Ny-Ålesund always must take environmental concerns into account and be conducted within the framework of the Ny-Ålesund land-use plan and the Svalbard Environmental Protection Act.

All host institutions must work to minimize local pollution in Ny-Ålesund and promote a responsible and environmentally friendly behaviour by their staff and visting research groups.

The latest Environmental Action Plan for Ny-Ålesund from 2006 outlined some recommendations for the Environmental Impact Assessment work. Measures have been initiated for most of these recommendations. A systematic review of and an increased focus on the EIA work will be initiated in 2022.

Details on environmental work (including references, waste management and reporting on local activities) can be found on the webpage.

NySMAC agreed procedures

Use of radio frequencies

The Norwegian Government's Svalbard Strategy clearly states that radio silence is an important premises for further development and use of Ny-Ålesund, as important instruments, observatories and other facilities depend on this. At the same time there are radio emitters in Ny-Ålesund for scientific, safety and communication purposes.

[2] This procedure needs clarification and update, which is a task described in the NySMAC strategy.

The general rule is that the use of equipment that emits radio signals should be avoided. Radio transmission in the 2–32 GHz frequency band is not allowed by law within a 20 km radius from Ny-Ålesund.
If use is required for scientific, safety or communication purposes, such use has to be done with care, by application, and closely coordinated with the rest of the science community in Ny-Ålesund. As a general approach, long-term radio frequency transmitters should be located elsewhere.
Anyone planning use of equipment with radio transmitters must follow the three step procedures:

- Legal communication regulation framework managed by Nkom
- NySMAC procedures for acceptance and coordination of RF activities
- Local awareness/coordination

as outlines on Ny-Ålesund research station webpage.

An overview of scientific equipment with radio receivers currently being used in Ny-Ålesund is available on the NySMAC frequency list on the link above.

Use of scientific unmanned systems

Ny-Ålesund is potentially a good place to operate unmanned scientific aircrafts and underwater vehicles. However, since use of unmanned systems almost always requires the use of a radio transmitter/receiver for communication, there is also a general wish to keep this scientific activity at a reasonably low level. To avoid unnecessary flights, collaboration and coordination is strongly encouraged.
The teams operating in the Ny-Ålesund must do this in accordance with Norwegian legislation and local regulations, and ensure that all necessary permits are obtained.

An overview of agreements and regulations governing the use of unmanned aircraft in and near Ny-Ålesund is given on the research station webpage.

Use of chemicals, gases and stable isotopes

Chemicals, gases, and stable isotopes being used in Ny-Ålesund should in principle be ordered and managed through Kings Bay. This to improve the overall safety for everyone involved in handling chemicals, gases, and stable isotopes from procurement to disposal.

All activities in Ny-Ålesund involving the use of chemicals must be in compliance with all applicable guidelines, standards and regulations as defined in Norwegian law, and with any additional requirements defined by Kings Bay and the host institution. This will reduce the danger to, and the potential impact on both human health and the environment associated with handling and storage of such materials.

More details on these procedures can be found on the research stations webpage.

Appendix with acronyms

AWI - Alfred Wegener Institute, Germany
AS - Andøya Space, Norway
CAA - Chinese Arctic and Antarctic Administration, China
CNR - The National Research Council, Italy
GFZ - German Research Centre for Geosciences, Germany
INTERACT – EU funded network project: https://eu-interact.org/project/
IPEV - The French Polar Institute, France

KB – Kings Bay AS
KOPRI - Korea Polar Research Institute, Republic of Korea
NCPOR - National Centre for Polar and Ocean Research, India
NKOM – Norwegian Communications Authority
NIPR - National Institute for Polar Research, Japan
NERC - Natural Environment Research Council, UK
NILU – Norwegian Institute for Air Research, Norway
NMA - Norwegian Mapping Authority, Norway
NPI - Norwegian Polar Institute, Norway
NORCE - Norwegian Research Centre AS, Norway
NySMAC – Ny-Ålesund Science Managers Committee
PID - NySMAC Project Information and Discussion Forum
RCN – The Research Council of Norway
RiS – Research in Svalbard portal
SIOS - Svalbard Integrated Arctic Earth Observing System
SSF – Svalbard Science Forum
SU - Stockholm University, Sweden
UNIS - The University Centre in Svalbard, Norway
UiT- The Arctic University of Norway, Norway
UG - University of Groningen, The Netherlands

Index