

Ny-Ålesund Science Managers Committee (NySMAC) Strategy Plan 2021-2025

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Introduction

Ny-Ålesund Research Station is the world's northernmost year-round research station that hosts and facilitates long-term observations and international research activities.

Ny-Ålesund Science Managers Committee (NySMAC) was established in 1994 by the researchers in Ny-Ålesund to enhance cooperation and coordination between the Norwegian and international institutions on site. NySMAC is an international body and consists of institutions with long term commitments in Ny-Ålesund¹.

NySMAC is contributing to the development of Ny-Ålesund as an outstanding site for Arctic research and environmental monitoring, through advancing cooperation between institutions, scientists and research projects, facilitating the coordination of infrastructures, and contributing to information sharing. NySMAC also serves as an adviser regarding the development of research and infrastructure in Ny-Ålesund.

¹ In 2021 NySMAC consists of 18 member institutions from 11 countries.

The four **Ny-Ålesund research flagships** were created by NySMAC in the time period 2008-2011 to promote international research collaboration among scientists. The flagship programmes are arenas for contact and cooperation in science.

The Norwegian government's White Paper on Svalbard (Meld. St. 32 (2015–2016)), *Strategy for Research and Higher Education in Svalbard* (2018), and the Research Council of Norway's *Research Strategy for Ny-Ålesund Research Station* (2019) both emphasize the importance of NySMAC and provides expectations for the work of the committee.

NySMAC works alongside several other organisations in Svalbard engaged with different roles and responsibilities regarding research cooperation and coordination:

- **Kings Bay AS** owns Ny-Ålesund, and is providing all services such as flights, housing, lodging, etc. as well as research logistics, and it develops and maintains research infrastructure for common use in Ny-Ålesund. Kings Bay is also responsible for the overall safety in Ny-Ålesund.
- **Svalbard Science Forum (SSF)** is responsible for the data portal Research in Svalbard and they provide funding for research activity and projects through the grants *Arctic Field Grant* and *Svalbard Strategic Grant*.
- **Svalbard Arctic Earth Integrated Observing System (SIOS)** optimizes observation of earth system science from research infrastructure located at Svalbard. SIOS also focuses on data sharing and access to data and facilities.

Moreover **Norwegian Polar Institute (NPI)** has the on-site responsibility for optimizing research planning and for facilitating day-to-day activity through the weekly meeting with all the institution representatives present in Ny-Ålesund.

Close cooperation between all the above-mentioned organisations is essential for the further development of Ny-Ålesund. Kings Bay, SSF, SIOS and the four Ny-Ålesund flagship chairs are invited to the NySMAC meetings as observers.

Building on earlier NySMAC documents as listed below² this strategy outlines the ambitions for the further development of NySMAC:

- [Founding Articles](#) (from 1995)
- Mission Statement (from 1997)
- Science Plans (from 2006, 2010, 2015)
- Charter document (first version from 2013, last updated in 2017)
- [Terms of Reference](#) (from 2020)

This strategy document contains three parts:

- I) The core roles of NySMAC;
- II) NySMAC priority areas; and
- III) The specific tasks to be implemented during the strategy period.

The strategy with the specific tasks are to be reviewed and updated every five years.

² All documents are available in the online document archive at https://nyalesundresearch.no/document-archive/?_sft_Document_category=nysmac

I: The core roles of NySMAC

NySMAC promotes cooperation and coordination in research and monitoring in Ny-Ålesund. NySMAC provides advice and comments on both scientific and non-scientific activities. NySMAC promotes collaboration, mutual understanding and friendship.

NySMAC as an advisory body

NySMAC gives advice to the Norwegian Polar Institute, Kings Bay AS, Norwegian authorities, and scientific institutions engaged in projects in Ny-Ålesund, and acts as an advisory body regarding cooperation and priorities to the research organisations with ongoing or planned projects in the Ny-Ålesund area.

NySMAC gives advice in order to avoid negative impacts on research programmes from other scientific or non-scientific activities in Ny-Ålesund and in order to minimize and mitigate environmental impacts of activities.

In particular, NySMAC shall

- contribute actively to hearing processes from the Norwegian Authorities.
- give advice to the Norwegian Polar Institute and Kings Bay regarding the development of the Ny-Ålesund Research Station
- encourage and foster strategic discussions about research areas and topics at NySMAC meetings.
- encourage the four Ny-Ålesund Flagship Programs to organize themselves such that they can also provide advice to NySMAC regarding science questions.

NySMAC as a coordinator

The extent of research activity in Ny-Ålesund makes it necessary to strengthen the interaction and coordination between institutions from the various countries present in Ny-Ålesund to ensure efficient and safe use of the unique local resources.

In particular, NySMAC shall work to

- promote better integration of research programmes and negative competition between scientific institutions.
- minimize possible negative impacts on research programmes from other scientific or non-scientific activities in Ny-Ålesund.
- minimize and mitigate environmental impacts.
- maintain focus on radio silence and register the use of radio frequencies.
- share information on major institutional infrastructure investments

NySMAC as an arena for science cooperation

The international community present in Ny-Ålesund has a history of extensive cooperation, and continued international cooperation is a prerequisite for maintaining the creative, innovative and world-class scientific environment. Ny-Ålesund should be known for its outstanding professional and social environment, building on trust and transparency.

NySMAC has the essential role in developing the cooperation between the institutions present in Ny-Ålesund. NySMAC will work to strengthen co-operation with other research communities in Svalbard and the Arctic.

NySMAC shall

- support the four Ny-Ålesund Flagship Programs as specific arenas to advance research collaboration, and data sharing between researchers.
- contribute to the Svalbard Science Conference as an important arena for dissemination of Svalbard research.
- encourage the increase of knowledge on global issues from an Arctic perspective

II: NySMAC priority areas

While developing advise, helping coordinate activity and promoting cooperation are broad, long term ambitions for NySMAC, the international research community in Ny-Ålesund will put emphasis on seven prioritized areas.

1. Scientific objectives

Research and monitoring activities in Ny-Ålesund should make use of the area's distinctive characteristics of unique infrastructure and field possibilities.

Ny-Ålesund is a central reference station with important long-term climate and environment data series. NySMAC will contribute to developing Ny-Ålesund even further to become a world leading observation and research platform, by focusing on high-quality observation systems and being a community with the highest quality research activities.

NySMAC:

- shall contribute towards further development of the four Ny-Ålesund Flagship Programs as arenas for scientific discussions and priorities.
- members shall promote participation and contribution to the Flagship activities for researchers from their own institutions.
- shall encourage use of new technology and innovation in research.

2. Research infrastructure

Ny-Ålesund has a wide range of research infrastructure and laboratory services available for shared use, most of these by Kings Bay while some are supported and managed by NySMAC members.

NySMAC and the four Ny-Ålesund Flagship Programs are key arenas for discussing, identifying and prioritising research infrastructure needs in Ny-Ålesund, based on present and planned research and monitoring activity as identified by the international research community. While the flagships are uniquely equipped to identify "flagship specific" priorities, NySMAC develops the overall (i.e. across flagships) priority list of research infrastructure development in Ny-Ålesund for the coming five years and beyond.

NySMAC shall:

- ensure equal opportunities and access to shared research infrastructures
- promote the optimal use of advanced infrastructure.
- contribute to the development plan for the research infrastructures in Ny-Ålesund.

- Interact with SIOS to facilitate sharing and optimal use of research infrastructure in Svalbard and beyond.

3. Open data access and data sharing

International research policies emphasize that research data should be made openly and freely accessible when no legitimate considerations prevent its accessibility. Open data access makes it easier to validate and assess findings, reuse data in new ways, reduce duplication, increase efficiency, reduce environmental footprint – all the above to strengthen the quality of research.

Strong metadata, i.e. information about collection, delineation, definition, and other factors relevant for further use, is a prerequisite for being able to find, access and interpret data.

NySMAC shall:

- encourage open sharing and access to research data as a means to strengthen the quality of research in Ny-Ålesund.
- encourage that data producers are careful about standards for measurements, and for ensuring strong metadata, in line with the FAIR-principles.
- encouraging the Ny-Ålesund flagships to take an active role in data sharing
- encourage the use of the SIOS data portal.

4. Safety precautions

Ny-Ålesund Research Station should be known as a station with the best routines for Arctic safety, and NySMAC will have focus on improving safe operations both in the field and in the laboratories³.

NySMAC shall:

- 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.
- work out common recommendations and procedures.

5. Education and recruitment

Internationally there is a need for recruitment of a new generation of polar researchers. Ny-Ålesund is a unique learning site, with its advanced infrastructure and easy access to the natural environment. University students can come to Ny-Ålesund either through field component in dedicated Master or PhD level courses or by being an integrated part of a research project.

NySMAC and its members are encouraged to:

- include master's students and doctoral fellows in their research projects and field work in Ny-Ålesund.
- contribute to the assessment of needs and desire for teaching activities to secure equal and transparent access for master and PhD courses to Ny-Ålesund.
- contribute to developing the SIOS Education and Training program to be a useful resource also for the Ny-Ålesund research community
- have their visiting scientists to Ny-Ålesund to contribute with popular scientific lectures/talk for the research community.

³ Safety measures are detailed in the Ny-Ålesund Charter, available from the [document archive](#).

6. Environmental protection and green initiatives

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 Kings Bay land-use plan and the Svalbard Environmental Protection Act, as the area around Ny-Ålesund can be thought upon as a limited resource.

NySMAC shall:

- promote a responsible and environmentally friendly behaviour by individuals and groups.
- work to minimize local pollution in Ny-Ålesund.
- contribute to the overall environmental impact assessment
- take initiative for a monitoring programme to document the local activities and their effects on the environment.
- take initiative to establish procedures to protect the local environment whenever needed.

7. Promoting the research station

Ny-Ålesund is one of four main research stations in Svalbard, and one out of several key research and monitoring locations in the Arctic. However, due to its massive amount of ongoing research and monitoring activities, Ny-Ålesund is unique, and among the most important locations for monitoring of the Arctic environment and climate change.

Measurements from Ny-Ålesund feed into and contribute with data and results to numerous international programmes and networks. The Ny-Ålesund scientific community will benefit from making Ny-Ålesund and data from Ny-Ålesund even more visible in these.

NySMAC will contribute such that Ny-Ålesund shall become the foremost research station for Arctic natural sciences, known for its high-quality international research community, with open access to research data and infrastructure.

NySMAC members arrange media and stakeholder engagement as part of their overall communication strategies to foster political or public engagement in the important scientific research carried out from Ny-Ålesund.

NySMAC and its members:

- shall contribute to the development of Ny-Ålesund as an internationally recognized site for Arctic research and promote Ny-Ålesund in the international scientific community.
- shall promote Ny-Ålesund by convening regular seminars, in particular by contributing actively to the (bi-annual) Svalbard Science Conference
- are encouraged through involvement in various international network and programmes (f.ex. INTERACT, SIOS) to make the research infrastructure in Ny-Ålesund known and available for new scientists to Svalbard.
- shall contribute to the website www.nyaalesundresearch.no as the central hub for information and contribute with news content.

III: Specific tasks for NySMAC during the strategy period

While part I and II in the strategy plan outline NySMACs general and long-term goals, NySMAC has also identified some specific tasks to focus on, most of them in collaboration with the other organisations as listed above, during the validity period of the current strategic document.

Task ID ⁴	Description	Time line (start-end)	Coordinator ⁵	Collaborators
1.1	NySMAC shall ask the four Ny-Ålesund Flagship Programs to update the flagship strategy documents, looking at and prioritizing the international scientific activities in Ny-Ålesund in a 5-year perspective.	2022-2024	Flagship chairs	Researchers in the flagships
1.2	NySMAC shall contribute to the joint development of the Ny-Ålesund monitoring programme as a cooperation between institutions with monitoring activities in Ny-Ålesund.	2022-2025	NPI	NySMAC institutions with monitoring activities
1.3	NySMAC shall work in together with the Atmosphere and Glaciology Flagships to establish a snow supersite and prepare a coherent science plan for it.	2023-2024	Atmosphere and Glaciology Flagship chairs	Relevant actors
2.1	NySMAC shall develop an overall research infrastructure priority list based on input from the four Ny-Ålesund Flagships' priorities.	2020-2021	NPI	NySMAC, KB
2.2	NySMAC shall contribute to establish a management committee for Gruvebadet.	2021-2022	Atmosphere Flagship chair	NPI, CNR, NCPOR, NIPR, KB, and relevant atmosphere scientists
2.3	NySMAC shall evaluate the possibility to re-establish the management committee for the Marine Lab.	2022-2023	NPI & KB	NySMAC institutions
2.4	NySMAC shall contribute to the development of procedures to help coordinate use of unmanned aerial vehicles in the Kongsfjorden area, and the use of unmanned autonomous (under-)water vehicles in Kongsfjorden	2021-2022	KB (AFIS)/NORC E	NySMAC institutions
2.5	NySMAC shall provide input and advice to the revision of Ny-Ålesund land use plan	2021-2022	KB	NySMAC institutions
3.1	NySMAC shall contribute to establishing common standards for data management in Ny-Ålesund.	2024-2025	NPI	NySMAC institutions

⁴ The tasks are numbered in line with the priorities I to IIV above.

⁵ The task coordinator is the organisation responsible for initiating and coordinating the specific task. The coordinator is responsible to set up task-forces for the specific tasks and include the collaborators when carrying out the task. The final result/implementation will (in most cases) remain the responsibility of NySMAC.

3.2	NySMAC shall promote quality assurance of information in the Ny-Ålesund GIS, work to include missing historical information, make suggestions for improvements, and promote its use in science planning.	2020-2022	NPI	NySMAC members
4.1	NySMAC shall communicate best practices in the updated Charter document.	2021-2022	NySMAC Institution	
4.2	NySMAC shall contribute to the development of common recommendations and procedures for the handling of chemicals in Ny-Ålesund.	2020-2021	KB	NPI, AWI, NySMAC institutions
4.3	NySMAC shall work with Kings Bay to establish robust routines for sharing safety information.	2020-2022	KB	NySMAC institutions
4.4	NySMAC shall discuss a common system to report accidents and incidents to learn from them to improve procedures.	2021-2022	KB & NPI	
4.5	NySMAC shall evaluate and work to improve field safety procedures including communication.	2021-2022	NySMAC members	KB
6.1	NySMAC shall contribute to the development of an Environmental Plan and an Environmental Action Plan for Ny-Ålesund	2021-2025	NPI & KB	NySMAC institution
6.2	NySMAC shall contribute to a strategy for reduction of local pollution.	2023-2025	NPI & KB	NySMAC
6.3	NySMAC shall contribute to the establishing of procedures to minimize detrimental effects of snow cleaning	2021-2022	NPI & KB	
6.4	NySMAC shall organize a monitoring plan for the impact of rocket launches together with the operators of SVALRAK in Ny-Ålesund	2018-2024	AS	NyÅ flagships, NySMAC
7.1	NySMAC should evaluate and update the agreed NySMAC procedures for media visits	2020-2022	NPI	NySMAC institutions