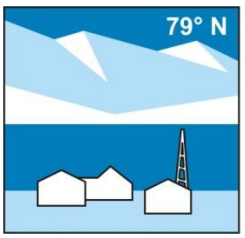
THE NY-ÅLESUND CHARTER

April 2013



NySMAC

THE NY-ÅLESUND SCIENCE MANAGERS COMMITTEE

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PREFACE

Charter: "A written contract between individuals"

This charter document endeavors to record policies agreed by the Ny-Ålesund Science Managers Committee (NySMAC) since its creation in 1994. The document also includes milestones in the evolution of the International Research Community at Ny-Ålesund since its beginning in 1991.

Nick Cox
April 2013

INTRODUCTION

The Kings Bay Kull Company mined coal at Ny-Ålesund from 1916 to 1962 with brief interludes when it was a supply station for the fishing industry and a period with no activity during the Second World War. The settlement also served as a launch site for some early North Pole expeditions and dabbled in early Arctic tourism. Scientific observations began in 1964 when the European Space Research Organisation (ESRO) opened a satellite telemetry station. In 1966 ESRO was joined by the Tromsø Northern Lights Observatory. In 1968 the Norwegian Polar Institute opened a research station and in 1972 Cambridge University (UK) opened a summer field base.

The first regular Norway – Svalbard air-link in September 1975, providing one flight per week, made Svalbard the most accessible high polar region. 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 harbour and airstrip. In 1998 the coal company changed its name to Kings Bay AS.

The Ny-Ålesund International Arctic Research and Monitoring Facility which began in 1991 included four research stations. The name "Kongsfjorden International Research Base" (KIRB) was later created to refer to the entire Ny-Ålesund and Kongsfjorden area.

In time, with the addition of more stations it became clear a committee should be established to manage research activity and promote inter-station collaboration, mutual understanding and friendship. The committee, comprising a representative from each station plus Kings Bay as an observer was named the Ny-Ålesund Science Managers Committee (NySMAC).

THE NY-ÅLESUND CHARTER

CONTENTS

1. MISSION STATEMENT FOR NY-ÅLESUND

The Norwegian government formulated a goal that Ny-Ålesund be developed into a leading international Arctic research and monitoring station.

The Norwegian Ministry of Environment White Paper no. 42 “Norwegian Polar Research”, 1992-93, states that:

- A prerequisite for Ny-Ålesund continuing to attract Norwegian as well as foreign scientific activities is that the local human impacts on the environment are kept at a very low level.
- Other activities in the area must adapt to the conditions set by scientific research and monitoring.

The following Mission Statement for Ny-Ålesund was adopted by the Ny-Ålesund Science Managers Committee, 24 August 1997:

Ny-Ålesund Mission Statement

1. Serve as an international station for scientific research and monitoring;
2. Encourage international scientific cooperation;
3. Give priority to scientific research and monitoring that is dependent on the near pristine environment or unique qualities of the Ny-Ålesund area, in particular research related to long range pollution, climate change and polar ecology;
4. Preserve the near pristine environment of the Brøgger Peninsula and the Kongsfjorden area, as well as the cultural heritage of Ny-Ålesund;
5. Keep local human environmental impacts at the lowest possible level so as not to jeopardize scientific research and monitoring;
6. Give scientific research and monitoring priority over other local human activities, such as tourism and commercial fishing;
7. Be a prime example of the sustainable operation and development of a research station in the Polar Regions.

The success of the station will be judged on its scientific merits and achievements.

2. VISITORS TO NY-ÅLESUND STATIONS – APPROVAL PROCESS

a) Each station will assess requests for their support. The assessment should include quality of research, compatibility with existing research in Ny-Ålesund and competence and suitability of personnel. Environmental impact and adherence to Svalbard law must also be considered.

With certain exceptions (see below) all visitors to Ny-Ålesund must be guests of one of the stations. Enquiries made to Kings Bay a/s should be directed to the appropriate station e.g. a request from an Italian directed to the Italian station. Scientists from nations not represented in Ny-Ålesund should be directed to the Norwegian Polar Institute.

With reference to Ny-Ålesund Mission Statement and White Paper no. 42 (Norwegian Polar Research" 1992-1993 there is a general restriction on visits. The number of tourists, students and visitors should be limited to a minimum.

b) Visits by the media to Ny-Ålesund

Same procedure as above. Kings Bay should be informed and any station who might be requested to assist the media team. Minutes 33rd meeting, item 16.

c) VIP visits to Ny-Ålesund

Advance discussion with Kings Bay AS and other stations.

d) Visits by groups of undergraduates and schoolchildren

Detailed plans must be presented to NySMAC with emphasis on natural environment impact and anything that might infringe capacity for others to perform science. Avoiding peak season is preferable, minimising pressure on travel and accommodation.

3. RESEARCH PROJECT APPROVAL

- Low impact research (low numbers of scientists making little or no environmental impact) can be approved by the station concerned and presented to NySMAC.

- Research projects that will affect the natural environment (high numbers of scientists, removal of natural material, use of chemicals, erection of installations, handling of birds etc) should be discussed in detail by NySMAC. Ideally the hearing process will be conducted at a NySMAC meeting. In exceptional cases when timing is crucial a hearing may be conducted by e-mail. Scientists carrying out similar research should be consulted.

- With the approval of NySMAC the applicant should seek the permission of the Environment Officer at the Sysselmanns office (see notes below)

June 2011
New requirements for research application to the Governor of Svalbard
The Governor of Svalbard published a set of requirements for applications to carry out field research in Svalbard. The new format simplified existing regulations.
The new application form can be found at:
http://www.sysselmannen.no/hoved.aspx?m=44365&amid=3181037

- Approved projects must register their details on the Svalbard Science Forum RiS database. http://www.ssf.npolar.no/pages/database.htm

4. SAFETY POLICY AGREED BY NySMAC 2003

Station managers or the scientific adviser at Kings Bay AS should provide visitors with information concerning their station.

A verbal brief covering the most important points should be provided soon after arrival on station. The brief should include:

1 Fire regulations and procedures.
2 Medical care.
3 Ny-Ålesund safety policy.
4 Ny-Ålesund accident and incident policy
5 Field hazards
6 Boating regulations
7 Lab and chemical safety
8 Waste management
9 Radio training
10 Ny-Ålesund rules (no wi-fi, location of bird reserves, restricted access areas, radio silence etc)
11 Airport regulations
12 Snow scooter routes

13 Rifle training provided by one of the following Norwegian institutions: Kings Bay, Norwegian Polar Institute or UNIS.

14 If applicable: snow scooter training
boat training
glacier training
navigation training

15 In the village, rifles will be carried unloaded with the bolt removed or withdrawn.

16 Stations will be equipped with vhf radios that monitor a private channel and international emergency channel 16 (14th NySMAC meeting, May 2001. Minute 4.4.)

17 When personnel are in the field the station radio will be monitored.

18 Before departure personnel will record field activity in a field record book or white board.
- Time of departure from station and estimated time of return to station. (estimated time of arrival or “eta”). Records must be monitored.
- Route and field locations.
- Radio / satellite phone/ weapon details

19 Personnel will return to station in time for their eta and will record their return in the station book.

20 The station chief or a nominated person will monitor the record book (or white board) and will take action if field personnel are overdue.

21 Stations will share new information concerning safety, including the position of crevasses, polar bear sightings and avalanche dangers. Information should be posted on a white board in the Kings Bay mess building and on the Field Log (Felt Log) web site.

5. NY-ÅLESUND ACCIDENT AND INCIDENT PLAN

NySMAC, Paris 2004 - 14 stations, one plan

Agreed procedure:

1. Station chiefs are responsible for his or her personnel.
2. Careful assessment of the accident or incident by the station chief.
3. 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 .
4. The decision to call the rescue services in Longyearbyen is the sole responsibility of the station chief.
5. Before calling the rescue service in Longyearbyen the station chief will inform the Kings Bay watchman.

6. WEAPON TRAINING

NySMAC agreed that anyone planning to carry a rifle or flare pistol in Ny-Ålesund or the surrounding area must attend a weapons course provided by Kings Bay and prove to be competent. The course also includes polar bear behaviour. The pass certificate is valid for one year.

Both UNIS and the Norwegian Polar Institute provide weapon 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 (KB, NPI and UNIS) are acceptable at Ny-Ålesund.

NY-ÅLESUND CHARTER APPENDIX

Appendix 1.

The Ny-Ålesund Science Managers Committee (NySMAC)

NySMAC convenes for meetings twice each year. If distance is not prohibitive the spring meeting is organized during Arctic Science Summit Week. Ny-Ålesund seminars are held approximately every 2 or 3 years. A Ny-Ålesund Newsletter is distributed every year in January and June.

a) Founding articles for the Ny-Ålesund Science Managers Committee (NySMAC)

Noticing that the research activities in Ny-Ålesund have expanded considerably in recent years, that several nations have established their own research stations in the area, and that other nations are planning to do so, and

Noticing that the Norwegian Government has decided that Ny-Ålesund shall be the centre for science in Svalbard and that this should be the main activity and basis for maintaining a society in the former mining town, and on this background

Recognizing the vulnerability of the Arctic natural environment and the potential impacts of human activities, and

Recognizing the need for better co-ordination and collaboration among scientific institutions working in Ny-Ålesund, The Norwegian Polar Institute, The Norwegian Mapping Authority, The Norwegian Institute for Air Research, Alfred Wegener Institute for Polar and Marine Research (Germany), The Natural Environment Research Council (Great Britain), and The National Institute of Polar Research (Japan), have decided to establish.

b) NySMAC Purpose

1.1 Contribute to the development of Ny-Ålesund as an internationally recognized site for Arctic research.

1.2 Avoid negative impacts on research programmes from other activities (including other scientific activities) in Ny-Ålesund.

1.3 Minimize and mitigate environmental impacts of scientific activity conducted from Ny-Ålesund.

1.4 Encourage co-operation between scientists and institutions present in Ny-Ålesund.

1.5 Avoid unnecessary overlap of research programmes and negative competition between scientific institutions.

c) NySMAC Mandate

2.1 Co-ordinate research activities in Ny-Ålesund by giving advice to Kings Bay AS, to Norwegian authorities, and to scientific institutions which run projects in Ny-Ålesund.

2.2 Improve co-operation among institutions or among scientists by annually issuing an updated directory data base on past, ongoing and planned scientific projects in Ny-Ålesund.

2.3 Assess new scientific projects and other activities which may have significant impacts on existing projects or the environment.

2.4 Establish a safety policy which should be adopted by individuals and groups working from Ny-Ålesund.

2.5 Take measures, including the convening of regular seminars, to promote Ny-Ålesund in the international scientific community.

d) Participating institutions

3.1 All scientific institutions which run long-term programmes from Ny-Ålesund and have permanent infrastructure, are eligible for membership of the committee. New members are accepted following a consensus decision by NySMAC.

3.2 Each institution appoints one representative (vote) to NySMAC, but can be represented by more persons at the meetings if necessary.

3.3 Kings Bay AS shall meet with status as observer.

e) Organization

4.1 The chairman and vice-chairman of NySMAC are elected among the representatives for a two-year period, with election terms staggered by one year.

4.2 The Norwegian Polar Institute's Svalbard Division (NPS) runs a permanent secretariat.

4.3 Decisions are taken either through a hearing process or at committee meetings. NySMAC takes decisions through consensus.

4.4 Member institutions that have not submitted written responses to hearing documents or are not attending committee meetings are assumed to be neutral to the issues and are therefore expected to support the consensus opinion of the active institutions.

Clauses 4.3 and 4.4 were added to the document at the 12th NySMAC meeting in February 2000.

The Norwegian Polar Institute	***Alfred Wegener Institute for Polar and Marine Research***
The Norwegian Mapping Authority	***The Natural Environment Research Council***
The Norwegian Institute for Air Research	***The National Institute of Polar Research***

Appendix 2. Ny-Ålesund stations/infrastructures

COUNTRY	INSTITUTION	STATION NAME (Present)	YEAR OPENED	NOTES
Norway	Norwegian Polar Institute (NPI)	Sverdrup Station	1968	1 Yellow House 2 NP Research station (now KOPRI and IPEV) 3 Sverdrup Station (1999) Permanently manned
United Kingdom	1 Cambridge University 2 Natural Environment Research Council/British Antarctic Survey NERC / BAS	NERC Harland Huset	1972	1 MexicoBuilding. Cambridge University (1972- 1992) 2 NERC Harland Huset Station (1991) Seasonal
Norway Sweden	Norwegian Polar Institute Norwegian Institute for Air Research (NILU) Stockholm University (SU)	Zeppelin Station	1989	1 Present station opened In 2000 2 In cooperation with Stockholm University Open all year
Japan	National Institute for Polar Research (NIPR)	Rabben	1999	Seasonal
Germany	Alfred Wegener Institute (AWI)	Koldewey Station and the NDACC Observatory	1991	1 Koldewey Station (1991) NDACC Observatory (1994) 2 Merger with IPEV (France) in 2003. Permanently manned
Norway	Norwegian Mapping Authority (NMA)	Geodetic Observatory	1992	Permanently manned
Netherlands	Arctic Centre University of Groningen (UoG)	London 3 and 4	1995	Seasonal
Italy	Consiglio Nazionale delle Ricerche (CNR)	Dirigible Italia	1997	Seasonal
Norway	Norwegian Space Centre (NSC), Andøya Rocket Range	SvalRak	1997	Seasonal
France	Institut Paul Emile Victor (IPEV)	Rabot Station and Corbel Station	1999 2012	1 The French Camp (intermittent use from 1963) 5km east of Ny-Ålesund was refurbished and renamed Corbel station (2012) 2 IPEV merged with AWI (Germany) in 2003. 3 Rabot permanently manned.
South Korea	Korean Polar Research Institute (KOPRI)	Dasan Station	2002	Seasonal
China	Chinese Arctic and Antarctic Administration (CAA)	Yellow River Station	2004	Seasonal
Norway	Kings Bay AS	Marine Laboratory	2005	Permanently manned
India	National Centre for Antarctic and Ocean Research (NCAOR)	Himadri Station	2007	Seasonal
Germany	GeoForschungsZentrum Potsdam (GFZ)	CHAMP antenna		Seasonal
Norway	University of Tromsø (UoT)	Green house		Seasonal
Norway	The University Centre in Svalbard (UNIS)	Student courses		Seasonal
Norway	Northern Research Institute, Tromsø (NORUT)			Seasonal

Appendix 3.

Overview of NySMAC meetings, Ny-Ålesund seminars and participation in ASSW

No.	City	Country	Date	Chairman	Vice Chairman	Ny-Å Seminars	Participation in ASSW
1	Ny-Ålesund	Norway	27 July 1994	Pål Prestrud			
2	Potsdam	Germany	3 May 1995	Pål Prestrud		1st	
3	Ny-Ålesund	Norway	17 Aug 1995	**Pål Prestrud**	**Hajime Ito**		
4	Cambridge	UK	27 Feb 1996	Pål Prestrud	Hajime Ito	2nd	
5	Ny-Ålesund	Norway	24 Aug 1996	Pål Prestrud	Hajime Ito		
6	Kjeller	Norway	8 April 1997	Pål Prestrud	Hajime Ito	3rd	
7	Ny-Ålesund	Norway	24 Aug 1997	**Kim Holmén**	Hajime Ito		
8	Ravello	Italy	4 March 1998	Kim Holmén	Hajime Ito	4th	
9	Stockholm	Sweden	17-18 Sept 1998	Kim Holmén	**Nick Cox**		
10	Corsica	France	22-24 Febr 1999	Kim Holmén	Nick Cox		
11	Ny-Ålesund	Norway	11-12 Oct 1999	**Kim Holmén**	Nick Cox		
12	Tokyo	Japan	21-22 Febr 2000	Kim Holmén	Nick Cox	5th	
13	Copenhagen	Denmark	20-21 Nov 2000	Kim Holmén	Nick Cox		
14	Ny-Ålesund	Norway	2-3 May 2001	Kim Holmén	Nick Cox		
15	Potsdam	Germany	20 Sep 2001	**Guido di Prisco**	Nick Cox		
16	Groningen	Netherlands	23 April 2002	Guido di Prisco	Nick Cox		ASSW2002
17	Tromsø	Norway	7 Oct 2002	Guido di Prisco	Nick Cox	6th	
18	Kiruna	Sweden	31 Mar-1 Apr 2003	Guido di Prisco	**Franck Delbart**		ASSW2003
19	Rome	Italy	6-7 Nov 2003	**Guido di Prisco**	Franck Delbart		
20	Reykjavik	Iceland	22-23 April 2004	Guido di Prisco	Franck Delbart		ASSW2004
21	Paris	France	3-4 Nov 2004	Guido di Prisco	Franck Delbart		
	Tokyo	Japan	24-25 Febr 2005	Seminar only	Franck Delbart	7th	
22	Kunming	China	18-19 April 2005	Guido di Prisco	**Franck Delbart**		ASSW2005
23	Andøya	Norway	25-26 Oct 2005	**Hajime Ito**	Franck Delbart		
24	Potsdam	Germany	27-28 March 2006	Hajime Ito	Franck Delbart		ASSW2006
25	Kjeller	Norway	16-17 Oct 2006	Hajime Ito	Franck Delbart		
26	Hanover	USA	18-19 March 2007	Hajime Ito	**Roland Neuber**		ASSW2007
27	Cambridge	UK	18-19 Oct 2007	**Hajime Ito**	Roland Neuber	8th	
28	Kjeller	Norway	4-5 March 2008	Hajime Ito	Roland Neuber		- Russia
29	Brest	France	4-5 Nov 2008	Hajime Ito	Roland Neuber		
30	Bergen	Norway	23 March 2009	Hajime Ito	**Roland Neuber**	9th	ASSW2009
31	Incheon	South Korea	3-5 Nov 2009	**Paal Berg**	Roland Neuber		
32	Copenhagen	Denmark	12-13 April 2010	Paal Berg	Roland Neuber		- Greenland
33	Ny-Ålesund	Norway	13-15 Sept 2010	Paal Berg	Roland Neuber		
34	Seoul	South Korea	28 March 2011	Paal Berg	**Wang Yong**		ASSW2011
35	Kjeller	Norway	26-27 Oct 2011	**Paal Berg**	Wang Yong	10th	
36	Stockholm	Sweden	20-21 Mar 2012	Paal Berg	Wang Yong		- Canada
37	Groningen	Netherlands	13-14 Nov 2012	Paal Berg	Wang Yong		
38	Krakow	Poland	13-19 April 2013	Paal Berg	**Masaki Uchida**		ASSW 2013
39	Rome	Italy	Oct 2013	Nick Cox	**Masaki Uchida**	11th	
40	Helsinki	Finland					ASSW 2014

Appendix 4.

Kings Bay AS

a) Ny-Ålesund station managers meeting

In recent years practical day to day Ny-Ålesund management has benefited from a weekly station managers meeting held by Kings Bay AS.

b) Ny-Ålesund Land Use Plan

Kings Bay AS published a “Land Use Plan” for Ny-Ålesund in 1998. A revised plan was published in 2006.

The current plan covers the period 2012 to 2015.
http://www.kingsbay.no/images/stories/StrategiplanKingsBayAS2012-2015.pdf

Appendix 5.

Svalbard Science Forum (SSF)

The Svalbard Science Forum (SSF) coordinates research in Svalbard and promotes scientific and logistical collaboration. Effort is also made to reduce the impact of research on the natural environment. In order to achieve these aims SSF manages a database "Research in Svalbard" (RiS) which contains information relating to more than two thousand Svalbard-based projects.

The SSF organises workshops and administers funding schemes targeting the polar research community.

The SSF also provides an overview of research infrastructure, logistic support, research bases, and advice for permit applications for research in Svalbard.

The SSF is administered by the Research Council of Norway.

Appendix 6.

Ny-Ålesund environment impact assessment (EIA) 1997 and 2006

Environmental Impact Assessment (EIA) Ny-Ålesund 1997

Environmental Action Plan For Ny-Ålesund: Ten Major Recommendations
Adopted by Ny-Ålesund Science Managers Committee, 24 August 1997

1. General measures:
   - Agree on an upper limit for the activity and number of people at the station.
   - Distribute information to visitors before arrival on how to behave in Ny-Ålesund.
   - Increase and improve information flow to all parties concerning planned activities in Ny-Ålesund.
2. Stabilise and reduce local emissions.
3. Protect flora and fauna from damage.
4. Reduce the number and size of tour ships calling at the station.
5. Establish Kongsfjorden as a marine science area and ban commercial fishing.
6. Incorporate the key results of the EIA into the Land Use Plan.
7. Improve waste management.
8. Employ a senior scientific/environmental manager at the station.
9. Prevent fuel spills and establish a station contingency plan.
10. Introduce stricter control over activities.

November 1998:

The final version of the "Environmental impact assessment; Ny-Ålesund international scientific research and monitoring station, Svalbard" is available in printed form (Norsk Polarinstitutt meddelelser, No. 157; 1998).

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) NY-ÅLESUND 2006

Environmental Action Plan for Ny-Ålesund 2006: Eleven Recommendations		
1.	Set a precautionary upper limit on the total activity/numbers of people at the station.	• Fulfill the discussions on setting an upper limit on the total activity.
2.	Stabilise and reduce local emissions.	Several measures should be implemented, ref EIA98 page 47. Prioritized areas: • Improved energy supply with lower emissions (new sources, cleaning equipment) • Reduction in local energy consumption by improved infrastructure and changed habits from users • Elucidate possibilities for reduced emissions from ships • Establish a system for monitoring and modelling of air quality
3.	Protect flora and fauna, and re-vegetate degraded tundra areas	• Register changes in the tundra in a GIS • Continous focus on vegetation under construction work • Register research activities and other activities in a GIS • Remove and limit redundant and oversized infrastructure. • Channel pedestrian traffic to roads and build paths on exposed areas • Better coordination of field activities in order to reduce disturbances • More research on effects of scientific activities on the environment • Elaborate codes of conduct for scientific field work • Document effects of noise and lights on local fauna

4.	Increase and improve the information provided to all visitors and residents of Ny-Ålesund, giving them guidance as to how they can reduce environmental impacts and minimize conflicts.	• Continue work on information already implemented • Improve information about electromagnetic equipment and enforce regulations • Stress the necessity not to feed or disturb local wildlife
5.	Incorporate the key results of the EIA into the Land Use Plan for Ny-Ålesund	• Use this EIA and subsequent results from monitoring and environmental plans as a basis for revisions of the land-use plan in the future
6.	Prevent fuel spills and establish a station fuel spill contingency and clean-up plan.	• Revise the Emergency plan for pollution incidents and spills in 2006 - 7. • Inspect locations with polluted ground regularly and measure chemical concentrations (i.e. every 5-10 years)
7.	Maintain a high level of waste management.	• Apply the mantra "Reduce – Reuse – Recycle Waste". • Increase the focus on minimization of waste generation • Continue the high standards of recycling .
8.	Establish the Kongsfjorden area as a "scientific research area"	• Follow and contribute to the Governmental process on establishment and implementation of such an area.
9.	Reduce the environmental impacts from tour ships calling at the station.	• Continue and improve the work on information to crew and passengers and ensure enforcement when passengers are in the village • Find ways to reduce emissions from the ships
10.	Introduce stricter controls over activities.	• Introduce a Project database • Introduce a research GIS associated to the Project database • Increased coordination and control through the Ny-Ålesund science plan
11.	An environmental monitoring documenting pressures on and state of the local environment	• Intitiate a process to fulfil the selection of indicators and parameters with responsibilities for the monitoring and assessment work • Establish a system for displaying indicators and parameters on intranet. First priority is to publish statistics on activities made in this report and continually update them. That should gradually be supplemented by SoE-indicators.

Minutes of the 20th NySMAC meeting April 2004: "Most of the initiatives suggested in the EIA plan from 1998 are fulfilled".

Appendix 7.

Waste management

A waste management plan for Ny-Ålesund was developed in 1995. In 1996 as much as 65 % of the total waste was sent away to be recycled. In 1998 financing from Norwegian Pollution Authorities through the Governor of Svalbard was used to develop a waste minimisation plan and to improve information about waste management. Kings Bay AS hired Anna-Krzyszowska-Waitkus for three months and she:

- worked out a waste minimisation plan for all divisions in KB and for scientific stations
- improved export of the waste to recycling companies on the mainland
- improved waste sorting by easily readable information
- produced a "Reduce-Reuse-Recycle" brochure minimization aspect
- Provided a waste management seminar for all Ny-Ålesund personnel

In 1999 this was followed up with seminars, improvement of some routines and new informative poster.

One of the largest categories of waste produced in Ny-Ålesund is the food waste. Kings Bay bought a dry-composting unit from Green Mountain Technologies in USA.

Appendix 8.

Ny-Ålesund Science Plan

In 2006 the Norwegian Research Council asked the Norwegian Polar Institute to produce a science plan for the Kongsfjorden International Research Base (KIRB). With input from all the Ny-Ålesund stations an agreed science plan was published. Revised in 2010, endorsed by the Ny-Ålesund Science Managers Committee and adopted by Svalbard Science Forum, the science plan is valid to 2013.

The goal of the Ny-Ålesund Science Plan is to continue developing Ny-Ålesund as a premier international Arctic research and monitoring facility. The Science Plan includes effective tools for better planning, communication and coordination of all international research activities in Ny-Ålesund.

Science Plan

Kongsfjorden International Research Base (KIRB), Svalbard

Also available on the web. http://www.proscientia.no/prognett-ssf/Artikkel/Science_Plan_for_the_Kongsfjorden_International_Research_Base/1253978608139

Priorities for the period 2010-2013
Endorsed by Ny-Ålesund Science Managers committee: May 21, 2010
Adopted by Svalbard Science Forum: June 11, 2010
Effective: June 12, 2010

Contents

Introduction

The Ny-Ålesund mission statement1 declares overall goals for the entire Kongsfjorden area. The goal of this Science Plan is to continue developing Ny-Ålesund as a premier international Arctic research and monitoring facility. Ny-Ålesund shall cement its role as an outstanding observatory, laboratory, field base and training site for Arctic research. Ny-Ålesund strives for acting as **one** well coordinated international research facility, while at the same time maintaining the scientific quality and integrity of individual stations and research groups. The Ny-Ålesund research community promotes a policy of open and free exchange of scientific data, based on mutual trust and respect for the intellectual property rights.

The Ny-Ålesund Science Plan applies to the entire research area including Kongsfjorden, and the land areas owned by Kings Bay AS (KB) including the entire Brøgger peninsula. The plan also applies to research outside the area emanating from or through Ny-Ålesund. Svalbard Science Forum (SSF) has the overall responsibility for the coordination and implementation of the science plan.

The unified scientific stations under this science plan will be known as members of the **Kongsfjorden International Research Base (KIRB)**.

1. Overall vision for the plan period

- KIRB will be a primary observational base in the Arctic for environmental research and monitoring.
- KIRB will be a unified research facility where all nations, stations and projects work as one entity with common goals without compromising their identities and intellectual property rights.
- KIRB will host research in scientific areas that have clear benefits from performing the research in the pristine environment that this natural laboratory provides.
- KIRB will secure, maintain and proliferate long-term time series of environmental parameters.
- KIRB will, as a coordinated science and educational platform, be a primary showcase of international achievements in the Arctic.
- Flagship programmes define core scientific foci for KIRB.
- KIRB will coordinate its research and cooperate with all other research bases in Svalbard.

KIRB promotes:

- New complementary research activities that do not duplicate existing research
- High ethical standards with respect to experiments involving animals and humans
- A research environment with open and free exchange of scientific data
- A research environment based on trust and respect for the intellectual property rights
- Joint research activities involving new trans-national collaboration
- The continued emphasis on monitoring and the protection of long term data series
- Research and operational activities utilizing green technologies

KIRB does not support:

- Research activities that pollute or permanently disturb the local environment
- Activities that have negative impact on, and reduce the quality of existing research and the locations potential for future environmental research areas

2. Scientific focus

KIRB is ideal for research and monitoring of contemporary environmental changes related to climate change issues, long range transport of pollutants, UV-radiation and related biological effects, physiology, eco-toxicology, Arctic marine and terrestrial ecosystems, as well as research from other disciplines. With its multidisciplinary research environment, KIRB provides unique opportunities for scientific synergies. Maintaining long-term time series of environmental parameters shall remain a scientific foundation. KIRB science and institutions shall contribute **essentially** to climate research programmes and international networks; notably the development of SAON, GAW, GCW and SIOS[2]. Ny-Ålesund has a great potential for comparative bi-polar studies based on its broad measurement programmes.

[2] *SAON: Sustained Arctic Observing Network (Arctic Concil); GAW: Global Atmospheric Watch (World Meteorological Organization); GCW: Global Cryosphere Watch (World Meteorlogical Organization); SIOS: Svalbard Integrated Earth Observing System (European Strategy Forum for Infrastructure).*

Research within KIRB is comprised of activities at all the stations. Substantial portions of these activities are related and complementary. To release the full potential of these complementarities and simultaneously increase the influence of KIRB in the scientific debate, the stations have agreed to build and implement flagship programmes during the plan period. Each flagship programme will be guided by a science group. The science groups will nominate a leader that will be responsible for calling meetings for defining yearly milestones and goals to achieve the long term visions for the programmes. The science groups have a standing task of making yearly revisions of gaps in knowledge and measurement programmes.

Three flagship programmes have been agreed on and all scientists active within KIRB are encouraged to focus on developing the science and outcome of the flagships. *Activities that are endorsed flagship activities will be prioritized when infrastructure or human resources limit activities.*

Detailed information about the flagships can be found in the flagship documents [3] which also list several project proposals for integrated research approaches. During the present science plan period these flagship programmes will seek to integrated institutional contributions into scientific challenges that no single institution or group could tackle in solitude.

The KIRB flagship programmes:

The Kongsfjorden System

The Kongsfjorden System is an established reference site for Arctic marine studies and represents a natural laboratory in close proximity to Kings Bay Marine Laboratory. Kongsfjorden is directly influenced by variable climate signals in the Arctic and represents, together with the Zeppelin Station, probably the most comprehensive environmental monitoring location in the Arctic. Thus, Ny-Ålesund is an ideal site for studies of environmental contaminants in the marine system.

The flagship states the following future research priorities:

- A combination of atmospheric measurements of long-range pollutants with measurements of contaminant levels in the biota
- Studies of feedback mechanisms from the biosphere to the atmosphere
- Investigation of interactive effects of rising temperatures and enhanced UV- radiation
- Studies of changes in the pelagic fish community of Kongsfjorden
- Studies of organic carbon mineralization
- Studies of water exchange processes in the fjord and small scale turbulences
- The use of clams as environmental indicators
- A monitoring programme for phytoplankton

Two major infrastructure innovations are planned. First, a cabled oceanographic monitoring platform that will allow real-time data retrieval, and second, an integrated comprehensive monitoring station on the central islands within Kongsfjorden to monitor and study the processes on the atmosphere/-ocean surface interface. It is also emphasized that a database for long-term data series from the Kongsfjorden System needs to be established and made available for the research community, as well as coordinating and furthering the already established metadatabases.

[3] www.svalbardscienceforum.no/pages/baseNyAa.htm#SciencePlan

The terrestrial ecosystem

The great heterogeneity of the area, the coastal terrestrial environment by which enables studies of interactions between the marine and environmental environments and the long record of research combine to make Ny-Ålesund a key location for terrestrial research in the High-Arctic.

The flagship states the following future research priorities:

- Detailed records of physical parameters influencing the terrestrial system
- Establishment of a reference bar code library of terrestrial biota in the Kongsfjorden area and a log of the appearance of new arrivals
- Studies of overwintering ecology and integrative studies of freshwater systems.
- Studies of the palaeoenvironmental history to understand the history of the current flora and fauna communities.
- Studies of soil geochemistry, microbiology and methane production, especially in newly deglaciated regions
- Studies of groundwater and permafrost interactions
- Studies of periglacial landform activity occurring around Ny-Ålesund
- A watershed approach to enable inputs and outputs to be quantified and enhance the predictive value of numerical modelling projects

A prime requirement is for a Terrestrial Laboratory Facility. The laboratory should be operated by a permanent staff that can map scientific activity. Moreover, the need for a mobile field laboratory is recognised. The establishment of a High-Arctic Land Observatory (HALO) as part of SIOS is proposed to further integrate and coordinate terrestrial research within Ny-Ålesund, Svalbard and with other polar research bases. Under the auspices of HALO, long-term data series will be maintained providing open access long-term baseline data. Reference sites will be designated for monitoring natural changes and will be intensively instrumented to record relevant parameters.

The atmospheric research

In Ny-Ålesund, several long term measurements of key climate parameters from the surface up to the ozone layer have been performed for decades. Their data is continuously fed into global networks and such comprehensive data sets are available from very few sites in the Arctic. Furthermore, the location under the magnetospheric cusp makes it a unique place for observing the solar wind and magnetosphere interaction on the dayside.

The flagship states following future research priorities:

- Long term observations of key parameters concerning climate change
- Planetary boundary layer (PBL) research
- Studies and monitoring of long range transport of pollutants
- Arctic ozone layer and UV research
- Ionospheric / magnetospheric research
- Validation and synergistic analyses of satellite data

The flagship aims to establish a unique international long-term atmospheric monitoring and observation platform supported by all research institutions represented in Ny-Ålesund and thus to realize a supersite allowing to investigate the complex Arctic System with a multidisciplinary approach. Interdisciplinary observations will be performed elucidating interaction processes on sea-, snow-, ice surfaces and the atmosphere. Special emphasis will be laid upon the impact of climate change on the Arctic environment.

3. Educational focus

KIRB will provide a venue to tie higher education directly to cutting edge research.

• **National educational initiatives:**
The educational use of KIRB will be promoted further. Coordination of national programmes to stimulate students through direct student contacts on site will be pursued.

• **European Union educational programmes:**
The EU transnational access project ARCFAC V will terminate 2010. This will be furthered with initiatives for additional EU educational programmes (e.g. Marie Curie and other programmes).

• **UNIS courses in Ny-Ålesund:**
The University Centre in Svalbard (UNIS) currently offers courses with field activities in Ny-Ålesund. Their activity will be increased by implementing more research projects and staging field courses well suited to KIRB.

• **KB funding policy for young researchers:**
KB will continue to make KIRB attractive to bachelor and master students by offering educational facilities and favourable prices.

• **KIRB scientists as lecturers at UNIS**
A strong link between research and education will be established by a frequent use of KIRB scientists as guest lecturers at UNIS.

4. Coordination activities within KIRB

Information tools

• **Information Service / Web-portal**
SSF maintains a central web-portal for all research in Svalbard. This portal will also contain links to the KIRB web-sites, the project databases and the individual stations.

• **Project database**
The Research in Svalbard Database (RiS) is a tool administered by SSF for information about research projects where all KIRB research activities are registered.

• **Bibliographies**
The stations are responsible for providing SSF with (and updating) short field reports, lists of planned and finished publications, documentations of experiences and preliminary results.

• **Scientific data**
IPY data policies will be implemented within KIRB securing open access to data. A GISbased online and searchable metadata module of the RiS will identify data sets, samples, geographical sites and measurements.

Logistical services

Logistics shall be organized to prioritize the scientific efficiency of KIRB. The Kings Bay Marine Laboratory will serve as role model for future logistic investments and coordination with resources guided towards common logistic solutions for **scientific** needs at the stations. Stations will, when practical and useful, turn towards station specific specializing in scientific services offered to the entire KIRB community.

• **Equal access to shared resources**
KB and its research partners/stations shall together seek to implement the best joint system for provision of accommodation, offices, and meeting rooms, to give all users equal access to such shared resources irrespective of nationality.

• **Joint logistical services:**
Logistics shall be centralized and coordinated to the largest degree feasible. A complete list of logistical services and providers shall be accessible through the SSF web portal.

• **Scientific instruments and installations:**
All stations shall maintain complete lists of scientific instruments and installations which will be accessible through the SSF web portal.

• **Hazardous waste disposal**
Kings Bay will organize a central disposal system for handling hazardous materials and chemicals.

Organizational measures

• **KIRB-LIB**
The Norwegian Polar Institute (NPI) will, in collaboration with UNIS revitalize its onsite library, consisting of contemporary Ny-Ålesund papers, field reports and other scientific reference material.

• **KIRB-SVC (Science Visitor Centre)**
NySMAC in collaboration with KB shall have the responsibility for the Science Visitor Centre. KIRB-SVC shall be an exceptional Arctic science education and outreach facility for visitors.

• **KIRB-SAFE (Safety service)**
A common security procedure agreement will be established to ensure a common standard and understanding.

• **KIRB-MAF (Ny-Ålesund Station Managers Forum)**
KIRB-MAF should serve as an information board among all research stations present in NyÅlesund at all times, and weekly meetings will be held. All day-to-day problems should be addressed through this board.

• **KIRB-TALK**
Every effort should be made to encourage the scientists to communicate their work and results into the village through popular science seminars and other means.

• **KIRB-ENV**
The environmental impact assessment (EIA) for Ny-Ålesund is an i**mportant backgrou**nd document for the Science Plan. All stations are expected to contribute to the establishment of an EIA monitoring programme documenting the development of key environmental effect parameters at the site.

Networking

• **Ny-Ålesund Scientific seminars**
The Ny-Ålesund Scientific seminars, initiated by NySMAC are organized every 2 years for scientific exchange and communication both within the KIRB research community and with the outside world.

• **The Ny-Ålesund Symposium**
KB will organize the high-level event, The Ny-Ålesund Symposium on a regular basis on polar topics of choice to promote KIRB as a premier international Arctic research and monitoring facility.

• **SSF seminars**
SSF organizes and finances scientific seminars bringing together international scientists to discuss topics of particular scientific interest to facilitate thematic development of KIRB.

• **Outreach and policy maker enlightenment**
The use of Ny-Ålesund for seminars, training course, conferences and meetings will be promoted but restricted to such that address issues of relevance to the scientific development and promotion of scientific results from KIRB.

5. Implementation of the Science Plan

All institutions are committed to promoting and creating incentives for their scientists to adhere to the goals of the science plan.

• **Role and responsibilities of Svalbard Science Forum (SSF)**
SSF is the central information and coordination unit for research in Svalbard under the auspices of the Research Council of Norway. SSF will also be responsible for overseeing the implemention of the Ny-Ålesund Science Plan. The SSF board approves the science plan.

• **Role and responsibility of the research partners and stations in Ny-Ålesund**
Each station is responsible for making the content and intention of the Science Plan known to the station personnel and its users. All active groups are responsible for reporting identified gaps in knowledge and observational programmes into the database.

• **Role and responsibility of the Norwegian Polar Institute (NPI)**
NPI has a role to oversee the scientific implementation of the science plan. NPI is also a logistics provider in Svalbard and has specific responsibilities with respect to facilitate Norwegian and international research activities in Svalbard, providing research results for the Norwegian authorities, and documenting ongoing research.

• **Role and responsibility of the University centre in Svalbard (UNIS)**
UNIS should promote and maintain educational activities in Ny-Ålesund. UNIS will facilitate stronger exchange of science between scientists in Ny-Ålesund and its own research activities through educational programmes and pursuit of joint research projects.

• **Role and responsibilities of Kings Bay AS (KB)**
KB is the owner and operator of Ny-Ålesund providing general infrastructure, transport and accommodation services for the research activities. KB maintains and manages the Marine Laboratory. KB will encourage all visitors to contribute to databases and adhere to the science plan.

• **Role of the research Council of Norway (RCN)**
RCN will through international collaboration work for bilateral and multinational joint calls for proposals to further develop collaboration in Ny-Ålesund. RCN will work for providing the resources needed to provide the positive incentives necessary to fully implement the science plan.

• ***Role and responsibilities of Ny-Ålesund Science Managers Committee (NySMAC)***
NySMAC provides recommendations and advice to KB with respect to all matters of interest to the research. NySMAC is responsible for implementing the science plan**.**

• **Role and responsibility of Ny-Ålesund Station Managers Forum (KIRB-MAF)**
KIRB-MAF is the local station managers forum in Ny-Ålesund that meets regularly with KB to ensure the smooth operation of research stations, projects and the provision of technical and logistical support.

Appendix 9.

Ny-Ålesund Flagship Programmes

Please see:
http://www.proscientia.no/prognett-ssf/Artikkel/Science_Plan_for_the_Kongsfjorden_International_Research_Base/1253978608139

- The Ny-Ålesund Science Plan (2010) (PDF-386.2 KB)
- Ny-Ålesund Flagship - Kongsfjorden system (PDF-2 858.2 KB)
- Ny-Ålesund Flagship - Terrestrial Systems (PDF-1 258.4 KB)
- Ny-Ålesund Atmospheric Flagship Programme - Workshop report (PDF-2 389.9 KB)
- Ny-Ålesund Flagship - Glaciology (PDF-1 138.7 KB)

Appendix 10.

EU funding initiatives

Ny-Ålesund Large Scale Facility (LSF): 1996-2003

Under the Access to Large-Scale Facilities Activity of the Specific Programme for Research and Technological Development in the field of Training and Mobility of Researchers (TMR-Programme) of the European Community, access was provided for European researchers to the Large Scale Facility (LSF) in Ny-Ålesund.

LSF stations included The Norwegian Polar Institute (coordinator), The Natural Environment Research Council (UK) the Alfred Wegener Institute for Polar and Marine Research (AWI, Germany), the Norwegian Mapping Authority (SK), and the Norwegian Institute for Air Research (NILU) and Kings Bay AS.

Research fields included:

- Atmospheric Climate Research and Biological Research Facilities (NP)
- Atmospheric Air Research Facility (NP / NILU)
- Ozone/Stratospheric and Climate Research Facilities (AWI)
- Space Geodetic Research Facility (SK)

ENVINET: May 2000 - April 2003

ENVINET – European Network for Arctic-Alpine Multidisciplinary Environmental Research was financed with 5,5 mill. NOK over three years under the 'Human Potential Programme' of EU's 5th Framework Programme.

ENVINET was a research infrastructure network focusing on multidisciplinary environmental research in Europe. The network involved representatives from 18 environmental research infrastructures from the European Alps to the Arctic.

ENVINET promoted cross-discipline and cross-infrastructure collaboration and multidisciplinary research activity.

Research fields included:

- Atmospheric physics and chemistry
- Marine and terrestrial biology.

ARCFAC 2006-2010

The European Centre for Arctic Environmental Research (ARCFAC) was part of the larger Ny-Ålesund Research Infrastructure facility (Ny-Ålesund RI). Free access to the research infrastructure in Ny-Ålesund was offered to the European-led scientific teams within the 6th EU Framework Programme (Research Infrastructures Action, Transnational Access).

ARCFAC ran for 4 years (2006-2010). Calls for Proposals were announced twice each year.

Appendix 11.

SIOS – Svalbard Integrated Earth Observing System

The SIOS Preparatory Phase project is a 3-year project which will prepare the ground to build up and operate a multidisciplinary, multi-national and multi-platform research infrastructure as a strong and independent body. The vision is to establish a cooperating and transparent research infrastructure which will give better estimates of the future environmental and climate changes in the Arctic.

The preparatory phase started in 2010 and should have been completed by the summer of 2013 but is extended by one year.

Appendix 12.

Fishery protection in Kongsfjorden

Regulation concerning the protection of an area in Kongsfjorden in Svalbard against fishery activities.

Orientation to NySMAC from Kings Bay AS, March 2007.

The issue of protecting Kongsfjorden for research purposes was raised by Kings Bay AS in 2003. The Interdepartmental Polar Committee endorsed the idea and the Ministry of Justice started the process to change the Svalbard Law from 1925 to make it possible to make regulations concerning industry/-business activities that will come in conflict with the research activities in Svalbard.

The first conflict to be addressed was between the fishing industry and the research activity in Ny-Ålesund. This new regulation will solve this conflict by protecting an area of the fjord against commercial fishing.

The regulation came in to force the 2nd February 2007.

The following is an unofficial translation of the Norwegian law text:

The Regulation (free translation)

§ 1. (purpose of the act)

The purpose of the act is to avoid a conflict of interest between research and fishing by trawl in an area in Kongsfjorden in Svalbard that has a special value to the research in Ny-Ålesund.

§ 2. (fishing by trawl - extent of the term)

This regulation includes all fishing by trawl for commercial reasons. Fishing by trawl includes also similar activities that could damage the bottom conditions in the fjord, including trawling for seaweed, kelp, and shells. Fishing for scientific reasons or whale hunting is not included in this regulation.

The Governor of Svalbard can in definite cases decide if an activity is included in the regulation or not.

§ 3. prohibition against fishing by trawl

All fishing by trawl is prohibited in the following area in Kongsfjorden in Svalbard.
East of a straight line between the following positions:

A: 78 ° 58,00 ' N	11 ° 19,45 ' E
B: 79 ° 02,24 ' N	11 ° 15,02 ' E
C: 79 ° 00,57 ' N	11 ° 29,16 ' E
D: 79 ° 03,55 ' N	11 ° 38,51 ' E

The border of the area where fishery activities is prohibited is evident on the attached map in the scale 1:200.000, dated 18th March 2005. The Regulation with map is kept at the Ministry of Justice and Police.

§ 4. Inspection

The Governor of Svalbard enforces this regulation. Instructions can be given to the Coastguard, cf. law 13th June 1997 no. 42 about the Coastguard § 12 second section, cf. § 19 third section and § 22.

§ 5. Penalty

Intentional or involuntary violation of provisions given in or in accordance to this regulation or in complicity, will be given a penalty according to law 17th July 1925 no. 11 about Svalbard § 4 second section.

§ 6. Coming into force and changes

This regulation is coming into force immediately. The Ministry of Justice can do changes in this regulation.

Regulation against heavy oil on board cruise ships to Ny-Ålesund from 1st January 2015.

Appendix 13.

Gold prospecting at Svansen

Deposits of gold were found at Svansen (north of Blomstrand) by Store Norsk and Norsk Hydro in the early 1990's. Store Norsk claimed mining rights in the area. In July 2007 Store Norsk informed Sysselmannen of their intention to perform prospect drilling at Svansen.

Please see:

1) Letter from NySMAC to the Sysselmann. 17th NySMAC meeting October 2002. Item 12. Enclosure 5.
2) 18th NySMAC meeting April 2003. Item 6.
3) 19th NySMAC meeting November 2003. Item 4.
4) The gold mining project is closed, following a final decision made by the Ministry of Environment. 20th NySMAC meeting April 2004. Item 2.2.

Appendix 14.

UNINETT Internet Infrastructure

Presentation of plan to 23rd NySMAC meeting October 2005. Item 9.