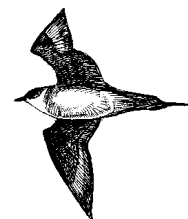


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Ny-Ålesund Newsletter

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Coordination of research in Svalbard

After the meeting of "The Interdepartmental Polar Committee" in Ny-Ålesund in early February, the Research Council of Norway (RCN) was given a task to lead a working group to prepare a report on improvements of the coordination of the scientific activity on Svalbard. The working group consists of: the Research Council of Norway, University Centre on Svalbard (UNIS), Kings Bay, and Norwegian Polar Institute. The document should be finalised before the next meeting of the Interdepartmental Polar Committee meets in August.

The committee focuses on:

1. A better coordination of the total scientific activity in Svalbard
2. A better coordination of the scientific activity in Ny-Ålesund
3. A better coordination between Svalbard Science Centre and Ny-Ålesund and an increased activity in Ny-Ålesund by UNIS

It is important to identify scientific gaps and overlaps in the scientific activity. There is a need for a long-term "science plan", which gives guidelines for the scientific development of Ny-Ålesund. This will make it possible to bring in new science to Ny-Ålesund to bridge gaps in scientific activities, and a tighter collaboration between the national stations. In order to achieve this there is a need for improved cooperation on the "scientific leaders level". From the RCN's point of view, NySMAC has been an important body in the development of Ny-Ålesund, and it is likely that NySMAC will be involved in developing such a science plan for Ny-Ålesund. NySMAC endorsed during its meeting in Iceland in April the proposal that RCN takes the responsibility together with the Norwegian Polar Institute to develop a "Science plan" for Ny-Ålesund. It is too early to say how the coordination of scientific activities will be organised, but probably a "new" Svalbard Science Forum will have an important role in this work.

Fridtjof Mehlum
The Research Council of Norway

Arctic Study of Tropospheric Aerosols, Clouds and Radiation (ASTAR)

International campaign, May 10, 2004 until June 10, 2004

ASTAR is an international measurement campaign, which is focussed on physical, chemical and optical properties of tropospheric aerosol and cloud micro-physical properties in the Arctic. Aerosol particle direct and indirect radiative effects have been identified as key uncertainties for the prediction of the future global climate. The Arctic represents a sensitive ecosystem, which is susceptible to even small changes in the local climate. In order to improve the knowledge about the origin, transport pathways, and vertical structure of aerosol physical and chemical properties as well as the impact on climate in the Arctic, a combined effort of surface-based and airborne measurements was undertaken during the ASTAR 2004 campaign.

The very successful campaign lasted from May 10 to June 10, 2004. The airborne part employed two aircrafts operating from Longyearbyen airport (AWI Polar 2 and Polar 4), which carried different unique payloads, addressing both aerosol and cloud measurements. Altogether 19 scientific flight days were realised, including 23 flight operations with each aircraft. Simultaneously a comprehensive set of ground-based measurements took place in Ny-Ålesund at Koldewey-Station, Rabben station, Zeppelin Fjellet (Ny-Ålesund) and at the Polish station in Hornsund. The observations showed very clean aerosol summer conditions, reflecting this year's quite early shifting from the spring to the summer season. Whenever weather conditions were suitable, flight operations were carried out close to the ground-based observations. The combination of aircraft measurements available on a horizontal scale with the long term observations in Ny-Ålesund will allow extending the detailed airborne results to a larger temporal scale. The follow up campaign scheduled for spring 2006 will focus on the Arctic spring aerosol and shall contribute to the validation of the space borne CALYPSO experiment.

Project coordinator and contact person: Dr. Andreas Herber
(aherber@awi-bremerhaven.de)

Roland Neuber and Renate Treffeisen
Alfred Wegener Institute

Feeding foxes is like burning tyres

Much research in Ny-Ålesund depends on the near pristine environment. The protection of this status is in the interest of the scientific community and Kings Bay. With the Zeppelin station on top of the mountain it is clear that we cannot burn car tyres in Ny-Ålesund because this would jeopardize all research on air pollution. Do you know, that you are doing similar things, when you decide to feed an Arctic Fox?

The Arctic Fox is a beautiful well adapted animal, which belongs in the arctic environment. It can have a devastating effect on bird populations, because it kills not only to fulfill its daily food requirement, but also to make food stores for the winter. Such an impact is a normal part of the arctic ecosystem as long as the presence of the animal is regulated by the natural food supply. Ny-Ålesund has seen a clear variation in fox presence in the last 15 years. In 1990 and 1991, no foxes were observed on the northern coast of Brøggerhalvøya. From 1993 to 1995, foxes were present. From 1996 to 1999 they were absent again, but they returned in 2000. In 2003, there was a den with 10 puppies underneath London IV. The playing puppies were a beautiful attraction.

The effect of the foxes on birds is enormous. In years without foxes, there are hundreds of Arctic Terns (the bird that breeds on the North Pole and winters on the South Pole) nesting on the gravel within the village. Hundreds of goslings walk through the village during nighttime and ducklings of Eider ducks and Long-tailed ducks feed on Solvatnet. In years with foxes, there are not many birds in the village. The last four years, the foxes have eaten all nests of Arctic Terns and killed all goslings of the Barnacle Goose during the summer. Not just a large part, but really every young bird in the village.

This is no problem in a natural ecosystem. When food is depleted, the consumer dies or has to move. And the prey has some time to recuperate. However, despite all our good intentions and rules, foxes in Ny-Ålesund are fed and flourish. With just one sausage a week, they survive and stay in Ny-Ålesund. As a consequence, there are no Arctic Terns attacking us when we walk over the street and there is no goose shit on our boots. However, there are also no scientists who study the Arctic Terns and if the present trend continues, also no Dutchman to study geese.

In the year 2000, there were thousand adult geese in Kongsfjorden. Last year there were only 500 left and again there were no goslings surviving to fledging. This spring, foxes are frequently visiting the village. They beg and they are hard to resist.

Please DO NOT FEED THE FOXES.

Resist any temptation and explain the consequences to anyone you observe feeding a fox. Leave no food outside and give all arctic animals room to survive.

Maarten J.J.E. Loonen
Arctic Centre, University of Groningen
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The Arctic Marine Laboratory in Ny-Ålesund

On the 26 June, the Minister of Education and Research Ms Kristin Clemet put down the foundation stone for the Arctic Marine Laboratory in Ny-Ålesund together with nine other European educational and research ministers.

The Arctic Marine Laboratory will be an experimental laboratory for research in marine ecology, physiology, biochemistry, as well as some physical sciences like oceanography, marine geology and ice physics. The laboratory is constructed with smaller rooms and laboratories with equipment for different purposes. The laboratory is owned entirely and solely by Kings Bay AS, which will rent out space in the laboratory on a commercial basis. All use of the laboratory will be under Kings Bay AS administration and supervision.

The laboratory will be 700 m² distributed over three floors. The ground level will basically be a storage room. The first floor will house scientific equipments, labs, freezers, water tanks, etc. The second floor will mainly consist of offices and a lecture room for 20 persons. In addition there will be some diving facilities.

In March 2005 a test period of the lab will commence to test out every function of the laboratory, and it will be open for regular use in June 2005.

Access to the Arctic Marine Laboratory

A User Access Plan for the laboratory is been worked out in co-operation between Kings Bay AS and the Marine Laboratory Project Group. The User Access Plan contains the guiding principles and the general provisions for use of the Arctic Marine Laboratory in Ny-Ålesund, which all users will have to subscribe to. The User Access Plan is available on Kings Bay AS website (www.kingsbay.no).

For the purpose of describing the requirements and the functionalities of the marine laboratory a Marine Laboratory Project Group was formed. By January 1, 2004, the members of the Project Group are:

- Alfred-Wegener-Institute (Germany)
- Norwegian Polar Institute (Norway)
- University Centre in Svalbard (Norway)
- National Science Foundation (USA)
- Consiglio Nazionale delle Ricerche (Italy)
- National Institute for Polar Research (Japan)
- Korea Ocean Research and Development Institute (South-Korea)
- Scottish Association for Marine Science (United Kingdom)

Each participating institution of the Marine Lab Project Group will enter a 10-year contract with Kings Bay AS, effective from the date the laboratory is declared open for scientific use. This contract will commit them to a minimum annual rent of the laboratory. Although the laboratory will be open for all interested users the institutions entering 10-year contracts will be given preference for the use of the laboratory, and at a lower price than other users. After the

opening of the lab, the original Marine Lab Project Group will become a Marine Lab Advisory Group. As pointed out earlier Kings Bay AS, as the owner of the facility, will be responsible for renting out the laboratory, but Kings Bay AS will use the Marine Lab Advisory Group as an advisory body for science support issues related to the functioning and performance of the laboratory, but without any formal authority.

Netherlands Arctic field station in Ny-Ålesund

Since June 2003, the Netherlands Committee on Polar Research has decided that they will support the continuation of a small Dutch field station in Ny-Ålesund. The international research environment with a wide variety of disciplines was regarded as an optimal site for information exchange and policy development on arctic research and management. Funding resources are small and have to be renewed annually. However, they give the opportunity to continue with the studies of the Barnacle Geese in Kongsfjorden and to coordinate research opportunities for Dutch scientists in Ny-Ålesund.

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Reduced activity at Ny-Ålesund geodetic observatory

The Norwegian Mapping Authority has had a considerably reduction in its budget for 2004. The number of county mapping offices is reduced from 18 to 12 and several areas have a lower level of activity. Attempts are made to try to compensate for the lack of ordinary funds, but even some success was not sufficient to avoid reduction of the staff in Ny-Ålesund. Reduced to one person most of the time, supervision and control of instruments can be continued, but the operation of the 20m VLBI antenna, which needs to be pointed to determined targets according to an observation schedule, can only participate to a limited extend.

Ny-Ålesund Geodetic Observatory is therefore taken off the list of primary stations in the global networks and is now only considered as a possible backup station, in spite of its perfect location far north. Long base lines in the north-south direction increase significantly the accuracy of the measurements of the polar movements. Estimates from the International VLBI Service, IVS, indicates that without Ny-Ålesund, the accuracy of the determination of the earth rotation parameters will be reduced 15-30% over a 24 hour measuring series. This implies a reduction in the accuracy for the determination of the terrestrial reference frame, which becomes more and more important in the modern society. How can Norway afford to throw away its natural advantages if it wants to contribute to development on global level?

Bjørn Engen and Rune I. Hanssen
Norwegian Mapping Authority

The Chinese station in Ny-Ålesund is officially opened.

The Yellow River Station was officially opened 28 July 2004 by Mr. Wang Shuguang, Administrator of the State Oceanic Administration of China. A Chinese delegation of 15 people was in Ny-Ålesund for the opening ceremony. In addition there was invited a number of Norwegian guests for the ceremony. The Yellow River Station will be the first Chinese research station in the Arctic.

Chemistry of Mercury in Polar Regions

The programme of the 2004 year will be devoted to improving our knowledge on mercury atmospheric chemistry during Mercury Depletion Events (MDE) in spring 2004 from April to May. The main objective of this spring study will be to discriminate the key parameters involved during MDE by a continuous monitoring of elemental gaseous mercury, ozone, particulate mercury and particles of different sizes. The origin of the MDE will be studied with a special attention given to the air mass back trajectories in order to discriminate the origin of the mercury depleted air masses. During this field campaign, the concentrations of mercury in the surface snow directly influenced by deposition from MDE will be measured in order to better establish the mass balance of this pollutant.

In order to better understand the role of halogen species generated by the sea salts, we propose to participate from mid-july to mid-august an arctic oceanic cruise with the Polarstern, organized with our German colleagues. During this expedition, continuous monitoring of elemental gaseous mercury, ozone, particulate mercury and particles of different sizes will be done to verify if MDE are produced during this period and also to better understand the role of the halogenated species. This 2004 campaign (Ny-Ålesund and cruise in the Arctic ocean) will allow us to study in details MDE over a long period of time (2 months) and over a large spatial scale.

Christophe Ferrari
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Mercury campaign in Ny-Ålesund

The now traditional mercury campaign was arranged at Ny-Ålesund from 10 April to 12 May. This year with participation from seven French and Norwegian scientists. Earlier this winter a similar campaign was arranged at Barrow in Alaska with participation from US, Canada, Norway and Denmark. Unfortunately the weather systems were not the best this year for exciting mercury chemistry in the atmosphere - too cold in Barrow and too warm at Ny-Ålesund. However, the strange weather systems are also something worth publishing....

Torunn Berg
Norwegian Institute for Air Research

Calendar of Arctic Meetings

INTERNATIONAL SYMPOSIUM ON ARCTIC GLACIOLOGY

23 - 27 August 2004, Geilo, Norway
 Contact: Secretary General,
 International Glaciological Society,
 Scott Polar Research Institute, Lensfield
 Road
 Cambridge CB2 1ER, UK
 Fax: 44-1223 33 6543
 Phone: 44 - 1223 355974
 E-mail:
 Int_Glaciol_Soc@compuserve.com

BJERKNES CENTENARY - CLIMATE CHANGE IN HIGH LATITUDES

1 - 3 September, 2004, Bergen, Norway
 Tentative programme and logistics on the
 Conference website:
<http://www.bjerknes.uib.no/conference2004>
 Contact:
 Science Coordinator Dr Beatrix Balino
 Phone: 47-555 89804
 Fax: 47-555 84330
 E-mail: conference2004@bjerknes.uib.no

For a comprehensive list of published
 meetings, look at **SAM** (Survey of Arctic
 Meetings) on the IASC home page:
<http://www.iasc.no/>

Staff News

Alfred Wegener Institute (AWI):

Koldewey station:

Jens Kube, was replaced by **Thorsten
 Wilhelm** as station leader in April 2004.

Kings Bay (KB):

Margrét Jørgensdóttir replaced **Laila Blia**
 as service manager in March 2004. **Frank
 Skogen** has replaced **Øystein Blia** as
 works manager in March 2004. **Kjersti
 Dale** is employed as scientific advisor.

Norwegian Mapping Authority (NMA)

Station engineers **Sune Elshaug** and
Vidar Eggimann left their positions in June
 2004.

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