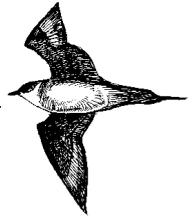


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Ny-Ålesund Newsletter

*19th edition
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IPY project COPOL (Contaminants in Polar Regions) in Kongsfjorden

Geir Wing Gabrielsen, NPI and Katrine Borgå, NIVA

The COPOL (Contaminants in Polar Regions) project is starting up in Ny-Ålesund/Kongsfjorden in the spring of 2007. As part of the IPY, the COPOL project will start to collect benthic and pelagic samples in Kongsfjorden in March/April.

The overall aim of COPOL is to understand the range of man-made contaminants in marine ecosystems of Polar Regions, in order to better predict how possible future climatic change imposed alterations of the marine food webs will be reflected in levels and effects at higher trophic levels. This aim will be addressed by 4 integrated work packages (WPs) covering the scopes of 1) food web contaminant exposure and flux, 2) transfer to higher trophic levels and potential effects, 3) chemical analyses and screening, 4) synthesis and integration. The obtained results will be linked to national research projects, international COPOL projects and other IPY and international initiatives, thereby strengthening the national and international exchange of knowledge.

The Norwegian COPOL focuses on the Arctic region, more specifically Kongsfjorden. This fjord has been identified as particularly suitable as a study site of contaminants processes, due to the remoteness of sources, and for influences of climatic changes, due to the documented relation between Atlantic water influx and the climatic index North Atlantic Oscillation (NAO). Variable Atlantic water influx will not only influence abiotic contaminant exposure, but also food web structure, food quality and energy pathways, as different water masses carry different phyto- and zooplankton assemblages. This may affect the flux of contaminants through the food web to high trophic level predators such as seabirds and seals, due to altered food quality and energy pathways.

The COPOL project is an initiative from the Polar Environmental Centre (POMI) and Oslo Centre for Interdisciplinary Environmental and social Science (CIENS). All participating institutes are located at POMI, except the Norwegian Institute for Water Research (NIVA), which is located at CIENS. The proposed project is a highly prioritized research area within POMI and NIVA, and is supported and prioritized by the POMI research committee. The COPOL project is linked to the climate project MariClim, and will coordinate the field work and data treatment with participating researcher. COPOL is also linked to a project funded by CONOCOPHILIPS, in which the focus will be on pelagic food webs and legacy contaminants. Ingeborg G. Hallanger is a PhD-student on this project.

The project will be lead and administered by Dr. Geir Wing Gabrielsen, Norwegian Polar Institute (NPI), and coordinated and managed by Dr. Katrine Borgå, Norwegian Institute for Water Research (NIVA). Students of COPOL are part of the science trainee school in ARCTOS (<http://www.nfh.uit.no/arctos/>)

More information about the COPOL project; www.copol.net

Successful start of a study on Little Auks in Kongsfjorden

Jorg Welcker, NPI

Within the framework of the MariClim program (Marine ecosystem consequences of climate induced changes in water masses off West-Spitsbergen) a study on Little Auks was initiated in Kongsfjorden in summer 2006.

Little Auks are highly specialized zooplankton feeders that raise their chicks on a diet consisting of up to 90% of a single prey species. This specialization is likely to make them vulnerable to even small changes in e.g. sea water temperature. Little Auks are therefore an especially good model species for examining the impact of climate change on arctic marine ecosystems.

In this project, we aim to predict possible effects of long-term climate change on the population of this high arctic seabird by comparing its response to environmental factors between two colonies with contrasting climatic conditions. Therefore, we initiated a cooperation with scientists working with Little Auks on the East-coast of Greenland, a location which differs substantially in e.g. sea temperature and sea-ice conditions compared to Kongsfjorden.

A large breeding colony at Feiringsfjellet proved to be the most suitable for our purpose of establishing a population of individually marked birds in the vicinity of Ny Ålesund. To get easier access to the nests of the birds which are normally located quite deep in between the rocks of the scree slope and almost impossible to reach, we brought out several artificial nest boxes that were integrated into the colony. Although only one of them was occupied last season this is probably still the world-wide first Little Auk chick that ever hatched in a synthetic nest. However, we are confident that during the coming seasons more birds will accept our unusual offer.

The season 2006 has been a successful start of the project where we were able to collect valuable data on the breeding performance, feeding ecology and energy expenditure of birds in Kongsfjorden as well as in Greenland. With the beginning of the new breeding period in June we will continue our field work.

Please visit our website for more information:
www.npolar.no/MariClim

Research days in the Kings Bay Marine Laboratory 2006

Bodil Paulsen, Kings Bay AS

The Marine Laboratory had in 2005 a total of 857 user days. In 2006 this number has increased to 1861. These numbers include scientists and divers. The busiest time of the year was from late May until the end of September. The largest user by far is AWI-IPEV with a total of 1191 user days. The Norwegian Polar Institute is the second largest user with 343 user days. Other users have been from CAAA, KOPRI, UNIS and IRIS. Next year looks as good, if not better than this year when it comes to bookings of laboratory space in the Marine Laboratory.

We want to remind you that the deadline for receiving of applications to Kings Bay AS is 15th of February 2007 if you want laboratory space in the high season (May – September) and 15th of June if you want laboratory space in the low season (October – April). After these deadlines Kings Bay AS will on a running basis assign the remaining capacity in the laboratory to other interested users.

Kings Bay AS is now in the process of purchasing new equipment both to the laboratory and to the new boat that is arriving in Ny-Ålesund in the spring. The use of the new boat will be coordinated by Kings Bay AS and will be used both as a research vessel and as a harbour boat.

News from the Netherland's Station in Ny-Ålesund

Maarten Loonen, UoG

On the website of the station (www.arcticstation.nl), we have placed dynamic information on all buildings of Ny-Ålesund. It is possible to get this information by clicking on maps and aerial photographs. This information is free for use by everyone and the page can be linked into other websites. Go to: www.arcticstation.nl and checkout [ny-alesund](http://ny-alesund.nl). Comments and improvements are very welcome. Each building description needs more details and facts.

In the International Polar Year, we will intensify the bird research from the Netherlands Station in cooperation with all our colleagues in town. We will set-up a laboratory for testing bird blood in the summer 2007. Please contact us if you will be catching birds in the vicinity of town. More information on the program: www.birdhealth.nl.

Long-term sea ice monitoring in Kongsfjorden continues

Sebastian Gerland and Carl Petter Nilsen; NPI,

Long-term sea ice monitoring is necessary to obtain information on possible couplings between climate variability on one side and fast ice and fjord hydrography on the other side. In addition, the sea ice data can support other scientific work across most scientific disciplines in which studies are done in Ny-Ålesund, where the sea ice plays a role.

The longterm sea ice monitoring conducted by the Norwegian Polar Institute will continue also during the winter-spring season 2006/2007. This project was started in 2003, and first results will be published soon (Gerland and Hall, *Annals of Glaciology* 44, in press; Gerland and Renner, *Annals of Glaciology* 46, accepted). On the observation side the project includes ice extent mapping and photographing from Zeppelinfjellet, regular measurements of snow and ice thickness in drillholes at up to 5 sites on the fast ice in the inner fjord, and use of selected satellite images. Once a year more detailed measurements supplement the time series and give information on the regional ice thickness distribution in Kongsfjorden. The project is taken care of on site by the optical engineer of the NPI Sverdrup Station, currently Carl-Petter Nilsen, and by the sea ice scientist Sebastian Gerland at the NPI in Tromsø. In the last season, 2005/06, continuous measurements on the fast ice were not possible, because there was never a stable enough ice cover along the southern shore of Kongsfjorden. Nevertheless, ice thickness measurements were done accessing sea ice in inner Kongsfjorden by boat, just before the last sea ice disappeared unusual early in the first half of May 2006.

Monitoring the currents and hydrography in Kongsfjorden water masses.

Vigdis Tverberg, NPI

The first year of current meter data from three moorings in Kongsfjorden was successfully recovered in 2006, and the moorings redeployed into the same positions. This extensive monitoring program of currents and hydrography in the fjord is a result of a collaboration between Norwegian Polar Institute, the Geophysical Institute at University of Bergen, the University Centre in Svalbard, and Scottish Association for Marine Science (SAMS). The collaboration has been initiated through the NFR project MariClim, and the plan is to monitor data from these positions through the duration of the project.

And if we are successful, the result will be a full three years timeseries of data from September 2005-September 2008, from three key positions in the fjord. The mooring locations are one at the southern side of the entrance of Kongsfjorden (UNIS), one on the northern side of the fjord (SAMS) and one just west of Blomstrand.

EU – IPY: Arctic Research Opportunities at the European Centre for Arctic Environmental Research

(Ny-Ålesund RI) Ny-Ålesund, Svalbard, Norway

Jon Børre Ørbæk, NPI

Under the Research Infrastructures Action of the European Community FP6 Specific Programme for Structuring the European Research Area, free access (including travel) is now offered for European research teams to the Ny-Ålesund Research Infrastructure in Svalbard, Norway. We invite scientific research proposals within all fields of Arctic environmental research, specifically within the following disciplines:

- Marine and terrestrial biology
- Climate research in the troposphere and stratosphere
- Surface phenomena, snow and ice
- Space geodesy
- Air quality research and arctic pollution
- Multidisciplinary environmental sciences

Please go to the home page at <http://arcfac.npolar.no> for detailed information about application forms and deadlines, content of scientific project proposals, the application process, terms of access and funding, eligibility criteria, current research programs and possible new projects. Proposals may be submitted at all times, however, the next deadline is set to 31 January 2007 with evaluation results scheduled before 1 March 2007.

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Calendar of Arctic Meetings

26th NySMAC meeting

18-19 March 2007 in Hanover, New Hampshire, USA as a part of the ASSW.

The ASSW 2007 will be held in Hanover (New Hampshire, USA), 14-20 March 2007 and hosted by the Dartmouth College and the Cold Regions Research and Engineering Laboratory (CRREL). Details about program, registration, lodging and travel are available at the website (www.assw2007.org).

AMAP/IASC/CliC Carbon Cycle Assessment Workshop

The Arctic Monitoring and Assessment Program (AMAP), the WCRP Project Climate and Cryosphere (CliC) and IASC are jointly organizing a workshop to develop an assessment of the Arctic Carbon Cycle. The workshop will be held in Seattle, USA, 27 February – 1 March 2007. More details can be found under www.amap.no (click New Events).

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

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