From the editor: *Polar Research* evolves, and Norway and the IPY

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March marks the start of the International Polar Year (IPY) and I am very pleased to announce on this occasion that we've joined hands with Blackwell Publishing, which will henceforth publish the journal while editorial control remains with the editorial office at the Norwegian Polar Institute (NPI). Blackwell, whose roots in Oxford extend back for a century, specializes in partnerships with learned societies and research institutions such as our own. The services provided by our skilled and experienced publishing team at Blackwell will benefit *Polar Research*'s readers and contributors in a variety of ways. For example, the complete contents of the journal are accessible online to subscribers via its new website at www.blackwell-synergy.com. Non-subscribers can access abstracts and can be directed to articles containing the search words that interest them. Contributors will soon submit their work online. Accepted, copyedited manuscripts will be made available online, potentially well in advance of print publication. In addition, authors of accepted manuscripts have the option of paying to make their articles freely accessible to all internet readers. To find out more, please see the new journal new homepage at www.blackwellpublishing.com/POR.

Another important change for *Polar Research* is the establishment of an Editorial Board and a larger panel of Editorial Advisors. The journal remains grounded in the NPI, but its horizons have been considerably broadened by bringing together this international group of distinguished polar scientists. I welcome them on board and look forward to our working together to represent the best of polar science in the pages of *Polar Research*.

With the increasingly widespread recognition that the Arctic and Antarctic regions are profoundly significant for the Earth's climate, ecosystems and, ultimately, human society, polar studies are a tremendously exciting and important field of science today. Under the auspices of the International Council of Science and the World Meteorological Organization, the IPY is a major international initiative aiming to amass a broad range of data that will elucidate the current state of both polar regions, as well as shed light on their history. More than 60 nations and at least 50 000 scientists and technicians will be involved. Previous initiatives—in 1882–83, 1932–33 and 1957–58—have had deep impacts on our understanding of polar processes and their roles in global processes. However, many important aspects remain poorly understood.

Climate change has become one of the major issues facing humankind. It has become clear that the polar regions are quite sensitive to climate change, and it is increasingly understood that the polar regions play a fundamental role in the global climate. During the last 20 years, parts of the Antarctic Peninsula, Siberia and Alaska have been warming up more rapidly than any other areas on Earth. We have witnessed the break-up of Antarctic ice shelves and there has been a great deal of discussion about the ice cover of the Arctic Ocean—whether it is disappearing and what this could mean for the global climate. To try to understand the present-day global climate and to develop climate models that can accurately predict the changes that the future holds in store, scientists require an improved picture of current conditions and their role in influencing the oceans, the atmosphere and land masses. This will be a major theme in this IPY. Another important facet of the current IPY is the inclusion of social science for the first time: how are people being impacted by the changes in the polar regions? Education and outreach are also receiving special emphasis so that the IPY will raise the general understanding of the significance of the polar regions, particularly among young people—the scientists and decision-makers of tomorrow.

A nation with a foot in both polar regions, Norway will be prominently represented in the research activities of the IPY. Norwegian proposals that were endorsed by the international IPY Joint Committee were then considered for funding by the Research Council of Norway. After careful evaluation, 10 of the Norwegian-led cluster projects that had received the Joint Committee's endorsement subsequently received funding from the Research Council. An additional 16 Norwegian projects were funded by the council, bringing the total to 26 projects (Table 1). The council has granted funds specially earmarked for IPY research amounting to about 290 million NOK (about 36 million EURO or 47 million USD) to these projects. Additional financing is being allocated from other money at the Research Council's disposal, as well as from funds such as those regularly dedicated to the Norwegian Antarctic Research Expeditions, so that the total number of Norwegian IPY projects being funded is about 30. For a nation with a population of about 4 million this constitutes a considerable investment of money and expertise.

Scientists at the NPI are participating in a variety of national and international projects (Table 1), including several projects that the institute is leading. One NPI

The Norwegian logo for the International Polar Year.

project, headed by oceanographer Vladimir Pavlov, will create a Norwegian–Russian historical sea level data set and will analyse a broad range of environmental parameters, such as river run-off, glacier volume and precipitation, in order to identify the major factors affecting sea level variability in the Nordic seas at different timescales. These data will contribute to a conceptual model that will be used, in combination with climate change scenarios, to generate predictions about future sea level variability in the region.

The international project led by NPI biologist Kit M. Kovacs will deploy Satellite Relay Data Loggers that have conductivity, temperature and depth sensors on deep-diving marine mammals in the Arctic and Antarctica to investigate their movement patterns, behaviour and habitat utilization. The equipment, which is glued to the fur of the animals, will yield abundant high-precision oceanographic data sets that would not be obtainable in other ways. These data will contribute to oceanographic and climatic modelling projects, as well as providing information about habitat use by seals. Reciprocal, extensive collaboration with other IPY research endeavours will provide this project with comprehensive oceanographic coverage that will permit novel quantification of factors that determine habitat selection by key polar marine mammal species. The 10 member countries within the MEOP (Marine Mammals Exploring the Oceans Pole to Pole) consortium will deploy tags on hooded and harp seals in the Arctic and southern elephant, crabeater and Weddell seals in the Antarctic. Marrying classical oceanography with marine mammal ecology, this innovative project promises to significantly advance our understanding of the world's oceans and some of the top predators that inhabit them.

Another NPI project monitors the impacts of oil and gas extraction on the traditional lands of the indigenous

A tagged southern elephant seal. (Photo by Martin Biuw, Sea Mammal Research Unit, University of St Andrews, St Andrews, UK.)

people of the Nenets Autonomous Okrug (NAO) in north-western Russia. The project is led by geologist Winfried Dallmann, who is collaborating with Vladislav Peskov of the Nenets Association Yasavey. Intensive oil and gas industry developments in the NAO have made significant impacts on the environment and the socio-economic situation of the indigenous peoples—mainly Nenets and Izhma-Komi—who continue traditional subsistence practices, particularly reindeer-herding. Laws aimed at giving indigenous peoples and the environment upon which they depend some measure of protection against the effects of oil and gas extraction have not been implemented. The project aims to keep a close watch on the situation and to collect a wide array of information in a Geographic Information System database. The data will be accessible on the internet via an interactive map and will be presented in both English and Russian.

NPI biologist Geir Wing Gabrielsen is serving as co-principal investigator for an international multidisciplinary project that will investigate man-made contaminants in polar marine ecosystems, in order to better predict how higher trophic levels will be affected by

Table 1 The 26 Norwegian IPY projects being funded through the Research Council of Norway. A number of these projects are components of larger international initiatives with other nations assuming top leadership of the consortia. For example, the Antarctic traverses being undertaken by the Norwegian Polar Institute are part of an umbrella programme, TASTE-IDEA, coordinated by the Alfred Wegener Institute for Polar and Marine Research, in Germany. In such cases, only the leadership of the Norwegian segment is noted in the table. Nearly all of the projects listed below include the participation of several institutions (only the leading institution is named in the table). Projects that include the participation of Norwegian Polar Institute researchers other than in a leading role are indicated with an asterisk after the name of the project. International consortia that are being led by Norwegian institutions are indicated in boldface.

Project	Norwegian institution either leading the project or leading the Norwegian component of the international consortium
The Norwegian Contribution to TASTE-IDEA (Trans-Antarctic Scientific Traverses Expeditions—Ice Divide of East Antarctica): the Norwegian–US IPY Antarctic Traverse	Norwegian Polar Institute
IAOOS (Integrated Arctic Ocean Observing System)–Norway: Closing the Loop*	Norwegian Meteorological Institute
Bipolar Atlantic Thermohaline Circulation*	Faculty of Mathematical and Natural Sciences, University of Bergen
Polar Study, Using Aircraft, Remote Sensing, Surface Measurements and Models, of Climate, Chemistry, Aerosols, and Transport	Norwegian Institute for Air Research
The Dynamic Response of Arctic Glaciers to Global Warming: the Norwegian contribution to GLACIODYN*	Faculty of Mathematical and Natural Sciences, University of Oslo
THORPEX (The Hemispheric Observing System and Predictability Experiment)–IPY: Improved Forecasting of Adverse Weather in the Arctic Region—Present and Future*	Faculty of Mathematical and Natural Sciences, University of Oslo
The Dynamic Continental Margin between the Mid-Atlantic-Ridge System (Mohns Ridge, Knipovich Ridge) and the Bear Island Region	NORSAR (Norwegian Seismic Array)
Continuous Seismic Reflection Profiling Buoys: a Future Direction for Marine Geophysical Exploration of the Arctic Ocean	Faculty of Mathematical and Natural Sciences, University of Bergen
Permafrost Observatory Project–Thermal State of Permafrost: the Norwegian Contribution	University Centre in Svalbard
Norwegian Component of Ecosystem Studies of Subarctic and Arctic Regions*	Institute of Marine Research
PPS Arctic Norway: the Norwegian contribution to PPS Arctic (Present-day Processes, Past Changes, and Spatiotemporal Variability of Biotic, Abiotic and Socio-environmental Conditions and Resource Components along and across the Arctic Delimitation Zone)	Norwegian Institute for Nature Research
COPOL (Contaminants in Polar Regions: Dynamic Range of Contaminants in Polar Marine Ecosystems)[a]	Norwegian Polar Institute
DOC (dissolved organic compound) Turnover in Polar Microbial Food Webs	Faculty of Mathematical and Natural Sciences, University of Bergen
Antarctic Krill and Ecosystem Studies	Institute of Marine Research
Mapping Threats to Arctic Bird Populations: the Effect of Infectious Organisms and Pollution on Bird Health*	Norwegian Institute for Nature Research
Arctic Predators as Indicators of Tundra Ecosystem State: the Norwegian Contribution to ArcticWOLVES (Arctic Wildlife Observatories Linking Vulnerable Ecosystems)*	Faculty of Science, University of Tromsø
Marine Mammals Exploring the Oceans Pole to Pole	Norwegian Polar Institute
Polar Bear Circumpolar Health Assessment in Relation to Toxicants and Climate Change*	Faculty of Natural Sciences and Technology, Norwegian University of Science and Technology
Ice Age Development and Human Settlement in Northern Eurasia	Faculty of Mathematical and Natural Sciences, University of Bergen
Arctic Natural Climate and Environmental Changes and Human Adaptation: from Science to Public Awareness*	Norwegian Geological Survey
Reindeer Herders Vulnerability Network Study: Reindeer Pastoralism in a Changing Climate	Saami University College
Monitoring of Development of Traditional Indigenous Land Use Areas of the Nenets Autonomous Okrug NW Russia	Norwegian Polar Institute
Impacts of Oil and Gas Activity on Peoples in The Arctic Using a Multiple Securities Perspective*	Faculty of Social Science, University of Tromsø
Long-Term Sea Level Variability in the Nordic Seas	Norwegian Polar Institute
Community Adaptation and Vulnerability in the Arctic Regions: Focus on Northern Norway and Northern Russia	Center for International Climate and Environmental Research—Oslo
The Linguistic and Cultural Heritage Electronic Network	Dept. of Linguistics and Scandinavian Studies, University of Oslo

[a]This project is being co-led by the Dept. of Fisheries and Wildlife, Oregon State University.

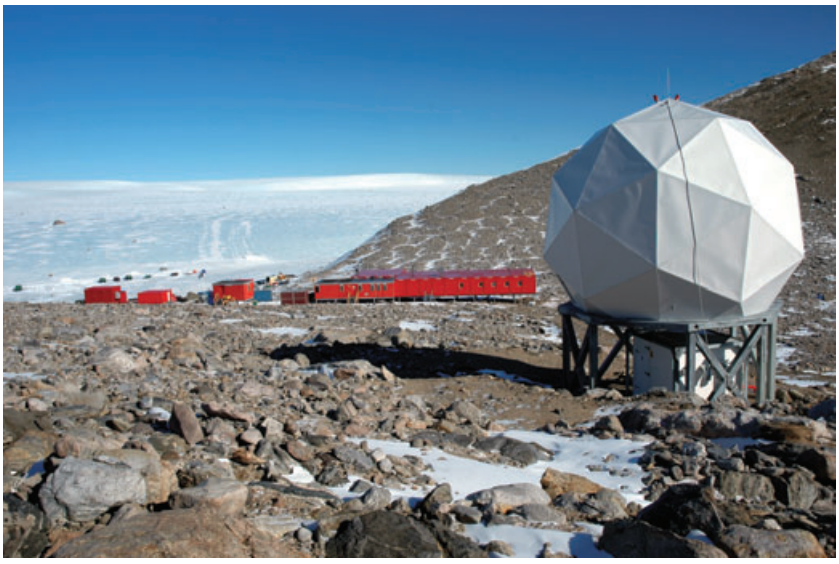
An oil installation in the tundra, Nenets Autonomous Okrug, Russia. (Photo courtesy of the Nenets Association Yasavey.)

At nearly 79°N, the research community of Ny-Ålesund, viewed from Kongsfjorden, in Svalbard. (Photo Geir Wing Gabrielsen, courtesy of the Norwegian Polar Institute Picture Library.)

changes to marine food webs brought on by climate change. Many of the contaminants, such as organochlorines, carried by air and sea currents from distant human population centres pose a health risk to the organisms that end up ingesting them, particularly further up the food chain, as the contaminants become increasingly concentrated in the tissues of animals at each level. Researchers will examine routes of contaminant transport to the polar regions, and how contaminants are taken up into the food web once there, and will address questions relating to how global warming and other climate changes could affect the situation. Field studies will be carried out at numerous marine and terrestrial sites in the Arctic and Antarctic regions, including Kongsfjorden and Ny-Ålesund, Svalbard.

Leading a pair of traverses in Antarctica, the director of the NPI, Jan-Gunnar Winther, heads the Norwegian contribution to a very large-scale international programme that will involve, altogether, seven traverses across the continent. On the first leg of the Norwegian–USA traverse, the team will travel from NPI's research station Troll, in Dronning Maud Land, to the South Pole, a journey of some 3000 km. The return trip will take a different, somewhat shorter route (ca. 2500 km). Along the

Sverdrup Research Station, the Norwegian Polar Institute's base in Ny-Ålesund. (Photo by Helle Goldman, courtesy of the Norwegian Polar Institute Picture Library.)



Troll Research Station, the base of the Norwegian Polar Institute in Dronning Maud Land, Antarctica. (Photo by Andrea Taurisano, courtesy of the Norwegian Polar Institute Picture Library.)

way, scientists and technicians will gather diverse data to build up a picture of snow, ice, atmospheric and weather conditions in Dronning Maud Land, including some of the least-known parts of the continent. The team will deploy automatic weather stations that will provide meteorological data via satellite for several years to come. Radiation will be measured using unmanned aircraft and Ground Penetrating Radar will be used to investigate the ice sheet. The researchers will pass over areas where sub-glacial lakes have recently been discovered, and will collect snow samples for later chemical and physical analyses in laboratories in the USA and Norway. The ultimate goal, toward which a number of coordinated, complementary national projects will simultaneously contribute, is to forge a better understanding of the role of Antarctica in the global climate, and how changes in the ice mass balance of the continent may affect sea levels. Involving four tracked vehicles pulling eight sledges loaded with residential and work-space containers, equipment and fuel, and taking place in extremely cold and probably difficult weather, this will be the most logistically challenging project that Norway has undertaken in Antarctica.

In the next issue of *Polar Research*, polar historian Stian Bones will present a historical review of Norway's involvement in past IPYs. From the comparatively

modest—although nonetheless groundbreaking—endeavours of the first IPY in the late 19th century, these initiatives have evolved into highly international collaborative efforts in which multiple countries (and different institutions within them) combine forces to carry out extremely complex and ambitious projects. In a world that sometimes seems dominated by strife, this level of scientific cooperation is heartening. The current IPY has an enormous potential for bettering our understanding of polar and global systems, and to help us address some of the most pressing environmental issues and scientific questions of our time.

As a final note I would like to point out that we at *Polar Research* have been happy to agree to participate in the proposed IPY project Popularization of Northern Scholarly Articles for Public Interest. Should it find funding, the project will make scholarly writing about the North more accessible to the general public. Easy-to-read synopses (more in-depth than abstracts) of selected articles from several northern-related journals will be made available on the website of the Arctic Institute of North America, giving non-specialists a place to go for solid, complex information presented in a readily comprehensible manner. The project is the initiative of Dawn Johnston, at the Arctic Institute of North America, and Karen McCullough, editor of the journal *Arctic*.

Helle V. Goldman
Chief Editor