

An aerial photograph of a rugged mountain range covered in snow. A dark river valley winds through the center of the range. The sky is a deep blue with some light clouds. The overall scene is cold and majestic.

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ArcticNet

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Corporate Profile

Understanding the present transformation of the Arctic environment and anticipating its consequences is one of the great challenges faced by Canadians, the Canadian government and the national and international scientific communities. In Canada, climate warming will have tremendous environmental, socio-economic and strategic consequences that will be felt first and most severely in arctic communities and regions.

ArcticNet brings together scientists and other experts in the natural, human health and social sciences with their partners in Inuit organizations, northern communities, governments and the private sector to help Canadians prepare for the impacts and opportunities brought by climate change and modernization in the Arctic. Over 150 ArcticNet researchers and 600 graduate students, postdoctoral fellows, research associates and technicians from 30 Canadian universities, 8 federal and 9 provincial departments and agencies collaborate on 38 research projects with over 100 partner organizations from 15 countries.

Our Vision

A future where knowledge exchange, monitoring, modeling and capacity building will have enabled scientists, Northerners and decision makers to jointly attenuate the negative impacts and maximize the positive outcomes of the transformation of the Canadian Arctic.

Our Mission

- Build synergy among Centres of Excellence in the natural, human health and social arctic sciences.
- Involve Northerners, government and the private sector in the steering of the Network and scientific process through bilateral exchange of knowledge, training and technology.
- Increase and update the observational basis needed to address the ecosystem-level questions raised by climate change and globalization in the Arctic.
- Provide academic researchers and their national and international collaborators with stable access to the coastal Canadian Arctic.
- Consolidate national and international collaborations in the study of the Canadian Arctic.
- Contribute to the training of the next generation of experts, from north and south, needed to study, model and ensure the stewardship of the changing Canadian Arctic.
- Translate our growing understanding of the changing Arctic into regional impact assessments, national policies and adaptation strategies.



Message from the Chair of the Board, Scientific Director and Executive Director

Full ahead!

In 2010-2011, the Scientific and Executive Directors, the Board of Directors, the Research Management Committee, and the Administrative Centre focused their collective efforts on the renewal of ArcticNet for a second 7-year cycle. The Network further aligned its research program to support the four pillars of Canada's Northern Strategy: sovereignty, economic development, environment, and governance. The resulting Strategic Plan proposes an extremely rich and exciting roadmap for our next cycle that convinced the International Evaluation Committee and

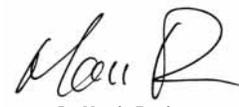
the Network of Centres of Excellence program to renew ArcticNet at the full level of support requested.

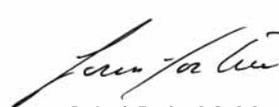
Network Investigators and their teams did not await the renewal announcement to further advance the scientific and strategic objectives of ArcticNet in many and often spectacular ways. As a reflection of the successful implementation of ArcticNet's research plan over Cycle I, ArcticNet members delivered over 1030 scientific publications, including 423 in refereed journals in the last year alone. The constant progression of ArcticNet publications illustrates the expansion of our understanding of the ongoing transformation of the Arctic and its impact on northern societies, industries and economic development. ArcticNet's seventh Annual Scientific Meeting (ASM2010) attracted over 550 participants and showcased 150 oral presentations and 170 scientific posters from all fields of Arctic research, reflecting the tremendous research effort supported by ArcticNet and the highly multidisciplinary nature of its program.

The two new Canada Excellence Research Chairs (CERC) funded under the aegis of ArcticNet quickly recruited their teams and started to contribute to the Network's research program and the development of new international partnerships. At the Centre for Earth Observation Science (CEOS) at the University of Manitoba, a whole new floor was added to the Wallace Building to welcome Søren Rysgaard's CERC on Arctic Geomicrobiology and Climate Change and its new team of young Arctic professors, many trained as part of ArcticNet. CEOS, the Greenland Climate Research Centre and the University of Aarhus, Denmark, have




Mr. Bernie Boucher,
Chair of the Board of Directors


Dr. Martin Fortier,
Executive Director,
Vice-President and COO


Dr. Louis Fortier, O.C., O.Q.
Scientific Director,
President and CEO

entered in a new Arctic Science Partnership (ASP) that will see close integration of their research programs in Arctic marine, terrestrial, atmospheric, social science, health, education and outreach. ASP members will share data, collaborate on joint field programs, jointly hire research scientists and allow for the free flow of students between Denmark, Greenland and Canada.

At Université Laval, over 500 m² of laboratory, workshop and office space were completely renovated and equipped with state-of-the-art scientific instrumentation thanks to a CFI grant to greet Marcel Babin's CERC on the Remote-Sensing of Canada's New Arctic Frontier. Prof. Babin's team uses ocean color to track the response of pelagic ecosystems to sea ice reduction and the warming of the surface layer of the Arctic Ocean. In parallel with the development of the CERC, the Canada-France CNRS Unité Mixte Internationale Takuvik at Université Laval welcomed its first contingent of 8 French specialists of the Arctic who now collaborate closely with their Canadian counterparts in the study of marine and terrestrial ecosystems. The new CERCs are major new elements in the ongoing efforts of ArcticNet to encourage and nurture new international collaborations between Canada and other Arctic countries.

The year 2010-2011 also saw the continuation of major research partnerships with the oil and gas sector in the Beaufort Sea. These partnerships, which the Standing Committee on Fisheries and Oceans of the Commons qualified as "exemplary", are helping us assess the technical challenges and environmental baselines in an area awarded for exploration drilling at the edge of the continental shelf in the offshore Beaufort Sea. Building on the capacity and expertise they developed in the Beaufort Sea over the last decade, ArcticNet researchers were successful at securing funding for research projects that form the core of the new Beaufort Regional Environmental Assessment (BREA)



In 2010-2011, over \$1,000,000 was allocated towards 12 new ArcticNet research projects in human health and social sciences. ...[T]hese exciting new projects brought 35 new Network Investigators and dozens of graduate students to ArcticNet.



multi-stakeholder initiative to gather new information vital to the future management of the region. ArcticNet researchers will receive over \$5M over the next 4 years (2011-2015) to lead four of the currently funded BREA research projects, with three of them conducted as part of the ArcticNet annual expedition to the Beaufort Sea onboard the CCGS *Amundsen*.

In 2010-2011, over \$1,000,000 was allocated towards 12 new ArcticNet research projects in human health and social sciences. Covering topics such as K-12 and higher education, arctic shipping, sovereignty, food security and industrial development, these exciting new projects brought 35 new Network Investigators and dozens of graduate students to ArcticNet. Providing major insights on the causes and consequences of the difficult transition of Inuit to modernity, these projects are now included in the core NCE funded research program for Phase III of ArcticNet (2011-2015).

The Integrated Regional Impact Study (IRIS) process, which is at the core of the trans-sector integration of the research program of ArcticNet, came of age in 2010-2011. IRIS 4 (eastern sub-Arctic) made major progress towards the publication of its first assessment for Nunavik and Nunatsiavut. IRIS 1 (Western High Arctic) and IRIS 2 (Eastern High Arctic) advanced their first

assessment through meetings with stakeholders and initiating the redaction of chapters. The ArcticNet IRIS process is attracting increasing international attention as a tool to inform policy and decision at the regional scale. As well, the ArcticNet-CCIN Polar Data Catalogue has now entered a new phase, moving from metadata to actual data, in its evolution towards a state-of-the-art geo-referenced data retrieval system to answer the needs of Arctic scientists and stakeholders.

Over the last year, ArcticNet maintained a high presence in national and international media. From migration of Arctic birds to disintegrating ice shelves, many projects led by ArcticNet network investigators received intense media coverage, raising Arctic climate change research awareness in millions of viewers and readers worldwide. Over 135 articles featuring ArcticNet research were distributed by international, national and northern media and published in many countries including Canada, France, Thailand, the UK, and the USA.

By all measures, the efforts invested in the successful renewal of the Network in 2010-2011 have not slowed the continuous progresses of ArcticNet but, on the contrary, helped focus the Research Program, revise the Strategic Plan, spur the establishment of the CERCs, consolidate our unique partnership with Inuit, and accelerate the development of the IRISes. The Network's Strategic Plan contemplates seven years of intense trans-sector research in support of the sustainable development of the Canadian North. Thanks to ArcticNet and the long-term logistical and financial support it provides, Canadian specialists, their international collaborators, their Inuit allies and their partners in the private sector have never been in a stronger position to address the many challenges raised by the changing Arctic.

Message from the Co-Chair of the Board

As we move fully into the renewal of ArcticNet programming the Arctic continues to experience unprecedented environmental, social and economic change. For the indigenous peoples who live in the Arctic this requires the breadth and depth of our traditional knowledge, resilient capacity and adaptive ability to ensure we meet these changes head on and continue to thrive. To the northerners who have come to live in the Arctic they bring a passion for the land and peoples, and valuable contributions to knowledge and decision making. These newcomers are a new and growing group, who bring with them economic opportunities for communities and different visions of the Arctic. In years to come we will look at how we have worked together, how we have shared knowledge, and respected each other's views and aspirations. ArcticNet has and will continue to play a significant role in this process.

Since concerted efforts by all ArcticNet partners, managers and students resulted in successfully securing the renewal of ArcticNet to 2018, Inuit, government, industry and academic partners alike have the important task to advance the state of knowledge of the Canadian Arctic.

The renewed ArcticNet has matured to look beyond defining the issue to providing knowledge for addressing the challenges and exploiting the opportunities. ArcticNet has evolved to be more responsive to the concerns and needs of the communities and will continue to do so. Projects of particular importance to Inuit in the areas of human health, education and social and political

science are progressing agreeably. These projects will contribute to the body of knowledge required to be more responsive and timely in our ability to understand and address paramount questions relating to Inuit health, governance, human rights, and education for example. They are a facet of the human element of the program that is coming to the fore as we work towards the most effective utilization of the important knowledge gained from the hard work that has been done to make positive differences in the lives of Inuit, northerners, Canadians and others the world over. As we have come to understand the important role the Arctic plays in global climate cycles and regulation, the work we do is of benefit to all of humanity. We are encouraged by the stronger partnerships struck between ArcticNet research teams and Inuit on specific issues such as education— we know that full participation in emerging new Arctic education strategies will be a critical factor. In working together, we can anticipate important outcomes that will provide tools to help Inuit improve education rates from high school and post-secondary programs and fully contribute to the understanding of the Arctic.

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Mr. Duane Smith,
Co-Chair of the Board of Directors and
President of Inuit Circumpolar Council
(Canada)

Inuit, the ArcticNet administration and other partners are already preparing visions on the considerable legacy that ArcticNet could and should leave as both a model of partnership, respect, patience and understanding, and a driver of science in the Arctic.

As the last of the International Polar Year results are tabulated, calculated and analyzed we find a niche for ArcticNet to continue to build bridges between disciplines, to integrate different forcers of change in the Arctic and to provide a foundation for building partnerships between researchers, communities, and countries.

In recent years, the program has been internally promoting the development and production of Regional impact Assessments (RIAs) via the Integrated Regional Impact Studies (IRIS) framework established by the network. Despite the varying approaches taken by IRIS teams, a common necessity for each IRIS is the guidance of Inuit that ensures the RIAs are relevant tools for policy and decision makers in the Canadian Arctic. To this end, Inuit have been duly involved in consultations and workshops of the various IRISs that are advancing toward RIAs. The network anticipates the release of the first Regional Impact Assessment report that will be made available by IRIS 4.

In addition to its excellent natural scientific program, ArcticNet has been investing in knowledge-gathering that strives to incorporate local or traditional knowledge also known in parts of the Arctic as Inuit Qaujimagatuqangit. The recognition, acknowledgement, and inclusion of all knowledge available, including that which is held in our Inuit communities, has been applied where possible by a small number of researchers working in the realms of health, social and political science — we anticipate and hope this will continue to grow. Although there exist uncertainties within the research community about traditional knowledge and the process of incorporating it into western (or we like to say southern) science, Inuit are doubtless about its value and contribution to complement other forms of information that will serve to mitigate and adapt to environmental and social change. I encourage inclusion and innovation through the incorporation of traditional knowledge as a complementary data set where possible and appropriate.

We have embarked on the new, but final phase of funding for the network. However, that does not mean there is no long-term vision. Inuit, the ArcticNet administration and other partners are already preparing visions on the considerable legacy that ArcticNet could and should leave as both a model of partnership, respect, patience and understanding, and a driver of science in the Arctic. The vision is a kaleidoscope of products, from research infrastructure to human resources, but also a legacy of knowledge and understanding that reflects the needs of stakeholders.





Renewal of ArcticNet for a Second Funding Cycle (2011-2018)

"Year after year, ArcticNet researchers continue to navigate across the vast and often harsh conditions of the Canadian Arctic and sub-Arctic to gather information on the effects of climate change and how to best develop and protect northern communities. This research is invaluable and has been applied by many stakeholders involved in the future of Arctic development, including industry partners and regulators, policymakers as well as local populations."

— Suzanne Fortier, Chair of the Networks of Centres of Excellence Steering Committee and President of the Natural Sciences and Engineering Research Council of Canada.

On 15 September 2011 in Quebec City, the Honourable Christian Paradis, Minister of Industry and Minister of State (Agriculture), announced an additional \$67.3 million in funding to ArcticNet for its next seven-year cycle (2011-2018). At \$9.61 million per year, this grant represents 100% of the funding requested in our renewal application and constitutes an increase in funding of 47% compared to our first funding cycle. It is the largest funding renewal for the Networks of Centres of Excellence (NCE) program to date.

ArcticNet would like to thank all of its members and partners for their continued support and collaboration. We look forward to working with you during this exciting next cycle of Arctic research excellence and networking.



From left to right: Martin Fortier - Executive Director, ArcticNet; Denis Brière - Rector, Université Laval; The Honourable Christian Paradis - Minister of Industry and Minister of State (Agriculture); Suzanne Fortier - President, Natural Sciences and Engineering Research Council of Canada; Louis Fortier - Scientific Director, ArcticNet; Jean-Claude Gavrel - Associate Vice-President, Networks of Centres of Excellence, Canada

"ArcticNet's work is of tremendous importance to Canadians; it promotes research excellence in natural resource management and helps us understand the effects of climate change and how we can advance the sustainable development of communities in Canada's North."

— Honourable Christian Paradis, Minister of Industry and Minister of State (Agriculture)



2010-2011 ArcticNet Research and Monitoring

ArcticNet's research program continues to support a multi-disciplinary approach to address the challenges facing the coastal Canadian Arctic, with the objective of filling identified knowledge gaps to help the formulation and implementation of policies and adaptation strategies.

Geographically, ArcticNet focuses on the coastal Canadian Arctic because the largest fraction of Arctic and sub-Arctic Canada is primarily a maritime territory; Canadian Inuit are a coastal maritime people; the coastal Canadian Arctic encompasses some of the least studied regions and ecosystems on Earth; and the logistical capacity provided by ArcticNet's core infrastructure extends predominantly to marine and coastal regions of the Canadian Arctic.

Temporally, ArcticNet addresses the present state of the coastal Canadian Arctic, and aims to anticipate the nature and magnitude of the impacts of climate warming on this region over the coming 20, 50 and 100 years. Paleoclimatic studies and Regional Climate Models reconstruct conditions in the coastal Canadian Arctic over the last several millennia to help cast present observations in an historic context. However, ArcticNet focuses on the short-term evolution of the coastal Canadian Arctic environment and the strategies needed to help communities and industries adapt to the impacts of the impending warming and modernization.

Socio-economically and culturally, Inuit and other Northerners living in coastal communities of the Canadian Arctic and their adaptation to climate warming and modernization are at the core of the Network's research program. Other users of ArcticNet deliverables include industry (oil & gas, navigation, mining, hydroelectricity), and government departments with a mandate to manage a changing Arctic.

ArcticNet is committed to providing its Network Investigators, students and partners with well-coordinated land and sea access to the coastal Canadian Arctic. Only through improved and stable access can researchers establish the long-term studies and gain observations necessary to understand and document the changes occurring in the Arctic. Through collaborative partnerships, researchers also have access to the expertise of communities, northern regional authorities and governments.

On Land

ArcticNet researchers can rely on a network of research stations and laboratories such as the ones maintained by the Polar Continental Shelf Program (PCSP), the Centre d'études nordiques (CEN), the Nunavik Research Centre, the Churchill Northern Studies Centre, the Aurora Research Institute and the Nunavut Research Institute. All of these research facilities recently underwent major renovations and extensions thanks to the Federal Government's \$85 million Arctic Research Infrastructure Fund (ARIF).



Over the last year, ArcticNet teams conducted research in each of the four Inuit regions of Canada, as well as in northern Manitoba and the Yukon North Slope. More than 125 field sites were visited, including 35 of the 53 Canadian Inuit communities. With research occurring across the Canadian Arctic and sub-Arctic, ArcticNet Network Investigators are able to better understand the variation in climate change occurring across the Arctic and the range of impacts being observed. Research conducted in and around northern communities covers a wide spectrum of health, social and natural sciences, with Network Investigators studying issues such as food security, wildlife diversity, coastal erosion, community adaptation, Inuit education, emerging infectious diseases and permafrost degradation.

At Sea

Network Investigators from various disciplines use the state of the art Canadian research icebreaker CCGS *Amundsen* as a mobile research platform to study the coastal Canadian Arctic. On 02 July 2010, the *Amundsen* left her homeport of Quebec City for a 121-day scientific expedition to Hudson Bay and the coastal Canadian Arctic. The 2010 expedition was part of ArcticNet's continued effort to maintain its network of long-term oceanic observatories and monitor the present state of the Canadian Arctic marine environment.

During the first segment of the expedition, the ship sailed over 7000 km in Hudson Bay to conduct operations at oceanographic stations and sample several river estuaries to determine how freshwater fluxes and contaminant transport affect the marine ecosystem of this gigantic inland sea. Following a mid-leg crew change in Iqaluit on 02 August, ArcticNet researchers continued

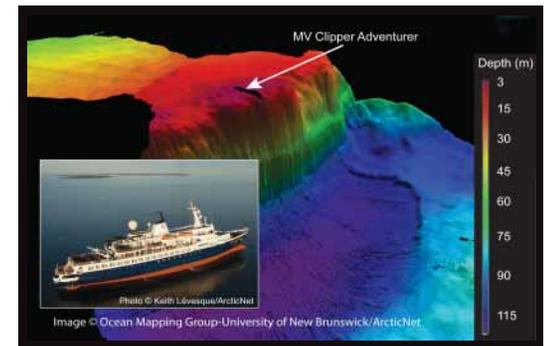
to sample during their transit north along the majestic coast of Baffin Island and then west through the Northwest Passage. As part of the annual ArcticNet Schools on Board program, 8 high school students and 3 teachers from across Canada joined ArcticNet researchers in their daily sampling activities.

Starting in Kugluktuk on 12 August, the main focus of the second leg of the expedition was to continue research collaborations with the Oil and Gas industry, established with Imperial Oil in 2009, through a new agreement with BP. During an intensive 56-day period, ArcticNet researchers and their private sector collaborators collected sea-ice, bathymetric, geophysical and biophysical data in the Beaufort Sea/Mackenzie Shelf/Amundsen Gulf region with a special emphasis placed in the exploration license areas awarded to BP and Imperial Oil by the Federal Government.

Following a final crew change in Sachs Harbour on 07 October, the *Amundsen* sailed east, conducting operations at designated stations in Prince of Wales Strait, Lancaster Sound, Baffin Bay and northern Labrador. After travelling more than 40,000 km throughout the Canadian coastal Arctic and Hudson Bay, the ship returned to Quebec City on 31 October. Altogether, ArcticNet researchers sampled at over 220 stations and, using the CCGS *Amundsen's* extensive array of continuous samplers, collected a wealth of oceanic and atmospheric data during the entire transit.

Core Research Program

The Network's research projects are increasingly focused on Integrated Regional Impact Studies (IRISes) studying the consequences of change on the society and ecosystems of the



Rescue of the MV Clipper Adventurer

On Friday, 27 August 2010, the passenger vessel MV *Clipper Adventurer* ran aground in Coronation Gulf north of Kugluktuk, Nunavut. While conducting ArcticNet scientific operations in the Beaufort Sea, the CCGS *Amundsen* was called to the rescue, making the two-day transit east to reach the stricken vessel. The Canadian Coast Guard rescue operation in these uncharted waters was facilitated by the unique, state-of-the art multibeam sonar mapping technology mounted onboard the *Amundsen*. Having surveyed sections of the southern Coronation Gulf on previous ArcticNet expeditions and with the aid of a second high-resolution shallow-water multibeam sonar mapping system mounted on the *Amundsen's* barge, the Captain was able to bring the icebreaker within a few nautical miles of the stranded vessel, allowing the Coast Guard officers and crew to safely and efficiently rescue its passengers and then ferry them to safety in Kugluktuk. The *Amundsen* is the only Canadian Coast Guard icebreaker equipped with a multibeam sonar. This mapping system is operated by ArcticNet researchers from University of New Brunswick's Ocean Mapping Group as part of the *Canadian Arctic Seabed: Navigation and Resource Mapping* project.



ArcticNet IRIS leaders, from left to right: Michel Allard, Université Laval; David Barber, University of Manitoba; Trevor Bell, Memorial University of Newfoundland; Gary Stern, Fisheries and Oceans Canada and University of Manitoba.

coastal western and central Arctic, eastern Arctic and sub-Arctic, and Hudson Bay. The ultimate goal of integrating research results within this framework is the production of Integrated Regional Assessments that will form a key tool for decision-makers in developing policies and strategies for an increasingly stressed Arctic system.

In 2010-2011, over \$1,000,000 was allocated towards 12 new ArcticNet research projects in human health and social sciences. Covering topics such as K-12 and higher education, arctic shipping, sovereignty, security, food safety and industrial development, these exciting new projects brought 35 new Network Investigators and dozens of graduate students to ArcticNet. Since April 2011, these projects have been included in the core NCE funded research program for Phase III of ArcticNet (2011-2015).

Each of the 38 research projects detailed below contributes to one or more of the four ArcticNet IRISes.

IRIS 1: Western and Central Arctic

Leader: Gary Stern, Fisheries and Oceans Canada
& University of Manitoba

Coordinator: Ashley Gaden

IRIS 2: Eastern Arctic

Leader: Trevor Bell, Memorial University of Newfoundland

Coordinator: Philippe Leblanc

IRIS 3: Hudson Bay

Leader: David Barber, University of Manitoba
* Tim Papakyriakou, University of Manitoba,
Acting Leader in 2010

Coordinator: Dan Leitch

IRIS 4: Eastern sub-Arctic

Leader: Michel Allard, Université Laval

Coordinator: Mickaël Lemay

ArcticNet Projects and Project Leaders:

** Newly funded in 2010*

Permafrost and Climate Change in Northern Coastal Canada

Project Leaders: Michel Allard and Wayne Pollard

How is permafrost likely to respond to a changing climate? Using regional climate models to determine ground surface temperatures, by means of current and projected climate conditions, this project monitors changes to the landscape, including the development of landforms, modification of drainage patterns, and coastal erosion. The project will provide policy makers, managers and land use planners with the tools needed to assess the impact of landscape modifications on northern communities and ecosystems.

Impact of Climate Change on Arctic Benthos

Project Leader: Philippe Archambault

Life on the ocean floor is astonishingly diverse but still poorly known in polar regions where ice cover and remoteness has restricted sampling. This project establishes benchmarks at biodiversity *hotspots*, areas with a high number of species and abundance, and *coldspots*, where opposite conditions prevail. Knowledge resulting from this research effort will provide a better understanding of how arctic benthos will be affected by climate-driven changes in oceanographic conditions and resource exploitation.

The Role of Sea Ice in ArcticNet IRISes

Project Leader: David Barber

The arctic system is changing from one dominated by multiyear sea ice to one dominated by first-year sea ice-related processes. In the next few decades, marine ecosystems will come under incremental pressure, industrial activity will increase as more exploration and development occurs, and Inuit will find it more and more challenging to use sea ice for cultural and subsistence purposes. This project provides sea ice expertise to the coordinated ArcticNet Integrated Regional Impact Studies of the coastal Canadian Arctic, supplying the required information for sound management of these issues.

Freshwater-Marine Coupling in Hudson Bay

Project Leaders: David Barber and Kevin Sydor

Climate models predict warming in the Hudson Bay watershed that may alter the amount and timing of runoff and therefore the load of suspended solids, dissolved organic matter, nutrients, and heat delivered to the Bay. The overarching objective of this project is to describe the impact of such runoff on marine processes within Hudson Bay and to examine the cumulative impacts of climate change and hydroelectric development on these processes.

Analysis of Past Hydro-Climatic

Variations in Nunavik

Project Leader: Yves Bégin

The 15 percent decrease in Central Quebec precipitation over the last thirty years could have serious socio-economic consequences as nearly 50 percent of the province's hydroelectric production comes from this area. Using an extended

network of tree-ring chronologies, the project studies temporal and geographical hydroclimatic variations over the past 250 years and, at some locations, over the last millennium at a yearly resolution. The records and the reconstructions of climatic variables will be used to better grasp the climatic variations over the pre- and post-industrial period.

Instability of Coastal Landscapes in Arctic Communities and Regions

Project Leaders: Trevor Bell and Don Forbes

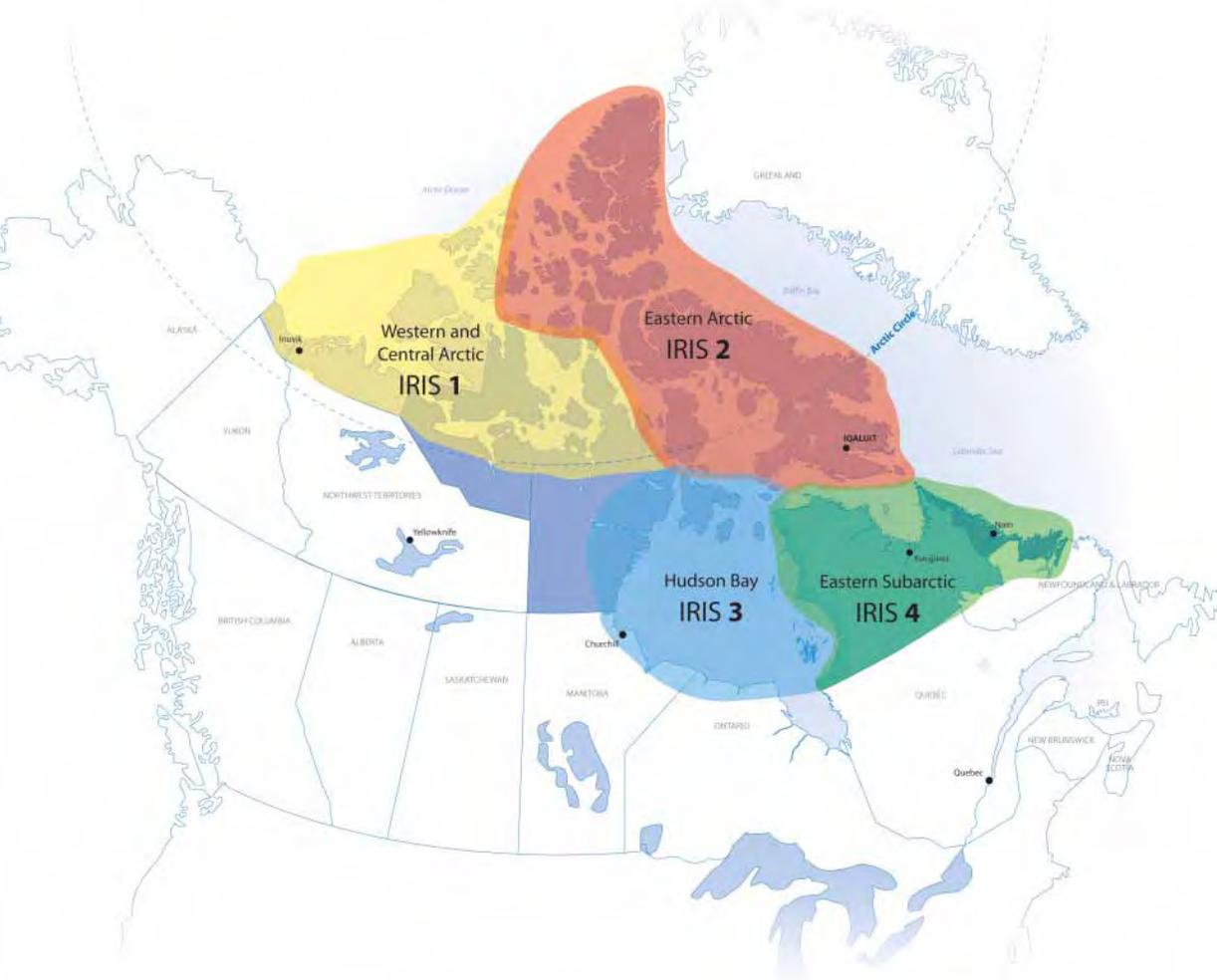
Future climate scenarios and impacts modelling predict changes in climate variables that may increase coastal landscape instability and hazard risk. Through improved understanding of changes in climate, sea level, sea ice, storms and waves, this project assesses integrated impacts on coastal landscape stability, including flooding, erosion, habitat integrity, and community vulnerability. Together with northern communities and partners, the project integrates local and external research and knowledge on climate change trends and impacts in order to promote informed choices of adaptation measures and enhanced resilience in northern coastal communities.

Effects of Climate Change on Canadian Arctic Wildlife

Project Leader: Dominique Berteaux

Many northern biological systems are undergoing major shifts related to climate change. An understanding of this transformation and its consequences is critical to anticipating ways in which negative and positive effects on wildlife populations may be mitigated or addressed. Through the implementation of a wildlife monitoring program, the project identifies the main vulner-

abilities of arctic wildlife to climate change using the collected data to analyze past and present responses of wildlife to climatic variability. Decision makers in the wildlife sector will be provided with a sound basis for developing appropriate management and adaptation strategies.



The Law and Politics of Canadian Jurisdiction on Arctic Ocean Seabed

Project Leader: Michael Byers

The possibility that the Arctic Ocean seabed contains vast deposits of hydrocarbons is attracting considerable attention. This research project focuses on several outstanding maritime boundary disputes — involving the United States, Denmark and potentially Russia — that must be resolved before Canada can submit a comprehensive package of information to the UN Commission on the Limits of the Continental Shelf by 2013. The project will analyze the legal and political differences involved in the different disputes, explore the various options for resolving them, and provide detailed recommendations.

Food Security, Ice, Climate and Community Health: Climate Change Impacts on Traditional Food Security in Canadian Inuit Communities

Project Leaders: Laurie Chan and Christopher Furgal

Collaborating with Canadian Arctic communities, this project seeks to investigate how and to what extent climate change is affecting the traditional diet profile of northern aboriginal residents presently and potentially in the future, and what implications this may have for individuals' health. Using models and qualitative approaches to integrate both scientific and traditional knowledge, the project focuses on nutrition and potential changes in nutrient intake, exposure to contaminants, and levels of food security.

Population Dynamics of Migratory Caribou in Nunavik/Nunatsiavut

Project Leader: Steve Côté

Migratory caribou are now abundant in northern Quebec and Labrador, but declining almost everywhere else in Canada. The

factors responsible for these declines are poorly known. This project establishes how climate, population density, and industrial activities affect caribou abundance and distribution in the Arctic. Partners from government, aboriginal groups and industry will be provided with new tools to monitor the demography of caribou and improve their conservation in the face of a changing Arctic.

*** International Inuit Cohort Study:
Developing the Next Phase**

Project Leader: Éric Dewailly

This project merges the data from the major Inuit health surveys conducted in Canada and Greenland. From this new database, health indicators of global changes (environment, climate, modernization, etc.) will be extracted to show geographical differences according to regions and IRIS territories. New information will also be collected at the community level in order to understand if different infrastructure or demographic variables are associated with chronic diseases or risk factors. Finally, the project aims at organizing the follow-up of all participants starting with a new visit planned in 2012 in Nunavik.

Marine Fatty Acids in a Changing Canadian Arctic

Project Leader: Éric Dewailly

The traditional Inuit diet consists mainly of fish, marine and terrestrial mammals, and berries. Marine lipid consumption by Inuit plays an especially important role for energy intake and other critical human biological functions. A warming climate might affect the molecular composition of these lipids through changes in microalgae, the basis of the entire Arctic food web. This project seeks to understand the impact of these changes on

the health of Inuit and to orient public policies to prevent the negative consequences of these changes.

*** Integrated Analysis of Human Development
in the Canadian Arctic**

Project Leader: Gérard Duhaime

Using Inuit health survey data and the ArcticStat socioeconomic circumpolar database, this project proposes to link an integrated analysis of individual social conditions to an analysis of regional structural conditions. The project's overarching goal is to understand the adaptive capacity of Inuit regional societies.

Impacts of Global Warming on Arctic Marine Mammals

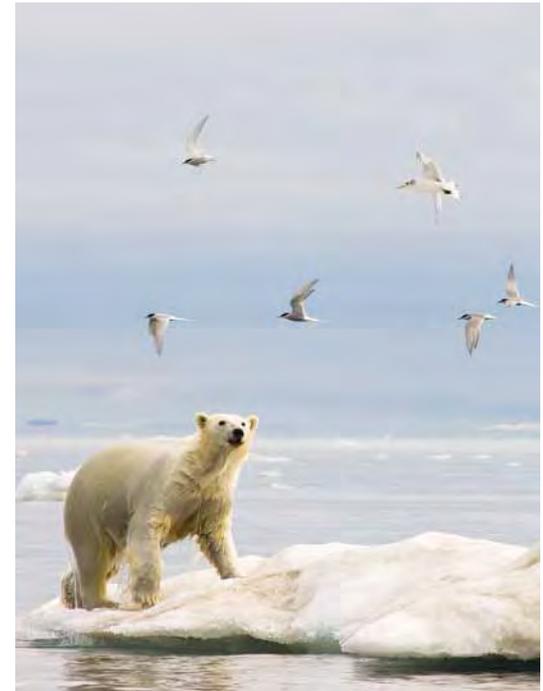
Project Leader: Steven Ferguson

Knowing how polar ecosystems may change with global warming will help develop strategies for conservation and species management. It is important to recognize the changing distribution and numbers of Arctic mammals, as Northerners depend on these species as a food source and integral part of their unique culture. This project examines global warming and its effects on water-based mammals in the Arctic. Several aspects of mammal health are studied, including diet, diseases, contaminants, and stress. Research results will help Inuit communities adapt to changes in marine mammal distribution and abundance.

*** Climate Change and Food Security
in Regional Inuit Centres**

Project Leader: James Ford

Food insecurity is a chronic problem affecting many Inuit communities and is likely to predispose Inuit food systems to the negative effects of climate change. Using in-depth case studies, this project aims to identify and characterize the vulnerability of





food systems in four regional Inuit centres to climate change as a basis for identifying adaptation entry points.

* Impacts of Environmental Change on Charr in the Inuvialuit Settlement Region

Project Leader: Christopher Furgal

This project uses both Traditional Ecological Knowledge and scientific information to develop environmental indicators for the assessment and monitoring of changes in arctic charr (*Salvelinus alpinus*) in Inuvialuit Settlement Region communities. This novel research and the outcomes of the development of effective community-based monitoring plans created in direct collaboration with Arctic community residents will generate results applicable to other northern communities facing similar changes and challenges.

* Inuit Knowledge and Geospatial Ontologies in Nunatsiavut

Project Leaders: Christopher Furgal and Tom Sheldon

This project proposes to conduct a Participatory GIS and geospatial ontology research exercise with expert knowledge holders in the Nunatsiavut Settlement Area. The goal is the development of a geospatial ontology application and interface that complements existing GIS for land-use planning, environment and development decision making as well as Inuit knowledge representation and transmission in Nunatsiavut.

* Community-Driven Research on *H. pylori* Infection in the Inuvialuit Settlement Region

Project Leader: Karen Goodman

H. pylori infection has become a major concern for many

northern communities and their health care providers. These concerns initiated a large collaborative project to investigate the health risks of *H. pylori* and develop locally appropriate *H. pylori* control strategies. This project seeks to expand these efforts to include other northern communities and ultimately to improve the success of *H. pylori* infection treatment methods, provide health authorities with information to guide relevant public health policy, and to help concerned community members understand *H. pylori* health risks.

Long-Term Observatories in Canadian Arctic Waters

Project Leader: Yves Gratton

This project will correlate sub-surface ocean properties recorded by moored instruments to satellite records of surface temperature, chlorophyll, suspended sediments and sea ice type and thermodynamic state. The objectives are 1) to provide long-term detailed observations of the ocean-sea ice-atmosphere coupling in the Canadian High Arctic, 2) to identify the oceanic/atmospheric processes underlying changes in these variables, and 3) to provide baseline physical information required to understand the complexities of physical-biological coupling in the Arctic marine environment.

Impacts of Vegetation Change in the Canadian Arctic: Local and Regional Assessments

Project Leader: Greg Henry

The tundra across the Canadian Arctic is already reacting to climate change. Northerners and scientists are observing changes, such as shrubs getting taller and more numerous. This research team studies changes to tundra vegetation near Arctic

communities across the North, including changes in the amount of berries produced each year in traditional berry picking areas. Community members are involved in designing the studies and in conducting measurements. The results will be used by communities and will contribute to national and international efforts to understand the responses of tundra ecosystems to climate variability and change.

Integrating and Translating ArcticNet Science for Sustainable Communities and National and Global Policy and Decision-Making

Project Leaders: David Hik and Christopher Furgal

This project investigates the arctic policy landscape and how ArcticNet science contributes to informed policy decisions in Canada and globally. This will be accomplished through a quantitative and qualitative analysis of the influence of ArcticNet science on arctic policy development. The conclusions from this project will allow ArcticNet to address the most effective ways to use and translate ArcticNet research results on urgent issues such as climate change into “action” or decision-making at the local, regional, national or international levels.

*** The Emerging Arctic Security Environment**

Project Leader: Rob Huebert

This project aims at a better understanding of the developing Arctic security trends in the circumpolar region, and will address these questions: (1) What are the reasons behind the new foreign, defence and security policies of the Arctic states? (2) What are the ramifications of these actions? The project will add to the public policy debate within Canada and across the circumpolar world regarding the possibilities/probabilities for conflict and

cooperation in the region. The project will also systematically (3) analyze the relationship between sovereignty, security and safety in Canadian political discourse and policy and (4) critically examine the historic and contemporary practice of Arctic sovereignty and security assertion in evolving cultural, political and spatial contexts.

The Canadian Arctic Seabed: Navigation and Resource Mapping

Project Leader: John Hughes Clarke

This project undertakes the core seabed mapping component of the ArcticNet research program. Acoustic mapping of the seabed relief, sediment distribution and shallow subsurface sediments are the prime datasets used by researchers to understand the geological processes shaping the seafloor, to assess natural hazards, hazards to navigation and coastal habitats, and to reconstruct the history of past climatic changes.

*** Adaptation, Industrial Development and Arctic Communities**

Project Leader: Arn Keeling

This project is set to engage in community-based, historical and comparative research on industrial development as a driver of social, cultural and environmental change in the Arctic. In particular, researchers will explore the cultural, economic and environmental impacts of mineral exploration and development on three Arctic communities. Ultimately, this project will be useful for communities and policy makers in assessing the potential benefits and impacts of current development proposals.





High Arctic Hydrological, Landscape and Ecosystem Responses to Climate Change

Project Leaders: Scott Lamoureux and Melissa Lafrenière
Research at the Cape Bounty Arctic Watershed Observatory, Melville Island, Nunavut, investigates how climate change affects rivers, permafrost, soils, vegetation, greenhouse gas emissions and the release of contaminants into High Arctic rivers and lakes. This integrated watershed network will provide an unprecedented understanding of the sensitivity and anticipated future effects of climate change on the High Arctic ecosystem. Impact models based on river flow and related environmental systems will be developed for scientists, Northerners and other stakeholders to identify and adapt to the impacts of climate change.

* Climate Change and Commercial Shipping Development in the Arctic

Project Leader: Frédéric Lasserre
Is Arctic shipping really going to develop as fast as generally predicted in Canada? What sectors of the shipping industry might be interested in plying a seasonal, poorly mapped, unserved northern route? Will containerized cargo liners between Europe and Asia rush to utilize the route? Asking international shipping companies these questions will enable researchers to evaluate the speed and shape of shipping development in the region.

Development of an Ocean Modelling Capacity for the Canadian Arctic Archipelago

Project Leader: Paul Myers
This project is structured around three objectives: to develop a capacity for ocean and sea ice modelling for the Canadian North and the Canadian Arctic Archipelago, to examine current ocean

transports in and out of the entire Canadian Arctic Archipelago and to quantify the processes underlying snow distribution patterns on landfast sea ice in the Canadian Arctic Archipelago.

Carbon Exchange Dynamics in Coastal and Marine Ecosystems

Project Leader: Tim Papakyriakou
Absorption and release of carbon dioxide by the oceans is one of the primary factors controlling the atmospheric CO₂ concentration, and some of the highest CO₂ uptake rates reported anywhere have been observed within the Arctic's peripheral seas. Researchers in this project undertake field studies to parameterize the effects of several factors affecting both the distribution of dissolved CO₂ in Arctic surface water and the mechanism by which the gas is exchanged with the atmosphere. Newly developed parameterizations will be implemented into a coupled atmosphere-sea ice-ocean biogeochemistry model to learn how the ocean's response to climate change and variability will affect the atmosphere-ocean cycling of CO₂.

Growth Variability and Mercury Tissue Concentration in Anadromous Arctic Charr

Project Leader: Michael Power
This project examines climate change related impacts on land-locked and migratory populations of arctic charr. Differences in total mercury accumulation rates in the two types of arctic charr will be analysed and the relative influences of diet, temperature and habitat on growth and total mercury accumulation along a north-south gradient will be assessed. An enhanced understanding will permit more accurate prediction of the effects of climate

change on the important migratory stocks of arctic charr used by Inuit in traditional subsistence fisheries. This research will also inform management decisions about the issues associated with country food consumption in the face of climate change.

Understanding and Responding to the Effects of Climate Change and Modernization in Nunatsiavut

Project Leaders: Ken Reimer and Marina Biasutti

This project addresses Inuit concerns about the impacts of climate change, modernization and contaminants on the health of marine ecosystems and communities of northern Labrador. Research will provide important insights into how the environment is changing, what it means for the long term health of marine ecosystems and how northern communities will access and manage their land and freshwater resources in the future. The involvement of Inuit, the Nunatsiavut Government and federal agencies will ensure developed adaptation strategies and policies have direct relevance for the people, industries and environment of northern Labrador.

* Improving Access to University Education in the Canadian Arctic

Project Leader: Thierry Rodon

The goal of this research project is to provide evidence-based research on Inuit participation in university education throughout Inuit Nunaat. A secondary goal is to promote a national discussion amongst providers of university programs in Inuit Nunaat, northern institutions and Inuit organizations in order to define a more coordinated effort in program delivery and curriculum development.

Adaptation in a Changing Arctic: Ecosystem Services, Communities and Policy

Project Leader: Barry Smit

This project documents the changing physical, biological and socio-economic conditions that are affecting people in the Arctic and identifies policies and strategies to assist communities in dealing with these changes. The main focus of the project involves integrating scientific and traditional knowledge of ice, permafrost, coastal dynamics and wildlife with information about community use of these ecosystem services. The overarching goal is to identify the opportunities in existing policies and co-management arrangements for adaptation strategies to help communities deal with changing conditions.

* Transience and Social Cohesion in an Arctic Community

Project Leader: Chris Southcott

Using Inuvik, Northwest Territories as a case study, the researchers, in partnership with community groups, will investigate the extent of mobility in the community, determine what the major negative impacts of this mobility are on community organizations, and discuss what can be done to mitigate these negative impacts.

Effects of Climate Change on Contaminant Cycling in the Coastal and Marine Ecosystems

Project Leaders: Gary Stern, Robie Macdonald, and Feiyue Wang
Contaminants pose a potential hazard to Arctic fish and marine mammal health, and ultimately to Northerners that consume their meat as part of their traditional diets. The research will help assess the vulnerability of coastal Inuit communities to climate change, document and project impacts of climate change on traditional food security and community health, and provide the





information required by communities, scientists and policy makers to develop adaptation strategies. Findings will help test and shape policy for the future management of contaminant emissions and long range transport to the Arctic and will support integrated ocean management programs.

Marine Biological Hotspots: Ecosystem Services and Susceptibility to Climate Change

Project Leaders: Jean-Éric Tremblay and Michel Gosselin

The microalgae growing in ice brine channels and in surface water are the source of the Arctic marine food web. Changes at the base of the food web are bound to affect the nutrition and spatial distribution of higher trophic level organisms such as seals, whales, and polar bears. This project examines how changes in the physical environment affect the productivity and species dominance of organisms, particularly in the lower part of the food web. A comprehensive synthesis of the whole Arctic marine food web will then be assembled and made available to inform stakeholders.

Freshwater Resources of the Eastern Canadian Arctic

Project Leader: Warwick Vincent

Lakes and wetlands are major ecological features of the circum-polar Arctic, and they provide many essential services including habitats for aquatic wildlife, drinking water supplies for northern residents, and water for industrial activities. The project continues and extends observations on lakes and wetlands at key sites in the eastern Canadian Arctic to identify and measure aquatic indicators of environmental change in the past and present. These studies will allow assessments of future changes in northern freshwater ecosystems to help guide the formulation of environmental management and monitoring policies.

*** Inuit Qaujimagatuqangit and the Transformation of High School Education in Nunavut**

Project Leader: Fiona Walton

How can Inuit educational leaders work with parents in communities to create a school system to meet the challenges of the 21st century? How can a curriculum grounded in traditional beliefs and values contribute to the personal and academic success of Inuit high school students? This project aims at exploring these questions and documenting the role of culture and language on student learning, in the hope of providing useful ideas and examples as tools for northern communities attempting transformation in local education.

Hydro-ecological Responses of Arctic Tundra Lakes to Climate Change and Landscape Perturbation

Project Leader: Fred Wrona

Significant changes in climatic regimes are expected to have far-reaching impacts on the hydrology and ecology of Arctic freshwater ecosystems. This project aims at integrating landscape-lake processes and modelling studies to improve the regional understanding of the upland tundra lakes sensitivities and responses to climate variability and change. An integrated landscape-geochemical, lake-ice, hydroecological model for Arctic systems will be developed and validated. The project will produce legacy data and products of direct benefit to the development of adaptation options for the conservation, protection and management of Arctic freshwater ecosystems.





Education and Training

ArcticNet has implemented a comprehensive training strategy to recruit and train a complete generation of researchers and technicians critical for studying and monitoring the transformation of the North. All elements of ArcticNet's proposed strategy to increase the awareness of young Canadians to Canada's Arctic dimension and to the possibilities of interesting careers in the North were implemented during Cycle I (2004-2011).

Since 2004, over 600 students and postdoctoral fellows have completed or are completing their training within the uniquely multidisciplinary, trans-sector and international context of ArcticNet. The Network currently supports over 400 graduate students and post-doctoral fellows and 175 research associates and technical staff. Whether at sea on the *Amundsen* participating in some of the largest international research projects ever conducted, on the Arctic tundra or in Inuit communities, at the Annual Scientific Meeting (ASM) and planning workshops, or attending international schools, these young researchers are immersed in trans-sector networking – working, discussing and debating with the best Canadian and foreign experts in the natural, health and social Arctic sciences. They have formed the remarkably active ArcticNet Student Association (ASA), which hosts the Student Day during the Annual Scientific Meeting as well as regional workshops to discuss how to adapt their research to Network objectives. ArcticNet's Training Fund has supported the participation of our students in international Arctic schools. The accomplishments of these hundreds of ArcticNet graduate students and post-doctoral fellows in recent years provide a positive

direction for the future of Arctic research and the management of an environment facing climate change and globalization.

Schools on Board

Initiated in the first year of ArcticNet, the Schools on Board Program offers high school students and teachers in Canadian schools from coast to coast to coast the opportunity to bridge the gap between Arctic science taught in the classroom and research conducted directly in the field. The ultimate goal of the program is to engage youth from northern and southern communities and highlight the education and career opportunities that involve studying and managing the changing Arctic environment. The main thrust of the program is the field program "onboard" the CCGS *Amundsen*. Schools are given the unique opportunity to send students and teachers to the Arctic, onboard the vessel to participate in an educational experience completely integrated into the research activities of the ArcticNet science team.

The 2010 Schools on Board Field Program experienced a very successful year during Leg 1 of the ArcticNet scientific expedition. Through collaboration with Youth Science Canada (YSC), four students were selected from the Canada Wide Science Fair program and YSC's Polar Innovation program. The remaining five spaces were allocated to selected schools. Teachers and students from schools across the country were represented, including: Inuvik (NT), Kugluktuk (NU), Rankin Inlet (NU), St. Pierre (MB), Calgary (AB), Montreal (QC), Cornwall (ON), and Toronto (ON).





"This experience has made me feel more connected to the land (nuna) and my culture."

— Student, 2010 Field Program,
Maani Ulujuk Ilinniarvik (high school)
Rankin Inlet, NU

The field program began in Iqaluit where participants met and interacted with community leaders from the Nunavut and federal governments working in environmental management and protection, as well as community elders. Between 29 July and 15 August, the Schools on Board team accompanied ArcticNet researchers onboard the CCGS *Amundsen* through the Northwest Passage from Iqaluit to Kugluktuk. Students spent many hours working with scientists on deck during the deployment of the rosette, nets, moorings and box cores, as well as processing samples in the labs and learning about geomorphology from the seabed mapping group.

After an incredible voyage through the historic passage filled with on-deck sampling operations, scientific presentations and views of glaciers, icebergs and polar bears, the expedition ended

in Kugluktuk (NU). The participants had the opportunity to discuss their voyage with local high school students and take a final exciting trip to Bloody Falls before ending the adventure with a feast of 'country food' (caribou, charr, and bannock).

The activities of the Schools on Board program over the last year also included high involvement of program staff at the 2010 IPY Oslo Science Conference in June. This included co-chairing one of the outreach themes; one poster and two oral presentations in the outreach sessions and active involvement in the implementation of the Polar Teachers workshop and Polar Festival.

ArcticNet Student Association

The ArcticNet Student Association (ASA) continues to exceed expectations. The 2010 and 2011 Executive Committees, composed of highly motivated graduate students from across Canada, organized many outreach activities. Designed to broaden the ArcticNet student experience through the promotion of learning, leadership, research and networking, these activities included the writing of articles, the organization of regional and national meetings, and the development of partnerships.

The Sixth Annual ArcticNet Student Day

The theme of this year's Student Day was "Careers After Graduation". The impetus for this theme was driven by ArcticNet's emerging industrial partnerships, a suggestion from the RMC to focus on helping students find careers, and by demand from the student body. The keynote speaker, Dr. Jennifer Gardy, provided an excellent introduction to the theme. The student day breakout sessions were designed to help ArcticNet students understand the broad range of careers available to them. These careers were broken into four main sectors: academic employment, public sector employment, northern careers and private sector employment.

Training Fund

Well established within the Network since 2005, the ArcticNet Training Fund encourages ArcticNet students to take part in international field schools covering different axes of Arctic research. The field courses provide students with expert insight and technical training in fields ranging from glaciology and climate to satellite imagery analysis and microbial ecology. Over 50 ArcticNet graduate students have taken advantage of the training fund since its inception. In 2010-2011, seven students were granted a total of over \$20,000 to attend high level international training offered by leading Arctic researchers in Antarctica, Italy, Norway, Scotland, Svalbard and the USA.

Recognition of Excellence for ArcticNet students

W. Garfield Weston Awards

The Garfield Weston Awards for Northern Research were initiated by the W. Garfield Weston Foundation to encourage Canada's leadership in northern studies during the International Polar Year. Students are selected on the basis of academic excellence and commitment to the North. Successful recipients demonstrate an understanding of how their research contributes to northern scholarship and are willing to publicly promote the importance of tackling northern scientific challenges. ArcticNet is proud to have six of its graduate students among the eleven 2010-2011 recipients, including four of the five PhD award winners.

Doctoral Scholarships (\$40 000)

- Matthew Asplin, PhD Candidate, Geography, University of Manitoba
- Peter Fast, PhD Candidate, Biology, Université du Québec à Rimouski

- Jennifer Knopp, PhD Candidate, Environmental and Life Sciences, Trent University
- Corinne Pomerleau, Ph.D. student, Marine Biology, Université du Québec à Rimouski

Masters Scholarships (\$15 000)

- Alexandre Ancil, Masters Candidate, Wildlife Management, Université du Québec à Rimouski
- Elizabeth Miller, Masters Candidate, Physical Geography, York University

ASM2010 Graduate Student Poster Award

To encourage student research, ArcticNet holds an annual poster competition for excellence in research and presentation during its Annual Scientific Meeting (ASM). Prizes of up to \$500 were awarded to the winners of the 2010 ArcticNet Graduate Student Poster Awards.

Natural Sciences - Marine

- Marc Cadieux, University of Manitoba
- Jessy Barrette, INRS-ETE
- Tanya Brown, University of Victoria
- Anabelle Baya, Trent University

Natural Sciences - Terrestrial

- Émilie Champagne, Université Laval
- Inga May, University of Munich
- Arnaud Tarroux, Université du Québec à Rimouski
- Wendy Michaud, University of Waterloo

Health and Social Sciences

- Rudy Riedlsperger, Memorial University of Newfoundland
- Kaitlin Breton-Honeyman, Trent University
- Meghan Buckham, Trent University
- James Baker, University of British Columbia

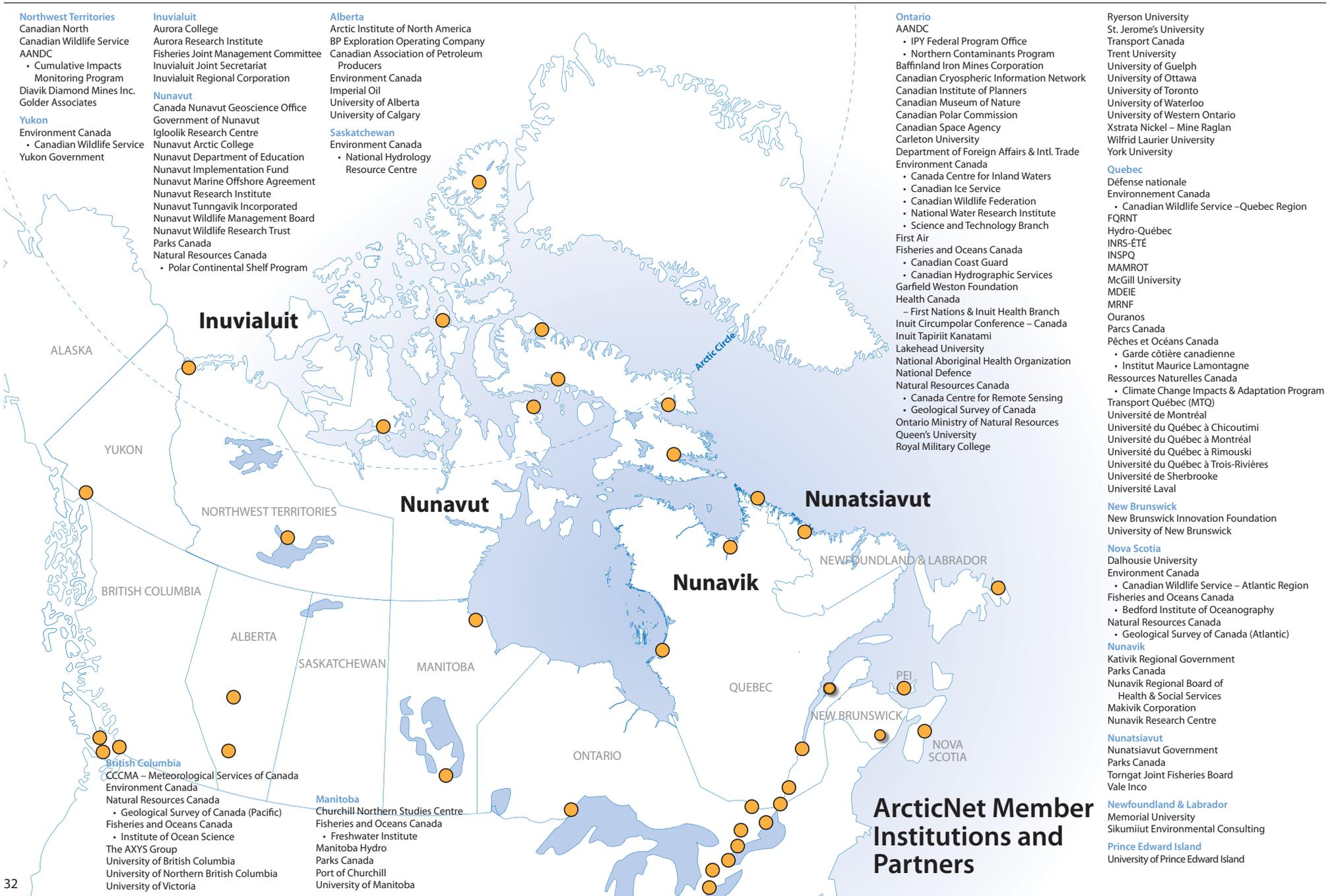
Inuit Partnership of Excellence Award

- Jennifer Organ, Dalhousie University



"If one student can bring back a deeper understanding of the scientific process, a zeal for being on the cutting edge of knowledge, we can use that energy to motivate other students."

— Teacher, Kugluktuk High School 2010



- Northwest Territories**
 Canadian North
 Canadian Wildlife Service
 AANDC
 • Cumulative Impacts Monitoring Program
 Diavik Diamond Mines Inc.
 Golder Associates
- Yukon**
 Environment Canada
 • Canadian Wildlife Service
 Yukon Government

- Inuvialuit**
 Aurora College
 Aurora Research Institute
 Fisheries Joint Management Committee
 Inuvialuit Joint Secretariat
 Inuvialuit Regional Corporation
- Nunavut**
 Canada Nunavut Geoscience Office
 Government of Nunavut
 Igloolik Research Centre
 Nunavut Arctic College
 Nunavut Department of Education
 Nunavut Implementation Fund
 Nunavut Marine Offshore Agreement
 Nunavut Research Institute
 Nunavut Tunngavik Incorporated
 Nunavut Wildlife Management Board
 Nunavut Wildlife Research Trust
 Parks Canada
 Natural Resources Canada
 • Polar Continental Shelf Program

- Alberta**
 Arctic Institute of North America
 BP Exploration Operating Company
 Canadian Association of Petroleum Producers
 Environment Canada
 Imperial Oil
 University of Alberta
 University of Calgary
- Saskatchewan**
 Environment Canada
 • National Hydrology Resource Centre

- Ontario**
 AANDC
 • IPY Federal Program Office
 • Northern Contaminants Program
 Baffinland Iron Mines Corporation
 Canadian Cryospheric Information Network
 Canadian Institute of Planners
 Canadian Museum of Nature
 Canadian Polar Commission
 Canadian Space Agency
 Carleton University
 Department of Foreign Affairs & Intl. Trade
 Environment Canada
 • Canada Centre for Inland Waters
 • Canadian Ice Service
 • Canadian Wildlife Federation
 • National Water Research Institute
 • Science and Technology Branch
 First Air
 Fisheries and Oceans Canada
 • Canadian Coast Guard
 • Canadian Hydrographic Services
 Garfield Weston Foundation
 Health Canada
 – First Nations & Inuit Health Branch
 Inuit Circumpolar Conference – Canada
 Inuit Tapiriit Kanatami
 Lakehead University
 National Aboriginal Health Organization
 National Defence
 Natural Resources Canada
 • Canada Centre for Remote Sensing
 • Geological Survey of Canada
 Ontario Ministry of Natural Resources
 Queen's University
 Royal Military College

- Ryerson University
 St. Jerome's University
 Transport Canada
 Trent University
 University of Guelph
 Canadian Cryospheric Information Network
 University of Ottawa
 University of Toronto
 University of Waterloo
 University of Western Ontario
 Xstrata Nickel – Mine Raglan
 Wilfrid Laurier University
 York University

- Quebec**
 Défense nationale
 Environnement Canada
 • Canadian Wildlife Service – Quebec Region
 FQRNT
 Hydro-Québec
 INRS-ÉTE
 INSPQ
 MAMROT
 McGill University
 MDEIE
 MRNF
 Ouranos
 Parcs Canada
 Pêches et Océans Canada
 • Garde côtière canadienne
 • Institut Maurice Lamontagne
 Ressources Naturelles Canada
 • Climate Change Impacts & Adaptation Program
 Transport Québec (MTQ)
 Université de Montréal
 Université du Québec à Chicoutimi
 Université du Québec à Trois-Rivières
 Université du Québec à Rimouski
 Université de Sherbrooke
 Université Laval

- New Brunswick**
 New Brunswick Innovation Foundation
 University of New Brunswick

- Nova Scotia**
 Dalhousie University
 Environment Canada
 • Canadian Wildlife Service – Atlantic Region
 Fisheries and Oceans Canada
 • Bedford Institute of Oceanography
 Natural Resources Canada
 • Geological Survey of Canada (Atlantic)

- Nunavik**
 Kativik Regional Government
 Parks Canada
 Nunavik Regional Board of Health & Social Services
 Makivik Corporation
 Nunavik Research Centre

- Nunatsiavut**
 Nunatsiavut Government
 Parks Canada
 Torngat Joint Fisheries Board
 Vale Inco

- Newfoundland & Labrador**
 Memorial University
 Sikumiut Environmental Consulting

- Prince Edward Island**
 University of Prince Edward Island

ArcticNet Member Institutions and Partners

Networking and Partnerships

ArcticNet is a truly pan-Canadian network with strong international connections, reflecting the global dimension of Arctic issues. At the eve of our second funding cycle, 30 Canadian universities, 28 programs, agencies and laboratories in 8 federal departments, 18 Inuit organizations, 10 private sector partners, and 9 provincial departments and agencies participate meaningfully in the Network. These partners are distributed throughout all Canadian provinces, northern territories and Inuit Land Claim Settlement Regions, covering not only the usual along-the-US-border east-west dimension of Canada, but her south-north dimension as well. An increasing number of academic and government-based partners in the USA, Norway, France, Denmark, the UK, Spain, Russia, Japan and Germany provide ArcticNet's international facet.

Since 2004, ArcticNet has engaged Inuit directly at all levels of the planning of the research program and the strategic framework. ArcticNet collaborates closely with Inuit Tapiriit Kanatami (ITK), the Inuit Circumpolar Council (Canada) and all four Regional Inuit Land Claim organizations in developing and conducting its research program and defining its Strategic Plan. Members from all six organizations serve on our Research Management Committee and Board of Directors.

Consulting Inuit and northern stakeholders in over 50 remote coastal Arctic communities scattered over millions of km² presents important logistical and financial challenges. In an alliance with

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the Northern Contaminants Program (NCP) and the Nasivvik Centre for Inuit Health and Changing Environments, ArcticNet supports an Inuit Research Advisor (IRA) position in each of the four Inuit regions. The mandate of the IRAs includes the facilitation of community visits and consultations to present research projects to northern communities and research licensing bodies and the collection of input by Northerners into specific projects and the overall research program of ArcticNet. IRAs and Inuit members of the RMC also meet annually as members of the ArcticNet Inuit Advisory Committee, making Inuit specific recommendations with regards to the research program and priorities.

Inuit Education

Despite efforts to improve student success by reflecting Inuit language and culture in schools, Inuit K-12 graduation rates are among the lowest in Canada for aboriginal populations. Though Northern colleges provide programs in specific fields, access to post-secondary education remains extremely limited for Inuit despite some ad hoc initiatives by southern universities. Inuit are acutely aware that a common solution to several of the trials of their societies is improved access to an education system that will prepare the young generations for the specific tasks and opportunities of the ongoing transition to modernity. In 2009, several Inuit groups and organizations signed a multi-party Inuit Education Accord to establish a National Committee on Inuit Education (NCIE) with the goal of developing a National Strategy on Inuit Education. In 2010, ArcticNet supported the Literature Review and Key Evidence research component of the NCIE initiative as part of its overall research program. Inuit education was identified as a key focus of ArcticNet's 2010 call for proposals

that resulted in the funding of two new ArcticNet projects focused on Inuit education at the high-school and post-secondary level. Initiated in April 2010, these two projects are now embedded as part of the networks' Phase III research program (2011-2015).

Regional IRIS Workshops

A Regional Workshop for ArcticNet's Western Canadian Arctic Integrated Regional Impact Study (IRIS 1) was held in Inuvik, NT, from 11-15 April 2011. With over 100 people in attendance, including 30 community members, numerous presentations outlined the overview and goals of the IRIS 1 regional impact assessment as well as the research conducted by ArcticNet and its partners in the region. Information sharing was encouraged through break-out group discussions to identify regional climate change priorities and improve the overall outline of the IRIS 1 assessment. The resulting revised IRIS 1 outline is now being distributed to decision and policy makers in the Inuvialuit Settlement Region and in Nunavut to ensure that the assessment is relevant to its users and driven by the needs of the region. ArcticNet also co-funded a concurrent Community-Based Monitoring workshop organized by the Fisheries Joint Management Committee (FJMC).

Attracting the world's leading researchers and their teams to the Network

The Canada Excellence Research Chairs (CERC) program was announced in 2008 as part of the government's Science and Technology Strategy to help build Canadian expertise in strategic areas. The Arctic, with a focus on resource production, climate change adaptation and monitoring, was among the seven fields targeted by the first competition of the CERC program.

Two Arctic CERCs were funded under the aegis of ArcticNet. Professor Marcel Babin is leading the *CERC on the Remote Sensing of Canada's New Arctic Frontier* at Université Laval. The *CERC on Climate Change and Arctic Geomicrobiology* at the University of Manitoba is led by Dr. Søren Rysgaard. The CERCs are funded for the seven years corresponding to ArcticNet's Cycle II (2011-2018) and their budgets (including collateral funding) will represent an estimated injection of over \$90M into the research program of the Network. Each CERC represents the addition of a new Centre of excellence with new research programs and new researchers that complement ArcticNet's science program. Each CERC has been given the status of a full ArcticNet research project as part of Cycle II (2011-2018).

Growing International Collaborations

In past years, ArcticNet has benefited from incredible opportunities to create and strengthen its ever-growing international collaborations. Building even further on the momentum of IPY and the International Partnership Initiative (IPI) of the Network of Centres of Excellence program, ArcticNet has consolidated many partnerships that have in turn enhanced the Network's recognition and contribution at a global level. New partnerships in 2010-2011 include:

CNRS-funded Canada-France Unité Mixte internationale in Arctic Sciences

On 19 July 2010, a major and remarkably innovative international partnership was inaugurated with the creation at Université Laval of the Canada-France Unité Mixte Internationale (UMI) in Arctic Sciences funded by the French Comité National de la Recherche Scientifique (CNRS). The strategic objectives of the UMI *Takuvik*:

the international Centre for the Study and Modeling of Arctic and Subarctic Ecosystems and Geosystems are (1) to provide French polar specialists with access to the Canadian Arctic and Canada's northern research infrastructure, and (2) to enrich the ongoing Canadian effort with scientific and engineering expertise from France. It will bring in residence to Université Laval several teams of CNRS experts and technicians in Arctic sciences, each team being matched by a corresponding Canadian team. *Takuvik* is a unique avenue to consolidate international collaborations within ArcticNet and adds a new centre of excellence to the Network.

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Collaboration with Denmark and Greenland

The University of Manitoba's Centre for Earth Observation Science (CEOS), one of ArcticNet's major Centres of Excellence, the Greenland Climate Research Centre and the University of Aarhus, Denmark, have recently agreed to a three-way collaboration in Arctic science. The new Arctic Science Partnership (ASP) is being developed as a partnership between Canada, Greenland and Denmark and will see close integration of research programs including Arctic marine, terrestrial, atmospheric, social science, health, education and outreach through programs in Greenland and Arctic Canada. ASP members will share data, collaborate on joint field programs, jointly hire research scientists and allow for the free flow of students between Denmark, Greenland and



Canada. This ASP program is an element in the ongoing efforts of ArcticNet to encourage and nurture new international collaborations between Canada and other Arctic countries.

Consolidating Collaborations with the Private Sector

As an important part of its mandate, ArcticNet continues to consolidate collaborations between the academic and the private sector. Building on existing collaborations with Manitoba Hydro, the Network recently initiated major new research collaborations with the Oil and Gas industry in 2009 that continued in 2010-2011. Offshore oil and gas exploration in the Arctic is at the top of the national and international political

agenda. Following recent events in the Gulf of Mexico, the National Energy Board of Canada is now conducting a review on Arctic offshore exploration. In the past year, ArcticNet continued its major research collaboration with Imperial Oil Resources Ventures Limited and BP Exploration Operating Company Limited, allowing network researchers to increase their environmental, geophysical and geological data collection efforts onboard the CCGS *Amundsen* in the offshore areas of the Beaufort Sea recently awarded as exploration licenses by the Government of Canada. Owned by ArcticNet, the additional data collected through this novel collaborative approach will not only assist industry in its design and operational planning, but will also benefit other stakeholders, including regulators, Northerners and the public, by making the data publicly available. As an independent academic network, ArcticNet provides a scientifically endorsed mechanism for making the same reliable data accessible to all parties when proposing developments and when stipulating regulatory conditions. Through these collaborations and other ongoing network research activities, ArcticNet is now a major player in informing policy makers on the complex issues linked to oil & gas development in the Canadian Arctic.

ArcticNet Annual Scientific Meeting: Canada's Premier Arctic Research Conference

Soon after its first edition in December 2004, ArcticNet's Annual Scientific meeting quickly became THE annual Arctic science meeting in Canada. Filling an obvious gap, the ASM has now developed into a well established, recurrent and extremely well attended national and international Arctic research conference.



Held annually in early December, the conference now attracts between 400 to 900 participants annually. Opening with a dedicated Student Day, organised and led by the ArcticNet Student Association (ASA), the ASM is recognised as one of the most dynamic and multidisciplinary Arctic meetings in the world. The large participation rate of dynamic graduate students and young scientists has brought a much-needed rejuvenation to this type of meeting in Canada and to the Arctic research community in general.

ArcticNet's seventh Annual Scientific Meeting (ASM2010) was held from 14 to 17 December 2010 at the Westin Ottawa, in downtown Ottawa, Ontario. With 550 participants, ASM2010 proved to be a dynamic networking event, providing an excellent opportunity for network investigators, post-doctoral fellows,

graduate students, research staff, network partners from governments, Inuit organizations and industry, as well as board and committee members to meet face to face in the light of the latest Arctic science. More than 150 oral presentations and 165 scientific posters from all fields of Arctic research were presented during the meeting, reflecting the tremendous research effort supported by ArcticNet and the highly multidisciplinary nature of its program. The success of the Integrated Regional Impact Study (IRIS) framework was manifest during this ASM with two topical sessions entirely dedicated to the impacts of climate change in the Canadian Eastern Sub-Arctic and many productive IRIS coordination side-meetings. As evidence of a promising future for Canadian Arctic research, more than 335 people attended the Sixth ArcticNet Student Day.



Sharing Knowledge

ArcticNet research results are increasingly accessible to decision makers, fellow scientists, and the general public. Published research results also spur new and more innovative projects, and increase the possibilities for collaborations. At the community level, access to results enables individuals to make informed decisions about their environment. It also orients decision makers towards addressing the issues that Northerners deal with on a daily basis.

ArcticNet Publications

The number of ArcticNet refereed scientific publications progresses exponentially over time. This progression reflects the successful implementation of ArcticNet's research plan over Cycle I. It illustrates the expansion of our understanding of the ongoing transformation of the Arctic and its impact on northern societies and industries. This year alone, ArcticNet members delivered 1036 scientific publications, including 423 in refereed journals.

During the last year, ArcticNet teamed up with the Arctic Science and Technology Information System (ASTIS) to create a searchable ArcticNet Publications Database that describes publications from ArcticNet and its two predecessor marine research programs; the Canadian Arctic Shelf Exchange Study (CASES: 2002-2007) and the International North Water Polynya Study (NOW: 1997-2002). The database provides complete coverage of more than 1,000 refereed publications and partial

coverage of over 800 non-refereed publications. The database, available at www.aina.ucalgary.ca/arcticnet/, will be updated annually over ArcticNet's second cycle (2011-2018). ASTIS, Canada's national northern database, is a project of the Arctic Institute of North America at the University of Calgary.

Polar Data Catalogue

The wealth of knowledge and data generated by polar research must be managed to ensure and maximize the exchange and accessibility of relevant data, and to leave a lasting legacy. The Polar Data Catalogue (www.polardata.ca) is a data centre that describes and provides access to diverse Arctic and Antarctic datasets. The records cover a wide range of disciplines from natural sciences and policy, to health and social sciences. In addition to all data collected through ArcticNet, the catalogue now hosts metadata from research institutions, centres, and programs across Canada and abroad, including the Northern Contaminants Program, the Circumpolar Biodiversity Monitoring Program, and the International Polar Year Program. A geospatial search tool available to the public and researchers allows users to search for data using a web-based mapping interface, in combination with other search parameters (keywords, date, research group, etc.). Full data archiving is now being implemented and new geomatics tools are being incorporated in collaboration with the new Canada Excellence Research Chair on Remote Sensing of Canada's New Arctic Frontier. Collaborations are also underway with the GEOIDE NCE to add

Spatial Online Analytical Processing (SOLAP) capacity to the Catalogue. The Polar Data Catalogue (PDC) was developed as a collaborative effort between ArcticNet, the Canadian Cryospheric Information Network (CCIN), and the Department of Fisheries and Oceans Canada (DFO) to facilitate the exchange of information on the Canadian Arctic between researchers and other user groups, including northern communities and international programs. The management of the Polar Data Catalogue is now coordinated by the inter-agency Polar Data Management Committee, which includes representatives from CCIN, ArcticNet, Centre for Northern Studies, Northern Contaminants Program, DFO, Environment Canada and Inuit Tapiriit Kanatami.

In 2010-2011, efforts were made to establish new collaborations, to identify needs for adapting the geospatial search tool for Northerners, to develop a data archiving plan, as well as to obtain funding for the full archiving of datasets. CCIN was successful in a proposal to the Canadian IPY program and was funded to serve as a Data Center for the preservation of IPY datasets. ArcticNet formally supported this initiative as a key element of ongoing data management and evolution of PDC, and central to the new cycle of ArcticNet. Members of the Polar Data Management Committee initiated new collaborations, notably with the Circumpolar Biodiversity Monitoring Program and IPY Data Assembly Centre Network. Meetings provided opportunities to initiate and further discussions with international groups such as the British Antarctic Survey, Cooperative Arctic Data and Information Service, and Partnering Earth Observations for People Living Environmentally. We are confident these discussions will lead to increased partnership and recognition of the PDC at the international level.

Informing Policy

On 20 August 2010, Aboriginal Affairs and Northern Development Canada announced an investment of \$21.8 million over five years in support of the Beaufort Regional Environmental Assessment (BREA), a multi-stakeholder initiative to sponsor regional environmental and socio-economic research that will gather new information vital to the future management of the Beaufort Sea. Following a Call for proposal initiated in March 2011, ArcticNet researchers were very successful at securing funding for research projects that form the core of the BREA research program. ArcticNet researchers will lead four of the 15 currently funded BREA research projects, with three of them conducted as part of the ArcticNet annual expedition to the Beaufort Sea onboard the CCGS *Amundsen*. The four projects listed below will receive a total of over \$5M over the next 4 years (2011-2015).

- Active Acoustic Mapping of Fish in the Beaufort Sea, Louis Fortier, Université Laval
- Deep Water Seabed Geohazards, Steve Blasco, Geological Survey of Canada-Natural Resources Canada
- Southern and Northeastern Beaufort Sea Marine Observatories, Martin Fortier, Université Laval, ArcticNet and Malcolm Lowings, IMG-Golder
- Radarsat Mapping of Extreme Ice Features in the Southern Beaufort Sea, David Barber, University of Manitoba

ArcticNet's success in securing BREA funding is directly linked to its capacity and expertise developed in the Beaufort Sea over the last decade as well as its recent partnerships with industry in the region. The results collected by ArcticNet will directly contribute to BREA's key goal of producing relevant scientific and socio-

economic information that simplifies project-level environmental assessment and regulatory decision-making for oil and gas activities, while strengthening the relationship between environmental assessment and integrated management and planning in the region.

Bringing Arctic Issues to the General Public

With the high level of knowledge and expertise available within ArcticNet, the management and researchers of the Network are often called upon by the media for interviews regarding issues of critical importance to Canadians and their government. Many projects led by ArcticNet network investigators received intense national and international media coverage, raising Arctic climate change research awareness to millions of viewers and readers worldwide. Throughout 2010-2011, ArcticNet maintained a high level of national and international media coverage. From print publications to television, film and House of Commons hearings, the voice of ArcticNet's researchers was broadcast in an ever-increasing attempt to educate the public about a rapidly changing Arctic climate. Some of the highlights include:

- Over 135 articles featuring ArcticNet research were distributed by international (Asia Times, BBC, CNN, The Economist, The Guardian, Le Monde, Nature, The New York Times, Reuters), national (Calgary Herald, CTV, Discovery Channel, CBC, Le Devoir, The Gazette, The Globe and Mail, Ottawa Citizen, Postmedia News, La Presse, Radio-Canada, Toronto Star, Toronto Sun, Vancouver Sun, Winnipeg Free Press) and northern (APTN, Nunatsiq News) media and published in many countries including Canada, France, Thailand, the UK, and the USA.
- Discovery Channel's *Mighty Ships* joined ArcticNet and the Canadian Coast Guard onboard the CCGS *Amundsen* following the team of researchers as they scrambled to sample sea ice and recover oceanographic moorings while battling a constantly changing Arctic environment in the Canadian Beaufort Sea.
- ArcticNet Network Investigator Joël Bêty was awarded "2010 Researcher of the Year" by Radio-Canada for his work on the nesting habits of Arctic birds. Previously, in January 2010, Dr. Bêty and ArcticNet Ph.D. student Laura McKinnon published the results of their research in the prestigious international journal, *Science*.



The wealth of knowledge and data generated by polar research must be managed to ensure and maximize the exchange and accessibility of relevant data, and to leave a lasting legacy. The Polar Data Catalogue (www.polardata.ca) is a data centre that describes and provides access to diverse Arctic and Antarctic datasets. The records cover a wide range of disciplines from natural sciences and policy, to health and social sciences.

- A much-needed national debate on the role of industry in the funding of scientific research was raised in response to ArcticNet's collaborations with the Oil & Gas Industry since 2009 onboard the CCGS *Amundsen*. Numerous articles in national and northern publications tackled the heated issues surrounding the environmental, political, economic and ethical questions raised by these collaborations. ArcticNet Scientific Director Louis Fortier participated in the Canada House of Commons Department of Fisheries and Oceans hearings, along with industry collaborators and the Coast Guard to clarify some of the preconceptions and misinformation that had been circulated.
- The grounding of the passenger vessel, *Clipper Adventurer*, north of Kugluktuk and the subsequent rescue of her passengers by the CCGS *Amundsen* initiated a plethora of media coverage concerning seabed mapping of the Northwest Passage in the face of dwindling Arctic sea ice. This event, along with two other vessel groundings in 2010 in the Canadian Arctic, highlighted the increased need for dedicated mapping of the Arctic seafloor, such as done by ArcticNet researchers onboard the CCGS *Amundsen*.
- Professor Mike Byers continued to educate the public on Canadian sovereignty issues, Canada's international image and the opening of the Northwest Passage through numerous print and online publications.
- ArcticNet researchers were in the news following the loss of several massive ice chunks from the Ward Hunt Ice Shelf and Greenland's Petermann Glacier in 2010. John England discussed the deterioration of the Arctic's ice shelves in the face of climate change, and Jean-Éric Tremblay described how the movement of the detached ice islands can significantly affect the Arctic food chain.
- Professor and Canada Research Chair in Global Environmental Change, Barry Smit was interviewed by CNN and e! Science News regarding the impacts that climate change and modernization are having on the lifestyle of Canada's Inuit. The critical health issues brought on by the transition from a traditional raw meat-based diet to one that is high in processed junk foods was also discussed.
- Nunatsiaq reporter Jane George joined the CCGS *Amundsen* for 10 days, documenting ArcticNet's scientific sampling operations for Northern audiences as the ship made its way through the Northwest Passage.
- Kim Juniper and University of Victoria student Maeva Gauthier produced a video entitled, "Before the Ice Melts" using footage gathered from ArcticNet expeditions onboard the CCGS *Amundsen*. The film, broadcast online on Eye on the Arctic (a partner of Radio-Canada International), publicized the need for documenting the little-known marine biodiversity of the Canadian Arctic in light of a changing Arctic climate.



ArcticNet Community La Communauté ArcticNet

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Board of Directors Conseil d'administration ᑕᐅᑦᑕᑦᑕᑦᑕᑦ

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Duane Smith, (Co-Chair from December 2010)
President, Inuit Circumpolar Council (Canada)

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Director, Institut national de la recherche scientifique - Eau, Terre et Environnement

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Scientific Director and CEO, ArcticNet,
Ex-officio

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Ex-officio, non voting

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University of Manitoba

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Northern Canada Operations, Canadian
Association of Petroleum Producers

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President and Chairman, The Axys Group

Ed Wojczynski,
Division Manager of Portfolio Projects
Management, Manitoba Hydro

Shelagh Jane Woods,
Director General, Health Canada, First
Nations and Inuit Health Branch

Executive Committee Conseil exécutif ᑕᐅᑦᑕᑦᑕᑦᑕᑦᑕᑦ ᑕᐅᑦᑕᑦᑕᑦᑕᑦ

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Ex-officio, non voting

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Audit and Finance Committee Comité de vérification et des finances ᑕᐅᑦᑕᑦᑕᑦᑕᑦᑕᑦ ᑕᐅᑦᑕᑦᑕᑦᑕᑦᑕᑦ ᑕᐅᑦᑕᑦᑕᑦᑕᑦᑕᑦ

Martin Fortier,
Executive Director and COO, ArcticNet,
Ex-officio, non voting

David J. Thomas,
President and Chairman, The Axys Group

Ed Wojczynski,
Division Manager of Portfolio Projects
Management, Manitoba Hydro

Environmental Review Committee Comité d'évaluations environnementales ᑕᐅᑦᑕᑦᑕᑦᑕᑦᑕᑦ ᑕᐅᑦᑕᑦᑕᑦᑕᑦᑕᑦ ᑕᐅᑦᑕᑦᑕᑦᑕᑦᑕᑦ

Martin Fortier,
Executive Director and COO, ArcticNet,
Ex-officio, non voting

Udloriak Hanson,
Special Advisor to the President,
Inuit Tapiriit Kanatami

Duane Smith,
President, Inuit Circumpolar Council (Canada)

David J. Thomas,
President and Chairman, The Axys Group

Research Management Committee Comité de gestion de la recherche ᑕᐅᑦᑕᑦᑕᑦᑕᑦᑕᑦ ᑕᐅᑦᑕᑦᑕᑦᑕᑦᑕᑦ ᑕᐅᑦᑕᑦᑕᑦᑕᑦᑕᑦ

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Aboriginal Affairs and Northern
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Kativik Regional Government

Trevor Bell,
Professor, Memorial University of
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Leah Braithwaite,
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Canadian Ice Service, Environment Canada

Larry Carpenter,
Chair, Wildlife Management Advisory
Council (NWT), Inuvialuit Joint Secretariat

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Brent Else,
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Ex-officio

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Executive Director and COO, ArcticNet,
Ex-officio, non voting

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Department, Trent University

Helen Joseph,
Director, Oceanography and Climate Branch,
Fisheries and Oceans Canada

Pitseolalaq Moss-Davies,
Research Coordinator,
Inuit Circumpolar Council (Canada)

ArcticNet Partners

Partenaires d'ArcticNet

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Federal Departments and Agencies Ministères et organismes fédéraux ᑕᑦᑕᑦᑕᓃᑦᑕᐅᑦ ᐃᐅᐅᓃᑦᑕᓃᑦᑕᐅᑦ

- Canada Nunavut Geoscience Office
- Canadian Museum of Nature
- Canadian Polar Commission
- Canadian Space Agency
- Department of Foreign Affairs and International Trade
- Environment Canada
 - Canada Centre for Inland Waters
 - Canadian Ice Service
 - Canadian Wildlife Service
 - Atlantic Region
 - Canadian Wildlife Service
 - Northern Conservation Division
 - Canadian Wildlife Service
 - Prairie and Northern Region
 - Canadian Wildlife Service
 - Quebec Region
 - National Hydrology Resource Centre
 - Meteorology Service of Canada – CCCMA
 - National Water Research Institute
 - Science and Technology Branch
- Fisheries and Oceans Canada
 - Bedford Institute of Oceanography
 - Canadian Coast Guard
 - Canadian Hydrographic Service (Central and Arctic Region)
 - Ecosystem Research Initiative
 - Emerging Fisheries
 - Freshwater Institute
 - Institute of Ocean Sciences
 - Maurice Lamontagne Institute
 - Oceans Sector
 - Science Branch Newfoundland
 - Science Sector
 - Species at Risk Act
- Health Canada
 - First Nations and Inuit Health Branch

- Aboriginal Affairs and Northern Development Canada
 - Cumulative Impacts Monitoring Program
 - International Polar Year Federal Program Office
 - Northern Contaminants Program
 - Northern Science and Contaminants Research Directorate
 - Northern Scientific Training Program

National Defence

- Natural Resources Canada
 - Canada Centre for Remote Sensing
 - Climate Change Impacts and Adaptation Program
 - Earth Sciences Sector
 - Environmental Studies Revolving Fund
 - Geological Survey of Canada
 - Geological Survey of Canada (Atlantic)
 - Geological Survey of Canada (Pacific)
 - Polar Continental Shelf Program

Nunavik Marine Offshore Agreement

- Parks Canada
 - Torngat Mountains National Park Reserve

Transport Canada

Provincial Departments and Agencies Ministères et organismes provinciaux ᑕᑦᑕᑦᑕᓃᑦᑕᐅᑦ ᐃᐅᐅᓃᑦᑕᓃᑦᑕᐅᑦ ᐃᐅᐅᓃᑦᑕᓃᑦᑕᐅᑦ

- Coopération Québec Bavière, Chancellerie Bavaroise
- Fonds québécois de recherche sur la nature et les technologies
- Fonds québécois de recherche sur la société et la culture
- Government of Newfoundland and Labrador (Environment and Conservation)
- Institut national de santé publique du Québec

- Ministère des affaires municipales et des régions du Québec
- Ministère Développement économique, innovation et exportation
- Nunavik Regional Board of Health and Social Services
- Nunavut Department of Education
- Nunavut Implementation Fund
- Nunavut Marine Offshore Agreement
- Ontario Ministry of Natural Resources
- Ressources naturelles et de la faune du Québec
- Transport Québec
- Yukon Government

International Inuit Organization Organisation internationale inuite ᑕᑦᑕᑦᑕᓃᑦᑕᐅᑦ ᐃᐅᐅᓃᑦᑕᓃᑦᑕᐅᑦ

Inuit Circumpolar Council (Canada)

- National Inuit Organization
Organisation nationale inuite
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- Inuit Tapiriit Kanatami

Regional Organizations, Agencies and Governments Gouvernements, agences et organisations régionales ᐃᐅᐅᓃᑦᑕᓃᑦᑕᐅᑦ ᑕᑦᑕᑦᑕᓃᑦᑕᐅᑦ, ᐃᐅᐅᓃᑦᑕᓃᑦᑕᐅᑦ ᐃᐅᐅᓃᑦᑕᓃᑦᑕᐅᑦ

- Nunatsiavut Region:
 - Nunatsiavut Government
 - Torngat Joint Fisheries Board
- Nunavik:
 - Kativik Environmental Advisory Committee
 - Kativik Municipal Housing Bureau
 - Kativik Regional Government
 - Makivik Corporation
 - Nunavik Research Centre

- Nunavut:
 - Nunavut Tunngavik Incorporated
 - Government of Nunavut
 - Nunavut Implementation Fund
 - Nunavut Wildlife Management Board
 - Nunavut Wildlife Research Trust
- Inuvialuit Region:
 - Inuvialuit Joint Secretariat
 - Inuvialuit Regional Corporation
 - Fisheries Joint Management Committee

Northern Communities Communautés nordiques ᐃᐅᐅᓃᑦᑕᓃᑦᑕᐅᑦ ᐃᐅᐅᓃᑦᑕᓃᑦᑕᐅᑦ

- Churchill, MB
- Aqvituk, NL (Hopedale)
- Nunainguk, NL (Nain)
- Kikiak, NL (Rigolet)
- Aklavik, NT
- Inuvik, NT
- Paulatuk, NT
- Sachs Harbour, NT
- Tuktoyaktuk, NT
- Uluhaktuk, NT (Holman)
- Arviat, NU
- Iqalukuttiaq (Cambridge Bay)
- Iglulik, NU (Igloolik)
- Ikpiarjuk, NU (Arctic Bay)
- Iqaluit, NU
- Kangiqliniq, NU (Rankin Inlet)
- Kangiqtuqaapik, NU (Clyde River)
- Kugluktuk, NU
- Kuugaarjuk, NU (Kugaaruk)
- Mittimatalik, NU (Pond Inlet)
- Naujaat, NU (Repulse Bay)
- Panniqtuuq, NU (Pangnirtung)
- Qamani'tuaq, NU (Baker Lake)
- Qausuittuq, NU (Resolute Bay)
- Salliq, NU (Coral Harbour)

Sanikiluaq, NU
Sanirajak, NU (Hall Beach)
Tikrarjuaq, NU (Whale Cove)
Kangiqsuallujjuaq, QC
Kangirsujuaq, QC
Kuujuaq, QC
Kuujuaaraapik, QC
Salluit, QC
Umiujaq, QC

Industries / Industries / ᐱᓐᓂᓐᓂᓐ

Baffinland Iron Mines Corporation
Beachwalker Films
BP Exploration Operating Company Ltd
Campbell Scientific
Canadian Association of Petroleum Producers
Canadian Institute of Planners
Canadian North
Diavik Diamond Mines Inc.
First Air
Geosensors Inc.
Golder Associates
Hydro-Québec
Imperial Oil Resources Ventures Limited
Inuvialuit Regional Corporation
JF Boucher Consulting Ltd
Manitoba Hydro
New Brunswick Innovation Foundation
OmniTRAX
Sensors by Design
Sikumiiut Environmental Consulting
Sovereign Geographic Inc.
The Axys Group
Western Ag Innovations
Wildlife Genetics International
Vale Inco
Xstrata Nickel – Mine Raglan

Universities and Institutes Universités et instituts ᐱᓐᓂᓐᓂᓐᓂᓐ

Alfred Wegener Institute Foundation
for Polar and Marine Research
Arctic Institute of North America
Association of Canadian universities
for Northern Studies
Balsillie School of International Affairs
Bodø Graduate School of Business

Canadian Circumpolar Institute
Carleton University
Centre de Recherche du Centre hospitalier
de l'Université Laval
Centre for Earth Observation Science (CEOS)
CIÉRA - Centre interuniversitaire d'études et
de recherches autochtones
Cornell University
Courant Institute of Mathematical Sciences
Dalhousie University
Georgetown University
Hague Academy of International Law
Institut des sciences de la mer de Rimouski
Institut national de la recherche scientifique
- Eau, Terre et Environnement
Institute of the North
Lakehead University
McGill University
McMaster University
Memorial University of Newfoundland
Norwegian School of Veterinary Science
Queen's University
Royal Military College of Canada
Simon Fraser University
St. Francis Xavier University
St. Jerome's University
Stanford University
Stony Brook University
The King's University College
Trent University
Université de Bretagne Occidentale
Université de la Méditerranée Aix-Marseille II
Université de Montréal
Université de Sherbrooke
Université du Québec à Chicoutimi
Université du Québec à Montréal
Université du Québec à Rimouski
Université du Québec à Trois-Rivières
Université Laval
University of Alaska Anchorage
University of Alaska Fairbanks

University of Alberta
University of British Columbia
University of Calgary
University of Colorado at Boulder – CIRES
University of Groningen
University of Guelph
University of Kiel
University of Liege
University of Lomonosov Moscow
University of Manitoba
University of Miami - Rosenstiel School of
Marine and Atmospheric Science
University of Munich
University of New Brunswick
University of New Hampshire
University of Northern British Columbia
University of Oslo
University of Ottawa
University of Oxford - Linacre College
University of Plymouth
University of Prince Edward Island
University of Saskatchewan
University of Sheffield
University of South Carolina
University of Southampton
University of Toronto
University of Victoria
University of Washington
University of Waterloo
University of Western Ontario
University of Windsor
University of Winnipeg
US Naval War College
Wilfried Laurier University
Woods Hole Oceanographic Institute (WHOI)
York University

Others / Autres / ᐱᓐᓂᓐᓂᓐ

Aurora College
Aurora Research Institute
Canadian Cryospheric Information Network

Canadian Healthy Oceans Network
Canadian Wildlife Federation
Centre d'études nordiques
Centre national de recherche scientifique
Centre national de recherche scientifique -
Laboratoire d'océanographie de Villefranche
Churchill Northern Studies Centre
Circumpolar Flaw Lead System Study
Garfield Weston Foundation
German Research Foundation
Greenland Institute of Natural Resources
International Polar Year CAVIAR project
Nasivvik Centre for Inuit Health and
Changing Environments
National Institute of Public Health – Denmark
National Museum of Natural History
of France
National Research Council Canada
National Science Foundation
Natural Sciences and Engineering Research
Council of Canada
Nayumivik Landholding Corporation
Norwegian Institute for Defense Studies
Norwegian Water Resources and Energy
Nunavut Arctic College – Kivalliq campus
Nunavut Research Institute
Ocean Tracking Network
Ouranos
Paulatuk Hunter and Trappers Committee
Polar Bear International
Port of Churchill
Qaujigiartiit Health Research Centre
Québec-Océan
Russian Geographical Society
Sea Duck Joint Venture
Social Economy Research Network for
Northern Canada
The Kenneth M Molson Foundation
U.S. Department of the Interior
Wildlife Conservation Society Canada
World Wildlife Fund Canada

Financial Summary / Sommaire financier

ArcticNet was audited in May 2011 in accordance with generally accepted Canadian auditing standards. The following figures and financial summary are prepared from the unqualified financial statements.

ArcticNet a été vérifié en mai 2011 selon les normes de vérification généralement reconnues du Canada. Les données financières suivantes sont extraites des rapports financiers produits sans restriction.

Revenues, expenses and net assets | Revenus, dépenses et actifs nets

For the fiscal year ending March 31, 2011

Pour l'année fiscale se terminant le 31 mars 2011

Revenues	Revenus	2010-2011
Networks of Centres of Excellence Grant (NCE)	Subvention des Réseaux de centres d'excellence (RCE)	\$ 6,441,000
Network partners contributions (Non-NCE)	Contributions des partenaires du réseau (Non-RCE)	9,029,534
Others	Autres	264,268
Total revenues	Revenus totaux	15,734,802
Expenses	Dépenses	
Research Projects (NCE)	Projets de recherche (RCE)	3,650,874
Research Projects (Non-NCE)	Projets de recherche (Non-RCE)	4,666,577
Core infrastructure (NCE)	Infrastructure majeure (RCE)	1,730,808
Core infrastructure (Non-NCE)	Infrastructure majeure (Non-RCE)	3,597,717
Amortization of equipment	Amortissement de l'équipement	187,287
Administrative Centre	Centre administratif	1,980,710
Total expenses	Dépenses totales	15,813,973
Surplus (deficiency) of revenues over expenses	Excédent (déficit) des revenus sur les dépenses	(79,171)
Net assets, beginning of year	Actifs nets, début de l'exercice	1,540,816
Net assets, end of year	Actifs nets, fin de l'exercice	\$ 1,461,645

Balance Sheet | Bilan

For fiscal year ending March 31, 2011

Pour l'année fiscale se terminant le 31 mars 2011

Assets	Actifs	2010-2011
Cash	Encaisse	\$ 1,973,192
Accounts receivable	Comptes à recevoir	627,103
Prepaid expenses	Frais payés d'avance	562,120
		3,162,415
Capital assets	Immobilisations	1,573,238
		4,735,653
Liabilities	Passifs	
Accounts payable and accrued liabilities	Comptes à payer et frais courus	301,304
Deferred grant	Apports reportés	2,972,704
Unrestricted net assets	Actifs nets non affectés	1,461,645
		\$ 4,735,653

Statement of cash and in-kind contributions | Sommaire des contributions en espèces et en nature

		Cash / En espèces 2010-2011	In-kind / En nature 2010-2011	Total
NCE	RCE	\$ 6,441,000	0	6,441,000
Non-NCE¹	Non-RCE¹			
Provincial	Provinciales	410,854	335,260	746,114
Federal ²	Fédérales ²	2,815,343	5,801,550	8,616,893
University	Universitaires	339,813	3,829,580	4,169,393
Industry	Industrielles	9,090,397	5,806,510	14,896,907
Other	Autres	1,431,821	74,600	1,506,521
Non-NCE	Non-RCE	14,088,228	15,847,500	29,935,728
Total NCE and non-NCE	Total RCE et non-RCE	\$ 20,529,228	\$ 15,847,500	\$ 36,376,728

For the fiscal year ending 31 March 2011

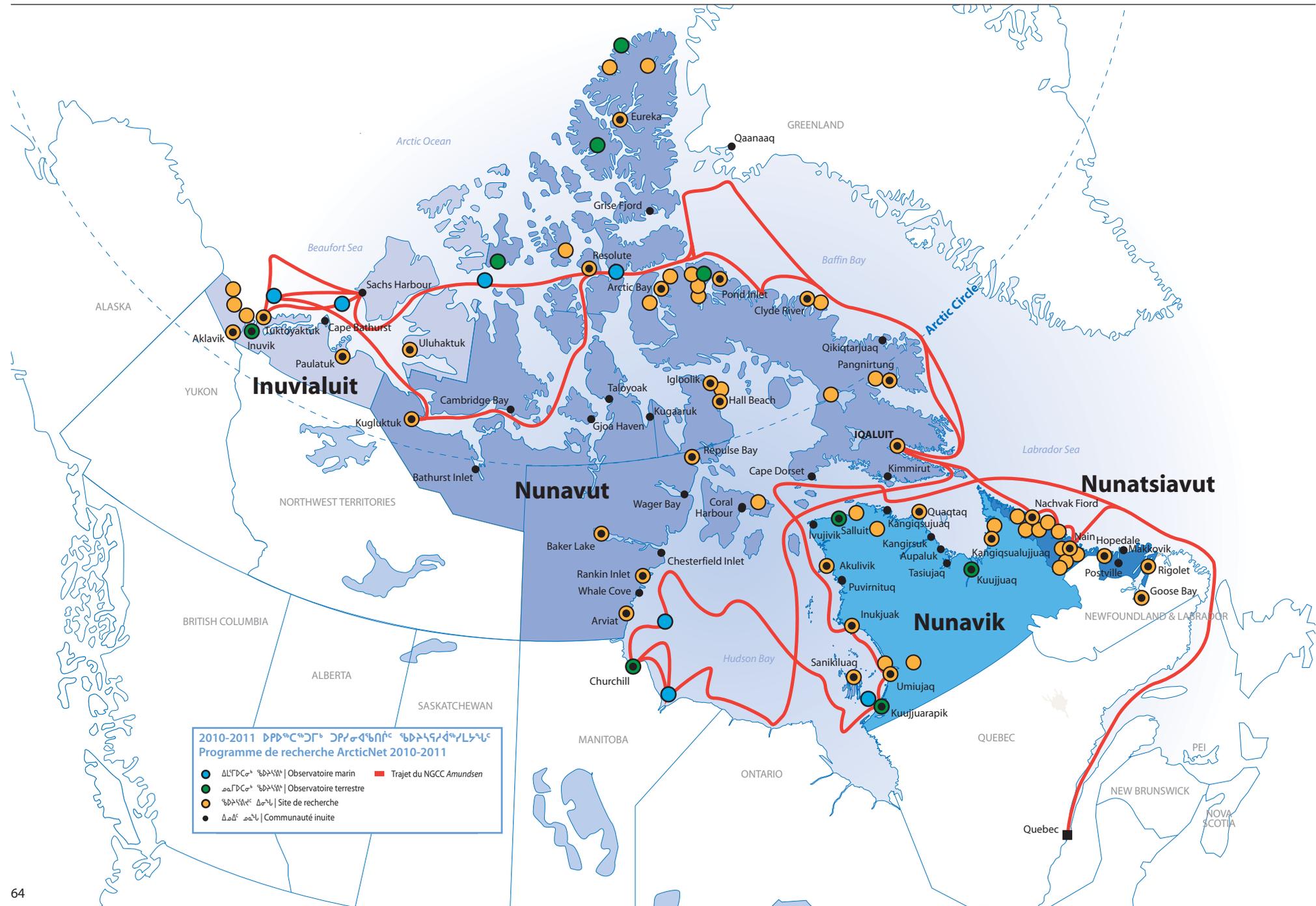
- 1 Certain funds contributed by Network Partners to support research projects are forwarded directly to researchers and are not managed by the ArcticNet Administrative Centre
- 2 These federal contributions do not include contributions received from the Federal granting councils, the Canada Foundation for Innovation and Genome Canada.

Pour l'année fiscale se terminant le 31 mars 2011

- 1 Certaines contributions des partenaires du réseau aux projets de recherche parviennent directement aux chercheurs et ne sont pas gérées par le centre administratif d'ArcticNet.
- 2 Ces contributions fédérales n'incluent pas les contributions des conseils de recherche, de la fondation canadienne pour l'innovation et de Génome Canada.







**ᐋᐅᑕᑦᓂᑎᑦᓂᑦᑕᐸᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ ᐸᐱᑖᑦᓂᑎᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ ᐸᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ
ᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ 3: ᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ ᐸᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ ᐸᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ ᐸᓂᑦᓂᑦᓂᑦᓂᑦ**

ᑎᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ: ᐸᐸᐱᑎ ᑖᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ ᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ
ᓂᑎᓂᑦᓂᑦ: ᑕᑦ ᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ

**ᐋᐅᑕᑦᓂᑎᑦᓂᑦᑕᐸᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ ᐸᐱᑖᑦᓂᑎᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ ᐸᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ
ᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ 4: ᑕᑎᐸᑦᓂᑦᓂᑦᓂᑦ**

ᑎᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ: ᑎᑦᓂᑦ ᐸᑕᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ
ᓂᑎᓂᑦᓂᑦ: ᑎᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ

**ᐋᓂᑎᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ ᐸᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ
ᐸᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ ᐸᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ**

* ᐸᑦᓂᑦᓂᑦᓂᑦᓂᑦ ᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ 2010

ᑎᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ ᐸᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ

ᐸᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ ᐸᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ

ᐸᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ: ᑎᑦᓂᑦ ᐸᑕᑦᓂᑦ ᐸᓂᑦᓂᑦᓂᑦ ᓂᑦᓂᑦ

ᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ ᓂᑦᓂᑦ ᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ ᐸᓂᑦ ᐸᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ ᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ
ᐸᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ ᐸᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ ᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ
ᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ ᐸᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ
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ᐸᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ ᐸᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ ᐸᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ

ᐸᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ: ᐸᑕᑦ ᐸᑦᓂᑦᓂᑦᓂᑦᓂᑦ

ᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ ᐸᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦᓂᑦ
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En 2010-2011, plus d'un million de dollars a été alloué au financement de 12 nouveaux projets de recherche ArcticNet en sciences de la santé et en sciences sociales. Couvrant des sujets comme l'éducation de la première à la douzième année, l'éducation supérieure, la navigation commerciale dans l'Arctique, la souveraineté, la sécurité, la sécurité alimentaire et le développement industriel, ces nouveaux projets stimulants bonifient le réseau de 35 nouveaux chercheurs et d'une douzaine de nouveaux étudiants de cycle supérieur. Ces projets font partie depuis avril 2011 du programme de recherche financé par les RCE de la phase III d'ArcticNet (2011-2015).

Chacun des 38 projets de recherche décrits ci-après contribue à au moins un des quatre IRIS d'ArcticNet.

IRIS 1 : Région du centre et de l'ouest de l'Arctique

Directeur : Gary Stern, Pêches et Océans Canada et Université du Manitoba

Coordonnatrice : Ashley Gaden

IRIS 2 : Région arctique de l'Est

Directeur : Trevor Bell, Memorial University of Newfoundland

Coordonnateur : Philippe Leblanc

IRIS 3 : Baie d'Hudson

Directeur : David Barber, Université du Manitoba, Tim Papakyriakou, Université du Manitoba, directeur par intérim en 2010

Coordonnateur : Dan Leitch

IRIS 4 : Région subarctique de l'Est

Directeur : Michel Allard, Université Laval

Coordonnateur : Mickaël Lemay



Les directeurs des IRIS d'ArcticNet, de gauche à droite : Michel Allard, Université Laval; David Barber, Université du Manitoba; Trevor Bell, Memorial University of Newfoundland; Gary Stern, Pêches et Océans Canada et Université du Manitoba.



Northwest Territories

Canadian North
Canadian Wildlife Service
AANDC
• Cumulative Impacts
Monitoring Program
Diavik Diamond Mines Inc.
Golder Associates

Yukon

Environment Canada
• Canadian Wildlife Service
Yukon Government

Inuvialuit

Aurora College
Aurora Research Institute
Fisheries Joint Management Committee
Inuvialuit Joint Secretariat
Inuvialuit Regional Corporation

Nunavut

Canada Nunavut Geoscience Office
Government of Nunavut
Igloolik Research Centre
Nunavut Arctic College
Nunavut Department of Education
Nunavut Implementation Fund
Nunavut Marine Offshore Agreement
Nunavut Research Institute
Nunavut Tunngavik Incorporated
Nunavut Wildlife Management Board
Nunavut Wildlife Research Trust
Parks Canada
Natural Resources Canada
• Polar Continental Shelf Program

Alberta

Arctic Institute of North America
BP Exploration Operating Company
Canadian Association of Petroleum
Producers
Environment Canada
Imperial Oil
University of Alberta
University of Calgary

Saskatchewan

Environment Canada
• National Hydrology
Resource Centre

Inuvialuit

Nunavut

Nunavik

Nunatsiavut

Ontario

AANDC
• IPY Federal Program Office
• Northern Contaminants Program
Baffinland Iron Mines Corporation
Canadian Cryospheric Information Network
Canadian Institute of Planners
Canadian Museum of Nature
Canadian Polar Commission
Canadian Space Agency
Carleton University
Department of Foreign Affairs & Intl. Trade
Environment Canada
• Canada Centre for Inland Waters
• Canadian Ice Service
• Canadian Wildlife Federation
• National Water Research Institute
• Science and Technology Branch
First Air
Fisheries and Oceans Canada
• Canadian Coast Guard
• Canadian Hydrographic Services
Garfield Weston Foundation
Health Canada
– First Nations & Inuit Health Branch
Inuit Circumpolar Conference – Canada
Inuit Tapiriit Kanatami
Lakehead University
National Aboriginal Health Organization
National Defence
Natural Resources Canada
• Canada Centre for Remote Sensing
• Geological Survey of Canada
Ontario Ministry of Natural Resources
Queen's University
Royal Military College

Ryerson University
St. Jerome's University
Transport Canada
Trent University
University of Guelph
University of Ottawa
University of Toronto
University of Waterloo
University of Western Ontario
Xstrata Nickel – Mine Raglan
Wilfrid Laurier University
York University

Quebec

Défense nationale
Environnement Canada
• Canadian Wildlife Service – Quebec Region
FQRNT
Hydro-Québec
INRS-ÉTE
INSPQ
MAMROT
McGill University
MDEIE
MRNF
Ouranos
Parcs Canada
Pêches et Océans Canada
• Garde côtière canadienne
• Institut Maurice Lamontagne
Ressources Naturelles Canada
• Climate Change Impacts & Adaptation Program
Transport Québec (MTQ)
Université de Montréal
Université du Québec à Chicoutimi
Université du Québec à Trois-Rivières
Université du Québec à Rimouski
Université de Sherbrooke
Université Laval

New Brunswick

New Brunswick Innovation Foundation
University of New Brunswick

Nova Scotia

Dalhousie University
Environment Canada
• Canadian Wildlife Service – Atlantic Region
Fisheries and Oceans Canada
• Bedford Institute of Oceanography
Natural Resources Canada
• Geological Survey of Canada (Atlantic)

Nunavik

Kativik Regional Government
Parks Canada
Nunavik Regional Board of
Health & Social Services
Makivik Corporation
Nunavik Research Centre

Nunatsiavut

Nunatsiavut Government
Parks Canada
Tornat Joint Fisheries Board
Vale Inco

Newfoundland & Labrador

Memorial University
Sikumiiut Environmental Consulting

Prince Edward Island

University of Prince Edward Island

**Établissements
membres et
partenaires**



British Columbia
CCCMA – Meteorological Services of Canada
Environment Canada
Natural Resources Canada
• Geological Survey of Canada (Pacific)
Fisheries and Oceans Canada
• Institute of Ocean Science
The AXYS Group
University of British Columbia
University of Northern British Columbia
University of Victoria

Manitoba

Churchill Northern Studies Centre
Fisheries and Oceans Canada
• Freshwater Institute
Manitoba Hydro
Parks Canada
Port of Churchill
University of Manitoba







