
Foreword

The Nunavut Research Institute was created in 1995 when the Science Institute of the NWT was divided into eastern and western operations. In the Eastern Arctic, the re-named institute was amalgamated with Nunavut Arctic College.

The Nunavut Research Institute focuses on supporting scientific research and technology development across a broad spectrum of issues and concerns. The Institute's interpretation of research is broad – incorporating Inuit Qaujimanituqangit, social sciences, and natural sciences. The following mission statement guides the activities and services provided by the Institute:

The mission of the Nunavut Research Institute is to provide leadership in developing, facilitating and promoting Inuit Qaujimanituqangit, science, research and technology as a resource for the well-being of people in Nunavut.

Institute services are guided by the core values of Nunavut Arctic College - strong communities, cultural appropriateness, partnerships, quality, access, responsiveness and life-long learning. The Nunavut Research Institute places emphasis on brokering northern-based research which is linked to community needs, and making greater use of Inuit Qaujimanituqangit in research projects.

This Compendium of Research has been produced as part of the Institute's effort to communicate information about research projects which have recently taken place in Nunavut under the authority of the Nunavut Scientists Act.

FOR MORE INFORMATION

For more information about the research projects listed in this Compendium, please contact:

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Location/Region: Baffin and Kivalliq Region
Project Title: **Study on Human Papilloma Virus (HPV) and Abnormal Pap tests in the NWT.**

Summary: Cervical Cancer is the most common occurring femal cancer in the Baffin Region and there are indications that cervical cancer rates are higher in the NWT than elsewhere. During a study period from 1991 to 1994, when approximately 30,000 pap tests were done in the NWT a much higher proportion of "Abnormal" tests were found, than was expected. In particular, the most abnormal results were found in the Inuit and Dene. The Baffin Regional Health and Social Services Board in collaboration with Queens University is conducting a study to research the presence of certain strains of a virus that is thought to have some involvement with the development of cancer of the cervix, in the women in Nunavut, and whether this virus is present when there are abnormal pap test results. If we find that this virus is present in most of the abnormal pap test, then consideration could be given to include HPV screening into the Cervical Cancer Screening program.

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Location/Region: Nunavut
Project Title: **Historical Relations of Health Care in the Eastern Arctic: Health Care Policy Implications**

Summary: We are planning to do a critical analysis of the history of medical services in the eastern Arctic: 1) The project will clarify the past history; 2) The results from the critical analysis will lead us to identify the assumptions that framed and limited the development of health services in the North and shed light on a broader set of possibilities for the future development of health policies; and 3) Because we will be working with Inuit students, the project will also be a training opportunity and prepare Inuit co-researchers for continuing involvement in health policy or other forms of policy research, e.g., social welfare, education, analysis of contemporary documents. To achieve these goals, we have started to collect data from various archives (e.g. National Archives, Prince of Wales Heritage Centre) and we propose to interview people who have played a role in the history of medical services in the eastern Arctic. We are planning to work closely with Inuit students and the three Nunavut health boards throughout the project.

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Location/Region: Nunavut
Project Title: **Tobacco Use by Youth in the Northwest Territories**

Summary: This project, entitled "Tobacco use by Youth in the Northwest Territories", will be a continuation of studies completed in 1982, 1987 and 1993. The same questionnaire will be used for 1998/99. The information obtained from the data will provide a snap shot of tobacco use by students between grades 4 and 12 for 1998/99. The data will be compared with previous studies to see if there was a change in the smoking habits of the students. The data collected will help the Health Promotion staff of the Department of Health and Social Services to see if current education programs have helped to reduce smoking. If

current educational programs are not working, new programs need to be developed and implemented. Other uses for the data include: providing a baseline for the new Western Government and Nunavut to develop educational programs; and the ability to compare the data with smoking habits of students in grades 4-12 across Canada.

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Location/Region: South Baffin
Project Title: **Improving the Effectiveness of Primary Health Care in the North through Nurse Practitioner/Family Physician Collaborative Models of Care. Nurse Practitioners in Ambulatory Care: Baffin Regional Hospital.**

Summary: This project is a combined joint study of the Baffin Regional Health and Social Services Board and the University of Ottawa. It will examine different ways that nurse practitioners and family physicians can collaborate to provide effective primary care and how this can be taught to residents and nurse practitioner students. In the first phase of the project, a new collaborative model of care will be tested at one site in Northern Saskatchewan and the Baffin. These models will be evaluated in terms of quality, health outcomes, patient/provider satisfaction and costs. Data collection methods will include patient interviews, interviews with key informants, and activity logs kept by the care providers. In the second phase, the education of pairs of student nurse practitioners and family medicine residents under a collaborative approach will be tested and evaluated. It is an eighteen month, one million dollar project funded by the Health Canada and the Northwest Territories under the Health Transitions Fund. This fund was established in 1997 as a response to a recommendation by the National Forum on Health and funds research in four priority areas - home care, pharmacare, primary care and integrated service delivery.

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Location/Region: South Baffin
Project Title: **Flowering Plants of the Canadian Arctic Archipelago**

Summary: Previous work in the Canadian Arctic Archipelago (1985-1994) concentrated on understanding the grasses. The work was published in 1996 (Aiken et al. 1996) as Grasses of the Canadian Arctic Archipelago: a DELTA database for interactive identification and illustrated information retrieval. Canadian Journal of Botany 74: 1812-1824. The database behind this paper and more recent work on the saxifrage family in the Canadian Arctic Archipelago are available at the web site www.biodiversity.uno.edu/delta. In 1997 and 1998 work concentrated on the willows and large family of sedges. It is anticipated that the databases for these will be available at the web site before the 1999 field season. The project calls for working on the 34 other families of plants that occur on the islands and collecting data in the same database format. The goal is to produce an interactive, illustrated identification guide to the flowering plants that occur in the Canadian Arctic Archipelago available on the web, as a CD-ROM and available as print on demand.

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Number in party: 0
Location/Region: Baffin
Project Title: **Measure Ambient Ozone at Cape Dorset**

Summary: The ozone measurement instrument will be housed inside a government building. The instrument poses no environmental threat. The reason for this research is that for many years we (Environment Canada) have measured frequent near-zero ozone concentrations at Alert, NWT during the months just after polar sunrise. Recently, satellite data has suggested that this anomalous low ozone extends right down into Hudson's Bay. Before we launch an expensive aircraft measurement program, we need to measure the ground-level ozone in this geographical area to verify the satellite implications. Cape Dorset meets our criteria for siting such an instrument. The instrument is about 19"*24"*10", weighs about 30lbs and is connected to a small data collection module.

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Location/Region: North Baffin
Project Title: **Collaborative Interdisciplinary Cryospheric Experiment (C-ICE)**

Summary: The lack of good observational data on the nature of the atmosphere-sea-ice-ocean interaction remains a serious impediment to the improvement of the representation of polar regions in climate models. This is a serious problem because the polar regions strongly affect the atmospheric and oceanic circulation and therefore their poor representation in climate models not only detracts from our ability to assess the implications of climate change in the north, but also for other regions of the planet. In reponse to this situation, the field experiment, the Collaborative Interdisciplinary Cryospheric Experiment (C-ICE), has been ocnducted on sea ice in the Barrow Strait region of the Canadian Arctic Archipelago since 1996, and between 1990 and 1995 as the Seasonal Sea Ice Modeling and Monitoring Study (SIMMS). In short, we are using this long-term data record to: examine the natural variation in the physical properties of snow and sea ice, the energy balance, and the relation between the energy balance and the physical system; develop a procedure to extract information on snow and sea ice from satellite so that the sea ice and surface climate may be monitored remotely over long periods of time; and to improve the representation of snow and sea ice and their interaction with the atmosphere and ocean in numerical models. The field program is necessary to meet these objectives. This year we propose an experiment in Wellington Channel between March and June of 1999. The research site will be on sea ice and consists of a camp of between 3 and 5 researchers and 2 to 3 small tower-like installations. Each towwer will be guyed and under 5 m in height. The towers will be equipped with sensors to monitor the heat and radiation exchange with the atmosphere and meteorological variables. Physical measurements of the snow and ice will be taken to monitor the changing snow properties wihtin the snow and sea ice. Samples will be processed from small snow pits (less than 1 m²) and cylindrical sea ice cores (approximately 5 inch in diameter). None of these instruments or sampling procedures poses a threat to humans or wildlife.

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Location/Region: North Baffin
Project Title: **Fossil Plants of Northeastern Axel Heiberg Island and Northeastern Ellesmere Island**

Summary: The arctic region was once entirely covered by lush deciduous forest vegetation. Remains of these ancient forests, 40-65 million years old, have been recovered during our work on Ellesmere and Axel Heiberg islands. The most spectacular of our discoveries has been the fossil forests of northeast Axel Heiberg Island. These fossils are critical to our interpretation of the evolution of our modern northern forest ecosystems and to our understanding of ancient climate and climate change. We plan to return to the Axel Heiberg fossil forest site to continue our research. We will set up our tent camp and spend 2-3 weeks searching on foot for new sources of fossils, and restudying old localities in order to recover more specimens of fossil types of special interest. Because we already have extensive collections from the site, we expect to remove only small amounts of material, probably less than 50 kg in total.

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Location/Region: North Baffin
Project Title: **Upper Palozoic Stratigraphy of the Sverdrup Basin, Canadian Arctic**

Summary: The many goals of this project revolve around the understanding of the Carboniferous and Perinian succession of the Sverdrup Basin in the Canadian Arctic. The Sverdrup Basin is a 1000 km long depocentre that contains up to 12 km of Carboniferous to Tertiary sedimentary rocks and minor volcanics. The basin originated as a rift in Carboniferous time; rifting ceased in mid-permian time to give way to a regime of passive subsidence. The Carboniferous and Permian succession of the Sverdrup Basin is up to 6 km in thickness and contains a wide variety of

carbonate, elastic and evaporite rocks. These sediments accumulated in a tropical-like setting in the earliest stages of basin development, and in a progressively cooler temperate setting in the later stages. Hydrocarbons most likely formed during the earliest stages when the warm tropical setting promoted the production and preservation of organic matter. The rifting activity resulted in active hydrothermal circulation within the sedimentary succession, which may have led to the accumulation of large mineral deposits. In the long term, this project will provide regional information on the energy and mineral potential of the upper paleoic sedimentary succession of the High Arctic. In the short term, this project generates a great volume of new data, data that covers various aspects ranging from sedimentological and environmental to economics. These data are available to the general public, as well as, to any Canadian and non-Canadian universities, companies, or research institutes.

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Location/Region: North Baffin
Project Title: Studies of Greenland Sharks

Summary:

The 3 goals of this project are: 1) to film, video, and photograph Greenland sharks, 2) to track Greenland shark movements under the sea-ice using acoustic tracking equipment, and 3) to sacrifice up to 6 Greenland sharks for additional scientific studies (body measurements, food habits, tissue samples, parasites samples). Results from these studies will be published in the scientific literature and in non-technical magazines, and they will also support the development of television productions. Our proposed area of operation will be Arctic Bay and Victor Bay, NT. Our time of operation will be between May 1 and June 30, 1999. We will fish using a modified turbot long-line, fishing bait through holes in the ice, and we will erect a tent on the ice to protect people and equipment from the elements. We will be on the sea-ice as a series of day trips, traveling by sleds towed by snowmobiles. We will hire 2 guides from Arctic Bay, and we will also be renting various equipment and a house in Arctic Bay for the duration of our stay. Some in our crew have studied sharks in this area before, and the results of our studies have been published in National Geographic as well as in the scientific literature. We anticipate that the proposed project will cause no detrimental impacts to the people, wildlife or environment of the region.

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Location/Region: North Baffin
Project Title: **Ice Scour Disturbance and how it affects the Marine Life on the Ocean Floor**

Summary:

What happens when ice scours are disturbed by severe storms? This is the question we hope to answer this coming summer of 1999. We would like to see whether the big storm of October 1998 affected the ice scours that we have been studying since 1992. If the 3 m waves or storm strengthened bottom currents in Barrow Strait affected the ice scours, the animals and plants on the seabed may have been torn away. In effect, the storm may have turned back the clock to an earlier stage of biological development. On the other hand, the storm may have pushed the clock forward. It may have speeded up seabed erosion, removing the clay in the new scours and smoothing down the high ridges of sediment on the edges of the scours. Where there was clay before there may now be rocks and boulders. That means that the sea urchins will no longer be excluded and will even invade the new scours, eating up the kelp, diatoms, and barnacles. So instead of a variety of scours of varying ages and stages of biological recovery, researchers may see that the storm has altered the seabed and made all the scours the same. That will mean lower overall biodiversity.

And that means less food for the wildlife above. In 1999, scuba divers working out of Polar Shelf at Resolute Bay will study the seabed using video cameras and seabed sampling to determine the impact of the storm on the ice scours and animals and plants. If significant changes are observed, researchers are planning to return in 2000 to collect sonar images and additional seabed samples of the ice scours.

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Location/Region: North Baffin
Project Title: **Study of Climate Change in the Arctic Environment**

Summary: We plan to remove sediment cores from several lakes on Ellesmere Island to be used in a study of how the climate of the region has changed. We want to understand how "global warming" has affected the Arctic environment. At present, we can't fully understand this because measurements based on thermometers are too short -- the longest records only go back to around 1950. By looking at lake sediments and trying to understand how the climate has changed over the past few hundred, or even a few thousand years. Our studies involve coring into the sediments at the bottom of the lake (from the lake ice surface), measuring streamflow and taking sediment samples from the streams coming into each lake, setting up one or two weather stations in the study areas (for the period of study) and making measurements in the lakes themselves. Our field groups are generally small (4-5 people at most).

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Location/Region: North Baffin
Project Title: **Weather Stations to Study Climate Change**

Summary: We propose to set up several weather stations on an upland plateau of northern Ellesmere Island to study the way in which snow and ice expand over the tundra during cold periods, or melt and retreat during warm periods. We want to try and understand how the high plateau will be affected by climatic change, and how the snow cover itself plays a role in cooling the surface, compared to the snow-free tundra nearby. We selected the Hazen plateau of northern Ellesmere Island because at the beginning of each summer, it is snow-covered but as the summer progresses, dark patches of tundra emerge from beneath the snow and rapidly change the way energy from the sun is used to warm up the land surface. By measuring weather conditions across the plateau we can study the different climates created by snow cover, dark tundra surfaces and small ice caps. A small field party (no more than 4 people at any time) will maintain the instruments, from late May to late August. Some of the weather stations will operate (unattended) all year. The project will last for 3 summer seasons.

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Location/Region: North Baffin
Project Title: **Age Distribution of Bowheads in Northern Foxe Basin**

Summary:

This project intends to document the age distribution of bowhead whales summering in northern Foxe Basin. Begun in 1996, the project will be completed in 1999. DFO and the NWMB will use results of this project to assess the status of and manage the Hudson Bay/Foxe Basin bowhead stock. Body lengths of summering whales are estimated from aerial photographs. Large format photographs are taken from a twin otter aircraft with a camera hatch installed in the belly. A laser rangefinder is mounted in the camera hatch to calibrate the aircraft altimeter and to directly measure altitude. Transects are flown over the channel between Neerlonakto Island and Baffin Island from about 82 15'W to about 80 45'W. Transects are about 10 km apart and the location of the first transect is randomly selected. When whales are sighted from the aircraft, the pilot breaks away from the transects to overfly the whales. Two or more passes may be made over a group to thoroughly photograph visible animals. Images on the negatives are measured and the absolute body size of whales is estimated using a conversion factor that accounts for the size of the camera lens and the altitude of the aircraft. Animals are assigned to age classes based on the estimates of absolute body length. Results from 1996, 1997 and 1998 indicated that bowheads using northern Foxe Basin in the summer are juveniles and cow-calf pairs.

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Location/Region: North Baffin
Project Title: **Late Devonian Vertebrates of the Canadian Arctic Archipelago**

Summary:

The objectives of this research project are to discover new fossils of the earliest limbed animals and to learn about the environments in which they originally evolved. Nunavut contain one of the largest unexplored areas of rocks of the right age to produce these fossils (375-365 million years old). This project will involve the reconnaissance and exploration of promising rocks on Southern Ellesmere Island and the Grinnell Peninsula of Devon Island from July 1 to August 5, 1999. New fossil discoveries in this area have the potential to answer questions about the origin of limbs, the invasion of land by animals and plants, and the evolutionary history of major groups of fish. Analysis of geological maps, aerial photographs, and consultation with Canadian geologists suggest that the best rock exposures are along streams and coastlines. Our crew of six people will visit four areas and will camp for about one week at each site. Movement between camps will be by Twin Otter from the Polar Continental Shelf project (PCSP). Each camp will consist of seven portable

tents - 6 small (4kg) personal tents and one medium-sized (15kg) cook tent. Camps are low impact - virtually all nonorganic waste will be packed out, other refuse materials will be used as packing material for shipment of fossils. Exploration for fossil vertebrates begins with surface inspection for traces of fossil material. When fossils are discovered in bedrock, minor excavation with hand tools will facilitate their removal. No power tools will be used for any aspect of fossil collection, and all exploration is done on foot. Fossil sites will be recorded with GPS coordinates and informative fossils will be prepared for study in Philadelphia.

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Location/Region: North Baffin
Project Title: **Study of Climate in the High Arctic Archipelago**

Summary: We propose to continue a study of the climate in the high arctic archipelago of the past 1,000 years using laminated sediments from lakes and isolated marine inlets. The field sites for the 1999 field season include a number of lakes located in a transect from Cornwallis Island to eastern Devon Island that were visited during May and June 1998 during a reconnaissance sampling trip of the field area. During the first phase of the study, we found several lakes along the southern coast of Devon Island and on eastern Bathurst Island contain finely layered sediments that may be annual layers. The thickness of the yearly layers is controlled by how much stream runoff

transports fine-grained mud to the basin which is, in turn, controlled by summer temperature and snowpack available for melting. In several lakes in the region (Ellesmere Island) that we have previously studied we have recovered sediment cores that contain climate records that extend to as long as 3,000 years before present. These sediments may provide a detailed and long term record of changing climate in this area of the arctic similar to records of tree rings that are used for climate reconstruction in the subarctic. The long-term goal is to achieve an understanding of climate variability in the arctic islands over the period of the last 2,000 years in order to be able to more accurately predict impacts of future climate change in the region.

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Number in party: 0
Location/Region: South Baffin
Project Title: **The Changing Roles of Women in Arctic Communities**

Summary: I hope to do a study concerning the changing roles of women in modern Inuit society. I hope to understand how Inuit women's activities have been affected by other social and economic transitions in the Arctic. I am currently examining the historical changes in women's lives, through a literature review. I will be an exchange student at Nunavut Arctic College, in Iqaluit beginning March 1, 1999. I hope to gain an understanding of the activities of women with respect to their contribution to subsistence and their roles in a formal wage economy. Since Inuit communities participate in both a wage economy and a subsistence economy, it is important to understand the changing activities of women in both economic sectors.

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Location/Region: South Baffin
Project Title: **Video Presentation about Television in Iqaluit**

Summary: During the last year, the researchers studied the advent of satellite communications, television and radio in the Canadian North and the impact these media may have had. They studied the development of media policies and the evolution of CBC North, IBCm and TVNC. The researchers now intend to gather information about television in Iqaluit, through the contacts they have made at IBC and CBC North as well as at the department of Culture and Communications. The objective is to research, write and produce a video of 10-15 minutes duration about the development of television and its present importance in Iqaluit. In particular, what kinds of programs are produced. As well, they are interested in trying to formulate ideas about how northern television may have contributed to the achievement of Nunavut. The researchers would like to work towards a Canadian model of northern/regional media. The video will be part of an honours thesis/research seminar next year at McGill University where they will focus on northern media and its place within global media.

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Location/Region: Kitikmeot
Project Title: **Map of the Geology of Kugluktuk**

Summary: I would like to make a map of the geology (rocks and sediments) within a 20km radius of Kugluktuk, write a report to be used as material for schools, and create a guidebook for tourists. There will also be a photo CD. For this project I will hire a local student as an assistant, and we will cover the area by boat and on foot. I would be in Kugluktuk for two weeks in July.

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Location/Region: Kitikmeot

Project Title: **Western Canadian Arctic Archipelago Glacial, Seal-Level, Climatic, and Oceanographic History**

Summary:

We propose a second summer of field work for this project. Last summer we worked in the Cape Baring region, Victoria Island, (the western tip of Wollaston Peninsula) in the western NWT. We would like to pursue this work for about five field seasons, with two 7-10 day field camps each season and a two-person camp. Camps are set out from Resolute Bay and are moved and evacuated by Twin Otter aircraft. The selection of field areas for each summer's work depends on the findings of the previous summer. The main objective of the field work is to collect samples of fossils for radiocarbon dating. We collect three kinds of samples: clam shells, whale bone, and driftwood, all from marine deposits; that is, from sediments laid down in former seas. The sample size ranges from about 20 g to about 500 g, depending on the type of material and on how well preserved it is. The field work consists of searching for these fossils in deposits that we have mapped from aerial photographs. We travel out of camp mainly by four-wheel all terrain vehicles, covering a radius of about 20 km out of each camp. The radiocarbon ages of these fossils tell us when the areas became ice-free at the end of the last glaciation, when the sea surface fell below a certain elevation, when whales were able (or not able) to live in the region (summer sea-ice conditions), and when certain ocean currents became established. Thus we are studying geological fossils, not living animals and not bones at archeological sites.

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Location/Region: North Baffin

Project Title: **Expedition Fiord, Axel Heiberg Island**

Summary:

Our research objective is, simply, to continue the mass balance measurements for White and Baby Glaciers, which began in the early 1960's. Analysis of our data over the past few years has shown that the glaciers we are monitoring are representative of glacierized islands in the high arctic. Thus, we are also trying to increase the measurement network and improve on measurement techniques so that the annual results will become even more meaningful and useful in helping determine whether high arctic glaciers in general are showing signs of being affected by changing climate (e.g. getting warmer). Present projections from some models suggest that Arctic regions will get warmer by 1-6 degrees C in the next few decades. We hope that the mass balance measurements we make can provide first hand evidence of any changes. Essentially, the mass balance of a glacier is determined by measuring the

amount of snow that falls and accumulates at the top of the glacier, which slowly turns to ice versus measuring the amount of ice that melts at the bottom. If there is more accumulation than melt then the glacier is gaining mass or is getting bigger. If there is more ice melt than snow gained then the glacier is shrinking. We need a very long record of these annual measurements to be able to distinguish whether the glacier is reacting to normal weather variations or because there is climate change. We are also trying to make more measurements over the glaciers surface and make them more accurate (using new technology such as Global Positioning Satellites (GPS) to locate our sampling points). The work on the glacier is best carried out in the late spring (April), for approximately one month, when the winter accumulation is largely over but the ice has not yet started to melt. This makes it safe to travel on the glacier. We are transported to our site by PCSP and we use skidoos provided by them. We need skidoos to travel safely on the glacier and to get to and from the glacier and to cover the large surface areas of the glaciers (White Glacier is 39 square km in size, for example). We stay at the McGill University high Arctic camp so we do not build or erect any structures. We are very careful to ensure that our impact on the environment is minimal.

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Location/Region: North Baffin
Project Title: **History of Glaciation and Sea Level Change in Nunavut**

Summary: The objectives of this research is to provide a better understanding of the history of glaciation and sea level change in Nunavut. We are also interested in the history of climate change recorded by variations in sea ice and accumulation of sediments on the land and in lake basins. For example, we want to know whether glaciers covered all of Nunavut during the last glaciation (10 to 20 thousand years ago). If so, what did

this ice sheet look like? (where was it's thickest and what were its flow patterns). We now know that distinctive rocks (granite) were carried from eastern Ellesmere Island to Eureka Sound within the Innuitian Ice Sheet. We also know that this dates from the last glaciation. We want to trace the occurrence of these granites farther west, to Axel Heiberg and Amund Ringnes islands. When the Innuitian Ice Sheet retreated, the ocean was much higher than it is today because the weight of the ice pushed the land down. We study small samples (less than one handful) of fossil marine shells and driftwood which can be dated to tell us when the ice retreated and how much the land has risen. This is part of a regional study and each summer we try to add a new part of Nunavut to this inquiry.

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Location/Region: Ottawa/Pangnirtung
Project Title: **Stable Isotope Analysis of the Greenland Shark**

Summary: The Greenland shark (*somniosus microcephalus*) is the largest fish and only known shark to routinely inhabit arctic waters. A large number are taken by cay in the longline fishery for turbot in western Greenland and Pangnirtung. These sharks are reputed to prey on seals and other marine mammals, and have been reported in many places in the Arctic. Give the size, trophic position as a top carnivore and scavenger, and likely a long life span, Greenland sharks may play a key role in the trophic dynamics of arctic marine ecosystems. High levels of pollutants (e.g. DDT and PCBs) and ratios of nitrogen stable isotopes provide information on what an organisms is eating. The pollutant levels are similar, if not higher, than levels report in polar bears from the Canadian Arctic. To better understand the role of these sharks in the Cumberland Sound ecosystem, we feel it is critical to place them in the food chain. To do this, the project will measure stable isotopes of nitrogen and carbon in ringed seal, walrus, narwhal, beluga and polar bear, collected in Cumberland Sound by hunters of Pangnirtung, NU. Comparing stable isotopes in these species and the sharks will identify what the sharks are eating. One gram of muscle tissue from each animal harvested by hunters will be tested.

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Location/Region: Kitikmeot
Project Title: **Impacts of Climate Change on Arctic Vegetation and Arctic Lakes**

Summary: This research is concerned with the impacts of climate change on arctic vegetation and arctic lakes. We determine the response of the vegetation to past climate changes by collecting in lake sediment cores. Lake sediments include fossils that be extracted. The pollen can tell us how the vegetation has changed in those regions during the past several thousand years. By sampling lakes across the arctic we can map climate patterns of the past. This may help us to understand how the arctic vegetation may respond to future climate changes. Analysis of the fossils of lake organisms can tell us how climate changes affect the lake water.

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Location/Region: North Baffin
Project Title: **Arctic Mesopause Temperature Study**

Summary: Dr. Gardner and his colleagues at the University of Illinois Champaign-Urbana have developed a Fe-Boltzman resonance lidar system. This system will be used to look at the temperature of the mesopause (~90km) and dynamic processes of the stratosphere and mesosphere. The coldest temperatures in the atmosphere are expected to occur at the mesopause in late June or early July. There have not been any measurements of the mesopause temperature during this time and Dr. Gardner's would be the first. During the visit to Resolute Bay, they will make lidar measurements from the aircraft while it is parked on the tarmak. There will not be any field camps setup or any samples collected. All of the activities will be at the airport and coordinated with local authorities.

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Location/Region: North Baffin
Project Title: **Morphological and Genetic Variation among Arctic Plants**

Summary: We are studying the morphological and genetic variation among arctic plants. Our goals are to better define species and to write identification keys and guides so that arctic plants may be more easily identified. We are also interested in understanding the origin and evolutionary relationships of arctic plants. Our studies are focused on two genera of grasses, the bludegrasses (*Poa*) and the alkali grasses (*Puccinellia*), which are ecologically important as indicator species of disturbed environments. We will also be commencing studies on arctic poppies and arctic mustards. Our research involves short visits to many sites in order to observe how plants vary from site to site across the arctic region. About five to seven different sites will be visited each year. At each site, we will make observations on the morphology, reproductive status, ecology and distribution of each species we are studying. Collections will be made of 1-3 plants of each species. Part of each plant will be pressed, dried, and deposited as a voucher research specimen in the Canadian Museum of Nature. Another part of each plant will be preserved for DNA analysis. We will visit each site for 1-5 days. Our team of 2-3 people will travel by PCSP helicopter to remote sites and set up 2-3 small backpacking tents as our camp.

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Number in party: 17
Location/Region: Kivalliq
Project Title: **Mine Exploration Activities at the Meadowbank Property**

Summary: The following activities are proposed for the 1999 research program: 1) Collect additional information on lake water and sediment quality and aquatic plants and animals, including fish populations. Field work will be scheduled to gather seasonal data (e.g. early spring and fall) to improve existing knowledge. Sampling sites will be located in four lakes around the mine area, and a comparison lake in the Meadowbank River drainage. All of these sites have been previously sampled. 2) Collect new information on site hydrology, including snow levels, lake ice/water levels, runoff,

and discharges. Monitoring will be in early spring to capture melt conditions, and will continue to late summer. Sampling sites will be located in four lakes around the mine area. 3) Collect new information on plant, wildlife, and habitat features around the mine. Plant surveys will be conducted in mid-summer, and wildlife field work will be scheduled to gather seasonal data. Work will focus on the local study area, but some information will also be collected along an existing winter road corridor (Baker Lake to the Meadowbank Property), and in Chesterfield Inlet. 4) Conduct a field survey (aerial and foot) of archaeological resources and traditional use area. The survey will document sites of significance near the mine area and along an existing winter road corridor (Baker Lake to Meadowbank). No excavation is proposed as part of this study.

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Location/Region: Kitikmeot & Qikiqtani
Project Title: **Arctic Field Ecology**

Summary: This summary describes the planned activities of a college field course, Arctic Field Ecology, offered by the University of Minnesota (Biol 5842) and taught by Dr.

William Gould. The course is taught in two sections. Our objective for the first section (June 21 - July 16) are to examine the ecology of the Hiukitak River. We examine plant communities, soils and landforms, and make bird and mammal observations as we camp and travel along the river by kayak. This section will include 9 students, 3 assistants and one instructor. When we reach the mouth of the river we will travel along the coast to Umingmaktuq and will work with a local wildlife officer and someone from Umingmaktuq in order to gain local perspectives on wildlife and landuse issues. We hope also to hire an Inuit involved in the Tuktu and Nogak project who can talk to us about their involvement in that project. Research activities will include documenting plant communities and associated soils and soil insects along the River. We will collect a small number of plant samples, but most of our work will be observational. The second section (July 19 to August 10) involves a collaboration of students and scientists working on a Circumpolar Arctic Vegetation Mapping Project. The goal of the second course is to have students and scientists work together to understand the variation in vegetation related to climate from the northern to southern Canadian arctic. Six students will meet in Cambridge Bay for a week of learning about the vegetation of the area. They will be joined by 6-8 scientists from around the world who are involved in this circumpolar mapping effort. The combined group will fly an air transect from Eureka to Resolute to Cambridge Bay to Daring Lake. We will stay at research camps and commercial lodging where available. The students will likely camp out. Data collection will be primarily observational with some soil and plant collections as well as sampling CO2 flux from a variety of vegetation types along our route.

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Location/Region: North Baffin
Project Title: Arctic Ocean Climate Change Project

Summary: This is the second year of an oceanographic field study designed to add to our knowledge of the circulation of the Arctic Ocean, and to quantify the heat and salt movement between the Arctic Ocean and the Northwest Atlantic. The measurements being made will provide information needed to develop circulation models for the region, and forecasting models for predicting climate change impacts on the Canadian Arctic. Field program goals for 1999 include: 1) the replacement of the instrumented mooring array that was deployed in August 1998, 2) the addition of one mooring which will support a new instrument to

measure temperature and salinity information in the top 25 m of the water column, and 3) the carrying out of a CTD survey, repeating the stations of the 1998 survey. All moorings presently set will be recovered during the Agusut 1999 cruise, and 10 new moorings in total, will be deployed. The tops of the moorings will be well below the surface (deeper than 25 m). These moorings will remain on site until August 2000 when they will be recovered and replaced with a 3rd and final array, which will be recovered in August of 2001. This work will be conducted from a Canadian Coast Guard Ice Breaker deployed in the area at that time.

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Location/Region: North Baffin
Project Title: **Survey of Biological Diversity in Marine Environments near Resolute and Truelove Lowlands**

Summary: Our research activity during the summer of 1999 will focus on the survey of biological diversity in marine environments near Resolute and perhaps also the Truelove Lowlands. Our work will largely be directed towards invertebrates, but we will also work on members of one fish family, the sculpins. Samples will ordinarily be collected from a Zodiak using either a plankton net or a benthic drag. A few fish samples may be collected with a gill net. Our work in Resolute will involve the cryopreservation of samples for later allozyme or DNA analyses. As well, we plan to take photomicrographs of many of the organisms which we collect.

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Location/Region: Kivalliq
Project Title: **Bedrock Mapping and Regional Ice Flow Indicator Mapping in the Kivalliq Region**

Summary:

The Western Churchill NATMAP Program is a multidisciplinary initiative by the Geological Survey of Canada in the Kivalliq region of Nunavut. This summer, the principal objectives of this component of the program will involve bedrock mapping in the Baker Lake region (Rainbird and Hadlari) and regional ice flow indicator mapping (Henderson and McMartin) over an area which includes NTS maps 55 O (Chesterfield Inlet), 55 K (Tavani), 65 J (Tulemalu Lake), 65 0 (Tebesjuak Lake), and 65 P (Thirty Mile Lake). The activities will be conducted out of the municipalities of Rankin Inlet and Baker Lake, as well as, a base camp on Thirty-Mile Lake for the two week period extending from July 17-31. The work will be carried out by foot, boat, and helicopter traverses. Bedrock mapping is focused on understanding relationships pertinent to mineralization in the area. Regional ice flow indicator mapping is fundamental to the understanding of glacial transport and important for mineral explorationists, since glacial deposits are used as a major prospecting tool in large parts of the Kivalliq region.

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Location/Region: North Baffin
Project Title: **Causes and Consequences of Biodiversity Change in Arctic Tundra**

Summary:

This project started last year and builds on a long-term study I established in 1992 to investigate the effects of climate warming on tundra ecosystems. My long-term experimental plots are established at Alexandra Fiord, Ellesmere Island, where I have conducted ecological research since 1980. The plots are warmed by placing small (1.5 m diameter), open top greenhouses over them. In some of the plots, the snow is removed so plants start to grow earlier, and in others snow is added so that the plants will start to grow later. In other plots, I add a little fertilizer to stimulate plant growth. In a new study, I will clip the plants to imitate grazing, and do this in and out of the open top greenhouses. All of these experiments are meant to be like changes we expect in the future. These changes will likely affect the numbers and kinds of plants in the plots, which is part of the biodiversity. We do not know what these changes in biodiversity will mean for tundra ecosystems, but changes in numbers and types of plants will affect animals feeding on them. One of the most important ways we can find out the effects is to measure the changes in plots like these over many years. My site at Alexandra Fiord is part of the International Tundra Experiment (ITEX), which is a network of arctic sites and scientists around the world during similar studies. My site is one of the oldest and most comprehensive ITEX sites, and is the only site in the High Arctic. My group of 2-4 students and 1-2 colleagues usually arrive at the site in late May or early June and stay until late August. We use the RCMP buildings at Alexandra Fiord as our camp.

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Location/Region: South Baffin
Project Title: **Follow-up to the South Baffin Multidisciplinary Project: Geological of the Meta Incognita Peninsula**

Summary: This research is follow-up of a project by the Geological Survey of Canada whom conducted a geological survey of the area between Kimmirut and Iqaluit in the summers of 1995, 1996, and 1997. Maps were drawn of the surface materials of the area which can be used for such things as finding gravel deposits, mapping plant types and therefore distribution of wildlife, and looking for mineral deposits. The follow-up includes: 1. Several days of walking in the vicinity of Iqaluit, visually checking the maps with what is seen on the ground. 2. Several days walking in the vicinity of Kimmirut, visually checking the maps with what is seen on the ground. 3. Several weeks working about 70 miles southeast of Kimmirut, around Wight Inlet, in a critical area where the researcher is attempting to work out the direction the glaciers flowed during the last ice age. This requires being set out by boat from Kimmirut, and camping for two weeks while measuring evidence of past glacier movement (mainly scratches (striations) on rock surfaces).

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Location/Region: North Baffin
Project Title: **Measurements of Internet Access using Iridium Satellites in the High Arctic**

Summary: We form a group of three engineers lead by Andy Hopper, the Professor of Communications Engineering at the University of Cambridge, England. The research interests of the group cover mobile communications and access to the Internet using all forms of radio systems (from high-speed terrestrial to lower-speed satellite systems). The Iridium satellite system (<http://www.iridium.com/>) has recently become operational and the purpose of the trip to the Canadian Arctic is to evaluate the performance of this system -- in particular for data (Internet) traffic. It is planned to travel to the region in a light aircraft via Iceland, Baffin Island, and Resolute Bay. Thereafter, we would travel to Eureka and anticipate to make four round trip flights. These would essentially be to the four quadrants of Ellesmere Island with Eureka at the centre (NE, NW, SE, SW). Data would be logged on the performance of the Internet traffic using Iridium satellites on these flights. This information would be useful to help design future systems, as well as, making best use of the present one. A report would be compiled and published in a normal way (probably on the internet). Alongside Longyear on Spitsbergen, Eureka is the furthest north airport at which such a trial could be done. The constellation of Iridium satellites is such that the service towards the

poles is less good and in essence we would like to assess this point.

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Location/Region: Nunavut
Project Title: **Tundra Northwest 99**

Summary: The overall objective of the expedition Tundra Northwest 1999 to the North American Arctic is to study geographic variation of terrestrial and freshwater ecosystems of the tundra. By using the CCG-icebreaker Louis S. St-Laurent for transport and as a scientific platform, the expedition route will include a longitudinal gradient from Baffin Island to the northern coast of Alaska and a latitudinal gradient through the Canadian Arctic to the Magnetic North Pole. About 35 scientists will visit approximately 16 sites along the route for 2-3 days each. The expedition will party be a continuation of the successful Swedish-Russian Tundra Ecology Expedition to the Russian Arctic in 1994. The aim is to provide a circumpolar perspective of ecological patterns and processes. In addition there will be studies on contamination and climate change. The Scientific program has five main themes: A) Interplay between plants, herbivores and predators, B) Diversity among organisms and ecosystems, C) Bird migration, D) Freshwater ecology and E) Climate change and pollution. At each site the vegetation will be documented, as well as the presence of birds and mammals. Samples will be collected from the soil and from different types of plants for later analyses of soil organisms, genetic variation and chemical composition. Lemmings will be trapped both dead and alive for population estimation and for studies of the biology of the animals. Arctic fox will be trapped alive for measurements and blood sampling and then released. Pellets and scats from mammals and birds will be collected for food choice analyses. Birds will be trapped for banding and sampling of blood and feathers. Bird navigation experiments will be carried out in the field, combined with radar observations of bird migration. Samples from freshwater systems will be taken for chemical analyses. Plankton as well as arctic char populations, where present, will be sampled for genetic and other biological analyses. The themes will be scientifically co-ordinated in order to give a coherent picture of the ecology of the tundra.

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Location/Region: Baffin
Project Title: **Ice Core Analysis, Glacier Mass Blance & Atmospheric Pollution**

Summary: We plan to measure the mass balance (amount of snowfall, amount of summer ice melt) on Agassiz (N Ellesmere), Meighen, Melville South and Devon Ice Caps. When this is completed, we will test a new thermal drill at the top of Devon Ice Cap, and collect surface ice samples down the northwest side of the Ice Cap. The ice samples from the drilling, as well as the surface, will be used for carbon-14 dating, carbon dioxide content and chemistry and stable isotope analysis. The results will be studied for signs of climate change and pollution over the last 10,000 years.

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Location/Region: North Baffin
Project Title: **Paleoclimatic Reconstruction from Lake Sediments, Bear Lake, Devon Island, Nunavut**

Summary: Our work is intended to develop a long record of climate conditions from the region using lake sediments. Our work will involve obtaining sediment from the lake, as well as observing processes that control sediment deposition at the site. We will arrive in late May and establish a small camp. During the first 10 days, we will

collect samples from the lake by pounding plastic tubes into the sediment. All travel during this early period will be with a skidoo and sled. During the remainder of the summer, we will study the weather, river and lake processes that control sediment deposition. We will use electronic sensors in the water column to measure the depth and extent of sediment plumes flowing into the lake, and collect samples with sediment traps. If ice conditions permit in mid-August, we will use acoustic equipment to observe the total thickness of sediment at the lake bottom. During the course of our work, no toxic chemicals will be used and no permanent installations will be involved.

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Location/Region: North Baffin
Project Title: **Late Silurian Graptolites, Radiolarians, Palynology, Geochemistry and Biostratigraphy, Arctic Islands**

Summary: During the summer of 1999, my geological group plans to continue the project begun during 1998. The project involves detailed collecting of shales and limestones from thick surface rock sections in Abbott River and Snowblind Creek, Cornwallis Island. These rocks contain abundant remains of ancient fossils such as graptolites, radiolarians, sponges, chitinozoans and plant spores, most of which are microfossils. In our respective laboratories, the limestone are next placed in acid to release the various fossils, all of which survive the acid treatment. Radiolarians and sponges are being and will be, studied by Dr. Noble, graptolites by Dr. Kozłowska-Dawidziuk and me, and the chitinozoans and plant spores are being studied by researchers in the Geological Survey of Canada, Quebec. In addition to fossil studies, rocks from the same sections will be chemically analyzed in another laboratory for oxygen and carbon content, with the hope that this will permit a better understanding of the chemistry of these ancient seas. The subsequent ultimate integration of all the fossil and chemical data will, hopefully, demonstrate a close relationship between the chemistry and chemical changes of the seas, and the development and changes of ancient animals and plants living in these waters. Hopefully also, these analyses will demonstrate a close relationship between expected chemical changes and periodic extinctions of these various organisms.

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Location/Region: North Baffin
Project Title: **Examination of the Marine Intertidal and Subtidal Invertebrate Communities, and Associated Sedimentary, Oceanographic and Terrestrial Parameters along the Coast of Igloolik Island**

Summary: The purpose of this research is to examine the marine intertidal and subtidal invertebrate communities, and associated sedimentary, oceanographic and terrestrial parameters along the coast of Igloolik Island, NT. The duration of the research on Igloolik Island will be from July 26th, 1999 to August 31, 1999. No structures will be erected during the proposed research project. The proposed research will be based out of the Igloolik NRI Research Centre. Sampling will be done in the subtidal zone from a boat and terrestrial and intertidal sampling will be done by foot. Invertebrates will be sampled along transects grading from intertidal to subtidal zones, using core samples in the intertidal zone and grab samples in the subtidal zone. Along with the invertebrate collections, sedimentary samples and oceanographic measurements will be taken namely, salinity, temperature, tidal height, and turbidity. Water and sediment samples will be taken from streams and ponds discharging into the marine environment to determine the terrestrial influences on the invertebrates in the intertidal and subtidal zone. These sedimentary samples, oceanographic properties, and terrestrial measurements will advance our understanding of the requirements of arctic marine invertebrates. The following objectives will be addressed: 1) To measure the terrestrial properties such as stream and pond discharge and sediment release into the marine environment. 2) To identify the invertebrates collected along a tidal environmental gradient from the intertidal to subtidal species. 3) To measure the sedimentary properties and oceanographic properties with depth such as salinity, dissolved oxygen, temperature, and turbidity. 4) To identify the oceanographic, sedimentary, and terrestrial properties which influence the distribution of invertebrates.

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Location/Region: North Baffin
Project Title: **Fossil Forests on Eastern Axel Heiberg**

Summary: The remarkable preservation of the 45 million year old fossil forests on eastern Axel heiberg Island will allow us to use standard ecological field techniques to determine the types of trees that grew in these forests, forest type (e.g. dense or open forests), how the various tree species interacted with their neighbors, and how well these forests grew. The plants contained in these forests have been studied for many years, but detailed studies leading to a better understanding of their basic ecology have not been undertaken. Stumps, trunks, litter (leaves), roots, seeds, and soils are well preserved and provide a unique opportunity to reconstruct many aspects of these ancient forest communities using modern field techniques. My research group and I plan to camp at the forest site for 5-6 weeks (late June-early August), to collect data and study the ecology of these fossil forests. We will experiment with ground-probing radar to produce a map of where the trees were growing in relation to one another, and when necessary small areas will be excavated to take detailed measurements and samples for our analyses. Upon completion of the project, all excavations will be filled in and returned as close as possible to their original appearance. Depending on weather conditions we will fly into the site by Twin Otter or helicopter. Movement around camp and the site will be by foot, and two temporary shelters (kitchen and work area) will be erected. The shelters will be dismantled at the end of each field season and stored in Eureka. This site has been chosen because it is one of the best sites in the world to do this type of work and it will serve as a model within the scientific community for interpreting the ecology of ancient forest communities.

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Location/Region: North Baffin
Project Title: **The Otto Sverdrup Centennial Expedition: Polar Science Component**

Summary: This is a major federal millennium project which takes place in Nunavut during 1999-2000. A joint Canadian-Norwegian team (six members) will set sail from Oslo in June 1999 en route to a harbour on Ellesmere Island. The team will remain in this harbour from August of 1999 through to August 2000, living on the boar as well as in a pre-fabricated shelter on the adjacent Crown Land. Via a satellite link to the Expedition website (see www.sverdrup2000.org), arctic learning resources will be delivered to school classes (ages 10-14) throughout Nunavut and Canada and twinned to school classes in Norway, during the 1999-2000 academic year. Schools in Baker Lake, Rankin Inlet, and Grise Fiord have already indicated they will participate.

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Location/Region: North Baffin
Project Title: **Northeast Ellesmere Project**

Summary: The scientific project is opposite the Greenland coast in the area between Knud Peninsula and the northern tip of Judge Daly Promontory. The project began in 1998 and will end in 2000. There are lots of high mountains and glaciers, but very few animals in the area. We work for the Geological Survey of Canada and we want to find out what kind of rocks there are underneath the surface gravel. Until now not many geologists have been in that area and we do not know exactly what kind of rocks are there. In two years we will be finished with checking the rocks and then we will draw maps to show where different types of the rocks (for example sandstone, granite or limestone) are located and we will write books and stories in magazines which tell of these rocks. Once we know the kind of rocks,

we may be able to help commercial companies to find oil, gas or ore minerals. To see and to check the rocks we walk along the rivers and glaciers where the gravel has been washed away, fly in a helicopter to other good rock outcrops in the high mountains and we also measure how thick the layers of different rocks are. About 12 geologists, pilot, engineer, cook and radio operator will live in tents at an unprepared airstrip near Scoresby Bay during the entire season. In 1998, two young men from Grise Fiord worked with us as geological assistants and they or others will again in 1999 and 2000. Sometimes, when it is too far to fly every day, smaller fly camps with two persons will be put for a few days into areas where lots of rocks can be checked in mountain cliffs.

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Location/Region: North Baffin
Project Title: Sea Ice in the Arctic

Summary: The thickness and continued presence of sea ice in the Arctic are sensitive to temperature and mobility of the ocean just beneath it. At present, the upper layer of the Arctic Ocean is cold, and protects Arctic ice from melting. One influence on the temperature of this layer is the outflow of water through the Canadian Arctic Archipelago. The focus of this project is the measurement of the physical and trace chemical properties of this outflow, both using sensors lowered by cable, and by acquiring seawater samples for analysis in the laboratory. Measurements will be made on the narrow cross-sections of the channels. Lowered sensors will measure temperature and salinity. Seawater samples will be analyzed for dissolved nutrients and oxygen, to distinguish Atlantic from Pacific waters, oxygen isotopes, to identify the freshwater from rivers and from melting ice, and freons, to provide water ages.

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Location/Region: North Baffin

Project Title: The Study of Glacial and Permafrost Systems on Bylot Island**Summary:**

The purpose of this research is to study the glaciers and surrounding permafrost on Bylot Island. Some of the specific questions to be addressed are: 1) why are some glaciers retreating and others not, 2) how do parts of some glaciers get buried and how long is the ice preserved in the permafrost, 3) what can the buried ice tell us about the past climate of the area, 4) why do icings form in front of some glaciers and what can they tell us about glacial processes, and 5) what is the regional variability of snow fall and temperature, and how does that affect the glaciers. To address these questions we will collect weather data, take snow and ice samples from the glaciers, and use non-destructive geophysical methods to image beneath the glaciers. This work will be based out of a tent camp located about 13 km from the shore near Semilik Glacier. Transportation to and from the camp will be by helicopter, as will be the regional snow and ice sampling. It is hoped that this research can continue in future years to assist in the environmental monitoring of the island.

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Researchers from Ehime University in Japan would like to take tissue samples from marine seals to be analyzed for chemical substances caused by global pollution. Seven staff members will stay at a local hotel in Pagnirtung starting from the middle of May 1999. We will collect muscle and organ tissues from seals brought in by local hunters. We will pay about \$60.00 per seal for the samples (approximately 200 grams each sample) and the hunter can keep the rest of the carcass. We hope to collect samples from about 50 seals and categorize according to species, age and gender. We would also like to purchase on fresh water seal shot by an Inuit hunter from Nettilling Lake to be shipped whole to Japan. We will keep the samples in a freezer/ice box until they are shipped to Japan for analysis at our university laboratory. We would be very happy to share any of our findings to the local authorities/associations. Hokkaido Broadcasting Company will be filming our research and is considered members of our staff.

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Location/Region: Kitikmeot
Project Title: **Lytton Minerals Limited Jericho Project**

Summary: The purpose of this application for a research permit is to collect baseline physical information to support an application for approval of a diamond mine near Contwoyto Lake. The proposed 1999 work will continue previous studies. Previous studies have benefited from community input and the community consultation process will continue in 1999. Studies are proposed for the north end and the east side of Contwoyto Lake opposite the Lupin Mine. Work is to be carried out from before break up to after freeze up in 1999. Helicopters will be used for access. Exploration camps will be located at sites.

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Location/Region: Kivalliq
Project Title: **Environmental Studies at Meliadine West Gold Project**

Summary: Detailed aquatic investigations were carried out in 1997 and 1998 to collect baseline data for the potential gold mine development by WMC International Ltd. in the Meliadine Lake area near Rankin Inlet, Nunavut. The most important findings of these studies were summarized during the Environmental Studies Review meeting in Rankin Inlet on 14 April 1999. The study programs for 1999 and 2000 are designed to continue monitoring water quality and invertebrate populations at key sampling locations, which will likely be used for long-term monitoring during the mine operation phase. In addition, gaps in our understanding of Arctic char and Arctic grayling movements and critical habitats will be addressed through the continuation of radio telemetry and fish fence operations on the lower Meliadine River. During 2000, fishing will be carried out in Meliadine Lake to collect fish tissues for metals analysis. Seasonal fisheries and habitat surveys will also be completed at the stream crossing sites along the proposed road corridor between Rankin Inlet and the potential mine site. The collected data will be used in the preparation of an environmental impact assessment and will form a baseline for future monitoring activities.

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Location/Region: South Baffin
Project Title: **Chemical Sampling and Analysis**

Summary: The Analytical Services Unit, Queen's University will have a team on site at Resolution Bay over the next few years. Our work is to support the major cleanup being undertaken by Qikiqtalluk Corporation for Indian and Northern Affairs Canada. The majority of the work will involve sampling and analysis of soil, barrel contents and miscellaneous items such as concrete, insulation materials and sludges. Work will commence this year on the removal of the PCB-contaminated furniture dump and soil from around the buildings and packaging and removal of PCB-contaminated furniture dump and soil from around the buildings and packaging and removal of PCB liquids and electrical components from the island. Other work we will be undertaking includes testing the lake and drinking water, setting up thermistors to test freeze back into landfills under various conditions and monitoring the performance of the existing barriers in drainage pathways and testing new barrier and silt control systems.

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Location/Region: North Baffin
Project Title: **Permafrost hydrology and environmental significance of perennial springs, Expedition Fiord, Axel Heiberg Island**

Summary: The primary aim of this study is to assess the environmental significance of spring discharge on the desert ecosystem of Expedition Fiord. Perennial springs are extremely rare in high arctic settings because permafrost forms an impermeable barrier to groundwater movement. A spring is a point on the ground surface marked by a continuous flow of water that rises from deep in the ground. The springs at Expedition Fiord contain high amounts of salt and other dissolved minerals indicating the water comes from below the permafrost. The presence of several springs in the Expedition Fiord area, together with

discharge-related features like frost mounds and icings are unusual and therefore a source of considerable scientific interest. Of possibly greater interest is the activity of micro organisms that flourish in the cold mineralized water. Sulphur, iron and calcium precipitates are produced at least partly by bacterial action. The specific aims of this research project are: a) to determine the nature of hydrologic activity, including groundwater source and residence time, b) to investigate the geomorphic impacts of perennial spring discharge, c) to model saline groundwater flow through permafrost, and d) to assess its significance in terms of biological activity. The potential significance of this research lies in two areas - permafrost hydrology and extreme environment biology.

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Location/Region: North Baffin
Project Title: **Detailed Level Sampling of Geochemistry and Surficial Geology**

Summary: Field work will be conducted in the area of the Lake Gillian map sheet to provide geoscientific information for sound resource rescue evaluation and management. Temporary field camps will be set up around Longstaff Bluff and Ikpik Bay. Camps will be set up for 2-3 weeks from early July to early August. This years field work is a "reconnaissance" and detailed level sampling of geochemistry, and surficial geology. Additionally the use of remotely sensed data from satellites will be evaluated. Imagery for the area will be processed to identify terrain features and these will be field tested. In the vicinity of Flint Lake and Ikpik Bay, samples of lake water, lake sediments, rock, surficial sediments and plants will be collected. Samples will be returned to the lab for geochemical analyses.

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Location/Region: North Baffin, Ellesmere Island
Project Title: **The Hydrology and Dynamics of John Evans Glacier, Ellesmere Island**

Summary: This project aims to investigate the hydrology and flow dynamics of John Evans Glacier, their role in its

response to climate change, and processes of carbon cycling in a high Arctic glacial environment. Major objectives for 1999/2000 are: a) To service three weather stations installed on the glacier, and conduct mass balance and snow depth measurements; b) To reconstruct a 50 year mass balance history of the glacier using measurements on 15 m long ice cores retrieved at 100 m elevation intervals from 750 m to 1350 m; c) To determine the surface temperature distribution at 200 m elevation intervals along the length of the glacier using thermistors installed at 15 m depth in boreholes; d) To determine seasonal and spatial patterns in the glacier's velocity from repeat GPS and theodolite surveys of the positions of stakes drilled into the glacier; e) To identify where sub-glacially draining water enters the glacier, and determine the subglacial residence time of these waters using tracer equipments. Dye will be detected using continuous flow fluorometry on the melt streams. Stream stage will be monitored using pressure transducers; f) To analyse ice cores from two sites for their organic carbon and organic acid anion content. Pore waters from ice marginal tills will also be analysed for these properties and their major ion chemistry.

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Location/Region: North Baffin
Project Title: **Distribution Patterns and Evolutionary Relationships of Widespread Arctic Macroscopic Algae**

Summary: The proposed research project will examine distribution patterns and evolutionary relationships of widespread arctic macroscopic algae, both in marine and freshwater habitats in the vicinity of Pond Inlet, Baffin Island. We will test two hypotheses: 1) the arctic seaweed flora is equally represented by north Atlantic and Pacific species; 2) the stream macroalgal flora constitutes a northern extension of a small portion of the temperate community rather than an assemblage of unique species. This project continues research initiated in 1998 near Resolute, Cornwallis Island. The work will be conducted in a period of four days from July 24 to 27, 1999. Minute pieces (<1 gram) of each algal species will be collected and the following factors will be measured: temperature, flow rate, pH, ion content and turbidity. Environmental impact will be negligible.

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Number in party: 7
Location/Region: North Baffin
Project Title: **History of Earth's Climate between 200 and 65 Million Years Ago**

Summary: Our research focuses on the history of Earth's climate between 200 and 65 million years ago. We are studying rocks found on Axel Heiberg and Ellesmere Islands, which can tell us what type of climate the polar regions had at this time. Our past research indicates that at times in the past the Arctic was extremely warm, lacking ice. These warm periods fluctuated with cooler times, where seasonal ice may have been common. Our main tool will be "paleomagnetism", which is the study of Earth's ancient magnetic field. When rocks form they can preserve a record of the ancient magnetic field which we can analyze using magnetometers in the Paleomagnetic Laboratory at the University of Rochester. This data can help us determine the exact age of the rocks and the age of any information on past climate the rocks may contain. Although the chemical composition of the rocks is the main way we wish to determine the nature of past climate, the rocks sometimes contain fossil plants and animals which can also provide important climate information. We collaborate with Canadian Museums, particularly the Tyrrell Museum of Paleontology (Alberta), who have agreed to house any important fossils should they be discovered during our scientific studies. We hope to operate small camps composed of 5-6 people and plan to be in the field between 4-6 weeks between June and August each year.

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Location/Region: Kivalliq
Project Title: **The Western Churchill NATMAP Program**

Summary: The Western Churchill NATMAP Program is a multidisciplinary initiative by the Geological Survey of Canada in the Kivalliq region of Nunavut. The principal objective of this summer's program involve mapping (bedrock and surficial) in the MacQuoid-Gibson Lakes region (parts of 55N) that has significant mineral potential. Bedrock mapping will be carried out during the summer months (June to August of 1999) from base camps. Most of the work will be carried out by foot and boat traverses, with full logistical support from PCSP helicopter. Approximately 9 field personnel will be involved in collecting rock samples and pertinent field data. No drilling/subsurface (excavation investigations will be undertaken.

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Location/Region: Kivalliq
Project Title: **Evaluation of Overall Water Balance of the Meliadine River Basin**

Summary: The objective of the project is to evaluate the overall water balance of the Meliadine River Basin and the detailed water balance of smaller local sub-basins and lakes in the immediate project area, in sufficient detail to permit prediction of impacts on the local and basin hydrology of any future gold mine development, especially tailings ponds. The proposed work will include the following: 1) To measure the depth and density of snow, using probes, snow tubes and weigh scales and then calculate the volume of snowmelt runoff; 2) To measure lake water levels and river and stream flows using seasonally installed monitoring equipment and taking flow velocity measurements by wading or by rubber boat. All equipment and methods will be standard as per Water Survey of Canada (WSC); 3) Install an evaporation pan and take daily readings; 4) The research team will be based at the existing WMC camp at Meliadine Lake. All helicopters and other local transportation and resources needed will be supplied via the WMC camp.

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Location/Region: North Baffin
Project Title: **Study of Lakes Located in Northern Ellesmere Island**

Summary: The project continues the study of lakes located in northern Ellesmere Island. Two novel lake types occur in this region: permanently stratified (meromictic) lakes which contain relict seawater topped by a layer of less dense freshwater, and epishelf lakes, which are bounded by land on one side and an ice-shelf on the other. Meromictic lakes are relatively scarce in the Canadian Arctic, but are more common in Antarctica. This study will help to determine similarities and differences, in terms of physical, chemical and biological limnology and their responses to global change, between lakes in these extreme environments. Little is known of the epishelf lakes in either the north or south, but they are possibly important refuges for zooplankton and other biota during glacial periods. The study area will be reached from Resolute by Twin Otter. A temporary camp will set up

near the lakes which will provide accomodation and basic laboratory facilities. The camp will be in operation for approximately one week. A short visit will be made to the Taconite Inlet area, where similar lakes occur, at the end of the week.

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Location/Region: North Baffin
Project Title: **Ecohydrology of Vegetation Bands Associated with Late-Lying Snowbeds**

Summary: Many late-lying snowbeds occur in the High Arctic. They are usually found in topographical breaks-of-slope and arise from the redistribution of snow by wind in a treeless environment. Up and downslope of these snowbank sites are different vegetation zones that are uncovered from snow at varying times during an arctic summer. Therefore, these distinct vegetation zones have different growing seasons. The amount of time that the plants have to grow may vary between sites. This may influence the pattern of ground thaw that can limit the type and rates at which plant roots uptake nutrients needed for growth. Variation in ground thaw may also dictate whether meltwater from the snowbed or summer rains travel along the surface or deep below the ground. An interesting feature of studying the environmental factors that control this pattern of vegetation is that it is reasoned that these sites reflect the vegetation communities and their growing seasons existing on Cornwallis Is., NWT and adjacent islands. If it is possible to get a better understanding of the energy, water and nutrient patterns influencing this zonation at a local scale, then a better understanding of the environment existing a much larger scale will be obtained. Therefore, the major objectives of this project is to examine the environmental factors (energy, water flow, nutrients) which are allowing these different vegetation zones to exist. This information can then be extended to the regional scale to improve our understanding of interior environments. Fieldwork will be conducted near Resolute, NWT over several summers (mid May-August). Water, energy, and nutrient levels will be monitored for every vegetation zone. This study is important for northern ecologists since they will attain a better understanding of plant-environmental interactions and climate modellers interested in surface-atmospheric interactions in northern regions.

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Location/Region: Kivalliq
Project Title: **Geological Mapping in Baker Lake**

Summary: Geological mapping will be done in an area approximately bounded by the Meadowbank River, Tehek Lake (Tasirjualukjuaq), Whitehills Lake (Tasirjuaq), and the Thelon River (Kangirjuag) in parts of the NTS 66H, 66A, 56D and 56E, from June until September 1999. The work will be done by foot and boat traverses with logistical support from a helicopter. Approximately 5 personnel will be in the field at any one time, recording field observation and collecting rock samples with a hand-held hammer. During the first half of the summer, work will be based out of Cumberland's Meadowbank camp. The second half of the summer will be based out of the community of Baker Lake, with logistical support provided by a PCSP helicopter shared with other GSC projects. Baker Lake will also be a convenient base for visits with members of the Prospectors' Association both in town and on their holdings.

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Project Title: **Internet Use in Nunavut**

Summary: The purpose of this research is to uncover how cultural aspects interact with communication technology. Nunavut was chosen as an area to study because the internet is widely used and encouraged in this region and it is assumed to play a role in the process the people of Nunavut are going through. The main characteristics of the methodology is to carry out explorative, qualitative interviews in order to give voice to the people who are involved with, exposed to and using the internet in Iqaluit. The researchers will conduct interviews with representatives from organizations that are involved in the construction of communication infra-structure in Nunavut. Further, they will conduct interviews with users of the internet that are residing in Iqaluit.

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Location/Region: North Baffin
Project Title: **The Significance Attached to the Inuit Practice of Video Production and the Role of Inuktitut Programs**

Summary: Video equipment, video cassette recorders and mass video production have all been present in remote areas of the far North for some time. Video production began as early as 1979 in Igloolik and Inuit broadcasting aired on January 11, 1982. What began as participation, with indigenous subjects being filmed/videotaped by outsiders for ethnographic research has expanded into a medium through which the Inuit are now in control of representing themselves on film/video. The goal of this project is to learn what the Inuit do, think and feel about the practice of video and the role of their programs, with respect to them and on their own terms. It is to understand the complex social process involved which not only produces a unique cultural product which is tangible, but representational as well (ie. Self-Representation).

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Location/Region: South Baffin
Project Title: **Artists, Art Historians, and the Value of Contemporary Inuit Art**

Summary: The purpose of my doctoral dissertation is to examine the tensions between how Inuit artists define themselves as artists and their work as art, and how contemporary Inuit art and its makers are represented in the South. My intention is not only to determine how the concept of art in the North differs from that in the South, but to identify the actual process by which contemporary Inuit art "moves" from one context to the other, gaining and losing meaning along the way. My research will be comprised of interviews with artists and other members of the artistic community in Cape Dorset in July of 1999 as well as critical examination of the scholarly and museological approaches used by art historians in the field to uncover and/or construct "meaningful" interpretations of the art. In accordance with the principles set out in the ACUNS publication, Ethical Principles for the Conduct of Research in the North, informed consent will be obtained prior to every interview. For the sake of accurate transcription and verifiable translation, interviews will be audio-taped whenever informed consent is given. Participants will be asked a series of pre-prepared questions. Each interview should last no longer than one hour. Since part of my doctoral dissertation will be focused on artists' perspectives, interview material will constitute an important part of the final product. While participant anonymity and confidentiality will be protected in cases where artists wish it, it is expected that most - if not all - artists will consent to being identified since reputation and personal experience are likely to be viewed as mediating factors in the kind of work that is produced and that art historical analyses are often a means through which artists become better known. Research results will be communicated to the participants and the community through the West Baffin Eskimo Cooperative and the Hamlet Office in the form of written reports (in both English and Inuktitut) and copies of any future publications.

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Location/Region: Nunavut
Project Title: **Utkuhikhalingmiut Dictionary**

Summary: The project for which I am requesting a 1999 licence is a continuation of the project for which I was granted licences in 1997 and 1998. The objective is to complete the construction of a dictionary and postbase list for the Utkuhikhalingmiutitut dialect of Inuktitut. The dictionary will preserve Utkuhikhalingmiutitut, so that Utkuhikhalingmiut, if they want to, can remember their words. Linguists will use the dictionary too, to learn how Inuktitut changed as it was carried from one part of the Inuit territory to another in the past. This year I will continue the process of correcting the words I learned between 1963 and 1968 and in 1992, when I revisited Gjoa Haven. I say each word to an Utkuhikhalingmiut elder and ask that person to say it back to me and explain what it means; and I tape-record what they say.

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Location/Region: South Baffin
Project Title: **A Survey of Crime and Prevention Strategies for the Inuit of Nunavut**

Summary: Over recent decades, the Inuit people have been robbed of their traditional spirituality and ancestral roles. This has severe implications regarding their adjustment and may be reflected in the nature of offenses committed by Inuit offenders. It has been evidenced that sexual and violent crimes are committed with

much greater incidence by Inuit people. It is imperative to understand the characteristics of criminal behaviour from the unique cultural viewpoint of this population. The proposed study will investigate the culturally defined role of Inuit males and determine how alienation from their traditional knowledge and skills may have created identity conflict and confusion. This data will be linked to the understanding of Inuit males' attitudes, relations and behaviours toward women of their culture. The present study will investigate Inuit criminal involvement in the Baffin region of Nunavut, with particular focus on the community of Iqaluit through the Baffin Correctional Centre.

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Location/Region: South Baffin
Project Title: **The Impact of Rapid Change on Traditional Nunavut Family and Community Values**

Summary: This study examines the impact of rapid change on traditional Nunavut family and community values. It looks at women's techniques of heritage preservation such as recording and relaying of traditional stories and the production of traditional clothing, art work and "country" cooking. The significance of the study is its potential contribution to policy development. By identifying the issues related to Aboriginal independence and the role of women in heritage preservation, we will be better able to understand both the difficulties facing arctic communities and the strengths women, in particular, bring to the generation of "home grown" strategies to nourish a culturally rich environment. Too, it is expected that the study will spark debate among other communities around the world in which women are also seeking to maintain and preserve their traditional culture.

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Project Title: Patterns of use of Inuktitut and English within Communities in Iqaluit, Nunavut: Implications for Education

Summary: This research will study the usage of Inuktitut and English by Inuit in Iqaluit. I will be collecting information by surveys, tape recordings and interviews in order to find out when and where these languages are used, with whom, and for what purposes, as well as, what attitudes people have toward the two languages. I will be collecting this data from six different age groups. These age groups have had different school experiences with English and Inuktitut and different amounts of English influence. The groups range from elders to grade three students. Once I have collected that data I will be looking for common themes, in order to determine any changes to the amount of usage of Inuktitut, where each language is used predominantly, etc. Iqaluit was selected for this study as research shows that language patterns begin to change in urban areas more drastically than in rural areas. I also decided to look at Iqaluit because Iqaluit has more English influence than other more remote communities.

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Location/Region: Kitikmeot Region
Project Title: **Simpson River Oral History Project**

Summary: Two brothers, Nick Sikkurak from Pelly Bay and Louie Anakanerk from Gjoa Haven, left their family's camp near the mouth of the Simpson River shortly after both their parents died in 1950. When their parents passed away, the boys were 7 and 8 respectively. Neither has even been back, but both have vivid memories of the place, their parents' death and burial there, and their lives up to that point. They were subsequently raised by Oblate missionaries. Both men have agreed to return to the site, and to record what stories they can remember while in camp there. This is an unusual piece of history for several reasons: 1) there were very few people living along that part of the coast, east of Perry River; 2) this family traveled overland, back and forth, between the coast and Garry Lake on the Back River, territory that has been little explored and whose history is only sparsely documented; and 3) the strong link to the Oblates.

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Location/Region: Kitikmeot
Project Title: **Iqalluqtuuq Project 1999**

Summary: The Kitikmeot Heritage Society would like to conduct field research along the Ekalluk River, which is approximately 50 km west of Cambridge Bay. The field work would begin in late July for approximately 5 days and continue again for another 5 days in mid-August. This project was developed based on the recommendations of the Kitikmeot Heritage Society's Board of Director, made up primarily of elders from the community. The research will be conducted by Kim Crockatt, Martha Angulalik, Emily Angulalik, James Panioyak and Dr. Max Freisen. The oral history project will involve video recording Elders oral histories and observations as we visit sites around the Ekalluk River and Ferguson Lake. This field research will be used as education material, for broadcast on IBC and as the basis of a proposal, which will be written by Dr. Max Friesen, to obtain funding for a long-term academic research project by the University of Toronto's Department of Anthropology, under the direction of the Kitikmeot Heritage Society.

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Project Title: **Oral History Projects in Taloyoak and Pelly Bay**

Summary: In the Taloyoak Oral History Project, the Kitikmeot Heritage Society will be interviewing 12 Elders from the community of Taloyoak. The Elders will be asked to speak about their personal recollections, their personal history and any major events that they recall. The interviews will be conducted where the Elder feels most comfortable, probably at home. The interviews will be recorded on cassette tape and pictures will also be taken.

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Location/Region: South Baffin
Project Title: **Identity and Justice in Multicultural Society: Models of Indigenous Self-Determination**

Summary: The general aim of this project is to identify particular responses made to the claim of indigenous rights, and to examine the effectiveness and acceptance of those measures. The focus of this section of the project is self-determination as it is currently emerging in the newly established territory of Nunavut. The research will add to our knowledge about the philosophical implications of rights of cultural difference and how the tensions between indigenous groups and settler communities may be resolved. More specifically, it will deepen our understanding of the particular policies involved: in the model of "public government."

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Location/Region: Kitikmeot
Project Title: **A Case Study of Integrating Inuuqatigiit into a Nunavut Junior High School Classroom**

Summary: The focus of this study is to determine the advantages and challenges of incorporating Inuit culture into a Nunavut junior high science class. It will look specifically at the integration of the Inuuqatigiit curriculum which aims to incorporate Inuit culture into the "conventional" science curriculum. The study will focus on the perspective of one teacher and will use student volunteers to triangulate data collected from the teacher. The research will be guided by the following research question: "What are the advantages and challenges for both the teacher and students of incorporating Inuuqatigiit into a Nunavut junior high science classroom?" One junior high school teacher and four students from his/her class will be involved in the study. The teacher will be selected based on his or her reputation for attempting to integrate Inuit culture into his or her classroom. Students will be selected by lottery during a class from those who wish to participate and have the consent of their legal guardian. Classroom observations, semi-structured interviews, and talking circles will be used to collect data for this study. The data collection will occur

over a one and a half month period. All interviews and talking circles will be audiotaped. The use of pseudonyms will be used for the school division, school and participants to provide the maximum degree of anonymity and confidentiality possible.

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Location/Region: Kivalliq
Project Title: **The Nunavut Distance Education Research Project**

Summary: The researcher proposes to conduct a detailed needs assessment to determine why aboriginal, specifically Inuit, learners tend not to be successful in distance-delivered, high school courses. Depending on the results of this needs assessment, a number of interventions may be proposed. For example, these interventions may consist of one or more of the following: 1) A set of guidelines (or a unit of instruction) for people who develop or adapt distance curricula to use with these learners; 2) A set of guidelines for tutors and other support personnel who will have contact with these learners; 3) A unit of instruction for these learners, better preparing them for distance learning. If deemed appropriate, it is likely that the third potential intervention would be fully developed to the point where it could be implemented and evaluated. Other potential interventions will also be outlined. The extent to which they will be developed will depend on the final amount and mix of chosen interventions.

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Location/Region: Baffin
Project Title: **Discourse and Identity in Iqaluit**

Summary: This research program - conducted in collaboration between Universite Laval and Nunavut Arctic College - aims at expanding and completing our knowledge of the ways through which various individuals and groups communicate linguistically among themselves in

Iqazluit, a multilingual community of the Canadian Arctic, and to examine how these discourse practices contribute to define the ethnic identity of the speakers. The program (1998-2001) is a continuation of the investigators' 1994-1997 research on discourse practices in the Baffin. In order to be better understood, the situation has to be further documented and its analysis refined. This is precisely the aim of the present program, whose specific objectives are threefold: 1) To complete the analysis of the data on discourse practices already collected by the investigators; 2) To enrich these data through the observation of language behaviour in Inuit homes and offices; 3) To gather new data on the contents of discourse and on its role in enacting one's identity, by means of a roundtable including both Inuit and Qallunaat.

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Location/Region: South Baffin
Project Title: **Arctic Social Science PhD Network Conference 1999: Self-government and Development in the North.**

Summary: The Arctic Social Science PhDNetwork Conference 1999 is a course bringing together PhD students and renowned professors around the theme of self-government and development in the North. It is the fourth such conference, the previous ones having taken place in Greenland (1996), Quebec North Slave (1997) and the North Calotte in Norway and Russia (1998). There are five major objectives to these conferences. First, the Conference serves to stimulate exchanges among researchers from different disciplines and countries who share a common interest regarding issues of northern and aboriginal development research. Second, the course helps create a special opportunity for PhD students to discuss their budding research with more experienced researchers. This allows them to deepen the theoretical, methodological and empirical aspects of their projected work. Third, the Conference fosters the insertion of these young scholars into an international research network. Fourth, the meeting also fosters the emergence of new international research projects. And finally, the conference allows scholars to keep up an ongoing reflexion on the ethical and epistemological aspects of social science research in the North.

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Location/Region: Kitikmeot Region
Project Title: **An Inuit History of Exploration**

Summary: Her hope is through interviews in Gjoa Haven and perhaps later in Pelly Bay and other Arctic coast communities to find more stories of the Inuit experience with the British expeditions of Sir John Franklin, Sir John Ross and Sir Edward Parry. She has already collected some material through interviews with Iqaluit Inuit who once lived around Frobisher Bay (relating to Sir Martin Frobisher) and through interviews in Igloolik (relating to Parry). She has also benefited from access to the files of the Igloolik Research Centre. Her aim is to publish a book of general interest which tells the story of the Inuit encounters with the explorers and makes use of existing explorers' narratives as back-up material.

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Location/Region: North Baffin
Project Title: **The Negotiation, Creation and Mediation of Inuit Culture**

Summary: The purpose of this study is to learn more about how traditional culture is translated into modern mass media. The study of traditional cultures and the media concentrated on the appearance of traditional images, themes, etc., in modern media. In this study, I hope to learn more about how traditional culture is modified, shaped, edited, and presented for mass consumption -- including consumption by people outside the subject culture.

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Location/Region: Kivalliq
Project Title: **Social Assessment of a Mine Development**

Summary: Cumberland Resources Ltd. has conducted mine exploration activities at the Meadowbank Property since 1995. The property is located approximately 70 km north of Baker Lake. Previous social research activities in support of this development have been information (e.g. meetings, site visits). The objective of the 1999 research program is to gather information on existing social conditions, community issues, and traditional knowledge in support of future environmental/social assessment for the mine development. The following activities are proposed for the 1999 social science research program: 1) Collect information on traditional ecological knowledge in support of scientific studies. Interviews and meetings will be held with Baker Lake Elders to document their unique understanding of their local environment (e.g. wildlife movement and trends, fish migration, natural resource use, etc.). Interviews will be conducted in Inuktituk. 2) Collect information on community conditions, concerns, resource use, land use, etc. Public meetings, open houses, household surveys, targeted meetings with specific stakeholder groups, and interviews will be used to gather socio-economic and community information.

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Location/Region: South Baffin
Project Title: **Baffin Island Photographic Identification and Oral History Project**

Summary: The proposed study builds on initial oral history research conducted by the applicant to identify the people and places pictured in historic photographs taken by explorer Donald MacMillan at various locations on Baffin Island (NRI license #010698R-M). In the present study, additional historic photographs from south Baffin Island will be incorporated into the project in order to conduct more focused oral history interview relating to Inuit environmental knowledge. Research is proposed to take place in three Nunavut communities: Iqaluit, Kinngait, and Kimmirut. The project will use photographs to help interview elders and youth about their understandings of short and long term changes in climate and its effect on sea ice conditions, animal availability, vegetation and land use during the 20th century. The photographic collections consist of images taken by three photographers including: Robert Flaherty, Donald MacMillan, and Peter Pitseolak. These collections, currently housed in three separate repositories in southern Canada and the United States, will be brought north to the communities where research is to be undertaken.

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Location/Region: Baffin
Project Title: **Indigenous Peoples Rights in a Global and Local Context - With Focus on Inuit in Arctic Canada**

Summary: The focus of the project is to examine the legal, political and social processes connected with the implementation of self-government in Nunavut. The process self-government will be perceived as a field of negotiation and communication of various concerns and perspectives on rights and identities. The aim of the project is to obtain a better understanding on what impacts self-government and indigenous rights has on the construction of a modern Inuit identity in Arctic Canada today. A study, which is interesting to compare with the processes of the Greenlandic Home-Rule.

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Location/Region: South Baffin
Project Title: **Status of Women Project: First Nations Women Speak about Diminishing Conflicts between their Cultural Context and their Education/Work Context**

Summary: The project team is made up of four women, two aboriginal and two white women, and it has been designed in keeping with the recommendations of the Royal Commission on Aboriginal Peoples. They will work with eight aboriginal communities across Canada using a participatory research approach. The work is guided by Elders and Advisors from the west and east of Canada. The work of the project includes: listening with respect to the experiences of aboriginal women, and making recommendations with input from women to help make our lives and the lives of our children more manageable. The project will work with women and

communities to move stories of experience towards policy recommendations that will assist Aboriginal women to realize their vocational goals without undue sacrifices in their cultural experience. The project team hopes that their work will create more opportunities for Aboriginal women to have a meaningful place in today's society.

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Location/Region: Baffin, Kivalliq, Kitikmeot
Project Title: **Inuit Spirituality and Religious Transformations**

Summary: Oral traditional reflect changing Inuit perspectives of the world. In a rapidly changing society, the preservation of the knowledge of Inuit elders is of great value to the cultural identity of modern Inuit. This research project consists in recording various interviews with elders on Inuit spirituality and religious transformation in order to preserve this knowledge for future Inuit generations. In this perspective, the

project is willing to take into account both the regional differences and the common knowledge that appears through this diversity. The project hopes to provide new data to students on both traditional religion and Christianity in order that they could have the knowledge from two worlds as an elder stated I during a course on Inuit perspectives on traditional law: " You will have the knowledge from two worlds. There are regional differences but when the elders talk about knowledge the thought and substance is always the same, even though they use different words in their dialects." In this project also, oral tradition is used to provide a better understanding of archival documents collected or written by missionaries, either Catholic or Anglican. The research will be conducted in close collaboration with the Nunavut Arctic College and especially with the Language and Culture Program coordinated by Dr. Susan Sammons and Alexina Kublu. The research fits into the Inuit Knowledge Project conducted by the Nunavut Arctic College over the last five years in which elders from different communities of Nunavut were interviewed by students. As the production of traditional knowledge requires the exchange of questions and answers, this project will try to think about questions that allow us to go further in our understanding of both traditional and modern spirituality.

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Location/Region: Pond Inlet, North Baffin
Project Title: **The Relationship of Pond Inlet Inuit and Narwhals (*Monodon monoceros*)**

Summary: The purpose of the proposed research is to examine the relationship between Pond Inlet Inuit and narwhals. The major goals are to examine the social and cultural value and importance of narwhals to Pond Inlet Inuit and the subsistence strategies employed by Inuit to procure narwhals. The proposed research will conduct this research among a sample of Inuit, in Pond Inlet, Nunavut through three major objectives. The first objective is to identify and investigate the major features of subsistence sharing and the importance of narwhal resource products to extended family households and Pond Inlet Inuit. This involves an analysis of the entire narwhal hunting procedure from the hunting to processing to sharing and consumption. The second objective is to examine a large sample of the subsistence production in order to place narwhal foraging in context of other foraging activities. The last objective is to generate and test hypotheses for understanding variation

among hunting strategies that are currently employed by members of the community. The methodology that will be utilized for these objectives include participant observation of hunting trips when possible and paid interviews of Inuit with their consent. The data will be made available to the community and all interviews will require participant consent so that participants retain anonymity and confidentiality. The research will be reported through meetings for the Hamlet council and the Hunter's and Trapper's Organization as well as written reports submitted for both groups.

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Location/Region: South Baffin
Project Title: **Early Intervention in Igloolik: A Research Proposal**

Summary: For the past two years, Igloolik has been developing and implementing a collaborative approach to early intervention for their youngest children. The primary objectives of the early intervention program are: 1) to provide opportunities that will promote the complete, strong and health development of our youngest children while at the same time enriching and supporting their families and care-givers. 2) to build on our strengths through community collaboration in order to give our children the best possible start to their lives. This project is the result of collaborative efforts of

community workers to put together initiatives, both home-based and centre-based, to address the needs of Igloolik's youngest children by building on programs already in existence in our community. Social Service Programs, Health Centre Programs, Head Start, Health Children Initiatives, Program Support Services at Ataguttaaluk Schools and Inullariit Society Projects. Through these various initiatives, it is believed that we will see increased community collaboration and healthier children in stronger families building stronger communities. It is important that children and their families be able to access opportunities to enable them to grow, gain skills, knowledge and develop to their maximum potential. Based on this Igloolik approach, this research project will endeavour to document and substantiate any of the benefits of centre based early intervention programs targeting the 0-6 year old population and their families. These experiences, observations, data and feedback will be shared freely with other communities. The research team will integrate a training component on evaluation procedures in working closely with the staff of this project.

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Location/Region: South Baffin
Project Title: **Ethnohistory of Southern Baffin Island**

Summary: This project will study the history of Iqaluit and Pangnirtung since 1940. Inuit elders and younger leaders, and Qadlunat who are long-term residents, will be interviewed about the early years of the settlements. The researchers will also review reports, newspaper clippings, photographs, and other materials at the Nunatta Sunaqtangit Museum, the Iqaluit Public Library and the Arctic College Library, and the Angmarlik Interpretive Centre. Annie McElroy has been studying this history since she was a student, visiting Baffin Island seven times between 1967 and 1994 with permission from the community councils. In that time, Inuit identity has endured and become stronger, and the researcher plans to study factors that have influenced that identity. This research will help Inuit children and youth understand changes in their communities and will lead to published articles and a book, copies of which will be donated to libraries in Nuanvut. Elders may copyright stories that appear in this book and may receive royalties.

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Project Title: **Tourism, the tourist and the Social Construction of Place: A Case Study in Pangnirtung, Baffin Island**

Summary: I propose to look at the role that travel plays in the life of the urban tourist and the perceptions of the North that are developed through tourism literature and the tourism experience. These motivations and perceptions are important because understanding is the foundation for action. By the year 2000 tourism will be the largest industry in the world in terms of trade and employment and its importance is growing in the North. Tourism is also a window into understanding urban industrial cultures. I will begin by researching tourism literature to see what kinds of images and ideas are used to "sell" the North to the tourist. I will interview tourists who are visiting Pangnirtung as to their motivations for going North and their expectations. While there, I will observe the tourist experience and collect information from local organizations (e.g. Hamlet office, Parks Canada) regarding tourism in Pangnirtung. This research would like to uncover how many people are involved in tourism and how the town has structure the tourist experience.

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Location/Region: North Baffin
Project Title: **Igloolik Isuma Productions: Video, History and Identity**

Summary: This project is being undertaken in an attempt to learn more about Igloolik Isuma Productions within its particular social, economic, historical, political and ideological context. Working from an art historical background and drawing on recent developments in cultural studies, the researcher would like to gain a greater understanding of Isuma's methodologies, both practical and philosophical, while meeting the people involved in this endeavour and visiting their facilities. Video is a medium which is particularly conducive to notions of self-representation and self-definition and one which functions to undermine traditional power structures inherent in visual/object relations.

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Location/Region: South Baffin
Project Title: **Inuit Attitudes Towards the Animals: Changes and Permanent Features**

Summary: My research is a long-term study of various aspects of relationships between the inuit and animals. The Igloolik community has been selected because of its well-known attachment to the traditional subsistence activities (hunting and fishing). The results of my research are currently published in academic journals. Moreover, I am in charge of a course on Inuit culture at "Institut national des langues et civilisations orientales" (INALCO) in Paris. The program is partly based on my field materials. I intend to study the evolution of attitudes towards animals in the context of present day society (Nuanvut). During my past field research, I was mostly interested in elders' knowledge, beliefs and skills. This time, I would like to focus on changes in the values and behaviour in relation to wildlife and to hunting, especially amongst the younger generations. What is the meaning of hunting for them now in terms of individual social status, sharing, solidarity? How do the present regulations (autoregulation/quota system limitations) differ from the traditional ones? A zoological lexicon is in preparation: it contains much more than just names of different species. Terminology concerning sex and age categories is included, as well as, terms related to various aspects of animal life (anatomy, reproduction, feeding, locomotion, sounds). Some data need to be completed and checked, especially the terminology related to hunting, consuming and using different kinds of game.

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Number in party: 2
Location/Region: Nunavut
Project Title: **Perceptions of Inuit Educators of the School Principal's Role**

Summary: The purpose of this study is to identify the factors which motivate Inuit women to become

school principals and the factors which create barriers. The objectives are: 1)to discover which factors attract female Inuit educators to become school administrators; 2)to discover which factors make school administration an unattractive career; and 3) to provide data for education policy makers on the influences into the role of principal.

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Number in party: 1
Location/Region: South Baffin
Project Title: **Promotion of Inuktitut/Inuinnaqtun in the Workplace**

Summary: The Nunavut Department of Culture, Language, Elders and Youth has the mandate to protect, preserve and promote the Inuktitut and Inuinnaqtun language. A key area for the promotion of Inuktitut/Inuinnaqtun is the workplace. In this research project, we propose to evaluate the possibility of successfully implementing Inuktitut/Inuinnaqtun as the language of work in Nunavut. We will consider the current situation of the Inuktitut and Inuinnaqtun language, current language usage in the workplaces of Nunavut, and Inuit attitudes with regard to the implementation of their language as the language of work. This research project will be divided into two major stages. The first stage, currently underway at Universite Laval, Quebec, involves the consultation of existing documentation, which permits us to determine the extent to which the Inuktitut and Inuinnaqtun language is equipped to function as the language of work in Nunavut. The second stage of this project involves field work in Iqaluit, Nunavut. In Iqaluit, we will observe current linguistic usage in 5 representative workplaces. We will then conduct semi-directed interviews with a key figure in each of these workplaces, as well as with 5 key members of the community. These interviews will permit us to understand the opinions and desires of the residents of Iqaluit with regards to the Inuktitut and Inuinnaqtun language becoming the official language of work. More specifically, the interviews will allow us to identify the level of Inuit commitment to making Inuktitut/Inuinnaqtun the language of work in Nunavut. As a result of this research, through the consultation of existing documentation and field work in Iqaluit, we will identify where the possibilities and needs lie for language planning in the workplaces of Nunavut. This research will provide a solid foundation upon which an effective language plan for the implementation of Inuktitut and Inuinnaqtun as the official working language of Nunavut may be constructed.

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Number in party: 4
Location/Region: South Baffin
Project Title: **The Political Ecology of Subsistence in Nunavut: Political History and Community Effect**

Summary: To examine how government policy in Nunavut has developed with regard to the support of Inuit harvesting and subsistence activities. The project shall approach these issues at two levels: the analysis of official archival information on policy related to hunting and subsistence (Iqaluit phases); the collection and analysis of economic data from local harvesters in Clyde River. The overall objective is to understand the way(s) official policy makers at a variety of governmental and quasi-governmental levels have responded to the cultural and economic stresses imposed on Inuit subsistence practice by the collapse of the European sealskin market (1983) and to integrate this understanding within a model of Inuit adaptation.

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