2019 Compendium of Nunavut Research

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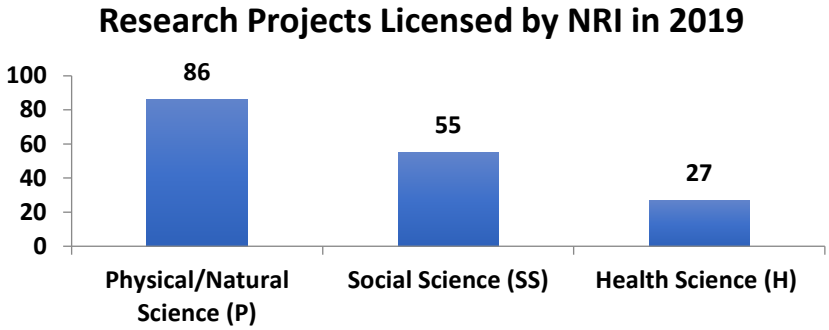
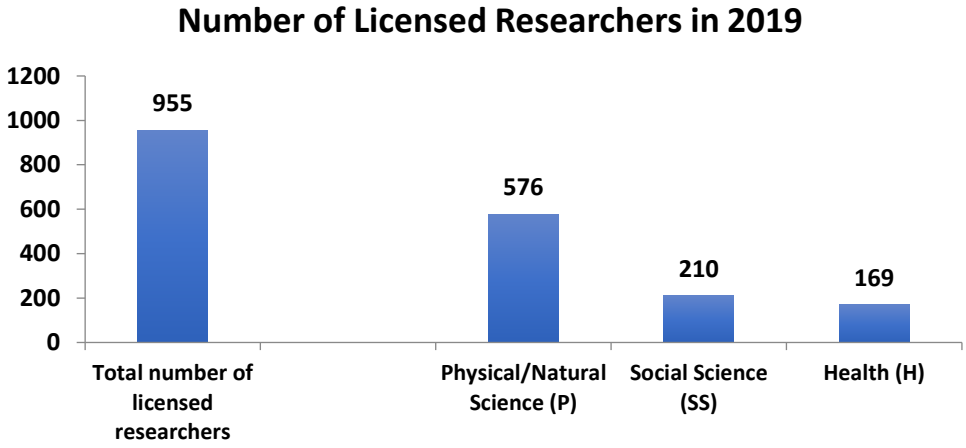
Health Research

Message from the Senior Research Officer

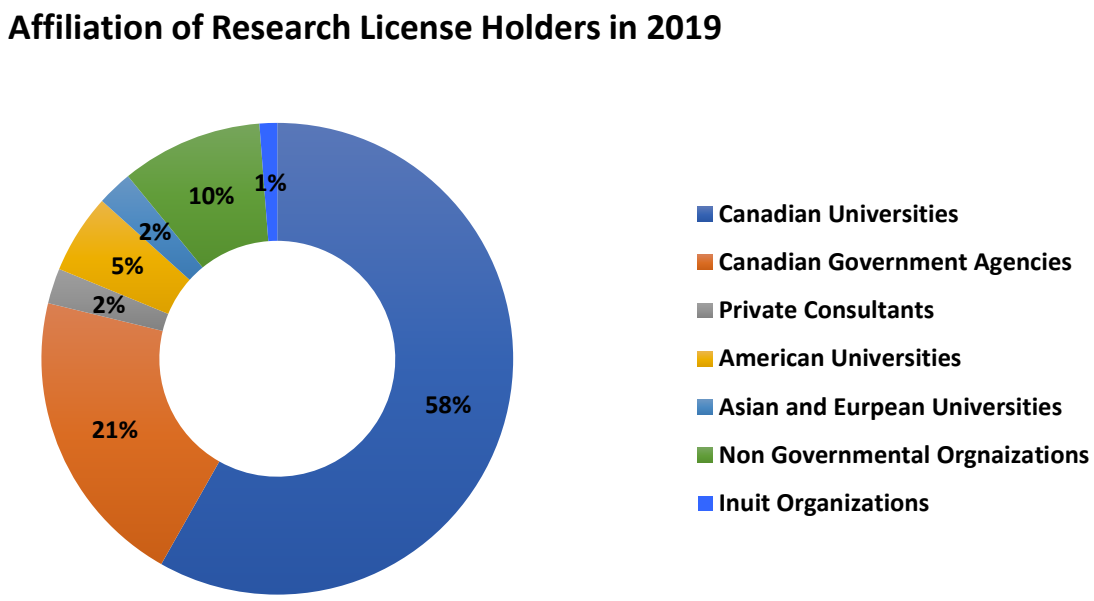
I am pleased to present our compendium of research licensed under Nunavut's Scientists Act in 2019. 168 research projects were licensed in the health, natural/physical, and social research disciplines in 2019 and research activities were carried out in all three regions of Nunavut.



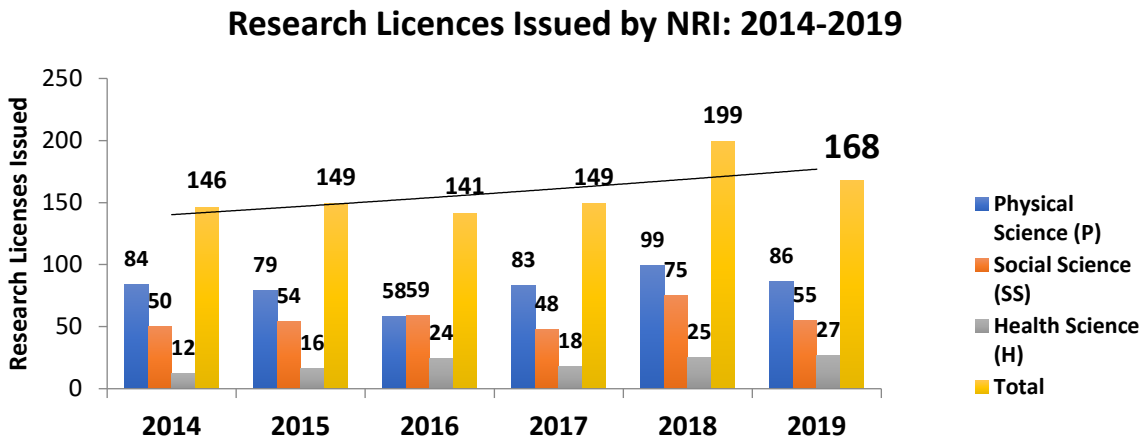
A total of 955 researchers participated in licensed research projects in 2019, the majority of whom worked on physical/natural sciences research.



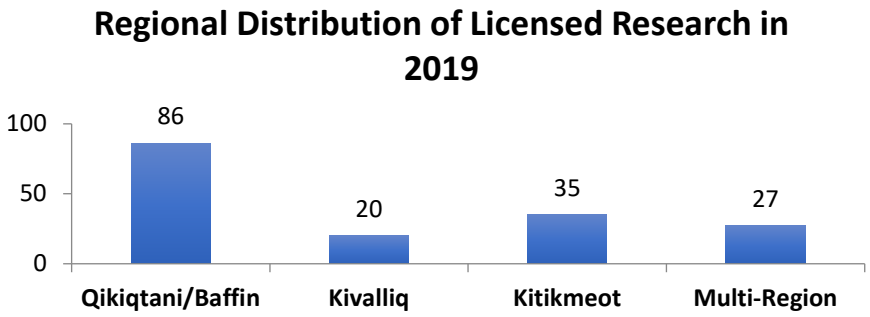
Research license holders in 2019 came from broad range of Canadian and international institutions and organizations representing various Government agencies, private consultants, nongovernment organizations, (NGOs), Inuit organizations, and academic institutions. As in previous years, most NRI licenses in 2019 were issued to researchers from Canadian Universities.

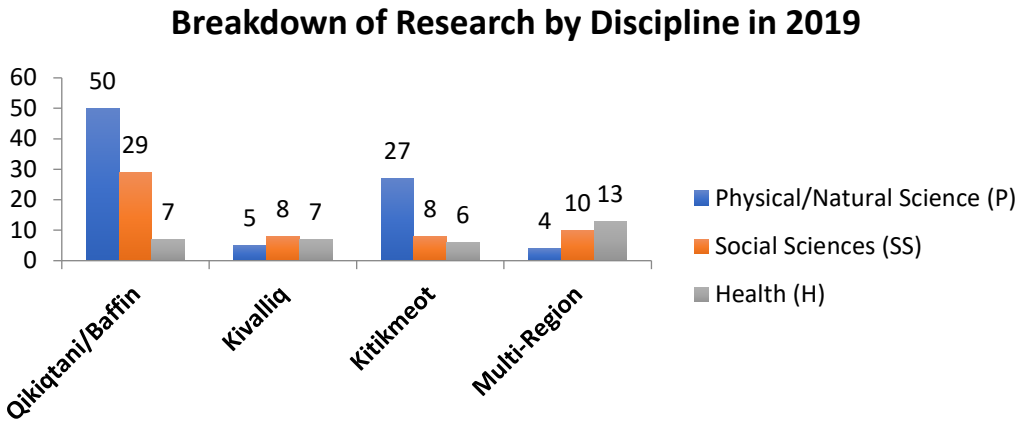


The number of licenses issued by NRI varies from year to year but has shown an overall increasing trend since 2014.



The regional distribution of licensed research in 2019 shows that most research projects in 2019 were conducted in the Qikiqtani region where there are more facilities available to support research field activities





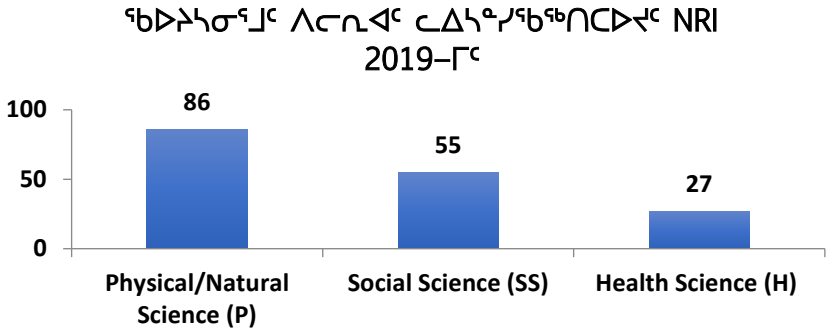
I am pleased to note that 17 research licenses in 2019 were issued to principal investigators from Nunavut and I applaud the many research leaders and champions in our communities. Nunavut Arctic College is committed to building research capacity in Nunavut and to fostering opportunities for Nunavummiut to participate in and learn from science that addresses the needs of our communities. We are especially thankful to the many individuals and organizations who participate in NRI's research review and consultation process to help us ensure high standards for research in Nunavut. I also wish to acknowledge the many Nunavummiut who provided critical services such as interpretation, translation, outfitting, guiding, and other logistics support to ensure the safety and success of research activities in 2019.

For more information on any of the research projects described in our compendium, or to learn more about the NRI's programs and services, please visit our website at www.NRI.nu.ca.

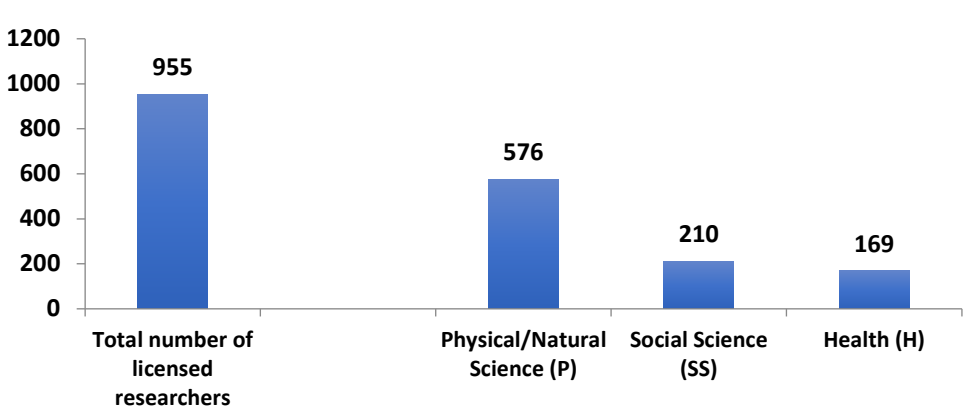
Mary Ellen Thomas, Director of Research
Nunavut Research Institute, Nunavut Arctic College

ᑐᓴᖏᓴᖅ ᐊᓐᓕᔪᖅᑲᒥ ᖃᐅᔨᓴᖅᑎ

ᖁᔭᕕᐊᔪᑐᖓᓗ ᑐᓂᓗᑎᑦ ᓄᐊᖏᒪᔪᑦ ᖃᐅᔨᓴᓂᖅᓗᑦ ᓕᐃᓴᓐᓂ ᐊᒋᑦ ᓄᓇᕗᒻᒥ ᖃᐅᔨᓴᖅᑎᓄᑦ ᐱᖁᔪᖅ 2019. 168 ᖃᐅᔨᓴᓂᖅᓗᑦ ᐱᓕᕆᐊᑦ ᓕᐃᓴᓐᓂᔪᒪᓕᐅᖅᑐᑦ ᐊᐠᓂᐊᖅᑐᓕᕆᓂᖅᒥᑦ, ᓄᓇᖓᓗ/ᖃᓄᐃᓕᖅᓱᖅᓗ, ᐊᒻᒪ ᐃᓄᖅᑎᑎᓐᓂᖅᓗᑦ ᖃᐅᔨᓴᖅᓂᐅᔪᓄᑦ 2019 ᐊᒻᒪ ᖃᐅᔨᓴᓂᖅᓗᑦ ᐱᓕᕆᔨᐅᔪᑦ ᐱᓕᕆᐊᖓᔪᐅᖅᑐᑦ ᐊᑕᖓᑎᑐᑦ ᐱᖓᓱᓂᓂ ᐊᐅᑐᖅᓂᒪᓕᐅᓂ ᓄᓇᕗᒻᒥ.

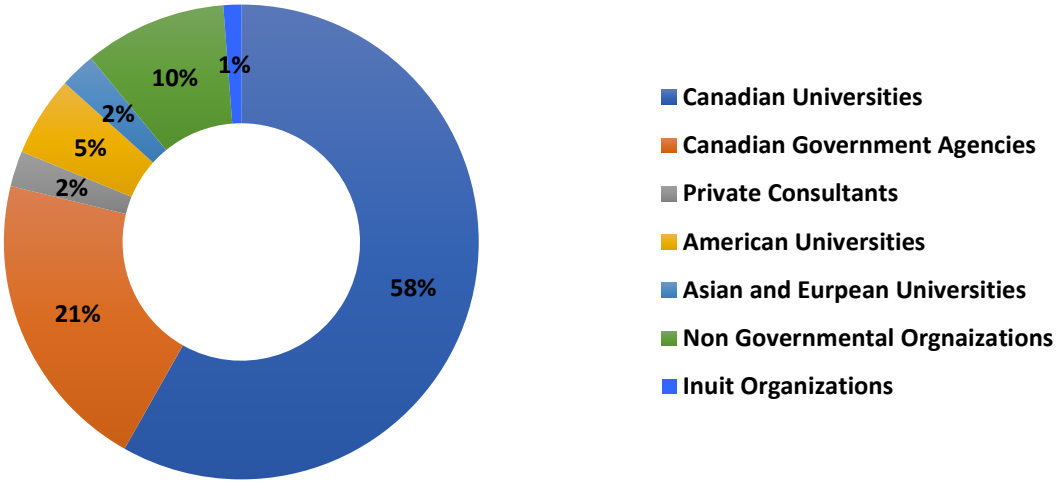


ᑲᑎᑦᑎᓂᑦ 955 ᖃᐅᔨᓴᖅᑳᑦ ᐃᓕᐅᖅᑲᑕᐅᓕᐅᖅᑐᑦ ᓕᐃᓴᓐᓂᖅᓱᖅᑐᑎᑦ ᖃᐅᔨᓴᓂᖅᓗᑦ ᐱᓕᕆᐊᓂᑦ 2019-ᒥᑦ, ᐊᒥᓱᓂᖅᓴᐅᔪᑦ ᐃᓅᖅᓇᐃᔾᓕᐅᖅᑐᑦ ᓄᓇᖓᓗᓄ/ᖃᓄᐃᓕᓐᓂᓂᖅᓗᓄ ᖃᐅᔨᓴᖅᓂᐅᔪᓂᑦ.



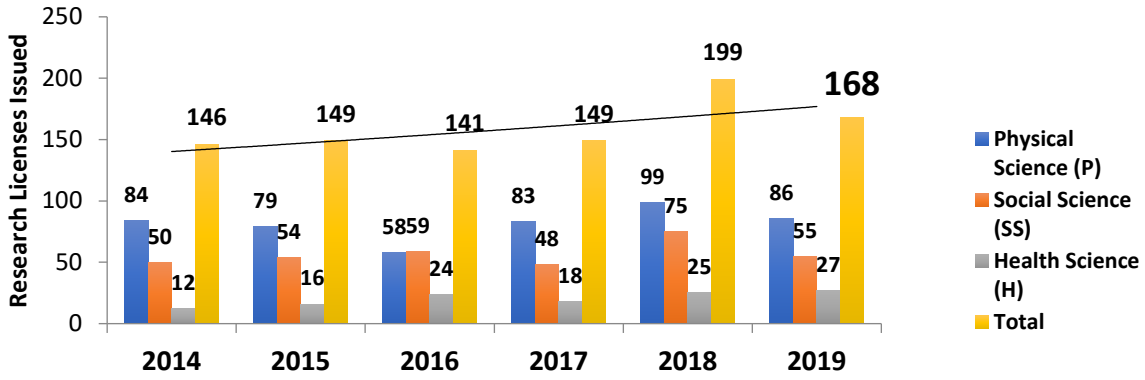
ᖃᐅᔨᓴᓂᖅᓗᑦ ᓕᐃᓴᓐᓂᒥᑦ ᑎᒍᒥᐊᖅᑐᑦ 2019-ᒥ ᓇᑭᑐᐃᓐᓇᖅᓂᒪᓕᐅᖅᑐᑦ ᑲᓇᑕᒥᐅᑕᓂᑦ ᐊᒻᒪ ᓂᓕᕐᔪᐊᒥᑦ ᐃᓕᓐᓂᐊᖅᓱᓂᑦ ᐊᒻᒪ ᑲᑐᔾᔨᖅᑎᑎᓂᑦ ᑭᖑᓪᓚᖅᑐᐃᓐᓇᑦ ᑎᒥᐅᔪᓂᑦ, ᐅᖃᖅᐳᖅᑎᐊᖅᑳᑦ, ᒪᓕᒐᓚᐅᖅᑎᑐᑦ ᑲᑐᔾᔨᖅᑎᑎᑦ, (NGOs), ᐃᓄᐃᑦ ᑲᑐᔾᔨᖅᑎᑎᑦ, ᐃᓕᓐᓂᐊᖅᓱᓂᑕᕆᓂᖅᓗᑦ ᐃᓕᓐᓂᐊᖅᓱᓇᑦ. ᐊᖏᔪᒪᖅᑕᖅᓂᒪᓕᐅᓂ, ᐊᒥᓱᓂᖅᓴᐃᑦ NRI ᓕᐃᓴᓐᓂᓗᑦ 2019–ᒥ ᑐᓂᔨᐅᓕᖅᑐᑦ ᖃᐅᔨᓴᖅᓂᐅᔪᓄᑦ ᑲᑎᑦᑎᓂᑦ ᓂᓕᕐᔪᐊᒥᑦ ᓂᓪᓕᖅᑐᐊᓂᑦ.

ᐱᓕᕆᕕᐅᔪᑦ ᖃᐅᔨᓴᓂᖅᓯᒪᑦ ᓯᐃᓴᖏᓪᓕᑦ 2019

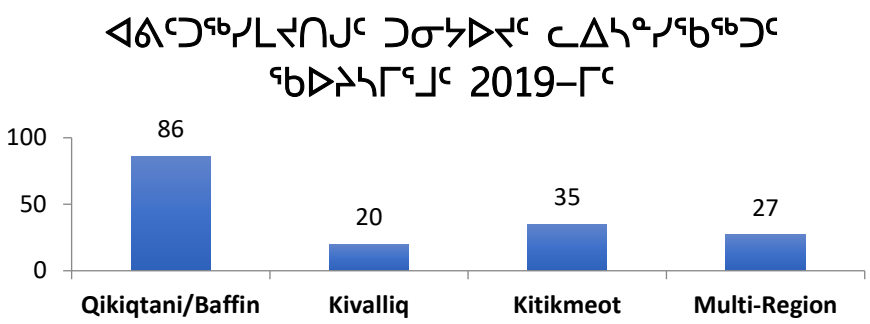


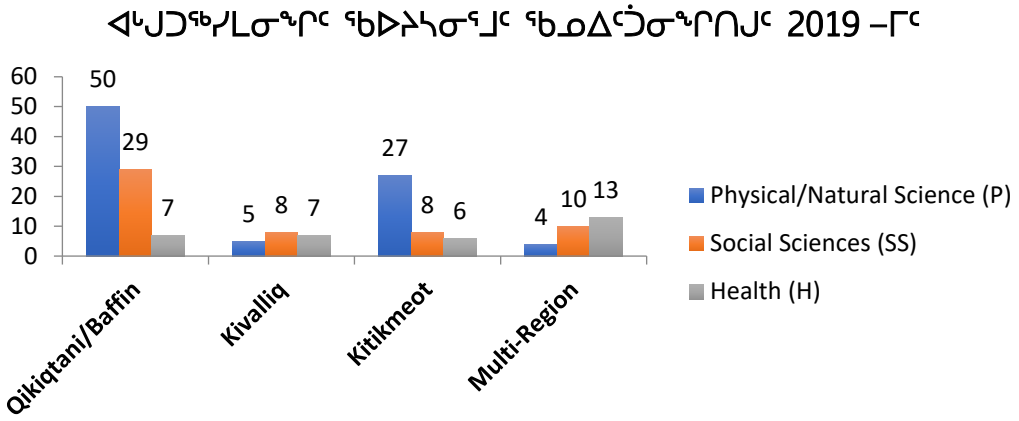
ᐊᒥᓱᓂᖏᑦ ᓯᐃᓴᖏᓪᓕᑦ ᑐᓴᐅᒃᑯᑦ NRI–ᑯᓐᓄᑦ ᐊᐳᑎᖏᑐᖃᑕᖏᓚᐅᔪᑦ ᐊᖏᔪᒍᒥᑦ ᐊᖏᔪᒍᓚᑦ ᑭᓯᐊᓂᖅᑐᑦ 2014-ᒥᓂᑦ

ᖃᐅᔨᓴᓂᖅᓯᒪᑦ ᓯᐃᓴᖏᓪᓕᑦ ᑐᓴᐅᒃᑯᑦ NRI–ᑯᓐᓄᑦ: 2014-2019



ᐊᕐᑐᖅᓭᓪᓕᐊᑎᒍᑦ ᑐᓴᐅᒃᑯᑦ ᓯᐃᓴᖏᓪᓕᑦᑕᖅᑐᑦ ᖃᐅᔨᓴᓂᖅᓯᒪᑦᓂᖅ 2019-ᒥᑦ ᑕᑯᔭᕆᐊᑎᓂᑎᓪᓗᑦ ᐊᒥᓱᓂᖅᑐᖅᑕᐃᑦ ᖃᐅᔨᓴᓂᖅᓯᒪᑦ ᐱᓕᕆᕕᐅᔪᑦ 2019-ᒥᑦ ᖃᐅᔨᓴᓂᖅᓯᖃᓕᕆᔨᑐᖅᑐᑦ ᖃᑭᖅᑕᓗᓂᒥ ᐱᓕᕆᕕᖏᓂᑦ ᐊᑐᐃᓐᓇᖅᑕᖅᖃᖅᑎᑎᓂᓪᓗᒍ ᐃᑲᔪᖅᑐᑎᑦ ᖃᐅᔨᓴᓂᖅᓯᒪᑦ ᐱᓕᕆᔨᐅᔪᓂᑦ





ᖃᐅᔨᒪᓕᒃᖢᒃ ᓇᓗᓇᐃᖅᓯᓂᓇᕐᒪ Ċᖅᑯᐊ 17 ᖃᐅᔨᓴᓂᖕᒧᑦ ᓪᓚᕆᓐᓯᓱᑦ 2019-ᒥᑦ ᑐᓂᔭᐅᓪᓚᕆᐅᔨᐅᖅᑐᑦ ᖃᐅᔨᓴᖅᑎᑦᓗᐊᖅᑕᓄᑦ ᓄᓇᕗᒻᒥ. ᓄᓇᕗᒻᒥ ᐅᑭᐅᖅᑕᖅᑐᒥ ᓯᓚᑦᑐᖅᓴᕐᕕᒃ ᑲᔪᓯᖅᓯᒪᔪᑦ ᐱᕈᐃᓗᑎ ᖃᐅᔨᓴᕈᓐᓇᖅᑎᑦ ᓄᓇᕗᒻᒥ ᐊᒻᒪ ᐱᕕᓴᕐᖃᖅᑎᕐᓂᑎᑦᓗᑎᑦ ᓄᓇᕗᒻᒥᐅᓄᑦ ᐃᓕᓴᐅᔪᓂᖅᐹᑦ ᐊᒻᒪ ᐃᓕᐅᖅᑲᐅᑦᓗᑎᑦ ᖃᐅᔨᓴᐅᓕᕆᓂᖅᑎᑦ ᐱᓕᕆᐊᖅᑲᖅᑐᓂᑦ ᐱᓱᐅᓴᐊᖅᑲᖅᑐᓂᑦ ᓄᓇᓕᓂᐅᓕᓄᑦ. ᖃᐅᔨᓕᑎᐊᕈᒪᓕᕐᓂᖅᑲᖅᑕ ᐊᒥᓱᑦ ᐃᓄᓐᓄ ᐊᒻᒪ ᑲᑐᔾᔨᖅᑎᑎᕆᑦ ᐃᓕᐅᖅᑲᐅᑦᓗᑎᑦ NRI–ᓄᑦ ᖃᐅᔨᓴᓂᖕᒧᑦ ᖃᑭᒋᐅᓂᖕᒧᑦ ᐊᒻᒪ ᑐᓴᖅᑎᑎᕐᓂᐊᓂᖕᒧᑦ. ᑐᓴᕋᓴᑎᑦ ᐃᓐᓇᑎᓂᓄᑦ ᐃᑲᔪᖅᑐᑦ Ċᖅᑯᐊ ᖃᐅᔨᓴᓂᖕᒧᑦ ᓕᐃᓴᓄᓯᖅᑎᒋᐊᕐ ᐊᑐᑎᐅᓂᖅᑲᖅᑎᑎᒍᑦ,, ᐃᓱᐱᔪᓂᑎᐊᖅᑐᑎᑦ, ᐊᒻᒪ ᐃᑲᔫᖅᑲᖅᑐᑦ ᓄᓇᕗᒻᒥᐅᓄᑦ. ᐃᓕᓴᕆᔨᒪᓕᕐᓂᖅᑲᖅᑕ ᐊᒥᓱᑦ ᓄᓇᕗᒻᒥᐅᓕᐃᑦ ᐱᔭᑎᑎᐅᑎᖅᑲᖅᑎᑎᒍᑦ ᓄᓇᓕᓂᐅᓕᓄᑦ ᐃᓕᐅᖅᑲᐅᑦᓗᑎᑦ, ᐊᐅᓚᑦᑎᒥᑦ ᐊᒻᒪ ᐃᑲᔫᖅᑲᖅᑐᑦ ᓄᓇᕗᒻᒥᐅᓄᑦ ᐃᑲᔪᖅᑐᑦ ᐊᑐᖅᑕᐃᓐᓇᖅᑐᑦ, ᐊᐅᓚᑦᑎᒥᑦ ᐊᒻᒪ ᐃᑲᔫᖅᑲᖅᑐᑦ ᓄᓇᕗᒻᒥᐅᓄᑦ ᐃᑲᔪᖅᑐᑦ ᐊᑐᖅᑕᐃᓐᓇᖅᑐᑦ ᐊᒻᒪ ᑲᔪᓯᑎᐊᖅᑐᑎᑦ ᖃᐅᔨᓴᓂᖕᒧᑦ ᐱᓕᕆᐊᖅᑐᑦ 2019-ᒥᑦ.

ᑐᓄᓯᐊᕆᑲᓂᕐᒪᔭᐃᓕᓴᖅ ᓇᓪᓕᐊᓂᕐᑐᐃᓇᖅ ᖃᐅᔨᓴᓂᖕᒧᑦ ᐱᓕᕆᐊᓂᓕ ᓇᓗᓇᐃᖅᑲᓇᕐᓯᒪᔪᑦ ᖃᐅᔨᑦ, ᐅᖃᖅᑎᓂᐅᔪᓂᑦ ᖃᐅᔨᓴᓂᖕᒧᑦ NRI ᐱᓕᕆᐊᖅᓯᓂ ᐊᒻᒪ ᐱᔭᕇᓂᖅᑕᓂᓕ, ᖃᐅᔨᓴᕐᓂᐊᕐᓗᒍ ᖃᕆᔨᐅᔾᔨᖅᑎᓂᒃ ᑐᓄᓯᐊᕆᑲᓂᕐᒪᔭᐃᓕᓴᖅ NRI ᐱᓕᕆᐊᖅᓯᓂ ᐊᒻᒪ www.NRI.nu.ca.

ᒥᐅᓗ ᐃᐊᓪ ᑕᒪᓐ, ᑐᓄᓯᐊᕆᑲᓂᕐᒪᔭ, ᐱᓕᕆᓂᖕᒧᑦ ᐊᒻᒪ ᖃᐅᔨᓴᓂᖕᒧᑦ
ᓄᓇᕗᒻᒥ ᖃᐅᔨᓴᖅᑐᓕᕆᔨᒋᑦ, ᓄᓇᕗᑦ ᐅᑭᐅᕈᖅᑐᑦ ᓯᓚᑦᑎᒥᖅ

Green Edge-Legacy Project

License Number: 02 034 17N-M

Principal Investigator: Babin, Marcel

Affiliation: Laval University
Quebec City, Quebec, Canada
Marcel.Babin@takuvik.ulaval.ca

Number in Party: 9

Research Area: South Baffin

Fieldwork Locations: Qikiqtarjuaq

SUMMARY

This research aims to improve our knowledge about the dynamics of the phytoplankton spring bloom and indentify its role in the Arctic Ocean of the future, including its impact on human populations. The culture, health, and economic capacity of northern communities are closely linked to marine resources supported by the phytoplankton spring bloom (PSB). This project aims to improve our understanding of the processes that control the Arctic PSB as it expands northward and to determine its fate in the foodweb. As follow-up activities, we will go back to Qikiqtarjuaq to test updated equipment to measure light through the snow and sea ice and under the ice pack. Water samples will also be collected to measure nutrients and phytoplankton in the water column before, during, and after the PSB. These findings will allow a better understanding of the observations completed in 2015 and 2016.

2018-2019 Socio-Economic and Inuit Qaujimajatuqangit Studies for the Mary River Project

License Number: 02 001 19N-M

Principal Investigator: Kamermans, Lou

Affiliation: Baffinland Iron Mines Corporation
Oakville, Ontario, Canada
lou.kamermans@baffinland.com

Number in Party: 8

Research Area: North Baffin

Fieldwork Locations: Arctic Bay, Pond Inlet, Mary River Project Site

SUMMARY

The goal of these workshops is to establish community-informed terrestrial and marine environmental protection measures for the Phase 2 proposal. For greater clarity, 'protection measures' may include management, mitigation, and/or related monitoring initiatives. Caribou are expected to be the primary focus of the terrestrial environment workshop discussions, while narwhal and aquatic invasive species/ballast water discharge are expected to be the primary focus of the marine environment workshop discussions. Additional topics will be discussed if time allows.

Identifying determinants of school completion, post-secondary education, and education success in Nunavut

License Number: 01 001 19Registry

Principal Investigator: Healey, Gwen

Affiliation: Qaujigiartiit Health Research Centre
Iqaluit, Nunavut, Canada
gwen.healey@qhrc.ca

Number in Party: 2

Research Area: Nunavut Wide

Fieldwork Locations: All Communities

SUMMARY

The purpose of the project is to explore determinants of secondary school completion, post-secondary education, and education success in Nunavut. This study will include both qualitative and quantitative data collection to triangulate findings and ensure the production of a detailed picture of the determinants of education success in Nunavut. There will be 5 parts to the data collection including: online survey with post-secondary and Grade 12 students, drawing voice with Grade 12 students, narratives from key informants (parents, counsellors and teachers), and narratives from high school dropouts.

Ukkusiksalik National Park Marine Baseline Data Collection

License Number: 03 001 19R-M

Principal Investigator: Mahy, Maryse

Affiliation: Parks Canada
Iqaluit, Nunavut, Canada
maryse.mahy@pc.gc.ca

Number in Party: 16

Research Area: Kivalliq

Fieldwork Locations: Naujaat, Chesterfield Inlet, Rankin Inlet, Coral Harbour, Baker Lake, Arviat, Igloolik

SUMMARY

The primary goal of the project is to reflect Inuit knowledge in 3 sub-projects. The results of the pilot project will contribute to best practices for the Nunavut Field Unit of Parks Canada to be able to best engage Inuit knowledge in its monitoring program for Ukkusiksalik National Park in the future. It will also assist in continuing to protect and present the park to the public.

Curricular Relevance in Nunavut and Its Effect on Student Success

License Number: 02 015 19N-A

Principal Investigator: Willis-Leake, Benjamin James

Affiliation: Vancouver Island University
Igloolik, Nunavut, Canada
leakeh@gmail.com

Number in Party: 1

Research Area: North Baffin

Fieldwork Locations: Igloolik

SUMMARY

The study will investigate the relationship between student success in a course and the course's cultural relevance. Participants will be asked to rate each course's cultural relevance based on the curriculum used to teach that course. The participants rating each curriculum will include five different groups: teachers, parents, elders, students, and student support assistants. The courses that will be examined are English 10, Math 10, Science 10, Physical Education 10, Social Science 10, Inuktitut 10, and Art 10.
The goal or objective of this research will be to determine the degree of correlation between student success in a course and the courses' cultural relevance. There is a difference between student achievement in different courses, with some courses having consistently higher failure rates than others. This study seeks to determine if this disparity is caused by a lack of cultural relevance in the curriculum of the courses in which students are consistently failing. This research may be used to inform educational policy decisions within Igloolik and Nunavut. The study could also help further our understanding regarding the perception of cultural relevance in curriculum by various educational stakeholders.

Developing Best Practices for Community Engagement in, and Co-Management of, Dolphin and Union Caribou Health in Costal Regions of Nunavut

License Number: 04 003 19R-M

Principal Investigator: Hanke, Andrea

Affiliation: Department of Ecosystem and Public Health Faculty of Veterinary Medicine
University of Calgary
Calgary, Alberta, Canada
andrea.hanke1@ucalgary.ca

Number in Party: 2

Research Area: Kitikmeot

Fieldwork Locations: Kugluktuk

SUMMARY

The purpose of this study is to gather local knowledge from community residents to better understand Dolphin and Union (DU) caribou health and population dynamics. Local knowledge from this study will be coproduced with scientific information gathered from regional hunter-harvested samples. This project will also support the development of participatory tools that will allow the long term and real-time monitoring of DU caribou health. This project is an expansion of Matilde Tomaselli's work, "Developing best practices for community engagement in, and co- management of, narwhal health in coastal regions of Nunavut".

Community Based Determination of the Stessors Affecting Muskoxen

License Number: 04 004 19R-M

Principal Investigator: Di Francesco, Juliette

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Number in Party: 2

Research Area: Kitikmeot

Fieldwork Locations: Kugluktuk

SUMMARY

The overall aim of this project is to determine the stressors affecting muskoxen. More specifically, the goals will be to collect traditional knowledge on the factors that are affecting muskox health and well being, their importance, when they occur throughout the year, and how they have changed over time. We aim to improve our understanding of the stress patterns we observe in muskxoen. For this, scientific data gathered by measuring stress levels in hair samples colllected from regional hunter harvested muskoxen will be analyzed with the participants.

An Assessment of Municipal Materials Management Stream Using the Circularity Index

License Number: 01 009 19N-M

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Research Area: South Baffin

Fieldwork Locations: Iqaluit

SUMMARY

The goal is to identify the circularity and/or sustainability of activities within Iqaluit, along the materials management stream. This includes helping determine where along the waste stream Iqaluit may be losing plastics to landfill or the environment. It also includes assessing materials or waste management systems and materials import.

Franklin Expedition Inuit Oral History Research

License Number: 04 006 19R-M

Principal Investigator: Shackleton, Ryan

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Number in Party: 4

Research Area: Kitikmeot

Fieldwork Locations: Gjoa Haven, Terror Bay/Ugjulik

SUMMARY

This project will document Inuit oral histories of the 1845 Franklin expedition, specifically of the shipwreck sites of the HMS Erebus and HMS Terror. It will involve a close collaboration with community members in Gjoa Haven and other Kitikmeot communities, the Nattilik Heritage Centre in Gjoa Haven, and the Franklin Interim Advisory Committee; to gather knowledge of Ugjulik and Terror Bay Nunavut, as well as the history of the Franklin Expedition. The project will provide Inuit Elders the opportunity to share their knowledge with the Canadian public; not only about the expedition, but also the traditional uses of the natural setting of the wrecks and surrounding areas. This will demonstrate to the Canadian public that these shipwrecks are part of Inuit Homelands. It will also provide Inuit youth and adults alike with the opportunity to build skills that will enable them to collect and present oral histories in their own communities.

Integrating Local Knowledge of Ecologically Sensitive and Culturally Importany Marine Areas in Arctic Canada

License Number: 03 002 19R-M

Principal Investigator: Carter, Natalie Ann

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Number in Party: 3

Research Area: Kivalliq, Kitikmeot

Fieldwork Locations: Coral Harbour, Cambridge Bay

SUMMARY

The intent of the Northern Marine Transportation Corridors (NMTC) initiative, co-led by the Canadian Coast Guard is to reduce the liklihood of marine incidents by providing predictable levels of service to mariners transiting the corridors. However, the corridors do not adequetely consider marine areas used by northern communities for traditional or cultural activities - nor do they consider non commercial use of the marine environment, including tourism vessels that are likely to travel off the corridors into uncharted waters and under-serviced regions. The proposed research is in direct reaction to this challenge.

Inuit Knowledge about Polar Bear Health for the Davis Strait Polar Bear Population

License Number: 01 005 19Registry

Principal Investigator: Henri, Dominique

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Research Area: South Baffin

Fieldwork Locations: Iqaluit, Kimmirut, Pangnirtung

SUMMARY

The main goal of this project is to document Inuit knowledge about polar bear health, abundance, and distribution to support management decisions and strategies for the Davis Strait polar bear population. The specific objectives of our work are to: (1) gather and compile Inuit knowledge about polar bear health, abundance, and distribution for the Davis Strait polar bear population; (2) combine and compare Inuit and scientific knowledge available for the Davis Strait polar bear population and discuss implications for polar bear management; and (3) build community capacity for polar bear health assessment and co-management in Nunavut. We will document Inuit knowledge (IK) about polar bears in the three Nunavut communities located within the boundaries of the Davis Strait polar bear population (Iqaluit, Kimmirut and Pangnirtung). We will use participatory research tools and methods for the collection of IK (a combination of interviews with local experts, group discussions, and mapping exercises). We will then compare documented IK with available scientific information for the Davis Strait polar bear subpopulation. Lastly, we will contribute to building community capacity for Inuit knowledge documentation by offering Nunavummiut training workshops on the collection of local knowledge for wildlife health assessment. This project is supported by HTOs in Iqaluit, Kimmirut and Pangnirtung and will be conducted in close collaboration with residents from these three communities.

Developing Best Practices for Community Engagement in, and Co-management of, Narwhal Health in Coastal Regions of Nunavut

License Number: 02 004 19R-M

Principal Investigator: Tomaselli, Matilde

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Number in Party: 3

Research Area: North Baffin

Fieldwork Locations: Pond Inlet

SUMMARY

The purpose of this study is to gather traditional and local knowledge from community residents to better understand narwhal population health and its drivers. Traditional and local knowledge from this study will be integrated with existing scientific knowledge gathered in the region. This project will also support the development of participatory tools that will allow the long-term and real-time monitoring of narwhal health.

Towards a Sustainable Fishery for Nunavummiut

License Number: 04 011 19R-M

Principal Investigator: Schott, Stephan

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Number in Party: 15

Research Area: Kitikmeot

Fieldwork Locations: Cambridge Bay, Gjoa Haven, Taloyoak

SUMMARY

The Traditional Ecological Knowledge (TEK) Sharing and Mapping Workshop is a component of the larger four year research project, "Towards a Sustainable Fishery for Nunavummiut," led by a diverse research team of government, university, non-profit, and local collaborators. The larger project will deliver essential genomics and microbiome data; stock management tools; population genomics maps for Arctic char, cod and shrimp, and guidelines for a community based fisheries plan, which will serve as a model for other regions. The purpose of the project is to improve the understanding of the use and status of arctic char, cod, and shrimp in the Lower Northwest Passage in order to strengthen food security, create a baseline of the status and value of fish stocks and to evaluate economic development opportunities.

Mobilizing Inuit Qaujimajatuqangit for Sea-Ice Safety: A Sikumiut case study to support Inuit Self-Determination in Research

License Number: 02 008 19R-M

Principal Investigator: Wilson, Katherine

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Number in Party: 3

Research Area: North Baffin

Fieldwork Locations: Pond Inlet

SUMMARY

The purpose of this project is to support Inuit self-determination in research through a case study in Mittimatalik (Pond Inlet), Nunavut. The goals of the project are to advance Inuit research leadership, decision-making, knowledge, approaches and capacity building. Sikumiut (people of the sea ice) is the 12-person management committee in Mittimatalik that governs the SmartICE community-based sea-ice monitoring program. At a recent meeting, Sikumiut identified the need to document their Inuit Qaujimajatuqangit (IQ) of sea-ice to support safe sea-ice travel, assess the impacts of climate change and resource development, and to share this knowledge with the community and future generations.

COMPASS: Cohort Study Evaluating how changes in School Programs, Policies, and Resources impact Youth Health Behaviours

License Number: 01 008 19R-M

Principal Investigator: Leatherdale, Scott

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Number in Party: 4

Research Area: South Baffin, Kivalliq

Fieldwork Locations: Cape Dorset, Coral Harbour, Iqaluit, Pangnirtung

SUMMARY

COMPASS is a Canadian Institutes for Health Research and Health Canada-funded longitudinal study designed to follow a cohort of high school students attending a sample of secondary schools for up to five years, to understand how changes in school environment characteristics (policies, programs, built environment) are associated with changes in youth health behaviours. COMPASS originated to provide school stakeholders with the evidence to guide and evaluate school-based interventions related to obesity, healthy eating, tobacco use, alcohol and marijuana use, physical activity, sedentary behaviour, school connectedness, bullying, and academic achievement. A mental health module will be introduced starting in the 2017-18 school year.

Learning the Tundra: An Intergenerational Study of Spatial Inuit Qaujimajatuqangit

License Number: 03 005 19R-M

Principal Investigator: Greene, Ezra

Affiliation: Department of Anthropology
University of British Columbia
Vancouver, British Columbia, Canada

Number in Party: 1

Research Area: Kivalliq

Fieldwork Locations: Rankin Inlet, Chesterfield Inlet

SUMMARY

The purpose of this project is to gain information and knowledge on the topic of Inuit spatial and ecological knowledge, or Inuit Qaujimajatuqangit (IQ), across several age generations. The reason for this is to examine how Inuit spatial and ecological knowledge is taught and learned in today's world.

Factors of Success in Recruitment, Integration and Retention of Indigenous Workers in the Mining Sector

License Number: 03 008 19N-A

Principal Investigator: Asselin, Hugo

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Number in Party: 2

Research Area: Kivalliq

Fieldwork Locations: Baker Lake

SUMMARY

The goal of this project is to document the best practices in terms of recruitment, integration, and retention of Indigenous workers in the mining industry. Several members of Indigenous communities in Canada work for mining companies, including in Nunavut. The mining industry has been booming for a while now and is not expected to decline anytime soon. For Indigenous communities to get as much benefits as possible from mining projects (provided that they are acceptable in the first place), mining companies need to improve their practices. We hope that by studying several projects in Québec and Nunavut we can determine how they meet the needs of Indigenous communities and workers. This project is funded by the Social Sciences and Humanities Research Council of Canada.

The Inuit and their Dogs: Human-Animal Relations in Nunavik and Nunavut Today

License Number: 01 019 19R-M

Principal Investigator: Levesque, Francis

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Research Area: South Baffin

Fieldwork Locations: Iqaluit

SUMMARY

In the past 60 years, public authorities in Nunavut have tried to put in place measures to control what they perceived as the risk-associated dog populations, mainly the transmissions of zoonosis to human population (i.e. rabies, parasites) and attacks on people. The measures adopted to control these perceived risks have inlcuded the vaccination of dogs, the slaughter of others (officially, only roaming and sick ones), and the obligation of tying them up. The main objective of this project is to bridge the gap between public health and Inuit over the issues of dogs in Iqaluit. Specifically, this project will: (1) Make a description of dogs (loose, pets, sled dogs etc.), the risks that are associated with them (accidents, transmission of zoonosis and diseases, etc.), dog sicknesses, local regulations , and resources (dog pound, vet services etc.), (2) Describe local perceptions of dogs among various actors.

Inuit Community Perspectives on Ringed Seal and Polar Bear Monitoring in the Gulf of Boothia

License Number: 04 013 19R-M

Principal Investigator: McCarney, Paul

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Number in Party: 2

Research Area: Kitikmeot

Fieldwork Locations: Kugaaruk

SUMMARY

The purpose of this research is to investigate the health and ecology of ringed and bearded seals in the Gulf of Boothia and to collect information on seals that will allow monitoring of the feeding habits of polar bears. The project includes the collection of seal samples and interviews with hunters and other community members about their knowledge of seal abundance and distribution. The long term goal is to determine how climate warming and increased development may affect ringed seals, bearded seals and polar bears, with the goal of assisting in conservation and maintaining healthy, abundant populations capable of sustaining harvesting needs of communities around the Gulf of Boothia.

Local Perspectives and Concerns Related to Potential Marine Oil Spills

License Number: 03 006 19R-M

Principal Investigator: Hostetler, Glen

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Number in Party: 1

Research Area: Kivalliq

Fieldwork Locations: Chesterfield Inlet

SUMMARY

The proposed research is part of exploring the ethical, environmental, economic, legal, and social (GE3LS) aspects of the GENICE project: Microbial Genomics for Oil Spill Preparedness in the Canadian Arctic. The GE3LS team will continue to engage with the community beyond this research; however, funding to expand the work in future years is under review and so the exact nature of future work is not yet known. The objective of the proposed research is to understand local people's perspectives and concerns related to marine oil spills that could affect their community and areas of importance to them. The purpose is to ensure that local interests guide the scientific research (e.g., sampling of areas identified as at increased risk of spills and/or of socio-cultural and economic importance), and to ensure that local perspectives on marine spill preparedness and response are included in recommendations to policy makers.

In Our Own Words: The Voice of Inuit RCMP Special Constables from Nunavut

License Number: 05 005 19R-M

Principal Investigator: Webster, Deborah

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Number in Party: 1

Research Area: Nunavut Wide

Fieldwork Locations: All Nunavut Communities

SUMMARY

This project will create a record of Nunavut RCMP special constables' roles and contributions in their own words. Information gathered from interviews will be used to write biographies about each special constable to include in a book about “Our Inuit Specials.”

A Collaborative Research Project with Inuit Youth, Families and their Communities about Informal Education Practices, Community Driven Science Research and Life Long Learning with Important Implications for Inuit Education and Perserverance

License Number: 05 006 19R-M

Principal Investigator: Rahm, Jrene

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Number in Party: 5

Research Area: Kivalliq, North & South Baffin

Fieldwork Locations: Arviat, Sanikiluaq, Pond Inlet

SUMMARY

The purpose of the collaborative community project is the description and documentation of Inuit ways of learning with Inuit youth, families and their communities. The three year collaborative community project is also closely aligned with the research priorities of the National Strategy of Inuit Education. We initiated collaborations with four programs in three communuties in Nunavut to pursue our goal of describing life long learning and a holistic model of Inuit education.

Oral Histories of Auyuittuq National Park

License Number: 02 016 19R-M

Principal Investigator: Routledge, Karen

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Number in Party: 3

Research Area: South Baffin

Fieldwork Locations: Pangnritung, Qikiqtarjuaq

SUMMARY

Parks Canada is collecting oral histories about the area that is now Auyuittuq National Park. These stories will mainly be used to help Parks Canada staff, residents of Pangnirtung and Qikiqtarjuaq, and visitors understand the history of Auyuittuq National Park.

Inuit Knowledge on the Health of Auyuittuq National Park's Ecosystems/Environment: Climate Change Vulnerability Assessment and Pilot Project for Ongoing Monitoring

License Number: 02 018 19R-M

Principal Investigator: Mahy, Maryse

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Number in Party: 3

Research Area: South Baffin

Fieldwork Locations: Pangnritung, Qikiqtarjuaq

SUMMARY

The overall goal of the project is to include Inuit knowledge in Parks Canada's assessment of the health of the park's ecosystems. The immediate objectives of the project are to collect Inuit knowledge for a climate change vulnerability assessment project for the park, and to test a method for monitoring/studying the health of the park's ecosystems/environment through Inuit knowledge in the long term.

Shipwrecks in Cumberland Sound

License Number: 02 019 19R-M

Principal Investigator: Routledge, Karen

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Number in Party: 7

Research Area: South Baffin

Fieldwork Locations: Pangnirtung, Cumberland Sound

SUMMARY

We want to work with knowledge holders in Pangnirtung as part of Parks Canada's underwater archaeology project about whaling shipwrecks in Cumberland Sound. Our goals are: (1) Community members will share knowledge of whaling era shipwrecks in Cumberland Sound, and (2) Parks Canada will share information from its archaeological work in ways that are relevant and useful for the community.

Understanding the Role of Youth Engagement in Scientific Research in Nunavut

License Number: 02 023 19R-M

Principal Investigator: Sadowsky, Hilary

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Number in Party: 4

Research Area: North Baffin

Fieldwork Locations: Pond Inlet

SUMMARY

There is a growing movement for researchers to partner with northern communities and individuals in scientific research. As this process becomes more common place, opportunities for employment and education in research also increase for local Inuit, and researchers seek partnerships with knowledgeable, skilled community members. Experienced hunters and trappers are often hired by researchers, as they possess the resources and knowledge necessary to assist in environmental research, yet opportunities for youth to engage in similar relations are limited. Nunavummiut believe that researchers have the responsibility to include Inuit youth in environmental research and enhance their scientific literacy through that inclusion. This research aims to examine the roles of researchers in engaging Inuit youth in land-based environmental research and opportunities for enhancing scientific literacy in remote northern communities. It will also explore the unique perspectives that Inuit youth bring to environmental research and how these perspectives contribute to research.

Silalirijiit Project

License Number: 02 030 19N-M

Principal Investigator: Fox, Shari

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Number in Party: 5

Research Area: North Baffin

Fieldwork Locations: Clyde River

SUMMARY

The goal is to build on previous research and collaboration, to gain a better understanding of weather patterns and weather information needs for the community, and provide improved weather information for the community and study purposes. We aim to explore the many connections of people and weather, drawing on Inuit knowledge and perspectives, as well as western science. The specific goals and objectives of this project include: (1) Build on our previous work to continue to understand aspects of the weather and weather information that are important to people. (2) Document the details of these variables by drawing on knowledge collected through Elder-youth science camps and continued close collaboration of our multi-disciplinary, multi-cultural, and multi-generational research team. (3) Connect Inuit knowledge, weather station data, and environmental modeling to better understand weather variables in the region. (4) Share our results through weather and other information to the community through expanding our existing weather station network, website, and other reports. ‘

Introducing the Emotional and Affective Geographies of Law: Strengthening Community Through the Practice and Feeling(s) of Inuit Law

License Number: 04 021 19R-M

Principal Investigator: Robertson, Sean

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Number in Party: 2

Research Area: Kitikmeot

Fieldwork Locations: Kugaaruk

SUMMARY

The goal is to better understand Inuit and legal social norms related to subsistence activities and other areas of hamlet life. In resonance of Inuit way of knowing that go beyond rational thinking, the project also seeks to learn more about the role of the body, emotions and "the feeling" in certain areas related to the enactment of norms. The topic includes norms pertaining to the management of resources,the settling of disputes, interactions with non-Inuit normative orders (e.g. Canadian Law), etc.

Pirurvik IQ-Montessori Evaluation Research Project

License Number: 05 010 19Registry

Principal Investigator: Mearns, Ceporah

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Number in Party: 4

Research Area: Nunavut Wide

Fieldwork Locations: Arctic Bay, Igloolik, Iqaluit, Pond Inlet, Rankin Inlet, Taloyoak, Cambridge Bay

SUMMARY

The Pirurvik IQ-Montessori Evaluation Research Project will be a multi-site case study and project evaluation of the Pirurvik: Place to Grow program (hereafter, Pirurvik). The Pirurvik program is a preschool program based in Pond Inlet, Nunavut which was awarded the Arctic Inspiration Prize in Winter 2019. The funds received from the prize will allow our group to train staff at 7 daycare centres across Nunavut, to deliver their IQ-Montessori program. The IQ-Montessori Program is an Early Childhood Education program that brings together Inuit Childrearing practices, and the Montessori approach to allow the child to learn at their own pace, and explore.

Nunavut Water Resouce Management

License Number: 02 048 19R-M

Principal Investigator: Wesche, Sonia

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Number in Party: 3

Research Area: North Baffin

Fieldwork Locations: Hall Beach, Igloolik

SUMMARY

Sustainable freshwater sources are important for northern community development and planning however, many northern communities in Canada lack knowledge about their existing water supply, baseline demand, and recharge potential. The communities of Igloolik and Hall Beach were identified as having limited capacity for future growth in their municipal water supply. This project involves water resource assessments in Igloolik and Hall Beach to understand how water supply and capacity will be influenced by continued population growth and climate change, and to provide decision makers with data for improved water management. We will focus on Inuit perspectives about water in their communities, water-related health concerns, and potential alternative water sources that may be used (or preferred) in the future.

Ancient Tuniit Settlement Strategies in Northern Foxe Basin, NU

License Number: 02 050 19N-A

Principal Investigator: Walker, Samantha

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Number in Party: 2

Research Area: North Baffin

Fieldwork Locations: Igloolik

SUMMARY

Inuit identities are deeply linked to places and in Northern Foxe Basin, Nunavut such place-based identities may go back 3000 years, as the Tuniit colonized key areas in Foxe Basin which endure among Inuit as important places today. This summer (2019), I intend to undertake the oral history component of my PhD research. Inuit migrated into the Foxe Basin about 1000 years ago, at which point there were 50-200 years of cohabitation by Tuniit and Inuit, until the Tuniit disappear from the archaeological record. I am interested in learning about what Iglulingmuit Inuit think about who the Tuniit were and where they went, as passed down in local oral history.

Towards Tourism Management Recommendations for the Franklin Wrecks

License Number: 04 034 19N-M

Principal Investigator: Potter, Stephanie

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Number in Party: 2

Research Area: Kitikmeot, South Baffin

Fieldwork Locations: Cambridge Bay, Gjoa Haven, Iqaluit

SUMMARY

The goal is to examine marine and shipwreck tourism management strategies for the Wrecks of HMS Erebus and HMS Terror National Historic Site (WETNHS). These sites are quickly becoming tourism attractions for both cruise ship operators and pleasure boaters. Recent increases in marine tourism have resulted in concerns about how these sites can be protected and how visitors may access them in a safe and appropriate manner.

Zooarchaeological Investigations of Paleo-Inuit and Neo-Inuit Sites on Southampton Island, Nunavut

License Number: 03 019 19R-M

Principal Investigator: Liesch, Jasmine

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Number in Party: 3

Research Area: Kivalliq

Fieldwork Locations: Coral Harbour

SUMMARY

The purpose of this research is to reconstruct subsistence practices of Paleo-Inuit and Neo-Inuit inhabitants of the Native Point region of Southampton Island, Nunavut to define how these practices varied between distinct cultural groups and shifting climatic conditions over approximately 2000 years of nearly continuous occupation. My interpretation of subsistence patterns based on lab-based analysis of museum collections of animal bones from Proto-Dorset, Dorset, Thule, and Sadlermiut sites located at Native Point will be supplemented by contemporary Traditional Knowledge obtained by interviewing hunters, Elders, and Traditional Knowledge bearers from the nearby community of Coral Harbour. Through these interviews I aim to gather knowledge relating to current and recent past subsistence strategies, such as preferred taxa and methods for hunting, processing, storing, cooking, and disposing food. Where appropriate, this information will be used as analogues for prehistoric subsistence patterns.

Understanding Narwhal Inuit Qaujimajatuqangit and Focusing on the Colletion of Knowledge of Cornelius Nutarak

License Number: 02 057 19N-A

Principal Investigator: Nweeia, Martin Thomas

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Number in Party: 3

Research Area: North Baffin

Fieldwork Locations: Pond Inlet

SUMMARY

The purpose of collecting IQ on the narwhal is to advance prior studies and complete a collection of the writings on the narwhal and people who knew Cornelius Nutarak, who received the Elder's Recognition Award from the Inuit Heritage Trust. In preparation for a collaborative and proposed book on the IQ of Cornelius Nutarak, with assistance from Sean Giustini, the Fulbright Initiative and the Nunavut Research Institute, this information will add to the body of knowledge already gathered under a prior license from the Nunavut Research Center to celebrate his contributions to knowledge about the narwhal. Direct, semi-direct, and open questions will be asked of hunters who knew Cornelius and focusing on Jayko Alooloo, who originally approached me about putting together a book about Cornelius Nutarak. Pond Inlet was selected since Cornelius spent most of his life there, and those who knew him best reside in that community.

On the Syntactic Status of Person and Number Markers in Inuktitut

License Number: 01 025 19R-M

Principal Investigator: Compton, Richard

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Number in Party: 3

Research Area: South Baffin

Fieldwork Locations: Iqaluit

SUMMARY

The goal of this research is to better understand the structure of Inuktitut; how words and sentences are formed, which properties differentiate Inuktitut from other languages, and which properties it shares with other languages. The larger goal of linguistic research is to expand our knowledge of human language.

Strengthening Community-Based SAR and Emergency Response in the Kitikmeot

License Number: 04 037 19N-M

Principal Investigator: Kikkert, Peter

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Number in Party: 5

Research Area: Kitikmeot

Fieldwork Locations: Gjoa Haven, Taloyoak, Cambridge Bay, Kugluktuk

SUMMARY

In the North, community-based groups such as the Canadian Coast Guard Auxiliary, Ground Search and Rescue, Marine SAR Societies, CASARA, and the Canadian Rangers play an essential role in SAR and emergency response (ER). Our goal is to bring the groups and individuals involved in SAR and emergency response in a community together to identify the skills, knowledge, equipment, and strengths they possess. Often, this information is not tracked and/or shared by the municipal, territorial, and federal agencies involved in SAR and ER, which can affect operations and coordination/cooperation. Next, we will work with community groups to determine if a community has the capabilities it requires to respond to the potential SAR and emergency tasks it might face. Together, these activities will help to identify areas for capacity building. Ultimately, we anticipate that improvements to local capability will heighten the effectiveness and efficiency of SAR and emergency response practices in these communities, contributing to community well-being and the safety of those travelling, hunting, trapping, and fishing on the land, water, and ice.

Threading Gender to a Suicide Prevention Program Targeting Canadian Inuit Male Youth

License Number: 01 033 19N-M

Principal Investigator: Affleck, William

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Number in Party: 3

Research Area: South Baffin

Fieldwork Locations: Iqaluit

SUMMARY

The proposed project seeks to understand the connections between masculinities and Inuit male youth experiences of suicidality (suicidal thoughts, behaviours, ideation). Masculinities are defined as the socially constructed characteristics of what it means to be male, articulated through norms, ideals, behaviours, roles and gender-relations. The guiding theory, which conceptually frames this project, is that the loss of traditional culturally normed masculine roles is deeply implicated in the high rates of suicidality in this population. In line with this theory, the research questions guiding the proposed study are: (1.) What are the contemporary masculine ideals and norms among male Inuit youth, and how do these ideals align/differ from those of traditional Inuit society? (2.) How do masculinities inform and influence suicidality amongst male Inuit youth? (3.) What recommendations do male Inuit youth have for the design and implementation of targeted suicide prevention programs delivered in the Canadian Arctic

Get Them Talking: Investigating How Nunavut Students Respond to Number Talks in the Math Classroom

License Number: 01 032 19N-A

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Number in Party: 3

Research Area: South Baffin

Fieldwork Locations: Iqaluit

SUMMARY

The purpose of this study is to explore how Nunavut students' experience and respond to learning mathematics through the use of daily number talks. The main goal is to learn what degree, if any, do daily number talks inform Nunavut students' learning experiences in mathematics. The objectives of the study are to understand: (1.) the impact of daily number talks on Nunavut elementary students' computational fluency in the classroom, (2.) the steps required to establish daily number talk routines in a classroom, and (3.) if number talks contribute to Nunavut students' feelings of efficacy about mathematics.

Understanding Inuit Community Uses and Needs for Weather, Water, Ice and Climate Information and Services

License Number: 05 013 19N-M

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Number in Party: 17

Research Area: Nunavut Wide

Fieldwork Locations: Arviat, CambridgeBay, Clyde River, Coral Harbour, Igloolik, Iqaluit, Gjoa Haven, Pond Inlet, Sanikiluaq

SUMMARY

The goal of our project is to learn from Nunavummiut about what kinds of environmental information or services they rely on to decide when and where to travel on the land. We want to learn what kinds of weather, water, and ice information is used in different communities to assess travel safety. We also want to know what Nunavummiut think is missing, and what could be improved. To do this, we have developed a survey to get feedback from community members. Input from across Nunavut will provide valuable guidance for service providers and decision-makers who are trying to make services more relevant to arctic travel. Ultimately, we hope that results of this project can lead to improved products and services to help Nunavummiut have safer and more successful travel.

Examining Research Policy and Practice in Canada's North to Support Evidence-Based Decision-Making

License Number: 01 036 19N-M

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Research Area: South Baffin

Fieldwork Locations: Iqaluit

SUMMARY

Across the Canadian North there are concerns being expressed about how research in the region happens, what topics it is focused on, who is involved, who makes decisions, and where the benefits and investments land. Northern governments and organizations have identified the need for relevant research, accessible results, and engagement with northern communities. Northerners want to see tangible benefits from research for their region whether it is for improving policy, supporting community well-being, building a local knowledge economy, or building capacity through education or infrastructure. Currently, there is only anecdotal evidence of recent efforts to improve research in the North, and this project aims to fill that gap by providing evidence on the current state of research, how it has improved, and what still needs to be done to inform future research programs and policies.

Kivalliq Labour Market Analysis (KLMA) Study

License Number: 03 003 19N-A

Principal Investigator: Mills, Erin

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Number in Party: 2

Research Area: Kivalliq

Fieldwork Locations: Arviat, Baker Lake, Chesterfield Inlet, Coral Harbour, Naujaat, Rankin Inlet, Whale Cove

SUMMARY

The Kivalliq Labour Market Analysis (KLMA) aims to identify strategies to improve the ability of Inuit to achieve their life goals through engagement in the Agnico Eagle Mine (AEM) Kivalliq workforce. Efforts to identify barriers and success factors for Inuit employment will focus on factors that are preventing or supporting interested and eligible individuals accessing and succeeding in work with AEM. This will be accomplished by speaking to Inuit and others about employment dynamics including job search, job retention, career progression and post-termination re-entry.

Mining and Reconciliation in the Kivalliq Region

License Number: 03 021 19N-A

Principal Investigator: Henderson, Leah

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Number in Party: 3

Research Area: Kivalliq

Fieldwork Locations: Baker Lake, Rankin Inlet

SUMMARY

For this project, Aglu will be conducting interviews in October in the communities of Baker Lake and Rankin Inlet with representatives from the Hamlet, Hunter and Trapper Organizations, businesses, and other relevant groups (e.g. women's groups), dependent on availability and interest. Stratos and Aglu are working closely with an independent project advisory committee comprised of Nunavut and Inuit representatives to ensure the findings and final report are an accurate and appropriate characterization of the relationship between mineral resource management and reconciliation in the Kivalliq region. The final report will be provided to CIRNAC and the distribution of this report will be determined through input from interviewees and the advisory group.

Before Igloolik: Exploring Iglulingmiut Settlement and Subsistence in the Early 20th Century

License Number: 02 002 19R-M

Principal Investigator: Desjardins, Sean

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Number in Party: 4

Research Area: North Baffin

Fieldwork Locations: Avviajja

SUMMARY

The “Before Igloolik” ethnoarchaeological project is aimed at uncovering the long-term effects of climate change and colonialism on Inuit life around northern Foxe Basin, Nunavut. While work in 2019 will focus on the large premodern hunting camp of Uglit (NfHd-1), the 2018 field season focused on the recent-historic (early 20th century) archaeological site Avvajja (NiHg-1), which is situated on Inuit Owned Land (IOL) (QIA Exemption Certificate Q18X005) approximately six kilometers northwest of Ham Bay, Igloolik Island. The site consists of 12 historic semi-subterranean sod houses, two historic ice-block house foundations, an indeterminate number of heavily-disturbed (previously-excavated) Paleo-Inuit (Tuniit) houses, a single undisturbed Tuniit (likely Late Dorset) house, and an historic/modern wooden church. The overall condition of the site is fairly good, considering the relatively high amount of traffic it receives from the nearby community. School visits are common, as are occasional stopovers by hunting, fishing and recreation parties traveling by boat to the channels a short distance northwest of the site.

The Social and Economic Impact of a Greenhouse on an Inuit Community: Case Study Arviat, Nunavut 2019

License Number: 03 017 19N-A

Principal Investigator: Robertson, Julie

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Number in Party: 2

Research Area: Kivalliq

Fieldwork Locations: Arviat

SUMMARY

This study aims to understand the impact that the greenhouse will have on Arviat. To understand how well the greenhouse is running and how the community members use it, we first need to understand the food issues in the community before the greenhouse produces food. The research will be based on surveys from 152 community members aged 18 and over. Youth age 15- 17 and children (younger than 16) have been excluded from the research because we are interested in food buying and eating habits of families. The survey will be repeated in summer of 2020 to understand the how the availability of fresh locally grown food impacts food purchasing for a home. This research is being conducted as part of my PhD dissertation and the results will be part of my analysis on greenhouses in communities in Nunavut.

Monitoring the Health of Simirlik National Park through Inuit Knowledge: Pilot Project

License Number: 02 011 19R-M

Principal Investigator: Mahy, Maryse

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Number in Party: 9

Research Area: North Baffin

Fieldwork Locations: Pond Inlet, Arctic Bay

SUMMARY

The overall goal of the project is to include Inuit Knowledge in Parks Canada's assessment of the health of the park's ecosystems. The immediate objective of the project is to test a method for monitoring/studying the health of the Park's ecosystems/environment through Inuit Knowledge in the long term.

Eyes and Ears of the North: Canadian Sovereignty and the Canadian Ranger Patrol Group

License Number: 04 029 19N-M

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Number in Party: 2

Research Area: Kitikmeot

Fieldwork Locations: Cambridge Bay

SUMMARY

This ethnographic dissertation project examines the experiences of Canadian Rangers within the 1st Canadian Ranger Patrol Group (1CRPG). Through my research, I will investigate how Rangers become implicated in nation-building efforts by the Canadian state. After increased interest in the lucrative possibilities of Arctic space since the 1990's, Canada has reinforced its sovereign claim to the region as various Arctic countries began to push their borders further north. Therefore, a primary research question asks: how has the shifting geopolitical climate influenced the militarization of the Arctic by the Canadian government? Furthermore, how does Ranger work—which has historically been viewed as non-combative—become part of this militarized process? To explore this positional shift, this project investigates how Canadian Rangers are enfolded into a state-making process as informants of cultural and geographical knowledge. How does the existence of Indigenous Rangers knowledge allow for the militarization of the north?

The Role of Certifications and Traceability in Supporting the Inuit Seal Harvest to Deliver Inuit Rights to Food, Culture, and Economic Opportunities

License Number: 01 026 19N-A

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Number in Party: 3

Research Area: North & South Baffin

Fieldwork Locations: Iqaluit, Qikiqtarjuaq

SUMMARY

Seal harvesting is at the centre of Inuit rights to food, culture, and economic opportunities. However, anti-sealing campaigns have collapsed the market for sealskins and imposed hardships on communities across Inuit Nunangat. The Canadian Government is working alongside the Government of Nunavut to create certification and tracking systems for Inuit seal products in European markets. However, credence qualities of the Inuit seal industry must be fully understood for certification standards to meet the needs of Inuit harvesters, processers, and crafters, as well as European regulators. An understanding of these credence qualities is also important for traceability systems to meet its requirements under the Nunavut exemption from the 2009 EU ban. It is also important to consider how Inuit perceive the role of certification standards in supporting their rights.

Addressing Gendered Violence against Inuit Women: A review of police policies and practices in Inuit Nunangat

License Number: 01 027 19N-A

Principal Investigator: Michaels, Samantha

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Number in Party: 2

Research Area: South Baffin

Fieldwork Locations: Iqaluit

SUMMARY

Violence against Inuit women is a serious problem. Inuit women are nearly twice as likely as Inuit men to be victims of partner homicide. The risk of a woman being sexually assaulted in Nunavut is 12 times greater than the provincial/territorial average. Every Inuk woman deserves to live free from gendered violence. As the first line of responders in the criminal justice system, the police have an important role in ensuring public safety and addressing the issue of violence against Inuit women. The purpose of this research is to understand Inuit women's perceptions of and experiences with the police, and the issues and challenges faced when policing Inuit communities. The primary research question is: How can police services be made more responsive and sensitive to the needs of Inuit women who experience physical and sexual violence?

Improving the Transfer of Agricultural Knowledge and Technology in Northern Canada through an Innovation Systems Approach

License Number: 03 020 19N-A

Principal Investigator: Seguin, Rose

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Number in Party: 3

Research Area: South Baffin, Kivalliq

Fieldwork Locations: Iqaluit, Arviat, Naujaat

SUMMARY

Agriculture in northern Canada has the potential to mitigate food insecurity but increasing the scale of agricultural production has long prevented agriculture from seriously impacting food insecurity. This research will use an innovation systems approach to identify the systemic barriers to agricultural development in northern Canada. The identification of systemic barriers will help illuminate specific entry points for innovation and provide policy recommendations to better support the development of sustainable agriculture; the identification of specific entry points for innovation is thus the goal of this research and will be achieved by answering the following questions: 1.) What are the systemic barriers to the diffusion of agricultural knowledge and technology in northern Canada? 2.) How is agricultural development perceived by the northern population, both Indigenous and non-Indigenous, and how might this perception shape local agricultural development?

Inuit Workforce Barriers Strategy (IWBS) Study

License Number: 01 034 19N-M

Principal Investigator: Mills, Erin

Affiliation: Mining Industry Human Resources Council
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Number in Party: 3

Research Area: North & South Baffin

Fieldwork Locations: Arctic Bay, Cape Dorset, Clyde River, Grise Fiord, Hall Beach, Igloolik, Iqaluit, Kimmirut, Pangnirtung, Pond Inlet, Qikiqtarjuaq, Resolute Bay, Sanikiluaq

SUMMARY

The objective of the ILBA is to better understand what barriers exist that prevent current or potential Inuit workers from fully engaging or pursuing employment opportunities. It also intends to identify strategies to improve the ability of Inuit to achieve their life goals through engagement in the Baffinland Mines mining workforce. Efforts to identify barriers to Inuit employment will focus on aspects that may be preventing interested and eligible individuals from accessing and succeeding in work with Baffinland or its contractors, or why some working age Inuit choose to not participate in the labour market.

Understanding the Socio-Economic Impact of the Pigiaruttiavait Program

License Number: 01 002 19N-M

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Research Area: South Baffin

Fieldwork Locations: Iqaluit

SUMMARY

The Pigiarutittiavait Program is one of the longest standing programs within the Departmen of Social Policy at Qikiqtani Inuit Association (QIA). Using third party (Federal) funding, QIA runs this program in partnership with Inhabit Media (IM), a Nunavut based publisher. To date, neither organization has attampted to quantify the economic impact of the program, or to understand the program as a contributer to the local economy. As an economic impact case study, this research seeks to understand what change in economic activity, if any, has been produced in Qikiqtani region through QIA's continued investment via the program and to answer the following questions: What is the economic impact of the Pigiarutittiavut Program? How has Pigiarutittiavait contributed to CED in Nunavut? To frame the Program as a CED initiative, this research will seek to understand and articulate the nature of the interaction between QIA and IM as a model for community economic development and one which supports desired social outcomes of a program.

Arctic ULINNIQ: Inuit Knowledge of and Experience With Earthquakes and Tidal Waves

License Number: 02 037 19R-M

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Number in Party: 2

Research Area: North Baffin

Fieldwork Locations: Clyde River, Igloolik, Pond Inlet

SUMMARY

Gathering this valuable knowledge will involve several methods. One is by face-to-face interviews, especially with Elders. Information from their own experiences and what their parents and grandparents have passed to them about changes to the landscape, sudden or unexpected disturbance to the land or unusual waves on the sea. Also important are where and when they were living at the times of their experiences or where the ancestors who passed on information about earthquakes and unusual ocean waves lived at those times. Another method will be to bring hunters together to discuss what they have observed in their travels. Again, when, where, and how they sensed disturbances will be important. All this information, whether about the far past or the last few years, will help Inuit and researchers understand the real experience of these earthquakes and waves and landslides they may have caused. Equally important is for researchers to understand how Inuit coped with any effects that they have experienced. Likewise, because people have travelled so widely, they may have observed changes to the landscape that were not there when a place was previously visited.

Nunavummiut Food Security: Community-Scale Social and Economic Strategies

License Number: 02 036 19R-M

Principal Investigator: Wenzel, George

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Number in Party: 1

Research Area: North Baffin

Fieldwork Locations: Clyde River

SUMMARY

No issue in the Canadian North today has greater social, health and public policy implications than food security. The stability and security of the northern food system is of concern across Inuit Nunangat (regions inhabited by Inuit), not least in Nunvaut. In the last decade, research from perspectives as varied as social network analysis, dietary health and the biophysical effects of climate change suggests that Inuit now live in an increasingly precarious food environment. Calls to remediate the conditions underlying this situation are now coming from sources as varied as blue ribbon panels and the Nunavut grassroots movement *Feed Our Families*.

Inuit Co-Management and Governance as a Pathway to Health and Well-Being

License Number: 01 007 19Registry

Principal Investigator: Snook, Jamie

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Number in Party: 4

Research Area: Nunavut wide

Fieldwork Locations: Goose Bay

SUMMARY

To examine how fish and wildlife co-management governance systems impact Inuit lives, and wellbeing in Nunatsiavut. Research objectives:1.) Analyze and characterize the published literature on Indigenous land claim fish and wildlife comanagement systems, through a social determinants of health framework from Indigenous perspectives, in order to determine how co-management systems may impact Inuit lives and wellbeing. 2.) Identify and characterize Inuit perspectives, understandings, and lived experiences with respect to their interactions with fish and wildlife management in Nunatsiavut. 3.) Examine the experiences of co-management board members and practitioners throughout Inuit Nunangat to understand their perspectives on how co-management impacts Inuit lives, and wellbeing.

Western Hudson Bay Geoscience for Infrastructure

License Number: 03 011 19R-M

Principal Investigator: Oldenborger, Greg

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Number in Party: 3

Research Area: Kivalliq

Fieldwork Locations: Rankin Inlet

SUMMARY

The western coast of Hudson Bay, in the Kivalliq region of Nunavut, is undergoing significant infrastructure development associated with natural resources, shipping and community sustainability. Permafrost and ground ice are important features of this landscape that can significantly affect land-based infrastructure through influence on ground stability and drainage patterns. Knowledge of permafrost conditions is required to characterize climate change impacts. However, there are only limited studies of permafrost and ground temperature data in the Kivalliq region. The proposed activity will provide valuable permafrost information along the western Hudson coast of Nunavut.

Greenland to Nunavut Fibre Optic Cable Project- Nunavut Landing Locations Field Study

License Number: 01 024 19R-M

Principal Investigator: Woodbury, Grant

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Number in Party: 4

Research Area: South Baffin

Fieldwork Locations: Kimmirut, Iqaluit

SUMMARY

Advisian has been retained by the Government of Nunavut – Community and Government Services (CGS) to conduct a field study on the Nunavut landing locations for a fibre optic cable that is proposed to be installed from Nuuk, Greenland to Nunavut (the Project). The two landing locations that have been proposed for the Project are Iqaluit and Kimmirut. These landings are both located on Commissioners Land.

Past Climate Reconstruction Using Annually-Layered Carbonate Buildups on the Nunavut Shallow Seafloor

License Number: 02 054 19R-M

Principal Investigator: Halfar, Jochen

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Research Area: North Baffin

Fieldwork Locations: Arctic Bay

SUMMARY

Climate data in the Canadian Arctic prior to the beginning of instrumental observations in the 20th century is sparse. Hence, at present we do not have a good understanding of ocean temperature and sea ice evolution during the past centuries. During our cruise we will collect small carbonate (limestone) mounds on the shallow seafloor of Arctic Bay, Nunavut. These mounds contain annual bands and can form on the seafloor for hundreds of years, hence, allowing a reconstruction of Arctic climate several centuries back. Using the small vessel, Vagabond, we will collect mounds using SCUBA at water depths of 15-20m at Arctic Bay. Mounds are generally 3-8 centimeters in diameter, up to 3 centimeters high, and can be removed from rocky seafloor using a small hammer and chisel. At each site we plan to remove 20 mounds, which are structures made up entirely of inorganic calcium carbonate that were originally formed by an underwater alga. The mounds will be analyzed for their amount of yearly growth and element composition in the laboratory, which will provide data for long time series of sea surface temperature and past sea ice reconstructions.

Geology Research in the Baffin Bay: Reducing Risk to Coastal Communities and Offshore Infrastructures Caused by Marine Geohazards and Seismicity

License Number: 02 055 19R-M

Principal Investigator: Normandeau, Alexandre

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Research Area: North Baffin

Fieldwork Locations: Baffin Bay (Qikiqtarjuaq, Pangnirtung)

SUMMARY

The major goals of this research for 2019 would be to investigate the stability of the seabed in fjords near Qikiqtarjuaq and Pangnirtung, Nunavut. New imagery of the seabed shows that submarine landslides have occurred in several locations. Baffin Bay experiences a number of earthquakes which can trigger submarine landslides. Our research will help to determine the risk for a large submarine landslide happening in the future. Coastal lakes may also be investigated for the occurrence of tsunami deposits. Coring and mapping of coastal lakes would allow us to collect evidence of past tsunamis affecting the shoreline, similar to the 2017 Greenland tsunami. In addition, digging in coastal areas may take place using shovels to observe if tsunamis have occurred in the past near the villages. During this type of expedition, we typically collect seabed sediment samples (2 m long gravity cores), seafloor photographs and video, information about the shape of the seabed, and sub-bottom imaging. These instruments will be the same as those used during the 2013 and 2018 expeditions. We also propose using a drone to map fjord wall landslides, and recovering and installing an instrument called an Acoustic Doppler Current Profiler (ADCP) in Southwind fiord for one year that will record any underwater landslides that occur there.

Defence Research and Development Canada (DRDC) Gascoyne Inlet

License Number: 02 056 19R-M

Principal Investigator: MacNeil, Erin

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Number in Party: 7

Research Area: North Baffin

Fieldwork Locations: Gascoyne Inlet, Devon Island

SUMMARY

The Defence Research and Development Canada (DRDC) Northern Watch Technology Demonstration Project will demonstrate an Arctic maritime surveillance capability to the Department of National Defence and other concerned federal departments. This is a multi-year undertaking and is based at Gascoyne Inlet, Nunavut. The surveillance demonstration system will be unmanned, semi-autonomous, and remotely controlled through a satellite system connection to one of the DRDC centres. In preparation for the for the technology demonstration, annual trips to the Gascoyne Inlet camp will be required. Once the team has arrived to the camp their main tasks will include: conduct routine camp maintenance and conduct testing on equipment. The on-site team for the 2019 field season is expected to range from 10 to 20 persons, with the normal load being approximately 15 people. The duration of their time on site is expected to be 31 July – 1 September 2019.

Climate Change Effects of a Changing Cryosphere on Northern Lakes

License Number: 02 001 19R-M

Principal Investigator: Dibike, Yonas

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Number in Party: 2

Research Area: North Baffin/Kitikmeot

Fieldwork Locations: Lake Hazen, Lower Dumbell Lake

SUMMARY

Climate change is projected to cause significant change to arctic aquatic ecosystems. Changes in the thickness and composition of arctic lake ice covers will produce second order impacts on lake biological productivity and ecology. The most important effects are likely to result from changes in temperature (ice growth) and precipitation (ice cover composition). While a number of models have been developed to predict these changes, their validation has been stalled by lack of relevant field data. Relevant field data has been gathered annually since 2009. For 2019, ice-composition surveys may be repeated, depending on time and resource availability, at the above noted lakes with the assistance of local contractors or agencies. If undertaken, the proposed completion dates for the surveys at the lake sites will be between January 1 and June 30, 2019. Specific dates will be determined based on agency/contractor availability.

Evaluation of Simulated Snow Properties Across the Arctic

License Number: 04 001 19R-M

Principal Investigator: Langlois, Alexandre

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Number in Party: 8

Research Area: Kitikmeot

Fieldwork Locations: Cambridge Bay, Grenier Lake

SUMMARY

This project is motivated by the increase in extreme weather events in the Arctic, such as rain-on-snow (ROS) events. ROS are known to be the consequence of global warming and, given the anticipated increase in arctic temperatures, more events are likely to occur. These events lead to the formation of ice layers that affect transportation; travel on the land will have direct consequences on permafrost melt. ROS events also affect caribou grazing conditions, and several events killed many animals, not only in Canada but also in other parts of the Arctic.

Community–Based Monitoring of Sea Ice and Eider Duck Populations Around the Belcher Islands, Nunavut

License Number: 01 004 19R-M

Principal Investigator: Heath, Joel

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Number in Party: 3

Research Area: South Baffin

Fieldwork Locations: Belcher Islands

SUMMARY

Our research objective is to understand how changing sea ice conditions influence the movements and population dynamics of eider ducks. Our ongoing use of time lapse photography and Inuit field surveys have led to the implementation of a multi-scale community-based research and monitoring program that allows us to simultaneously monitor the dynamics of sea ice formation and habitat use by eiders around southeastern Hudson Bay.

2019 Research Program for the Grays Bay Road and Port Project

License Number: 04 005 19R-M

Principal Investigator: Lawson, Nick

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Number in Party: 9

Research Area: Kitikmeot

Fieldwork Locations: Kugluktuk & Cambridge Bay Surrounding Area

SUMMARY

The Grays Bay Road and Port (GBRP) Project is a proposed transportation corridor that will permanently connect a deep-water port at Grays Bay on the Coronation Gulf to the northern terminus of the Tibbitt-Contwoyto Winter Road at the former Jericho Mine, Nunavut. The project is being jointly proposed by the Kitikmeot Inuit Association (KIA) and the Government of Nunavut (GN). In support of advancing the design of the project and of assessing effects of the project on the biophysical and socio-economic environment, additional studies are required. The KIA and GN have contracted Nunami Stantec Limited (Nunami Stantec) to complete additional studies. Nunami Stantec is therefore applying to undertake limited field-based data collection and Inuit Qaujimajatuqangit (IQ) studies in the Kitikmeot Region during 2017/18.

SuperDARN Radar Sites

License Number: 02 003 19R-M

Principal Investigator: McWilliams, Kathryn

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Number in Party: 5

Research Area: North Baffin & Kivalliq

Fieldwork Locations: Clyde River, Rankin Inlet

SUMMARY

Super Dual Auroral Radar Network (SuperDARN) Canada is a network of high-frequency (HF) radars located throughout the northern hemisphere. The purpose of the SuperDARN is to study plasma in the near-Earth space system, its interaction with the Earth's atmosphere and geospace environment, it's effects on the terrestrial "hard" infrastructure (e.g. communications, energy, transportation, etc…), and it's role in the Sun-Earth system. SuperDARN convection/voltage maps are essential for studies of the impact of space weather at Earth. Space weather researchers rely on SuperDARN data for putting their localized observations in context. SuperDARN radars are extremely reliable, being easily accessible for repairs and upgrades. This reputation has made SuperDARN a favourite tool for space weather scientists.

Connecting Snow Melt to River Discharge in the Kitikmeot Region and Northwest Territories

License Number: 04 007 19R-M

Principal Investigator: Brown, Kristina

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Number in Party: 2

Research Area: Kitikmeot

Fieldwork Locations: Cambridge Bay, Kugluktuk

SUMMARY

An increase in temperatures, increased frequency of extreme weather events, and shifts in the timing of freeze-thaw conditions will directly impact the Arctic hydrological cycle. In particular, changes to the timing of snow accumulation and subsequent melt on land will influence the delivery of freshwater to river systems and, ultimately, to the ocean. This project is motivated by a need to better characterize and quantify the impacts of changing snow conditions on river discharge within the Kitikmeot Region and Northwest Territories in order to better understand freshwater contributions to the ocean under a changing climate.

Monitoring Seasonal Environmental Change in Rivers of the Kitikmeot Region

License Number: 04 008 19R-M

Principal Investigator: Brown, Kristina

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Number in Party: 3

Research Area: Kitikmeot

Fieldwork Locations: Tree River, Hood River, Burnside River, Western River, Coppermine River

SUMMARY

Rivers directly link the land and the ocean by delivering freshwater, heat, nutrients, and carbon to the coastal system. Observing river systems is therefore key to understanding the impacts of terrestrial environmental change on Arctic ocean health. This project aims to enhance our capacity to directly observe the physical and biogeochemical characteristics of rivers across the Kitikmeot Region by developing in-situ observational systems (“river moorings”) to carry out these measurements continuously. These river moorings will provide the first time series observations of river physical and biogeochemical parameters in the Kitikmeot Region, observations that are crucial to understanding and predicting the impacts of terrestrial change on the Kitikmeot marine system.

Chidliak Project Environmental Baseline Program

License Number: 01 006 19R-M

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Number in Party: 6

Research Area: South Baffin

Fieldwork Locations: Hall Peninsula

SUMMARY

The Chidliak Project is located on the Hall Peninsula of Baffin Island in the Qikiqtani Region of Nunavut. The centre of the project is 120 kilometers northeast of Iqaluit and 200 kilometers south of the Hamlet of Pangnirtung. Peregrine Diamonds Ltd. (“Peregrine”) commenced the project in 2008 and in the 10 subsequent years, a total of 71 kimberlite volcanos (”kimberlites”) were discovered. Kimberlites are known to contain diamonds. In July of 2018, De Beers Canada Inc. (“De Beers”) made an offer to purchase Peregrine. The offer was accepted by Peregrine shareholders in August of 2018 and the purchased completed in September 2018. De Beers is now the sole owner of Peregrine however, Peregrine continues as a corporation. Environmental baseline studies are required for the preparation of an environmental impact statement (“EIS”). In 2019, environmental baseline work will continue on the Chidliak Project.

2019 Back River Project - Ongoing Baseline Data Collection & Monitoring

License Number: 04 009 19R-M

Principal Investigator: Pickard, Mathew

Affiliation: Sabina Gold and Silver Corporation
Vancouver, British Columbia, Canada
mpickard@sabinagoldsilver.com

Number in Party: 10

Research Area: Kitikmeot

Fieldwork Locations: Back River - Goose Camp:
Latitude (degree/minute): 65° 32.701’
Longitude (degree/minute): -106° 25.718’

George Camp:
Latitude (degree/minute): 65° 55.281’
Longitude (degree/minute): -107° 27.547’

SUMMARY

Sabina Gold & Silver Corp. (Sabina) is in the process of permitting the proposed Back River Project (the Project), located in the West Kitikmeot region of Nunavut. Sabina leads coordinating research activities for the project and engages multiple specialists to support research acquisition. The proposed ongoing baseline program would be conducted starting on January 1, 2019 and could continue for a full year until December 31, 2019. However, the same baseline and scientific studies may continue in subsequent years.

Airborne Geophysical Characterization of the Hypersaline Subglacial Lake Complex Beneath Devon Ice Cap and their Surrounding Subglacial Environment

License Number: 02 005 19R-M

Principal Investigator: Criscitiello, Alison

Affiliation: University of Alberta
Edmonton, Alberta, Canada
crisciti@ualberta.ca

Number in Party: 5

Research Area: North Baffin

Fieldwork Locations: Devon Ice Cap, Ellesmere Island, Axel Heiberg Island

SUMMARY

The purpose of this project is to collect data to further investigate the geological, hydrological and glaciological framework of the Devon hypersaline subglacial lakes. In particular, we aim to derive the full spatial extent of the subglacial lake complex, to characterize their surrounding bedrock conditions (i.e. properties of the sediments/rock) and to derive their hydrological connectivity with the surrounding subglacial environment. Knowledge of the surrounding geological context, in particular where the ice is underlain by the salt-bearing rock unit, along with the surrounding subglacial hydrological conditions are important input parameters for numerical modeling that are required to better understand the physical and chemical characteristics of these hypersaline subglacial lakes.

Lake Ice in the Canadian High Arctic

License Number: 02 009 19R-M

Principal Investigator: Brown, Laura

Affiliation: Department of Geography
University of Toronto Mississauga
Mississauga, Ontario, Canada
lc.brown@utoronto.ca

Number in Party: 4

Research Area: North Baffin

Fieldwork Locations: Resolute, Polar Bear Pass

SUMMARY

The purpose of this project is to monitor lake ice in Canada, as it is an important part of the cryosphere and recent projections suggest thinner and shorter duration of ice cover in the future. This research aims to better understand the links between lake ice and climate, particularly in response to a changing cryosphere.

Nutrient Cycling in Cambridge Bay

License Number: 04 012 19N-M

Principal Investigator: Hendry, Katharine

Affiliation: School of Earth Sciences
University of Bristol
Bristol, England, United Kingdom
k.hendry@bristol.ac.uk

Number in Party: 1

Research Area: Kitikmeot

Fieldwork Locations: Cambridge Bay

SUMMARY

The aim of the project is to collect pilot data for nutrient cycling studies out of the Canadian High Arctic Research Station (CHARS), Cambridge Bay. Samples and data will be collected using a small boat, along a transect of the fjord away from land. Physical water data (temperature and salinity) will be collected using sensors, and water samples will be collected for laboratory analysis (major and trace nutrients, and their isotopes). Additional samples of river and stream waters will be collected to assess the nature of the water flowing into the fjords. The water samples will be filtered in the laboratory at CHARS and exported to the UK for analysis.

Mary River Project

License Number: 02 010 19R-M

Principal Investigator: Hoyle, Megan-Lorde

Affiliation: Baffinland Iron Mines Corporation
Oakville, Ontario, Canada
megan.lorde-hoyle@baffinland.com

Number in Party: 12

Research Area: North Baffin

Fieldwork Locations: Steensby Port, Mary River, Milne Port/Road

SUMMARY

Data collection and analysis for environmental monitoring and management of the Mary River project to assess Project impacts in relation to the approved environmental impact assessment; Compliance to NIRB Certificate No. 005, Amended Type "A" Water License 2AM-MRY1325, and further baseline and operating conditions analysis for future permitting.

Holocene Ice Wedge Activity in Eureka Sound, High Arctic Canada

License Number: 02 012 19N-A

Principal Investigator: Lacelle, Denis

Affiliation: Department of Geography, Environment and Geomatics
University of Ottawa
Ottawa, Ontario, Canada
dlacelle@uottawa.ca

Number in Party: 5

Research Area: North Baffin

Fieldwork Locations: Eureka, Fosheim Peninsula, Ellesmere Island

SUMMARY

This project will study the timing of formation of ice wedges in the Eureka Sound Lowlands during the Holocene. Several ice wedges exposed in the headwall of thaw slumps found at different elevations will be sampled and analyzed for radiocarbon dating of the dissolved organic carbon component to determine age of single ice veins in ice wedge; thus establishing a high-resolution temporal record of their cracking activity for the Holocene period. The samples will also be analyzed for major and trace ions and oxygen-18. Samples of surface snow and active layer soil samples will be analyzed for major ions, oxygen-18 and radiocarbon of dissolved organic carbon. All analyses will be conducted in the laboratories at the University of Ottawa.

CANDAC-The Canadian Network for the Detection of Atmospheric Change

License Number: 02 013 19R-M

Principal Investigator: Drummond, James

Affiliation: Department of Physics & Atmospheric Science
Dalhousie University
Halifax, Nova Scotia, Canada
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Number in Party: 3

Research Area: North Baffin

Fieldwork Locations: Eureka

SUMMARY

In 2019 we will pursue our goal of carrying out a program of state-of-the-art scientific measurements in the Arctic. Keeping equipment on line and taking care of our personnel remain our major concerns. CANDAC will continue to push forward with the PAHA project for as long as possible. CANDAC/PEARL/PAHA has demonstrated that it has a solid core complement of instrumentation, facilities and personnel. Operationally, 2018 was characterized by a high level of instrument operation with near complete measurement capabilities. We expect to expand measurement capabilities during 2019 sunrise and hope that the increased capability persists beyond the campaign. As in previous years, we have a significant amount of research dissemination while continuing to train and develop the skills of highly qualified personnel.

Functional, Structural and Biodiversity Studies of Arctic Freshwaters-Filed Program 2019

License Number: 04 014 19R-M

Principal Investigator: Culp, Joseph

Affiliation: Faculty of Science
Wilfrid Laurier University
Waterloo, Ontario, Canada
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Number in Party: 12

Research Area: Kitikmeot

Fieldwork Locations: Cambridge Bay Surrounding Area

SUMMARY

This project investigates how human-induced changes in Arctic freshwater may impact the health of rivers and lakes. We will establish baseline conditions of streams and rivers in the Lake Greiner system. Water chemistry, ecosystem metabolism, algae, benthic invertebrates and small fish will be sampled. The aim is to describe how the function and structure of aquatic ecosystems support the production of fishes. Sampling sites will be located in rivers and streams within the Greiner Lake watershed. At least 15 sampling locations will be established.

Churchill Marine Observatory - Environmental Observing (CMO-EO) System

License Number: 03 009 19R-M

Principal Investigator: Mundy, CJ

Affiliation:

University of Manitoba
Winnipeg, Manitoba, Canada
cj.mundy@umanitoba.ca

Number in Party: 26

Research Area: Kivalliq, North Baffin, South Baffin

Fieldwork Locations: Shorelines of West Hudson Bay, Hudson Strait & Foxe Basin

SUMMARY

Led by the University of Manitoba, the Churchill Marine Observatory (CMO) is a major research infrastructure funded by the Canada Foundation for Innovation (CFI) in partnership with the provincial governments of Manitoba and Alberta and numerous other governmental, industrial, and nongovernmental organizations, including the Arctic Research Foundation. Once completed, CMO will be a globally unique, highly innovative, multidisciplinary research facility based out of Churchill, Manitoba, adjacent to North America's only Arctic deep-water port.

Fury and Hecla Geoscience Project

License Number: 02 019 19R-M

Principal Investigator: Lebeau, Lorraine

Affiliation: Canada-Nunavut Geoscience Office
Iqaluit, Nunavut, Canada
lorraine.lebeau@canada.ca

Number in Party: 7

Research Area: North Baffin

Fieldwork Locations: Between Igloolik & Arctic Bay

SUMMARY

The Fury and Hecla Geoscience Project will be led by the Canada-Nunavut Geoscience Office (CNGO) in collaboration with experts and students from several Canadian Universities. The project's mandate is to fill some of the last remaining gaps in geoscience knowledge on Baffin Island. In 2018, field work will be staged from Igloolik and based from a temporary camp on the lower Gifford River from July 11-August 15. Bedrock and surficial geology mapping and sampling will be focused on the southern half of the study area, and use two helicopters to transport crews to their work sites each day. Mapping teams will collect visual observations, photographs, fist-size samples, and the natural magnetic and radioactive properties of the rocks and sediments.

Geotechnical and Environmental Baseline Studies – Iqaluit Port Development

License Number: 01 011 19R-M

Principal Investigator: Coutts, Victoria-Burdett

Affiliation: Advisian
Burnaby, British Columbia, Canada
victoria.coutts@advisian.com

Number in Party: 3

Research Area: South Baffin

Fieldwork Locations: Iqaluit

SUMMARY

Studies will be performed for the Government of Nunavut in two locations: near the municipal wharf, and in the proposed deep water port area and quarry. Geotechnical and environmental baseline studies are required to support the design of upgrades proposed for the municipal wharf, and a new deep water port.

Geotechnical and Environmental Baseline Studies – Pond Inlet Small Craft Harbour Development

License Number: 02 019 19R-M

Principal Investigator: Coutts, Victoria Burdett

Affiliation: Advisian
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Number in Party: 3

Research Area: North Baffin

Fieldwork Locations: Pond Inlet

SUMMARY

The Pond Inlet Offset Plan consists of two components, the Monitoring Program and the Research Program. The goal of the Monitoring Program is to assess the habitat characteristics within the footprint of proposed Project. In future years, after construction of the facility, this will be compared to the habitat provided by the boulders/rocks that are a component of project design for shoreline protection. Rocks provide multi-dimensional habitat where marine organisms can find refuge in the spaces between them. The goal of the Research Program is to investigate the primary prey species of Arctic char in Eclipse Sound, in the waters surrounding the proposed small craft harbour.

Ice Bird-2019

License Number: 02 020 19R-M

Principal Investigator: Hendricks, Stefan

Affiliation: Alfred Wegener Institute
Bremerhaven, Bremen, Germany
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Number in Party: 6

Research Area: North Baffin

Fieldwork Locations: Alert, Eureka, Resolute Bay

SUMMARY

As in the various subsequent campaigns, the Alfred Wegener Institute will use its DC-3 aircraft (Polar 5 & Polar 6) to conduct surveys through a series of planned flights. The aim of the aircraft campaign Ice Bird 2019 is to conduct sea ice surveys over different ice regimes when sea ice is close to its maximum extent (spring campaign) and over its peak period of melting (spring campaign). The surveys contribute to a sea ice observation program that spans the western part of the Arctic Ocean from the Fram Strait to the Western Beaufort Sea. The set of sensors include a towed electromagnetic-induction system (EM-system) for estimation of ice thickness, an airborne laser scanner for high-resolution surface roughness and a snow radar for snow depth on sea ice. In addition, a set of air-launchable buoys will be used to mark flight tracks over the drifting sea ice for re-visits by follow up surveys. These instruments will be used to collect data and samples during a series of planned high altitude and low altitude flights in each of the various locations.

Periglacial and Paleoglacial Investigation of the Haughton Impact Structure and Surrounding Terrains, Devon Island, Nunavut

License Number: 02 021 19R-M

Principal Investigator: Godin, Etienne

Affiliation: Department of Earth Sciences
University of Western Ontario
London, Ontario, Canada
etienne.godin@gmail.com

Number in Party: 6

Research Area: North Baffin

Fieldwork Locations: Devon Island

SUMMARY

The objective of this project is to investigate the periglacial landscapes in and near the Haughton Impact Structure, within a comparative planetary framework. Glacier valleys, ground ice patterned ground, polygons and gullies will be stuidied using airborne and satellite images, sampled in the field and analyzed in a laboratory. Water (ice), when buried or underground, is an important paleo-indicator which could help clarify postglacial periglacial dynamics in arid and cold environments, either in the Arctic or on Mars.

Arctic Aerosol and Gas Measurements, Pond Inlet

License Number: 02 022 19R-M

Principal Investigator: Sharma, Sangeeta

Affiliation: Environment & Climate Change Canada
Toronto, Ontario, Canada
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Number in Party: 4

Research Area: North Baffin

Fieldwork Locations: Pond Inlet

SUMMARY

The Canadian Aerosol Baseline Measurement program, under the Climate Chemistry Research Measurement Section in collaboration with the Air Quality Processes Section in the Air Quality Research Branch, proposed to measure changes in atmospheric pollution levels in the Arctic. These changes are expected due to increasing economic activities in the Arctic region and increasing accessibility due to diminishing sea ice, which lead to increased ship traffic. Black carbon is released in the atmosphere from incomplete combustion of fossil fuels, from biomass burning and biofuels. Black carbon is climatically important in the Arctic atmosphere and is recognized as one of the “Short Lived Climate Forcers” that can warm up the atmosphere. In addition, it may be responsible for faster melting upon deposition on the ice-pack. Also measured are sulfur dioxide (SO2), nitrogen oxides (NOx) and ozone (O3). SO2 and NOx are also emitted during fossil fuel combustion, while O3 is a product of transformation processes of pollutants due to atmospheric chemistry. All three are important pollutants with detrimental effects on human health and the biosphere.

Ice Dynamics and Cryospheric Changes in Northern Canada

License Number: 02 024 19R-M

Principal Investigator: Copland, Luke

Affiliation: Department of Geography, Environment & Geomatics
University of Ottawa
Ottawa, Ontario, Canada
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Number in Party: 9

Research Area: North Baffin

Fieldwork Locations: Glaciers and Ice Caps of the Queen Elizabeth Islands

SUMMARY

This research program will continue work on the current characteristics and stability of the northern Ellesmere Island ice shelves and adjacent multi-year landfast sea ice. Fieldwork started at this location in 2008, and will continue for the foreseeable future. Almost all of the ice shelves in this region have experienced dramatic break-ups over the last eight years, so this project aims to improve understanding of the causes of these events and the fate of the remaining ice shelves and related ice features.

NEIGE (Northern Ellesmere Island in the Global Environment)

License Number: 02 025 19R-M

Principal Investigator: Vincent, Warwick

Affiliation: Department of Biology
Laval University
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Number in Party: 16

Research Area: North Baffin

Fieldwork Locations: Quttinirpaaq National Park, Resolute Bay Lakes, Markham Ice Shelf

SUMMARY

This is a follow-on of our work in the program NEIGE, to continue monitoring environmental measurements in Quttinirpaaq National Park's lakes, fiords and vicinity. We will determine the diversity of microbial life in shallow water communities using state of the art molecular techniques, characterize the physical characteristics and processes within northern Ellesmere Island's meromictic lakes, and define the structure and function of microbial food webs within Lake A, C1, Ward Hunt, Disraeli Fjord and Milne Fjord using HPLC and flow cytometry analyses at Laval University. Our climate stations will continue to provide long-term air and soil monitoring data for this globally important site.

Permafrost Atmospheric Science in Cambridge Bay, Canada

License Number: 04 016 19R-M

Principal Investigator: Jung, Ji Young

Affiliation: Arctic Research Center
Korea Polar Research Institute
Incheon, Yeongsu-gu, Republic of Korea
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Number in Party: 14

Research Area: Kitikmeot

Fieldwork Locations: Cambridge Bay

SUMMARY

This research will focus on interactions that drive critical climate feedbacks within these environments through greenhouse gas fluxes and changes in surface energy balance associated with permafrost degradation. Subsurface microbial, geochemical, and hydrologic processes that determine the fate of organic carbon will need to be characterized to better predict CO2, CH4 and N2O fluxes from Arctic landscapes. An improved understanding of organic matter vulnerability in thawing permafrost with nitrogen cycle will greatly improve modeling of greenhouse gas flux from subsurface environments and the atmosphere.

A Multidisciplinary Study of Glacial and Periglacial Processes on Axel Heiberg Island, Nunavut

License Number: 02 026 19R-M

Principal Investigator: Osinski, Gordon

Affiliation: Department of Earth Sciences
University of Western Ontario
London, Ontario, Canada
gosinski@uwo.ca

Number in Party: 8

Research Area: North Baffin

Fieldwork Locations: Axel Heiberg Island, Buchanan Lake

SUMMARY

The overarching goal of this project is to enhance our understanding of glacial and periglacial processes in the Canadian High Arctic. This program will specifically focus on understanding glacial processes, subglacial processes (i.e., processes occurring beneath glaciers), and periglacial processes (i.e., processes distal from glaciers and/or due to freeze/thaw processes in unglaciated environments). A large number of highly qualified personnel will receive hands-on training in field techniques, instrumentation, project management, data collection and analysis, and in interpersonal communication and leadership.

Deployment of Environmental Instrumentation in Grenier Lake, Cambridge Bay

License Number: 04 017 19R-M

Principal Investigator: McLennan, Donald

Affiliation: Polar Knowlegde Canada
Ottawa, Ontario, Canada
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Number in Party: 5

Research Area: Kitikmeot

Fieldwork Locations: Grenier Lake Watershed, Cambridge Bay

SUMMARY

The following installation and maintenance activities are proposed for the field season: In March 2019, the Université de Sherbrook group will visit their station and replace the faulty modem. The station will be revisited for further snow measurements. Snow transects near the station will be conducted and snow measurements will be performed with microwave instruments. This will allow the development of remote sensing methods to retrieve snow depth values from space. Maintenance will be performed on the POLAR weather station starting May 2019. The remaining issues with the faulty and unresponsive sensors and cameras will be fixed. An attempt will be made for redeploying the soil TDR and heat flux sensors, which have been not operational since 2016 due to massive arctic fox damage. Redeployment of the sensor of the east watershed river gauging station, and bringing this station online shortly after ice melt. The sensor cables have been armoured by Campbell Scientific. Continuation of the work on the upland eddy covariance tower. The solar panel array or this station will be installed, and the damaged cables will be fixed and replaced. An attempt will be made to make this eddy covariance tower fully functional. Continuation of the installation of the wetland eddy covariance tower after protecting all its cables by metallic armour, in order to avoid the extensive damage that occurred at the upland eddy covarianc tower, making this eddy covariance tower fully functional. Repairing the damage of the ADAPT permafrost monitoring station, and continuing operating it. Installation and operation of the automated soil CO2 chamber system in the IMA.

Polar Knowledge Canada (POLAR) Camp on Greiner Lake, Cambridge Bay

License Number: 04 018 19R-M

Principal Investigator: McLennan, Donald

Affiliation: Polar Knowledge Canada
Ottawa, Ontario, Canada
donald.mclennan@polar.gc.ca

Number in Party: 4

Research Area: Kitikmeot

Fieldwork Locations: Cambridge Bay, Grenier Lake

SUMMARY

In the winter months of early 2019, the two structures of the POLAR camp will serve as emergency shelters for both POLAR staff, and Cambridge Bay community members. Starting in May 2019, the POLAR camp will be prepared for the start of the summer field season by checking and fixing the possible damage to the existing structures that may have occurred during the winter. In June 2019, the summer field season activity will start in the camp. All-season individual tents will be installed in the camp. A fridge, a freezer as well as a stove will be installed in the ft Weatherhaven. POLAR will continue a range of field research activities, and a number of visiting research scientists, their graduate students, as well as northern students will come to Cambridge Bay to conduct this research. Most of these research activities, as well as the deployed scientific instrumentation are on the northern shore of Greiner Lake in the IMA. For safety and convenience, some researchers will be stationed in the camp near these research and monitoring sites. The research projects include: tundra ecosystem description and mapping, arthropod monitoring, freshwater lake surveys, as well as maintenance and deployment of research instruments such as a weather station, frost tubes and thermistor arrays, river gauging stations, and eddy covariance towers. Researchers will come and go over the summer; there will be no more than 10 people in camp at any one time. Normal occupancy will be 4–5 people.

An Investigation of the Sensitivity of High Arctic Permafrost to Climate Change

License Number: 02 027 19R-M

Principal Investigator: Pollard, Wayne

Affiliation: Department of Geography
McGill University
Montreal, Quebec, CA
wayne.pollard@mcgill.ca

Number in Party: 10

Research Area: North Baffin

Fieldwork Locations: Ellesmere Island, Axel Heiberg Island

SUMMARY

This project is entering its final stage winding up 2020. The aim of the 2019 field program is to complete investigations concerned with the nature and distribution of ice-rich permafrost and, in particular, its vulnerability and thermokarst processes. The 2019 field program will focus on: (1) changes in the active layer depth and its impact on surface topography, (2) changes in ice wedge morphology, and (3) analysis of the chemistry of massive ground ice and ice wedge ice. The latter collaborative work is with D. Lacelle. The measurement of changes occurring in the active layer remains a key focus as well as identifying connections between the atmosphere, active layer and permafrost. Fieldwork is planned for the Expedition Fiord area on Axel Heiberg Island (79º25N; 90º43'W) and the Eureka area on Ellesmere Island (79º59'N; 85º49'W). Our study sites were selected in 2012 and are representative of the most common ecosystems in this part of the Arctic. These sites were chosen because of their accessibility, availability of baseline data, and existing research facilities. This research will assess the sensitivity of key permafrost systems to warming by defining how surface temperature fluctuations influence the depth of the active layer and changes at the active layer permafrost interface.

Testing the Orosirian carbon cycle: Long Island Sound, Nunavut

License Number: 01 015 19N-A

Principal Investigator: Hodgkiss, Malcolm

Affiliation: Department of Geological Sciences
Stanford University
Stanford, California, USA
mswh@stanford.edu

Number in Party: 2

Research Area: South Baffin

Fieldwork Locations: Long Island Sound

SUMMARY

The purpose of this scientific research project is to understand the history of the Earth recorded in the geology of Long Island Sound, during the interval approximately 2.0 to 1.8 billion years ago. To achieve this, a geological map for Long Island Sound will be made by visiting the islands in the area and defining geological units. Small rock samples (~50–500 grams) will be collected in the field, and returned to Stanford University for chemical analyses. This project will establish a geological framework for the area, and in the long term, will contribute to a better understanding of the ancient Earth and the environmental conditions that prevailed approximately 2.0 to 1.8 billion years ago.

Dynamics and Change of the Devon Ice Cap, Nunavut

License Number: 02 028 19R-M

Principal Investigator: Sharp, Martin

Affiliation: Department of Earth & Atmospheric Sciences
University of Alberta
Edmonton, Alberta, Canada
msharp@ualberta.ca

Number in Party: 3

Research Area: North Baffin

Fieldwork Locations: Devon Island

SUMMARY

The goal of this research is to: (1) understand how Arctic ice caps are responding to climate warming, and quantify the contribution of glacier melt in Arctic Canada to sea level change, (2) to service and recover data from 5 GPS sensors installed on bedrock around Devon Ice cap that record vertical motion of the Earth's crust in response to changes in the ice cap's mass. It is expected for the crust around the ice cap to rise if the ice cap is losing mass and to sink if it is gaining mass, and the rates of elevation change to scale with the amount of mass lost or gained. We also expect to see a seasonal cycle of uplift in summer when the ice cap is losing mass by melting and subsidence in winter when it is gaining mass by snowfall. Glacier ice samples will be collected and brought to the laboratory for chemistry and microbial analyses and experiments.

Back for the Future: Long-term Observations of Vegetation and Snowcover in the High Arctic

License Number: 04 019 19R-M

Principal Investigator: Schaefer, Jim

Affiliation: Department of Biology
Trent University
Peterborough, Ontario, Canada
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Number in Party: 4

Research Area: Kitikmeot

Fieldwork Locations: Wellington Bay, Ferguson Lake

SUMMARY

Long-term observations are critical to understanding long-term environmental change. The Arctic tundra, under climate change, is expected to experience profound changes, including shrub encroachment and a disrupted snow regime. Direct, long-term field observations to monitor and assess these changes, however, are rare. The goal of this research project is to provide such data. In 1991, 80 permanent plots were established and the cover of plant species were quantified; the hardness and thickness of snow during two winters were also monitored. These field observations represent important data for assessing changes over the past quarter-century. They also represent valuable baseline data for the future. This proposal is to evaluate changes in the past 25 years in vegetation and snow conditions and to ensure sustained, long-term monitoring of those conditions.

Paleolimnological investigations of human and wildlife impacts on Arctic freshwater ecosystems

License Number: 02 029 19R-M

Principal Investigator: Blais, Jules

Affiliation: University of Ottawa
Ottawa, Ontario, Canada
jules.blais@uottawa.ca

Number in Party: 6

Research Area: North Baffin

Fieldwork Locations: Tern Island, Somerset Island, Devon Island, Bathurst Island, Prince Leopold Island, Cornwallis Island

SUMMARY

The objective of our research project is to investigate past ecological changes caused by humans and wildlife using paleolimnology – the study of lake sediments. Sediments are a window into past environmental conditions because sediments slowly build up over time. Using sediment, we can envision what the past Arctic environment looked like, and what may have caused changes to the environment over time. Specifically, we are interested in changes initiated by historical Thule, Norse, and Dorset occupation and by the presence of large bird colonies. This study is important because it allows us to develop new methods to determine when people or wildlife arrived in certain areas, advancing our knowledge of cultural and ecological history in the North. The research team will answer questions about the timing of Thule occupation across several sites, and we will also answer questions about when bird colonies arrived in certain locations, and whether they persisted through time, or moved elsewhere. Paleolimnology is uniquely suited to answering these questions because there are no written records going back thousands of years, only natural records buried in the sediment.

Peat Expansion in Arctic Tundra (Baffin Island) - Pattern, Process, and the Implication for the Carbon Cycle

License Number: 01 019 19N-A

Principal Investigator: Camil, Philip

Affiliation: Bowdoin College
Brunswick, Maine, USA
pcamill@bowdoin.edu

Number in Party: 2

Research Area: South Baffin

Fieldwork Locations: Cape Dorset, Iqaluit, Kimmirut (and surrounding area), North of Nettinling Lake, North of Amadjuak Lake

SUMMARY

Climate is warming worldwide and is most rapid in the polar arctic north. This warming is a result of the emissions of greenhouse gases to the atmosphere. The most important gas contributing to warming is carbon dioxide, which comes mainly from the burning of fossil fuels for energy. Because plants use carbon dioxide as they grow, and this carbon is stored in soils when plants die, there is interest in learning whether vegetation and soils might be able to take up some of the fossil fuel carbon dioxide released to the atmosphere. The plant uptake of carbon may increase in the future as climate warms and landscapes become more vegetated, as areas that are open tundra now become more like the spruce forests and bogs to the south. Scientists refer to this process as a "greening" of the Arctic. Arctic greening may possibly help to slow the rise of greenhouse gases in the atmosphere and, therefore, climate warming. This proposed research is part of a project to understand how arctic ecosystems may respond to warming, including plant and soil uptake of carbon. If arctic greening is happening, this could possibly slow the rise in atmospheric greenhouse gases. The goal of this work is to improve our understanding of these processes.

Land and Water Research at the Cape Bounty Arctic Watershed Observatory (CBAWO), Melville Island

License Number: 02 031 19R-M

Principal Investigator: Lamoureux, Scott

Affiliation: Department of Geography & Planning
Queens University
Kingston, Ontario, Canada
scott.lamoureux@queensu.ca

Number in Party: 12

Research Area: North Baffin

Fieldwork Locations: Cape Bounty

SUMMARY

This work is intended to determine how climate change affects the land and water quality. The work involves taking sediment and water samples from the lakes and streams at Cape Bounty. These lakes and rivers were chosen because the rivers appear to supply an abundant sediment and deep lakes are needed to preserve the sediments for this research. This work has been ongoing since 2003 and will ideally continue for several more years.

Cambridge Bay Nearshore Ecological Surveys

License Number: 04 020 19R-M

Principal Investigator: Kent, Danny

Affiliation: Ocean Wise
Vancouver, British Columbia, Canada
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Number in Party: 5

Research Area: Kitikmeot

Fieldwork Locations: Cambridge Bay, Outer Bay, Finlayson Islands

SUMMARY

The purpose is to document areas representative of different benthic (bottom-associated) ecosystems, habitats and marine life. Local Cambridge Bay community members will be hired as boat operators/guides and local knowledge of marine habitats in the area will be sought as part of our dive location planning process. Marine invertebrates and possibly some fish will be collected in order to present local marine life to the Cambridge Bay schools and others in the community. Meeting with community members to gather information about known marine benthic habitats in the area are anticipated, in order to help inform the selection of our dive locations. A meeting will be conducted to provide community members with information about the research and for them to ask questions. Ideally, feedback will be received from the community regarding the work and how it can be made most relevant to the community. Diving will be conducted in late August, 2019.

Transmit Array Antenna Farm

License Number: 02 034 19N-M

Principal Investigator: Riseborough, Edwin

Affiliation: Defense Research and Development Canada
Ottawa, Ontario, Canada
ed.riseborough@forces.gc.ca

Number in Party: 2

Research Area: North Baffin

Fieldwork Locations: Eureka

SUMMARY

This project will conduct measurements of the polar ionosphere. In order to do this, this project will build a 16 by 16 transmit antenna array comprised of 30 foot monopoles (Phase 3 – footprint is 120 m by 120 m). This will expand on the 8 by 8 antenna array that is already at the Eureka site (Phase 2 – footprint is 60 m by 60 m). Other than surveying the locations to set ground plates for holding the antennas, no ground preparation is required. Each antenna will be held vertically using straps connected to four 75 cm long guy anchors that are driven into the soil.

Barrow Strait Ocean Observation Program

License Number: 02 032 19R-M

Principal Investigator: Richards, Clark

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Number in Party: 5

Research Area: North Baffin

Fieldwork Locations: Barrow Strait

SUMMARY

The goal of this project is to provide a real time ice and ocean data delivery system that includes an ice onset and break-up prediction capability in Barrow Strait at the eastern end of the Northwest Passage. It will provide an ability to monitor and predict the evolution of the ice cover for the improved safety and efficiency of Arctic marine operations, make ice cover data and ocean measurements available to hunters and other interested parties, provide data for ice/ocean forecast models, and provide a technology that is applicable to other strategic Arctic locations.

Arctic Coastal and Drifting Ice Processes and Dynamics

License Number: 02 033 19R-M

Principal Investigator: Mueller, Derek

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Number in Party: 8

Research Area: North Baffin

Fieldwork Locations: Queen Elizabeth Islands, Ellesmere, Island, Devon Island, Baffin Island

SUMMARY

Changes in Arctic climate have profound implications for the break-up of coastal ice. In the recent past, there have been large calving events of ice shelves and glaciers that have produced many vast ice islands and icebergs that drift through Nunavut waters. Our research is focused on understanding how various types of coastal ice interact with the atmosphere above, the ocean below as well as meltwater and glacier ice from the adjacent land. In particular, we are interested in how both thick ice (ice tongues, ice shelves) and thin ice (landfast sea ice and lake ice) are melting and breaking-up in a changing climate. In addition, we study how large ice masses (icebergs and ice islands) that break away from the coast, drift and deteriorate.

Microbial investigations of perennial springs, permafrost and ground ice in the high Arctic

License Number: 02 035 19R-M

Principal Investigator: Whyte, Lyle

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Number in Party: 9

Research Area: North Baffin

Fieldwork Locations: Axel Heiberg

SUMMARY

The microbial biodiversity in unique habitats including cold perennial salt springs and permafrost environments have not been fully explored, and molecular traits that enable microorganisms to survive and thrive in the Canadian High Arctic are unknown. This research program examines microbial biodiversity and ecology in unique polar habitats and aims to expand our knowledge of polar microbial communities.

Stream Occupancy of Young-of-Year Arctic Grayling (Thymallus arcticus) and the Associated Impact from the Wastewater Treatment Facility in Baker Lake

License Number: 03 013 19R-M

Principal Investigator: Ellenor, Jared

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Number in Party: 4

Research Area: Kivalliq

Fieldwork Locations: Baker Lake

SUMMARY

This project will examine stream occupancy of young-of-year arctic grayling Thymallus arcticus and the associated impact from the wastewater treatment facility in Baker Laker, Nunavut. Currently, the Hamlet of Baker Lake uses a passive wastewater treatment system, where wastewater is released through a series of tundra pondslakes and into Baker Lake. This type of system, which is common in Northern communities, takes advantage of natural biological processes and is only capable of providing primary treatment. As a result, relatively high levels of nutrients are released into the system, which can ultimately affect fish and fish habitat. Based on significant positive feedback from the community, an upgraded wastewater treatment facility is anticipated to be constructed in Baker Lake in 2020.

Cambridge Bay Ocean Observatory

License Number: 04 021 19R-M

Principal Investigator: Moran, Kate

Affiliation: Ocean Networks Canada
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Number in Party: 3

Research Area: Kitikmeot

Fieldwork Locations: Cambridge Bay

SUMMARY

Underwater sensors and a camera provide continuos information on seawater properties, ice thickness and marine organism activity. Data from the underwater instruments and the weather station are transmitted by a WiFi link to a server in the Nunavut Government building, where data are transmitted via satellite to our ONC data centre at the University of Victoria and made available to all. We also plan to collect seawater and mud samples in the vicinity of the platform, to calibrate our instruments. We would also need to collect specimens of seafloor life (invertebrates) around the platform, so that our experts can identify the species we are observing.

CNGO and ULLINIQ Surficial Geology Fieldwork

License Number: 02 046 19R-M

Principal Investigator: Tremblay, Tommy

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Number in Party: 5

Research Area: North Baffin

Fieldwork Locations: North Baffin Coast (from Clyde River to Pond Inlet)

SUMMARY

This project will aim to complete surficial geological scientific knowledge in the Northeastern Baffin Island area, led by the Canada-Nunavut Geoscience Office (CNGO). Surficial geology, quaternary stratigraphy and geomorphological mapping will be undertaken by Tommy Tremblay (CNGO) in that region, assisted with helicopter to reach study locations. Additionally, as part of the MEOPAR-funded ULLINIQ project led by Mladen Nedimovic and John Gosse (Dalhousie University), a landslide geomorphological study will be completed in collaboration with John Gosse with a focus around the communities of Pond Inlet and Clyde River. ULINNIQ is a multidisciplinary research project funded by the National Centre of Excellence MEOPAR to provide a comprehensive seismic and tsunami risk analysis for Nunavut and Atlantic Canada. The scientific work will comprise geological field observations and small geological samples (less than 10kg) of rock or sediments.

Lithologic and Tectonic controls on Paleoproterozoic banded Iron Formation-hosted/associated Gold –A study of the Amaruq Gold Zones

License Number: 03 014 19R-M

Principal Investigator: Mercier-Langevin, Patrick

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Number in Party: 2

Research Area: Kivalliq

Fieldwork Locations: Amaruq Property

SUMMARY

This study will be of gold mineralization associated with faults and iron formation-bearing volcano-sedimentary rock successions to advance the understanding of the controlling factors on gold deposits formation and develop improved exploration models.

TundraPeat

License Number: 04 024 19N-M

Principal Investigator: Loisel, Julie

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Number in Party: 4

Research Area: Kitikmeot

Fieldwork Locations: Soth Hadley Bay, Grenier Lake Area, Queen Maud Estuary

SUMMARY

This is a new 5-year project that was recently funded by US NSF's Macrosystem Biology program, to understand peat expansion in Arctic tundra. Amplified climate warming in the Arctic in recent decades has caused a multitude of changes in terrestrial ecosystems. Most of these changes have the potential for strong feedbacks on the global climate system, which has prompted considerable debate about carbon balance and the "greening" vs "browning" of high-latitude systems. However, the impacts of these changes on belowground processes and associated carbon budget are still uncertain due to several complex interactions. Some Arctic tundra landscapes have shallow 'peat patches,' which have organic layers too thin (<30 cm) to be classified as peatlands, but still represent a significant net carbon sink at decadal-centennial timescales. Also, these peat patches represent the initial stage of peatland formation in the pan-Arctic region, as peatland conditions may migrate northward in a warming climate. We recently found abundant peat patches dominated by Sphagnum (peat moss) on hillslopes dominated by tussock tundra communities, on the North Slope of Alaska. However, we don't know how widespread these tundra peat patches are, why they are there, and what factors control their formation, distribution, and dynamics. We know that peatlands have been an important carbon sink over multi-millennial timescales. However, we don't know how they respond to recent and future environmental changes at decadal-centennial timescales.

Annually Laminated Sediments (varves) of the Canadian High Arctic

License Number: 02 047 19R-M

Principal Investigator: Francus, Pierre

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Number in Party: 4

Research Area: North Baffin

Fieldwork Locations: Strathcona Fjord, Fosheim Peninsula, Ellesmere Island

SUMMARY

This project seeks to reconstruct the past climate of the Canadian High Arctic by investigating hydro-sedimentary dynamics in the watershed using drone measurements and the micro-scale analysis of annually laminated lake sediments. The goal of this project is the characterization of Strathcona lake-catchment system using different techniques such as (1) drone, to acquire images and reconstruct elevation of the catchment (outwash plain and lake shore area); (2) swath bathymetry to map the lake floor and identify suitable coring site; (3) a sub-bottom profiler to survey image sediment facies and thickness within the lake; (4) coring system to collect sediment samples; and (5) water sampler for surface waters and pore waters at the water-sediment interface. A temporary camp will be set up for the duration of the work (max 6 days). Four means of transportation will be used: Twin Otter to reach the Strathcona Fjord, a helicopter to sling our equipment to the field locations and an ATV for ground transportation. Finally, an inflatable boat will be used to navigate on the lake.

Effects of Permafrost Thaw on Microbial Organic Matter Utilization in Arctic Streams

License Number: 04 025 19N-A

Principal Investigator: Oliveras, Ada Pastor

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Number in Party: 2

Research Area: Kitikmeot

Fieldwork Locations: Cambridge Bay

SUMMARY

The overall aim of this research project is to determine how climate-induced changes in permafrost thaw will influence organic carbon (OC) stream biogeochemical processing among Arctic ecosystems regions. We will address the effects of thermokarst activity in microbial organic matter utilization among freshwaters in Arctic regions by measuring in-stream OC and extracellular enzymatic activity of aquatic microorganisms. We will provide paramount information on how transported OC is processed in-stream, identify the key drivers of biological OC degradation, and thus contributing on our understanding on the OC-permafrost fate either being mineralized in-stream, contributing to C-climate feedback, or exported downstream to the sea. The project will requiere small samples of water and moss, microalgae and sediments be obtained.

Kitikmeot Region Marine Science Study

License Number: 04 026 19R-M

Principal Investigator: Williams, Bill

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Number in Party: 18

Research Area: Kikitmeot

Fieldwork Locations: Coastal and Marine areas around King William Island and Gjoa Haven

SUMMARY

This study will focus on sampling aboard the R/V Martin Bergmann in the Finlayson Islands, Coronation Gulf, Bathurst Inlet and if time and weather allow, into Queen Maud Gulf and Icebreaker Channel. While conducting oceanographic work in these regions, we also plan to sample the Tree River, Hood River, Burnside River, and Western River using the small aluminum support boat on the R/V Martin Bergmann, to sample from the river mouth and into the tidal estuary. The Coppermine River and estuary will also be sampled with the support of local platforms in Kugluktuk. We plan to conduct focussed studies of tidal straits at the Finlayson Islands and within Bathurst Inlet. For work carried out within the Finlayson Islands and within the vicinity of Cambridge Bay, we also plan to use the R/V Jennie Pierre as a support vessel (Figure 4), aiding with mooring deployments and oceanographic sampling as needed. Our focus for 2019 will be the continuation of work carried out in 2017 & 2018, and as such, our planned sampling, instruments, and techniques are the same as in our original permit.

Hope Bay Belt Project Scientific Research

License Number: 04 027 19R-M

Principal Investigator: Curran, Oliver

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Number in Party: 13

Research Area: Kitikmeot

Fieldwork Locations: Hope Bay Belt

SUMMARY

A comprehensive range of data collection supporting the project certificate and licences will continue to be conducted in fulfillment of compliance and monitoring requirements. This work is a continuation of that evaluated and conducted previously and will continue to support information utilized for compliance and baseline information.

In-situ Calibration/Validation Measurements of Remote Sensing

License Number: 04 028 19R-M

Principal Investigator: Knudby, Anders

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Number in Party: 4

Research Area: Kitikmeot

Fieldwork Locations: Cambridge Bay, Dease Strait

SUMMARY

The objective of this research is to acquire high-quality Rrs field observations from the Canadian Arctic, and use them to: 1) validate existing Rrs products for the Arctic, and 2) develop aerosol models appropriate for the Arctic atmosphere. We will deploy an Rrs-measurement system developed at the University of Massachusetts, which combines two radiometers and accessory instruments (e.g. an IMU for tilt detection), to measure Rrs. The system will be pulled after a small boat, continuously logging, within windows of +/- 1 hour of ocean colour satellite overpasses. The Rrs measurements themselves will be compared to existing satellite-derived Rrs products to assess the validity of those products and any biases they have, and the measurement of downwelling radiation will be used to develop an Arctic aerosol model.

ArcticNet 2019 Expedition: Integrated Regional Impact Study of the Canadian Arctic

License Number: 05 011 19R-M

Principal Investigator: Merzouk, Anissa

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Number in Party: 34

Research Area: Nunavut Wide

Fieldwork Locations: Baffin Bay, Nares Strait, NW Passage, Queen Maud Gulf, Maxwell Bay, Rivers in the Kitikmeot and Qikiqtaaluk Regions, All Kivalliq Communities

SUMMARY

The main objective of the ArcticNet marine-based research program is to assess the changes occurring in the marine ecosystem of the Canadian Arctic in response to climate change. ArcticNet has conducted its research program since 2004 and the network is currently pending renewal for the next 5-year cycle (2019- 2024). Using the Canadian research icebreaker CCGS Amundsen and the R/V William Kennedy to access the vast expanses of the coastal Canadian Arctic, sampling operations in Nunavut waters were carried out throughout the expedition: Leg 1 from 25 May to 5 July, Leg 2 from 5 July to 16 August, and Leg 3 from 16 August to 9 September.

Impacts of Melting Tidewater Glaciers on Marine Biogeochemical Cycles

License Number: 02 049 19N-M

Principal Investigator: Bhatia, Maya

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Number in Party: 4

Research Area: North Baffin

Fieldwork Locations: Devon Island, Ellesmere Island

SUMMARY

We propose to characterize the biogeochemical impact of glacial runoff and meltwater plumes on a regionally productive marine ecosystem that is central to the health of indigenous communities. Our proposed field work program for 2019-2024 will be completed on the Sverdrup Glacier (Devon Island), Belcher Glacier (Devon Island), Sydkcap Glacier and Jakeman Glacier (S. Ellesmere Island) and their downstream marine environments (Jones Sound). This project is designed to thoroughly characterize and quantify the material exports from the glaciers, define their environmental controls, and assess their impacts in downstream marine environments. We have assembled a team of new and established Canadian researchers capable of characterizing the physical, biological and chemical properties of subglacial water, from its meltwater origin, through its transport along the glacier bed, and finally to its discharge into and dispersion within the ocean.

Diversity of pelagic primary producers in coastal habitats and the potential for harmful blooms in Eastern Canadian Arctic, with a focus near Iqaluit, Nunavut

License Number: 01 023 19N-M

Principal Investigator: Gosselin, Michel

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Number in Party: 4

Research Area: South Baffin

Fieldwork Locations: Iqaluit (Koojesse Inlet, Tarr Inlet, Peterhead Inlet)

SUMMARY

As part of the Coastal Environmental Baseline Program of Fisheries and Oceans Canada, we propose to study the microscopic algae in the water of Frobisher Bay, near Iqaluit, Nunavut, in August 2019 and in September 2020. The objective of our scientific project would be to identify and describe the microscopic algae species present in Frobisher Bay, near Iqaluit. This project would help us to complete an algae species database that would be used to detect the introduction of new or toxic algae species in the Frobisher Bay region and in other ports in the Canadian Arctic.

Impacts of Air Pollution on Terrestrial and Aquatic Ecosystem on Southern Baffin Island

License Number: 01 020 19R-M

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Number in Party: 3

Research Area: South Baffin

Fieldwork Locations: Iqaluit, Kimmirut

SUMMARY

The impact of atmospheric emissions on air quality in the Arctic is expected to increase as new and expanded economic developments trigger growth in marine traffic and resource extraction. Emissions of sulphur dioxide and nitrogen oxides can contribute to ecosystem acidification and eutrophication in regions characterized by acid sensitive geology and nutrient poor soils, such as Baffin Island. This project will utilise a critical loads approach to quantify the assimilative capacity of arctic terrestrial and aquatic ecosystems. Lake water in the Kimmirut and Iqaluit regions (~100 sites) will be sampled for chemical analysis. In addition, moss and soil samples will be collected at a sub-set of the study sites (~20 sites) to assess terrestrial ecosystem impacts.

Characterizing Iqaluit's Baseline Municipal Wastewater Containment Loadings to the Marine Environment

License Number: 01 021 19R-M

Principal Investigator: Hanson, Mark

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Number in Party: 2

Research Area: South Baffin

Fieldwork Locations: Iqaluit, Koojesse Inlet

SUMMARY

This project will enable the collection of coastal environmental baseline data to characterize the current state of the ecosystem in the Iqaluit region, Frobisher Bay, and surrounding areas as it relates to wastewater contaminants. The project will also contribute to the capacity building of key parties to collect environmental data as part of the implementation of the Oceans Protection Plan. Results will not only provide an open source of data that can characterize ecosystems, but may also support evidence-based decision making (such as assessments for marine spatial planning around conservation, cumulative effects, traditional harvesting, infrastructure development, city planning, public health policy, etc.). The Canadian North is in the process of rapid economic and demographic shifts, driven by both a changing climate, increasing expansion of resource extraction and development, as well as expanded tourism with longer open water seasons. A larger northern population will result in increased infrastructure and operational challenges related to wastewater treatment. This expanding human presence will result in greater stresses to northern infrastructure and ecosystems in the immediate region of these effluent releases. It is thus crucial to understand local and regional inputs of contaminants to these ecosystems now, in order to better predict the impact of expanded wastewater discharge from an increasing population.

Evaluation of Natural Bioremediation Potential of Arctic Beaches

License Number: 02 051 19N-M

Principal Investigator: Whyte, Lyle

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Number in Party: 6

Research Area: North Baffin

Fieldwork Locations: Corwalis Island

SUMMARY

The warming Arctic climate results in annual reductions of sea-ice. With decrease in Northwest passage ice cover, the amount of shipping traffic is increasing. Unfortunately, a consequence of more shipping is an increased risk that shipping fuel will be accidentally released into the vulnerable Arctic environment. In southern latitudes, naturally occurring bacteria in the environment can consume shipping fuels as food sources. However, it is unknown if naturally occurring bacteria living in Arctic beaches can do this in the colder Arctic conditions. The objective of this research is to determine if naturally occurring Arctic bacteria have the ability to degrade shipping fuels under Arctic conditions. It is important to know this so that in the event of a future accidental shipping fuel spill in the Arctic, we will know exactly how to respond to minimize negative environmental impacts. Research conducted in Resolute Bay will involve collecting beach sediment samples for microbial and chemical analysis in our laboratory at McGill University, as well as a field research portion that will take place over a two-month period in summer of 2019.

Characterizing the Ecology of Aquatic Systems in the Iqaluit Area

License Number: 01 022 19R-M

Principal Investigator: Medeiros, Andrew

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Number in Party: 5

Research Area: South Baffin

Fieldwork Locations: Iqaluit & Surrounding Area

SUMMARY

During the summer of 2019, we propose to sample many lake and stream systems in Iqaluit, Nunavut. We hope our research in the area will provide valuable new information on recent changes in water flow, water chemistry and status of aquatic insect populations. We will collect water quality data and aquatic insect samples during June 1- August 31, 2019. We will remove a small sample of water (~1 L) from each sampling site, as well as a small volume of mud (~ several cm3) for analysis of indicators of environmental change. We will stay in Iqaluit and access Airport Creek and Apex River by ATV or truck. We do not collect any fish, nor construct any structures to collect specimens, nor disturb any wildlife. No sampling will take place within areas of cultural importance or protected status. Data collected will be analyzed by students at Dalhousie University, and will be published both in graduate student theses and peer-reviewed science journals. If the opportunity arises, we anticipate communicating our research efforts and results via media, such as CBC Radio North.

URI Northwest Passage Trip 2019

License Number: 02 052 19R-M

Principal Investigator: Knowlton, Christopher

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Number in Party: 30

Research Area: North Baffin

Fieldwork Locations: Northwest Passage, Baffin Bay

SUMMARY

The Northwest Passage Project (NPP) is a US National Science Foundation funded program to explore the changing Arctic through an innovative expedition that will engage diverse audiences through real time interactions from sea, a high definition 2-hour documentary, and related community events. The expedition will be conducted onboard the RVIB Oden, which will be fully equipped with telepresence technologies for shore-based participation in the project. Undergraduate and graduate students will participate in the expedition along with scientists, historians, journalists, and a documentary film crew.

Arctic Boreal Vulnerability Experiment (ABoVE) Airborne Campaign

License Number: 04 032 19R-M

Principal Investigator: Larson, Elisabeth

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Number in Party: 5

Research Area: Kitikmeot

Fieldwork Locations: Victoria Island

SUMMARY

The Arctic-Boreal Vulnerability Experiment (ABoVE) is a NASA field campaign being conducted in Alaska and western Canada since 2015. It is a diverse large-scale study of the impacts of environmental change on terrestrial and freshwater ecosystems in arctic and boreal regions. The airborne component of this research seeks to link studies conducted on the ground with data collected via satellite remote sensing, enabling a deeper understanding of the vulnerability and resilience of these ecosystems and how people within and beyond this region are responding to change. The ABoVE airborne campaigns can provide remote sensing data with higher spatial and temporal resolution than available from satellite sensors, as well as measurements that are not currently available from space. The ABoVE airborne campaigns offer unique opportunities to validate satellite data for northern high latitude ecosystems, develop and advance fundamental remote sensing science, and explore and exploit new scientific insights from innovative sensor combinations.

Gateway to Greenland

License Number: 02 053 19N-A

Principal Investigator: Dalerum, Fredrik

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Number in Party: 7

Research Area: North Baffin

Fieldwork Locations: Northern Ellesmere Island

SUMMARY

The aim of this project is to generate a detailed chronographic record of biological colonizations of Greenland, as well as an evaluation of the consequences of such colonization events for current ecosystem structure. We will be based on the Swedish icebreaker Oden, who will be tasked to the area of Nares straight for a research expedition organized by the Swedish Polar Research Secretariat. We will be helicopter lifted from Oden to a series of study sites on Greenland, and to two sites on Ellesmere Island. We will use a combination of field survey data and molecular techniques to quantify past and current species communities and ecosystem structures. On each site, we will collect lake sediment cores, terrestrial arthropods and fecal droppings, bone, teeth, hair and feathers from birds and mammals.

Sea-ice monitoring to support resilient transportation infrastructure, community economic development and youth training in Gjoa Haven and Taloyoak, Nunavut

License Number: 04 033 19N-M

Principal Investigator: Baines, Connie

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Number in Party: 8

Research Area: Kitikmeot

Fieldwork Locations: Gjoa Haven, Taloyoak

SUMMARY

This project will involve the expansion of SmartICE sea-ice monitoring services to the communities of Gjoa Haven and Taloyoak in the Kitikmeot region, over a period of three years from 2019/20 to 2021/22. Through the use of stationary and mobile ice-thickness sensing equipment, monitoring services can help to mitigate the ongoing impacts of climate change. These impacts, particularly on the formation and break-up of landfast sea-ice, are clearly being felt in northern communities. Travel safety, access to country foods, and the ability to participate in economic, cultural and family activities are particularly affected, with significant repercussions for physical and mental well-being.

Impacts of Wastewater at Baker Lake, Nunavut

License Number: 03 018 19R-M

Principal Investigator: Wong, Charles

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Number in Party: 16

Research Area: Kivalliq

Fieldwork Locations: Baker Lake

SUMMARY

This project will study the impacts of wastewater releases at Baker Lake, Nunavut on local and regional receiving waters. This would provide and understanding of water quality issues around wastewater and its releases at Baker Lake, and would also produce baseline information useful for planning any future potential improvements to the wastewater treatment facility. We would periodically collect water samples from the Baker Lake wastewater lagoon, and effluent in water bodies downstream of its outfall (Finger Lake, Airplane Lake, and Baker Lake itself at the effluent site, the drinking water intake site, and an offshore site), at 9 sites total. These samples would be analyzed on-site for basic water quality parameters such as pH, dissolved oxygen, conductivity, and temperature.

Arctic Freshwater Biodiversity in Cambridge Bay

License Number: 04 036 19R-M

Principal Investigator: McLennan, Donald

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Number in Party: 6

Research Area: Kitikmeot

Fieldwork Locations: Cambridge Bay, Grenier Lake

SUMMARY

Lakes in Greiner Lake watershed will be sampled again in summer, fall, and winter 2019 for water quality parameters. A total of 22 lakes or ponds will be sampled in August. Most of the lakes have never been sampled before but we also continue to sample lakes, such as Greiner Lake and CBL, to evaluate the inter-annual variability in these lakes and to respond to the request from the Ekaluktutiak HTO. Some of the lakes will also be sampled in October-December to continue to increase our understanding of the winter ecology in Arctic lakes.

A Survey of Mercury Levels within Edible Plants, Fungi and Soil in Iqaluit and Surrounding Areas

License Number: 01 031 19R-M

Principal Investigator: Bergin, Ryan

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Number in Party: 2

Research Area: South Baffin

Fieldwork Locations: Iqaluit

SUMMARY

To date, while there are numerous published articles on the impacts of mercury in Arctic wildlife species, literature on the accumulation in edible plant species is very limited, and, to our knowledge, nonexistent for edible mushroom species of the Canadian Arctic. The main objectives of this study are to evaluate the mercury content in edible plant and fungal species and the corresponding soils of the Canadian Arctic, and estimate the potential intake risk of mercury by consumers.

A Weather Station Network to Support Safe Travel and Build Nunavummiut Environmental Monitoring Capacity

License Number: 04 010 19R-M

Principal Investigator: Else, Brent

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Number in Party: 10

Research Area: Kitikmeot

Fieldwork Locations: Cambridge Bay Surrounding Area

SUMMARY

Over the past two years, our team at the University of Calgary has set up three weather stations near Cambridge Bay, Nunavut. The weather stations have scientific objectives to study sea ice melt and air-sea CO2 exchange. But they also have practical objectives to provide real-time weather information along important travel routes for residents of Cambridge Bay. The stations have been set up in collaboration with the Ekaluktutiak (Cambridge Bay) Hunters and Trappers Organization, and two of the stations have been placed at the HTO's request at important hunting and fishing locations. The weather stations are permitted under an existing NRI multi-year license that covers a wide range of natural science activities.

Mass Balance of Glaciers and Ice Caps in the Queen Elizabeth Islands, Canada

License Number: 02 006 19R-M

Principal Investigator: Burgess, David

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Number in Party: 3

Research Area: North Baffin

Fieldwork Locations: Queen Elizabeth Islands

SUMMARY

Knowledge of the mass balance of ice caps and glaciers in the Canadian high Arctic provide important insight into understanding patterns of climate change, and validating current estimates of global sea-level contributions from this region. Through continuation of the long-term time series (~50 years) of annual surface mass balance measurements for the Northwest Devon ice cap, Meighen ice cap, Melville ice cap, and Agassiz ice fields, this project contributes towards the fulfillment of NRCan's mandate and ESS strategic outcomes through activities in the ESS Climate Change Geoscience Programme (CCG) – Essential Climate Variables (ECV).

Geological Framework of the Northern Rae Province on Eastern Devon and Southeastern Ellesmere Islands

License Number: 02 041 19R-M

Principal Investigator: Osinski, Gordon

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Number in Party: 2

Research Area: North Baffin

Fieldwork Locations: Ellesmere Island, Devon Island, Coburg Island

SUMMARY

The objectives of this project are to: 1) Provide new age, thermal, and pressure constraints related to the crustal architecture of units exposed on eastern Devon and southeastern Ellesmere Islands; and 2) Evaluate the usage of remote sensing images and spectral data to predict the bedrock geology of eastern Devon Island and southeastern Ellesmere Islands.

Fisheries and Oceans Canada - Small Craft Harbour - Four Harbour Feasibility Study Field Program

License Number: 02 058 19N-M

Principal Investigator: McEwan, Eleanor

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Number in Party: 10

Research Area: North Baffin

Fieldwork Locations: Arctic Bay, Clyde River, Resolute Bay, Grise Fiord

SUMMARY

Advisian has been retained by Fisheries and Oceans Canada – Small Craft Harbours Program (DFO-SCH) to conduct an engineering feasibility study for the construction of small craft harbour (SCH) for four communities in Nunavut: Arctic Bay, Grise Fiord, Resolute Bay, and Clyde River. To inform the feasibility study, a field program will be undertaken during the 2019 open water season to conduct environmental, geoscience, geophysics and archaeological baseline studies in each location.

Lupin Mine Environmental Effects Monitoring Program

License Number: 04 035 19R-M

Principal Investigator: Lewis, Karyn

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Number in Party: 7

Research Area: Kitikmeot

Fieldwork Locations: Contwoyto Lake

SUMMARY

The Lupin Mine is located on the west shore of Contwoyto Lake, Nunavut at 65° 46” N and 111° 15’ W. The monitoring program is a requirement for Lupin Mine under the Metal and Diamond Mining Effluent Regulations (Government of Canada 2002), which is part of the federal Fisheries Act. The monitoring program will document the health of fish exposed to treated mine effluent and compare it to an area without effluent (reference area). Data will be collected in August 2019 for approximately 14 days. The surveys will be conducted within one Exposure Area and one Reference Area. The program will consist of a Ninespine Stickleback and juvenile Arctic Grayling survey, a benthic invertebrate community survey, and supporting environmental information (e.g., water and sediment quality).

Cretaceous High Arctic Paleoenvironmental and Paleoclimate Change

License Number: 02 044 19R-M

Principal Investigator: Adams, Claudia Schroder

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Number in Party: 4

Research Area: North Baffin

Fieldwork Locations: Glacier Fiord, Lost Hammer Diapir and Strand Fiord Axel Heiberg Island, Einsboten Gruben, Devon Island

SUMMARY

This project is a continuation of research that was previously submitted to the community of Grise Fiord before the 2014 field season. Exceptional sediment exposures of Cretaceous age (144 – 66 Million years ago) on the central to southern part of Axel Heiberg Island and Devon Islands provide a unique window on the Cretaceous Arctic paleoenvironment and climate history of the past. Cretaceous temperatures ranged from relatively cool conditions of the early Cretaceous into the peak warmth about 94 Million years ago, one of the warmest periods in Earth history. These temperatures of the geological past are well understood for low latitude regions, but only few paleontological, paleobotanical, and organic geochemistry data are known from the Arctic.

Identifying and Implementing Adaptation Measures for Permafrost Degradation in Kugluk Territorial Park

License Number: 04 031 19R-M

Principal Investigator: Coulombe, Stephanie

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Number in Party: 6

Research Area: Kitikmeot

Fieldwork Locations: Kugluk Territorial Park

SUMMARY

The overall purpose of this project is to improve access to the land for Nunavummiut that travel to and through the Kugluk Territorial Park and its surrounding areas. This community-based research project has two objectives: 1) to gain new knowledge of the permafrost degradation and landslide erosion and 2) to provide learning and training opportunities, with an emphasis on youth.

Permafrost Dynamics in Response to Climate Change on Victoria Island, Nunavut

License Number: 04 030 19R-M

Principal Investigator: Coulombe, Stephanie

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Number in Party: 5

Research Area: Kitikmeot

Fieldwork Locations: Grenier Lake Watershed, Cambridge Bay

SUMMARY

Permafrost (frozen ground) is very vulnerable to rapid changes in climate and has the potential to affect many aspects of life for the people that live there. However, very little information exists on the permafrost conditions in the Central Canadian Arctic. The objective of the project is to gather baseline information on the current permafrost conditions in this part of the Arctic. As a first step, our fieldwork activities will focus on the Cambridge Bay area.This project has three specific objectives: (1) Characterize the permafrost conditions; (2) Monitor changes in permafrost landscapes; (3) Assess the impacts of permafrost disturbances on the ecosystems.

Advancing Community Capacity in Water Research: Toward a Safe Water Plan in Pond Inlet, NU

License Number: 02 045 19R-M

Principal Investigator: Gagnon, Graham

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Research Area: North Baffin

Fieldwork Locations: Pond Inlet

SUMMARY

The objectives of this project are to: 1.) Build local capacity for advanced drinking water quality analyses in Nunavut, including: community monitoring, experimental design development, acquisition of local equipment and implementation of a QA/QC program for sampling procedures, 2.) Understand the drivers for biofilm formation in household drinking water holding tanks and the extent of metals (e.g., lead) release to potable water from premise plumbing, and 3.) Introduce water safety planning and hazard identification as a risk assessment tool to improve community infrastructure and health.

Community-Driven Sea Ice and Ocean Research in the Contrasting Coastal Domains of Hudson Bay

License Number: 03 003 19R-M

Principal Investigator: Kuzyk, Zou Zou

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Number in Party: 6

Research Area: Kivaliq

Fieldwork Locations: Chesterfield Inlet, Naujaat

SUMMARY

The objective of this project is to expand the highly successful community-driven research in eastern Hudson Bay to northwest Hudson Bay (Chesterfield Inlet and Naujaat), with a goal towards establishing comparison sites in eastern and western Hudson Bay. This comparison will support bay-wide monitoring objectives, promote inter-jurisdictional information exchange, and help test scientific hypotheses about contrasting oceanography and marine life between northwest and southeast Hudson Bay.

BEARWATCH: Monitoring Impacts of Arctic Climate Change Using Polar Bears, Genomics and Traditional Ecological Knowledge

License Number: 04 002 19N-M

Principal Investigator: Lougheed, Stephen

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Research Area: Kitikmeot

Fieldwork Locations: Gjoa Haven

SUMMARY

Research will integrate/map polar bear knowledge and translate findings into a scat community-based monitoring protocol that will track polar bear population responses to environmental change. Research questions include: 1.) Are polar bear science data, IQ, and historical records from wildlife archives comparable? 2.) What do the three polar bear knowledge sets tell us about demographic changes in polar bears? 3.) How can our results add to existing polar bear management through new knowledge for use in decision-making?; 4.) Can polar bear community-based monitoring contribute to understanding bear population trends and climate change?

Ancient DNA in Lake Sediment

License Number: 02 038 19R-M

Principal Investigator: Miller, Gifford

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Number in Party: 9

Research Area: North Baffin

Fieldwork Locations: Clyde River, Pond Inlet

SUMMARY

The Arctic is currently warming twice as fast as the global average with summer temperatures predicted to be 4 to 6°C above late 20th Century averages by 2100 CE. Amplified warming in the Arctic is expected to result in a northward shift in plant ranges. We proposed to sample Baffin Island lake sediment that preserves ancient DNA from the current warm times (the last 10,000 years) and the much warmer previous warm time about 125,000 years ago. Ancient DNA will document how different plants were in those earlier warm times, and organic molecules allow us to estimate how much warmer the summers were then. By combining these data with modern vegetation studies and climate monitoring, an ecosystem-climate model will be developed to predict the likely evolution of Arctic ecosystems by 2100 CE.

Contaminants in Shellfish, Water and Sediment in Frobisher Bay, Nunavut

License Number: 01 017 19R-M

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Number in Party: 4

Research Area: South Baffin

Fieldwork Locations: Frobisher Bay

SUMMARY

We plan to measure contaminant levels in sediments, clams and seawater at sites near Iqaluit and at reference locations, distant from any local sources. By comparing the contaminant levels near Iqaluit with those from reference sites, we will determine the relative importance of local contaminant sources, such as waste sites or wastewater discharges, vs. long-range sources, such as ocean water and the atmosphere. We will also collect and analyze sediment cores from deeper sites in Frobisher Bay, which contain a record of contaminant inputs over time. From these records, we will assess whether the contaminant sources have changed over time, for example, as the town has grown larger and ship traffic has increased. The contaminants to be measured include heavy metals (cadmium, mercury, and lead), PCBs, petroleum hydrocarbons, micro plastics, and contaminants of emerging concern (e.g., PFASs).

Metal Loading and Retention in Arctic Tundra Lakes During Spring Runoff

License Number: 01 018 19R-M

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Number in Party: 5

Research Area: South Baffin

Fieldwork Locations: Iqaluit

SUMMARY

Spring snow melt is the most important hydrologic event of the year in Arctic landscapes. During this relatively short period in spring, inputs of water and waterborne contaminants such as mercury (Hg) and other trace metals to surface waters can exceed those occuring during the remainder of the year. Nevertheless, there is little research on the transport of metal to lakes during snow melt periods in Arctic Canada. The main objective of this project will be to quantify, using hydrological and water chemistry measurements, the relative contributions of mercury, and other trace metals in snowmelt runoff to the water column and sediment of lakes in the vicinity of Iqaluit, Nunavut.

Disparities in Accessibility to Radiotherapy within High and Low Income Countries

License Number: 01 013 19Registry

Principal Investigator: Chan, Jessica

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Research Area: Ontario

Fieldwork Locations: Ottawa

SUMMARY

Radiotherapy is an important component of cancer treatment. When looking at access to radiotherapy worldwide, low-income countries are reported to have poor access compared to high-income countries, such as Canada. However, even within a high-income country like Canada, numerous challenges exist that result in certain populations and regions (especially those in rural, remote and Northern areas) experiencing poor access to health services including radiotherapy, and may be comparable to a low-income country. These regional differences are not considered when looking at access to radiotherapy worldwide, and have not yet been described. We propose a study to describe and compare accessibility to radiotherapy, sociodemographic variables and cancer epidemiology between a region within a high-income country (Nunavut, Canada) and a low-income country. We hypothesize that they will be similar, and ultimately hope to improve national and international awareness of the unequal access to radiotherapy in Canada, helping to start an international partnership between high-income countries with similar challenges.

Inuit Perioperative Outcomes

License Number: 01 014 19R-M

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Number in Party: 2

Research Area: South Baffin

Fieldwork Locations: Iqaluit

SUMMARY

Surgical disease is an important contributor to population health as surgically treated conditions account for approximately one third of the global burden of disease. Substantial health inequities exist for Canadian Inuit, which are expressed through significant differences in life expectancy, infant mortality, suicide rates, tuberculosis rates and cancer outcomes. The remote and distributed population of Nunavut presents unique challenges for delivery of health services, especially surgery. The current data describing transitions in care around surgery, and resulting outcomes, for Nunavummiut Inuit are poorly described. Through partnership between scientists of Indigenous identity, the Department of Health in the Government of Nunavut, and Inuit community partners, a landmark opportunity exists to link Nunavut health data with a speciality surgical data from The Ottawa Hospital to create systems to improve the quality of surgical care for the Inuit.

Exploratory Descriptive Study of Factors Promoting Resiliency in Inuit Youth at Risk of Suicide in Nunavut

License Number: 05 009 19N-M

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Number in Party: 2

Research Area: South Baffin, Kivalliq

Fieldwork Locations: Arviat, Pangnirtung

SUMMARY

This project will explore factors promoting resiliency in Inuit youth at risk of suicide in two Nunavut communities with different suicide rates: Pangnirtung and Arviat. The goal is to describe, from an Inuit perspective, community and individual strengths, resources needed, and opportunities for using effective coping skills. The objective is to contribute to the development of local initiatives based on local knowledge and on the community and their youths' strengths to support youth in finding a purpose in life and not to engage in suicidal behaviors. Involving two communities in this project will allow for opportunities for both communities to learn from each other. A participatory approach will be used to ensure the production of useful benefits for the communities. Advisory committees will be created in Arviat and in Pangnirtung, so that the project will be co-owned by the communities. The participation of advisory committees will be ensured at all stages of the project.

A Review of the out-of-territory (OTT) Pre-Placement Review process for Addictions and Mental Health Treatment for Nunavummiut

License Number: 01 038 18Registry

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Number in Party: 2

Research Area: South Baffin

Fieldwork Locations: Iqaluit

SUMMARY

This research will create a patient journey map that integrates the key stakeholders' view of the system as well as the lived experiences of those who have been through the out-of-territory (OTT) Pre-Placement Review process for Addictions and Mental Health. The goal of creating this integrated patient journey map is to identify leverage points in the system that can be used when reviewing and redesigning the Pre-Placement Review Committee (PPRC) process, ultimately leading to elevated continuum of client centered care. Zooming out, the objective of such research is to elevate the quality of and access to mental health and addiction care services for Nunavummiut with a focus on the PPRC Process. Zooming in, the objective of such research is to engage the individuals whom are responsible for re-designing the process, the key stakeholders, as well as those who have experienced the process, the clients, to ensure the key stakeholders consider the lived experiences when they are re-designing the PPRC process.

Canadian Domestic Homicide Prevention Initiative with Vulnerable Populations

License Number: 05 001 19R-M

Principal Investigator: Jaffe, Peter

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Number in Party: 9

Research Area: Nunavut Wide

Fieldwork Locations: Iqaluit

SUMMARY

The purpose of the Canadian Domestic Homicide Prevention Initiative with Vulnerable Populations **(**CDHPIVP), is to enhance and inform domestic violence risk assessment, risk management and safety planning strategies in order to decrease the risk of lethality for particular vulnerable populations (i.e., Indigenous people; rural, northern, and remote communities; immigrants/refugees; and children exposed to domestic violence).

Building on Strengths in Naujaat - A Youth Initiative

License Number: 03 004 19R-M

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Number in Party: 6

Research Area: Kivalliq

Fieldwork Locations: Naujaat

SUMMARY

Youth in the Inuit community of Naujaat, Nunavut will be consulted in the design and implementation of a mental health-promoting intervention. A Participatory Action Research (PAR) approach will be applied to engage young people of Naujaat in formulating visions for their future. This approach emphasizes collaboration in inquiry and investigation within a specific community with the goal of making systemic change in order to resolve specific problems. Outside researchers engage community members and facilitate the translation of this engagement into a self-determined path to creating new opportunities. Acknowledging tensions created by past and present western post-colonial research encounters, we are drawing on indigenous frameworks to create respectful relationships that support local agency.

Should Newborn Screening Be Initiated in Nunavut for Mild CPT1 (Carnitine Palmitoyl Transferase -1) Deficiancy?

License Number: 05 002 19R-M

Principal Investigator: Arbour, Laura

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Number in Party: 3

Research Area: Nunavut Wide

Fieldwork Locations:

SUMMARY

CPT1 deficiency is caused by a genetic change (mutation) in the Carnitine Palmitoyl Transferase-1 gene. This gene normally produces a protein that is involved in producing energy from the fats we eat. We all have two copies of this gene (all of our genes come in pairs) as we inherited one copy from our mother and one copy from our father. People who have a mutation in both copies of their CPT1 gene produce a protein that does not work properly. These individuals have trouble producing energy from fats. The mutations do not usually affect people in day to day life, because we get most of the energy we need by breaking down sugars from our food rather than fats. However, when we get sick or are not eating enough food for other reasons our bodies start to break down our fat stores for energy. Thus, individuals (particularly infants) who have CPT1 mutations in both copies of the gene can run into health problems during periods of illness or fasting because they cannot produce enough energy from fats.

Understanding the role of the CPT1A P479L variant in infant and child health outcomes in Nunavut

License Number: 05 003 19R-M

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Number in Party: 6

Research Area: Nunavut Wide

Fieldwork Locations:

SUMMARY

CPT1A (carnitine palmitoyltransferase 1A) is a liver protein that uses fat for energy when sugar is not available (during fasting or prolonged exercise). Classical CPT1A deficiency is caused by a genetic change (mutation) in the CPT1A gene causing the protein to not work properly. Although this usually does not cause problems since most energy comes from sugars, people with these mutations (especially infants) can have problems during illness or fasting, resulting in low blood sugar, seizures and even unexpected sudden infant death. Treatment involves frequent feeding in the first years of life and medical aid if the child becomes ill. Early diagnosis and education saves lives.

Gathering Community Perspectives on Infant Sleeping Practices in Nunavut

License Number: 05 004 19R-M

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Number in Party: 5

Research Area: Nunavut Wide

Fieldwork Locations: Arviat, Cambridge Bay, Iqaluit

SUMMARY

Nunavut has the highest rate of infant deaths (deaths until 1 year of age) in Canada. One important cause of infant death in Nunavut is sudden infant death syndrome (SIDS), where an infant dies during sleep without an obvious cause. When this occurs, it is devastating for families. Safe sleeping practices with a newborn infant are very important and may reduce the occurance of SIDS. Sleeping practices that can make a difference include the position the baby is put to sleep in, sleep surfaces, other people in the same bed as the baby, etc. In partnership with Nunavut Tunngavik Inc. (NTI) and the Qaujigiartiit Health Research Centre, this project will hold multigenerational focus groups to explore traditional and current sleep practices (positioning, co-sleeping, etc). Information from the focus groups and knowledge of Inuit cultural practices will help in development of a health promotion strategy encouraging safe sleep practices and culturally relevant Maternal Child Health practices.

Ajurnaqtut Aniguinnasuut (everything difficult always passes) Turning Grief Into Empowerment

License Number: 03 015 19N-M

Principal Investigator: Snow, Kathy

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Number in Party: 3

Research Area: Kivalliq

Fieldwork Locations: Baker Lake

SUMMARY

The goal of this Participatory Action Research (PAR) project is to work with the community of Qamanittuaq (Baker Lake), to support the mental health and education of all young people by reorienting school as a place of healing in the community. This will be done through community collaboration and an Inuit youth driven participatory action research project that supports Inuit traditional knowledge and identity development in the context of formal school learning.

Adult Occupational Therapy (OT) and Physiotherapy (PT) Services in the Kivalliq Region of Nunavut: Mapping the Client Journey

License Number: 03 007 19N-M

Principal Investigator: Achtemichuk, Monica

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Number in Party: 4

Research Area: Kivalliq

Fieldwork Locations: Rankin Inlet

SUMMARY

The purpose of this study is to provide an overview of Inuit clients' use of adult Occupational Therapy (OT) and Physiotherapy (PT) services and describe their client journey in the Kivalliq region of Nunavut. This study will use the term client journey to characterize the patients' journey across OT and PT services. The client journey mapping process will provide insight on the client's perspective as well as the OT and PT perspective; providing opportunities to improve service delivery.

Access to Justice for Family Violence in Nunavut: A Research Project Awareness Campaign

License Number: 02 040 19R-M

Principal Investigator: Hanson, Maya-Doyon

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Number in Party: 5

Research Area: South Baffin, Kitikmeot, Kivalliq

Fieldwork Locations: Kinngait, Pangnirtung, Iqaluit, Kugluktuk, Cambridge Bay, Arviat, Rankin Inlet, Baker Lake

SUMMARY

This project aims to raise awareness about family violence, especially intimate partner violence (IPV), and legal options to address it in Nunavut, so as to advance access to justice and to keep women and children safe. The project is comprised of two components; a research component that will assess public awareness, knowledge, experience and perception of the Family Abuse Intervention Act (FAIA), and access to justice issues. Based on results of the collected data, the researchers will provide recommendations to effect law reform, to help bolster the Act and improve the functioning of the legislation, and its ability to improve the wellbeing and safety of those who interact with it. A public awareness campaign will be aimed at strengthening the public's capacity to recognize abusive situations, with key messages informed and developed by the research component to increase the public's level of understanding about the FAIA legislation, as well as other legal options that are available.

Making SPARX Fly in Nunavut

License Number: 05 007 19R-M

Principal Investigator: Bohr, Yvonne

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Number in Party: 18

Research Area: Nunavut Wide

Fieldwork Locations: All Baffin and Kitikmeot communities

SUMMARY

The proposed research evaluates a holistic, multi-generational intervention designed to enhance resilience and increase mattering. It seeks to integrate Cognitive Behavior Therapy (CBT), an evidence-based approach to preventing depression and suicide, with Indigenous cultural practices that have historically been shown to support resilience in youth. The intervention builds on a recent pilot study that established the usefulness of the SPARX e-intervention in providing CBT strategies to 22 youth at risk for depression in 11 Nunavummiut communities. The proposed, expanded intervention will build on feedback from pilot study participants, namely that: a) SPARX is an effective tool for teaching emotion regulation (ER) and CBT strategies, b) SPARX reduces hopelessness, self-blame, rumination and catastrophizing, c) SPARX should be adapted to provide a repertoire of culturally valid, constructive cognitive strategies for problem-solving for optimal effectiveness.

Maternal Health and the Childbirth Experiences of Inuit in Nunavut: “What was, what is, and what could be”

License Number: 01 016 19R-M

Principal Investigator: Brubacher, Laura Jane

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Number in Party: 6

Research Area: South Baffin

Fieldwork Locations: Iqaluit

SUMMARY

The purpose of this research is to provide opportunities for women, their families, and community members in Iqaluit to share stories of their historical experiences of childbirth (“what was”), their current experiences of childbirth (“what is”), and what healthcare and health policy “could be”, going forward. The goal of this research is for participants to celebrate Inuit culture and traditional knowledge of pregnancy and childbirth. The objectives are to: (1) explore Inuit experiences of birth in Iqaluit, historically and currently; and to (2) identify specific recommendations for how the health system and health policy can more fully support Inuit in childbirth, and reflect Inuit culture, priorities, and ways of knowing.

Mixed-Method Study of Physician Burnout in Northen Canada

License Number: 01 029 19N-M

Principal Investigator: Hansen, Nathaniel

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Number in Party: 4

Research Area: South Baffin, Kivalliq

Fieldwork Locations: Iqaluit, Rankin Inlet

SUMMARY

This proposed work aims to investigate the individual- and system-level factors that may affect burnout rates among physicians practicing in rural or remote areas of Yukon, Northwest Territories, and Nunavut. Within Nunavut specifically, we hope to contact physicians practicing in Iqaluit and Kangiqiniq. Our proposed study uses a mixed-methods approach. We will administer the electronic version of the Maslach Burnout Inventory, a 22-item survey widely considered the gold-standard for quantitative measurement of burnout, among all practicing physicians in the regions noted above. Along with this survey, we will include several questions about physicians' clinical settings, years in practice, and specialty type. Using statistical techniques, we will then be able to determine what factors influence rates of burnout among the physicians surveyed. Finally, we hope to include the option for interested participants to participate in a short interview.

Girls Talk Back: A Media Workshop About Us, by Us

License Number: 03 016 19N-A

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Number in Party: 2

Research Area: Kivalliq

Fieldwork Locations: Rankin Inlet

SUMMARY

The overarching aim of this partnership is to study and advance the use of innovative approaches to knowledge-production, policy-making, and communication in addressing sexual violence against girls and young women in South Africa and Canada. This 6-year, $2.5 million initiative seeks to have a positive impact the lives of current and future generations of girls and young women in Indigenous communities in Canada and South Africa. In different locations and across two countries, the research will examine how girl-led media influences community practitioners and policy-makers. In so doing, the project aims to shift the boundaries of knowledge production and inform policy change.

Welcoming the "Sacred Spirit (Child): Connecting Indigenous and Western Ways of Knowing to Inform Futute Policy Partnerships to Optimize Maternal Child Health Service Delivery Initiatives in Remote Canadian Regions

License Number: 01 035 19N-M

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Number in Party: 28

Research Area: South Baffin, Kivalliq

Fieldwork Locations: Iqaluti, Rankin Inlet

SUMMARY

This research will study how maternity care programs and policies affect life-giving processes for individuals and communities in Northern Canadian regions. Firstly, we will study which maternity service delivery models are the best at supporting people to maintain health and wellness in their community, and which ones are cost-efficient and culturally appropriate. In order to study this, we are conducting interviews and focus groups (sharing circles) with people involved in maternity care. We will also describe the effects of maternity programs and policies on people's health and experiences, and the accessibility of maternity programs. We will focus on Indigenous people's physical, social, emotional, and spiritual well-being. Secondly, we will identify how healthcare providers define maternal health and wellness, and compare this to how Indigenous communities define maternal health and wellness.

Canadian Virtual Hospice-Indigenous Voices: Stories of Serious Illness and Loss, Phase 2

License Number: 01 037 19N-M

Principal Investigator: Cory, Shelly

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Number in Party: 4

Research Area: North & South Baffin

Fieldwork Locations: Arctic Bay, Iqaluit, Pangnirtung

SUMMARY

Indigenous people have the worst access to palliative care in Canada. The Canadian Virtual Hospice's Indigenous Voices: Stories of Serious Illness and Loss Phase 2 (IV2) will develop a series of educational videos and text-based materials by Indigenous people for Indigenous people living with or caring for someone with advanced cancer, with a specific focus on Northern Canada. The Canadian Partnership Against Cancer (CPAC) is funding this expansion of earlier work that has been extremely well received in Canada and internationally. Through the Indigenous tradition of storytelling, Inuit, First Nations and Métis people who are living with advanced illness, their family, community leaders and health care providers will be invited to share stories about "the care that matters." These experiences, stories and collective wisdom will be shared on the "LivingMyCulture.ca" website. The objectives of the project are twofold: 1) to increase awareness, understanding, and confidence among Inuit, First Nations and Métis people to advocate for and access quality palliative and end-of-life care by sharing stories of people and situations they can relate to, and 2) to improve the understanding and capacity of people working in the health care system to respond in a compassionate, culturally safe and effective way to the needs of Indigenous people. Reflecting the importance of personhood, ceremony, tradition, ritual, legacy, values and beliefs are core components of the project.

Informing an Inuit Online Module for Type-2 Diabetes Mellitus

License Number: 03 022 19N-M

Principal Investigator: Clark, Wayne

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Number in Party: 2

Research Area: Kivalliq

Fieldwork Locations: Arviat, Rankin Inlet

SUMMARY

The central thesis of this research study is that Inuit Qaujimajatuqangit (IQ) is foundational to Inuit cultural safety. Cultural safety involves analyzing power imbalances, institutional discrimination, and colonial relationships in the context of healthcare. Presently, there are few opportunities to learn about decolonized Inuit health education in medical teaching institutions in Canada. To address this issue, I will explore how storytelling with Elders and others in the Inuit community in Nunavut and Manitoba can support the design of an online module about a health issue relevant to the community, and consider how the process of engagement can be useful for other decolonizing education projects that address health and wellness. Processes that are developed for the online module design may assist other Inuit communities and organizations in support of community-based education strategies related to health and wellness in other contexts.

Unpacking Rehabilitation for Children: Learning from Inuit Perspectives

License Number: 02 059 19N-M

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Number in Party: 4

Research Area: North & South Baffin

Fieldwork Locations: Iqaluit, Clyde River, Igloolik, Cape Dorset, Pangnirtung, Qikiqtarjuaq, Pond Inlet

SUMMARY

In mainstream Canada, there is a belief that children who are not able to perform certain skills should be seen by rehabilitation services (occupational therapy, physiotherapy, and speech-language pathology) in order to help them catch up with other children their age. There is very little written information about Inuit Qaujimajatuqangit perspectives on rehabilitation for children with differing abilities. Knowing more about this would help rehabilitation professionals to improve their services for Inuit children and families and support Inuit access to self-determination (rights to Inuit knowledge and choice) in their participation with rehabilitation services.

The Prevalence of Anaphylaxis in Iqaluit

License Number: 01 003 19N-M

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Research Area: South Baffin

Fieldwork Locations: Iqaluit

SUMMARY

The project is about getting information about the prevalence of anaphylaxis in Iqaluit, its main triggers, use of EpiPen before and after arriving to the emergency department, and the rate of admissions and death in relation to anaphylaxis. The research will be conducted by secondary use of data that was already collected during each visit to the emergency department, with no patient identifiers collected, so no recruitment or consent form is needed. The information to be filled by the emergency department physicians in the data sheet will include the date of encounter, age of patient, gender, ethnicity, being from Iqaluit versus another community, suspected trigger of the anaphylaxis, whether an EpiPen was used before arrival to the emergency department or not, if EpiPen, steroids or antihistamine were used at the emergency department and what the outcome was.

Implementation of a Maternal Pertussis Immunization Program: Improving Coverage Among Inuit Women

License Number: 01 010 19R-M

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Research Area: Kivalliq, North & South Baffin

Fieldwork Locations: Arviat, Iqaluit

SUMMARY

We are conducting a 3-year study during which time we aim to determine the knowledge, attitudes, beliefs, values and behaviours of community Elders, healthcare providers, and pregnant women about maternal immunization. We hope to explore the usefulness of the Tdap and influenza vaccine programs, and to look at what barriers, facilitators, and factors influence a woman's decision to be vaccinated. This will be achieved through a research approach that includes individual narrative collection with community experts, sharing circles with pregnant women and healthcare providers, and surveys of pregnant women. Researchers from the Canadian Center for Vaccinology have been working in close partnerships with our Northern community counterparts, and other key stakeholders throughout the development of this research project, using Indigenous and more specifically Inuit frameworks of thought to guide the process.

Medical evacuations: causes and impacts of health technology to improve community care and reduce the need for medical evacuation. A quantitative retrospective study in the remote community of Tikiraqjuaq (Whale Cove), Nunavut, Canada

License Number: 03 010 19Registry

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Research Area: Manitoba

Fieldwork Locations: Winnipeg

SUMMARY

Medical evacuations: causes and impacts of health technology to improve community care and reduce the need for medical evacuation. A quantitative retrospective study in the remote community of Tikiraqjuaq (Whale Cove), Nunavut, Canada.

Hearing Loss Prevalence in Nunavut Children 2017-2018

License Number: 05 008 19Registry

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Research Area: Nunavut Wide

Fieldwork Locations: Pond Inlet, Igloolik, Arviat, Whale Cove, Kugluktuk, Cambridge Bay

SUMMARY

The prevalence of hearing loss in the Canadian Arctic is reported to be up to 40% higher than in the south (Bowd, 2005). This includes transient hearing loss from ear infections, but also permanent hearing loss from noise exposure and complications from poorly managed ear infections. These statistics have not improved since data was first reported more than 40 years ago (Baxter, 1999; Baxter & Ling, 1974). The World Health Organization (WHO) also identified the Indigenous population in Canada's Arctic regions as having one of the highest incidences of hearing loss in the world (WHO, 1999). The research consistently points to significantly higher numbers of children with hearing loss in Inuit populations in the high Arctic than in non-Inuit children in the south.

Adapting the Community Readiness Model (CRM) for HIV/AIDS Prevention, Education and Screening with Inuit Communities Developing Strategies for HIV Prevention with Community Input & Collaboration.

License Number: 02 039 19R-M

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Research Area: North Baffin, Kitikmeot, Kivaliq

Fieldwork Locations: Arviat, Kugliktuk, Clyde River

SUMMARY

HIV infections are a real threat for Inuit communities, and since every community is different, we are not sure how ready communities are in dealing with HIV. The main purpose of this research is to help Inuit communities identify how ready they are to deal with HIV infections with the community readiness model. The community readiness model is a tool that can help communities determine how ready they are to deal with a specific issue. For this project, we are looking at initiatives that focus on HIV prevention, education and screening. Our research project aims to adapt, pre-test and use the CRM to identify how ready 3 communities in Nunavut are to deal with HIV.

Recurrent Tuberculosis in Canada - Translating Whole Genome Sequence Insights into Best Public Health Practice

License Number: 05 012 19N-M

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Research Area: Nunavut Wide

Fieldwork Locations: All Nunavut communities

SUMMARY

The objectives of this study are: 1.) Establish the relative contribution of reinfection to recurrent TB in four Canadian jurisdictions (Nunavut, Ontario, Alberta and Saskatchewan); 2.) Using an integrated knowledge translation (iKT) approach respectful of Indigenous ways of knowing, develop and share public health knowledge, procedures and guidelines for managing reinfection TB. Our overall goal is to make a positive contribution to current public health practice and to contribute to the next update of the TB standards. We are seeking strong community engagement to ensure that we develop the public health tools in a way most meaningful and useful to communities, regions and the federal government.