

Inuvialuit

Research Newsletter



In this issue . . .

"Siqinirmin Aullan" — Energy book translated to Inuvialuktun.....16

COVID-19 regional epidemiological modelling in the ISR.....18

Qanuippitaa? National Inuit Health Survey (QNIHS) in the ISR.....31

Self-Governing Indigenous Governments Data Tool Kit.....32

Plus, read more on how the various marine priorities in relation to boat traffic in the Inuvialuit Settlement Region are being addressed . . . 47

Inuvialuit Research Newsletter
December 2020
Volume 1 | Issue 2

Inuvialuit Regional Corporation, 2020

This document was compiled by the Inuvialuit Regional Corporation with contributions from the Government of Canada, the Government of the Northwest Territories, the Northern Contaminants Program, the University of Waterloo, Wilfrid Laurier University, the Aklavik Hunters and Trappers Committee, and the Network of Centres of Excellence of Canada: ArcticNet.

Inuvialuit Regional Corporation would like to apologize in advance for any misspellings of names of people and/or organizations featured in this edition. If you should find any discrepancies, please do not hesitate to contact the Inuvialuit Regional Corporation (IRC)'s Innovation, Science, and Climate Change (ISCC) Division with your concerns.

See page 86 for the IRC's ISCC Division's contact information.

Table of Contents

Introduction to the Inuvialuit Settlement Region Research Newsletter

Message from the Chair and Chief Executive Officer.....	6
The Committee for Original People's Entitlement.....	8
The Inuvialuit Regional Corporation.....	9
Innovation, Science, and Climate Change Division.....	12

Inuvialuit Settlement Region Research Projects

Inuvialuit Regional Corporation's Internal Research Projects.....	16
Inuvialuit Regional Corporation's Partnered Research Projects.....	24
Academic Organization's Research Projects.....	36
Federal Government's Research Projects.....	38
Territorial Government's Research Projects.....	44
Inuvialuit Organization's Research Projects.....	46

Inuvialuit Regional Corporation's Emerging Policies and Strategies

Proactive Vessel Management Pilot.....	47
--	----

Inuvialuit Regional Corporation's Community Outreach and Engagement Activities

Innovation, Science, and Climate Change Division's Engagement.....	48
--	----

Knowledge Sharing and Advancement of Research

Network of Centres of Excellence Program.....	51
Northern Contaminants Program.....	56

Activity Corner

Connect the Dots, Crossword Puzzle, Sudoku Puzzle, Word Search Puzzle.....	60
--	----

Bibliographies and Endnotes

Arctic Science and Technology Information System.....	62
Northern Contaminants Program Research Projects.....	68
Aurora Research Institute.....	73
Northwest Territories Research Database.....	75
Inuvialuit Settlement Region Database.....	76
Index of Organizational Acronyms.....	81
Acknowledgements.....	83
Connect the Dots, Crossword Puzzle, Sudoku Puzzle, Word Search Puzzle Solutions.....	84
Contact Us.....	86

Message from the Chair & CEO

Aaqana readers,

It is my pleasure to welcome you back to the annual Inuvialuit Research Newsletter. In these pages, you will find highlights on research projects happening in the Inuvialuit Settlement Region (ISR).

As you may already be aware, the ISR is one of the most studied locations within Canada. This surge in research activity can be attributed to the ISR's rapidly changing environment, the creation of the Inuvik-Tuktoyaktuk Highway (ITH), new Inuvialuit research programming, and a recent flow in funding related to microplastics in Arctic regions. As such, the research landscape in the ISR is continually evolving to meet the needs of beneficiaries, community organizations, governments, academia, and other partners — regionally, territorially, nationally, and internationally.

In prior years, most of the research in the ISR was conducted by post-secondary institutions, government departments, and other organizations. In recent years, Inuvialuit organizations have built up internal capacity and begun to undertake Inuvialuit owned, led, and partnered research initiatives. Autonomous control over research in the ISR is an important step towards greater Inuvialuit self-determination. These research projects should be properly recorded, recognized, and celebrated!

With the primary goal of communicating research initiatives within the vast ISR boundaries, the Inuvialuit Regional Corporation (IRC)'s Innovation, Science, and Climate Change (ISCC) Division proudly presents the Second Edition of the *Inuvialuit Settlement Region (ISR) Research Newsletter*.

Whether you are a new or returning reader, I want to thank you for taking the time to learn about the practical and actionable research being done by IRC and other organizations in the ISR. I would also



like to acknowledge and thank our partners for their generous contributions to this newsletter.

I am proud of the evidence-based research being conducted in the Inuvialuit Settlement Region and we are pleased to share it here with all of you.

Quyanainni! Koana! Quyanaqpak!

A handwritten signature in black ink, appearing to read 'Duane Smith'.

Duane Ningaqsiq Smith
Atanruŕuq Katimatuŕanun
Chair and CEO, Inuvialuit Regional Corporation

Inuvialuit Regional Corporation's Board of Directors



Inuvialuit Regional Corporation's Board of Directors, back row, from left to right: Duane Smith - Chair and CEO; Ryan Yakeleya - Director; Jordan McLeod - Director, John Lucas Jr. - Director; Lawrence Ruben - Director; front row (sitting down), from left to right: Colin Okheena - Secretary/Treasurer; Gerald (Jerry) Inglangasuk - Vice-Chair. *Photo courtesy of Elizabeth Kolb, Inuvialuit Regional Corporation's Communications Advisor.*

Committee for Original People's Entitlement



On January 28, 1970, in response to increasing oil and gas exploration and other pressures, a group of Inuvialuit elders and youth came together to form the Committee for Original People's Entitlement (COPE) to represent the interests of the Indigenous people of the Western Arctic. COPE feared that unless action was taken, they would have no input in resource development. They were also concerned that most of the benefits from any development would flow south, with Indigenous people benefiting little.

COPE identified that its main objective was to provide a united voice for all original people of the Northwest Territories and to work towards the establishment and realization of Indigenous people's rights.

Within a short period, COPE accomplished many things. It organized the first Conference of Arctic Native People, helped start the Northern Games, produced weekly radio shows in Aboriginal languages, helped preserve the history and heritage of Aboriginal people by interviewing and taping elders, supporting Aboriginal business ventures, and lobbied for adequate housing for low-income families.

But, first and foremost, COPE represented the Inuvialuit in negotiating a land claim agreement with the federal government. Negotiations

between COPE and the Government of Canada began in 1974 and lasted over the course of 10 years.

COPE was instrumental to the building of Ingamo Hall (1974), the revival of the traditional circumpolar northern games (1970 onwards), and traditional drum dancing, the Inuvik Housing Co-op, and a study to assess the health conditions and health services (1980). To preserve Inuvialuktun, COPE created the COPE Language Project (1980), training Inuvialuktun teachers and creating the Inuvialuktun dictionaries.

The collective voice of the Inuvialuit prevailed, and on June 5th, 1984, the two sides signed the Inuvialuit Final Agreement (IFA). It was the first comprehensive land claim agreement signed north of the 60th parallel and only the second in Canada at that time.

COPE was soon dissolved, and the Inuvialuit Regional Corporation (IRC) was established with the overall responsibility of managing the affairs of the settlement as outlined in the IFA.

Its mandate has always been to continually improve the economic, social, and cultural well-being of the Inuvialuit through the implementation of the IFA and by all other available means.

By 1988, COPE had fully transitioned to the IRC.

Established in 1984 to manage the settlement outlined in the IFA, the IRC represents the collective Inuvialuit interests in dealings with governments and the world at large.

Inuvialuit Regional Corporation



The Inuvialuit Regional Corporation (IRC)'s goal is to continually improve the economic, social, and cultural well-being of the Inuvialuit through the implementation of the IFA and by all other available means.

Through a democratic process, Inuvialuit beneficiaries directly control the IRC and its subsidiaries.

The head office for the IRC is in Inuvik, Northwest Territories (NT). Over 180 employees, both full-time and casual, work for IRC. Inuvialuit beneficiaries make up over 80 percent of IRC and Inuvialuit Development Corporation (IDC) staff positions, including those at the senior executive management level.

Each Inuvialuit community, which includes Aklavik, Inuvik, Paulatuk, Sachs Harbour, Tuktoyaktuk, and Ulukhaktok, has a Community Corporation with elected directors. The directors of the six

Community Corporations elect the Chair of the IRC. This elected member also takes on the responsibility of Chief Executive Officer (CEO) of IRC.

The Chairs of each Community Corporation, together with the Chair and CEO of IRC, form the IRC Board of Directors.

The IRC has four principal subsidiaries, which provide most of the corporation's operational funding: Inuvialuit Development Corporation, Inuvialuit Investment Corporation, Inuvialuit Land Corporation, and Inuvialuit Petroleum Corporation.

Inuvialuit Development Corporation — a diversified investment, venture capital, and management holding company.

Inuvialuit Investment Corporation — oversees management of a diverse security portfolio.

Inuvialuit Land Corporation — responsible for the administration and management of Inuvialuit lands.

Inuvialuit Petroleum Corporation — a medium-sized, diversified, and integrated petroleum company.

Additional in-house divisions – including Operations (core services) – include: Inuvialuit Culture Centre; Education & Training; Capacity; Human Resources; Inuvialuit Land Administration; Innovation, Science, and Climate Change; as well as Health & Wellness Division contribute to form the Inuvialuit Regional Corporation.

IRC's 2020 Research Priorities

2020 Beaufort Strategic Environmental Assessment Research Priorities

Acquired from various community tours from 2016-2020

- Meaningful inclusion of Traditional Knowledge and consultation of knowledge holders
- Invasive species
- Effect of marine traffic on water quality, key fish species, and marine mammals
- Relationship between environmental change and preservation of tradition and culture
- Cumulative effects research in the following areas:
 - Employment rate, social wellness (tradition and culture), education, harvesting, food security, lack of oil and gas disaster response infrastructure, climate change, and water quality

2020 Strategic Research Priorities

Acquired from the IRC 42 Directors' Meeting (January 2019)

- Environmental Change
 - Ice, landslides, safety, permafrost, erosion
- Human - Environment Interactions
 - Tourism and economics, cumulative effects, grey water and Ballast water, place names

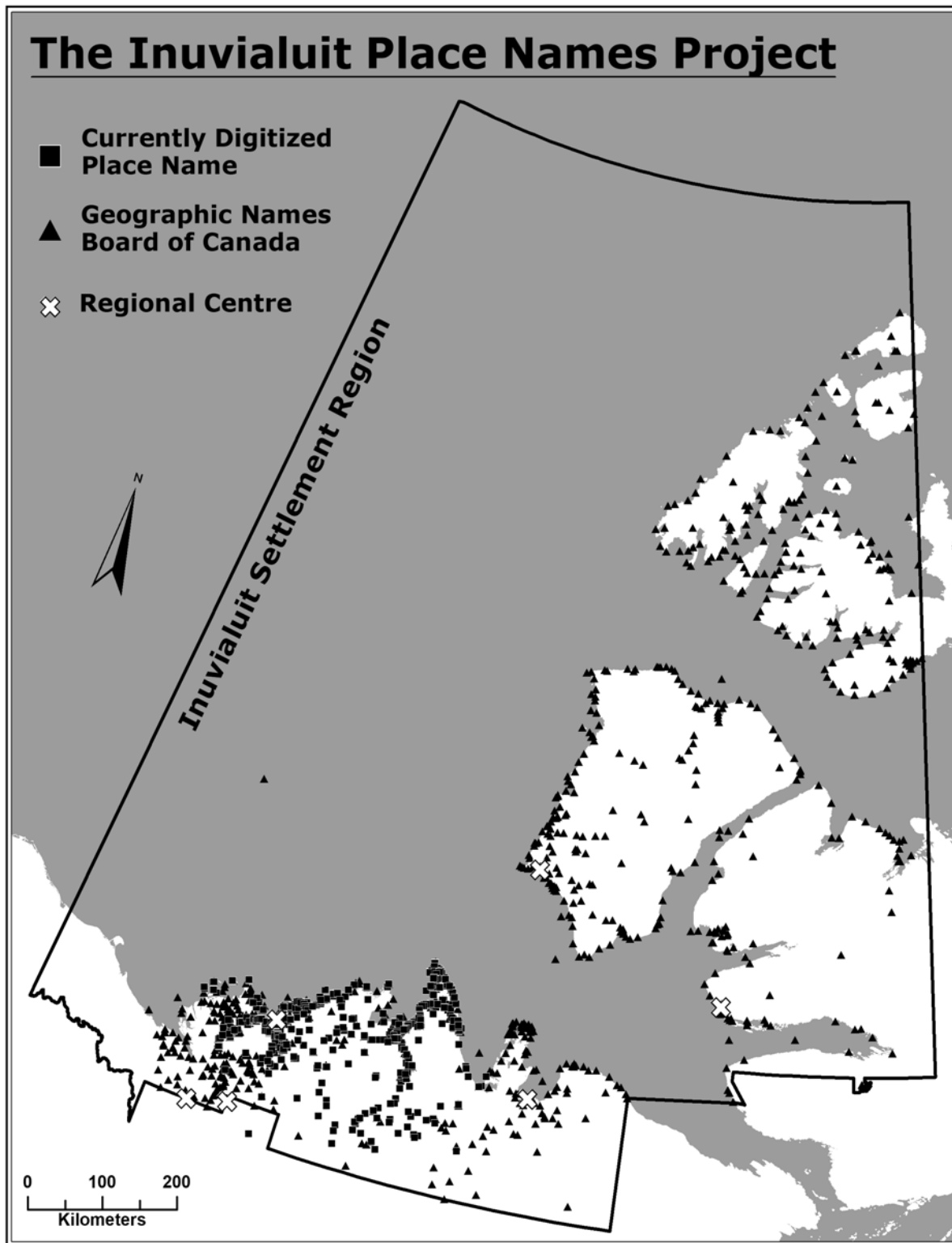
2020 Community Identified Research Priorities

Acquired from various community tours and online forums (2018-2020)

- Climate change
- Geohazards
- Marine safety
- Wellness and language
- Coastal erosion
- COVID-19
- Energy
- Inuvialuit place names



Sunshine and ice crystals in the Inuvialuit Settlement Region. *Photo courtesy of Elizabeth Kolb, IRC Communications Advisor.*



Turn to page 14 for details on the Inuvialuit Regional Corporation (IRC)'s Inuvialuit Place Names project. *Photo courtesy of Dr. Michael O'Rourke, Inuvialuit Place Names Project Coordinator.*

About IRC's Innovation, Science, and Climate Change Division

Over the past decade, the Inuvialuit Settlement Region (ISR) has become one of the most studied locations within Canada. Interest in the ISR has grown because of its rapidly changing environmental conditions, the development of the Inuvik-Tuktoyaktuk Highway, and a recent surge in funding related to cold regions within Canada. These research programs are consistently evolving to meet the needs of beneficiaries, community organizations, funders, and partners at the regional, territorial, and national levels. As such, the need for coordination and Inuvialuit-driven research becomes more apparent with increased funding availability, access, and interest in the ISR.

To meet this growing regional need, Inuvialuit Regional Corporation (IRC) has created a specialized Innovation, Science, and Climate Change division.

The IRC's Innovation, Science, and Climate Change (ISCC) division was created in 2016 and has been growing in staff and size each year since its inception. This unit began with one employee and three research projects and has since grown to a team of eleven who lead fourteen major projects within the ISR. The division is organized into three main areas: Cyber Infrastructure/Data, Environmental Policy, and Health/Engagement.

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Piers Kreps, Research Data Specialist

Environmental Policy

Brian Park, Climate Change Program
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Darby Desrosiers, Clean Energy
Coordinator

Tess Forbes, Marine Program Coordinator

Tyra Cockney-Goose, Environmental Policy
and Climate Change Assistant

Health/Engagement

Kendra Tingmiak, Inuit Research Advisor

Pauley Tedoff, QNIHS Technician

ISCC 2020 Divisional Goals

1. Communicate Research

- Facilitate local participation through opportunities and knowledge mobilization
 - Increased local participation (environmental and wildlife mentors)
 - Increased local engagement (newsletters, flyers, community tours)
- Make products of research and data available

2. Ensure Inuvialuit are meaningfully involved in all research policy and processes in the ISR

- Re-evaluate internal research licensing process
- Develop Inuvialuit focused research policy and associated materials
 - Research agreements
 - Data agreements
 - Standards for engagement and involvement in research conducted by external groups

3. Begin developing a research agenda for the ISR

- Identify research gaps

4. Ensure that both traditional knowledge and western science are equally considered in policy/decisions related to the ISR

- Foster a culture of innovation and self-determination
- Develop a robust internal research program which addresses local priorities

5. Mentor the next generation of Inuvialuit researchers

- Provide youth with employment and opportunities to be directly involved in research
- Provide youth with training and mentorship activities to build skills while transferring knowledge

Inuvialuit Settlement Region Research Projects

IRC's Internal Research Projects

Inuvialuit Place Names

Project at a Glance

Project Lead: Dr. Michael O'Rourke,
Inuvialuit Place Names Coordinator

Organizations Involved: The Inuvialuit Cultural Centre, as well as Community Corporations and Hunters & Trappers Committees from each regional centre (outreach in progress).

Project Status: Ongoing (iterative process)

Importance of Project: The Inuvialuit Place Names (IPN) project will yield a comprehensive, community-vetted, and IRC-controlled collection of currently documented Inuvialuit place names. This project will promote the respectful application of Inuvialuit perspectives on the lands and waterways of the Inuvialuit Settlement Region (ISR) through a range of research, regulatory, and governance processes.

Project Objective: The goal of IPN is to establish a centralized, Inuvialuit-controlled assemblage of all previously documented Inuvialuit place names.

This collection of place name records will be securely maintained by the Inuvialuit Regional Corporation (IRC), with access to project results restricted to IRC agencies and their partners. Such detailed records will position the IRC to work with the Geographic Names Board of Canada to officially include Inuvialuit place names on national maps. The project will also act as a baseline from which additional place name research programmes will be developed in the years ahead.

Over the centuries, Inuvialuit and their ancestors have given names to places of cultural significance. These names may reflect the kinds of activities that were carried out there, the kinds of resources an area is known for, or the events/people that are associated with those places, among numerous other commemorative reasons. Place names help to shape and define the cultural landscape and exist as an enduring record of Inuvialuit history and heritage. Knowing place names and their meanings, the resources or landmarks at those locations, and the sequence of those place names as people journeyed along travel routes was one way that Inuvialuit learned to read the land prior to the influence of colonial lifeways. These locations are critically important to identifying key areas of significance within the ISR, and their continued use is an important aspect of Inuvialuit Culture. This initiative aims to identify, collect, overlap, and quality control Inuvialuit place names (both English and

Inuvialuktun), which have been compiled from existing research and regulatory documents. The IPN project has been developed to take place in a cyclical manner, conducted over a series of six phases which are meant to be repeated on a semi-regular basis (see diagram below). The documentation of place name information is intended to be an ongoing process, capable of including new place name details as time passes and new stories about culturally significant locations are shared by Inuvialuit.

Efforts to date on the first three phases of the IPN project have been completed (see the Project Cycle Diagram). This has resulted in the compilation of a large volume of place name records which were sourced from research and regulatory reports. The project has been holding at Phase 4 ('Community Vetting Process'), since March 2020, when interviews taking place in Tuktoyaktuk were cancelled prematurely owing to the COVID-19 pandemic declaration.

Recently, Dr. O'Rourke (project coordinator) has taken a position within the Government of Northwest Territories (GNWT) Culture and Heritage Division, which will allow him to remain on the project in partnership with the Innovation, Science, and Climate Change (ISCC) Division.

Dr. O'Rourke will be moving to Inuvik later this summer, and will resume work on the 'Community Vetting Process' soon.

The ISCC Division has secured project funding from Polar Knowledge Canada (POLAR), which will provide nearly \$450,000 to support efforts on the IPN project over the next three years.

This funding will ensure that the IPN project is capable of meeting its objectives, while providing a means of documenting Inuvialuit perspectives on the lands and waterways of the ISR through future project cycles, as shown in the Project Cycle Diagram below.



Project Cycle Diagram from the Inuvialuit Regional Corporation (IRC)'s Inuvialuit Place Names project. *Image courtesy of Dr. Michael O'Rourke, Inuvialuit Place Names Project Coordinator.*

"Siqinirmin Aullan" — A Children's Book on Energy



Project at a Glance

Project Lead: Darby Desrosiers, IRC Clean Energy Coordinator

Project Objective: To create an energy themed Inuvialuit children's book and accompanying audiobook in the three Inuvialuktun dialects and, in turn, promote Inuvialuktun and energy literacy in the Inuvialuit Settlement Region.

Communities Involved: Inuvik, Aklavik, Tuktoyaktuk, Paulatuk, Ulukhaktok, Sachs Harbour

Project Status: Multi-Year (2020-2022)

This book was written and illustrated by Inuvialuit beneficiaries to promote energy literacy in the Inuvialuit Settlement Region (ISR). It will facilitate cross-generational knowledge transfer between Elders and Youth about local culture, practices, language, and sustainability.

Climate change and energy development have significant impacts on both the social and physical landscapes of the north. This project aims to develop an energy themed children's book which will be available in all three Inuvialuktun dialects. The book's content will explain energy terms and reflect on the impact of energy development and climate change on traditional lifestyles. Project development will require several stages of community participation including a story writing contest, the meeting of a review committee, the creation of illustrations by a local artist, and a translation workshop. The final version will be publically available in March 2022 as both physical books and audiobooks.

Principle Activities:

Development of Children's Book, publication, and public distribution.

The English draft of the Children's Book will be complete in December 2020. The next step will be to have the draft translated into the three Inuvialuktun dialects. After translation, each book will be recorded as an audiobook. Published versions will be distributed as physical books with accompanying audiobooks. This project is set to be complete by March 2022.



"Siginirmin Aullan" author, Corrine Bullock, stands with her two daughters and IRC's Chair and CEO and ISCC Staff. Photo courtesy of Elizabeth Kolb, IRC Communications Advisor.

COVID-19 Regional Epidemiological Modelling

Project at a Glance

Project Lead:

Dr. Matthew Chudek, IRC Inuvialuit Statistician

Project Objective:

To accurately predict the potential impact of COVID-19 and similar infectious diseases on communities located in the Inuvialuit Settlement Region (ISR).

Communities Involved:

Inuvik, Aklavik, Tuktoyaktuk, Paulatuk, Ulukhaktok, Sachs Harbour

Project Status:

Complete

Importance of Project:

This project generated valuable information on how social patterns in the ISR could impact the spread of infectious diseases in the future. The findings can inform public health decision-making to prevent and mitigate the future spread of infectious diseases in the ISR.

To support informed decision-making regarding disease outbreak prevention and response in the ISR, the Innovation, Science, and Climate Change (ISCC) Division of the Inuvialuit Regional Corporation (IRC) developed regional epidemiological models to predict how the novel coronavirus and similar airborne viruses could spread throughout the ISR. Primary descriptive data from all ISR communities were used in the development of epidemiological models where various real-world social contact scenarios were explored. The resulting models were then used to predict rates and timing of infections under a series of public health interventions that might be taken in the event of an outbreak.

Principal Activities:

(1) Use descriptive data at the community level to inform epidemiological models that predict infection rates, per a series of simulated social contact patterns within and between ISR communities; (2) Simulate various public health response scenarios and assess the effectiveness of each intervention in controlling an outbreak; (3) Present findings in clear and actionable terms to IRC leadership to facilitate informed pandemic planning and outbreak response.

Results:

For key insights of the study, please see Figure 1 which indicates: the importance of stricter social distancing in the ISR than that which is practiced in Southern cities, the value of out-of-home isolation facilities in the ISR, the potential value of targeting public health resources to larger households where infection risks are higher, and, the possibility that less-than-complete travel restrictions may not substantially reduce infection rates in the ISR.

Inuvialuit Settlement Region (ISR) COVID-19 Simulation (ISRCs) under Various Intervention Scenarios

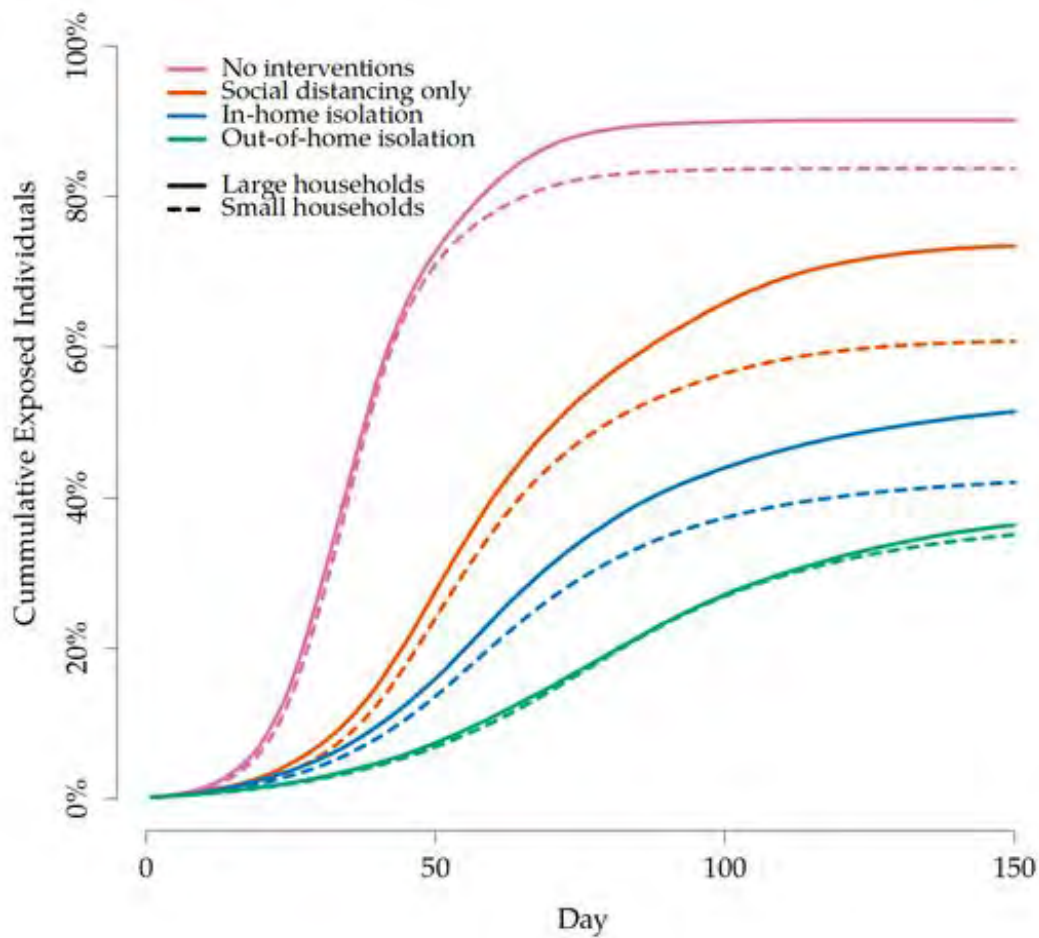
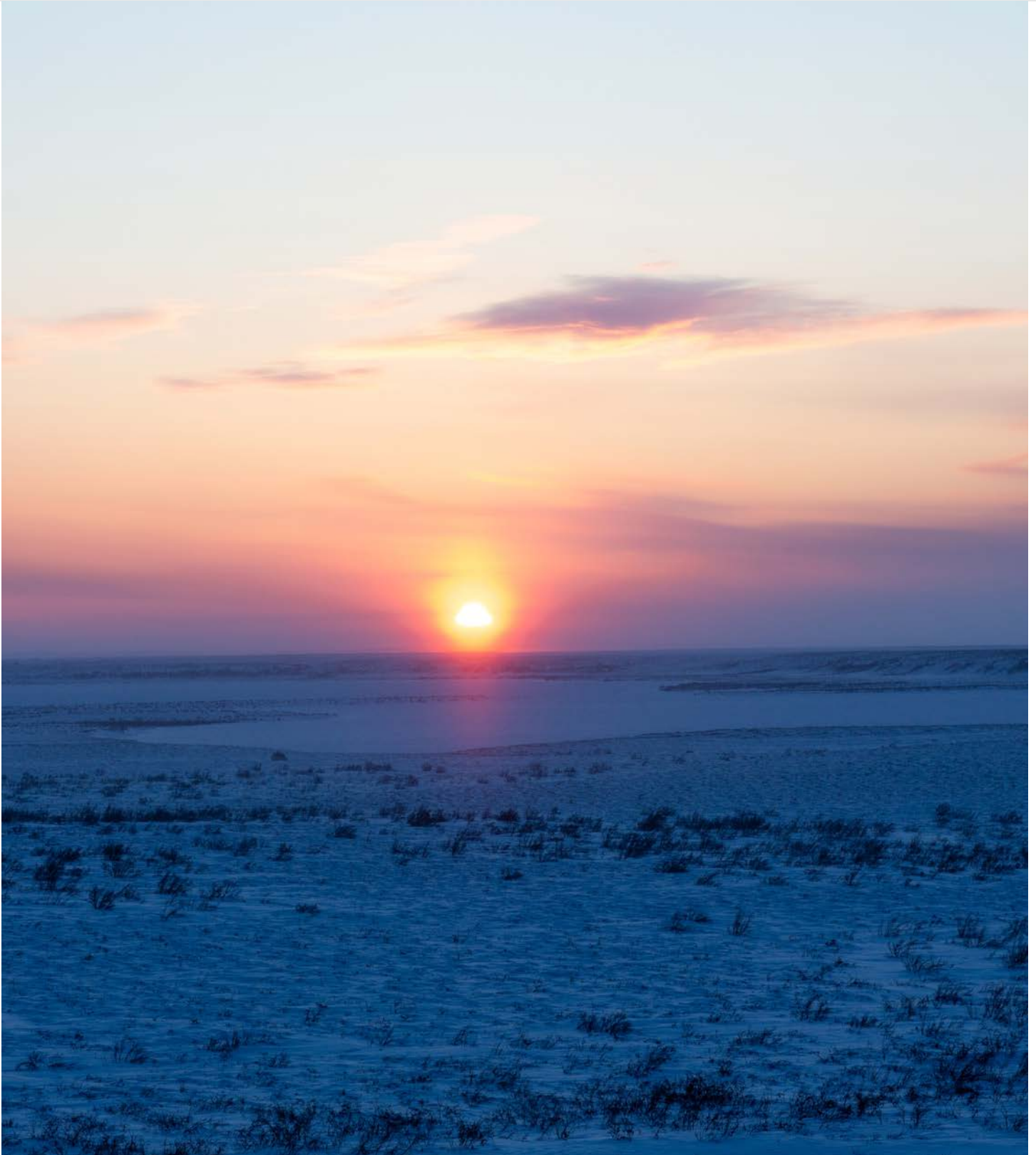


Figure 1: The cumulative proportion of individuals, average across simulations run, in large (6 or more members; solid lines), and small (dashed lines) households who have been exposed to COVID-19 by each day of the ISRCs simulation. *Figure courtesy of Dr. Matthew Chudek, IRC Inuvialuit Statistician.*



Sunset in the Inuvialuit Settlement Region. *Photo courtesy of Elizabeth Kolb, IRC Communications Advisor.*



INUVIALUIT SETTLEMENT REGION

Climate Change Action Map

Project at a Glance

Project Lead:

Brian Park, IRC Climate Change Coordinator

Project Objective:

To showcase recent climate change and clean energy initiatives across the Inuvialuit Settlement Region to Inuvialuit stakeholders and the public at large.

Communities Involved:

Inuvik, Aklavik, Tuktoyaktuk, Paulatuk, Ulukhaktok, Sachs Harbour

Project Status:

Completed with ongoing updates.

Importance of Project:

Support Inuvialuit awareness of and contributions to climate change projects in the region.

While the Inuvialuit Settlement Region (ISR) has emerged as a climate change research and action hub, a historical information gap between Inuvialuit stakeholders and project leaders continues to challenge community awareness of the wide range of initiatives that have taken place across the region in recent years. This project aims to raise community awareness by developing an easily accessible, user-friendly, and comprehensive online map that will help users visualize the expanding scope of climate action in the ISR. This forthcoming map will also serve as an engagement tool for encouraging participation in future climate change initiatives within Inuvialuit communities and promoting the region's progress towards sustainability to audiences beyond the ISR.

The development of the ISR Climate Change Action Map was completed in early 2021. Inuvialuit beneficiaries can use the online Action Map to explore climate change related scientific research, frontline projects, and community engagement activities across the region. The Action Map will be continually updated as new climate change and clean energy projects are planned and implemented over time.

The Action Map can be accessed at:
<https://climateactionmap.inuvialuit.com>

Inuvialuit Carbon Pricing Impact Study

Project at a Glance

Project Leads: Darby Desrosiers, Matthew Chudek, Jenn Parrott (Inuvialuit Regional Corporation), and Elspeth Ready (Phase 3 Contractor)

Project Objective: To evaluate and better understand how Carbon Pricing will impact households in the Inuvialuit Settlement Region (ISR).

Communities Involved: Observed data from all 6 communities [Aklavik, Inuvik, Paulatuk, Sachs Harbour, Tuktoyaktuk, and Ulukhaktok]

Project Status: Complete [Phase 1 complete April 2019, Phase 2 complete November 2019, Phase 3 complete March 31, 2021]

Importance of Project: The Pan-Canadian Framework on Clean Growth and Climate Change was implemented in 2019 across Canada as a commitment that Canada would do its part to combat climate change. Recognizing that carbon pricing may have a disproportionate impact on Indigenous and low-income families, the federal government committed through the Pan-Canadian Framework to engage with Indigenous Peoples to find solutions that address their unique circumstances, including high costs of living and of energy, challenges with food security, sensitive emerging economies, and ability to adapt to a changing environment as well as other climate change impacts.

IRC has been conducting a Carbon Pricing Impact Study since 2019 to determine if the implementation carbon pricing will disproportionately impact Inuvialuit. The first two phases of the study, focused on market-based data, show that benefits like Cost-of-Living-Offset (COLO) will not sufficiently cover the increased costs of household goods in the ISR. The recently completed Phase Three of the project addressed the less studied Traditional Economy to show how carbon pricing may affect traditional hunting, fishing, and trapping. In all three phases, the current implementation plan for Carbon Pricing in the Northwest Territories was found to have a disproportionate impact on Inuvialuit lifestyles, food security, and culture.

Principle Activities:

a) Phase 1 Findings:

Phase One of the Carbon Pricing Impact Study was completed in April 2019. This assessment reviewed the direct impacts of carbon tax on household goods (e.g., food, clothes, transport, etc.) in the ISR. The key findings of this report showed that benefits of the cost-of-living-offset (COLO) payments would be disproportionate across the ISR and that the many households could be considered 'worse off' from the implementation of this style of rebate system.

b) Phase 2 Findings:

Phase Two attempted to project the impact of carbon pricing specifically on hunting, fishing, and trapping in the ISR. However, the input data used territorial averages published by Statistics Canada (STC) leading to invalid results. Traditional on-the-land activities are not taxed, and so they do not appear in

the economic records that STC uses to estimate industrial input-output tables for the territory. Instead, the STC "Hunting, Fishing, and Trapping" category reports the goods consumed by a small number of commercial hunting outfitters.

The key findings of this report succeed only in showing that standard economic models could not accurately describe the impacts of carbon pricing on communities whose lives are structured around traditional activities that do not appear in economists' ledgers.

c) Phase 3 Findings:

The findings from this report recommend that there should be mechanisms put in place to protect the Inuvialuit Traditional Economy from potential negative effects of carbon pricing. This report successfully demonstrated how fossil fuels used for transport purposes will be heavily impacted by carbon pricing; and yet, exceptions have not been made towards the use of fuels for subsistence purposes in the ISR. This aspect creates a problem because Inuit hunters throughout Canada are already experiencing difficulty in affording gasoline and equipment required for traditional harvesting activities. Further increases in the cost of harvesting will reduce the ability of many Inuvialuit to engage in harvesting, which may lead to poorer nutrition, poorer health, and a lower quality of life in the ISR. The results of the report demonstrate the importance of subsistence harvesting from the perspective of carbon emissions, dollar values, and kilograms of food produced in contrast to food that is shipped up for the market economy.

Excerpt from the Carbon Pricing Phase

3 Report and Non-Technical Summary:

Based on the Inuvialuit Harvest Study (IHS), at least 122,677 kilograms (kg) of food were harvested in the ISR in 2018.

The retail cost of comparable market food substitutes for this food is over 3.18 million dollars. These estimates correspond to approximately 44.1 kg or \$1,150 per Inuvialuit beneficiary living in ISR communities.

Comparable retail foods (pork, beef, poultry, fish) in this quantity would produce between 1,082 to 1,171 tonnes of CO₂— equivalent emissions per year if shipped by food mail.

Importantly, these estimates are based only on harvests reported in the IHS, and as such, should be considered minimum estimates. The total amount of food, replacement cost, and carbon emissions incurred through replacements are likely much more, possibly as high as double, our estimates.

We estimate that 165,985 litres of gasoline, worth approximately \$292,133, would have been used in the production of harvests in the 2018 IHS. We estimate the carbon impact of this volume of gasoline to be 395 to 502 tonnes CO₂— equivalent emissions per year.

The Phase 3 report and non-technical summary can be accessed on the IRC's website at: <https://irc.inuvialuit.com/research/documents-and-resources>

IRC's Partnered Research Projects

Regional Strategic Environmental Assessment (RSEA)

Project at a Glance

Project Lead: Jenn Parrott, IRC's Director of Innovation, Science, and Climate Change and the Government of Canada

Project Objective: A comprehensive examination of the interrelationships between the environment, social, cultural, and economic conditions, the traditional use, and wildlife harvesting of natural resources and decision-making by Inuvialuit, regulatory and planning authorities.

Communities Involved: Inuvik, Aklavik, Tuktoyaktuk, Paulatuk, Ulukhaktok, Sachs Harbour

Project Status: Multi-Year (2016-2021)

Principal Activities: Finalize outstanding work by wrapping up the program, developing a plan to deliver the results back to Inuvialuit Settlement Region (ISR) communities, and develop an on-going monitoring and management plan.

This project facilitates a better understanding of the Beaufort Sea Large Ocean Management Area and contribute to the review included in the December 20, 2016, United States-Canada Joint Arctic Leaders' Statement by:

- Promoting engagement, education, monitoring, and research projects in the western Arctic to support informed decision-making around future resource development/management, environmental conservation programs, community sustainable and subsistence activities, and other complementary commercial activities;
- Recommend desired economic and environmental outcomes and thresholds for oil and gas development in the Beaufort region while respecting the Inuvialuit Final Agreement and relevant regulatory processes;
- Review under which conditions do Inuvialuit endorse oil and gas activities in the Beaufort;
- Advance baseline information and the state of knowledge for the Beaufort Sea while reflecting the dynamic nature of the environment; and,
- Assess how other variables will affect the future of the Beaufort (i.e., invasive species, climate change, transportation).

RSEA Communications:

1. 5th Beaufort RSEA Community Tour
 - Tentatively scheduled for Fall 2021
2. RSEA Materials for Community Members
 - To be circulated Fall 2021
3. Long-term Kindergarten to Grade 12 Curriculum
 - In development
4. Arctic Change (ArcticNet) 2020
 - RSEA 'side meeting' was scheduled for Monday, December 7, 2020
 - The meeting was well attended

The executive summary of the final RSEA report can be accessed here:

https://rsea.inuvialuit.com/docs/brsea_exec.pdf

The RSEA website can be accessed here: <https://rsea.inuvialuit.com>

BEAUFORT REGIONAL STRATEGIC ENVIRONMENTAL ASSESSMENT

[Home](#) [About](#) [Engagement](#) [Research Activities](#) [Resources](#) [Contact](#)



Photo courtesy of the Regional Strategic Environmental Assessment website.

Advancing Arctic Research through Connected Infrastructure

Project at a Glance

Project Lead: Jenn Parrott, IRC's Director of Innovation, Science, and Climate Change

Project Objective: The Canadian Consortium for Arctic Data Interoperability (CCADI) supports Inuit self-determination, will enable informed actions for managing decision-making around multiple issues, support operational activities by making information from space-based technologies more accessible and usable for those charged with search and rescue, ensuring safe transportation and protection of life, environment, and infrastructure in Canada's Arctic.

Project Status: Multi-Year

Importance of Project: Advancing cyber infrastructure and the Inuvialuit Regional Corporation's ability to connect with other data hubs. The CCADI framework will allow Inuvialuit and researchers to access information about the Inuvialuit Settlement Region (ISR) in an effective manner.

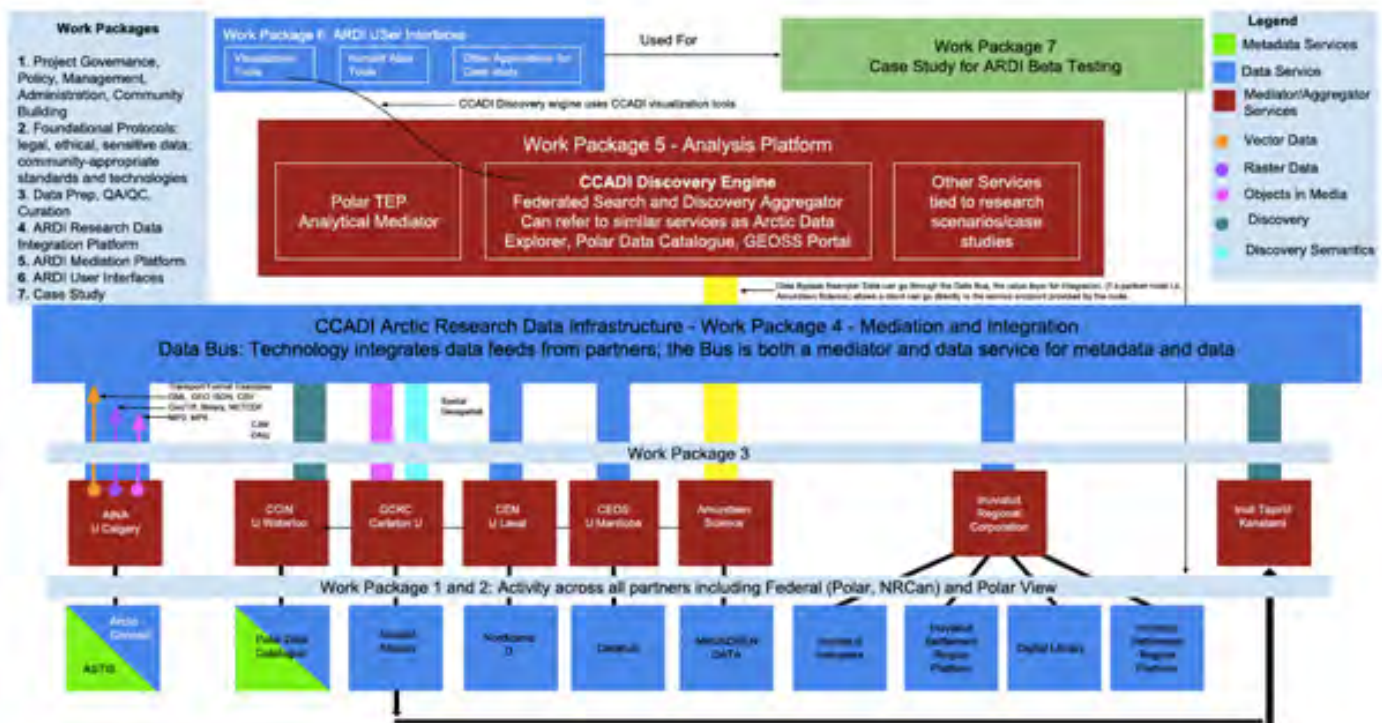
Communities/Organizations Involved:

The Canadian Consortium for Arctic Data Interoperability (CCADI) is currently composed of Arctic scholars and Arctic data managers at the Inuvialuit Regional Corporation, University of Calgary (Arctic Institute of North America), the University of Waterloo (Canadian Cryospheric Information Network and Polar Data Catalogue), Carleton University (Geomatics and Cartographic Research Centre), the University of Manitoba (Centre for Earth Observation Science), Université Laval (Centre d'études nordiques), University of Ottawa (Faculty of Law), Natural Resources Canada, Polar Knowledge Canada, Cybera Inc., Polar View, and Sensor-Up Inc.

The CCADI will develop an Arctic Research Data Infrastructure predicated on a vision to support and grow a research community that fully engages Inuit; that is properly governed to enhance individual, local, regional, national, and international initiatives in data management and research; and that builds capacity across a network of linked data centers with common standards, practices, tools, and expertise. It will facilitate data discovery and description, enabling data to be shared across systems for upload, analysis, and visualization. It will support efficient, effective use of data, allowing Canada to better realize the benefits of our decades of investment in Arctic research.

Principal Activities:

There are several components of the CCADI project. The IRC along with project partners have been meeting regularly to develop the CCADI framework. The IRC is mainly involved in the governance of the overall project progress, conducting a literature review and environmental scan to prepare for the drafting of policy documents regarding Indigenous data sovereignty and data governance, produced a proposal showcasing the utility of CCADI along with draft algorithms for showing historical coastline changes (e.g., erosion and archaeological sites), and worked with the visualization group to facilitate activities related to data visualizations, which allowed for user-friendly accessibility of local data users.



Canadian Consortium for Arctic Data Interoperability (CCADI) Arctic Research Data Infrastructure Flow Chart from the Inuvialuit Regional Corporation (IRC)'s Advancing Arctic Research through Connected Infrastructure project.
Diagram courtesy of CCADI Project Team.

ISR Coastal Erosion Modelling from Satellite Imagery

Project at a Glance

Project Co-Lead: Inuvialuit Regional Corporation, Academia, Industry

Project Objective: To develop an accurate description of the Inuvialuit Settlement Region (ISR) coastline and an accurate predictive model of where and how quickly it is likely to erode, and to use this model to predict impacts on social, cultural, and archaeological sites.

Communities Involved: Inuvik, Aklavik, Tuktoyaktuk, Paulatuk, Ulukhaktok, Sachs Harbour

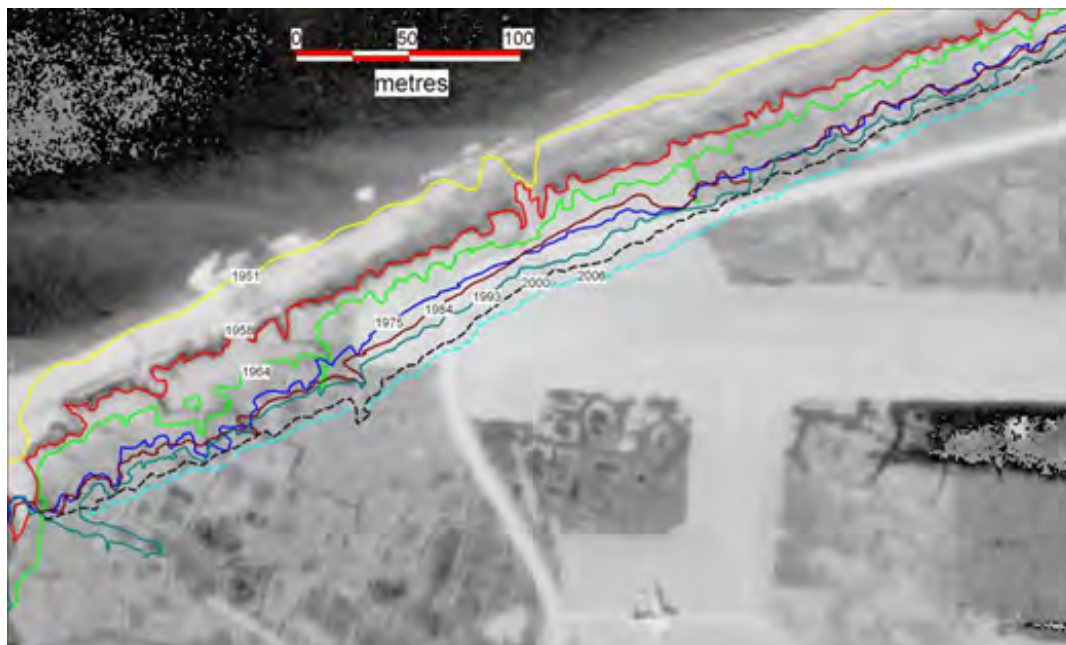
Project Status: Multi-Year

Importance of Project: The project will provide Inuvialuit and others with visualizations of the evolving coastlines in the ISR, help to gain an understanding of the changing coastlines, preserve Inuvialuit knowledge and history, and allow for the use of Indigenous knowledge to guide and inform policy/planning.

As climate change accelerates, the coastline of the Inuvialuit Settlement Region will experience some of the earliest and most extreme changes. To prepare for the project, satellite imagery was obtained to pinpoint current location of the coastline, track how it has changed over time, and to predict how it is likely to change in the future. These predictions can be combined with other data on archaeological sites; cabin locations; or hunting, fishing, and trapping areas to be better prepared to mitigate the effects of coastal erosion.

Principal Activities: Data was collected (e.g., spatial data, publications, print documents) from various sources for the project. Algorithms were produced for projecting coastline change perpendicular to coastline vectors, algorithms for identifying and visualizing intersections of known points (e.g., archaeological sites) with projected coastline vectors, and algorithms for visualizing intersections. Usable analytic scripts were developed to process and summarize the data for the project. Regional and international specialists were identified, contacted, and collaborative relationships were established. For instance, interviews were conducted with an archaeologist concerning coastal change's impact on various archaeological sites in the Kugmallit Bay area within the ISR.

ISR Coastal Erosion Modelling from Satellite Imagery



Satellite imagery of changing coastlines in the Inuvialuit Settlement Region (ISR). *Images courtesy of Inuvialuit Regional Corporation's Innovation, Science, and Climate Change Division Archives.*

Inuvialuit Socio-Cultural Economic Indicators

Project at a Glance

Project Lead:

Jenn Parrott, IRC's Director of Innovation, Science, and Climate Change, and Bob Simpson, IRC's Director of Intergovernmental Relations

Project Objective:

To support evidence-based decision-making in the Inuvialuit Settlement Region by ensuring the best quality social, cultural, and economic data is available to decision-makers.

Communities Involved:

Inuvik, Aklavik, Tuktoyaktuk, Paulatuk, Ulukhaktok, Sachs Harbour

Project Status:

Multi-year (ongoing)

Importance of Project:

Refinement of statistical platform and associated thresholds.

The long-term goals of Inuvialuit self-governance and self-direction require a foundation of good social, cultural, and economic data. It is easier to govern well with access to reliable information about topics such as housing, health, social needs, and economic preferences.

To support these goals, the Inuvialuit Regional Corporation (IRC)'s Innovation, Science, and Climate Change (ISCC) division are building institutions that will continually acquire, manage, and present regional data on these topics.

The work includes forming partnerships with data-holding organizations, developing internal capacity — including policies, systems, and staff training — and cataloguing and making available the data we already have.

Inuvialuit Indicators was launched in 2007 to track the socio-economic well-being of Inuvialuit in the Western Arctic. The timing of its launch coincided with discussions and planning for the proposed Mackenzie Gas Project. IRC determined that this major infrastructure could substantially exacerbate existing social problems in the region.

As a result, Inuvialuit Indicators helps monitor the impacts of oil and gas development on the socio-economic conditions in the region, and to create a database to show historical trends in the years to come. There are currently over 150 indicators available on the website which can be downloaded or visualized using the platform.

Data has been contributed from the Northwest Territories Bureau of Statistics; Beaufort Delta Education Council; other Government of the Northwest Territories (GNWT) departments, boards and agencies; Government of Canada; and IRC.

Working with Statistics Canada and the GNWT Statistics Department, we are compiling social, cultural, and economic indicators about life in the ISR.

We are working to ensure these statistics are always available in a consistent format, are available within IRC for staff and directors to use, and published online for ISR residents to reference.

The Inuvialuit Indicators website is online and updated periodically, and can be found here: <https://indicators.inuvialuit.com/>

Qanuippitaa? National Inuit Health Survey

Project at a Glance

Project Lead: IRC's Health and Wellness Division

Project Objective: To improve the health and well-being of Inuit in Canada by providing Inuit-led, Inuit-owned research to inform policy makers, law makers, and government.

Communities Involved: Aklavik, Inuvik, Paulatuk, Sachs Harbour, Tuktoyaktuk, Ulukhaktok

Project Status: Multi-year

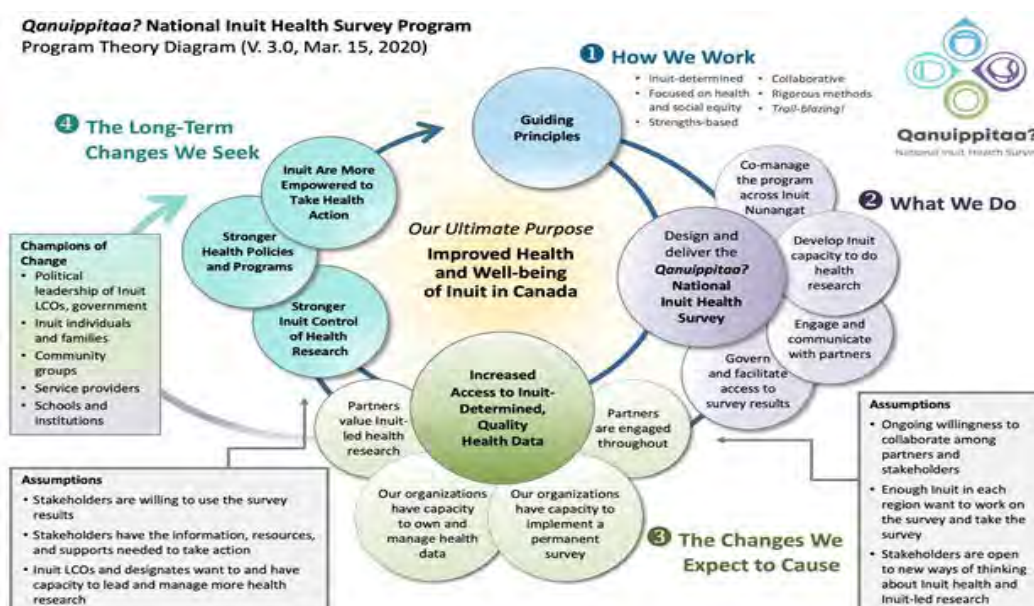
The *Qanuippitaa?* National Inuit Health Survey (QNIHS) is a pan-regional, collaborative research program that is ultimately led by the QNIHS Working Group, a sub-group of National Inuit Committee on Health (NICoH).

The QNIHS will collect Inuvialuit Settlement Region (ISR) specific health information to support future health policy initiatives.

The QNIHS will consist of a tablet-administered survey, touching on every Social Determinant of Inuit Health. Once complete, the participants will also be asked to complete a clinical component.

The QNIHS clinical component will consist of anthropometric measures (such as height, weight, blood pressure), followed by an oral health screening. No biological samples will be taken or stored for this round of the survey.

The QNIHS will begin data collection in the Fall of 2021 and will be complete by April 2022.



Qanuippitaa? is a collaborative Inuit health research program. *Graphic courtesy of the National Inuit Health Survey.*

Self-Governing Indigenous Governments Data Tool Kit

Project at a Glance

Project Lead: Piers Kreps, Inuvialuit Regional Corporation (IRC)'s Research Data Specialist

Project Objective: To be engaged and involved in this national-level effort, to use its products and participate in learning activities to support our own data management, and to benefit from any products and learning activities they develop.

Project Status: The Data Toolkit is complete while the Learning Series is ongoing.

Importance of Project: Indigenous governments, including the IRC, possess a multitude of data and information. Strong data governance, management structures, and processes are needed to govern how data is handled, who has access to it, and how it can be harnessed. The aim of the Toolkit and Learning Series is to support Indigenous governments looking to implement data governance and management strategies.

Communities/Organizations Involved:

Inuvialuit Regional Corporation, Nunatsiavut Government, Carcross/Tagish First Nation, Champagne and Aishihik First Nations, Délı̨nę Got'ı̨nę, First Nation of Na-Cho Nyäk Dun, Huu-ay-aht First Nations, Ka:yu:k't'h'/Che:k'tles7et'h' First Nations, Kluane First Nation, Kwanlin Dün First Nation, Little Salmon Carmacks First Nation, Nisga'a Nation, Selkirk First Nation, shíshálh Nation, Sioux Valley Dakota Nation, Ta'an Kwäch'än Council, Teslin Tlingit Council, Tla'amin Nation, Tłı̨chǫ, Toquaht Nation, Tr'ondëk Hwëch'in, Tsawwassen First Nation, Uchucklesaht Tribe, Vuntut Gwitchin First Nation, Westbank First Nation, and Yuułu?ı̨?ath First Nation. NVision Insight Group Inc. as facilitator and convenor.

Principal Activities: In February 2021, the project launched an online data governance and management toolkit, accompanied by a webinar series introducing key concepts in the toolkit, to support Self-Governing Indigenous Groups (SGIGs) in building data governance and management capacity. Future learning activities related to the toolkit content will be available to Indigenous governments across the country, including the IRC as a key informing organization.

This federally funded project seeks to a) describe and b) improve the tools and techniques that Canadian SGIGs are using to manage data. So far, the project has produced an "environmental scan" — a survey of what socioeconomic data SGIGs currently collect and how they govern and manage their data. The project then developed a beta version of an online data governance and management toolkit, and is accompanied by a webinar series introducing key concepts in the toolkit. The project has also provided a 1-year subscription to LinkedIn Learning and 25 hours of expert advisor support to each SGIG. Moving forward, they plan to continue developing the toolkit and running capacity building activities, such as workshops. The Inuvialuit Regional Corporation was asked to participate in the project steering committee and toolkit drafting subgroup, providing advice and oversight over the development of the toolkit and learning series.



Image courtesy of the Data Governance and Management Toolkit for Self-Governing Indigenous Governments website.

Inuvialuit Settlement Region Platform

Project at a Glance

Project Lead:

Jenn Parrott, Inuvialuit Regional Corporation and the Department of Fisheries and Oceans Canada

Project Objective:

To minimize knowledge mobilization barriers by creating a central storage house for geospatial information pertaining to the Beaufort Sea Large Ocean Management Area.

Communities/Organizations Involved:

Aklavik, Inuvik, Paulatuk, Sachs Harbour, Tuktoyaktuk, Ulukhaktok, Hunters and Trappers Committees, Governments, and Inuvialuit Co-Management Organizations

Project Status:

Multi-year (2011 to Present)

This project aims to minimize knowledge mobilization barriers by creating a central storage house for geospatial information pertaining to the Beaufort Sea. The fully interactive platform facilitates data sharing and supports the implementation of the integrated Oceans Management Plan. Available to all members of the Beaufort Sea Partnership, this user-friendly, intuitive, and integrated online knowledge mobilization platform facilitates information sharing, improves decision making, organizes existing data, and promotes collaboration among various partners.

The Beaufort Sea Large Ocean Management Area (LOMA) was one of the five priority areas identified for integrated ocean management planning by the Government of Canada in 2011. The Inuvialuit Settlement Region Platform allows members of the Beaufort Sea Partnership to easily communicate and conduct multi-layer spatially-based operations to meet management objectives for the Beaufort Sea LOMA. It is a web-based platform for central storage and enhanced visualization of geospatial information.

The principal activities of this project are: increasing geospatial capabilities through: application development, data collection, data storage, map generation, multi-layer analysis, enhanced information sharing, and increased collaboration.

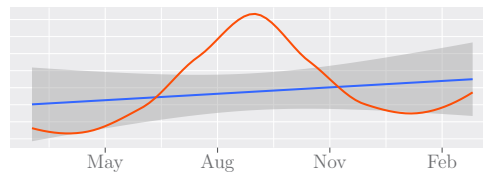
Inuvialuit Settlement Region Platform

Mapping, Analysis & Communication System

Since Dec 2017

Active Users:	37
Users Added:	49
Failed Logins:	151
Total Logins:	2778
Active Maps*:	760
Maps Added:	601
Maps Shared:	433
Total Actions:	16023

Frequency of login



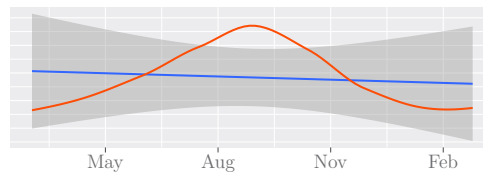
Last 6 Months

Active Users:	27
Users Added:	14
Failed Logins:	88
Total Logins:	1153
Active Maps*:	157
Maps Added:	138
Maps Shared:	39
Total Actions:	2788

Notes

- *: "Maps" includes all ArcGIS Online "items" such as layers, web maps, surveys, etc.
- Logins only tracked from 6 Dec 2018
- Deleted items leave no records

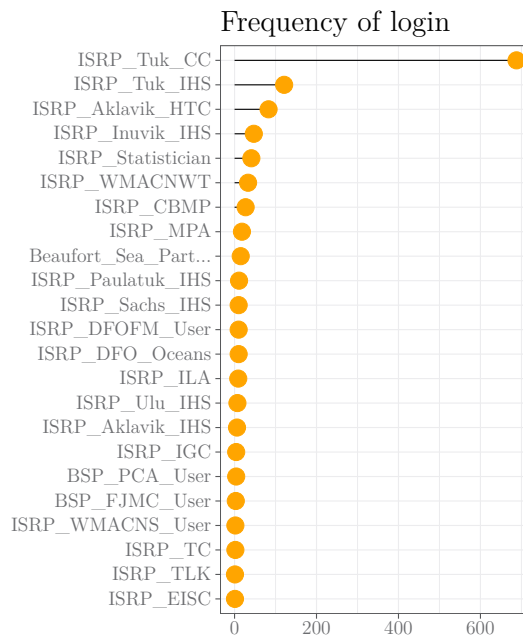
Frequency of update



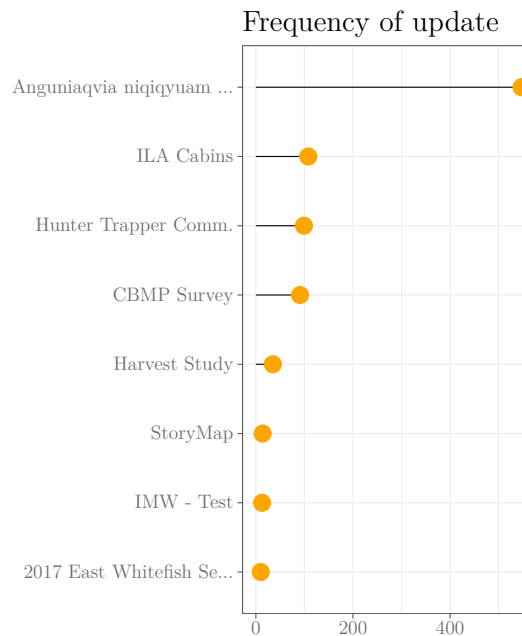
Legend

Approximate daily trend:	—
Best fitting straight line:	—
95% confidence interval:	■

User Activity (6 months)



Project Activity (6 months)



Inuvialuit Settlement Region Platform Mapping, Analysis & Communication System Frequency of Logins and Frequency of Updates as of December 2017. Image courtesy of Inuvialuit Regional Corporation's Archives.

Academic Organization's ISR Research Projects

Wilfrid Laurier University Hydrology of Arctic Watersheds

Project at a Glance

Project Lead:

Philip Marsh, Department of
Geography, Wilfrid Laurier University

Project Objective:

The waters of the Inuvik region will continue to be impacted by ongoing changes in climate. All aspects of the climate are changing rapidly and will continue to change in the coming decades because of human released greenhouse gases. Our long-term research program along the Dempster and Inuvik to Tuktoyaktuk Highways is aimed at providing better estimates of how water resources (streams and lakes) will change under future climate scenarios of between 1.5c to 3.0c globally, which is like to be 2 to 3 times higher in this region.

Communities Involved:

Inuvik, Tuktoyaktuk

Project Status:

Ongoing

To limit future climate impacts on waters of the North, there is an urgent need to keep global temperatures within the Paris Agreement targets. Unfortunately, the impacts of future warming on waters of the north are poorly known at the local to regional areas of interest to Northerners.

Our research over the last 30 years has documented the changes in climate in the Inuvik area, with increases in air temperature and decreases in precipitation, and related changes in shrubs across the tundra north of Inuvik, thawing of permafrost. The combined effect of these changes are resulting in changes to lake and river levels.

We discussed the dramatic nature of these changes in a recent editorial in the online publication *The Conversation*. In addition, beavers have been rapidly expanding their range and numbers across the region. This expansion is having significant, but poorly understood, effects on water resources and fisheries in the region.

We have also recently documented dramatic increases in the number of rapidly drained lakes in the study area and are considering whether this is partially due to beaver activity.

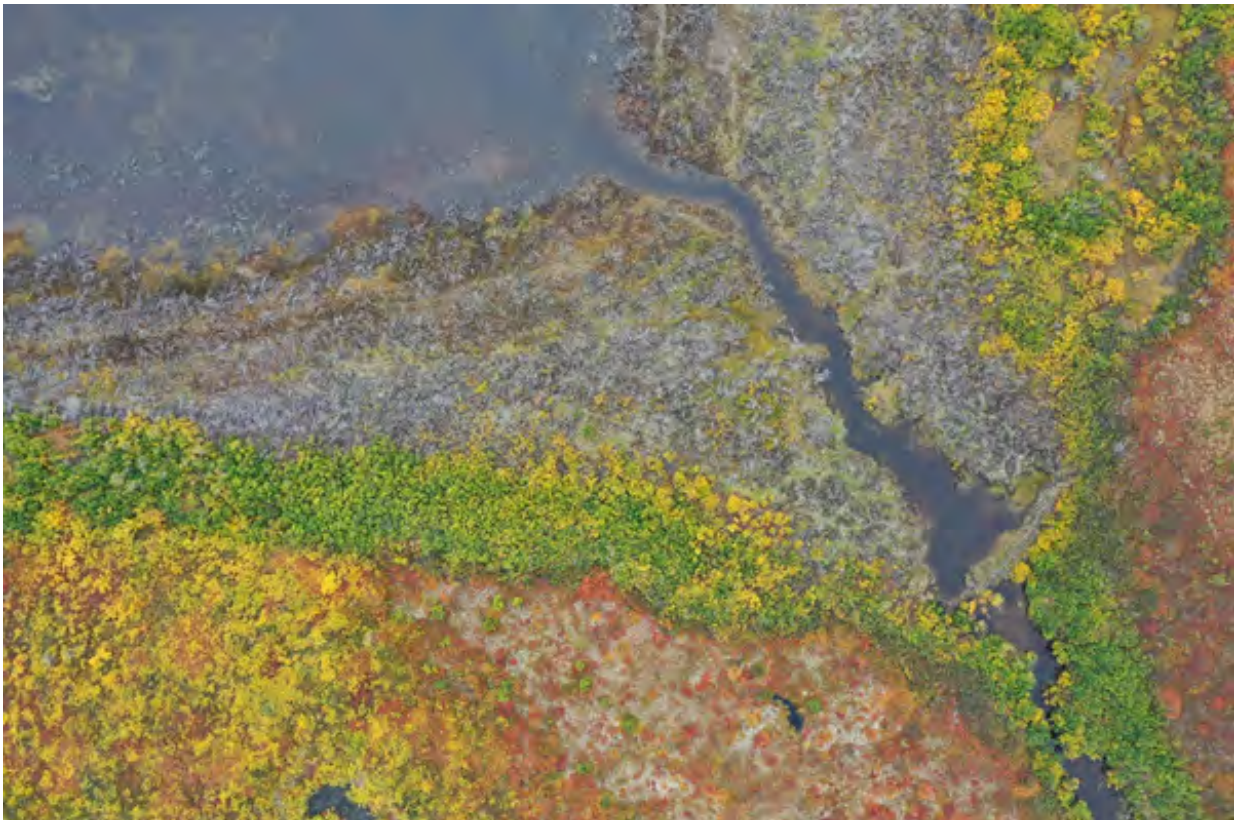
A major question to our research program is: how will the snow, the lakes and the rivers change in the coming decades? What will they be like 50 years from now when children born this year are adults, or in a hundred years? Or even further in the future? There is an urgent need to consider what the water environment will be like for these future generations.

As we said in *The Conversation*: decisions we make in the next few years will impact these future generations. We still have an opportunity to limit the damage of climate change to the lands and waters of the Inuvik region. To help answer questions about future changes, we continue to use the Trail Valley Creek watershed, located north of Inuvik, as a location to test our understanding of northern waters and develop better predictive methods. The water at this site has been observed since the 1970s with detailed research monitoring carried out since 1991.

This is one of the premier sites in northern Canada to study water and understand past and future changes. During the COVID-19 pandemic, our instruments at Trail Valley have continued

to record important data. This data collection includes the use of instruments to measure snowfall and snow on the ground, soil moisture, evaporation, permafrost temperature, icings in stream channels, lake levels, and runoff.

We are also investigating the impacts of the Inuvik to Tuk Highway on the snow and streams of the area. We are using the data we are collecting to see whether computer models are able to predict the waters of this region, and we will then use these models to consider what the waters of this area will be like in the future as the climate changes. These predictive models will help us directly address questions from communities, co-management boards, and decision makers about the future changes in all aspects of water.



"An aerial view of a beaver dam blocking a small tundra lake from draining. Flooding from the beaver dam has caused vegetation to die off surrounding the lake, noted by the brown shrubs upstream of the dam. Dams like this have been known to cause increases in catastrophic lake drainage." *Photo courtesy of Wilfrid Laurier University/Dilshan Kariyawasam, "Hydrology of Arctic Watershed Project Archives".*

FEDERAL GOVERNMENT ISR RESEARCH PROJECTS

Parks Canada

What's in a Sound: Listening to the Sounds of Ivvavik National Park for Science and Outreach.

Hello, Inuvialuit Settlement Region! Here at Parks Canada's Western Arctic Field Unit we are getting ready to go into the parks for our spring and summer seasons, but that doesn't mean we haven't been busy all winter. In this newsletter we will bring you into tune with what our researchers have been up to with acoustic recording devices in Ivvavik National Park. There are currently two projects using Automated Recording Unit's (ARU's) in Ivvavik National Park. One is led by Parks Canada's Jay Frandsen, and the other is a collaboration project between Parks Canada, Columbia University, and University of Alaska Fairbanks.

Parks Canada has been monitoring migratory

songbirds in Ivvavik since 2009. Parks staff hike to established sites in the spring to set up an in-person recording unit, which captures the morning chorus of migratory songbirds. This method has its challenges due to the inconsistency of weather, single survey per year design, and staffing constraints. Jay Frandsen and his team noticed that from 2009-2017 there appeared to be a decline in the number of bird species (richness) and individual birds (abundance).

To explore what might be happening and ensure our monitoring program was accurate, an ARU study was set up. In 2018, we placed ARU's at 10 sites where we currently manually record to collect sound data. Our science team goes out to manually record



Photo courtesy of Parks Canada/Jay Frandsen.



Photo courtesy of Parks Canada/Jay Frandsen.

bird vocalizations in person, as it allows us to keep methodology consistent for data analysis for the monitoring program, but with this new tool we can ensure that we have the best data moving forward. The ARU study does create another challenge: what does Parks Canada do with all of the data? Each ARU records multiple 10-minute recordings per day, from the beginning of May until the end of August. In the first year of this research project, Parks Canada collected 1590 hours of data, which is enough data to keep an individual employee occupied for 42-weeks if they were to listen to all of the recordings! In the following two years of research even more recordings were captured, therefore, an effective method to analyze this data was needed. Fortunately, specialized software is available that isolates and groups together similar-sounding species vocalizations which our team members verify each year, allowing us to classify the data in a matter of weeks.

This project is in its early stages, so there are no long-term results yet. But, it has given Parks Canada preliminary results, such as confirming the top five most vocal songbirds in Ivvavik National Park: White-

crowned Sparrow, American Robin, Dark-eyed Junco, Common Redpoll and Yellow-Rumped Warbler. In total, 177,800 vocalizations (in 2018) and 268,164 vocalizations (in 2019) were classified to deepen our understanding of when songbirds are more likely to be vocal, which improves the accuracy of our existing bird program. Additionally, since both recording sites also have weather stations, Parks Canada can examine the relationship between songbird vocalizations and the weather.

Parks Canada has teamed up with Columbia University and University of Alaska Fairbanks to deploy more ARU's throughout Ivvavik to record the soundscape of the Porcupine Caribou calving grounds. This is part of a longer-term study to examine the soundscape ecology of the herd, especially how it might change if oil and gas development occurs in Alaska. Parks Canada deployed 10 ARUs in 2019 which each record for 2.5 hours, three times per day. These 10 ARU's will be set up again in spring 2021.

You can hear some of what we have recorded through an outreach collaboration called 'Sounds of Your Park', found at <https://soundsofyourpark.com/>. Parks Canada has teamed up with other organisations around the world to bring you on a global journey through sound.



Photo courtesy of Parks Canada/Jay Frandsen.

Environment and Climate Change Canada (ECCC) and Anglia Ruskin University (ARU)

The Dzan/Kivgaluk and Tsee’/Kigiaq Project — Mackenzie Delta Muskrat and Beaver Monitoring

Project at a Glance

Project Leads: Jeremy R. Brammer (ECCC) and Helen Wheeler (ARU)

Project Objective: To better understand the possible causes of changing populations of muskrat and beaver in the Delta.

Communities Involved: Inuvik, Tsiigehtchic, Aklavik, and Fort McPherson

Project Status: Ongoing

The Dzan-Kivgaluk Muskrat Monitoring Project started in 2015 in response to concerns that muskrat populations had declined in many parts of the region and increased in places where muskrats were rare before. More recently, concerns around beavers led to the addition of Tsee’/Kigiaq research under the leadership of Dr. Helen Wheeler. These projects are a partnership between Environment and Climate Change Canada, the Anglia Ruskin University, and the Gwich’in Renewable Resources Board (GRRB), with support from the Inuvialuit Game Council (IGC).

To better understand why beaver and muskrat populations in the Delta are changing, we have been combining research techniques that go from satellites in space to boots on the ground.

We have been using satellite images to better understand how habitat in the Delta has been changing in the past decades, for example how shorelines have shifted and lakes drained or formed. We have been flying aerial surveys of muskrat pushups across the whole Delta to see areas where muskrat are numerous and areas where very few are found.

We have combined this fixed wing aerial work with drone surveys of areas around beaver lodges to better understand how much beavers have altered the forest and lakes around them. When these drone surveys are combined with the collection of shrub puck samples from plants beavers have cut, we can identify when beavers moved in to an area and how active they have been.

We have also been using animal tissue samples collected by community members to track the health of muskrats and their predators in the Delta through contaminants and parasite loads.

Finally, in past years we have been live-trapping muskrats in the Jackfish Creek area to better understand how individual muskrats are

growing, living, and dying in different types of lake and creek habitat.

We have been comparing our results to research conducted in the Delta between 1952 and 1976 to understand how beaver and muskrat use of the region has changed over the past 70 years. While COVID-19 limited our ability to work this past year, a team of Delta residents led our field research in the summer of 2020.

These field researchers collected shrub samples

from active beaver areas throughout the Gwich'in Settlement Area, and demonstrated how Delta residents can independently lead wildlife research in the field.

So far, most of our research has focused on the Delta in the Gwich'in Settlement Area. However, due to strong concerns over Dzan/Kivgaluk and Tsee'/Kigiaq reported to us, it is our hope that we will be able to expand our research to include more parts of the Delta, especially areas in the Inuvialuit Settlement Region, in the coming years.



Beaver lodge. Photo courtesy of Environment and Climate Change Canada (ECCC)/Jeremy Brammer and Anglia Ruskin University (ARU)/Helen Wheeler.

Environment and Climate Change Canada (ECCC), Atmospheric Science and Technology Directorate/ Meteorological Research Division/Observation Based Research Section (ASTD/MRB/OBRS), and Meteorological Service of Canada/National Lab West (MSC/NLW)

Arctic Blizzard Prediction and Climatology

Project at a Glance

Project Leads:

William Burrows (ASTD/MRB/OBRS)
and Curtis Mooney (MSC/NLW)

Project Objective:

The objective of this project is to develop automated products that forecast blizzard conditions in the Arctic, well in advance of when they occur. In the long-term, we aim to develop a synthetic 40-year climatology of blizzard occurrence in the Arctic from atmospheric reanalysis data.

Communities Involved:

All communities in the Inuvialuit Settlement Region

Project Status:

Ongoing

Blizzard conditions, defined as visibility $\frac{1}{4}$ mile or less in winds 40 km/h or stronger, are a regular occurrence in the Canadian Arctic from October through May. The harsh weather in blizzards can have a significant impact on local communities and on travel by air or land.

The combination of low temperature, strong wind, and low visibility in blowing snow makes this one of the most hazardous of Arctic winter weather events. Blizzard conditions may last anywhere from a few hours to several days, particularly north of the boreal forest boundary, where open terrain makes blizzard conditions more likely to occur. Recent statistics reveal that $\frac{1}{2}$ to $\frac{2}{3}$ or more of blizzard conditions are due to blowing snow in strong winds when no snow is falling.

Forecasting when and where blizzard conditions will occur is challenging due to sparse observations, lack of continuous satellite coverage, and polar night lasting up to six months. There is a need for timely automated products to provide guidance to ECCC meteorologists tasked with forecasting extreme Arctic weather events.

We have created three products to address this need, one of which was derived from a machine-learning technique. These products predict the environment where blizzard and near-blizzard conditions are likely and are calculated using output from numerical weather prediction models run on supercomputers at the Canadian Centre for Meteorological and Environmental Prediction in Dorval, Quebec.

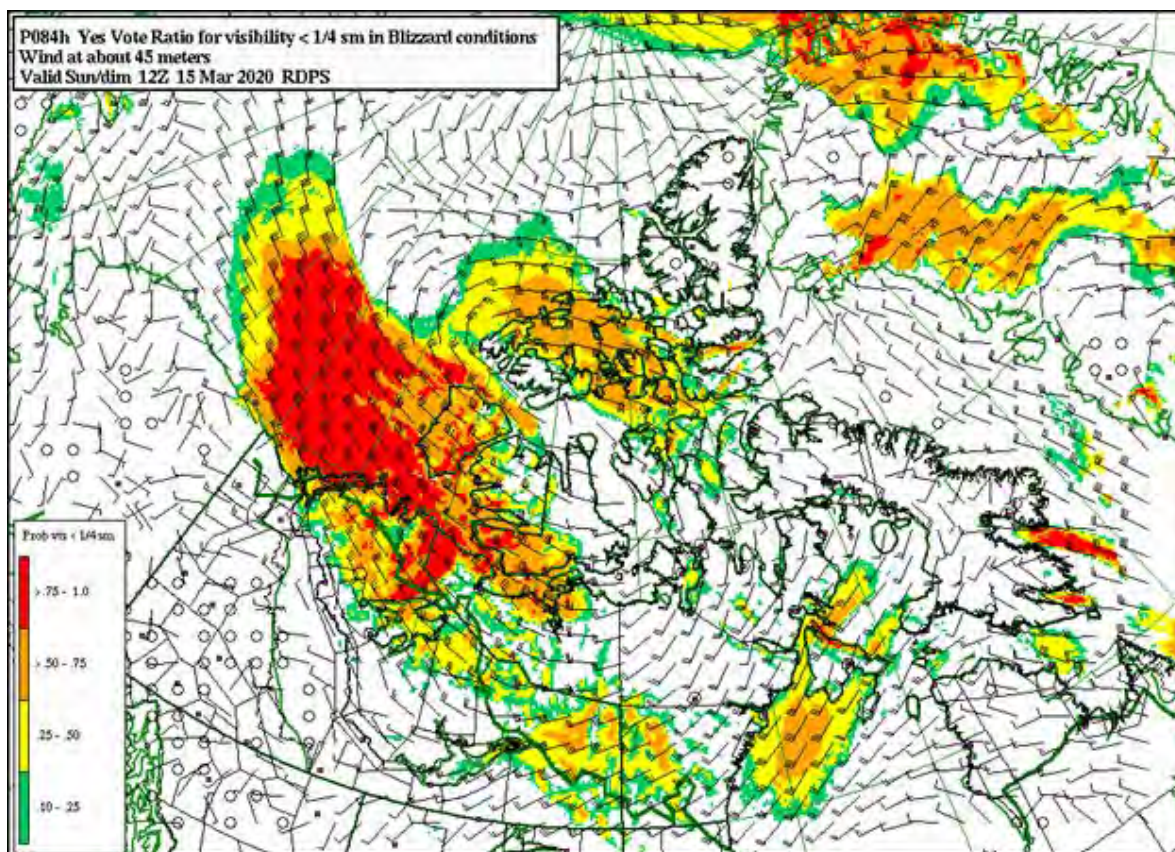
An article entitled “Automated products for forecasting blizzard conditions”, intended for a general audience, can be found at <https://blogs.helmholtz.de/polarpredictionmatters>.

Forecasts for 3-5 day periods are especially important in the Arctic for planning travel, as most occupied sites in the Arctic are isolated. The attached figure shows an 84-hour forecast for March 15, 2020, at 12:00 UTC, made by our machine-learning product on March 12, 2020. To produce the forecast, our model runs predictor data down an ensemble of 100 separate decision trees at every model grid point, which are spaced 10 km apart.

Each tree makes a decision “yes, blizzard conditions will occur” or “no, blizzard conditions won’t occur”. We call the fraction of decisions that say yes the

“Yes Vote Ratio”, which is similar to a probability. The prediction, made 3 ½ days in advance, is that blizzard conditions are forecast to occur over virtually the entire Inuvialuit Settlement Region by the morning of March 15, 2020.

The blizzard forecast products are produced twice a day and have been well received by meteorologists in ECCC’s Prairie and Arctic Storm Prediction Center in Edmonton. We are continually striving to make improvements as new machine learning methods emerge, and we expect a variety of users who live or operate in the North to benefit from improved forecasts of high impact weather such as blizzards for their local area.



Arctic Blizzard Prediction and Climatology. Photo courtesy of Environment and Climate Change Canada (ECCC)/William Burrows and Meteorological Service of Canada (MSC)/Curtis Mooney.

TERRITORIAL GOVERNMENT ISR RESEARCH PROJECTS

Government of Nunavut Department of Environment and Government of the NWT Department of Environment and Natural Resources An Aerial Abundance Estimate of the Dolphin and Union Caribou

Project at a Glance

Project Leads:

Mitch Campbell, Amélie Roberto-Charron, John Ringrose, Kevin Methue and Christopher Mutch (GN), Tracy Davison (GNWT), and Cheryl Wray (NTI)

Project Objective:

The objective of this project was to get a new population estimate for the Dolphin and Union caribou herd.

Communities Involved:

Ulukhaktok, Cambridge Bay, and Kugluktuk

Project Status:

Complete

The Dolphin and Union caribou are an important herd to the ISR communities of Ulukhaktok and Paulatuk and the Nunavut communities of Cambridge Bay and Kugluktuk. They are considered a species at risk due to their migration over sea ice and recent declines.

The 2018 survey of Dolphin and Union caribou reported a 78% decline in abundance between 2015 and 2018. Local Knowledge also observed a decline in caribou, however, there were also changes observed in the migration patterns, with observations of some caribou staying on Victoria Island and not migrating to the mainland for the winter. Due to these changes, community members were concerned that the coastal survey conducted in 2018 missed some areas with caribou.

The survey in the fall of 2020 used past location data from collared Dolphin and Union caribou and local knowledge to determine survey areas. The area was divided into areas of very high densities, high densities, medium densities and low densities. Flight transects were planned with flight lines 4 km apart in the very high-density area, 5 km apart in the high-density areas, 8 km apart in the medium density areas and 10 km apart in the low-density areas. A double observer paired with distance sampling method was used with three planes. One plane was stationed in Kugluktuk for the duration of the survey, one in Cambridge Bay for the duration and one plane worked from both Cambridge Bay and Ulukhaktok.

Dolphin and Union caribou are a special herd of caribou whose range includes Victoria Island and the mainland near the Coronation Gulf, Bathurst Inlet and Kent Peninsula. They are also occasionally observed along the coast east of Paulatuk.

With this method each plane had a crew of 7 people: 1 pilot, 2 recorders and 4 observers. With two observers on each side, the probability that caribou are missed could be calculated.

The 4 observers in the aircraft were community members; including two observers from Ulukhaktok that traveled to Cambridge bay to assist and additional observers working out of Ulukhaktok when the plane was working from there.

The community members from Ulukhaktok were Patrick Akhiaktak, Tiffani Akhiaktak, Tom Harvey, Jack Kataoyak, Susie Memogana, and Allen Pogotak.

In total, 130,187 km² was surveyed, with 105,577 km² on Victoria Island, representing half of the island's surface area.

There were 1,330 caribou within 209 groups observed on transect and 101 caribou that were off transect. There were also 452 muskoxen within 47

groups, 30 moose within 13 groups, 28 wolves within 10 groups, and 2 wolverines.

The population estimate was calculated to be 3,815 (95% CI = 2,930–4,966; CV= 13%) caribou across all strata on both Victoria Island and the mainland, of which 3,579 (95% CI = 2,758-4,644; CV = 13%) caribou were estimated within Victoria Island strata, and 236 (95% CI = 57-980; CV = 74%) caribou within mainland strata.

This population estimate is similar to the 2018 estimate and shows this herd has declined significantly since the 2015 survey.

Information gathered during the survey and survey results are provided to the WMAC (NWT), Inuvialuit Game Council and the Olokhaktomiut and Paulatuk Hunters and Trappers Committees so they can make decisions on the management of the Dolphin and Union caribou herd.



Photo courtesy of Government of NWT Department of Environment and Natural Resources/Tracy Davison.

Inuvialuit Organization's Research Projects

Aklavik Hunters and Trappers Committee (AHTC) Community Hunt

Project Lead:

Michelle Gruben and Megan Lennie,
AHTC Resource Persons

Importance of Project:

The AHTC received funding from anti-poverty for a community hunt. The AHTC got hunters and also youth to learn from the adult hunters. The AHTC provided fresh caribou meat to Inuvialuit and Gwich'in households. A total of 75 households received fresh caribou meat.



The AHTC held a board meeting on January 14, 2021, and reported a successful community hunt. *All photos courtesy of AHTC Resource Person/Michelle Gruben.*

IRC's Emerging Policies and Strategies

Proactive Vessel Management Pilot

Project Lead:

Tess Forbes, Inuvialuit Regional Corporation Marine Program Coordinator

Importance of Project:

With the changing climate, the Arctic is seeing a decrease in the extent of ice coverage and time that the region is ice bound. This decrease results in a longer open water season and draws more vessels to transit the Arctic and the Inuvialuit Settlement Region (ISR). There are more transits being made by existing users and new people are also venturing north to explore the Canadian Arctic. The increase in vessel traffic can increase safety and environmental concerns as people may be inexperienced and underprepared for the unique conditions. It is therefore important to proactively manage the waterways to ensure that waterways are protected for generations to come.

In 2019, under the Proactive Vessel Management (PVM) initiative, Inuvialuit identified the following eight (8) marine priorities related to this increase in boat traffic through the ISR.

1. Small and Recreational Vessels
2. Cruise Ships
3. Ship Speed and Marine Mammals
4. Seismic Testing
5. Fuel Spills
6. Ballast Water

7. Grey Water

8. Safety and Search and Rescue

Since then, the Inuvialuit Regional Corporation (IRC), Inuvialuit Game Council (IGC), Transport Canada, and the Canadian Coast Guard have been working towards finding voluntary solutions to address these priorities, identifying regulatory gaps, and clarifying current rules.

Changes in regulations can take a long time, so PVM utilizes voluntary tools to create more immediate changes to proactively make the waterways safer.

The four departments of the IRC, IGC, Transport Canada, and the Canadian Coast Guard have created summaries of each of these priorities.

The summaries will guide the development of a future Safe Waterways Strategy. The summaries identify: why it is a priority, how the ISR is affected, the current rules, how PVM can help, and who to bring any concerns to.

These summaries can be found in the "Proactive Vessel Management in the Inuvialuit Settlement Region Booklet" at <https://irc.inuvialuit.com/research/documents-and-resources>



IRC Community Outreach and Engagement Activities

Innovation, Science, and Climate Change (ISCC) Engagement

Summary:

Various ISCC led engagement activities have been ongoing throughout the Inuvialuit Settlement Region (ISR). The Cruise Ship Management Plan, the ISR Climate Change Strategy, the Energy Children's Book, the Knowledge Transfer Children's Book, and the Regional Energy Action Plan for the ISR are key deliverables that will benefit from this engagement.

Key Activities:

Cruise Ship Management Plan in-person Review: Ulukhaktok (November 12, 2020) and Aklavik (February 19, 2021)

ISR Climate Change Strategy Stakeholder and Public Review (December 18, 2020 — January 31, 2021)

Regional Energy Action Plan for the ISR Public Survey (December 2—23, 2020)

Energy Children's Book Content Review (November 30 — December 18, 2020)

Knowledge Transfer Children's Book Story Writing Contest (December 23, 2020 — February 1, 2021)

Outcomes:

Public Comment Forum on ISR Climate Change Strategy survey concluded with 57 respondents and 34 endorsements.

ISR Regional Energy Action Plan survey received 30 responses which helped to guide the Action Items in the Plan.

Promotion of Children's Story Book Writing Contest, through online advertisement and posters distributed to the Community Corporations, received six submissions.

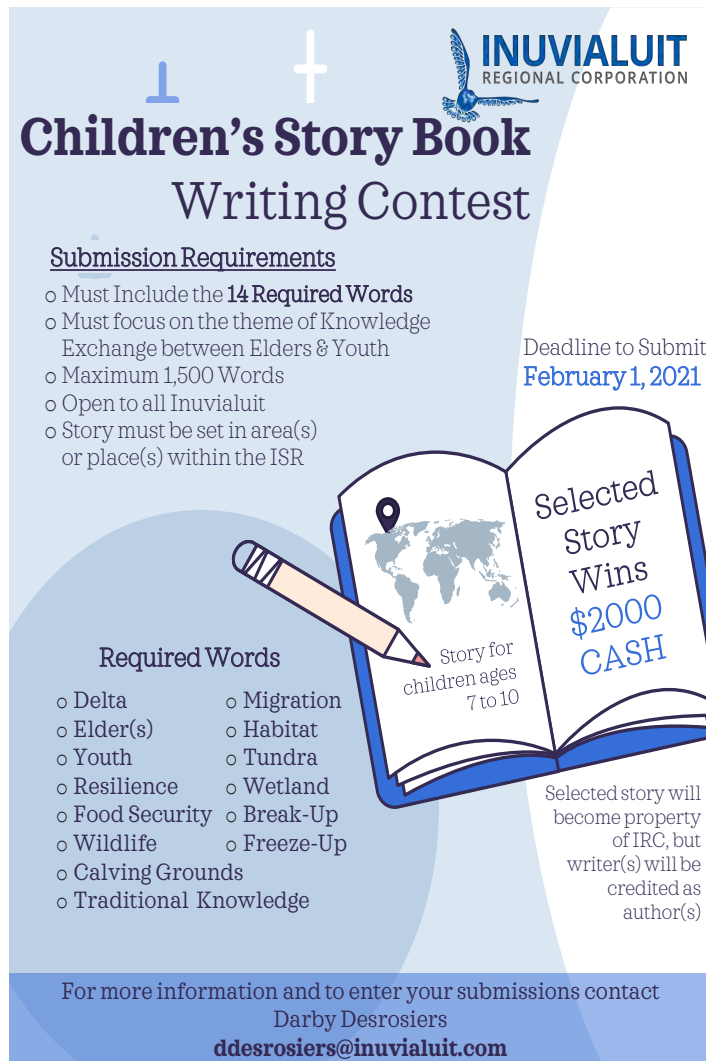
Upon request by the Ulukhaktok Community Corporation, an in-person meeting was held; the Marine Program Coordinator provided a presentation on the draft Cruise Ship Management Plan on November 10, 2020.

At the request of the Inuvialuit Game Council, the Marine Program Coordinator presented the draft Cruise Ship Management Plan in-person at their board meeting on December 3, 2020.

Associated Deliverables:

- Cruise Ship Management Plan
- ISR Climate Change Strategy
- Regional Energy Action Plan for the ISR
- Energy Children's Book

Youth-Elder Knowledge Mobilization Children's Book



Children's Story Book Writing Contest

Submission Requirements

- Must Include the **14 Required Words**
- Must focus on the theme of Knowledge Exchange between Elders & Youth
- Maximum 1,500 Words
- Open to all Inuvialuit
- Story must be set in area(s) or place(s) within the ISR

Required Words

○ Delta	○ Migration
○ Elder(s)	○ Habitat
○ Youth	○ Tundra
○ Resilience	○ Wetland
○ Food Security	○ Break-Up
○ Wildlife	○ Freeze-Up
○ Calving Grounds	
○ Traditional Knowledge	

Deadline to Submit February 1, 2021

Selected Story Wins \$2000 CASH

Selected story will become property of IRC, but writer(s) will be credited as author(s)

For more information and to enter your submissions contact
Darby Desrosiers
ddesrosiers@inuvialuit.com

Dates:

December 23, 2020 to February 1, 2021

Applicants:

6 submissions

Selection Process:

The winning book was selected by the IRC's Regional Youth Advisory Group and the Regional Elders Advisory Group (1 Elder and Youth from each Community) at the Suicide Prevention Strategy engagement and Feedback meeting on February 17, 2021.

Book Summary:

This story follows a young girl named Olivia who excitedly spends the day with her Anaanak Sarah. During their special day together, they talk about what it was like when Anaanak was growing up in Tuktoyaktuk. They share stories about berry picking, bird watching, and caribou. Olivia even learns how to use an ulu and make dry meat. During their day together, Anaanak teaches Olivia about Inuvialuit culture and inspires Olivia to be an ambassador for her community and environment.

Author:

Gloria Iatridis is an Inuvialuit beneficiary who was born and raised in Tuktoyaktuk, NWT. Gloria wrote this story in honour of her mother Sarah Anderson who was her inspiration and mentor. Sarah was an Inuvialuktun teacher at Mangilaluk School for over 27 years. Sarah was a loving Anaanak to Gloria's children, Michael and Olivia, and they learned so much about their Inuvialuit culture from her.



ArcticNet Network of Centres of Excellence: Arctic Change 2020

The Inuit Research Advisor (IRA) hosted both an Inuvialuit Regional Corporation (IRC) Innovation, Science, and Climate Change (ISCC) division Exhibitor Booth and an Inuvialuit Settlement Region (ISR) Youth Booth at the ArcticNet's Annual Scientific Meeting, Arctic Change, held virtually from December 7th to 10th, 2020.

The IRA also participated in Student Day by hosting a 1.5-hour regional session on the afternoon of December 7th, 2020.

During the ArcticNet's Annual Scientific Meeting, Arctic Change, the IRA organized and facilitated a Sewing Circle Event, featured in a Zoom Room for an hour each day (December 8-10, 2020), for participants to network.

The Inuvialuit Regional Corporation sits with elders and youth to promote the transfer of knowledge via the sewing experience. Join in to unwind, relax, regroup, and network with people from around the world who share an interest for this traditional artform. Participants can discuss their sewing journey: where did they learn to sew, do they sew for hobby and/or income, as well as demonstrate their technique and "savoir faire"!

The Sewing Circle was a huge success with great reviews received from across the globe. The ArcticNet planning committee will continue the Virtual Sewing Room for the 2021 ArcticNet Annual Scientific Meeting.

Quyanainni Alice Kimiksana for sitting with IRC's youth during the Sewing Circle and sharing your knowledge and expertise across the globe. The Northern Inclusion's Vox Pop Project encouraged the development of nine short videos highlighting ISR youth and researchers. The Arctic Change 2020 Vox Pop videos can be viewed on the Northern Inclusion website at: <http://northerninclusion.ca>

Eight (8) Inuvialuit youth: Tyra Cockney-Goose, Mataya Gillis, KJ Allen, Cassidy Lennie-Ipana, Willow Allen, Alyssa Carpenter, Jasmine Ruben, and Amber-Joy Gruben, provided resources to highlight their wonderful achievements in the Vox Pop short video event.



IRC'S INNOVATION, SCIENCE
AND CLIMATE CHANGE DIVISION

IS LOOKING FOR YOUTH!

**ARE YOU AN INUVIALUIT YOUTH
(AGES 15-30)?**

All Inuvialuit youth and early career researchers within the Inuvialuit Settlement Region (ISR), are invited to contribute a **30 second audio and/or visual resources** to the IRC's Youth Booth to be featured at the ArcticNet's virtual conference "Arctic Change 2020".

**WE WANT TO SEE THE INNOVATION
AND ACHIEVEMENTS OF OUR YOUTH**

Whether through Science, Innovation, or the Arts, you are making sure that your voices are being heard. We would like to give you an opportunity to share your journey.

SUBMISSIONS DUE NOV. 25, 2020

For more information and to provide your resources, simply contact the ISCC division below. Each successfully received submission will receive an incentive of \$50.

ISCC CONTACT:

Kendra Tingmiak
Inuit Research Advisor
Bag Service #21, Inuvik, NT, X0E-0T0
KTingmiak@inuvialuit.com
(867) 777-7026





Knowledge Sharing and Advancement of Research

Networks of Centres of Excellence Program



Finding solutions to major social, economic, or health issues calls for a collaborative approach and a wide range of research expertise. Since its creation in 1989, the Networks of Centres of Excellence (NCE) program has successfully brought together the best minds in many disciplines and sectors to solve these critical issues for Canadians.

The program supports large-scale academically led research networks that harness the creativity and inventiveness of Canadian health, natural, and social scientists and/or engineers. Partners from industry, government, and not-for-profit organizations contribute additional expertise and contribute nearly \$90 million per year of cash and in-kind support. International acclaim has led other countries, including Australia, South Africa, and some within the European Union, to incorporate the NCE model into their programs.

An initiative of Canadian Institutes of Health Research (CIHR), Natural Sciences and Engineering Research Council (NSERC), and Social Sciences and Humanities Research Council (SSHRC).

NCEs focus on issues that are critical to Canadians, and to the world by:

- Mobilizing multi-disciplinary research capacity

from across Canada.

- Engaging partners from multiple academic institutions and various public and private-sector organizations.
- Training the next generation of highly qualified people – more than 36,000 to date.
- Working with end users to accelerate the creation and application of new knowledge.
- Increasing collaboration between researchers in Canada and abroad.

Quick Facts

- The NCE was created in 1989 as a joint initiative of the Natural Sciences and Engineering Research Council (NSERC), the Social Sciences and Humanities Research Council (SSHRC), the Canadian Institutes of Health Research (CIHR), Industry Canada (IC), and Health Canada (HC).
- In addition to the traditional NCE networks, the program includes the NCE Knowledge Mobilization (NCE-KM) and the Canada-India Research Centre of Excellence (CIRCE) initiatives.
- From 2013-14, network activities involved the participation of more than 1,900 public and private sector organizations in Canada and abroad.

Contact

Email: info@nce-rce.gc.ca

ArcticNet

ArcticNet is a Network of Centres of Excellence of Canada that brings together scientists, engineers, and managers in the natural, human health, and social sciences with their partners from Inuit organizations, northern communities, federal and provincial agencies, and the private sector to study the impacts of climate change in the Canadian North.

Over 175 ArcticNet researchers from 33 Canadian universities, 8 federal and 11 provincial agencies and departments collaborate with research teams in Denmark, Finland, France, Greenland, Japan, Norway, Poland, Russia, Spain, Sweden, the United Kingdom, and the United States of America.

Earth's climate is warming and the increase in average global temperature predicted by climate models will be amplified at Arctic latitudes. In Canada, climate warming will have tremendous environmental, socio-economic, and strategic consequences that will be felt first and most severely in Arctic communities and territories.

The reduction of coastal sea-ice already hinders traditional hunting by Inuit, reduces the habitat of the unique Arctic fauna, increases exposure of coastal communities to storms and could soon open the way to intercontinental shipping, raising new challenges to Canadian sovereignty and security. In the terrestrial coastal environment, warmer temperatures and permafrost thawing are already disrupting transportation, buildings, and other infrastructures.

The central objective of ArcticNet is to contribute to the development and dissemination of the knowledge needed to formulate adaptation strategies and national policies to help Canadians face the impacts and opportunities of climate change and modernization in the Arctic. A major goal of ArcticNet is to engage Inuit organizations, northern communities, universities, research institutes, industry, as well as government and international agencies as partners in the scientific process and the steering of the Network.

ArcticNet is conducting Integrated Regional Impact Studies on societies and on marine and terrestrial coastal ecosystems in the Canadian High Arctic, in the Eastern Canadian Arctic, and in Hudson Bay.

In addition to work conducted in northern communities, ArcticNet researchers from various fields use the Canadian research icebreaker CCGS Amundsen and field stations distributed across the North to access the vast expanses of the Canadian Arctic.

This integrated research offers a unique multi-disciplinary and cross-sectional environment to train the next generation of specialists, from north and south, needed to manage the Canadian Arctic of tomorrow.

The Network is engaging 60 Indigenous partners in 48 communities in all provinces and territories. As part of the ongoing work with, by, and for northern communities, a fifth Integrated Regional Impact Study (IRIS) covering western subarctic continental Canada and its northern First Nations and Métis communities.

ArcticNet Vision: A future where improved observations, modelling, capacity-building, and knowledge exchange enable researchers, Inuit, Northerners, and decision-makers to jointly develop adaptation strategies minimizing negative impacts and maximizing positive outcomes resulting from the transformation of the Canadian Arctic.

ArcticNet Mission	Results
<ul style="list-style-type: none"> • Build synergy among research Centres of Excellence in the natural, human health, and social Arctic sciences. • Involve Inuit, Northerners, government, and the private sector in the steering of the Network and scientific process through bilateral exchange of knowledge, training, and technology. • Increase and update the observational basis needed to address the ecosystem-level questions raised by climate change and modernization in the Arctic. • Provide academic researchers and their national and international collaborators with stable access to the coastal Canadian Arctic. • Consolidate national and international collaborations in the study of the Canadian Arctic. • Contribute to the training of the next generation of experts, from north and south, needed to study, model, and ensure the stewardship of the changing Canadian Arctic. • Translate our growing understanding of the changing Arctic into regional impact assessments, national policies, and adaptation strategies. 	<ul style="list-style-type: none"> • Since 2004, ArcticNet has trained 2,264 Highly Qualified Personnel (HQP), including 1,388 graduate students and postdoctoral fellows (more than 56% women). ArcticNet is redesigning a training toolbox to cultivate soft skills and nurture professional development for the 1,000 HQP currently training with the Network. • ArcticNet is funding over 175 researchers (more than 45% women) on 35 current projects at 33 universities Canada-wide. The Network is pursuing new and exciting research partnerships with northern industry, with the emerging Arctic Blue Economy based on fisheries, shipping, and tourism. • The Network has completed 144 projects and published more than 15,000 papers on Arctic and Northern issues. ArcticNet is developing the Integrated Regional Impact Study (IRIS) Portal, ground-breaking new online technologies to facilitate the mobilization and transfer of the vast volume of science and northern expertise acquired by ArcticNet and its partners. • As part of its ongoing engagement with decision-makers and leaders, ArcticNet is informing government on the management and preservation of key harvested species such as the Arctic charr and caribou, as well as on the management of drinking water supplies, among the most acute emerging issues in the North.

Inuit Advisory Committee

The Inuit Advisory Committee (IAC) provides guidance and recommendations related to needs and priorities of Inuit with regards to strategic planning, research needs/gaps, input of traditional knowledge, community involvement, participation, training, and education.

The committee reports to the Research Management Committee (RMC) and is composed of the Inuit ArcticNet Coordinators, the 4 Regional Inuit Research Advisors (IRAs), Inuit Organization members of the RMC, and ArcticNet's Executive Director (non-voting).

The Inuit Advisory Committee membership, organized in alphabetical order by last name:

Member Name	Title, Affiliation
Jean Allen	Senior Policy Advisor, Nunavut Tunngavik Incorporated
Christine Barnard	Executive Director, ArcticNet (ex officio) (non-voting)
Michael Barrett	Associate Director, Renewable Resources, Environment, Lands, and Parks Department, Kativik Regional Government
James Bolt	Inuit Research Advisor for Nunavut
Jackie Dawson	Scientific Director, University of Ottawa, Department of Geography, co-Scientific Director, ArcticNet (ex officio) Manager, North by North
Gregor Gilbert	Department of Environment, Wildlife, and Research, Makivik Corporation
Lucy Grey	Inuit Research Advisor for Nunavik
Rodd Laing	Director of Environment, Nunatsiavut Government
Eric Loring	Senior Policy Advisor, ITK ArcticNet Policy Advisor, Inuit Tapiriit Kanatami
Stephanie Meakin	Senior Science Advisor, ICCC ArcticNet Coordinator, Inuit Circumpolar Council Canada
Carla Pamak	Chair, Inuit Research Advisor for Nunatsiavut
Jenn Parrott	Director, Innovation, Science, and Climate Change, Inuvialuit Regional Corporation
Alexa Reedman	Research Manager, North by North Program & Partnerships Manager, University of Ottawa, ArcticNet (ex officio) (non-voting)
Kendra Tingmiak	Inuit Research Advisor — Inuvialuit Settlement Region, Inuvialuit Regional Corporation

Inuit Nunangat Research Program

The Inuit Nunangat Research Program (INRP) is an Inuit-led component of North by North, a program operated by the ArcticNet Network of Centres of Excellence (NCE). In tandem with Inuit Tapiriit Kanatami (ITK)'s implementation of the National Inuit Strategy on Research (NISR), the INRP advances Inuit self-determination in research by creating space for Inuit to design research projects, develop partnerships to build capacity and strengthen the impact and effectiveness of Inuit Nunangat research for Inuit.

The INRP has a budget of roughly \$900,000 per year over the next four years. The program will consider funding arrangements from 1-2 years with an additional call for proposals as required.

Governance

The INRP is governed by Inuit through the Inuit Advisory Committee (IAC). Members represent the Inuvialuit Regional Corporation, Makivik Corporation, Kativik Regional Government, Nunavut Tunngavik Incorporated, Nunatsiavut Government, and Inuit Circumpolar Council-Canada.

Objectives

The INRP was created to enhance research by Inuit for Inuit, build research capacity in our communities across Inuit Nunangat, address community concerns, and contribute to Inuit prosperity by providing Inuit with information, tools, and resources required for good decision-making as well as to inform policies and programs that will help improve our livelihoods.

The INRP is supported in partnership between ArcticNet and ITK, made possible with the financial and administrative support of the University of Ottawa. Please direct any administrative and financial questions to ArcticNet's Research Manager and North by North Program & Partnerships Manager, Alexa Reedman, via email at: alexa.reedman@uottawa.ca.

For more information, please reach out to a regional Inuit Research Advisor (IRA):

Inuit Region	Contact Name	Contact Email
Nunatsiavut	Carla Pamak	carla.pamak@nunatsiavut.com
Nunavik	Lucy Grey	lugrey@krq.ca
Nunavut	Jean Allen	research@tunngavik.com
Inuvialuit Settlement Region	Kendra Tingmiak	ktingmiak@inuvialuit.com

Northern Contaminants Program

The Northern Contaminants Program (NCP) co-ordinates Canada's action on northern contaminants, including Persistent Organic Pollutants (POPs) and mercury, both nationally and internationally. The NCP is a multi-disciplinary initiative, funded by the Government of Canada, addressing health, science, and communications issues related to contaminants in Canada's Arctic. It was established in 1991 through the Government of Canada's Green Plan and Arctic Environmental Strategy (AES).

The NCP secretariat is part of Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC). It is managed by a committee chaired by CIRNAC and consists of four federal government departments (CIRNAC, Health Canada, Environment Canada, Fisheries and Oceans Canada), the territorial governments (Nunavut, Northwest Territories, Yukon), and representatives of Northern Indigenous organizations including Inuit Tapiriit Kanatami (ITK), Inuit Circumpolar Council – Canada (ICC), Dene Nation, and the Council of Yukon First Nations (CYFN).

The overall objective of the NCP is to reduce and, where possible, eliminate contaminants from the Arctic environment while providing information to Northerners about contaminants in traditional/country foods to make informed decisions about their food use. The NCP is working towards achieving this objective through world-class scientific research and monitoring. This work is used to influence the development and implementation of international/global agreements to reduce

and/or eliminate the production, use, and release of contaminating substances into the environment. The results of this research and monitoring also form the basis for assessing risks to human health associated with contaminants in traditional/country foods. This information is used by national and regional health authorities to develop dietary advice to Northerners, particularly those who are dependent on marine mammals and fish as an important part of their diets.

Understanding contaminant pathways and processes in the Arctic, as well as the effects that contaminants may have on the wildlife and people who live there, is very much linked to an understanding of the workings of the entire Arctic ecosystem. This means that the NCP and its researchers must develop links between their own specific field of contaminants research and other fields of Arctic science. This interdisciplinary approach must include natural and social sciences as well as community-based monitoring and traditional knowledge. NCP scientists are encouraged to develop these links in their projects. Questions related to climate change and the influence it may have on contaminants pathways, processes, and effects are being addressed by the NCP; however, this can only be done in cooperation with other programs that address issues related to climate change.

Similarly, there are benefits to coordinating NCP activities related to human health and communications with related programs dealing with climate change impacts and adaptation with Arctic communities (e.g., Health Canada's

Climate Change and Health Adaptation for Inuit Community program). A prime example of this type of cooperation was the Inuit Health Survey which combines resources from the NCP, ArcticNet, the International Polar Year (IPY), the Canadian Institutes of Health Research (CIHR), and others to address a multitude of questions related to the health of Inuit.

The NCP works with and provides Secretariat support to the northern regions through five Regional Contaminants Committees (RCCs) and four Inuit Research Advisors (IRAs).

Regional Contaminants Committees

There are five RCCs funded through the NCP. These committees (in the Yukon, Northwest Territories, Nunavut, Nunavik, and Nunatsiavut) vary in size and makeup, but all include representation from the regional health authorities, wildlife and research authorities, and Aboriginal organizations.

Some RCCs also include regional representatives from federal government departments and regional research institutes.

The primary purpose of the five RCCs is to act as a link between the regions that they represent and the NCP as a national program. The RCCs provide the opportunity for local issues to be brought to a regional level and then communicated at the regional and community level.

These committees meet several times throughout the year to discuss research results and implications they may have on

local populations. They also conduct a social/cultural review of NCP proposals each year for those projects undertaking work in the Canadian North. The chairs of the RCCs hold seats on the NCP Management Committee, which makes all major funding and operational decisions for the program.

Inuit Research Advisors

Inuit Research Advisors (IRAs) are positions funded in four Inuit regions in the North (Inuvialuit Settlement Region, Nunavut, Nunavik, and Nunatsiavut) to help facilitate research on contaminants, climate change and environmental health, and work to engage Inuit in research activities of importance to their respective communities.

The IRAs are knowledgeable and resourceful contacts for their regions. They are available to assist and advise researchers and Inuit communities in making the appropriate connections during the proposal development and during the project, and in dissemination and communication of research results. They can also assist in the development of new Inuit-driven research projects, identify and engage youth in training and educational opportunities, and build research capacity in each region.

These positions are co-funded by the Northern Contaminants Program and ArcticNet.

To see a list of the 53 Northern Contaminants Program Research Projects conducted in the 2019-2020 fiscal year, turn to page 68.

Northern Contaminants Program Management Committee

Project Leader:

Sarah Kalhok Bourque, Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC), Northern Contaminants Program Management Committee Secretariat

Team Members:

Representatives include: Northern Indigenous Partner Organizations: Council of Yukon First Nations, Dene Nations, Inuit Circumpolar Council, Inuit Tapiriit Kanatami; Federal Departments: CIRNAC, Health Canada, Environment and Climate Change Canada, Fisheries and Oceans Canada, Polar Knowledge Canada; Territorial and Northern Regional Governments: Yukon Government, Government of the Northwest Territories, Nunavut Government, Kativik Regional Government, Nunatsiavut Government, and ArcticNet; Northern Contaminants Program Secretariat; Regional Contaminants Committees: Yukon Contaminants Committee, Northwest Territories Regional Contaminants Committee, Nunavut Environmental Contaminants Committee, Nunavik Nutrition and Health Committee, Nunatsiavut Government Research Advisory Committee; Arctic Institute of North America; and Canadian Cryospheric Information Network.

The Northern Contaminants Program (NCP) engages Northerners and scientists in research, monitoring, and related assessment, communications, and policy initiatives. It is managed through a partnership that includes federal, territorial, and northern regional/Indigenous governments, Indigenous organizations, and other key Arctic research programs. The secretariat functions for the NCP are carried out by Crown-Indigenous Relations and Northern Affairs Canada. The NCP Secretariat provides the administrative, financial, and logistical support and coordination required to deliver the NCP. This includes developing and implementing strategic and operational plans for the NCP under the direction of the NCP Management Committee and managing the funding and reporting requirements for funding recipients. Highlights for 2019-2020 include: (i) implementation of a revised schedule for the 2019-2020 Call for Proposals and comprehensive review process, (ii) release of two reports in the Canadian Arctic Contaminants Assessment Report series: “Contaminants in Canada’s North – State of Knowledge and Regional Highlights” and “Human Health”, as well as the annual Synopsis of Research reports for 2016-2017 and 2017-2018; and (iii) development and implementation of initiatives, tools, and resources to help profile the work of the NCP and assist in a variety of efforts to communicate NCP work and results within the broader context of contaminants work across the North; (iv) implementing the joint NCP/NGMP/POLAR Data Management Principles and Guidelines for Polar Research and Monitoring in Canada; and (v) supporting efforts to better integrate monitoring activities across the North, and build local research capacity.

Northern Contaminants Program Northwest Territories Regional Contaminants Committee

Project Leaders:

Emma Pike, Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC), Northern Contaminants Program Northwest Territories Regional Contaminants Committee Secretariat
Tim Heron, NWTRCC Chair, Northwest Territory Métis Nation (NWTMN)
Kendra Tingmiak, NWTRCC Co-Chair, Inuvialuit Regional Corporation (IRC)

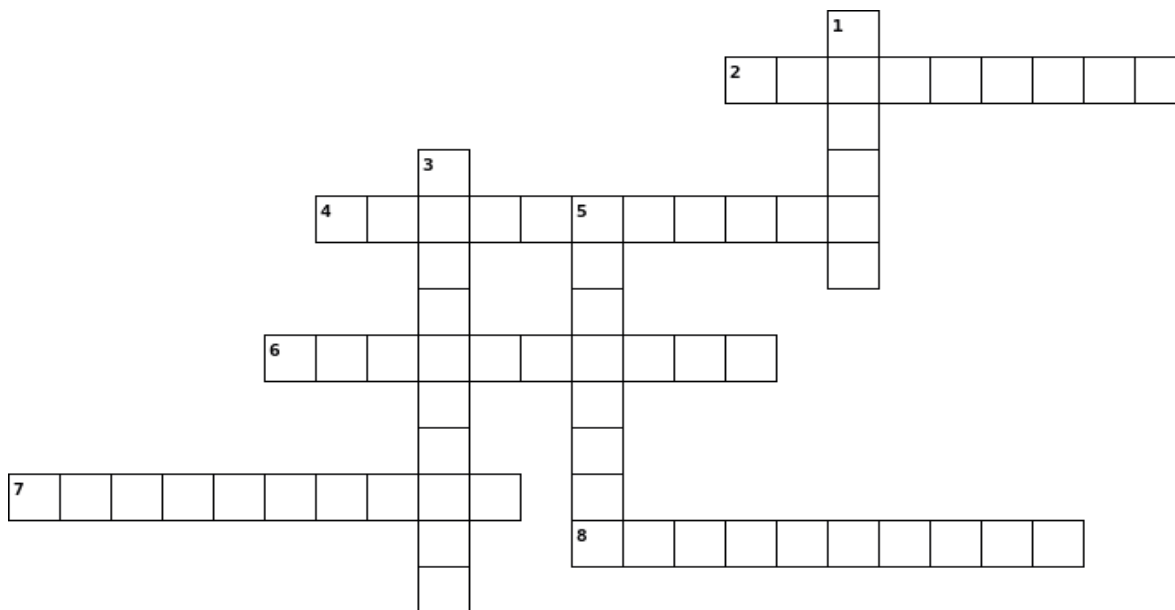
Team Members:

Representatives from: Dene Nation; Inuit Tapiriit Kanatami; Gwich'in Tribal Council; Sahtu Secretariat Inc.; Inuvialuit Regional Corporation; Dehcho First Nations; Tłıchǵ Government; Akaitcho Territory Government; North Slave Métis Alliance; NWTMN; CIRNAC; Fisheries and Oceans Canada; GNWT Environment and Natural Resources; GNWT Health and Social Services; Health Canada; and the Aurora Research Institute.

The NWT Regional Contaminants Committee is one of the five regional committees within the Northern Contaminants Program (NCP), and acts as representatives of the NCP in the Northwest Territories. The Northwest Territories Regional Contaminants Committee (NWTRCC) advises on communication of information to residents of the Northwest Territories (NWT) regarding the presence and possible effects of long-range contaminants in air, land, water, fish, wildlife, and humans.

The annual activities of the NWTRCC members may vary year to year, depending on what projects are funded. However, the core activities include: facilitating a regional network that helps ensure regional RCC members and community members are informed and involved in contaminant related research; assisting in identifying regional and community priorities and information gaps related to environmental contaminants and human health research in the NWT; maintaining a list of contacts and resource materials regarding environmental contaminants; providing advice on appropriate communication strategies to share information regarding contaminants; reviewing NCP proposals, blueprints, and communication materials related to the region to ensure the social/cultural elements are considered; and providing advice to contaminants researchers working in their respective northern region on such topics as community engagement, getting research permits, results communications, and capacity building and training opportunities.

2020 Inuvialuit Research Newsletter Activity Corner



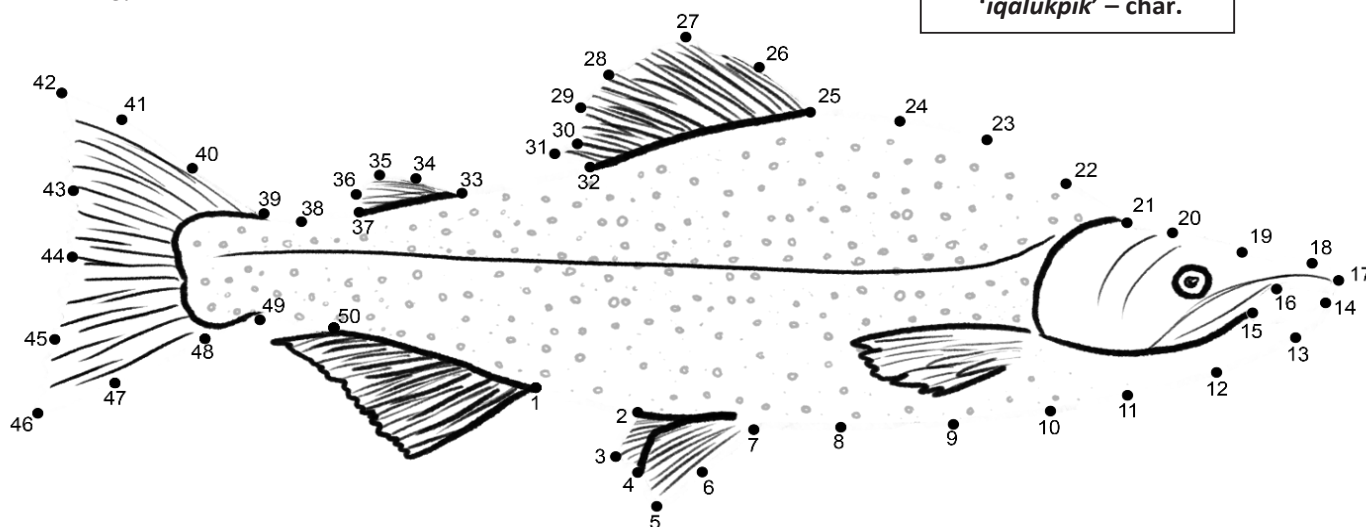
Across

2. Beaufort Regional _____ Environmental Assessment
4. _____ National Inuit Health Survey (QNIHS)
6. Project launched in 2007 to track socio-economic well-being of Inuvialuit in the Western Arctic
7. Canadian _____ for Arctic Data Interoperability (CCADI)
8. Inuvialuit Guardians

Down

1. _____ Well Sites, wells for which the owner could not be identified
3. The Inuit of the Western Canadian Arctic
5. Central storage house for geospatial information pertaining to the Beaufort Sea

Connect the Dots of the
'iqalukpik' – char.



2020 Inuvialuit Research Newsletter

A	N	S	C	I	T	S	I	T	A	T	S	E	E
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PRIORITIES
HEALTH
POLICY
HARVEST
ENVIRONMENT
BASELINE
ADVOCATE
STEWARD
STATISTICS
CLIMATE

Sudoku is played on a grid of 9 x 9 spaces. Within the rows and columns are 9 “squares” (made up of 3 x 3 spaces). Each row, column and square (9 spaces each) needs to be filled out with the numbers 1-9, without repeating any numbers within the row, column, or square.

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	8				9			
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Bibliographies & Endnotes

Arctic Science and Technology Information System (ASTIS)

The Arctic Science and Technology Information System (ASTIS) database contains 84,000 records describing publications and research projects about northern Canada.

ASTIS, a project of the Arctic Institute of North America (AINA) at the University of Calgary, also maintains subset databases about specific regions, subjects, and projects.



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Your search will find records that satisfy **all** the conditions you specify.

Record Type Publications and Research Projects ▼

All of these words in the **Title** or **Abstracts**

Any of these words in the **Title** or **Abstracts**

All of these words in the Title

Author
(Examples: hart, e.j.; hart, e; hart,; joint secretariat)

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Year All Years ▼

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[Other Services](#)
[Acknowledgments](#)
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Project Title	Author(s)
Temporal trends of mercury and halogenated organic compounds (legacy and emerging) in three beluga populations landed at Hendrickson Island NT, Sanikiluaq NU and Pangnirtung NU.	Loseto, L., Ferguson, S., Watt, C., DeSilva, A., Houde, M., Kirk, J., MacPhee, S., Rosenberg, B., Neumann, D., Elliot, A., Boguski, D., Hornby, C., Stow, J., Ayotte, P., Lemire, M., Ouellet, N.
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Temporal trends of persistent organic pollutants and metals in ringed seals from the Canadian Arctic	Houde, M., Muir, D., Ferguson, S., Kuptana, J., Nutarasungnik, F., Pijogge, L., Laing, R., Young, B., Fisk, A., Francoeur, B., Carrier, J., Steer, H., Williamson, M., Sett, A., Kirk, J., Gleason, A., Moore, S., Wang, X.
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Understanding fish mercury concentrations in Dehcho lakes	Low, G., Canadien, P., Norwegian, G., Low, M., Chicot, L., Simba, M., Moses, M., Branfireun, B., Evans, M., MacLatchy, D., Laird, B., Lister, A., Baker, L.
Contaminant biomonitoring in the Northwest Territories: investigating the links between contaminant exposure, nutritional status, and country food use	Laird, B., Ratelle, M., Skinner, K., Hanning, R., Majowicz, S., Swanson, H., Furgal, C., Boyd, A., Bouchard, M., Stark, K., Simmons, D., Low, G.
Synopsis of research conducted under the 2018-2019 Northern Contaminants Program: full report	Northern Contaminants Program (Canada)
Modelling the effects of permafrost loss on discharge from a wetland-dominated, discontinuous permafrost basin	Stone, L.E., Fang, X., Haynes, K.M., Helbig, M., Pomeroy, J.W., Sonnentag, O., Quinton, W.L.
Impacts of the changing ocean-sea ice system on the key forage fish Arctic Cod (<i>Boreogadus Saida</i>) and subsistence fisheries in the Western Canadian Arctic—evaluating linked climate, ecosystem and economic (cee) models	Steiner, N.S., Cheung, W.W.L., Drost, H., Cisneros-Montemayor, A.M., Hayashida, H., Hoover, C., Lam, C., Sou, T., Sumaila, U.R., Suprenand, P., Tai, T.C., VanderZwaag, D.L.

Project Title	Author(s)
Pathways for ecological change in Canadian High Arctic wetlands under rapid twentieth century warming	Sim, T.G., Swindles, G.T., Morris, P.J., Galka, M., Mullan, D., Galloway, J.M.
Risk factors and prevalence of antibodies for <i>Toxoplasma gondii</i> in diaphragmatic fluid in wolverines (<i>Gulo gulo</i>) from the Northwest Territories, Canada	Sharma, R., Parker, S., Elkin, B., Mulders, R., Branigan, M., Pongracz, J., Godson, D.L., Larter, N.C., Jenkins, E.
A synthesis of three decades of hydrological research at Scotty Creek, NWT, Canada	Quinton, W., Berg, A., Braverman, M., Carpino, O., Chasmer, L., Connon, R., Craig, J., Devoie, É., Hayashi, M., Haynes, K., Olefeldt, D., Pietroniro, A., Rezanezhad, F., Schincariol, R., Sonnentag, O.
<i>Trichinella pseudospiralis</i> in a wolverine (<i>Gulo gulo</i>) from the Canadian North	Sharma, R., Thompson, P., Elkin, B., Mulders, R., Branigan, M., Pongracz, J., Wagner, B., Scandrett, B., Hoberg, E., Rosenthal, B., Jenkins, E.
Behind the organic veil: assessing the impact of chemical deflocculation on organic content reduction and Lacustrine Arcellinida (<i>Testate Amoebae</i>) analysis	Nasser, N.A., Gregory, B.R.B., Steele, R.E., Patterson, R.T., Galloway, J.M.
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The social determinants of healthy ageing in the Canadian Arctic	Baron, M., Riva, M., Fletcher, C.
Holocene changes in deep water circulation inferred from authigenic Nd and Hf isotopes in sediment records from the Chukchi-Alaskan and Canadian beaufort margins	Deschamps, C.-E., Montero-Serrano, J.-C., St-Onge, G., Poirier, A.
Improving permafrost modeling by assimilating remotely sensed soil moisture	Zwieback, S., Westermann, S., Langer, M., Boike, J., Marsh, P., Berg, A.
Body condition indicators: assessing the influence of harvest location and potential thresholds for application in beluga monitoring	MacMillan, K., Hoover, C., Iacozza, J., Peyton, J., Loseto, L.

Project Title	Author(s)
Burden of disease from <i>Helicobacter pylori</i> infection in western Canadian Arctic communities	Fagan-Garcia, K., Geary, J., Chang, H.-J., McAlpine, L., Walker, E., Colquhoun, A., Goodman, K.J., Veldhuyzen van Zanten, S., Girgis, S., Archie, B., Hanley, B., Corriveau, A., Morse, J., Munday, R.
Technology, knowledge, and beluga whales in Ulukhaktok, NT, Canada	Collings, P.
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Influence du dégel du pergélisol sur la matière organique et les réseaux trophiques dans les eaux douces circumpolaires nordiques	Wauthy, M., Rautio, M.
Arctic deltas and estuaries: a Canadian perspective	Forbes, D.L.
How do disturbances across spatial scales influence treeline range dynamics?	Brehaut, L.
Impacts of road dust on small subarctic lake systems	Zhu, L., Anello, R., Rühland, K.M., Pisaric, M.F.J., Kokelj, S.V., Prince, T., Smol, J.P.
Beluga vocalizations decrease in response to vessel traffic in the Mackenzie River estuary	Halliday, W.D., Scharffenberg, K., MacPhee, S., Hilliard, R.C., Mouy, X., Whalen, D., Loseto, L.L., Insley, S.J.
Treatment trial results from community <i>H. pylori</i> projects in Arctic Canada	Veldhuyzen van Zanten, S., Morse, A., Morse, J., Girgis, S., Assi, A., Fagan-Garcia, K., Geary, J., Goodman, K.
Ringed seal demography in a changing climate	Reimer, J.R., Caswell, H., Derocher, A.E., Lewis, M.A.
Shrub tundra ecohydrology: rainfall interception is a major component of the water balance	Zwieback, S., Chang, Q., Marsh, P., Berg, A.
Determining the uncertainty of areal mean surface elevation measured with a terrestrial laser scanner and with a total station in permafrost environments near Lac de Gras, NWT, Canada	Peart, C., Gruber, S.
Geography, seasonality, and host-associated population structure influence the fecal microbiome of a genetically depauperate Arctic mammal	Bird, S., Prewer, E., Kutz, S., Leclerc, L.-M., Vilaça, S.T., Kyle, C.J.
Antibiotic dispensation rates among participants in community-driven health research projects in Arctic Canada	Williams, K., Colquhoun, A., Munday, R., Goodman, K.J.
A transdisciplinary approach to <i>Brucella</i> in muskoxen of the western Canadian Arctic 1989–2016	Tomaselli, M., Elkin, B., Kutz, S., Harms, N.J., Nymo, H.I., Davison, T., Leclerc, L.-M., Branigan, M., Dumond, M., Tryland, M., Checkley, S.

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Levels and trends of poly- and perfluoroalkyl substances in the Arctic environment – an update	Muir, D., Bossi, R., Carlsson, P., Evans, M., De Silva, A., Halsall, C., Rauert, C., Herzke, D., Hung, H., Letcher, R., Rigét, F., Roos, A.
Reproductive limitation mediates the response of white spruce (<i>Picea glauca</i>) to climate warming across the forest–tundra ecotone	Lantz, T.C., Moffat, N.D., Fraser, R.H., Walker, X.
Algal scavenging of mercury in preindustrial Arctic lakes	Outridge, P.M., Stern, G.A., Hamilton, P.B., Sanei, H.
Media coverage of mercury contamination in the Canadian Arctic	Boyd, A.D., Fredrickson, M.L., Furgal, C.M.
Large-strain nonlinear thaw consolidation analysis of the Inuvik warm-oil experimental pipeline buried in permafrost	Dumais, S., Konrad, J.-M.
Children's perception of wolverine in the North Slave region of the Northwest Territories, Canada	Bonamy, M., Harbicht, A.B., Herrmann, T.M.
Lake-specific controls on the long-term stability of mining-related, legacy arsenic contamination and geochemical baselines in a changing northern environment, Tundra Mine, Northwest Territories, Canada	Miller, C.B., Parsons, M.B., Jamieson, H.E., Swindles, G.T., Nasser, N.A., Galloway, J.M.
Decadal scale patterns of shoreline variability in Paulatuk, NWT, Canada	Sankar, R.D., Murray, M.S., Wells, P.
Using video to evaluate depth and velocity selection by Arctic grayling (<i>Thymallus arcticus</i>) in pools of an engineered tundra stream	Kupferschmidt, C., Noddin, F., Zhu, D.Z., Tonn, W.M.
Climate change drives widespread and rapid thermokarst development in very cold permafrost in the Canadian High Arctic	Farquharson, L.M., Romanovsky, V.E., Cable, W.L., Walker, D.A., Kokelj, S., Nicolsky, D.
Genomics, environment and balancing selection in behaviourally bimodal populations: the caribou case	Cavedon, M., Gubili, C., Heppenheimer, E., vonHoldt, B., Mariani, S., Hebblewhite, M., Hegel, T., Hervieux, D., Serrouya, R., Steenweg, R., Weckworth, B.V., Musiani, M.
Body condition impacts blood and muscle oxygen storage capacity of free-living beluga whales (<i>Delphinapterus leucas</i>)	Choy, E.S., Campbell, K.L., Berenbrink, M., Roth, J.D., Loseto, L.L.
Potential impact of restricted caribou (<i>Rangifer tarandus</i>) consumption on anemia prevalence among Inuit adults in northern Canada	Kenny, T.-A., Hu, X.F., Jamieson, J.A., Kuhnlein, H.V., Wesche, S.D., Chan, H.M.
Circumpolar indigeneity in Canada, Russia, and the United States (Alaska): do differences result in representational challenges for the Arctic Council?	Sidorova, E.

Project Title	Author(s)
Understanding fall-risk factors for Inuvialuit elders in Inuvik, Northwest Territories, Canada	Frigault, J.S., Giles, A.R.
Sister Mary Agnes Sutherland (1926-2018)	MacDonald, R.
How has Inuit Qaujimajatuqangit been considered? A student reflects on the 2018 ArcticNet annual scientific meeting	Hanke, A.N.
Levels and trends of current-use pesticides (CUPs) in the arctic: an updated review, 2010–2018	Balmer, J.E., Morris, A.D., Hung, H., Jantunen, L., Vorkamp, K., Rigét, F., Evans, M., Houde, M., Muir, D.C.G.
Occurrence of substituted diphenylamine antioxidants and benzotriazole UV stabilizers in Arctic seabirds and seals	Lu, Z., De Silva, A.O., Provencher, J.F., Mallory, M.L., Kirk, J.L., Houde, M., Stewart, C., Braune, B.M., Avery-Gomm, S., Muir, D.C.G.
Prevalence of heart attack and stroke and associated risk factors among Inuit in Canada: a comparison with the general Canadian population	Hu, X.F., Singh, K., Kenny, T.-A., Chan, H.M.
Modelling optimal diets for quality and cost: examples from Inuit and First Nations communities in Canada	Willows, N., Johnson-Down, L., Kenny, T.-A., Chan, H.M., Batal, M.

Northern Contaminants Program (NCP) Research Projects

There are 53 projects funded under the Northern Contaminants Program (NCP) for the 2019-2020 year, with allocated funding support of roughly \$4.1 million. These projects were subject to a comprehensive technical, peer, and northern social/cultural review process. This process ensures that each project supports the priorities and objectives of the NCP, as outlined in the NCP blueprints and annual call for proposals. Consultation with northern community authorities and/or Indigenous organizations is required for all projects involving field work in the North and/or analyses of samples.

Human Health	
Project Title	Project Leader(s)
Yukon Contaminant Biomonitoring: Old Crow	Brian Laird (University of Waterloo)
Exposure to Food Chain Contaminants in Nunavik: Biomonitoring in Adult and Youth Cohorts of the <i>Qanuilirpitaa?</i> Survey (Year 3)	Pierre Ayotte and Mélanie Lemire (Université Laval)
Exposure to Food Chain Contaminants in Nunavik: Evaluating Spatial and Time Trends Among Pregnant Women and Implementing Effective Health Communication for Healthy Pregnancies and Children (Year 4 of 4)	Chris Frugel (Trent University) and Mélanie Lemire and Pierre Ayotte (Université Laval)
Country Foods for Good Health: Developing a Country Food Database for the Inuvialuit Settlement Region	Brian Laird and Sonja Ostertag (University of Waterloo)

Community-Based Monitoring and Research	
Project Title	Project Leader(s)
Understanding Fish Mercury Concentrations in Dehcho Lakes	George Low (Dehcho First Nations); Mike Low (Dehcho First Nations); Heidi Swanson (University of Waterloo)
Community-Based Monitoring of Arctic Char in Nunatsiavut: Increasing Capacity, Building Knowledge	Rodd Laing (Nunatsiavut Government); Derek Muir and Jane Kirk (Environment and Climate Change Canada)
Contaminants in Traditional Foods of the Na-Cho Nyäk Dun First Nation	Josee Tremblay (First Nation of Na-Cho Nyäk Dun)
Tłıchq Aquatic Ecosystem Monitoring Project (TAEMP)	Michael Birlea (Tłıchq Government)
Expanding Community-Based Monitoring of Contaminants Concentrations in Marine Country Food Used by Mittimatalingmiut: Science and Local Knowledge Assessing the Risks to Human Health in Pond Inlet	James Simonee (Community-Based Researcher in Pond Inlet)

Community-Based Monitoring and Research 'Continued'	
Project Title	Project Leader(s)
Mobilizing Inuit Knowledge and Land Use Observations to Assess Ecosystem Trends and Processes Affecting Contaminants	Joel Heath and Lucassie Arragutainaq (Arctic Eider Society)
Contaminants in Traditional Food in the White River First Nation Territory	Ray Sabo (White River First Nation)
Traditional Foods Contaminant Monitoring Program	Anna Schmidt and Stephen Badwhar (Taku River Tlingit First Nation)
Community Monitoring of Plastic Pollution in Wild Food and Environments in Nunatsiavut	Max Liboiron (Memorial University of Newfoundland); and Liz Pijogge (Nunatsiavut Government)
Contaminant Monitoring and Community Interests in the Lower Northwest Passage	James Qitsualik (Gjoa Haven Hunters and Trappers Association); Virginia K. Walker (Queen's University)
Sources of Methylmercury, Perfluoroalkyl Substances, and Polychlorinated Biphenyls to Ringed Seal Food Webs of Lake Melville, Northern Labrador	Jane Kirk and Sarah Roberts (Environment and Climate Change Canada [ECCC]); and Liz Pijogge (Nunatsiavut Government)

Environmental Monitoring and Research	
Project Title	Project Leader(s)
Northern Contaminants Air Monitoring: Organic Pollutant Measurements	Hayley Hung (Environment and Climate Change Canada [ECCC])
Air Measurements of Mercury at Alert, Nunavut and Little Fox Lake, Yukon	Alexandra Steffen (Environment and Climate Change Canada [ECCC])
Passive Air Sampling Network for Organic Pollutants and Mercury	Hayley Hung and Alexandra Steffen (Environment and Climate Change Canada [ECCC])
Temporal Trends of Persistent Organic Pollutants and Metals in Ringed Seals from the Canadian Arctic	Magali Houde and Derek Muir (Environment and Climate Change Canada [ECCC]); Steve Ferguson (Fisheries and Oceans Canada [DFO])
Temporal and Spatial Trends of Legacy and Emerging Organic and Metal/Elemental Contaminants in Canadian Polar Bears	Dr. Robert Letcher (Environment and Climate Change Canada [ECCC]); Ottawa Markus Dyck (Government of Nunavut)
Temporal Trends of Mercury and Halogenated Organic Compounds (Legacy and Emerging) in Three Beluga Populations Landed at Hendrickson Island NT, Sanikiluaq NU, and Pangnirtung NU	Lisa Loseto, Steven Ferguson, and Cortney Watt (Fisheries and Oceans Canada [DFO])

NCP Research Projects '*Continued*'

Environmental Monitoring and Research '<i>Continued</i>'	
Project Title	Project Leader(s)
Temporal Trends of Contaminants in Arctic Seabird Eggs	Philippe Thomas (Environment and Climate Change Canada [ECCC]) and Carleton University
Temporal Trends and Spatial Variations in Mercury, in Sea-Run Arctic Char from Cambridge Bay, Nunavut	Marlene Evans and Derek Muir (Environment and Climate Change Canada [ECCC])
Temporal Trends of Persistent Organic Pollutants and Mercury in Landlocked char in High Arctic Lakes	Derek Muir and Jane Kirk (Environment and Climate Change Canada [ECCC]); and Günther Köck (Institute for Interdisciplinary Mountain Studies [ÖAW-IGF])
Spatial and Long-Term Trends in Persistent Organic Contaminants and Metals in Lake Trout and Burbot from the Northwest Territories	Marlene Evans and Derek Muir (Environment and Climate Change Canada [ECCC])
Temporal Trend Studies of Trace Metals and Halogenated Organic Contaminants (Hocs) Including New and Emerging Persistent Compounds, in Mackenzie River Burbot, Fort Good Hope, NWT	Gary Stern and Paloma Carvalho (University of Manitoba)
Temporal Trends in Yukon Lake Trout	Mary Gamberg (Gamberg Consulting)
Caribou Contaminant Monitoring	Mary Gamberg (Gamberg Consulting)
Community Based Seawater Monitoring for Organic Contaminants and Mercury in the Canadian Arctic	Jane Kirk, Amila De Silva, and Derek Muir (Environment and Climate Change Canada [ECCC]); Rainer Lohmann (University of Rhode Island)
Assessing Legacy and Emerging Contaminants in Canadian Arctic Air and Water Bodies as an Entry Point into the Arctic Food Chain	Liisa Jantunen (Environment and Climate Change Canada [ECCC])
Transport and Fate of Mercury, Perfluorinated Alkyl Substances and Organophosphate Esters Along a Hydrological Path from Glaciers to Downstream Lake Hazen (Nunavut)	Igor Lehnher (University of Toronto [U of T]); Amila De Silva (Environment and Climate Change Canada [ECCC])
Climate Change, Contaminants, Ecotoxicology: Overwinter Interactions in Arctic Seabirds near their Southern Range Limits	Kyle Elliott (McGill University); Kim Fernie (Environment and Climate Change Canada [ECCC])
Microplastics Contamination in Sediment, Water, Snow/Ice, and Fish of the Canadian Arctic	Patricia Corcoran (University of Western Ontario [UWO]); Liisa Jantunen (Environment and Climate Change Canada [ECCC])
Contaminants in Birds Consumed in Nunavut: Combining Historical Data with New Measurements in the North Baffin Region	Pierre Legagneux (Université Laval)
Influences of Environmental Change on Levels and Trends of Methylmercury in the Beaufort Beluga Food Web	Amanda Giang and Miling Li (University of British Columbia [UBC])

Communications, Capacity, and Outreach	
Project Title	Project Leader(s)
Yukon Contaminants Committee (YCC)	Ellen Sedlack (YCC and Crown-Indigenous Relations and Northern Affairs Canada); Merran Smith (YCC and Council of Yukon First Nations)
Northwest Territories Regional Contaminants Committee (NWTRCC)	Emma Pike (Crown-Indigenous Relations and Northern Affairs Canada [CIRNAC]); Tim Heron (NWTRCC and Northwest Territory Métis Nation (NWTMN); Kendra Tingmiak (NWTRCC and Inuvialuit Regional Corporation [IRC])
Nunavut Environmental Contaminants Committee (NECC)	Jean Allen (NECC, Nunavut Tunngavik Inc.)
Nunavik Nutrition and Health Committee (NNHC): Coordinating, Learning and Communicating on Contaminants Research in Nunavik	Marie Rochette (NNHC Chairperson and Nunavik Regional Board of Health and Social Services [NRBHSS]; Marie-Josée Gauthier (NNHC Coordinator, NRBHSS)
Northern Contaminants Researcher (NCR)	Liz Pijogge (NCR and Nunatsiavut Government)
Coordination, participation and communication: evolving Inuit Research Advisor responsibilities in Nunatsiavut for the benefit of Inuit and their communities	Carla Pamak (Nunatsiavut Government [NG])
Inuit Research Advisor for Inuvialuit Settlement Region: A new approach to engage and partner with the Northern Contaminants Program	Kendra Tingmiak (Northwest Territories Regional Contaminants Committee [NWTRCC] and Inuvialuit Regional Corporation [IRC])
Nunavik Inuit Research Advisor: Environmental, Health and Climate Change Research in Nunavik	Markusi Qisiiq and Michael Barrett (Kativik Regional Government)
Wildlife Contaminants Workshop – Building Contaminants Research Capacity in Nunavut	Mary Gamberg (Gamberg Consulting); Jennifer Provencher (Environment and Climate Change Canada [ECCC]; Jamal Shirley and Jason Carpenter (Nunavut Arctic College)
Learning about Ringed Seal Health from Contaminants Science and Inuit Knowledge: An Educational Workshop in Nain, Nunatsiavut	Paul McCarney and Liz Pijogge (Nunatsiavut Government); Dominique Henri and Magali Houde (Environment and Climate Change Canada [ECCC])
Caribou Workshop: Providing Synthesized Contaminants Messages in a Broader Context of Caribou Health, Management and Culture	Mary Gamberg (Gamberg Consulting)
Nuna Tariuq Silalu Film Project: Food Security, Global Environmental Changes, and Resilience in the Canadian Arctic, using Participatory Video Method	Maeva Gauthier (University of Victoria)

NCP Research Projects '*Continued*'

Program Coordination and Indigenous Partnerships	
Project Title	Project Leader(s)
Coordination and Administration of the Northern Contaminants Program <ul style="list-style-type: none"> • Data Management Support to the NCP from the Canadian Cryosphere Information Network/Polar Data Catalogue • NCP Publications Database • NCP and AMAP Quality Assurance/Quality Control Interlaboratory Study • NCP Secretariat: operational support and coordination for the NCP 	Sarah Kalhok Bourque (Crown-Indigenous Relations and Northern Affairs Canada [CIRNAC]) <ul style="list-style-type: none"> • Wesley Van Wychen and Greg Vey (University of Waterloo) • Shannon Christofferson (Arctic Institute of North America) • Harold Malle (Environment and Climate Change Canada) • Sarah Kalhok Bourque (CIRNAC)
Facilitation of International Action Related to the Long-range Transport of Contaminants into the Arctic <ul style="list-style-type: none"> • Canada's support to the Arctic Council's Arctic Monitoring and Assessment Programme (AMAP) • Global Atmospheric Passive Sampling Network in support of Global Monitoring Plan (Effective Evaluation) of the Stockholm Convention on POPs 	Sarah Kalhok Bourque (Crown-Indigenous Relations and Northern Affairs Canada [CIRNAC]) <ul style="list-style-type: none"> • Rolf Rødven and Simon Wilson (AMAP Secretariat) • Tom Harner (Environment and Climate Change Canada)
Council of Yukon First Nations Participation in the Northern Contaminants Program	Merran Smith (Council of Yukon First Nations [CYFN])
Dene Nation Participation in the Northern Contaminants Program	Trevor Teed Dene National and Assembly of First Nations [AFN] Regional Northwest Territories Office
Inuit Tapiriit Kanatami (ITK) National Coordination	Erik Loring (ITK)
Inuit Circumpolar Council (ICC) Canada's Activities Under the Northern Contaminants Program (NCP)	Eva Kruemmel (ICC)

Aurora Research Institute

As the research division of Aurora College, Aurora Research Institute (ARI)'s mandate is to improve the quality of life for Northwest Territories (NWT) residents by applying scientific, technological, and Indigenous knowledge to solve northern problems and advance social and economic goals.

ARI delivers on this mandate by:

- Licensing and coordinating research in accordance with the NWT Scientists Act.
- Promoting communication between researchers and the people of the communities in which they work.
- Promoting public awareness of the importance of science, technology, and Indigenous knowledge.

- Fostering a scientific community within the NWT which recognizes and uses the Traditional Knowledge of northern Aboriginal peoples.

- Making scientific and Traditional Knowledge available to people of the NWT.

- Supporting or conducting research which contributes to the social, cultural, and economic prosperity of the people of the NWT.

Our Mission: to develop our northern society through excellence in education, training, and research that is culturally sensitive and responsive to the people we serve.

ARI provides its services through our three research offices: our headquarters and the Western Arctic Research Centre in Inuvik, the South Slave Research Centre in Fort Smith, and the North Slave Research Centre in Yellowknife.

Headquarters: Western Arctic Research Centre

191 Mackenzie Road
PO Box 1450
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South Slave Research Centre

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North Slave Research Centre

North Slave — Yellowknife Campus
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Yellowknife, NT, X1A 2R3
Email: nsrc@auroracollege.nt.ca
Phone: (867) 920-3062
Fax: (867) 873-0358

Portal to Online License Applications for Research (POLAR)

The Portal to Online Licence Applications for Research (POLAR) is the Aurora Research Institute (ARI)'s licensing system for researchers and Northwest Territories (NWT) community reviewers to apply for and provide feedback on NWT Scientific Research Licenses.

ARI promotes effective communication between researchers and NWT communities and POLAR is the means to facilitate this communication.

POLAR allows researchers to register, input contact information and detailed project description, and make changes where necessary before submitting a licence application. Once issued, a copy of the licence document package will be sent to the registered email address for reference from the system.

Scientific Research Licence application steps:

1. Access the following website: <https://polar.nwtresearch.com/Login?ReturnUrl=%2f>
2. Create a POLAR account by signing up as a New User, start the online application process.
3. The online form has a section for including attachments such as maps, ethical review applications, community consultation records, or other supporting documents (Note: map files should be 2MB in size or smaller).
4. Keep the text sections as relatively brief summaries (approximately 200 words or less) and keep the "objectives" and "methods and activities" sections as plain-language as

possible; add detailed project information and supporting documentation as attachments.

5. Submit a payment of \$200.00 (in Canadian funds) for the application processing fee to Aurora Research Institute (ARI). Payment can be made within the online system, by credit or debit card. Please notify the Manager of Scientific Services or Licensing Coordinator if paying by check.
6. Once submitted, the application is reviewed. If there are questions that need answering or other clarification required before it can be accepted, those questions are sent to the applicant and the application is returned to an edit mode within the online system.
7. Once it is accepted, the application is distributed to associated NWT Community Organizations for review and feedback. If there are any concerns or comments submitted to ARI, these are promptly forwarded to the applicant to follow up with the organization to address the concern or comment.
8. Records of communication to be included with the application file should be submitted to the Manager of Scientific Service or the Licensing Coordinator as these records are an important part of the licensing decision.

Northwest Territories (NWT) Research Database

The Aurora Research Institute (ARI) maintains a collection of scientific research licence information for studies conducted within the NWT. ARI has developed the NWT Research Database to make this research licensing data publicly available.

Plans are underway for future iterations of this database which will include an expanding scope of research content, such as information from the annual compendium publication which includes summaries from Fisheries and Oceans Canada (fisheries research summaries), Wildlife Division of the Government of the Northwest Territories – Department of Environment and Natural Resources (wildlife research summaries), and the Prince of Wales Northern Heritage Centre (archaeological research summaries).

Research data has also been influenced by several variables including geopolitical boundaries associated with Aboriginal land claim and self-government agreements, new government infrastructure and devolution decisions relating to research (mainly federal and territorial), and all associated revisions to the review process for research to ensure compliance with regulations. Some examples of review process revisions are the incorporation of the ethical principles outlined in the 1st and 2nd versions of the Tri-Council Policy Statement and the facilitation of Aboriginal government consultation as required for research projects set out by relevant land claim agreements.

This database is a compilation of license information from various processes that have

been in place for administering the NWT Scientists Act since 1974. In this database, records are currently available from present back to 1974 with processing taking place to make available all licences back to 1954. The following details the changes experienced over the years:

- Up to 1974 – the Federal Departments responsible for coordinating the “Scientists and Explorers Ordinances” the precursor to the scientific research licence has been:
 - 1953 – 1966: Department of Northern Affairs and National Resources
 - 1966 – 1974: Department of Indian Affairs and Northern Development (DI-AND)
- 1974 – 1996: “Oracle” database
- 1996 – April 18, 2005: “Approach” Database
- April 18, 2005 – Present: Portal to Online Licence Applications for Research (POLAR)

The initial concept leading to the development of this public database was for use as a resource during academic literature review to minimize duplication of research effort, to assist in identifying knowledge gaps, and to provide a venue for researchers to share research project results with NWT residents, and Aboriginal and municipal governments. As we anticipate the use of this database may extend beyond the initial concept, release of future versions will be iterative and will be designed to accommodate additional data sets.

With this in mind, we welcome your feedback upon using this database.



NWT RESEARCH DATABASE

Aurora Research Institute

[Home](#)
[About the Database](#)
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AURORA RESEARCH INSTITUTE

Inuvialuit Settlement Region Database

The Inuvialuit Settlement Region Database contains 13,500 records describing publications and research projects about the Inuvialuit Settlement Region in Canada's Northwest Territories and Yukon.

The database is maintained by the Joint Secretariat – Inuvialuit Renewable Resource Committees and the Arctic Science and Technology Information System (ASTIS), and is funded by Shell Canada, MGM Energy, ConocoPhillips Canada, and Chevron Canada.



Simple Search

Your search will find records that satisfy **all** the conditions you specify.

Record Type	Publications and Research Projects ▼
Words in Title or Abstracts	<input type="text"/>
Subject Code	All Subjects ▼
Geographic Code	Whole ISR ▼
Community	All Communities ▼
Author	<input type="text"/> <small>(Examples: hart, e.j.; hart, e; hart,; joint secretariat)</small>
Year	All Years ▼
Research Program	All Research Programs ▼

[Home](#)
[Contents](#)
[Using Simple Search](#)
[Go To Advanced Search](#)
[Obtaining Publications](#)
[Acknowledgments](#)
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Joint Secretariat



Shell Canada



AINA



Project Title	Author(s)
Synopsis of research conducted under the 2018-2019 Northern Contaminants Program: full report	Northern Contaminants Program (Canada)
Impacts of the changing ocean-sea ice system on the key forage fish Arctic Cod (<i>Boreogadus Saida</i>) and subsistence fisheries in the Western Canadian Arctic – evaluating linked climate, ecosystem and economic (cee) models	Steiner, N.S., Cheung, W.W.L., VanderZwagg, D.L., Cisneros-Montemayor, A.M., Drost, H., Hayasida, H., Hoover, C., Lam, C., Sou, T., Sumaila, U.R., Suprenand, P., Tai, T.C.
Enhancing fisheries co-management in the Eastern Arctic	Snook, J., Akearok, J., Palliser, T., Cunsolo, A., Hoover, C., Bailey, M.
The social determinants of healthy ageing in the Canadian Arctic	Baron, M., Riva, M., Fletcher, C.
Body condition indicators: assessing the influence of harvest location and potential thresholds for application in beluga monitoring	MacMillian, K., Hoover, C., Iacooza, J., Peyton, J., Loseto, L.
Influence du dégel du pergélisol sur la matière organique et les réseaux trophiques dans les eaux douces circumpolaires nordiques	Wauthy, M., Rautio, M.
Les processus sédimentaires durant le Petit âge glaciaire et l'actuel dans l'Archipel arctique canadien	Letaïef, S., St-Onge, G., Montero-Serrano, J.-C.
Impact de fonte tardive ou hâtive de neige et de glace sur l'export de microalgues dans la mer de Beaufort	Nadaï, G., Fortier, L., Tremblay, J.-É.
Arctic deltas and estuaries: a Canadian perspective	Forbes, D.L.
Use of subsistence-harvested whale carcasses by polar bears in the southern Beaufort Sea	Lillie, K.M., Gese, E.M., Atwood, T.C., Conner, M.M.
Beluga vocalizations decrease in response to vessel traffic in the Mackenzie River estuary	Halliday, W.D., Scharffenberg, K., MacPhee, S., Hilliard, R.C., Mouy, X., Whalen, D., Loseto, L.L., Insley, S.J.
Ringed seal demography in a changing climate	Reimer, J.R., Caswell, H., Derocher, A.E., Lewis, M.A.
Shrub tundra ecohydrology: rainfall interception is a major component of the water balance	Zwieback, S., Chang, Q., Marsh, P., Berg, A.

Project Title	Author(s)
Abundance and species diversity hotspots of tracked marine predators across the North American Arctic	Yurkowski, D.J., Auger-Méthé, M., Mallory, M.L., Wong, S.N.P., Gilchrist, G., Derocher, A.E., Richardson, E., Lunn, N.J., Hussey, N.E., Marcoux, M., Togunov, R.R., Fisk, A.T., Harwood, L.A., Dietz, R., Rosing-Asvid, A., Born, E.W., Mosbech, A., Fort, J., Grémillet, D., Loseto, L., Richard, P.R., Iacozza, J., Jean-Gagnon, F., Brown, T.M., Westdal, K.H., Orr, J., LeBlanc, B., Hedges, K.J., Treble, M.A., Kessel, S.T., Blanchfield, P.J., Davis, S., Maftei, M., Spencer, N., MacFarlane-Tranquilla, L., Montevecchi, W.A., Bartzen, B., Dickson, L., Anderson, C., Ferguson, S.H.
Nitrate consumers in Arctic marine eukaryotic communities: comparative diversities of 18S rRNA, 18S rRNA genes, and nitrate reductase genes	Comeau, A.M., Lagunas, M.G., Scarcella, K., Varela, D.E., Lovejoy, C.
Canadian Arctic maritime sovereignty during the Trudeau years	Lalonde, S.
Geography, seasonality, and host-associated population structure influence the fecal microbiome of a genetically depauperate Arctic mammal	Bird, S., Prewer, E., Kutz, S., Leclerc, L.-M., Vilaça, S.T., Kyle, C.J.
Comparisons of dissolved organic matter and its optical characteristics in small low and high Arctic catchments	Coch, C., Juhls, B., Lamoureux, S.F., Lafrenière, M., Fritz, M., Heim, B., Lantuit, H.
Antibiotic dispensation rates among participants in community-driven health research projects in Arctic Canada	Williams, K., Colquhoun, A., Munday, R., Goodman, K.J.
A transdisciplinary approach to Brucella in muskoxen of the western Canadian Arctic 1989–2016	Tomaselli, M., Elkin, B., Kutz, S., Harms, N.J., Nymo, H.I., Davison, T., Leclerc, L.-M., Branigan, M., Dumond, M., Tryland, M., Checkley, S.
Tundra shrub expansion may amplify permafrost thaw by advancing snowmelt timing	Wilcox, E.J., Keim, D., de Jong, T., Walker, B., Sonnentag, O., Sniderhan, A.E., Mann, P., Marsh, P.
Pan-arctic winter drift speeds and changing patterns of sea ice motion: 1979–2015	Kaur, S., Ehn, J.K., Barber, D.G.

Project Title	Author(s)
Levels and trends of poly- and perfluoroalkyl substances in the Arctic environment – an update	Muir, D., Bossi, R., Carlsson, P., Evans, M., De Silva, A., Halsall, C., Rauert, C., Herzke, D., Hung, H., Letcher, R., Rigét, F., Roos, A.
Patterns of suspended particulate matter across the continental margin in the Canadian Beaufort Sea during summer	Ehn, J.K., Reynolds, R.A., Stramski, D., Doxaran, D., Lansard, B., Babin, M.
Reproductive limitation mediates the response of white spruce (<i>Picea glauca</i>) to climate warming across the forest-tundra ecotone	Lantz, T.C., Moffat, N.D., Fraser, R.H., Walker, X.
Mismatch between microalgae and herbivorous copepods due to the record sea ice minimum extent of 2012 and the late sea ice break-up of 2013 in the Beaufort Sea	Dezutter, T., Lalande, C., Dufresne, C., Darnis, G., Fortier, L.
Algal scavenging of mercury in preindustrial Arctic lakes	Outridge, P.M., Stern, G.A., Hamilton, P.B., Sanei, H.
Could offspring predation offset the successful reproduction of the arctic copepod <i>Calanus hyperboreus</i> under reduced sea-ice cover conditions?	Darnis, G., Wold, A., Falk-Petersen, S., Graeve, M., Fortier, L.
Behaviour and characteristics of mating polar bears (<i>Ursus maritimus</i>) in the Beaufort Sea, Canada	Biddlecombe, B.A., Derocher, A.E., Richardson, E.S., Stirling, I.
Large-strain nonlinear thaw consolidation analysis of the Inuvik warm-oil experimental pipeline buried in permafrost	Dumais, S., Konrad, J.-M.
Decadal scale patterns of shoreline variability in Paulatuk, NWT, Canada	Sankar, R.D., Murray, M.S., Wells, P.
RP Canada-United States-Korea Beaufort Sea geoscience research program, Yukon	Jin, Y. K.
Climate change drives widespread and rapid thermokarst development in very cold permafrost in the Canadian High Arctic	Farquharson, L.M., Romanovsky, V.E., Cable, W.L., Walker, D.A., Kokelj, S., Nicolsky, D.
Body condition impacts blood and muscle oxygen storage capacity of free-living beluga whales (<i>Delphinapterus leucas</i>)	Choy, E.S., Campbell, K.L., Berenbrink, M., Roth, J.D., Loseto, L.L.
Potential impact of restricted caribou (<i>Rangifer tarandus</i>) consumption on anemia prevalence among Inuit adults in northern Canada	Kenny, T.-A., Hu, X.F., Jamieson, J.A., Kuhnlein, H.V., Wesche, S.D., Chan, H.M.
Shaping Inuit policy: the minutes of the Eskimo Affairs Committee, 1952-62	Clancy, P., Lackenbauer, P.W.

Project Title	Author(s)
Overwintering habitat of American Dipper, <i>Cinclus mexicanus</i> , observed in an Arctic groundwater spring feeding on Dolly Varden, <i>Salvelinus malma</i>	Gallagher, C.P., Lea, E.V.
Understanding fall-risk factors for Inuvialuit elders in Inuvik, Northwest Territories, Canada	Frigault, J.S., Giles, A.R.
How has Inuit Qaujimajatuqangit been considered? A student reflects on the 2018 ArcticNet annual scientific meeting	Hanke, A.N.
Trends of persistent organic pollutants in ringed seals (<i>Phoca hispida</i>) from the Canadian Arctic	Houde, M., Wang, X., Colson, T.-L.L., Gagnon, P., Ferguson, S.H., Ikonomou, M., Dubetz, C., Addison, R.F., Muir, D.C.G.
Occurrence of substituted diphenylamine antioxidants and benzotriazole UV stabilizers in Arctic seabirds and seals	Lu, Z., De Silva, A.O., Provencher, J.F., Mallory, M.L., Kirk, J.L., Houde, M., Stewart, C., Braune, B.M., Avery-Gomm, S., Muir, D.C.G.
Prevalence of heart attack and stroke and associated risk factors among Inuit in Canada: a comparison with the general Canadian population	Hu, X.F., Singh, K., Kenny, T.-A., Chan, H.M.
Modelling optimal diets for quality and cost: examples from Inuit and First Nations communities in Canada	Willows, N., Johnson-Down, L., Kenny, T.-A., Chan, H.M., Batal, M.
Screening-level risk assessment of methylmercury for non-anadromous Arctic char (<i>Salvelinus alpinus</i>)	Barst, B.D., Drevnick, P.E., Muir, D.C.G., Gantner, N., Power, M., Köck, G., Chéhab, N., Swanson, H., Rigét, F., Basu, N.
Dense ampeliscid bed on the Canadian Beaufort Shelf: an explanation for species patterns	Conlan, K.E., Hendrycks, E.A., Aitken, A.E.
Assessment of global polar bear abundance and vulnerability	Hamilton, S.G., Derocher, A.E.

Index of Organizational Acronyms

Arctic Environmental Strategy	AES
Assembly of First Nations	AFN
Arctic Institute of North America	AINA
Arctic Monitoring and Assessment Programme	AMAP
Aurora Research Institute	ARI
Anglia Ruskin University	ARU
Automated Recording Unit's	ARU's
Atmospheric Science and Technology Directorate	ASTD
Arctic Science and Technology Information System	ASTIS
Canadian Consortium for Arctic Data Interoperability	CCADI
Canadian Cryospheric Information Network	CCIN
Chief Executive Officer	CEO
Canadian Institutes of Health Research	CIHR
Canada-India Research Centre of Excellence	CIRCE
Crown-Indigenous Relations and Northern Affairs Canada	CIRNAC
Cost-Of-Living-Offset	COLO
Committee for Original People's Entitlement	COPE
Current-Use Pesticides	CUPs
Council of Yukon First Nations	CYFN
Department of Fisheries and Oceans, Canada	DFO
Environment Canada	EC
Environment and Climate Change Canada	ECCC

Government of Nunavut	GN
Government of Northwest Territories	GNWT
Gwich'in Renewable Resources Board	GRRB
Health Canada	HC
Halogenated Organic Contaminants	Hocs
Highly Qualified Personnel	HQP
Health and Social Services	HSS
Inuit Advisory Committee	IAC
Industry Canada	IC
Inuit Circumpolar Council Canada	ICCC
Inuvialuit Development Corporation	IDC
Inuvialuit Energy Security Project	IESP
Inuvialuit Final Agreement	IFA
Inuvialuit Game Council	IGC
Inuvik Gas Limited	IGL
Inuvialuit Harvest Study	IHS
Inuvialuit Investment Corporation	IIC
Ikhil Joint Venture	IJV
Inuvialuit Land Corporation	ILC
Inuit Nunangat Research Program	INRP
Inuvialuit Petroleum Corporation	IPC
Inuvialuit Place Names	IPN
International Polar Year	IPY
Inuit Research Advisor	IRA

Index of Organizational Acronyms

Inuvialuit Regional Corporation	IRC
Integrated Regional Impact Study	IRIS
Innovation, Science, and Climate Change	ISCC
Inuvialuit Settlement Region	ISR
Inuvialuit Settlement Region COVID-19 Simulation	ISRCS
Inuvik-Tuktoyaktuk-Highway	ITH
Inuit Tapiriit Kanatami	ITK
Kativik Regional Government	KRG
Large Ocean Management Area	LOMA
Makivik Corporation	MC
Meteorological Research Division	MRB
Meteorological Service of Canada	MSC
Networks of Centres of Excellence	NCE
NCE Knowledge Mobilization	NCE-KM
Northern Contaminants Program	NCP
Northern Contaminants Researcher	NCR
Nunavut Environment Contaminants Committee	NECC
Nunatsiavut Government	NG
Nunatsiavut Government Research Advisory Committee	NGRAC
National Inuit Committee on Health	NICoH
National Inuit Strategy for Research	NISR
National Lab West	NLW
Nunavik Nutrition and Health Committee	NNHC

Natural Sciences and Engineering Research Council	NSERC
Nunavut Tunngavik Incorporated	NTI
Nunavut	NU
Northwest Territories	NWT/NT
Northwest Territories Métis Nation	NWTMN
Northwest Territories Regional Contaminants Committee	NWTRCC
Observation Based Research Section	OBRS
Portal to Online Licensing Applications on Research	POLAR
Persistent Organic Pollutants	POPs
Proactive Vessel Management	PVM
<i>Qanuippitaa?</i> National Inuit Health Survey	QNIHS
Regional Contaminants Committee	RCC
Research Management Committee	RMC
Regional Strategic Environmental Assessment	RSEA
Self-Governing Indigenous Group	SGIG
Synthetic Natural Gas	SNG
Social Sciences and Humanities Research Council	SSHRC
Statistics Canada	STC
Tłı̨ch̨ Aquatic Ecosystem Monitoring Program	TAEMP
Tłı̨ch̨ Government	TG
Ulukhaktok Community Corporation	UCC
Yukon Contaminants Committee	YCC
Yukon Government	YG

Acknowledgements

This document was compiled by the Inuvialuit Regional Corporation (IRC)'s Innovation, Science, and Climate Change (ISCC) Division with contributions from the Government of Canada, the Government of the Northwest Territories, the Northern Contaminants Program, the University of Waterloo, Wilfrid Laurier University, the Aklavik Hunters and Trappers Committee, and the Network of Centres of Excellence of Canada: ArcticNet.

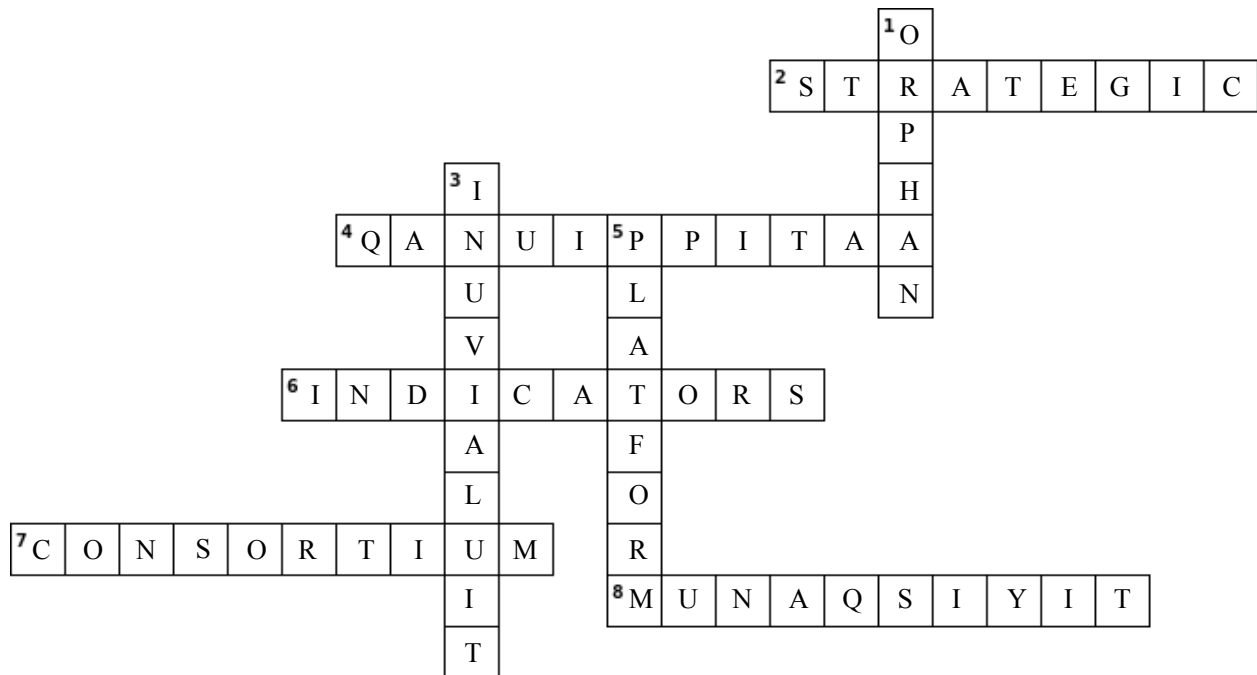
The IRC would like to sincerely thank all contributors and partners involved in the making of and continued support towards this edition of the Inuvialuit Research Newsletter, especially to the Inuvialuit Communications Society for providing and facilitating proof-editing support, which included Tiffany Larter for copy editing.

The IRC would like to apologize in advance for any misspellings of names of people and/or organizations featured in this edition. If you should find any discrepancies, please make contact with the IRC's ISCC Division with your concerns — see page 86 for contact information.



IRC's ISCC Division, back row, from left to right: Tyra Cockney-Goose; Darby Desrosiers, Matthew Chudek, and Piers Kreps; front row, from left to right: Pauley Tedoff, Tess Forbes, Kendra Tingmiak, and Jenn Parrott, December 2020. Missing from photo: Ryan Mazan, Brian Park, and Michael O'Rourke. *Photo courtesy of Jenn Parrott, Director of ISCC.*

2020 Inuvialuit Research Newsletter Activity Corner



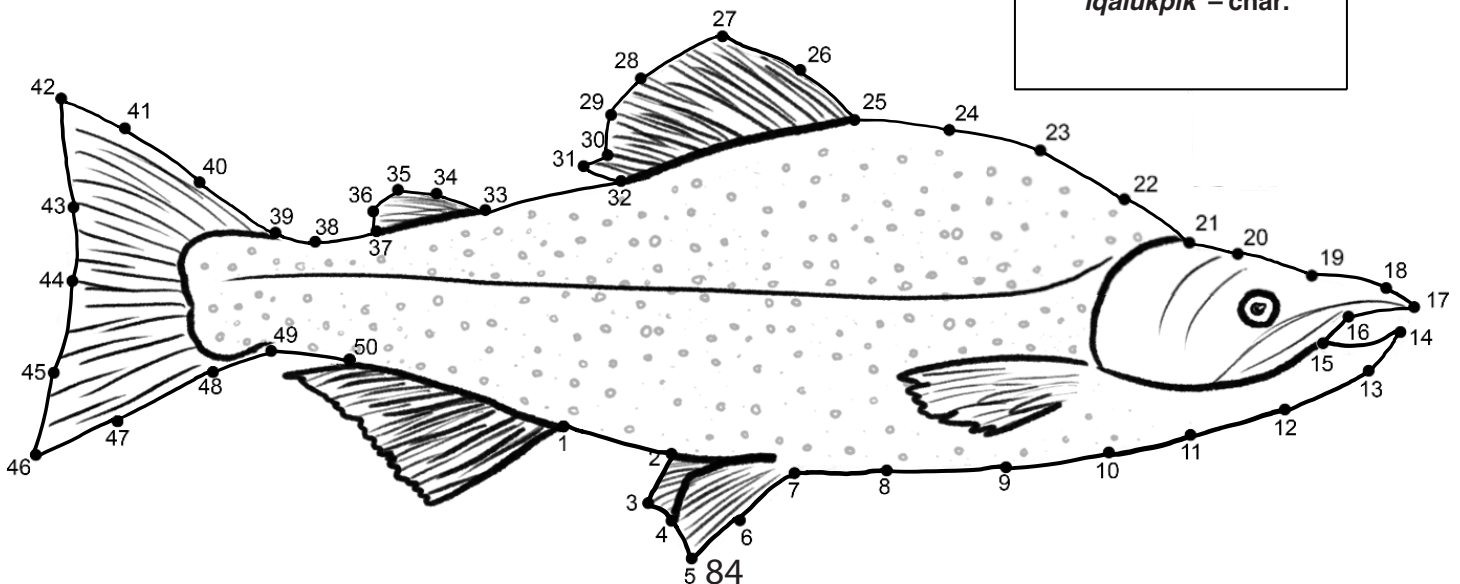
Across

2. Beaufort Regional _____ Environmental Assessment
4. _____ National Inuit Health Survey (QNIHS)
6. Project launched in 2007 to track socio-economic well-being of Inuvialuit in the Western Arctic
7. Canadian _____ for Arctic Data Interoperability (CCADI)
8. Inuvialuit Guardians

Down

1. _____ Well Sites, wells for which the owner could not be identified
3. The Inuit of the Western Canadian Arctic
5. Central storage house for geospatial information pertaining to the Beaufort Sea

Connect the Dots of the
'iqalukpik' – char.



2020 Inuvialuit Research Newsletter

A	N	S	C	I	T	S	I	T	A	T	S	E	E
E	E	R	W	N	D	E	T	C	T	R	O	L	T
W	T	T	N	E	M	N	O	R	I	V	N	E	I
P	E	S	A	I	O	E	N	I	L	E	S	A	B
R	D	R	T	A	S	V	P	I	T	A	T	L	P
I	S	N	A	R	Y	D	R	B	I	H	R	E	H
O	Y	M	O	A	T	I	A	R	S	S	I	T	T
R	R	N	L	P	H	A	R	V	E	S	T	A	L
I	T	I	E	T	A	M	I	L	C	T	C	C	A
T	C	V	E	I	D	E	V	I	R	O	T	O	E
I	T	A	S	O	T	S	I	E	T	A	V	V	H
E	E	I	N	I	N	A	T	I	P	T	E	D	I
S	D	I	P	O	L	I	C	Y	T	A	A	A	I
V	S	T	E	W	A	R	D	R	T	S	S	E	M

PRIORITIES
HEALTH
POLICY
HARVEST
ENVIRONMENT
BASELINE
ADVOCATE
STEWARD
STATISTICS
CLIMATE

Play this puzzle online at : <https://thewordsearch.com/puzzle/2003852/>

Sudoku is played on a grid of 9 x 9 spaces. Within the rows and columns are 9 “squares” (made up of 3 x 3 spaces). Each row, column and square (9 spaces each) needs to be filled out with the numbers 1-9, without repeating any numbers within the row, column, or square.

5	9	7	8	2	4	3	6	1
1	6	8	3	9	7	2	4	5
4	3	2	6	5	1	9	7	8
2	4	6	1	3	5	7	8	9
9	1	5	7	8	6	4	3	2
8	7	3	9	4	2	1	5	6
3	2	1	5	7	8	6	9	4
7	8	4	2	6	9	5	1	3
6	5	9	4	1	3	8	2	7

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"The research landscape in the Inuvialuit Settlement Region is continuously evolving to meet the needs of beneficiaries, local organizations, governments, academia, and other partners. As such, the IRC proudly directs evidence-based, decision-making research initiatives."
—Duane Smith, Inuvialuit Regional Corporation Chair & CEO