Community WWIC Uses and Needs (CWWICUN)

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

https://straightupnorth.ca/community-wwic-uses-and-needs/

Principal investigator

Gita Ljubicic

gita.ljubicic@mcmaster.ca

McMaster University

Areas of contribution

User-aspects and verification

Observations

Outreach

Policy-relevant / cultural aspects

Societal and/or behavioural aspects

Summary

Weather, water, and ice conditions in Inuit Nunangat (Inuit homelands in the Canadian Arctic) have become increasingly unpredictable due to the combined effects of climate change and industrial development. Rapid social and political change has also impacted the intergenerational transfer of Inuit knowledge and subsistence harvesting practices, creating challenges for Inuit to travel safely on the land (including water and ice). Our team of Inuit, northern, and southern researchers connects long-term research partnerships in Nunavut, Nunavik, and Inuvialuit communities. For years we have been hearing that weather, water, ice, and climate (WWIC) information and services are not meeting local needs considering the scale, accessibility, usability, language, and technology relevant to most remote northern communities. Our goal is to help improve the information that is available, and how it is communicated in northern communities. To accomplish this goal, we developed a survey to get feedback from partner communities in three regions of Inuit Nunangat, and Local Research Coordinators (LRCs) are working in their home communities to facilitate surveys. We follow the
Aajiiqatiginingniq research framework, which guides our collaborative efforts at consensus-building and decision-making. Survey responses will provide valuable information regarding: travel habits; important environmental conditions; uses of community information sources; uses of information from regional, national, and other polar service providers; and related opportunities and challenges. Ultimately we hope that results of this project will help service providers and decision-makers make their information more relevant and accurate for Inuit and northerners, in support of safe travel.

**Description**

Challenges with travel safety on the land, sea, and ice have been highlighted across Inuit Nunangat (Inuit homelands in Canada) due to the combined effects of climate change (e.g. changing sea ice conditions and timing, rapid weather shifts, increased extreme weather events) and industrial development (e.g. increasing arctic shipping activity, mining development, hydroelectric operations). Furthermore, colonization and modernization processes have impacted the intergenerational transfer of Inuit knowledge for safe land, water and ice travel, and subsistence harvesting practices. Taken together, these socio-ecological pressures have led to community members seeking out and using diverse weather, water, ice and climate (WWIC) information and services, in support of safe travel. There are also increasing numbers of WWIC products available, and being developed to suit a range of user needs. However, there is little documented regarding the extent to which WWIC information is relied upon, or how relevant or useful it is considered at a community level. Ongoing family and intergenerational knowledge transfer in terms of passing on traditional terminology, wayfinding, and survival skills is understood as critical for safety and broader well-being, but the level of reliance on this knowledge for travel planning and safety decisions is not well understood.

Our team members have been hearing for years from Inuit hunters and community members that WWIC services are not meeting local needs, due to scale, accessibility, usability, language, and technological barriers that arise for remote northern communities. The disconnect between current WWIC services and meeting the needs of diverse end users has also been recognized internationally as part of the World Meteorological Organization’s (WMO) Polar Prediction Project (PPP). Within this, the Societal and Economic Research and Applications (PPP-SERA) Task Team (of which Gita Ljubicic and Jackie Dawson are members) has highlighted that improved model predictions do not necessarily equate to improved services. Therefore, there is both a need and an opportunity for technological developments to improve accessibility and usability of digital WWIC information to support decision-making in Inuit communities. The PPP has largely been focused on regional and global scales, so this project focused on local scales and Inuit perspectives makes a fundamental and welcome contribution. To date there has been no systematic effort to document and assess the uses or needs of WWIC information and services across Inuit Nunangat. This is needed to tailor WWIC services more effectively to decision practices, not only in terms of content, but also with consideration of format, interface, and the reciprocal roles of producers and consumers of WWIC information.

The driving question that guides our research is: What kinds of WWIC information and services are currently being used, and what needs to be improved, to support travel safety decisions in communities across Inuit Nunangat? To address this question we have five main objectives:
1) document current Inuit community WWIC information uses and needs;
2) identify different modes of access and communication for WWIC information and services across Inuit Nunangat;
3) understand how the use of WWIC information and services may vary by community, season, mode of transportation, purpose and duration of travel, and socio-economic context;
4) document Inuit-identified WWIC products and delivery methods that are (or are not) working well in meeting community needs;
5) mobilize project results to inform service providers and policy-makers in their efforts to improve WWIC information and service delivery from local (i.e. communities) to international scales (i.e. WMO).

Our project builds upon years of community-research partnerships with diverse communities across Inuit Nunangat, as well as recent discussions during several special sessions on WWIC information uses organized by Ljubicic and Dawson at Arctic Change 2017 (Quebec City) and ArcticNet 2018 (Ottawa) and 2019 (Halifax) Annual Scientific Meetings. This project is our effort to respond to continued frustrations expressed in Inuit communities about the lack of accessible or useable WWIC information and services that can support travel safety and emergency response. We have developed a networked approach to understanding Inuit community WWIC uses and needs, in a manner that also responds to National Inuit Strategy on Research (18) calls to enhance Inuit capacity, ethics, leadership, and priorities in research. With ArcticNet and Crown-Indigenous Relations and Northern Affairs (CIRNAC) funding, we have developed this project to link several ongoing community-research partnerships such as: SmartICE, SIKU: The Inuit Knowledge Wiki and Social Media Platform, Arctic Corridors and Northern Voices, Inuvialuit Community-based Monitoring Program, Ujjiqsuiniq Monitoring Project, Clyde River Weather Network, and StraightUpNorth. As partnerships have evolved over the past year, our project currently involves 18 communities across three regions of Inuit Nunangat:
- Nunavut – Arviat, Cambridge Bay, Clyde River, Coral Harbour, Iqaluit, Gjoa Haven, Igloolik, Pond Inlet, Sanikiluaq
- Nunavik – Inukjuak, Kuujjuaraapik, Umiujaq
- Inuvialuit – Aklavik, Inuvik, Paulatuk, Sachs Harbour, Tuktoyaktuk, Ulukhaktok

Timeline

2019-06-01 - 2022-03-31

User relevant aspects

Everything we are doing involves understanding northern community user needs in Canada, with particular emphasis on Inuit communities. We also have several community members involved as Collaborators and Local Research Coordinators in our project. We have been bringing users and providers together with special sessions at ArcticNet ASMs, and plan to have a larger Weather and Society workshop this December 2020 to enable more focused exchanges.

Provider relevant aspects

We have several Environment and Climate Change Canada (ECCC) employees involved as collaborators in our project, and we are consistently reaching out to share information and get feedback from various ECCC departments, as well as territorial governments, community-based monitoring programs, northern research institutes, and regional and national Inuit organizations. We have been bringing users and providers together with special sessions at ArcticNet ASMs, and plan to have a larger Weather and Society workshop this
December 2020 to enable more focused exchanges.

**Regional emphasis**

Northern hemisphere: Yes
Southern hemisphere: No

**Further specification**

Canadian Arctic

**Key project deliverables**

Our project logistics are framed around 8 phases over three years (we anticipate that years will follow ArcticNet fiscal years of April 1 – March 31):

**YEAR 1 (2019/2020)**
- Collaborative survey development – Beginning at the ArcticNet ASM in Ottawa in December 2018, and continuing through the winter of 2019, we will develop and refine the survey questions and format involving all NIs and Collaborators listed in this proposal. In December 2018 we have a full-day side meeting planned at the ArcticNet ASM in Ottawa where the majority of team members will meet in person to decide on key questions to ask, survey format, and various survey logistics. We will then refine the survey for further review and approval within the team, as well as provide an opportunity for other interested organizations to review and provide feedback (e.g. Territorial Research Institutes, Inuit organizations, ECCC, Qaujigiartiit Health and Research Centre, Kitikmeot Heritage Society, PPP-SERA etc.). Once all is compiled and finalized we will submit all necessary documentation to secure research ethics and licensing clearance across all regions and institutions involved.
- Training on survey facilitation – We will facilitate five regional training workshops for LRCs to learn about the survey and what is involved with facilitating surveys in their home community. These training workshops will be based in the ISR, the Kitikmeot, Kivalliq, and Qikiqtani regions of Nunavut, and Nunatsiavut. Nunavik communities will join the Qikiqtani or Kivalliq workshop. These will each be facilitated by an NI and a northern Collaborator. We have already applied for other sources of funding to support these training workshops, but it is an important part of our research process so we include it here accordingly.
- Intensive survey period – LRCs can begin advertising and recruiting people to complete surveys as soon as training is complete. We anticipate the intensive survey period will be fall/winter of 2019/20, aiming for 100 surveys per community, on average (with variability according to community size, as described in the introductory paragraphs).

**YEAR 2 (2020/2021)**
- Survey response compilation and analysis – As part of her doctoral thesis research, Marshall will be responsible for compiling all survey responses as they come in (throughout Year 1), and conducting preliminary
analysis according to key questions and themes. We anticipate this will be a 6-month process to work through results in each community, and each region. She will then develop short reports and different ways of visualizing results, in preparation for collaborative review.

- Collaborative results interpretation and analysis – At the ArcticNet ASM in December 2020 we will plan a 2-day side meeting to bring together all NIs, Collaborators, and LRCs to review and interpret preliminary survey results. This will be an important opportunity for community and regional insights into the responses received in the survey, appropriate ways of interpreting and communicating these results, and analyzing results in broader regional and national contexts. This is critical not only to ensure accurate and meaningful interpretation of results, but also an important opportunity for exchange and learning across communities and regions to consider strategies for sharing results from local to international scales.

YEAR 3 (2021/2022)
- Circulation of results for broad feedback – Once all the feedback from the collaborative interpretation has been compiled, and all necessary refinements to results analysis are finalized, we will circulate a draft report of all results to all NIs, Collaborators, and LRCs involved. They will have the opportunity to review the community and regional reports relevant to the partner communities they work with.
- Refinement of communications plan – With the feedback on draft reports we will be able to finalize plans for how best to communicate results across different scales and organizations. We will have these discussions through conference calls and then finalize the communications plan at the ArcticNet ASM in December 2021. This will include what kinds of reports, publications, and other forms of reporting (e.g. community radio, posters, news articles, policy briefs) are considered appropriate to reach different target audiences.
- Writing reports and publications – We will work through the winter of 2022 to finalize all forms of reporting according to the communications plan agreed upon, prioritizing reporting to all individuals and communities who participated in the survey, followed by summary reports for Inuit organizations and territorial/provincial and federal governments, and academic publications according to regions or key themes. In each case, all NIs, Collaborators, and LRCs will be joint authors of all forms of reporting, according to their involvement in particular regions or communities.

Data management

We will submit all metadata to the Polar Data Catalogue.

Is data provided to WMO Global Telecommunication System

No

Real-time provision

N/A

Other information

Our timelines are included in the phases mentioned earlier related to deliverables. Further information is
available at https://straightupnorth.ca/community-wwic-uses-and-needs/
A project overview with team members will also be posted on the PPP news page. Funding is from ArcticNet and CIRNAC and goes until March 2020.