Inuit Knowledge Based Sea-Ice Maps for Improved Travel Safety & Emergency Management

Pan-Arctic Regional Climate Outlook Forum 3

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Ikaarvik: Barriers to Bridges

ScIQ: the strengths of two ways of knowing, scientific enquiry and Inuit Qaujimajatuqangit
Pond Inlet Case Study

Source: Inuit Tapiriit Kanatami, 2005
Ikaarvik: Facilitating the Establishment of SmartICE in Pond Inlet
Sikumiut *(Inuktitut for people of the ice)*

- The Inuit management committee that governs SmartICE in Pond Inlet
- Twelve-person membership includes
  - Elders (2), Youth (2)
  - Community Search and Rescue volunteers
  - Parks Canada, Canadian Rangers
  - Government of Nunavut Wildlife
  - Hunters and Trappers Association
  - Local outfitter
There is a gap in our ability to share our own IQ of sea-ice with other members of the community, especially the younger generations.
Sikumiut Research Needs

- Document the history of sea-ice conditions around Pond Inlet using their sea-ice IK and western methods

- Gather and reclaim historical sea-ice data sets, some which includes their IK, and new data (satellite data).
Search and Rescue New Initiatives Funds

Nunavut Emergency Management felt that local IK sea-ice maps would improve local sea-ice travel safety, and reduce the amount of SAR activities.

Also useful outside of the community

- Provide greater local detail to support their own search and rescue activities and for their partners (Coast Guard, National Defence, Police Services, Canadian Ice Service)
- Local scale information will be useful in day to day operations at the Canadian Ice Service

Developed a proposal with Nunavut Emergency Management and was successful in receiving funding.
Planning how to work together

Sikumiut

Will govern the research project. They will determine:

- the methodology from an Inuit perspective
- youth capacity building
- my role in the research
- the methods used to share their IK
- ownership of the data and sharing
- evaluation of the project from an Inuit perspective.
Developing Inuit Specific Methodologies

- Sikumiut’s approach for this research is based on their Inuit principles and values
- Would like to follow the principles outlined in the Inuit Societal Values
Communicating Inuit Knowledge

- Maps?
- Drawings?
- By month and/or by season?
- Inuit will decide how to communicate their knowledge
Non-Inuit Researcher Partner Role

- Support Sikumiut decision making and approaches
- Seek and obtain funding
- Gather Pond Inlet sea-ice data and IK from southern archives
- Mentor and train Pond Inlet youth to do the research themselves
Strengthen Inuit Youth Capacity
1. Youth Facilitating Workshops
a) Documenting & Learning Sea-Ice IQ

Source: Wilson, 2019
b) Participatory Mapping Workshops

Source: Wilson, 2019
2. Digitizing the Maps

Source: Wilson, 2019
3. Developing Other ways to Communicate Sikumiut Knowledge

Tap tap
Always bring a spear or a harpoon when going out on the sea ice to check for thin ice conditions when walking.

Danger of Reflection
Be careful and vigilant when driving towards the sun when pools of water starts forming on the ice. You never know when the sun may be blinding you from a potential danger.

Artwork by Jamesie Itulu 2019, Pond Inlet, NU
Inuit Knowledge is: Modern and Traditional

Artwork by Jamesie Itulu 2019, Pond Inlet, NU
4. Interpreting Satellite Imagery
Developing a Pond Inlet Inuit Sea-Ice Climatology
(maps of sea-ice conditions 1998 – present)

Climate change:
• Provide evidence for where, when and how quickly the sea-ice is changing, and the effect this has on their community
• Be used as adaptation tools to identifying known and emerging areas of ice hazards and safe travel areas throughout the season.

Future resource development:
A baseline of their sea-ice conditions can be used by the community in understanding the impacts from resource development on the sea-ice (i.e. winter shipping)

Example from Resolute Bay, NU
Floe Edge locations: May 2000 to 2006

Source: Canadian Ice Service, 2007
5. Inuit Evaluation of the Research

Inuit youth will coordinate the evaluation of this project.

Learn survey and interview skills.

Program evaluation (social sciences) from an Inuit perspective.

Helping to build an Inuit specific approach for Inuit self-determination in research.
Thank You