



Welcome to SmartICE

Rex Holwell
Manager of Nunatsiavut Operations

A graphic consisting of several overlapping geometric shapes in shades of blue, teal, and grey, arranged in a dynamic, angular pattern.

SMARTICE

Who We Are

- SmartICE is a community-oriented social enterprise offering climate change adaptation tools, designed to incorporate sea-ice monitoring data with local Indigenous knowledge of sea ice conditions, which can contribute to more informed decisions regarding safe land, water, and sea ice use.
- An award-winning social enterprise servicing Canada's north, SmartICE is working with Indigenous youth to locally manufacture and deliver SmartICE's advanced sea-ice environmental monitoring systems.




Community
Operations



- INITIAL PILOT SITES
- EXPANSION SITES

Inuit Societal Values

- 
- Caring for the environment (*Avatittinnik Kamatsiarniq*) and community (*Pijitsirniq*)
 - Being innovative and resourceful (*Qanuqtuurniq*)

Why SmartICE?

- Climate change is transforming environments around the world.
- Nowhere faster than in Canada's North and Indigenous communities.
- Sea ice is decreasing and less predictable, which is increasing travel risk for Indigenous peoples and northern communities.
- Sea ice connects communities and essentially serves as a highway for people to travel the land and hunt for country food.



Climate Change

- The temperatures in the Arctic continue to rise at **three times the global annual average**
- Snow and ice are melting at an increasing rate.
- Arctic annual air temperatures from October 2021 to September 2022 were the sixth warmest dating back to 1900.
- Arctic air temperatures have warmed faster than the global average.
- The Arctic's seven warmest years since 1900 have been the last seven years.

**“Travelling on the sea ice
is essential to maintain our
way of life”**

**Andrew Arreak,
Regional Operations Lead
Pond Inlet**



For SmartICE it starts in the community...

Dr. Trevor Bell



Community Management Committees

Community Management Committee



Our Solutions

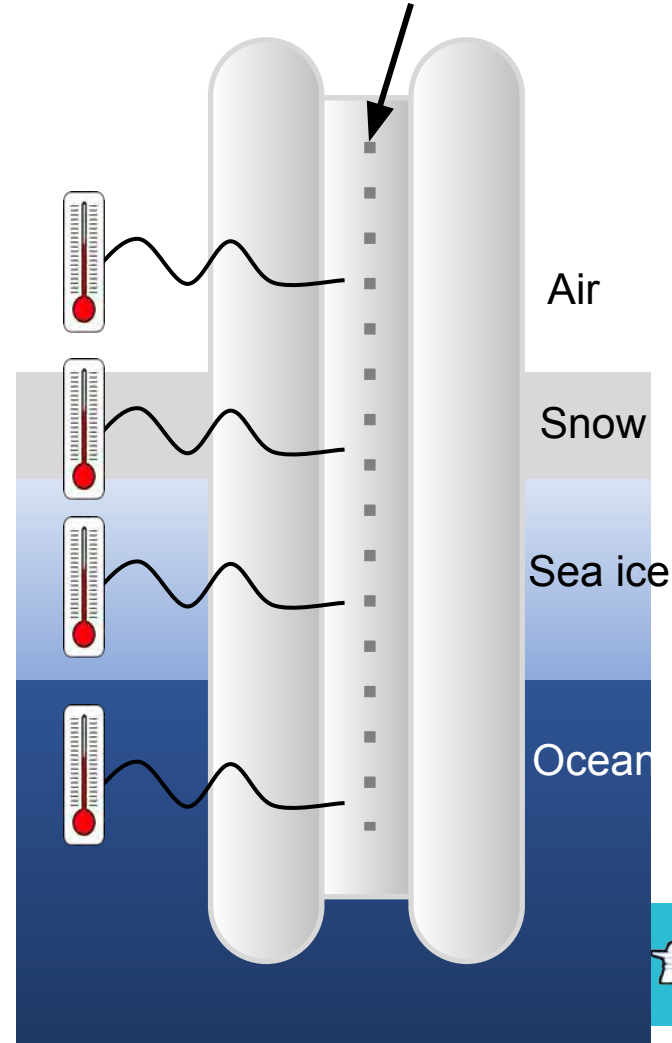


SmartBUOY

sea-ice thickness sensor

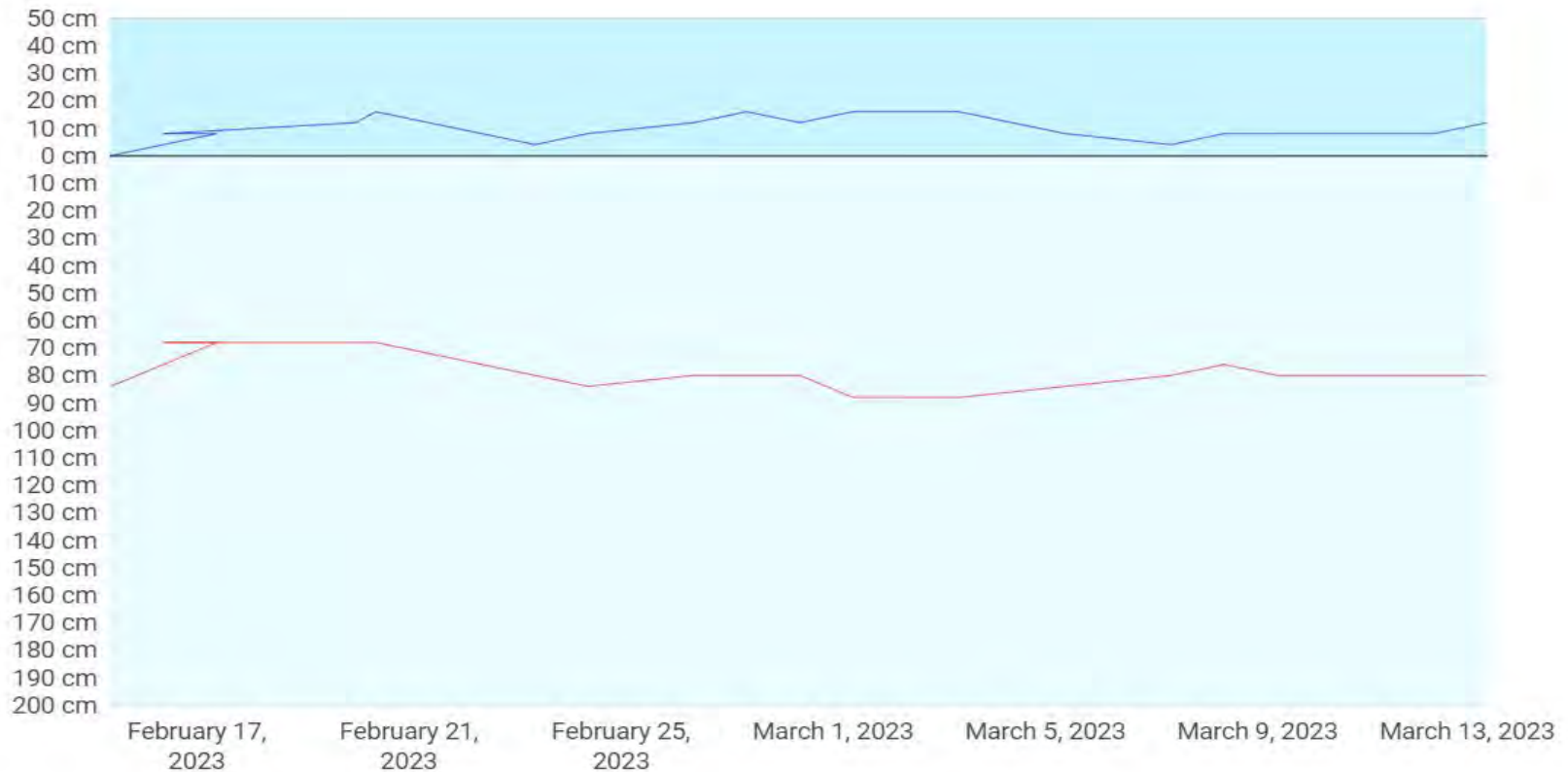


Thermistors



SmartBUOY Data on SIKU

Nain SmartBUOY 2023-2



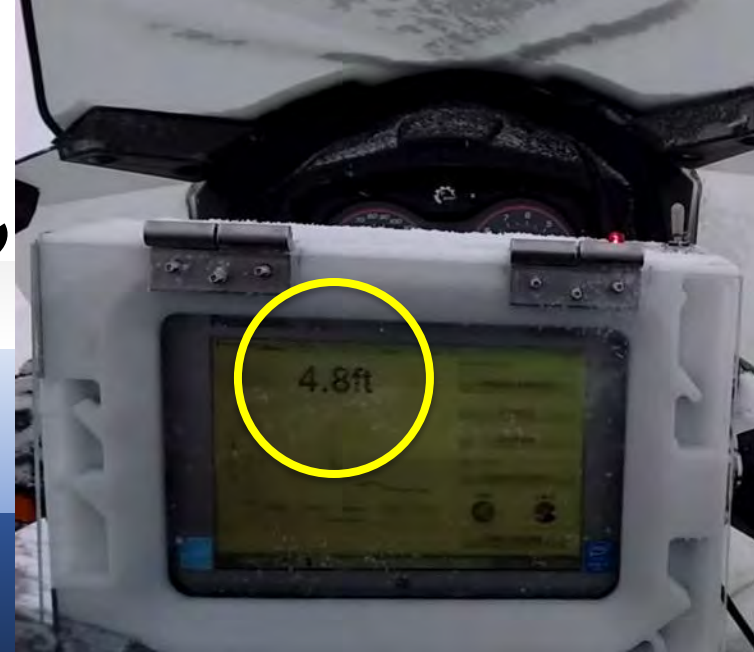
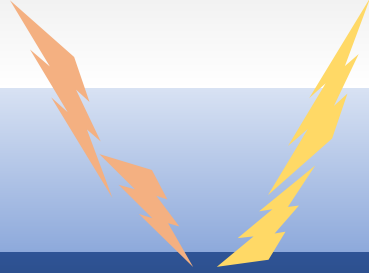
SmartQAMUTIK



Snow

Sea ice

Ocean





SmartQAMUTIK Data on SIKU

The screenshot displays the SIKU mobile application interface. At the top, the navigation bar includes the SIKU logo, 'Explore', '+ Post', and a search bar containing 'nain'. The user profile 'Tyler' is visible in the top right corner. The main content area is split into a sidebar on the left and a map on the right.

Sidebar Content:

- Location: Nain
- 2022 Ice Watch Challenge has begun! Make ice posts for a chance to win Northern gift cards or a free Skidoo from Contant. [Learn more](#)
- Winter storm watch issued 3 hours ago. [More details](#)
- Weather: Mostly Cloudy, -5.9°C, 32°F
- SMARTICE logo
- Actions: + Set My Community, Filter Map, Share
- Navigation: Feed, Ice Reports, About, People
- Filter and Refresh options
- Recent Activity: Trip on March 20th, 2022 at 5:51pm. Heather Angnatok went on a trip near Nain - Breakdown

Map Content:

- Map of Nain, Labrador, showing terrain and water bodies like Nain Bay and Testuqakak Brook.
- SMARTICE data overlay showing snow and ice thickness along a route.
- Legend for Snow & Ice Thickness (Feet): < 1ft (red), 1-3 ft (orange), 3-5 ft (yellow), 5-7 ft (green), 7+ ft (blue).
- Map controls: Satellite (Off), Date (2022 - JAN - 27), and various navigation icons.




Travel Safety – Traditional Knowledge

ᐱᑦᐱᑦᐱᑦᐱᑦ...Sikumiut Uqartut...Sikumiut Says...

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Pivagijarsimaviit ingiraniarlutit sikukkuut?

Are you prepared to travel on the sea ice?



Gaujigiatatut Silaniarlutit
Check the Weather Forecast
Get the weather forecast about current conditions and the next 24 hours.

Piturnitillugu
Lunar Tides
Be aware of the moon phase that you could melt or break your trip. The full moon expects a lot of water every year, make low footprints and be aware of strong ocean tides. Rougher may get rougher, avoid rocky areas, get water, and be aware of the moon phase.

Inuutlutit Aulqaatitangillutit
Never Travel Alone
You have a partner.

Tusumajutiqparaklutit
Keep in Touch
Always have a way to communicate when out on the ice. Bring a radio, satellite phone, and SPOT device.

Pirulungartu Qangatuinaaq
Accidents Happen
Always take a first aid kit, and if you are only planning to go for a few hours.

Uqumassugunnarlutit
Stay warm
Pack warm, thick, wet, windproof, matches, lighter, and sleeping bag to keep warm.

Saputisimajunnarlutit
Protection
Get a first aid kit, and if you are only planning to go for a few hours.

Qaujimalutit Namimangaarpit
Know Where You Are
Bring a GPS, and if you are only planning to go for a few hours.

Naksakkannirlutit Nautiluarniarnik
Extra Supplies
Pack more food, water and fuel than you expect to use. And always clean up after yourself. Don't leave garbage lying around.

Urkua
Shelter
The weather can change. Travel always in pairs. Carry a tent for protection from the outside elements. Check the weather in the area and the local weather service before you go.

Igaak
Shades
On a sunny day, always wear sunglasses and a hat to protect your eyes from the sun.

Annuraagikaniarpaglutit
Extra Clothing
Always have a spare set of clothes with you. What are you going to wear if your accident gets wet?

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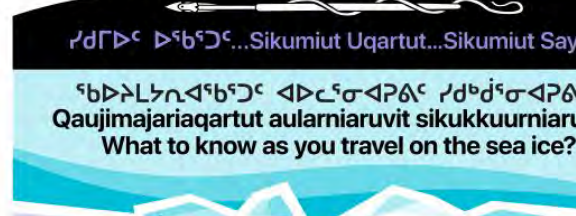
Illustration by James Hall, Miramichi

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Qaujimajariaqartut aularniaruvit sikukkuurniaruvit?

What to know as you travel on the sea ice?



Gaujigianginnaruq silu ijingina unarmut.
Check the sea ice strength regularly with your harpoon.
1. Test it. If it doesn't go through it is safe to walk on.
2. Probe it. If it doesn't go through it is safe for an animal to walk on.

Siqinmut Qililinga
Reflections
Be careful of the sun's reflection on the ice. Sky reflected in melt ponds may cause you to lose your footing.

Ajuraq
Leads
When leads do not reflect it is a sign that they may be thin. If you see a lead, you may fall in with the wrong step.

Pilagiarniq
Ice Bridges
Be careful of the sun's reflection on the ice. Sky reflected in melt ponds may cause you to lose your footing.

Qaujimalutit Naukkut Ikaariqamangaat
Know Where to Cross
High topography leads can be difficult and dangerous to cross. Look for multiple streams flowing from the ice to find a safe crossing. The stream will have melted the ice, leaving a channel that is lower and safer area to cross.

Qaujigiariqu Ikaariqianginniq
Check Before You Cross
Check for a hole in the ice. It could be a hole in the ice. Pick a crossing spot that is safe and not too deep.

Nuvuqariingina Imauninga
Clouds Over Sea
Dark clouds, fog, mist or rain over water that are signs indicate that the low stage of clouds are about warning to be on the ice. It is a sign to be on the ice.

Puktaita
Melt Ponds
Ponds of meltwater from melting snow begin to form on the surface of the ice. This water can freeze over and cause you to lose your footing.

Immattiliqtiqtuq
Flooded Ice
Melt ponds start to get bigger. The spring melt season is the best time to see. Do not drink the water. It is too salty.

Kilaajuk
Drainage Holes
The meltwater from melting snow begins to form on the surface of the ice. This water can freeze over and cause you to lose your footing.

Salaraq
Rotten Ice
Some meltwater from melting snow begins to form on the surface of the ice. This water can freeze over and cause you to lose your footing.

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Illustration by James Hall, Miramichi



Northern Production Centre

Nain, Nunatsiavut

SMARICE



SmartICE Employment Readiness and Technology Development Program



We are a WISE

- SmartICE is a Work Integrated Social Enterprise (WISE)
- In May 2019, SmartICE opened the Northern Production Centre (NPC) in Nain, Nunatsiavut where local indigenous youth participate in the unique SmartICE **Employment Readiness and Technology Development Program.**
- This project delivers training to youth, especially those “not in education, employment or training” (NEET), aims to reduce barriers for education and employment and also focuses on individual well-being.

First Graduating Youth Cohort

- Technical training
- Translatable employment skills
- Certifications, workplace training
- Social and emotional learning
- Traditional activities
- Safe and supportive environment
- Build confidence

SMARTICE



2023 Operator Training



Maximizing Social Impact



Smart MOVES Report Cards



Nakummek

Thank you

S M A R  I C E