

Our project is called:

Sikunnguag

(meaning "the likeness or image of ice, as on maps")



SmartICE is working with the **University of Victoria**, **Alfred Wegener Institute**, **University College London**, and **National Research Council Canada** to co-produce state-of-the-art maps that support safe sea ice travel.

The Project is funded until 2027 by the New Frontiers in Research Fund – International Joint Initiative for Research in Climate Change Adaptation and Mitigation

1

What is Sikunnguag's main goal?

To Improve Sea Ice Travel Safety. We aim to empower Inuit Nunangat communities to strengthen their resilience to increasingly variable sea ice conditions.

2

How will this goal be achieved?

Through Sea Ice Mapping. We will combine satellite imagery with field-based airborne, drone and on-ice surveys to develop new ways to map sea ice travel hazards including rough ice, slush zones, and thin ice areas. New satellite technologies will allow us to better detect these hazardous features than before.

Through Adoption of the Sikumiut-SmartICE Model of Community Partnership. In this model local communities govern project activities, ensuring that *Inuit Qaujimajatuqangit* (IQ; Inuit knowledge, values and worldview) is combined with scientific expertise in map production.

Our pilot communities include Cambridge Bay, Gjoa Haven, Pond Inlet, Qikiqtarjuaq and Tuktoyaktuk.

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What are the potential community benefits of this project?

- The regular production of information on sea ice travel hazards tailored for community use.
- Expansion of the SmartICE *Pilimmaksaqniq Sikulirijimik* operator training curriculum and program to teach community youth to use advanced tools like drones to monitor these ice travel hazards for map validation.
- Data processing solutions that ensure near real-time production of community sea ice hazard information.
- Adaptation of the SmartICE *Sikumik Qaujimajjuti* mapping program to integrate the new sea ice hazard information into its existing community-generated Ice Travel Safety Maps.
- An implementation framework for long-term and scalable community map production across Inuit Nunangat.
- Involving communities in all phases of the project will improve the effectiveness of, and confidence in, the generated Ice Travel Safety Maps, as users will know they are produced with a combination of IQ, local observations, and technology operated by one of their own.

SmartICE is an Indigenous-led, not-for-profit social enterprise that empowers communities to monitor their own ice travel conditions. To learn more about us and our Indigenous community partnerships, visit smartice.org



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