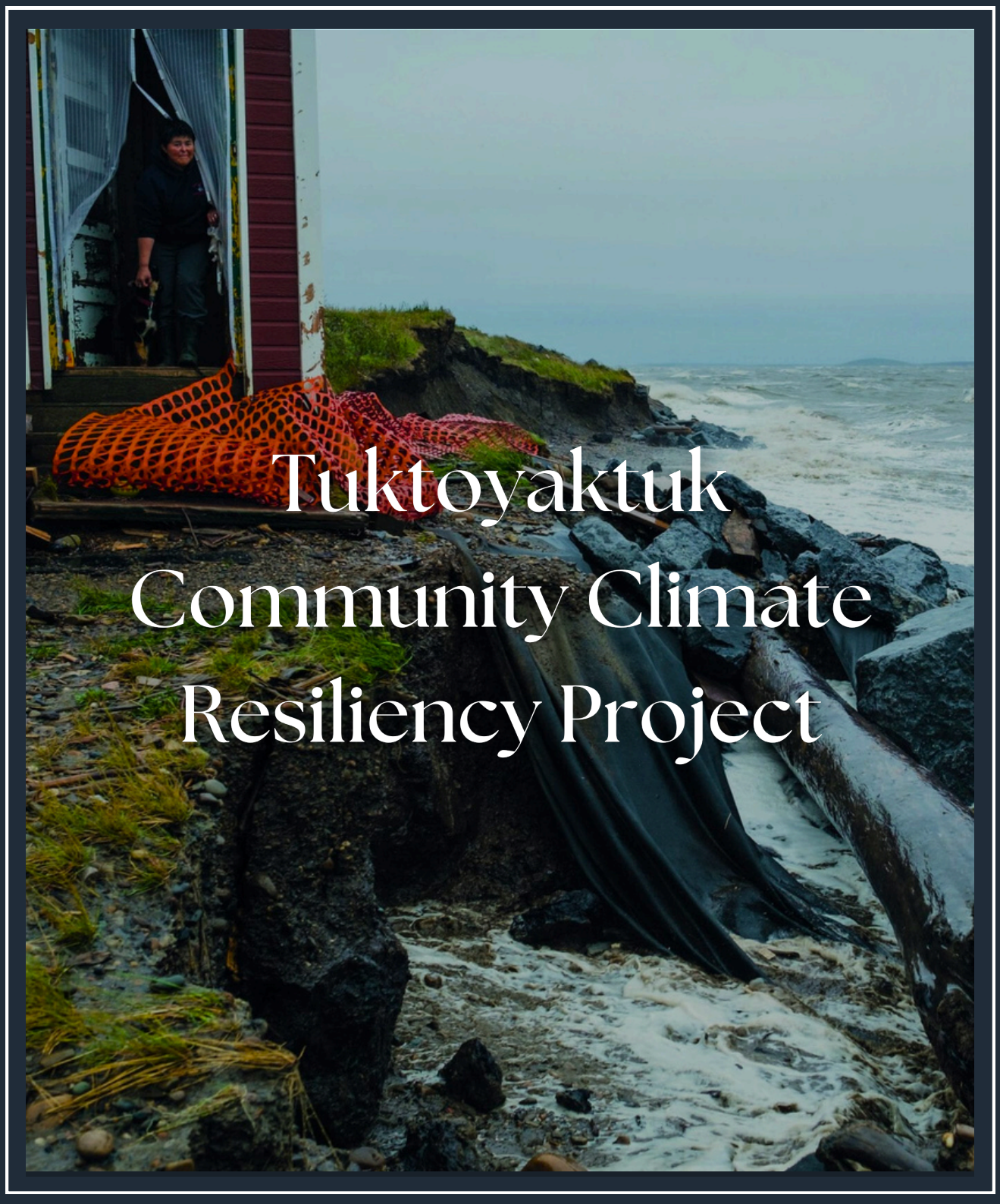
ARCTIC INSPIRATION PRIZE | PRIX INSPIRATION ARCTIQUE



Tuktoyaktuk Community Climate Resiliency Project

Despite numerous attempts to protect Tuktoyaktuk's windward shore with man-made reinforcements, the community is losing ground to the destructive force of the waves. Noella Cockney's home is one of four buildings listed for urgent relocation further inland due to progressing shore erosion. Photo/ description by Weronika Murray / The Narwhal (2019)

The Tuktoyaktuk Community Climate Resiliency Project won the 2021 AIP $500,000 prize.

The Arctic Inspiration Prize is the largest annual prize in Canada. It inspires, enables, and celebrates the achievements of the people of the North, recognizing diverse teams with innovative projects in the fields of education; health and wellbeing; culture, arts and language; science and traditional knowledge; climate change; food security; and the economy.

Nominator: Jackie Jacobson MLA, Nunakput

Team: Kendyce Cockney (Team Leader), David (Obie) Anikina, William Dillon, Tianna Gordon-Ruben, Dr. Mike Lim, Dr. Martine Lizotte, Eriel Lugt, Dr. Robert McLeman, Deva-Lynn Pokiak, Shawn Stuckey, Michele Tomasino, Dustin Whalen

A storm surge enters Tuktoyaktuk harbour during the early hours of a storm on August 4, 2019. Shore erosion and flooding are the two main threats the community faces due to climate change. Photo by Weronika Murray / The Narwhal.

This report was compiled and created by the **Qatalyst Research Group**, with the help of Peggy Jay, the project team, and AIP.

The Impact of Climate Change on Tuktoyaktuk

Climate change has resulted in coastal erosion and is a significant threat to the small community of Tuktoyaktuk. Tuk Island protects Tuktoyaktuk from high ocean waves, but has been eroding over time. Having eroded 2 meters in the last year, the community was forced to move three homes to higher elevations.

At the current rate of erosion, Tuk Island will be breached in 18 to 20 years, causing losses to the community, environment, and local fauna. Migration routes will change, and animals will have to move further inland.

> "No other community is as affected by climate as Tuk... and we need to act now."
>
> Kendyce Cockney, Team Leader

Photo of Pelly Island by Susan Nerberg

The Tuktoyaktuk Community Climate Resiliency Project (TCCRP)

The Tuktoyaktuk Community Resiliency Project was created by the community to take action and prepare for Tuktoyaktuk for future decisions, including the possibility of having to relocate due to climate change. Waves from the Arctic Ocean batter the coast and cause soil erosion, and melting permafrost causes landslides and additional loss of land.

The project builds community capacity and knowledge about climate-driven change to increase the resilience of the residents and future generations.

The project builds on successful community-based monitoring methods by allowing the community to increase its knowledge of climate change to action for the betterment of Tuktoyaktuk.

Click here to watch the video

Empowering Community Members to Conduct Environmental Monitoring

About 25 community members, including approximately 6 youth, have been trained on safety and environmental monitoring. Training courses included:

- Sled making
- ATV training and safety
- Snowmobile training
- Boat safety training
- Drone operator training
- Bear safety course
- Enhanced Maritime Situational Awareness
- First Aid
- Firearms safety

Community members have also participated in programming through past AIP Laureate SmartIce for CTD testing, SMART buoy retrieval, and SmartIce training at Aurora College in Tuktoyaktuk.

Trained Community Monitors collect data on:

- Water turbidity
- Ice thickness
- Snow depth
- Water temperature
- Water chemistry

Developing Future Youth Leaders and Land Protectors

> “I find it very, very awesome. Being [able] to go into programs like this at a young age can help [...] your future”
>
> Jade Inuaslurak, Tuktoyaktuk Youth

The development of new and innovative educational approaches for youth engaging in climate monitoring, including on the-land learning, provides an opportunity for them to connect with knowledge in and out of the classroom.

Elders lead on-the-land teaching, passing on their knowledge to youth, who become a new generation of land protectors. Monitoring ice thickness, permafrost depth, air temperature, plant leaf and bloom dates, edible plant yields, and ice formation/thaw dates all provide youth with hands-on, direct knowledge of how climate change is impacting the land on which they live.

> “We want to just show you how to do it safely; how to listen to your Elders and to use the new technologies that are available to you.”
>
> Tyrone Raddi, Tuktoyaktuk Marine Coordinator

Tyrone Raddi and Riland Keevik

Jesse Elias

Jesse Elias first got involved with the program in August 2022, on an 11-day boat trip along the Tuktoyaktuk Peninsula. Jesse captained one of the boats, and helped to harvest caribou for the trip participants and wider community. In January 2023 he joined the SmartICE Climate Monitoring Team, where he spent time with other Climate Monitors learning about the data and the technology the team uses to record what they gather.

Eriel Lugt

In 2019, Eriel Lugt was part of a team of youth who created the short documentary Happening to Us, about the impact of climate change in the North. Eriel moved into the Climate Resilience Coordinator position at the Tuktoyaktuk Community Corporation and was involved in monitoring and documenting the changes happening to her home in Tuktoyaktuk for over half a decade. To view the trailer for Happening to Us, **please click here.**

Ice Mapping to Keeps the Community Safe

In collaboration with SmartIce, Community Monitors use traditional methods in conjunction with modern technology to map the ice and keep their community safe. The SmartQAMUTIK is a traditional Inuit sled that is towed behind a snowmobile, measuring the thickness of the ice and snow based on the saltiness of the sea water. The SmartQAMUTIK provides real-time measurements to the operator and information is also shared via SIKU.org.

Photos of Jaden Cockney from SIKU.org

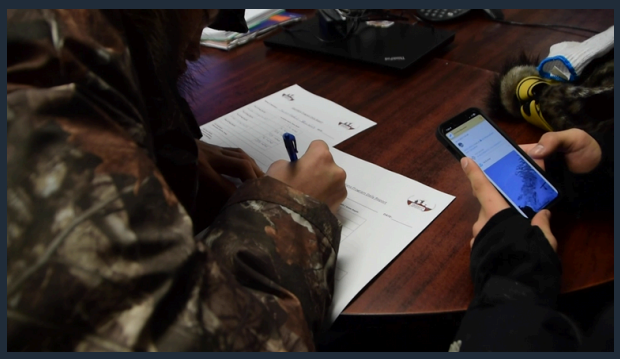
Empowering the Local Community to Take Action

The involvement of community members in environmental monitoring and research increased their understanding of climate driven changes and develop potential solutions.

“Building capacity with all ages from our Future Leaders to Elders. This connection is very important in all aspects of work, from teaching each other the history, culture, climate change, hunting routes and the land. In order for the community to work together to solve Climate Change we need these connections and capacity.”

Kendyce Cockney

Inuvialuit of Tuktoyaktuk Own the Information and Are Data Stewards



"...The Knowledge Centre is accelerating itself because of the work being done through the funding from Arctic Net. We were able to have someone work on it on an ongoing basis with young people involved in monitoring [and] safety meetings."

Nellie Cournoyea

Tuktoyaktuk residents are the stewards of their own data, which is critical in supporting long-term decision-making. This supports self-determination and self-sufficiency, as residents can perform testing and data recording tasks without the need to look outside the community.

The information that is gathered on the land and ocean is put in an online ArcGIS form and generates a graph that can be analyzed. Data is stored in the community, by the community, for the community.

Exploration of Long-Term Solutions

As a result of work done by the Tuktoyaktuk Community Climate Resiliency Project such as climate data, building community capacity, and the knowledge to conduct environmental monitoring, additional funding was raised to fuel action-driven change.

In July 2023, it was announced that there would be an investment of more than $53 million to the project under Canada's Disaster Mitigation and Adaptation Fund. The project started in 2024, when rock armour was installed along the shore of Tuktoyaktuk, and continued in 2025 with the placement of barrier rocks in front of Tuk Island.

Armoured rock and other materials placed in front of Tuk Island reduce the force of waves that are causing coastal erosion. Improvements will also be made to existing concrete slab protections, along with other upgrades to the barrier beach at the south end of the community.

> "Added protection of our community shoreline and the Tuk Island will provide much more time for the community to prepare for a possible relocation or to move upland away from rising waters and a shrinking shoreline... The Hamlet of Tuktoyaktuk will work diligently over the next number of years to see this project complete."
>
> Erwin Elias, Mayor of Tuktoyaktuk

Other Funders, Partners, and Supporters

Tuktoyaktuk Community Corporation

Hamlet of Tuktoyaktuk

Tuktoyaktuk Hunters & Trappers Committee

Fisheries Joint Management Committee

Government of Canada Disaster Mitigation and Adaptation Fund

Government of Canada Ministry of Northern Affairs

Inuvialuit Regional Corporation