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**University
of Manitoba**

2024

GENICE II

Reimagining Monitored Natural Attenuation as an Oil Spill Response Strategy in the Arctic (2021-2025)



Project Objective

The objective of GENICE II is to learn about what happens to oil spilled from ships in Arctic waters, and how Community-Based Monitoring (CBM) can be part of oil spill preparation and response in Chesterfield Inlet.

Research Summary

Our team visited Chesterfield Inlet March 8th to 14th, 2024. During our visit, we got a lot done.

- We visited students in the Science Classroom at the Sammurtok School and did an experiment with food coloring and ice. Freshwater ice is clear but sea ice is cloudy because it has air and salt inside. The food coloring soaks into the sea ice but runs off the edge of the fresh ice (**Figure 1**).
- We held a second Knowledge Co-Development Workshop with members of the Aqigiq HTO, Hamlet Office and Sapujiyit Society.
- Suresh BK (Master's student) gave a community presentation and did follow-up interviews with 15 Inuit Knowledge holders related to the research project about Inuit Qaujimajatuqangit (IQ) in Community-Based Monitoring.



Fig 1. Pictures showing the effect of food coloring on salty sea ice vs. fresh lake ice.

Our Team



John Sinclair



Suresh BK



Nicole Wilson



Larry Ittinuar



Eric Collins



Ashley Adams



Fig. 2. GENICE II Team presenting at Co-Development workshop II.

Research Summary (continued)

- Ashley Adams (Master's student) gave a community presentation on spill response preparedness and planning in Chesterfield Inlet.
 - We reviewed Chesterfield Inlet's Oil Spill Response Strategy, and a section of the Keewatin (Nunavut) Regional Plan from 2005.
 - Chesterfield Inlet's oil spill response plan currently excludes the community from participating in spill response, for safety reasons. It was noted that responders need to be trained for their own and community safety and such training is not readily available.
 - The Coast Guard and DFO are planning to update their response plans this year. Email them at DFO.CCGIMRP-PIMIGCC.MPO@dfo-mpo.gc.ca to get more information about this program and to learn to how contribute.
 - Several difficulties were noted regarding spill response and emergency preparedness in Kivalliq communities, including access to gear and CCG sea cans, strong winds and melting ice. It was suggested that a resolution be brought to the Kivalliq Mayors meeting concerning the inability of communities to respond to a marine spill event.



Fig. 3. Pictures of algae growing on the bottom of ice.

Sampling

- We went on the ice and did training for water sampling with the Sapujiyiit Guardians.

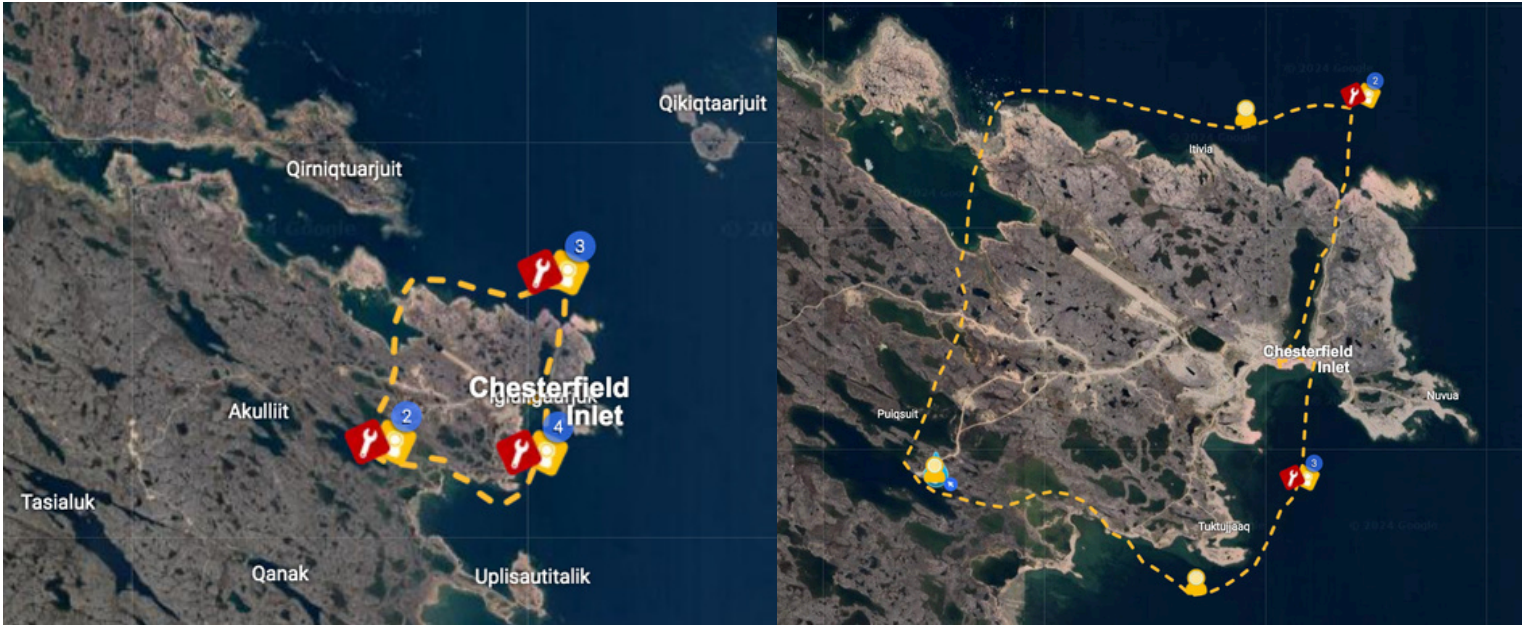


Fig. 4. Maps show four sampling locations near Chesterfield Inlet. Photos and trip info are posted on SIKU at <https://siku.org/app#/map/trip/36137>

Tab. 1. Locations of sampling during visit to Chesterfield Inlet in March 2024.

Inuktitut	English	Description	Latitude & Longitude
Puirsuk	First Lake	Drinking water source	63.3286° N 90.7688° W
Itavia	Beyond the big tower	Fishing site with cabins	63.3608° N 90.7070° W
Tuktuttaa	Fish Bay	Fishing site	63.3190° N 90.7169° W
Igluligaarjuk	Anchorage Harbour/ Chesterfield	Fishing site. Ships harbour there in the summer.	63.3290° N 90.6962° W



Fig. 5 GENICE II team & Inuit Guardians from the Sapujiyiit Society sampling in March 2024.

Next Steps

- Hire a new Inuit Youth researcher from Chesterfield Inlet.
- Do more training with Inuit Youth Researcher and the Sapujiyiit Society.
- Analyze samples and share preliminary results with the community.
- Suresh BK has finished his research project. A summary report will be shared with the community.
- Next co-development workshop in Spring 2025.
- Keep an eye out for “AlgaeWatch” competition in Spring 2025! Algae often grow at the bottom of the ice, but when? Be the first to spot them and win!

Acknowledgements

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References

(1) Johnson, N et al. 2015. The contributions of community-based monitoring and traditional knowledge to Arctic observing networks: Reflections on the state of the field. Arctic 68, 1. <http://dx.doi.org/10.14430/arctic4447>



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