



Canada-Nunavut Geoscience Office

Report of Activities 2013

By: David Mate, Chief Geologist
Canada-Nunavut Geoscience Office



Introduction

Provide an update on the activities of the Canada-Nunavut Geoscience Office.

- Office Update
- Geoscience Program Update
- Future Work



Office Update

Mandate: Provide accessible geoscience information and expertise in Nunavut to support:

- *Responsible resource exploration and development*
 - *Responsible infrastructure development*
 - *Geoscience capacity building, education, training and outreach.*
-
- Six person office
 - Paleozoic (1), Precambrian (1) and Surficial (1) Geologists, GIS (1) and data dissemination (1).
 - Renewed 5-year office agreement
 - Office move (February 2013)



Office Update



Diane Skipton

Mary Claire-Ward Award Winner

Annual GAC/PDAC award for graduate student that contributes knowledge about the geologic history of Canada.

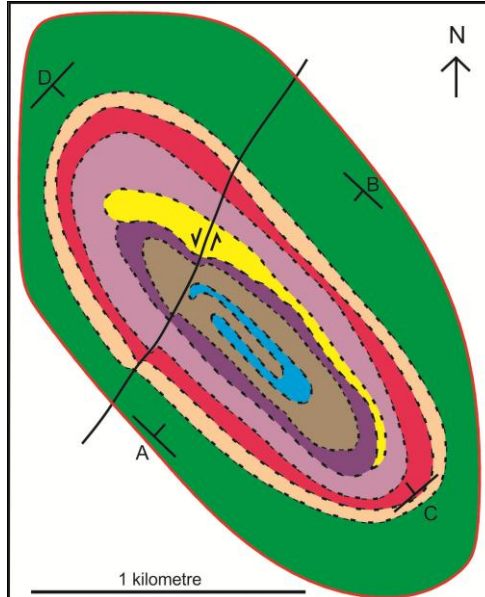
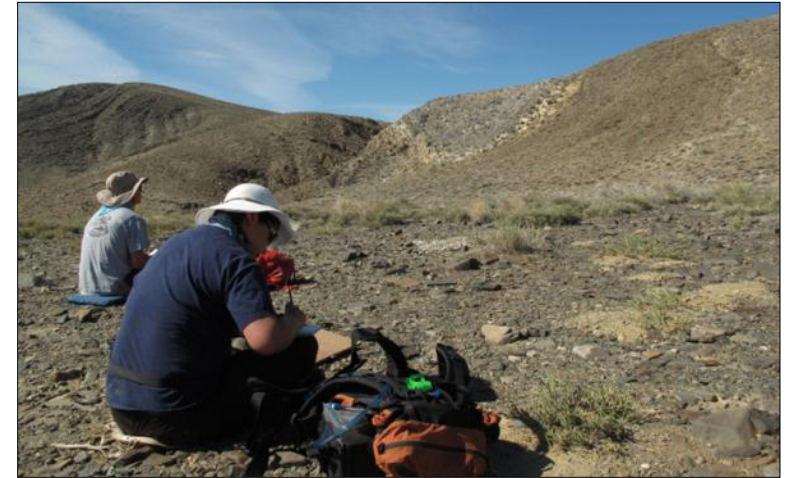


Dr. Alessandro Ielpi

NSERC Visiting Fellowship Grant

Targeted Bedrock Mapping to Evaluate the Metal Potential in the Under-Explored Elu Basin of western Nunavut

Geoscience Training Program

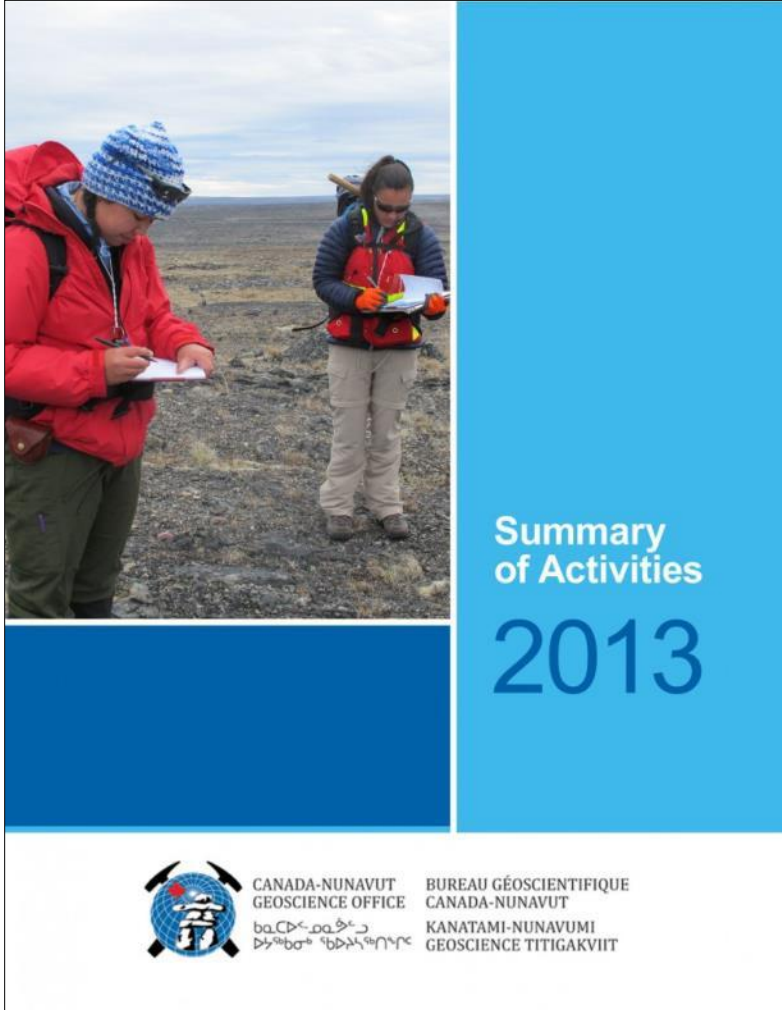


Legend:

	Monzogranite	Coarse grained; equigranular; tan to white weathering; porphyritic K-feldspar
	Quartzite	Grey-blue; coarse-grained; biotite defines bedding; associated with rose quartz veins
	Diorite Gneiss	Fine-grained; light and dark compositional layers with garnet, plagioclase, biotite and significant amounts of clinopyroxene
	Iron Formation	Garnet and grunerite; silicified magnetite layers
	Diorite Gneiss	Medium grained; rare clinopyroxene
	Semi-Pelite	Rusty weathering; contains biotite, graphite, and quartz; associated with calc-climate
	Diorite Gneiss	Brown weathering; fine grained; contains biotite, hornblende, clinopyroxene, and garnet in east
	Tonalite	White weathering; gneissic; contains biotite, quartz, plagioclase and rare clinopyroxene
	Contact; <i>confirmed, approximate</i>	
	Transform fault	
	Limit of mapping	

CNGO and Dalhousie University

Summary of Activities



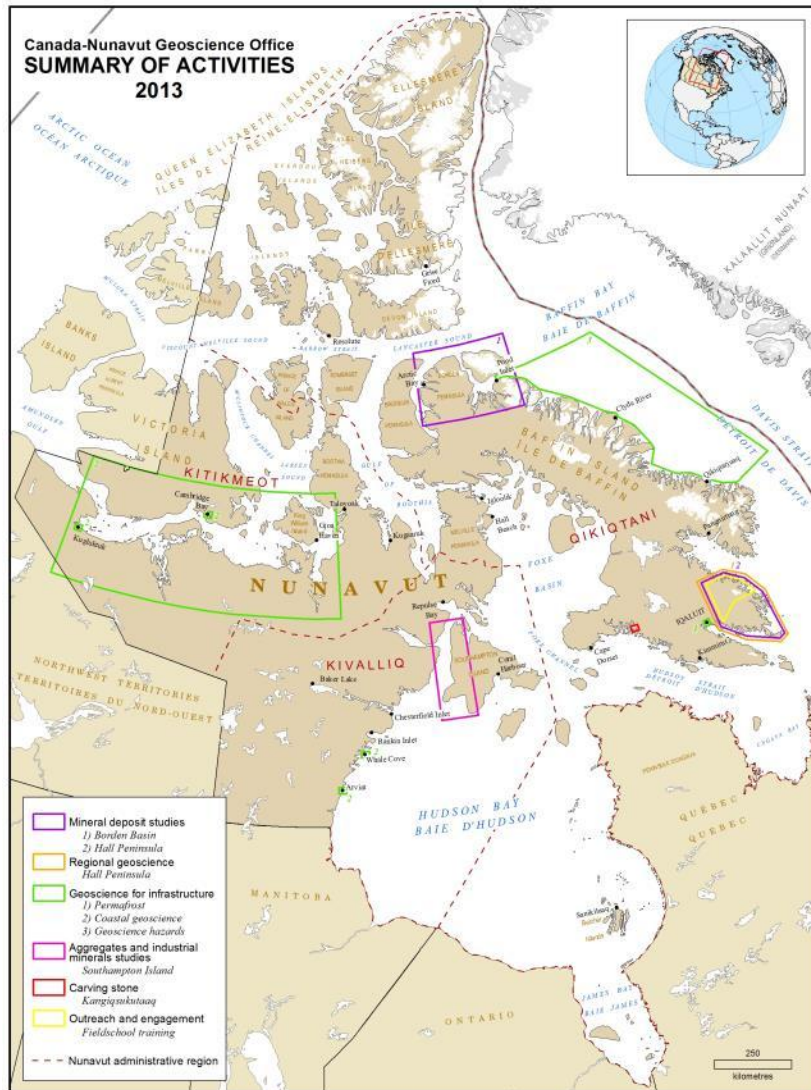
22 papers published in 2013

Sections

1. *Mineral Deposit Studies*
2. *Regional Geoscience*
3. *Geoscience for Infrastructure*
4. *Carving Stone*
5. *Aggregate and Industrial Minerals*
6. *Education and Outreach*

**New series released –
*Geoscience Data Series***

Geoscience Program (2013-2014)



Project Areas:

Mineral District and Mineral Deposit Studies

Regional Geoscience

Protecting Investments in Infrastructure

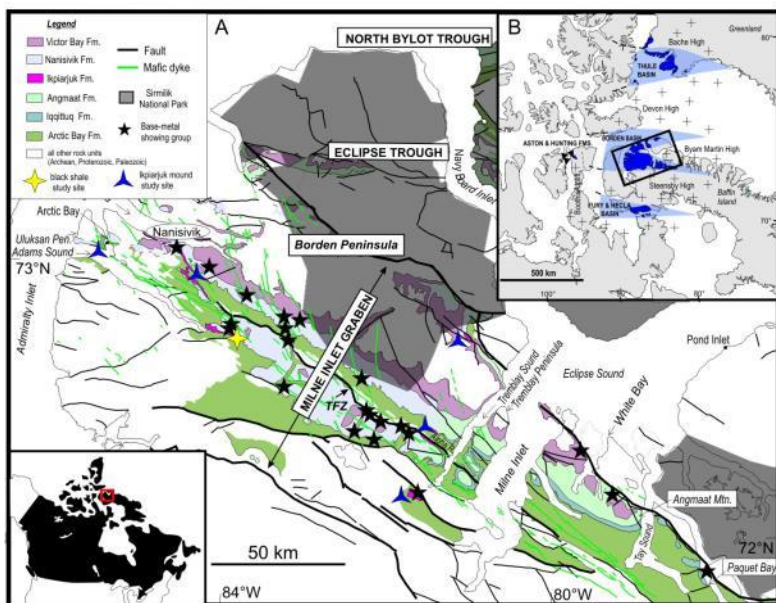
Carving Stone

Aggregate Studies and Industrial Minerals

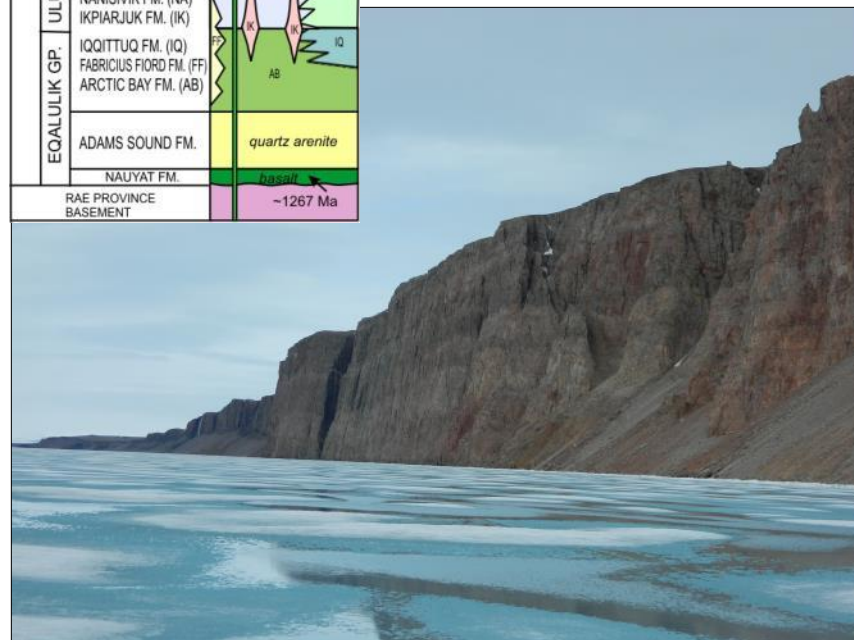
Mineral District and Mineral Deposit Studies

Mesoproterozoic Borden Basin

Collaboration with: Laurentian University



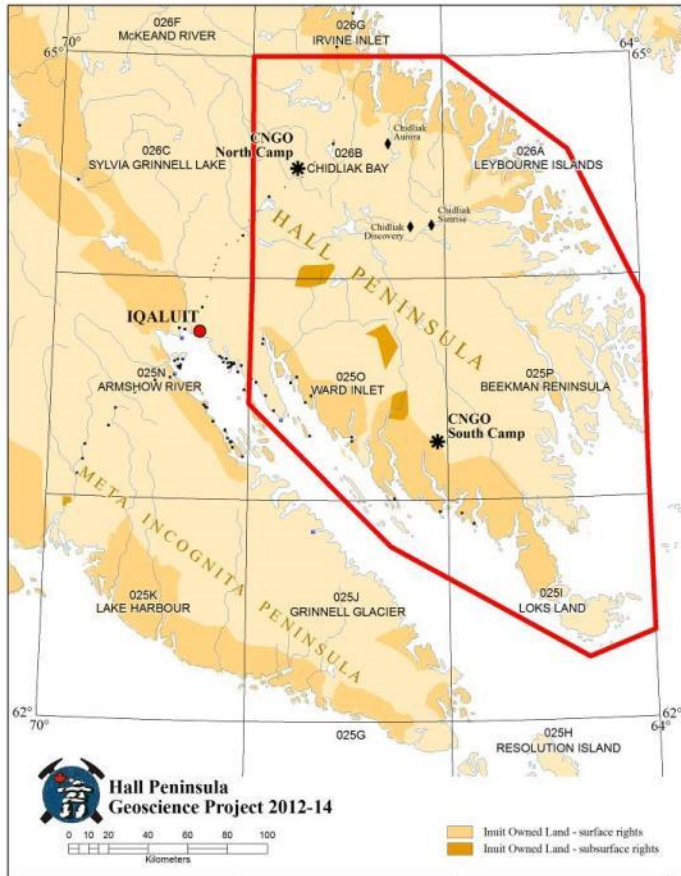
BYLOT SUPERGP.	NUNATSIAQ GP.	SINASIUVIK FM.	FRANKLIN DYKES ~720 Ma sandstone
		AQIGILIK FM.	sandstone
		STRATHCONA SOUND & ATHOLE POINT FMS.	sandstone
ULUKSAN GP.	VICTOR BAY FM.	shale; limestone	Nanisivik
		ANGMAAT FM. (AT) NANISIVIK FM. (NA) IKPIARJUK FM. (IK)	
EQALULIK GP.	IQQITTUQ FM. (IQ) FABRICIUS FIORD FM. (FF) ARCTIC BAY FM. (AB)		
		ADAMS SOUND FM.	quartz arenite
		NAUYAT FM.	basalt
RAE PROVINCE BASEMENT			~1267 Ma



Ikpiarjuk Formation mounds and the composition of the vent fluid that formed them. Potential for SEDEX deposits.

Regional Geoscience

Hall Peninsula Integrated Geoscience Program



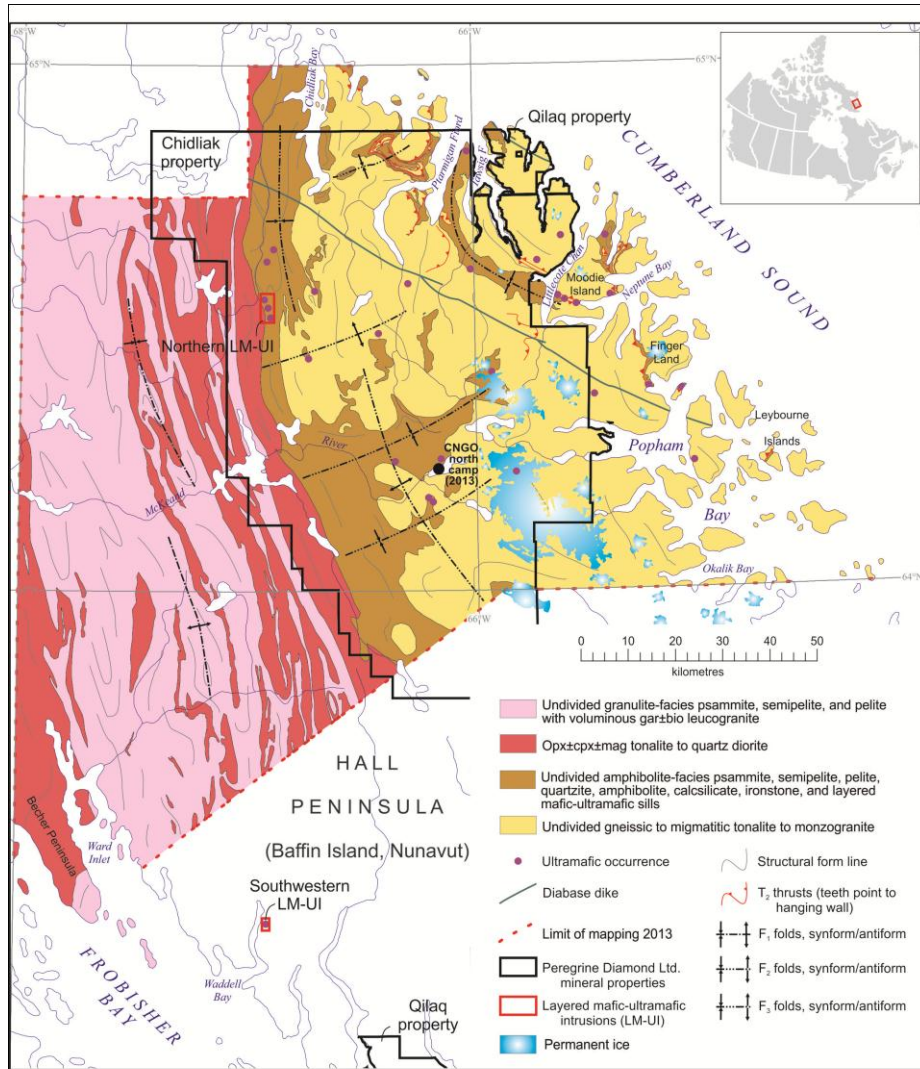
Sunrise Camp,
Hall Peninsula, NU

Cooperation with:
Peregrine Diamonds
and DeBeers



Collaboration with:
U of Alberta
U of Ottawa
Dalhousie
Laval
U of Saskatchewan
U of Manitoba
Waterloo
Nunavut Arctic College
GSC

Hall Peninsula - Bedrock



Layered Mafic Intrusions



Carving Stone

Hall Peninsula – Public Talk



Understanding Carving Stone and Mineral Potential on Southern Baffin Island Through Geoscience Mapping

a presentation by

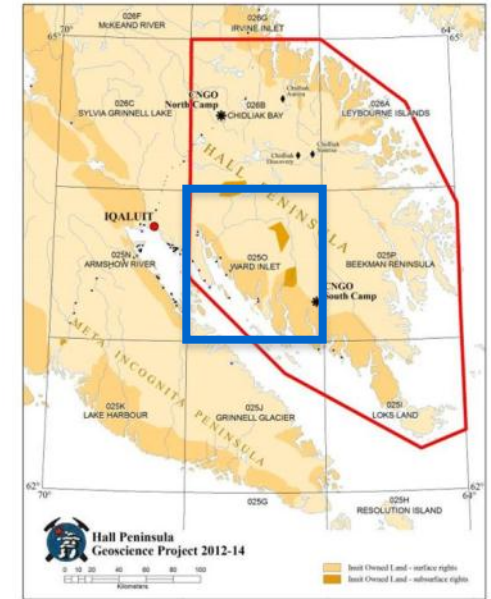
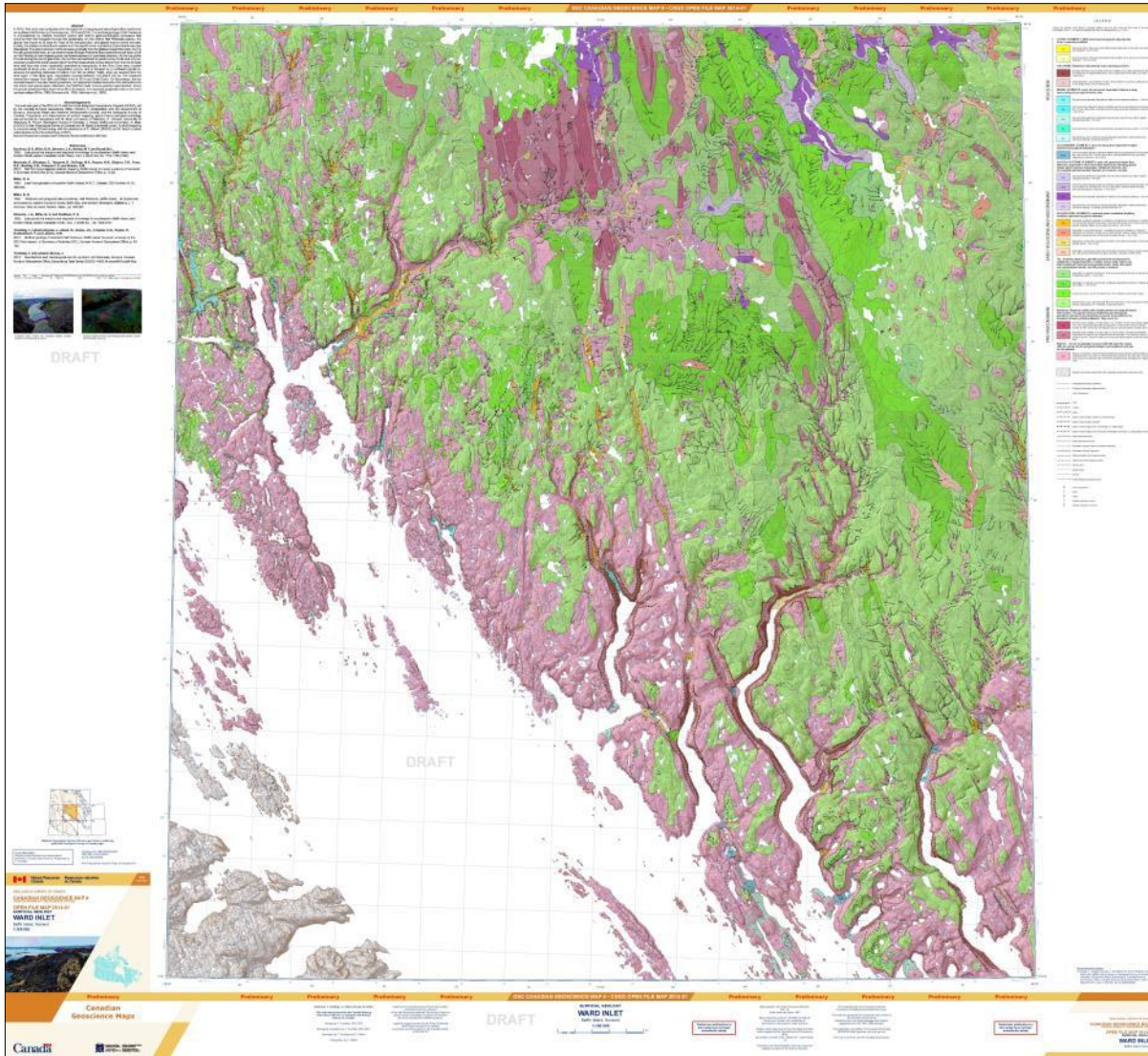
Holly Steenkamp

Wednesday, April 9

7:00 pm

Nunavut Research Institute(959-A)

Hall Peninsula - Surficial

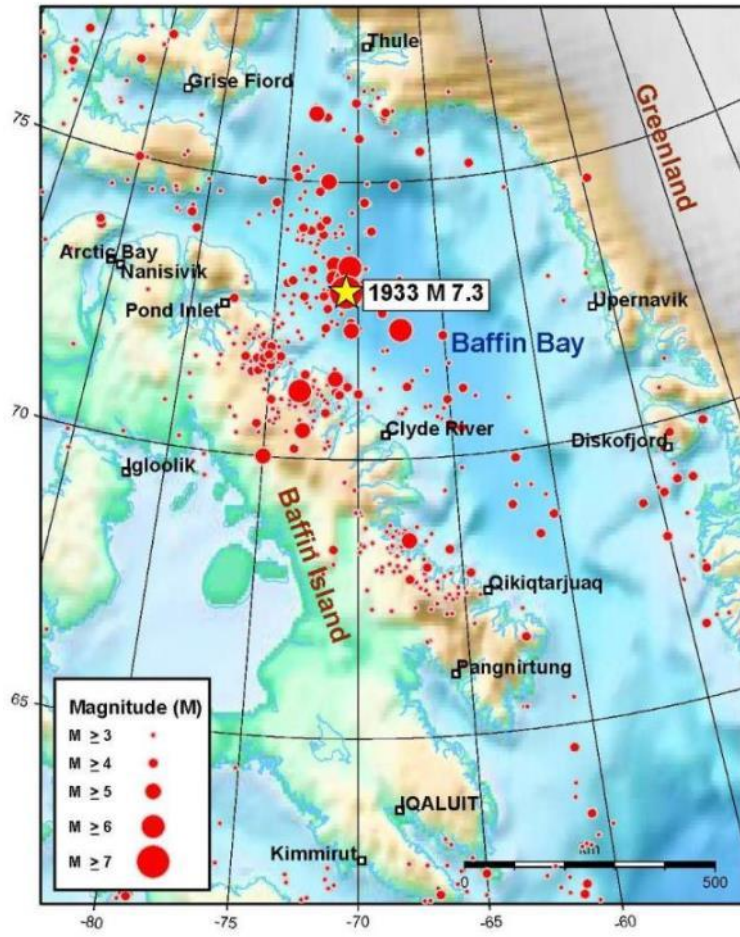


New 1:100 000 scale mapping being completed (250).

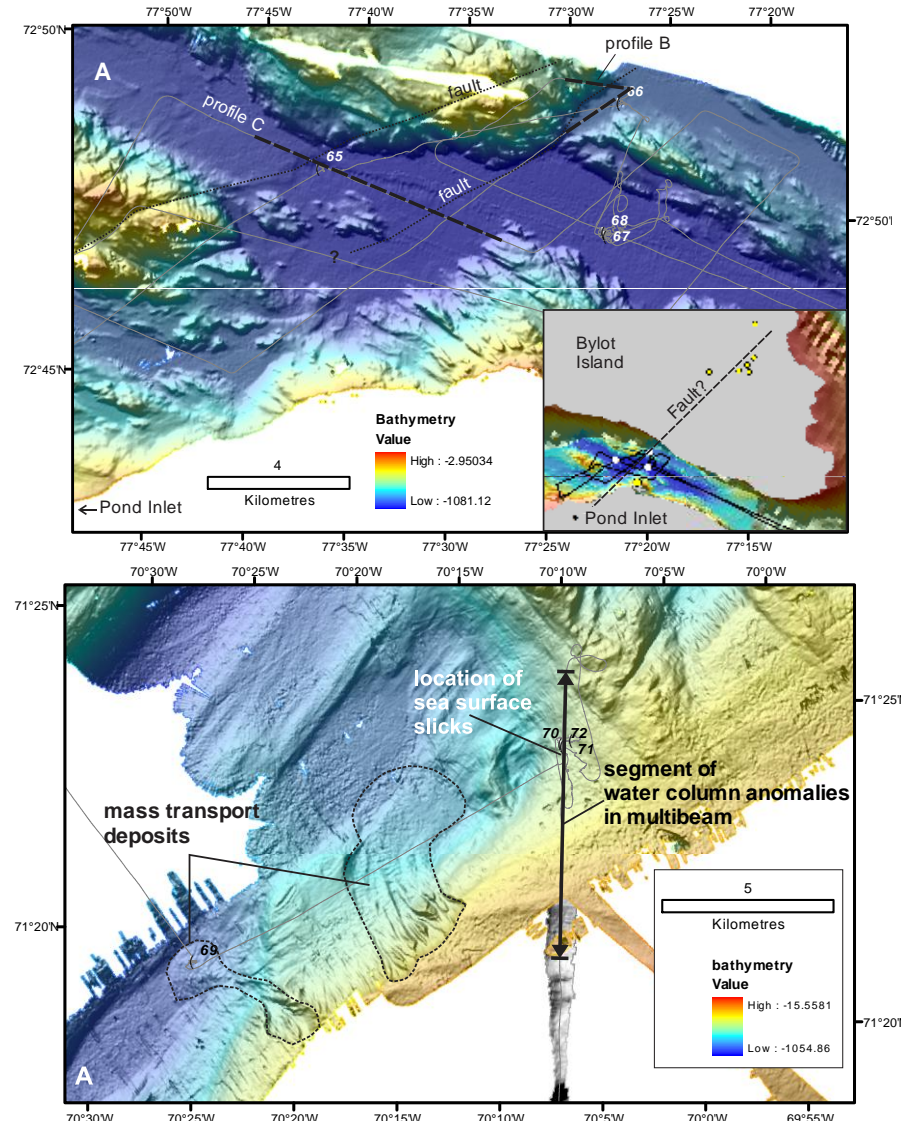
Till geochemistry, ice flow and glacial erosion studies.

New kimberlite dike discovered (CH-64)

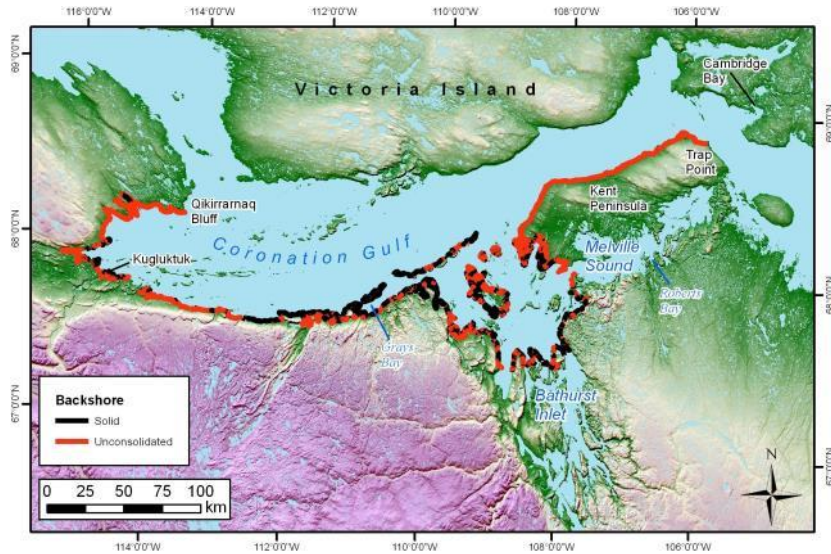
Protecting Investments in Infrastructure



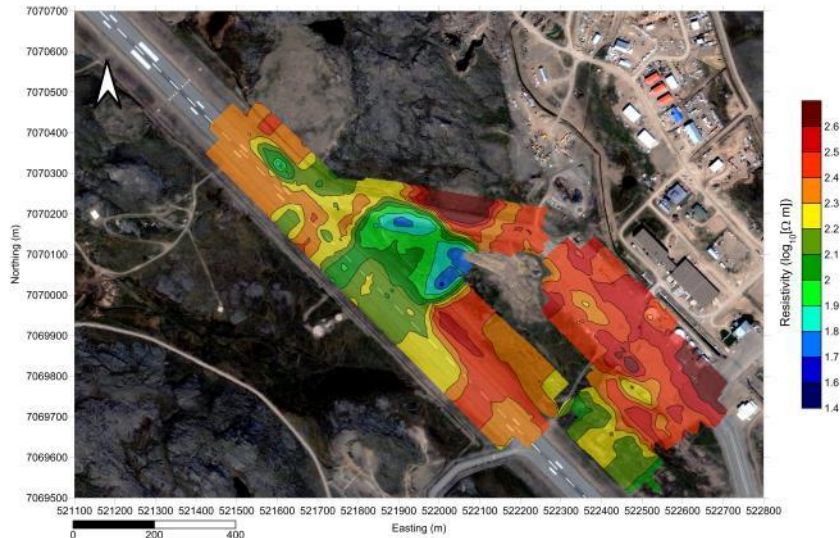
Collaboration with ESS Public Safety Geoscience Program



Protecting Investments in Infrastructure



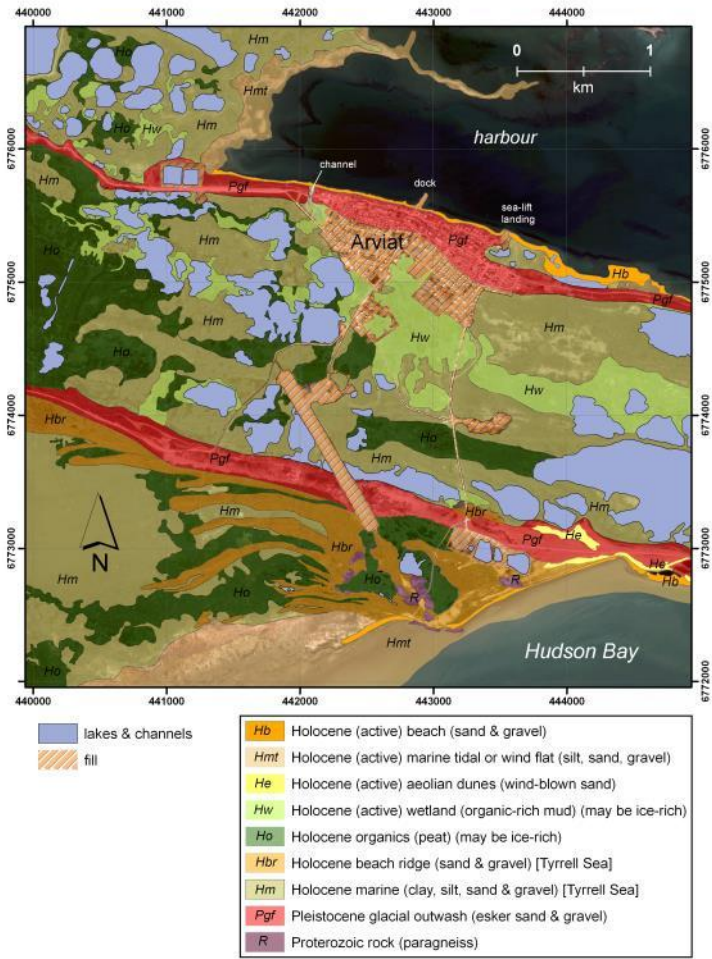
Coastal climate change issues with an emphasis on coastal mapping in southern Coronation Gulf and sea-level change in Hudson Bay.



Better characterize permafrost conditions and processes at the Iqaluit airport.

Collaboration with ESS Climate Change Geoscience Program and Canadian Universities

Protecting Investments in Infrastructure

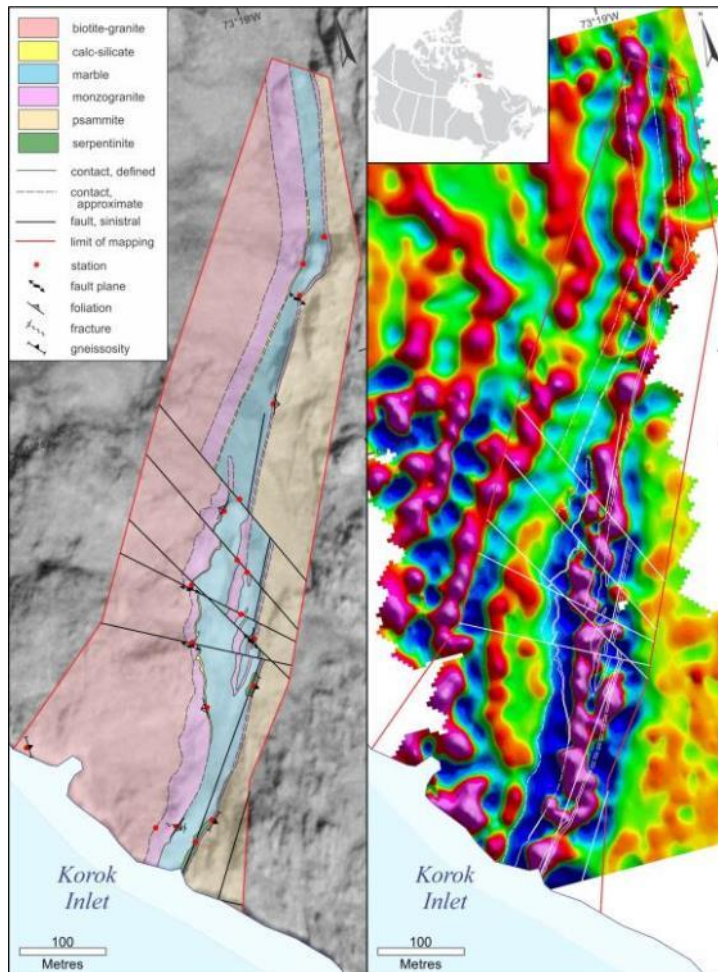


Nunavut Climate Change Partnership

Carving Stone

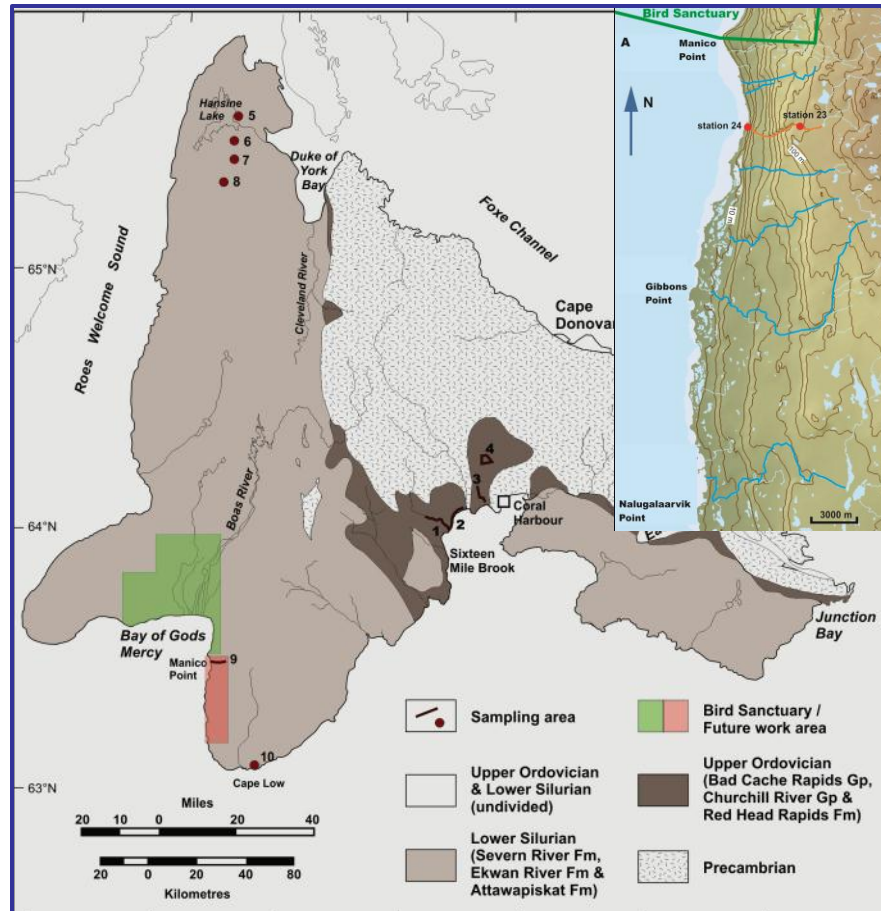


Kangiqsukutaaq (Korok Inlet)



**QIA, CNGO, GN
and DeBeers
Canada
collaboration**

Aggregate and Industrial Minerals



Capacity Building and Training

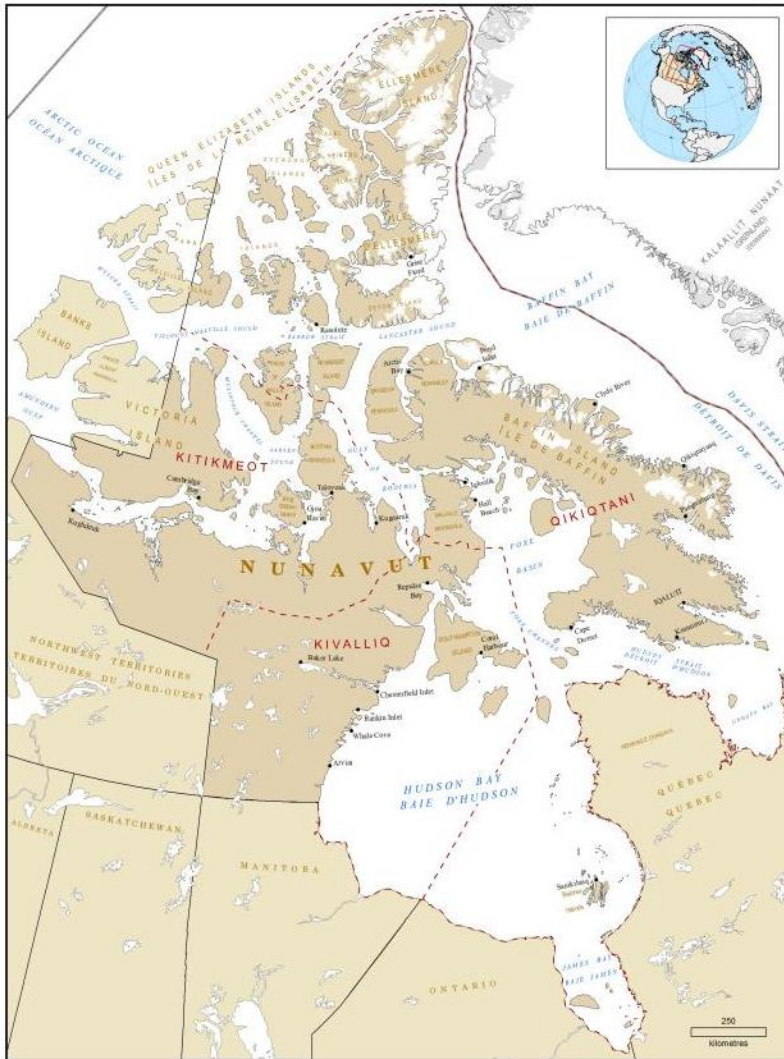
- Arctic College – 4
 - Camp Cook Program: 2
 - Environmental Technology: 2
- PhD Students - 3
- MSc Students - 5

- Nunvaut Field School

- Local Businesses



Future Work



CNGO Program

Geoscience for Responsible Resource Development

Geoscience for Protecting Communities and Infrastructure

Geoscience for Capacity Building and Training

Geoscience Data Dissemination

GEM 2

Conclusion

The Canada-Nunavut Geoscience Office is co-managed with an ambitious geoscience program.

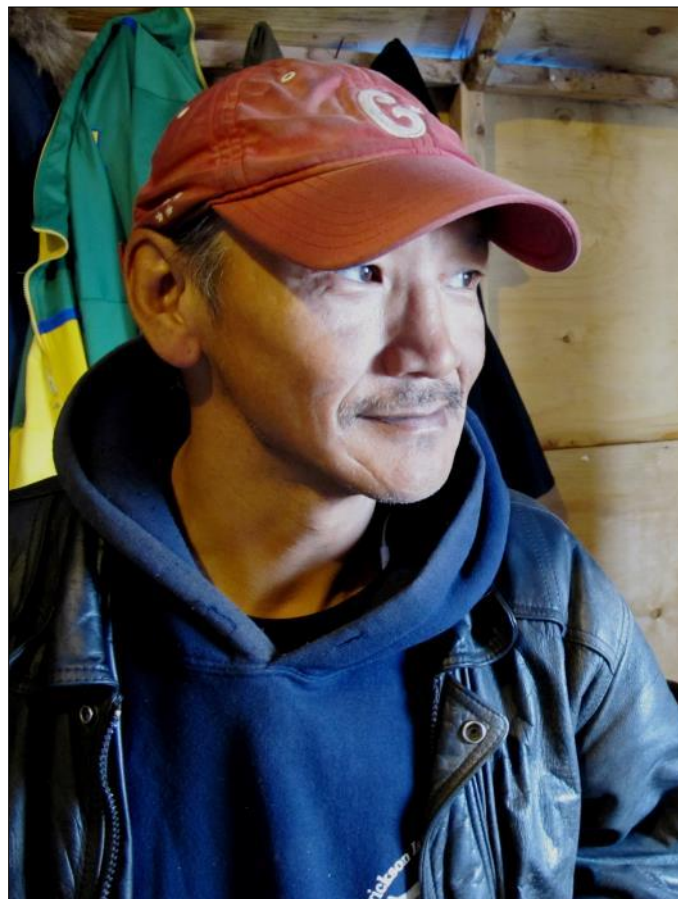
Interested in input from industry, communities, regulators and governments regarding a new Nunavut geoscience program.



Memoriam



Dr. Eric Prosh – (1957 – 2013)



Mannasie Qillaq – (1966 – 2013)