

Project Dashboard

Geology Research in Baffin Bay : REDUCING RISK TO COASTAL COMMUNITIES AND

OFFSHORE INFRASTRUCTURES CAUSED BY MARINE GEOHAZARDS AND SEISMICITY

(149732)

Proposal Status: Conformity Determination Issued

- **Overview**
- Documents
- Correspondence
- Questionnaire

Project Overview

Type of application: **Renewal**

Proponent name:	Alexandre Normandeau
Company:	Natural Resources Canada

Schedule:

Start Date:	2019-08-01
End Date:	2019-09-30
Operation Type:	Annual

Project Description:

The proposed expedition would take place in August or September 2022, depending on vessel availability. The expedition is part of the Geological Hazards in Baffin Bay Activity within the Public Safety Geoscience (PSG) Program of the Geological Survey of Canada, which began in 2012, and is partly funded by NRCan, CIRNAC and ArcticNet. To date, the activity has resulted in research expeditions in 2013 (NPC 148842, NIRB 13YN021) and 2018 (NPC 148842, NIRB 13YN021) and in 2019 (NPC 149732), as well as community engagement meetings in 2013, 2014, 2015, 2016, and 2019. Information collected during this project will help support community and government decisions on use of offshore areas and provide communities with better knowledge for improving public safety. The proposed research expedition would take place in and around the community of Grise Fiord and Mittie Glacier. The major goals of this proposed research for 2022 would be: -To investigate the stability of the seabed in fjords near Grise Fiord. New imagery of the seabed shows that submarine landslides have occurred in several locations. Baffin Bay experiences a number of earthquakes and iceberg groundings which can trigger submarine landslides. Our research will help to determine the risk for a large submarine landslide happening in the future. -Coring and mapping of coastal environments would allow us to collect evidence of past tsunamis affecting the shoreline, similar to the 2017 Greenland tsunami. In addition, digging in coastal areas may take place using shovels to observe if tsunamis have occurred in the past near the villages. During this type of expedition, we typically collect seabed sediment samples (2 m long gravity cores), seafloor photographs and video, information about the shape of the seabed, and sub-bottom imaging. These instruments will be the same as those used during the 2013, 2018 and 2019 expeditions. The research would take place onboard the Government of Nunavut vessel Nuliajuk. If this project is accepted, the research ship is available in August or September. Research results will be reported back during community visits after the conclusion of the field season or directly following the cruise and will be made publicly available. Results will also be presented at workshops in the North, at science conferences (ArcticNet) and will result in publications in various scientific journals, reports and plain language documents over the months and years following the project.

Personnel:

Persons:	9
Days:	15

Project Map

List of all project geometries:

ID	Geometry	Location Name
8602	polygon	Grise Fiords
8603	polygon	Smith Bay
8604	polyline	Transit

Planning Regions:

Kivalliq

Affected Areas and Land Types

Inuit Owned Surface Lands

Municipal

Settlement Area

North Baffin Planning Region

Project Land Use and Authorizations**Project Land Use**

Scientific Research

Marine-Based Activities

Scientific Research

Licensing AgenciesNIRB: [Screening Decision Report](#)NRI: [Scientific Research Licence](#)**Other Licensing Requirements**

No data found.

Material Use**Equipment**

Type	Quantity	Size	Use
Gravity corer	1	6' X 4"	Collect sediment samples
R/V Nuliajuk	1	62'	Research Vessel
Multibeam echosounder	1	attached to ship	Seabed imaging
3.5 kHz echosounder	1	attached to ship	Seabed imaging

Fuel Use

Type	Container(s)	Capacity	UOM	Use
Diesel	1	0	Liters	Fuel for ship (self-contained on vessel)

Hazardous Material and Chemical Use

Type	Container(s)	Capacity	UOM	Use
Hydraulic oil	1	3	Liters	for ship operations

Water Consumption

Daily Amount (m ³)	Retrieval Method	Retrieval Location
2	Desalinization by reverse osmosis onboard ship	offshore

Waste and Impacts

Environmental Impacts

No anticipated environmental impacts

Waste Management

Waste Type	Quantity Generated	Treatment Method	Disposal Method
Sewage (human waste)	0	None	All wastes stored onboard until returned to home port for disposal
Greywater	0	None	All wastes stored onboard until returned to home port for disposal