

**NIRB Uktuutinga Ihivriughikhamut #125260**

## MAP (Multidisciplinary Arctic Program) - Last Ice

<b>Uuktuutinga Qanurittuq:</b>	New
<b>Havaap Qanurittunia:</b>	Scientific Research
<b>Uuktuutinga Ublua:</b>	1/31/2018 1:44:07 PM
<b>Period of operation:</b>	from 0001-01-01 to 0001-01-01
<b>Piumayaat Angirutinga:</b>	from 0001-01-01 to 0001-01-01
<b>Havauhikhaq Ikayuqtinga:</b>	Freshwater Institute, Christine Michel Freshwater Institute, Christine Michel Fisheries and Oceans Canada, 501 University Crescent, Winnipeg, MB R3T 2N6, Phone: 204-984-8726, Email: christine.michel@dfo-mpo.gc.ca Winnipeg Manitoba R3T 2N6 Canada Hivayautit Nampanga:: 204-984-8726, Kayumiktukkut Nampanga:: 204-984-2403

**OANURITTUT**

**Tukihiannaqtunik havaariyauyumayumik ugauhiuyun**

**Qablunaatitut:** The general objective of this project is to better understand the sea ice ecosystem in the northern Canadian Archipelago, in particular the old multiyear ice. Because this old ice is disappearing from the Arctic and changing into thinner annual ice, this has many impacts on the ecosystem. The study will take place on the sea ice off Alert, during the spring of 2018, from end of April to beginning of June. We will use snowmobiles to go a station on the sea ice where ice conditions are safe (see map for tentative location). We will have a temporary shelter tent on the ice; which will be used to process sea ice and water samples. At the station, we will collect sea ice cores and cut them in sections for analysis of the ice conditions. We will also collect water samples using sampling bottles and measure salinity and biological conditions. We will use oceanographic instruments to measure the properties (temperature, salinity) of the water column. We also plan to install instrumentation to measure meteorological conditions, ocean currents, and zooplankton during the spring.. Twice during the study, we will carry out marine mammal surveys using a Twin Otter. The surveys will help identify the use of the sea ice by seals and polar bears. At the end of the spring field season, we will remove all the equipment installed on the ice, including temporary shelter. We plan to return to the station in the fall to deploy the same oceanographic instruments and have measurements until the next spring. We are planning to continue this study over subsequent years, in 2019-2020, to assess year-to-year changes in conditions. The results of this study are needed to better understand the sea ice ecosystem and how it will respond to climate change. This is important since many Arctic marine species depend on the sea ice.

Uiviititut: n/a

[illegible]

Inuinnaqtun: n/a

## Personnel

Personnel on site: 6

Days on site: 35

Total Person days: 210

Operations Phase: from 2018-04-21 to 2018-05-28

## Hulilukaarutit

### Hulilukaarutit

Inigiya	Hulilukaarut Qanurittuq	Nunannga Qanurittaakhaanik	Initurlinga qanuritpa	Initurlinga utuqqarnitat unaluuniit Ingilraaqnitat Uyarannuqtut akhuurninnga	Qanitqiyauyuq qanitqiamut nunallaat kitulluuniit ahiruqtailiyainnit nuna
OffshoreAlert	Aerial surveys	Marine	no site history, on the ice off Alert	n/a	Near Quttinirpaaq National Park; no close community; nearest communities are Resolute Bay and Grise Fjord
OffshoreAlert	Sampling sites	Marine	no site history, on the ice off Alert	n/a	Near Quttinirpaaq National Park; no close community; nearest communities are Resolute Bay and Grise Fjord
OffshoreAlert	Baseline data	Marine	no site history, on the ice off Alert	n/a	Near Quttinirpaaq National Park; no close community; nearest communities are Resolute Bay and Grise Fjord

### Nunaliin Ilauyun, Aviktuqhimayuniitunullu Ikayuuhiarunguyun

Nunauyuq	Atia	Timiuyuq	Upluani Uqaqatigiyaungmata
Qausuittuq	Nancy Amarualik / Philip Manik Sr	Resolute HTA	2017-12-21
Ausuittuq	Terry Noah	Iviq HTA	2017-12-20

## Angiuttauvaktunik

### Naunaiqlugu nunanga talvani havauhikhaq ittuq

#### Angiuttauvaktunik

Munariniqmut Ayuittiaqtuq	Angirutinga Qanurittuq	Tadja Qanurittaakhaanik	Ublua Tuniyauyuq/Uuktuqtuq	Umikvikhaa Ublua
Information is not available				

### Project transportation types

Transportation Type	Qaffiuyut	Qanuq Atuqtauniarmangaa	Length of Use
Air	0	for marine mammal surveys (30h Twin Otter flight in total)	
Water	0	on ice, by snowmobile, to sampling site	

### Project accomodation types

Temporary Camp

Alaanut,

## Ihuaqutivaluin Atuqtauyukhan

Hanalrutit atuqtaunahuat (ukuallu ikuutat, pampiutainnik, tingmitinik, akhaluutitik, hunaluuniit)

Hanalrutit Qanurittuq	Qaffiuyut	Aktikkulaanga – Qanurittullu	Qanuq Atuqtauniarmangaa
snowmobiles	3	regular	regular travel to-from sampling site - Alert
Twin Otter	1	regular	for marine mammal surveys (30 h total)
ice corer	2	9 cm diam	to collect sea ice cores
ice auger	1	8/10 in diam	to auger in the ice and collect water samples
weather haven tent	1	12 x 20	for temporary shelter on ice
generator	1	2.2	to power scientific equipment at station

## Qanurittuq Urhuqyuaq unalu Qayangnaqtut Hunavaluit Aturninnga

Qanurittuq urhuqyuaq hunavaluit aturninnga:	Urhuqyuaq Qanurittuq	Qaffiuyut qattaryut	Qattaryuk Aktikkulaanga	Atautilmut Qaffiuyut	Ilanga	Qanuq Atuqtauniarmangaa
Propane	fuel	1	20	20	Lbs	for stove/heat in temporary shelter
Diesel	fuel	1	45	45	Gallons	for heat for temporary shelter
Gasoline	fuel	1	5	5	Gallons	for generator and snowmobiles

## Imaqmik Aturninnga

Ubluq qanuraaluk (m3)	Aturumayain imavaluin utiqittagani qanuq	Atulirumayain imavaluin utiqittagani humi
0	drinking water will be carried to the field station from Alert station	Alert station will provide drinking water

## Iqqakuq

### Ikkakunik Munakgiyauyunik

Havaubikhaq Hulilukaarut	Qanurittuq Iqqakut	Ihumagiyauyuq Qanuraaluktut Atuqtait	Qanuq Iqqakuurniarmangaa	Halummaqtirarnirutikhan piyutin
Researching	Ikulalaaqtun iqqakuuvaluin	negligible	combustible waste will be brought back and disposed of at Alert station	standard procedure at Alert station
Researching	Qimarivyaktutq imaq	negligible	grey water will be brought back and disposed of at Alert station	standard disposal procedure at Alert station
Researching	Anaagun (inuin anaaguin)	negligible	human waste will be brought back to Alert station for disposal	standard procedure at Alert station

## Avatiliriniqmut Ayurhauingit:

- aerial surveys are done offshore of Alert. We don't know the abundance of fauna in this region as the surveys will be the first in this region. Potential impacts of noise are minimized by carrying surveys at altitude to minimize noise while maintaining scientific relevance, and by minimizing survey time (and keep minimum acceptable coverage). - the region is far from communities, therefore there are no impacts for local hunters or communities - disturbance to the ice site is kept to minimum. We do not stay on the ice for long periods,

only for day trips. All equipment is removed after field program, all waste is brought back to Alert. - potential impact of noise/disturbance to fauna at sampling site. We don't know the abundance of fauna and their use of the site. Noise will be kept to minimum by using augers and generator for only short periods. - Disturbance to the ice is kept to minimum by putting back ice core sections in ice holes after finishing coring. Ice refreezes within a few hours/days after sampling. - Potential impact of noise during transit to /from ice by snowmobile is minimized by travelling in group (travel once rather than many trips by different people)

## **Additional Information**

### **SECTION A1: Project Info**

### **SECTION A2: Allweather Road**

### **SECTION A3: Winter Road**

### **SECTION B1: Project Info**

### **SECTION B2: Exploration Activity**

### **SECTION B3: Geosciences**

### **SECTION B4: Drilling**

### **SECTION B5: Stripping**

### **SECTION B6: Underground Activity**

### **SECTION B7: Waste Rock**

### **SECTION B8: Stockpiles**

### **SECTION B9: Mine Development**

### **SECTION B10: Geology**

### **SECTION B11: Mine**

### **SECTION B12: Mill**

### **SECTION C1: Pits**

### **SECTION D1: Facility**

### **SECTION D2: Facility Construction**

### **SECTION D3: Facility Operation**

### **SECTION D4: Vessel Use**

### **SECTION E1: Offshore Survey**

### **SECTION E2: Nearshore Survey**

### **SECTION E3: Vessel Use**

### **SECTION F1: Site Cleanup**

**SECTION G1: Well Authorization**

**SECTION G2: Onland Exploration**

**SECTION G3: Offshore Exploration**

**SECTION G4: Rig**

**SECTION H1: Vessel Use**

**SECTION H2: Disposal At Sea**

**SECTION I1: Municipal Development**

**Qanurittuq Ittunik Avatinga: Avatingalluanga**

**Qanurittuq Ittunik Avatinga: Inuuhimayunut Avatinga**

**Qanurittuq Ittunik Avatinga: Inungit-maniliurutingit Avatinga**

**Naunaiyainiq ukuninnga Ayurhautingit unalu Piumayaat Ikikliyuumiutinahuarutit**

**Tamatkiumayunik Ihuikgativaktunik**

## Impacts

## Ilitariyauniq Avatiliriniqmut Ayurhautingit

Havakvinga																									
-		-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-
Aulapkaininnga																									
Sampling sites		-	-	-	-	-	-	-	-	-	-	-	N		-	-	-	-	-		-	-	-	-	-
Piiqtauniq																									
-		-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-

(P = Nakuuyuq, N = Nakuungittut unalu mikhilimaittuq, M = Nakuungittut unalu mikhittaaqtuq, U = Naluyauyuq)