Project Dashboard

Instability of permafrost landscapes from climate change and the hydrological implications to high Arctic watersheds. (149481)

Proposal Status: Conformity Determination Issued

Project Overview

Type of application: **New**

Proponent name:	Kethra Campbell-Heaton
Company:	University of Ottawa

Schedule:

Start Date:	2021-06-01
End Date:	2023-08-31
Operation Type:	Annual

Project Description:
This application is for a PhD research project. This project aims to understand the effects of climate-induced permafrost thaw in two adjacent high Arctic watersheds on water budget and water quality affected to varying degrees by permafrost degradation. The two watersheds are located near the Eureka Weather Station on Ellesmere Island in a polar desert environment with continuous cold permafrost. The study is holistic and will employ the critical zone science approach to determine the energy and water flux transfer between the various components from the top of permafrost to the top of the vegetation cover.

Personnel:

Persons:	2
Days:	80

Project Map

List of all project geometries:

ID	Geometry	Location Name
7109	polygon	Eureka Region

Planning Regions:
Kivalliq
Affected Areas and Land Types
Settlement Area
North Baffin Planning Region

Project Land Use and Authorizations

Project Land Use
Scientific Research
Airport
Temporary Structures
Licensing Agencies
NRI: Scientific Research Licence
Other Licensing Requirements
No data found.

Material Use

Equipment

Type	Quantity	Size	Use
All Terrain Vehicle	2	4x3x3 ft	To access study sites

Fuel Use

Type	Container(s)	Capacity	UOM	Use
Gasoline	1	220	Liters	Used to run the ATVs; this is provided by the Polar Continental Shelf Project, we will not need the entire container.

Hazardous Material and Chemical Use

Type	Container(s)	Capacity	UOM	Use
No records found.				

Water Consumption

Daily Amount (m^3)	Retrieval Method	Retrieval Location
0.3	The taps from the weather station	Eureka Weather Station

Waste and Impacts

Environmental Impacts

Will be using the Eureka Weather Station facilities to dispose of waste and collect water. Thus, we expect no new environmental impacts to arise from this project. The weather station is already in place with good waste management practises. The Eureka Airport will be used infrequently, only when arriving and departing Eureka. ATVs and walking will be the primary method of transport, these will be provided by PSCP and will be removed at the end of the season. Temporary structures (Polar and Weather Havens) will be used for shelter, these are temporary structures installed by PCSP over 5 years ago. Camp garbage will be disposed at the Eureka Weather station where they are equipped to dispose of this garbage at a minimal impact to the environment.

Waste Management

Waste Type	Quantity Generated	Treatement Method	Disposal Method
Sewage (human waste)	6lbs/ per person/ per week	Not necessary.	At the Eureka Weather Station. They already have the infrastructure

			in place to dispose of human waste safely and at minimal impact to the environment.
Non-Combustible wastes	1 bag/ week	In addition we will maintain an litter-free site.	At the Eureka Weather Station, they have the infrastructure to dispose of this waste safely and at a minimal impact the environment.