



NIRB Uuktuutinga Ihivriuqhikhamut #125922

Carbon measurement in Taloyoak

Uuktuutinga Qanurittuq:	New
Havaap Qanurittunia:	Scientific Research
Uuktuutinga Ublua:	3/19/2024 11:19:23 AM
Period of operation:	from 2024-06-24 to 2024-06-28
Havauhikhaq Ikayuqtinga:	Clare Colleen Wark WWF-Canada 410 Adelaide St W Toronto Ontario M5V 1S8 Canada Hivayautit Nampanga:: 9059127309, Kayumiktukkut Nampanga::

QANURITTUT

Tukihiannaqtunik havaariyaumayumik uqauhiyun

Qablunaatitut: Healthy ecosystems provide a variety of valuable ecosystems services such as climate regulation, water purification and nutrient cycling. Their ability to absorb and store atmospheric carbon is of particular interest for further emphasizing their need for protection and thoughtful management under a changing climate. Current models of carbon stocks at national and international scales rely on a small subset of data extrapolated to the entirety of the Arctic to quantify carbon in remote areas. However, there is concern that these models may be underestimating total carbon storage in the Arctic, which could result in unintended consequences for their relative protection and management in nationwide systematic planning exercises. Moreover, assessing carbon storage and sequestration of permafrost ecosystems will provide greater understanding of the impacts on and opportunities for Indigenous communities, and support the development of long-term climate change mitigation and adaptation strategies. WWF-Canada is looking to fill data gaps in the Arctic by conducting soil carbon measurement in Taloyoak, Nunavut. These in-field measurements will then be used to assess whether current carbon models are underestimating the carbon stored in the region. From June 24-28, 2024, we will take a total of nine soil core samples (1-2m depth) within a 25-kilometer radius of town. The Taloyoak Guardians will support the research by providing local knowledge and transportation. WWF-Canada can also provide soil sample training, if interested. A permafrost corer will be used to collect samples, which will be transported to coolers to keep samples fresh for lab analysis. Following field work, the samples will be processed in a lab to determine the total carbon stock and carbon density of the soils. We do not anticipate impacts of the research on the environment, wildlife or people, and commit to taking every precaution to ensure a sustainable and ethical approach. The data generated by the research will be stored and managed by WWF-Canada on secure servers. WWFCanada has a longstanding partnership with TUA. The data and results will be shared directly with the staff and board of directors of TUA in in-person meetings for their independent use of the information for landuse planning and advancing the Aqviqtuuq Inuit Protected and Conserved Area project. The research results will also be shared with community partners in subsequent community visits that are team frequently conducts.

Uiviititut: Les écosystèmes en santé supportent un grand nombre de services écosystémiques, incluant la régulation climatique, la purification de l'eau et le cycle des nutriments. Leurs capacités d'absorber et de stocker le carbone atmosphérique est d'intérêt particulier afin de souligner leurs besoins de protection et de gestion appropriée dans un climat changeant. Les modèles actuels de stock de carbone aux échelles nationales et internationales dépendent d'un petit nombre de données extrapolées à toute l'arctique pour quantifier le montant de carbone dans ces régions éloignées. Cependant, on craint que ces modèles sous-estiment le stockage de carbone dans l'arctique, qui pourrait entraîner des conséquences imprévues sur leur protection et gestion lors d'exercices de planifications systématiques à l'échelle nationale. De plus, l'évaluation du stockage et de la séquestration du carbone dans des écosystèmes de pergélisol mènera à une meilleure compréhension des impacts sur et des opportunités pour les communautés autochtones, et pourra supporter le développement de stratégies d'atténuation et d'adaptation aux changements climatiques. WWF-Canada cherche à combler ce manque de données dans l'arctique en mesurant le carbone du sol à Taloyoak, Nunavut. Les échantillons pris sur le terrain serviront à déterminer si les modèles actuels sous-estiment le montant de carbone stocké dans cette région. Du 24 au 28 juin, 2024, nous prélèverons un total de neuf carottes de sol (mesurant 1 à 2m chaque) dans un rayon de 25km du village. Les Gardiens de Taloyoak supporteront la recherche en fournissant leurs connaissances locales et le transport. WWF-Canada peut aussi fournir une formation sur les méthodes d'échantillonnage, s'il y a intérêt. Un dispositif de carottage du pergélisol sera utilisé afin de prélever les échantillons, qui seront transporté dans des glacières afin qu'ils demeurent complets jusqu'à l'analyse en laboratoire. Suivant le travail de terrain, les échantillons seront traités en laboratoire afin de déterminer le stock total de carbone et la densité du carbone dans les sols. Nous anticipons aucun impact sur l'environnement, la faune ou les personnes, et nous sommes engagé à prendre toutes les précautions nécessaires afin d'assurer une approche durable et éthique. Les données générées par la recherche seront stockées et gérées par WWF-Canada sur des serveurs sécurisés. WWF-Canada a un partenariat de longue date avec TUA. Les données et les résultats de l'analyse seront partagés directement avec les employés et le conseil

Inuktitut:

Personnel

Operations Phase: from 2024-06-24 to 2024-06-28

Hulilukaarutit

Inigiya	Hulilukaarut Qanurittuq	Nunannga Qanurittaakhaanik	Initurlinga qanuritpa	Initurlinga utuqqarnitat unaluuniit Ingilraaqnitat Uyaranguqtut akhuurninnga	Qanitqiyauyuq qanitqiamut nunallaat kitulluuniit ahiruqtaliyainnit nuna
SA1- Site 1	Sampling sites	Municipal	N/A for this project	N/A for this project	9.8km to Taloyoak
SA1-Site2	Sampling sites	Municipal	N/A	N/A	10.6km to Taloyoak
SA1-Site3	Sampling sites	Municipal	N/A	N/A	9.3km to Taloyoak
SA2-Site1	Sampling sites	Municipal	N/A	N/A	5.2km to Taloyoak
SA2-Site 2	Sampling sites	Municipal	N/A	N/A	6.7km to Taloyoak
SA2-Site3	Sampling sites	Municipal	N/A	N/A	5.2km to Taloyoak
SA3-Site1	Sampling sites	Municipal	N/A	N/A	7.7km to Taloyoak
SA3-Site2	Sampling sites	Municipal	N/A	N/A	7.2km to Taloyoak
SA3-Site3	Sampling sites	Municipal	N/A	N/A	5.4km to Taloyoak

Nunaliin Ilauyun, Aviktuqhimayuniitunullu Ikayuuhiarunguyun

Nunauyuq	Atia	Timiuyuq	Upluani Uqaqatigiyaungmata
Taloyoak	Jimmy Ullikatalik	Taloyoak Umarulirigut Association (TUA)	2024-03-06
Taloyoak	Abel Aqqaq	Inuit Guardians at TUA	2024-03-04

Angiuttauvaktunik

Naunaiqlugu nunanga talvani havauhikhaq ittuq:

Angiuttauvaktunik

Munariniqmut Ayuittiaqtuq	Angirutinga Qanurittuq	Tadja Qanurittaakhaanik	Ublua Tuniyauyuq/Uuktuqtuq	Umikvikhaa Ublua
Nunavunmi Ihivriuniquimut Timiqutigiyanga	Nunavut Scientific Research license Contact for application:Mosha Cote /ᐃᓂᑦᐱᑦ ᐃᓂᑦᐱᑦ Manager, Research Liaison / ᐃᓂᑦᐱᑦ ᐃᓂᑦᐱᑦ, ᐃᓂᑦᐱᑦ ᐃᓂᑦᐱᑦ ᐃᓂᑦᐱᑦ ᐃᓂᑦᐱᑦ	Applied, Decision Pending		
Hunters and Trappers Associations/Organizations	Motion being brought forth by Jimmy Ullikatalik for April 2, 2024 meeting.	Not Yet Applied		

Project transportation types

Transportation Type	Qanuq Atuqtauniarmangaa	Length of Use
Land	ATV	

Project accomodation types

Nunauyuq

Ihuaqutivaluin Atuqtauyukhan

Hanalrutit atuqtaunahuat (ukualu ikuutat, pampiutainnik, tingmitinik, akhaluutinik, hunaluuniit)

Hanalrutit Qanurittuq	Qaffiuyut	Aktikkulaanga – Qanurittullu	Qanuq Atuqtauniarmangaa
Permafrost corer	1	100cm x 200cm	Used to manually extract sediment cores from the ground, from a depth of 1-2m below ground.
ATVs	2	N/A	Used for transport to site locations
GoPro cameras	2	N/A	Used to photograph sites and cores
Coolers and packing materials	4	N/A	Used to store cores for transport
PVC pipes and duct tape	30	50cm long	For packaging individual cores
Sledgehammer	1	50cm long	Driving the permafrost corer down into dense sediment, as needed
Tarp	1	3m x 3m	For laying out core after extraction
Measuring tape	1	N/A	Measuring cores

Qanurittuq Urhuqyuaq unalu Qayangnaqtut Hunavaluit Aturninnga

Qanurittuq urhuqyuaq hunavaluit aturninnga:	Urhuqyuaq Qanurittuq	Qaffiuyut qattaryut	Qattaryuk Aktikkulaanga	Atauttimut Qaffiuyut	Ilanga	Qanuq Atuqtauniarmangaa
Gasoline	fuel	2	23	46	Liters	For ATVs

Imaqmik Aturninnga

Ubluq qanuraaluk (m3)	Aturumayain imavaluin utiqittagaani qanuq	Atulirumayain imavaluin utiqittagani humi
0	N/A	N/A

Iqqakuq

Ikkakunik Munakgiyauyunik

Havauhikhaq Hulilukaarut	Qanurittuq Iqqakut	Ihumagiyauyuq Qanuraaluktut Atuqtait	Qanuq Iqqakuurniarmangaa	Halummaqtirarnirutikhan piyutin
Sampling sites	Other, Waste from excess packing materials (bubble wrap, plastic wrap)	Negligable	Dispose of at dump once returning to Taloyoak	N/A

Avatiliriniqmut Ayurhaulingit:

We do not anticipate impacts of the research on the environment, wildlife or people, and commit to taking every precaution to ensure a sustainable and ethical approach.

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

Miscellaneous Project Information

Naunaiyainiq ukuninnga Ayurhautingit unalu Piumayaat Ikikliyuumiutinahuarutit

Tamatkiumayunik Ihuikgutivaktunik

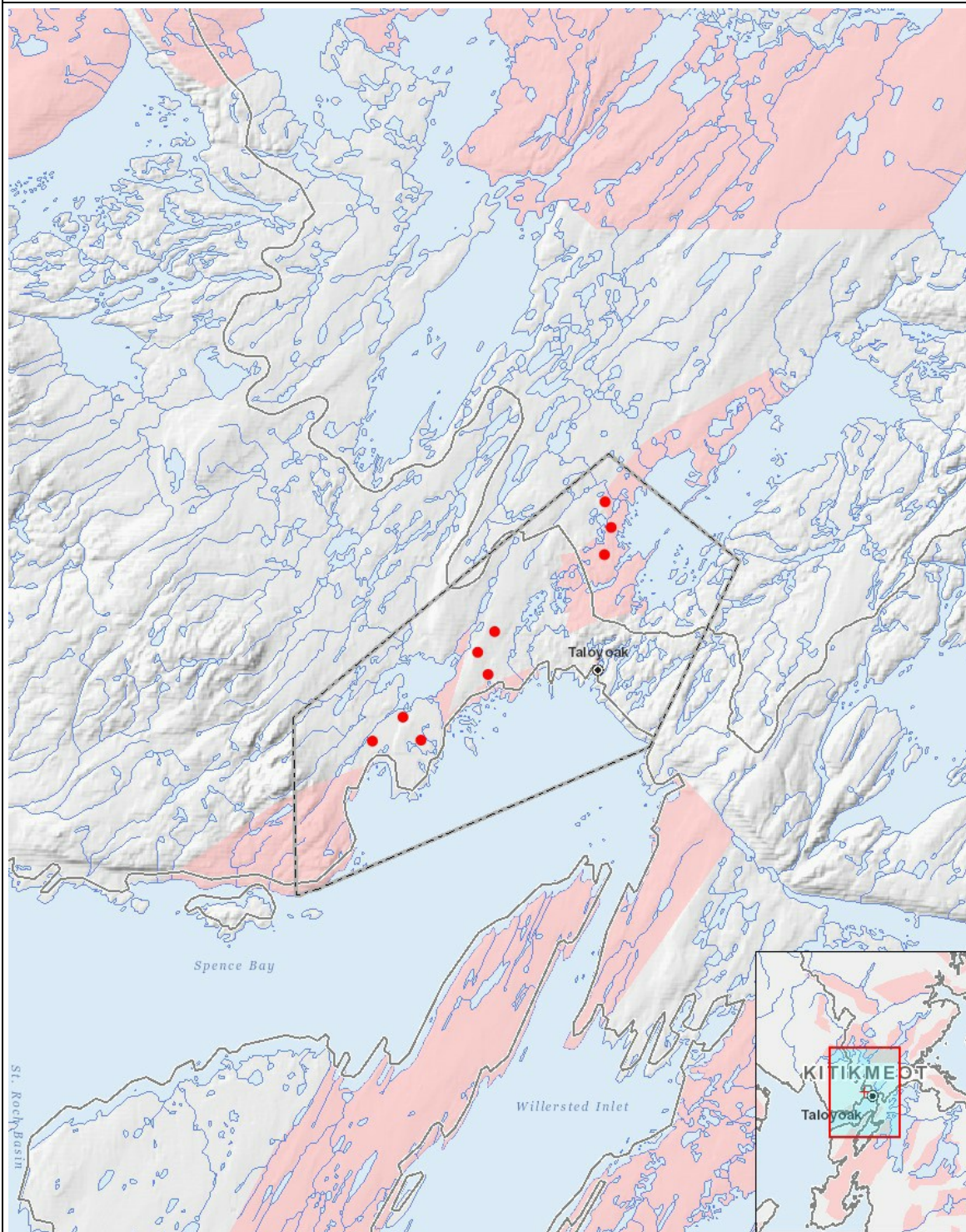
Impacts

Ilitariyauniq Avatiliriniqmut Ayurhautingit

	PHYSICAL	Designated environmental areas	Ground stability	Permafrost	Hydrology / Limnology	Water quality	Climate conditions	Eskers and other unique or fragile landscapes	Surface and bedrock geology	Sediment and soil quality	Tidal processes and bathymetry	Air quality	Noise levels	BIOLOGICAL	Vegetation	Wildlife, including habitat and migration patterns	Birds, including habitat and migration patterns	Aquatic species, incl. habitat and migration/spawning	Wildlife protected areas	SOCIO-ECONOMIC	Archaeological and cultural historic sites	Employment	Community wellness	Community infrastructure	Human health
Havakvinga	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aulapkaininnga																									
Sampling sites		-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	P	-	-	-
Piiqtauniq	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-

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

Havaariyauyukhamut Nayugaa



List of Project Geometries

1	point	SA1- Site 1
2	point	SA2-Site 2
3	point	SA3-Site1
4	point	SA1-Site2
5	point	SA1-Site3
6	point	SA2-Site1
7	point	SA2-Site3
8	point	SA3-Site2
9	point	SA3-Site3