



Demande de la CNER faisant l'objet d'un examen préalable #126354

CRISTAL Airborne Survey

Type de demande : New

Type de projet: Scientific Research

Date de la demande : Wednesday, March 4, 2026

Period of operation: from 2026-04-03 to 2026-04-11

Promoteur du projet: Walton Williamson
California Institute of Technology, Jet Propulsion Laboratory (NASA)
4800 Oak Grove Ave
Pasadena CA 91108
United States
Téléphone :: 626-375-4164, Télécopieur ::

akunngini tingmittaqqit. Parnakhimayugut tingminiq talvunga Inuvik Aipuru 1-10 tamnaluk Ikaluktutiak Aipuru 10-20, kihianik tahapkuat ublut ahiangulat hilaqmut. Tingmiyumayugut talvunga Ikaluktutiakmit piyakhai katitiqni tuhagakhat havaqatitpingnut Dr. John Yackel talvani Universitynga Calgary tamnaluk Dr. Richard Kelly talvunga Universitynga Waterloo havariniaqta ayyikkuqapayai tariup hikua turangayut uuktuutit atauttikkuq. Takulugu tamna piksa ataani uuktuutit tingmiyakhaq inaa. Naunaiyagat qanuritnit makpiraliugauniat talvani naunaiyainiq taiguat piplugu Tariuq Hikua tamnaluk Hilap Ahianguqnia.

Personnel

Personnel on site: 10

Days on site: 10

Total Person days: 100

Operations Phase: from 2026-04-03 to 2026-04-11

Activités

Emplacement	Type d'activité	Statut des terres	Historique du site	Site à valeur archéologique ou paléontologique	Proximité des collectivités les plus proches et de toute zone protégée
We are flying a Kenn Borek Basler BT-67. We will land in Cambridge Bay and fly 1 to 2 flights per day within the specified area. We are primarily interested in Sea Ice.	Aerial surveys	Marine	N/A	N/A	We only plan to take off and land at Cambridge Bay.
We are flying a Kenn Borek Basler BT-67. We will land in Cambridge Bay and fly 1 to 2 flights per day within the specified area. We are primarily interested in Sea Ice.	Aerial surveys	Marine	N/A	N/A	We will fly over our colleagues experiment CEMSIE run by Dr. John Yackel from CHARS. It is important that we fly and take data over the same region his team is surveying on the ground.

Engagement de la collectivité et avantages pour la région

Collectivité	Nom	Organisme	Date de la prise de contact
Cambridge Bay	Junna Ehaloak	Kitikmeot Inuit Association	2026-01-09

Autorisations

Indiquez les zones dans lesquelles le projet est situé:

Transboundary
Kitikmeot
North Baffin

Autorisations

Organisme de régulation	Description des autorisations	État actuel	Date de l'émission/de la demande	Date d'échéance
Gouvernement du Nunavut, Institut de recherche du Nunavut	In progress with Moshia Cote.	Applied, Decision Pending		
Transports Canada	Applied for aircraft and instruments safety review.	Applied, Decision Pending		
Institut de recherche du Nunavut	Information copied into this application.	Applied, Decision Pending		

Project transportation types

Transportation Type	Utilisation proposée	Length of Use
Air	We will fly into the region with our own Kenn Borek Air Basler.	
Land	We will rent cars in Cambridge Bay to drive from our hotels to the airport and to CHARS.	

Project accomodation types

Collectivité

Utilisation de matériel

Équipement à utiliser (y compris les perceuses, les pompes, les aéronefs, les véhicules, etc.)

Type d'équipement	Quantité	Taille – Dimensions	Utilisation proposée
Aircraft	1	50x50	We will fly the Kenn Borek Basler BT-67 into the Cambridge Bay airport. From that airport, we will fly over the sea ice taking measurements. We will only land at the airport.
Rental Car	2	TBD	Travel in Cambridge Bay, at the airport, and to CHARS.

Décrivez l'utilisation du carburant et des marchandises dangereuses

Décrivez l'utilisation de carburant :	Type de carburant	Nombre de conteneurs	Capacité du conteneur	Quantité totale	Unités	Utilisation proposée
Aviation fuel	fuel	0	0	0	Liters	We will only take Fuel at the Cambridge Bay Airport. The plane consumes 600 Liters per flight hour.

Consommation d'eau

Quantité quotidienne (m3)	Méthodes de récupération de l'eau proposées	Emplacement de récupération de l'eau proposé
0		

Déchets

Gestion des déchets

Activités du projet	Type des déchets	Quantité prévue	Méthode d'élimination	Procédures de traitement supplémentaires
Information is not available				

Répercussions environnementales :

Using our data and the data from our University of Calgary colleagues, we will be able to better measure the change of sea ice seasonally. The data will help us calibrate the CRISTAL satellite mission (https://www.esa.int/ESA_Multimedia/Images/2020/09/CRISTAL) scheduled for launch in 2028. This mission will last 7.5 years and measure the change of sea ice in the polar regions. From this data, which will be shared worldwide, we can better understand our climate and also understand the impact to the Inuit people living there.

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

Description de l'environnement existant : Environnement physique

We do not plan to change the environment. We are measuring the environment in order to enable long term measurement of sea ice extent and thickness from our spacecraft, CRISTAL.

Description de l'environnement existant : Environnement biologique

Description de l'environnement existant : Environnement socio-économique

Miscellaneous Project Information

We are working with our colleagues at CHARS and University of Waterloo. Dr. John Yackel of the University of Calgary is already leading a team out onto the ice at Cambridge Bay. He will have additional aircraft flying over the team on the sea ice. Dr. Richard Kelly from the University of Waterloo is also flying an aircraft at the same time. Our aircraft has instruments that are different but complimentary to the other aircraft in this experiment. We want to fly at the same time these other aircraft are flying so that we collect data over the same regions and at the same time and can use all of the data to help predict how well we can measure sea ice from space.

Identification des répercussions et mesures d'atténuation proposées

We would be happy to fly with a spotter in our airplane to help us avoid wildlife. Please contact me at 626-375-4164 if needed. All flights will originate in Cambridge Bay.

Répercussions cumulatives

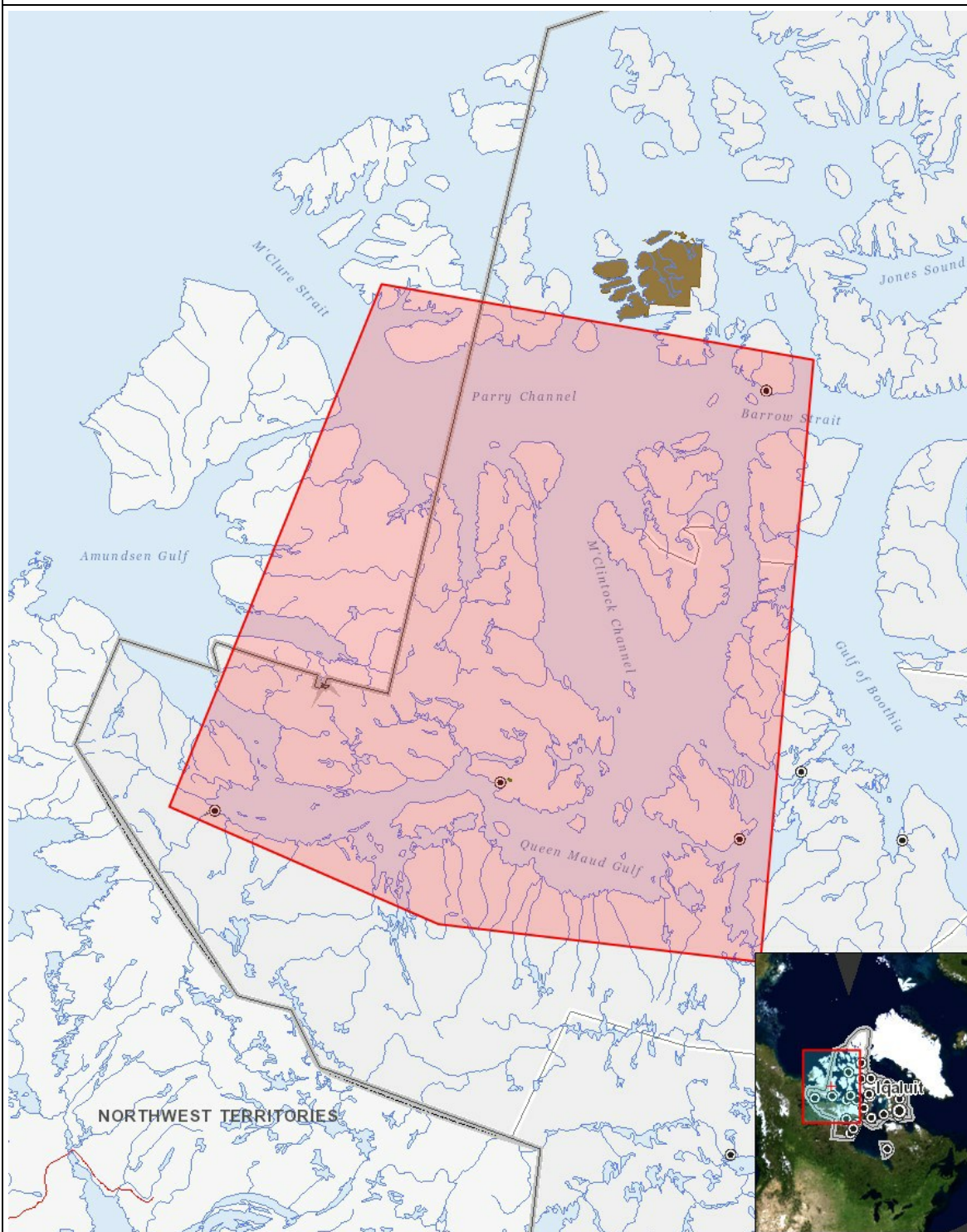
Impacts

Identification des répercussions environnementales

	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
Construction	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Exploitation																									
Aerial surveys		-	-	-	-	P	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-
Désaffectation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(P = Positive, N = Négative et non gérable, M = Négative et gérable, U = Inconnue)

Site du projet



Liste des géométries de projet

- 1 polygon We are flying a Kenn Borek Basler BT-67. We will land in Cambridge Bay and fly 1 to 2 flights per day within the specified area. We are primarily interested in Sea Ice.