Demande de la CNER faisant l'objet d'un examen préalable #125260

MAP (Multidisciplinary Arctic Program) - Last Ice

Type de demande :	New
Type de projet:	Scientific Research
Date de la demande :	1/31/2018 1:44:07 PM
Period of operation:	from 0001-01-01 to 0001-01-01
Autorisations proposées:	from 0001-01-01 to 0001-01-01
Promoteur du projet:	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 Téléphone :: 204-984-8726, Télécopieur :: 204-984-2403

DÉTAILS

Description non technique de la proposition de projet

Anglais: 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.

Français: n/a

Inuktitut: ᑐᕋᒪᐅᔪᑦ ᐱᓂᓇᐊᖑᔪᒧᑦ ᑐᑭᓯᔭᐅᑦᑎᐊᕆᒪᓪᓗᓂ ᓯᑯ ᑕᕆᐅᕐᒥ ᐊᕙᑎᖓᓃᑦᑐᑦ ᐅᑭᐅᕐᑕᕐᑐᖓᓂ ᑲᓇᑕᒥ, ᐱᓗᐊᕐᑐᒥᒃ ᓯᑯᑐᖅᑲᐅᓂᖏᑦ. ᐱᔾᔪᑎᒋᓪᓗᒍ ᓯᑯᑐᖅᑲᐅᔪᑦ ᐊᓯᐅᕙᓪᓕᐊᒃᒪᑦ ᐅᑭᐅᕐᑕᕐᑐᒥᑦ ᓄᑖᖏᓐᓇᐅᓕᕐᐸᓪᓕᐊᓪᓗᓂᓗ ᓯᑯᖓ ᓵᓪᓕᕙᓪᓕᐊᒃᒪᑦ, ᐊᕋᒍᑕᒫᑦ, ᐊᕙᑎᖕᒪᓄᑦ ᐃᒃᐱᒃᓇᐅᑎᓯᒪᒃᒪᑦ. ᖃᐅᔨᓴᕐᓂᐅᔪᖅ ᑎᑯᓯ ᐊᓘᑦᒥ, ᐅᐱᕐᖔᖅᒪᓂ 2018, ᓄᖑᐊᓂᑦ ᐊᐃᓇᓃᑦ ᑎᑭᓪᓗᒍ ᐱᒋᐊᕐᓂᖓᓄᑦ ᔫᓂ. ᓯᑭᑑᒃᑯᑦ ᐊᑐᕐᓗᑕ ᓯᑯᒧᐊᖅᑕᕐᓗᑕ ᖃᐅᔨᓴᕐᕕᐅᔪᒧᑦ ᐊᑦᑕᕐᓇᖏᑦᑐᒧᑦ (ᓄᓇᖑᐊᕐ ᑕᑯᓗᒍ ᐃᓂᒋᔭᐅᔪᒪᔪᖅ). ᑐᐱᖅᑲᑦᑕᕐᓂᐊᕐᑐᒍᑦ ᓯᑯᒥ; ᖃᐅᔨᓴᕐᑕᑦᑎᓐᓄᑦ ᓯᑯᖕᒪᓂᒃ ᓂᓚᒃᒥᒃ ᓂᐅᕐᑐᕐᓯᒪᔪᒃᑦ ᐊᕕᒃᑐᕐᑕᐅᓗᑎᒃ ᖃᐅᔨᓴᕐᑕᐅᐸᒃᑐᑎᒃ. ᐃᒥᖅᒪᓂᒃᑯ ᑕᕆᐅᕐᒥ ᐃᒥᖅᑲᐅᑎᒧᐊᖅᑲᑦᑕᕐᑐᒥᑦ ᖃᓄᑎᒥ ᑕᕆᐅᖑᑎᒋᓂᖕᒪᓂᒃ ᖃᐅᔨᓴᕐᑐᑕ ᐊᒻᒪᓗ ᐆᒪᔪᐊᕐᔪᒃᑕᖅᑎᒋᓂᖓ. ᖃᐅᔨᓴᕈᑎᓂᒃ ᐊᑐᕐᓗᑕ ᑕᕆᐅᕐᒧᑦ (ᐅᖅᑰᓂᖓ, ᑕᕆᐅᖑᓂᖓ) ᑕᕐᑭᐅᕐᒥᖓᕐᑐᖅ. ᐃᓕᐅᖅᑲᐃᓂᐊᕐᑐᒍᑦ ᖃᐅᔨᓴᕈᑎᓂᒃ ᓯᓚᓐᓂᐊᕈᑎᓂᒃ, ᐃᖏᕋᓂᕐᒪᓂᒃ ᖃᐅᔨᓴᕈᑎᓂᒃ ᐊᒻᒪᓗ ᖁᐱᕈᐊᕐᔪᒃᓂᒃ ᖃᐅᔨᓴᕈᑎᓂᒃ ᐅᐱᕐᖔᒃᑯᑦ. ᒪᕈᐃᕐᓱᕐᓗᒍ ᖃᐅᔨᓴᕐᑎᓪᓗᑕ, ᑕᑯᓇᓱᒃᓂᐊᕐᒥᔪᒧᑦ ᐳᐃᔩᓂᒃ ᖃᖓᑕᓲᕋᒃᑯᑦ. ᑐᑭᓇᓱᒃᓗᑕ ᖃᓄᐃᑦᑑᖕᒪᖔᑕ ᐆᒪᔪᐃᑦ ᑕᒪᓃᖅᑲᑦᑕᕐᒪᖔᑕ ᓇᑎᑦ, ᓇᓄᐃᑦ ᐊᓯᖕᒥᓗ. ᐅᐱᖕᖔᒃᑯᑦ ᐱᔭᕆᕐᐸᑕ ᐅᐱᕐᖔᒃᑯᑦ, ᐱᔭᕐᑕᐅᓂᐊᕐᑐᑦ ᖃᐅᔨᓴᕈᑕᐅᔪᑦ ᓯᑯᒥ ᐃᓕᓯᒪᔪᑦ, ᑐᐱᓪᓗ ᐱᖅᑲᓯᐅᑎᓗᒥᑦ. ᐅᑎᒃᑲᓐᓂᕈᕐᑐᒍᑦ ᐅᑭᐅᒃᓵᒃᑯᑦ ᖃᐅᔨᓴᕈᑎᓂᒃ ᐃᓕᐅᖅᑲᐃᓗᑕ ᐅᐱᖓᒧᑦ ᑎᑭᓐᓇᓱᒃᓂᖕᒪᓂ. ᖃᐅᔨᓴᖅᑲᑦᑕᕈᒪᔪᒍᑦ ᐊᕋᒍᓄᑦ ᑐᖏᓕᓇᓄᑦ 2019-2020, ᐊᕋᒍᑕᒫᑦ ᖃᓄᐃᓕᕙᓪᓕᐊᒃᒪᖔᑦ. ᖃᐅᔨᓴᐅᑎᒥᔭᕗᑦ ᓯᓚᐅᑦ ᐊᓯᓐᓂᕐᐸᓪᓕᐊᓂᖕᒪᓂᒃ ᐊᑐᑎᖃᕐᓂᐊᕐᑐᖅ ᖃᐅᔨᓴᕐᑕᐅᓂᖕᒪᓂᒃ ᐃᒃᐱᒃᓇᐅᑎᓯᒪᓂᖕᒪ. ᑖᓐᓇ ᐱᓪᓚᕆᐅᕗᖅ ᐱᔾᔪᑎᒋᓪᓗᒍ ᐅᑭᐅᕐᑕᕐᑐᒥ ᐳᐃᔩᑦ ᐆᒪᔪᐃᓐᓗ ᓯᑯᒥᒃ ᐃᓅᔪᑎᖃᕐᒪᑕ.

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

Activités

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
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

Engagement de la collectivité et avantages pour la région

Collectivité	Nom	Organisme	Date de la prise de contact
Resolute Bay	Nancy Amarualik / Philip Manik Sr	Resolute HTA	2017-12-21
Grise Fiord	Terry Noah	Iviq HTA	2017-12-20

Autorisations

Indiquez les zones dans lesquelles le projet est situé

Autorisations

Organisme de régulation	Description des autorisations	État actuel	Date de l'émission/de la demande	Date d'échéance
Pêches et Océans Canada	Licence for fishing for Scientific Purpose (LFSP)	Applied, Decision Pending	2017-12-19	

Project transportation types

Transportation Type	Quantité	Utilisation proposée	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

Autre,

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
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

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
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

Consommation d'eau

Quantité quotidienne (m3)	Méthodes de récupération de l'eau proposées	Emplacement de récupération de l'eau proposé
0	drinking water will be carried to the field station from Alert station	Alert station will provide drinking water

Déchets

Gestion des déchets

Activités du projet	Type des déchets	Quantité prévue	Méthode d'élimination	Procédures de traitement supplémentaires
Researching	Déchets combustibles	negligible	combustible waste will be brought back and disposed of at Alert station	standard procedure at Alert station
Researching	Eaux grises	negligible	grey water will be brought back and disposed of at Alert station	standard disposal procedure at Alert station
Researching	Eaux usées (matières de vidange)	negligible	human waste will be brought back to Alert station for disposal	standard procedure at Alert station

Répercussions environnementales :

- 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

Description de l'environnement existant : Environnement physique

Description de l'environnement existant : Environnement biologique

Description de l'environnement existant : Environnement socio-économique

Identification des répercussions et mesures d'atténuation proposées

Répercussions cumulatives

Impacts

Identification des répercussions environnementales

Construction																									
-		-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-
Exploitation																									
Sampling sites		-	-	-	-	-	-	-	-	-	-	-	N		-	-	-	-	-		-	-	-	-	-
Désaffectation																									
-		-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-

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