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Early Career Training Cruise

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Description non technique de la proposition de projet

Anglais: Northwest Passage Science and Early Career TrainingDr. Laurie Juranek and Dr. Emily Eidam, Oregon State UniversityThis project involves marine research and early career scientist training on the USCGC Healy transit of the Northwest Passage from Kugluktuk, Canada to Nuuk, Greenland. We aim to instill best practices in managing objectives of interdisciplinary science teams and working effectively with the US Coast Guard, international partners, and Indigenous communities in planning and executing a cruise and communicating results broadly to local communities and the public.Science research questions: (1) Can we fill gaps in data on Northwest Passage seafloor bathymetry and map navigational hazards? (2) How does transport of water through the Northwest Passage fit into the broader Arctic Ocean circulation? How do water parcels change chemically and physically? (3) How can we improve models of the growth and decay of sea ice based on meteorological, sea ice, and ocean surface condition data?For (1), we propose to fill critical bathymetric gaps, help work toward complete seafloor mapping, and aid navigational hazard identification. We will work with Canadian Researchers from NRCAN and GSC to prioritize mapping locations. We also propose to collect seabed samples to improve an atlas of seabed sediments in development by Canadian researcher Dr. David Mosher. We will use samples to help train early career scientists in sampling methods and allow them to collect benthos, genomic data, and nutrient data.For (2) we will monitor surface seawater while transiting using shipboard sensors, in order to understand how the chemical composition of seawater changes through the region with the flow of ocean currents. We will collect vertical profiles of water column properties as well as water samples to analyze properties including conductivity, temperature, nutrients, and other properties using a ship-based profiler at select sites and using small expendable sensors between stations. Water samples will be stored onboard and returned to individual laboratories for analysis.For (3), we will collect meteorological and ocean surface measurements (drift rates, wind speeds, ocean surface temperature and salinity, light profiles) near sea ice and from an ice-based station. We also plan to collect ice samples if possible by drilling small holes with an auger.We very much hope to build connections with regional hamlets and to reflect their knowledge and interests in our research and training efforts. We plan to visit Kugluktuk and Cambridge Bay this spring to connect with communities before the busy summer season. We also hope to organize a community event in Kugluktuk in late July to facilitate informal knowledge exchange among the community, our science party, and the USCG vessel officers prior to departure. We understand the importance of communicating our findings to local communities, and will plan an in-person follow-up trip in 2025.Data will be shared with the GSC and NRCAN and sent to Indigenous permitting authorities. Data collected in transit will be shared within 6 months of the survey. Data from discrete samples/measurements will be shared within 2 years of the survey (some require processing time).

Français: Etude du Passage du Nord-Ouest et formation de jeunes chercheursCe projet s'articule autour d'un projet de recherche et deformation de jeunes chercheurs sur le transit USCGC Healy allant du passage du Nord-Ouest, de Kugluktuk, au Canada, à Nuuk, au Groenland. Nous visons à inculquer les meilleures pratiques dans la gestion des objectifs d'équipes scientifiques interdisciplinaires et à travailler efficacement avec les Gardes Côtes américains, les partenaires internationaux, et les communautés autochtones, pour planifier et exécuter une campagne de recherche et communiquer les résultats aux communautés locales et au grand public.Questions de recherche scientifique : (1) Pouvons-nous combler les lacunes dans les données de bathymétrie des fonds marins du passage du Nord-Ouest et cartographier les dangers pour la navigation ? (2) Comment le transport de l'eau à travers le passage du Nord-Ouest s'intègre-t-il dans la circulation plus large de l'océan Arctique ? Comment les parcelles d'eau changent-elles chimiquement et physiquement ? (3) Comment pouvons-nous améliorer les modèles de croissance et de dégradation de la glace de mer sur la base des données météorologiques, de la glace de mer et de l'océan de surface ?Pour (1), nous proposons de combler les lacunes bathymétriques critiques, de contribuer à la cartographie complète des fonds marins et de faciliter l'identification des dangers pour la navigation. Nous travaillerons avec des chercheurs canadiens de RNCan et de la CGC pour prioriser les emplacements à cartographier. Nous proposons également de collecter des échantillons de fonds marins pour améliorer un atlas des sédiments des fonds marins en cours d'élaboration par le chercheur canadien David Mosher. La collection des échantillons aidera à former des jeunes chercheurs aux méthodes d'échantillonnage et leur permettre de collecter des données sur le benthos,

des données génomiques et des données sur les éléments nutritifs.Pour (2), nous analyserons l'eau de mer de surface lors de son transit à l'aide de capteurs embarqués, afin de comprendre comment la composition chimique de l'eau de mer change dans la région avec le flux des courants océaniques. Nous collecterons des profils verticaux des propriétés de la colonne d'eau ainsi que des échantillons d'eau pour analyser les propriétés, notamment la conductivité, la température, les nutriments et autres, à l'aide d'un profileur embarqué sur des sites sélectionnés et à l'aide de capteurs compacts et jetables entre les stations. Les échantillons d'eau seront stockés à bord et renvoyés aux laboratoires individuels pour analyse.Pour (3), nous collecterons des mesures météorologiques et de surface océanique (taux de dérive, vitesses du vent, température et salinité de la surface de l'océan, profils de pénétration de la lumière) près de la glace de mer et à partir d'une station basée sur la glace. Nous prévoyons également de prélever des échantillons de glace si possible en forant de petits trous avec une tarière.Nous espérons ardemment établir des liens avec les hameaux régionaux et refléter leurs connaissances et leurs intérêts dans nos efforts de recherche et de formation. Nous prévoyons visiter Kugluktuk et Cambridge Bay ce printemps pour établir des liens avec les communautés avant la saison estivale. Nous espérons également organiser un événement communautaire à Kugluktuk fin juillet pour faciliter l'échange informel de connaissances entre la communauté, notre équipe scientifique et les officiers du navire de l'USCG avant le départ. Nous comprenons l'importance de communiquer nos résultats aux communautés locales et planifierons un voyage de suivi en personne en 2025.Les données seront partagées avec la GSC et RNCan et envoyées aux autorités autochtones chargées de délivrer les permis. Les données collectées en transit seront partagées dans les 6 mois suivant la mission. Les données provenant d'échantillons/mesures discrètes seront partagées dans les 2 ans suivant l'enquête (certaines nécessitent un temps de traitement).

Inuktitut: ᑕᓪᓗᕈᑎᐅᑉ ᐃᒪᖓᓂᑦ ᖃᐅᔨᓇᓱᒃᑐᓕᕆᓂᖅ ᐊᒻᒪᓗ ᐃᖅᑲᓇᐃᔭᖃᓕᓵᕐᓂᕐᒧᑦ ᐊᔪᕈᓐᓃᖅᓴᐃᓂᖅᓘᒃᑖᖅ ᓘᕆ ᔪᕋᓂᒃ ᐊᒻᒪᓗ ᓘᒃᑖᖅ ᐃᒪᓕ ᐊᐃᑕᒻ, ᐆᕆᒐᑦ ᓯᓚᑦᑐᖅᓴᕐᕕᒡᔪᐊᖅᐱᓕᕆᐊᕐᒥᑦ ᐃᓚᐅᔪᖅ ᑕᕆᐅᕐᒥᐅᑕᓂᒃ ᖃᐅᔨᓴᐃᓂᖅ ᐊᒻᒪᓗ ᐃᖅᑲᓇᐃᔭᓕᓵᖅᑐᖅ ᖃᐅᔨᓇᓱᒃᑎᐅᓂᕐᒧᑦ ᐊᔪᕈᓐᓃᖅᓴᖅᑐᖅ USCGC Hᐃᓖ ᑕᑉᓗᕈᑎᐅᑉ ᐃᒪᖓᒨᕐᓂᖓᓂᑦ ᖁᕐᓗᖅᑐᕐᒥᑦ, ᑲᓇᑕᒥᑦ ᓅᒃ, ᐊᑯᑭᑦᑐᒧᑦ. ᐊᑐᕐᓂᐊᖅᑕᕗᑦ ᐱᐅᓛᒃᑯᑦ ᐊᑐᖅᑕᐅᖃᑦᑕᖅᑐᓂᒃ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᐱᓕᕆᐊᒃᓴᕆᔭᐅᔪᓂᒃ ᐊᔾᔨᕇᙱᑦᑑᑎᓂᑦ ᖃᐅᔨᓇᓱᒃᑐᓕᕆᔨᒃᑯᓐᓂᑦ ᐊᒻᒪᓗ ᐱᓕᕆᖃᑎᒋᓗᒋᑦ ᐊᒥᐊᓕᑲᒥᑦ ᐃᒪᕆᓐᓂᑦ ᒥᐊᓂᖅᓯᔨᒃᑯᑦ, ᓄᓇᕐᓇᐊᕐᒥᑦ ᐱᓕᕆᖃᑎᒋᔭᐅᔪᑦ, ᐊᒻᒪᓗ ᓄᓇᖃᖅᖄᖅᑐᑦ ᓄᓇᓕᖏᓐᓂᑦ ᐸᕐᓇᐃᑎᓪᓗᑕ ᐊᒻᒪᓗ ᐅᒥᐊᕐᔪᐊᒃᑯᑦ ᐃᖏᕐᕋᔾᔪᓂᕐᒥᒃ ᐱᒋᐊᖅᑎᑦᑎᑎᓪᓗᑕ ᐊᒻᒪᓗ ᑐᓴᐅᒪᑎᑦᑎᓗᑕ ᖃᓄᐃᖓᓂᐅᔪᓂᒃ ᓄᓇᓕᖕᓄᑦ ᐊᒻᒪᓗ ᑭᑐᓗᒃᑖᓂᒃ.ᖃᐅᔨᓇᓱᒃᑐᓕᕆᓂᒃᑯᑦ ᖃᐅᔨᓴᐃᓂᕐᒧᑦ ᐊᐱᖅᑯᑏᑦ: (1) ᐱᑕᖃᙱᑦᑐᑦ ᓈᓴᐅᑎᓂᑦ/ᑎᑎᖅᖃᓂᑦ ᐋᖅᑭᒍᕐᓇᖅᐱᑎᒍᑦ ᐱᑕᖃᓕᖅᑎᓪᓗᒋᑦ ᑕᓪᓗᕈᑎᐅᑉ ᐃᓚᖓᓂᑦ ᐃᑎᓂᕐᒥᑦ ᐊᒻᒪᓗ ᓄᓇᙳᐊᓕᐊᓇᓗᒋᑦ ᐃᖏᕐᕋᔾᔪᓂᕐᒧᑦ ᐅᓗᕆᐊᓇᖅᑐᐃᑦ? (2)ᖃᓄᖅ ᐊᒃᔭᖅᑕᐅᓂᖓ ᐃᒪᖅ ᑕᓪᓗᕈᑎᐅᑉ ᐃᒪᖓᒍᑦ ᐋᖅᑭᐅᒪᕗ ᐊᖏᓂᖅᓴᐅᔪᒧᑦ ᐅᑭᐅᖅᑕᖅᑐᒥᑦ ᑕᓇᐅᑉ ᐊᐅᓚᓂᕆᔭᖓᒍᑦ? ᖃᓄᖅ ᐃᒪᕐᒥᑦ ᑲᑎᓯᒪᔪᑦ ᐊᓯᐊᙳᖃᑦᑕᖅᐸᑦ ᐃᓗᐊᓃᑦᑐᓂᑦ ᐊᒻᒪᓗ ᐃᒪᕐᒥᑦ? (3) ᖃᓄᖅ ᐱᐅᓯᕆᐊᖅᓯᑎᑦᑐᕐᓇᖅᐱᑎᒍᑦ ᐱᕈᖅᐸᓪᓕᐊᓂᖓ ᐊᒻᒪᓗ ᓱᕋᒃᐸᓪᓕᐊᓂᖓ ᑕᕆᐅᑉ ᓯᑯᖓ ᒪᓕᒡᓗᒋᑦ ᓯᓚᓕᕆᓂᖅ, ᑕᕆᐅᕐᒥᑦ ᓯᑯ, ᐊᒻᒪᓗ ᑕᕆᐅᑉ ᐃᒪᖓᑕ ᖄᖓᓄᑦ ᖃᓄᐃᓐᓂᕆᔭᖏᓐᓄᑦ ᓈᓴᐅᑏᑦ/ᑎᑎᖅᖃᐃᑦ?(1)-ᒧᑦ, ᐱᓪᒪᕆᐅᔪᑦ ᑕᕆᐅᑉ ᐃᒪᖓᓄᑦ ᐃᑎᓂᐅᔪᑦ ᐱᑕᖃᙱᑦᑐᑦ ᐱᑕᖃᓕᖅᑎᑦᑐᒪᔭᕗᑦ, ᐃᑲᔪᖅᓗᑕ ᐱᐊᓂᒃᓯᓂᕐᒥᒃ ᑕᕆᐅᑉ ᐊᓗᐊᓂᑦ ᓄᓇᙳᐊᓕᐅᕆᓂᕐᒥᒃ, ᐊᒻᒪᓗ ᐃᑲᔪᖅᓗᒋᑦ ᐃᖏᕐᕋᔾᔪᓂᕐᒧᑦ ᐅᓗᕆᐊᓇᖅᑐᑦ ᖃᐅᔨᒪᔭᐅᓕᕐᓂᐊᖅᓗᑎᒃ. ᐱᓕᕆᖃᑎᒋᓂᐊᖅᑕᕗᑦ ᑲᓇᑕᒥᑦ ᖃᐅᔨᓴᐃᔩᑦ NRCAN-ᑯᓐᓂᑦ ᐊᒻᒪᓗ GSC-ᑯᓐᓂᑦ ᓯᕗᓪᓕᖅᐸᐅᑎᔭᐅᔭᕆᐊᓕᖕᓄᑦ ᓄᓇᙳᐊᓕᐅᖅᕕᐅᓂᐊᖅᑐᓂᒃ. ᑲᑎᑦᑎᔪᒪᖕᒥᔪᒍᑦ ᐊᓗᐊᓂᑦ ᐆᒃᑐᕋᕈᑕᐅᓂᐊᖅᑐᓂᒃ ᐱᐅᓯᕆᐊᕐᓂᐊᕐᓗᒍ ᓄᓇᙳᐊᖅ ᑕᕆᐅᑉ ᐊᓗᐊᓃᑦᑐᑦ ᐱᕙᓪᓕᐊᔭᐅᑎᓪᓗᒋᑦ ᑲᓇᑕᒥᑦ ᖃᐅᔨᓴᐃᔨᒧᑦ ᓘᒃᑖᖅ ᑕᐃᕙᑦ ᒨᓯ-ᒧᑦ. ᐊᑐᕐᓂᐊᖅᑕᕗᑦ ᐆᒃᑐᕋᐅᑏᑦ ᐊᔪᕈᓐᓃᖅᓴᖅᑕᐅᓂᖏᓐᓄᑦ ᐃᖅᑲᓇᐃᔭᓕᓵᖅᑐᑦ ᖃᐅᔨᓇᓱᒃᑏᑦ ᐆᒃᑐᕋᐃᓂᕐᒧᑦ ᐊᑐᖅᑕᐅᖃᑦᑕᖅᑐᓂᒃ ᐊᒻᒪᓗ ᑲᑎᑦᑎᓂᐊᕐᓗᑎᒃ ᐆᒪᓂᖃᖅᑐᓂᒃ, ᐆᒪᓂᖃᖅᑐᑦ ᐋᖅᑭᐅᒪᓂᖏᓐᓂᑦ, ᐊᒻᒪᓗ ᓂᕿᑦᑎᐊᕙᓄᑦ ᓈᓴᐅᑎᓂᒃ/ᑎᑎᖅᖃᓂᒃ. (2)-ᒧᑦ ᖃᐅᔨᓴᕐᓂᐊᖅᑕᕗᑦ ᑕᕆᐅᑉ ᐃᒪᖓᑕ ᖄᖓ ᐃᖏᕐᕋᑎᓪᓗᑕ ᐊᑐᕐᓗᒋᑦ ᐅᒥᐊᕐᔪᐊᕐᒦᑦᑐᑦ ᐃᒃᐱᒋᑉᓗᑎᒃ ᖃᐅᔨᓴᐃᔾᔪᑏᑦ, ᑐᑭᓯᐊᓕᕐᓂᐊᕐᓗᒋᑦ ᖃᓄᖅ ᐃᒪᐅᑉ ᐃᓗᐊᓂᑦ ᐋᖅᑭᐅᒪᓂᖏᑦ ᑕᕆᐅᑉ ᐃᒪᖓᓂᑦ ᐊᑯᓐᓂᖏᓐᓂᑦ ᐃᓂᐅᔪᑦ. ᐃᒪᕐᒥᑦ ᐆᒃᑐᕋᐅᑏᑦ ᑐᖅᑯᖅᑕᐅᓯᒪᓂᐊᖅᑐᑦ ᐊᒻᒪᓗ ᐅᑎᖅᑎᑕᐅᓗᑎᒃ ᖃᐅᔨᓴᐃᕝᕕᖕᓄᑦ ᖃᐅᔨᓴᖅᑕᐅᓂᐊᖅᓗᑎᒃ.(3)-ᒧᑦ, ᑲᑎᑦᑎᓂᐊᖅᑐᒍᑦ ᓯᓚᓕᕆᓂᕐᒥᑦ ᐊᒻᒪᓗ ᑕᕆᐅᑉ ᐃᒪᖓᑕ ᖄᖓᓂᑦ ᐆᒃᑐᕋᖅᑕᐅᔪᓂᒃ (ᑎᑭᐅᑎᓂᕆᔭᐅᔪᓂᑦ ᐊᐅᓚᓂᕐᒥᑦ, ᐊᓄᕆᑐᓂᕐᓂᒃ, ᑕᕆᐅᑉ ᐃᒪᖓᑕ ᖄᖓᓂᑦ ᓂᑭᓐᓇᕐᓂᕐᒥᑦ ᐆᓇᕐᓂᕐᒥᑦ ᐊᒻᒪᓗ ᑕᕆᐅᕆᓐᓂᕐᒥᑦ, ᖃᐅᒪᓂᕐᒥᑦ ᐱᔪᓂᒃ) ᑕᕆᐅᑉ ᓯᑯᖓ ᖃᓂᑖᓂᑦ ᐊᒻᒪᓗ ᑕᕆᐅᕐᒦᑦᑐᓂᒃ ᐃᓂᐅᔪᓂᑦ. ᑲᑎᑦᑎᔪᒪᖕᒥᔪᒍᑦ ᓯᑯᓂᑦ ᐆᒃᑐᕋᕈᑎᓂᑦ ᐊᔪᕐᓇᙱᑉᐸᑦ ᐃᑰᑕᕐᓗᑕ ᒥᑭᔪᓂᒃ ᐊᖕᒪᔪᓂᒃ ᓯᑯᒥᑦ ᐃᑰᑕᕈᑎᒧᑦ.ᑲᑎᖅᑲᑎᒋᔪᒪᔭᕗᑦ ᐃᓂᐅᔪᒥᑦ Hᐋᓪᓚᐅᔪᑦ ᐊᒻᒪᓗ ᐱᓗᒋᑦ ᖃᐅᔨᒪᓂᕆᔭᖏᑦ ᐊᒻᒪᓗ ᐱᔪᒪᓂᖃᕐᕕᒋᔭᖏᑦ ᖃᐅᔨᓴᐃᓂᑉᑎᖕᓂᑦ ᐊᒻᒪᓗ ᐊᔪᕈᓐᓃᖅᓴᐃᓂᕐᒧᑦ ᐱᓕᕆᐊᕆᔭᑉᑎᖕᓄᑦ. ᖁᕐᓗᖅᑐᕐᒨᕐᕕᐅᔪᒪᔪᒍᑦ ᐊᒻᒪᓗ ᐃᖃᓗᒃᑑᑦᑎᐊᕐᒧᑦ ᐅᐱᕐᖔᖑᓕᖅᐸᑦ ᑲᑎᖅᑲᑎᒋᓂᐊᕐᓗᒋᑦ ᓄᓇᓖᑦ ᐱᓕᕆᓐᓇᖅᑐᒧᐊᖅᖄᖅᑎᓐᓇᑕ ᐊᐅᔭᕐᒧᑦ. ᐋᖅᑭᒃᓯᐃᔪᒪᔪᒍᑦ ᓄᓇᓕᖕᒥ ᖃᓄᐃᓕᐅᕐᓂᖃᕐᓂᐊᕐᓗᑕ ᖁᕐᓗᖅᑐᕐᒥᑦ ᓴᓪᓚᔩᑦ ᓄᖑᑉᐸᓪᓕᐊᓂᖓᓂᑦ ᐱᓕᕆᐊᖃᕐᓂᐊᕐᓗᑕ ᖃᐅᔨᓴᕐᓂᓚᐅᔪᓂᒃ ᑐᓂᓯᖃᑦᑕᐅᑎᓂᕐᒥᒃ ᓄᓇᓕᖕᒥᐅᓄᑦ, ᖃᐅᔨᓇᓱᒃᑐᓕᕆᔨᑉᑎᖕᓄᑦ, ᐊᒻᒪᓗ USCG ᐅᒥᐊᕐᔪᐊᕐᒥᑦ ᐱᓕᕆᔨᓄᑦ ᐊᐅᓛᕐᓂᐊᓕᖅᑎᓪᓗᑕ. ᖃᐅᔨᒪᔪᒍᑦ ᐱᓪᒪᕆᐅᓂᖓ ᑐᓴᐅᒪᑎᑦᑎᓂᖅ

ᓄᓇᓕᖅᓴᓄᑦ ᖃᐅᔨᓴᕐᑎᖅᓂᓕ, ᐊᓪᒪᓗ ᑕᒡᕿᐅᖃᑎᒌᓕᑦ ᖃᐅᔨᓕᐊᖏᓴᒪᓕᕐᓂᓄᑦ 2025-ᒥᑦ. ᐃᓱᐅᑎᑦ/ᑎᑎᖅᖃᐃᑦ ᑐᓂᔾᔨᓂᐊᖅᑐᑦ GSC-ᓄᓇᓄᑦ ᐊᓪᒪᓗ NRCAN-ᓄᓇᓄᑦ ᐊᓪᒪᓗ ᐊᐅᓪᖅᑕᐅᓗᑎᑎᓄᑦ ᓄᓇᖃᖅᖁᖅᑐᑦ ᐱᔨᓴᖅᑎᓂᕐᒧᑦ ᐳᒥᑦᓂᑦ ᐱᔨᓴᖅᑎᓂᑎᔨᓄᑦ. ᐃᓱᐅᑎᑦ/ᑎᑎᖅᖃᐃᑦ ᑲᑎᑕᐅᔨᑦ ᐃᓕᑐᑦᑎᓪᓗᑕ ᑐᓂᔾᔨᓂᐊᖅᑐᑦ ᐊᓕᖅᓯᓪᓚᖅ ᖃᐅᔨᓴᐃᓂᖅᖃᖅᖁᖅᑎᖅᓗᑕ. ᐃᓱᐅᑎᑦ/ᑎᑎᖅᖃᐃᑦ ᐅᓵᑐᖃᑕᐅᔨᓂᑦ/ᐅᓵᑐᑐᖅᑕᐅᔨᓂᑦ ᑐᓂᔾᔨᓕᐊᓂᖅᑐᑦ ᒪᓕᒃᑐᒃ ᐅᑭᐅᓂᑦ ᖃᐅᔨᓴᐃᓂᖅᖃᖅᖁᖅᑎᖅᓗᑕ (ᐃᓕᓴᐅᑦ ᐱᕕᖅᓱᐊᖅᖁᓂᑦ ᐱᓕᕆᐊᖅᓄᓂᓴᓄᑦ).

Inuinnaqtun: Northwest Passage (Ikaaqviuyuq) Ayuqnaqtunik Qauyihaiyit Havalihaaqtunullu Havaaghanut IlihautitDr. Laurie Juranek taamnalu Dr. Emily Eidam, Oregon Aviktuqhimanianit IlihaqpaalliqviatHapkunani havaaghanit qauyihaivaktut taryumiutanik havalihaaqtunullu havaaghanut ilihautighanik USCGC Healy-mi ingilraviuyuq Northwest Ikaaqvianit Qurluqtuqmit, Kanatami talvunga Nuuk, Akukittuqmut. Havauhittianik atuqtittivalliayumayugut munariplugit inirumayaita havaqatigiiktut ayuqnaqtunik qauyihaiyut havaqatigittiarumaplugillu US-mi Taryumi Munaqtiuyut, nunaqyuami ikayuqtigiit, Nunaqaqqaaqhimayullu nunallaat parnaiyaiplutik aullaqtittiyuniklu ikaaqvighamik tuhaqtittiplugillu iniqhimayait nunallaarmiunut inungnullu.Qauyihaiyit qauyihautinit apiqhuutit: (1) ayuqhautauyut ihuaqhaqtauniaqqat naunaitkutainit Northwest Ikaaqvianit taryumi qauyihailutik nunauyaliuqlutiklu ikaaqtunut amirnautinik? (2) Qanuq ingilrautiyut imaqmik Northwest Ikaaqvianit iliuraqtauniaqqa talvunga angitqiyamut Ukiuqtaqtumi Taryuutaanit? Qanuq imautauyut nayukkanit aallannguqpakpat avugiingnit pitquhiigullu? (3) Qanuq ihuaqhivaalliqniaqqat maliktauyut aklivaalliqnianit huruqpalliayunullu taryum hikuanit ihumagiplugu hila, taryum hikua, taryuplu qaangata naunaitkutait?Taaffumunnga (1), iliurainahuaqhimayugut ayuqhautinut naunaitkutanik qauyihainiqmut, ikayuqlutiklu inirahuariamik taryum natianik nunauyaliurniqmik, ikayuqlutiklu ikaaqtunut amirnautinik ilittuqhautighanik. Havaqatiginahuaqtaqqut Kanatamiutat Qauyihaiyut NORCAN-mit GSC-millu iriniginahuaqlugit nunauyaliuqvighat. Katitiqniaqhimayugut taryum natianit qauyihaqtaghanik ihuaqhautighat naunaitkutainut katiqhuqhimayut hanayauliqtuq taaffuminnga qauyihaiyi Dr. David Mosher. Qauyihaqtaghanik atuqniaqhimayugut ikayuutighat havalihaaqtunut havaaghanit qauyihaiyinik qauyihailutik havauhiqnik katitiriamik katiqhuqhimayunik, pitquhiinik naunaitkutanik, niqittiarniinullu naunaitkutanik.Taaffumunnga (2) munarinahuaqtaqqut qaanganiqmiutat taryum imaanik ingilratillutik umiaqmiutanik qauyihautikkut, taimaa ilihimattiariamik qanuq avugiiktumik taryuq aallannguqpagiaghaat aviktuqhimayumi tagyaaqmit hangutitaugaangat. Katitiriniaqhimayugut naunaitkutaghanik imaqmit imaqmiklu qauyihaqtaghanik naunaittiariamik nanminiinik huanngautainik, uunarnianik, niqittiaqariaghait, nanminiiniklu tamatkiumayunik umaqmit naunaiyautinik qauyihautiqaqhutik kituni tikkuaqtauhimayunit nayugaqnit atuqhutiklu mikiyunik takkannguqtaqtunik qauyihautinik akunngani havakviit. Imaqmik qauyihaiyaghat tutquumaniaqtut umiaqmi aullaqtitaulutiklu ilikkuuqtunut qauyihaqvingnut qauyihaqtauyughat.Taaffumunnga (3), katitiriniaqtugut hilamit taryuplu qaanganit qauyihaqtaghanik (tighiqtut kayumingniit, anuqqim kayumingnia, taryum qaangani uunnaqnia taryuqarnialu, qaumayumitlu naunaiqhitinik) taryum hikuata haniani hikumiutanik havakviinit. Parnaihimayugullu katitiriamik hikumit qauyihaqtaghanik ikuutaqhutik mikiyunik putunik ikuutakkut.Katitpalliayumayugullu aviktuqhimayumi haamlatkullu ilittuqhitiyaamik qauhimayatuqainik ihumagiyainiklu qauyihaqtaptingnik ilihautiptingniklu. Pulaaqniaqhimayaqqut Qurluqtuq Iqaluktuuttiaqlu upinngaghami katinnahuaqlugit nunallaat auyami hulivallaaqtinnatik. Nunallaarmiuniklu katipkaiyumayugu Qurluqtuqmi July nungutinnagu ilittuqhitivighainik qauhimayatuqanik nunallaarmiunut, qauyihaqtiptingnut, USCG-milu umiaqmit havaktiinik aullaqtinnatik. Ilihimattiaqtaqqut aghuurnaqniit tuhaqtittiyaamik ilihimaliqtavut nunallaarmiunut, pulaaqniaqhimaplutik katimavighainik ilittuqhitivaalliriamik 2025-mi pulaaqvighaanit.Naunaitkutat ilittuqhitiyauniaqtut GSC-mut NORCAN-mullu tuyuqtaulutiklu Nunaqaqqaaqhimayunut aulapkainiqmut atannguyanut. Naunaitkutanik katitiriyut ingilratillutik ilittuqhitiyauniaqtut 6 tatqiqhiutit naatinnatik qauyihaqvianit. Naunaitkutat qauyihaqtaghanit/uuktuqtaghanit ilittuqhitiyauniaqtut malruk ukiut naatinnatik qauyihaqvianit (ilangi naahurinnaqtut iniqvighainut).

Personnel

Personnel on site: 120

Days on site: 10

Total Person days: 1200

Operations Phase: from 2024-07-29 to 2024-08-13

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
nominal cruise track (subject to ice conditions)	Scientific/International Polar Year Research	Marine	n/a	n/a	Science party plans to board via small boat transfer based out of Kugluktuk, all other activities are well offshore of communities
potential sampling location 1	Scientific/International Polar Year Research	Marine	n/a	n/a	All potential sampling locations are offshore and at a distance from communities

Engagement de la collectivité et avantages pour la région

Collectivité	Nom	Organisme	Date de la prise de contact
Cambridge Bay	email sent to Mia Otokiak re: potential participation as community rep on cruise	Nunavut Impact review board	2024-02-11
Kugluktuk	multiple phone calls to Grant at Kikiak Contracting re: help with Kugluktuk logistics	Kikiak contracting	2024-04-05
Cambridge Bay	Emails to David Hik at CHARS re: locating knowledge expert to sail on training cruise	Canadian High Arctic Research Station	2024-03-25
Kugluktuk	email sent to Larry Adjun	Kugluktuk Angoniatit Association - Hunters & Trappers Organization	2024-05-02

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
Institut de recherche du Nunavut	will be submitting NRI application for this project very soon	Not Yet Applied		

Project transportation types

Transportation Type	Utilisation proposée	Length of Use
Water	Transit and Research via US Coast Guard cutter Healy	

Project accomodation types

Collectivité

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
3.5 KHz echosounder	1	attached to ship	seabed imaging
USCGC Healy	1	128 m	Research vessel
multibeam echo sounder	1	attached to ship	bathymetric data collection
XCTD	30	0.3 m length	Collect temperature and salinity data while underway
Shipboard sensors for seawater properties	5	attached to vessel	Sensors measure temperature, salinity, dissolved oxygen, total dissolved gas pressure, and chlorophyll fluorescence
acoustic scattering	1	attached to vessel	echo sounder to detect biomass in water (fish finder) at 18KHz and 38 KHz
Acoustic doppler current profiler	2	attached to vessel	measure ocean current velocity
gravimeter	1	attached to vessel	measure Earth's gravity field
Smith McIntyre surface grab sampler	3	0.1 m^2	surface sediment sampling
gravity core	2	max 6m depth x 0.1 m diameter	surfical sediment sampling
Plankton ring net	2	1m^2	vertical tows for sampling and identification of plankton species composition
Multi corer	2	8 simultaneous cores, 1m x 0.1 m diameter	surface sediment and porewater sampling
CTD	10	6 x 10 L bottles per deployment	Collect seawater property data throughout water column, including water samples for shoreside analysis
kovacs ice coring device	2	up to 2 m depth by 0.1m diameter	Collect sea ice samples for analysis of physical, chemical properties (including micro plastics)
hydrophones	1	0.1 m	passive listening of ambient sound, including marine mammal detections, deployed over the side of the vessel or on a small free drifting buoy that is later recovered
small boat	1	6m x 3m	potential deployment to recover hydrophone buoy

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
Diesel	fuel	1	12202915	12202915	Gallons	vessel has diesel electric propulsion and carries all the fuel it needs
ethanol	hazardous	1	1	1	Liters	preservative for plant pigment samples
Mercuric Chloride	hazardous	1	1	1	Liters	Preservative for samples collected to measure seawater pH and alkalinity for ocean acidification studies.
Hydrochloric acid	hazardous	1	1	1	Liters	processing plant pigment and micro plastic samples
Sulfuric acid	hazardous	1	0.5	0.5	Liters	Analyzing oxygen samples
Sodium hydroxide (base)	hazardous	1	0.5	0.5	Liters	analyzing oxygen samples

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
Scientific/International Polar Year Research	Déchets combustibles	0	All solid waste will be stored onboard for shoreside disposal in Nuuk, Greenland.	Healy garbage management plan attached in supplemental documents

Répercussions environnementales :

no predicted environmental impacts associated with this activity.

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

Our activities will not impact the physical environment. We will collect small quantities of seabed for sediment analysis. We will collect small quantities of seawater for a suite of analyses designed to understand micro plastics, microscopic plants, and nutrients in seawater. Our ship-based sensor measurements will provide information on seafloor depth and potential navigational hazards in areas that are not well mapped.

Description de l'environnement existant : Environnement biologique

Our intended route has been planned to avoid protected critical habitat for marine mammals, including the Northwester polynya. We will avoid all areas with noted marine mammal presence. We are seeking to employ a local knowledge expert from Kugluktuk or other Nunavut community who will assist with marine mammal sightings to avoid impacts.

Description de l'environnement existant : Environnement socio-économique

Miscellaneous Project Information

documents provided for Healy's garbage management, sewage management, and chemical and hazardous waste management plans

Identification des répercussions et mesures d'atténuation proposées

No anticipated environmental impacts. The vessel complies with all international waste management guidelines and is self-contained with respect to waste.

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

Site du projet

Liste des géométries de projet

1	polyline	nominal cruise track (subject to ice conditions)
2	point	potential sampling location 1
3	point	potential sampling location 2
4	point	potential sampling location 3
5	point	potential sampling location 4
6	point	potential sampling location 5
7	point	potential sampling location 6
8	point	potential sampling location 7
9	point	potential sampling location 8
10	point	potential sampling location 9

11	point	potential sampling location 10
12	point	potential sampling location 11
13	point	potential sampling location 12
14	point	potential sampling location 13
15	point	potential sampling location 14
16	point	potential sampling location 15
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19	point	potential sampling location 18
20	point	potential sampling location 19
21	point	potential sampling location 20
22	point	potential sampling location 21
23	point	potential sampling location 22
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25	point	potential sampling location 24
26	point	potential sampling location 25
27	point	potential sampling location 26
28	point	potential sampling location 27
29	point	potential sampling location 28
30	point	potential sampling location 29
31	point	potential sampling location 30
32	point	potential sampling location 31
33	point	potential sampling location 32
34	point	potential sampling location 33
35	point	potential sampling location 34
36	point	potential sampling location 35
37	point	potential sampling location 36
38	point	potential sampling location 37
39	point	potential sampling location 38
40	point	potential sampling location 39
41	point	potential sampling location 40
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61	point	potential sampling location 60
62	point	potential sampling location 61
63	point	potential sampling location 61
64	point	potential sampling location 62
65	point	potential sampling location TC12
66	point	potential sampling location TC13
67	point	potential sampling location TC14
68	point	potential sampling location TC15
69	point	potential sampling location TC16
70	point	potential sampling location TC17
71	point	potential sampling location TC18
72	point	potential sampling location TC19
73	point	potential sampling location TC20
74	point	potential sampling location TC21
75	point	potential sampling location 63