ᓄᓇᕘᒥ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᑦᑎᒍᑦ ᑐᒃᓯᖅᑑᑦ ᕿᒥᕐᕈᔭᒃᓴᖅ #125575

Port Settlement Fog and Air Quality Study in Iqaluit

ᑐᒃᓯᖅᑑᑕᐅᔪᖅ ᖃᓄᐃᑦᑑᓂᖓ:	New
ᐱᓕᕆᐊᕆᔭᐅᔪᒪᔫᑉ ᖃᓄᐃᑦᑑᓂᖓ:	Scientific Research
ᐅᓪᓗᖓ ᑐᒃᓯᖅᑑᑎᓕᐊᕕᓂᐅᑉ:	1/11/2021 1:10:14 PM
Period of operation:	from 0001-01-01 to 0001-01-01
ᑲᔪᓯᒃᑲᐃᔨᐅᓂᐊᕿᓯᒥᔭᐅᔪᑦ:	from 0001-01-01 to 0001-01-01
ᐱᓕᕆᐊᖃᕈᒪᔪᖅ:	Rachel Chang Dalhousie University 6310 Coburg Road Halifax Nova Scotia B3H 4R2 Canada ᐅᖄᓚᐅᑏᑦ: 9029971686, ᓱᑲᔪᒃᑯᑦ:

ᑐᓴᐅᒪᓗᑦᓴᑦ

ᖃᓄᐃᑦᑐᑎᓂᒃ ᐱᓕᕆᔨᖃᑦᓂᐊᕆᔨᖏᑦᓂᒃ

ᖃᑦᑕᓇᓱᑎᑐᑦ: Objectives and Rationale:-The main objective of this project is to study the unique chemistry when emissions from human activities interact with ocean emissions in Iqaluit in the summer-Air in the North is much cleaner than the south so we expect the chemistry to be very different than southerly locations that have been studied in the past, such as Halifax, that have greater background concentrations of pollutants-Summer is interesting because ocean biology is the most active, human emissions from industrial activities such as shipping are also high and sun during the long days can drive unique chemical processes-A secondary objective is to study the properties of fog, such as when it forms, how dense it is and how it dissipates-Fog is a hazard because it lowers visibility and delays transport in and out of Iqaluit-Predicting fog is still very difficult and these results would add to our understanding-This project will allow us to better understand the unique processes that occurs in the air in Iqaluit, provide ground truth for air quality models, and better understand fog formation and visibilityMethods and Potential Environmental Impacts:-Our equipment will be in or beside a trailer at the Environment and Climate Change Canada site next to the runway at the Iqaluit airport in July and August, 2021-A suite of instruments will measure concentrations and properties of the particles and gases in the air and fog-For all the instruments, sampled air passes through the instruments and is returned to the atmosphere, either unchanged or filtered and cleaner-The environmental impacts of our study are noise from our equipment and the presence of a trailer on the site. Both of these are expected to be minimal compared to the nearby air traffic and existing infrastructure on site. Sharing of Data, Results and Enthusiasm:-During the study, data collected on computers will be backed up daily on two hard drives so that three copies always exist-The finalized dataset will be published on the openly accessible Dataverse via Dalhousie University-Communications have been initiated with the Environmental Protection division of Nunavut to coordinate sampling and share results-Our team will engage with the community while on-site and explore opportunities to share knowledge with locals (e.g. through open question-and-answer sessions, collaboration with Arctic College). We will explore opportunities to incorporate Traditional Knowledge into our understanding of the measurements.Who we are:Rachel Chang, Dalhousie University; Aldona Wiacek, St. Mary's University; Jenny Wong, Mount Allison University; Cora Young, York University

ᐅᐃᐦᑎᑐᑦ: Objectifs et motif•L'objectif principal de ce projet est d'étudier la chimie unique issue de l'interaction des émissions des activités humaines avec celles de l'océan pendant l'été à Iqaluit•L'air au nord est beaucoup plus propre qu'au sud, alors nous nous attendons à ce que la chimie soit très différente de ce qui a été trouvé aux lieux déjà étudiés au sud, comme Halifax, où les concentrations de polluants sont plus élevées•L'été est intéressant car la biologie océanique est la plus active, les émissions humaines provenant des activités industrielles comme la livraison sont aussi hautes et le soleil peut catalyser des processus chimiques uniques pendant les longues journées•Un objectif secondaire est d'étudier les propriétés du brouillard, comme quand il se forme, sa densité et comment il se disperse•Le brouillard est un danger car il réduit la visibilité et retarde les transports en provenance et à destination d'Iqaluit•La prédiction du brouillard est encore très difficile et ces résultats ajouteraient à notre compréhension•Ce projet nous aidera à mieux comprendre les processus uniques qui ont lieu dans l'air à Iqaluit, fournira une réalité de surface pour les modèles de qualité d'air et nous aidera à mieux comprendre la formation et la visibilité du brouillardLes méthodes et les impacts environnementaux potentiels •Notre équipement sera près ou à l'intérieur d'une remorque au site du département d'Environnement et Changement climatique Canada près de la piste de l'aéroport d'Iqaluit•Un ensemble d'instruments mesurera les concentrations et propriétés des particules et des gaz dans l'air et le brouillard•Pour tous les instruments, l'air échantillonné passe à travers des instruments et est retourné à l'atmosphère, soit sans changement ou filtré et plus propre•Les impacts environnementaux de notre étude sont les bruits des instruments et la présence de la remorque au site. Tous deux sont censés être minimes par rapport au trafic aérien et à l'infrastructure qui existe déjà sur le site.Partage de données, résultats et enthousiasme•Durant l'étude, les données recueillies par ordinateur seront sauvegardées quotidiennement sur deux disques durs pour que trois copies existent en tout temps•Les données finales seront publiées et librement accessibles sur Dataverse via l'Université Dalhousie•Les communications ont été entamées avec la division de la Protection de l'environnement du Nunavut pour organiser l'échantillonnage et partager les

résultats•Notre équipe s'engagera auprès de la communauté et explorera les opportunités pour partager nos connaissances avec la population locale pendant que nous sommes sur place (par exemple, à travers des sessions de questions et réponses et en collaboration avec le Collège de l'Arctique). Nous explorerons des opportunités pour incorporer les connaissances traditionnelles dans la compréhension de nos données. Nous sommes:Rachel Chang, Dalhousie University; Aldona Wiacek, St. Mary's University; Jenny Wong, Mount Allison University; Cora Young, York University

ᐃᓄᒃᑎᑐᑦ: ᑐᕌᒐᓇᔭᐅᔪᑦ ᐱᔾᔪᑕᐅᓂᖏᓪᓗ:- ᐱᓗᐊᖅᑐᒥᒃ ᑐᕋᒐᖃᖅᐳᑦ ᑖᒃᑯᓂᖓ ᐱᓕᕆᐊᖃᕐᓂᕐᒥᒃ ᐱᔾᔪᑎᖃᖅᑐᑦ ᖃᐅᔨᓴᕈᒪᓂᖅ ᐊᔾᔨᐅᖏᑦᑐᓂᒃ ᐊᑯᑉᐸᓪᓕᐊᐸᓐᓂᖏᓐᓂᒃ ᐳᔪᕐᓗᓕᐊᖑᐸᓪᓕᐊᐸᑦᑐᑦ ᑭᓇᒃᑯᑐᐃᓐᓇᐃᑦ ᐱᓕᕆᐊᕆᐸᑦᑕᖏᓐᓂᒃ ᑕᐃᒃᑯᓄᖓ ᐊᑕᓪᓗᑎᒃ ᑕᓇᐅᕌᓘᑉ ᐳᔫᖅᐸᓪᓕᐊᐸᓐᓂᖅᒪᓄᑦ ᖃᐳᐊᕿᐸᓐᓂᖅᒪᓂ, ᐃᖃᓗᓐᓂ, ᐊᐅᔭᒃᑯᑦ.- ᓯᓚ ᐊᓂᖅᓵᖅᑐᖅᑕᐅᐸᑦᑐᑦ ᐅᑭᐅᖅᑕᖅᑐᒥ ᓴᓗᒪᓂᖅᓴᒻᒪᓇᐅᒻᒪᑦ ᓴᓂᐊᓂ ᖃᓪᓗᓈᑦ ᓯᓚᖓᓂ ᐊᓂᖅᓵᖅᑐᖅᐸᑦᑕᖏᓐᓂ ᑕᐃᒪᐃᓂᖅᒪᓄᑦ ᓂᓇᐅᑦᑐᒍᑦ ᐃᐱᕈᖅᐸᓪᓕᐊᐸᓐᓂᖅᒪ ᓯᓚᖅᒪᑕ ᐊᔾᔨᒋᔾᔫᖅᒥᑕᖅᒪ ᖃᓪᓗᓈᑦ ᓄᓇᖏᓐᓂ, ᓂᒋᐊᓂ ᑲᓇᑕᐅᑉ ᓴᓂᐊᓂ ᑕᐃᒃᑯᓇᖅᒪᑦ ᖃᐅᔨᓴᖅᑕᐅᖃᑦᑕᓈᖅᓯᒪᔪᓂ ᔫᓯᓗ ᑕᐅᕙᓂ Hᐋᓕᕚᒃᓯᒥ, ᐊᖅᒥᔫᑎᐅᓂᖅᓴᓂᒃ ᐱᐅᓯᖅᓯᒪᒻᒪᑕ ᓴᖏᔪᓕᐅᖃᑦᑕᖅᓯᒪᓂᖏᓐᓂᒃ ᐃᐱᕈᐃᐸᓪᓕᐊᔾᔪᑎᓂᒃ ᐳᔪᕐᓗᓕᐅᖅᐸᓪᓕᐊᖃᑦᑕᓂᖏᓐᓂ ᐊᐸᑎᒥᓄᑦ- ᐊᐅᔭᒃᑯᑦ ᐱᓕᕆᐊᖑᔪᒪᓗᐊᖅᐳᑦ ᐱᔾᔪᑕᐅᓂᕐᒍᑦ ᑕᓇᐅᕐᒥ ᐆᒪᔾᔪᖅᓯᐅᕐᓂᕐᒥᒃ ᐱᓕᕆᓂᖅᓴᐅᐸᓐᓂᖏᑦ ᐃᓄᐃᑦ, ᐊᒻᒪᓗ ᑭᓇᒃᑯᑐᐃᓐᓇᐃᑦ (ᖃᓪᓗᓈᓄᑦ, ᐊᓯᖏᓄᓪᓗ) ᔫᓯᓗ ᐅᒥᐊᖅᔪᐊᖅᑲᖅᑎᑦᓯᐸᓐᓂᖏᑦ ᐊᒥᔫᐸᖅᒪᑕ ᐊᐅᔭᐅᓂᖅᒪᓂ ᐊᒻᒪᓗ ᓯᕿᓐᓃᓐᓇᕐᓂᖅᓴᐅᐸᒻᒪᑦ ᐅᓪᓗᑯᑖᖑᓂᖅᓴᐅᐸᒻᒪᑦ, ᐱᔾᔪᑕᐅᔪᓐᓇᖅᓯᑎᒃ ᐊᔾᔨᒥᔭᐅᐸᖏᑦᑐᓐᓂᒃ ᐃᓕᓯᐸᓪᓕᐊᔾᔪᑕᐅᖅᑲᑦᑕᓂᖅ ᐃᐱᕈᖅᓴᐅᑎᓂᒃ ᐊᐸᑎᕐᒥᓄᑦ.- ᑐᒡᓕᐊᓂᒃ ᑐᕌᒐᖅᑲᓇᕗᑦ ᖃᐅᔨᓴᕈᒪᓂᖅ ᖃᓄᐃᓕᐅᓪᓕᐊᔾᔫᖑᒪᑖ ᑕᒃᓯᓕᖅᐸᓪᓕᐊᐸᓐᓂᖅᒪᓂᒃ, ᔫᓯᓗ ᑕᒪᒃᑯᓂᖅᒪ ᖃᐅᔨᓇᓯᓪᓗᑎᒃ ᖃᓄᖅ ᑕᖅᓯᓕᖅᐸᓪᓕᐊᓂᐊᓕᖅᑲᑦᑕᖅᒪᖅᓖᑦ, ᖃᓄᖅ ᐃᔾᔪᑎᒋᓂᐊᖅᒪᖅᓖᑦ ᐊᒻᒪᓗ ᖃᓄᖅ ᓄᖑᐸᓪᓕᐊᖅᑲᑦᑕᖅᒪᖅᓖᑦ ᑕᒃᓯᖅ.- ᑕᖅᓯᓕᖅᑲᑦᑕᕌᖅᒪᑕ ᐅᓗᓇᐊᓇᕈᑕᐅᐸᑦᑐᑦ ᑕᑯᑦᓴᐅᑦᓯᐊᕈᓃᕈᑕᐅᐸᓐᓂᖅᒪᓄᑦ, ᑭᖑᐸᓇᐊᕈᑕᐅᐸᓂᖅᒪᓄᓪᓗ ᑎᑭᑦᑐᓐᓇᕐᓂᕐᒧᑦ ᐊᐅᓪᓚᖅᑲᑦᑕᕈᓐᓇᕐᓂᕐᒧᓪᓗ ᐃᖅᑲᓗᓐᓂ ᑕᓇᐅᒃᑯᑦ.- ᓇᓕᐅᑦᑖᖅᑲᑦᑕᕈᓐᓇᕐᓂᕐᒥᑦ ᑕᑦᓯᓕᖅᓂᐊᓕᖅᓂᖅ ᓯᓚ ᐊᔾᔭᓐᒪᓇᖅᒪᑦ ᑕᒪᒃᑯᐊᓗ ᖃᐅᔨᓴᐅᒍᑎᒃ ᑐᑭᓯᐅᒪᔭᐅᑦᑎᐊᖅᓂᖅᓴᐅᓕᕈᓐᓇᖅᓯᑎᒃ- ᑕᒪᒃᑯᐊ ᐱᓕᕆᐊᖑᓂᖏᓐᓂᒃ ᑐᑭᓯᐅᒪᔭᐅᑦᑎᐊᒃᑲᓂᕈᓐᓇᕐᓂᐊᖅᐳᑦ ᐊᔾᔨᐅᖏᑦᑐᒥᒃ ᐱᐅᓯᑐᖅᑲᖑᓂᖏᑦ ᓯᓚᖅᓯᓂ ᐃᖅᑲᓗᐃᑦ, ᓄᓇᒥᐅ ᖃᐅᔨᓴᐅᓕᓇᓗᑎᒃ ᓯᓚᐅᑉ ᓴᓗᒪᓂᖅᑕᐅᓇᖅᑐᓂᒃ ᒪᓕᒃᑕᐅᓕᕈᓐᓇᕐᓴᖅᑐᓂ ᐊᒻᒪᓗ ᑐᑭᓯᐅᒪᔭᐅᑦᑎᐊᒃᑲᓂᕐᓗᑎᒃ ᖃᓄᖅ ᑕᒃᓯᖅᐸᓪᓕᐊᓕᔫᖅᒍᖅᒪᖔᑕ ᐊᒻᒪᓗ ᑕᑯᒃᓴᐅᔪᓐᓃᕈᓇᖅᑎᒥᖅᒪᖅᒪᑦ ᖃᐅᔨᓴᕈᓯᕆᓇᔭᐅᓂᐊᖅᑐᑦ ᐱᐅᓯᓇᔭᐅᓗᑎᒃ ᐊᒻᒪᓗ ᐊᐸᑎᒥᒃ ᐊᒃᑐᖅᓯᓯᒪᑐᐃᓐᓇᓇᐊᖅᑲᓂᖅᒥᑦ:- ᐱᖁᑎᕗᑦ ᐊᑐᖅᓂᐊᖅᑕᕗᑦ ᐃᓗᐊᓃᓐᓂᐊᖅᑐᑦ ᐃᒡᓗᓕᕿᕐᓯᒥ ᑲᓕᑕᐅᔪᓐᓇᖅᓯᐊᖅᑐᔪᒥ ᑕᐃᑲᓂ ᐊᐸᑎᓕᓇᖅᓯᔾᔭᒃᑯᑦ ᓯᓚᐅᑉ ᐊᓯᔾᔨᖅᐸᓪᓕᐊᓂᖅᒪᓄᑦ ᑲᓇᑕᒥ ᐃᖅᑲᓇᐃᔭᕐᕕᖅᒪᓂ, ᖃᓂᒋᔭᖅᒪᓂ ᐃᖅᑲᓗᐃᑦ ᒥᑦᑕᕕᖅᒪᓂ, ᑕᒪᓂ ᔪᓚᐃᒥᓗ ᐋᒐᓯᒥᓗ 2021-ᒥ- ᐊᒥᓱᒐᓴᓐᓂᒃ ᖃᐅᔨᓴᕈᑎᒃᓴᓂᒃ ᐊᑐᕐᓂᐊᖅᐳᑦ ᐆᑦᑐᕋᑕᐅᓂᐊᖅᑐᓂ ᓴᖏᓂᖅᑲᕐᓂᖏᓐᓂᒃ ᐊᒻᒪᓗ ᓯᓇᑕᖅᑲᕐᓂᖏᓐᓂᒃ ᐃᓚᐅᓪᓚᐊᔾᔫᖅᒍᔪᑦ ᐃᐱᑦ ᐳᓪᓚᐃᓪᓗ ᓯᓚᒥᒃ, ᑕᒃᓯᕐᓂᕐᒥᒡᓗ- ᑕᒪᐃᓐᓂ ᓴᓇᖅᑭᑎᒃᓴᓇᔭᐅᓂᐊᖅᑐᓂ, ᖃᐅᔨᓴᖅᑕᐅᓕᖅᓚᔪᐃᑦ ᐊᓂᖅᓵᖅᑐᖅᑕᐅᐸᓂᖅᒪ ᓯᓚ ᐊᐅᓚᑕᐅᓂᐊᖅᑐᖅ ᐃᑳᖅᑎᑕᐅᓪᓗᓂ ᖃᐅᔨᓴᕐᕕᒃᑯᑦ, ᐊᐸᓗᒍᐊᖅᑎᑕᐅᒃᑲᓐᓂᕐᓗᑎᒡᓗ ᓴᒃᑯᑕᐅᓕᕐᒧᑎᒃ ᓯᓚᒍᑦ, ᓇᓪᓕᐊᖕᓂᑐᐃᓐᓇᖅ ᐊᑐᕐᒧᑎᒃ, ᐊᔾᔨᖅᑕᐅᓯᒪᖏᑦᑐᓂᒃ ᐅᕙᑦᑎᓐᓂᒃ ᐃᐲᔭᐃᒍᑎᒃᑯᖅᑎᑕᐅᒧᑎᒃ ᐊᒻᒪᓗ ᓴᓗᒪᖅᓴᐅᓯᐊᑎᒃ- ᐊᐸᑎᒥᒃ ᐊᒃᑐᖅᓯᓯᒪᓗᐊᖅᐳᑦ ᖃᐅᔨᓴᐅᓂᐊᖅᑕᑦᑎᓐᓂ ᐱᔾᔪᑎᖅᑲᕈᓇᖅᐳᑦ ᑐᓴᖅᓴᐅᔪᖅᑲᖅᑎᒥᐊᓕᐅᕐᓂᖏᓐᓂᒃ ᐱᖁᑎᑦᑎᓐᓂ ᐊᑐᕐᓂᐊᖅᑕᑦᑎᓐᓂ ᖃᐅᔨᓴᕐᓂᒥ ᐊᒻᒪᓗ ᓄᓇᒥᓂᑎᓐᓂ ᐃᓪᓗᕿᓯᒥ ᑕᐅᕙᓂ. ᑕᒪᓯᒥᒃ ᑖᒃᑯᐊᒃ ᐊᖏᔪᒥ ᐊᑦᑐᐃᓂᖅᑲᖅᓂᐊᕋᓯᖏᑦ ᓴᓂᐊᓂ ᑕᐃᒃᑯᓇᖅᒪᑦ ᖃᓂᒋᔭᖅᒪ ᖃᖑᑭᖅᑲᐱᐸᐅᓕᐊᖅᑐᓄᑦ ᐊᒻᒪᓗ ᑐᓂᐅᖅᑲᖅᑕᐅᔪᓇᖅᓂᖅᒥᑦ ᖃᐅᔨᓴᐅᑉᐸᓪᓕᐊᓂᐊᖅᑐᑦ, ᑐᑭᓴᐅᓂᖅᒥᑦ ᐊᒻᒪᓗ ᐊᑐᑭᒪᓂᐊᕐᒥᔪᓄᑦ:- ᖃᐅᔨᓴᖅᓂᑦᑎᓐᓂ, ᖃᐅᔨᓴᐅᑉᐸᓪᓕᐊᓂᖏᑦ ᐃᓕᐅᖅᑲᖅᑕᐅᓕᐊᓂᐊᖅᑐᑦ ᑲᑎᖅᓯᖅᑕᐅᓗᑎᒃ ᖃᓇᑕᐅᔭᒃᑯᑦ, ᖃᐅᑕᓖᖅ, ᒪᕿᖅᓄᑦ ᖃᓇᑕᐅᔭᒃᑯᑦ ᐃᓕᐅᖅᑲᐃᕕᓇᓄᑦ ᓴᐳᓐᓂᐊᖅᑕᐅᓯᒪᐱᓐᓇᐊᖅᑕᐅᓗᑎᒃ, ᑕᐃᒪᐃᓕᖅᓚᖅᑐᓗᑎᒃ ᐱᖅᓚᓯᓂᒃ ᐱᑕᖅᑲᐃᓐᓇᓂᐊᖅᒪᑕ ᖃᐅᔨᓴᒪᔾᔪᑎᑦᓴᐅᓂᐊᖅᑐᓂ ᑕᐃᒃᑯᓂᖅᒪᑦᓴᐃᓐᓇᖅ- ᑭᖑᑦᑐᓪᓕᖅᐸᓪᓕᐊᑦᓴᐃ ᖃᐅᔨᓴᕐᒪᕆᓪᓚᑦᓴᐃ ᐅᖅᑲᓕᖅᒪᓕᐊᓇᔭᐅᓂᐊᖅᑐᑦ ᒪᑐᐃᖅᓚᐅᓇᖅᑐᓂ ᑕᑯᔭᐅᖅᑲᑦᑕᕈᓇᖅᓂᐊᖅᑐᓂ ᑕᐃᔭᐅᓯᓂᒃ ᖃᓇᑕᐅᔭᒃᑯᑦ Dataverse-ᑯᑦ, ᑕᐃᑲᖅᓚᑦ DᐋᓪHᐊᐅᓯᑉ ᐃᓕᓐᓂᐊᕕᓪᔪᐊᓇᓂᖅᐹᓪᓚᓂ- ᑐᓴᐅᒪᖅᑲᑦᑕᐅᑎᓐᓇᐅᓯᐊᖅᑐᒍᑦ ᐊᑦᑎᓕᓇᖅᑯᓐᓂ ᓴᐳᓐᓂᐊᖅᑎᒃᑯᑦ ᐃᖅᑲᓇᐃᔭᖅᓚᓐᓂ ᓄᓇᕗᒻᒥ, ᑲᒪᒋᔭᐅᑦᑎᐊᖅᑯᓪᓗᒥᑦ ᖃᓄᐃᓕᖅᓚᖅᓚᓂᖅᒥᑦ ᖃᐅᔨᓴᓚᓴᓂᑦᑕᐅᕙᓐᓂᐊᖅᑐᑦ ᐊᒻᒪᓗ ᑭᓇᒃᑯᓐᓄᑦ [illegible]

Personnel

Personnel on site: 8

Days on site: 30

Total Person days: 240

Operations Phase: from 2021-07-01 to 2021-09-30

ᐱᓕᕆᐊᕆᔭᐅᓂᐊᖅᑐᑦ

ᓇᒥ	ᖃᓄᐃᑦᑑᒥᑦ ᐱᓕᕆᐊᖃᕐᓂᐊᖅᐸ	ᑭᑯᑦ ᓄᓇᖁᑖᓂ	ᑐᓴᐅᒪᔭᒃᓴᑦ ᓄᓇᐅᐸ ᖃᓄᖅ ᐊᑐᒐᐅᓚᐅᖅᓯᒪᔭᕆᐊᖁᓐᓂᒃ	ᐃᑦᓴᕐᓂᑕᖃᕐᕕᐅᑦᓚᐅᖅᐸ ᐃᓄᒃᓄᑦ ᓇᔪᖅᑕᐅᖃᑦᑕᕐᓂᖁᓕᓗ ᑕᐃᑦᓯᒪᓂᑐᖃᐅᓕᖅᑐᖅ	ᖃᓂᓐᓂᖅᐹᖅ ᓄᓇᓕᒋᔭᐅᔪᖅ ᐊᒻᒪᓗ ᓴᐳᒻᒥᒃᓰᕕᐅᓯᓗ ᓱᓇᓄᑦ
Environment and Climate Change Canada Canadian Arctic Weather Science site	Scientific/International Polar Year Research	Crown	This is an existing weather observation station belonging to ECCC.	N/A	Iqaluit

ᓄᓇᓕᐅᐸ ᐃᓚᐅᕐᑲᑕᐅᓂᖓ ᓄᓇᓖᑦᓗ ᐊᕕᒃᑐᖅᓯᒪᐅᕐᓂᖓᓄᑦ ᐃᑲᔪᑕᐅᔪᓐᓇᖅᑐᑦ

ᓄᓇᓕᒋᔭᖅ	ᐊᑏᑦ	ᑲᑐᔾᔨᐊᖃᑎᒌᒋᔭᖅ	ᖃᖓᓗ ᑐᓴᖅᑎᑕᐅᓚᐅᕆᐊᖕᒥᓐᓂᒃ
ᐃᖃᓗᐃᑦ	Zen Mariani	Environment and Climate Change Canada	2019-09-16

ᓚᐃᓴᓐᓰᑦ ᐱᒧᖕᓇᐅᑏ ᐊᖕᒋᖅᑕᐅᓯᒪᔪᑦ

ᓇᒦᒋᐊᖕᒋᓐᓂᒃ ᐱᓕᕆᐊᕆᕝᕕᐅᓂᐊᖅᑐᑦ ᑎᑎᕋᕐᓗᒋᑦ:

South Baffin

ᓚᐃᓴᓐᓰᑦ ᐱᒧᖕᓇᐅᑏ ᐊᖕᒋᖅᑕᐅᓯᒪᔪᑦ

ᒐᕙᒪᒋᔭᐅᔫᑉ ᐊᕕᒃᑐᖅᓯᒪᐅᕐᓂᖕᒐᓐᓂ ᒪᓕᒐᕐᓅᖕᒐᔪᓂᒃ ᐱᖁᔭᕐᓅᖕᒐᔪᓂᒡᓗ ᑲᒪᔩᑦ ᐱᔪᖕᓇᐅᑎᑖᕈᑎᓂᒃ ᓚᐃᓴᓐᓯᓅᓪᓗ ᑲᔪᓯᒃᑲᐃᔩᑦ	ᖃᓄᐃᑦᑐᓪᓚᓇᐅᕙ ᓚᐃᓴᓐᓯᑖᕈᑕᐅᔪᖅ ᐱᔪᖕᓇᐅᑎᑖᕈᑕᐅᔪᖅ ᐊᖕᒋᖅᑕᐅᔪᕐᓘᓐᓃᑦ	ᒫᓐᓇ ᖃᓄᐃᓕᖕᒐᕙ	ᐅᓪᓗᒥ ᑐᓂᔭᖅ/ ᑐᒃᓯᖅᑑᑕᐅᓚᐅᖅᓯᒪᔪᖅ	ᑭᒡᓕᖅᑲᕐᕕᖕᒐ
Environment and Climate Change Canada	Permission to access weather station provided it is safe to travel	Active		
ᓄᓇᕗᒥ ᖃᐅᔨᓴᖅᑐᓕᕆᔨᒃᑯᑦ	Decision pending	Applied, Decision Pending		

Project transportation types

Transportation Type	ᓱᓇᒧᑦ ᐊᑐᒐᐅᓂᐊᖅᐸ	Length of Use
Air	Flight into Iqaluit	
Land	Car rental in city	

Project accomodation types

ᓄᓇᓕᒥᔭᖅ

ᐊᑐᒐᐅᓂᐊᖅᑐᖅ

ᐱᕐᑯᑦ ᐊᖏᔪᖅ ᐊᑐᖅᑕᐅᓂᐅᓴᔪᖅ ᐃᓚᕐᑲᓯᐅᑎᓗᒋᑦ ᐃᑰᑕᐃᑦ, ᒥᓪᓗᐊᕈᑏᑦ, ᖃᖓᑕᓲᖅ, ᓄᓇᓯᐅᑦ ᐊᓯᖏᓪᓗ

ᐊᖏᔪᖅ ᐱᕐᑯᑦ ᐊᑐᒐᐅᓂᐊᖅᑐᖅ ᖃᓄᐃᑦᑑᓂᖓ	ᖃᑦᓯᐅᕙᑦ	ᐊᖏᓂᖏᑦ - ᐳᖅᑐᓂᖏᑦ	ᓱᓇᒧᑦ ᐊᑐᒐᐅᓂᐊᖅᐸ
Air Sampling Equipment	12	2'x3'	Instruments will sample ambient air to measure O3, NO, NO2, HCl, volatile organic compounds, and particle size, number concentration and chemical composition.

ᑎᑎᕋᐅᓯᖏᓗᒍ ᐅᖅᓱᒃᓴᐃᑦ ᐊᑦᑕᓇᖅᑐᖅᑕᓖᓪᓗ ᐊᑐᖅᑕᐅᓂᐊᕐᓂᖏᑦ

ᓱᓇᒧᑦ ᐅᖅᓱᒃᓴᒡᒥᐊᖅ ᐊᑐᒐᐅᓂᐊᖅᐸ	ᖃᓄᐃᑦᑐᓪᓚᖏᐅᕙ ᐅᖅᓱᒃᓴᒡᒥᐊᖅ	ᖃᑦᓯᐅᕙᑦ ᐅᖅᓱᒃᓴᕐᑲᐅᑏᑦ	ᑑᒃᓴᐅᐸ ᐃᒪᕐᖃᖅᑎᒥᔪᓐᓇᕐᓂᖓ	ᑲᑎᓪᓗᒍ	ᑑᒃᓴᐃᑦ ᐊᒥᓲᓂᖏᑦ	ᓱᓇᒧᑦ ᐊᑐᒐᐅᓂᐊᖅᐸ
Butanol	hazardous	2	1	2	Liters	Solvent used in particle counting instrument. An activated charcoal scrubber will be used to prevent the butanol from contaminating the air.

ᐃᒪᖅ ᐊᑐᖅᑕᐅᔭᒫᖅᑐᖅ

ᐅᓪᓗ ᑕᒫᖅ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᖅ	ᖃᓄᖅ ᐃᒥᖅᑕᕐᑲᑦᑕᕐᓂᐊᖅᐸᑦ	ᓇᑭᑦ ᐃᒥᖅᑕᕐᑲᑦᑕᕐᓂᐊᖅᐸᑦ
0		

ᐊᑲᑕᔪᑦ

ᐊᑲᑕᔪᓪᓗᓂᐊᕐᓂᖅ

ᐱᓪᓗᐊᓗᕆᐅᔾᔨᒪᔨᔪᒍᑦ ᐱᓪᓗᐊᓗᕆᐅᓂᐊᖅᑐᖅ	ᖃᓄᐃᓕᑦᑐᖅ ᐊᑲᑕᔪᖅ	ᖃᓄᓂᑎᒋᑦ ᐊᑲᑕᔪᑦ ᓴᖅᑭᐊᓂᐊᖅᑐᓗᕆᐅᕐᓴᑦ	ᖃᓄᓄᖅ ᐊᑲᑕᖅᑕᐅᓂᐊᖅᐸ	ᓴᓪᒪᒪᖅᓴᐅᑎᑲᓴᓚᖅᓂᐅᓂᐊᖅᑐᑦ
Information is not available				

ᐊᓯᑎᒥᐅᑕᓂᑦᑐᑦ ᐊᑲᑐᖅᑕᐅᓂᒪᔨᔪᑦ

A 10'x6' trailer filled with equipment will be added to the existing Iqaluit Meteorological Supersite. Additional equipment will be set up outside the trailer. All equipment will be sampling ambient outdoor air, either passively by collecting absorption spectra directly, or actively by sucking air through an instrument and then exhausting it back into the atmosphere without any alterations or cleaner, with particulate matter removed. With the exception of one system which uses butanol as a solvent, there are no environmental impacts anticipated due to the direct use of the sampling equipment except for additional noise. Since the proposed site is next to the airport runway, the added noise would be negligible. To mitigate the environmental impact of the butanol instrument, the output will be passed through an activated charcoal scrubber to remove the butanol before being exhausted back into the air. The environmental impact of additional temporary structures at the site is thought to be negligible when compared to the infrastructure already present.

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

ᐃᓚᓪ ᐊᕐᑎᐅᐸ ᖃᓄᐃᑦᑐᓕᕆᐅᓂᖅ: ᓄᓇᐅᐸ ᖃᓄᐃᑦᑐᓂᖅ

The proposed sampling site would be part of the existing ECCC weather observation station SW of the airport runway in Iqaluit. The temporary addition of our instruments should have minimal additional impact on the physical environment.

ᐃᓚᓪ ᐊᕐᑎᐅᐸ ᖃᓄᐃᑦᑐᓕᕆᐅᓂᖅ: ᐅᒪᔨᖅᑕᖃᖅᓂᖅ

N/A

ᐃᓚᓪ ᐊᕐᑎᐅᐸ ᖃᓄᐃᑦᑐᓕᕆᐅᓂᖅ: ᐃᓄᓕᕆᓂᖅᓯᒃᑎᓴᑦ-ᐱᕐᓕᐊᔪᓕᕆᓂᖅᓯᒃᑎᓴᑦ

The site is part of the City of Iqaluit

Miscellaneous Project Information

N/A

ᓄᓕᓇᐃᖅᑕᐅᓂᖏᑦ ᐊᒃᑐᖅᑕᐅᔨᒪᔪᑦ ᖃᓄᐃᑦᑐᓂᖏᑦ ᕿᓕᐅᒋᔭᐅᖅᑕᐅᓂᐊᖅᓂᖏᓪᓗ

See Impacts section. No mitigation measures are proposed.

Cumulative Effects

Due to the short nature of the study (30 days) and the anticipated additional impact compared to the existing structures and activities, we expect the cumulative effects to be negligible.

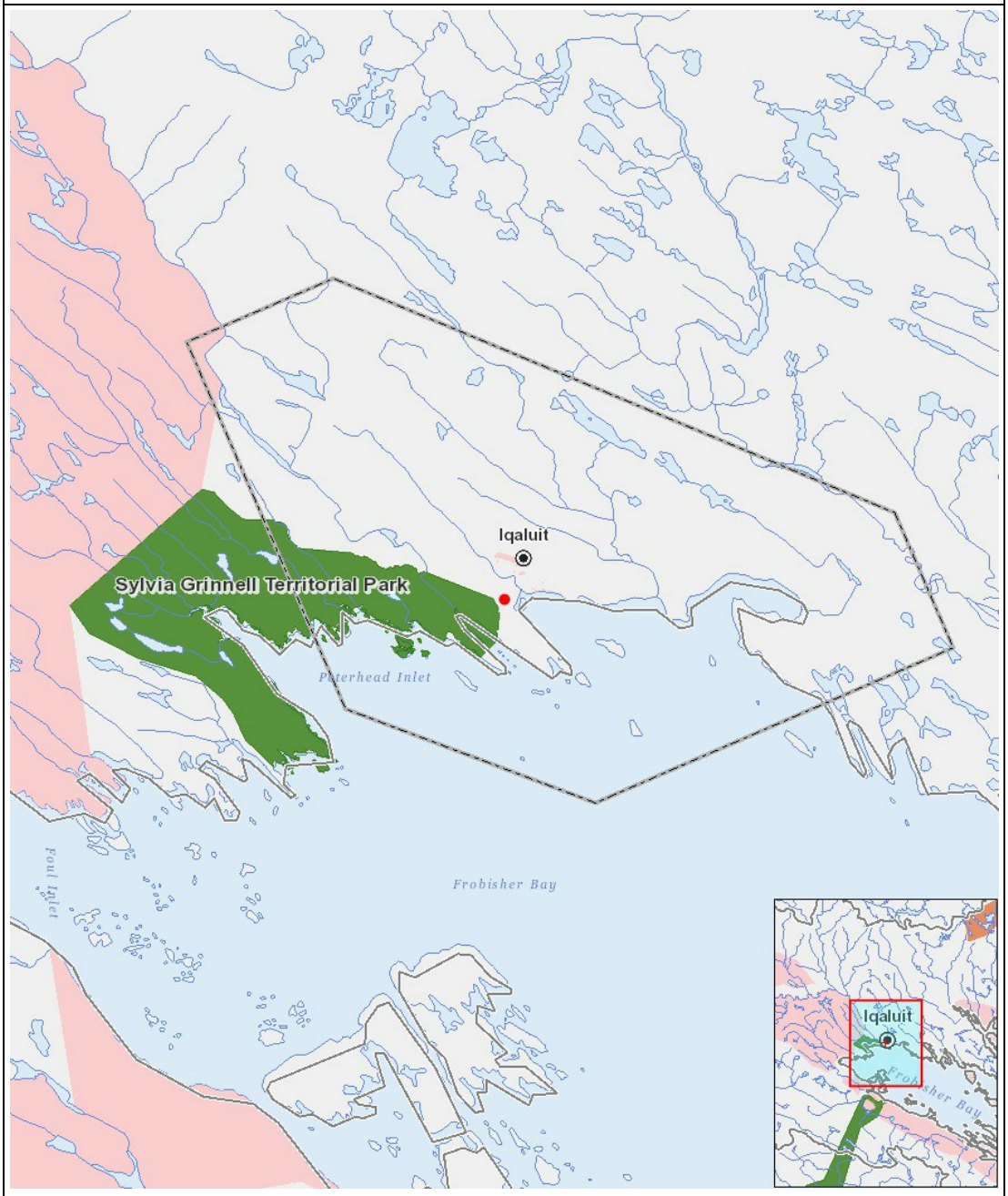
Impacts

ᓄᓇᓕᐃᖅᑕᐅᓂᖅᑎᑦ ᐊᐢᑎᑎᒥᐅᑕᓂᑐᑦ ᐊᖅᑐᖅᑕᐅᓯᒪᔪᑦ

	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
ᓴᓇᓂᖅ																										
-			-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-
ᐅᔾᕿᑲᑕᕿᓂᖅ																										
Scientific/International Polar Year Research			-	-	-	-	-	-	-	-	-	-	-	P	N		-	-	-	-	-		-	-	-	P	P
ᐃᑐᑦᑎᓇᓂᖅ																										
-			-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-

(P = ᐊᖅᐅᓇᑭᑎᐊᕐᓇᖅᑐᑦ, N = ᐊᖅᐅᖅᑭᔨᔪᑕᐅᐊᕐᓇᖅᑐᑦ ᕿᓚᐅᒥᔨᔪᓯᖅᑐᖅᑕᐅᓯᒪᐊᕐᓇᖅᑐᑦᓗ, M = ᐊᖅᐅᖅᑭᔨᔪᑕᐅᐊᕐᓇᖅᑐᑦ ᕿᓚᐅᒥᔨᔪᓯᖅᑐᖅᑕᐅᓯᒪᐊᕐᓇᖅᑐᑦᓗ, U = ᖃᖅᐅᓕᒫᓇᖅᑭᑎᖅ)

ᓇᒋᒪᖃᕐᓂᖅ ᐱᓕᓇᐊᓇᓴᐅᔪᖅ



List of Project Geometries

1 point Environment and Climate Change Canada Canadian Arctic Weather Science site