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SCIENTIFIC RESEARCH LICENCE APPLICATION LAND, FRESHWATER & MARINE BASED RESEARCH

NRI strongly recommends that applicants review the following documents prior to submitting an application: *Scientific Research Licencing Guidelines* and *Negotiating Research Relationships in Inuit Communities: A Guide for Researchers*.

IMPORTANT

This application fulfills the requirements for the NIRB environmental screening. Please be advised that your application will not be processed until the application form, project summary, and maps are received. All documents should be uploaded in the following formats: MS Word, Adobe PDF or jpeg.

SECTION 1: APPLICANT INFORMATION

1a. Project Title [Permafrost Atmospheric Science in Cambridge Bay, Canada](#)

1b. Project Number

Please indicate if applicant has submitted any previous application(s) to NRI related to this project proposal? Yes () No (o)

If yes, please indicate the previous NRI licence number:

Please indicate if applicant has submitted any previous application(s) to NIRB related to this project proposal? Yes () No (o)

If yes, please indicate the previous NIRB licence number(s):

2. Applicant's full name and mailing address:

[Ok-Sun KIM, Senior Research Scientist, Korea Polar Research Institute](#)

Phone: +82 32 260 6315

Fax: +82 32 260 6301

Email: oskim@kopri.re.kr

3. Field Supervisor's name and mailing address:

[Young Jun Yoon, Principal Research Scientist, Korea Polar Research Institute](#)

Phone: +82 32 260 6233

[Ok-Sun KIM, Senior Research Scientist, Korea Polar Research Institute](#)

Fax: +82 32 260 6109

Email: yjyoon@kopri.re.kr

4. Other Personnel list (name, position, affiliation)

[Tae Jin Choi, Joochan Lee, Senior Research Scientist, Korea Polar Research Institute](#)

[Byung-Kwon Park, Research Scientist, Korea Polar Research Institute](#)

[Ji Young Jung, Post Doctoral Scientist, Korea Polar Research Institute](#)

[Soon Gyu Hong, Principal Research Scientist, Korea Polar Research Institute](#)

[Sungjin Nam, Ahnna Cho, Hyunju Noh, Hey Young Kwon, Research Scientist, Korea Polar Research Institute](#)

SECTION 2: AUTHORIZATION NEEDED

1. Indicate all authorizations associated with the project proposal:

<input type="checkbox"/> Regional Inuit Association (RIA)	<input type="checkbox"/> Canadian Launch Safety (CLS)
<input type="checkbox"/> Nunavut Water Board (NWB)	<input checked="" type="checkbox"/> Environment Canada (EC)
<input type="checkbox"/> Nunavut Planning Commission (NPC)	<input type="checkbox"/> Department of Environment (GN)
<input type="checkbox"/> Department of Indian And Northern Development (DIAND)	<input type="checkbox"/> Department of National Defense (DND)

- | | |
|---|--|
| <input type="checkbox"/> Department of Fisheries and Oceans (DFO) | <input type="checkbox"/> Hamlet |
| <input type="checkbox"/> Community Government & Services (CG&S) | <input type="checkbox"/> Parks Canada (PC) |
| <input type="checkbox"/> Nunavut Research Institute (NRI/GN) | <input type="checkbox"/> Canadian Wildlife Service (CWS) |
| <input type="checkbox"/> Department of Culture, Language, Elders, and Youth (CLEY/GN) | <input type="checkbox"/> Other (please specify): |

2. List the active permits, licences, or other rights related to the project proposal and their expiry date:

Permit: _____ Expiry Date _____

3. Have you applied for all authorizations required to conduct the project proposal activities?

Yes No

SECTION 3: PROJECT PROPOSAL DESCRIPTION

1. Indicate the activities related to the project proposal:

- | | |
|---|--|
| <input type="checkbox"/> Temporary camp (to be removed at end of field season) | <input type="checkbox"/> Soil disposal/ soil storage |
| <input type="checkbox"/> Permanent camp (to remain for life of authorization) | <input type="checkbox"/> Incineration of combustible wastes and removal of non-combustible wastes |
| <input type="checkbox"/> Construction of recreational or safety cabin | <input type="checkbox"/> River/ stream/ lake crossing or work/ bridge |
| <input type="checkbox"/> Temporary fuel storage (to be removed at end of field season) | <input type="checkbox"/> Drainage alteration |
| <input type="checkbox"/> Permanent fuel storage (to remain for life of authorization) | <input type="checkbox"/> Geoscientific sampling by diamond drilling |
| <input checked="" type="checkbox"/> Placement of structures for life of permit (other than camp or cabin i.e. scientific instruments) | <input checked="" type="checkbox"/> Geoscientific sampling by soil sampling |
| <input type="checkbox"/> Placement of permanent structures (other than camp or cabin i.e. scientific instruments) | <input type="checkbox"/> Geoscientific sampling by trenching |
| <input type="checkbox"/> Air surveys (i.e. geophysical, wildlife) | <input type="checkbox"/> Geoscientific sampling by borehole core |
| <input checked="" type="checkbox"/> Use of aircraft/watercraft/land vehicle for personnel drop-off and pick-up to project location | <input type="checkbox"/> Blasting |
| <input type="checkbox"/> Use of on-site mechanized vehicles (i.e. atv, snowmobile, truck, zodiac) | <input type="checkbox"/> Channeling |
| <input type="checkbox"/> Sewage or grey water disposal via sump | <input type="checkbox"/> Excavation |
| <input type="checkbox"/> Hazardous waste storage or disposal | <input type="checkbox"/> Hydrological testing |
| <input type="checkbox"/> Solid waste disposal | <input type="checkbox"/> Abandonment and restoration |
| <input type="checkbox"/> Chemical storage | <input type="checkbox"/> Site restoration (fertilization/ grubbing/ scarification/ spraying/ recontouring) |
| <input type="checkbox"/> Explosives storage | <input checked="" type="checkbox"/> Research |
| <input checked="" type="checkbox"/> Soil testing | <input checked="" type="checkbox"/> Ecological survey |
| <input type="checkbox"/> Harvesting | <input checked="" type="checkbox"/> Removal of vegetation for scientific purposes |
| <input type="checkbox"/> Other: | |

2. Personnel

Total No. of personnel on site = (A) **3, 2, 5**

Total No. of days on-site = (B) **5, 15, 10**

Total No. of Person days (A) × (B) = **15, 30, 50**

3. Timing

Period of operation: **29th of June, 2012** to **12th of July, 2012**
 Proposed term of authorization: **29th of June, 2012** to **31th of October, 2016**

Please outline the phases of the proposed project (construction/ operation/ decommissioning) including the timing and scheduling of each phase.

6/29/2012-7/03/2012 5 persons Installation of eddy covariance system and eathalometer and measurement of active layer using Ground Penetrating Radar
7/07/2012-7/11/2012 7 persons Installation of open top chamber and collection of soil and lichens

4. Location(s) of data collection:

Location Name	Region North Baffin, South Baffin, Kivalliq, Kitikmeot	Co-ordinates Lat (degree / minute), Long (degree / minute)	NTS Map Sheet Nr.	Land Status Crown, Commissioners' Inuit Owned
Cambridge Bay	Kitikmeot	69° 08' 13.50" N, 105° 03' 28.20" W	77D2	Federal Government Department (Environment Canada)

If the project proposal includes a **camp**, please provide the coordinates of the camp location

Lat (degree/minute)

Long (degree/minute)

NTS Map Sheet Nr. (if different from above)

Please attach maps (preferably 1:250,000 scale) which clearly indicate camp sites and research sites. PDF, jpeg or tiff versions are requested.

[land-077d02_0200.pdf](#)

The Nunavut Impact Review Board may require additional location information in a subsequent Project Specific Information Requirement (PSIR) submission. This may take the form of a digital Geographic Information Systems (GIS) file.

SECTION 4: NON-TECHNICAL PROJECT PROPOSAL DESCRIPTION

Please attach a non-technical description of the project proposal, no more than 500 words, in English and Inuktitut (+Inuinnaqtun, if in the Kitikmeot). The project description should outline the following:

- Project Title
- Researcher's Name and Affiliation
- Project Location
- Timeframe
- Project Description
 - purpose
 - goals & objectives
 - method of transportation
 - any structures that will be erected (permanent / temporary)
 - restoration / abandonment plans
- Methodology
 - collection protocol
 - collection mechanisms
 - indicate why specific communities or individuals were selected for your research
- Data
 - short term & long term use of data
 - other uses of data
- Reporting
 - How will the research results be communicated to the individual participants, communities, regional and Nunavut organizations?
 - Will the research result in a publication?

[land-KOPRI_application_Section4.docx](#)

[land-inuinnKOPRI_application_Section4-Inuinnaqtun \(1\).doc](#)

SECTION 5: MATERIAL USE

1. List equipment (including drills, pumps, aircrafts, vehicles etc.):

Equipment type and number	Size & dimensions	Proposed use
Sonic anemometer (1)	50x25x25 cm	Wind measurement
Infrared gas analyzer (1) / Aethalometer (1)	50x5x30 cm / 60x40x40 cm	H2O and CO2 measurement / Black carbon measurement
Pump (1)	30x20x20 cm	Air pump for Aethalometer
Open top chamber (hexagonal type), (20)	2x2x0.5 m (W x L x H), each	To increase air temperature, 1-2 °C
Square plot (control), (20)	2x2x1 m (W x L x H), each	To increase precipitation and control plots, establish barriers to prevent grazing
Ground Penetrating Radar (1)	50x50x30 cm	Active layer measurement

2. Detail fuel and hazardous material use:

Fuel	Number of Containers and Capacity of Containers	Total Amount of Fuel (in Litres)	Proposed Storage Methods
Diesel			
Gasoline			
Aviation fuel			
Propane			
Other			
Hazardous Materials and Chemicals		Total Amount of Hazardous Materials and Chemicals (in Litres)	

3. Detail daily water consumption rates

Daily amount (in Litres)
6 L

Proposed water retrieval methods
From glacial stream

Proposed water retrieval location
Stream from the Lake Grenier

4. Have you applied for a Class A Licence with the Nunavut Water Board?

()	YES	(o)	NO
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SECTION 6: WASTE DISPOSAL AND TREATMENT METHODS

1. List the types of waste:

Type of waste	Projected amount generated	Method of Disposal	Additional treatment procedures
Sewage (human waste)			
Greywater			
Combustible wastes			
Non-Combustible wastes			
Overburden (organic soil, waste material, tailings)			
Hazardous waste			
Other:			

2. Will you be incinerating combustible waste, removing all solid waste, and removing the ash generated from incineration?

YES NO

SECTION 7: COMMUNITY INVOLVEMENT & REGIONAL BENEFITS

1. List the community representatives that have been contacted and provide the minutes of the meetings if available:

Minute	Name	Organization	Date Contacted
Cambridge Bay	Tara Arko, Kelli Gillard	NIRB	7/20/2011
	Rick Gilis	Manager of Weather station tower	7/21/2011
	Jim MacEachern, Nicole Robinson	CB Development	7/20/2011

2. How will the proposed project benefit Nunavut? Will your project provide local employment or training opportunities? Please specify.

- 1) A multidisciplinary facility exploring the cutting-edge of Arctic Science and technology.
- 2) To advance Nunavut's knowledge about the Arctic climate and to ensure the Nunavut's communities are prosperous, vibrant and secure and possibility to make long-term or short term contracts for the management of our equipments
- 3) Education or explanation of our projects leading the importance of the Arctic climate change to the globe

3. Please describe the nature of local services and/or logistic support that will be required from local communities, eg. Equipment, accommodations, outfitting, translations...

Accommodation (Private house or hotel)

4. Describe and attach documentation regarding community support or concerns for the proposed project?

Need to notify our project to the natives for the protection of our instruments in the fields
Long-term or short-term contracts for the management of our equipments

5. Is there a traditional knowledge component to this research project? If yes, please explain:

No.

SECTION 8: GENERAL QUESTIONS

1. Do you give NRI permission to publish project information in the Nunavut Research Institute Annual Compendium of Research Undertaken in Nunavut?

YES NO

2. Is the proposed research associated with International Polar Year (IPY)?

YES NO

Applicant:

Ok-Sun Kim Senior Research Scientist, Korea Polar Research Institute
Signature Title

29th of April 2012
Date

P.O. Box 1720 Iqaluit, NU, X0A 0H0 • PHONE: 867-979-7279 • FAX: 867-979-7109 • email mosha.cote@arcticcollege.ca

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