



## 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.

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### SECTION 1: APPLICANT INFORMATION

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**1a. Project Title** [Pan-Arctic Measurements and Arctic Regional Climate Model Simulations \(PAMARCMIP\) 2011](#)

**1b. Project Number**

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

If yes, please indicate the previous NRI licence number: 0201709-A

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

If yes, please indicate the previous NIRB licence number(s): 09YN010

**2. Applicant's full name and mailing address:**

<p><a href="#">Walter Strapp and Andreas Herber (see 3 for address)</a></p> <p><a href="#">Cloud Physics and Severe Weather Research Section</a> Environment Canada, 4905 Dufferin Street, Toronto, Ontario M3H5T4</p>	<p><b>Phone:</b> <a href="#">416 739 4617</a></p> <p><b>Fax:</b> <a href="#">416 739 4211</a></p> <p><b>Email:</b> <a href="mailto:walter.strapp@ec.gc.ca">walter.strapp@ec.gc.ca</a></p>
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**3. Field Supervisor's name and mailing address:**

<p><a href="#">Dr. Andreas Herber Alfred Wegener Institute for Polar and Marine Research, P.O. Box 120161, 27151 Bremerhaven, Potsdam, Germany</a></p> <p><a href="#">Dr. Chris Derksen Climate Research Division, Environment Canada, 4905 Dufferin Street, Toronto, ON M3H5T4</a></p> <p><a href="#">Dr. Christian Haas University of Alberta Depts. Earth &amp; Atmospheric Sciences and Geophysics 1-26 ESB Edmonton, Alberta, T6G2E3</a></p>	<p><b>Phone:</b> <a href="#">416-739-5804</a></p> <p><b>Fax:</b> <a href="#">416-739-4700</a></p> <p><b>Email:</b> <a href="mailto:andreas.herber@awi.de">andreas.herber@awi.de</a> <a href="mailto:chris.derksen@ec.gc.ca">chris.derksen@ec.gc.ca</a> <a href="mailto:christian.haas@ualberta.ca">christian.haas@ualberta.ca</a></p>
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**4. Other Personnel list (name, position, affiliation)**

<p><a href="#">Peter Liu, Scientist, Environment Canada</a></p> <p><a href="#">Michael Harwood, Technician, Environment Canada</a></p> <p><a href="#">Peter Toose, Scientist, Environment Canada</a></p>	<p><a href="#">Martin Gehrman, Scientist, Alfred Wegener Institute</a></p> <p><a href="#">Manuel Sellmann, Scientist, Alfred Wegener Institute</a></p> <p><a href="#">Arvids Silis, Scientist, Environment Canada</a></p>
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### SECTION 2: AUTHORIZATION NEEDED

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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 checked="" 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 checked="" type="checkbox"/> Other (please specify):<br>University of Alberta, Canada; Alfrd Wegener Institute, Germany.e |

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

Permit:	Expiry Date
02 075 10R-M (NRI license for C. Haas)	due for renewal December 2010
_____	_____

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 checked="" 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 checked="" 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 type="checkbox"/> Placement of structures for life of permit (other than camp or cabin " i.e. scientific instruments) | <input 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 checked="" type="checkbox"/> Air surveys (i.e. geophysical, wildlife)   | <input type="checkbox"/> Geoscientific sampling by borehole core   |
| <input type="checkbox"/> Use of aircraft/watercraft/land vehicle for personnel drop-off and pick-up to project location      | <input type="checkbox"/> Blasting  |
| <input checked="" 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 type="checkbox"/> Soil testing  | <input type="checkbox"/> Ecological survey   |
| <input type="checkbox"/> Harvesting  | <input type="checkbox"/> Removal of vegetation for scientific purposes                                       |
| <input type="checkbox"/> Other: _____  |  |

2. Personnel

Total No. of personnel	15	Total No. of days on-	16	Total No. of Person days	240
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on site = (A) site = (B) (A) – (B) =

**3. Timing**

**Period of operation:** April 10 2011 to April 26 2011  
**Proposed term of authorization:** April 1 2011 to April 30 2011

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

The anticipated schedule for aircraft operations is: Resolute Airport: April 10-14 2011; Alert Airport: April 14-20 2011; Eureka Airport: April 20-25 2011 (all dates estimated). For ground activities: 5 people from EC will arrive Eureka ~ 13 April 2011.

2 person will be at Eureka to provide support to Polar-5 and helicopter surveys. 3 scientists will establish a temporary camp near Hot Weather Creek to conduct snow surveys. Their mode of travel is snowmobiles. Camp will be decommissioned and waste removed.

**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, Commissionersâ€™, Inuit Owned
Resolute Bay	North Baffin	74:43:01:N:94:58:10:W	---	---
Alert	North Baffin	82:31:04:N:62:16:50:W	---	---
Eureka	North Baffin	79:59:41:N:85:48:48:W	---	---
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If the project proposal includes a **camp**, please provide the coordinates of the camp location

Lat (degree/minute) 79:56:06N Long (degree/minute) 84:23:53W

NTS Map Sheet Nr. (if different from above)

340B, 049G, 049H SEE ATTACHED WORD DOCUMENT ENTITLED "GIS Reference List.doc" and attached ZIP file entitled "NRI Application - PAMARCMIP 2011 GIS Files.zip"

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

[Frm634278391298164322land-NRI Application - PAMARCMIP 2011 GIS Files.zip](#)  
[Frm634278391298632319land-NRI GIS Reference List.doc](#)

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
  - o purpose
  - o goals & objectives
  - o method of transportation
  - o any structures that will be erected (permanent / temporary)
  - o restoration / abandonment plans
- Methodology
  - o collection protocol

- o collection mechanisms
- o indicate why specific communities or individuals were selected for your research
- Data
  - o short term & long term use of data
  - o other uses of data
- Reporting
  - o How will the research results be communicated to the individual participants, communities, regional and Nunavut organizations?
  - o Will the research result in a publication?

[Frm634278391298632319land-NRI Application - PAMARCMIP 2011 Project Description.doc](#) \_\_\_\_\_

**SECTION 5: MATERIAL USE**

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

Equipment type and number	Size " dimensions	Proposed use
Basler DC-3 aircraft "POLAR-5"	LxHxW 20.66x5.2x29 m	Perform airborne science measurements
Snowmobiles (3)	_____	Transportation
Twin Otter DH Dash 7 (2)	LxHxW 17x6.5x22 m	Aerial surveys north of Ellesmere Island
_____	_____	_____
_____	_____	_____
_____	_____	_____

**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	20 x 25 litres	500	Fuel containers are double- housed in a plastic fuel jug within an action packer.
Aviation fuel	76 drums	34200 litres	15200L Stored in 76 drums in Eureka and 19000L in DND large storage tank at Alert 15000L in DND large storage tank at Alert
Propane	5 x 20 litres	100	Standard commercial propane canisters.
Other	_____	_____	_____
Hazardous Materials and Chemicals		Total Amount of Hazardous Materials and Chemicals (in Litres)	
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

**3. Detail daily water consumption rates**

Daily amount (in Litres)	Proposed water retrieval methods	Proposed water retrieval location
50	Melting snowpack.	From snowpack.

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

( ) YES ( ) NO

**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)	_____	Buried	_____
Greywater	_____	There will be very little greywater, as we don	_____
Combustible wastes	Minimal	Burning. Ash bagged and removed.	_____

Non-Combustible wastes	0.5 kg/day	Bagged and removed.	_____
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

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**SECTION 7: COMMUNITY INVOLVEMENT & REGIONAL BENEFITS**

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

Minute	_____	_____	_____
Community	Name	Organization	Date Contacted
PCSP	M. Bergmann	Polar Continental Shelf Project	Oct 26 2010
Eureka station	John MacIver	Environment Canada	Nov 1 2010
Alert	Kevin Anderson	Environment Canada	Aug 12 2010

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

Scientific measurements acquired during PAMARCMIP will ultimately increase understanding of global climate change in the Arctic providing important information affecting Nunavut. Scientific measurements will be carried out over the Arctic Ocean; stations at Alert and Eureka will only be used as a base for the Polar-5 research aircraft and for accommodation of crew and scientists. The project PAMARCMIP will not provide local employment or training opportunities to Nunavut.

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

No community support has been solicited other than airport and accommodations, and no community concerns are known.

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

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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

No.

\_\_\_\_\_  
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**SECTION 8: GENERAL QUESTIONS**

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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:**

Walter Strapp  
Signature

\_\_\_\_\_  
Title

December 13 2010  
Date

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