

**Northern Climate ExChange  
2003-2004 Annual Report**

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# Northern Climate ExChange

## 2003-2004 Annual Report

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## Introduction

The Northern Climate ExChange (NCE), a program of the Northern Research Institute at Yukon College, was established in February 2000 to provide a credible independent source of information, develop shared understanding and promote action on climate change in northern Canada. Its mandate is to promote increased understanding of and appropriate responses to climate change in the North. The NCE is designed to serve as a catalyst for multidisciplinary climate change research in the Canadian North, to facilitate the collection and assessment of scientific and traditional knowledge, and to advance a virtual framework for circumpolar climate change research.

The NCE administers the northern regional office of the Climate Change Impacts and Adaptation Research Network (C-CIARN – North), with offices in each territory, and the Yukon Hub of the National Public Education and Outreach Network (Yukon PEO Hub). The NCE also carries out a variety of projects and activities outside of these national programs. Highlights of NCE activities are described in this report.

The Government of Canada, Government of Yukon and Yukon College are the primary funders of NCE programs and activities.

This annual report describes work completed by the NCE between April 1, 2003 and March 31, 2004



## NCE Services

The NCE and NCE programs provide services in building knowledge, capacity and a climate change network. Activities associated with each of these categories of services are summarized below.

### **Building Knowledge**

*Information Clearinghouse:* The NCE responds to individual and organizational requests for information, both by providing information from our own resources and by linking our clients with other sources of information

*NCE Library:* The NCE is host to a specialist library focusing on climate change impacts and adaptation. The library is fully catalogued using Yukia, with the future intent of being searchable on Yukia, the Yukon's central libraries website once NCE resources allow.

*Speakers Bureau:* The NCE arranges speakers for public or organizational events, either from its own staff or from a roster of climate change experts.

*Calendar of Events:* The NCE maintains a listing of events related to climate change and the North. Information about these events is made available in a variety of ways, including through an email newsletter, events pages on the NCE and C-CIARN North websites, and notification in the C-CIARN North newsgroup.

*Publications:* The NCE produces a number of publications, targeting a variety of audiences, to summarize and disseminate climate change information. These include:

- Weathering Change, the NCE newsletter
- NCE Bulletins, a series of fact sheets
- The NCE Gap Analysis Project
- Proceedings of the Circumpolar Climate Change Summit (special edition of *The Northern Review*)
- Reports of meetings and workshops, including online workshops
- NCE Occasional Paper Series

### **Building Capacity**

*Expertise:* The NCE helps organizations find the expertise they need to deal with climate change issues.

*Funding:* The NCE distributes information about funding sources and provides advice to those preparing proposals for climate change funding.

*Technical Support:* The NCE provides technical support and advice on policies and programs to governments, funding agencies, boards, and other organizations.



## ***Building a Climate Change Network***

*Public Presentations:* The NCE arranges public presentations, either by staff or by other speakers, with the goal of expanding personal contact among those interested in or engaged in work related to climate change.

*Workshops, Meetings, Training Sessions:* The NCE organizes workshops, meetings, and training sessions to bring the climate change community together and facilitate the development of expertise and exchange of information.

*Individual Contact:* The NCE maintains contact with a broad range of climate change researchers and stakeholders, and facilitates contact between individuals in that client list as well as continuing contact with the NCE itself.



## **National Programs at the NCE**

Since 2001, the NCE has been delivering two national programs that are part of Canada's strategy to meet its international climate change commitments: the northern office of the Canadian Climate Impacts and Adaptation Research Network (C-CIARN North) and the Yukon Climate Change Public Education and Outreach Hub (PEO Hub).

### ***Yukon PEO Hub***

The Yukon PEO Hub is providing coordination and a focal point for regional climate change PEO activities. The primary focus of our Hub is to help Yukoners understand climate change, its impacts on communities and people's lives and the actions that can be taken to adapt to climate change and mitigate its impacts.

The Yukon PEO Hub has established a number of partnerships and is delivering a number of successful campaigns directed at a number of target audiences.

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### ***C-CIARN North***

C-CIARN North, administered by the NCE in partnership with the Aurora Research Institute and Nunavut Research Institute, has offices in Whitehorse, Inuvik and Iqaluit. The objectives of this program are to coordinate and facilitate climate change impacts and adaptation research, disseminate information and research results, build research capacity, maintain a database and web site, provide training opportunities, promote stakeholder involvement, and provide continuity in the effort to develop scholarship and a shared understanding of present-day and future climate impacts, vulnerabilities, risks, and adaptation.



## Project Highlights

The mandate of the NCE includes being an independent source of information on climate change in northern Canada. In addition, we seek to develop shared understanding and promote action on climate change. What follows are descriptions of *some* project highlights from the 2003-4 fiscal year that are directed at reaching these goals.

### **NCE Website**

The NCE website ([www.taiga.net/nce](http://www.taiga.net/nce)) is an interactive, up-to-date site for climate change information relevant to Canada's North. The site contains information on the projects and programs underway at the NCE and throughout the North. Along with information about the NCE, the website provides current climate change news, reports, information, conferences, resources, and funding opportunities. Statistics indicate our site receives an average of 700 hits per day.

### **University of the Arctic Advanced Emphasis on Climate Change**

The NCE Coordinator contributed to the development of a conceptual plan for an Advanced Emphasis with a focus on climate change for the University of the Arctic Bachelor of Circumpolar Studies (BCS) program. This flexible degree program consists of a small number of required courses augmented by a collection of specialized courses, the Advanced Emphasis. The intent of the plan is to initiate dialogue among institutions and Indigenous peoples in the region with an interest in this area of advanced study. Ultimately, the goal of this dialogue is to develop a formal, partnership-based Advanced Emphasis Proposal to the BCS Program Team.

### **GEOG 290**

The NCE Coordinator developed curriculum for a second year geography course on climate change called *Climate Change in the Circumpolar World*. The intent of this course is to examine the contemporary issue of climate change in the context of northern environments, and to canvass our understanding of climate change and responses to it. The multidisciplinary approach to this course targets a broad audience: a Yukon College certificate or diploma student, a graduate of one of its programs, working professionals and policy makers and interested members of the public. The course will be offered annually as an evening course, to promote participation by those with a general interest in the topic. The first offering of the course was January 2004.

### **Building Resilience in the Arctic Ecosystems**

In conjunction with the World Wildlife Fund Arctic Programme, the NCE Coordinator authored the Arctic chapter of *Buying Time: A User's Manual for Building Resistance and Resilience to Climate Change in Natural Systems*. Released at the World Parks Congress in South Africa in September 2003, this manual provides practical ideas on how to begin increasing the resiliency of ecosystems and plan protected areas in response to the threat of climate change.



### **Climate Change Scenarios for the Mackenzie Valley**

The NCE Coordinator participated in a meeting held in Calgary in September 2003 to determine what climate change scenarios are appropriate for consideration in the Mackenzie Valley Pipeline Environmental Assessment. Consideration of climate change issues is an important component of the regulatory process; however, the variety of climate change scenarios available for the project region is a potential impediment to such consideration. Dr. Chris Burn prepared a paper summarizing the results of the meeting, and the NCE Coordinator presented results at the Yukon North Slope Conference in November 2003.

### **The Northern Ecosystem Initiative: A Discussion Paper on Strategic Climate Change Investments**

The NCE was contracted by Environment Canada to prepare a discussion paper that explores potential long-term strategic objectives for the Northern Ecosystem Initiative Climate Change Partner Issue Table to consider in their investment allocation decision-making process. The discussion paper reviews present and future impacts of climate change in northern ecosystems; stated objectives of Phase I and Phase II of the Northern Ecosystem Initiative; the current state of knowledge of climate change impacts, adaptations and vulnerabilities in Canada's North; goals and objectives of major climate change research and monitoring initiatives; documented research needs; funding priorities of related northern funding programs; Canada's national and international climate change commitments; and methods that other funding agencies have used to enhance collaboration.

### **Weathering Change**

The NCE newsletter *Weathering Change* is devoted to disseminating information on climate change impacts and adaptation to managers, practitioners, policy makers, and academic audiences. *Weathering Change* summarizes the latest in research and technical information that is of relevance to northern communities and environments, with the objective of improving information exchange and increasing the visibility and understanding of climate change impacts and adaptation issues. Each issue focuses on a specific topic. NCE staff and contributors prepare newsletter articles. Contributors include researchers and stakeholders who are involved the issues that are discussed in each edition. The NCE has received some funding from the Government of Yukon Environmental Awareness Fund towards the production of this newsletter. Issues this year are devoted to water resources, health and the results of our research needs survey.

### **Yukon Climate Change Research Compendium**

C-CIARN Yukon has compiled a listing of past and current climate change research in the Yukon, dating back to 1978 (the earliest records available through the territorial research licensing agency). Products will be a database of Yukon climate change research and a print compendium of Yukon climate change research. Both will be updated annually in future.





## **Research Needs Survey**

Understanding and adapting to the impacts of climate change impacts in the North will require much new information and research. However, time and resources to conduct climate research are very limited, so research priorities need to be chosen carefully. Northern communities will need information to support decision-making on adaptation. To encourage the generation of this information, northern communities will benefit from specifying what information they require to support decisions, and communicating these information needs to researchers and communities. To facilitate this interaction, C-CIARN North is undertaking a survey to identify research needs in communities in the three northern Canadian territories as part of a process to assist researchers and research funding bodies to establish priorities for future climate change impacts and research in the various regions of the North. The survey is being administered in two forms: (1) a fairly complex survey aimed at researchers and managers, and (2) a more open-ended survey designed for communities and non-specialists. All C-CIARN North offices are also reviewing reports, management plans, websites, etc. to pull out existing expressions of research needs related climate change impacts and adaptation in the North. Preliminary results were presented at the Study of Environmental Arctic Change (SEARCH) Conference in Seattle Washington. Results of the project will be released by fiscal year end.

## **One Tonne Challenge**

On December 2<sup>nd</sup>, the Yukon Public Education and Outreach Hub of the Northern Climate ExChange hosted an information and coordination meeting on the One Tonne Challenge (OTC). The meeting was attended by representatives of the federal and territorial governments, the City of Whitehorse, The Council of Yukon First Nations as well as a representative from the Energy Solutions Centre and the Yukon Conservation Society. Also attending by conference call were representatives of Environment Canada Vancouver and Natural Resources Canada. The purpose of the meeting was to discuss activities related to the OTC that are underway or planned in the Yukon, and to discuss ways of coordinating activities. The group agreed to regular meetings, coordinated by the NCE, and to profile OTC activities in the Yukon on the NCE website.

## **Visioning Session on Climate Change PEO in the Yukon**

NCE's PEO Hub program conducted a visioning session in June 2003. The objectives of the session were to: review the activities conducted by Hub during its 18 month pilot phase; review the evaluation of the Hub conducted by Alison Kerry Environmental & Management Consulting for the federal program funders; discuss methods of involvement with the hub; define key messages and audiences for Hub activities; review and refine the workplan for Hub operations for the next 10 months; discuss methods of measuring success and relevance. The session was facilitated by Mal



Malloch of Malloch Graham + Associates Management Consultants and 15 people attended. Participants were divided into four small groups to review activities, and then participants reconvened to discuss their recommendations. A report was prepared and distributed which summarized the day's activities and outlined the key recommendations made by the participants.

### **Bob and Dog**

Our Bob and Dog images continue to be used to promote individual action on climate change. Promotional items such as magnets, stickers and T-shirts have proved popular as prizes or give-aways during class visits. They also make great draw prizes at booths or displays or participation prizes for events such as the Commuter Challenge. The Energy Solutions Centre used the Bob and Dog images as part of a program with the Klondike Snowmobile Association to promote the use of four-stroke snowmobiles.

### **Online Workshop: Managing Wildlife and Habitat in a Changing Climate**

In February 2004, C-CIARN North hosted the online workshop: *Managing Wildlife and Habitat in a Changing Climate*. The three discussion groups in this online workshop -- vulnerability and management, managing for resilience, and future research -- were chaired by Jamal Shirley, Aynsle Ogden, and Claire Eamer of C-CIARN North. Sixty participants participated in this workshop, hosted on the Canadian Polar Commission's CPIN website. The workshop report included a summary report, participant list, and edited transcript of discussions.



## Financial Report

The Northern Climate ExChange received its primary funding from four contribution agreements during the 2003-2004 fiscal year. These contribution agreements are held by Yukon College. Three agreements are with different components of the Government of Canada's Climate Change Action Fund, and one agreement is with the Government of Yukon's Department of Environment. Other sources of funding include travel support and small project-related contracts.

Detailed financial statements are available upon request. The attached summaries are not audited financial statements and are only an extraction/summary from Yukon College financial records.



**Table 1**  
**NCE 2003-2004 Cash Revenues Summary**

The following table summarizes cash revenues for the NCE between April 1, 2003 and November 30, 2003.

<b>Funding Source</b>	<b>Description</b>	<b>Amount</b>
Government of Yukon Department of Environment	Matching funding for activities associated with the CCAF Building for the Future contribution agreement, C-CIARN North and the Yukon PEO Hub	\$75,000
Government of Canada - Climate Change Secretariat Climate Change Action Fund – Building the Future	Funding towards the salary and benefits of the NCE Coordinator, in order to continue to build capacity in support of NCE initiatives, including involvement in C-CIARN north and Yukon PEO Hub activities	\$50,000
Natural Resources Canada	C-CIARN North operations in Yukon, NWT and Nunavut	\$150,000
Environment Canada	Yukon Climate Change Public Education and Outreach Hub	\$48,840
Government of Yukon Environmental Awareness Fund	Contribution to NCE Newsletter <i>Weathering Change</i>	\$800.00
Environment Canada's Northern Ecosystem Initiative	Contract to develop report on strategic funding directions for the Northern Ecosystem Initiative on climate change	\$5,000.00
Government of Yukon	Travel funding to participate in the <i>Canada – EU Symposium on Climate Change and Environmental Assessment</i> in Brussels, Belgium	\$3,000.00
Environment Canada	Travel reimbursements for NCE Communications Officer to attend HPAT meetings	\$3,040.23
CFCAS, NEI, CUSO	Various travel reimbursements for NCE Coordinator	\$4,101.15
	PEO – carryover of funds from 2002-3 fiscal year	\$10,317.79
<b>Total Revenue (Cash)</b>		<b>\$350,099.17</b>



**Table 2**  
**NCE 2003-2004 In-Kind Revenues Summary**

The following table summarizes cash revenues for the NCE between April 1, 2003 and November 30, 2003.

<b>Funding Source</b>	<b>Description</b>	<b>Amount</b>
Yukon College	Administrative support	\$42,900
Yukon College	Office space	\$41,250
Arctic Borderlands Ecological Knowledge Co-op	Server space	\$350
Canadian Polar Commission	CPIN server space, software, and web support	\$4,000
Environment Canada Canadian Wildlife Service (Whitehorse)	Advice and expertise, web support, specialized printing services	\$2,500
University of Ottawa	C-CIARN North Science Advisor Peter Johnson (advice and expertise)	\$5000
Aurora Research Institute	Office space, phone/fax/email for C-CIARN North	\$12,000
Nunavut Research Institute	Administration, office space, phone/fax/email for C-CIARN North	\$12,000
NCE Management Committee, and NCE Advisors	Advice and expertise	\$20,000
		0
<b>Total Revenue (In-Kind)</b>		<b>\$140,000.00</b>



**Table 3**  
**Building the Future Expenses Summary**

The following table summarizes expenses associated with the Building the Future activities between April 1, 2003 and March 30, 2004.

<b>Description</b>	<b>Cost</b>
NCE Coordinator Salary	\$54,749.90
NCE Coordinator Vacation Pay	\$7,818.74
NCE Coordinator Pension	\$3,109.74
NCE Coordinator Benefits	\$2,141.34
NCE Coordinator EI, CPP, WCB	\$3,413.90
Travel Bonus	\$2,750.00
Telephone/Fax	\$738.10
Travel	\$10,179.30
Honoraria	\$300.00
Office/Admin Supplies	\$124.15
Printing	\$415.53
Casual Salary	\$538.82
Casual EI, CPP, WCB	\$43.10
Subscriptions/Memberships	\$966.60
Conference Fees	\$550.00
Advertising	\$543.88
<b>Total Expenses</b>	<b>\$88,383.10</b>



**Table 4**  
**Public Education and Outreach Expenses Summary**

The following table summarizes expenses associated with public education and outreach activities between April 1, 2003 and March 30, 2004. A detailed report on the PEO Hub is available upon request.

<b>Description</b>	<b>Total Cost</b>
Salaries	\$76,031.32
Develop & Delivery of Activities	\$11,334.22
Travel (eg. to conduct workshops, presentations)	\$8,409.16
Administration/overhead (maximum 15% of total)	\$29,021.92
Business Supplies and equipment	\$2,242.43
Promotion (eg. advertising, direct mailings)	\$9,119.35
<b>Total Expenses (cash and in-kind)</b>	<b>\$136,158.40</b>



**Table 5**  
**C-CIARN Expenses Summary**

The following table summarizes NCE expenses associated with the Canadian Climate Impacts and Adaptation Research Network – North Region between April 1, 2003 and March 30, 2004. A detailed report for C-CIARN North is available upon request.

<b>Project Costs</b>	<b>Cost</b>
C-CIARN Officer - Salary and Benefits	\$48,948.95
Research Assistants – Salary and Benefits	\$17,269.94
Travel, Meetings and Workshops	\$4,856.43
Office Supplies	\$1,392.47
Network Library (materials, journals, books)	\$694.96
Communications	\$867.08
Administration	\$251.13
Phone/Fax	\$998.13
Aurora Research Institute	\$37,500
Nunavut Research Institute	\$37,500
<b>Total</b>	<b>\$150,279.09</b>