

**GOVERNMENT OF CANADA PROGRAM FOR INTERNATIONAL POLAR YEAR (IPY)**  
**2010/11 PROGRESS REPORT**  
IPY Training, Communication and Outreach Projects

DUE: March 31, 2011

<b>Project Title:</b>  <i><b>Learning About Changes:</b></i> Building local capacity to address climate change in the Great Bear Lake Watershed / Yát'a gúlúu agot'í agújá sî benáoweré há gots'ę goghq keots'eruhshá gogha dúhdá kótah káyúrîla gohá areyqné t'á sénégots'úzá				
<b>Total Funds Received FY 2010/2011: \$ 133,122</b>				
<b>Project Website (if available):</b> <a href="http://www.delinemet.net/Weather-.html">www.delinemet.net/Weather-.html</a> (also linked to <a href="http://www.deline.ca">www.deline.ca</a> )				
<b>Project Lead</b>				
<b>Name</b>	<b>Affiliation</b>	<b>Mailing Address</b>	<b>E-mail Address</b>	<b>Telephone</b>
Dr. Deborah Simmons & Edward Reeves	Délînę Renewable Resources Council Native Studies, University of Manitoba	PO Box 163, Déline NT X0E 0G0	<a href="mailto:Simmons@cc.u-manitoba.ca">Simmons@cc.u-manitoba.ca</a> and <a href="mailto:drrc_assistant@gov.deline.ca">drrc_assistant@gov.deline.ca</a>	867-589-8112

**Acknowledgements**

This project was very ambitious, and could not have been accomplished without the efforts of a very large team. There are so many people who put time and effort into making this program a success, we hope we haven't missed anyone! Of course, the success of the project is also thanks to the sponsorship of the Délînę Renewable Resources Council, as well as the elders and students who participated with great interest and enthusiasm.

- ✧ Máhsı to Ed for tirelessly advocating for this project, keeping it floating over the past four years, and miraculously figuring out how to make the weather forecasting website.
- ✧ Máhsı to Paul for his signatures of support, and his leadership and coordination work to ensure strong elder participation in the Elder-Scientist workshops.
- ✧ Máhsı to Jennifer for understanding the potential of this program to benefit students, hosting our visiting scientists, and taking the time to work with the team to ensure the workshops at the college were successful.
- ✧ Máhsı to Trent, Erica and Edith for finding creative ways to fit the Story Cycles into already busy schedules, and for their hands-on involvement in supporting the dialogue between the elders and students.
- ✧ Máhsı to Dolphus and Betty for their efforts to ensure good communication during the Elder-Scientist workshops, and to Dennis for his work with Sarah during the Story Cycles.
- ✧ Máhsı to Sarah for her excellent note-taking, for all her efforts to coordinate and facilitate the Story Cycles at the school, and for her very helpful report on how the Cycles evolved.
- ✧ Máhsı to Walter for taking a full day from his busy schedule to help set the stage for the workshops with the college students and elders.
- ✧ Máhsı to Collin and David for ensuring that the money flowed.
- ✧ Máhsı to Eyad, Melissa, Jim and Bosko for putting heart and soul into this program, both in being good listeners, and in sharing their considerable knowledge in such creative ways.

### Project Team

Please complete this information for each member of your project team. This may include co-applicants, collaborators and other key contributors such as Elders and students. Please indicate northern team members with a \*. Add additional rows as necessary.

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*	Brendon Yukon	Aurora College	Elder-Scientist Workshops	Aurora College, PO Box 178	Délnę	NWT	X0E 0G0
*	Chelsey Elemie	Aurora College	Elder-Scientist Workshops	Aurora College, PO Box 178	Délnę	NWT	X0E 0G0
*	Clyde Sewi	Aurora College	Elder-Scientist Workshops	Aurora College, PO Box 178	Délnę	NWT	X0E 0G0
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*	Hannah Taneton	ᑭᑦᑲᑦᑲᑦ Ayha School	Elder-Scientist Workshops High School	ᑭᑦᑲᑦᑲᑦ Ayha School, PO Box 179	Déline	NWT	X0E 0G1
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*	Jake Roche	ᑭᑦᑲᑦᑲᑦ Ayha School	Elder-Scientist Workshops High School	ᑭᑦᑲᑦᑲᑦ Ayha School, PO Box 179	Déline	NWT	X0E 0G0
*	John Roche	ᑭᑦᑲᑦᑲᑦ Ayha School	Story Cycles Grade 5/6	ᑭᑦᑲᑦᑲᑦ Ayha School, PO Box 179	Déline	NWT	X0E 0G0
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*	Luke Kenny	ᑭᑦᑲᑦᑲᑦ Ayha School	Elder-Scientist Workshops High School	ᑭᑦᑲᑦᑲᑦ Ayha School, PO Box 179	Déline	NWT	X0E 0G0
*	Trent Waterhouse	ᑭᑦᑲᑦᑲᑦ Ayha School	ᑭᑦᑲᑦᑲᑦ Ayha School Instructor	ᑭᑦᑲᑦᑲᑦ Ayha School, PO Box 180	Déline	NWT	X0E 0G0

Northern	Name	Affiliation	Role	Contact Information	City	Prov	Code
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	Ingeborg Fink	Linguistics, University of Cologne	PhD Student	Meister Ekkehartstrasse 7	Köln-Lindent hal	Germ any	50937
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	Jim Young	SENES Consultants Ltd.	Climate Scientist	SENES Consultants Ltd., 121 Granton Drive, Unit 12	Richmond Hill	Ontario	L4B 3N4

***Please fill out each section below. The information provided will be used for the review of this project by the IPY Federal Program Office, as well as for IPY Program publications, website and ongoing Program evaluation.***

***Recommended maximum length of the written report (sections 1-11) is 15 pages.***

## **1. Plain Language Summary**

Provide a plain language summary of the project, including essential background information, purpose of the project, a description of the progress to date, key activities/dates and early results. This summary may be used as part of public information materials and should be written at a level appropriate for a popular magazine or newspaper. (500 words maximum)

Recent research has indicated that portions of the Northwest Territories are experiencing climate change at a rate not seen in other parts of the world. The epicenter of these rapidly changing conditions is the region near Great Bear Lake (GBL), known in the local Dene language as Sahtú. The lake is the 8<sup>th</sup> largest in the world, and is of great cultural and economic significance in the Sahtú Region of the Northwest Territories. The Sahtúgot'ıne (people of Sahtú) are centred in Déline, a small community of approximately 550 and the only community on the lake. The community maintains strong land-based traditions, and thus has a strong vested interest in understanding changes to their environment. Conversely, the scientific community is interested in opening avenues to new data and monitoring sources that will help quantify and provide insight into climate change.

In early 2010 a full meteorological station was set up in Délı̨ne and three community members were trained in its operation and data collection. The station is linked to the school so that the database is available as an ongoing educational tool. After meetings with the elders, it was decided that a series of 35 key points around the lake be investigated in terms of the local climate variability. The elders felt that it was important to augment their traditional knowledge with a state of the science forecasting system as the scale of the ongoing climate change is producing conditions that are beyond any experiential knowledge. A key component of this effort was to train and certify elders as well as students in both scientific and traditional knowledge monitoring and forecasting in order to show the specific value of both.

During 2010-2011, a total of 58 Délı̨ne residents including local instructors, language specialists, IT technicians, and students at both the college and the school were engaged in a variety of training activities to achieve this objective. The training took place through a series of three Elder-Scientist Workshops at Aurora College and two elder Story Cycles as well as two presentations by scientists at ʔehtséo Ayha School.

The Elder-Scientist Workshops were centered on the knowledge of elders about the weather, and allowed for exchanges with scientists as well as experiential learning exercises both in the classroom and on the land. The students gave two public presentations, and shared their learnings on public radio and in the *News/North* newspaper. Participants received a certificate upon completion of each workshop. The Story Cycles were framed by travel stories along important routes defined by the three participating elders. Students learned some of the many considerations in travelling safely on the land through the seasons. They prepared presentations for the elders and instructors. A public website was developed with the forecasting system, and the community radio anchor as well as other community resource people were trained in using the weather forecasting system, and weather forecasts were broadcast on the radio in Dene language. Team members delivered presentations on climate and weather on Sahtú at two conferences, where they were also able to learn about climate research elsewhere.

## **2. Key Messages**

Please provide plain language key messages in bullet form, which would describe the aims of the project, overview of activities and progress. (Maximum of 3 to 5 key messages)

- Among Sahtúot'ı̨ne, youth-centred learning situations are effective in bridging traditional and scientific knowledge toward building capacity in climate monitoring and adaptation planning across generations.
- Learning that starts by educating youth and scientists in indigenous knowledge about the seasons, weather and safe travel on the land will establish a positive context for exploring scientific concepts and using new monitoring and forecasting technologies.
- Successful community collaborations with natural and social scientists in climate monitoring and adaptation require a long term relationship; this training program was built on a relationship with McGill University and University of Manitoba that dated back to 2006. Nevertheless, further work will be required to establish a robust monitoring program in the community.

### 3. Activities and Progress in 2010-11

Please identify the regions in which the activities described below took place:

- |   |  |
|---|--|
| <input type="checkbox"/> Yukon                            | <input type="checkbox"/> Nunavik                       |
| <input checked="" type="checkbox"/> Northwest Territories | <input type="checkbox"/> Nunatsiavut                   |
| <input type="checkbox"/> Nunavut                          | <input type="checkbox"/> Other (please identify) _____ |

a) Describe any events and/or activities undertaken to date, including information about where (communities) and when activities took place.

- **Elder-Scientist Workshop I – *Understanding weather and safe travel through the seasons*** took place at Aurora College on December 6-10, facilitated by Deborah Simmons, Eyad Atallah and Melissa Gervais, with assistance from instructor Jennifer Waterhouse. Participants explored traditional knowledge and science about the five seasons in the Dene calendar including seasonal weather history, and issues to consider when travelling on the land. The workshop also included presentations by Walter Bayha and Leroy Andre. Student teams presented about each season at a public event during 2-4 pm on December 9. A wrap-up session was held on the morning of December 10. Mavis Baton was interviewed on CKLB Radio and CBC Radio North, and certificates were presented to participants. In the afternoon of December 10, Atallah, Gervais and the elder participants presented to the high school science classes.



Tutcho, Paul Modeste, Andrew John Kenny, Alphonse Takazo.



Figure 1: Mavis Baton on a phone interview with CKLB Radio



Figure 3: Eyad Atallah and Joseph Blondin Jr. present Certificate of Completion to Russell Kenny





Figure 7: Xae (Winter) Team presentation. L-R Brianna Taneton, Tracey Baton, Nancy Kenny



Figure 6: ʔihbé (Summer) Team. L-R Harley Andre, Clyde Sewi, Daniel Baton-Ayha

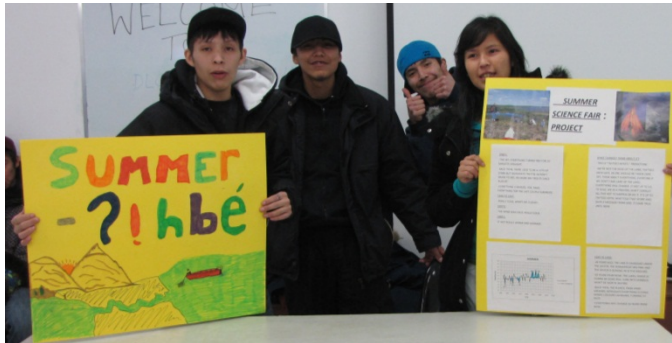


Figure 5: Luk'e (Spring) Team. L-R Mavis Baton, Brendon Yukon, Anita Baton, Luke Kenny



Figure 4: Closing round dance. L-R Andrew John Kenny, Melissa Gervais, Russell Kenny, Deborah Simmons, Brendon Yukon, Brianna Taneton, Luke Kenny





Figure 8: Open House Poster. Credit: Brendon Yukon

- With support from Deborah Simmons and Jennifer Waterhouse, Elder Joseph Blondin Jr. and Aurora College student Anita Baton prepared a presentation for delivery at the **IPY Results Workshop** in Inuvik, January 19-21 (slide presentation appended).
- **Elder-Scientist Workshop II – *Weather history and forecasting*** took place at Aurora College on January 31-February 3, facilitated by Deborah Simmons and Jim Young, with assistance from Jennifer Waterhouse. The workshop included ancient stories from elders about changes in the environment since the dinosaur age; discussion of the weather history produced during 2009-2010; weather forecasting with and without a computer; and development of weather forecasts by student teams along three key trails. The program also included an exchange with students in the Environmental Monitoring program being held at the same time. Student teams presented their work at a public Open House on February 3 at 2-4 pm, and the course concluded with presentation of certificates. Nancy Kenny spoke with CKLB and CBC North radio. Parallel to the workshop, Bosko Telenta worked with Ed Reeves, Jack Goulet and Shane Naedzo to customize the weather forecasting system and develop the community weather website. Community resource people were provided with training in use of the forecasting system.



Figure 9: Sunrise February 1, 2011 at 9:50 am outside Aurora College building. Photo taken for Elder-Scientist weather forecasting discussion.



Figure 13: Elder Charlie Neyelle talks about safe travel and weather on K'áalo Túé. L-R Nancy Kenny, Harley Andre, Joseph Blondin, Charlie Neyelle.

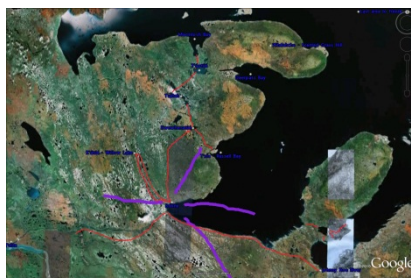


Figure 10: Map of trail to K'áalo Túé (red) with prevailing winds (purple). Credit: Alphonse Takazo, Leon Modeste, Sarah Gordon.



Figure 11: Audience at Open House, Cultural Centre, February 3.



Figure 12: Clyde Sewi, Master of Ceremonies at Open House.

# WEATHER FORECASTING

*January 28 – February 4, 2011*

**Dr. Jim Young** and **Bosko Telenta** will be in Délı̨nę as part of the International Polar Year Project to learn about weather and effects of climate change in the Great Bear Lake Watershed.

Jim and Bosko are weather/climate specialists with SENES Consultants Ltd. Both have worked around the world on air quality and weather projects for many years.

Jim will be participating in an Elder-Scientist workshop with students at the Délı̨nę Learning Centre. Along with the students, he will learn how Dene people forecast weather. He will also present the five year scientific weather history for places around Great Bear Lake that was done last year. This can be used to study future climate changes.

Bosko will work with a Délı̨nę team to finalize and present a new science-based Weather Forecasting System, called “FReSH Sahtú.” This will produce weather forecasts for up to 5 days in advance for about 35 different places in the Great Bear Lake Watershed. **Shane Naedzo** at the Délı̨nę IT office will be designing Délı̨nę’s forecasting website!

## **Sponsored by**

*Déline Renewable Resources Council  
Déline Knowledge Project  
Aurora College  
International Polar Year  
McGill University (Montreal)*



Figure 14: Community poster introducing the Weather History and Forecasting workshop and visiting scientists Bosko Telenta and Jim Young.



# Weather Forecasting Open House



**When:** Thursday February 3

**Time:** 2:00 pm

**Where:** Dene Náoweré Kó  
Deline Cultural Centre

Aurora College Students will be presenting what they have learned working with Elders and Scientists at their weather monitoring workshop

**Everyone Welcome!**

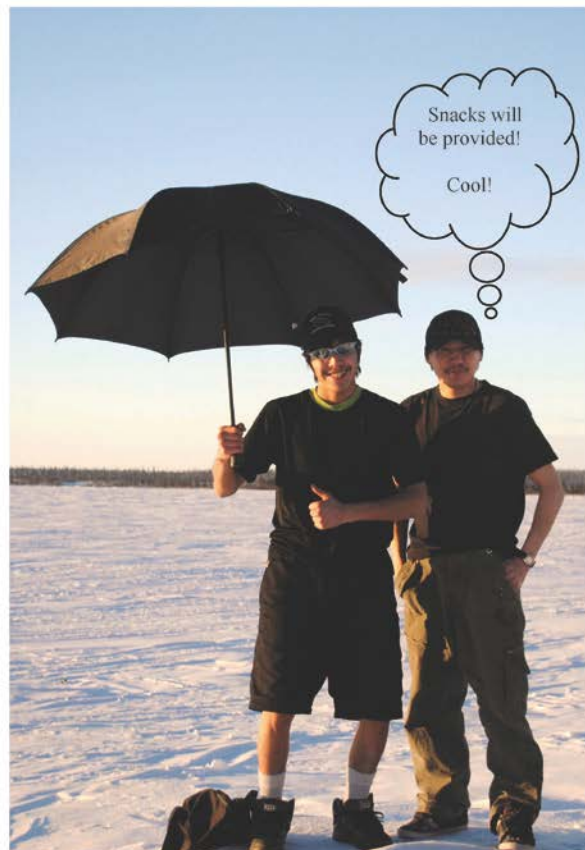


Figure 15: Open House poster. L-R Daniel Baton Ayha, Brendon Yukon. Credit: Aurora College Class.

- Morris Neyelle, Doris Taneton and Deborah Simmons presented on community climate research and training activities at the **Pan-Arctic Results Workshop** of the *Climate Change and Health Adaptation in Northern First Nations and Inuit Communities Program* on February 8-10. The presentation was entitled “Health Risk and Climate Change in Sahtúot’îṇę Stories: Envisioning Adaptions with Elders and Youth in Délîṇę, NT.”

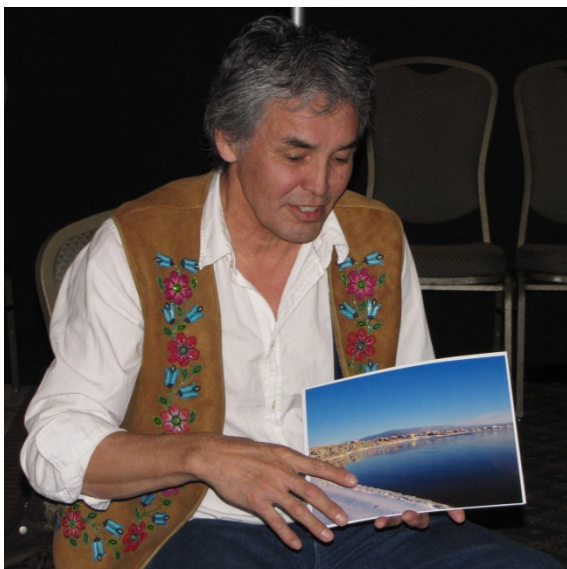


Figure 17: Morris Neyelle uses one of his photographs to illustrate a discussion about the spiritual and cultural meaning of Sahtú (Great Bear Lake) to Sahtúot’îṇę.



Figure 18: Doris Taneton talks about the history of Sǫbak’ə (Port Radium uranium mine) to shed light on how Sahtúot’îṇę adapt to environmental change.



Figure 16: Keynote speech by Inuit Nobel Prize nominee and environmental activist Sheila Watt-Cloutier. “Everything is connected: environment, economy, foreign policy, sustainability, human rights and leadership in the 21st century”



Figure 19: Closing plenary speech by environmental activist François Paulette (Salt River First Nation). Credit: Doris Taneton.



- **Elder-Scientist Workshop III – Elements of Weather** took place at Aurora College on February 21-25, facilitated by Deborah Simmons, Eyad Atallah and Melissa Gervais, with assistance from Jennifer Waterhouse. The workshop included elder stories about historic weather events, teaching in traditional knowledge and science about elements of weather with a focus on wind and precipitation at different scales, and a module on analysis of ice. The course concluded on the morning of February 25 with a talking circle to assess the IPY program, a drum dance, and awarding of certificates. Atallah and Gervais made a presentation to the Grades 5/6 class in the afternoon.



Figure 21: Collecting lake ice. Hailey Taniton, ??, Chelsie Elemie, Joseph Blondin Jr, Clyde Sewi, Eyad Atallah, Nancy Kenny, Melissa Gervais, Anita Baton.



Figure 22: Nancy Kenny and Melissa Gervais analyze ice samples.



Figure 24: Clyde Sewi explains atmosphere-heat simulation (hot water and Saran wrap) to George Kenny.



Figure 23: Charlie Neyelle explains global weather and climate in Dene language.



Figure 20: Closing drum dance. L-R Eyad Atallah, Jeremy Gilbert, Brendon Yukon, Leon Modeste, Alfred Taniton, Charlie Neyelle, Clyde Sewi.



- **Story Cycles** were facilitated by Sarah Gordon and language specialist Dennis Kenny. The activities took place over several sessions, as follows: on January 19, elders Alphonse Takazo and Leon Modeste met with Sarah Gordon and Michael Neyelle to design the Story Cycles program. During this session, they mapped three significant traditional trails that would be used to structure both Aurora College (Workshop II) and ʔehtséo Ayha School activities, along with other key weather-related geographical information to be shared with students (four prevailing winds, locations of deep water around the lake, and sites where the ice is thin if it forms at all in the winter). The design was finalized in consultation with Trent Waterhouse. On January 21, elder Johnny Tutcho spoke with the Grade 5/6 class about his experience walking to Déljñę from Turjłj when his skidoo broke down unexpectedly--a three-day journey. During March 21-24, Alphonse Takazo and Leon Modeste conducted weeklong workshops with the Grades 5/6 and 10 classes. For each class, workshop time spanned up to a half day (morning and afternoon respectively). The goal of the **Grade 5/6 workshop** developed with the elders and Trent Waterhouse following the first session in January was “for students to learn Dene traditional knowledge about weather forecasting, and how to travel safely on the land.” Elders spoke about the importance of gaining traditional knowledge about climate and weather, and not just scientific knowledge; defined the five seasons in the Dene calendar; and mapped and shared stories about three traditional trails. Students prepared questions for elders during a second visit. On Day 3 students prepared presentations in a format of their own choosing, and presented to the elders and instructors on Day 4. Formats included a slide show, posters and a poem. The goal of the **Grade 10 workshop** was for students to work with elders to create a dictionary/concept list of Dene language weather terms. Elders and students discussed and researched weather-specific terminology (including relevant tools and necessities); learned and demonstrated use of the Unicode Aboriginal fonts for typing Dene language terms; and worked together to define an art project related to what was learned.

Figure 26: Sarah Gordon and Grade 10 students discuss weather terminology.



Figure 25: Students listen and record Leon Modeste and Dennis Kenny talking about safe travel on traditional trails.

- In March as the new Délı̨nę weather website became functional, Michael Neyelle began broadcasting weather forecasts using the new Sahtu FReSH system in Dene language in his daily program on the **local CBQO radio station**.
- **Linguistic analysis** of weather and spatial terminology was conducted through a collaboration between community language specialist Jane Modeste and Ingeborg Fink.

b) Please provide details on the impact and or reach of these activities and/or events, for example number of participants, broadcast area, number of website hits etc.

There were 64 participants total in this program, of whom 57 were northerners and 37 were students or new researchers. The potential reach of the *News/North* article as well as CBC and CKLB radio interviews is 33 communities in the Northwest Territories (a population of over 41,000). The website is public and linked to the [deline.ca](http://deline.ca) website. The website was launched in Beta form at the end of February, and in the month of March it received 226 hits; we expect this to increase as awareness of the site expands in the community. This project was presented at the NWT IPY Results Workshop (focused on NWT projects) and the Pan-Arctic Results Workshop on the *Climate Change and Health Adaptation in Northern First Nations and Inuit Communities Program* (involving Northern participants from the three territories and Labrador). Both workshops also involved collaborating researchers from research institutions across Canada.

c) Please list products or information materials produced in association with this project. Please provide copies of any communications materials developed. Note: all these information materials should be submitted to the Canadian IPY Publications Database [www.aina.ucalgary.ca/ipy](http://www.aina.ucalgary.ca/ipy).

- *News/North* article “The Science of Weather,” December 20 (appended).
- [www.delinemet.net/Weather-.html](http://www.delinemet.net/Weather-.html)
- Other products (a journal article and a community booklet) pending.

d) Describe how the IPY Northern Coordination Offices may have assisted in the delivery of any aspect of the project.

Alana Mero, the IPY Northern Coordinator, was extraordinarily helpful in providing support for this program. She was available to respond to questions, provided feedback in response to our regular updates, and gave advice on fulfilling the program requirements.

#### 4. Issues and Challenges

Discuss any problems encountered, how they have been addressed and any resulting deviations from the original approved application.

The Délı̨ne Renewable Resources Council lacked consistent and appropriate support for project implementation during Years 1 and 2, and as a result program workplanning and implementation were considerably delayed. Another handicap was that the project was designed according to the interests and skills of collaborating scientists, but as it turned out these interests were not shared by potential community participants. For this reason, response to the training program in Year 1 was so poor that it had to be cancelled. A radical redesign for Years 2 and 3 founded in the express interests of community members and including strong partnerships with the Délı̨ne Knowledge Project, school and college resulted in a much higher response rate. However, the training was not adequate to serve as the basis for a robust and sustainable weather monitoring program as hoped. This would require a longer term program in the community.

The Story Cycle program was very challenging to organise. The planning didn't start until late in the fall term since the overall workplan and funding was not finalized till the fall after school plans had already crystallized. Thus opportunities to carry out the story cycles as originally planned were missed during the fall. However, this was addressed through consolidation of the program in two parallel workshops within a one week period.

#### 5. Results

a) Describe results and progress to date and their significance/impact with respect to the goals and objectives of the program (please see Annex A for the Training, Communications and Outreach goals and objectives). Please include figures and tables as appropriate.

The training program was successful in providing accredited traditional knowledge and scientific training on climate monitoring, climate change, forecasting and safe travelling on the land with 45 elders, Aurora College students and Țehtséo Ayha school students. As well, the community of Délı̨ne now benefits from the highest quality forecasting system now available in the NWT, with forecasts available for 34 points around Great Bear Lake. Because of the large number of individuals involved in the program, community awareness and understanding of climate change and its consequences for safe travel have been greatly enhanced. Materials have been gathered that will give rise to educational tools on traditional knowledge and scientific perspectives on weather history, monitoring and forecasting, as well as safe travel. Knowledge acquired through the program was shared at a scale spanning the NWT as a whole and nationally. The community will continue to benefit from this program as additional products are developed based on the training activities.

b) Are you aware of ways in which the results of this project are going to be used by others? If so, please explain.

Educational materials developed through this program as well as the monitoring and forecasting system acquired by the community will continue to serve as tools for the community, the school and the college. Peer reviewed publications will be produced to disseminate knowledge about the value of this indigenous knowledge-centred training methodology.

## 6. Training and Capacity-Building

a) Describe any education and training opportunities, both formal and informal, provided through this project, including the extent to which Northerners and Aboriginal people have benefited from these opportunities. Please indicate how many individuals were involved in each activity and the type of training provided.

This entire program was oriented to training – please see above for the requested details.

### b) Students and New Researchers

Please provide information about any students and new researchers<sup>1</sup> who have participated in this project to date using the table below.

**Note: Students and new researchers listed below may also be listed as project team members on page 1 of this report.**

This information will be used by the IPY Federal Program Office to determine the level of involvement of students and new researchers in IPY projects and, at the completion of IPY, to assess whether these students continue in Northern research or other science fields beyond IPY. The data collected in this table will only be used by the IPY Federal Program Office. No information that identifies an individual or which could be used to deduce the identity of an individual will be released to the public. Any statistical data derived from this information will only be released to the public in aggregate form. Provision of information marked with an asterisk (\*) is voluntary. Under the *Privacy Act*, the individual to whom the information pertains has rights of access to, and protection of, the personal information provided.

Add additional rows as necessary.

Name	Affiliation	Contact Information	City	Prov	Code	Education Level	Northern Student	New Researcher	Role	Time
Allison Tatti	Aurora College	Aurora College, PO Box 178	Déłıne	NWT	X0E 0G0	Adult Basic Education	X		Elder-Scientist Workshops	3 weeks
Anita Baton	Aurora College	Aurora College, PO Box 178	Déłıne	NWT	X0E 0G0	Adult Basic Education	X		Elder-Scientist Workshops, Inuvik IPY Conference presentation	4 weeks
Brendon Yukon	Aurora College	Aurora College, PO Box 178	Déłıne	NWT	X0E 0G0	Adult Basic Education	X		Elder-Scientist Workshops	3 weeks
Chelsey Elemie	Aurora College	Aurora College, PO Box 178	Déłıne	NWT	X0E 0G0	Adult Basic Education	X		Elder-Scientist	3 weeks

<sup>1</sup> New researchers are individuals who are younger than 30 **OR** who have less than 10 years northern research experience.

Name	Affiliation	Contact Information	City	Prov	Code	Education Level	Northern Student	New Researcher	Role	Time
									Workshops	
Clyde Sewi	Aurora College	Aurora College, PO Box 178	Déłıne	NWT	X0E 0G0	Adult Basic Education	X		Elder-Scientist Workshops	3 weeks
Daniel Baton-Ayha	Aurora College	Aurora College, PO Box 178	Déłıne	NWT	X0E 0G0	Adult Basic Education	X		Elder-Scientist Workshops	3 weeks
Jeremy Gilbert	Aurora College	Aurora College, PO Box 178	Déłıne	NWT	X0E 0G0	Adult Basic Education	X		Elder-Scientist Workshops	3 weeks
Mavis Baton	Aurora College	Aurora College, PO Box 178	Déłıne	NWT	X0E 0G0	Adult Basic Education	X		Elder-Scientist Workshops	3 weeks
Melissa Baton-Modeste	Aurora College	Aurora College, PO Box 178	Déłıne	NWT	X0E 0G0	Adult Basic Education	X		Elder-Scientist Workshops	2 weeks
Nancy Kenny	Aurora College	Aurora College, PO Box 178	Déłıne	NWT	X0E 0G0	Adult Basic Education	X		Elder-Scientist Workshops	3 weeks
Rebecca Sewi	Aurora College	Aurora College, PO Box 178	Déłıne	NWT	X0E 0G0	Adult Basic Education	X		Elder-Scientist Workshops	3 weeks
Tracy Baton	Aurora College	Aurora College, PO Box 178	Déłıne	NWT	X0E 0G0	Adult Basic Education	X		Elder-Scientist Workshops	1 week
Dennis Kenny	Déłıne First Nation	PO Box 158	Déłıne	NWT	X0E 0G0	High School		X	Story Cycles (facilitation)	6 days
Doris Taneton	Déłıne First Nation	PO Box 146	Déłıne	NWT	X0E 0G0	High School		X	Ottawa Health-Climate Change Conference presentation	1 week

Name	Affiliation	Contact Information	City	Prov	Code	Education Level	Northern Student	New Researcher	Role	Time
Melissa Gervais	Department of Atmospheric and Oceanic Sciences, McGill University	Department of Atmospheric and Oceanic Sciences, Room 945, Burnside Hall, 805 Sherbrooke Street West	Montreal	Quebec	H3A 2K7	PhD		X	Climate Scientist	2 weeks
Angel Mackeinzo	ᑭᑦᑲᑦᓂᑦ Ayha School	ᑭᑦᑲᑦᓂᑦ Ayha School, PO Box 179	ᑭᑦᓴᓴᓂᑦ	NWT	X0E 0G0	Grade 10	X		Story Cycles Grade 10	1 week (half days)
Brianna Taniton	ᑭᑦᑲᑦᓂᑦ Ayha School	ᑭᑦᑲᑦᓂᑦ Ayha School, PO Box 179	ᑭᑦᓴᓴᓂᑦ	NWT	X0E 0G0	Grade 10	X		Story Cycles Grade 10	1 week (half days) plus 1 week
Deanna Tutcho	ᑭᑦᑲᑦᓂᑦ Ayha School	ᑭᑦᑲᑦᓂᑦ Ayha School, PO Box 179	ᑭᑦᓴᓴᓂᑦ	NWT	X0E 0G0	Grade 10	X		Story Cycles Grade 10	1 week (half days)
Denara Taniton	ᑭᑦᑲᑦᓂᑦ Ayha School	ᑭᑦᑲᑦᓂᑦ Ayha School, PO Box 179	ᑭᑦᓴᓴᓂᑦ	NWT	X0E 0G0	Grade 10	X		Story Cycles Grade 10	1 week (half days)
Dominic Takazo	ᑭᑦᑲᑦᓂᑦ Ayha School	ᑭᑦᑲᑦᓂᑦ Ayha School, PO Box 179	ᑭᑦᓴᓴᓂᑦ	NWT	X0E 0G0	Grade 11/12	X		Elder-Scientist Workshops High School	1 week (half days)
Faith Gaudet	ᑭᑦᑲᑦᓂᑦ Ayha School	ᑭᑦᑲᑦᓂᑦ Ayha School, PO Box 179	ᑭᑦᓴᓴᓂᑦ	NWT	X0E 0G0	Grade 5/6	X		Story Cycles Grade 5/6	1 week (half days)
Fred Elemie	ᑭᑦᑲᑦᓂᑦ Ayha School	ᑭᑦᑲᑦᓂᑦ Ayha School, PO Box 179	ᑭᑦᓴᓴᓂᑦ	NWT	X0E 0G0	Grade 10	X		Story Cycles Grade 10	1 week (half days)
Hailey Taniton	ᑭᑦᑲᑦᓂᑦ Ayha School	ᑭᑦᑲᑦᓂᑦ Ayha School, PO Box 179	ᑭᑦᓴᓴᓂᑦ	NWT	X0E 0G0	Grade 10	X		Story Cycles Grade 10	1 week (half days)



Name	Affiliation	Contact Information	City	Prov	Code	Education Level	Northern Student	New Researcher	Role	Time
Hannah Beyonnie	ᑭᑦᑲᑦᑲᑦᑲᑦ Ayha School	ᑭᑦᑲᑦᑲᑦ Ayha School, PO Box 179	Délᑭᑦ	NWT	X0E 0G0	Grade 5/6	X		Story Cycles Grade 5/6	1 week (half days)
Hannah Taneton	ᑭᑦᑲᑦᑲᑦ Ayha School	ᑭᑦᑲᑦᑲᑦ Ayha School, PO Box 179	Délᑭᑦ	NWT	X0E 0G0	Grade 10	X		Elder-Scientist Workshops High School	1 week (half days) plus 1 week
Isaiah Baton	ᑭᑦᑲᑦᑲᑦ Ayha School	ᑭᑦᑲᑦᑲᑦ Ayha School, PO Box 179	Délᑭᑦ	NWT	X0E 0G0	Grade 5/6	X		Story Cycles Grade 5/6	1 week (half days)
Jake Roche	ᑭᑦᑲᑦᑲᑦ Ayha School	ᑭᑦᑲᑦᑲᑦ Ayha School, PO Box 179	Déline	NWT	X0E 0G0	Grade 11/12	X		Elder-Scientist Workshops High School	1 week (half days)
John Roche	ᑭᑦᑲᑦᑲᑦ Ayha School	ᑭᑦᑲᑦᑲᑦ Ayha School, PO Box 179	Délᑭᑦ	NWT	X0E 0G0	Grade 5/6	X		Story Cycles Grade 5/6	1 week (half days)
Jordan Ford	ᑭᑦᑲᑦᑲᑦ Ayha School	ᑭᑦᑲᑦᑲᑦ Ayha School, PO Box 179	Déline	NWT	X0E 0G0	Grade 5/6	X		Story Cycles Grade 5/6	1 week (half days)
Jory Vital	ᑭᑦᑲᑦᑲᑦ Ayha School	ᑭᑦᑲᑦᑲᑦ Ayha School, PO Box 179	Délᑭᑦ	NWT	X0E 0G0	Grade 10	X		Story Cycles Grade 10	1 week (half days)
Joy Vital	ᑭᑦᑲᑦᑲᑦ Ayha School	ᑭᑦᑲᑦᑲᑦ Ayha School, PO Box 179	Délᑭᑦ	NWT	X0E 0G0	Grade 5/6	X		Story Cycles Grade 5/6	1 week (half days)
Kenny Kenny	ᑭᑦᑲᑦᑲᑦ Ayha School	ᑭᑦᑲᑦᑲᑦ Ayha School, PO Box 179	Déline	NWT	X0E 0G0	Grade 10	X		Elder-Scientist Workshops and Story Cycles Grade 10	1 week (half days)

Name	Affiliation	Contact Information	City	Prov	Code	Education Level	Northern Student	New Researcher	Role	Time
Leeroy Andre	ᑭᑦᑲᑦᑲᑦᑲᑦ Ayha School	ᑭᑦᑲᑦᑲᑦ Ayha School, PO Box 179	Délᑭᑦ	NWT	X0E 0G0	Grade 10	X		Story Cycles Grade 10	1 week (half days)
Luke Kenny	ᑭᑦᑲᑦᑲᑦ Ayha School	ᑭᑦᑲᑦᑲᑦ Ayha School, PO Box 179	Délᑭᑦ	NWT	X0E 0G0	Grade 11/12	X		Elder-Scientist Workshops High School	1 week (half days)
Virgil Kelly	ᑭᑦᑲᑦᑲᑦ Ayha School	ᑭᑦᑲᑦᑲᑦ Ayha School, PO Box 179	Délᑭᑦ	NWT	X0E 0G0	Grade 11/12	X		Elder-Scientist Workshops High School	1 week
Sarah Gordon	Folklore, Indiana Universtiy	217 S Lincoln ave. apt. 5	Bloomington	IN	47408	PhD		X	PhD Student	3 weeks
Ingeborg Fink	Linguistics, University of Cologne	Meister Ekkehartstrasse 7	Köln-Lindenthal	Germany	50937	PhD		X	PhD Student	2 weeks

## 7. Northern Engagement

a) Describe how this project has engaged Northerners, northern communities and/or Aboriginal organizations (e.g., consultation, partnerships, membership on project team, outreach activities, etc.). In addition, please fill out the table below.

This is program developed and led by a Northern aboriginal community and Project Team members, sponsored by the Délı̨nę First Nation in partnership with the Délı̨nę Knowledge Project, Aurora College and Țehtséo Ayha School. Outreach activities targeted Northern audiences in all cases.

This information will be used by the IPY Federal Program Office to determine the level of involvement of Northerners in IPY projects. The data collected in this table will only be used by the IPY Federal Program Office. No information that identifies an individual or which could be used to deduce the identity of an individual will be released to the public. Any statistical data derived from this information will only be released to the public in aggregate form. Provision of information marked with an asterisk (\*) is voluntary. Under the *Privacy Act*, the individual to whom the information pertains has rights of access to, and protection of, the personal information provided. Add additional rows as necessary.

Northern	Name	Affiliation	Nature of Involvement	Time
*	Allison Tatti	Aurora College	Elder-Scientist Workshops	3 wks
*	Anita Baton	Aurora College	Elder-Scientist Workshops, Inuvik IPY Conference Presentation	3 wks
*	Brendon Yukon	Aurora College	Elder-Scientist Workshops	3 wks
*	Chelsey Elemie	Aurora College	Elder-Scientist Workshops	3 wks
*	Clyde Sewi	Aurora College	Elder-Scientist Workshops	3 wks
*	Daniel Baton-Ayha	Aurora College	Elder-Scientist Workshops	3 wks
*	Jennifer Waterhouse	Aurora College	Aurora College Instructor	3 wks
*	Jeremy Gilbert	Aurora College	Elder-Scientist Workshops	3 wks
*	Mavis Baton	Aurora College	Elder-Scientist Workshops	3 wks
*	Melissa Baton-Modeste	Aurora College	Elder-Scientist Workshops	2 wks
*	Nancy Kenny	Aurora College	Elder-Scientist Workshops	3 wks
*	Rebecca Sewi	Aurora College	Elder-Scientist Workshops	3 wks
*	Tracey Baton	Aurora College	Elder-Scientist Workshops	1 wk
*	Betty Takazo	Délı̨nę First Nation	Language Specialist	1 wk
*	Dennis Kenny	Délı̨nę First Nation	Language Specialist	6 days
*	Doris Taneton	Délı̨nę First Nation	Ottawa Health-Climate Change Conference	1 wk
*	Jane Modeste	Délı̨nę First Nation	Language Specialist	2 wks
*	Michael Neyelle	Délı̨nę First Nation	Language Specialist	1 day
*	Morris Neyelle	Délı̨nę First Nation Council	Ottawa Health-Climate Change Conference	1 wk

Northern	Name	Affiliation	Nature of Involvement	Time
*	Deborah Simmons	Déjłnę Knowledge Project and University of Manitoba	Principal Investigator	8 weeks
*	Orlena Modeste	Déjłnę Remediation Office	Program Partner	1 day
*	Alphonse Takazo	Déjłnę Renewable Resources Council	Elder-Scientist Workshops and Story Cycles	4 wks
*	Andrew John Kenny	Déjłnę Renewable Resources Council	Elder-Scientist Workshops	2 wks
*	Charlie Neyelle	Déjłnę Renewable Resources Council	Elder-Scientist Workshops	2 wks
*	Collin Bayha	Déjłnę Renewable Resources Council	Administration	5 days
*	Dolphus Tutcho	Déjłnę Renewable Resources Council	Language Specialist	2 wks
*	Edward Reeves	Déjłnę Renewable Resources Council	Coordinator	8 weeks
*	Johnny Tutcho	Déjłnę Renewable Resources Council	Story Cycles	1 day
*	Joseph Blondin Junior	Déjłnę Renewable Resources Council	Elder-Scientist Workshops, Inuvik IPY Conference	3 wks
*	Leon Modeste	Déjłnę Renewable Resources Council	Elder-Scientist Workshops and Story Cycles	3 wks
*	Paul Modeste	Déjłnę Renewable Resources Council	Elder-Scientist Workshops - Coordinator	3 wks
*	Russell Kenny	Déjłnę Renewable Resources Council	Elder-Scientist Workshops	3 wks
*	Walter Bayha	Déjłnę Self-Government Office	Elder-Scientist Workshop presentation	1 day
*	Angel Mackeinzo	ᑭeᑭᑭᑭᑭ Ayha School	Story Cycles Grade 10	1 wk (half days)
*	Brianna Taniton	ᑭeᑭᑭᑭᑭ Ayha School	Story Cycles Grade 10	1 wk plus 1 wk (half days)
*	Deanna Tutcho	ᑭeᑭᑭᑭᑭ Ayha School	Story Cycles Grade 10	1 wk (half days)
*	Denara Taniton	ᑭeᑭᑭᑭᑭ Ayha School	Story Cycles Grade 10	1 wk (half days)
*	Dominic Takazo	ᑭeᑭᑭᑭᑭ Ayha School	Elder-Scientist Workshops High School	1 wk (half days)
*	Edith Mackeinzo	ᑭeᑭᑭᑭᑭ Ayha School	Dene Language Instructor	1 wk (half days)
*	Erica Major	ᑭeᑭᑭᑭᑭ Ayha School	Grade 5/6 Instructor	1 wk (half days)
*	Faith Gaudet	ᑭeᑭᑭᑭᑭ Ayha School	Story Cycles Grade 5/6	1 wk (half days)
*	Fred Elemie	ᑭeᑭᑭᑭᑭ Ayha School	Story Cycles Grade 10	1 wk (half days)
*	Hailey Taniton	ᑭeᑭᑭᑭᑭ Ayha School	Story Cycles Grade 10	1 wk (half days)

Northern	Name	Affiliation	Nature of Involvement	Time
*	Hannah Beyonnie	ᑭᑭᑭᑭᑭ Ayha School	Story Cycles Grade 5/6	1 wk (half days)
*	Hannah Taneton	ᑭᑭᑭᑭᑭ Ayha School	Elder-Scientist Workshops High School	1 wk
*	Isaiah Baton	ᑭᑭᑭᑭᑭ Ayha School	Story Cycles Grade 5/6	1 wk (half days)
*	Jake Roche	ᑭᑭᑭᑭᑭ Ayha School	Elder-Scientist Workshops High School	1 wk (half days)
*	John Roche	ᑭᑭᑭᑭᑭ Ayha School	Story Cycles Grade 5/6	1 wk (half days)
*	Jordan Ford	ᑭᑭᑭᑭᑭ Ayha School	Story Cycles Grade 5/6	1 wk (half days)
*	Jory Vital	ᑭᑭᑭᑭᑭ Ayha School	Story Cycles Grade 10	1 wk (half days)
*	Joy Vital	ᑭᑭᑭᑭᑭ Ayha School	Story Cycles Grade 5/6	1 wk (half days)
*	Kenny Kenny	ᑭᑭᑭᑭᑭ Ayha School	Elder-Scientist Workshops and Story Cycles Grade 10	1 wk (half days)
*	Leeroy Andre	ᑭᑭᑭᑭᑭ Ayha School	Story Cycles Grade 10	1 wk (half days)
*	Luke Kenny	ᑭᑭᑭᑭᑭ Ayha School	Elder-Scientist Workshops High School	1 wk
*	Trent Waterhouse	ᑭᑭᑭᑭᑭ Ayha School	ᑭᑭᑭᑭᑭ Ayha School Instructor	2 wks
*	Virgil Kelly	ᑭᑭᑭᑭᑭ Ayha School	Elder-Scientist Workshops High School	1 wk
*	Jack Goulet	IT Dept, Délᑭᑭ Land Corporation	Website Design	1 wk
*	Shane Naedzo	IT Dept, Délᑭᑭ Land Corporation	Website Design	1 wk
*	Leroy Andre	NWT Environment and Natural Resources	Elder-Scientist Workshop presentation	3 hrs

b) If applicable, please detail how is this project integrating Traditional Knowledge?

This program is Traditional Knowledge-centred, taking the knowledge of elders as a starting point for expanding knowledge of climate into the scientific domain. Elders were integrally involved in most teaching activities.

### 8. Upcoming Activities

If applicable, describe the work that will be carried out in the next fiscal year (April 1, 2011 to March 31, 2012). In particular, please note any expected changes that will be made to the project as compared to the originally approved project proposal and any financial implications of these changes.

The program funding is terminated as of March 31, 2011. Products will continue to be produced based on program activities in 2010-2011.

## 9. Expenditures and Contributions

In this section we are looking for information on the project expenditures from funds received from the Government of Canada Program for IPY, as well as contributions from other sources. Please complete the *2010/11 Expenditures and Contributions* worksheet that has been provided to you. The worksheet covers actual expenditures from April 1, 2010 to March 31, 2011. (Note: A fiscal year-end Financial Report (either audited or non-audited as outlined in the contribution agreement\*) confirming total expenditures will be required by July 29, 2011)

EXPENDITURE OF GOVERNMENT OF CANADA PROGRAM FOR IPY FUNDS BETWEEN Apr1/10 to Mar 31/11						
	Project Funds Received	Project Funds Expended	Difference (Received - Expended)	Cash contributions	Estimate of In-kind support	Estimated Project Value
<b>1) Salaries, wages and benefits</b>						
a) Staff						\$0.00
b) Northern Staff	\$17,250.00	\$7,585.00	\$9,665.00		\$10,000.00	\$17,585.00
c) Students	\$0.00	\$5,000.00	-\$5,000.00		\$5,000.00	\$10,000.00
f) Other (please describe)			\$0.00			\$0.00
<b>SUBTOTAL</b>	<b>\$17,250.00</b>	<b>\$12,585.00</b>	<b>\$4,665.00</b>	<b>\$0.00</b>	<b>\$15,000.00</b>	<b>\$27,585.00</b>
<b>2) Equipment and facilities</b>						
a) Purchase of new equipment			\$0.00			\$0.00
b) Rental of equipment	\$2,100.00	\$0.00	\$2,100.00		\$2,100.00	\$2,100.00
c) Facility costs			\$0.00			\$0.00
d) Other - <b>software</b>	\$18,090.00	\$19,016.00	-\$926.00			\$19,016.00
<b>SUBTOTAL</b>	<b>\$20,190.00</b>	<b>\$19,016.00</b>	<b>\$1,174.00</b>	<b>\$0.00</b>	<b>\$2,100.00</b>	<b>\$21,116.00</b>
<b>3) Professional Fees (contracts)</b>						
a) Contracts	\$25,000.00	\$27,000.00	-\$2,000.00		\$60,000.00	\$87,000.00
b) Elders or knowledge-holders honoraria	\$22,500.00	\$25,680.80	-\$3,180.80			\$25,680.80
b) Other - <b>linguist</b>	\$7,650.00	\$5,000.00	\$2,650.00			\$5,000.00
<b>SUBTOTAL</b>	<b>\$55,150.00</b>	<b>\$57,680.80</b>	<b>-\$2,530.80</b>	<b>\$0.00</b>	<b>\$60,000.00</b>	<b>\$117,680.80</b>
<b>4) Travel</b>						
a) Travel	<b>\$9,990.00</b>	<b>\$18,022.24</b>	<b>-\$8,032.24</b>			<b>\$18,022.24</b>

\* This does not apply for Inter-departmental Letters of Agreements.

\*\* The comprehensive funding agreement outlines whether or not there is a requirement for an Audited Financial Statement instead of a Statement of Revenue and Expenditure. Please see the agreement for the Statement of Revenue and Expenditure Template.



EXPENDITURE OF GOVERNMENT OF CANADA PROGRAM FOR IPY FUNDS BETWEEN Apr1/10 to Mar 31/11						
	Project Funds Received	Project Funds Expended	Difference (Received - Expended)	Cash contributions	Estimate of In-kind support	Estimated Project Value
b) Accommodation and meals	\$14,982.00	\$11,751.41	\$3,230.59			\$11,751.41
c) Meal and incidentals			\$0.00			\$0.00
b) Other (please describe)			\$0.00			\$0.00
<b>SUBTOTAL</b>	<b>\$24,972.00</b>	<b>\$29,773.65</b>	<b>-\$4,801.65</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$29,773.65</b>
<b>5) Operating Expenses</b>						
a) Office supplies			\$0.00			\$0.00
b) Operating expenses	\$3,458.00		\$3,458.00			\$0.00
c) Other activities - <b>gasoline</b>		\$105.74	-\$105.74			\$105.74
<b>SUBTOTAL</b>	<b>\$3,458.00</b>	<b>\$105.74</b>	<b>\$3,352.26</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$105.74</b>
<b>6) Overhead / Administrative</b>						
	\$12,102.00	\$12,102.00	\$0.00			\$12,102.00
<b>7) Others (specify):</b>						
a) Communications	\$0.00	\$1,662.19	-\$1,662.19			\$1,662.19
b) Research license	\$0.00	\$158.00	-\$158.00			\$158.00
c) Shipping	\$0.00	\$38.13	-\$38.13			\$38.13
d)			\$0.00			\$0.00
<b>SUBTOTAL</b>	<b>\$0.00</b>	<b>\$1,858.32</b>	<b>-\$1,858.32</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$1,858.32</b>
<b>TOTALS</b>	<b>\$133,122.00</b>	<b>\$133,121.51</b>	<b>\$0.49</b>	<b>\$0.00</b>	<b>\$77,100.00</b>	<b>\$210,221.51</b>

a) Provide an explanation of any deviations from the previously approved budget.

No significant deviations.

b) Describe all additional cash contributions in support of this project, their sources and amounts.

Cash contributions included a stipend and expenses for Ingeborg Fink from the Endangered Languages Documentation Program (\$1,000 approximately); funding from Health Canada, the Délı̄nę Land Corporation and SSHRC (Memorial University) for travel by the Délı̄nę contingent to the Pan-Arctic Results Workshop in Ottawa (\$10,000 approximately; funding from IPY for travel to the NWT IPY Results Workshop in Inuvik (\$3,000 approximately); and a stipend for Sarah Gordon from the Social Economy Network of Northern Canada (\$1,000 approximately.

d) Describe any in-kind contributions made in support of the project, their sources and estimated values.

Source	Item	Value
ᑭeᑭᑭséo Ayha School	Room rental	500
ᑭeᑭᑭséo Ayha School	Staff time	3,000
ᑭeᑭᑭséo Ayha School	Supplies and equipment	1,000
University of Manitoba	Staff time	6,000
University of Manitoba	Supplies and equipment	1,000
Aurora College	Staff time	3,000
Aurora College	Room rental	750
Aurora College	Supplies and equipment	1,000
Délı̄nę Renewable Resources Council	Office space	1,000
Délı̄nę Renewable Resources Council	Supplies and equipment	500
Délı̄nę Renewable Resources Council	Honoraria	1,000
Délı̄nę Renewable Resources Council	Staff time	1,000
Délı̄nę First Nation	Staff time (CBQO radio)	500
Délı̄nę First Nation	Office space	2,000
SENES Consultants Ltd.	Labour	2,000
SENES Consultants Ltd.	FReSH Software	9,000
<b>Total</b>		<b>33,250</b>

e) Please estimate the project expenditures spent in each of the following regions, if applicable:

Yukon: \$ \_\_\_\_\_ Nunavik: \$ \_\_\_\_\_  
 Northwest Territories: \$133,122 Nunatsiavut: \$ \_\_\_\_\_  
 Nunavut: \$ \_\_\_\_\_ Other (please identify) \_\_\_\_\_ \$ \_\_\_\_\_

## ANNEX A – Training, Communication and Outreach Goals and Objectives

The Government of Canada Program for IPY sought proposals that will help to achieve the following objectives. In your application you (or your team) chose one or more of the following objectives that your project will address.

- **Raise awareness** about the Canadian Arctic, its peoples, and northern issues, particularly among Canadians and the international community;
- **Create dialogue and build connections** between and within Northern and Southern regions of Canada, as well as between Canada and other countries, to foster greater understanding of the importance of the polar regions;
- **Promote IPY** and polar science and research and communicate the progress and broad, collective results of IPY science and research on climate change impacts and adaptation, and/or health and well-being of northern communities;
- **Engage children and youth**, particularly Northern youth, in polar science and research;
- Provide experience and training for Northerners, particularly Aboriginal Northerners, in the skills, techniques and knowledge needed to carry out northern-based research and monitoring during and beyond IPY; and
- Document and share Traditional Knowledge as it relates to northern environmental change.

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## The science of weather

**Anita Baton**

Special to NNSL

Published Monday, December 20, 2010

DELINE/FORT FRANKLIN - Deline played host to a unique weather monitoring workshop in early December.

Local elders Leon Modeste, Alphonse Takazo, Alfred Taniton, Andrew John Kenny and Charlie Neyelle along with Dr. Eyad Atallah and PhD student Melissa Gervais from McGill University worked with students from Aurora College and Ehtseo Ayha School to learn about weather monitoring and climate change in the Great Bear Lake area.

The workshop, held Dec. 6 to 10, combined the traditional knowledge of the elders with scientific research to provide students with a new perspective on weather monitoring. It was sponsored by the Deline Renewable Resources Council as part of its International Polar Year Program.

Students were able to go back and look at the scientific data and pick out seasons and years that the elders had told them stories about. They could see in the scientific data confirmation that what the elders are saying is true: Winters are really getting warmer.

"The students learned a lot about the weather and the changes in the climate," student Brendan Yukon said. "We were working with new people, visiting scientists. These are things we need to know. I see it is very important not only for us, but for all people."

The students also learned that while they study four seasons at school, there are actually five seasons to the Dene people. In addition to Xae (Winter), Auk'e (Spring), Eihbe (Summer) and Xat'a (Fall), the Dene also have a season called Hidohxae (early spring). It's usually at the end of March or early April when the sun is starting to get stronger and the snow is beginning to melt, but they can still go out on the ice.

Groups of students studied the climate of the different seasons using both scientific knowledge and traditional perspectives. Elders worked with each group to share their knowledge. At the end of the week the students held an open house where they shared what they learned about the seasons with community members. Elders and scientists also spent an afternoon working with high school science classes.



[We welcome your opinions. Click here to e-mail a letter to the editor.](#)

# Gúlú Agot'ı T'á Kə Gotsúhəa Gha *Learning About Changes*

Building Local Capacity to Address Climate Change in  
the Great Bear Lake Watershed

Presentation to NWT International Polar Year Results Conference  
Inuvik, January 19-21, 2011  
Anita Baton and Joseph Blondin Jr.

Aurora College, Deline Learning Center, Deline Renewable Resources Council  
Deline Knowledge Center, McGill University



Deline, Northwest Territories  
65°10'N 123°25'W



## Changes Since My Youth







## Changes Since My Youth

- Sounds of the cold
- The Chłk'e (Archłewa Nłhtsı) winds in February
  - Story about a white man who froze to death on the land

## Elder-Scientist Workshop

December 6-10, 2010



## Story of the Workshop

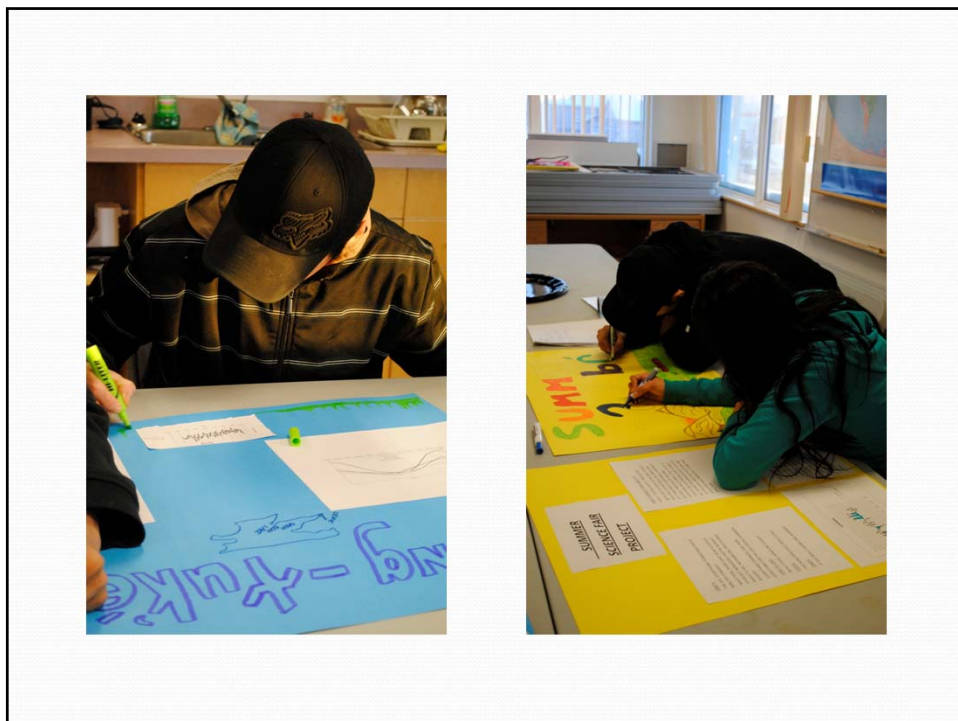
- 34 Elders, Youth, Community Members
- 2 Climate Scientists
- Everyone shared their knowledge
- Open House
- Presentation at the school
- Radio
- Newspaper



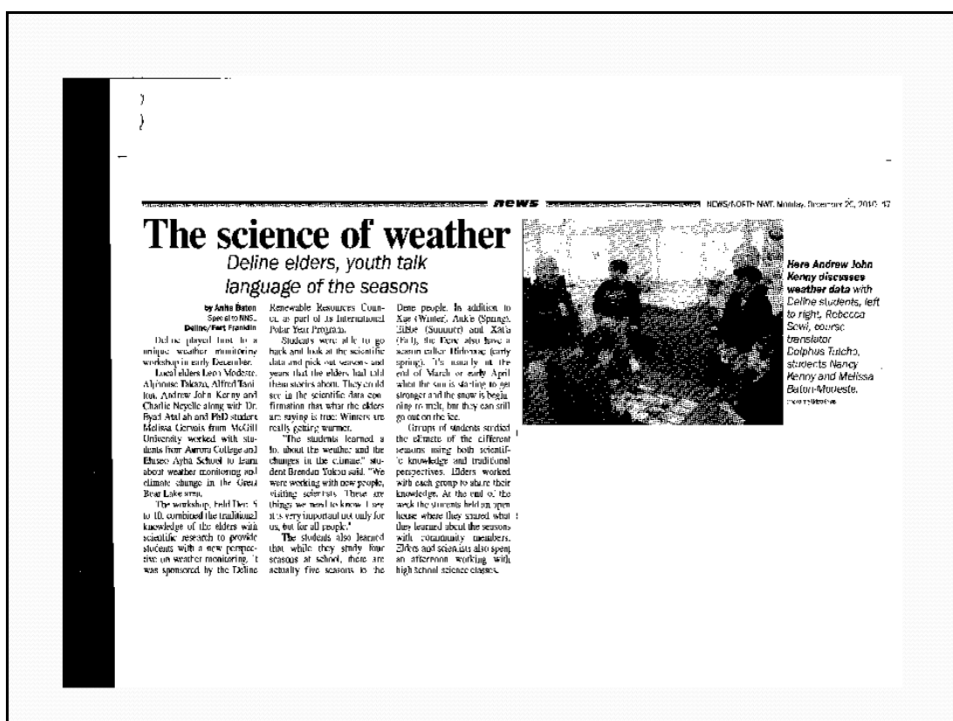














## Involving Youth

- Future leaders
- Inheriting the land
- Working with two worlds

## Involving Youth





## “The Scientists Learned a Lot from Us!”



## What We Learned

- Five seasons in our language and experience (Elders)
  - Xae, Hıdóhxae, Łuk'e, ʔıhbé, Xat'á
- Zone of most change in the world (Scientists)
- Scientific data supported what the Elders have been telling us (Youth)

## Recognizing Our Accomplishments



## What's Next?

- Elder-scientist forecasting workshop and website
- Elder-scientist understanding weather workshop
- Storytelling in the school – three trails, three classes



## Contact Information

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