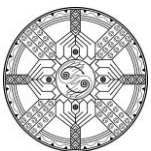
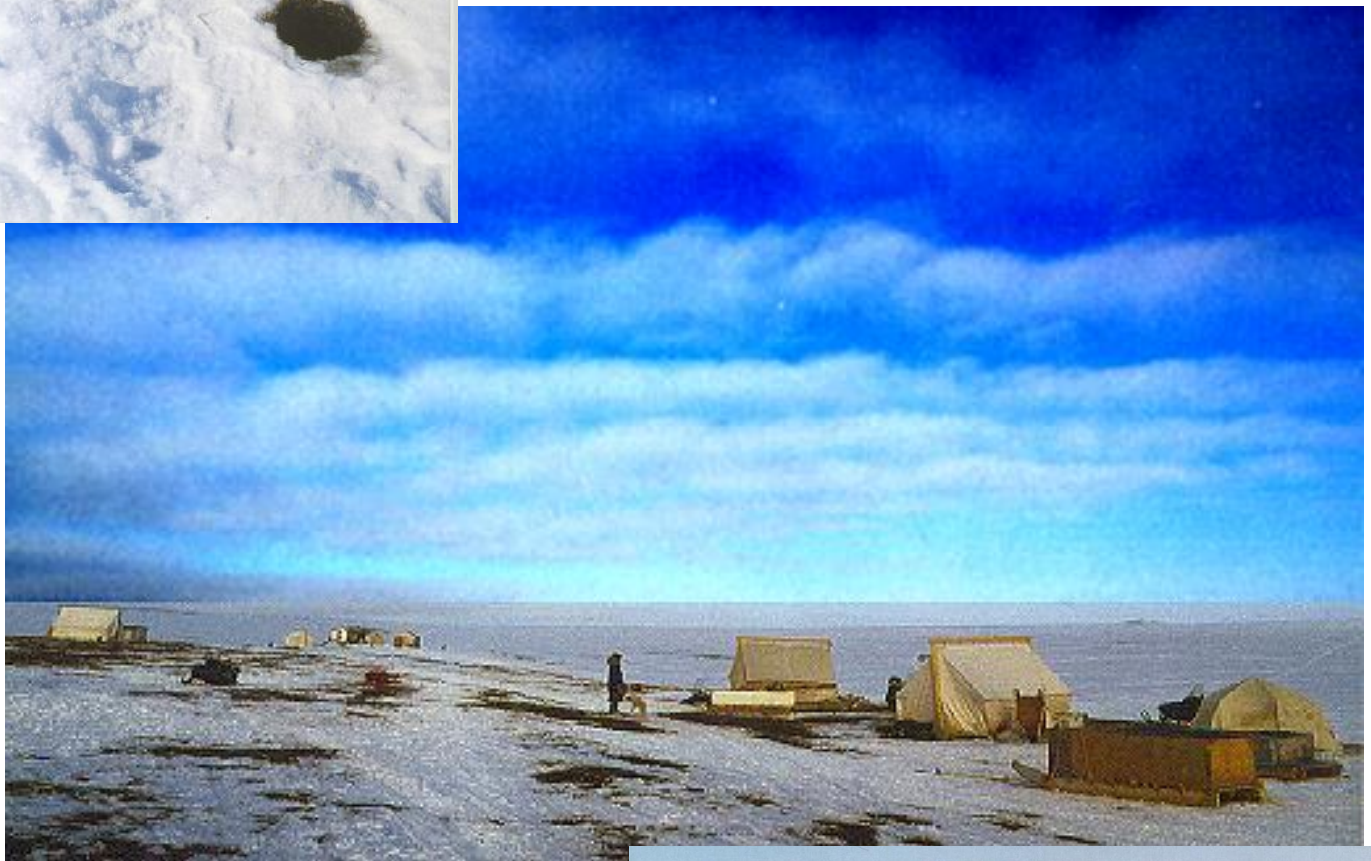




Inuit Observations on Climate Change

Trip Report 4
May 22– 29, 2000

Sachs Harbour
Northwest Territories



INTERNATIONAL INSTITUTE FOR
SUSTAINABLE DEVELOPMENT
INSTITUT INTERNATIONAL DU
DÉVELOPPEMENT DURABLE

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1. Goals of the Project and Purpose of the Trip

Inuit Observations on Climate Change has two goals. The first relates to public awareness on climate change; the second to the relationship between traditional knowledge and scientific research on climate change.

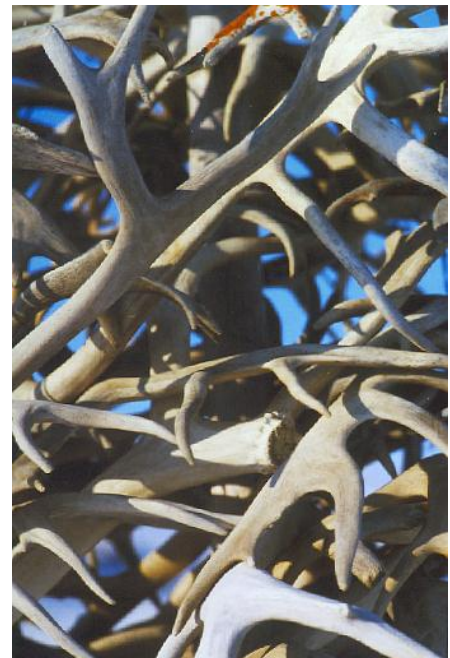
- **Goal one:** to produce a video that will demonstrate to Canadian audiences, interest groups and decision-making forums that climate change is making an impact on the traditional lifestyle and livelihood system of Inuit on Banks Island in the Beaufort Sea.
- **Goal two:** to understand the traditional knowledge of Inuit regarding climate change and to explore the contribution that traditional knowledge, local observations and adaptive strategies can make to scientific research on climate change in the Arctic.

This was the project team's fourth trip to Sachs Harbour, an Inuvialuit community on Banks Island, 500 kilometers Northeast of Inuvik. Residents have a close relationship with the Arctic environment: they continue to harvest fish from the sea and lakes on the island and animals from the tundra to support themselves.

The purpose of the trip was to:

- videotape Inuit as they perform traditional activities during the Arctic spring, such as ice-fishing and goose hunting;
- videotape the environment of Banks Island during the spring;
- videotape short interviews with community members about changes to their environment that may be caused by increased climate variability, in particular permafrost changes. Explore the effect of these changes on their livelihood system and their ability to adapt; and
- record longer, more detailed interviews with selected community members on audio tape to gather data for the project's journal articles on the potential contribution of local observation and traditional knowledge to research on climate change in the Arctic.

The project team worked in two groups to accomplish these tasks: a video group to videotape traditional activities on the land and record on-camera interviews, and a science group to conduct more detailed interviews in Sachs Harbour, which were recorded on audio-tape.



2. Team Members

The following team members took part in the spring trip to Sachs Harbour:

- Graham Ashford: Team leader (IISD)
- Jennifer Castleden: Communication specialist (IISD)
- Bonnie Dickie: Video director.
- Rosemarie Kuptana, Community liaison
- Dyanna Riedlinger: Researcher/graduate student (Natural Resources Institute)
- Stephen Robinson: Permafrost geologist and geophysicist (Geological Survey of Canada)
- Lawrence Rogers: Sound technician (Inuvialuit Communications Society)
- Norm Snow: Technical specialist/Lead scientist (Joint Secretariat for Natural Resources Management)
- Terry Woolf: Camera operator
- Fikret Berkes – Winnipeg based project advisor (NRI)



New Team Member Profiles:

Stephen Robinson: Permafrost Geologist and Geophysicist. Steve was the specialist scientist on the spring trip. He was chosen because the community had emphasized the significance of permafrost changes. Steve's role on the project was to conduct detailed interviews with people who were often on the land, gathering their observations of climate change with particular reference to permafrost. Steve has conducted permafrost research across the Northwest Territories and Nunavut through his position with the Geological Survey of Canada, based in Ottawa. His professional background includes working as the principal investigator on a project examining the potential impacts of climate change on infrastructure in several communities in the Mackenzie Valley, as well as leading research examining linkages between peatland ecology, carbon accumulation, permafrost, and climate change. Stephen held a position as geography

lecturer at McGill University and as a permafrost scientist with Interprovincial Pipe Line in Norman Wells.



Jennifer Castleden: Communication specialist. Jennifer recently joined IISD as a project officer. Her role is to help develop a communication strategy that will generate maximum public interest in the video and scientific reports. This strategy will include specific actions for

generating media attention. The communication strategy will be subject to the approval of the Sachs Harbour Hunters and Trappers Committee. Prior to joining IISD, Jennifer worked for the Gwich'in Renewable Resource Board in Inuvik as a Communications Assistant and with Gwich'in Geographics Ltd. as Senior Writer/Editor. On another recent international assignment, she was based out of England, working on a global environment CD-ROM project in which she interviewed and videotaped youth concerned about the environment. Jennifer also recently completed a one-year contract with the United Nations Environment Programme, coordinating a global environment report for young people.



3. Trip Scheduling and Interim Activities

During the participatory planning workshop for the project (June, 1999), community residents scheduled the project's spring trip for May, 2000. This date would allow the video to include ice-fishing and the spring goose hunt – two important community activities. The project team expected the weather to be warm and the ground to be soft and difficult to travel over during the filming of the spring goose hunt. The previous two years had produced running water and mud in late May. In fact, last year the goose hunt was conducted with all terrain vehicles instead of snowmobiles – something that the local people had never had to do before. The video team felt that documenting these dramatic changes would make a powerful opening sequence in the video.



As the date of the trip approached, the weather did not show any signs of warming. With two weeks to go, the team leader considered delaying the trip. However, scheduling conflicts among the nine team members did not make any alternative dates possible. The team therefore arrived as scheduled on May 22nd to more snow than the community had seen in 40 years. Spring break-up was still several weeks away – completely reversing the trend of recent record temperatures at that time of year. Snow covered the ground and formed large drifts. Ice still covered the lakes, rivers and sea.

As a result of the cold weather, the geese were slow to migrate, and particularly reluctant to cross the Beaufort Sea to their Banks Island nesting sites. Consequently, the team was unable to document the spring goose hunt as planned. Instead they concentrated on filming interviews in the Middle Lake area where the community was ice fishing. Many people spoke of how difficult it was to predict



weather patterns in recent years. They feared that their traditional land skills were losing relevance in the new climatic situation. People spoke powerfully of the effects of these changes on their lifestyles and livelihoods. The video team was relieved to capture these interviews. With the additional footage of ice fishing and permafrost melting that was obtained, the video component of the mission was a success. The theme of climatic unpredictability will be apparent in the video.

4. Project Planning Meeting (May 17th 2000)

On May 17, the Winnipeg based team members (Graham, Jennifer, Jo-Ellen Parry, Dyanna and Fikret) met to discuss the interview structure of the upcoming trip, the journal articles in preparation, the report on Inuit adaptation to climate change, and the community evaluation of the project.

Fikret, the project's adviser on traditional ecological knowledge (TEK), provided useful advice on structuring the spring interviews and analyzing the results. The team considered various approaches to gather local observations related to permafrost changes. They agreed to continue using a semi-directed interview structure that referred back to comments made during the community workshop and other local interviews. They felt that this approach would be complemented by site visits by the science team, where more informed discussions with local people would be possible.

The team also reviewed the status of the journal articles. The project is currently developing five journal articles.

- “Communicating Climate Change from the Perspective of Local People: A Case Study from Arctic Canada” by Neil Ford accepted by the Journal of Development Communications (August 2000). This paper details the project's participatory methodology and communication strategy.
- “Climate Change and the Inuvialuit of Banks Island: Using Traditional Environmental Knowledge to Complement Western Science.” By Dyanna Riedlinger. In Arctic (InfoNorth) 1999.
- “Contributions of Traditional Knowledge to Understanding Climate Change in the Canadian Arctic” by Dyanna Riedlinger and Fikret Berkes, submitted to Polar



Record (August 2000).

- A paper on traditional knowledge and local observation of changes to sea ice, to be coordinated by Theresa Nichols (in prep.).
- A summary paper combining the findings of all four science trips and recommendations for future research. Norm Snow is leading this paper with contributions from other science team members.

The Winnipeg team also planned the outline of a related report for the CCAF (Science, Impacts and Adaptation) describing past Inuit adaptations to climate variability and assessing whether those adaptations are still possible in current environmental and socio-economic conditions. Fikret Berkes and Dyanna Riedlinger offered to lead the development of this written report.

During the meeting, the team also discussed the need to conduct an independent community evaluation of the project. The team leader felt that it was important to have a person who was familiar with the issues and who had experience conducting local level project evaluations in remote communities. Fikret (as an outside adviser who has not participated in fieldwork) agreed to conduct an evaluation of the project in August, after all four trips to Sachs Harbour have been completed, and the video on climate change has been produced. Part of this evaluation would include surveys and interviews to determine the community's perspective on the project. Dyanna agreed to coordinate the local evaluation activities as part of the larger evaluation that would include a field visit by Fikret. She would recruit and train two community members to carry out the surveys and interviews over a two-week period in July.

As a final item, the team reviewed a project update that Dyanna had written for distribution to the community. The three-page update summarized the project's objectives and activities. It included pictures from previous trips and contact information. It also advertised positions for two community members to be hired on a two-week basis as members of the project evaluation team. The update was distributed to every household at the beginning of the Spring trip.

5. Conferences

While the original workplan did not include presenting project results at conferences (this activity was to be planned during the final workshop), the team considered conferences to be important venues for sharing the project's approach, and building relationships with likeminded



organizations and individuals. As such, the team leader decided to apply expected savings from video production activities (post-production was projected to cost less than originally anticipated) to profile the project at conferences directly related to climate change in the Arctic. These conferences included:



Workshop on Climate Change Impacts and Adaptation Strategies for Canada's Northern Territories.

Yellowknife, February 27-29, 2000. Norm Snow, the project's lead scientist, represented the project and made a 15-minute presentation at an evening panel session. The project also exhibited an updated version of the posters that had been developed for the Beaufort Sea 2000 conference.

Climate Change Communications Conference. *Kitchener-Waterloo, June 22-24, 2000.* The project was given a special two-hour session at the conference. While Rosemarie Kuptana had planned to co-present at the conference, she was unable to travel after crashing her all terrain vehicle on a washed out community road days before she was to leave. Instead, Graham and Dyanna presented the project, and showed a 35-minute rough edit of the video. There was a great deal of interest in the project by other conference participants. The video was particularly well received. It was highlighted in the closing plenary session as being innovative in approach and effective in demonstrating the impacts of climate change on humans.

12th Inuit Studies Conference: Inuit Communities, the Northern Environment and Global Processes. *University of Aberdeen, Scotland, August 23-26, 2000.* Dyanna decided to sponsor herself to attend this conference and present a paper titled: Looking in New Directions to Understand Arctic Climate Change: Contributions of Inuvialuit Knowledge to Climate Change Research in the Western Canadian Arctic. The central organizing theme of the conference will be the increasingly complex and problematic relationship between people, resources, the environment and global processes in the North.

The Challenge of Change: 2000 Yukon North Slope Conference. *Whitehorse, September 18 - 20, 2000.* The conference will examine many different aspects of the Yukon North Slope's changing physical, social and economic environment. The approach of the conference is multidisciplinary. It welcomes input from diverse forms of knowledge - traditional, local and

scientific. The findings of the conference will contribute to the management of the Yukon North Slope. IISD will participate in the conference discussions, make a presentation on the project, and display the posters.



Northern Climate ExChange Workshop. *Whitehorse, September 20 - 21, 2000.* At the workshop, IISD will assist in a review of the results of the Northern Climate ExChange Gap Analysis Project; the current state of knowledge of the



impacts of climate change on various components of northern natural and human-oriented systems; and priorities for action in the north on climate change that may include research, monitoring, technological development, management structures, and education.

Crossing Borders: Science and Community 51st AAAS Arctic Science Conference. *Whitehorse, September 21 - 24, 2000.* This conference seeks to form partnerships across political boundaries

in the circumpolar north; discuss new directions in Arctic science from the viewpoints of younger and older scientists; and explore the evolving relations between Arctic science and Arctic communities. IISD will participate in the conference discussions, make a presentation on the project, and display the posters.

The last three conferences occur consecutively and therefore represent a very economical and effective way of reaching key audiences to share approaches and findings. IISD believes that by attending these conferences the project will build strong relations with other organizations, with the aim of promoting more informed research and action on climate change in the Arctic.

6. Video Group Activities

The video group worked in unseasonably cold spring weather, with temperatures hovering around -14 degrees and twenty-four hour daylight. The team had planned to document the spring goose hunt, which has been occurring earlier in recent years due to the warmer weather. However, this year was abnormally cold in late May, delaying the arrival of the geese and preventing the video team from capturing this activity on film. Instead, the video team concentrated on interviewing local people while they were ice-fishing or around the town. They also obtained footage of permafrost melting and community life. The group's production schedule was as follows:

Monday May 22nd

- Arrival in Sachs Harbour, trip planning with both science and video teams.

Tuesday May 23rd

- Continued planning the shoot as the video team waited for the weather to break.
- Videotaped Tony and John Lucas Jr. in the evening hitching and running a dog sled team across the frozen ocean.





Wednesday May 24th

- Videotaped an interview with Rosemarie Kuptana and her mother Sarah, in which Rosemarie talks about the unpredictable weather and recounts stories of her youth on the land. Sarah explains that Inuvialuit women have always had a deep understanding of the weather, as they were responsible for assessing conditions and preparing the hunters accordingly.

Thursday May 25th

- Interviewed Roger Kuptana on observed climate changes, challenges to traveling, storms, rougher water, fishing and hunting. The interview explored the potential impacts on his business as a hunting guide. Roger discusses ice conditions and explains the dangers of traveling on ice as a result of climate change.
- Video and science team planning for a two day trip to the Middle Lakes area.

Friday May 26th

- Traveled to Middle Lakes area where many families were staying in tents, ice fishing while they waited for the geese to arrive.
- Videotaped community members while they fished through small holes in the six-foot thick lake ice.
- Camped overnight on the shore of Middle Lake.

Saturday May 27th

- Interviewed Stephen Robinson, Geoscientist, regarding the increased melting of permafrost, impacts of permafrost changes and his perspective on the integration of local knowledge with western scientific knowledge.
- Interviewed Larry Carpenter and John Keogak in a tent on the shore of Middle Lake, speaking about changes in the permafrost and unpredictability of weather in recent years.
- Interviewed Rosemary Kuptana at Middle Lake on her memories





Sunday May 28th

- Videotaped Geddes and Lena Wolki for further details on the changes they had observed..
- Obtained scenic footage around the town of Sachs Harbour.
- Traveled back to Inuvik and beyond.

7. Science Group Activities

The objective of the science team during the fourth trip was to conduct interviews in the community relating to the potential impacts of climate change on permafrost. The science team also looked at the changes experienced by the community during spring seasonal activities, such as ice fishing and goose hunting. Stephen Robinson, Norm Snow and Dyanna Riedlinger conducted the science interviews.

Over a seven-day period, the science team interviewed nine community members. As with previous trips, the interviews were conducting in an informal, flexible manner, usually in people's homes over tea. Two interviews took place at a Middle Lake camp. This was the first opportunity for the science group to conduct interviews out on the land. On Friday the team interviewed John Keogak and Larry Carpenter. The following day, Larry and John took the science group out to see some of the permafrost-related changes they had described, including coastal erosion and inland retrogressive thaw slumping. Even though there was still an abundance of snow on the ground, several active thaw areas were visible, particularly along the coast. Having community members take the scientists to places on the land where changes are occurring was considered to be an appropriate course of action for establishing permafrost and landform related changes.

All interviews emphasized permafrost and springtime changes, though they allowed the interviewee considerable latitude in explaining the changes by referring to other seasons or traditionally acquired knowledge. Questions were loosely structured around topics such as active layer

growing up on the land and on Banks Island, as well as the impacts climate changes have and will have on her community.

- Traveled to a nearby lake to interview John and Samantha Lucas at their camp where they provided additional information on the changing climate and its impacts on the Inuit way of life.
- Videotaped scenic footage around the Middle Lake area.



processes, thaw slumps, inland and coastal riparian zone erosion, water levels and ice wedges. They also explored the impact of permafrost melt on travel, accessibility, buildings and roads. Specifically, the science group looked to distinguish natural processes (i.e. erosion) from abnormal or unexpected processes. Precipitation, temperature and seasonal change were also discussed, particularly in terms of their linkages with changes to the permafrost environment. Finally, the science group looked at changes associated with spring seasonal activities such as the goose hunting and ice fishing. These included observation on lake ice thickness, the timing of break up and freeze up, and the impacts of changes on the migration of geese.



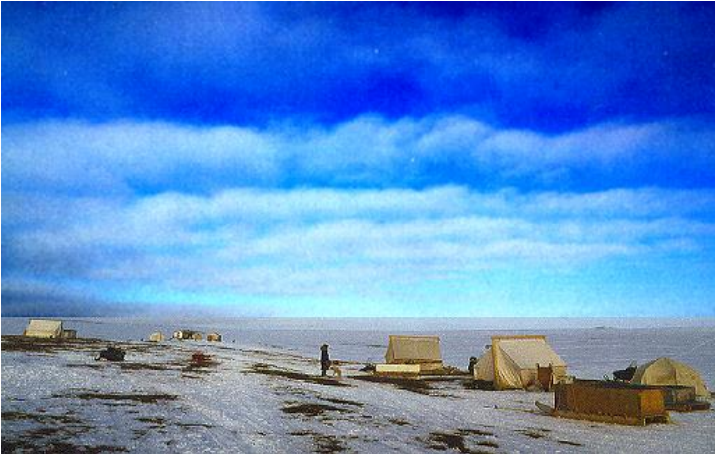
As with other trips, all interviews were taped on audiocassettes and transcribed. Dyanna Riedlinger remained in the community for a month following the project team's departure, taking pictures of several of the key locations where the community had indicated permafrost melting was particularly noticeable.

The science team drew the following conclusions from the trip four interviews:

- there is an abundance of knowledge in the community related to historical and present landforms, erosion activity and permafrost conditions;
- knowledge of permafrost-related changes is closely tied to community activities, including travel, hunting and fishing;
- community members interviewed can differentiate between natural and abnormal climate and erosion processes;
- discussions of permafrost-related changes do not occur in isolation from other variables such as wind, precipitation, temperature, human activity, and seasonal change;
- changes associated with melting permafrost, while very visible, have had less of an impact on community activities than the rapid spring melt and the delayed winter freeze-up; and However, there is significant concern that this will change if the permafrost continues to melt, as the natural regeneration process takes thousands of years.

8. Community Liaison

Jennifer and Stephen met with the principal of the school in Sachs Harbour on Wednesday, May 24th, to brief him on project activities and seek his advice on involving young people in future project activities. As the current principal is leaving, he suggested contacting Moses Garaba, who will be the new principle. He felt Mr. Garaba might be eager to involve young people in a climate change information and monitoring program. The school is well equipped with modern computers and printers. Stephen suggested that the Geological Survey of Canada (GSC) might be interested in getting involved in a monitoring partnership program with the school. Follow-up is needed with Mr. Garaba and the GSC.



The project team met with Cindy Smith and Andrew Lawrence of Parks Canada on Tuesday, May 23rd to inform them that the team was back in Sachs Harbour for the fourth trip and to request copies of topographic maps for use during the science interviews. They kindly offered the team maps and photocopy enlargements as available.

The project team also met with Florence Elanik, secretary to the Hunters and Trappers Committee (HTC) regarding the HTC's role as an advisory committee to the communication outputs of the project. Subsequently, the HTC held a meeting on June 1, and confirmed that they would take on this responsibility.

Dyanna stayed for a month after the rest of the team left to continue her research and coordinate the community evaluation of the project.

9. Video Post-Production

A 42-minute rough cut of the video was completed in mid-June. The videotape incorporated Bonnie's voice narrating the script that Rosemarie Kuptana will read in the final version. It also included dissolves and other visual effects, superb archival footage serendipitously obtained on the fourth trip, and a composed soundtrack blending modern and Inuvialuit music.

The video was sent to the HTC for community review in late June. The video was played to small groups and individuals. All of the comments were collected, and where possible will be incorporated into the video. Overall, the community appeared very pleased with the video, feeling that it accurately reflected their local situation and concerns.

The video was also shown during a workshop at the Climate Change Communications Conference in Kitchener-Waterloo on June 24th. The project was given a special two-hour session at the conference. While Rosemarie Kuptana had planned to co-present, she was unable to travel after crashing her all terrain vehicle on a washed out community road days before she was to leave. Instead, Graham and Dyanna presented the project, and showed the rough edit of the video, which was particularly well received. It was highlighted in the closing plenary session as being innovative and powerful. Comments from the workshop will also be incorporated in the final edit.

Several people expressed the need for a shorter 10-minute version of the video that would be more appropriate for discussion with senior decision makers, broadcast on shorter "Earth Report" style television programs, and the Internet. The video team felt that producing a shorter version could be easily and cost-effectively accommodated in the production plans. As such, the decision was made to produce two versions of the video, a 42-minute television-hour version and a 10-minute summary version. Both would include visual effects, narration and music. The

title of the video will be “Sila Alangotok (The Weather is Changing)”. This is an Inuvialuit expression.

10. Media coverage

The project has generated considerable media interest since its launch. The list below summarizes the coverage that IISD is currently aware of.



CBC *This Morning*. August 19th, 1999.
Neil Ford and Rosemary Kuptana were interviewed about climate change in the north, the project, and what it hoped to achieve.

Vejins, Melissa. *Inuit observe climate changes: project compares science with tradition*. Northern News Services. January 10, 2000.

Bailey, Sue. *Arctic area issues global warning*. The Halifax Herald Limited. Tuesday, April 18, 2000.

Duffy, Andrew. *Global warming causing Arctic town to sink, says Inuit leader*. National Post. Tuesday, April 18, 2000.

Global warming causing Arctic town to sink, says Inuit leader. Southam News Inc.. Tuesday, April 18, 2000.

Lawton, Valerie. *Inuit way of life threatened by global warming: permafrost melting, hunt for animals thwarted: Report*. Toronto Star. April 18, 2000.

Global warming why Arctic town is sinking. Montreal Gazette. April 18, 2000.

Arctic town sinking as a result of global warming. Xinhua News Agency. April 18, 2000.

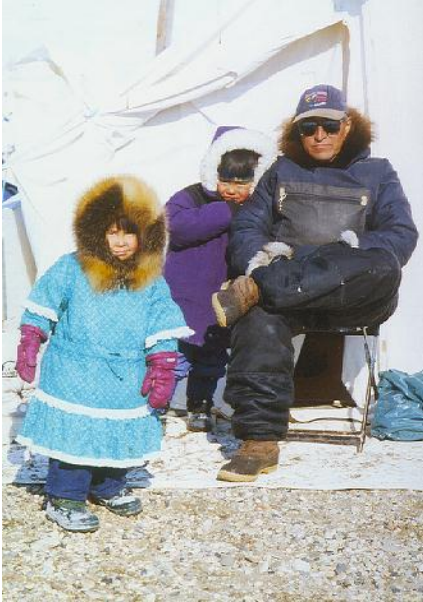
Duffy, Andrew and Laura Landon. *Inuit track early global warming trends: Report documents unusual sightings of birds, animals in the Arctic*. The Ottawa Citizen. Wednesday April 19, 2000.



Richardson, Richard B. *Arctic warming is cold comfort*. Letters to the Editor, The Ottawa Citizen. Wednesday, April 26, 2000.

EarthVision Environmental News.
Program Uses Unique Approach to Foster Change. April 27, 2000.

Global warming melts Inuit's Arctic Lifestyle. National Geographic.com. July 19th, 2000



11. Internet Site

The project Internet site (<http://iisd.ca/casl/projects/inuitobs.htm>) has also received considerable interest. Since it was developed in June 1999, the site has been visited over 1500 times. Other websites including National Geographic, the Northern Climate Exchange and the Global Change Report provide links directly to the project's site on IISDnet. IISD intends to make the short version of the video available on the website with information on obtaining the full-length version.

12. Next Steps

- **Produce the final version of the 42 and 10-minute videos.**
- **Participate in the previously mentioned climate change conferences.**
- **Complete the various journal articles.**
- **Convene a meeting of the entire science team to review and coordinate the development of the final science journal articles.**
- **Develop a one page foldout brochure for the project.** IISD believes that this will be an effective pre- and post-launch tool. It will provide readers with information on the community's observations of climate change, individual quotes, photos and an outline of the project's approach. The brochure will also provide details on the videos and how to obtain them, and links to the project website where the most up to date information will be available and the project outputs viewed. It will acknowledge the contributions of all project partners and funding agencies. The brochure will be used as an outreach and media tool. It will complement the video cover in design and content.
- **Finalize the details of the launch of the video.** To achieve maximum media attention, the video should be pegged to a major climate related news event. Several events were considered including the Joint Ministerial Meeting in October and COP 6 in November. COP 6 was decided to be the best event to coordinate the launch around, as it will be a major international meeting. The official launch of the video is scheduled to occur on Wednesday, November 8th in Ottawa. Several locations are still under consideration. The launch will occur as a media event in morning and a large reception in the evening. At least one community member will be in Ottawa to lead the presentations. David Suzuki and



Elizabeth May have offered to speak at both events. The project manager, Graham Ashford will introduce the project and chair the events. On Thursday November 9th, IISD will try to arrange follow-up interviews on television and radio, and in print.

- **Final workshop with project partners.** On Friday, November 10th, IISD is planning a final workshop in Ottawa to review the project, watch the video and discuss next steps. This date was chosen to allow members of Sachs Harbour to attend without large additional travel costs. This workshop will be a half-day event that brings together key project team members and all funding partners. During the meeting, the participants will identify and prioritize the target audiences for the project outputs – the videos and science papers – and to develop strategies to reach these people. The distribution strategy for the video will also be discussed. Finally, the participants will consider how to apply the strengths of the project in other areas of research and action.