IRIS 1 Regional Workshop
April 12-15, 2011, Inuvik, NT

Workshop Report




Prepared by the IRIS 1 Team

September 23, 2011

Contents

Acknowledgements

The Integrated Regional Impact Study (IRIS) 1 leader and coordinator would like to thank ArcticNet for funding the IRIS 1 Regional Workshop, and furthermore, to thank the ArcticNet Administration for their patience and teamwork. Special thanks to Kayla Hansen-Craik of the Fisheries Joint Management Committee (FJMC) for coordinating the Community-Based Monitoring Workshop and working with Ashley Gaden (the IRIS 1 Coordinator) to produce a schedule to meet both the FJMC and ArcticNet's goals.

Thank you to the community members and regional representatives for participating and providing valuable contributions to the workshop.

Thank you to the members of the IRIS 1 Steering Committee: Meghan McKenna and Eric Loring (Inuit Tapiriit Kanatami), Pitsey Moss-Davies (Inuit Circumpolar Council – Canada), Andrew Dunford (Nunavut Tunngavik Inc.), Jennifer Johnston (Inuvialuit Regional Corporation) and Norm Snow (ISR Joint Secretariat). Committee members provided support and assisted in the preparation and organization of the workshop. The Steering Committee also contributed to the April edition of the Western and Central Arctic ArcticNet Bulletin which was distributed at the workshop.

To Stephanie Powell-Hellyer, thank you for photographing the workshop and for all the photos in this workshop report.

Many thanks to Inuit Tapiriit Kanatami, ArcticNet, International Polar Year-Circumpolar Flaw Lead, Canadian Arctic Shelf-Exchange Study and the Clayton H. Riddell Faculty of Environment, Earth and Resources for door prize donations.

Background

ArcticNet is a Network of Centres of Excellence of Canada that brings together scientists and managers in the natural, human health and social sciences with their partners from Inuit organizations, northern communities, federal and provincial agencies and the private sector to study the impacts of climate change in the coastal Canadian Arctic.

In order to meet its objectives, in 2008, ArcticNet moved from a theme structure to an Integrated Regional Impact Study (IRIS) framework. The boundaries of the IRISes do not represent established land claim regions (Figure 1) but encompass unique climate and biophysical processes. The designated IRISes are: 1) the Western and Central Arctic; 2) the Eastern Arctic; 3) Hudson Bay; and 4) the Eastern Subarctic (Figure 2). The intention of the IRIS framework is to develop a volume of Regional Impact Assessments (RIA). These RIAs will be based on science generated by ArcticNet and other organizations and will be designed to assist decision and policy makers in formulating strategies to adapt to the impacts of climate change.

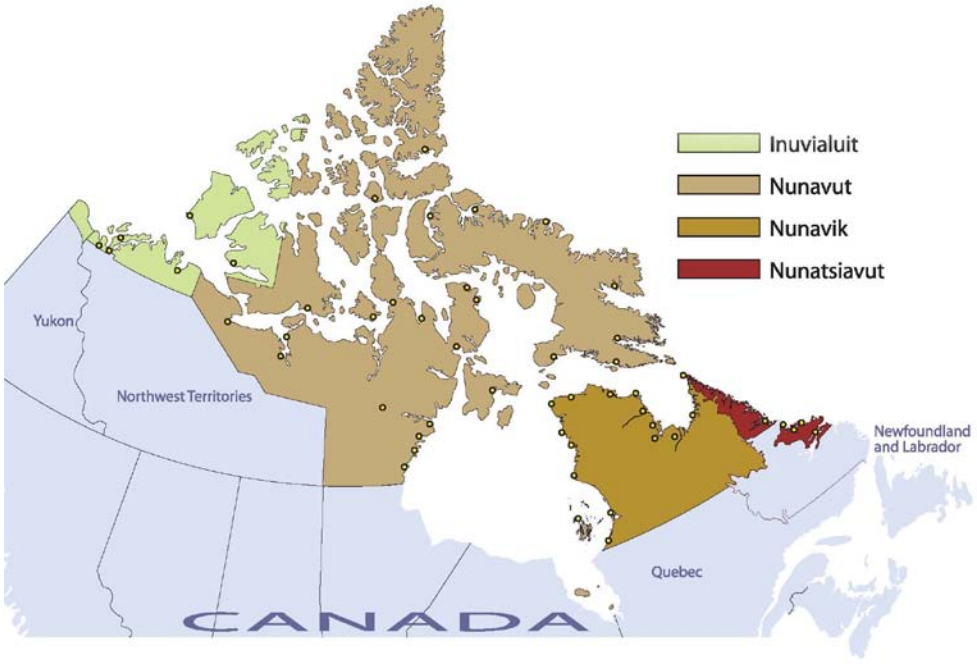

Figure 1. Map of Inuit Tunangat (Inuit Regions of Canada). (www.itk.ca)

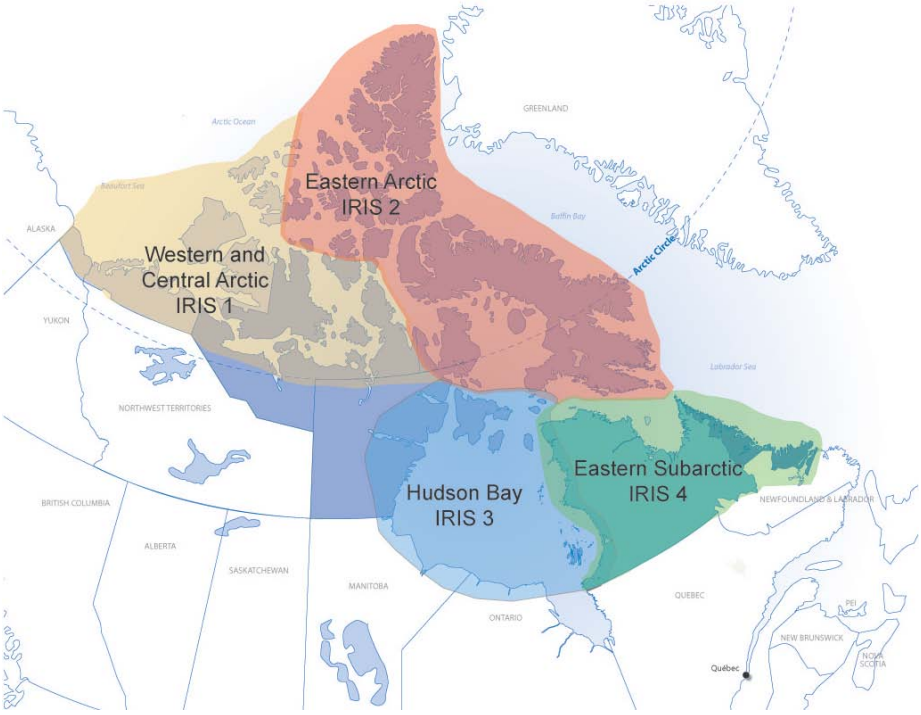

Figure 2. The four ArcticNet IRIS regions. (www.arcticnet.ulaval.ca)

Purpose

The intent of the IRIS 1 Regional Workshop was to bring together Inuit organizations, university and government researchers and representatives of key industries to present and discuss research interests and priorities in the Inuvialuit Settlement Region (ISR) and Kitikmeot region of Nunavut. Dr. Gary Stern (Fisheries and Oceans Canada) and Ashley Gaden (University of Manitoba), the IRIS 1 leader and coordinator, respectively, led the workshop.

Objectives

A series of consultations, including an initial planning meeting[1], helped guide the workshop planning and objectives. The IRIS 1 Steering Committee established two workshop objectives:

1) To facilitate information exchange between community members, Inuit organizations and researchers. This would include an update of various research projects as well as the ArcticNet IRIS framework and its goals.
2) To identify climate change priorities in the Inuvialuit Settlement Region (ISR) and Kitikmeot region of Nunavut.

Outcomes

The outcomes of the workshop will contribute to the development of the IRIS 1 RIA with respect to addressing climate change and socio-economic issues and research gaps in the ISR and the Kitikmeot region of Nunavut.

Next Steps

Priority issues raised during the workshop discussions will be incorporated into the IRIS 1 RIA with respect to shaping the scope of the assessment.

[1] An initial planning meeting was held in Ottawa, ON during the 2010 ArcticNet Annual Scientific Meeting (ASM). Members of Inuit Tapiriit Kanatami, Inuit Circumpolar Council-Canada, the Inuvialuit Regional Corporation, Inuvialuit Game Council and Nunavut Tunngavik Incorporated met to determine the purpose and objectives of the IRIS 1 Workshop.

Workshop Programme

The IRIS 1 Regional Workshop was held at the Midnight Sun Complex in Inuvik, NT from April 12-15, 2011. A joint Community-Based Monitoring (CBM) workshop organized by the Fisheries Joint Management Committee (FJMC) took place alongside the IRIS 1 Workshop. Workshop participants represented 5 government bodies, 12 Inuit Organizations, 11 academic institutions, 4 companies and 6 other organizations. For a detailed list of participating organizations refer to Appendix A.

Tuesday April 12 and Wednesday April 13: Research and CBM presentations

Over 100 people, including 30 community members, attended nearly 30 research and CBM presentations at the IRIS 1 Workshop. Please refer to Appendix B and C for the workshop agenda and presentations.


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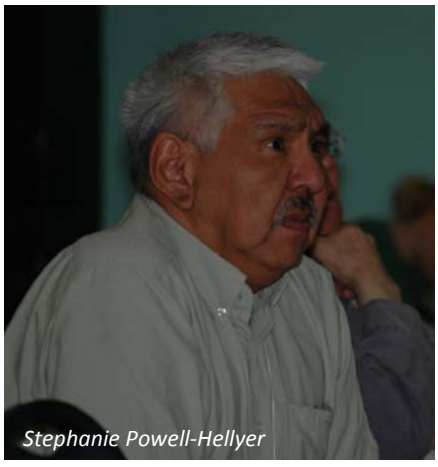
In addition to plenary presentations each morning, the workshop consisted of six themed sessions over the course of the two days: (1) Health, food security & contaminants, (2) Marine sciences, (3) Social sciences & political issues, (4) Coastal, freshwater and terrestrial impacts of climate change, (5) Aquatic Wildlife, and (6) CBM presentations.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A banquet was held on Wednesday evening and featured the film. “Never Say Die: The Aklavik *H. pylori* Project Documentary”. The Aklavik *H. pylori* project was established to assess and reduce health risks to the Helicobacter bacteria, and it is a great example of community involvement with a research team. The documentary was introduced by two of the project members, Laura Aplin (University of Alberta) and Billy Archie (community member of Aklavik).

Thursday April 14 & Friday April 15: IRIS presentations and break-out sessions

The IRIS 1 and FJMC CBM workshop participants separated for the remainder of the week to focus on their respective goals.

Louis Fortier, Scientific Director of ArcticNet, presented an overview and the goals of the IRIS regional impact assessments (RIA):


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- The RIA will investigate climate change stressors, such as physical changes (i.e. air temperature, precipitation, etc.) and socio-economic changes, and their impacts. Future climate scenarios of these impacts will be based upon regional-scale climate models.
- The RIA will be written in plain language based upon science and traditional knowledge. Decision makers will be able to use the document to prepare for climate change, adapt to change, and if possible benefit from change. The RIA will be viewed as a guide or a tool in helping to formulate policies with respect to climate change planning.

Mickaël Lemay, the IRIS 4 coordinator, presented suggestions for the IRIS 1 RIA format based on experience with the IRIS 4 assessment:


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- A four-part structure may enhance the accessibility, clarity and comprehension of the IRIS 1 RIA:
    - Part I: overview focused on priority issues of adaptation in the region
    - Part II: analysis of past and recent climate trends and climate projections
    - Part III: multiple chapters supporting scientific key findings in relation to climate change and modernization
    - Part IV: synthesis chapter with key findings addressing and incorporating the concept of vulnerability, adaptive capacity, and influential factors for both of these concepts.

Daniel Caya of Ouranos talked about regional climate models with respect to IRIS 1:


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- Ouranos will produce the regional climate model and resulting climate scenarios and data to be used in the IRIS 1 RIA. Although uncertainty will be built into the model, this is still something that will need to be addressed in the reporting of the projections.

- The regional climate models for the IRIS regions use a 50 km resolution and incorporate atmospheric variables.

- Climate variables/ indicators can be customized for each IRIS. RIA authors will select indicators pertinent to their chapters' topics.

Other speakers shared RIA chapter-specific ideas:

Louis Fortier (Université Laval) – Dr. Fortier offered to lead the Marine Ecosystems chapter. He spoke about documenting the impacts associated with the changing sea ice regime. Examples of these impacts include the changing distribution of various marine species, fisheries resources, invasive species, and atmospheric carbon sequestration.


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Fred Wrona (Environment Canada) – The Terrestrial and Freshwater Systems chapter could potentially illustrate how freshwater systems link or integrate terrestrial and marine ecosystems. For example the chapter could demonstrate how stressors and effects are linked within these systems and furthermore how they affect people.


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Vasiliki Douglas (University of Northern British Columbia) – Ms. Douglas offered to lead the Food Security chapter. Based on her interviews and workshops with food and cultural security in the North, Ms. Douglas will build an adaption model and present the results in her chapter.

Both Steve Blasco (Natural Resources Canada), who had offered to talk about the chapter of Safety in Transportation, and Tristan Pearce (Guelph University), who offered to speak about the chapter regarding Social and Economic Factors of Adaptation to Climate Change, were unable to attend the workshop.

Genevieve Carr (Indian and Northern Affairs) presented upon the Beaufort Regional Environmental Assessment (BREA) to clarify that BREA is not connected to the IRIS 1 assessment.

Afternoon break-out group sessions further facilitated an examination of the proposed themes and table of contents for the IRIS 1 RIA. Each break out group was given a list of questions (Appendix D) and was tasked with identifying regional priorities and improving the overall outline. The breakout groups were organized into five themes corresponding to a potential section of the table of contents: Human health & food security; Safety, security & infrastructure; Terrestrial and freshwater ecosystems; Marine ecosystems; Socio-economic factors of adaptation.


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Before wrapping up the workshop on the morning of Friday the 15th, participants of both the IRIS 1 Regional Workshop and the FJMC CBM workshop were privileged to watch the signing of the Beaufort Sea Fisheries Management Framework Memorandum of Understanding (BSFMF MOU). The agreement, signed by the federal government and the Inuvialuit, provides a framework for the agencies to collaboratively work on issues of concern affecting Beaufort Sea fish and marine mammals. The potential for large scale development of commercial fisheries in the Beaufort is one example of such an issue at present.

Photos from the signing of the BSFMF MOU.

Top left: Nellie Cournoyea (IRC)

Top right and bottom: Nellie Cournoyea (IRC), Larry Dow (DFO), Vic Gillman (FJMC), Frank Pokiak (IGC)

Following the MOU signing, a representative from each breakout group presented their suggestions from the previous day's discussions on the RIA. The IRIS 1 Leader and Coordinator reviewed feedback from the break-out groups. Below follows an abbreviated list of some of the new, relevant suggestions with respect to the content of RIA:

- Topics to include in the RIA:
  - Impacts to estuaries
  - Effects of tar sands in the Mackenzie Delta ecosystem (i.e. toxic effects to fish)
  - Impacts to travel and navigation
    - on land and rivers (i.e. storms, extreme weather, winds)
    - on sea (i.e. sea ice conditions, hazards relating to landforms, sea level changes, extreme low/ high tides, storm surges)
  - Impacts to buildings and roads (i.e. maintenance costs)
  - Impacts to archaeological and cultural sites
  - Impacts to/ trends of health/ nutritional indicators and disease in IRIS 1 (i.e. iron deficiency, *H. pylori*, tuberculosis, diabetes, cancer) and mental health (i.e. isolationism, suicide)
  - Impacts to/ trends of country food accessibility, availability and quality/ acceptability (i.e. contaminants) and drinking water
  - Gaps and challenges to hydrocarbon development in the Beaufort Sea, mining, shipping and commercial fisheries in IRIS 1

- Potential case studies:
  - Herschel Island wildlife monitoring
  - Community-based monitoring projects
  - Coastal erosion in Tuktoyaktuk
  - Challenges experienced by hunters travelling on sea ice
  - Protected areas
  - CANHELP (i.e. Aklavik H. pylori pilot project)
  - Oil Spill Coop in the 1970s-80s where industry funded the development of skill sets in groups of people to respond to oil spills

- Methods for including Traditional Ecological Knowledge into the RIA:
  - Consult with the Traditional Knowledge Working Group, one of the councils for the Beaufort Sea Integrated Ocean Management. They document traditional knowledge for the Beaufort Sea Large Oceans Management Area. www.beaufortseapartnership.ca/knowledge.html
  - Describe long-term observations based upon TEK which is continuous over generations. In turn, western science can describe short-term studies. This complimentary relationship will help to establish a more holistic picture.
  - Address local observations; these may identify knowledge gaps which could help to initiate future research projects.

Outcomes and Next steps

Feedback from the workshop has been integrated into a revised table of contents for the IRIS 1 RIA. The updated table of contents is organized according to issues identified for the western Canadian coastal Arctic. Issues and priorities for Nunavut will be further discussed following a consultation with policy and decision makers in Cambridge Bay and Kugluktuk in the Kitikmeot region of Nunavut.

Next steps include continuing discussion with decision and policy makers in the ISR and Nunavut with respect to the revised RIA outline. To ensure that the RIA is relevant to its users it must be driven by the needs of regional decision makers. This approach facilitates further consultation to finalize the regional priorities to be addressed in the RIA.

Although there was an overruling majority of representatives from the ISR in comparison to Nunavut at the workshop, the IRIS 1 team recognizes the importance of including both Nunavut and the ISR in the IRIS 1 process. A meeting in Kitikmeot was highly recommended to meet these objectives and is supported by the IRIS 1 steering committee and other members of ArcticNet. The IRIS 1 leader and coordinator are currently discussing potential meeting times in consultation with regional contacts in Kugluktuk and Cambridge Bay.

A first draft of the IRIS 1 regional impact assessment has been targeted for the April 2012 IPY conference in Montreal, QC.

Appendix A. Organizations, departments and institutions represented at the IRIS 1 Regional Workshop and acronyms (listed alphabetically in each category)

Territorial and Federal Government Departments	Department of Fisheries and Oceans Canada - DFO Environment Canada - EC Indian and Northern Affairs Canada - INAC Northwest Territories Government - NTG Yukon Government - YG
National and International Inuit Organizations ISR Organizations Nunavut Organizations	International Circumpolar Council – Canada – ICC Inuit Tapariit Kanatami - ITK Aklavik Hunters and Trappers Committee (HTC) Inuvialuit Game Council - IGC Inuvialuit Regional Corporation - IRC Inuvik HTC Olokhaktok HTC Paulatuk HTC Sachs Harbour HTC Tuktoyaktuk HTC Joint Secretariat: Fisheries Joint Management Committee - FJMC Wildlife Management Advisory Committee (North Slope) – WMAC-NS Wildlife Management Advisory Committee (Northwest Territories) – WMAC-NT Nunavut Tunngavik Incorporated - NTI
Academic Institutions	Aurora Research Institute - ARI Laval Université - LU McGill University - MU Queen's University - QU Trent University - TU University of Alberta - UA University of Manitoba - UM University of Northern British Columbia - UNBC University of Saskatchewan - US University of Victoria - UV Yukon College - YC
Private Sector	BP Exploration - BP Imperial Oil - IO KAVIK-AXIS Inc. Ouranos
Other	Arctic Youth Leadership Program - AYLP ArcticNet Council of Yukon First Nations - CYFM Oceans North - ON Water Climate Impacts Research Centre – W-CIRC World Wildlife Federation - WWF

Appendix B. IRIS 1 Regional Workshop Agenda

Time of Day	Monday April 11	Tuesday April 12	Wednesday April 13	Thursday April 14	Friday April 15
9:00 - 10:20 am		Plenary presentations	Plenary presentations	IRIS assessment presentations	IRIS Workshop wrap-up
10:40 am – 12:00 pm		Science presentations: Health, food security & contaminants	Science presentations: Coastal, freshwater & terrestrial impacts of climate change	IRIS assessment presentations	
1:20 – 2:40 pm		Science presentations: Marine sciences	Science presentations: Aquatic wildlife	IRIS break-out sessions	
3:00 – 5:00 pm	2:40 pm: FJMC CBM Pre-workshop community meeting	Science presentations: Social sciences & political issues	Community-Based Monitoring Presentations	IRIS break-out sessions and reports	
5:00 pm – 7:00 pm	Workshop Registration & poster set-up (5-6 pm) Icebreaker (6-7 pm)	IRIS 1 Steering Committee Meeting (5:15-6:15 pm)	FJMC CBM Session (5-6 pm) Banquet and documentary "Never Say Die" (6-8 pm)		

Appendix C. IRIS 1 Regional Workshop Presentation Agenda

Tuesday April 12 – ArcticNet IRIS 1 & FJMC Community-Based Monitoring Workshops			
8:30 am		Coffee & Snacks	
9:00 am		Gary Stern, Frank Pokiak & Vic Gillman Nellie Cournoyea, IRC CEO/Chair; Martin Fortier, Executive Director, ArcticNet	Welcome Opening prayer and speeches
9:20 am		Larry Carpenter, WMAC-NWT	Research process and needs in the ISR under a cooperative management regime
9:40 am		Frank Pokiak, IGC	IGC expectations in an ISR-wide community-based monitoring program
10:00 am		Andrew Dunford & Sharon Edmunds, NTI	Contaminant communication in the Nunavut Settlement Area
10:20 am		Break	
10:40 am	Theme: Health, food security & contaminants	Breanne Reinfort, U Manitoba	Approaching contaminants research communication from an Inuvialuit community's perspective
11:00 am		Stephanie Powell-Hellyer, UNBC	Food security in the ISR
11:20 am		Yuan Zhou, McGill University	High unsaturated n-3 fatty acids (HUFA n-3) status of Canadian Inuit
11:40 am		Question Period for above presenters	
12:00 pm – 1:20 pm		Lunch (on your own)	
1:20 pm	Theme: Marine sciences	Ryan Galley, U Manitoba	Sea ice of the Southern Beaufort Sea and Amundsen Gulf
1:40 pm		Joel McAlister, Aurora College	Seabed mapping in the Beaufort Sea – Amundsen Gulf region of the ISR
2:00 pm		Brent Else, U Manitoba	How the Beaufort Sea breathes: results from air-sea gas exchange studies on the CCGS Amundsen
2:20 pm		Question Period for above presenters	
2:40 pm		Break	
3:00 pm	Theme: Social sciences & political issues	Bob Simpson, Jennifer Johnston and Tamara Hansen, IRC	Social science in the ISR
3:20 pm		Valoree Walker, Yukon College, and Brenda Parlee, U Alberta	Transience and social cohesion in an Arctic community
3:40 pm		Courtney Fidler, U Saskatchewan	International regional strategic environmental assessment experiences in the offshore oil and gas sector
4:00 pm		Martin Fortier, Executive Director, ArcticNet	ArcticNet collaborations with industry
4:20 pm – 4:40 pm		Question Period for above presenters	

Wednesday April 13 – ArcticNet IRIS 1 & FJMC Community-Based Monitoring Workshops			
8:30 am		Coffee & Snacks	
9:00 am		Josée Michaud, Data Manager, ArcticNet	The Polar Data Catalogue: a tool for sharing knowledge
9:20 am		Gary Stern, U of M/DFO	Overview of the Circumpolar Flaw Lead (CFL) System Study
9:40 am		Robie Macdonald, DFO	Climate, contaminants and vulnerability in the Arctic
10:00 am		Question Period for above presenters	
10:20 am		Break	
10:40 am	Theme: Coastal, fresh-water & terrestrial impacts	Fred Wrona, Environment Canada	Arctic tundra lakes: ecosystems in transition
11:00 am		Scott Lamoureux, Queens U	The impact of climate change on land and water quality in the High Arctic
11:20 am		Amandine Lapoussière, U Laval	Marine productivity at the base of the Arctic food web
11:40 am		Question Period for above presenters	
12:00 pm – 1:20 pm		Lunch (on your own)	
1:20 pm	Aquatic wildlife	Louis Fortier, U Laval	Arctic cod in the Beaufort Sea: coastal and offshore ecology
1:40 pm		Andy Majewski, DFO	Marine fishes – Research in support of cumulative impact assessment for key ecosystem components in the Beaufort Sea
2:00 pm		Chris Furgal, Trent University	Understanding the relationships between Arctic(Net) science and policy for multi-scale decision making
2:20 pm		Daniel Caya, Ouranos	Title TBD
2:40 pm		Break	
3:00 pm	Community-Based Monitoring Presentations	Henry Huntington, Oceans North	"Can you send me a thermometer or something?" Functions and attributes of a community-based monitoring network
3:20 pm		Lois Harwood, DFO	Monitoring in the ISR: design, delivery and reporting
3:40 pm		Lisa Loseto, DFO, and Frank Pokiak, IGC	Hendrickson Island Beluga Study: An example of a CBM
4:00 pm		Steve Kokelj, INAC, and Doug Esagok, Inuvik HTC	Using Scientific and Inuvialuit knowledge to track environmental change in the Mackenzie Delta
4:20 pm		Jennie Knopp, Trent U	Using two ways of understanding: science and traditional knowledge to examine effects of environmental change on arctic char for community-based monitoring
4:40 pm		Question Period for above presenters	

Thursday, April 14 – ArcticNet IRIS 1 Regional Impact Assessment Session		
8:30 am	Coffee & Snacks	
9:00 am	Louis Fortier, Scientific Director, ArcticNet	The IRIS framework and goals of the Regional Impact Assessments
9:10 am	Mickaël Lemay, IRIS 4 coordinator, U Laval	Overview of the IRIS 4 Regional Impact Assessment: challenges and strategies
9:25 – 10:05 am	Daniel Caya, Ouranos	Climate scenarios and data generation for the IRIS 1 region
10:05 am	Gary Stern, U of M/DFO	Break-out session objectives
10:20 am	Break	
10:40 am	Vasiliki Douglas, UNBC	Climate change impacts on Inuit food security in the ISR: Constructing a model to guide adaptation planning
10:50 am	Gary Stern, U of M/DFO	Contaminants
11:00 am	Steve Blasco, NRCAN	Safety in transportation, land, sea, ice and extreme weather
11:10 am	Fred Wrona, Environment Canada	Terrestrial and freshwater ecosystems
11:20 am	Louis Fortier, U Laval	Marine Life
11:40 am	Tristan Pearce, Guelph University	Social and economic factors of adaptation to climate change
11:50 am		
12:00 pm – 1:20 pm	Lunch (on your own)	
1:20 – 2:40 pm	Break-out sessions	
2:40 pm	Break	
3:00 – 4:00 pm	Break-out sessions (continued)	
4:00 pm	Reports from break-out sessions	
5:00 pm	Day concludes	
Friday April 15 – ArcticNet IRIS 1 Regional Impact Assessment Session		
8:30 am	Beaufort Sea Fisheries Management Framework MOU signing	
9:00 am	Further Discussion (if needed) Next Steps	
10:20 am	Workshop wrap-up	

Appendix D. Questions for break-out groups re: content of the IRIS 1 Regional Impact Assessment

1. Upon reviewing the current outline of the IRIS 1 regional impact assessment what general comments and/or suggestions can you provide for (a) your specific chapter and (b) the document as a whole? Is there anything missing or redundant?
2. What case studies could be included in the assessment?
3. What are your thoughts considering sections 4.3 (Protected Areas and Conservation Strategies) and 4.4 (Resource Development)? Should these be taken out or incorporated into another section?
4. What are some strategies to meld western science and traditional ecological knowledge in the assessment?
5. Who might be an appropriate lead author for your chapter and/or chapter sections if there is not yet a lead author? Who might be appropriate contributors, including our Inuit partners?