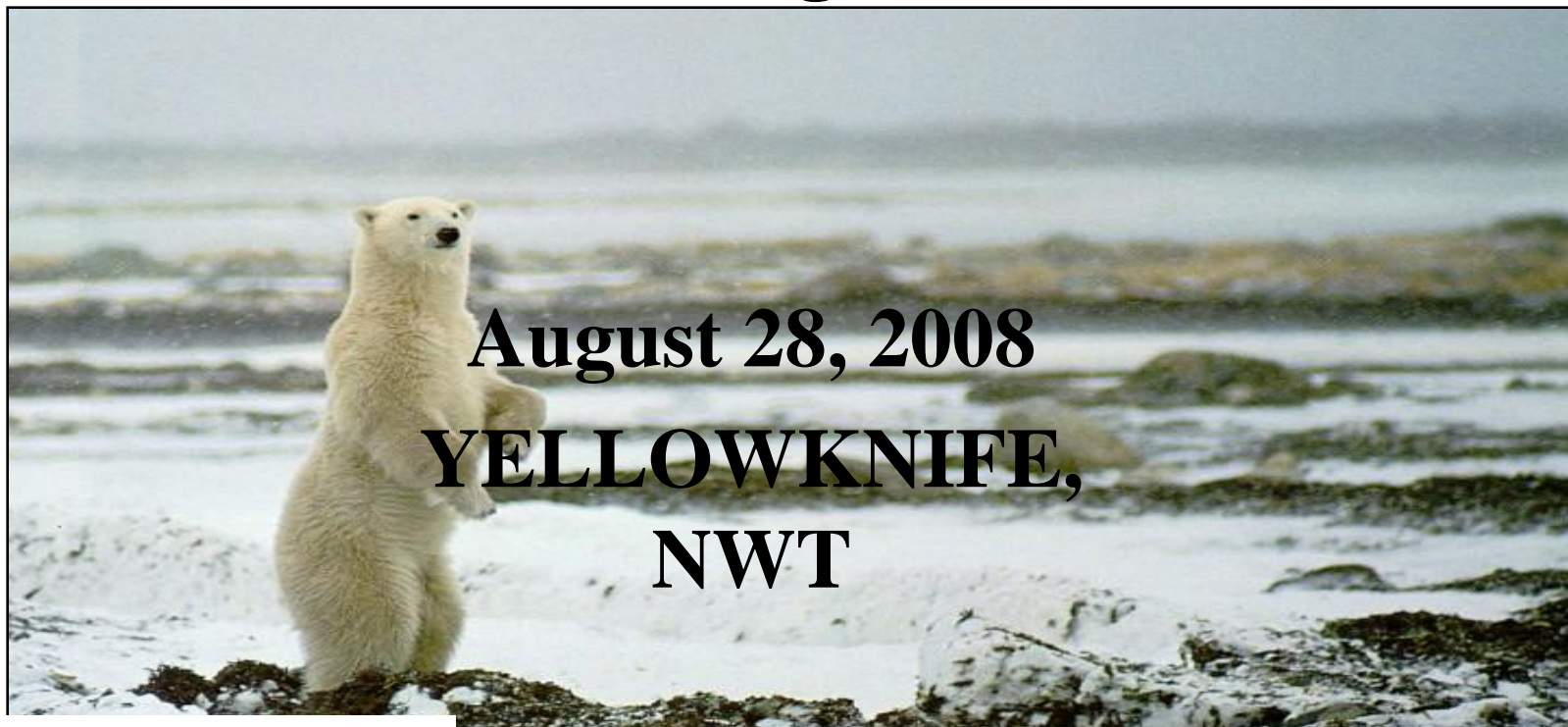


# Northern Development Ministers Forum: Climate Change Committee



**August 28, 2008**  
**YELLOWKNIFE,**  
**NWT**

# Purpose of the Committee

To document and share information on strategies being developed and/or employed to facilitate adaptation in response to the impacts of climate change on northern development.

This presentation focuses on recent initiatives related to impacts and adaptation to climate change and specifically on tourism as a northern development issue in Canada.



# Impacts on the North

- In the North, rates of warming have been, and will be greatest in the world.
- Resource-dependent and Aboriginal communities are particularly vulnerable to climate changes. This vulnerability is magnified in the Arctic.
- Vulnerability is greater owing to: high climate sensitivity of resources, limited economic diversification, more restricted access to services, strong linkages to the land.

*From Impacts to Adaptation: Canada in a Changing Climate 2007*

# Impacts (Continued)



In the North, impacts are already significant:

- Increased frequency of extreme weather
- Shortening of the winter season
- Reduction of the distribution, extent and strength of ice
- Loss of permafrost and decreased stability
- Landscape changes (the appearance of new lakes, erosion, landslides, etc.)
- Changes to wildlife patterns and populations
- Changes in precipitation regimes (increased snowfall, decreased snow on the ground, advent of rain in winter)

# Benefits in the North



- Economic diversification with adaptation planning, including expanded activities related to marine transport and tourism;
- Enhanced access to natural resources (terrestrial and marine) in the high Arctic; and
- Development and export of technologies to adapt northern infrastructure to degrading permafrost / enhanced coastal erosion.



## Possible Actions

- Improve resilience of tourism infrastructure
- Create vulnerability maps for permafrost terrain
- Use thermosyphons to induce artificial cooling of permafrost
- Limit development in vulnerable areas
- Build all-weather roads where possible

*From Impacts to Adaptation: Canada in a Changing Climate 2007*

# Possible Actions



- Create networks to facilitate participation in the development of plans to identify and manage the impacts of climate change on communities
- Improve contingency plans for businesses and municipalities to improve worse-case scenarios
- Develop a community safety training program to prepare for and cope with climate hazards

# Recent Initiatives

- Council of the Federation developed an inventory on Climate Change Leading Practices by Provincial and Territorial Governments in Canada (August 2007) that listed the agencies, plans, activities, programs, and other initiatives being undertaken by provincial and territorial governments.
- At their 2007 Summer Meeting, Premiers agreed to hold a conference on climate change adaptation in early 2008. The Council of the Federation-sponsored forum was held in Vancouver on January 29, 2008 and focused on adaptation issues related to water, forestry and Northern climates.
- In July 2008, Premiers agreed that regional research institutions will collaborate to expand the inventory of climate change related research. <http://www.councilofthefederation.ca/>



# Recent Initiatives

Led by Natural Resources Canada, the report *From Impacts to Adaptation: Canada in a Changing Climate 2007* examines the risks and opportunities from climate change, with a focus on human and managed systems.

Chapters on each region and northern Canada identify research on climate impacts on wildlife and implications for tourism, culture and local economies in many regions.

[http://adaptation.nrcan.gc.ca/assess/2007/pdf/ch3\\_e.pdf](http://adaptation.nrcan.gc.ca/assess/2007/pdf/ch3_e.pdf)

# Committee Activities

For the 2008 Forum, the Committee:

- Raised awareness of tourism and climate change related impacts.
- Identified an expert speaker related to climate change and tourism.
- Established and shared information products and sources on the FocusNorth website.



# Impacts on Tourism

- The impact of climate change on tourism is an emerging issue with uncertain outcomes.
- The tourism industry perception is for enhanced tourism under a warming scenario.
- Longer and warmer Arctic summers will likely increase the number of tourists coming to the Arctic, especially by cruise ship as well as to witness the ice melting and the changes.
- Increased tourism will also increase demands for community infrastructure and services (i.e. search and rescue, washroom facilities).

# Tourism Strategies



- Businesses may extend their operating seasons in support of a longer tourism window.
- Tourism industry operators are considering ways to adopt a green approach to their businesses.
- Hunting and ice fishing operations are expanding to new areas and farther north.
- Winter tourism season can be developed to include traditional hunting, dog sled rides to ice floes, etc.

# 2007 Forum - Panellists' Recommendations

- Examine contingency planning activities
- Identify technologies that improve resiliency to climate change
- Evaluate transportation infrastructure options
- Survey community engagement initiatives
- Explore strategic partnerships with the private sector

# Committee Recommendations

- Continue committee work to share information on climate change impacts on northern development and on best practices to address those impacts;
- Build on existing links and update information on climate change in the North on the FocusNorth website; and,
- Establish connections to work on climate change in other fora (e.g. Council of Federation, CCME).
- Post this presentation on the FocusNorth website for public access.

# Potential Topics

1. Best Practices in Boreal Forest Management
2. Climate Impacts on Water Availability and Hydroelectricity Production
3. Innovative Technology for Structures Built on Permafrost

# Appendix A: Recent Adaptation Plans, Events and Initiatives

- Examples of Activities in Provinces and Territories



# Appendix B: Climate Change and Tourism

- Examples of climate change impacts on tourism and related activities across Canada