

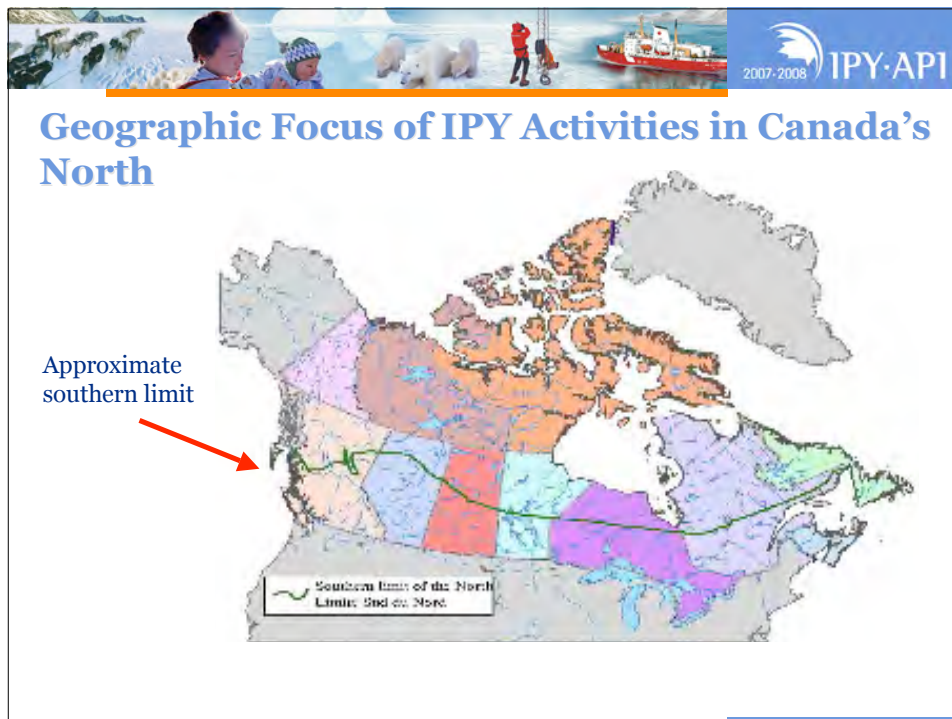
# Canadian National Overview – Challenges and Opportunities



2<sup>nd</sup> SAON Workshop – April 9, 2008  
Russel Shearer, Indian and Northern Affairs Canada

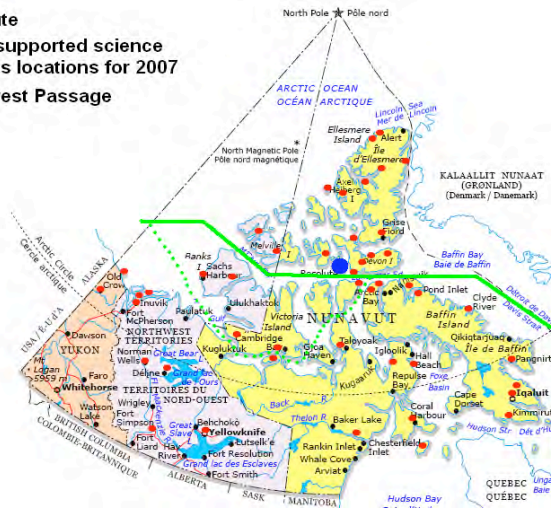
Indian and Northern Affairs Canada  
Affaires indiennes et du Nord Canada

Canada



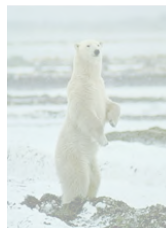
## Canadian Arctic science capacity

- ❖ Science efforts led by many players (federal and territorial departments, Universities and Colleges, Northerners, Industry...
  - Resolute
  - PCSP supported science projects locations for 2007
  - Northwest Passage
- ❖ IPY – Canada largest new investment of \$156M
- ❖ Linked with numerous national and international networks
- ❖ Numerous small field camps scattered through the territories



## Key Canadian Arctic science assets

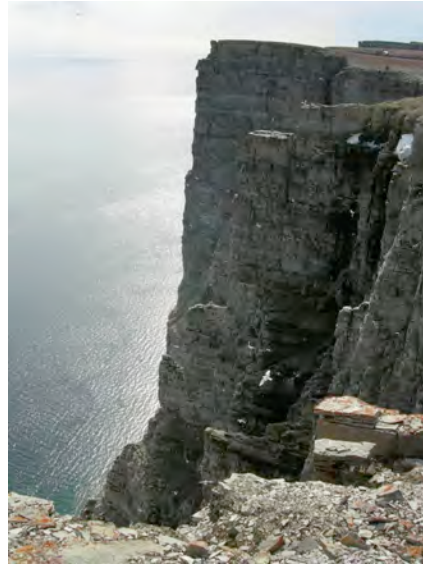
- ❖ Canadian Coast Guard icebreakers – primarily *CCGS Amundsen* and *CCGS Louis S. St-Laurent*
- ❖ Polar Continental Shelf Project – 50 years (Resolute)
- ❖ Department of National Defense/EC – Alert Station
- ❖ Environment Canada - Eureka weather facility
- ❖ Territorial colleges (basic research at Whitehorse, Inuvik and Iqaluit)
- ❖ Some remote sensing and satellite capacity



## Canadian Arctic science *Challenges*

Greater knowledge base required for government decision-making, private sector investment due to significant changes in North:

- ❖ Need central coordinating body
- ❖ Need to sustain IPY momentum – building legacy
- ❖ Limited science capacity in Northern Communities
- ❖ Limited sustained funding for observational networks
- ❖ Need to align networks to national priorities
- ❖ Logistical needs of science community exceed capacity
- ❖ Limited operational season for logistics support



## Opportunities - The Government of Canada is committed to an integrated Northern Strategy

❖ *"Our Government will bring forward an integrated northern strategy focused on strengthening Canada's sovereignty, protecting our environmental heritage, promoting economic and social development, and improving and devolving governance, so that northerners have greater control over their destinies."*

Speech from the Throne, October 16, 2007

Sovereignty	Economic and Social Development	Environmental Protection	Governance
Protecting our Arctic sovereignty as international interest in the region increases.	Encouraging economic development and regulatory improvements that benefit Northerners.	Adapting to climate change challenges and ensuring sensitive Arctic ecosystems are protected for future generations.	Providing Northerners with more control over their economic and political destiny.

## Recent foundational Investments

### We are building the foundation for the future:

- Will replace Louis S. St-Laurent with a polar class icebreaker (9 month operation): will be in service around 2018
- Additional funds to complete UNCLOS (*article 76*) claim by 2013
- Funding for geomapping to unlock resource potential of the North
- Additional funds for granting councils – lead on research needs
- Will build a commercial fisheries harbour in Pangnirtung
- Will build a deep water port at Nanisivik
- Establishing year-round military training center at Resolute (twinned with Polar Continental Shelf Project)

### ...And beginning to plan for our future Arctic Research Station

## Canada's High Arctic Research Station: Vision

### Making a global Canadian contribution

- Fulfilling our responsibilities as an Arctic nation
- Historic opportunity for international leadership
- Creating a world class science footprint

### Achieving scientific excellence

- Building on IPY for a permanent world-class research excellence
- Attracting the best and the brightest
- Internationally peer-reviewed research/ investing in key research areas of Canadian advantage



### Nation Building: the Canadian dimension

- Designed in/tailored to the North/strong Northern participation
- Establishes significant S&T base for northern resource development, environmental protection, and enduring benefits for Northerners and all Canadians



## Building onto Existing Networks - IPY

- ◆ IPY Program components:
  - ◆ Science and research: climate change impacts/adaptations and health and well-being of northern communities
  - ◆ Logistics for health and safety, licensing & permits
  - ◆ Northern training and capacity building
  - ◆ Communications and outreach
  - ◆ Data management



## IPY Science and Research Projects

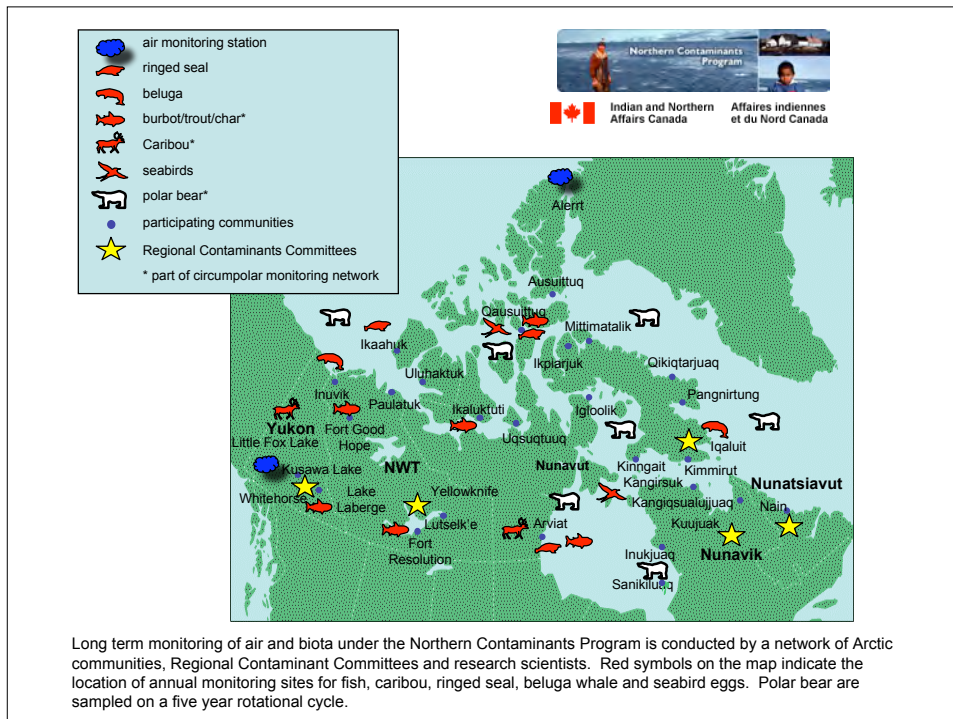
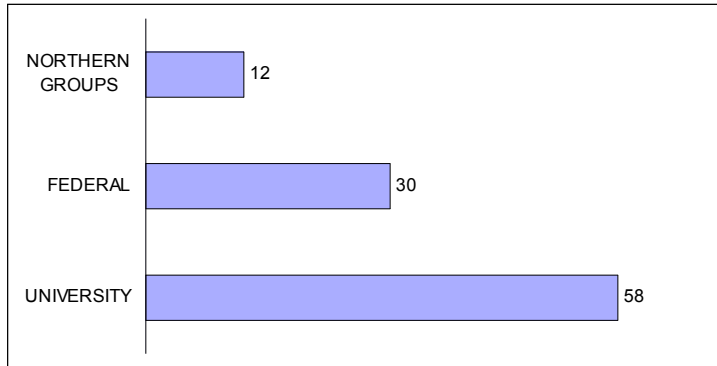
Research theme                      Number of projects

<b>Sea Ice/Oceans</b>	<b>8</b>
<b>Hydrology/Cryosphere</b>	<b>6</b>
<b>Carbon Cycle</b>	<b>3</b>
<b>Atmosphere</b>	<b>5</b>
<b>Ecosystems</b>	<b>6</b>
<b>Wildlife</b>	<b>8</b>
<b>Community Well-Being</b>	<b>9</b>
<b>Human Health</b>	<b>6</b>
<b>Total</b>	<b>51</b>





## Percentage of IPY Science Funding by Sector







## Data Management

- ◆ Dedicated funding for managing IPY data: including data archives, best practices and support for data management
- ◆ IPY working with ArcticNet and NCP to develop a metadata portal for IPY and Canadian Arctic science: Canadian Polar data catalogue [www.polardata.ca](http://www.polardata.ca)
- ◆ International IPY Data Management Subcommittee using Canada's metadata portal as model
- ◆ Establish network of data centres to allow for timely, free and open access to IPY data

## International Collaboration

