

# Climate Change and Sustainability

“A Northern Transportation Strategy must take into account the impact of climate change and its effect on sea ice and permafrost and Arctic shipping routes, road and airport construction.”

# Panel members

- Leah Braithwaite, Chief, Strategic Planning, Environment Canada – Canadian Ice Service
- Jackie Dawson, Assistant Professor, Department of Geography, University of Ottawa
- Janice Festa, Senior Policy Advisor, Strategic Policy and Innovation, Transport Canada
- Steve Kokelj, Permafrost Scientist, Government of NWT

# Example Climate change issues affecting northern transportation

- Record low snow extent and low sea ice extent (2012 Arctic Report Card)
  - 2012 was new record minimum sea ice extent for satellite monitoring period that started in 1979
  - 2013 – minimum reaching on Sept. 13, 2013
- Increasing growing season length
- Record high permafrost temperatures; thawing
  - AK: 200 days down to 100 days for tundra travel
- Shorter ice roads season (& thinner ice) – 2006 NWT example
- Longest observed melting duration (ex: Greenland)
- Severe weather events (storms)
- Opening of the Northwest Passage, northern passage (Europe to Asia via Arctic Russia)
- Other impacts: sea level, wildlife, flooding

# “Something is going on”

- How should the North react? Adapt?
  - US & Canadian collaboration?
  - What makes a sustainable transportation system?
- Opportunities vs. costs?
- Impacts on shipping routes? Road maintenance?  
Airport maintenance & construction?
- 2030, 2050, 2100 timelines & vision?
- What is our vision for taking the impacts of climate change on northern transportation?