

Our Changing Climate

Consensus among the international scientific community is that increasing emissions of human-caused greenhouse gases released into the atmosphere are affecting the Earth's climate. The evidence of climate change is unequivocal and its effects are evident across the Northwest Territories (NWT). Climate change is a serious concern, which is impacting on the ability of NWT residents to lead healthy and productive lives.

Our Commitment

The Government of the Northwest Territories (GNWT) will support global and local actions to reduce emissions of greenhouse gases. The GNWT will continue to support Canada's sustained commitment to international treaties to reduce greenhouse gases.

The GNWT is committed to working with the federal, provincial and territorial governments to reduce national greenhouse gas emissions on track with national greenhouse gas emission targets. Achieving these goals makes it a priority for the GNWT to work with communities, local governments and businesses to encourage adoption of renewable energy and developing efficient systems.

The GNWT will demonstrate leadership by diligently and responsibly taking action to control emissions of greenhouse gases in the Northwest Territories and prepare for climate change impacts. The NWT Energy Plan and NWT Greenhouse Gas Strategy will together guide a transition from dependence on carbon intensive fuels. Controlling greenhouse gas emissions will generate environmental and health benefits for individuals, families and communities, and should be done in ways that promote economic prosperity.

The Changing Climate

During the past 50 years, average annual air temperatures in the NWT have warmed at a rate four to five times faster than global air temperatures. While temperatures in the NWT have increased by 2 to 2.7° C, global temperatures have increased by 0.5° C.

Figure 1 shows the average annual temperatures measured at the Inuvik airport. While Inuvik has warmed the fastest, all other communities in the NWT are experiencing similar warming trends. Scientists have projected that without global action to reduce greenhouse gas emissions, average annual air temperatures in Inuvik could increase by 4° C during the 2046-2065 period and by 8° C during the 2081-2100 period.

Inuvik – Annual Temperature Means, 1958-2005

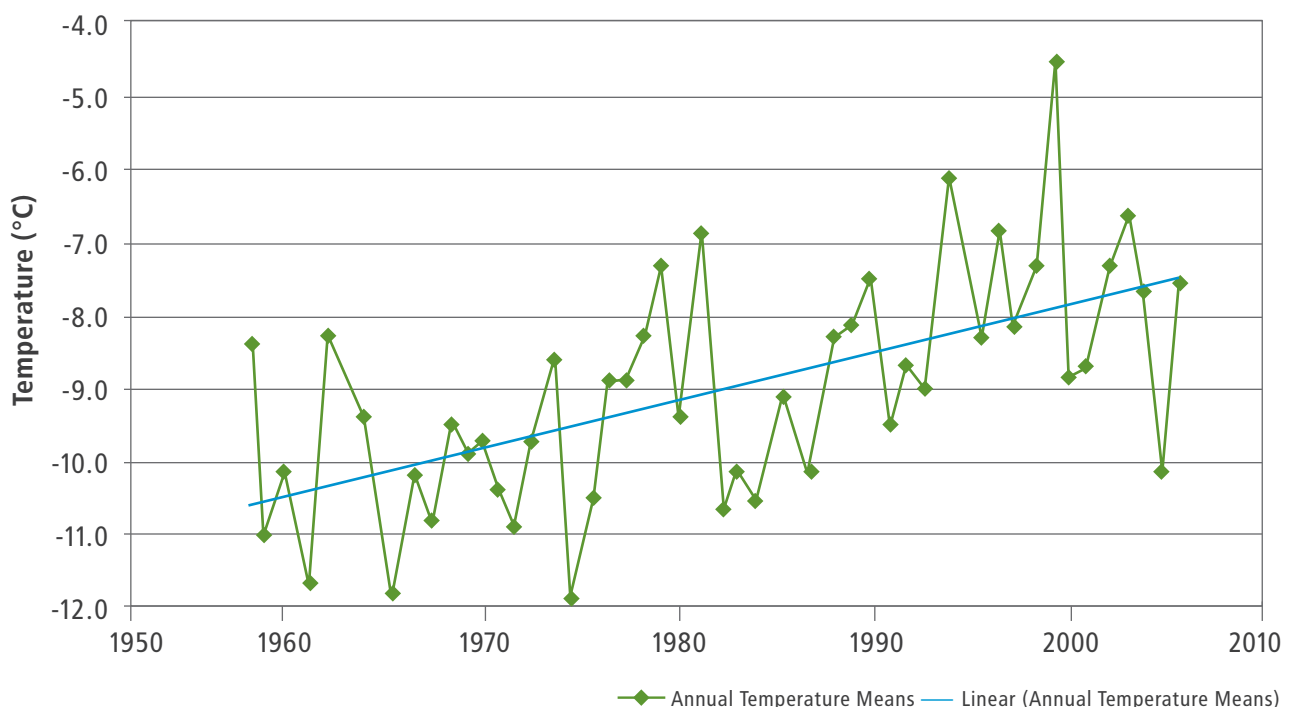


Figure 1: Observed increase in mean annual air temperature for Inuvik, NWT, measured at the Inuvik Airport.

Our Changing Climate

Decreasing Ice Cover

Ice cover in the Arctic Ocean has been steadily decreasing in thickness and spatial extent. Submarine records show mean Arctic sea ice thickness has decreased by 1.75 metres from 3.64 metres in 1980 to 1.89 metres 2008.

Arctic sea ice extent in January 2011 is the lowest since 1979 when satellite records started being kept. At 13.55 million square kilometres, it is 1.27 million square kilometres less than the 1979-2000 average. In the Beaufort Sea, adjacent to the NWT, multi-year sea ice has been decreasing by five percent per decade (Figure 2).

Figure 2: Decrease in extent of multi-year ice (total accumulated May through October ice) in the Beaufort Sea from 1968-2010.
Data source: Environment Canada, Canadian Ice Service, 2011

We Need Your Input

We invite you to send any comments, questions or concerns about the renewal of the Northwest Territories Greenhouse Gas Strategy to:

Climate Change Unit
Environment Division
Environment and Natural Resources
Government of the NWT
P.O. Box 1320
Yellowknife, NT X1A 2L9

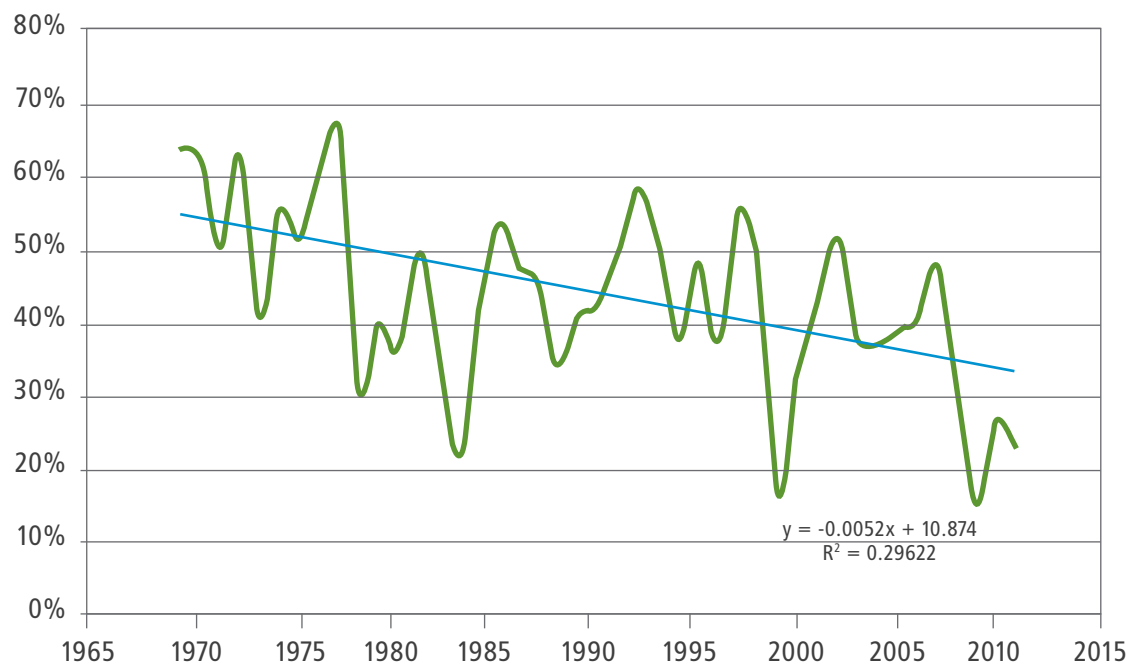
Phone: (867) 873-7654
Fax: (867) 873-0221
E-mail: climatechange@gov.nt.ca

To arrange a meeting in your community on the renewal of the NWT Greenhouse Gas Strategy for 2011-2015, call (867) 873-7654.

Please submit all comments by April 30, 2011.

More information on the Northwest Territories Greenhouse Gas Strategy is available on-line at www.nwtclimatechange.ca

Ice Cover in the Beaufort Sea



Impacts of Climate Change in the NWT

A number of current and potential impacts from climate change have been identified in the NWT Climate Change and Impacts Adaptation Report. These include:

- Shorter winter road season due to freeze-up occurring later in the fall and break-up sooner in the spring.
- Increased coastal erosion due to decreases in sea ice, like the erosion seen in Tuktoyaktuk. Changes in storm frequency, permafrost melt and storm surge aggravate coastal erosion.
- Melting permafrost damage to infrastructure such as roads, buildings, runways, water and sewer systems.
- Melting permafrost leading to slumping along river valleys, increased sediments in rivers and decreased fish habitat.
- Invasive species of plants and animals moving north to survive in the NWT.
- Decreased ability to hunt, trap and fish due to later freeze-up in the fall and earlier break-up in the spring. This limits people's ability to harvest country foods.
- Changing amounts, and timing, of rain and snow cause failure in buildings not designed for new climatic conditions.
- Changing amounts, and timing, of rain and snow impacting infrastructure operations and maintenance.
- Warmer weather, combined with changes in amounts and timing of rain and snow and changes in lightning occurrences, shows the potential for longer forest fire seasons, more numerous fire events and more severe individual fires.
- Changing water levels are impacting barging and ferry operations.
- Permafrost melt is impacting water resources, forests and wildlife habitat.
- Changing biological events, such as the timing of leaf emergence, birch sapflow, insect emergence and wildlife migrations, are impacting traditional pursuits and lifestyle.