

# CLIMATE CHANGE

## IN NUNAVUT

**Around the world, our climate is changing. Average global temperatures are rising - the 20<sup>th</sup> century was the warmest the world has seen in 1,000 years, and the 1980s and 1990s were the warmest decades on record.**

Human activities are upsetting the natural balance of greenhouse gases, such as carbon dioxide, in our atmosphere. Our continued use of fossil fuels, such as gas and diesel for heating, transportation and electricity, release greenhouse gases into the air. This accumulation of gases acts like a “blanket” around the earth, trapping the heat, causing the temperature to rise and climate to change.

Scientists predict that by the end of the 21st century, temperatures in the Arctic will be at least 5 degrees Celsius warmer than they are today.

### **What's happening now?**

Across Nunavut, we are already seeing changes in seasonal conditions, including warmer year round temperatures, unpredictable weather, a shift in prevailing wind direction, less snow and rain, and changing snow and ice conditions. These changes are making it more dangerous and difficult to travel and to access resources.

In western Hudson Bay, ice break up is occurring two weeks earlier, on average, than it did 20 years ago.



Corbis / Magma

This shortens the time available for polar bears to fatten up on their main food source, ringed seals, before going on shore where they fast. As a result, adult bears have been getting lighter and females, who fast until weaning their cubs the next spring, have been having fewer cubs.

### **What does the future hold?**

Projections for the future include rising sea levels, a reduction in the extent and thickness of sea ice, and more extreme weather events, all of which may increase erosion and flooding of coastal communities.

### **Life on the Land**

Melting of permafrost may cause the rupture and buckling of pipelines and storage tanks used for water and sewage. Roads, airstrips and buildings will also suffer from less stable ground, particularly in areas where the soil contains a lot of ice.



Corbis / Magma

**Climate Change. Are you doing *your bit*?**

Computer models project that warmer temperatures could increase the number and types of plants available for plant-eating animals. However, the number of insects and parasites may also increase. This may lead to a decline in the number and health of large mammals like caribou and muskox.

## Life at Sea

With warmer temperatures, the Northwest Passage may be ice-free for up to 100 days each year, allowing ships to use it as an international trade route. While this may bring opportunities to the territory, there are also environmental and social issues to consider. For example, whale populations may be affected by the increased noise, pollution and ship traffic, or vessels unsuitable for Arctic conditions may spill oil or other materials into the environment.



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Most climate change computer models predict significant reductions of glaciers and sea ice. In fact, some models suggest that all summer ice cover in the north will disappear by 2100. This, with overall warmer conditions, may affect the range and number of several marine mammals. The changes may open up more areas of suitable habitat in the eastern Arctic, but reduce habitat in southern regions. Walrus and ice-breeding seals (bearded, ringed, harp and hooded seals) may lose the sea ice platforms they use for breeding, nursing pups, resting and molting.

## Changing Lives

Changes to the range, number and health of animals, fish and plant species will ultimately affect the lives of Nunavummiut who depend on them, leading to a change in hunting and harvesting practices, and a loss of traditional food. Adaptation has always been the way of life in the north, however, the rate at which changes are predicted to occur make adaptation more challenging in the future.



Corbis/Magma

## What can you do?

Actions by individuals account for 28 percent of Canada's greenhouse gas emissions – that's almost six tonnes per person per year! If we're part of the problem, we can be part of the solution, too. By reducing the amount of energy you use at home and on the road, you can save yourself money and contribute to the global challenge of reducing greenhouse gas emissions. Small actions, like turning down the thermostat or not idling your car while you go home for lunch, can make a big difference.

Information in this fact sheet derived from:

**"Degrees of Variation:  
Climate Change in Nunavut"**

View online at  
[www.adaptation.nrcan.gc.ca/posters](http://www.adaptation.nrcan.gc.ca/posters)

### Want to know more about climate change?

Visit the Government of Canada climate change Web site at:  
[www.climatechange.gc.ca](http://www.climatechange.gc.ca)  
or call toll-free: 1 800 O-Canada  
(1 800 622-6232)  
or TTY 1 800 465-7735 and ask for a climate change information kit.

**Canada**

**Climate Change. Are you doing your bit?**



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