

Climate Change



The weather is changing

Scientists around the world warn that the weather is changing because there are more greenhouse gases in the earth's atmosphere. This change in temperature, wind patterns and snow and rainfall is known as climate change and it could have a big impact on the environment, the economy and our society.

The 1980s and the 1990s were the warmest decades in weather history. Scientists predict that world temperatures could rise by 1 to 3.5°C over the next century. In fact, temperatures in parts of Canada, including the Arctic, could be up to 10°C warmer.

Nunavut and Climate Change

The Arctic has a big impact on the whole world's ocean and weather systems. Water flowing out of the Arctic Ocean affects other ocean currents, which in turn affect weather. The cold, dry Arctic air interacts with warm, moist air and this is responsible for most of the weather patterns on the earth's northern half. In a way, the North Pole acts as a cooler for planet earth, a very important role.

Ice and snow act as energy exchangers. They act like mirrors, reflecting the sun's

light rays. If there is more snow and ice, more solar energy would bounce off the north pole into space and less would be absorbed at the surface. This would cool the land further, more ice would be formed and it would get even cooler.

If global warming occurs, then the Arctic's role as the earth's cooler would decrease and temperatures would rise everywhere. Also, global warming would melt snow and ice, reducing its role as a reflective mirror. Less

energy from the sun would reflect back to space, more energy would be absorbed into Nunavut's surface and it would become still warmer.

It is clear that the cycle of global warming must stop in order to preserve Nunavut's important role in regulating the earth's weather.

What is Climate?

The term climate change may make us think that climate is a consistent thing and since it is called Global Climate Change we might think that the climate of the world has always been the same and only now is changing. However, the climate in one place will be different from another place. Let's compare what the average climate is like in a few places you probably know.

	Ave. Temp. January	Ave. Temp. July	Ave. Precipitation January (mm)	Ave. Precipitation July (mm)
Iqaluit, NU	- 26.6°C	7.7°C	21.1	59.4
Cambridge Bay, NU	- 32.8°C	8.4°C	4.6	21.7
Rankin Inlet, NU	- 31.9°C	10.4°C	6.6	39.5
Resolute Bay, NU	- 32.4°C	4.3°C	4.3	20.2
Ottawa, Ontario	- 10.8°C	20.9°C	70.2	85.0
Walt Disney World Orlando, Florida, USA	21.3°C	32.1°C	49.8	205.2

What is a Greenhouse Gas?

In order for planet earth to support life, a complex mixture of gases blankets the earth and captures the heat from the sun to warm the earth's surface. Without these "greenhouse gases", the earth would be much cooler — too cold to support life as we know it.

Over the years, our own actions have also produced greenhouse gases. These gases combine with natural greenhouse gases already in the atmosphere and cause climate change. The main human-generated greenhouse gas is carbon dioxide or CO₂. It results from burning fossil fuels to heat homes and run cars and other activities.

