CLIMATE CHANGE

IN NEWFOUNDLAND AND LABRADOR

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

Paul Alcock

St Anthony, NF

Human activities are upsetting the balance of greenhouse gases, such as carbon dioxide, in our atmosphere. Our heavy use of fossil fuels for heating and transportation, and electricity generation from natural gas and coal, releases carbon dioxide and other greenhouse gases. These gases are accumulating in our atmosphere and causing the Earth to "heat up".

Over the next 100 years, temperature increases of 3-4°C are projected for the Atlantic Provinces. Changes in precipitation patterns and extreme events are also anticipated. These climate changes are expected to be the largest and most rapid of the last 10,000 years and will have profound effects on our lives and the ecosystems that support us.

Sea Ice

In the short term, climate change may increase the number of icebergs, which could be hazardous to ships. In the long term, climate change is projected to reduce the thickness and extent of sea ice. This may lengthen the shipping season and reduce the need for icebreakers. However, less sea ice will also increase the exposure of beaches to winter storm waves, and increase both coastal erosion and storm damage to buildings and structures like piers. In some areas of Newfoundland, surveyors have already observed considerable erosion along the coastline.

Changing Ecosystems

Warmer temperatures and changing precipitation patterns are expected to affect the distribution, health, and accessibility of wildlife and fish. Changes in river flow, such as earlier ice break-up, stronger spring runoff and reduced summer flow, would impact several species, including the threatened Harlequin duck of Labrador.

Marine Species

Changing temperatures are expected to influence the numbers and distribution of some fish species. For example, cod are strongly influenced by water temperature. Between 1900 and 1920, warmer temperatures allowed cod to migrate northwards, and then when the water temperature dropped after 1930, they retreated southwards. Cod size is also affected by temperature, with larger cod found in warmer waters. Significant warming of fresh water bodies could also affect the numbers and distribution of trout and salmon.

Climate Change. Are you doing your bit?

Rising sea level and vanishing coasts

Rising sea levels will affect sensitive low-lying coastal areas. Salt marshes and lagoons that are currently freshwater could be flooded by seawater, affecting the habitat of fish and wildlife. Barrier beaches may recede, and there may be increased erosion along some of the coastline. Erosion such as that threatening the lighthouse at Pointe Verde, Newfoundland (see photo) will become more prevalent in the future.

J. Shaw, GSC

Lighthouse at Pointe Verde, Newfoundland

Freshwater Issues

Hydroelectricity is an important source of power in Newfoundland and Labrador. Long-term changes in annual precipitation would affect overall generation capability, although electric power systems with dams and reservoirs are likely to be able to adjust their operating practices to accommodate these changes. However, hydroelectric systems without reservoirs would be more vulnerable to changes in precipitation levels.

Lowered water levels or decreased river flows in some areas could lead to poor water quality. Increases in temperatures, prolonged summer seasons, and heavier rainfall could also increase the risk of waterborne parasites, such as Giardia and Cryptosporidium, contaminating drinking water.

Storm surges and coastal flooding

Storm surges form when low pressure weather systems and strong onshore winds combine to raise the water level a metre or more above normal. As sea level is expected to rise dramatically over the next century, storm surges will be able to flood areas never before flooded. Flooding is already a problem in Newfoundland and Labrador, where flood damages over the last 15 years have exceeded $40 million.

What can you do?

Everyday activities by individuals account for 28 per cent 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 not idling your car, can make a big difference. Recycling can lead to less energy use in manufacturing, and together with composting, can help reduce the production of methane at landfills.

Information in this fact sheet derived from
"The Tides of Change: Climate Change in the Atlantic Provinces"
View online at
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
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?

Cat. No. M27-01-1718E

Aussi disponible en français