CLIMATE CHANGE

IN NEW BRUNSWICK

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.

Human activities are upsetting the balance of greenhouse gases, such as carbon dioxide, in our atmosphere. Our heavy use of fossil fuels for heating, transportation and electricity, 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 an increase in 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.

The air we breathe

The number of "bad air days" caused by smog is expected to increase due to a warming climate. The city of Saint John is already experiencing more smoggy days. Smog is a mix of pollutants, including nitrogen oxides (NO_2) and volatile organic compounds (VOC), which react together in sunlight to form ground level ozone. This ozone is harmful to human health, causing impaired lung function, increased hospital admissions, and premature death. The very young, the elderly, and those with chronic lung diseases, such as asthma, are at the greatest risk.

Freshwater issues

Due to a warming trend in New Brunswick, the number of mild days in winter has been increasing and large peak flows on the St. John River in late winter are becoming more common. If this warming trend continues, ice break-up and flooding on the river will become more frequent and unpredictable. This could increase damage to property, highways, and bridges, and force power companies to change the management regimes of their reservoirs.

Forests in peril?

The risk of trees blowing down may increase, as storms become more frequent and intense as a result of climate change. For example, a massive blowdown in 1994 caused 30 million trees to be felled and cost $100 million in damages.

Warmer winter temperatures may allow invasive insects, such as the

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gypsy moth, to become more pervasive. This is because prolonged temperatures at or below -9°C, or short periods below -23°C, are necessary to limit the development and survival of this species.

All of these conditions could result in stresses on existing tree species, the elimination of some, and the introduction of others.

On the farm

A longer, warmer summer would lengthen the growing season and increase the yield of warm-weather crops, such as soybeans, winter cereals, corn, and grapes. However, these conditions could also result in more droughts and a greater need for irrigation. Warmer winters may benefit agriculture by reducing winterkill of forage and fruit, but could also create problems for farmers by increasing the range and abundance of insect pests.

An increase in extreme weather events, including storms, hail, floods, and drought, may be the greatest concern for agriculture. These events damage crops and livestock, and may affect the availability of electric power and communication lines.

The ocean

Scientists project that a warmer climate will change ocean temperatures and affect marine ecosystems. Fish are sensitive to temperature, therefore changing temperatures would influence the distribution and population abundance of some species. Furthermore, climate change may increase the range and extent of the organisms responsible for toxic algae blooms, such as red tides. Toxic blooms pose a serious threat to both fish populations and human health.

Storm surges and coastal flooding

Storm surges form when low pressure and strong onshore winds combine to raise the water level a metre or more above normal. As sea levels on the Atlantic coast are expected to rise dramatically over the next century, storm surges will be able to flood areas never before flooded. Low-lying coastal areas will be the most threatened. Sinking of coastal land could compound the problem, as much of the New Brunswick coast is low-lying and sensitive to erosion and flooding.

What can you do?

Actions 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 installing low-flow showerheads or not idling your car, can make a big difference.

Information in this fact sheet is derived from **"The Tides of Change: Climate Change in Atlantic Canada"**
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

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