CLIMATE CHANGE

IN ALBERTA

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.

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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".

The Prairies are likely to experience increased temperatures with climate change. In fact, recent models suggest that summer temperatures in Alberta could warm by 3 to 5°C by 2080. Such changes would be the largest and most rapid of the last 10,000 years and will have impacts on our lives and the ecosystems that support us.

Rivers in Flux

The risk of flooding is expected to increase in the small rivers of the interior Cordillera and on the southeastern slopes of the Rocky Mountains. Over time, flows may decrease in the Bow and the North Saskatchewan Rivers during the late summer and fall months. This could cause water shortages in communities that depend on rivers for their water supply.

Life in the City

Nearly 60% of Albertans, almost 2 million people, live in either Calgary or Edmonton, and the area around Calgary is the fastest growing region in the Prairies. Climate change is expected to affect life in the city in several different ways. Warmer summers are expected to increase the number of very hot days, decrease air quality, and increase energy demands, due to greater air conditioner usage. On the other hand, warmer, shorter winters mean that heating demands would decline and the need for snow removal would be reduced.

In the summer, campers and hikers could enjoy a longer season. However, water-based activities, such as boating and fishing, could be negatively affected. People who enjoy winter activities would find their season shortened.

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Melting Glaciers

Climate change could result in the significant retreat of large glaciers, such as the Athabasca glacier. Over the last century, drastic reductions in the surface area of glaciers have resulted in reduced downstream water flows. Glacial meltwaters are

Climate Change. Are you doing your bit?

necessary to maintain water levels, and to sustain the habitat that enables trout to migrate and spawn in the late summer and autumn in the Bow River. Reduced flows from glaciers may already be having a serious impact on the Bull Trout. The Alberta hydroelectric industry would also be affected by lower water flows.

Some scientists predict that much of the boreal forest in the province will be replaced by aspen parkland. Similarly, large regions of aspen parkland are expected to become grasslands. In the northern regions, forest growth may benefit from warmer temperatures and longer growing seasons. However, forest fires and insect outbreaks are expected to increase throughout the province.

What can we do?

Actions by individuals account for 28 % 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 off lights in rooms that aren't occupied, or not idling your car, can make a big difference.

Changing Weather Patterns

Extreme events, such as thunderstorms, tornadoes, hailstorms, and heat waves, may become more common on the Prairies due to climate change. Warmer winters may increase the likelihood of both intense winter storms, and rainstorms. In the summer, local flooding may increase as rains become more intense. The pattern of other weather conditions, such as droughts, may also change.

Corbis / Magma

Receding forests and expanding grasslands

In a warmer climate, the boreal forest, aspen parkland and open grassland, may shift northward.

Based on the poster
"The Winds of Change: Climate Change in the Prairie 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.

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