

# CLIMATE CHANGE

## I N M A N I T O B A

**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 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".

Most climate change projections for the Prairies show increased temperatures under global warming. In fact, recent models suggest that summer temperatures in Manitoba could increase by 3-4°C, and winter temperatures by 5-8°C. Such

changes will 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.

### **Water**

Water quality in Manitoba might be in jeopardy because of the warmer temperatures and lower volumes of rivers and lakes in the summer. As the volume of surface water decreases, pollution levels increase. Increased spring volumes could also lead to higher levels of pollution, if land is flooded and manure and other storage facilities, such as

municipal lagoons, are breached. If the spring water flows rapidly through to Hudson Bay, groundwater may not be recharged enough to fully replenish aquifers.

Increased summer temperatures, together with reduced precipitation and higher evaporation, might reduce the amount of water available for Manitoba's hydroelectric production.

### **The Changing Face of Agriculture**

More frost-free days will mean a longer growing season and a greater range of crops available to producers. However, Manitoba farmers can expect to see declines in summer precipitation of 10-20 per cent, creating a greater need for irrigation. As well, climate change could lead to increased heat stress on animals and plants. Warmer winters could reduce the amount of winterkill of fall-seeded crops, but could also reduce the winterkill of some weeds and insects, and lead to the introduction of new pests.



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

## Changing Weather Patterns

Extreme events, such as thunderstorms, tornadoes, hailstorms, heat waves and droughts, may become more frequent on the Prairies due to climate change. Warmer winters may increase the potential for more intense winter storms, and more frequent rain. In the summer, flooding may increase with heavy rains.



## Our Forests

Manitoba's overall forest area is predicted to decrease as drier soil conditions in the south make forests more susceptible to wildfires and pests, and lack of suitable soil

Based on "Manitoba and Climate Change: A Primer", Manitoba Clean Environment Commission and International Institute for Sustainable Development.

View online at <http://www.iisd.org/taskforce/documents.htm>

and the poster "The Winds of Change: Climate Change in the Prairie Provinces"

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

makes it difficult for southern species to grow in the north. As the climate changes, there will be fewer mature trees, and it will take longer for trees in the boreal forest to reach a harvestable age. Not only will this reduce the habitat of endangered species like the woodland caribou and grey fox, but it will also present challenges to the forest industry.

## Polar bears on thin ice

Warmer temperatures will cause earlier break-up of ice on Hudson Bay. This will force polar bears to come ashore earlier and therefore limit their hunting opportunities. Recent trends suggest that this is already occurring in the western Hudson Bay region. Since 1981, the health of adult polar bears in the region has declined significantly because they have less time on the ice in spring to feed on seals before beginning their annual fast. Polar bears become 10 kg lighter for every week earlier they are forced to stop hunting.

## Life in the North

Climate change will affect the traditional economies of First Nations people, including their ability to hunt and fish. Warmer



air temperatures will thaw permafrost, creating unstable ground conditions and putting building foundations, roadways, railways, and pipelines at risk. Challenges are already being faced by communities dependent on winter roads for food, fuel and essential supplies.

## 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.

### 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

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