

# CLIMATE CHANGE

## CANADA & THE WORLD

**The Earth is getting warmer, and scientists tell us that around the world, average temperatures could increase by anywhere from 1.4 to 5.8 degrees Celsius over the coming century.**

### What climate change means for Canada

Canada can expect to see average temperatures change by as much as 5-7 degrees Celsius, particularly in the North. While warmer temperatures are expected to bring some benefits to Canada, among them longer growing seasons and milder winters, we can also expect some less appealing consequences, including:

- Longer heat waves during the summer and more days with poor air quality and smog.
- More severe weather events, including thunderstorms, heavy rains, hail, and tornadoes.
- Rising sea levels – perhaps as much as an average of 9 cm each decade over the next 100 years

on all three of Canada's coasts – causing flooding and erosion, and increasing the destructive effects of storm surges.



- Depleted freshwater resources, which will affect the quality of our drinking water, the use of lakes and rivers for transportation, recreation, and fishing, and our ability to generate hydroelectric power.

- Impacts on wildlife such as polar bears, whose ability to hunt and fish could be threatened by longer ice-free periods in the Arctic Ocean.

### Around the world

Climate change will have different impacts around the world. In general, the faster the climate changes, the greater will be the risk of damage. One-third of the world's population (1.7 billion people) already faces water scarcity; this figure could more than double over the next 25 years as climate change leads to greater water shortages. As well, increased temperatures will exacerbate the loss of 10-15 per cent of the world's species in that same time period. Other effects could include an increase in global precipitation and more frequent and severe weather events.

- The impact of climate change on agricultural regions will vary: some regions will benefit from longer growing seasons and more rain, but poorer soil conditions and reduced water resources will make it more difficult to feed growing populations in poorer areas. Droughts and related impacts on agriculture could lead to the migration of millions of people to other countries around the world. Global warming of more than 2.5 degrees Celsius



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could reduce global food supplies and contribute to higher food prices.

- Millions of people around the world will be affected by storm surges, which will become more severe as sea levels rise an average 40 cm over the next eighty years. The potential costs resulting from damages in coastal areas from sea level rises is projected to be tens of billions (\$U.S.) for individual countries – for example, Egypt, Poland and Vietnam.



- Diseases such as malaria and dengue, which currently affect countries with 40-50% of the world population, could spread to new areas.
- The frequency and duration of heat waves will increase, which combined with greater humidity and urban air pollution, will cause a greater number of heat-related deaths and illness.

// Most of the Earth's people will be on the losing side. //

*James J. McCarthy  
Harvard University  
Co-Chair, Intergovernmental  
Panel on Climate Change (IPCC)*

// Projected climate changes during the 21st century have the potential to lead to future large-scale and possibly irreversible changes in Earth systems, resulting in impacts on continental and global scales. //

*Climate Change 2001: Impacts, Adaptation and Vulnerability (IPCC) www.ipcc.ch*

While the effects of climate change are going to be felt most strongly in the polar regions of the world, there is no place that will remain unaffected. Human suffering is expected to be greatest in the poorest areas of the world.

- Africa will probably feel the effects most of all – reductions in crop yields, particularly in drought-prone areas, could lead to more malnutrition. The famed snows of Mount Kilimanjaro could disappear – already 82 per cent of the ice field that existed there in 1912 has melted – and this means that rivers and streams that depend on the mountain's snow melt could go dry. Disease levels could shoot up, especially in the crowded cities of the coast.
- In the Middle East, where fresh-water is already a scarce resource, there could be conflicts around who has access to water resources.
- Asia could face more frequent forest fires and increased risk of infectious disease.

- Melting glaciers in the Himalayas, which feed river systems providing water to about 500 million people, could cause flooding and then water shortages.



### 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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