

## Climate Change in Canada: The Race Against Time

No matter where in the world you are, climate change is already showing its effects, but especially in Canada climate change is a real threat. Researchers know that climate change already has an impact on every region in Canada.<sup>1</sup> Its various fauna and flora ranging from dense forests and tundra to grizzly and polar bears make it even more important to protect the great white north from the varying consequences of climate change. Rising temperatures, melting of arctic ice and many other effects will severely impact the whole world. However, in this essay I will focus on the health risks climate change will bring about for Canadians.

One of the dangers is the rise of extreme weather events and the change in temperature and climate. This has already led to wildfires and floods all across Canada. For example, in British Columbia a record 1.2 million hectare burned, and 65,000 people were displaced in 2017<sup>2</sup>. This was possible because of the extremely dry and warm conditions and high temperatures which were without a doubt influenced by climate change. Warmer temperatures and wildfires have been recorded all over the world, but they are especially dangerous to Canada's forests. According to scientists, forest fires in Canada will require intensified attention in forest management, public health, and infrastructure, since by 2040 forest fires will on average last 30 days longer, happen 25% more often and burn 46% larger forest areas<sup>3</sup>. Additionally, wildfires have consequences on general air quality and human health. This is primarily due to forest fire smoke and, with the rise in length of forest fires, the effects on human health will also intensify.

While on the one side climate change is responsible for dryer and warmer conditions, it is also to blame for changing rainfall patterns, more extreme storms, rapid snow melt and rising sea levels. All these consequences have made the recent floods possible. Experts can assume that most of Canada's regions will see an increase in average rainfall except for the southwestern part, which will see a decrease in rainfall in the summer. This in turn could lead to more wildfires. While the severity of floods is often measured in damage, floods also bring health hazards with them like drowning, injuries, carbon monoxide poisoning and mental health problems. Another consequence are diseases which are spread through water

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<sup>1</sup> <https://www.nrcan.gc.ca/changements-climatiques/impacts-adaptation/synthesis/10425>

<sup>2</sup> <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2018EF001050>

<sup>3</sup> <https://www.canada.ca/en/public-health/services/health-promotion/environmental-public-health-climate-change/climate-change-public-health-factsheets-forest.html>

contamination, sewage backup, food contamination and growing insect populations since flooding augments the amount of still-water in which insects breed.

One of the most crucial things to human health is the air we breathe and even that is influenced by climate change. Researchers have concluded that climate change will have catastrophic effects on air quality. To be more precise, it will be responsible for higher air pollution levels, more emissions from the natural environment (due to more forest fires), more heat episodes (which have an even greater impact combined with the high pollution levels) and amplified aeroallergen levels (substances which possibly result in allergies)<sup>4</sup>. These consequences will be worse for older adults, children, pregnant women, people with pre-existing conditions or people with lower income, since living conditions might expose them even more. One of the most known effects is air pollution, impacts on humans' health are lesser known. Just short-term air pollution can cause respiratory problems like throat issues or coughing, less lung capacity or worsening of prior medical conditions. Long term air pollution results in death from breathing problems. Combined with heat from rising temperatures the effects of air pollution become even worse. This is because humans breathe more quickly and therefore more when temperatures are elevated, and these temperatures also alter the way the human body deals with toxins. This may be especially significant in larger cities since the building structure of most cities allows heat to be easily trapped. Lastly aeroallergens levels will rise due to warmer weather and milder winters which further pollen production in plants. Another reason for the increase will be that the larger number of storms and extreme weather scenarios will put even more pollen and spores into the air. Additionally, higher carbon dioxide levels can mean that plants grow more and therefore produce more pollen. These higher aeroallergen levels will cause more severe allergic reactions and generally more severe allergies.

To name a few other effects climate change will have on the health of humans: temperature related risks, for example illness related to extreme coldness or hotness, water or food contamination like illnesses caused by chemical and biological contaminants or risk because of exposure to ultraviolet rays which can disturb immune systems, damage skin and even cause skin cancer.<sup>5</sup> Though in the government, companies and the population are already working to improve the situation and to stop and reverse the already noticeable impacts of climate change, a lot more work needs to be done. For instance, even though the government has plans to improve on already existing health policies like monitoring diseases and preparing for emergencies, it might not be enough to prepare for the consequences. Instead, it might be more efficient to try to stop climate change. Everyone can alter their daily life and make an effort to produce less waste, use less energy and stop climate change. A question everyone should ask themselves is if this is really the world you want to leave to future generations? If not, making small changes to your life might be a

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<sup>4</sup> <https://www.canada.ca/en/public-health/services/health-promotion/environmental-public-health-climate-change/climate-change-public-health-factsheets-air.html>

<sup>5</sup> <https://www.canada.ca/en/health-canada/services/climate-change-health.html>

small price to pay because at the rate we are going we might be better off trying to invent a time machine.

(926 words)