EXTREME WEATHER EVENTS IN CANADA

As the climate continues to warm, some extreme weather events will become more frequent and severe across Canada.

- **HURRICANE**
- **STORM**
- **TORNADO**
- **FLOODING**
- **WILDFIRE**

Climate change impacts on animal migration, range and reproduction affect access to, and reliability of, traditional foods that are essential to the health and culture of Canada’s Indigenous peoples.

- The frozen ground, called permafrost, in Canada’s north is warming, which can cause the land to sink, damaging buildings, roads and other infrastructure.
- Recent storm surges, coastal erosion and rising sea level are threatening important archaeological sites in Atlantic Canada.
- Climate change poses health risks from poor air quality linked with natural disasters like wildfires and extreme heat waves.

**DID YOU KNOW?**

- Adapting to increased risk of forest fire Climate change is causing severe weather to change, but may also increase the risk of fire, drought and insect infestations in Canada's forests. To help adapt to these risks, researchers study seedling growth for the impacts of higher temperatures on the development of tree species.
- Monitoring the effects of climate change on species As the climate continues to warm, species are expected to move to higher elevations, where the temperatures are cooler. The next time you're in Banff, Jasper, Yoho or Kootenay national parks, be an amateur field biologist and share where you heard it with the Bow Valley Naturalists (HELS Project). bowvalleynaturalists.org
- Protecting Canadian health from extreme heat With climate change, more extreme heat waves and heat-related events, like heat waves, is expected to increase. Many Canadian communities are already experiencing a greater number of hot days. Extreme heat can impact health, causing illness and even death. Across the country, there are actions underway to reduce these risks by developing community heat warning systems and promoting health protection measures.
- Building a Canadian home to stand up to hurricanes The way we build our homes can reduce damage from extreme winds, as shown by the weatherproof demonstration home designed and built by the Institute for Catastrophic Loss Reduction and The Co-operators General Insurance.
- Adapting to sea-level rise on Canada's coasts Sea-level rise is an important issue for many coastal communities across the country, presenting risks to property, transportation and health. To help reduce these risks, governments, industry, universities, planners, engineers and non-governmental organizations collaborated to develop a National Sea-Level Rise Primer.
- Promoting safe travel in the North Changing sea ice conditions pose risks to marine industries and marine shipping, as well as for the boat owners relying on sea ice for travel. SmartICE Sea Ice Monitoring and Real-Time Information for Coastal Environments is a pilot project for safer northern coastal communities.

Adapting to our changing climate in Canada

We have the knowledge to adapt now!

Canada’s climate is already changing! Canada as a whole is warming at about twice the global average, the North even faster. There are more stufly hot days, sea ice is diminishing, glaciers are shrinking and sea level is rising in many areas. These changes are increasingly affecting our natural environment, economy and health.

Further climate changes are inevitable. We must reduce greenhouse gas (GHG) emissions to limit the amount of change. However, even the most ambitious mitigation actions cannot stop our climate from changing. Therefore, adaptation is also critical.

Adaptation reduces the risks of climate change and builds our resilience. Protecting coastal communities from flooding, creating wildlife corridor to help species migrate, and redesigning cities to make them more comfortable and safe during heat waves, are all examples of adaptation.

What are climate change impacts and adaptation?

Climate change refers to any change in climate over time. Impacts are the effects of climate change on natural and human systems, including about adjusting our thinking, decisions and actions because of observed or expected changes in climate or their impacts, to reduce harm or take advantage of new opportunities.

What is the difference between climate change and changing weather?

Weather is the state of the atmosphere at a given time, and it changes with the passing of hours, days and seasons. Climate, on the other hand, can be thought of as the average weather conditions over a long period of time (decades and longer).

Adapting – There’s a lot we can do!

There are many things that you can do to reduce your risks from a changing climate, such as listening for heat alerts and storm warnings and being prepared for extreme events by creating an emergency kit. Teachers: Check out Climate Change Lessons at ontariocosmoschools.org and cooltoolkit.com.

While annual national temperatures fluctuate from year to year, the longterm trend is that Canada warmed by 1.8°C between 1948 and 2015.

Annual precipitation is also increasing, with Canada as a whole becoming wetter since 1948.

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