

## Temperature

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Weather is caused by the exchange of energy between the sun, the Earth's surface and the atmosphere. The sun supplies the energy and the earth's shape and motion determine how much sunlight and heat each location receives, which determines temperature. Surface water, relief and the nature of the ground cover also influence the temperature. For example, large bodies of water have a moderating effect on temperature, keeping days cooler and nights warmer. Cities are generally a few degrees warmer than the surrounding countryside.

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Most of Canada has a temperate climate. Winters are cold and summers are hot. Temperature varies with seasons and latitudes. It can also vary considerably from day to day with the movements of air masses. Because Canada is so large, temperatures vary considerably from one part of the country to another.

In the winter, inland temperatures are usually significantly colder than coastal temperatures. The west coast has the shortest and mildest winters because of the moderating effect of warm air blowing from the Pacific Ocean. Along the Atlantic coast, the moderating effect of the ocean air is less pronounced than on the west coast because the prevailing air flow is off the land. Away from the coasts and the mountains, temperatures decrease directly with latitude.

During the summer, the southern part of the Prairies, the interior valleys of British Columbia, southern Ontario and southern Quebec experience the highest average temperatures. In coastal areas, sea breezes keep maximum temperatures lower than those inland. The western mountains and the Labrador coast experience cooler summer temperatures and, in the Arctic, there is a noticeable decrease in temperature northwards to the North Pole.