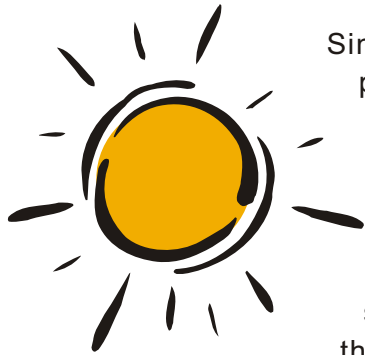


## Fact Sheet - Winter Weather Warnings

Ontario's infamous winter weather is like the ups and downs and twists and turns of a roller coaster ride.



Since most of the province lies on North America's major storm track, winter weather systems travel through Ontario on average every 3 to 5 days. Ontario is the battleground between cold arctic air invading from the north and the warm moist air pushing up from the Gulf of Mexico.

In one day, residents, especially those in Southern Ontario, may be drenched by cold winter rain then covered with snow because north winds have dropped temperatures to well below freezing. As the old saying goes...

**"If you don't like the weather, wait a bit...it will change!"**

Ontario winter weather varies day to day and year to year. On Christmas Day in 1980, the people of Toronto shivered in the nose-freezing cold of  $-25^{\circ}\text{C}$ . Christmas Day, two years later, Torontonians walked around in sweaters and rain jackets in spring-like  $17^{\circ}\text{C}$  temperatures.

Ontario covers so much territory that the average daily temperatures may differ by as much as 20 Celsius degrees. For example, the average

daily temperatures in January range from near minus  $-24^{\circ}\text{C}$  in northern portions of the province to a relatively balmy  $-4^{\circ}\text{C}$  in Southwestern Ontario.

Not surprisingly, most winters begin earlier and end later in the north than in the south. The winter season in Northern Ontario usually starts in October and ends in mid-May. In Southern Ontario, the winter season starts in November and finishes around the middle of April.

We may joke about winter, but winter weather is no joke. Bitter cold and winter storms kill more than 100 people in Canada every year. That is more than the number of Canadians killed by tornadoes, thunderstorms, lightning, floods, hurricanes and heat waves combined.



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## Winter Watches and Warnings

When severe weather approaches, Environment Canada warns Canadians in order to give them time to protect their families and to make sound economic decisions. The Ontario Storm Prediction Centre alerts the public by issuing Special Weather Statements, Winter Storm Watches and Winter Weather Warnings. These are broadcast over regional and local radio and television stations as well as Environment Canada's Weatheradio Network and the Environment Canada weather Web site.

<http://www.weatheroffice.ec.gc.ca>

### Special Weather Statements

In Ontario, Environment Canada issues Special Weather Statements to flag the approach of significant or severe weather. Special Weather Statements are issued for four reasons:

- To advise you that severe weather is on the horizon but at least 24 hours away. In this case, the Special Weather Statement flags the possibility of winter severe weather. The information provided is an overview with few details about the type or amount of precipitation expected and the areas affected.

OR

- To advise you that a weather system of inconvenience is approaching and is 6 to 24 hours away. In this case, Environment Canada does not expect the criteria for a Weather Warning to be reached. But you may be inconvenienced by the weather.

OR

- To advise you that unusual weather is expected. In this case, the Special Weather Statement is issued because of your anticipated interest or concern for safety. Such weather may include the first real snowfall of the season, thick fog over a wide area or thunderstorms in February.

OR

- To summarize the impact a significant winter storm has had.



### Winter Storm Watch

Environment Canada issues a Winter Storm Watch as a heads up that severe and possibly dangerous weather is expected soon. The approaching weather may affect your safety or at least be inconvenient.

Two points to remember about Winter Storm Watches:

- Winter Storm Watches are usually issued 12 to 24 hours in advance of the approaching bad weather.
- Winter Storm Watches are an alert to the possibility of severe weather. Please, watch the skies and monitor local radio/television broadcasts or the Environment Canada weather Web site for new developments. Environment Canada will either end the Winter Storm Watch or upgrade it to a Winter Weather Warning, depending on the conditions.



**Winter Weather Warnings** – Environment Canada issues Winter Weather Warnings only when severe weather is expected to occur. The weather service tries to provide lead times of 3 to 18 hours. Environment Canada's Warnings are quite specific about the type of weather approaching. Please pay attention to them. There are 10 types of Winter Weather Warnings:

Winter Weather Warnings	Issued
Snowfall Warning	When 15 centimetres (cm) or more of snow is expected to fall within 12 hours.
Snow Squall Warning	When, to the lee of the Great Lakes or other large lakes, 15 cm or more of snow is likely to fall within 12 hours; OR, When under snow squall conditions, the visibility is likely to be near zero for four or more hours, even without warning level accumulations of snow.
Blizzard Warning	When forecasters expect all of the following conditions to occur and last for four or more hours: <ol style="list-style-type: none"> <li>1. winds of 50 kilometres an hour (km/h) or more</li> <li>2. visibility of 1 km or less</li> <li>3. wind chill values of -25 or lower.</li> </ol>
Wind Warning	When winds are forecast to reach 60 km/h or more for three or more hours and/or forecasters expect any wind gusts of 90 km/h or more.
Freezing Rain Warning	When moderate to heavy freezing rain is expected; OR, When light freezing rain or moderate to heavy freezing drizzle is forecast to fall for two or more hours.
Rainfall Warning	When 25 millimetres (mm) of rain is expected to fall within 24 hours and the ground is frozen or sodden with little snow on it; OR, When more than 50 mm of rain is expected to fall within 12 hours but the ground is dry or covered in snow and is capable of absorbing much of the rain.
Flash Freeze Warning	When ice is expected to form rapidly on the roads because of the weather conditions. Such conditions may include temperatures which are expected to fall quickly from above 0°C to well below it when the roads are wet or when snow, rain, freezing rain or freezing drizzle is falling as the temperatures start to plummet.
Wind Chill Warning	The criteria for Wind Chill Warnings vary in different parts of the province because people do become acclimatized to winter in their area. Wind Chill Warnings in Ontario are issued when: <ul style="list-style-type: none"> <li>■ wind chill values are -30 or lower for South central and Southwestern Ontario</li> <li>■ wind chill values are -40 or lower for Eastern and Northern Ontario</li> <li>■ wind chill values are -45 or lower for Far Northern Ontario</li> </ul> For wind chill values: <ul style="list-style-type: none"> <li>■ -27 to -44 ...risk of frostbite and risk of hypothermia increases with time spent outdoors</li> <li>■ -45 or lower ...exposed flesh may freeze in minutes and there is a serious risk of hypothermia</li> </ul>
Cold Wave Warning	When temperatures are expected to fall within 24 hours from above normal or seasonal temperatures to very cold temperatures. The two very cold temperature levels for warnings again vary with geographic location: <p><b>For South central and Southwestern portions of Ontario:</b> very cold temperature level is reached when minimum temperatures are expected to fall to -20°C or lower with maximum temperatures not expected to rise above -10°C.</p> <p><b>For the rest of Ontario:</b> very cold temperature level is reached when minimum temperatures are expected to fall to -30°C or lower with maximum temperatures not expected to rise above -20°C.</p>
Winter Storm Warning	When more than 25 cm of snow is expected to fall within 24 hours or when forecasters expect two or more of the weather conditions listed in the Warnings above to occur. For instance, if more than 15 cm of snow was expected to be accompanied by winds of 60 km/h or more.

## Other Winter Weather Stuff

"Whiteout" is the term used to describe blizzard-like or blowing snow conditions which reduce visibility to a few metres.

People standing in a whiteout are unable to see shadows or landmarks and lose all sense of direction, perception and sometimes even balance as the land and the sky seem to blend into one.

"Sleet" is not a term used by

Environment Canada.

This term is used in the United States to describe a

mixture of rain, snow and ice pellets usually accompanied by biting winds. Environment Canada is wordier and mentions all precipitation types that may occur at the same time.



**Blizzards, if we strictly apply the definition, are relatively rare in Ontario!**

## The "Highs" and "Lows" of Ontario Winters

### Highest Recorded Temperature (December to February)

- 22.2°C at Niagara Falls on Jan. 26, 1950

### Lowest Recorded Temperature

- -58.3°C at Iroquois Falls on Jan. 23, 1935

### Heaviest 24-hour Recorded Snowfall

- 101.6 cm at Nolalu near Thunder Bay on March 24, 1975

### Sunniest Winter (Average)

- Thunder Bay

### Coldest Wind Chill

- Thunder Bay on Jan. 10, 1982. Temperature -36°C with winds at 54 km/h produced a wind chill of -58

### Greatest Frequency of Freezing Rain (Average)

- Portions of the Ottawa Valley and south and east of North Bay, with 30 to 40 hours of freezing rain, on average, each winter

### Snowiest Location

- Many locations, mainly near Lake Huron and the eastern end of Lake Superior. Places such as Sault Ste. Marie, Wawa and Wiarton routinely get between 300 and 400 cm of snow each winter.

## Obtaining Winter Weather Information

Environment Canada provides winter weather information to the public through local radio and television stations, our Weatheradio network and our weather Web site. <http://www.weatheroffice.ec.gc.ca>

In addition, specific weather information may be obtained directly through an Environment Canada meteorologist via the 1-900 user-pay telephone service Weather-One-on-One 1-900-565-5555. For information on climate and past weather records, you can refer to Environment Canada's climate Web site.

<http://www.climate.weatheroffice.ec.gc.ca>

If you require an official past weather report or more information you can call the user-pay 1-900 climate number called ClimateSource at 1-900-565-1111 or send an e-mail to [Ontario.climate@ec.gc.ca](mailto:Ontario.climate@ec.gc.ca) and someone from the Ontario Climate Centre will respond to your request.

