

## **CLIMATE OVERVIEW**

The climate in the Thunder Bay area is typical of a mid-latitude inland location with a Great Lake Moderating influence. The moderating effect of Lake Superior results in cooler summer temperatures and warmer winter temperatures for an area along the lakeshore extending inland as far as 16 km. The summer period in Thunder Bay is approximately 97 days in length extending from the beginning of June to the beginning of September (beginning of summer is defined as the day the maximum daily temperature rises above 65 °F.). Fall lasts about 60 days and extends to November. The winter season lasts approximately 6 months extending from November through to May. The first day of winter is taken as the first day with snowfall one inch or more.

The winter months in Thunder Bay are characterized by relatively cold temperatures and a relatively high incidence of sunshine. Daylight hours in the winter time are as short as 8:39 (hrs). The winter climate is well-suited to active outdoor recreational pursuits like skiing, skating and snowmobiling.

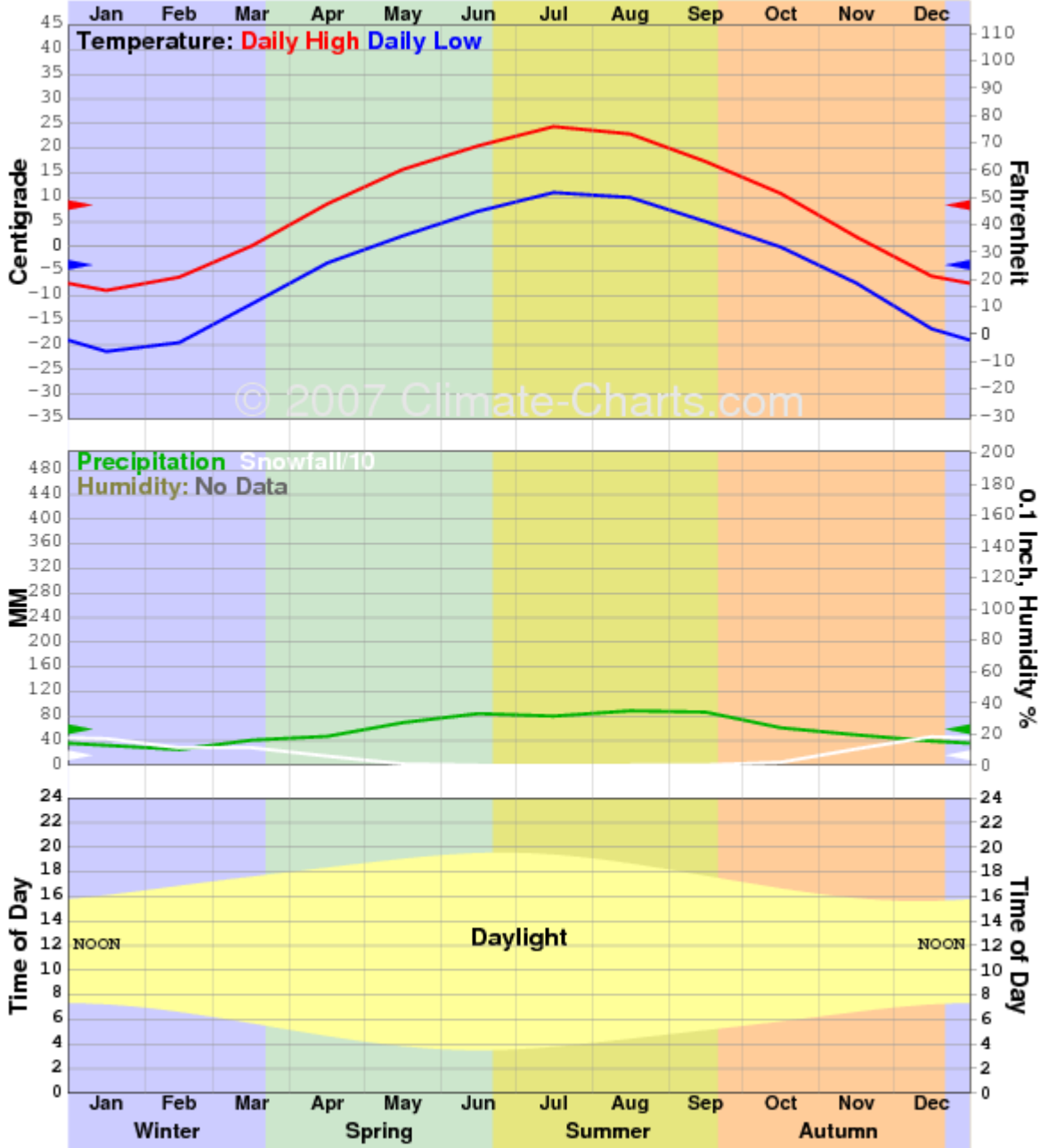
The summer months are normally characterized by cool evenings and relatively high incidence of mean monthly days with fog as compared to other areas in Canada. Daylight hours in the summer are as long as 16:00 (hrs). The summer period is well-suited to active outdoor recreation pursuits like hiking, boating and outdoor games like tennis and golf.

The season for passive recreation activities like beaching and sunbathing is significantly shorter than other more southerly areas in Ontario. However, an important consideration is the fact that the Thunder Bay summer climate is sometimes considered more comfortable during the summer months than more southerly Ontario areas because of lower humidity and cool nights.

The spring and fall periods are characterized by relatively cool temperatures during the day and evening, and a greater occurrence of strong winds. The autumn colour is impressive in the Thunder Bay area.

## Thunder Bay, ON, Canada

Latitude: 48°22'N Longitude: 089°19'W Elevation: 199m Station: CN71749060482610



### Sunrise and Sunset Data

The yellow section shows when the sun is up, and how this changes over the year. Use the time-of-day scales, on the left and right, and the month scale on the top and bottom, to tell approximately when sunrise and sunset occur.

The sunrise and sunset times shown in the chart are approximate. They are accurate for the latitude, and show the precise amount of daylight, but the rise and set times may be offset (up or down in the chart) since I don't have an automated way of matching time zones to longitudes. The charts are made assuming that the location is in the middle of an evenly spaced time zone.

### Climate (Average Weather) Data

Data is presented in both metric and "English" units.

Statistic	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Temperature Mean Value	F	5	9	21.9	36.9	48.2	57	63.9	61.5	52.2	41.7	27.3	11.7	36.4
High Temperature Mean Value	F	16	20.8	32.4	47.7	60.3	68.9	75.9	73.2	63.1	51.4	35.6	21.2	47.2
Low Temperature Mean Value	F	-6.3	-3.1	11.1	26.1	36	45	51.8	50	41.2	31.8	18.7	1.9	25.3
Precipitation Mean Monthly Value	Inches	1.3	1	1.7	1.9	2.8	3.4	3.3	3.6	3.5	2.5	2	1.6	2.4
Snowfall Mean Monthly Value	Inches	18	11.9	11.9	6.2	0.9	0	0	0	0.2	2	11	19.3	6.8
Temperature Mean Value	C	-15.0	-12.8	-5.6	2.7	9.0	13.9	17.7	16.4	11.2	5.4	-2.6	-11.3	2.42
High Temperature Mean Value	C	-8.9	-6.2	0.2	8.7	15.7	20.5	24.4	22.9	17.3	10.8	2.0	-6.0	8.45
Low Temperature Mean Value	C	-21.3	-19.5	-11.6	-3.3	2.2	7.2	11.0	10.0	5.1	-0.1	-7.4	-16.7	-3.70
Precipitation Mean Monthly Value	mm	32.4	25.6	40.9	47.1	69.3	84.0	79.9	88.5	86.4	60.9	49.4	39.3	58.64
Snowfall Mean Monthly Value	cm	43.3	28.5	28.5	14.8	2.2	0.0	0.0	0.0	0.4	4.9	26.5	46.4	16.29

Source: [www.climate-charts.com](http://www.climate-charts.com)

## HEATING DEGREE DAYS - BELOW 18°C

Degree-days for a given day represent the number of Celsius degrees that the mean temperature is above or below a given base. For example, heating degree-days are the number of degrees below 18° C. If the temperature is equal to or greater than 18, then the number will be zero. Values above or below the base of 18° C are used primarily to estimate the heating and cooling requirements of buildings. Values above 5° C are frequently called growing degree-days, and are used in agriculture as an index of crop growth. Values in the tables represent the average accumulation for a given month or year.

City	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTAL
Calgary	834.6	679.6	618.0	401.2	251.7	130.9	74.2	89.8	218.2	391.8	631.4	787.1	5108.4
Edmonton	977.2	805.5	696.0	411.9	236.2	119.6	75.5	103.1	237.3	426.2	711.4	908.3	5708.2
Montreal	886.0	761.8	636.7	375.9	167.5	48.3	10.3	27.6	136.8	325.5	509.0	768.5	4653.9
Halifax	742.9	668.0	604.0	421.1	256.0	102.0	25.0	29.0	124.1	301.0	448.7	645.3	4367.2
Ottawa	891.4	755.6	632.0	369.0	155.2	41.3	7.3	21.7	124.2	317.5	510.7	776.5	4602.4
Quebec City	953.5	820.5	701.6	441.3	210.6	71.6	21.0	42.3	172.2	365.9	561.3	840.2	5210.1
Regina	1059.6	843.9	714.3	406.2	202.6	76.9	30.1	49.3	195.5	409.8	704.2	968.5	5660.7
St. John's	705.9	661.4	636.4	492.2	367.5	215.5	94.1	91.3	187.3	343.7	461.6	624.5	4881.5
S.S. Marie	883.3	783.2	693.8	446.5	250.2	116.6	45.3	55.1	164.8	340.5	525.0	752.3	5056.6
Toronto	752.9	662.1	571.6	353.3	171.8	49.4	8.9	17.8	102.5	282.6	445.5	647.4	4065.7
Thunder Bay	1017.5	849.9	727.4	454.6	266.4	127.3	44.5	67.9	212.4	404.1	630.0	916.7	5717.6
Vancouver	454.9	374.0	352.6	264.5	170.9	87.5	34.3	31.2	103.7	245.8	357.6	449.4	2926.5
Windsor	697.5	599.1	495.8	295.9	120.8	22.4	1.6	5.1	60.5	221.9	401.3	602.9	3524.8
Winnipeg	1109.3	893.8	746.1	421.6	200.1	67.7	20.9	41.3	178.8	395.5	698.0	1004.5	5777.5
Whitehorse	1105	894.9	761.8	512.7	344.7	185.8	124.0	175.2	325.9	540.1	822.3	1019.0	6811.3
Yellowknife	1389.4	1169.3	109.3	699.1	385.9	142.4	61.7	128.3	327.7	611.2	954.9	1293.1	8256.0

Source: Environment Canada - [www.climate.weather.ec.gc.ca](http://www.climate.weather.ec.gc.ca)

Update: June, 2005

## WIND CHILL INDEX

For a given combination of temperature and wind speed, the wind chill index corresponds roughly to the temperature that one would feel in a very light wind. Wind chill does not affect objects and does not lower the actual temperature. It only describes how one would feel in the wind at the ambient temperature. The wind chill index does not take into account the effect of sunshine. Bright sunshine may reduce the effect of wind chill by 6 to 10 units.

Wind Speed (km/h)	Temperature (°C)								
	0	-5	-10	-15	-20	-25	-30	-35	-40
5	-2	-7	-13	-19	-24	-30	-36	-41	-47
10	-3	-9	-15	-21	-27	-33	-39	-45	-51
15	-4	-11	-17	-23	-29	-35	-41	-48	-54
20	-5	-12	-18	-24	-30	-37	-43	-49	-56
25	-6	-12	-19	-25	-32	-38	-44	-51	-57
30	-6	-13	-20	-26	-33	-39	-46	-52	-59
35	-7	-14	-20	-27	-33	-40	-47	-53	-60
40	-7	-14	-21	-27	-34	-41	-48	-54	-61
45	-8	-15	-21	-28	-35	-42	-48	-55	-62
50	-8	-15	-22	-29	-35	-42	-49	-56	-63
55	-8	-15	-22	-29	-36	-43	-50	-57	-63
60	-9	-16	-23	-30	-36	-43	-50	-57	-64
65	-9	-16	-23	-30	-37	-44	-51	-58	-65
70	-9	-16	-23	-30	-37	-44	-51	-58	-65
75	-10	-17	-24	-31	-38	-45	-52	-59	-66
80	-10	-17	-24	-31	-38	-45	-52	-60	-67

### Frostbite Guide

Low risk of frostbite for most people
Increasing risk of frostbite for most people within 30 minutes of exposure
High risk for most people in 5 to 10 minutes of exposure
High risk for most people in 2 to 5 minutes of exposure
High risk for most people in 2 minutes of exposure or less.

Source: Environment Canada – [www.msc.ec.gc.ca/education/windchill](http://www.msc.ec.gc.ca/education/windchill)  
 Update: June, 2005