



# Turtle Mountain

## Medium Carbon Emissions (RCP4.5)

Climate Variable	Season	1981-2010 (Baseline)	2021-2050			2051-2080		
			L	M	H	L	M	H
Mean Temperature	Annual	3.1 °C	4.3 °C	4.9 °C	5.6 °C	5.6 °C	6.1 °C	6.4 °C
	Winter	-14.0 °C	-12.8 °C	-11.9 °C	-10.7 °C	-11.4 °C	-10.2 °C	-9.3 °C
	Spring	3.2 °C	4.1 °C	4.9 °C	5.8 °C	5.1 °C	5.8 °C	6.6 °C
	Summer	18.3 °C	19.1 °C	19.8 °C	20.3 °C	20.3 °C	20.9 °C	21.4 °C
	Fall	4.7 °C	5.7 °C	6.3 °C	7.0 °C	6.9 °C	7.4 °C	7.9 °C
Precipitation	Annual	475.7 mm	466.3 mm	497.6 mm	534.0 mm	470.9 mm	498.8 mm	527.3 mm
	Winter	64.3 mm	63.8 mm	69.5 mm	75.0 mm	63.6 mm	73.9 mm	83.6 mm
	Spring	108.0 mm	106.5 mm	120.0 mm	132.1 mm	103.9 mm	122.6 mm	139.7 mm
	Summer	208.3 mm	183.4 mm	205.8 mm	230.3 mm	176.4 mm	198.5 mm	219.9 mm
	Fall	95.0 mm	89.7 mm	102.5 mm	115.9 mm	91.0 mm	103.7 mm	117.4 mm
Days ≥ 30 °C	Annual	13.8 days	19.3 days	25.4 days	31.0 days	29.2 days	35.6 days	42.8 days
Days ≤ -30 °C	Annual	8.4 days	0.8 days	4.0 days	7.2 days	0.2 days	1.9 days	3.9 days
Frost-Free Period	Annual	122.6 days	121.3 days	135.9 days	151.8 days	134.2 days	143.1 days	156.1 days
Date of First Fall Frost		Sep 20	Sep 16	Sep 25	Oct 06	Sep 20	Sep 28	Oct 06
Date of Last Spring Frost		May 20	May 02	May 12	May 23	Apr 30	May 08	May 18
5 °C Degree Days	Annual	17431.3	17457.7	17474.7	17486.2	17481.0	17492.3	17502.3
10 °C Degree Days	Annual	972.3	1112.2	1193.8	1266.6	1284.1	1370.4	1450.1
Freeze-Thaw Cycles	Annual	68.3 cycles	55.1 cycles	65.8 cycles	76.3 cycles	58.1 cycles	67.4 cycles	77.6 cycles
Days Precip ≥ 10 mm	Annual	12.0 days	10.8 days	12.8 days	15.0 days	10.9 days	12.9 days	14.6 days
Days Precip ≥ 20 mm	Annual	3.7 days	2.6 days	3.8 days	5.0 days	2.9 days	4.0 days	4.9 days

## High Carbon Emissions (RCP8.5)

Climate Variable	Season	1981-2010 (Baseline)	2021-2050			2051-2080		
			L	M	H	L	M	H
Mean Temperature	Annual	3.1 °C	4.5 °C	5.2 °C	5.9 °C	6.3 °C	7.4 °C	8.7 °C
	Winter	-14.1 °C	-12.4 °C	-11.2 °C	-10.0 °C	-10.2 °C	-8.6 °C	-7.1 °C
	Spring	3.2 °C	4.1 °C	4.9 °C	5.7 °C	5.6 °C	6.6 °C	7.7 °C
	Summer	18.3 °C	19.7 °C	20.2 °C	20.8 °C	21.5 °C	22.4 °C	23.4 °C
	Fall	4.6 °C	5.8 °C	6.7 °C	7.4 °C	7.8 °C	8.9 °C	9.8 °C
Precipitation	Annual	474.1 mm	467.9 mm	500.8 mm	536.5 mm	480.4 mm	516.3 mm	549.4 mm
	Winter	64.5 mm	61.4 mm	70.6 mm	79.2 mm	66.2 mm	77.5 mm	87.6 mm
	Spring	107.9 mm	106.0 mm	123.1 mm	144.3 mm	123.8 mm	140.0 mm	159.6 mm
	Summer	206.5 mm	184.6 mm	201.6 mm	219.2 mm	172.8 mm	193.7 mm	217.4 mm
	Fall	94.9 mm	87.1 mm	105.5 mm	119.3 mm	86.6 mm	104.9 mm	120.5 mm
Days ≥ 30 °C	Annual	13.6 days	23.4 days	28.8 days	35.4 days	40.5 days	50.5 days	61.4 days
Days ≤ -30 °C	Annual	8.7 days	0.2 days	3.1 days	5.8 days	0.0 days	0.9 days	2.3 days
Frost-Free Period	Annual	122.4 days	123.2 days	138.2 days	153.6 days	142.3 days	153.7 days	166.5 days
Date of First Fall Frost		Sep 20	Sep 17	Sep 26	Oct 06	Sep 22	Oct 03	Oct 10
Date of Last Spring Frost		May 20	May 02	May 11	May 22	Apr 23	May 02	May 12
5 °C Degree Days	Annual	17431.8	17456.5	17477.4	17499.3	17512.4	17530.2	17547.3
10 °C Degree Days	Annual	970.9	1179.6	1253.8	1343.6	1445.1	1599.1	1778.0
Freeze-Thaw Cycles	Annual	68.1 cycles	57.4 cycles	66.3 cycles	75.1 cycles	56.6 cycles	64.0 cycles	72.2 cycles
Days Precip ≥ 10 mm	Annual	11.9 days	11.4 days	13.0 days	14.6 days	11.9 days	13.7 days	15.5 days
Days Precip ≥ 20 mm	Annual	3.7 days	2.9 days	3.9 days	5.0 days	3.2 days	4.3 days	5.3 days