



Turtle River Watershed

Medium Carbon Emissions (RCP4.5)

Climate Variable	Season	1981-2010 (Baseline)	2021-2050			2051-2080		
			L	M	H	L	M	H
Mean Temperature	Annual	2.3 °C	3.5 °C	4.1 °C	4.9 °C	4.7 °C	5.3 °C	5.7 °C
	Winter	-15.2 °C	-14.1 °C	-12.9 °C	-11.7 °C	-12.2 °C	-11.2 °C	-10.3 °C
	Spring	2.0 °C	3.0 °C	3.7 °C	4.7 °C	4.1 °C	4.7 °C	5.4 °C
	Summer	17.8 °C	18.7 °C	19.3 °C	19.8 °C	19.8 °C	20.4 °C	20.8 °C
	Fall	4.3 °C	5.3 °C	5.9 °C	6.5 °C	6.5 °C	7.0 °C	7.6 °C
Precipitation	Annual	473.9 mm	476.6 mm	502.1 mm	530.4 mm	479.1 mm	499.6 mm	526.8 mm
	Winter	64.7 mm	64.1 mm	72.3 mm	80.7 mm	68.8 mm	76.4 mm	84.1 mm
	Spring	100.5 mm	94.3 mm	109.2 mm	122.0 mm	93.1 mm	113.0 mm	128.2 mm
	Summer	200.8 mm	185.6 mm	203.8 mm	225.2 mm	179.0 mm	192.9 mm	208.3 mm
	Fall	108.0 mm	106.5 mm	116.9 mm	127.3 mm	105.8 mm	117.3 mm	127.5 mm
Days ≥ 30 °C	Annual	7.1 days	8.2 days	13.3 days	18.2 days	17.3 days	23.0 days	29.4 days
Days ≤ -30 °C	Annual	10.3 days	1.2 days	4.4 days	7.9 days	0.7 days	3.0 days	5.9 days
Frost-Free Period	Annual	122.5 days	119.6 days	136.6 days	155.2 days	132.1 days	144.8 days	157.0 days
Date of First Fall Frost		Sep 22	Sep 15	Sep 27	Oct 11	Sep 22	Oct 02	Oct 10
Date of Last Spring Frost		May 22	May 04	May 14	May 26	May 01	May 10	May 20
5 °C Degree Days	Annual	17258.2	17300.9	17328.1	17351.4	17332.0	17353.8	17368.9
10 °C Degree Days	Annual	898.4	1026.5	1092.0	1176.8	1185.3	1263.6	1332.0
Freeze-Thaw Cycles	Annual	62.9 cycles	50.5 cycles	60.4 cycles	69.8 cycles	54.9 cycles	62.9 cycles	71.7 cycles
Days Precip ≥ 10 mm	Annual	11.1 days	10.2 days	12.3 days	14.2 days	10.4 days	12.0 days	13.8 days
Days Precip ≥ 20 mm	Annual	3.1 days	2.0 days	3.4 days	4.7 days	2.6 days	3.4 days	4.3 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	2.3 °C	3.7 °C	4.4 °C	5.0 °C	5.5 °C	6.6 °C	7.8 °C
	Winter	-15.3 °C	-13.5 °C	-12.3 °C	-11.1 °C	-11.3 °C	-9.6 °C	-8.1 °C
	Spring	2.0 °C	3.0 °C	3.7 °C	4.5 °C	4.3 °C	5.4 °C	6.6 °C
	Summer	17.8 °C	19.1 °C	19.7 °C	20.3 °C	20.7 °C	21.8 °C	22.8 °C
	Fall	4.2 °C	5.4 °C	6.3 °C	7.1 °C	7.5 °C	8.5 °C	9.5 °C
Precipitation	Annual	473.1 mm	466.6 mm	498.1 mm	524.7 mm	480.9 mm	509.5 mm	542.4 mm
	Winter	65.9 mm	63.7 mm	72.3 mm	81.3 mm	67.0 mm	78.5 mm	86.5 mm
	Spring	99.6 mm	96.3 mm	111.5 mm	124.9 mm	106.9 mm	124.2 mm	142.4 mm
	Summer	199.8 mm	184.3 mm	198.3 mm	212.1 mm	170.8 mm	190.2 mm	206.9 mm
	Fall	107.9 mm	101.6 mm	115.9 mm	128.8 mm	100.4 mm	116.6 mm	130.5 mm
Days ≥ 30 °C	Annual	7.1 days	10.4 days	16.3 days	22.0 days	24.5 days	35.4 days	45.5 days
Days ≤ -30 °C	Annual	10.7 days	1.3 days	4.0 days	6.9 days	0.0 days	1.6 days	3.2 days
Frost-Free Period	Annual	122.4 days	123.3 days	142.3 days	162.1 days	136.3 days	154.7 days	174.1 days
Date of First Fall Frost		Sep 22	Sep 22	Oct 01	Oct 16	Sep 23	Oct 07	Oct 21
Date of Last Spring Frost		May 22	May 02	May 12	May 24	Apr 28	May 05	May 15
5 °C Degree Days	Annual	17259.9	17301.8	17330.7	17364.1	17369.4	17398.8	17427.0
10 °C Degree Days	Annual	898.3	1085.5	1156.2	1230.1	1330.7	1482.2	1663.9
Freeze-Thaw Cycles	Annual	62.7 cycles	50.7 cycles	60.2 cycles	67.8 cycles	51.7 cycles	59.0 cycles	65.9 cycles
Days Precip ≥ 10 mm	Annual	11.2 days	10.5 days	12.1 days	13.4 days	10.7 days	12.6 days	14.4 days
Days Precip ≥ 20 mm	Annual	3.1 days	2.2 days	3.1 days	4.2 days	2.7 days	3.5 days	4.3 days