

Lunenburg, NS - Climate Change and Sea-Level Rise Scenario Data

Parameter		Historical 1980s	Projected 2020s	Projected 2050s	Projected 2080s
Temperature (°C)	Annual	6.8	8.0	9.2	10.5
	Winter	-4.0	-2.7	-1.3	0.2
	Spring	4.9	6.0	7.1	8.2
	Summer	17.6	18.7	19.9	21.1
	Autumn	8.7	9.9	11.0	12.3
Precipitation (mm)	Annual	1522.5	1564.2	1577.2	1624.0
	Winter	436.2	457.5	468.4	493.9
	Spring	392.4	405.4	411.2	427.3
	Summer	294.4	299.3	298.4	298.8
	Autumn	399.5	404.3	403.8	412.8
Heating Degree Days		4190.5	3847.0	3480.8	3127.0
Cooling Degree Days		136.9	197.9	283.6	387.6
Hot Days (Tmax > 30)		5.8	12.6	21.6	31.4
Very Hot Days (Tmax > 35)		0.0	0.5	1.2	2.6
Cold Days (Tmax < -10)		3.1	2.3	1.0	0.5
Very Cold Days (Tmax < -20)		0.0	0.0	0.0	0.0
Growing Degree Days > 5		1828.8	2055.8	2327.1	2628.8
Growing Degree Days > 10		940.7	1102.9	1299.5	1515.9
Growing Season Length (days)		160.3	174.5	191.9	213.5
Corn Heat Units (CHU)		2518.5	2809.7	3144.2	3495.3
Corn Season Length (days)		133.8	142.5	153.4	164.9
Freeze Free Season (days)		195.6	222.5	243.8	263.1
Days With Rain		138.1	147.1	150.9	154.0
Days With Snow		36.1	51.7	43.9	37.1
Freeze-Thaw Cycles - Annual		117.6	108.7	95.6	82.7
Winter		45.5	45.9	46.2	44.9
Spring		42.2	37.8	30.6	24.3
Summer		0.6	0.4	0.0	0.0
Autumn		29.3	24.6	18.8	13.7
Water Surplus (mm)		1157.1	1004.5	978.1	982.7
Water Deficit (mm)		31.5	35.8	44.0	53.1
Δ Intensity Short Period Rainfall (%)		0	5	9	16

Sea Level Rise

Extreme Total Sea Level (metres CD) – Lunenburg						
Return Period	Residual	Level 2000	Level 2025	Level 2055	Level 2085	Level 2100
Total Sea Level Rise (m)			0.15 ± 0.03	0.43 ± 0.15	0.83 ± 0.36	1.06 ± 0.48
Extreme TSL - 10 Yr Ret Period	0.71 ± 0.20	3.14 ± 0.20	3.29 ± 0.23	3.57 ± 0.35	3.97 ± 0.56	4.20 ± 0.68
Extreme TSL - 25 Yr Ret Period	0.81 ± 0.20	3.24 ± 0.20	3.39 ± 0.23	3.67 ± 0.35	4.07 ± 0.56	4.30 ± 0.68
Extreme TSL - 50 Yr Ret Period	0.88 ± 0.20	3.31 ± 0.20	3.46 ± 0.23	3.73 ± 0.35	4.14 ± 0.56	4.37 ± 0.68
Extreme TSL - 100 Yr Ret Period	0.95 ± 0.20	3.38 ± 0.20	3.53 ± 0.23	3.80 ± 0.35	4.21 ± 0.56	4.44 ± 0.68

Chart Datum (CD) – CGVD28 (lidar) relationship: .80

Source: W. Richards Climate Consulting, August 2011