

## Amherst, NS - Climate Change and Sea-Level Rise Scenario Data

Parameter		Historical 1980s	Projected 2020s	Projected 2050s	Projected 2080s
Temperature (°C)	Annual	5.8	6.9	8.2	9.4
	Winter	-6.0	-4.7	-3.3	-1.9
	Spring	3.9	5.0	6.1	7.2
	Summer	17.1	18.2	19.3	20.5
	Autumn	8.2	9.3	10.5	11.8
Precipitation (mm)	Annual	1174.8	1207.1	1217.1	1253.2
	Winter	319.6	335.2	343.2	361.9
	Spring	285.0	294.4	298.7	310.4
	Summer	262.5	266.9	266.0	266.4
	Autumn	307.7	311.4	311.0	318.0
Heating Degree Days		4516.7	4167.2	3797.1	3439.6
Cooling Degree Days		85.7	140.8	222.6	322.9
Hot Days (Tmax > 30)		0.6	2.7	6.8	14.6
Very Hot Days (Tmax > 35)		0.0	0.0	0.0	0.1
Cold Days (Tmax < -10)		8.4	7.0	4.9	2.9
Very Cold Days (Tmax < -20)		0.1	0.1	0.0	0.0
Growing Degree Days > 5		1713.5	1929.5	2187.7	2471.0
Growing Degree Days > 10		860.1	1017.0	1206.9	1414.3
Growing Season Length (days)		166.7	176.6	194.2	211.2
Corn Heat Units (CHU)		2468.5	2775.2	3140.5	3501.0
Corn Season Length (days)		136.9	146.0	159.1	170.2
Freeze Free Season (days)		197.3	221.7	241.5	257.0
Days With Rain		124.4	136.3	140.3	144.4
Days With Snow		41.3	50.6	42.7	36.9
Freeze-Thaw Cycles - Annual		95.5	89.1	79.7	72.6
Winter		33.8	35.2	37.6	38.7
Spring		38.3	34.1	26.8	21.6
Summer		0.4	0.3	0.1	0.0
Autumn		23.0	19.6	15.3	12.2
Water Surplus (mm)		708.3	689.3	688.7	694.9
Water Deficit (mm)		43.0	47.9	57.6	68.1
Δ Intensity Short Period Rainfall (%)		0	5	9	16

## Sea Level Rise

Extreme Total Sea Level (metres CD) – Joggins (Amherst)						
Return Period	Residual	Level 2000	Level 2025	Level 2055	Level 2085	Level 2100
Total Sea Level Rise (m)			0.15 ± 0.03	0.42 ± 0.15	0.82 ± 0.36	1.05 ± 0.48
Extreme TSL - 10 Yr Ret Period	0.85 ± 0.20	14.25 ± 0.20	14.40 ± 0.23	14.67 ± 0.35	15.07 ± 0.56	15.30 ± 0.68
Extreme TSL - 25 Yr Ret Period	0.96 ± 0.20	14.36 ± 0.20	14.51 ± 0.23	14.78 ± 0.35	15.18 ± 0.56	15.41 ± 0.68
Extreme TSL - 50 Yr Ret Period	1.04 ± 0.20	14.44 ± 0.20	14.59 ± 0.23	14.86 ± 0.35	15.26 ± 0.56	15.49 ± 0.68
Extreme TSL - 100 Yr Ret Period	1.13 ± 0.20	14.53 ± 0.20	14.68 ± 0.23	14.95 ± 0.35	15.35 ± 0.56	15.58 ± 0.68

Chart Datum (CD) – CGVD28 (lidar) relationship: 7.26

Source: W. Richards Climate Consulting, August 2011