

# Climate Atlas Report

## Region: BELLA COOLA



### RCP 8.5: High Carbon climate future

GHG emissions continue to increase at current rates

Variable	Period	1976-2005	2021-2050			2051-2080		
		Mean	Low	Mean	High	Low	Mean	High
Precipitation (mm)	annual	1634	1369	1705	2020	1438	1780	2114
Precipitation (mm)	spring	308	208	318	434	216	329	456
Precipitation (mm)	summer	229	126	221	319	113	207	312
Precipitation (mm)	fall	561	412	596	786	436	637	841
Precipitation (mm)	winter	536	379	569	764	412	607	820
Mean Temperature (°C)	annual	3.5	4	5.3	6.6	5.4	7.1	8.6
Mean Temperature (°C)	spring	2.5	2.3	4.4	6.4	3.6	6	8.3
Mean Temperature (°C)	summer	11.2	11.5	13.1	14.7	13.2	15.1	17
Mean Temperature (°C)	fall	4.1	4.1	5.7	7.2	5.7	7.5	9.3
Mean Temperature (°C)	winter	-3.9	-5	-2.2	0.4	-3.4	-0.4	2.3
Tropical Nights	annual	0	0	0	0	0	0	0
Very hot days (+30°C)	annual	0	0	1	3	0	3	8
Very cold days (-30°C)	annual	1	0	0	1	0	0	0
Date of Last Spring Frost	annual	May 24	April 17	May 4	May 20	March 26	April 16	May 5
Date of First Fall Frost	annual	Sep. 28	Sep. 29	Oct. 11	Oct. 23	Oct. 11	Oct. 25	Nov. 9
Frost-Free Season (days)	annual	124	135	157	179	162	188	218

### RCP 4.5: Low Carbon climate future

GHG emissions much reduced

Variable	Period	1976-2005			2021-2050			2051-2080		
		Mean	Low	Mean	High	Low	Mean	High		
Precipitation (mm)	annual	1634	1382	1700	2039	1424	1740	2095		
Precipitation (mm)	spring	308	210	317	432	214	328	453		
Precipitation (mm)	summer	228	128	215	312	120	212	315		
Precipitation (mm)	fall	561	412	604	797	435	616	811		
Precipitation (mm)	winter	536	377	565	783	399	583	787		
Mean Temperature (°C)	annual	3.5	3.7	5	6.3	4.6	6	7.4		
Mean Temperature (°C)	spring	2.5	1.8	4.1	6.2	2.9	5.1	7.1		
Mean Temperature (°C)	summer	11.2	11.4	12.8	14.4	12.1	13.8	15.5		
Mean Temperature (°C)	fall	4.1	3.9	5.5	7	4.7	6.4	7.8		
Mean Temperature (°C)	winter	-3.9	-5.3	-2.5	0.1	-4.1	-1.4	1.1		
Tropical Nights	annual	0	0	0	0	0	0	0		
Very hot days (+30°C)	annual	0	0	1	2	0	1	4		
Very cold days (-30°C)	annual	1	0	0	1	0	0	1		
Date of Last Spring Frost	annual	May 24	April 21	May 7	May 22	April 10	April 27	May 14		
Date of First Fall Frost	annual	Sep. 28	Sep. 28	Oct. 9	Oct. 21	Oct. 3	Oct. 16	Oct. 29		
Frost-Free Season (days)	annual	124	130	152	174	146	169	193		

## Where did this data come from?

Global Climate Models (GCMs) are used to depict how the climate is likely to change in the future. Since no one climate model can be considered 'correct', it is important to use many GCMs to capture a range of possible conditions. The GCM data we used were obtained from the Pacific Climate Impacts Consortium (PCIC). PCIC collected temperature and precipitation data produced by 24 different models and used advanced statistical techniques to create high-resolution (daily, 10km) versions of the data for all of Canada (for more information visit [pacificclimate.org](http://pacificclimate.org)).

## What are the RCP 8.5 and RCP 4.5 future climate scenarios?

One of the most important inputs into GCM simulations of the future climate is the expected concentration of greenhouse gases (GHGs; especially carbon dioxide) in the atmosphere as a result of human activity. In the scientific literature these future GHG concentrations are used to calculate Representative Concentration Pathways (RCPs). The High Carbon scenario (RCP8.5) assumes that we continue to emit very large amounts of carbon dioxide from the burning of fossil fuels; the Low Carbon scenario (RCP4.5) assumes that drastic reductions of emissions in the coming decades will stabilize the concentration of GHGs in the atmosphere by the end of this century. We did not use RCP2.6, an even lower emissions scenario.

## How are the minimum, mean, and maximum calculated?

We used an ensemble of 24 different GCMs to analyze the future climate. The mean values are the average values of this ensemble over the 1976-2005, 2021-2050 and 2051-2080 periods. The range of values in each time period is indicated by the High (90th percentile) and Low (10th percentile) values in the tables. This means about 10% of the predicted values are above the "High" value, and 10% are lower than the "Low" value.

## The Climate Atlas of Canada

The Climate Atlas of Canada ([climateatlas.ca](http://climateatlas.ca)) is an interactive tool for citizens, researchers, businesses, and community and political leaders to learn about climate change in Canada. It combines climate science, mapping and storytelling to bring the global issue of climate change closer to home, and is designed to inspire local, regional, and national action and solutions.

## Source

Prairie Climate Centre (2019). Climate Atlas of Canada, version 2 (July 10, 2019). <https://climateatlas.ca>

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