Sachs Harbour

Climate Change Report

CANADIAN CENTRE FOR CLIMATE SERVICES

VARIABLE	RECENT PAST† 1976-2005	MODERATE EMISSION FUTURE* 2051-2080	HIGH EMISSION FUTURE* 2051-2080
AVERAGE ANNUAL TEMPERATURE	-12.9 °C	-8.3 °C	-6.1 °C
AVERAGE SUMMER MAX TEMPERATURE	7.6 °C	9.7 °C	11.0 °C
AVERAGE WINTER MIN TEMPERATURE	-31.8 °C	-24.8 °C	-20.8 °C
NUMBER OF -30 °C DAYS PER YEAR	85	30	14
NUMBER OF ICING DAYS[1] PER YEAR	250	228	217
DATE OF FIRST FALL FROST	AUG 8	SEP 1	SEP 13
DATE OF LAST SPRING FROST	JULY 6	JUN 26	JUN 19
TOTAL WINTER PRECIPITATION	22 mm	28 mm	32 mm
TOTAL ANNUAL PRECIPITATION	153 mm	188 mm	203 mm

†Modelled historical values are taken from the BCCAQv2 dataset. Historical gridded data derived from observations are available on ClimateAtlas.ca.

*The moderate (RCP 4.5) and high (RCP 8.5) climate change scenarios are only two possible future climate scenarios.

[1] Icing days are days where the maximum temperature does not go above 0 °C. Definitions for the other variables are available on ClimateAtlas.ca.

The climate is changing and poses risks to all Canadians. Climate information, traditional and scientific, can help us navigate these risks. This handout provides a sample of the scientific climate data available and provides guidance on how to work with scientific climate information.

Regional Impacts and Adaptation Examples

Changing Winters

Increased Precipitation *Warmer temperatures* *Fewer below-zero days*

Continued warming and thawing can lead to...

- Shortened winter road and shipping seasons
- Threatened structural integrity of buildings

Increased winter precipitation can lead to...

- Increased snow load on infrastructure
- Increased demand for snow removal

Shorter and less reliable ice seasons can lead to...

- Reduced safety of traditional hunting routes
- Coastal erosion
- Increases in marine shipping

Adaptation Examples...

- Integrate best management practices from Standards Council of Canada's Northern Infrastructure Standardization Initiative
- Monitor and adapt foundations (e.g. steel piles, screw jacks) built on thawing permafrost
- Revised winter road loads and considerations to construct all season roads and/or alternative methods of transportation
- Access to real time information on ice thickness to promote safety
- Improved methods to determine ice freeze-up time periods

Ecosystems and Health

Hotter summers *Longer frost-free season* *Warmer all year*

Possible Regional Impacts...

- Increase in forest fire risk for certain regions
- Loss of barrier to invasive species with reduced extreme winter temperatures
- Possible increase in vector-borne diseases
- Changes to ecosystems and wildlife, with possible effects on country foods

Adaptation Examples...

- Implement 'FireSmart' practices in communities and around homes
- Increased awareness regarding invasive species and vector-borne diseases
- Measures to improve food security

More Resources and Information

About the Data

The data in this report comes from an ensemble of 24 global climate models that have been downscaled to a 10 km by 10 km spatial resolution using the BCCAQv2 method.

This data is specific to a 10x10km grid cell that contains this community.

Each of the 24 simulations yield a different result. Climate values displayed here represent the average of the simulation ensemble across two 30-year time periods (1976-2005 and 2051-2080). For a full description of the data, and to download additional data, visit ***climateatlas.ca.***

About Modelling the Future Climate

The amount of climate change we experience in the future depends on the ***concentration of greenhouse gases in the atmosphere***. To account for uncertainty in future emissions, climate models are run using different scenarios, called Representative Concentration Pathways (RCPs).

RCP 2.6 (not shown in the table on the reverse page) is consistent with the 2015 Paris Agreement commitments and assumes greenhouse gas emissions peak by around 2020, and decline to zero by 2100. RCP 4.5 (the 'moderate emissions future' assumes emissions peak around 2040 and then decline. RCP 8.5 (the 'high emissions future' assumes emissions continue to rise throughout the 21st century.

Access More Data

The Canadian Centre for Climate Services (CCCS) is working to increase access to these sources of data by helping Canadians find and use the data that they need.

Climate-Viewer.Canada.ca
Visualize government of Canada climate datasets, including snow depth, ice concentration and wind speed

ClimateAtlas.ca
Maps, data, videos, and narratives that support climate decision-making and storytelling.

ClimateData.ca
Visualize, analyze, and download localized climate data including historical station data.

Additional Resources

ChangingClimate.ca
A national assessment of how and why Canada's climate is changing; the impacts of these changes on our communities, environment, and economy; and how we are adapting.

Natural Resources Canada Adaptation
NRCan.gc.ca/climate-change/impacts-adaptations/10761 Find guidance for understanding impacts and adaptation strategies, tools for decision-makers, and helpful links.

NWTAC Climate Change Toolkit
climatechange.toolkitnwtac.com/
Your guide to climate change in your community, and the repository for all NWTAC climate change fact sheets.

About Us

The mission of the Canadian Centre for Climate Services (CCCS) at Environment and Climate Change Canada is to provide Canadians with information and support to consider climate change in their decisions.

Key Services and Products

- ***Support Desk*** to help you find, understand and use climate infromation.
- ***Website*** with:
  - Access to ***climate datasets*** and a suite of climate data portals to meet the varied needs of users
  - Links to 300+ resources
  - Intro to climate information concepts
- ***Training*** & ***Workshops***
- ***User engagement*** initiatives
- ***Co-development*** of new information and data products
- ***Collaboration*** with regional climate organizations to co-deliver services with locally-relevant information to users

We want to hear from you!

Comments on this handout? Questions about climate data? Please contact our Support Desk using the contact information at the bottom of this page.

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