

Yellowknife

NORTHWEST TERRITORIES



Yellowknife and Climate Change

The climate determines almost everything about how we design, build, and live in our cities. As the climate changes, the safety and prosperity of our cities is put at risk. Climate change is a challenge that requires us to work together, locally, nationally, and globally. With technical know-how, political will, targeted investments, and collective commitment, we can mitigate the severity of climate change and build resilience to its impacts.

Climate Change and Infrastructure

Climate change may threaten the integrity of infrastructure such as roads, bridges, water supply, and telecommunications, most of which has not been built to withstand future extremes. Emergency preparedness, planning, and construction practices for retrofits and new development that take the new climate reality into account can increase our adaptive capacity. Acting now will reduce economic risk and save on the rapidly increasing long-term damages and costs associated with climate change.

Climate Change and Transportation

Life and industry in northern cities is, in part, sustained by transportation links to the rest of the world. Changes to permafrost and ice cover will affect the roads, winter travel routes, and airstrips in these centres. Action on emissions will minimize the severity of these impacts, while innovative technologies and local northern knowledge will help communities adapt.

Climate Change and Northern Way of Life

Northern livelihoods—from life in the city to life on the land—may be affected by climate change. Warmer winters and summers will affect important activities such as recreation, tourism, hunting and fishing. It may also create new opportunities for development and associated economic prosperity.

High-Carbon Climate Change Projections*

Change	1976-2005	2051-2080		
	Mean	Low	Mean	High
 <i>Typical hottest summer day</i>	27.9 °C	28.3 °C	31.9 °C	35.5 °C
 <i>Typical coldest winter day</i>	-43.5 °C	-39.2 °C	-35.3 °C	-31.0 °C
 <i>Number of -30 °C days per year</i>	53	3	16	34
 <i>Number of below-zero days per year</i>	226	178	195	211
 <i>Number of +25 °C days per year</i>	10	13	35	58
 <i>Annual precipitation</i>	291 mm	265 mm	344 mm	436 mm
 <i>Frost-free season (days)</i>	111	121	144	166



Wetter throughout the year

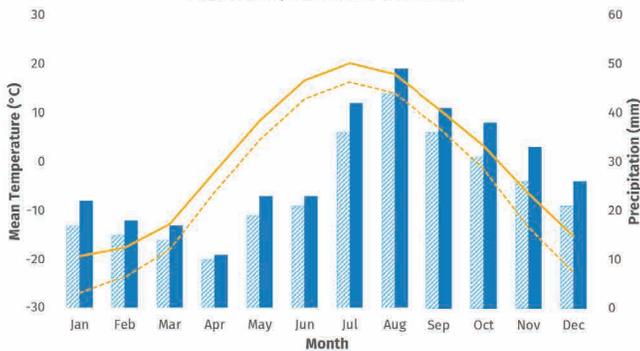


Much warmer winters



Fewer very cold days

High-Carbon Climate Change Projections for Yellowknife, Northwest Territories



Climate Data That Supports Your Community

Yellowknife's climate is expected to change in important ways in the coming decades.

This graph shows projected monthly mean temperature and precipitation totals. **Lines** are temperature and **vertical bars** are precipitation. Dashed lines/hatched bars represent the 1976-2005 baseline period, while solid lines/bars are projections for 2051-2080 under a High Carbon scenario.* All months are expected to become much warmer.

This warmer future will require communities to become better informed, more resilient, and increasingly committed to climate action.



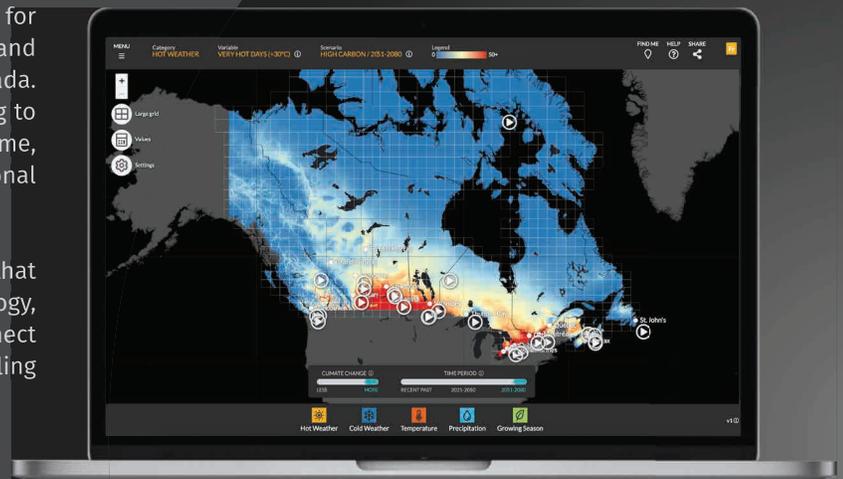
The Prairie Climate Centre is committed to making climate change meaningful and relevant to Canadians of all walks of life. We bring an evidence-based perspective to communicating the science, impacts, and risks of climate change through maps, documentary video, research reports, and plain-language training, writing, and outreach.

The Climate Atlas Of Canada

The Climate Atlas of Canada 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.

The Atlas is one of the only tools in the world that integrates interactive web design with climatology, cinema, and cartography to geovisualize and connect scientific data with personal experience in compelling and easy-to-use ways.

Learn More at: climateatlas.ca



* Climate Data. The Climate Atlas of Canada includes climate change indices derived from 24 downscaled climate models obtained from the Pacific Climate Impacts Consortium (PCIC; pacificclimate.org). For each model, two emissions scenarios, the 'Low Carbon' scenario (RCP4.5) and the 'High Carbon' scenario (RCP8.5), and two future time periods, 2021-2050 and 2051-2080, are provided. The high and low model projections indicate the 90th and 10th percentiles values for the 24 model ensemble.

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