

CANADA'S CHANGING CLIMATE

PROJECTED CHANGES THIS CENTURY FOR NORTHERN CANADA

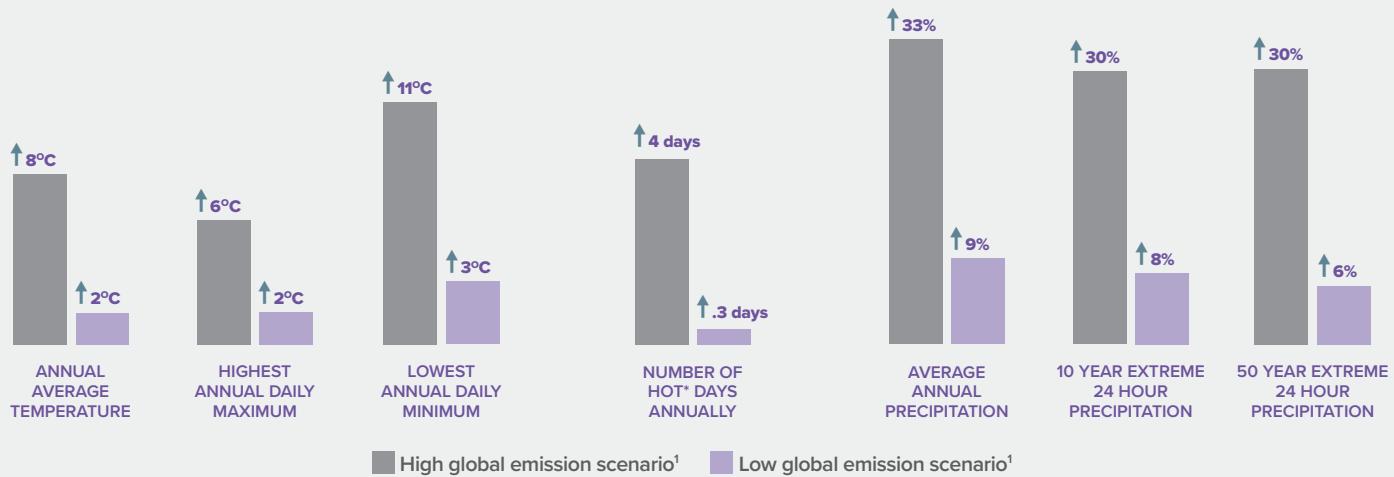


Canada's climate has warmed and will warm further in the future, driven by human influence.

Global emissions of carbon dioxide from human activities will largely determine how much warming the country—and the world—will experience in the future.

HIGH VS LOW EMISSION PROJECTIONS

TWO VERY DIFFERENT FUTURES FOR NORTHERN CANADA



Median values. Changes are for 2081-2100 relative to the 1986-2005 reference period.

¹ High and low global emission scenarios. The high emission scenario RCP 8.5 is associated with an increase in global average temperature of about 3.7 °C by late century relative to the 1986-2005 reference period. The low emission scenario RCP 2.6 is associated with an increase in global average temperature of about 1.0 °C by late century relative to the 1986-2005 reference period.

*Hot day = daily maximum temperature is above 30°C

THE EFFECTS OF WARMING ARE EVIDENT IN NORTHERN CANADA

EFFECTS ARE PROJECTED TO INTENSIFY IN THE FUTURE



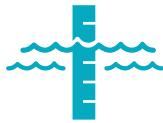
Annual mean temperature in Northern Canada has increased at roughly three times the global average rate. This pattern of amplified northern warming will continue.



Sea ice has diminished across Canada's Arctic. Extensive sea ice-free periods are projected by mid-century for the Canadian Arctic and Hudson Bay. Persistent sea ice drifting from the northern Canadian Arctic Archipelago into the Northwest Passage will still present navigation hazards.



Freshwater ice cover duration has decreased for most Arctic lakes. Many small ice caps and ice shelves are expected to disappear by 2100. Continued warming and thawing of permafrost is projected with implications for infrastructure, streamflow and lake levels.



Sea level is projected to rise in the Beaufort Sea coastal area. Most regions in Nunavut will experience little change or declining sea level due to land uplift.



Spring and fall snow cover extent has declined across northern Canada; snow cover reductions in these seasons are projected to continue due to increases in air temperature.



Acidification is of particular concern in the Canadian Arctic Ocean because the potential for shellfish to form calcareous shells is lower there due to its cold water.

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