



CLIMATE TRENDS AND VARIATIONS BULLETIN

This bulletin summarizes recent climate data and presents it in a historical context. It first examines the national average temperature for the season and then highlights interesting regional temperature information.

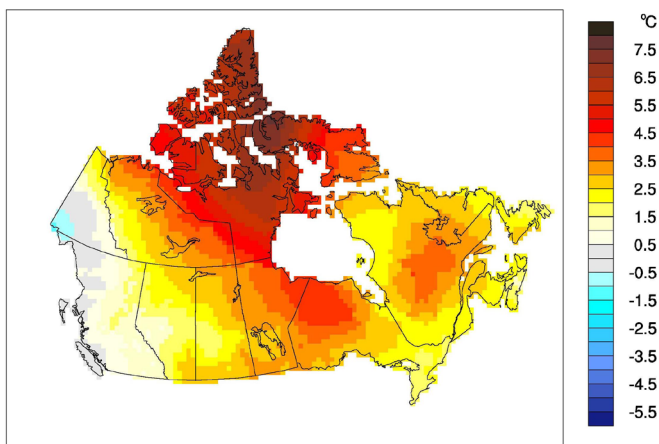
Over the past decade, precipitation monitoring technology has evolved and Environment and Climate Change Canada and its partners implemented a transition from manual observations to using automatic precipitation gauges. Extensive data integration is required to link the current precipitation observations to the long term historical manual observations. The update and reporting of historical adjusted precipitation trends and variations will be on temporary hiatus pending the extensive data reconciliation, and will resume thereafter. ECCC remains committed to providing credible climate data to inform adaptation decision making, while ensuring the necessary data reconciliation occurs as monitoring technology evolves.

NATIONAL TEMPERATURE

The national average temperature for the autumn (September–November) of 2021 was 3.2°C above the baseline average (defined as the mean over the 1961–1990 reference period), based on preliminary data, which had been the warmest observed since nationwide recording began in 1948. The previous record was held by the autumn of 1998 as the national average temperature was 2.4°C above the baseline average. The coolest autumn occurred in 1986, when the national average temperature was 1.8°C below the baseline average. The temperature departures map shows that most of Canada experienced temperatures at least 1.5°C above the baseline average with central and eastern Canada experiencing temperatures above the baseline average

by a more moderate 1°C to 4°C. Nunavut and northern Northwest Territories experienced temperatures more than 5°C above the baseline average. Only northwest British Columbia and southwest Yukon experienced temperatures close to the baseline average.

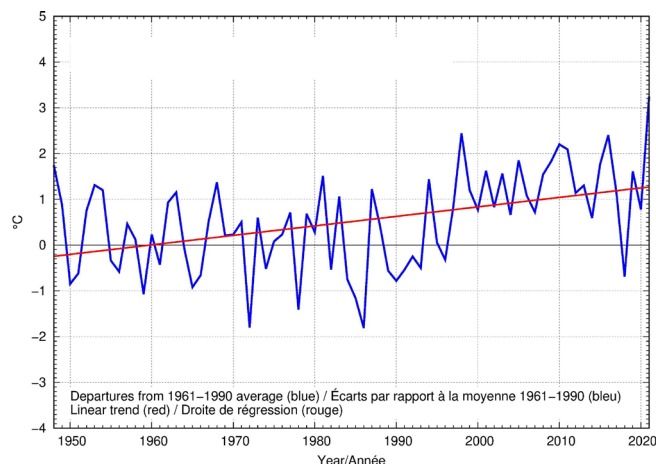
TEMPERATURE DEPARTURES FROM THE 1961–1990 AVERAGE – AUTUMN 2021



The time series graph shows that autumn temperatures averaged across the country have fluctuated from year to year over the 1948–2021 period. With the exception of 2018, averaged autumn temperatures have been remained above the baseline average since 1996. The linear trend indicates that autumn temperatures, averaged across the nation, have warmed by 1.8°C over the past 74 years.



AUTUMN NATIONAL TEMPERATURE DEPARTURES AND LONG-TERM TREND, 1948–2021



REGIONAL TEMPERATURE

When examining on a regional basis, the average autumn temperatures in 2021 had been the warmest on record since 1948 for the following five climate regions: Arctic Mountains and Fiords (5.4°C above average); Arctic Tundra (5.2°C above average); Mackenzie District (3.4°C above average); Northeastern Forest (3.1°C above average) and Atlantic Canada (2.2°C above average). Three other climate regions which had been ranked the 10 warmest on record since 1948 were: Northwestern Forest (2nd warmest at 2.6°C above average); Prairies (3rd warmest at 2.6°C above average) and Great Lakes/St. Lawrence (6th warmest at 2°C above average). The average autumn temperatures in 2021 had not been among the 10 coolest on record since 1948 for any of the eleven climate regions. All eleven climate regions

exhibit positive trends for autumn temperatures over the 74 years of record. The strongest trends were observed in the Arctic Mountains and Fiords region (+2.9°C), while the weakest trend (+0.7°C) was found in the Prairies and the South B.C. Mountains regions. A table listing the regional and national temperature departures and rankings from 1948 to 2021 and another table summarizing regional and national trends and extremes summaries are available upon request at btvc-ctvb@ec.gc.ca.

Please note that the latest generation of CANGRD has now been adopted in the analyses of the Climate Trends and Variations Bulletin (CTVB). For more information, please visit the CTVB homepage.

THE MAP OF CANADIAN CLIMATE REGIONS



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