



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.

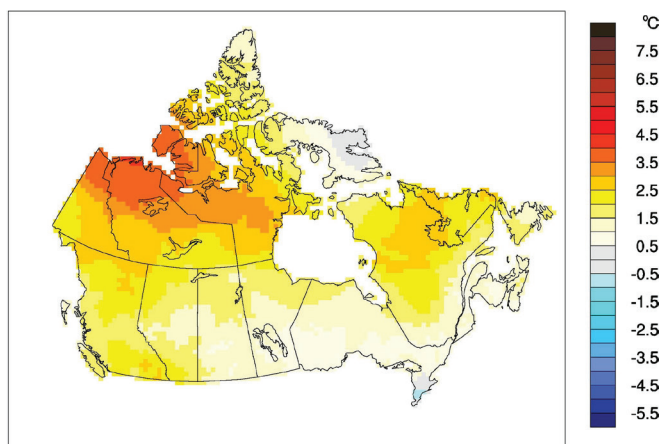
Over the past decade, precipitation monitoring technology has evolved and Environment and Climate Change Canada and its partners implemented a transition from manual observations to using automatic precipitation gauges. Extensive data integration is required to link the current precipitation observations 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 summer (June–August) of 2023 was 2.0°C above the baseline average (defined as the mean over the 1961–1990 reference period), based on preliminary data, which is the warmest observed since nationwide recording began in 1948. The coldest summer occurred in 1978 when the national average temperature was 1.0°C below the baseline average. The temperature departures map shows that most of Canada experienced temperatures at least 1°C above the baseline average, except for small regions in eastern Nunavut and southern Ontario that experienced temperatures closer to the baseline average. Significant temperature departures of more than 3°C above the baseline average were recorded in the northern Yukon, Northwest Territories, and eastern Nunavut, while most of British Columbia, Alberta, Quebec, and Newfoundland and Labrador experienced

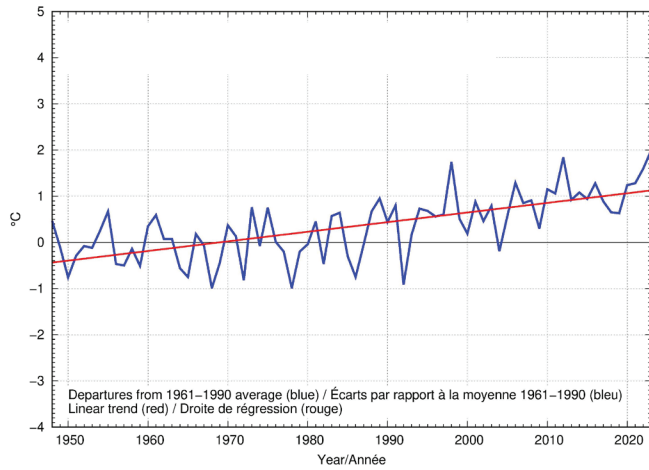
temperatures at least 1.5°C above the baseline. The temperature was 0.5°C below the baseline average for only a small area in southern Ontario.

Temperature Departures from the 1961–1990 Average – Summer 2023



The time series graph shows that averaged summer temperatures across the country have fluctuated from year to year over the 1948–2023 period. With the exception of 2004, average summer temperatures have remained above the baseline average since 1993. The linear trend indicates that summer temperatures averaged across the nation have warmed by 1.7°C over the past 76 years.

Summer National Temperature Departures and Long-term Trend, 1948–2023

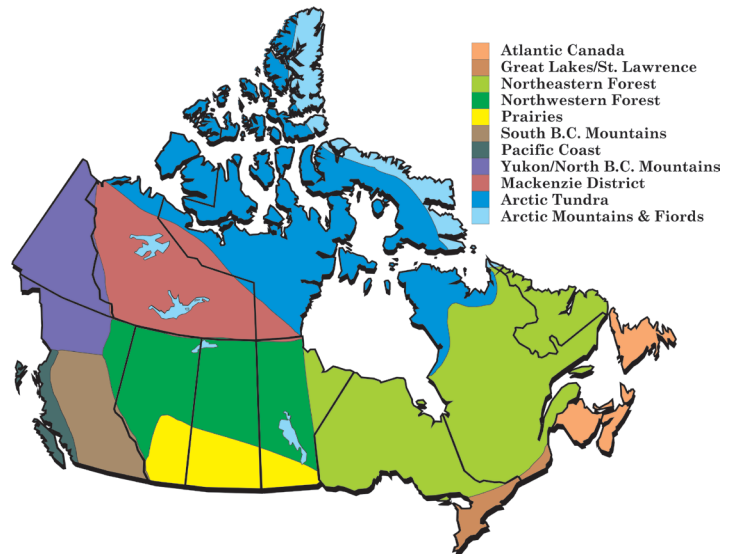


Regional Temperature

When examined on a regional basis, average summer temperatures for 2023 were among the 10 warmest on record since 1948 for nine of the eleven climate regions. These regions were: Mackenzie District (warmest at 2.9°C above baseline average) and Yukon/North B.C. Mountain (warmest at 2.8°C above the baseline average); Arctic Tundra (2nd warmest at 2.5°C above the baseline average) and Northwestern Forest (2nd warmest at 1.7°C above the baseline average); Northeastern Forest (3rd warmest at 1.7°C above the baseline average) and South B.C. Mountains (3rd warmest at 2.1°C above the baseline average); Prairies (4th warmest at 1.3°C above the baseline average); Pacific Coast (5th warmest at 1.7°C above the baseline average); and Atlantic Canada (8th warmest at 1.3°C above the baseline average). None of the eleven climate regions experienced an average summer temperature for 2023 that ranked among the 10 coolest since 1948. All eleven climate regions exhibit positive trends for summer temperatures over the 76 years of record. The strongest trend is observed in the Mackenzie District (+2.0°C), while the weakest trend (+1.3°C) is found in the Prairies region. A table listing the regional and national temperature departures and rankings from 1948 to 2023 and a table that summarizes regional and national trends and extremes summaries are available upon request to btvc-ctvb@ec.gc.ca.

Please note that the latest generation of CANGRD is now 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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