SPRING 2024

Climate Trends and Variations Bulletin

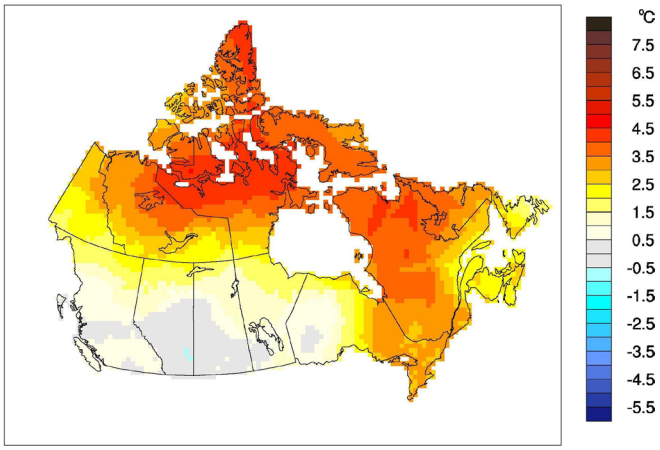
This bulletin summarizes recent climate data and presents it in a historical context. It first examines the national average temperature for the season and then highlights interesting regional temperature information.

Over the past decade, precipitation monitoring technology has evolved and Environment and Climate Change Canada (ECCC) 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

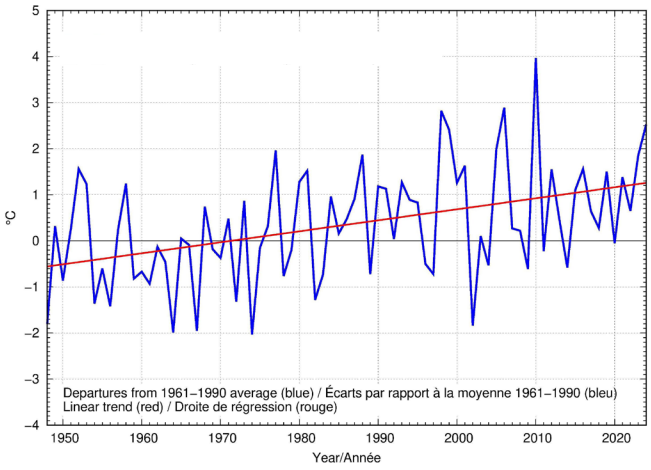
The national average temperature for the spring (March-May) of 2024 was 2.5 °C above the baseline average (defined as the mean over the 1961–1990 reference period), based on preliminary data, which has ranked the 4th warmest observed spring since nationwide recording began in 1948. The spring of 2010 continues to be the warmest on record, where the national average temperature was 4.0 °C above the baseline average. The spring with the coolest average temperature departure was in 1974 where the national average temperature was 2.0 °C below the baseline average. The temperature departure map for the spring of 2024 shows that a large proportion of Canada experienced temperatures at least 0.5 °C above the baseline average. Most of Nunavut, Northwest Territories, Quebec, Newfoundland and Labrador and eastern Ontario experienced temperature departure between 3.0 °C to 5.0 °C above the baseline average. Meanwhile, northern Ontario, the Prairie Provinces (Manitoba, Saskatchewan, and Alberta) and most of British Columbia observed temperature departures between 0.5 °C to 2.5 °C. Exceptions include areas in the Prairie Provinces, small regions in British Columbia, and Ontario, where temperatures departed minimally from 0 °C. A small area in eastern Alberta experienced temperature departure 0.5 °C below the baseline average.

Temperature Departures from the 1961–1990 Average – Spring 2024



The time series graph shows that averaged spring temperatures across the country have fluctuated from year to year over the 1948–2024 period. The average spring temperatures have remained above the baseline average since 2014, the last time the average nationwide spring temperature was recorded below average. The linear trend indicates that spring temperatures averaged across Canada have warmed by 1.8 °C over the past 77 years.

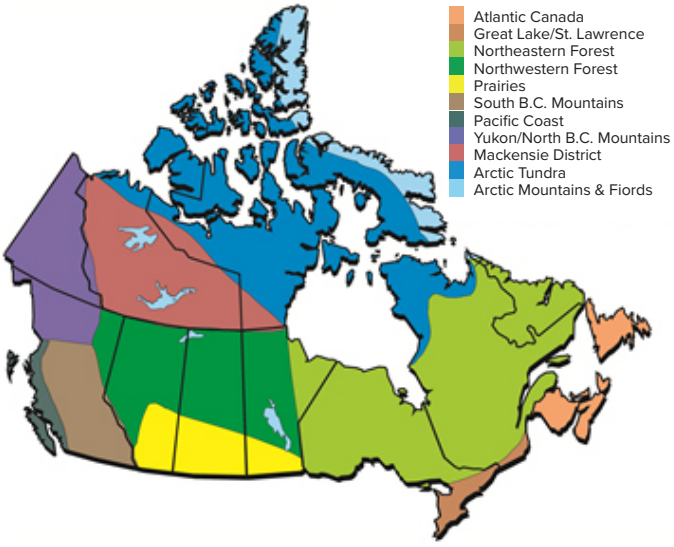
Spring National Temperature Departures and Long-term Trend, 1948–2024



Regional Temperature

When examined on a regional basis, average spring 2024 temperatures for six of the eleven climate regions were ranked among the 10 warmest on record, since 1948. Those regions were: Arctic Tundra (3rd warmest at 3.8 °C above the baseline average); Great Lakes/St. Lawrence (3rd warmest at 3.1 °C above the baseline average); Arctic Mountains and Fiords (4th warmest at 3.8 °C above the baseline average); Northeastern Forest (4th warmest at 2.7 °C above the baseline average); Atlantic Canada (4th warmest at 2.2 °C above the baseline average); and Mackenzie District (6th warmest at 3.1 °C above the baseline average). None of the eleven climate regions experienced a spring temperature for 2024 that was among the 10 coolest since 1948. The climate region that experienced the lowest spring temperature departure this year was the Prairies region (+0.2 °C). All eleven climate regions exhibit positive trends for spring temperatures based on the past 77 years of record. The strongest regional trend (+2.5 °C) is observed in the Mackenzie District region, while the weakest trend (+1.1 °C) is found in the Atlantic Canada region. A table listing the regional and national temperature departures and rankings from 1948 to 2024 and another table summarizing regional and national trends and extremes summaries are available upon request at btvc-ctvb@ec.gc.ca.

The Map of Canadian Climate Regions



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