SUMMER 2022

Climate Trends and Variations Bulletin

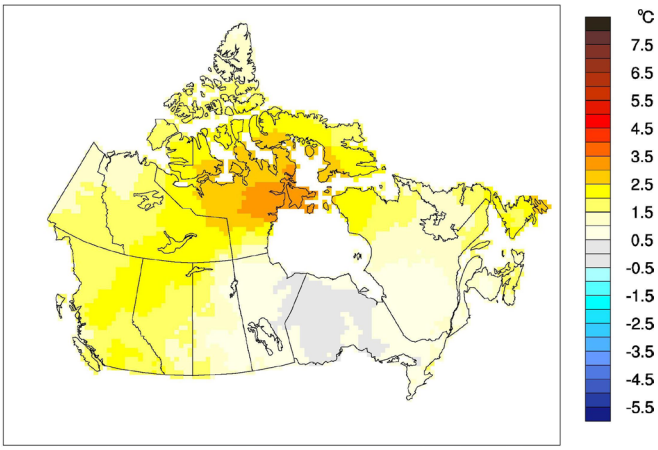
This bulletin summarizes recent climate data and presents it in a historical context. It first examines the national average temperature for the season and then highlights interesting regional temperature information.

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

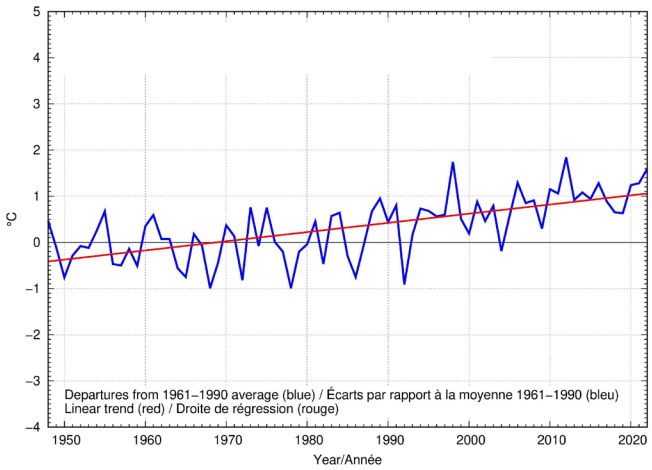
The national average temperature for the summer (June–August) of 2022 was 1.6°C above the baseline average (defined as the mean over the 1961–1990 reference period), based on preliminary data, which is the 3rd warmest observed since nationwide recording began in 1948. The warmest summer occurred in 2012, when the national average temperature was 1.8°C above the baseline average. 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 1.0°C above the baseline average except for northern Ontario and eastern Manitoba. Temperatures more than 2.0°C above the baseline average were recorded in most of British Columbia, Alberta, the Yukon and Northwest Territories. Central Nunavut experienced temperatures at least 3.0°C above the baseline average. No substantial areas of Canada experienced below average temperatures in the summer of 2022.

TEMPERATURE DEPARTURES FROM THE 1961–1990 AVERAGE – SUMMER 2022

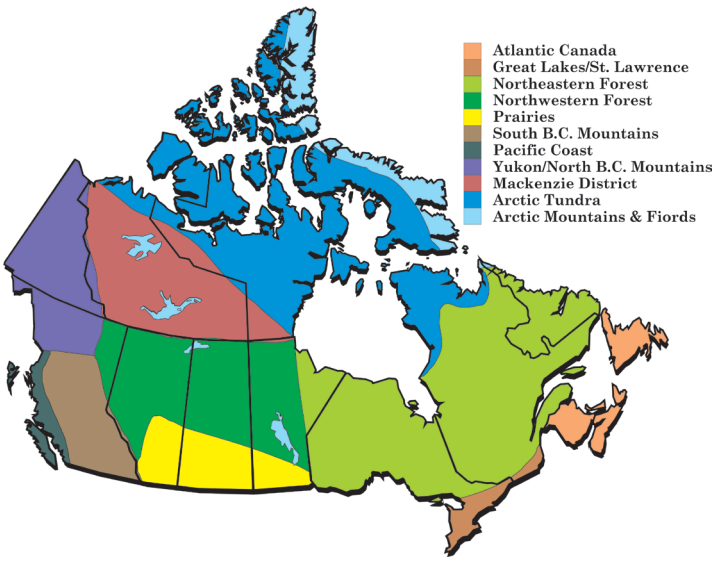


The time series graph shows that averaged summer temperatures across the country have fluctuated from year to year over the 1948–2022 period. With the exception of 2004, average summer temperatures have remained above the baseline average since 1993. The linear trend indicates that summer temperatures averaged across the nation have warmed by 1.6°C over the past 75 years.

SUMMER NATIONAL TEMPERATURE DEPARTURES AND LONG-TERM TREND, 1948–2022



THE MAP OF CANADIAN CLIMATE REGIONS



REGIONAL TEMPERATURE

When examined on a regional basis, average summer temperatures for 2022 were among the 10 warmest on record since 1948 for 9 of the 11 climate regions. These regions were: Atlantic Canada (warmest at 1.7°C above the baseline average); Arctic Tundra (3rd warmest at 2.3°C above the baseline average); South B.C. Mountains (3rd warmest at 2.0°C above the baseline average); Northwestern Forest (5th warmest at 1.4°C above the baseline average); Pacific Coast (5th warmest at 1.7°C above the baseline average); Yukon/North B.C. Mountain (6th warmest at 1.7°C above the baseline average); Mackenzie District (6th warmest at 1.9°C above baseline average); and Prairies (7th warmest at 1.2°C above the baseline average); and Arctic Tundra and Fiords (8th warmest at 1.7°C above the baseline average). None of the 11 climate regions experienced an average summer temperature for 2022 that ranked among the 10 coolest since 1948. All 11 climate regions exhibit positive trends for summer temperatures over the 75 years of record. The strongest trend is observed in the Mackenzie District (+1.9°C), while the weakest trend (+1.2°C) is found in the Prairies region. A table listing the regional and national temperature departures and rankings from 1948 to 2022 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.

Cat. No.: En81-23E-PDF
ISSN: 2367-9794
EC 22056

For information regarding reproduction rights, please contact Environment and Climate Change Canada's Public Inquiries Centre at 1-800-668-6767 (in Canada only) or 819-997-2800 or email to enviroinfo@ec.gc.ca.

© His Majesty the King in Right of Canada, represented by the Minister of Environment and Climate Change, 2022

Aussi disponible en français