

SUMMER 2017

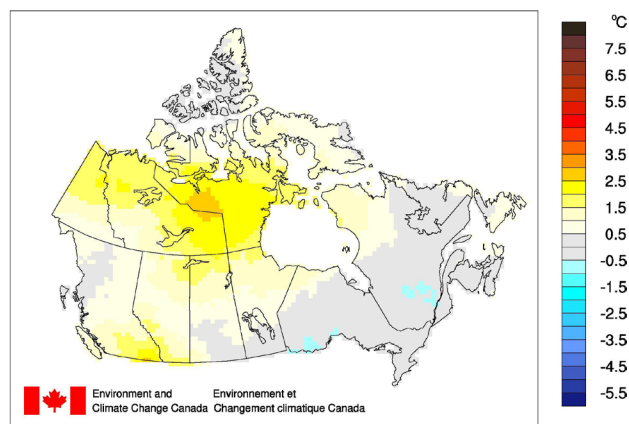
CLIMATE TRENDS AND VARIATIONS BULLETIN

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. Precipitation is examined in the same manner.

NATIONAL TEMPERATURE

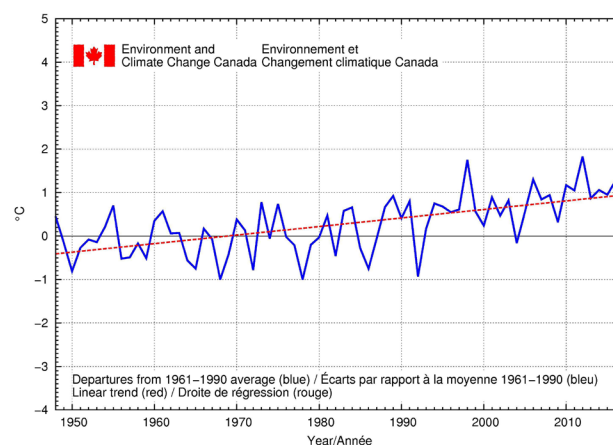
The national average temperature for the summer (June–August) of 2017 was 0.9°C above the baseline average (defined as the mean over the 1961–1990 reference period), based on preliminary data, which is the 13th warmest observed since nationwide recording began in 1948. The warmest summer occurred in 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 (below) shows that most of the Yukon, Northwest Territories, Nunavut and western provinces experienced temperatures above the baseline average. Summer temperatures were near the baseline average in the remainder of the country.

TEMPERATURE DEPARTURES FROM THE 1961–1990 AVERAGE—SUMMER 2017



The time series graph (below) shows that averaged summer temperatures across the country have fluctuated from year to year over the 1948–2017 period. The linear trend indicates that summer temperatures averaged across the nation have warmed by 1.5°C over the past 70 years.

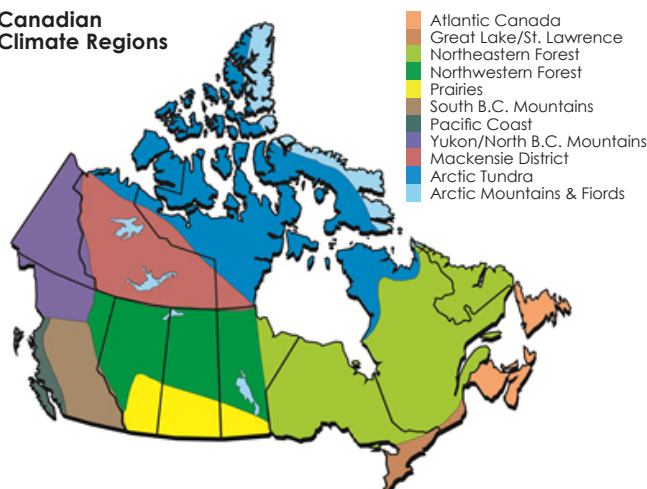
SUMMER NATIONAL TEMPERATURE DEPARTURES AND LONG-TERM TREND, 1948–2017



REGIONAL TEMPERATURE

When examined on a regional basis, average summer temperatures for 2017 were among the 10 warmest on record since 1948 for two of the eleven climate regions: the Mackenzie District (5th warmest at 1.8°C above average) and the Northwestern Forest (9th warmest at 1.1°C above average). None of the eleven climate regions experienced an average summer temperature for 2017 that ranked among the 10 coldest since 1948. All eleven climate regions exhibit positive trends for summer temperatures over the 70 years of record. The strongest regional trend is observed in the Mackenzie District region ($+2.0^{\circ}\text{C}$), while the weakest trend ($+0.9^{\circ}\text{C}$) is found in the Prairies region. A table listing the regional and national temperature departures and rankings from 1948 to 2017 and a table that summarizes regional and national trends and extremes summaries are available on request to ec.bttvc-ctvb.ec@canada.ca.

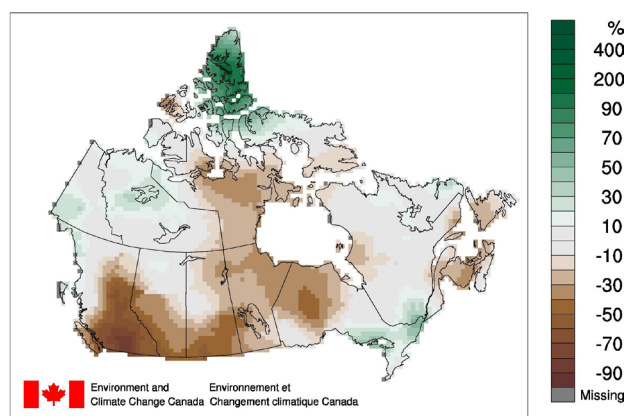
Canadian Climate Regions



NATIONAL PRECIPITATION

The national average precipitation for the summer of 2017 was 6.3% below the baseline average (defined as the mean over the 1961-1990 reference period), based on preliminary data, making it the 10th driest summer since nationwide recording began in 1948. The wettest summer was 2016 (17.3% above the baseline average) and the driest summer was 1958 (13.9% below the baseline average). The precipitation percent departure map for the summer of 2017 (below) shows that conditions were notably drier-than-average in the southern regions of British Columbia, Alberta, and Saskatchewan, in Manitoba, the western regions of Ontario, most of the Maritimes, and southeastern regions of Nunavut. The summer of 2017 was notably wetter than average across Ellesmere Island. Summer precipitation was near the baseline average in the remainder of the country.

PRECIPITATION DEPARTURES FROM THE 1961-1990 AVERAGE – SUMMER 2017

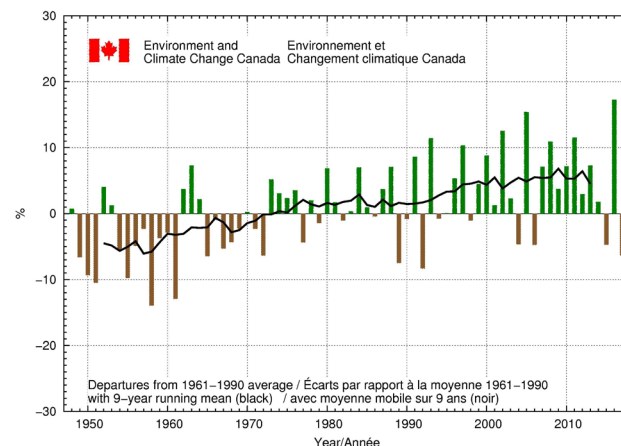


It should be noted that “average” precipitation in northern Canada is generally much less than it is in southern Canada, and hence a percent departure in the north represents much less precipitation than the same percentage in the south. The national

precipitation rankings are therefore often skewed by the northern departures and do not necessarily represent rankings for the volume of water falling on the country.

The precipitation percent departures graph (below) shows that, when averaged across the nation, summer precipitation amounts have tended to be wetter than the 1961–1990 average since the beginning of the 1970s.

SUMMER NATIONAL PRECIPITATION DEPARTURES WITH NINE-YEAR RUNNING MEAN, 1948–2017



REGIONAL PRECIPITATION

Summer precipitation for 2017 was among the 10 driest recorded since 1948 in four of the eleven climate regions; the South B.C. Mountains (driest summer on record at 49.3% below average); the Prairies (3rd driest at 34.1% below average); the Northwestern Forest (5th driest at 19.7% below average); and Atlantic Canada (9th driest at 18.2% below average). The summer of 2017 ranked among the ten wettest in two of the eleven climate regions: the Arctic Mountains and Fjords (4th wettest at 33.5% above average) and the Great Lakes/St. Lawrence region (10th wettest at 20.0% above average). A table listing the regional and national precipitation departures and rankings from 1948 to 2017 and a table that summarizes regional and national extremes are available on request to ec.btv-ctvb.ec@canada.ca.

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