



WINTER 2016/2017

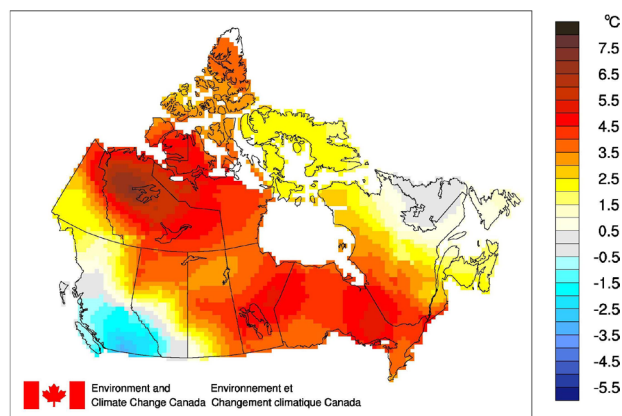
CLIMATE TRENDS AND VARIATIONS BULLETIN

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 winter of 2016/2017 (December 2016, January 2017, and February 2017) was 3.0°C above the baseline average (defined as the mean over the 1961–1990 reference period), based on preliminary data, which is the 7th warmest observed since nationwide recording began in 1948. The warmest winter occurred in 2009/2010, when the national average temperature was 4.1°C above the baseline average. The coldest winter occurred in 1971/1972, when the national average temperature was 3.6°C below the baseline average. The temperature departures map (below) shows that most of the Yukon, Northwest Territories, Nunavut, northern Alberta, Saskatchewan, Manitoba, Ontario, south and western Quebec, and the Maritimes experienced temperatures above the baseline average temperatures. Below average temperatures were recorded in southern British Columbia and near average temperatures were mainly observed in the Labrador.

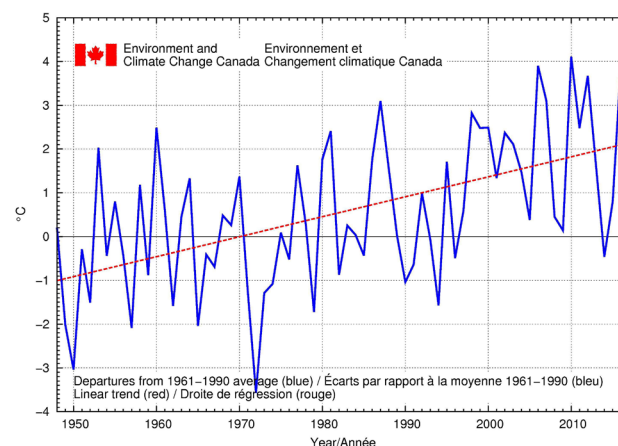
TEMPERATURE DEPARTURES FROM THE 1961–1990 AVERAGE—AUTUMN 2016/2017



The time series graph (below) shows that averaged winter temperatures across the country have fluctuated from year to year over the 1948–2017 period. The linear trend indicates that winter

temperatures averaged across the nation have warmed by 3.4°C over the past 70 years.

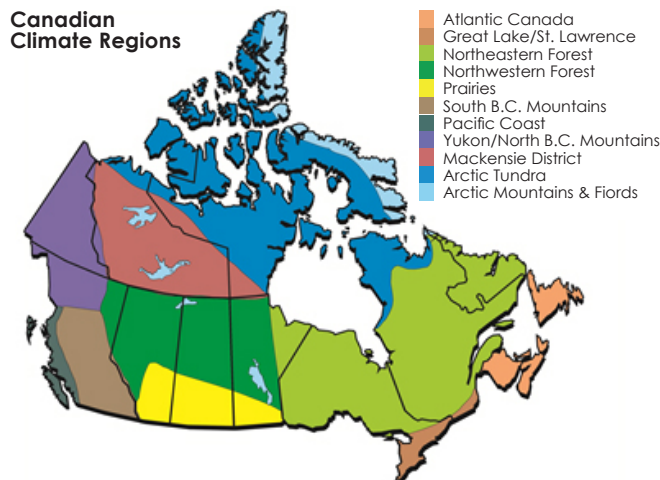
WINTER NATIONAL TEMPERATURE DEPARTURES AND LONG-TERM TREND, 1948–2017



REGIONAL TEMPERATURE

When examined on a regional basis, average winter temperatures for 2016/2017 were among the 10 warmest on record since 1948 for five of the eleven climate regions: Great Lakes/St. Lawrence (4th warmest at 3.8°C above average); Mackenzie District (5th warmest at 5.0°C above average); Arctic Tundra (5th warmest at 3.5°C above average); Northeastern Forest (8th warmest at 3.0°C above average); and the Northwestern Forest (9th warmest at 3.5°C above average). None of the 11 climate regions experienced an average winter temperature for 2016/2017 that ranked among the 10 coldest since 1948. All 11 climate regions exhibit positive trends for winter temperatures over the 70 years of record. The strongest trend is observed in the North British Columbia Mountains/Yukon region (+5.7°C), while the weakest trend (+0.6°C) is found in the Atlantic

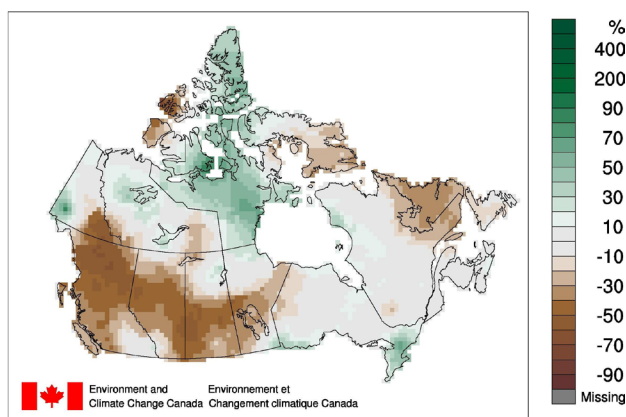
Canada region. A table listing the regional and national temperature departures and rankings from 1948 to 2017 and a table that summaries regional and national trends and extremes summaries are available on request to ec.bfvc-ctvb.ec@canada.ca.



NATIONAL PRECIPITATION

The national average precipitation for the winter of 2016/2017 was 3.2% below the baseline average (defined as the mean over the 1961-1990 reference period), based on preliminary data, making it the 25th driest winter since nationwide recording began in 1948. The wettest winter was 2010/2011 (27.2% above the baseline average) and the driest winter was 1956/1957 (20.2% below the baseline average). The precipitation percent departure map for the winter of 2016/2017 (below) shows that conditions were notably drier-than-average in most of British Columbia, Alberta, Saskatchewan, southern Manitoba and in a few areas in the north, particularly in southern Yukon, western and eastern Nunavut, northeastern Quebec, and Newfoundland and Labrador. The winter of 2016/2017 was wetter than average mainly in southern Ontario and central Nunavut.

PRECIPITATION DEPARTURES FROM THE 1961-1990 AVERAGE – WINTER 2016/2017

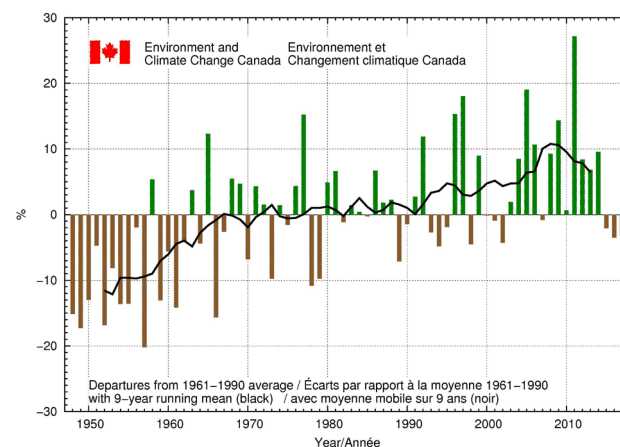


It should be noted that “average” precipitation in northern Canada is generally much less than it is in southern Canada, and hence a percent departure

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, winter precipitation amounts have tended to be wetter than the 1961–1990 average since the beginning of the 1970s, although they have been below the baseline average during the past three years.

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



REGIONAL PRECIPITATION

Winter precipitation for 2016/2017 was among the 10 driest recorded since 1948 in 4 of the 11 climate regions: the Pacific Coast (4th driest at 34.5% below average); the South British Columbia Mountains (4th driest at 31.8% below average); the Northwestern Forest (6th driest at 22.4% below average); and the Prairies (7th driest at 32.0% below average). The winter of 2016/2017 ranked among the 10 wettest recorded since 1948 in only one region: the Great Lakes/St. Lawrence (8th wettest at 24.1% 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.bfvc-ctvb.ec@canada.ca.

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