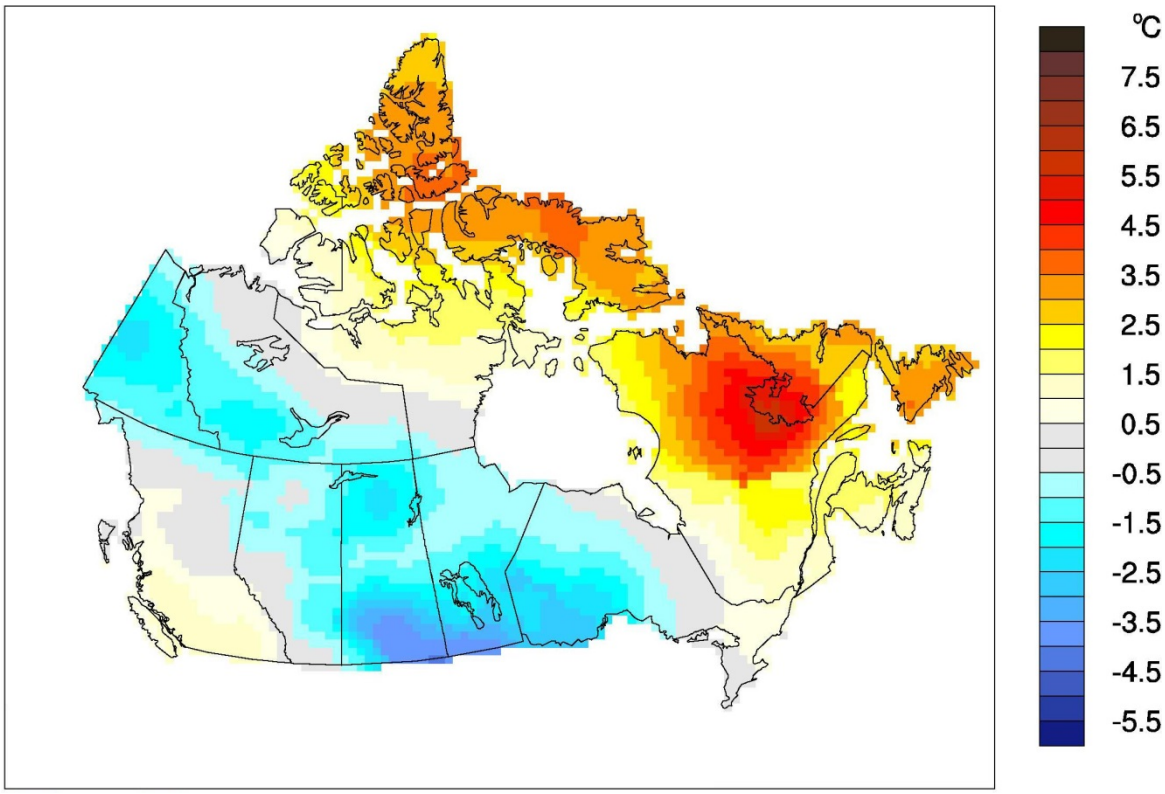
Climate Trends and Variations Bulletin – Spring 2013

This bulletin summarizes recent climate data and presents it in a historical context. It first examines the national temperature, and then highlights interesting regional temperature information. Precipitation is examined in the same manner.

National Temperature

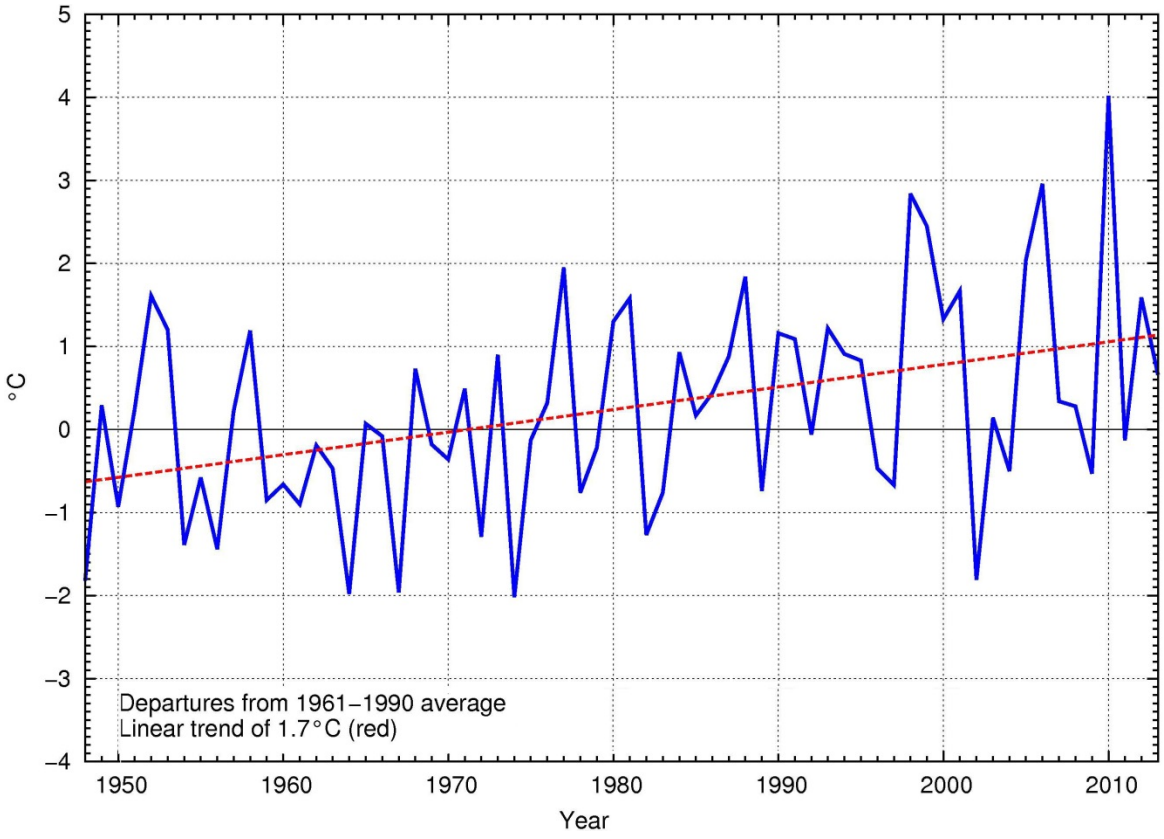
The national average temperature for the spring of 2013 was 0.6°C above baseline average (defined as the mean over the 1961–1990 reference period), based on preliminary data, which makes this past spring the 25th warmest observed since nationwide recording began in 1948. The warmest spring on record occurred in 2010 when the national average temperature was 4.0°C above the baseline average. The coolest spring occurred in 1974 when temperature averaged across the county was 2°C below the baseline average. The temperature departures map for the spring of 2013 (below) shows that negative anomalies were experienced across much of south-central and northwestern Canada (apart from B.C.) while positive temperature departures occurred over the far north and northeastern Canada.

Temperature Departures from the 1961–1990 Average – Spring 2013 (Mar., Apr., May)



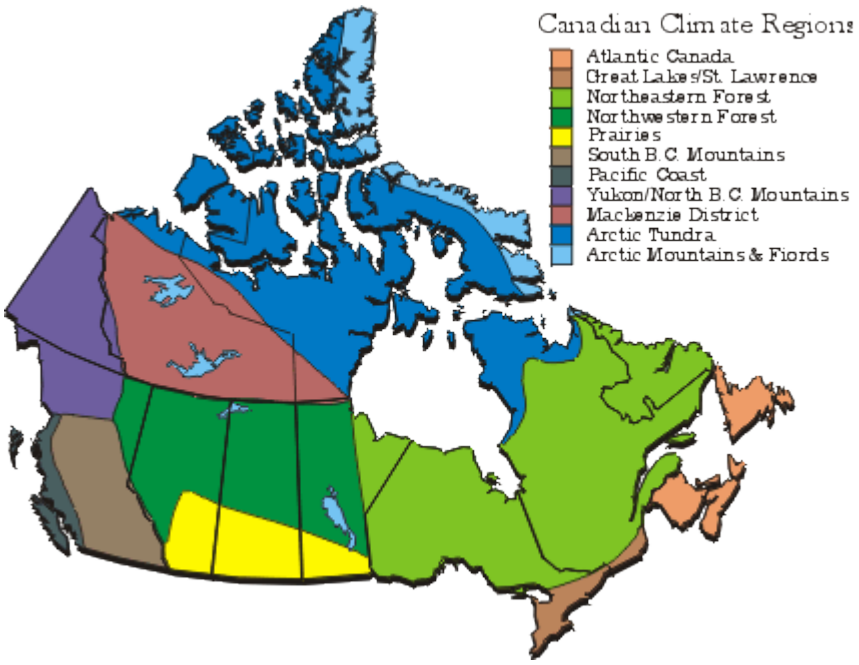
The time series graph below shows that, when averaged across the nation, spring temperatures have fluctuated greatly over the period 1948–2013. The red dashed linear trend line indicates that spring temperatures have warmed by 1.7°C over the past 66 years.

Spring National Temperature Departures and Long-term Trend, 1948 – 2013



Regional Temperature

Temperatures in the spring of 2013 were below the baseline average in 4 of the 11 regions: Prairies (14th coolest, 2.3°C below baseline average); Yukon/North B.C. Mountains (17th coolest, 1.1°C below baseline average); Northwestern Forest (20th coolest, 1.2°C below baseline average); and Mackenzie District (25th coolest, 0.5°C below baseline average). Positive temperature departures occurred in the remaining regions and were most pronounced in Arctic Mountains and Fiords (3.2°C above baseline average, 5th warmest spring), Atlantic Canada (2.1°C above baseline average, 4th warmest spring) and Arctic Tundra (2.0°C above baseline average, 11th warmest spring). A table listing the regional and national temperature departures and rankings from 1948 and a table that summarizes regional and national trends and extremes are available on request to CTVB@ec.gc.ca. All 11 climate regions exhibit positive trends in spring temperatures over the 66 years of record. The strongest trend in spring temperatures is observed in the Mackenzie District and Northwestern Forest regions (both 2.4°C) while the weakest trend is observed for the Arctic Mountains and Fiords Region (1.0°C).

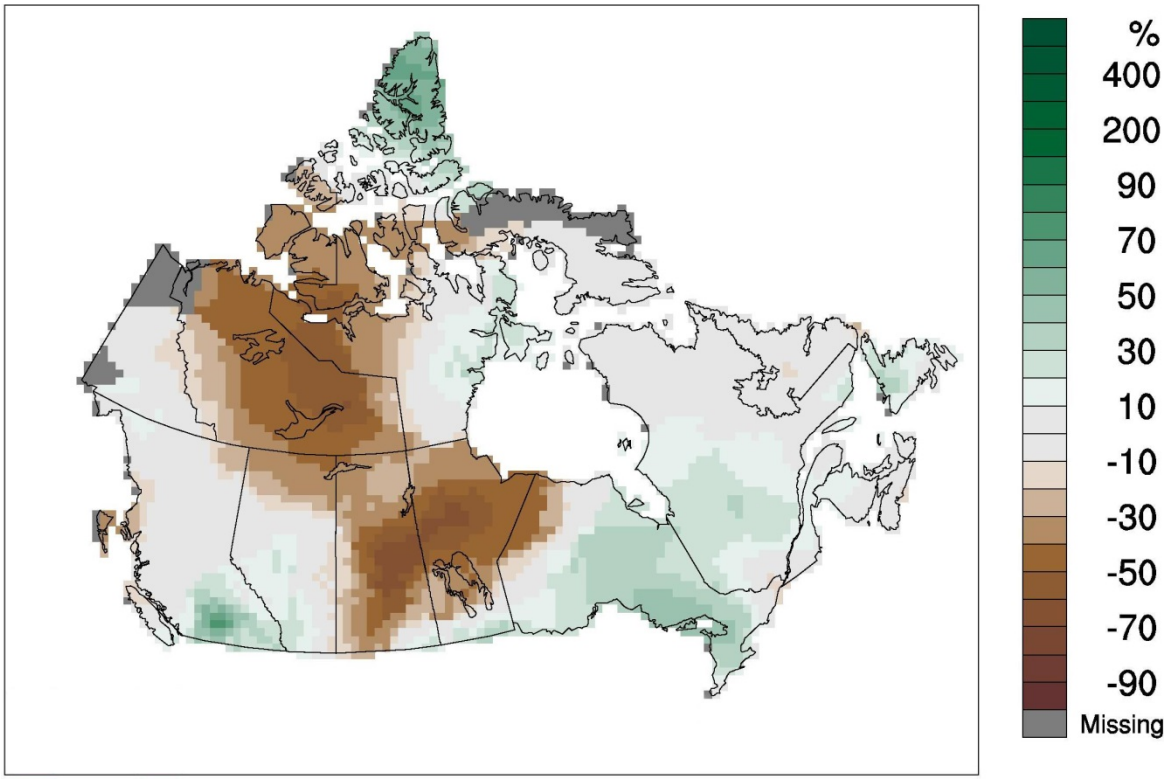


National Precipitation

As a whole, Canada experienced a drier-than-average spring in 2013 (6% below the baseline average). The spring of 2013 ranked as the 21st driest out of the 66 years of record. Over the period of record, the wettest spring was 2012 (22% above the baseline average) and the driest was 1956 (27% below the baseline average). The precipitation percent departure map for spring 2013 (below) shows drier-than-average conditions for

much of Saskatchewan and Manitoba, northern Alberta, the Northwest Territories and part of western Nunavut. A wetter-than-average spring was experienced across much of Ontario, southern Quebec, Newfoundland, Ellesmere Island and south-central B.C.

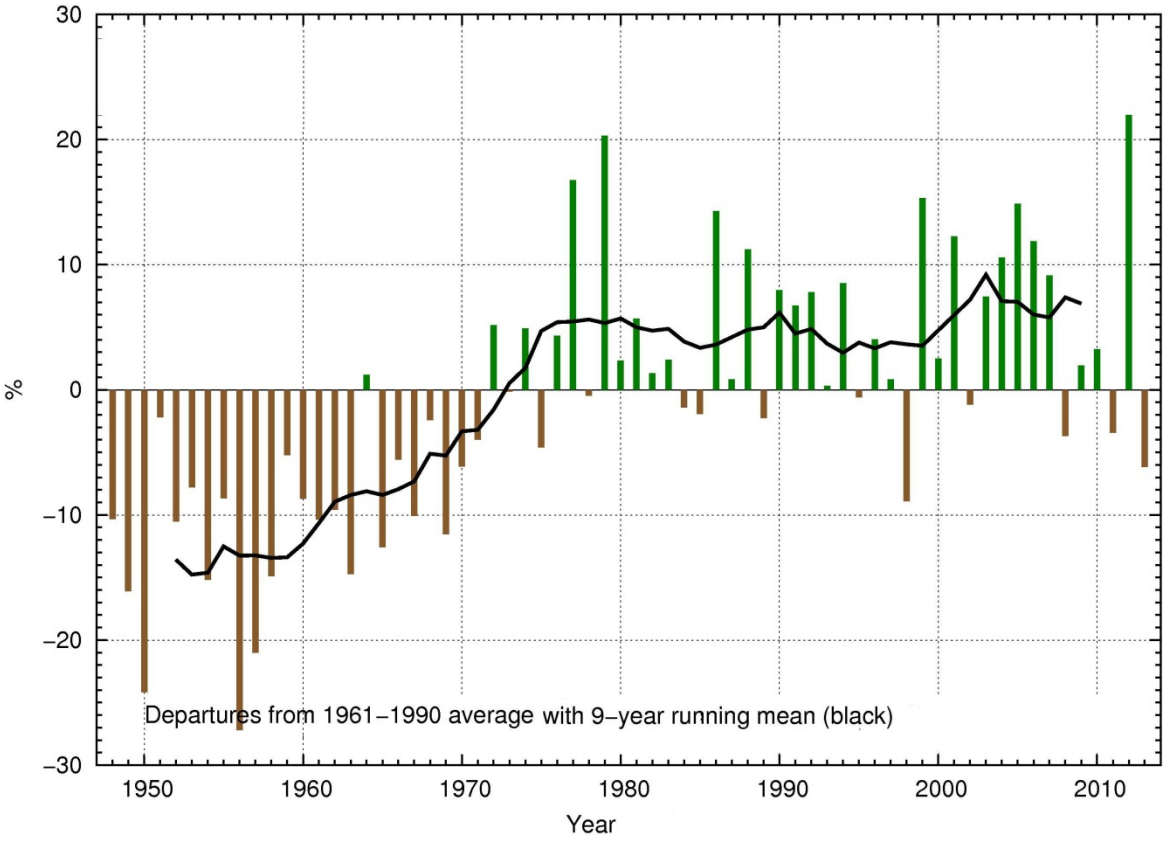
Precipitation Departures from 1961–1990 Average – Spring 2013 (Mar., Apr., May)



It should be noted that "normal" precipitation in northern Canada is generally much less than it is in southern Canada, and hence a percent departure in the north represents a smaller change in the actual amount of precipitation than the same percentage in the south. The national precipitation rankings are therefore strongly influenced 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 springs have tended to be wetter than baseline average since the mid-1970s.

Spring National Precipitation Departures with Weighted Running Mean, 1948–2013



Regional Precipitation

The spring of 2013 was the third driest on record (1948–2013) in the Northwestern Forest region and the Mackenzie District (29% and 39% below the baseline average respectively). The Prairies Region was also quite dry in the spring of 2013 (19th driest recorded, 16% below the baseline average). Notably wet springs were observed in the Northeastern Forest Region (9% above the baseline average, 12th wettest) and Arctic Mountains and Fiords region (33% above the baseline average, 12th wettest). A table listing the regional and national precipitation departures and rankings from 1948 and a table that summarizes regional and national extremes are available on request to CTVB@ec.gc.ca.

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