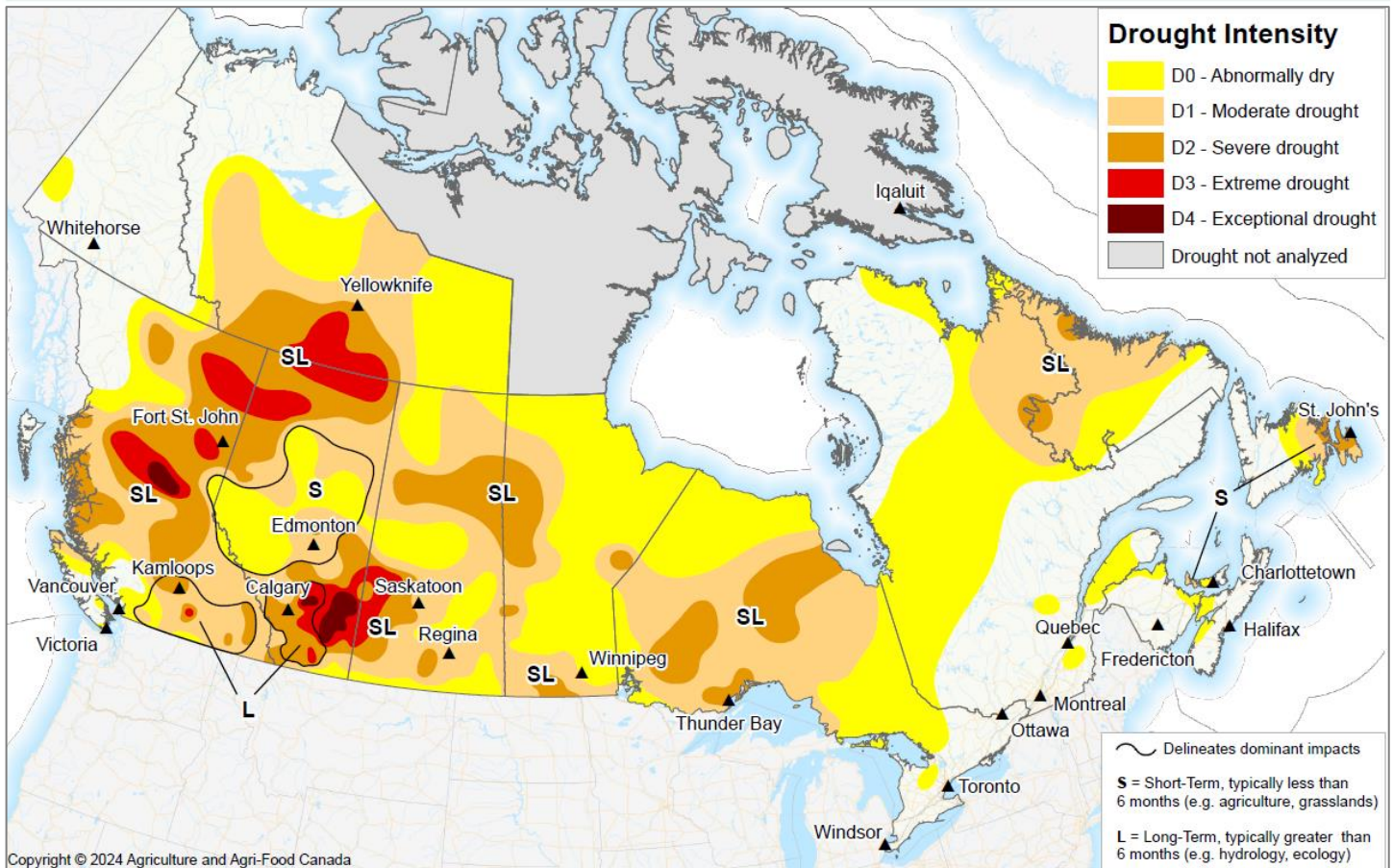


Canadian Drought Monitor

Conditions as of January 31, 2024



January 2024 was marked by significant temperature fluctuations and various storm systems passing through the country. The middle of the month saw temperatures sink to -40 degree Celsius or lower in the prairies, while unseasonably warm temperatures were reported at the beginning and end of the month leading to significant snowmelt in the southern Prairies. Atmospheric rivers brought much-needed moisture to the west coast, while parts of eastern Canada received lower than normal monthly precipitation. The overall drought picture did not change significantly, however short-term improvements occurred in southern Ontario and Extreme (D3) to Exceptional Drought (D4) either persisted or worsened across parts of the Prairies and B.C.

At the end of the month, 70% of the country was classified as Abnormally Dry (D0) or in Moderate to Exceptional Drought (D1 to D4), including 81% of the country's agricultural landscape.

Pacific Region (BC)

Temperatures were quite variable across British Columbia, with the first half the month recording much warmer-than-normal conditions while the end of the month reported temperatures much below normal due to an arctic air mass moving in. Both the start and end of January recorded temperatures above freezing, leading to significant snow melt, localized flooding and ongoing concern for low winter snow accumulation. However, a series of atmospheric rivers brought much-needed precipitation this month, leading to near- to above-normal precipitation across parts of the region including Vancouver island, and the lower mainland.

Significant monthly precipitation allowed for improvement to streamflows and water levels across much of Vancouver Island; this led to the removal of Severe Drought (D2) and a significant reduction to Moderate Drought (D1) and Abnormally Dry (D0) conditions with the exception of the Victoria and Nanaimo areas due to longer-term precipitation deficits. This trend continued into the Lower Mainland and Sunshine Coast where Abnormally Dry (D0) and Moderate Drought (D1) conditions were also reduced and the Severe Drought (D2) around Vancouver was removed. In the Interior, Severe Drought (D2) was reduced north of Kelowna and across parts of central B.C. due to improvement in long-term deficits.

Northern parts of the region, however, received limited monthly precipitation, allowing long-term deficits to persist or worsen. Exceptional Drought (D4) was placed around Prince George and Vanderhoof in central B.C. as the region reported nearly half of their annual amount of precipitation in 2023 and significantly reduced streamflows. Severe (D2) and Extreme Drought (D3) also expanded in this region as a response to limited 6 and 12-month precipitation and water restrictions. Further north, Extreme Drought (D3) slightly expanded eastward towards Alberta as only 25 to 50% of normal precipitation was reported in the past 12 months.

At the end of the month, 83% of the Pacific Region was classified as Abnormally Dry (D0) or in Moderate to Exceptional Drought (D1 to D4), including 94% of the region's agricultural landscape.

Prairie Region (AB, SK, MB)

Both precipitation and temperatures were quite variable across the Prairies this month including a 60 degrees Celsius range in temperatures. An arctic airmass in the middle of the month brought temperatures of -40 degrees Celsius to many parts of the region, with both the start and end of January seeing temperatures above freezing. Parts of southwestern Saskatchewan reported temperatures in the mid-teens to low 20's, leading to significant snow melt and increased evapotranspiration. A few storms brought much-needed moisture to southern Alberta and central agricultural regions of Saskatchewan this month, though this was minor in the way of making up precipitation deficits from last year's growing season.

January was quiet across Alberta, with slightly above-normal precipitation across southern, western and northern parts of the province while central Alberta and the Peace Region reported well below-normal precipitation. However, overall precipitation trends were more heavily influenced by longer-term deficits: central, southern and northwestern areas in the province continued to see both short- and long-term impacts from precipitation deficits. Despite the influence of an arctic airmass mid-January, significantly warm temperatures led to snowmelt and significantly lower than normal snowpacks across southern and central Alberta by the end of the month. Severe (D2), Extreme (D3) and Exceptional Drought (D4) persisted in southern Alberta and expanded slightly northward due to ongoing long-term deficits and emerging short-term deficits in east-central parts of the province. Significant concern remains for this region going into the spring as reservoirs are still extremely low compared to normal and mountain snowpack has been limited thus far this year. The Peace River region in northwestern Alberta also saw an expansion of Severe (D2) and Extreme Drought (D3) as short-term deficits continued to grow and long-term deficits persisted.

Saskatchewan trended drier than normal this month except central parts of the agricultural region that received near- to above-normal precipitation. While parts of the province received moisture in the form of rain this month, overall precipitation amounts still trended below normal. Lake Diefenbaker reported water levels down 2 meters from normal after having received only 20% of normal inflows in 2023. Despite an arctic air mass bringing significantly cold mid-month temperatures, extremely warm temperatures at the beginning and end of the month led to significant snow melt, evapotranspiration and limited snowpack remaining at the end of the month. As a result, drought conditions remained relatively unchanged, with both short- and long-term precipitation deficits persisting across most of the province. Minor changes were made in northern Saskatchewan, including an extension of Severe Drought (D2) from Buffalo Narrows towards Reindeer Lake and a slight reduction to Moderate Drought (D1) in the northeastern corner of the province.

Temperatures across Manitoba were significantly above normal in January, with northern and eastern parts of the province seeing temperatures 4 to 5 degrees above normal. The province reported near-normal precipitation, with southern areas trending drier than normal and northern areas seeing above-normal monthly precipitation. Moderate Drought (D1) improved across northern and eastern Manitoba as long-term precipitation deficits were reduced. However, Severe Drought (D2) expanded across northwestern parts of the province due to ongoing precipitation deficits and low water levels reported. Changes were limited in southern Manitoba given that short- and long-term deficits persisted. However, the Severe Drought (D2) pocket was slightly reduced to better reflect the area of greatest deficit.

At the end of the month, 100% of the Prairie Region was classified as Abnormally Dry (D0) or in Moderate to Exceptional Drought (D1 to D4), including all of the region's agricultural landscape.

Central Region (ON, QC)

Significant precipitation fell across southern Ontario this month, with more than 150% of normal precipitation falling from Windsor to Toronto. This significant monthly precipitation helped to alleviate short-term drought concerns from the dry fall, allowing for the Moderate (D1) and Severe Drought (D2) pockets to be removed and only a small pocket of Abnormally Dry (D0) conditions remaining northwest of Toronto. Southern Quebec also experienced an improvement to conditions as Abnormally Dry (D0) pockets were removed or reduced along the St. Lawrence seaway. Elsewhere in the region, monthly precipitation was sporadic with slightly drier conditions around Thunder Bay in northwestern Ontario and wetter conditions in northern Quebec, resulting in minor adjustments to drought this month. Moderate Drought (D1) east of James Bay was removed due to short-term above-average precipitation while Abnormally Dry (D0) conditions were expanded further south into the Muskoka region, north of Barrie. Temperatures were also significantly warmer than normal in January, with much of the region reporting temperatures more than 5 degrees warmer than normal.

At the end of the month, 63% of the Central Region was classified as Abnormally Dry (D0) or in Moderate to Severe Drought (D1 to D2), including 34% of the region's agricultural landscape.

Atlantic Region (NS, NB, PE, NL)

The Atlantic Region trended warmer and drier than normal this month despite numerous storm systems passing through. These systems did not bring substantial monthly precipitation; in fact,

central parts of the region reported deficits of more than 80 mm over the past 3 months. Eastern Newfoundland also reported a 3-month deficit of more than 125 mm of precipitation, equal to 40 to 85% of normal since November 2023. Temperatures were warmer than normal this month, with some areas across New Brunswick, Nova Scotia and P.E.I. reporting temperatures up to 10 degrees warmer than normal for several days. As a result of the warmer and drier than normal conditions, Moderate (D1) to Severe Drought (D2) emerged across eastern Newfoundland. A pocket of Abnormally Dry (D0) conditions also emerged across northern and central portions of the Maritime region as well as a small Moderate Drought (D1) pocket in western P.E.I. Abnormally Dry (D0) and Moderate Drought (D1) areas also remained in place across Labrador this month with a small pocket of Severe Drought (D2) along coastal Labrador.

At the end of the month, 58% of the Atlantic Region was classified as Abnormally Dry (D0) or in Moderate to Severe Drought (D1 to D2), including 31% of the region's agricultural landscape.

Northern Region (YT, NT)

Temperatures across Northern Canada in January trended colder than normal, especially in the most northern parts of the region. Precipitation was varied this month, with central Northwest Territories reporting slightly drier than normal conditions and most other areas receiving near- to above-normal precipitation. Although monthly precipitation was near- to above-normal, drought changes this month were minimal in the most affected areas due to a long-term lack of moisture. However, Moderate Drought (D1) was reduced in eastern Northwest Territories as precipitation in the past 3 to 6 months improved. Minor improvements were also made across the Yukon due to above-normal precipitation since November 2023.

At the end of the month, 43% of the Northern Region was classified as Abnormally Dry (D0) or in Moderate to Extreme Drought (D1 to D3).

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