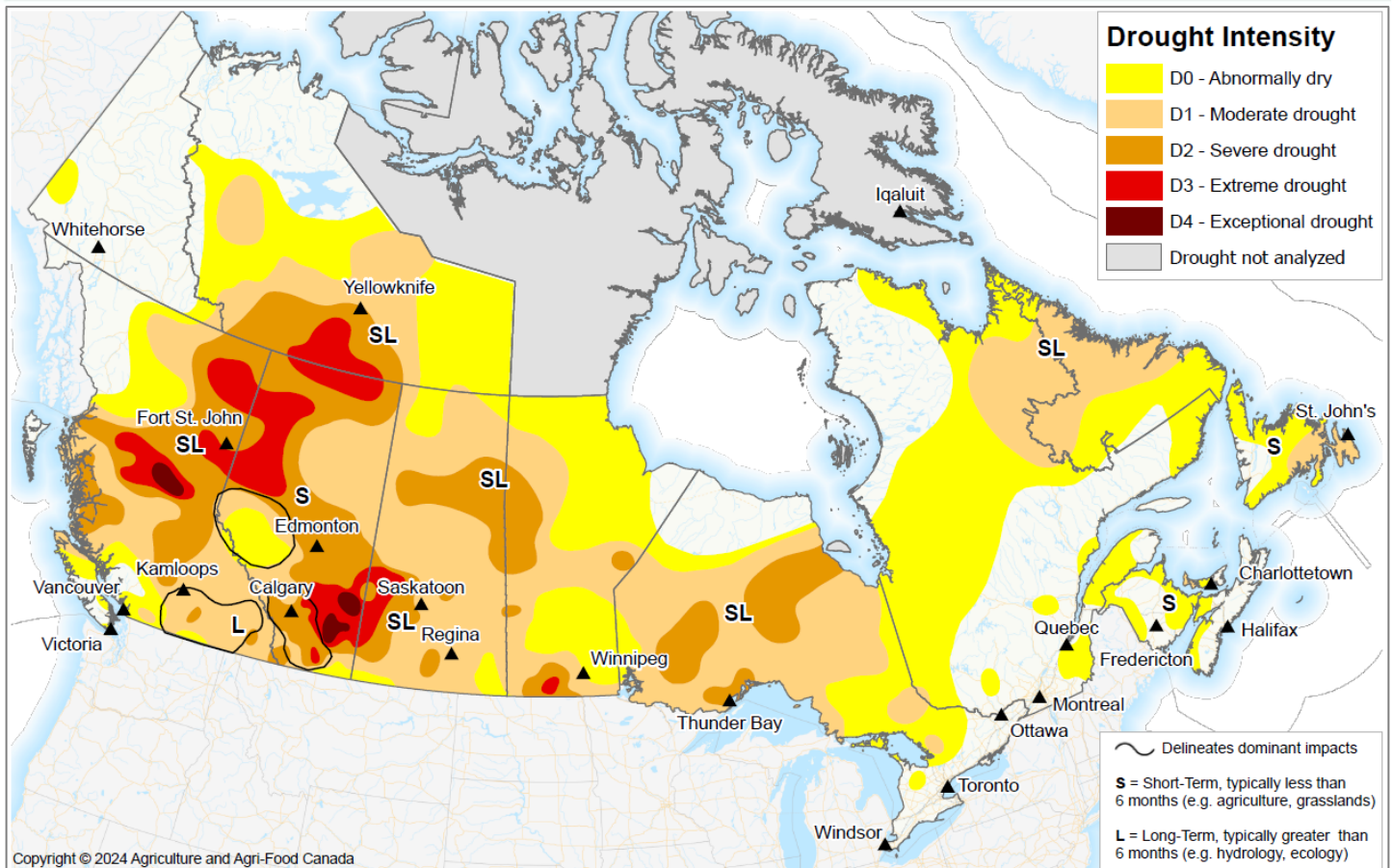


# Canadian Drought Monitor

Conditions as of February 29, 2024



Monthly mean temperature were 3-5 degrees above normal for much of Canada in February, with the exception of British Columbia and southern Alberta where near normal or slightly below normal temperatures persisted. February saw above normal precipitation for the southern interior of British Columbia, agricultural regions of Alberta, Saskatchewan. Coastal regions of British Columbia, the northern Prairies, much of Manitoba and the Central Region received below to well below normal precipitation. While this is a positive change for western Canada, the amount of precipitation received, even at above normal levels was insignificant in terms of drought relief. February represents one of the driest months of the year for many regions including southern Saskatchewan, southern Alberta and the interior of British Columbia, with normal precipitation below 10mm. In Central Canada, the February deficits had minimal

impact in the overall drought rating as seasonal and long term conditions show little concern beyond a abnormally dry rating. Atlantic Canada received mixed levels of precipitation with western and northern regions receiving below normal and eastern regions being impacted by significant storm activity and precipitation.

At the end of the month, 71% of the country was classified as Abnormally Dry (D0) or in Moderate to Exceptional Drought (D1 to D4), including 85% of the country's agricultural landscape.

## **Pacific Region (BC)**

Monthly mean temperatures were warmer than normal throughout southern British Columbia, and slightly below normal in northern regions. Precipitation continued to be above normal in southern regions of the province, with the exception of Vancouver Island. While southern regions see some near to above normal precipitation that have begun to improve drought conditions, northern regions continue to see below to well below normal precipitation and continued Severe (D2) to Exceptional Drought (D4).

Much of northern British Columbia recorded less than 60% of normal. The Peace River region of northeastern British Columbia received extremely low participation this month, with the majority of the region receiving less than 10mm of precipitation. Fort Nelson recorded only 35 % of normal precipitation in February. This represents the 6th consecutive month that the majority of this region received less than 40 % of normal precipitation. Many locations recorded precipitation values around 50 % of normal this month, including Smithers, Fort St John's, and Williams Lake. Terrace in west central British Columbia was exceptionally dry, recording 26 % of normal, leading to an expansion of the Severe Drought (D2) in that region. Since September, the northern region of British Columbia received below 70 percent of normal precipitation.

Rainfall and unseasonably warm temperatures continues to limit the snow pack throughout the province especially in southern and coastal British Columbia. Well below normal snow pack is fueling concerns for another dry summer and wildfire season. However, precipitation through much of southern British Columbia has provided sufficient moisture to improve current drought ratings in some regions. Drought conditions continue to improve in the southern interior with well above normal precipitation through February. This has resulted in the removal of the Extreme Drought (D3) pocket around Kelowna and reduction to the Severe Drought (D2) near Kamloops.

At the end of the month, 84% of the Pacific Region was classified as abnormally Dry (D0) or in Moderate to Extreme Drought (D1 to D3), including 95% of the region's agricultural landscape.

## **Prairie Region (AB, SK, MB)**

Precipitation was above normal for much of the prairie region with notable exceptions of the Peace River region of northwestern Alberta and pockets of below normal precipitation through southern Manitoba. Despite above normal precipitation in much of the Prairie region drought conditions remained generally unchanged as a result of long-term Precipitation deficits, Poor water supplies, especially in southern Alberta, and well below normal snowpack. In addition, normal February precipitation is small and insignificant in terms of the current overall water deficits, with most regions normal being between 10 and 20 mm.

Alberta continues to experience drought conditions throughout much of the province with a large region of Extreme (D3) to Exceptional Drought (D4) remaining in the southern portion of the province and an expanding region of Severe (D2) and Extreme Drought (D3). Precipitation in February was enough to make small improvement to the drought classification in southern Alberta, while central and northern regions slipped further into drought. The Exceptional Drought (D4) conditions west of Calgary as well as the Severe Drought (D2) in southwestern Alberta were slightly improved this month. More than half of the province's agricultural producers continue to under Severe (D2) to Exceptional Drought (D4). Moisture deficits accumulated from several consecutive years of drought have resulted in exceptionally poor soil moisture, low water supplies, and poor pasture quality. These conditions pose significant challenges entering the 2024 growing season. Fifty-one river basins, covering over half of the agricultural land in the province, are currently reporting critical water shortages due to low precipitation and higher than normal temperatures. Winter snowpack is significantly below average, rivers are at record low levels, and most of the province's reservoirs are currently 5 metres below their normal waterlines. The Oldman Reservoir, west of Fort Macleod, is at approximately 30% capacity. The normal range is between 62 and 80% at this time of year. The St. Mary's Reservoir is approximately 15%, compared to a normal range between 41 and 70% for this time of year. Winter snowpack in the Oldman River basin, the Bow River basin, and the North Saskatchewan River basin range from 33 to 62% below normal. Low snowpack will result in minimal spring runoff for the basins that feed these reservoirs through spring melt. In addition, groundwater levels in parts of Alberta have reached record lows. Wells in Rocky View County, just outside of Calgary, show steady declines and are currently at the lowest levels ever recorded. Some small municipalities in the southwest have had to begin to truck in water as the municipal water intake is above the water level and thus no longer usable.

Saskatchewan received well above normal precipitation through February over the majority of the agricultural region, while well below normal precipitation was recorded throughout the northern region of the province. Above normal temperatures in the southwest to well above normal temperatures in eastern regions were recorded in February. Western agricultural regions of the province, as well as the northern regions remain in Severe (D2) or Extreme (D3) Drought condition with only minor changes. Moderate Drought (D1) was also introduced through central and south-central regions of the province previously classified as Abnormally Dry (D0). Despite much of the province receiving near or above normal precipitation this winter and well above normal temperatures have significantly reduced snow packs and exposed soils throughout much of the southern portion of the province. Exposed soils continue to lose moisture through evaporation and freeze drying, reducing the benefits of any previous winter precipitation. Saskatchewan water security agency recently released its initial spring runoff forecast stating that all regions of the province are expected to have well below normal spring runoff with the exception of the south eastern region. Below normal runoff will result in minimal recovery for dry soils and surface water supplies that have been reduced from previous years of drought. Lake Diefenbaker, Saskatchewan's largest reservoir which provides water to nearly 70% of the province's population, reported water levels 2 meters below normal this winter after receiving only 28% of normal inflows in 2023. The South Saskatchewan River, which feeds directly into Lake Diefenbaker, is currently at its second lowest level in the past 23 years.

Manitoba continued to receive below normal precipitation through February. A sizable portion of the south recorded less than 40% of normal February precipitation. Monthly mean temperatures were well above normal with many locations recording more than 4 degrees above the monthly normal. While agricultural regions of Manitoba have begun to recover from previous years of drought as a result of better fall precipitation, a significant portion of the province remains in drought. As a result of continued precipitation deficits and warmer than normal temperatures this past month the Severe Drought (D2) pocket in south central Manitoba expanded slightly and an Exceptional Drought region was added southeast of Bradon/southwest of Portage la Prairie. As is the case across much of Western Canada, snowpacks in southern regions of the province remain well below normal. Streamflow is generally near normal on major waterways in the south however there are a few reservoirs in the south central that are well below normal for the winter period.

At the end of the month, 98% of the Prairie Region was classified as abnormally Dry (D0) or in Moderate to Exceptional Drought (D1 to D4), including 100% of the region's agricultural landscape.

## **Central Region (ON, QC)**

In the Central Region of Canada, southern Ontario into Quebec received below normal precipitation in February with the majority of the southern region receiving less than 40% of normal precipitation. Northern regions were a bit more mixed with some areas including Northwest Ontario, much of northern Quebec receiving near normal. Temperatures across the central region of Canada were warmer than normal, with much of the region seeing 3-5 degrees warmer than normal. As a result, Abnormally Dry (D0) and Moderate (D1) conditions expanded in portions of central and northwestern Ontario and southeastern Quebec. In northwestern Ontario Moderate (D1) drought expanded over Timmins and two pockets emerged between Sudbury and North Bay and also north of Orillia. Abnormally Dry (D0) conditions expanded southeast to Barrie due to both short and long-term conditions. Abnormally Dry (D0) conditions also emerged north of Gatineau and expanded in southeastern Quebec.

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 46% of the region's agricultural landscape.

## **Atlantic Region (NS, NB, PE, NL)**

Western regions of the maritime provinces continued to receive below normal precipitation while eastern regions received near normal. A low-pressure system stalled off the coast of Nova Scotia brought up snow to Nova Scotia and parts of Prince Edward Island, including 150 cm of snow in Cape Breton. The month ended with abnormally warm temperatures and rain. Some regions recorded temperatures more than 10 degrees above normal in southern Nova Scotia. Despite some precipitation, much of the region remains in Abnormally Dry (D0) conditions with a small area over western Prince Edward Island being rated as a Moderate Drought (D1). Continued dry conditions in the western portions of the region warranted an expansion of the Abnormally Dry classification west of Fredericton and north through Edmundston.

Despite several storm systems impacting Newfoundland and Labrador this month, the region received below normal precipitation overall. February also saw above normal temperatures throughout much of the area including 20 new record high daily temperatures recorded on February 29. This was the third month in a row of above normal monthly temperatures for Labrador. At the end of February some areas in the southern portion of the province had little to no snow. Above normal temperatures and rainfall melted much of the snowpack that existed in the south. As a result of continued below normal precipitation and above normal

temperatures, the Abnormally Dry (D0) and Moderate Drought (D1) expanded along the southwest coast of Newfoundland.

At the end of the month, 78% of the Atlantic Region was classified as Abnormally Dry (D0) or in Moderate to Severe Drought (D1 to D2), including 58% of the region's agricultural landscape.

## **Northern Region (YT, NT)**

Temperatures across northern Canada in February trended warmer than normal, especially in the most northern parts of the region. Precipitation was varied this month, with central and northern regions receiving above normal and southern regions of the North West Territories and the Yukon territory receiving near- to below-normal precipitation. Drought changes this month were minimal in the most affected areas due to a long-term lack of moisture. However, Moderate Drought (D1) expanded in eastern Northwest Territories as precipitation in the past 3 to 6 months has been insufficient to overcome short-term deficits. Minor improvements were also made in the Yukon where a pocket of Abnormally Dry (D0) conditions was removed due to above-normal precipitation since December 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).