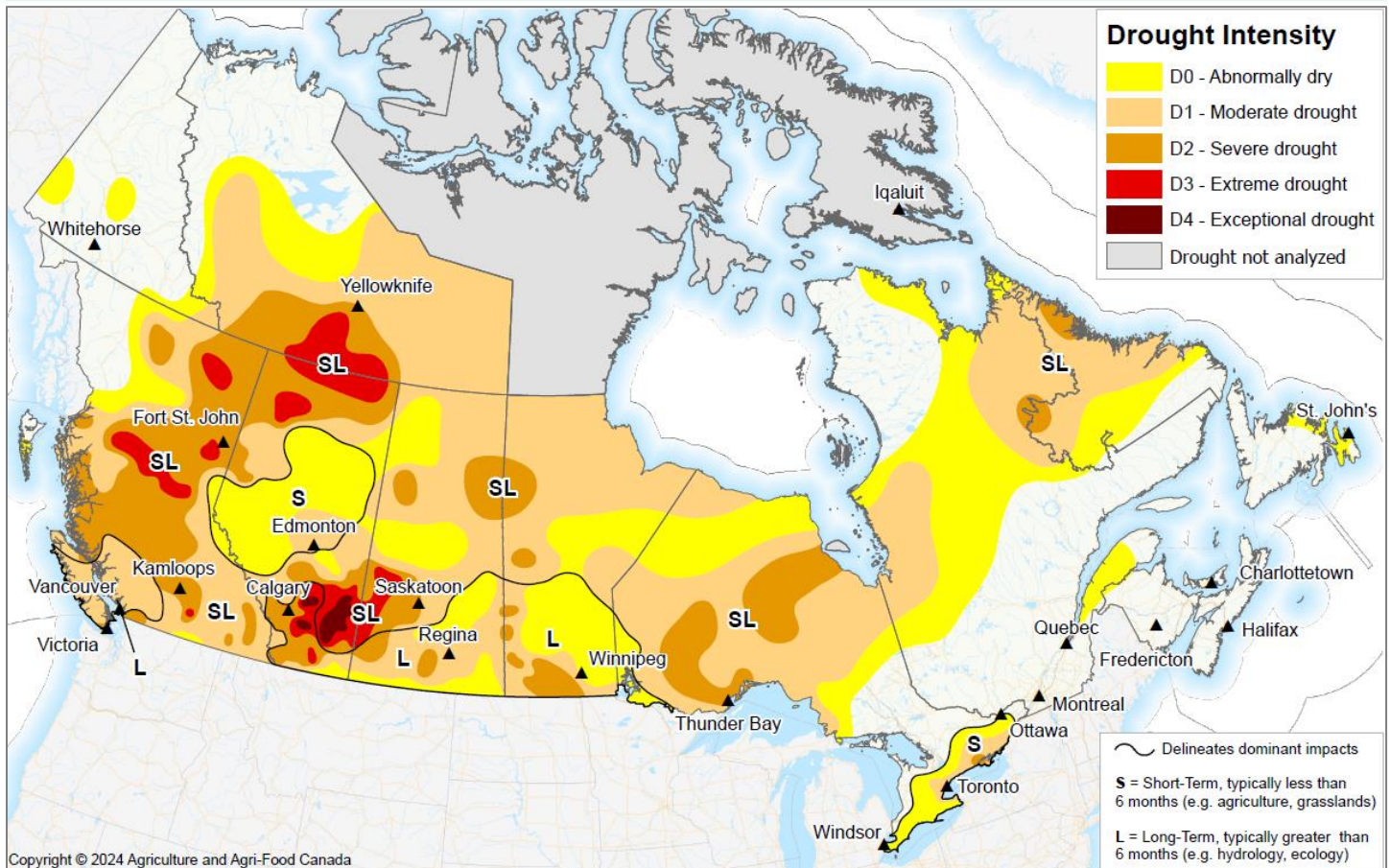


Canadian Drought Monitor

Conditions as of December 31, 2023



Below-normal precipitation across much of western Canada throughout December resulted in minimal changes to drought this month. In contrast, parts of Central and Eastern Canada received well above-normal precipitation, leading to slight improvements to drought in these areas. Temperatures in December were much warmer than normal across Canada, with a significant portion of the country reporting temperatures more than 5 degrees above average. Southern Alberta, western Saskatchewan and north-central British Columbia continue to see the most severe drought conditions by the end of the month, with Extreme (D3) to Exceptional Drought (D4) remaining in place.

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 across the Pacific Region were above normal in December, especially across central and northeastern parts of the province which reported temperatures more than 5 degrees above normal. Precipitation across B.C. trended near to below average, with the Peace Region reporting less than 40% of normal monthly precipitation and central areas receiving 40 to 85% of normal monthly precipitation or less. The exception to this was along the northern coast where more than 150% of normal precipitation fell this month.

Severe Drought (D2) was reduced on the northwest portion of Vancouver Island this month but remained along the southern edge of the island. There was also a slight reduction of Severe Drought (D2) along the western coastline as a result of improved long-term precipitation in the area. Severe Drought (D2) across the Lower Mainland and parts of southern British Columbia were also reduced due to improved long-term precipitation deficits. However, Extreme Drought (D3) persisted near Kelowna as the city reported its driest year on record. Despite above-average precipitation in December, Extreme Drought (D3) also remained across much of central B.C. into the Peace Region due to ongoing long-term deficits.

There are growing concerns regarding the province's vulnerability to drought and wildfires in the upcoming year, including the lack of fall precipitation and an increased likelihood of impacts from El Niño conditions. British Columbia is facing increasing energy vulnerability as low reservoir levels have reduced hydroelectric generating capacities, leading B.C. Hydro to import more energy. Below-normal snowpack so far this year has also delayed the start of the recreational ski season in many areas.

At the end of the month, 88% of the Pacific Region was classified as Abnormally Dry (D0) or in Moderate to Extreme Drought (D1 to D3), including 99% of the region's agricultural landscape.

Prairie Region (AB, SK, MB)

Conditions across the Prairies trended drier and much warmer than normal this month, with very little snowfall reported by the end of December. Nearly the entire region reported temperatures more than 5 degrees warmer than normal. December precipitation was below

normal with the exception of parts of western Alberta, southeastern Saskatchewan and parts of west-central Manitoba, where precipitation was near normal. Overall, Severe Drought (D2) worsened in northwestern Alberta and the Peace Region while Severe Drought (D2) improved slightly in southern Manitoba. Much of the Prairie Region continued to have minimal or no snow cover with temperatures fluctuating around freezing as of the end of December; these conditions resulted in additional loss of soil moisture from exposed soils in many areas.

Short-term precipitation deficits continued to grow across central Alberta and the Peace Region this month; this trend has persisted for the past 4 months, leading to Extremely Low to Exceptionally Low precipitation since the start of September. Although these areas received ample precipitation throughout the growing season, the extreme short-term deficits led to a slight expansion of Moderate Drought (D1) north of Edmonton as well as in the Peace Region. Extreme (D3) and Exceptional Drought (D4) also remained in southern Alberta given the long-term impacts and continued short-term deficits. This area remains vulnerable to significant drought impacts, and substantial winter snowpack and spring snowmelt will be needed to fully recover from this years' drought.

Precipitation across Saskatchewan trended below normal this month, with the exception of the southeastern corner of the province which reported near-normal precipitation. Only a small section of the province received a skim of snow, with the majority of the province reporting a late start to the winter season with limited, if any, snowpack by the end of the month. Significant long-term moisture deficits remained across western Saskatchewan, from North Battleford towards Leader. There is concern that these areas have gone into winter with below- to well below-normal soil moisture levels, leaving the area vulnerable to water supply issues for the 2024 growing season. As such, pockets of Severe (D2) to Extreme Drought (D3) remained in these areas this month.

Parts of Manitoba saw further improvement to drought this month as above-normal short-term precipitation continued to alleviate long-term precipitation deficits. Despite much of southern Manitoba receiving less than 40% of their normal precipitation this month, 2- and 3-month precipitation amounts were reported near to above normal in central and southeastern parts of the province. As a result, drought conditions improved along Lake Winnipeg and in the southeastern corner of the province, leading to the removal of Moderate Drought (D1) along this stretch. However, overall hydrological conditions in Manitoba remained vulnerable due to the significant drought across the Prairie region: below-normal reservoirs and river levels forced Manitoba Hydro to operate natural gas-fired plants earlier than normal this month due to reduced hydroelectric generating capacities.

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. In addition, 69% of the region was classified in Moderate to Exceptional Drought (D1 to D4), including 74% of the region's agricultural landscape.

Central Region (ON, QC)

December temperatures were significantly above normal across the region with northwestern and southern areas reporting temperatures more than 4 degrees above normal. In early December, areas including Caledon, Lake Superior, Oakville and Windsor in Southern Ontario experienced record-breaking daily maximum temperatures. Simultaneously, the onset of December brought the first snowstorms to southeastern Ontario and southern Quebec, with some locations reporting upwards of 25 to 30 cm of snow. Precipitation across remaining parts of the Central Region was below normal, including western Ontario and along the Gaspé Peninsula.

The dry trend that southern Ontario experienced this fall, which led to significant short-term precipitation deficits, improved somewhat this month resulting in a reduction of Abnormally Dry (D0) conditions, Moderate Drought (D1) and Severe Drought (D2) around Kingston and areas along the St. Lawrence River; these areas received 85 to 115% of normal precipitation over the past 60 days. There was also a reduction of Severe Drought (D2) east of Nipigon and north of Moosonee in northwestern Ontario based on improved long-term precipitation deficits. Additionally, much of the Abnormally Dry (D0) pocket in northern Quebec was reduced due to above-normal precipitation since the start of November.

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 38% of the region's agricultural landscape.

Atlantic Region (NS, NB, PE, NL)

Similar to other regions of the country, temperatures were warmer than average this month across the Atlantic Region, with northern New Brunswick reporting temperatures more than 4 degrees warmer than normal. Precipitation across the region was varied in December, with eastern Newfoundland, P.E.I. and southwestern Nova Scotia reporting below-normal precipitation while southern New Brunswick, northern Nova Scotia and western Newfoundland reported above-normal precipitation; this was a result of winter storms in these areas that brought heavy rain and strong winds. Changes to drought were minimal across the Atlantic

region this month: short-term dry conditions persisted in eastern Newfoundland, with precipitation in the past 1 to 6 months reported at less than 85% of normal. This led to a slight expansion of Abnormally Dry (D0) conditions on the east coast, particularly around the Avalon Peninsula. Further north, only minor changes were made in Labrador this month, with areas of Severe (D2) and Moderate Drought (D1) remaining in place.

At the end of the month, 48% of the Atlantic Region was classified as Abnormally Dry (D0) or in Moderate to Severe Drought (D1 to D2), including 4% of the region's agricultural landscape.

Northern Region (YT, NT)

The Northern Region remained very warm again this month, with temperatures in many areas reported at more than 5 degrees above normal. Overall conditions, however, improved due to above-normal December precipitation in many areas. Central and northern parts of the Northern Region received well above-normal precipitation (precipitation in the 90th percentile or greater), while the rest of the region received moderately low to above-normal precipitation. Minor reductions were made to northern and western edges of the Abnormally Dry (D0) pocket in the Northwest Territories as well as the removal of Moderate Drought (D1) and a reduction to Abnormally Dry (D0) conditions in the Yukon. Northeastern sections of the Severe (D2) and Extreme Drought (D3) were also slightly reduced due to improvement to both short- and long-term precipitation.

At the end of the month, 44% of the Northern Region was classified as Abnormally Dry (D0) or in Moderate to Extreme Drought (D1 to D3).