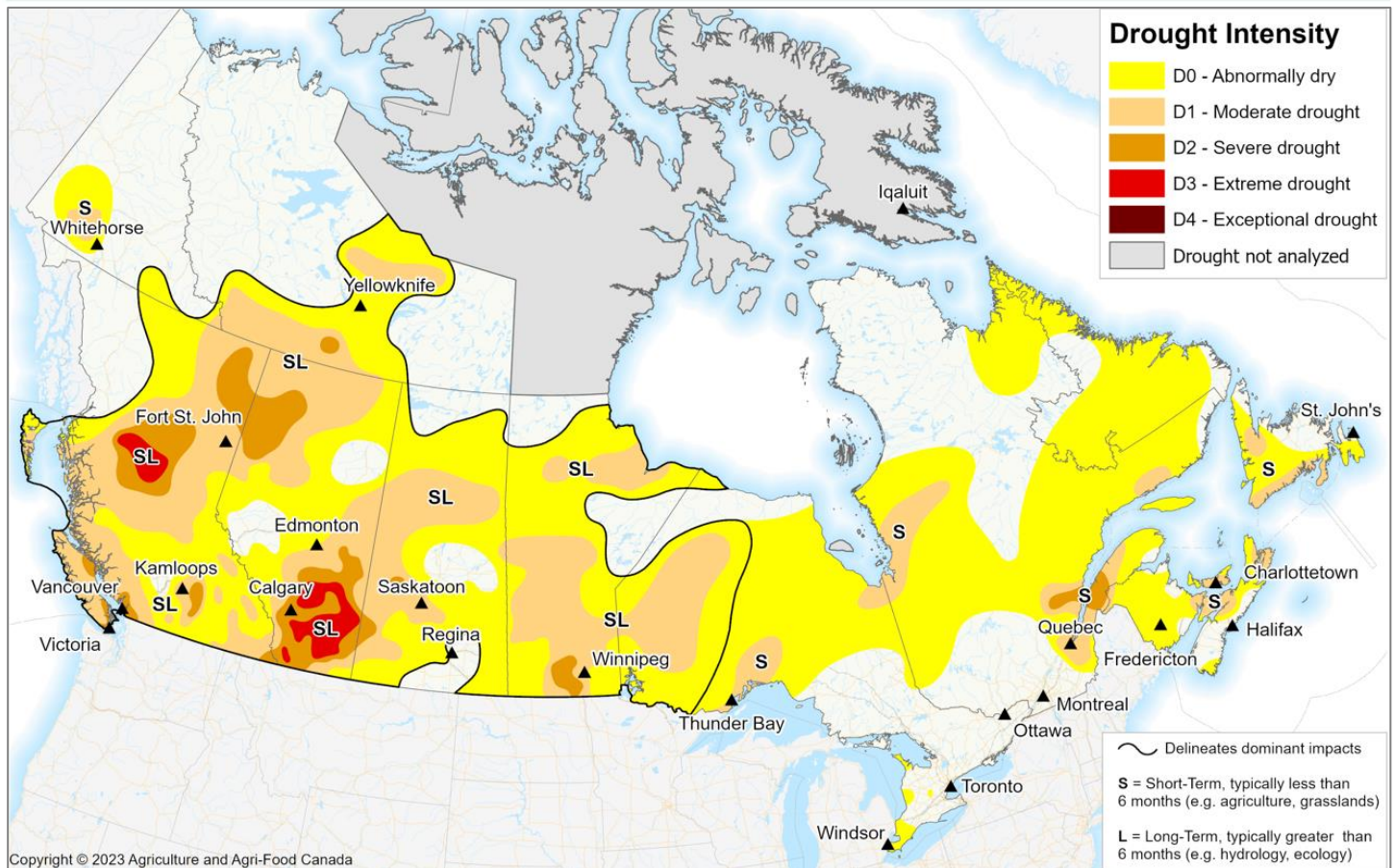


Canadian Drought Monitor

Conditions as of June 30, 2023



The month of June brought significant precipitation to parts of the Prairies and Atlantic Canada, where exceptionally high precipitation fell. However, northern parts of Central Canada as well as southern Alberta, northern B.C. and Alberta and the west coast missed out on any significant precipitation this month. Central B.C. and southern Alberta saw the greatest degree of drought degradation while parts of west-central Alberta and nearly the entire Atlantic Region saw improvement. Overall temperatures this month trended above normal with the eastern Prairies and parts of southern B.C. reporting the warmest temperatures compared to normal.



At the end of the month, 60% of the country was classified as Abnormally Dry (D0) or in Moderate to Extreme Drought (D1 to D3), including 76% of the country's agricultural landscape. There was no Exceptional Drought (D4) reported this month.

Pacific Region (BC)

Conditions across the Pacific Region were generally warm and dry in June, except for a few areas in the southern Interior and in the Kootenay basin, which received near- to above-normal precipitation this month. Many communities, including Vernon, Cranbrook, Chetwynd and Fort Nelson, recorded their top 5 warmest Junes on record. The warm temperatures led to an extremely early snowmelt and freshet across the Pacific Region, resulting in abnormally low stream flows for this time of year. In several locations, June was also exceptionally dry including Penticton and Kelowna, which had their driest and second driest June on record, respectively.

Central parts of the province saw the greatest level of degradation this month as both short- and long-term precipitation deficits remained and notable impacts were reported. There were numerous reports of significant water shortages, hay production concerns and very short soil moisture; these impacts led to producers in the area needing to sell off their livestock due to unavailable feed. With these impacts in mind, Extreme Drought (D3) was added to the area, from Fort St. James to Smithers, in addition to a significant expansion of surrounding Severe Drought (D2). Conditions also continued to degrade slightly in northwestern B.C. as less than 25% of normal precipitation fell since the start of May; this led to an expansion of Severe Drought (D2) into the area.

Multiple locations on East Vancouver Island also raised concerns as they reported receiving only a fraction of their normal monthly precipitation: precipitation ranged from 10% to 50% of the expected monthly total. This significantly below-normal precipitation along eastern portions of Vancouver Island led to the pocket of Severe Drought (D2) remaining around the Greater Victoria area and another added around Campbell River. Abnormally Dry (D0) conditions also remained on Haida Gwaii, with the continuation of below-normal precipitation leading to a Moderate Drought (D1) designation on central parts of the island.

Conditions across the remainder of the region were variable, with below-normal precipitation throughout the Okanagan but near- to above-normal monthly precipitation in east-central and southeastern parts of the province. There was a slight adjustment to Moderate and Severe Drought (D1 and D2) in these areas, but overall, limited changes were made this month.

At the end of the month, 83% of the Pacific Region was considered Abnormally Dry (D0) or in Moderate to Extreme Drought (D1 to D3), including 97% of the region's agricultural landscape.

Prairie Region (AB, SK, MB)

For the majority of the Prairie Region, abnormally warm and dry conditions continued throughout June. The eastern Prairies were 3 to 5 degrees Celsius above normal while western parts of the Prairie Region were 1 to 2 degrees Celsius above normal June temperatures. Precipitation was limited across southern portions of the three Prairie provinces, with only central Saskatchewan receiving near-normal precipitation. Northern parts of the Prairies, however, received more frequent rainfall including a significant weather system that impacted west-central Alberta into northwestern Saskatchewan. Overall, drought conditions continued to expand and increase in severity throughout the region.

Throughout June, Alberta saw significant and scattered storm events, including a 2-day event that led to local states of emergency due to flooding across west-central parts of the province. This significant moisture led to improvement to Moderate and Severe Drought (D1 and D2) in the area, with some Abnormally Dry (D0) also pulled away from Hinton, west of Edmonton. While this part of the province received most of the rain, scattered showers occurred in all regions across Alberta this month. Despite widespread rain, however, southern portions of the province and the northern Peace River region continued to see well below-normal precipitation. Southern Alberta received less than 40% of normal precipitation this month, with large portions receiving less than 20 mm of rain. Agricultural impacts continued to grow with only 24% of the region reporting a soil moisture rating of good or better. Agricultural disasters were declared in parts of southern Alberta as some producers were forced to abandon crops or sell off livestock as a result of a lack of accessible water and feed. As a result of extremely low precipitation this spring, Extreme Drought (D3) conditions continued to expand in June, now covering over 50% of the southern portion of the province, from south of Red Deer towards Medicine Hat and Lethbridge.

Warmer than normal conditions and variable precipitation persisted throughout much of Saskatchewan through June. Western and southeastern regions of the province received well below-normal precipitation, while northern parts of the province received more than 115% of normal precipitation this month. Although conditions were less extreme than in neighbouring Alberta, the southwestern corner of Saskatchewan reported concerns for water quality and quantity and a significant uptick in grasshopper populations. Nearly half of producers in the area were experiencing livestock water shortages by the end of the month as well. As a result, Moderate and Severe Drought (D1 and D2) were extended from the Alberta border into

western Saskatchewan. Minor changes were made to the rest of the province, with slight improvements to conditions in northern regions and a slight degradation to Abnormally Dry (D0) conditions in southern and eastern sections of the province.

Conditions remained dry and significantly warmer than normal across south-central and western portions of Manitoba this month. Conditions west of Winnipeg were particularly dry as only 40 to 60% of normal precipitation fell since the start of the growing season. Significant deficits also persisted since January with exceptionally low precipitation reported. This ongoing dryness led to low soil moisture, particularly in the central and Interlake parts of the province. Additional impacts included moisture stress in hay and pasture lands as well as low dugouts. As such, Severe Drought (D2) developed west of Winnipeg, stretching from the U.S.-Canada border towards Lake Manitoba. Moderate Drought (D1) was also expanded into the Interlake region towards the western border to Saskatchewan with only 25 to 50% of normal precipitation reported in the last 3 months.

At the end of the month, 83% of the Prairie Region was classified as Abnormally Dry (D0) or in Moderate to Extreme Drought (D1 to D3), including 90% of the region's agricultural landscape. Extreme Drought (D3) covered 3% of the Prairie Region this month, up from 1% last month.

Central Region (ON, QC)

The month of June brought near- to above-normal precipitation across southern Ontario and parts of southern Quebec, while northern areas saw significantly below-normal precipitation. This continued the trend of dry conditions from northwestern Ontario into northern Quebec as less than 40% of normal precipitation fell since the start of May. As a result, Abnormally Dry (D0) conditions expanded to include a much larger portion of northern Ontario and Quebec, with some sporadic pockets of Moderate Drought (D1) emerging as well. Moderate Drought (D1) in northwestern Ontario was also extended further eastward this month.

On the contrary, precipitation of more than 115% of normal helped to alleviate some of the drought across the Gaspé region of Quebec and helped to stave off any drought development in south-central Ontario. While there was slight dryness reported along Lake Huron this month, it wasn't severe and only led to the development of small Abnormally Dry (D0) pockets. A small area of Abnormally Dry (D0) conditions also remained north of Kitchener-Waterloo due to long-term dryness but was slightly reduced in size this month.

At the end of the month, 59% of the Central Region was classified as Abnormally Dry (D0) or in Moderate to Severe Drought (D1 to D2), including 30% of the region's agricultural landscape.

Atlantic Region (NS, NB, PE, NL)

Significant rainfall of more than 150% of normal fell across parts of Atlantic Canada this month, with higher amounts falling across southern Nova Scotia, eastern New Brunswick and eastern Newfoundland. Several communities across New Brunswick and Nova Scotia reported more than double the average June rainfall this month, with one location reported upwards of 339% of normal precipitation. Not only was precipitation above normal for much of the region, but the number of days of rain was also significantly above normal. This extended rainfall throughout the region this month helped to ease the large drought region that developed this spring; it also helped to dampen the active wildfire situation that arose this spring as well. As a result, this significant rainfall led to the removal of all Severe Drought (D2) across the region as well as reductions to Moderate Drought (D1). Areas that saw the greatest level of improvement included Halifax, Saint John and northeastern New Brunswick where no drought or Abnormally Dry (D0) persisted this month.

At the end of the month, 76% of the Atlantic Region was classified as Abnormally Dry (D0) or in Moderate Drought (D1), including 78% of the region's agricultural landscape. Only 9% of the Atlantic Region was in drought this month, compared to 20% from last month.

Northern Region (YT, NT)

Dry conditions in Northern Canada alleviated slightly this month as nearly the entire region reported above-normal precipitation; only southwestern Yukon as well as Yellowknife and select communities along the southern border reported below-normal precipitation in June. Central parts of Northwest Territories reported more than 150% of normal precipitation this month, which led to pulling back nearby Abnormally Dry (D0) and Moderate Drought (D1) pockets. Despite the significant monthly precipitation, however, longer-term deficits remained across southern Northwest Territories and north of Great Slave Lake. These areas maintained their Moderate Drought (D1) pockets in addition to the small pocket of Severe Drought (D2) around Hay River, NWT. Southwestern Yukon also reported significant short-term dryness in the past 2 months of less than 25% of their average precipitation; as such, a small pocket of Moderate Drought (D1) and surrounding Abnormal Dryness (D0) was placed between Carmacks and Whitehorse this month.

At the end of the month, 20% of the Northern Region was classified as Abnormally Dry (D0) or in Moderate to Severe Drought (D1 to D2).

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