

Manitoba Water Availability and Drought Conditions Report

JUNE 2024

Executive Summary

- This Water Availability and Drought Conditions Report provides an update on conditions throughout Manitoba for June 2024.
- Precipitation conditions over the past month, three-month, and twelve-month periods are as follows:
 - During June 2024, most of Manitoba experienced normal to above normal precipitation conditions. A few isolated areas of moderate to severely dry precipitation conditions were observed in the Interlake and northern Manitoba experienced normal precipitation conditions.
 - Over the past three months (March, April, May), most of Manitoba experienced normal to above normal precipitation conditions. An area in northwest Manitoba was moderately dry.
 - Over the past 12 months, normal to moderately dry conditions have been experienced across Manitoba. The 12 month indicator has been improving as dry conditions in 2023 are replaced with wetter conditions in 2024.
- As of June 1, 2024, water levels in rivers and lakes across southern Manitoba ranged from normal (25th – 75th percentile) to much above normal (> 90th percentile), with the exception of Lake Winnipeg which remains below normal (10th – 25th percentile). Many rivers in northern Manitoba have improved significantly in June and now range from below normal (10th – 25th percentile) to much above normal (> 90th percentile).
- The May 31, 2024, Canadian Drought Monitor assessment showed significant improvement in drought classification across the southern half of Manitoba, with only abnormally dry (D0) conditions along the western edge of the region. Drought classification did not improve as much in northern Manitoba and remained similar to the previous assessment with conditions ranging from abnormally dry (D0) to extreme drought (D2). With above normal precipitation and cool temperatures in June, improvement in drought conditions, especially for northern Manitoba, will be reflected in the end of June drought assessment.
- There are currently no concerns over reservoir water supplies. At the end of June, all provincial water supply reservoirs are near or above full supply levels.
- Regarding on-farm water supplies, dugouts and irrigation ponds are mostly recharged, with many rivers full, and some ditches with standing water in them.
- Manitoba Agriculture's soil moisture map for July 1, 2024 shows that moisture across southern Manitoba at the 0-120 cm depth is generally wet with pockets of optimal or very wet conditions.
- On July 2, 2024, the fire danger was moderate in the northern third of the province and low in the lower two thirds of the province. There were eight active wildfires burning in Manitoba. There have been 69 wildfires so far this year. Manitoba's twenty-year average is 166 wildfires by the same date. As of July 2, 2024, there were no provincial fire or travel restrictions in place. The RMs of Lorne and Emerson-Franklin, as well as the Towns of Snow Lake and Grand Rapids, have burning restrictions in place.

Drought Indicators

Precipitation Indicator

Precipitation is assessed to determine the severity of meteorological dryness and is an indirect measurement of agricultural dryness.

Three precipitation indicators are calculated to represent short-term (one-month; Figure 1), medium term (three months; Figure 2) and long-term (12 months; Figure 3) conditions. The indicators compare current monthly precipitation totals to historical data to calculate the per cent of median precipitation that occurred over the past one, three or 12 months. Historical medians are computed from 45 years of data (1971 – 2015).

Due to large distances between meteorological stations in northern Manitoba, the interpolated contours in this region are based on limited observations and should be interpreted with caution.

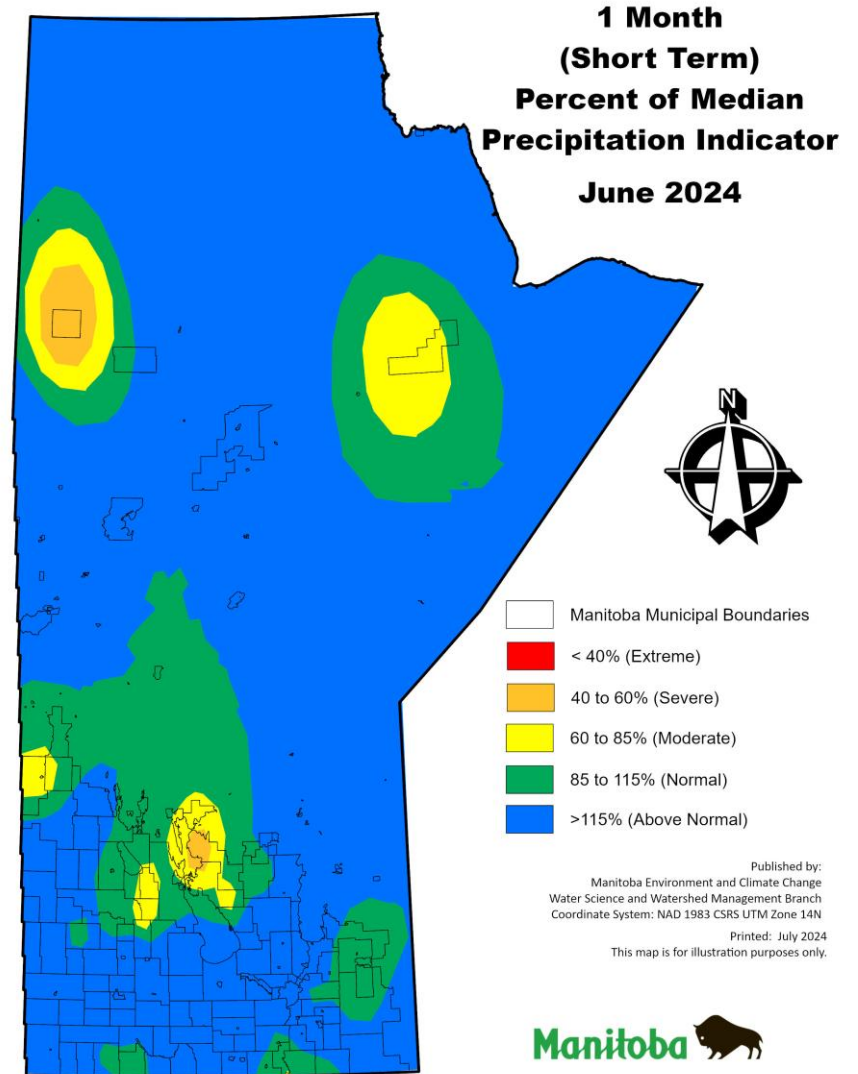


Figure 1: One month (short-term) percent of median precipitation indicator.

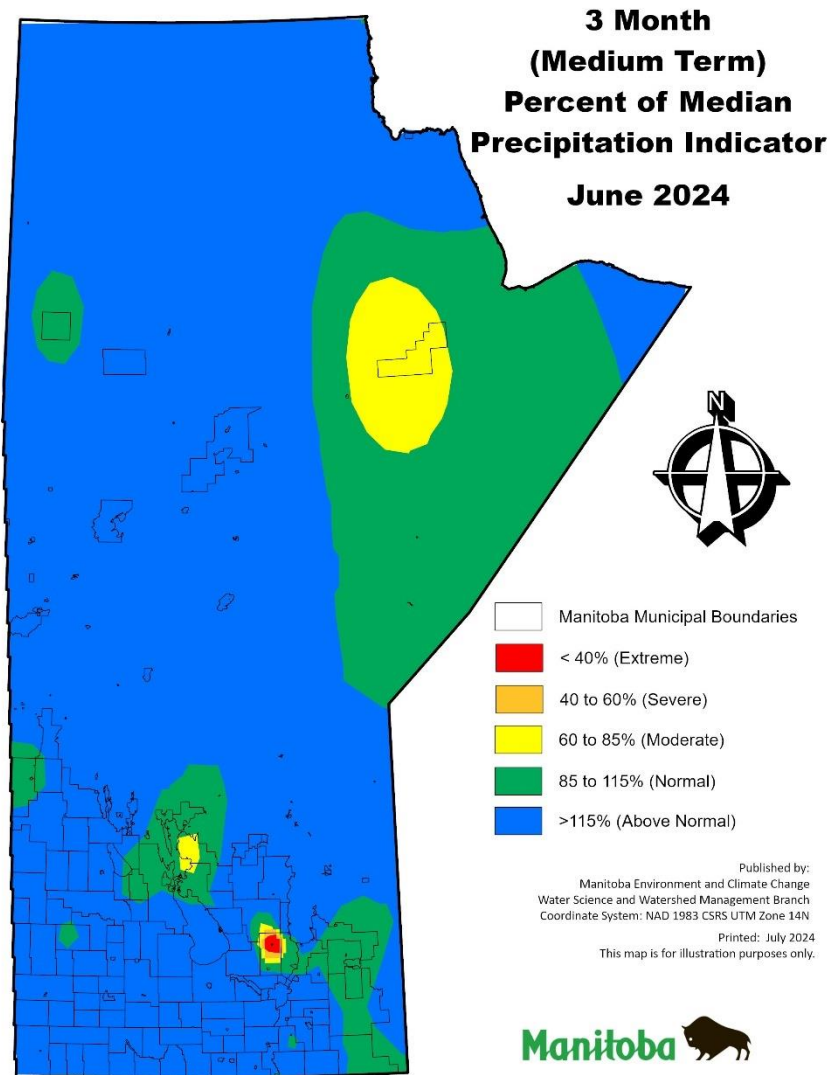


Figure 2: Three month (medium-term) percent of median precipitation indicator.

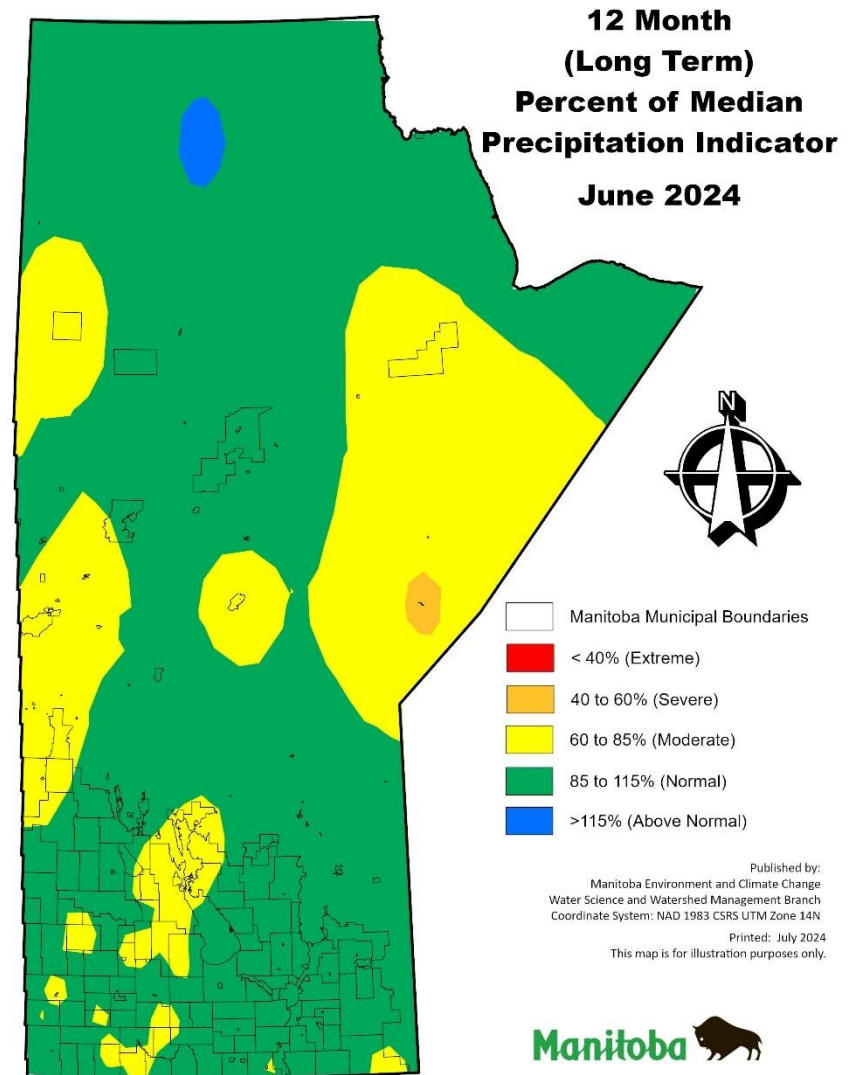


Figure 3: Twelve month (long-term) percent of median precipitation indicator.

Streamflow and Lake Level Indicator

The streamflow and lake level indicator is based on average daily flows and levels compared to historical values for that particular day.

This indicator is used to determine the severity of hydrological dryness in a watershed and is summarized on Figure 4, representing hydrological conditions for July 1, 2024.

Streamflow and lake level percentile plots for all of the rivers and lakes included on Figure 4 are available on the [Manitoba Drought Monitor website](#) under the *Drought Indicator Map* tab.

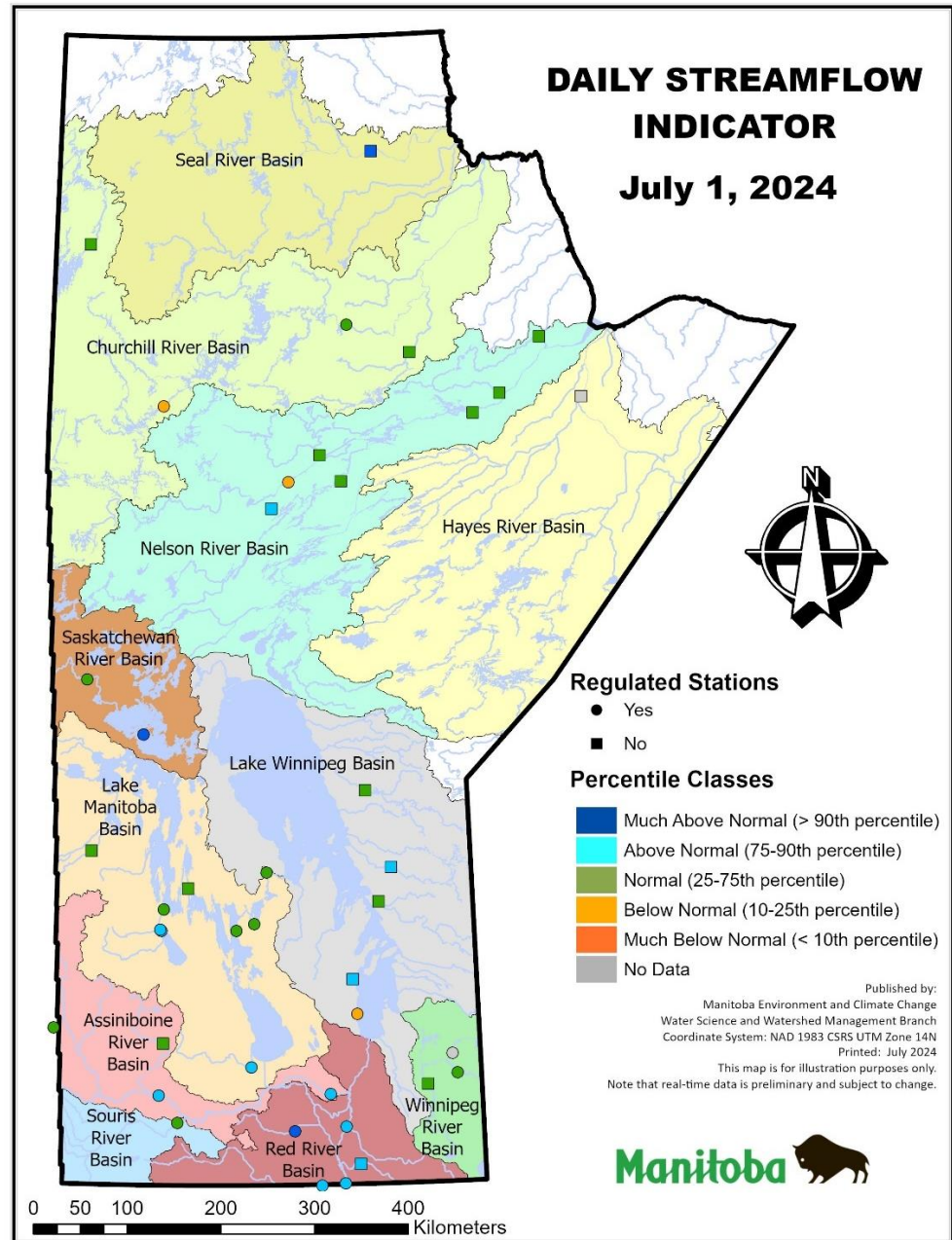


Figure 4: Daily streamflow and lake level indicator for July 1, 2024.

Canada and United States Drought Monitors

The Canadian Drought Monitor and the United States Drought Monitor map the extent and intensity of drought conditions across Canada and the continental U.S.A.

Drought Monitor assessments are based on a suite of drought indicators, impacts data and local reports as interpreted by federal, provincial/state and academic scientists.

The Canadian and United States Drought Monitor maps use the following classification system:

- D0 (Abnormally Dry) – represents an event that occurs every three to five years
- D1 (Moderate Drought) – five to 10 year event
- D2 (Severe Drought) – 10 to 20 year event
- D3 (Extreme Drought) – 20 to 50 year event
- D4 (Exceptional Drought) – 50+ year event

Additionally, the map indicates the duration of drought as either short-term (S; less than six months) or long-term (L; more than five months) (Figure 5).

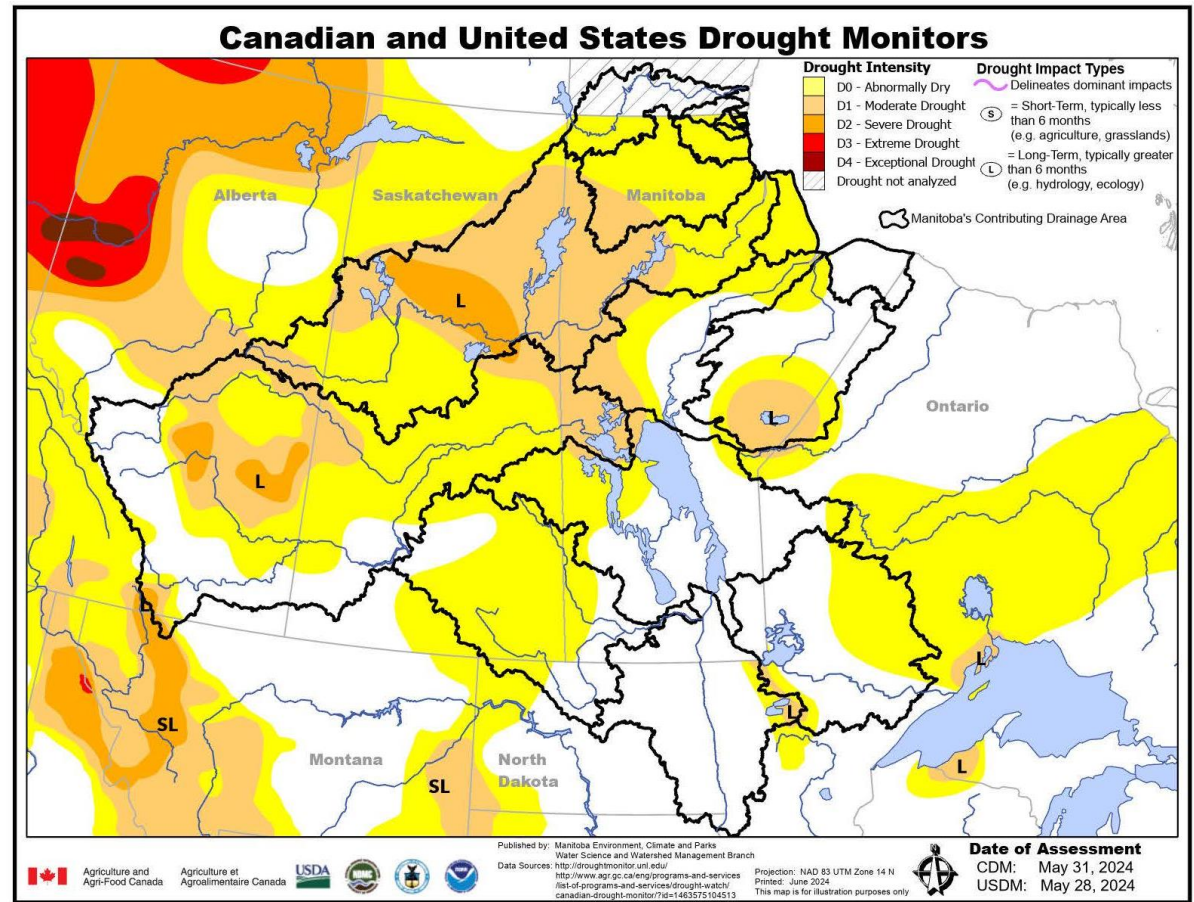


Figure 5: Canadian and United States Drought Monitors' classification of short-term (S) and long-term (L) drought conditions assessed as of May 31, 2024.

Water Availability

Reservoir Conditions

Table 1: Water Supply Reservoir Levels and Storages – July 1, 2024 (Southern and Western Manitoba).

Water Supply Reservoir Levels and Storages - July 1, 2024								
Lake or Reservoir	Community Supplied	Target Level (feet)	Latest Observed Level (feet)	Observed date	Supply Status (Recent - Target) (feet)	Storage at Target Level (acre-feet)	Storage at Observed Level (acre-feet)	Supply Status (observed storage/target storage) (%)
Lake of the Prairies (Shellmouth)* ¹	Brandon, Portage, Cartier Regional Water Co-op	1,402.5	1404.57	July 1, 2024	+2.07	300,000	329,189	110%
Lake Wahtopanah (Rivers)*	Rivers	1,536.0	1537.47	July 1, 2024	+1.47	24,500	27,812	114%
Minnewasta (Morden)*	Morden	1,082.0	1082.35	July 1, 2024	+0.35	3,150	3,205	102%
Stephenfield*	Carman, Pembina Valley Water Co-op	972.0	973.72	July 1, 2024	+1.72	3,810	4,641	122%
Vermilion*	Dauphin	1,274.0	1275.31	June 23, 2024	+1.31	2,600	2,906	112%
Goudney (Pilot Mound)*		1,482.0	1482.32	July 1, 2024	+0.32	450	466	104%
Jackson Lake*		1,174.0	1174.16	July 1, 2024	+0.16	2,990	3,041	102%
Manitou (Mary Jane)*		1,537.0	1537.09	July 1, 2024	+0.09	1,150	1,153	100%
Turtlehead (Deloraine)*	Deloraine	1,772.0	1772.04	July 1, 2024	+0.04	1,400	1,405	100%
Lake Irwin*		1,178.0	1178.71	July 1, 2024	+0.71	3,800	4,264	112%
Minnedosa* ¹		1,681.5	1682.00	July 1, 2024	+0.50	1,558	1,689	108%
Boissevain*	Boissevain	1,697.0	1698.64	July 1, 2024	+1.64	505	642	127%
Elgin*		1,532.0	1532.22	July 1, 2024	+0.22	520	536	103%
St. Malo*		840.0	840.91	July 1, 2024	+0.91	1,770	1,919	108%
Kenton Reservoir		1,448.0	1447.94	July 1, 2024	-0.06	600	595	99%
Killarney Lake		1,615.0	1615.89	July 1, 2024	+0.89	7,360	7,769	106%

¹ Summer target level and storage
 * Real-time water level gauge

On-Farm Water Supply

On-farm water supply updates from Manitoba Agriculture’s Crop Report Issue 10 (July 2, 2024) are provided in Table 2.

Table 2: On Farm Water Supply (Dugout) Conditions.

Region	General Dugout Condition
Eastern	Dugouts and irrigation ponds are mostly recharged, with many rivers full, and some ditches with standing water in them.
Interlake	
Southwest	
Central	
Northwest	

Soil Moisture

A regional representation of soil moisture conditions for the top 120 cm relative to the field capacity is shown on Figure 6.

The colours on the map represent measured soil moisture values from automated instruments at sites across Manitoba. Qualitative range (very dry to very wet) is based on the amount of current soil moisture relative to field capacity. Field Capacity is defined as the maximum amount of moisture the soil can hold when drainage due to gravity stops.

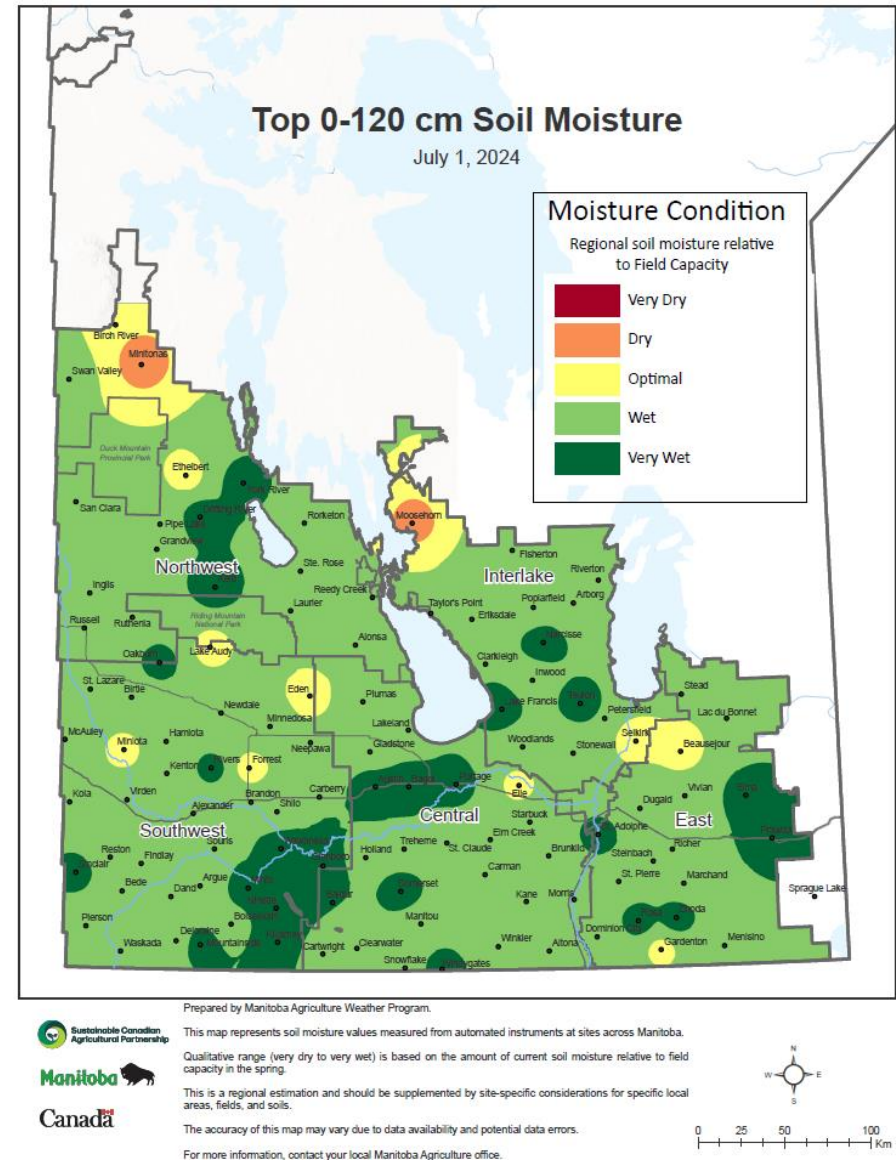
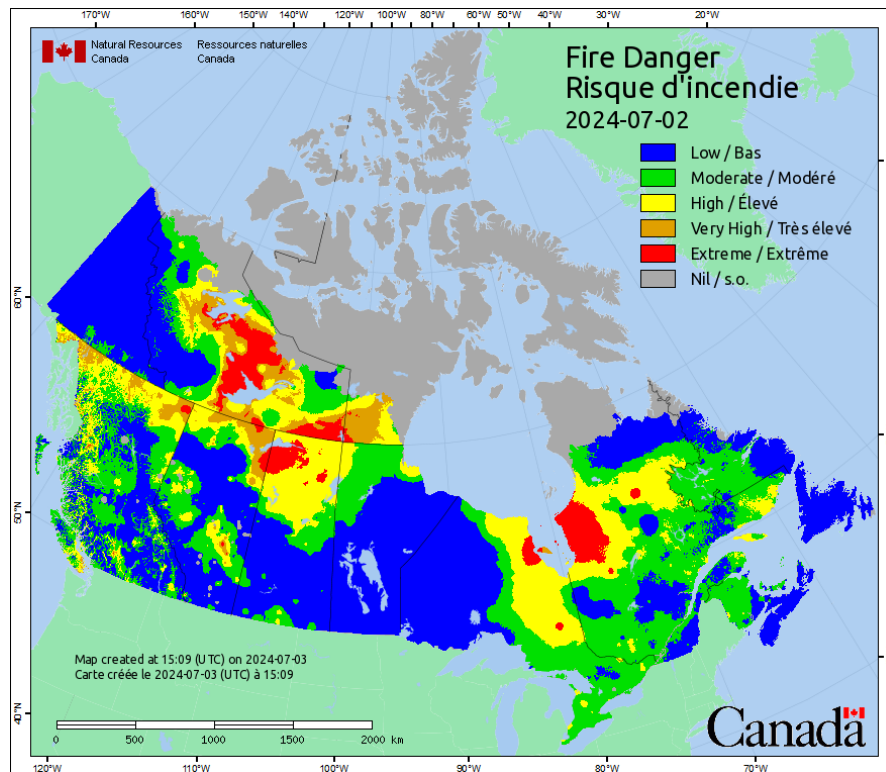


Figure 6: Manitoba Agriculture’s July 1, 2024, mapping of soil moisture conditions in the top 0 – 120 cm.

Wildland Fires

On July 2, 2024, the Manitoba Wildfire Service advises that the fire danger is moderate in the northern third of the province, and low in the lower two thirds of the province. There were eight active wildfires burning in Manitoba. There have been 69 wildfires to date, Manitoba's 20-year average is 166 wildfires by this date.

As of July 2, 2024, there were no provincial fire or travel restrictions in place. The RMs of Lorne and Emerson-Franklin and the Towns of Snow Lake and Grand Rapids have burning restrictions in place.



Impacts due to Dry Conditions

To date, there have been no impacts due to dry conditions in 2024.

Past reports, drought mapping and other information and resources are available on the [Manitoba Drought Monitor](#) website.

For further information, please contact:

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Acknowledgements

This report was prepared with information from the following sources which are gratefully acknowledged:

Manitoba Transportation and Infrastructure

Reservoir level information:

www.manitoba.ca/mit/floodinfo/index.html

Manitoba Wildfire Service

www.manitoba.ca/sd/fire/

Manitoba Agriculture

Crop Reports:

www.manitoba.ca/agriculture/crops/seasonal-reports/crop-report-archive/index.html

Topsoil moisture conditions:

www.manitoba.ca/agriculture/weather/weather-conditions-and-reports.html

Environment and Climate Change Canada

Flow and lake level information:

www.wateroffice.ec.gc.ca/index_e.html

Agriculture and Agri-Food Canada

Canadian Drought Monitor:

agriculture.canada.ca/en/agriculture-and-environment/drought-watch-and-agroclimate/canadian-drought-monitor

United States Drought Monitor

droughtmonitor.unl.edu/