

# Manitoba Water Availability and Drought Conditions Report

MAY 2024

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## Executive Summary

- This Water Availability and Drought Conditions Report provides an update on conditions throughout Manitoba for May 2024.
- Precipitation conditions over the past month, three month, and twelve month periods are as follows:
  - During May 2024, most of Manitoba experienced above normal precipitation conditions. Some areas of northern Manitoba experienced normal precipitation conditions.
  - Over the past three months (March, April, May), southern Manitoba experienced above normal precipitation conditions. Conditions in northern Manitoba ranged from above normal to moderately dry.
  - Over the past 12 months, southern Manitoba observed normal to moderate dryness. Conditions in northern Manitoba were normal to moderately dry with a small area of severe dryness.
- As of June 1, 2024, water levels in rivers and lakes across southern Manitoba ranged from normal (25<sup>th</sup> – 75<sup>th</sup> percentile) to above normal (75<sup>th</sup> – 90<sup>th</sup> percentile), with the exception of Lake Winnipeg which remains below normal (10<sup>th</sup> – 25<sup>th</sup> percentile). Flows in the Saskatchewan River are much below normal. Many rivers in northern Manitoba are below normal (10<sup>th</sup> – 25<sup>th</sup> percentile) to much below normal (below normal (< 10<sup>th</sup> percentile)).
- The April 30, 2024, Canadian Drought Monitor assessment classified almost all of Manitoba and upstream drainage basins as having some degree of drought heading into May. In Manitoba, conditions range from abnormally dry (D0) to extreme drought (D2). With above normal precipitation in April and May, significant improvement in drought conditions across southern Manitoba will be reflected in the end of May drought assessment.
- There are currently no concerns over reservoir water supplies. At the end of May, all provincial water supply reservoirs are at or above full supply levels.
- Regarding on-farm water supplies, nearly all creeks, streams, dugouts, and sloughs have now refilled to capacity.
- Manitoba Agriculture's soil moisture map for June 2, 2024 shows that moisture across southern Manitoba at the 0-120 cm depth is a mix of optimal to wet conditions, with pockets of dry or very wet conditions.
- On May 29, 2024, the fire danger level was moderate to low across the province. There were three active wildfires burning in Manitoba. There have been 50 wildfires so far this year. Typically, the average is 79 wildfires a year. As of May 29, 2024, there were no provincial fire or travel restrictions in place. The RMs of Lorne and Emerson-Franklin 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.

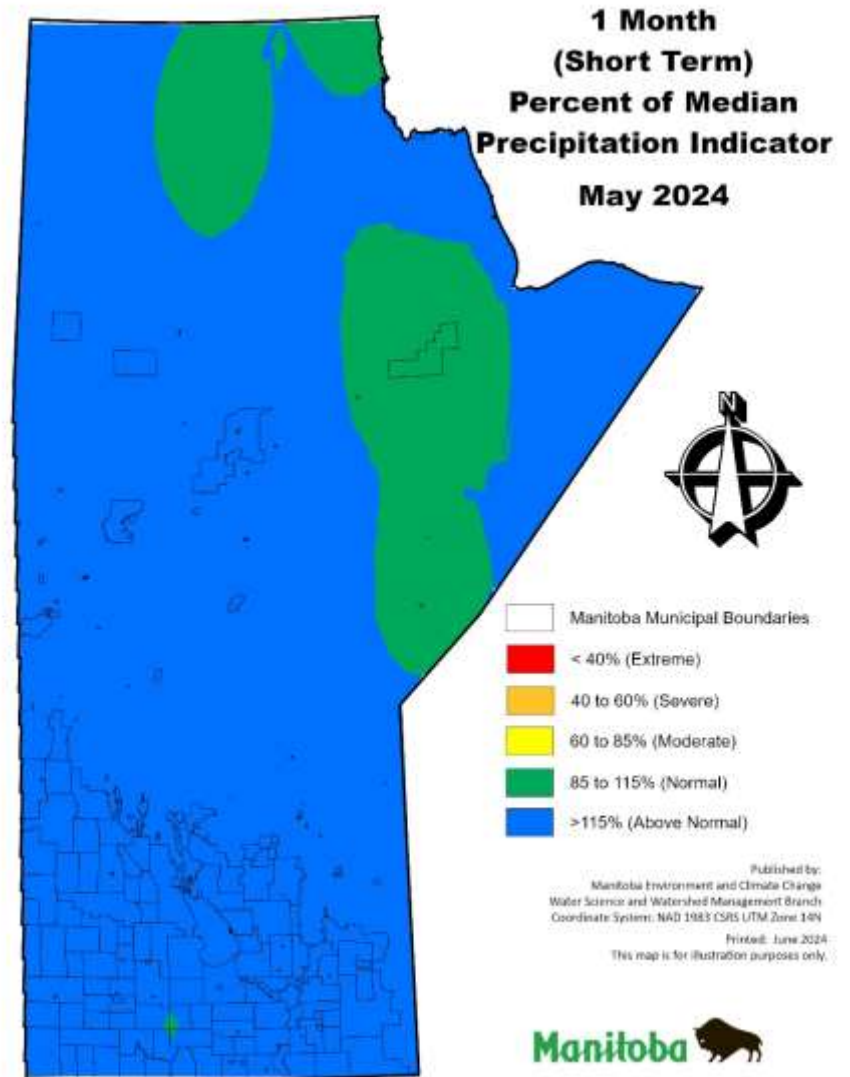


Figure 1: One month (short-term) percent of median precipitation indicator.

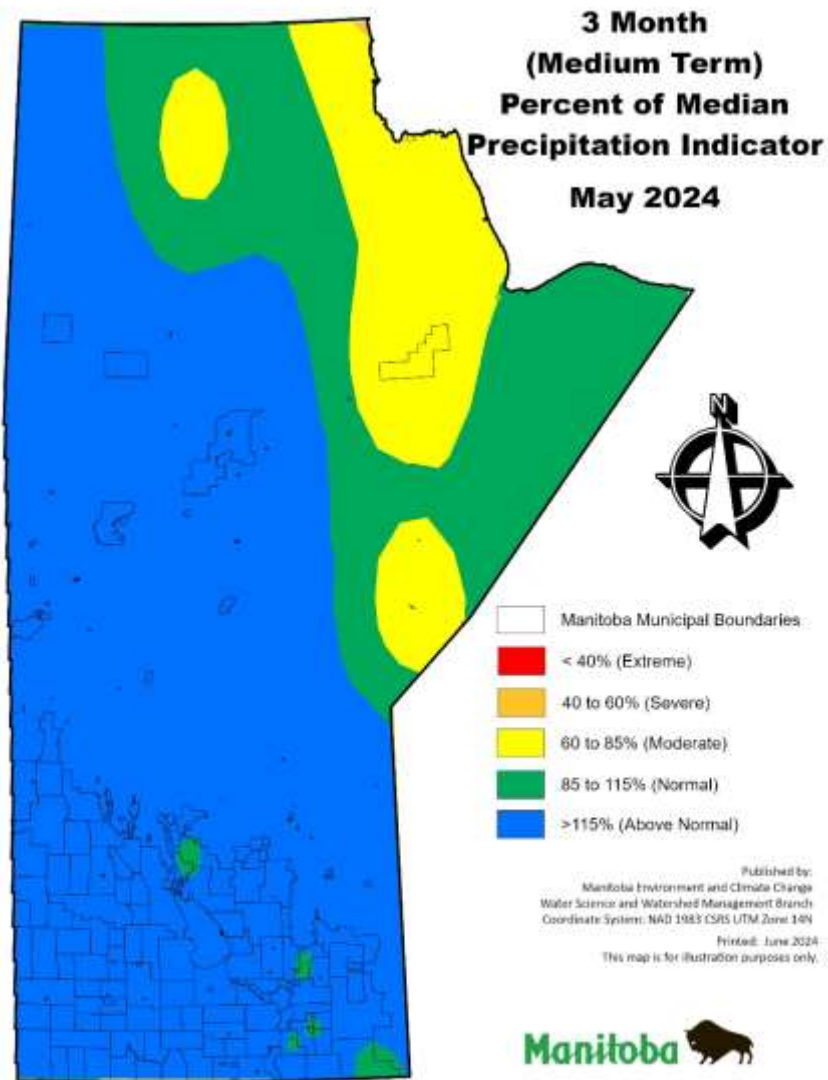


Figure 2: Three month (medium-term) percent of median precipitation indicator.

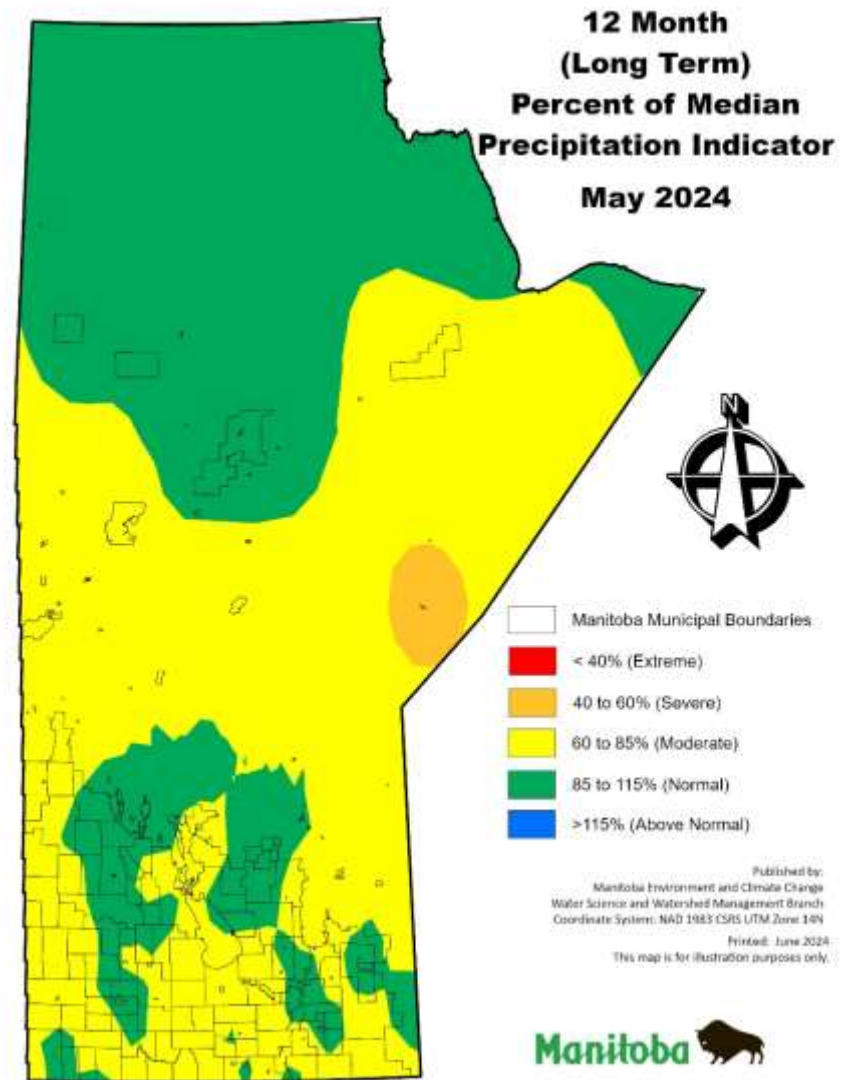


Figure 3: Twelve month (long-term) percent of median precipitation indicator.

### 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 June 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.

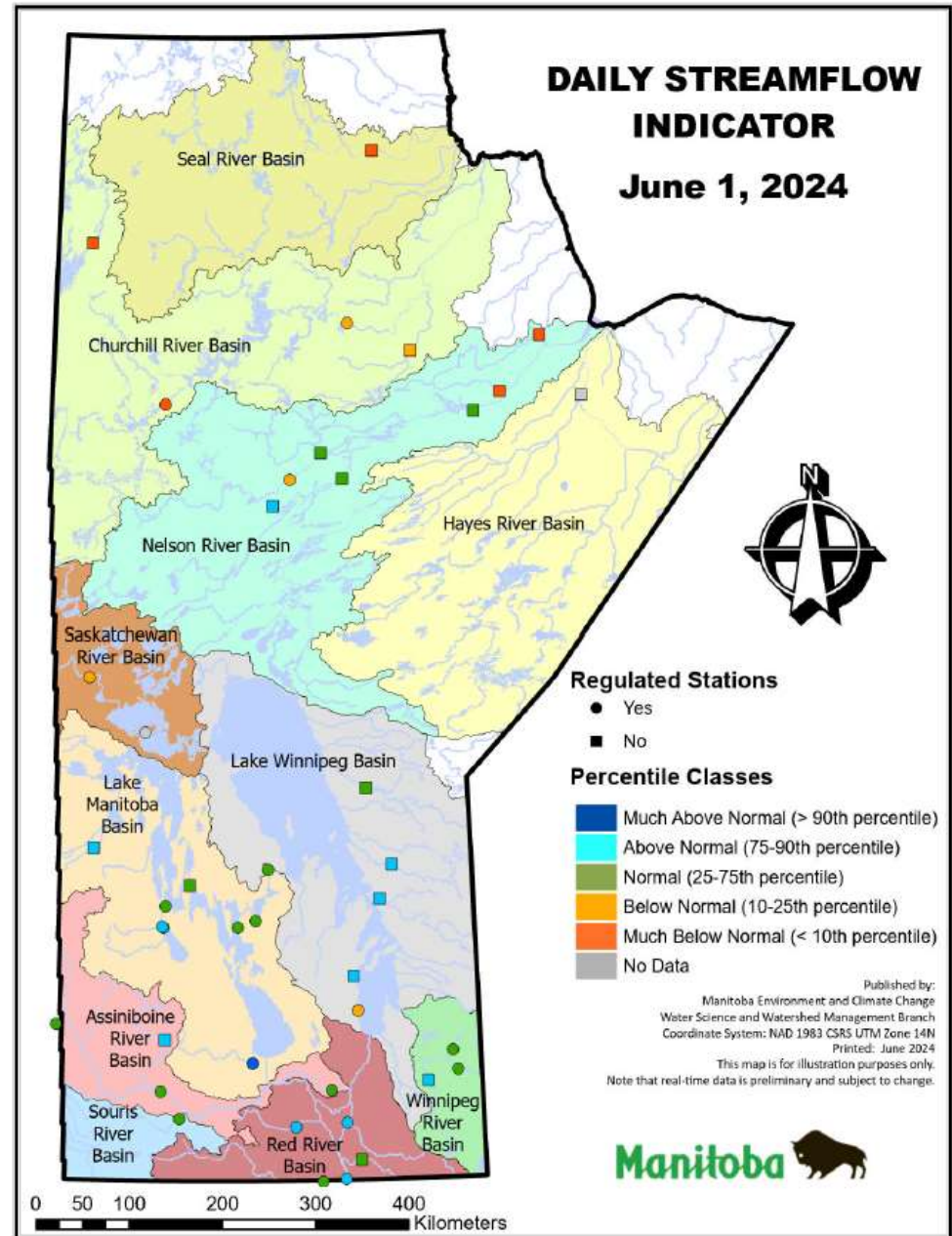


Figure 4: Daily streamflow and lake level indicator for June 1, 2024.

## 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).

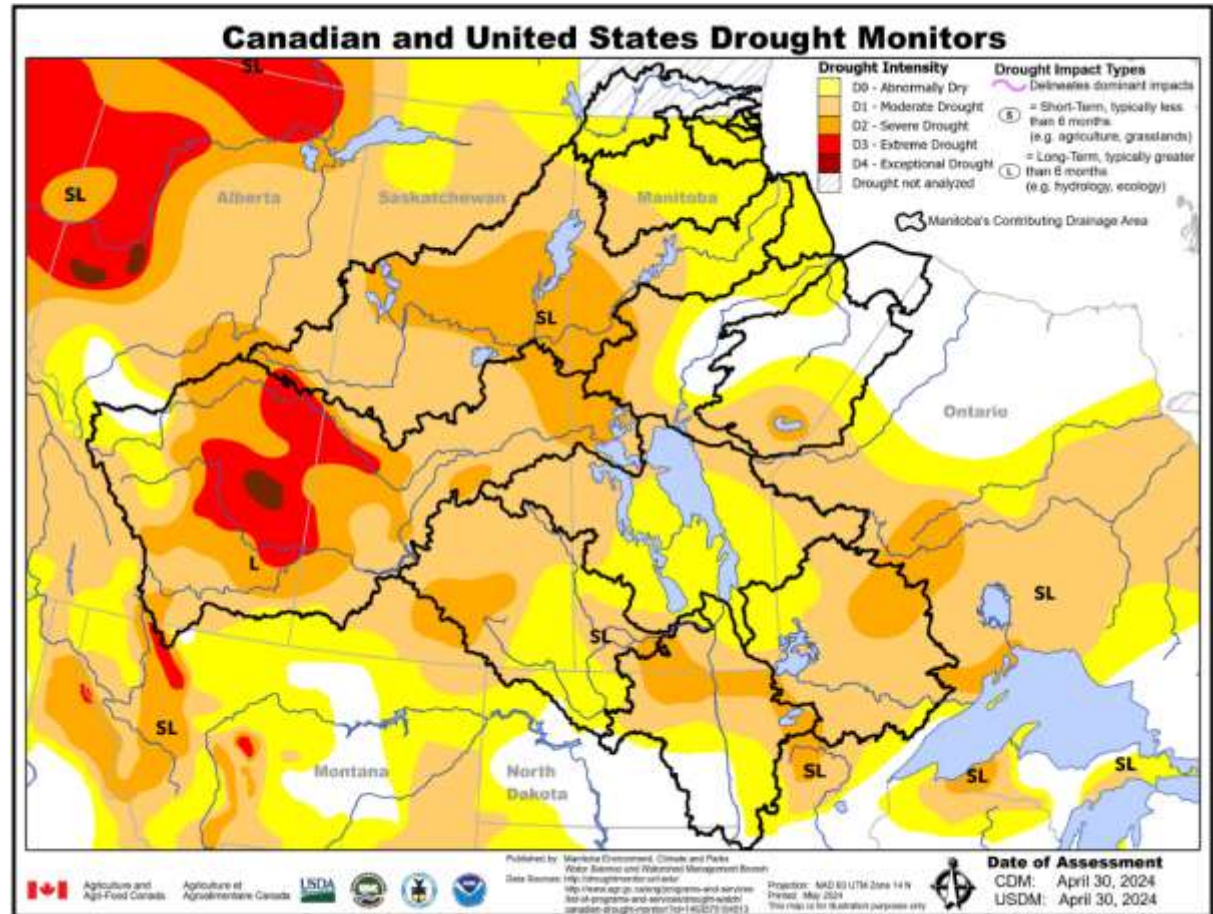


Figure 5: Canadian and United States Drought Monitors' classification of short-term (S) and long-term (L) drought conditions assessed as of April 30, 2024.

# Water Availability

## Reservoir Conditions

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

Water Supply Reservoir Levels and Storages - June 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)* <sup>1</sup>	Brandon, Portage, Cartier Regional Water Co-op	1,402.5	1404.86	June 1, 2024	+2.36	300,000	333,366	111%
Lake Wahtopanah (Rivers)*	Rivers	1,536.0	1537.78	June 1, 2024	+1.78	24,500	28,514	116%
Minnewasta (Morden)*	Morden	1,082.0	1082.15	June 1, 2024	+0.15	3,150	3,172	101%
Stephenfield*	Carman, Pembina Valley Water Co-op	972.0	973.10	June 1, 2024	+1.10	3,810	4,329	114%
Vermilion*	Dauphin	1,274.0	1275.20	June 1, 2024	+1.20	2,600	2,880	111%
Goudney (Pilot Mound)*		1,482.0	1482.36	June 1, 2024	+0.36	450	468	104%
Jackson Lake*		1,174.0	1174.24	June 1, 2024	+0.24	2,990	3,065	102%
Manitou (Mary Jane)*		1,537.0	1537.07	June 1, 2024	+0.07	1,150	1,152	100%
Turtlehead (Deloraine)*	Deloraine	1,772.0	1772.28	June 1, 2024	+0.28	1,400	1,431	102%
Lake Irwin*		1,178.0	1178.45	June 1, 2024	+0.45	3,800	4,093	108%
Minnedosa* <sup>1</sup>		1,681.5	1682.32	June 1, 2024	+0.82	1,558	1,773	114%
Boissevain*	Boissevain	1,697.0	1698.67	June 1, 2024	+1.67	505	645	128%
Elgin*		1,532.0	1532.18	June 1, 2024	+0.18	520	533	102%
St. Malo*		840.0	841.02	June 1, 2024	+1.02	1,770	1,939	110%
Kenton Reservoir		1,448.0	1447.96	June 1, 2024	-0.04	600	597	100%
Killarney Lake		1,615.0	1616.03	June 1, 2024	+1.03	7,360	7,836	106%

<sup>1</sup> 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 4 (May 21, 2024) are provided in Table 2.

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

Region	General Dugout Condition
Eastern	Nearly all creeks, streams, dugouts, and sloughs have now refilled to capacity.
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.

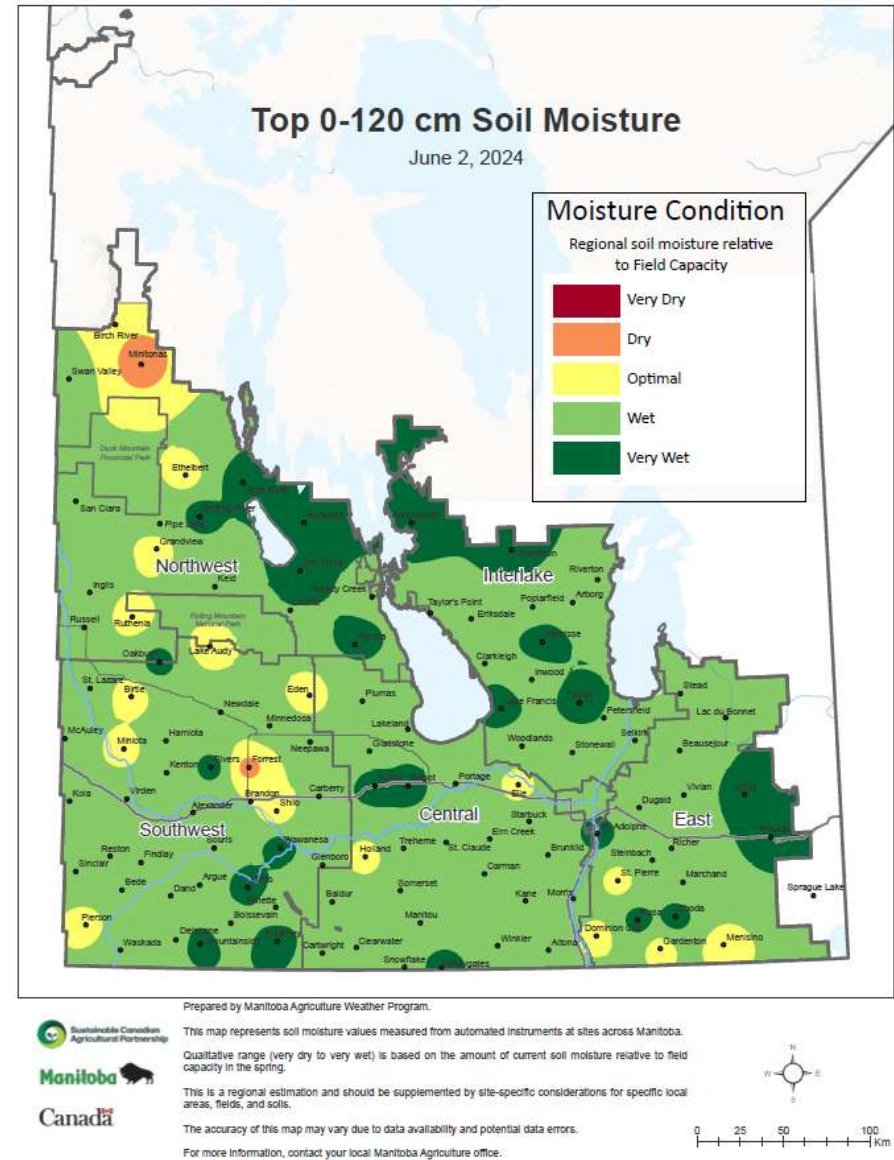


Figure 6: Manitoba Agriculture’s June 2, 2024, mapping of soil moisture conditions in the top 0 – 120 cm.

## Wildland Fires

On May 29, 2024, Manitoba Wildfire Service advised the fire danger level is moderate to low across the province. There were three active wildfires burning in Manitoba. There have been 50 wildfires so far this year. Typically, the average is 79 wildfires a year. One fire of note was burning near the Bakers Narrows/Cranberry Portage area but was reported as under control.

As of May 29, 2024, there were no provincial fire or travel restrictions in place. The RMs of Lorne and Emerson-Franklin have burning restrictions in place.

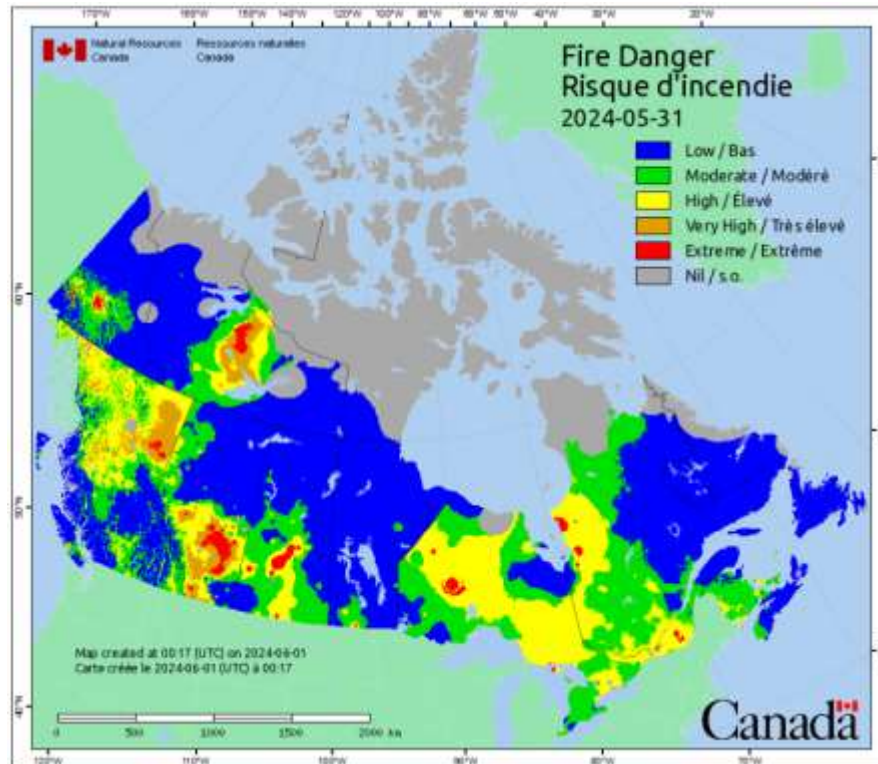


Figure 7: Fire Danger mapping by Natural Resources Canada

## 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](http://www.manitoba.ca/mit/floodinfo/index.html)

### **Manitoba Wildfire Service**

[www.manitoba.ca/sd/fire/](http://www.manitoba.ca/sd/fire/)

### **Manitoba Agriculture**

Crop Reports:

[www.manitoba.ca/agriculture/crops/seasonal-reports/crop-report-archive/index.html](http://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](http://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](http://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](http://agriculture.canada.ca/en/agriculture-and-environment/drought-watch-and-agroclimate/canadian-drought-monitor)

### **United States Drought Monitor**

[droughtmonitor.unl.edu/](http://droughtmonitor.unl.edu/)