

Water Availability and Drought Conditions Report

JUNE 2022

Executive Summary

- This Water Availability and Drought Conditions Report provides an update on conditions throughout Manitoba for June 2022.
- Precipitation conditions over the past month, three month, and twelve month periods are as follows:
 - During June 2022, parts of the southwest, central and eastern regions of agri-Manitoba experienced moderate (60 – 85 % of median) to severe (40 – 60 %) precipitation conditions, while the remainder of southern Manitoba was normal (85 – 115 %) to above normal (> 115 %). In northern Manitoba, conditions were generally normal to above normal, with pockets of moderate to extreme (< 40 %) dryness surrounding Gillam, Thompson and Flin Flon.
 - Over the past three months (April, May, June), all of southern Manitoba experienced above normal conditions. Conditions in northern Manitoba were generally normal to above normal, with a pocket of extremely dry conditions surrounding Thompson.
 - Over the past 12 months, southern Manitoba observed normal to above normal conditions. Conditions in northern Manitoba were generally normal, expect for regions of moderate dryness surrounding Gillam, Thompson and Flin Flon.
- As of July 5, 2022, most rivers and lakes across Manitoba were classified as normal (25th – 75th percentile) to much above normal (>90th).
- The June 30, 2022 Canadian Drought Monitor assessment showed that Manitoba continues to be free of any drought conditions.
- Provincial water supply reservoirs are close to or above full supply levels and there are currently no concerns over reservoir water supplies.
- Nearly all creeks, streams, dugouts, and sloughs remain full and there are no concerns about on-farm water supplies.
- Producers are generally happy with current pasture conditions, and are hoping for an extended grazing season to help mitigate feed shortages caused by several years of dry conditions and excessive moisture during spring/summer 2022.
- As of July 4, approximately 6,430 hectares have been burned during the 2022 wildfire season, primarily in northern Manitoba. No burning or travel restrictions were in place due to wildfire activity as of July 4, 2022.

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 twelve 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.

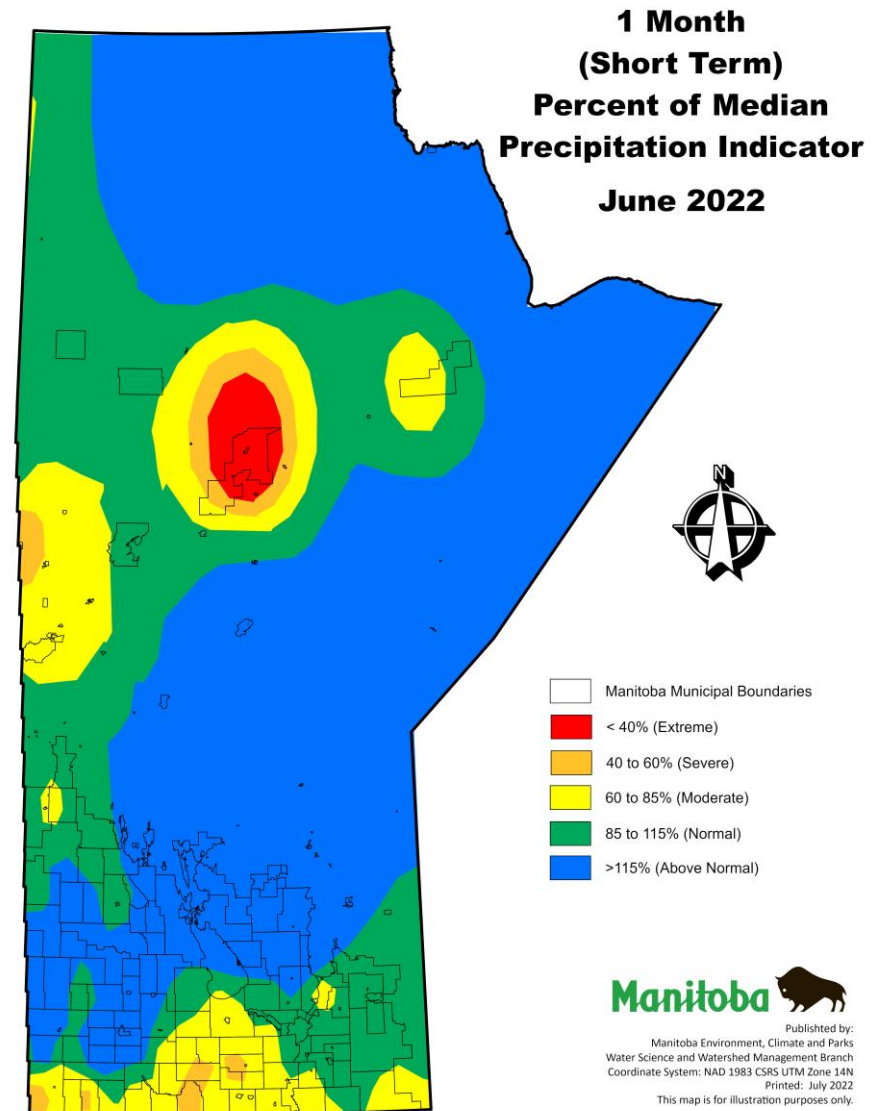


Figure 1: One month (short term) per cent of median precipitation indicator.

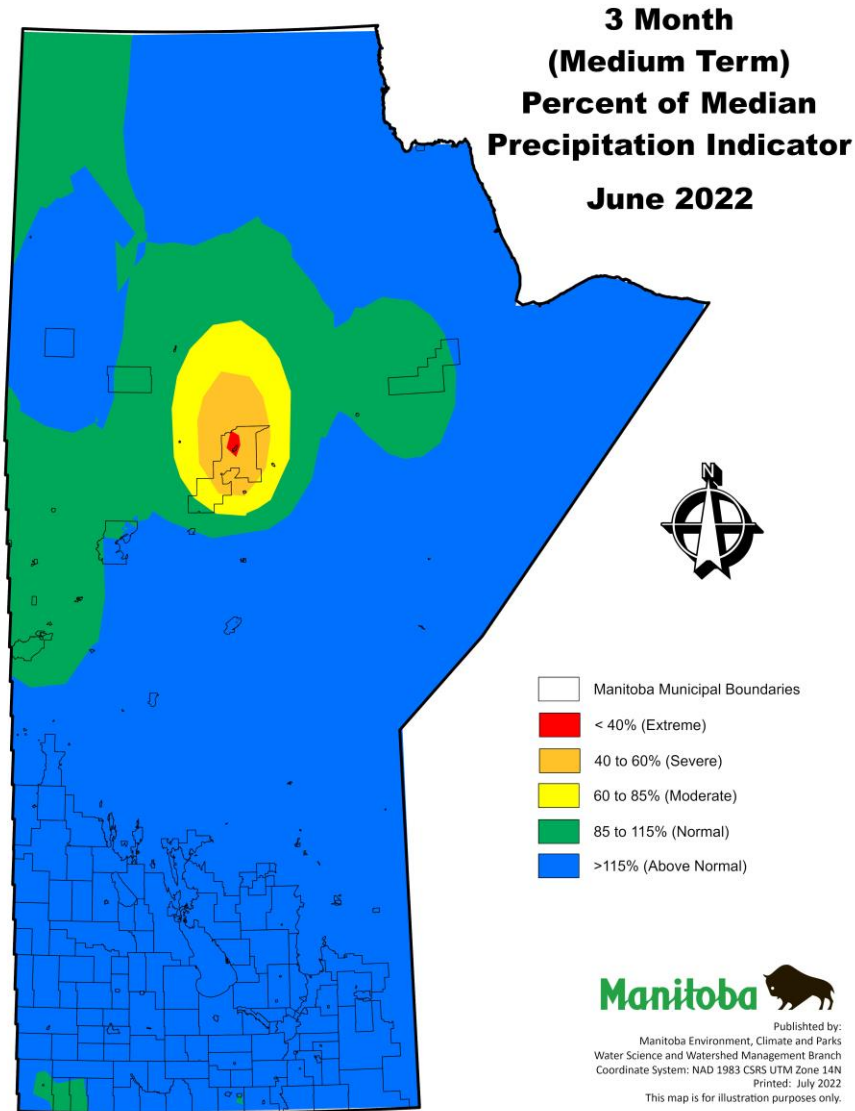


Figure 2: Three month (medium term) per cent of median precipitation indicator.

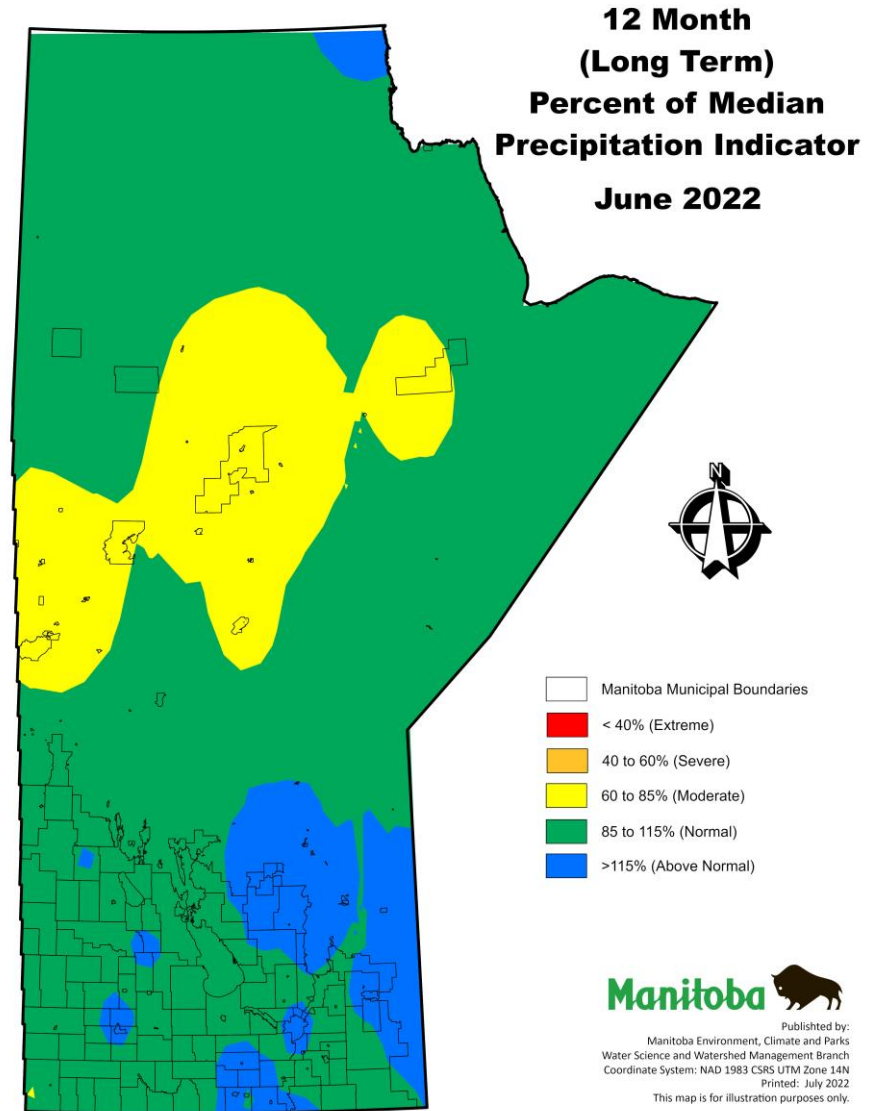


Figure 3: Twelve month (long term) per cent of median precipitation indicator.

Streamflow & 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 5, 2022.

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.

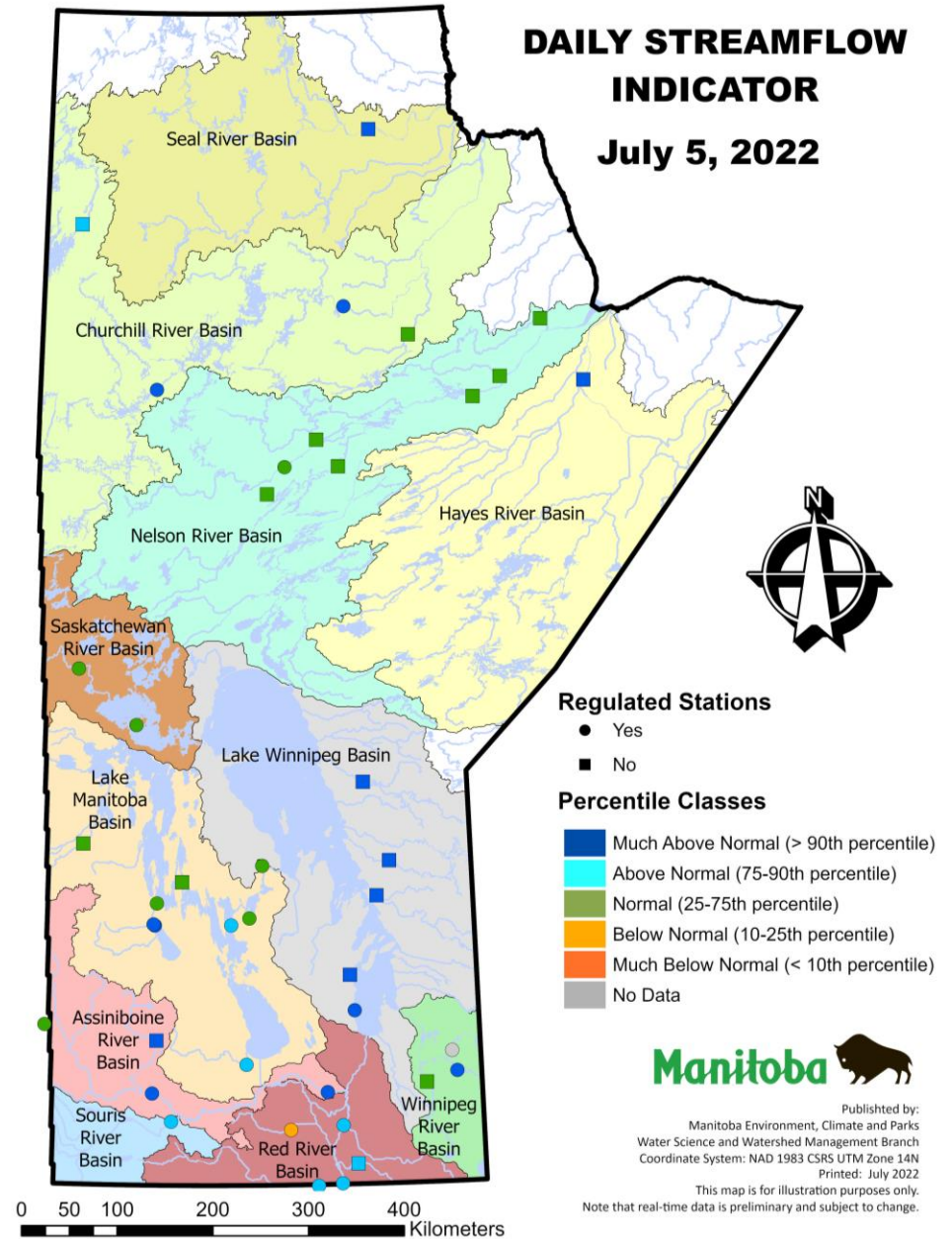


Figure 4: Daily streamflow and lake level indicator for July 5, 2022.

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 3 to 5 years;
- D1 (Moderate Drought) – 5 to 10 year event;
- D2 (Severe Drought) – 10 to 20 year event;
- D3 (Extreme Drought) – 20 to 50 year event; and
- D4 (Exceptional Drought) – 50+ year event.

Additionally, the map indicates the duration of drought as either short-term (S; less than 6 months) or long-term (L; more than 6 months) (Figure 5).

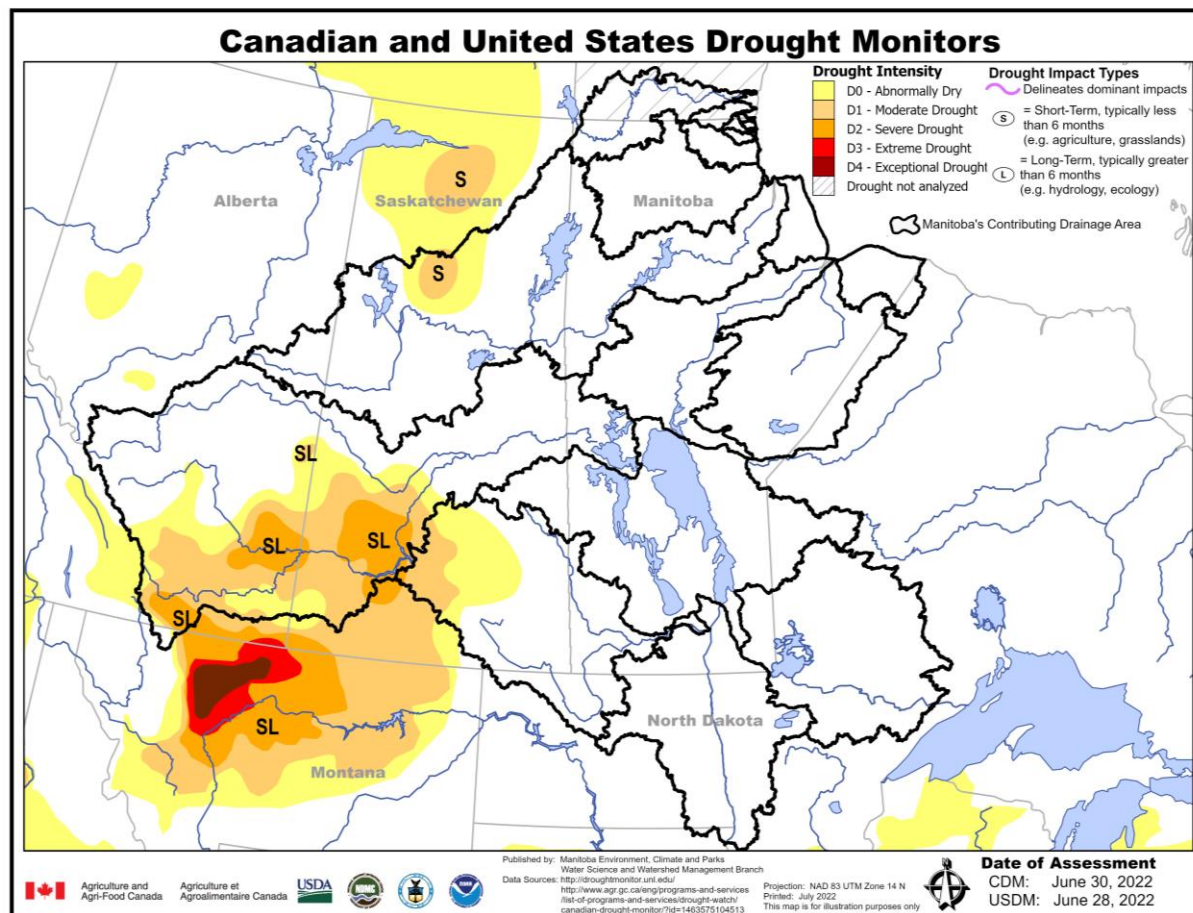


Figure 5: Canadian and United States Drought Monitors' classification of short-term (S) and long-term (L) drought conditions assessed as of June 30, 2022.

Water Availability

Reservoir Conditions

Table 1: Water Supply Reservoir Levels and Storages – June 30, 2022 (Southern and Western Manitoba).

Water Supply Reservoir Levels and Storages - June 30, 2022								
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	1406.29	June 30, 2022	+3.79	300,000	354,428	118%
Lake Wahtopanah (Rivers)*	Rivers	1,536	1538.91	June 30, 2022	+2.91	24,500	30,584	125%
Minnewasta (Morden)*	Morden	1,082	1082.24	June 30, 2022	+0.24	3,150	3,188	101%
Stephenfield*	Carman, Pembina Valley Water Co-op	972	972.54	June 30, 2022	+0.54	3,810	4,066	107%
Vermilion*	Dauphin	1,274	1274.93	June 30, 2022	+0.93	2,600	2,817	108%
Goudney (Pilot Mound)*		1,482	1482.08	June 30, 2022	+0.08	450	454	101%
Jackson Lake*		1,174	1174.00	June 30, 2022	+0.00	2,990	2,990	100%
Manitou (Mary Jane)*		1,537	1537.03	June 30, 2022	+0.03	1,150	1,151	100%
Turtlehead (Deloraine)*	Deloraine	1,772	1771.95	June 30, 2022	-0.05	1,400	1,398	100%
Lake Irwin*		1,178	1178.90	June 30, 2022	+0.90	3,800	4,386	115%
Minnedosa*		1,682	1682.10	June 30, 2022	+0.10	1,688	1,714	102%
Boissevain*	Boissevain	1,697	1694.47	June 30, 2022	-2.53	505	338	67%
Elgin*		1,532	1532.23	June 1, 2022	+0.23	520	536	103%
St. Malo*		840	840.80	May 24, 2022	+0.80	1,770	1,902	107%
Kenton Reservoir		1,448	1448.19	May 12, 2022	+0.19	600	608	101%
Killarney Lake		1,615	1616.51	May 20, 2022	+1.51	7,360	8,053	109%

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 5 (July 5, 2022) are provided in Table 2.

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

Region	General Dugout Condition
Eastern	All creeks, streams, dugouts, and sloughs are full.
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 for July 3, 2022.

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.

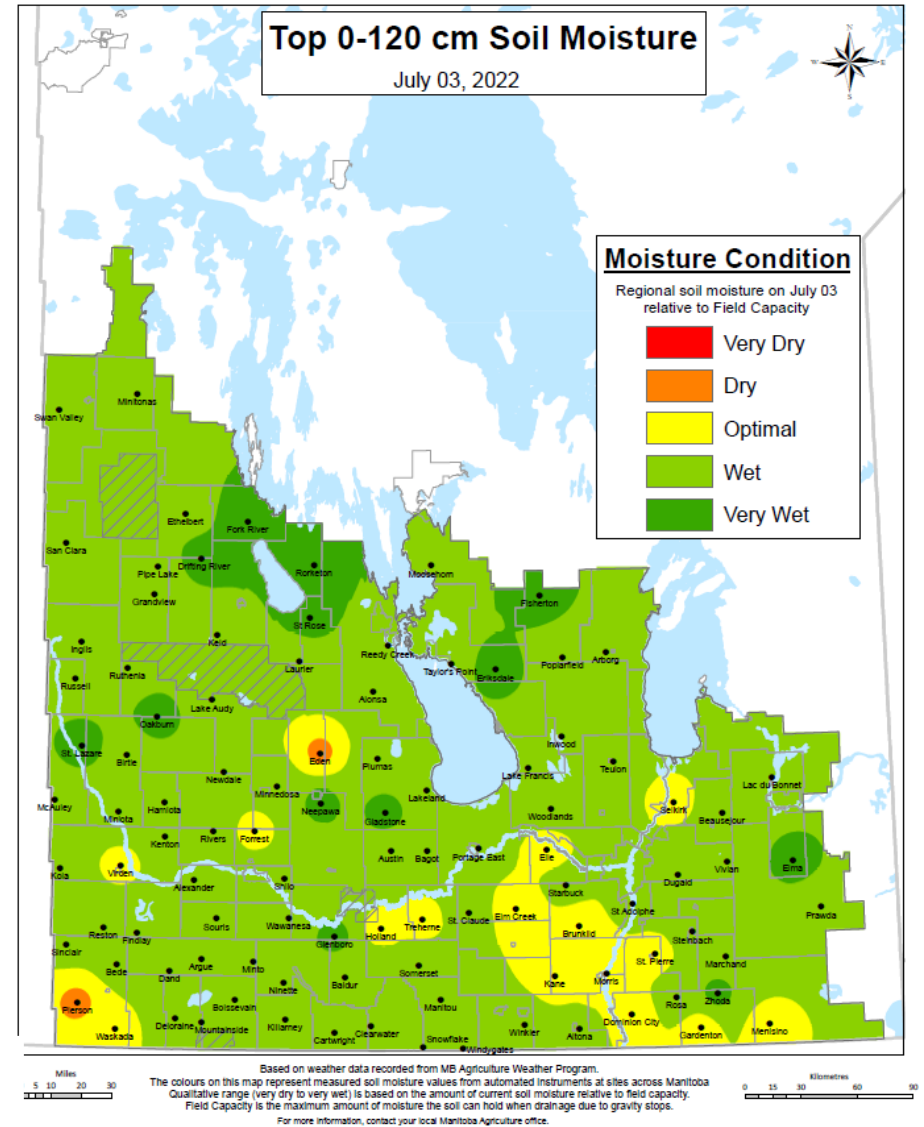


Figure 6: Manitoba Agriculture’s July 3, 2022 mapping of soil moisture conditions in the top 0 – 120 cm.

Wildland Fires

As of July 2, 2022, a total of 6,428 hectares have been burned, primarily in the northern region. Fire danger levels remain low to moderate at this time and there are no travel or burning restrictions currently in place.

Impacts due to Dry Conditions

There are currently no impacts due to dry conditions in Manitoba.

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:

<https://www.gov.mb.ca/mit/floodinfo/index.html>

Manitoba Natural Resources and Northern Development Fire Program:

<https://www.gov.mb.ca/sd/fire/>

Manitoba Agriculture:

Crop Reports:

<http://www.gov.mb.ca/agriculture/crops/seasonal-reports/crop-report-archive/index.html>

Topsoil moisture conditions:

<https://www.gov.mb.ca/agriculture/weather/weather-conditions-and-reports.html>

Environment and Climate Change Canada:

Flow and lake level information:

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

Agriculture and Agri-Food Canada:

Canadian Drought Monitor:

<https://agriculture.canada.ca/en/agriculture-and-environment/drought-watch-and-agroclimate/canadian-drought-monitor>

United States Drought Monitor:

<https://droughtmonitor.unl.edu/>