

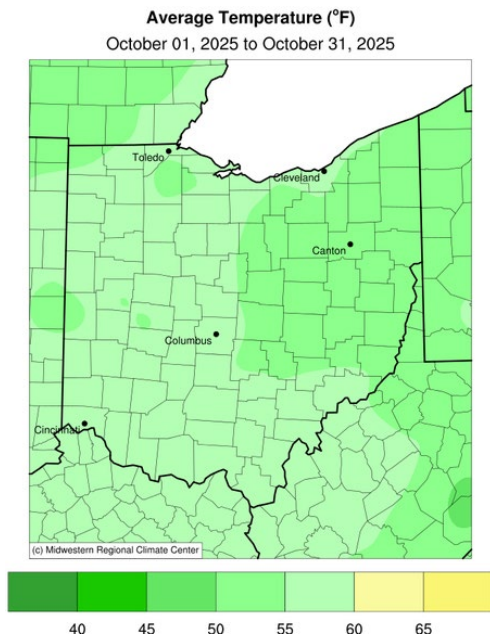
Review – October 2025

Temperature

Although October ended with fall-like conditions, a warmer start to the month led to generally warmer-than-average temperatures ranging from 50–60°F. While there wasn't a strong gradient, a subtle west-to-east divide was evident, with averages ranging from 55–60°F in the western half of the state and 50–55°F in the east (Fig. 1a). When compared to the departure from normal, most of Ohio experienced above-normal temperatures, except for areas southeast of Cleveland and localized regions south of Columbus that remained near average for the month. The above-normal areas saw temperature increases of roughly 1–4°F, with the strongest anomalies occurring west of Toledo (Fig. 1b).

Product Note: All NCEI county-level data were not released due to the ongoing federal government shutdown. Because the monthly summaries rely on NCEI county-level temperature and precipitation rankings, these datasets will be excluded from the summaries until the data become available again.

a)



b)

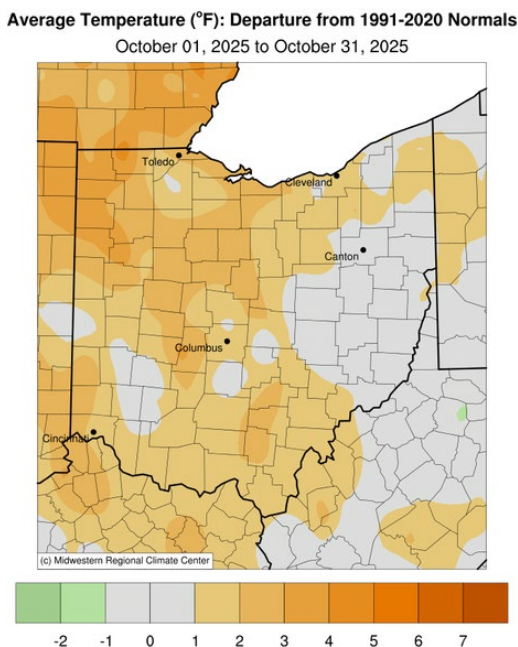


Figure 1a: Average temperature and 1b: Departure from Normal for the month of October 2025. Data courtesy of the Midwestern Regional Climate Center (<http://mrcc.purdue.edu>).

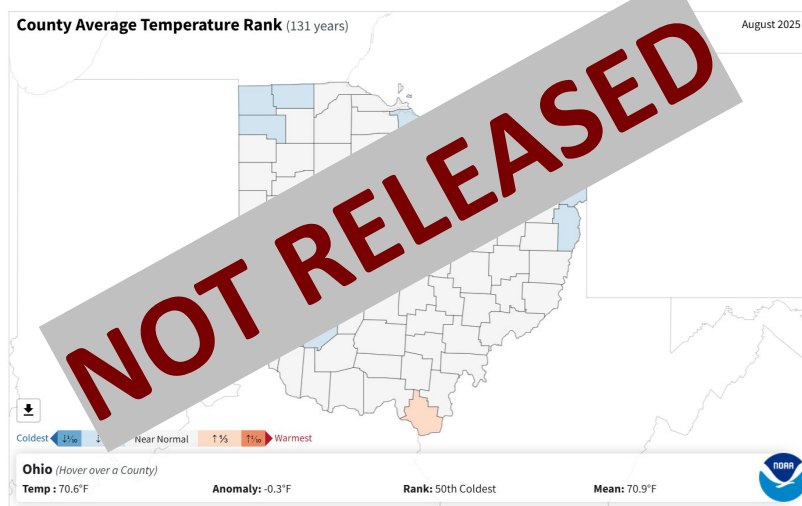
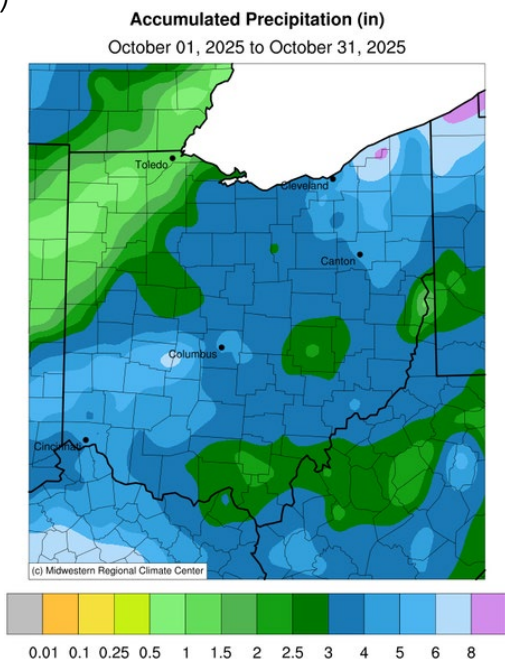


Figure 2. NCEI county-level temperature ranking data were not released for September 2025 due to the ongoing federal government shutdown. As a result, county-level temperature and precipitation rankings are not included in this month's summary.

Review – October 2025

a)



b)

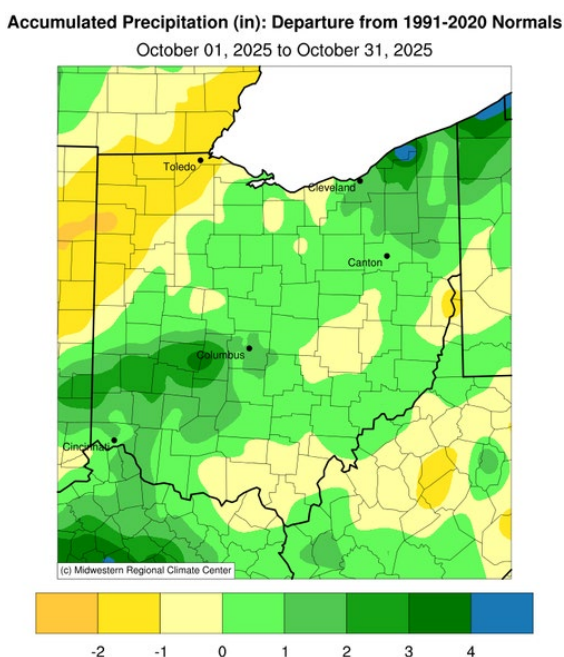


Figure 3a: Accumulated precipitation and 3b: Departures from Normal for the month of October 2025. Data courtesy of the Midwestern Regional Climate Center (<http://mrcc.purdue.edu>).

Precipitation

Total accumulated precipitation across Ohio ranged from 0.5 to over 8 inches during October. The driest areas were located in northwest Ohio, receiving between 0.5 and 1 inch of rainfall, while the wettest areas were found northeast of Cleveland, where totals reached 6 to over 8 inches. Most of the state received at least 2 inches of precipitation (Fig. 3a). When compared to the departure from normal, much of Ohio experienced near- to above-normal precipitation. In particular, Northeast and Southwest Ohio were 2-5 inches above normal in accumulated precipitation. However, localized deficits of 1 to 2 inches were observed in northwest Ohio, as well as east of Columbus and near the southern tip of the state (Fig. 3b).

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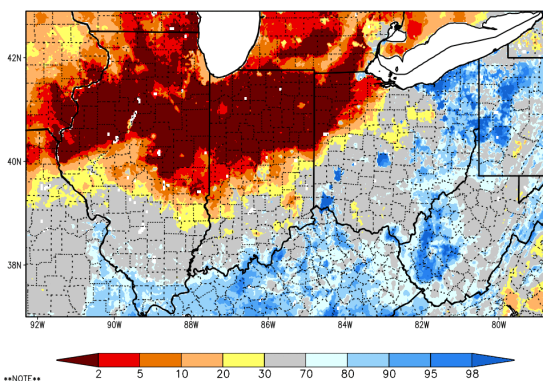


Figure 4: NCEI county-level temperature ranking data were not released for September 2025 due to the ongoing federal government shutdown. As a result, county-level temperature and precipitation rankings are not included in this month's summary.

Review – October 2025

a)

SPoRT-LIS 0–40 cm Soil Moisture percentile valid 31 Oct 2025



b)

SPoRT-LIS 0–200 cm Soil Moisture percentile valid 31 Oct 2025

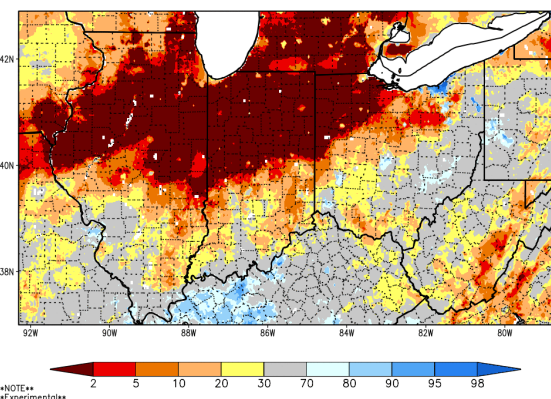


Figure 5a: 0-40 cm and 5b: 0-200 cm soil moisture percentile across the region at the end of October 2025. Courtesy of NASA SPoRTLIS (https://weather.msfc.nasa.gov/sport/case_studies/lis_IN.html).

Soil and Energy

Soil moisture from 0 to 40 centimeters deep leaves Ohio split into an eastern and western portion of the state at the end of October. The wettest soils are northeast and are ranked from the 70th to 100th percentile. The driest soils are in northwest Ohio and are in the 2nd percentile. The divide between these two polarizing regions is near normal throughout central Ohio (Fig. 5a). Transitioning to a deeper depth, 0 to 200 cm, most of Ohio ranks anywhere between the 30th to 2nd percentile, indicating dry soils. Again, northwest Ohio is hit hard with having the driest soils out of Ohio (Fig. 5b).

The Midwestern Region Climate Center (MRCC) recorded Heating Degree Days (HDDs) as below average for the month of October (Fig. 6). This is consistent with the warmer temperatures experienced at the beginning of the month, which reduced the energy demand for heat.

At this time, the Cooling Degree Days are unavailable for October through the MRCC.

Product Note: Both NASA SPoRT LIS soil moisture products contain small pockets of inaccurate data indicating extremely wet or dry conditions. These small-scale errors can emerge in remote sensing products covering large areas or grid spacings. For more information, please contact Geddy Davis (davis.5694@osu.edu).

Climate Division	Heating Degree Days	Normal	Departure	Cooling Degree Days	Normal	Departure
1	314	358	-44	N/A	N/A	N/A
2	316	359	-43	N/A	N/A	N/A
3	356	389	-33	N/A	N/A	N/A
4	313	352	-39	N/A	N/A	N/A
5	315	345	-30	N/A	N/A	N/A
6	350	387	-37	N/A	N/A	N/A
7	353	379	-26	N/A	N/A	N/A
8	285	312	-27	N/A	N/A	N/A
9	278	302	-24	N/A	N/A	N/A
10	316	341	-25	N/A	N/A	N/A
Statewide	317	350	-33	N/A	N/A	N/A



Figure 6: (Left) September 2025 heating & cooling degree days. (Right) Corresponding Ohio Climate Divisions. Data courtesy of the Midwestern Regional Climate Center (<http://mrcc.purdue.edu>).

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Notable Events

October 7th brought record-breaking daily rainfall in parts of Central and Southwest Ohio. More specifically, Columbus broke its daily rainfall record on this day when the city received 1.84 inches of rain. This broke the previous record set in 1998, when 1.61 inches of rain fell. This rain event was one of the first after a prolonged dry spell had cast a shadow over Ohio, causing an extreme drought. On the same day, our South Charleston Mesonet station recorded over 4.10 inches of rain in 24 hours. One component of our complete weather station setup is a rain gauge, which allows data to be recorded and collected in instances like this one, where a significant amount of rainfall occurs in a short period of time (Fig. 7).

Drought

Even with recent significant rainfall in areas such as Columbus and South Charleston, northwest Ohio continues to experience D3 (extreme drought) conditions. A gradient of dryness extends from there into North Central and Eastern Ohio (Fig. 8). Currently, an estimated 1,221,389 people across the state are affected by drought. According to the latest U.S. Drought Monitor, conditions have shown slight improvement compared to last week. When compared to this time last year, drought conditions are much more localized and extreme in Northwest Ohio, while the rest of the state is in an overall better condition. As the harvest season comes to an end, the focus shifts from crop health to concerns about soil moisture for next year's planting. Prolonged drought can also lower water levels in streams, lakes, and rivers, posing broader challenges for Ohio's overall water supply.

Provided by the State Climate Office of Ohio, a collaboration of the Byrd Polar and Climate Research Center, Geography Department, and OSU Extension with support from Energent Solutions



Figure 7: The South Charleston Mesonet station located at the OSU Western Agricultural Research Center. Courtesy of the Ohio State University Mesonet, a Network of Weather and Environmental Sensors, Supported by the State Climate Office of Ohio

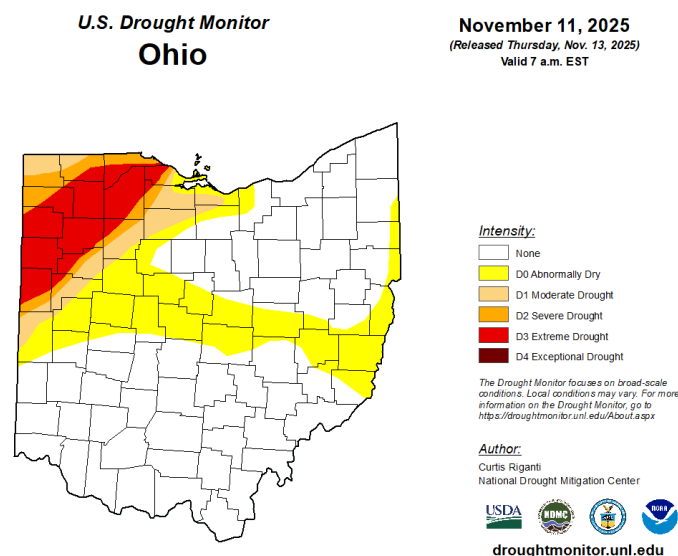


Figure 8: Map showcasing drought conditions in Ohio released on November 11th, determined by the U.S. Drought Monitor. <https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?OH>

Forecast: November 2025 –January 2026

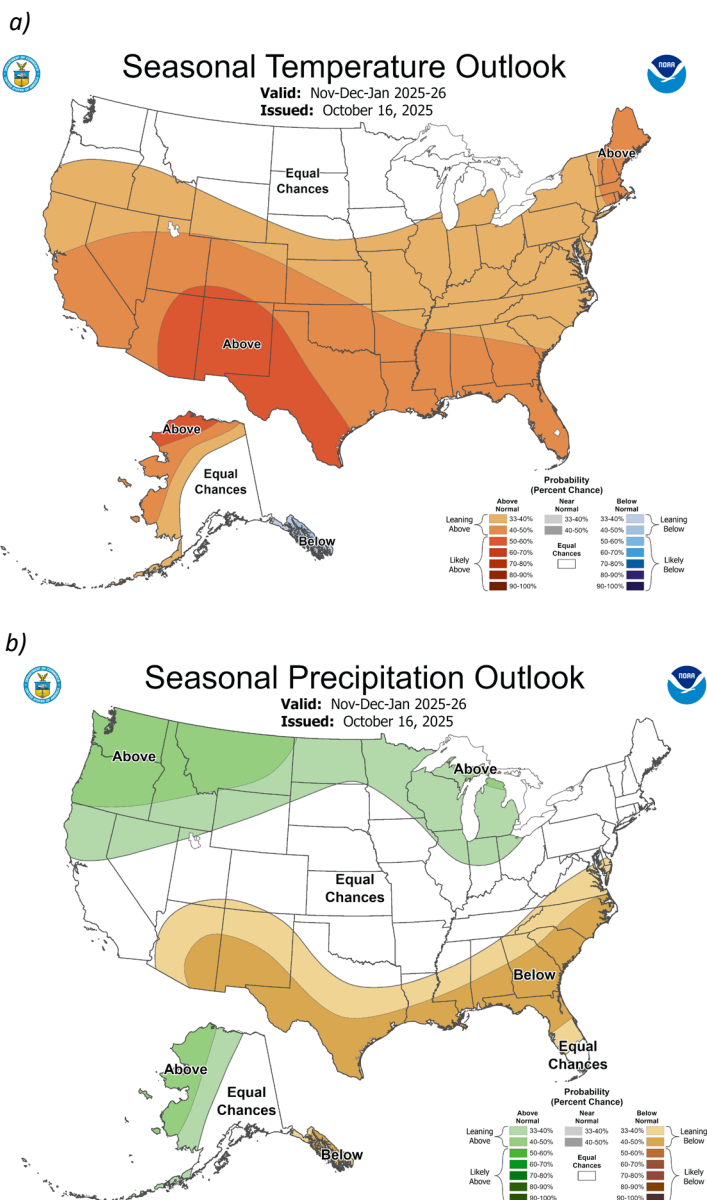


Figure 9a: Nationwide Seasonal Temperature and 9b: Precipitation Outlook for November-January. Courtesy of the Climate Prediction Center (<https://www.cpc.ncep.noaa.gov/>).

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Looking Ahead

For the next three months, the Climate Prediction Center outlook indicates that Ohio is leaning toward warmer-than-normal temperatures. There is also a chance for above-normal precipitation across northwest Ohio. Statewide, temperatures have a 33–40% probability of being above normal (Fig. 9a). Precipitation patterns, however, are more varied. Northwest Ohio shows a 33–40% chance of above-normal precipitation, while the rest of the state has equal chances for above- or below-normal conditions (Fig. 9b). This outlook is encouraging for Northwest Ohio, as it is the region being most impacted by ongoing drought conditions.

With winter fast approaching, farmers are working to winterize their fields in preparation for the colder months. Tilling and planting cover crops are in full swing to help preserve soil nutrients. However, with the potential for variable weather patterns in the upcoming months, this uncertainty could limit farmers' ability to complete these tasks before winter fully sets in.

Note: these outlooks do not provide the quantity of above or below normal conditions, just the likelihood of occurrence (i.e., the probability).

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