

North Central U.S. Climate & Drought Outlook: August 2024

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Columbia, MO



United States Department of Agriculture
Midwest Climate Hub



Further Information & Partners

- **Today's and Past Recorded Presentations:**

<https://mrcc.purdue.edu/multimedia/webinars.jsp>

<https://hprcc.unl.edu/webinars.php>

- ****Next webinar scheduled for September 19, 2024. Presenter: Dr. Trent Ford***

(Illinois)*

- NOAA's Climate Prediction Center: www.cpc.ncep.noaa.gov

- NOAA Climate Portal: www.climate.gov

- U.S. Drought Portal: www.drought.gov

- National Drought Mitigation Center: <http://drought.gov>

- State climatologists

- <http://www.stateclimate.org>

- Regional climate centers

- [Midwest: https://mrcc.purdue.edu/](https://mrcc.purdue.edu/)

- [High Plains: http://www.hprcc.unl.edu](http://www.hprcc.unl.edu)



Columbus, OH (Aaron Wilson)

Agenda

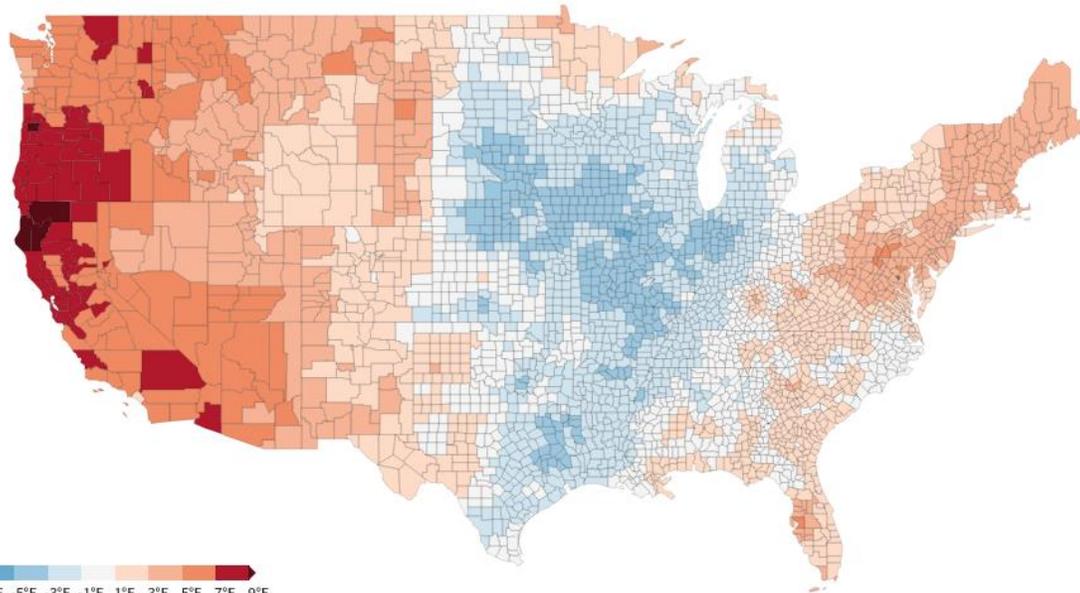
- Recent Conditions
- Impacts
- Outlooks
- Q&A



July Temperature Rankings

County Maximum Temperature Anomaly

July 2024



-9°F -7°F -5°F -3°F -1°F 1°F 3°F 5°F 7°F 9°F

Contiguous U.S. (Hover over a County)

Temp: 88.43°F

Anomaly: 1.79°F

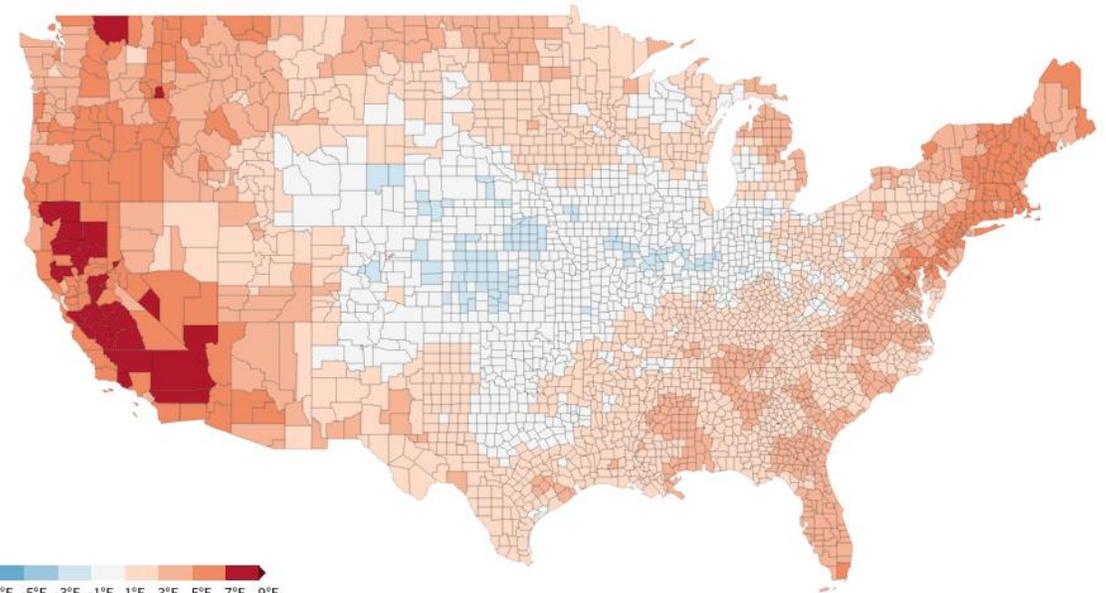
Rank: 19th Warmest

Mean: 86.64°F



County Minimum Temperature Anomaly

July 2024



-9°F -7°F -5°F -3°F -1°F 1°F 3°F 5°F 7°F 9°F

Contiguous U.S. (Hover over a County)

Temp: 62.98°F

Anomaly: 2.46°F

Rank: 6th Warmest

Mean: 60.52°F



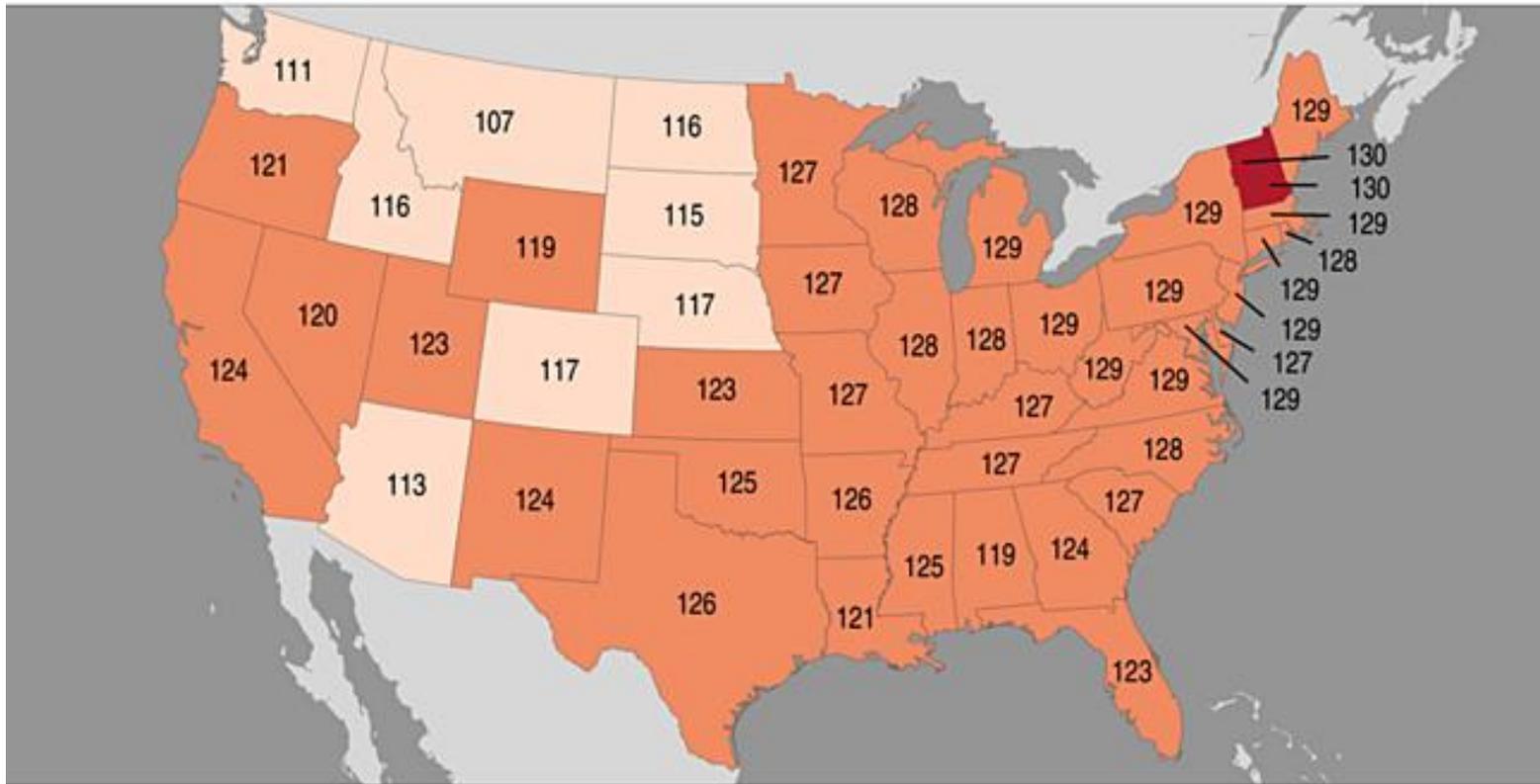
July Temperature Rankings

Statewide Average Temperature Ranks

January - July 2024

Ranking Period: 1895-2024

NOAA's National Centers for Environmental Information



States with top 5 warmest YTD temperatures:

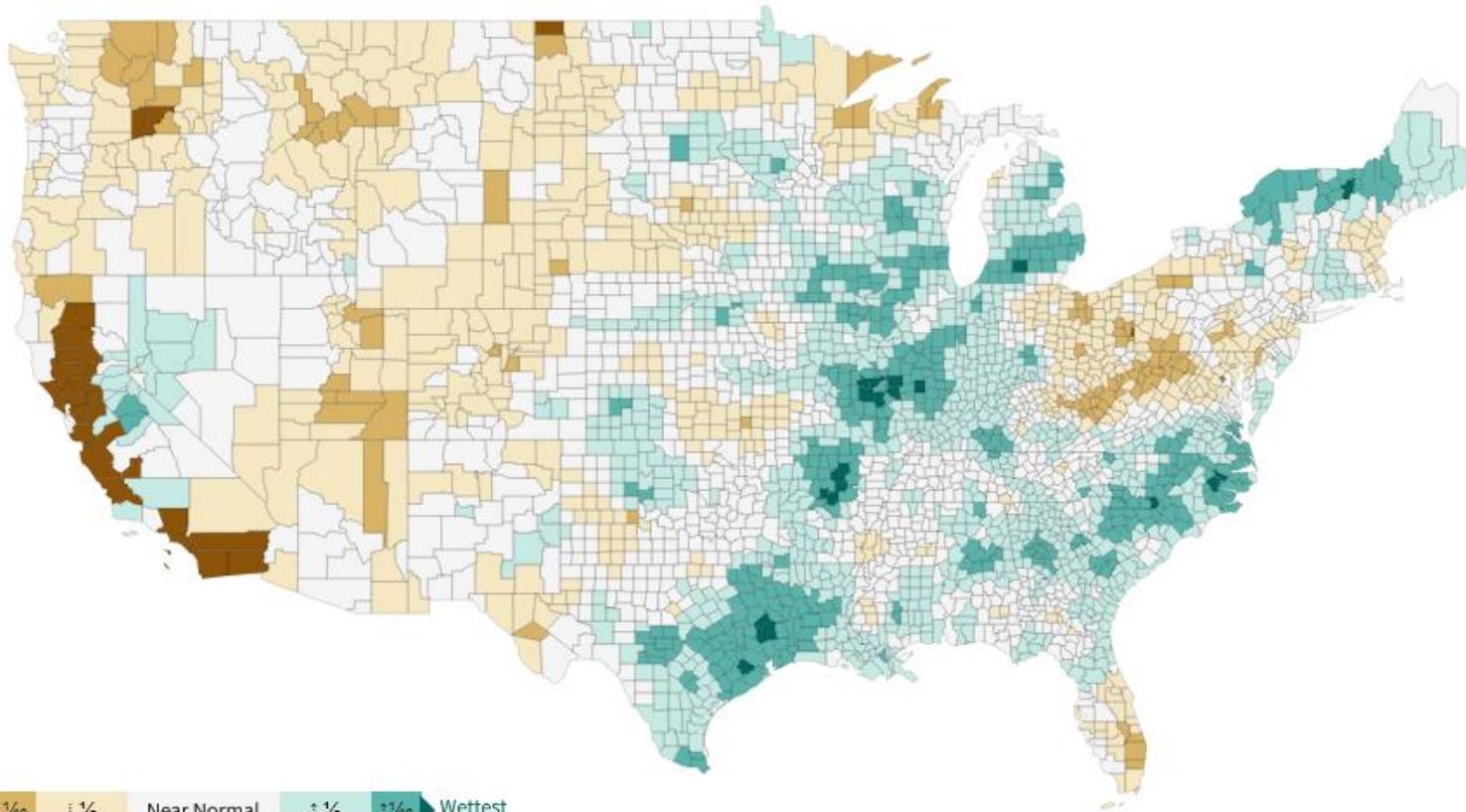
- Ohio
- Michigan
- Indiana
- Kentucky
- Illinois
- Wisconsin
- Missouri
- Iowa
- Minnesota



July Precipitation Rankings

County Precipitation Rank (130 years)

July 2024



Wettest July on Record
(Counties)

- Missouri (4), Illinois (3), Michigan (1)

Driest July on Record
(Counties)

- North Dakota (1)

Contiguous U.S. (Hover over a County)

Precip: 3.04"

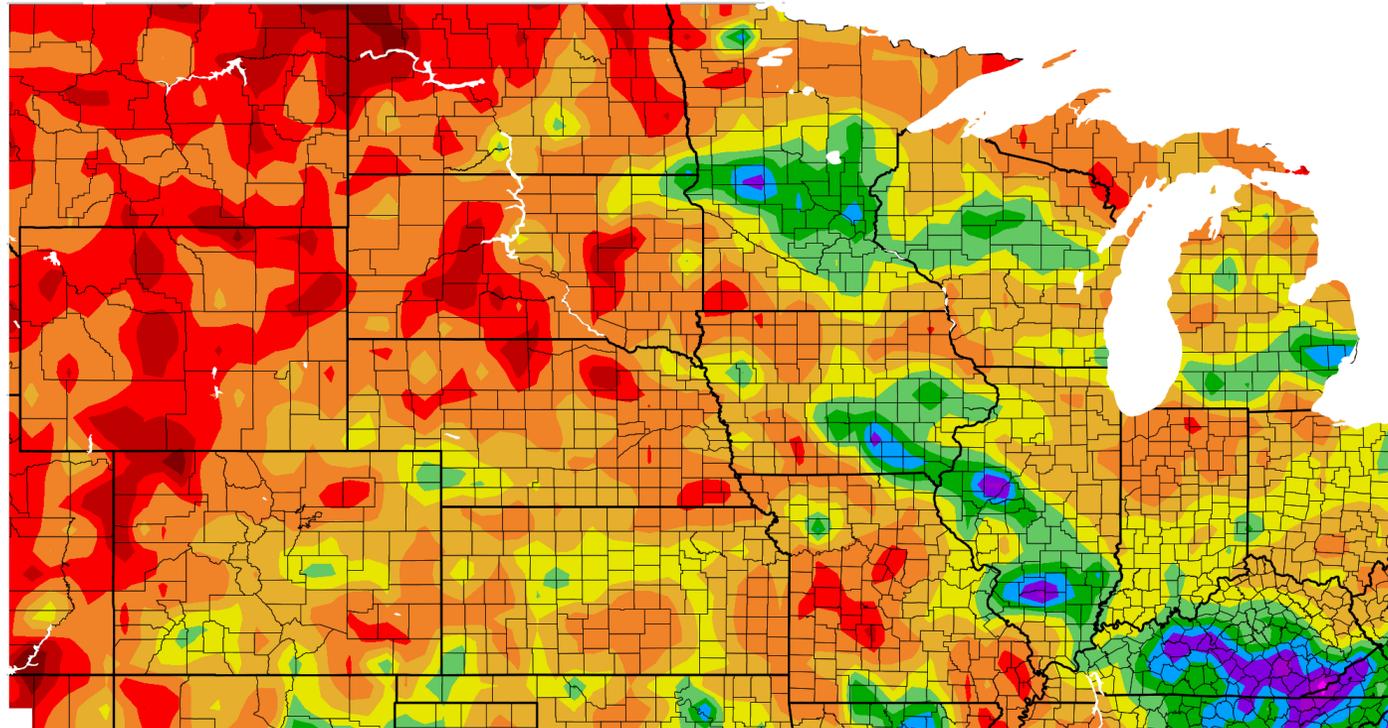
Anomaly: 0.26"

Rank: 30th Wettest

Mean: 2.78"



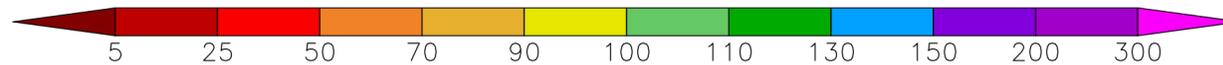
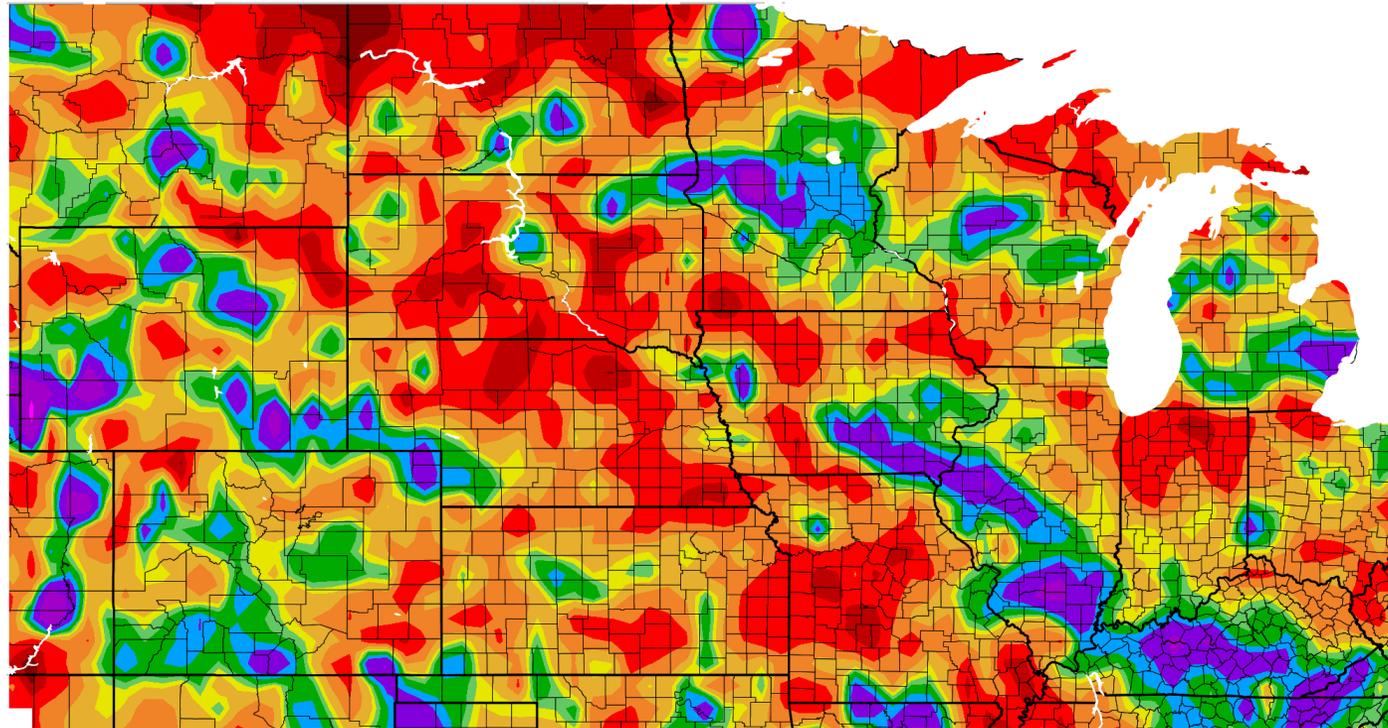
Precipitation (in)
7/16/2024 - 8/14/2024



Generated 8/15/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

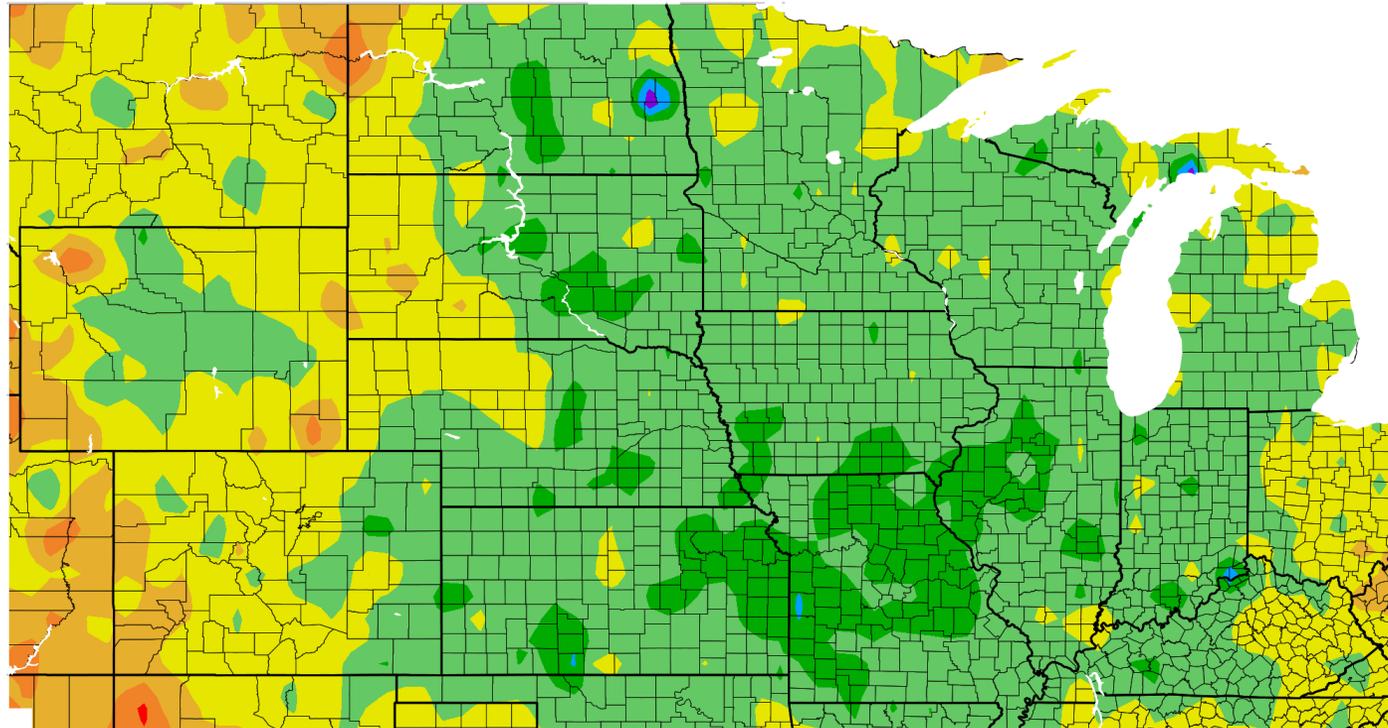
Percent of Normal Precipitation (%)
7/16/2024 – 8/14/2024



Generated 8/15/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

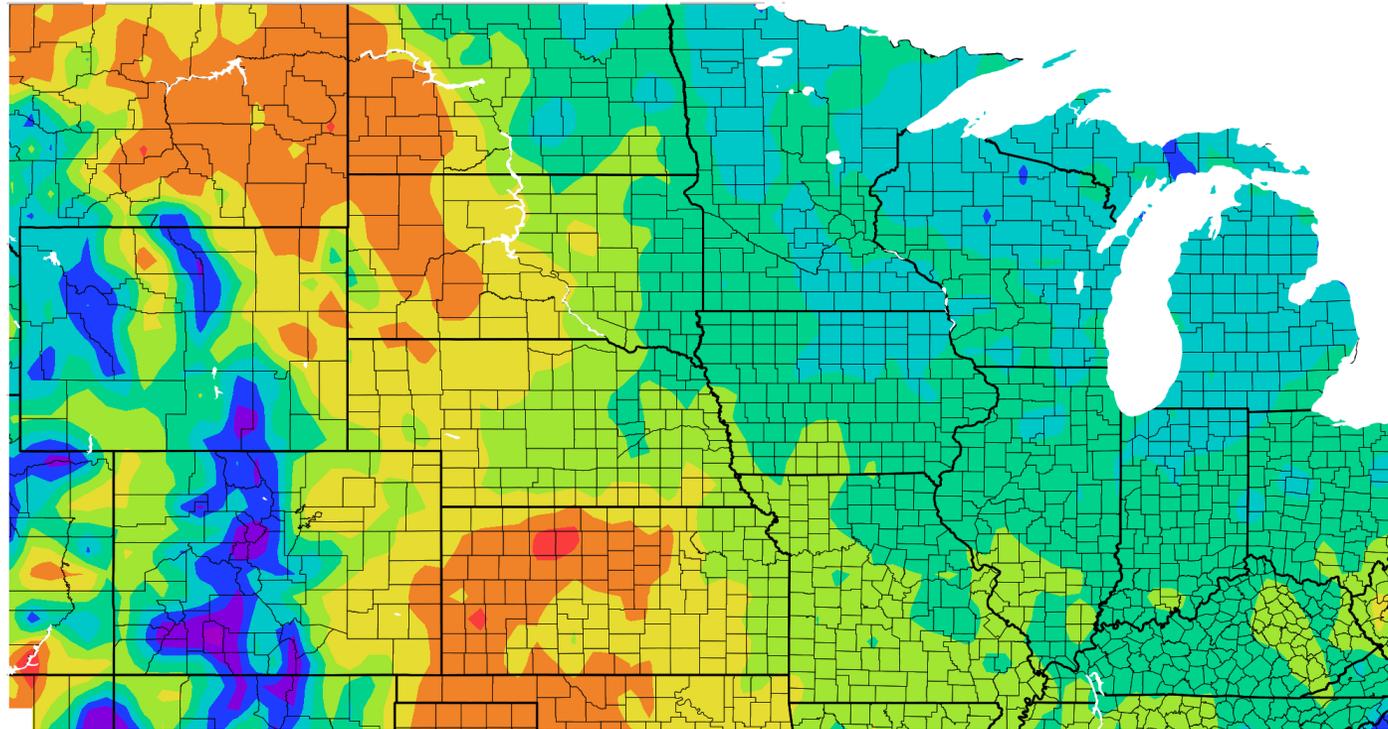
Departure from Normal Temperature (F) 7/16/2024 – 8/14/2024



Generated 8/15/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

Highest 1-Day Maximum Temperature (F) 7/16/2024 - 8/14/2024

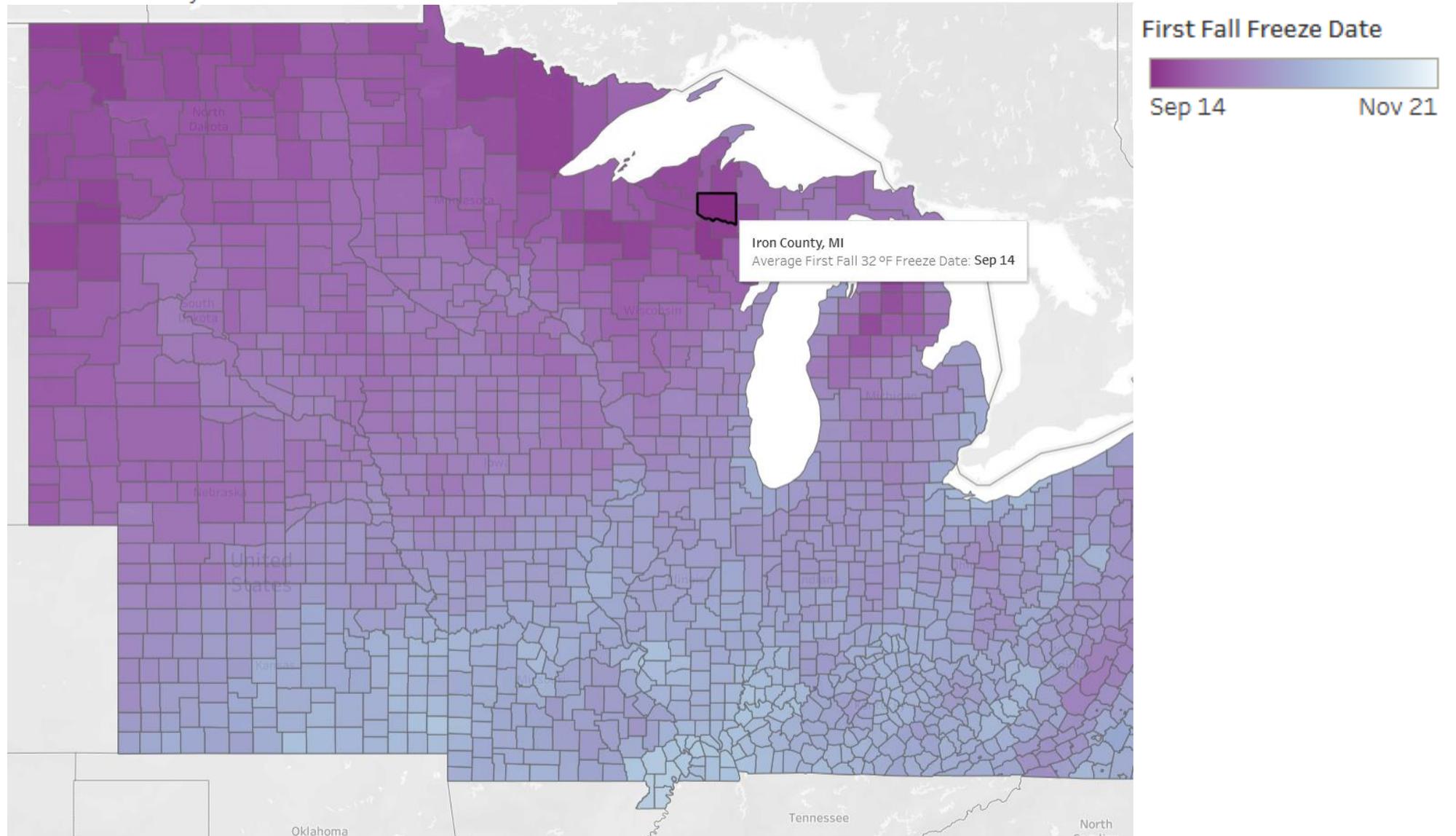


Generated 8/15/2024 at HPRCC using provisional data.

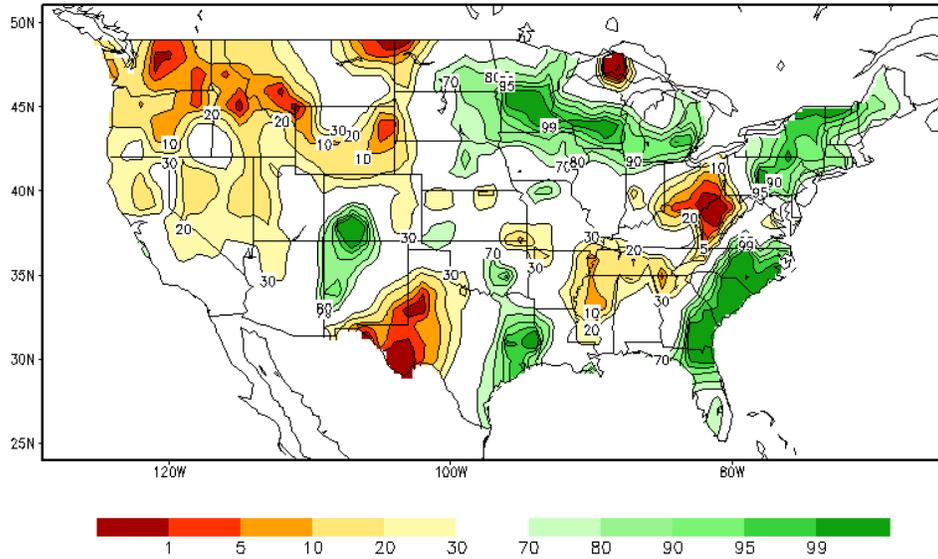
NOAA Regional Climate Centers

Average First Fall 32 °F Freeze Date

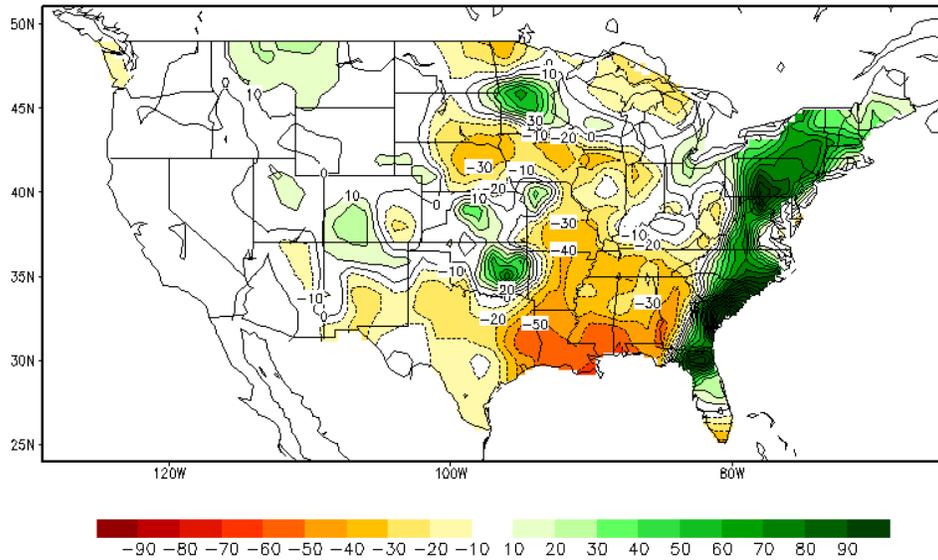
Click on a county to see more data for that location.



Calculated Soil Moisture Ranking Percentile
AUG 14, 2024

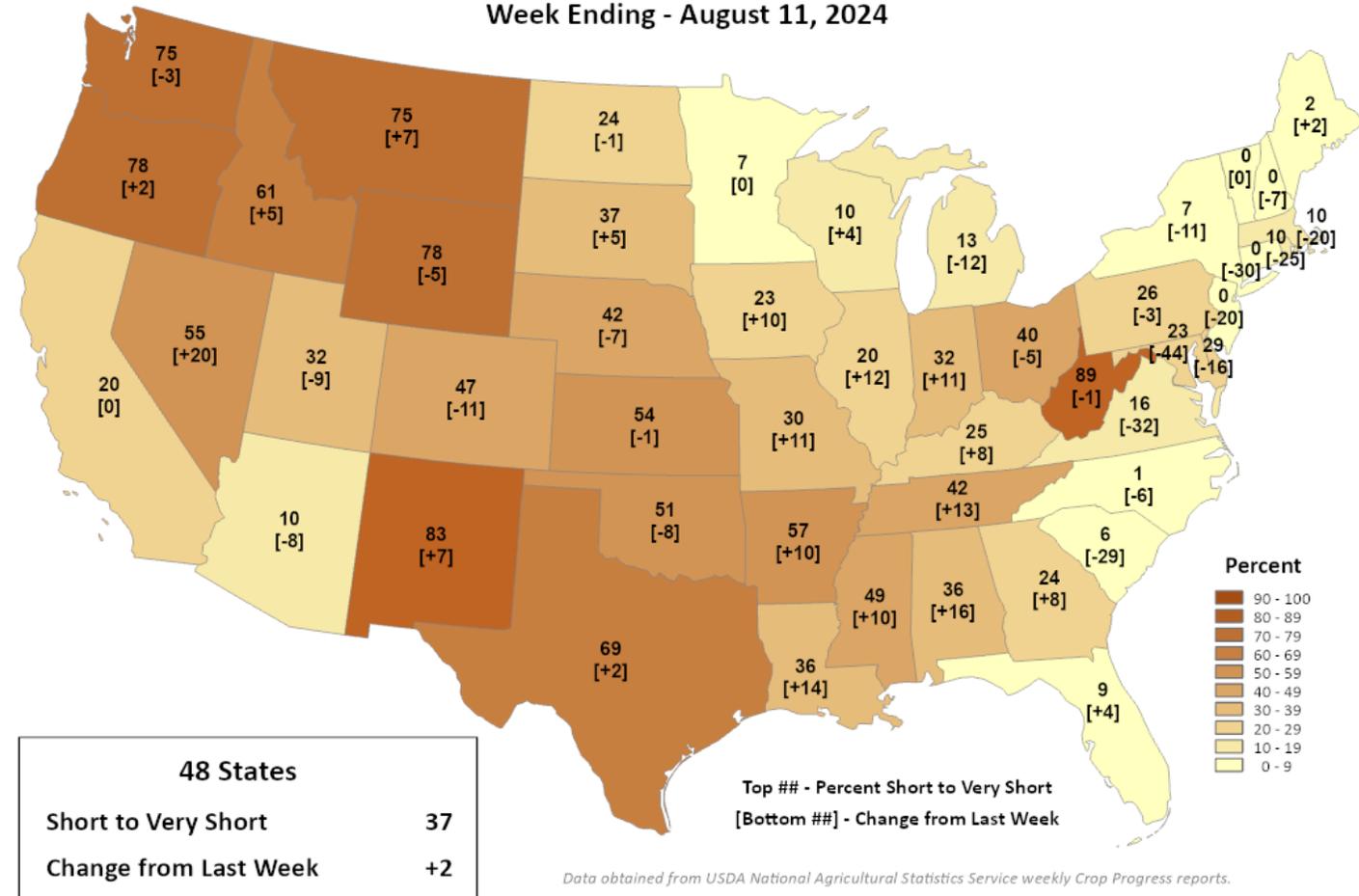


Calculated Soil Moisture Anomaly Change
AUG 14, 2024 from JUL.31



This product was prepared by the
USDA Office of the Chief Economist (OCE)
World Agricultural Outlook Board (WAOB)

Topsoil Moisture Percent Short to Very Short Week Ending - August 11, 2024



| | |
|-----------------------|-----------|
| 48 States | |
| Short to Very Short | 37 |
| Change from Last Week | +2 |

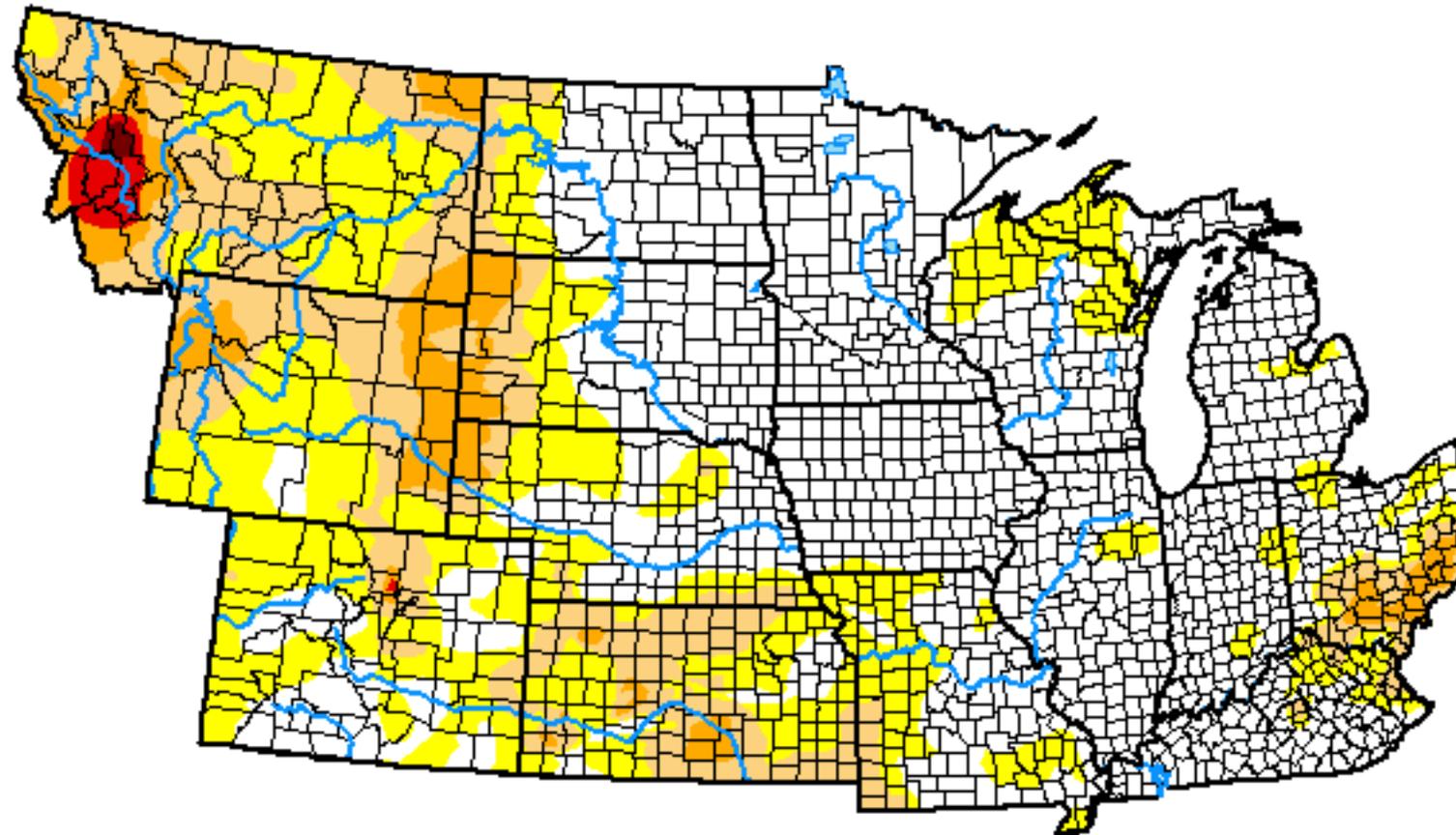
Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.

Current Drought Status

August 13, 2024

(Released Thursday, Aug. 15, 2024)

Valid 8 a.m. EDT



Drought Conditions (Percent Area)

| | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4 |
|--|-------|-------|-------|-------|-------|------|
| Current | 51.07 | 48.93 | 22.20 | 6.40 | 0.91 | 0.11 |
| Last Week <i>08-06-2024</i> | 52.00 | 48.00 | 21.10 | 6.13 | 0.91 | 0.11 |
| 3 Months Ago <i>05-14-2024</i> | 66.09 | 33.91 | 15.48 | 4.56 | 0.21 | 0.00 |
| Start of Calendar Year <i>01-02-2024</i> | 39.12 | 60.88 | 34.11 | 13.18 | 2.68 | 0.01 |
| Start of Water Year <i>09-26-2023</i> | 39.86 | 60.14 | 40.32 | 19.88 | 6.29 | 0.49 |
| One Year Ago <i>08-15-2023</i> | 46.43 | 53.57 | 34.46 | 14.63 | 3.37 | 0.21 |

Intensity:



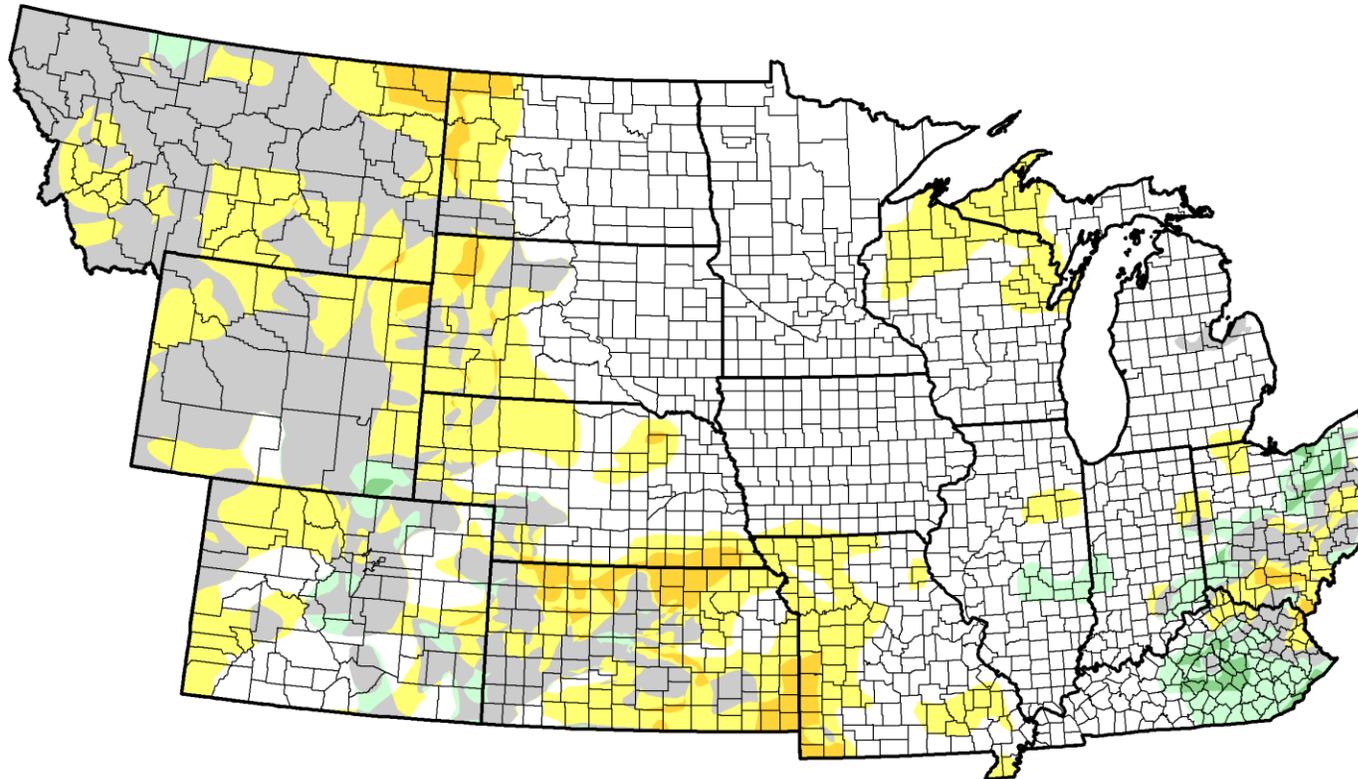
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

Curtis Riganti
National Drought Mitigation Center



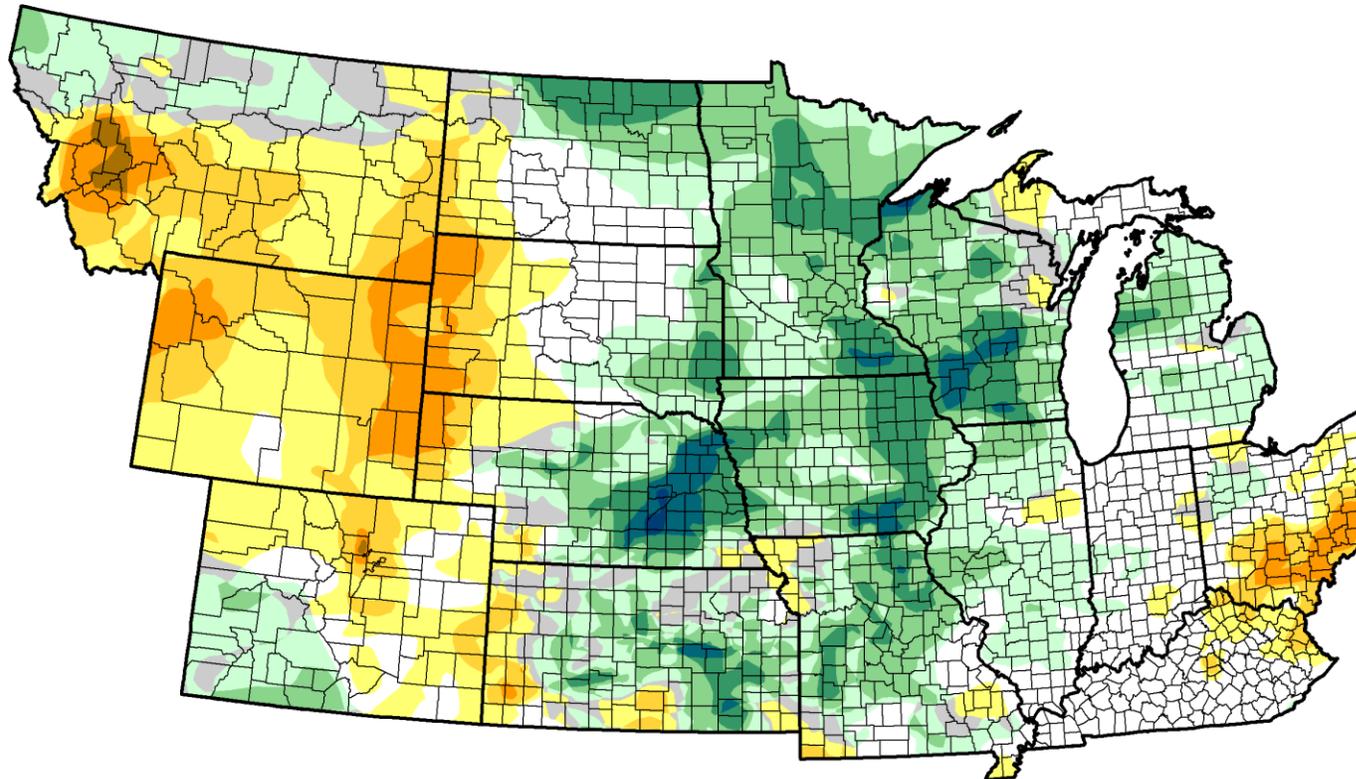
U.S. Drought Monitor Class Change - NWS Central 4 Week



-  5 Class Degradation
-  4 Class Degradation
-  3 Class Degradation
-  2 Class Degradation
-  1 Class Degradation
-  No Change
-  1 Class Improvement
-  2 Class Improvement
-  3 Class Improvement
-  4 Class Improvement
-  5 Class Improvement

August 13, 2024
compared to
July 16, 2024

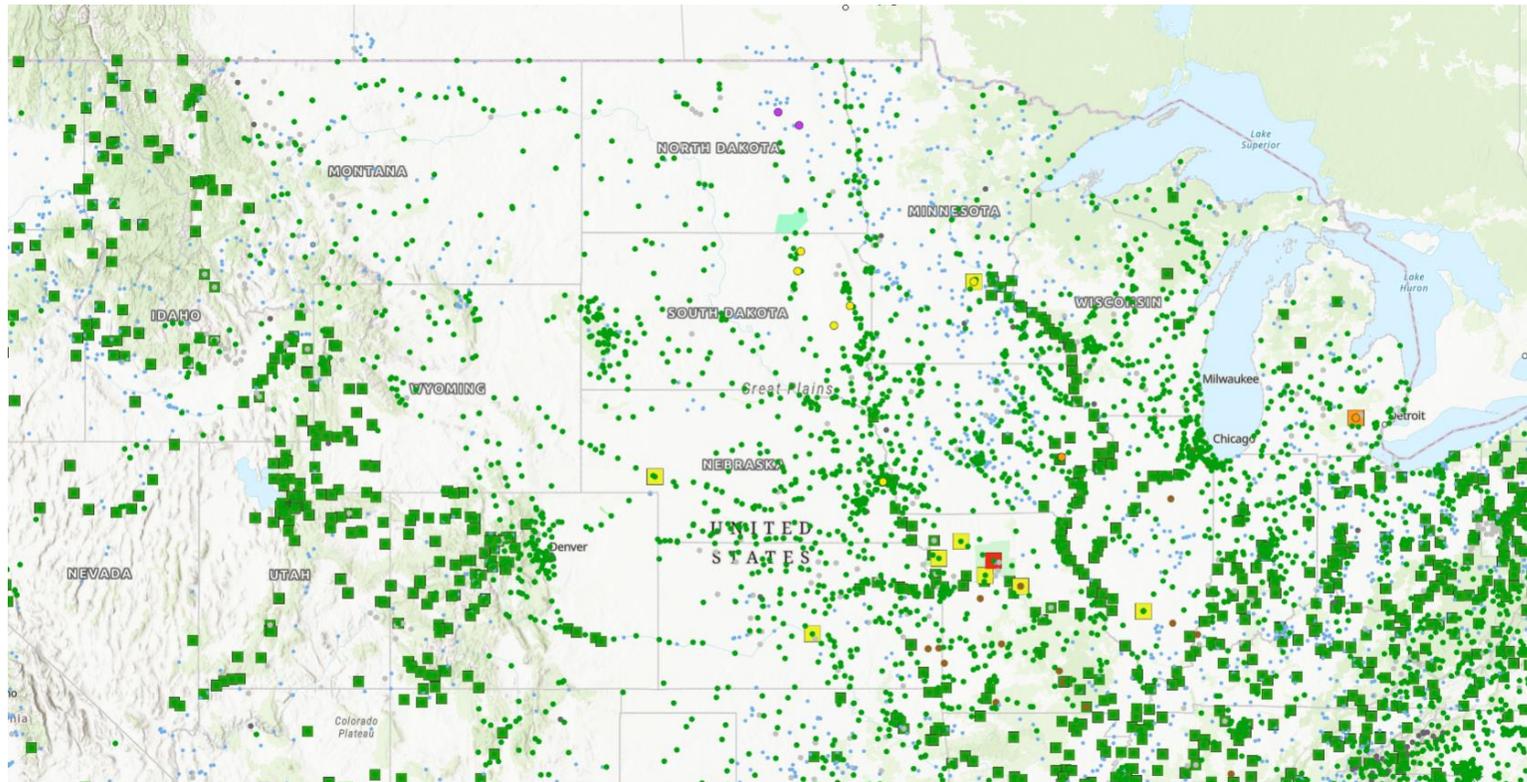
U.S. Drought Monitor Class Change - NWS Central 52 Week



-  5 Class Degradation
-  4 Class Degradation
-  3 Class Degradation
-  2 Class Degradation
-  1 Class Degradation
-  No Change
-  1 Class Improvement
-  2 Class Improvement
-  3 Class Improvement
-  4 Class Improvement
-  5 Class Improvement

August 13, 2024
compared to
August 15, 2023

Hydrologic Conditions



Layers

▾ River Gauge

- Observations & Forecasts
- Long Range Flood Outlook

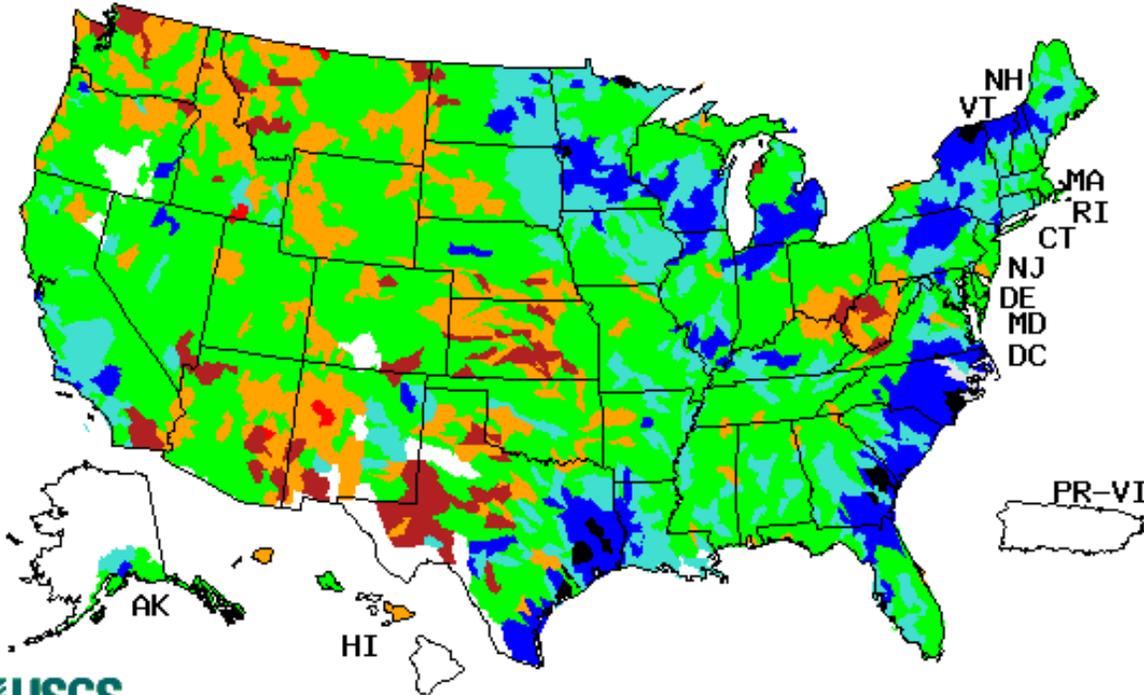
| CATEGORIES | OBSERVATION | FORECAST |
|----------------------------|--|--|
| Major Flood | 4 <input checked="" type="checkbox"/> | 3 <input checked="" type="checkbox"/> |
| Moderate Flood | 7 <input checked="" type="checkbox"/> | 7 <input checked="" type="checkbox"/> |
| Minor Flood | 21 <input checked="" type="checkbox"/> | 24 <input checked="" type="checkbox"/> |
| Action | 19 <input checked="" type="checkbox"/> | 26 <input checked="" type="checkbox"/> |
| No Flood | 5425 <input checked="" type="checkbox"/> | 1487 <input checked="" type="checkbox"/> |
| Flood Category Not Defined | 2938 <input checked="" type="checkbox"/> | 0 <input type="checkbox"/> |
| No Forecast Available | 0 <input checked="" type="checkbox"/> | 0 <input type="checkbox"/> |
| Low Water Threshold | 25 <input checked="" type="checkbox"/> | 0 <input type="checkbox"/> |
| Data Not Current | 477 <input checked="" type="checkbox"/> | 0 <input type="checkbox"/> |
| Out of Service | 121 <input checked="" type="checkbox"/> | 0 <input type="checkbox"/> |

<https://water.noaa.gov>

Hydrologic Update

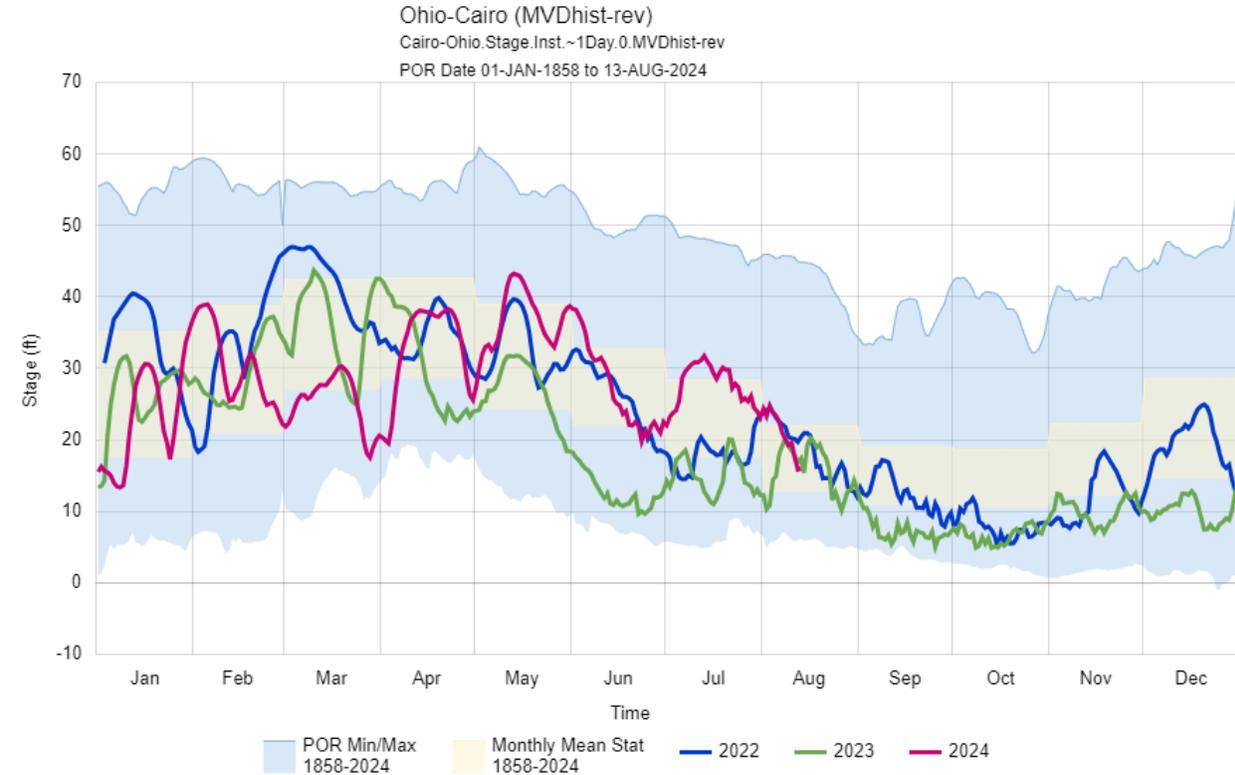
28-Day Streamflow

Tuesday, August 13, 2024



<https://waterwatch.usgs>

| Explanation - Percentile classes | | | | | | | |
|----------------------------------|-------------------|--------------|--------|--------------|-------------------|---------|------|
| Low | | | | | | | High |
| | <10 | 10-24 | 25-75 | 76-90 | >90 | No Data | |
| | Much below normal | Below normal | Normal | Above normal | Much above normal | | |



Courtesy: Anna Wolverson



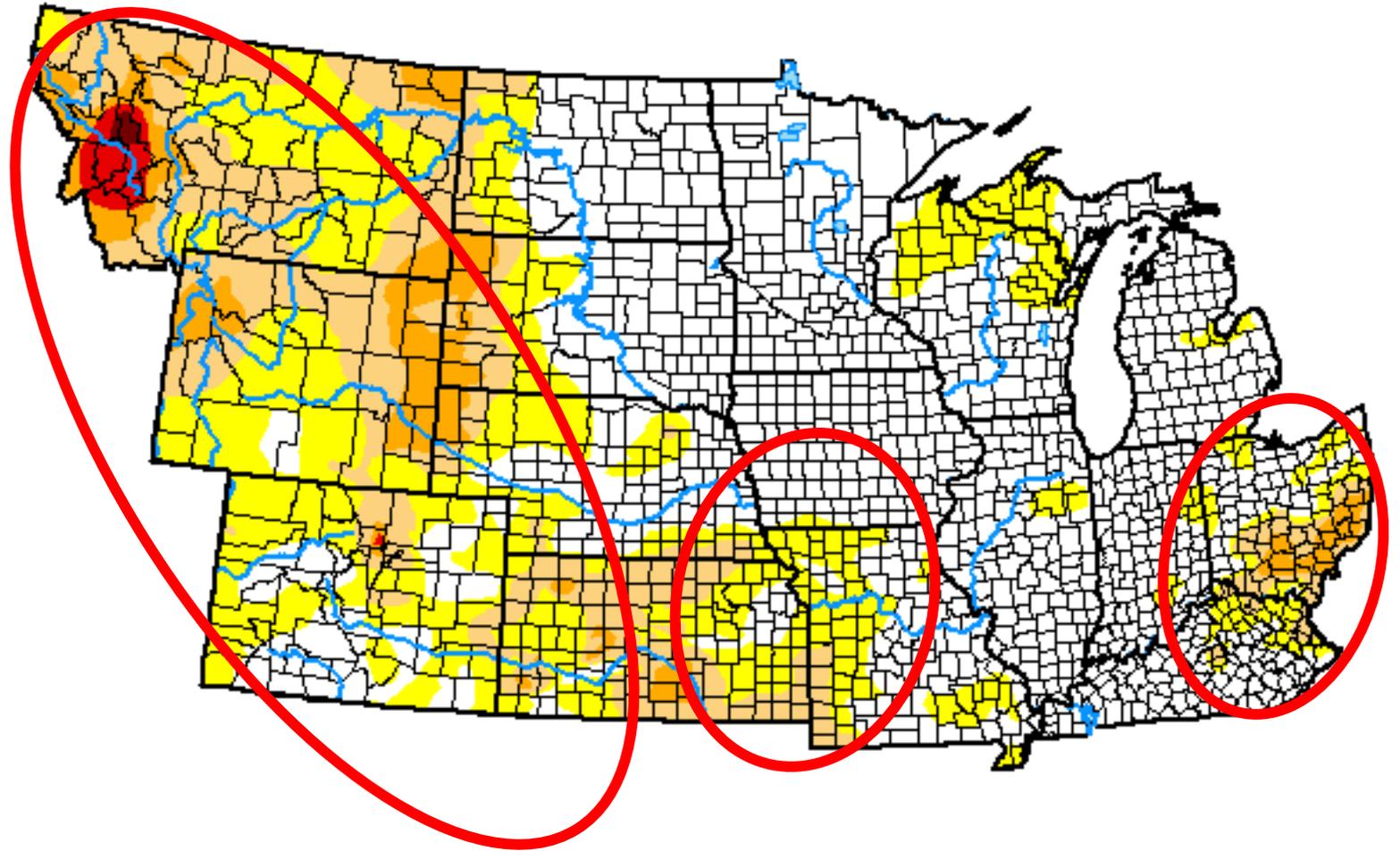
Alexander Mountain Fire (Becky Bolinger)

Impacts

Drought Impacts



Harding County, SD (CMOR)

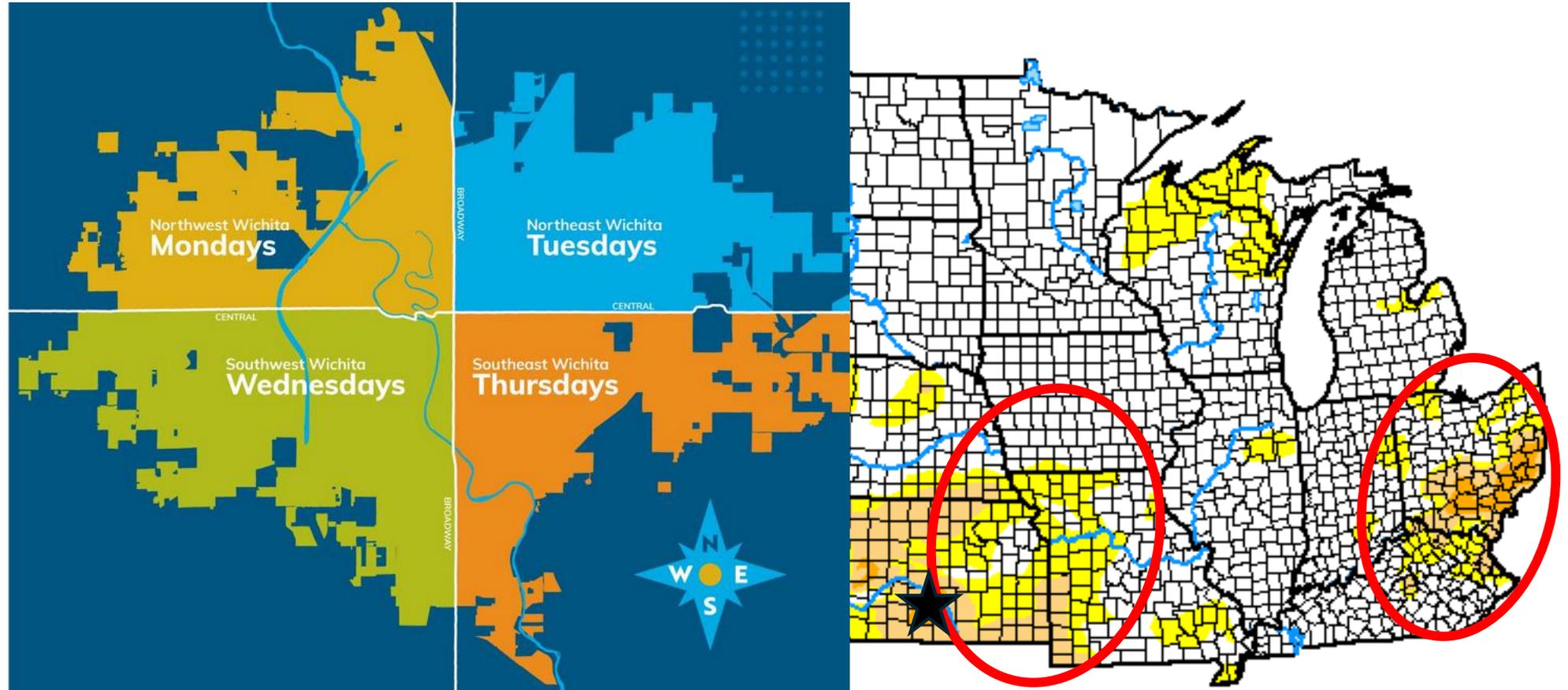


Drought Impacts

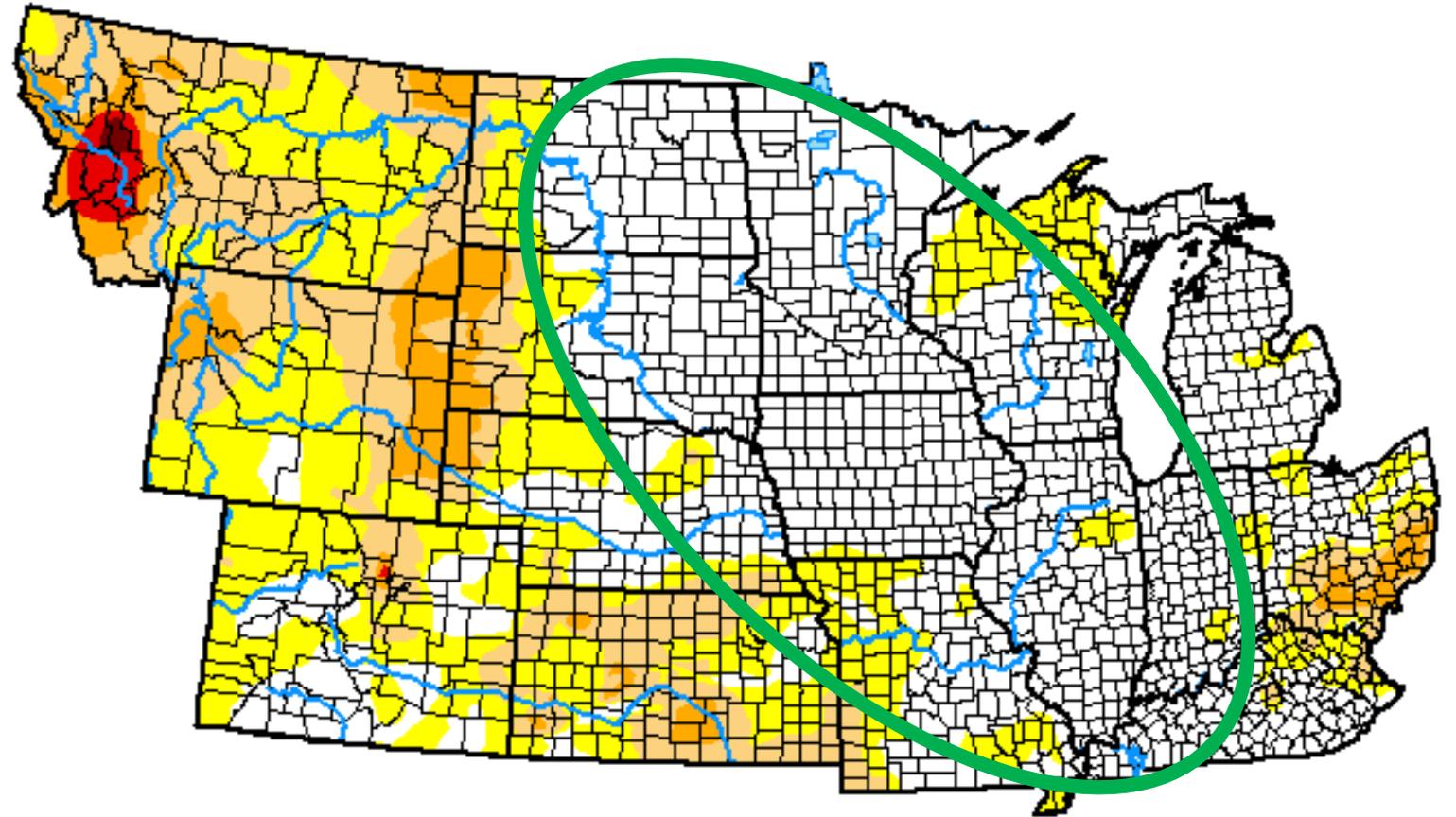
Stage 2 Drought Watering Schedule

- Customers at real properties **northwest of Central & Broadway** may use outdoor water on **Mondays**.
- Customers at real properties **northeast of Central & Broadway** may use outdoor water on **Tuesdays**.
- Customers at real properties **southwest of Central & Broadway** may use outdoor water on **Wednesdays**.
- Customers at real properties **southeast of Central & Broadway** may use outdoor water on **Thursdays**.

No residential watering on Friday/Saturday/Sunday.
No watering from 10am-8pm any day.



Agricultural Impacts

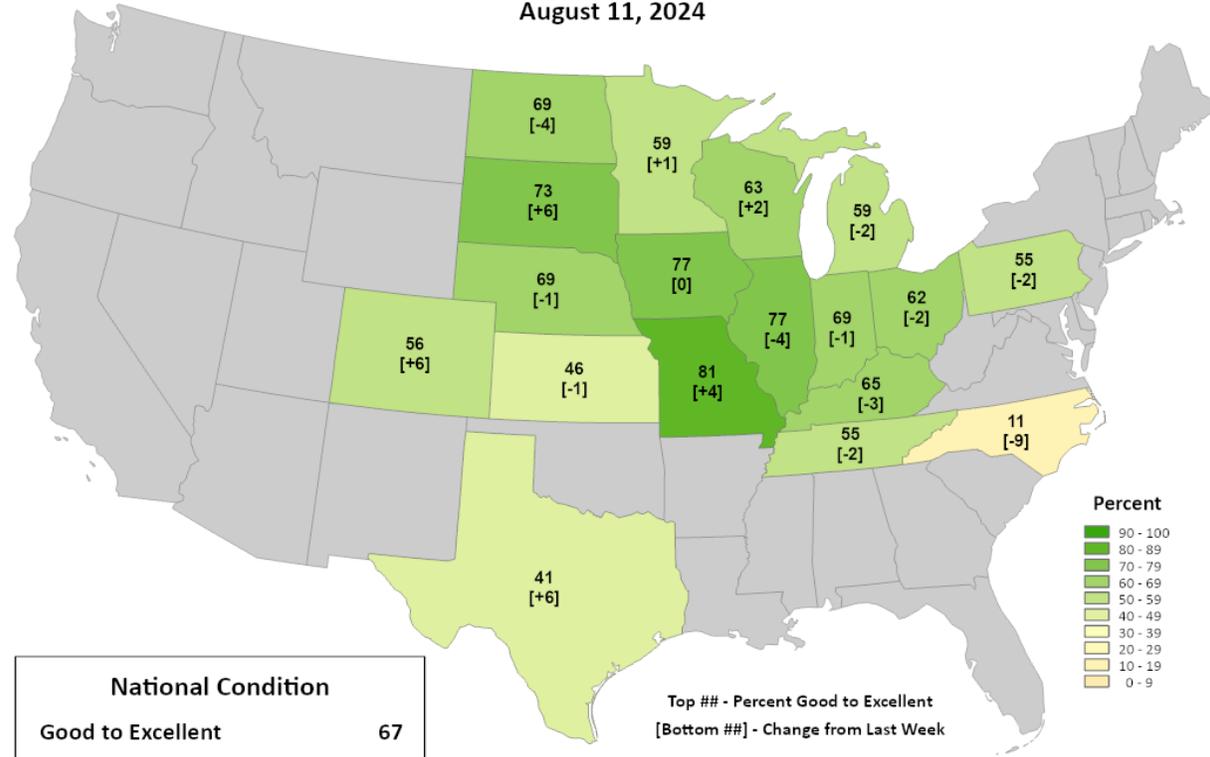


Crop Progress & Conditions



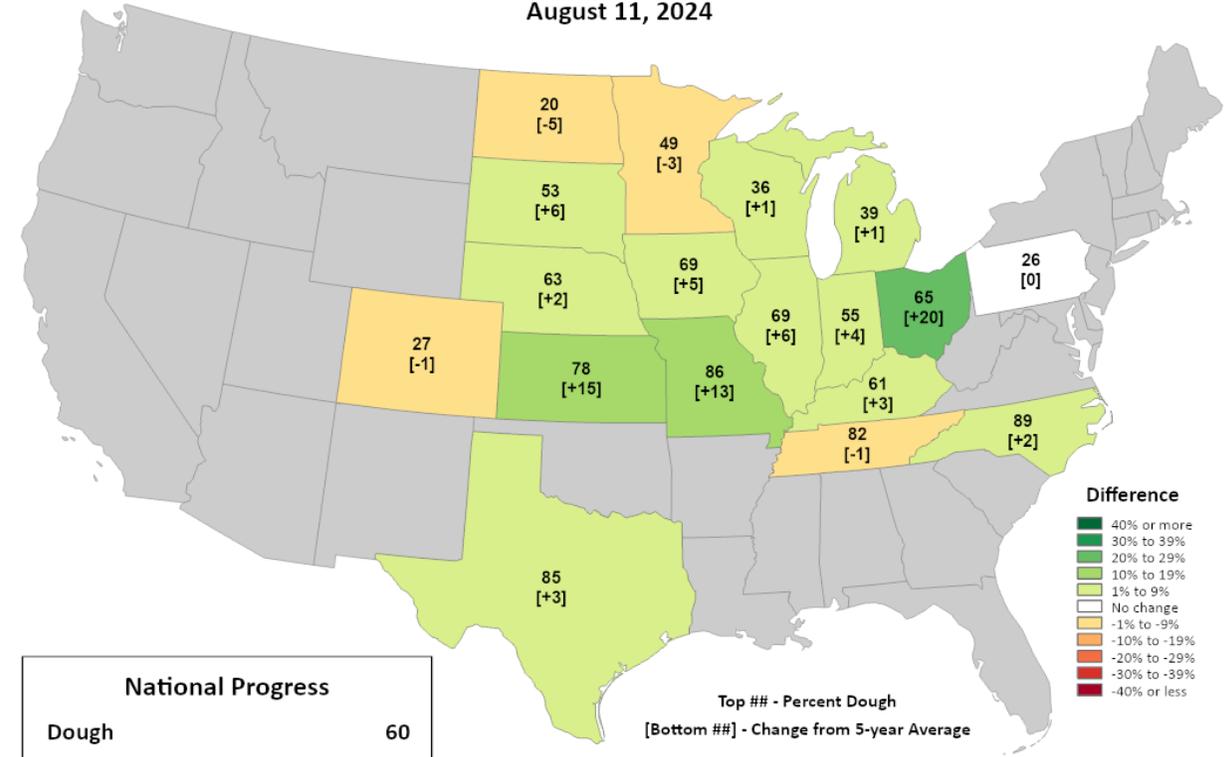
This product was prepared by the
USDA Office of the Chief Economist (OCE)
World Agricultural Outlook Board (WAOB)

Corn Conditions Percent Good to Excellent August 11, 2024



This product was prepared by the
USDA Office of the Chief Economist (OCE)
World Agricultural Outlook Board (WAOB)

Corn Progress Percent Dough August 11, 2024



Crop Progress & Conditions

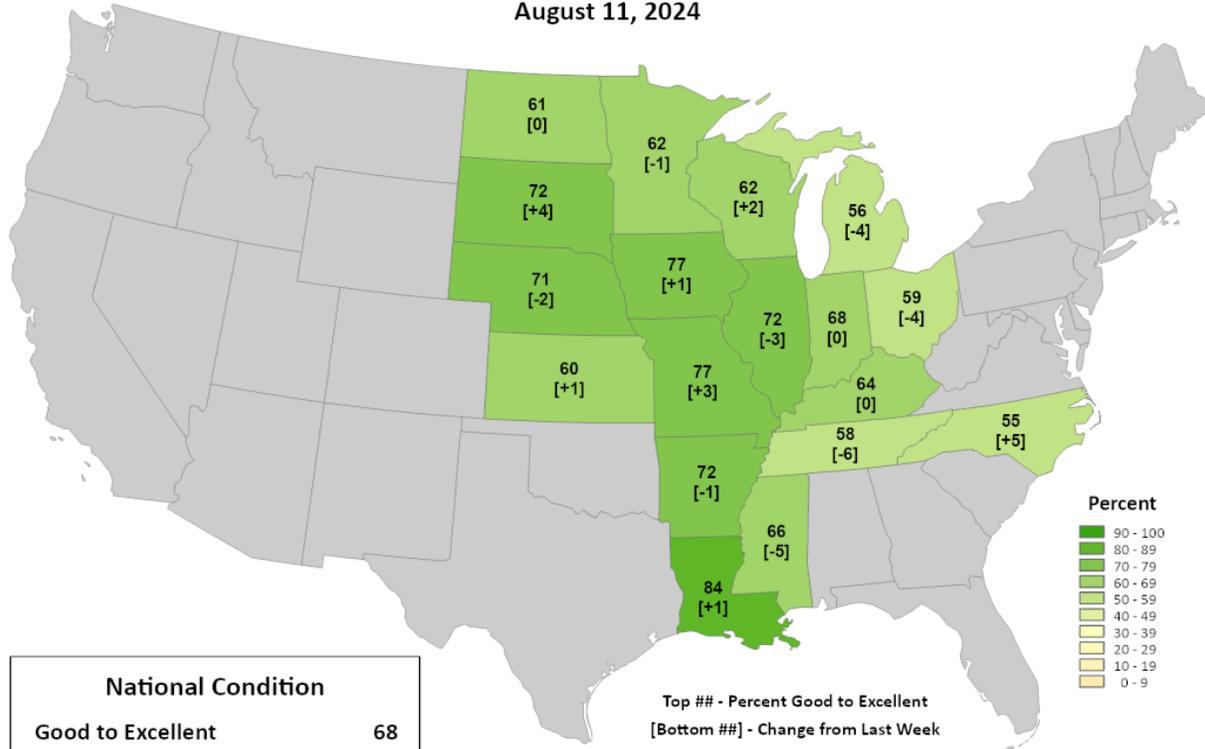


This product was prepared by the
USDA Office of the Chief Economist (OCE)
World Agricultural Outlook Board (WAOB)

Soybean Conditions

Percent Good to Excellent

August 11, 2024



| National Condition | |
|-----------------------|----|
| Good to Excellent | 68 |
| Change from Last Week | 0 |

Top ## - Percent Good to Excellent
[Bottom ##] - Change from Last Week

Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.

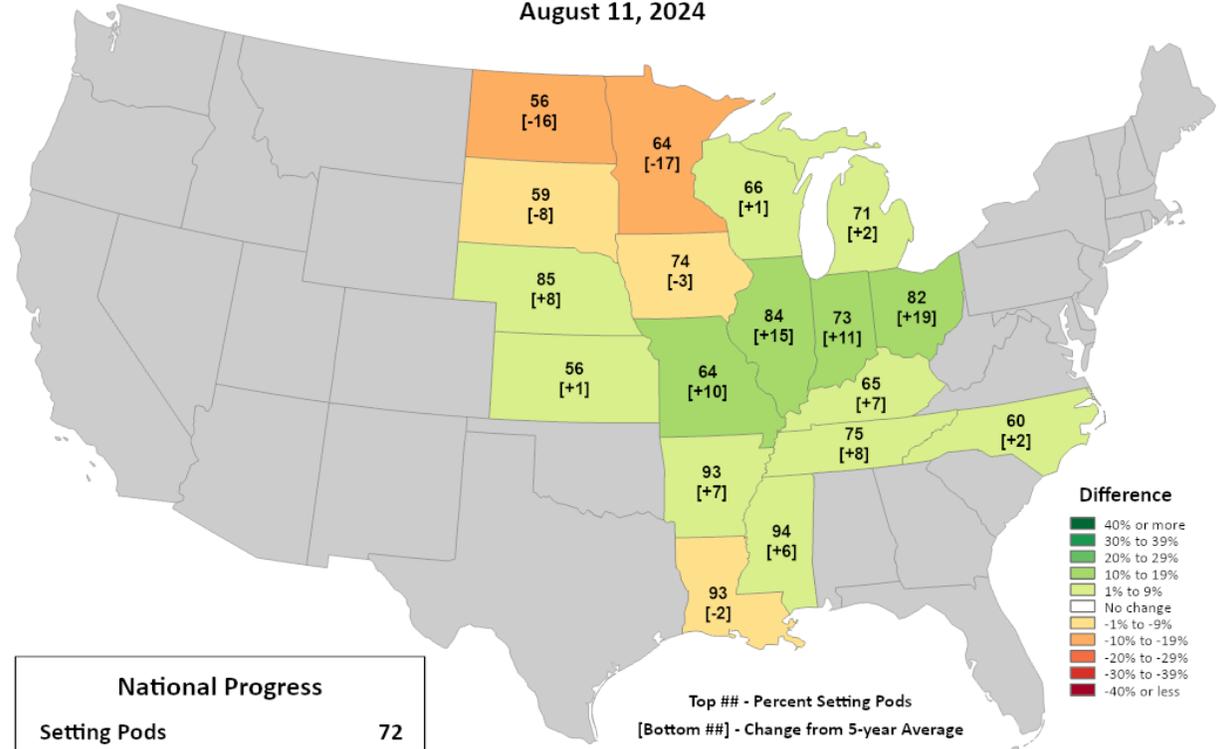


This product was prepared by the
USDA Office of the Chief Economist (OCE)
World Agricultural Outlook Board (WAOB)

Soybeans Progress

Percent Setting Pods

August 11, 2024



Pasture Conditions

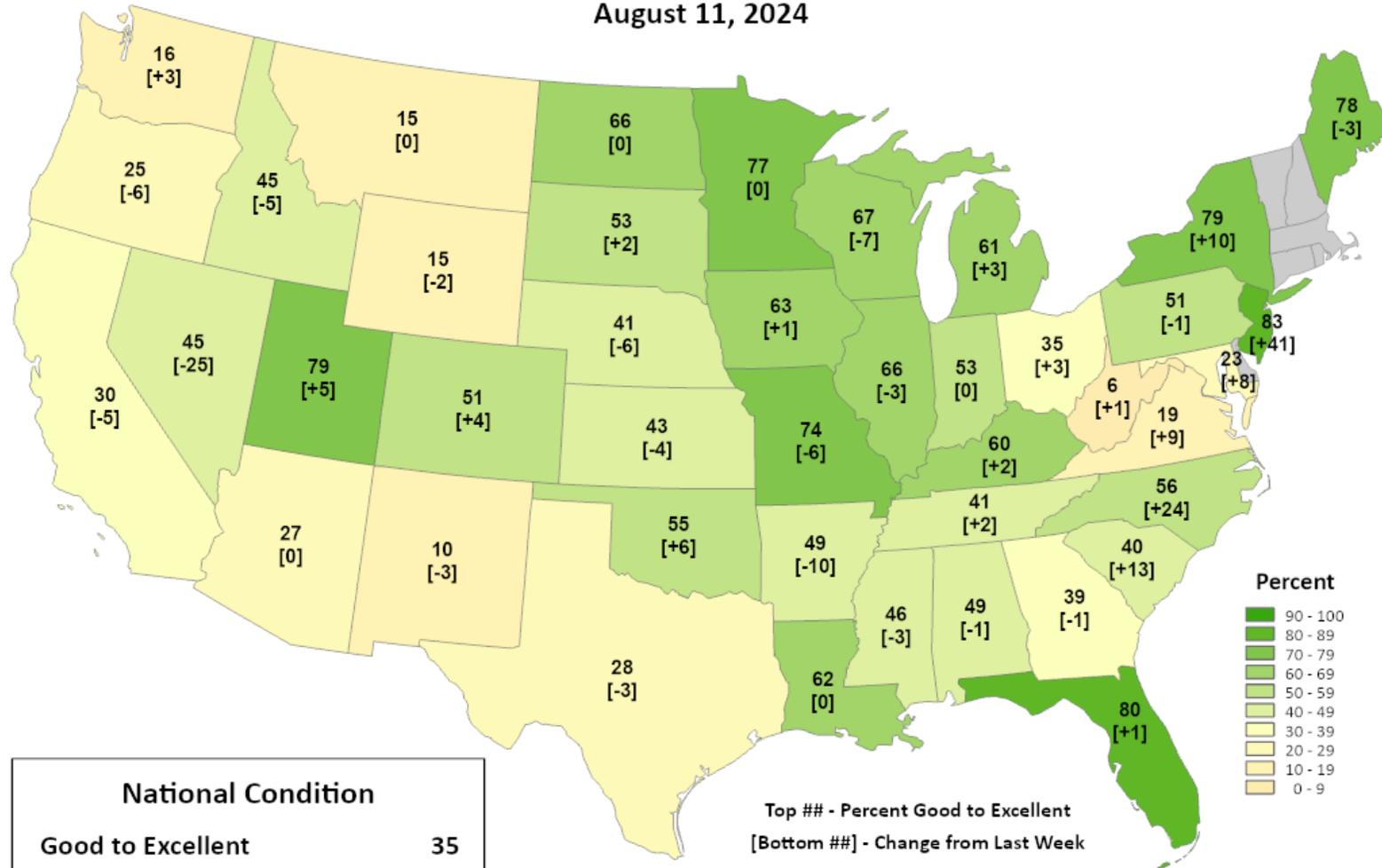


This product was prepared by the
USDA Office of the Chief Economist (OCE)
World Agricultural Outlook Board (WAOB)

Pasture and Range Conditions

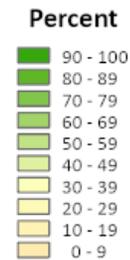
Percent Good to Excellent

August 11, 2024



| National Condition | |
|-----------------------|----|
| Good to Excellent | 35 |
| Change from Last Week | 0 |

Top ## - Percent Good to Excellent
[Bottom ##] - Change from Last Week



Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.



Bates County, MO (CMOR)



Ellis County, KS (CMOR)

Severe Weather



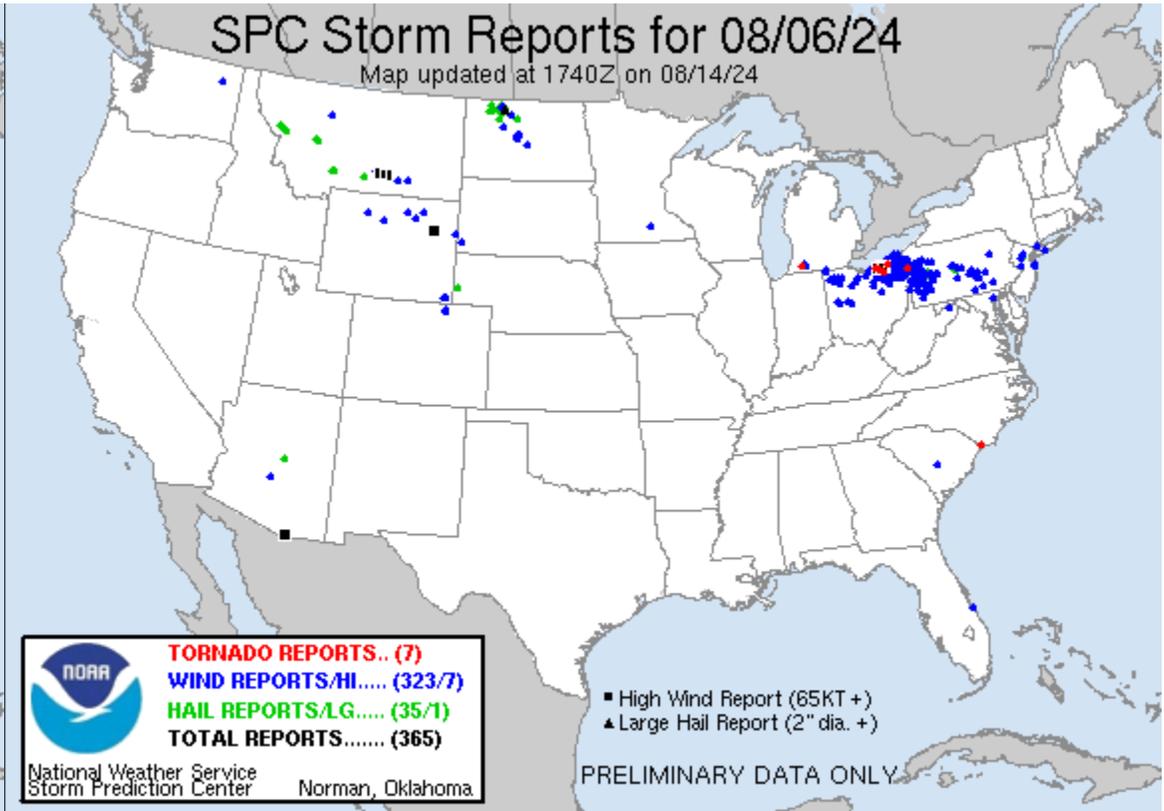
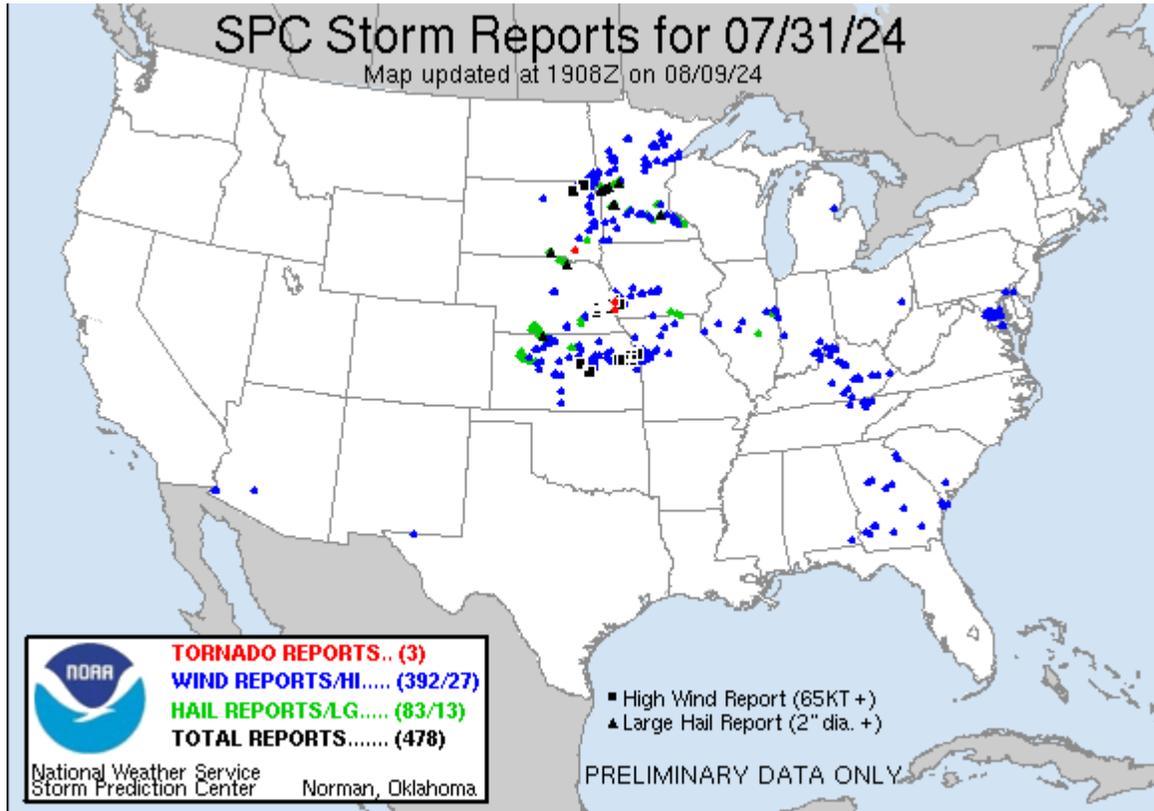
Stevens County, MN
(MNDNR)

*Largest hail reported
in MN since 1986!*

- July 31, 2024

<https://www.dnr.state.mn.us/climate/journal/giant-hail-july-31-2024.html>

Severe Weather



~ 400,000 outages in eastern
Nebraska

400,000 - 500,000 outages in NE
Ohio

<https://www.spc.noaa.gov/>

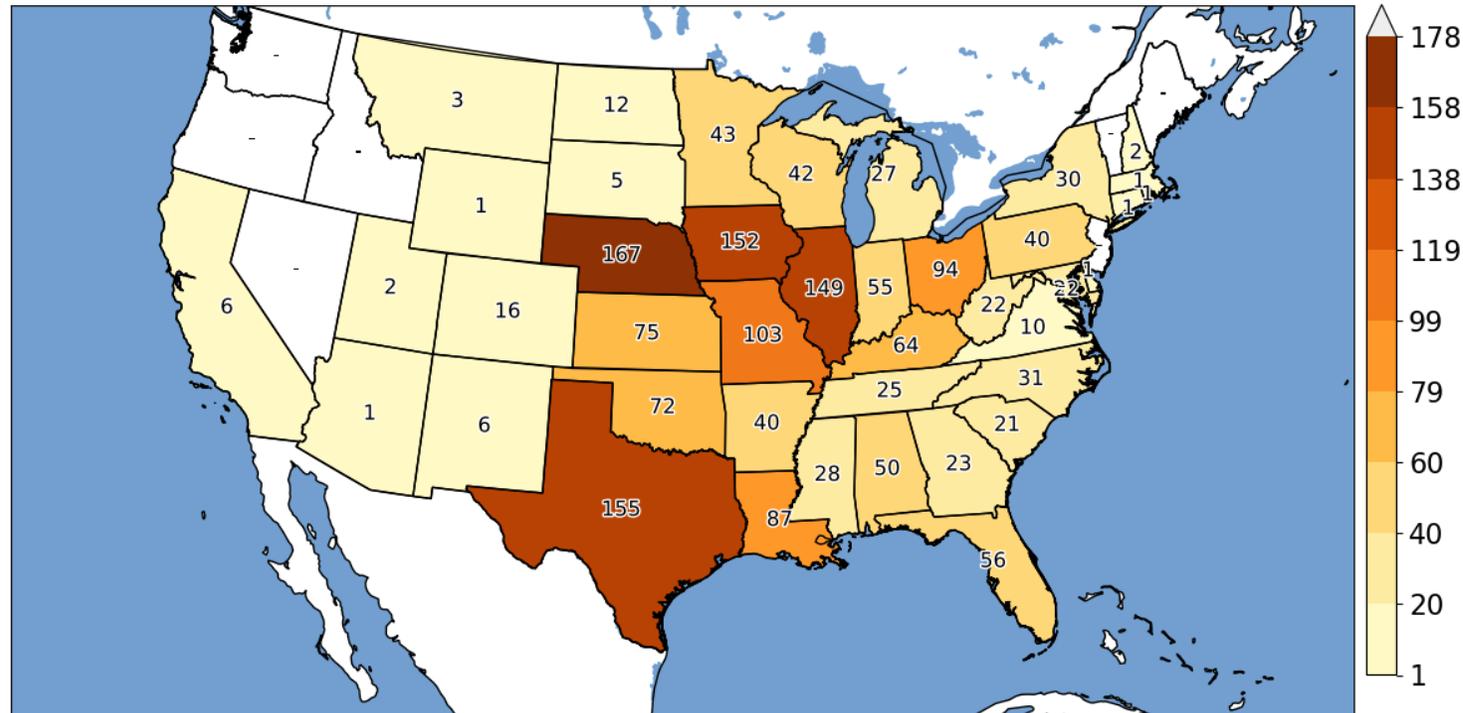
Largest power outage ever in Omaha

Severe Weather



Preliminary/Unfiltered Local Storm Report Event Count By State

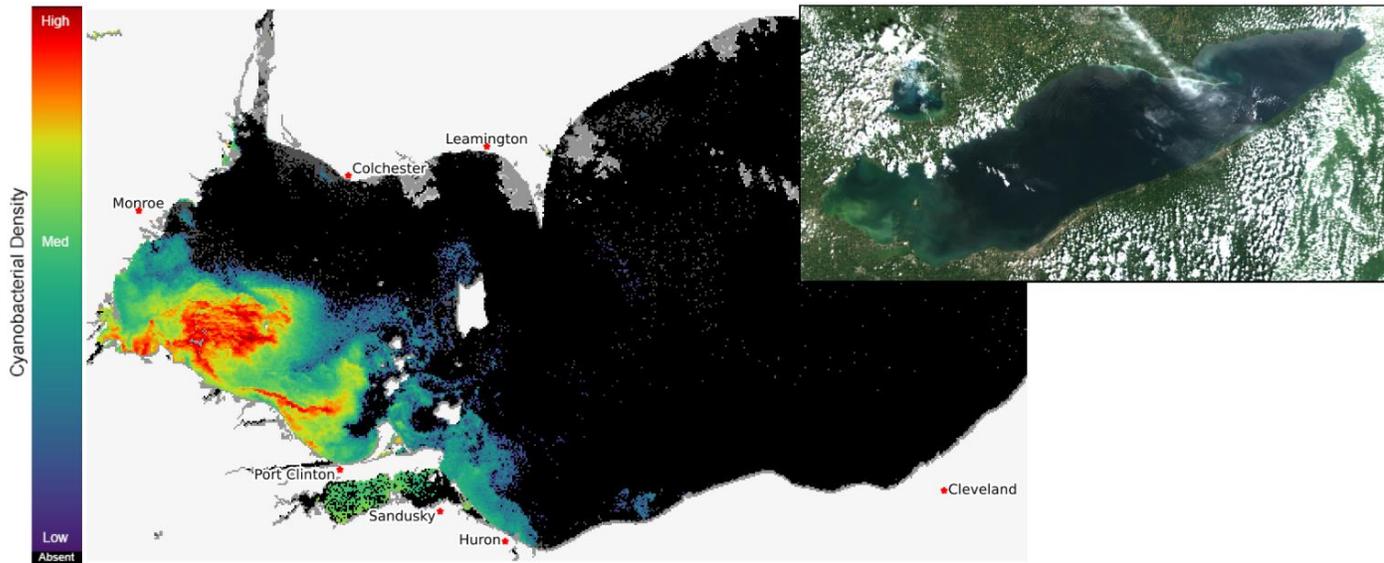
Valid 01 Jan 2024 00:00 - 16 Aug 2024 00:00 UTC, type limiter: TORNADO



States that have broken their annual tornado record in 2024:

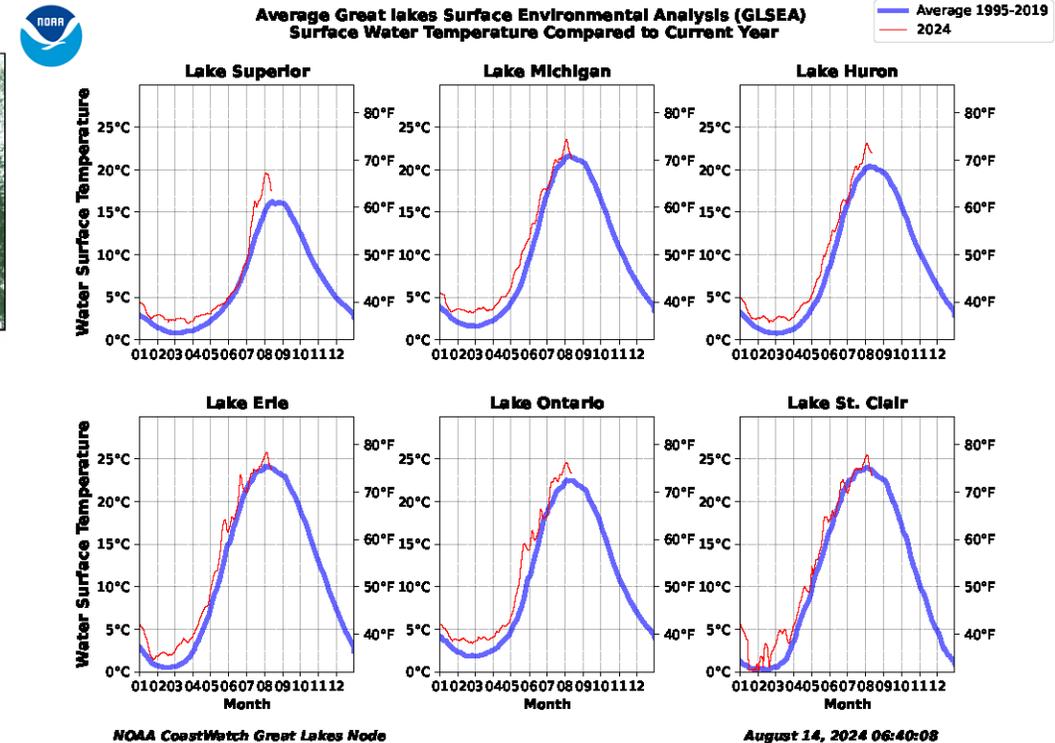
- Ohio
- Illinois
- Iowa

Great Lakes



Current Lake Erie Sentinel-3 satellite imagery from the Ocean and Land Color Imager (OLCI) on Aug 13, 2024, showing bloom location and extent in the western basin. Grey indicates clouds or missing data. The estimated threshold of cyanobacteria detection is 20,000 cells/mL. Inset shows a truecolor image of the entire lake. Data derived from Copernicus Sentinel-3.

Courtesy Gabrielle Farina



Fall Fire Weather Potential

Significant Wildland Fire Potential Outlook
September 2024

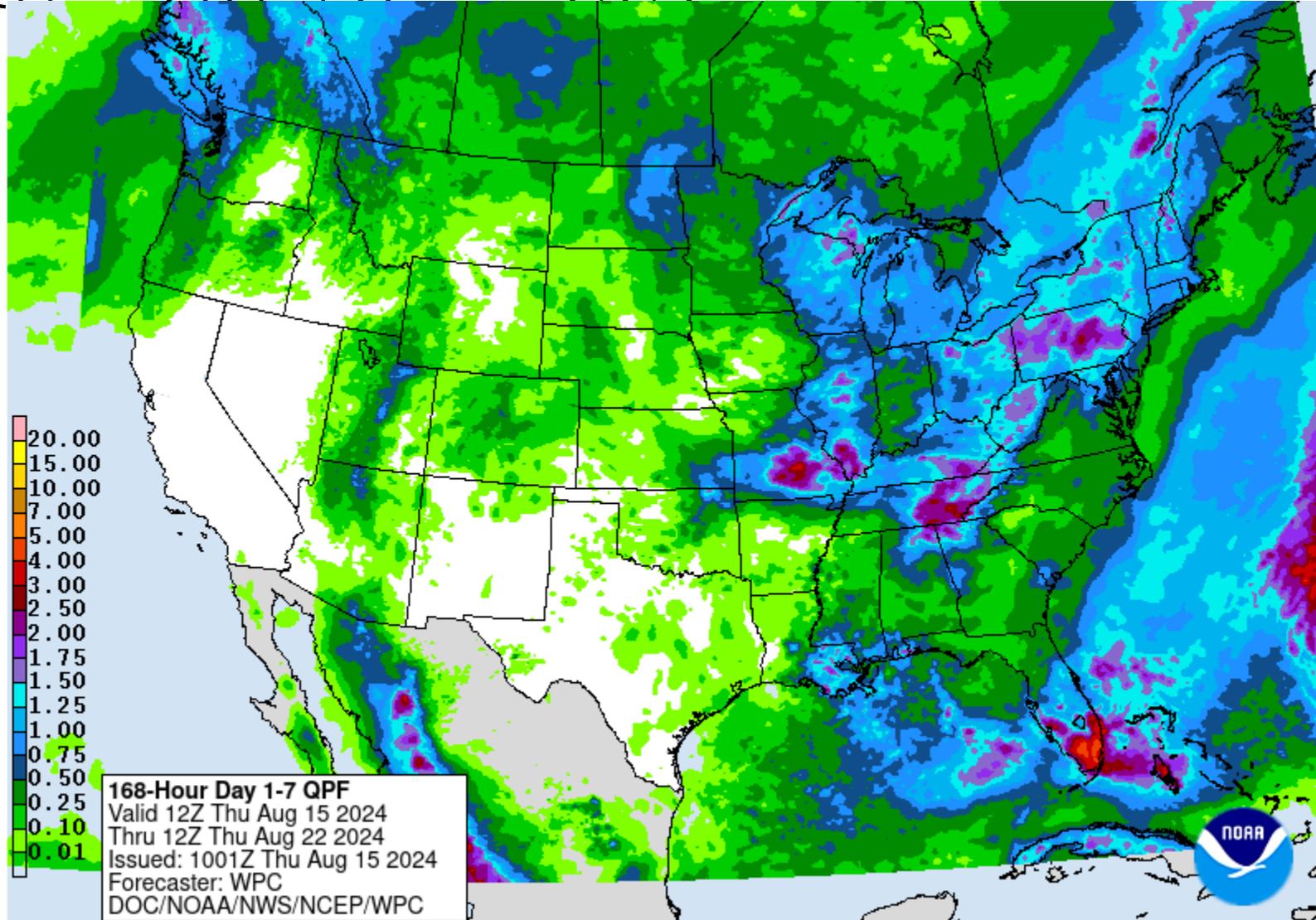


Significant Wildland Fire Potential Outlook
October 2024



Outlooks

7-day Quantitative Precipitation Forecast (8/15 - 22)



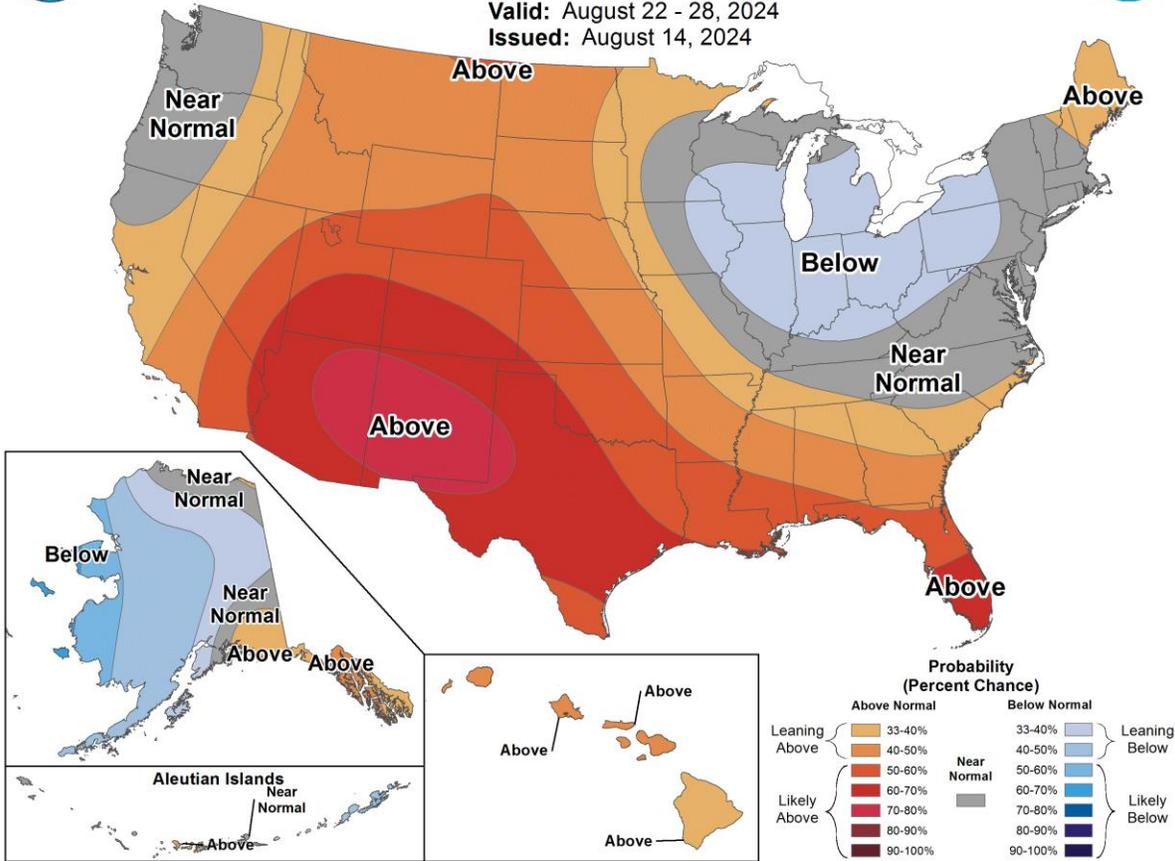
8-14 Day Outlook



8-14 Day Temperature Outlook



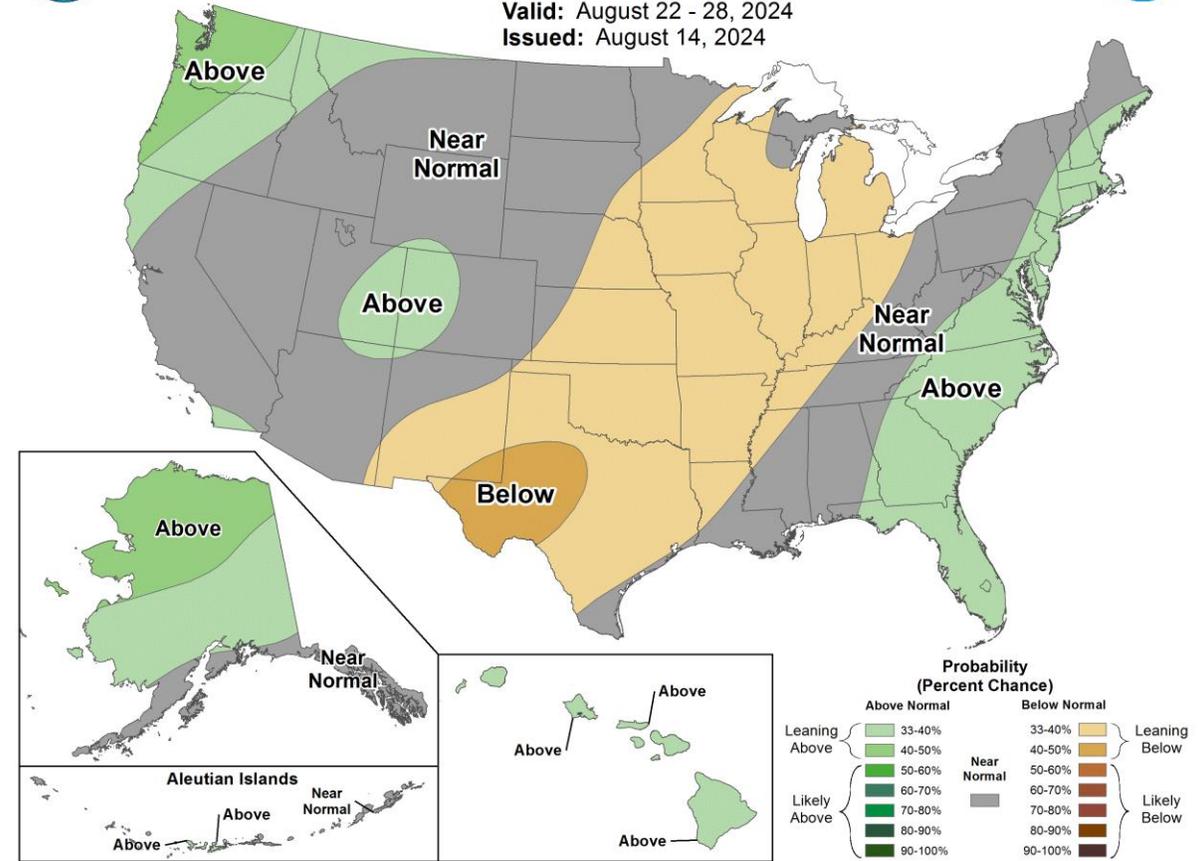
Valid: August 22 - 28, 2024
Issued: August 14, 2024



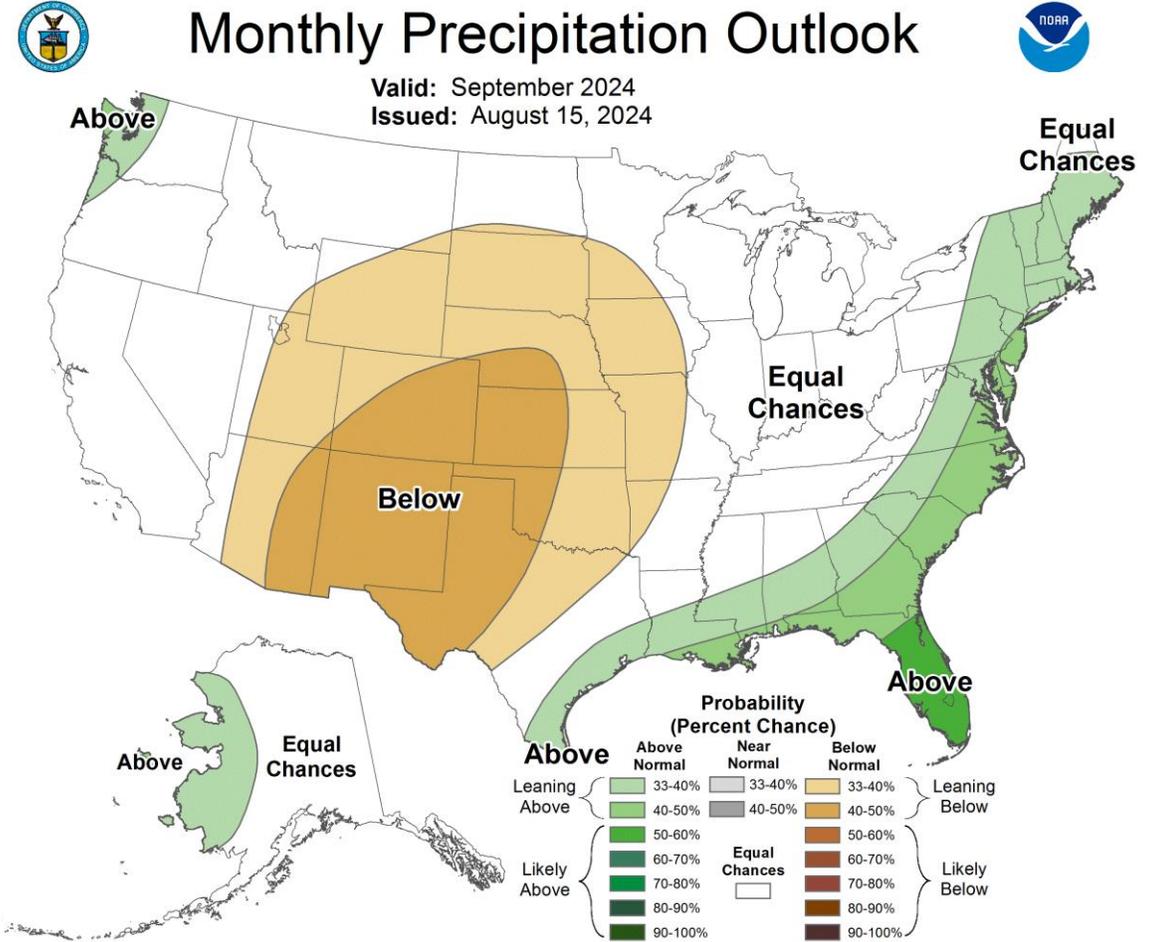
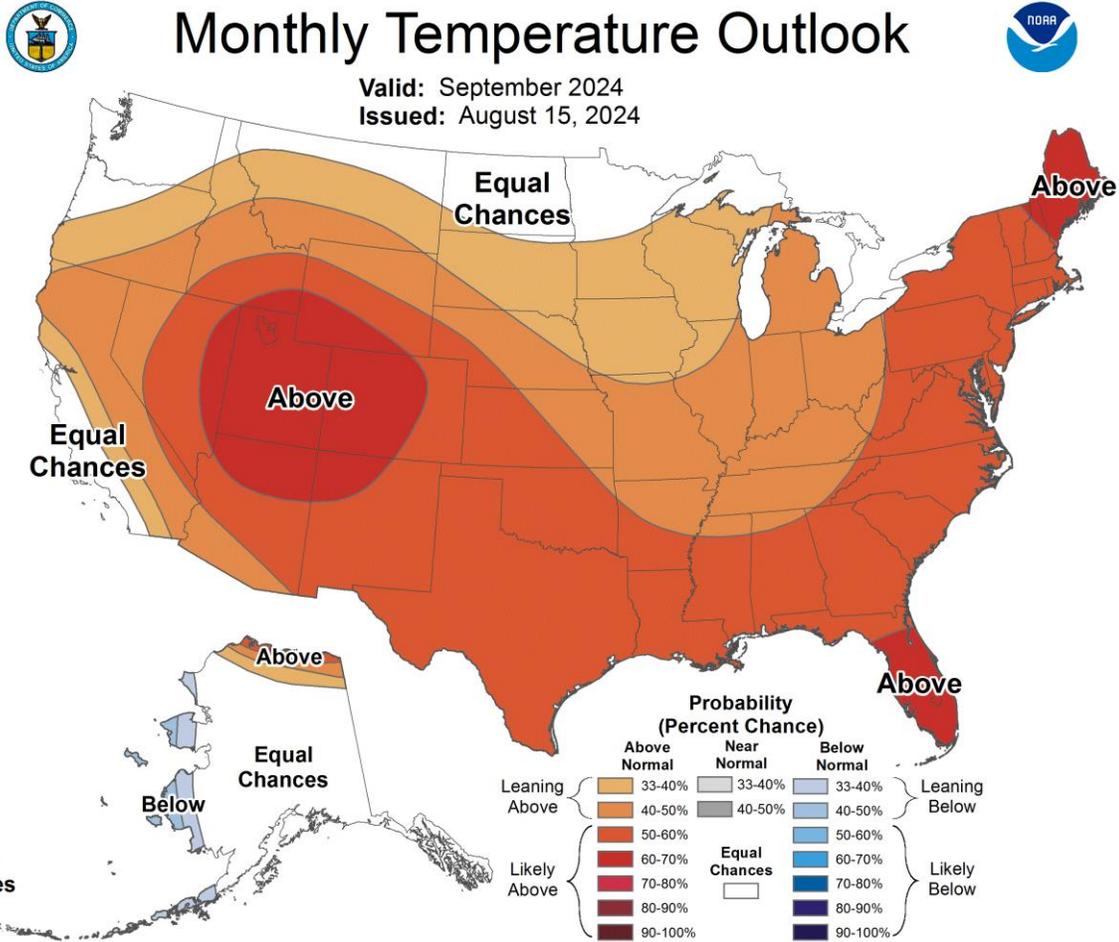
8-14 Day Precipitation Outlook



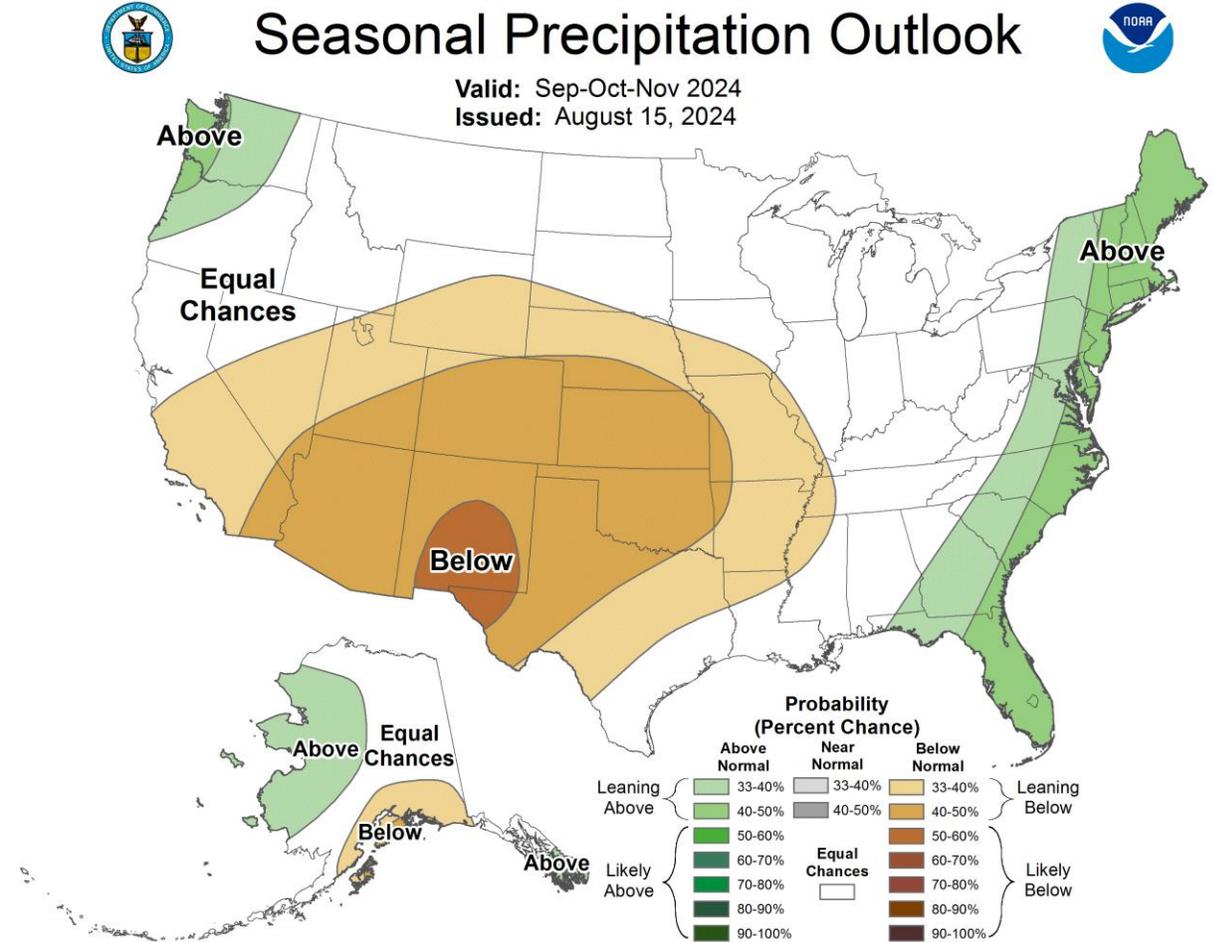
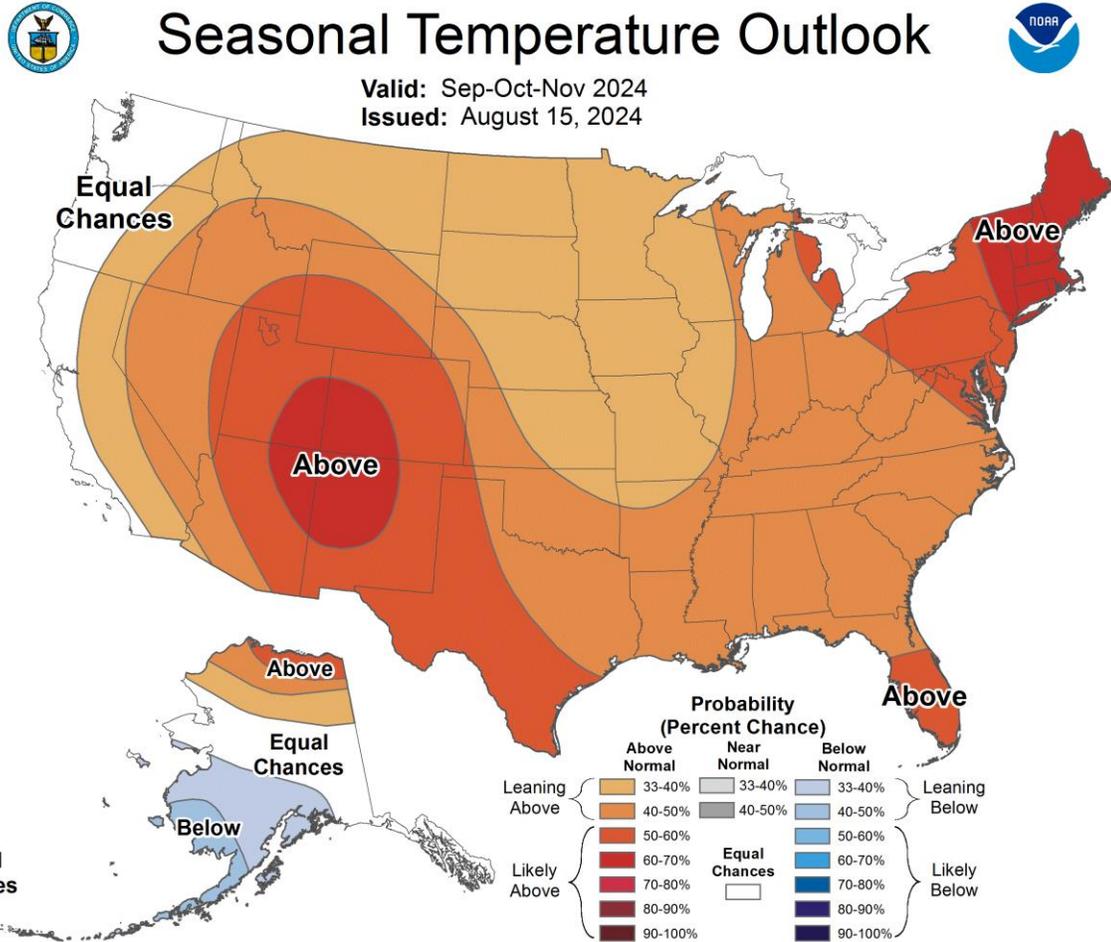
Valid: August 22 - 28, 2024
Issued: August 14, 2024



Monthly Outlook (September)



Seasonal Outlook (Sep–Nov)



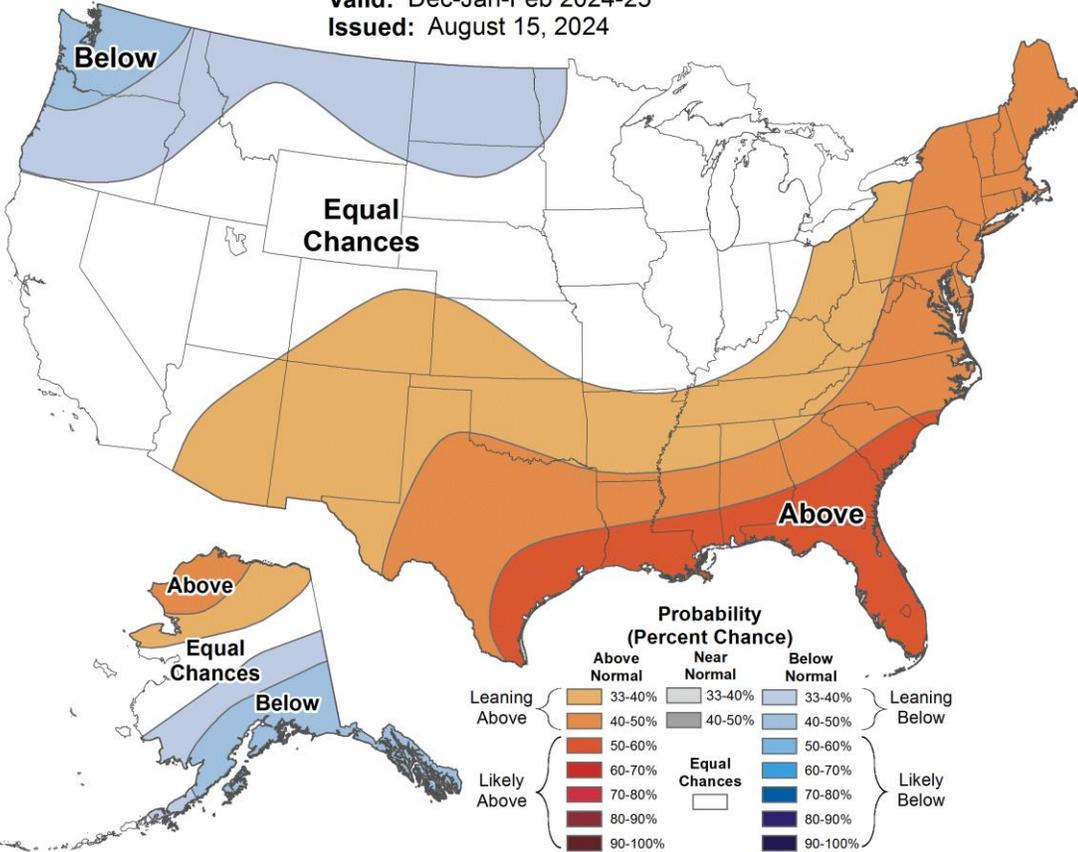
Long-Range Winter Outlook (Dec-Feb)



Seasonal Temperature Outlook



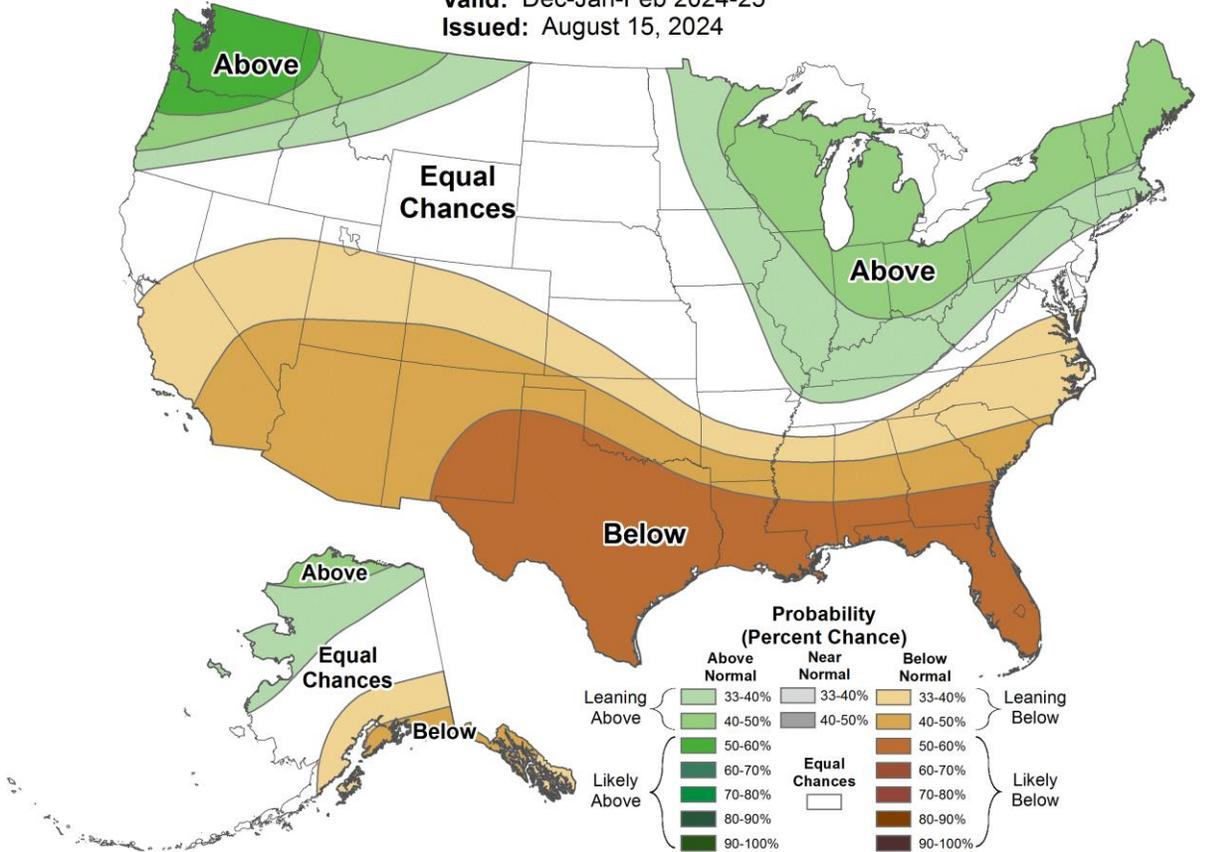
Valid: Dec-Jan-Feb 2024-25
 Issued: August 15, 2024



Seasonal Precipitation Outlook



Valid: Dec-Jan-Feb 2024-25
 Issued: August 15, 2024



ENSO Update

Official NOAA CPC ENSO Probabilities (issued August 2024)

based on $-0.5^{\circ}/+0.5^{\circ}\text{C}$ thresholds in ERSSTv5 Niño-3.4 index

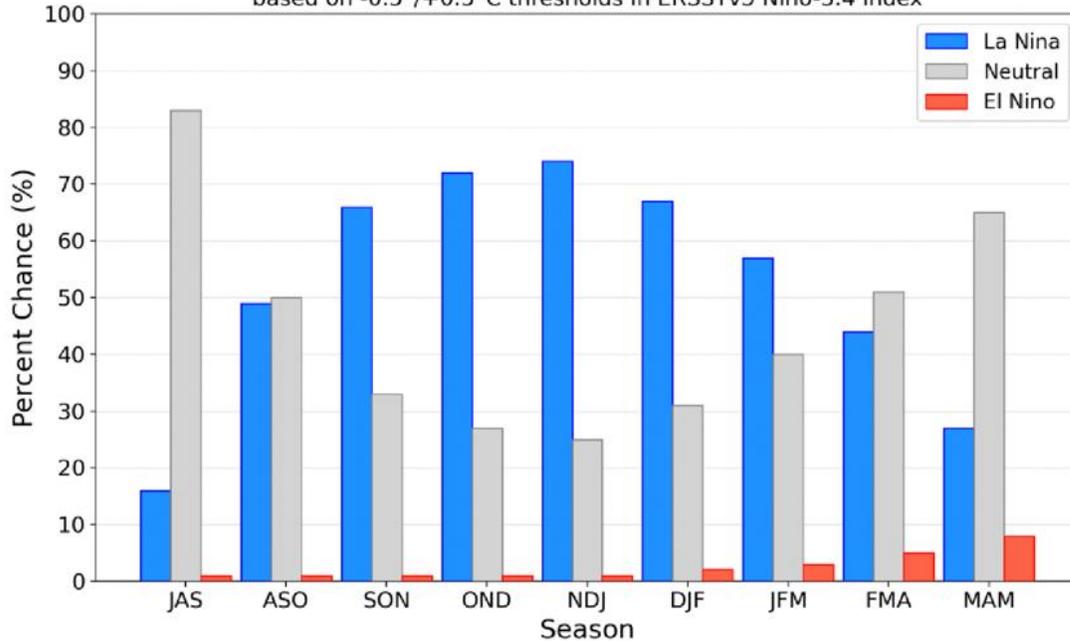


Figure 7. Official ENSO probabilities for the Niño 3.4 sea surface temperature index (5°N - 5°S , 120°W - 170°W). Figure updated 8 August 2024.

ENSO Alert System Status: **La Niña Watch**

ENSO-neutral conditions are present.*

Equatorial sea surface temperatures (SSTs) are above average in the western Pacific, near average in the east-central Pacific, and below average in the eastern Pacific Ocean.

ENSO-neutral is expected to continue for the next several months, with La Niña favored to emerge during September-November (66% chance) and persist through the Northern Hemisphere winter 2024-25 (74% chance during November-January).*



Update prepared by:
Climate Prediction Center / NCEP
12 August 2024

ENSO Update

September – November

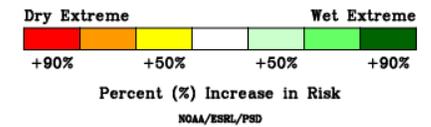
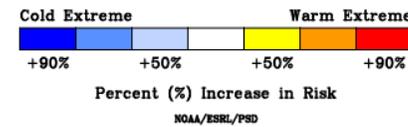
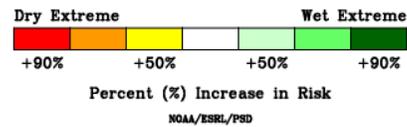
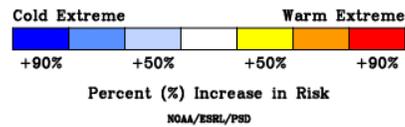
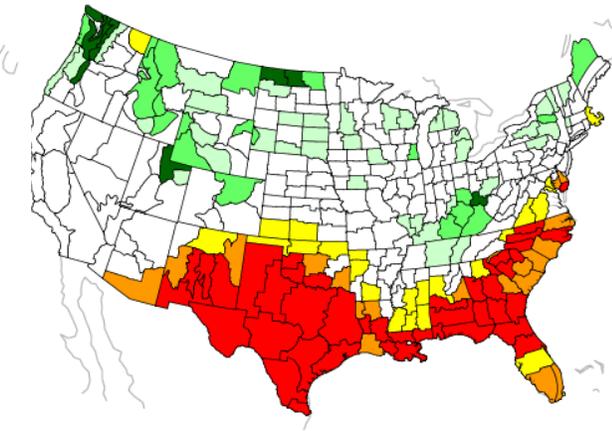
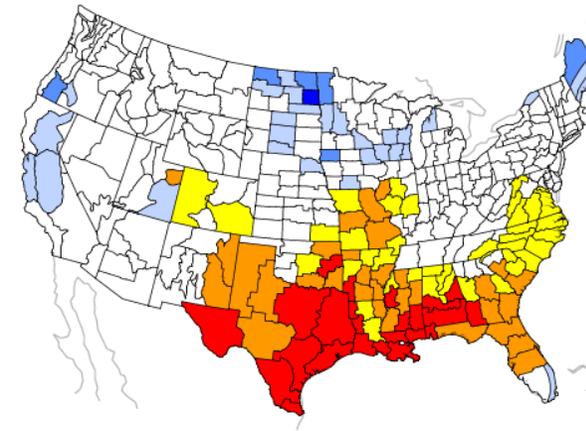
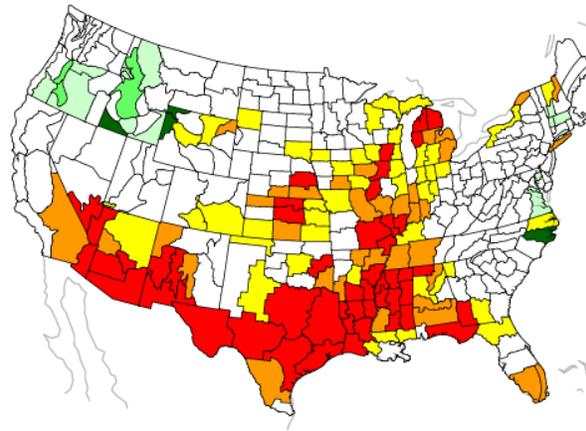
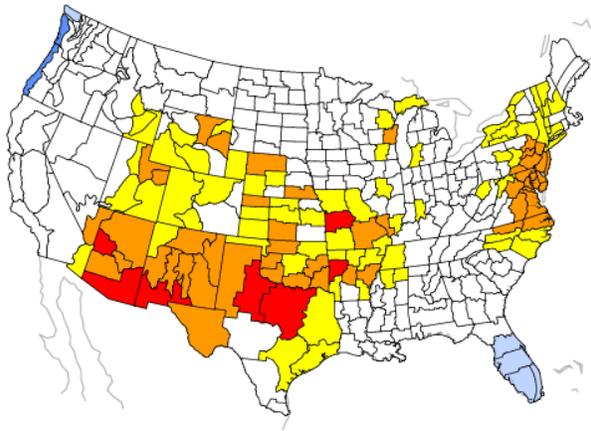
SON Temperature During La Nina
Increased Risk of Warm or Cold Extremes

SON Precipitation During La Nina
Increased Risk of Wet or Dry Extremes

December – February

DJF Temperature During La Nina
Increased Risk of Warm or Cold Extremes

DJF Precipitation During La Nina
Increased Risk of Wet or Dry Extremes



Thank You!

- Questions:

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Regional Climate Centers

- Midwest: <https://mrcc.purdue.edu/>
- High Plains: <http://www.hprcc.unl.edu>

****Next webinar scheduled for September 19, 2024. Presenter: Dr. Trent Ford (Illinois)****



Tristen Rouse / St. Louis Public Radio

The sun sets on the Missouri State Fair's Ferris wheel in Sedalia.



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