North Central U.S. Climate & Drought Outlook
June 19, 2025

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State Climate Office of Ohio (SCOO)
OSU Extension & Byrd Center

Thanks to these groups for providing information

- State Climatologists/American Association of State Climatologists
- NOAA NCEI/NWS/OAR
- USDA Climate Hubs
- Midwest and High Plains Regional Climate Centers
- National Drought Mitigation Center

Next Regular Climate/Drought Outlook Webinar

- ***July 17, 2025 (1 PM CDT) – Jeffrey Andresen (Michigan State Climatologist)***

Past Drought & Climate Webinars and Information

- https://mrcc.purdue.edu/webinars
- http://www.hprcc.unl.edu/webinars.php

Questions and Answers at the end of the presentation

- Recent Conditions
- Growing Season Progress
- Impacts and Notable Events
- Outlooks

Photogenic Tornado near Denver on May 18: Captured by Sirlin John, Courtesy of NWS

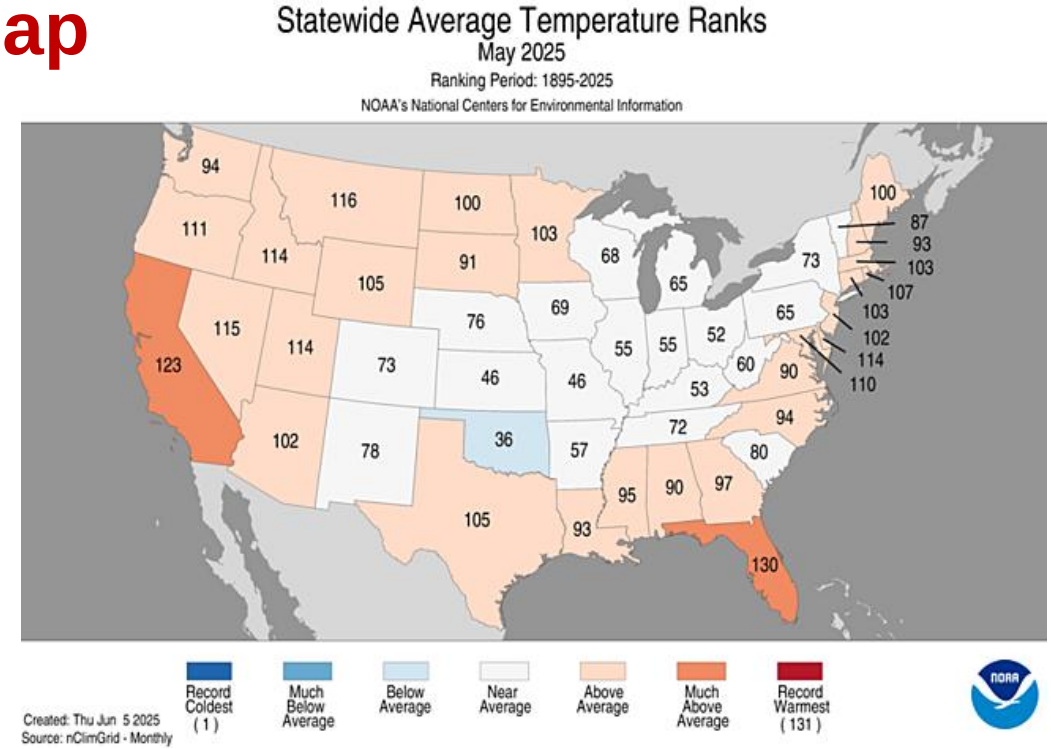
RECENT CONDITIONS

Photo: Elizabeth Hawkins, Ohio State University Extension

May Temperature Recap

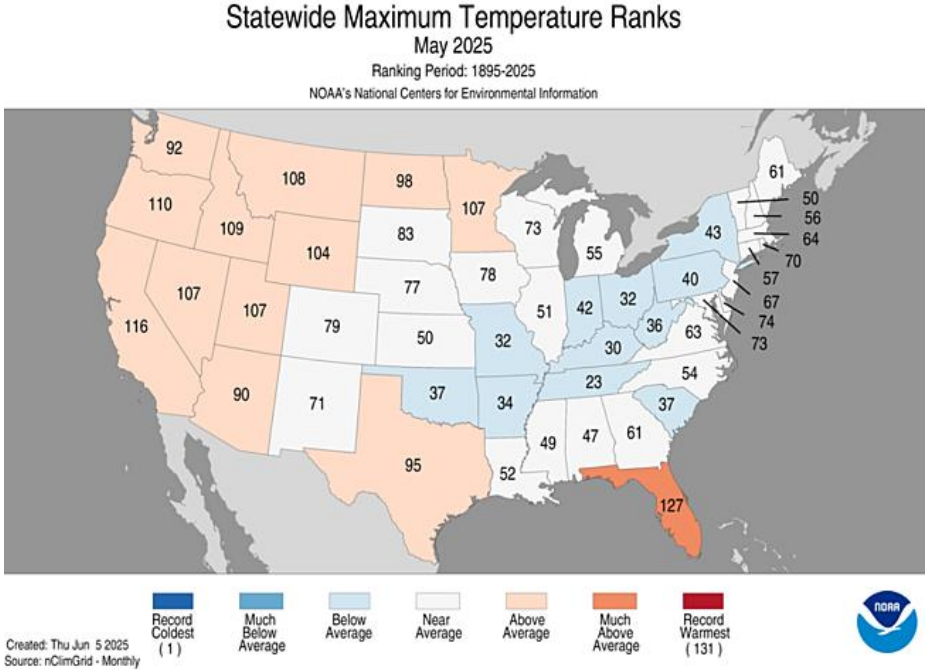
- Bulk of the rankings across the region were ***Near Average***

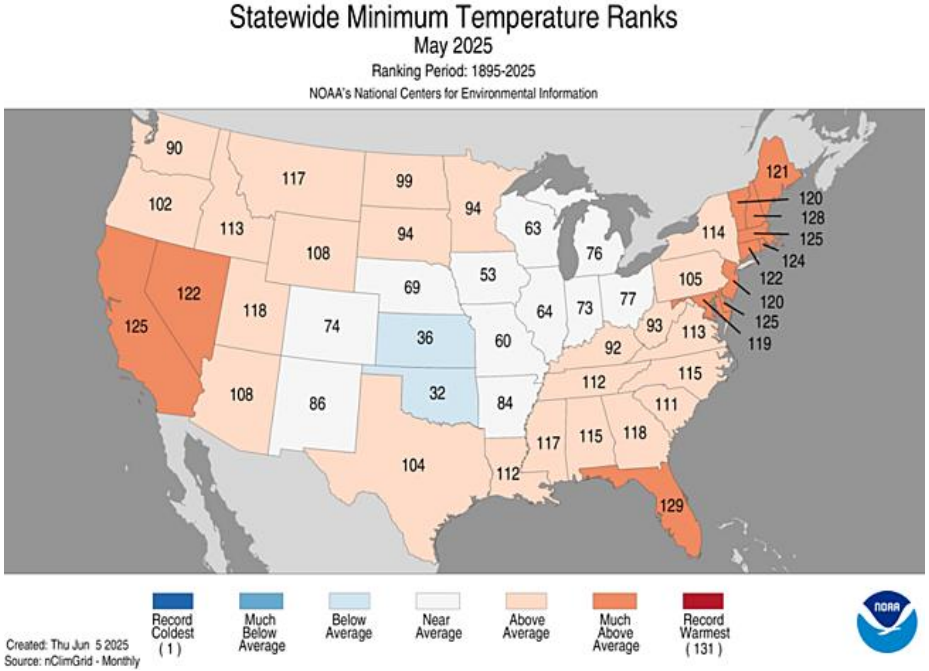
- Warm rankings across the Northern Great Plains and Upper Midwest (MT only state to crack top 20 warmest)



https://www.ncei.noaa.gov/access/monitoring/us-maps/

May Temperature Recap

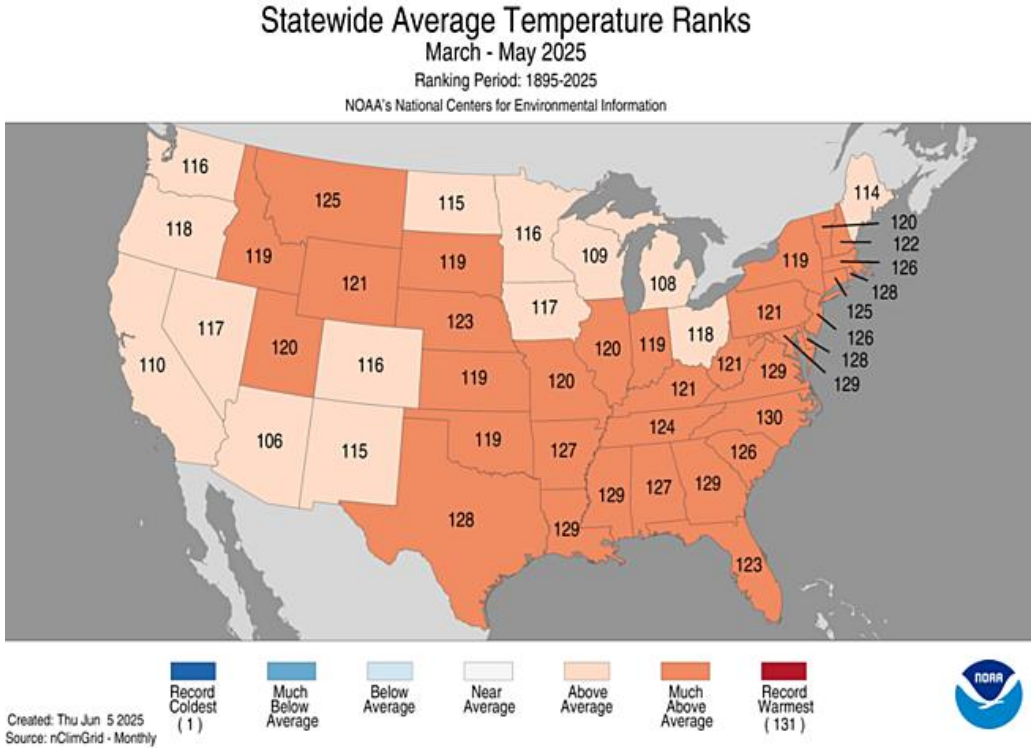




https://www.ncei.noaa.gov/access/monitoring/us-maps/

March - May Temperature Recap

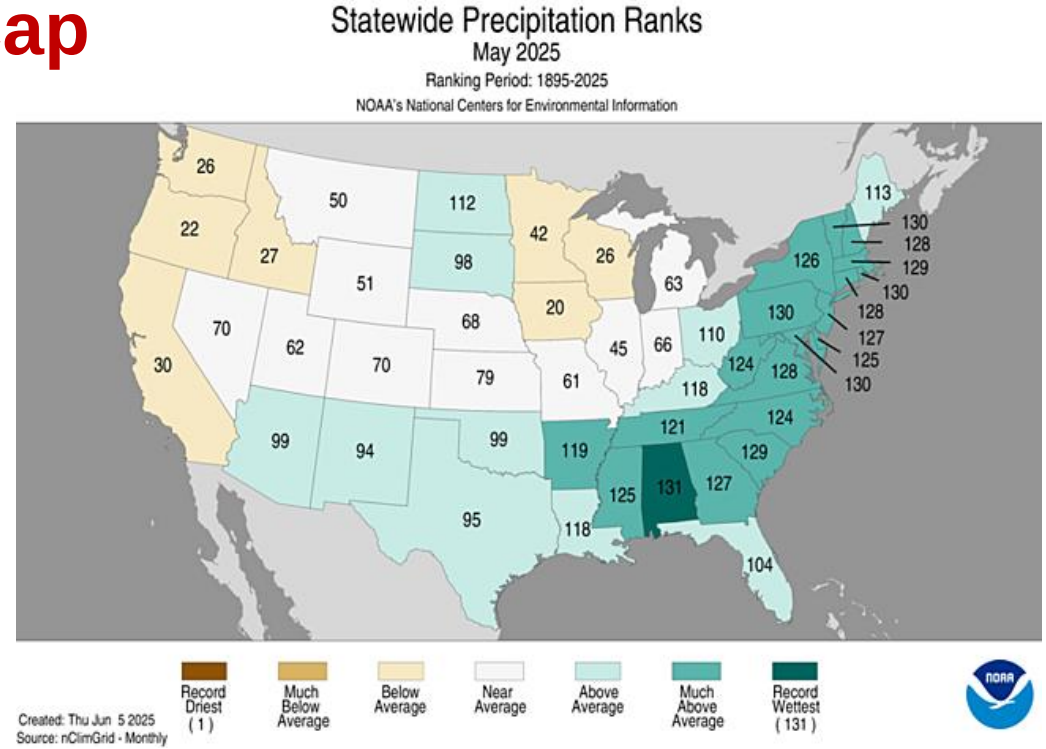
- Above to much above average across most of the region
- Most states in the top 20 warmest
- 7th warmest spring in MT



https://www.ncei.noaa.gov/access/monitoring/us-maps/

May Precipitation Recap

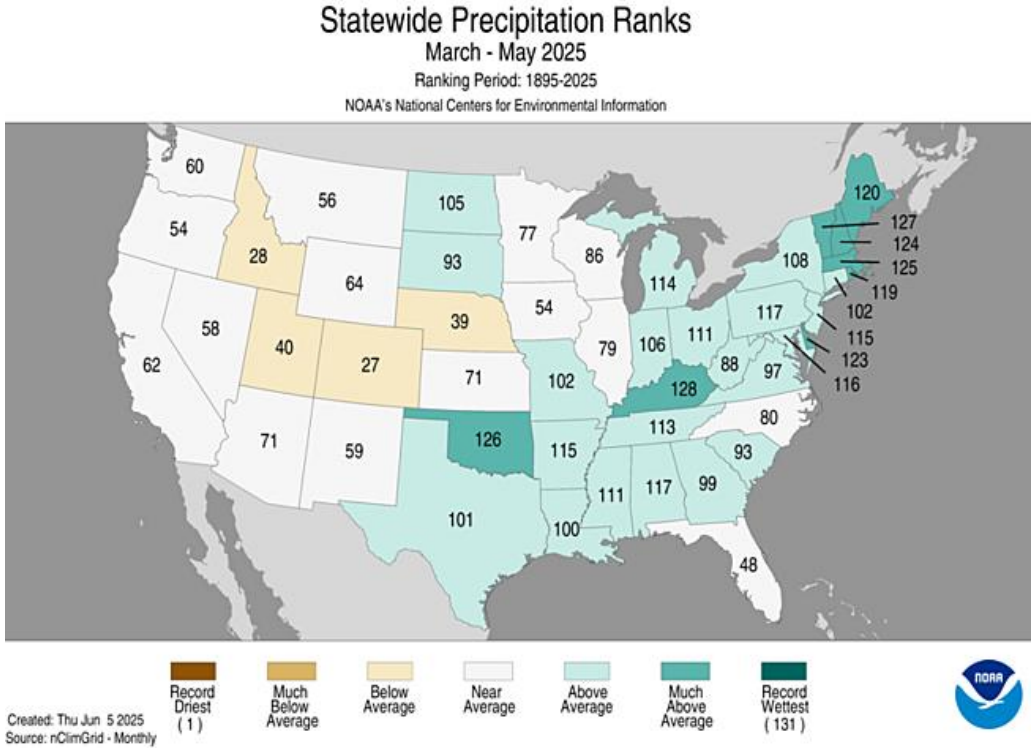
- Variable conditions across the region
- Dry rankings prevailed in Iowa, Minnesota, and Wisconsin
- Above average rankings in Dakotas, Ohio, and Kentucky



https://www.ncei.noaa.gov/access/monitoring/us-maps/

March - May Precipitation Recap

- Highly variable conditions across the region
- Wet south and east and in Dakotas
- 4th wettest spring for Kentucky
- Below average rankings of Nebraska and Colorado



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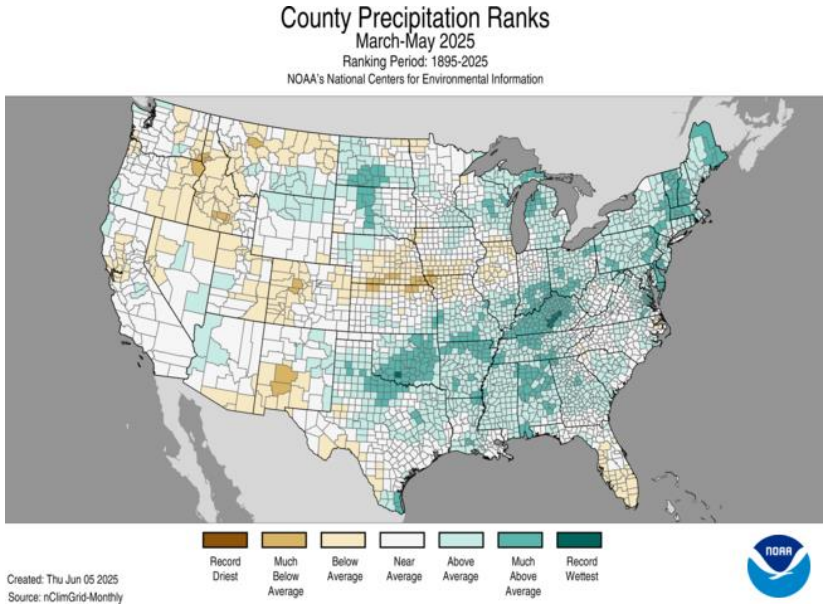
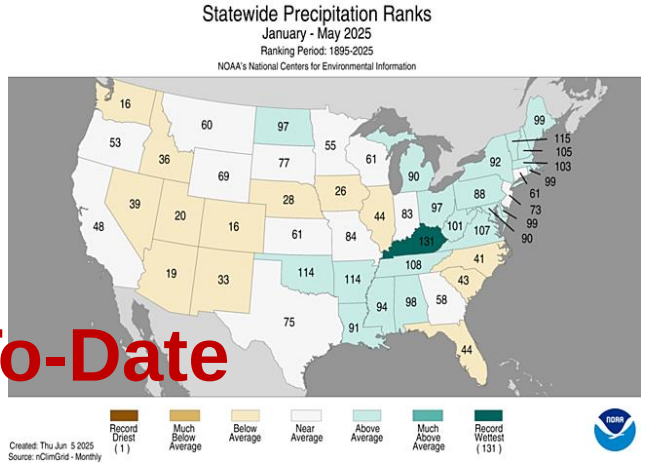
March - May County Precipitation

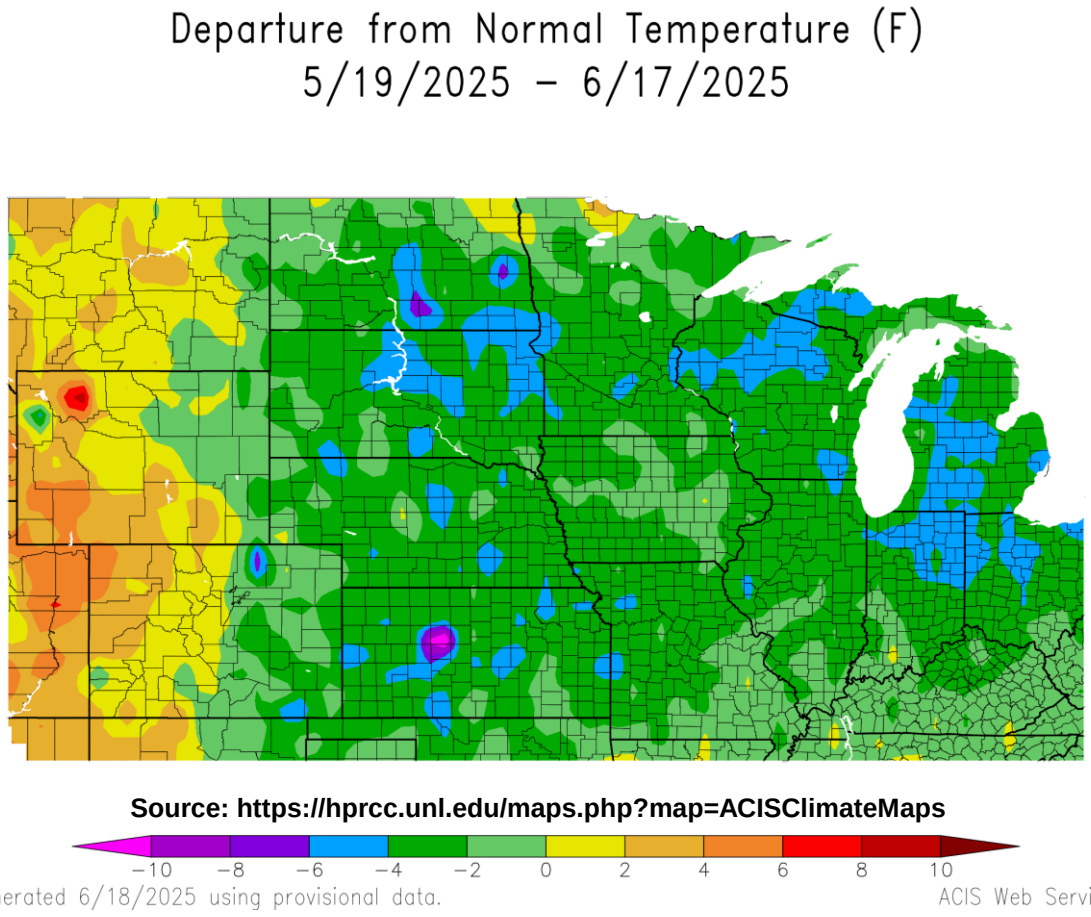


https://www.ncei.noaa.gov/access/monitoring/us-maps/

- Severe dry band from Southern Nebraska/Northern Kansas eastward to Northern Illinois and Indiana
- Highlights very wet conditions across Ohio River Valley, Great Lakes, and central portions of the Dakotas

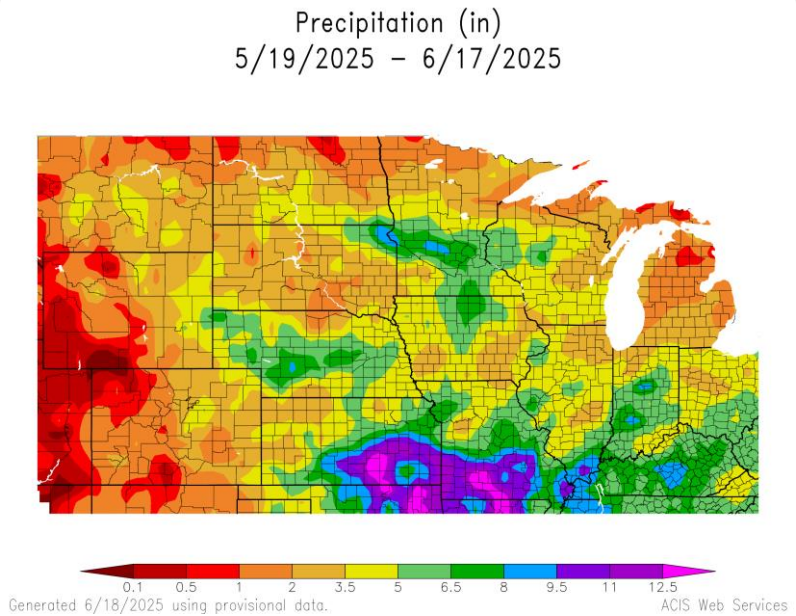
Year-To-Date





Source: https://hprcc.unl.edu/maps.php?map=ACISClimateMaps

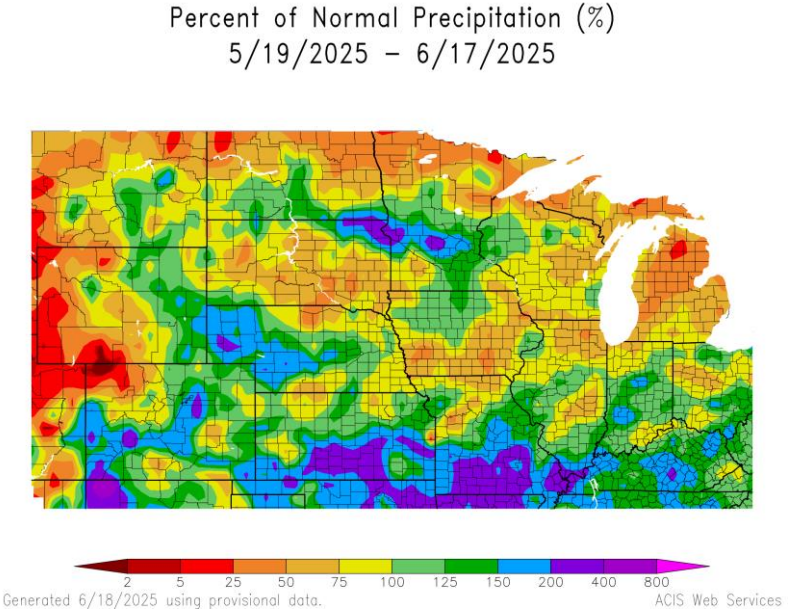
- Widespread cooler than normal temperatures across the region
- 2-4 deg F below normal for much of the region; pockets of 4+ deg F cooler than normal

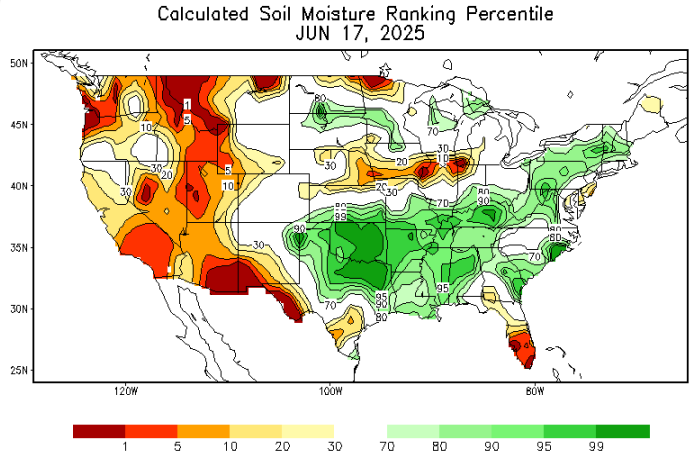


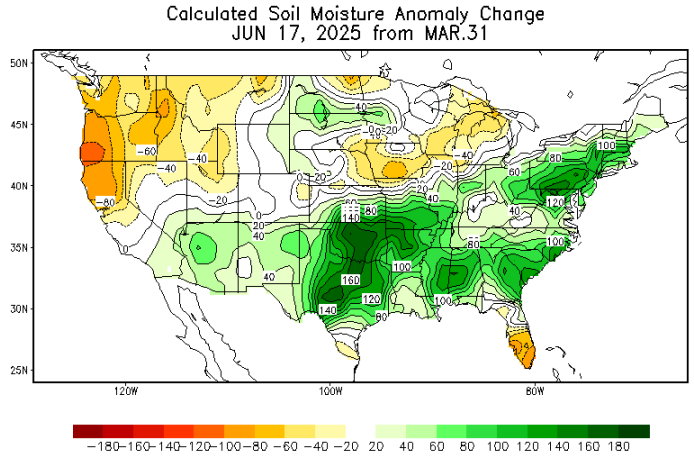
- Very heavy precipitation totals across southeast KS and southern MO (9-12”)
- Widespread wet conditions across much of NE, MO, IL, IN, OH, KY, MN, and IA
- Lighter precipitation across Great Plains and Upper Midwest

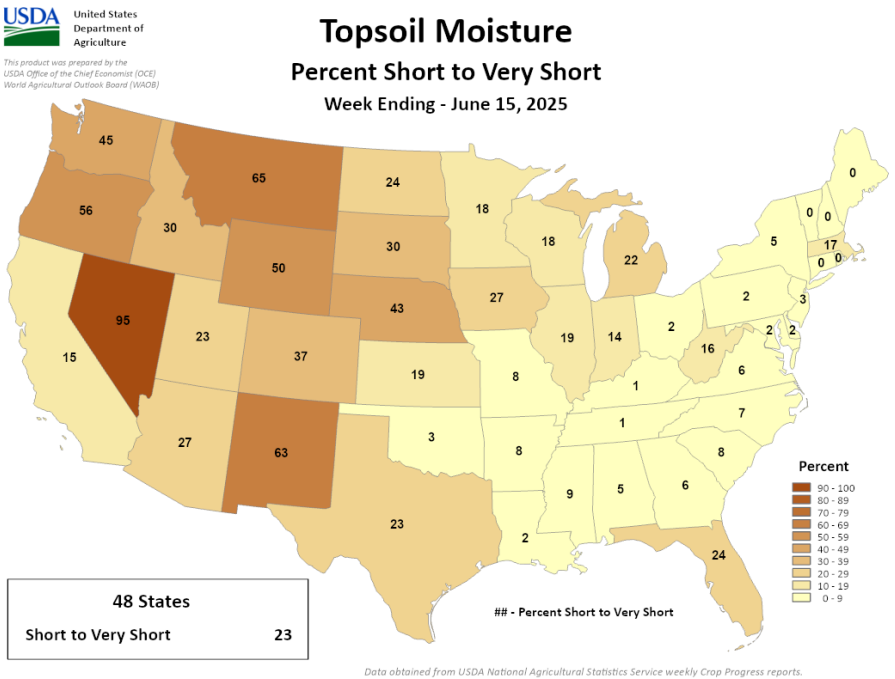
https://hprcc.unl.edu/maps.php?map=ACISClimateMaps

- Highly variable precipitation compared to normal across the region
- 100-400% of normal across much of the central and southern portions of the region
- Far north, SD, southern and eastern IA, N. Illinois, WI, and MI running 25-75% of normal





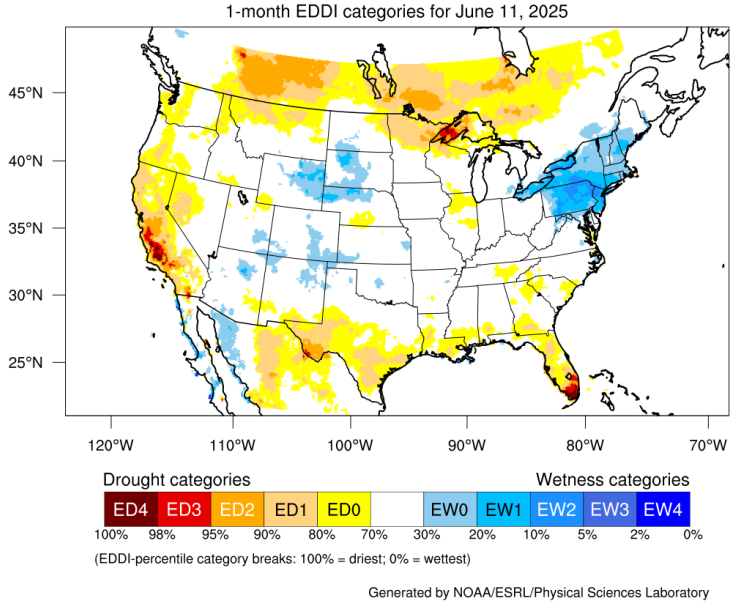


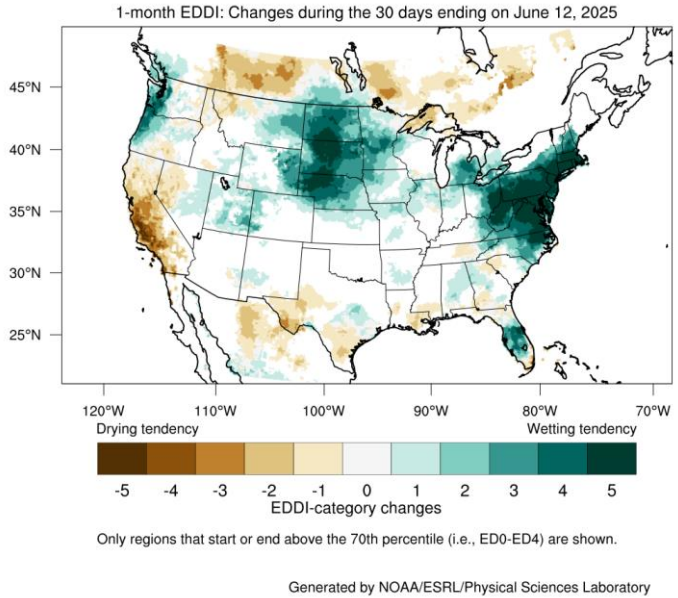


https://agindrought.unl.edu/Other.aspx

http://www.cpc.ncep.noaa.gov/products/Soilmst_Monitoring/US/Soilmst/Soilmst.shtml#

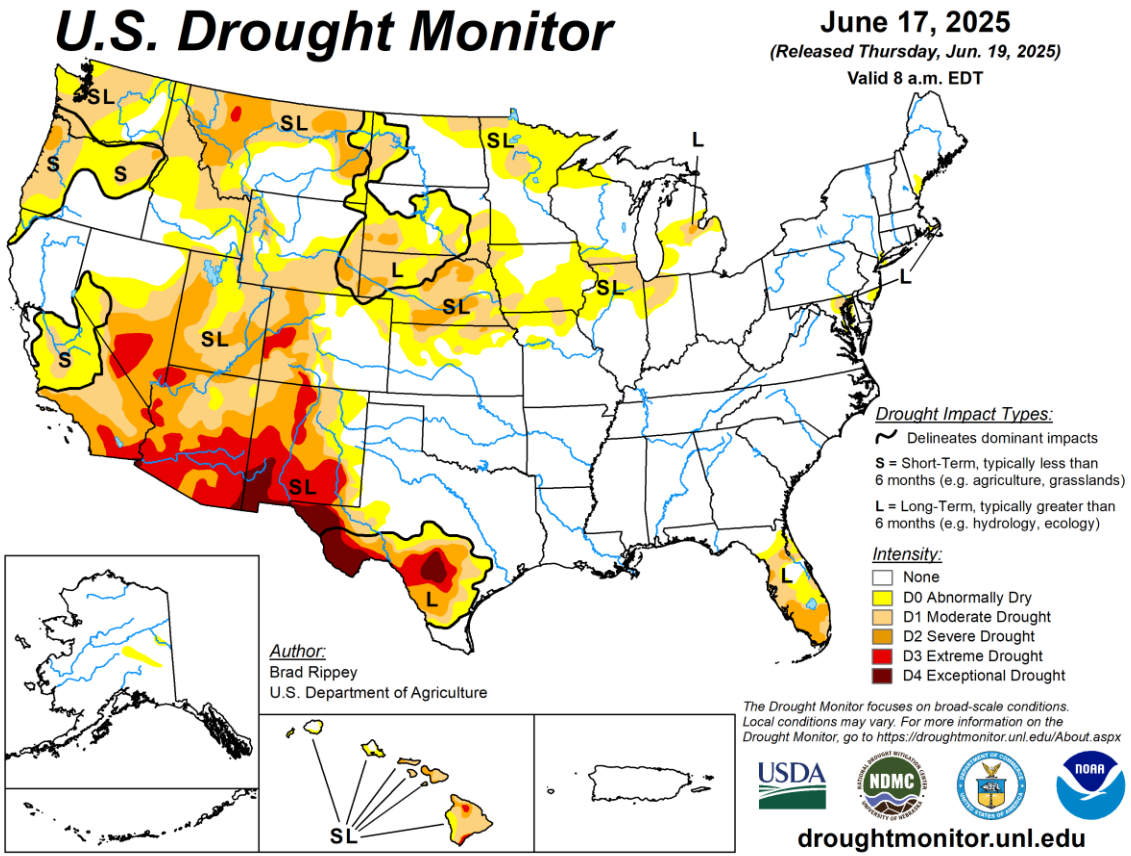
Think: “Thirst of the atmosphere” or precursor for water stress





- Overall low and decreasing demand from the atmosphere over the past month
- Higher demand across far northern stretches of the region

Images provided by the NOAA/ESRL Physical Sciences Laboratory, Boulder, Colorado, from their web site at: https://psl.noaa.gov/eddi/.


U.S. Drought Monitor
June 17, 2025
(Released Thursday, Jun. 19, 2025)
Valid 8 a.m. EDT
Drought Impact Types:
Delineates dominant impacts
S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)
Intensity:
None
D0 Abnormally Dry
D1 Moderate Drought
D2 Severe Drought
D3 Extreme Drought
D4 Exceptional Drought
Author:
Brad Rippey
U.S. Department of Agriculture
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
droughtmonitor.unl.edu

U.S. Drought Monitor

NWS Central

June 17, 2025

(Released Thursday, Jun. 19, 2025)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	49.44	50.56	27.14	7.72	0.58	0.00
Last Week 06-10-2025	44.81	55.19	28.91	7.87	0.58	0.00
3 Months Ago 03-18-2025	27.51	72.49	48.87	14.83	3.22	0.00
Start of Calendar Year 01-07-2025	31.02	68.98	45.49	19.38	5.80	0.00
Start of Water Year 10-01-2024	20.79	79.21	36.88	12.04	3.20	0.40
One Year Ago 06-18-2024	63.33	36.67	10.20	1.28	0.00	0.00

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

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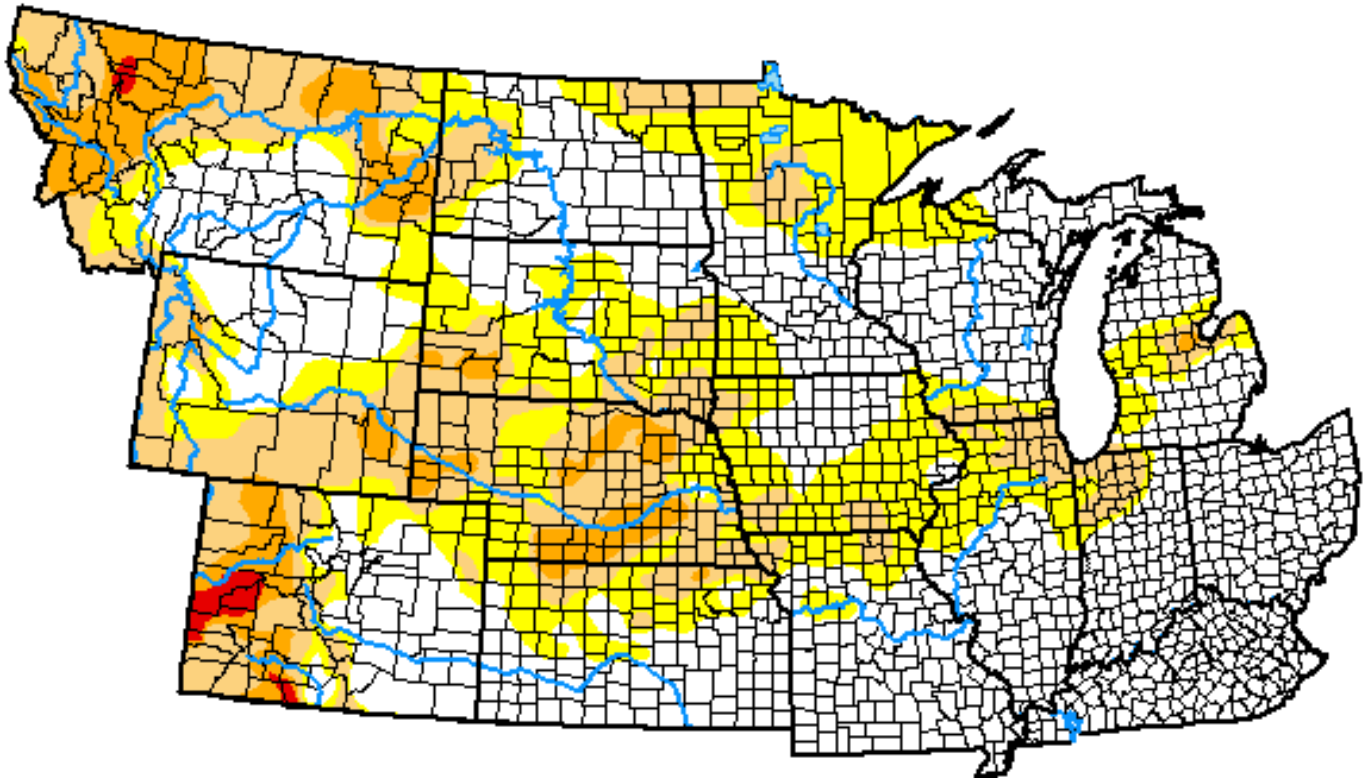
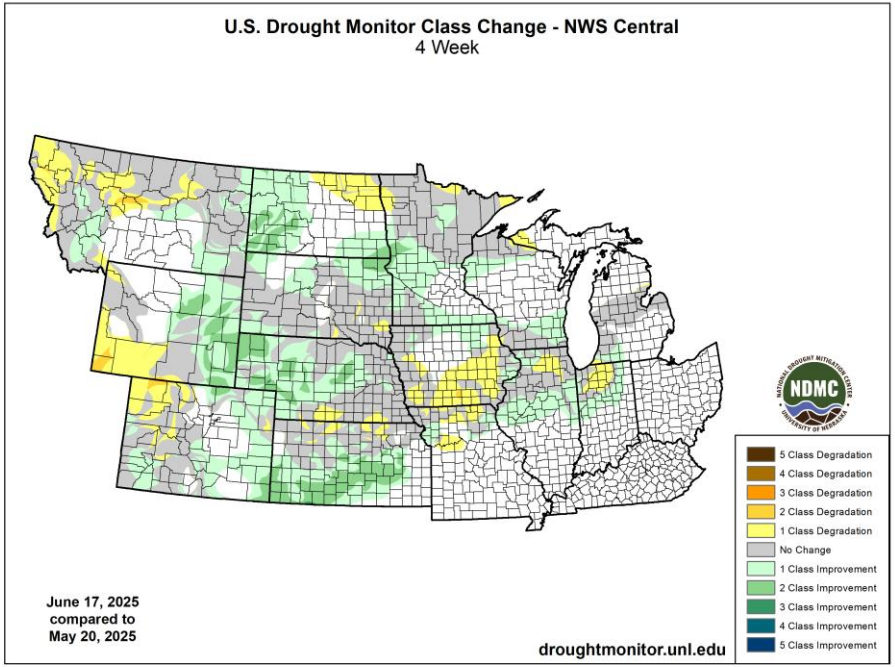
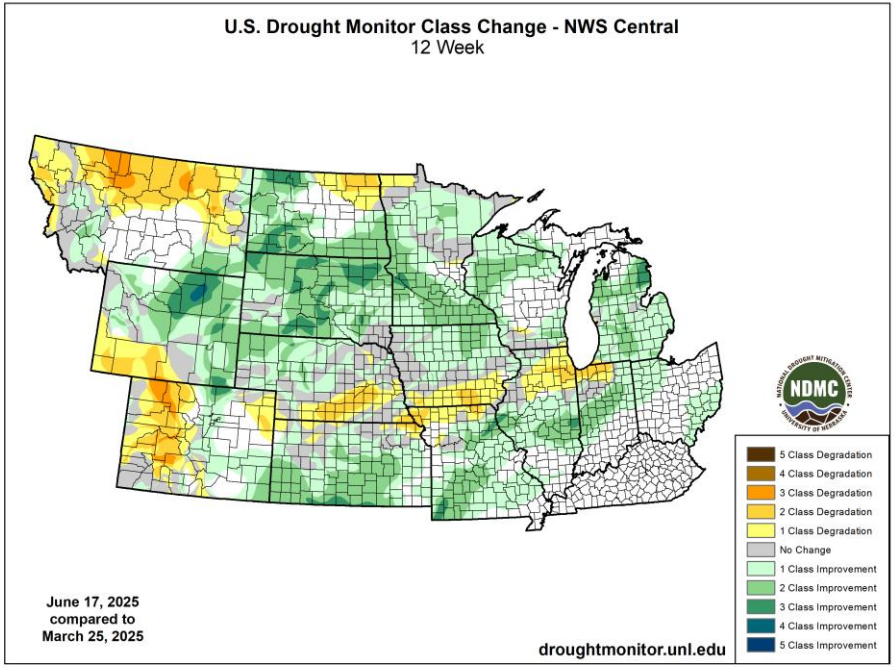


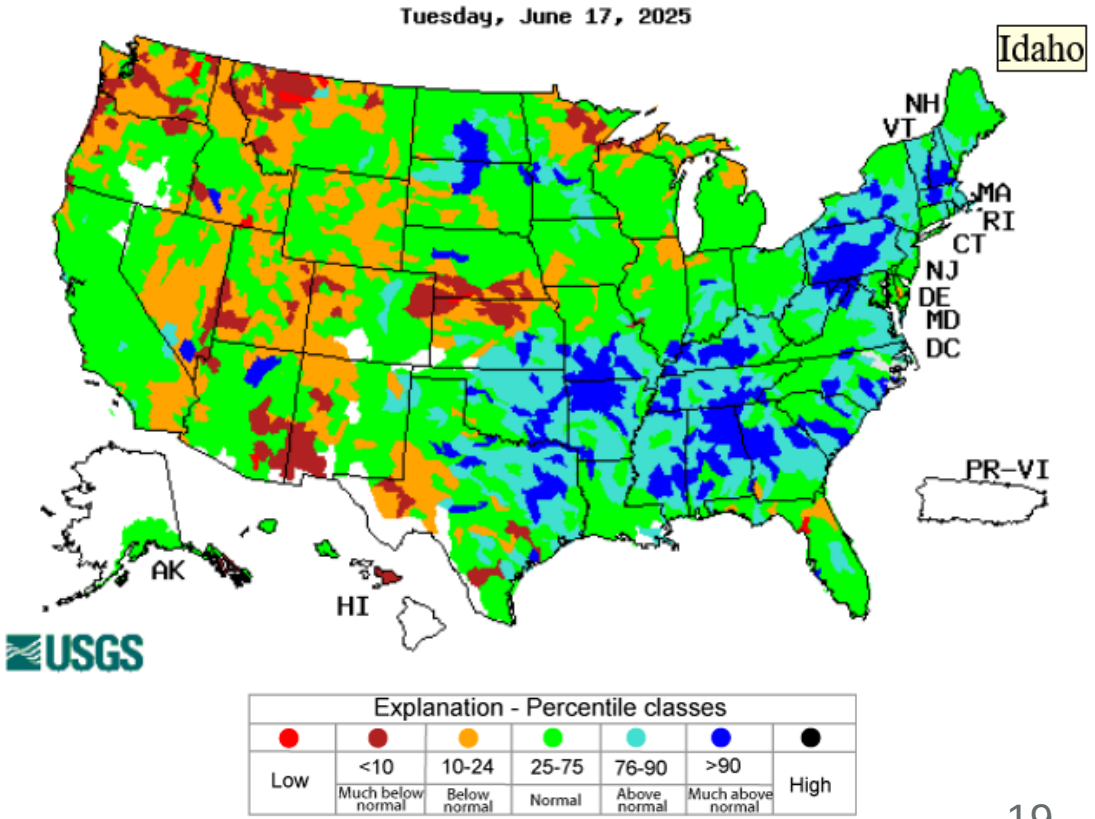
U.S. Drought Monitor
NWS Central



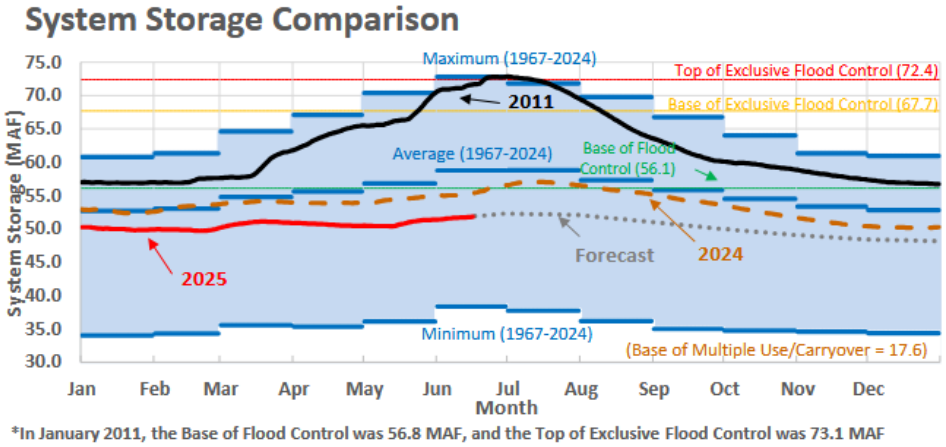


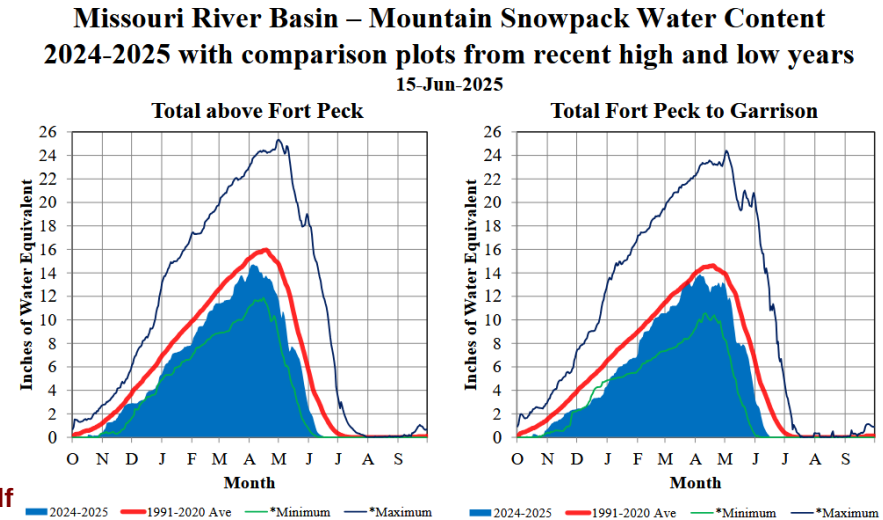

9:10AM Jun.19, 2025 glacier.org/webcams | Hidden Lake Trailhead
Snow, Rivers, Lakes, Fire
GLACIER NATIONAL PARK
CONSERVANCY
https://glacier.org/webcams/

- Above to much above normal Ohio River Valley west through southern MO and KS and most of the Dakotas
- Below to much below normal across northern MN, WI, and UP of MI
- Much below normal across NE/KS but notable improvements over last month



https://waterwatch.usgs.gov/index.php?id=pa28d





https://www.nwd-mr.usace.army.mil/rcc/reports/pdfs/weeklyupdate_previous.pdf

Mississippi:

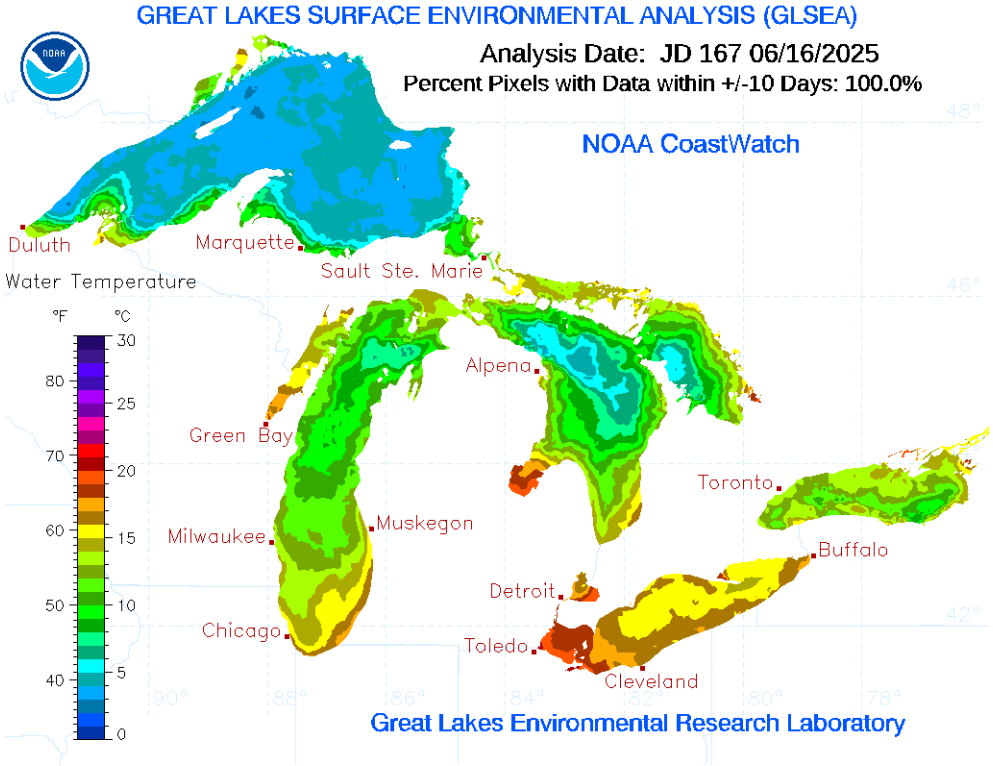
- St. Louis is about 8 feet below normal for this time of year
- No major concerns for low water issues over the next month or so.

Ohio River:

- Above normal flows
- Likely scale back to normal in August and September

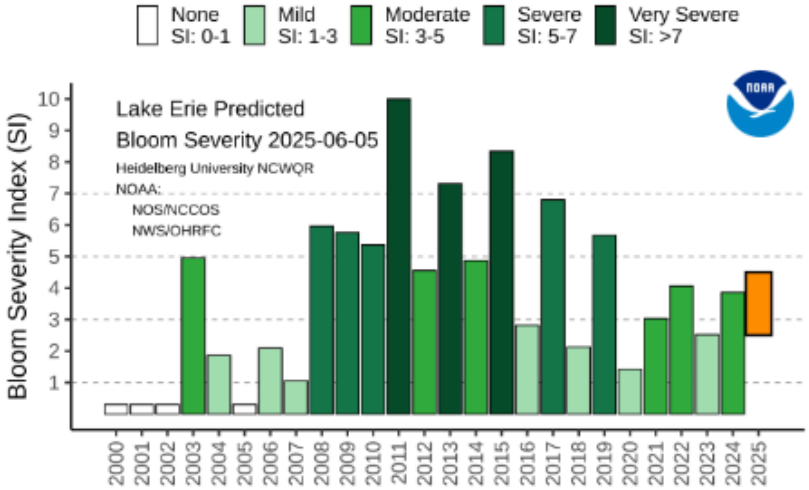
Missouri:

- System storage is 51.8 million-acre feet
- Recent rains in the Basin, but soil moisture has dried out during the first half of June
- Mountain snowpack is nearly melted in both reaches
- Lower snow melted out early

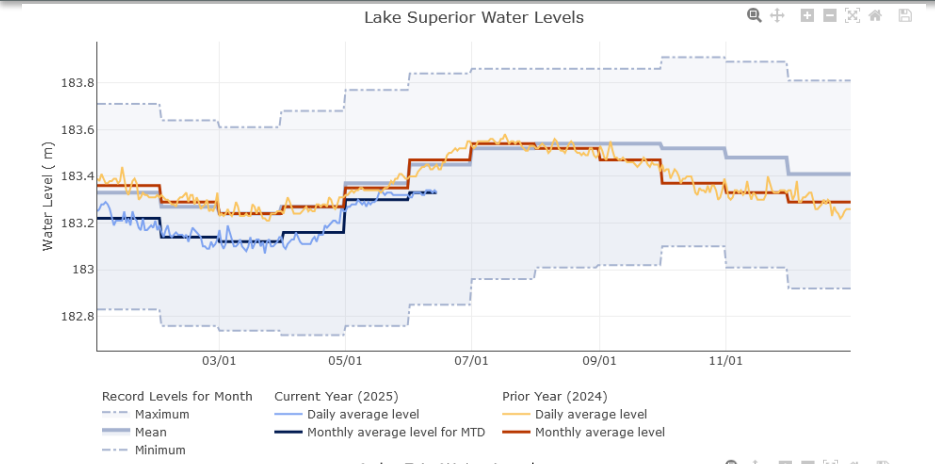


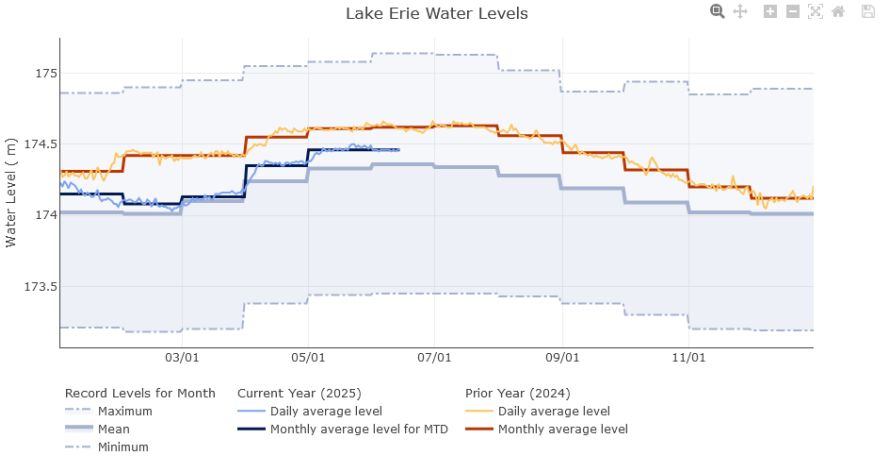
https://coastwatch.glerl.noaa.gov/satellite-data-products/great-lakes-surface-environmental-analysis-glsea/?redirected=/glsea/cur/glsea_cur.png

Predicted Bloom Severity



- **Potential bloom severity range of 2.5-4.5 (Mild to Moderate bloom conditions) – June 6, 2025**
- **Similar to the 2016 (Mild) or 2022 and 2024 (Moderate) blooms.**

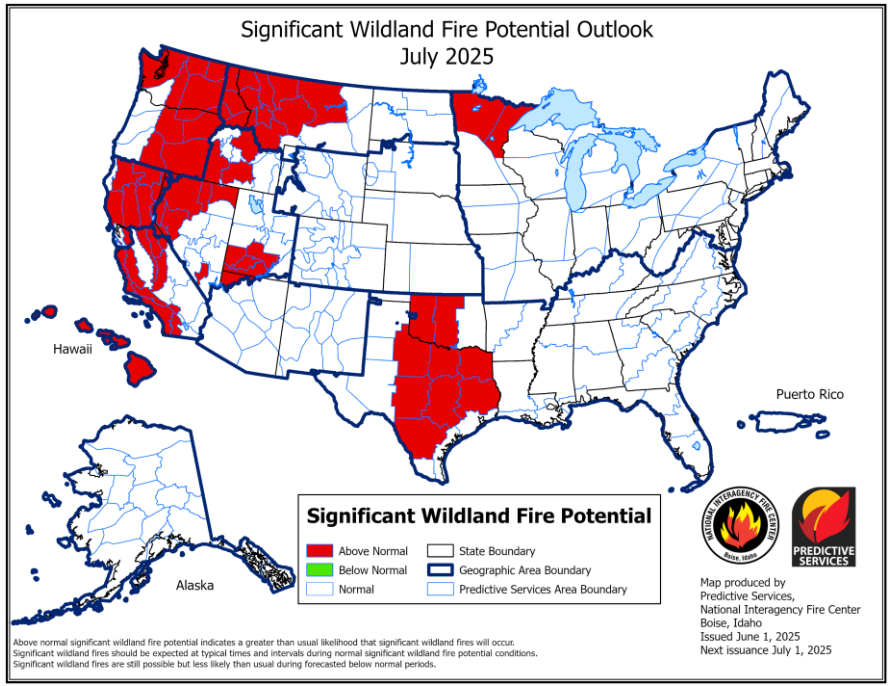


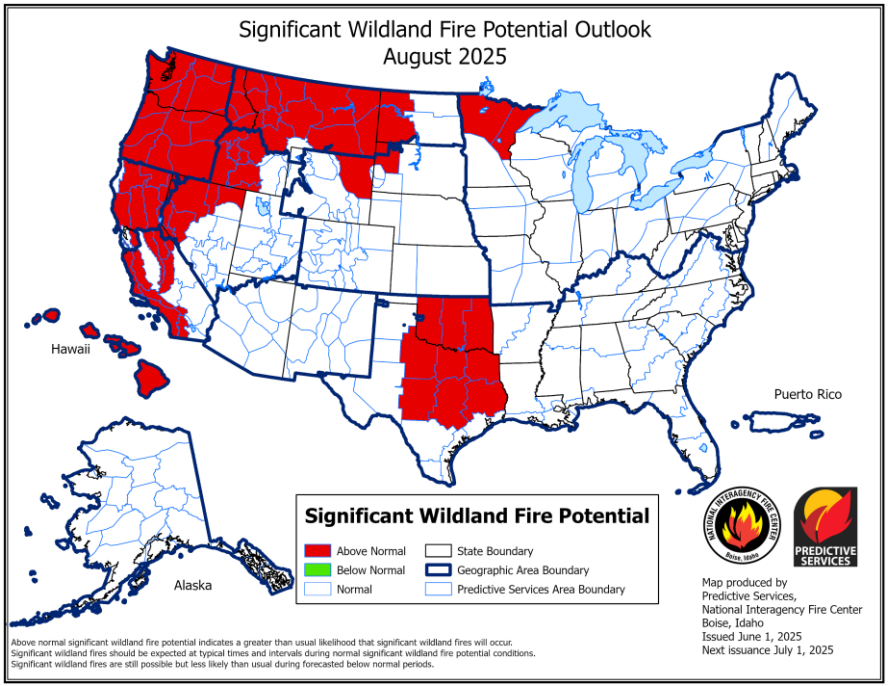


- Similar to last month - Water levels below the June long-term average levels on Lakes Michigan-Huron and Superior.
- Lake Erie is slightly above June's long-term average.
- By next month, Lakes Superior, Michigan-Huron are forecast to rise; Lakes Erie is expected to fall slightly from current level

https://www.glerl.noaa.gov/data/wlevels/dashboard/#mastergauge

Issued June 1

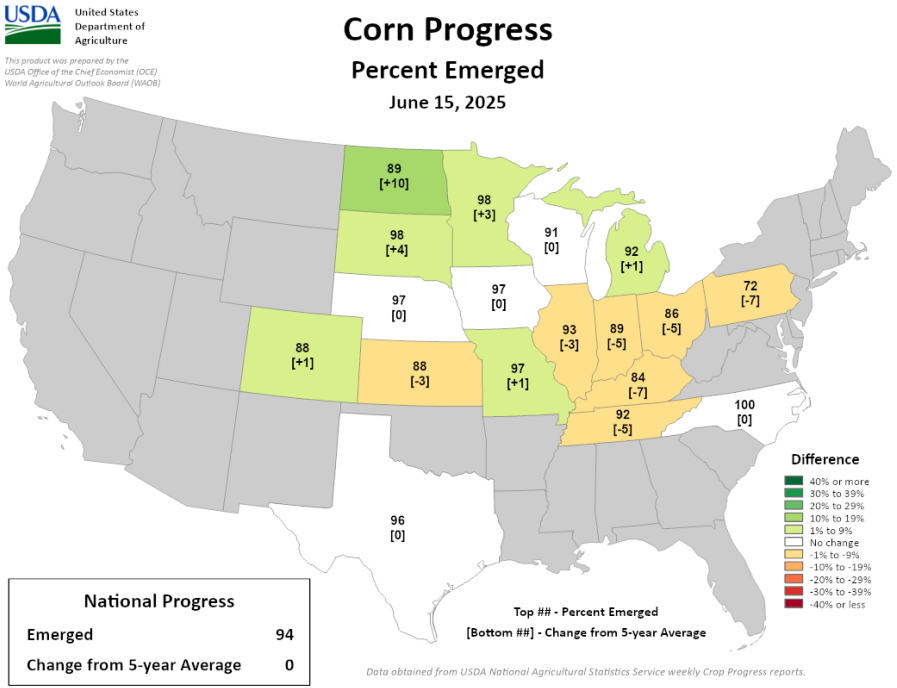




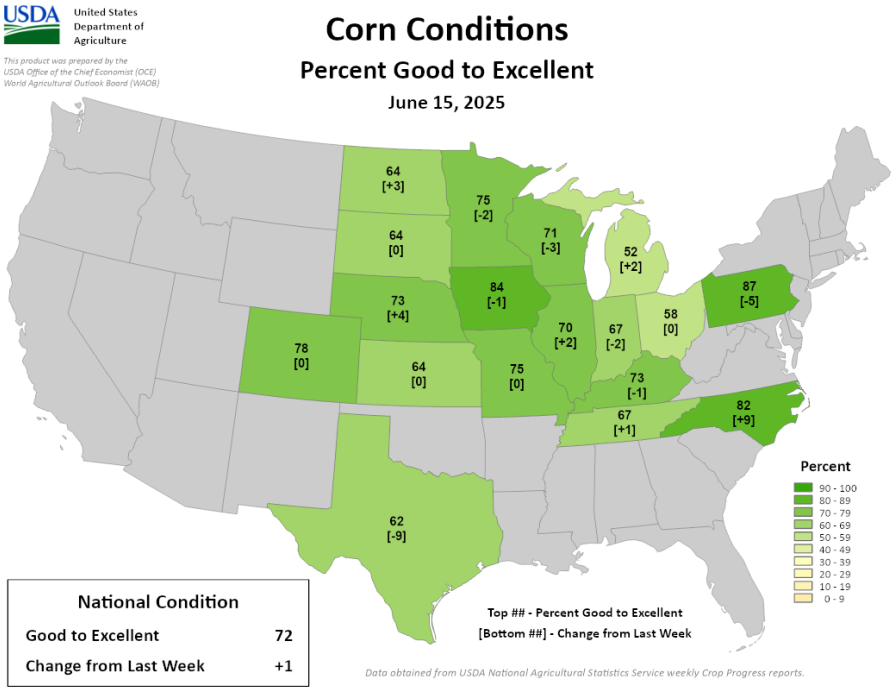
Source: https://www.predictiveservices.nifc.gov/outlooks/outlooks.htm


Growing Season Progress

USDA NASS Crop Progress: Corn



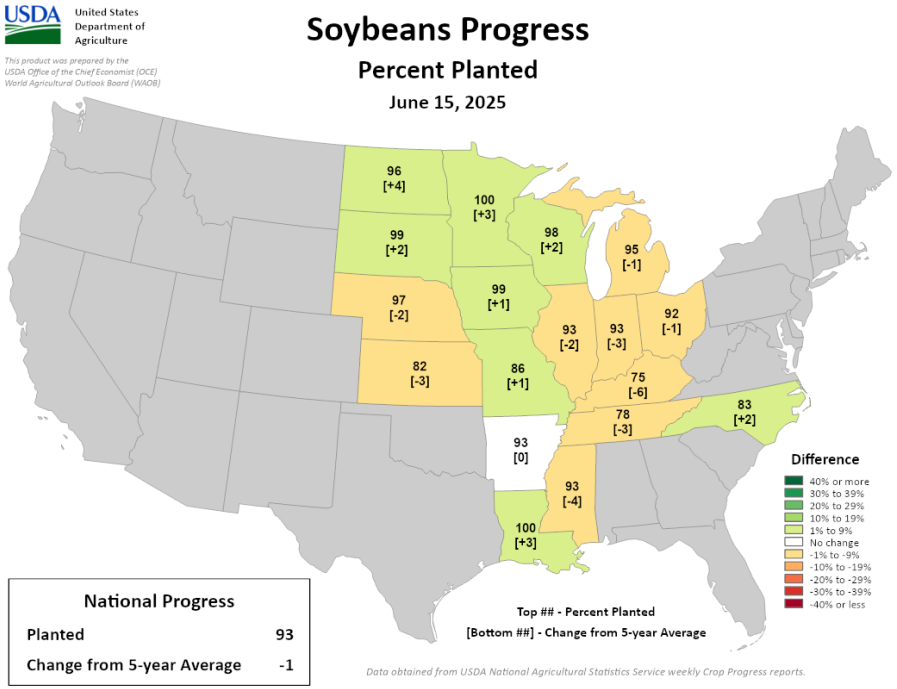
National Progress	
Emerged	94
Change from 5-year Average	0



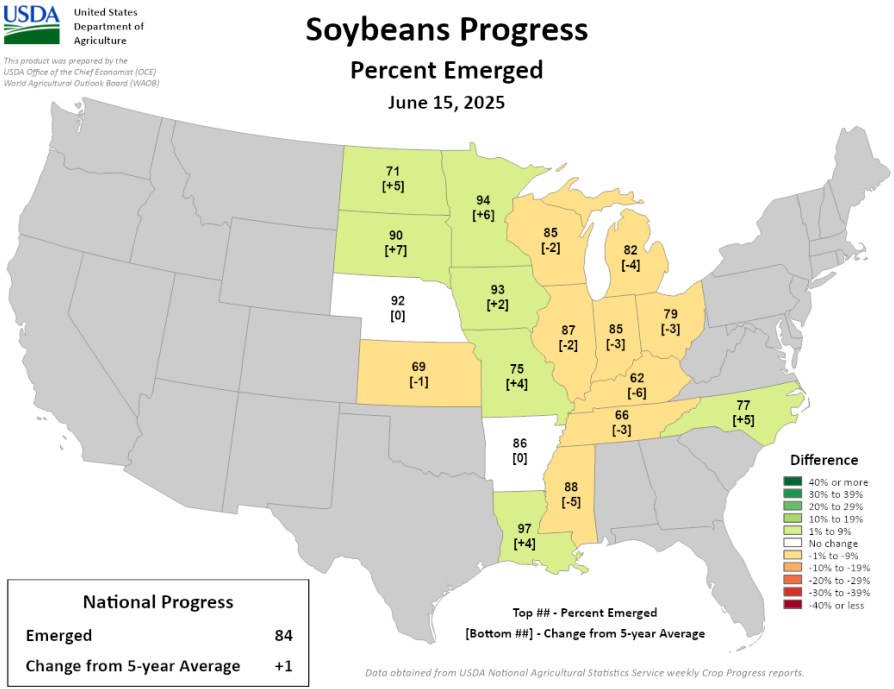
National Condition	
Good to Excellent	72
Change from Last Week	+1

https://agindrought.unl.edu/Other.aspx - Available to public each Tuesday

USDA NASS Crop Progress: Soybean



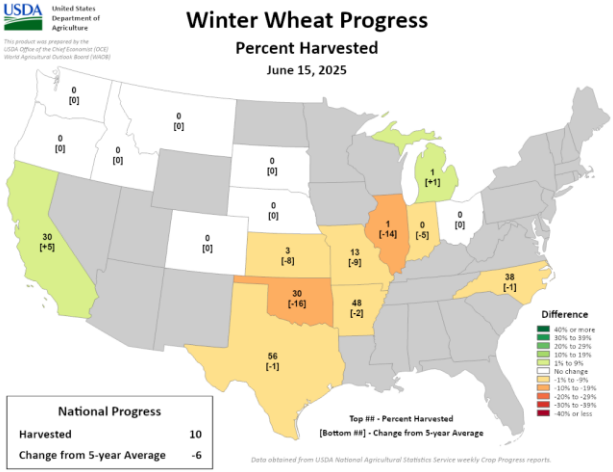
National Progress	
Planted	93
Change from 5-year Average	-1

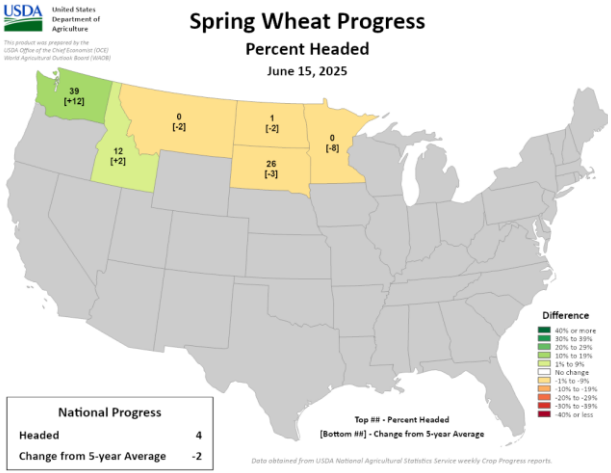


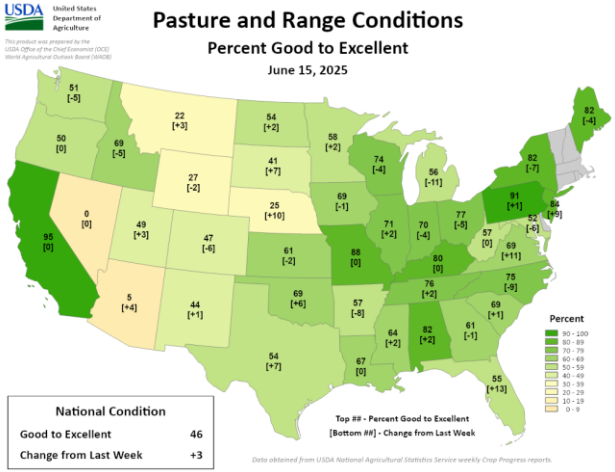
National Progress	
Emerged	84
Change from 5-year Average	+1

https://agindrought.unl.edu/Other.aspx - Available to public each Tuesday

USDA NASS Crop Progress/Conditions: Others

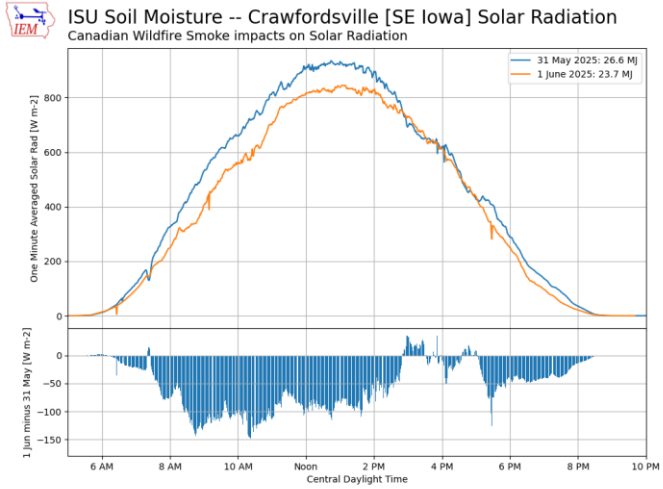






Notable Events

Photo: Dale Lentz, Bureau of Reclamation, Missouri Basin Region, Billings, MT

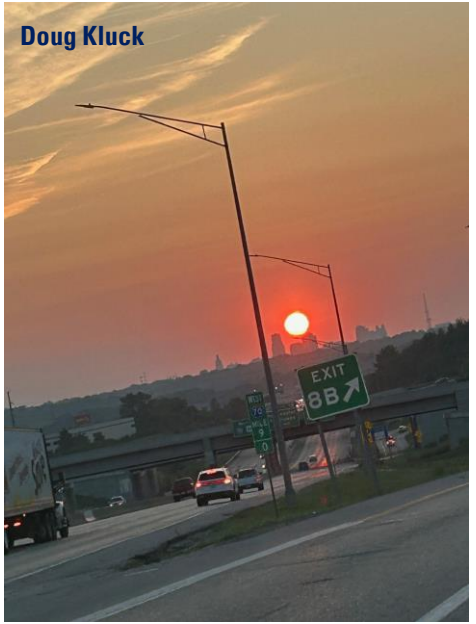


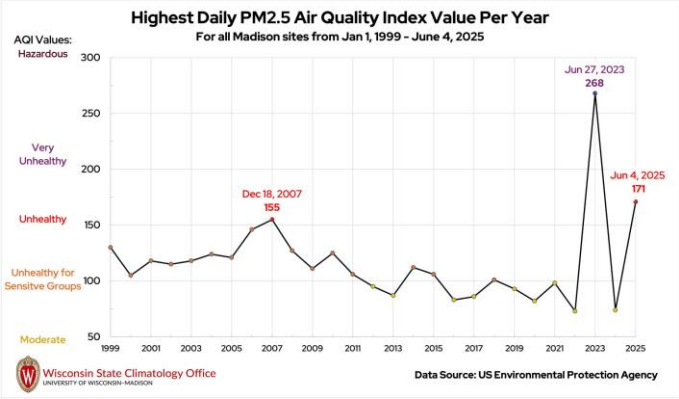
USA TODAY

Heavy smoke expected to hit the US as dangerous Canadian wildfires force 17K to evacuate

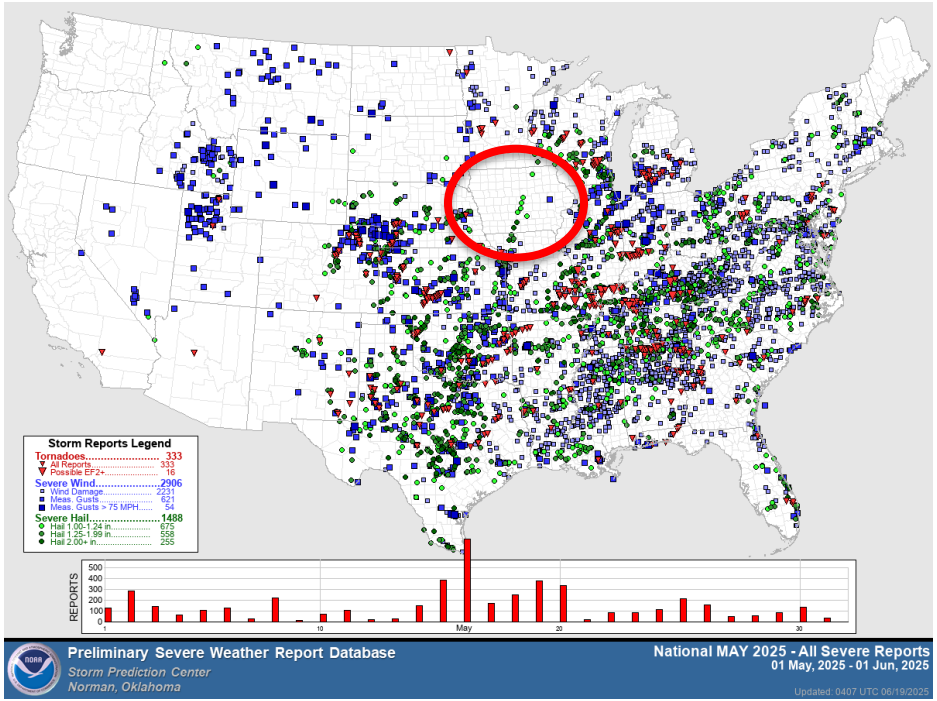
Michael Loria, USA TODAY

Fri, May 30, 2025 at 12:11 AM EDT · 3 min read





- Over 4700 storm reports for May across the US; ~1500 fewer than May 2024
- Several rounds of all severe types (tornadoes, hail, wind)
- No tornado reports in IA in May – first time since 2010
- Significant events:
  - May 15th (MN-WI-MI)
  - May 16th (MO-IL-IN-KY)
  - May 18th (E. CO-SW NE – KS)
  - Recent June events (Jun 18th)



SOUTH DAKOTA

- Variable NE to South; Flooding in NE SD
- Disease issues in Wheat
- No issues livestock and improved water quality in stock ponds

Ortonville Dam on Big Stone Lake Minnesota: Arties Bait and Tackle

NEBRASKA

- Improving drought conditions; crops and pasture conditions decent
- No snow in May for 3rd consecutive year
- Climatologically low numbers on severe weather

KANSAS

- Recent “chill” have kept soil temperatures low and slowed growing degree day accumulation
- Behind on 90-degree days
- Stage 2 water restrictions remain in Wichita but recent rains are improving reservoir levels

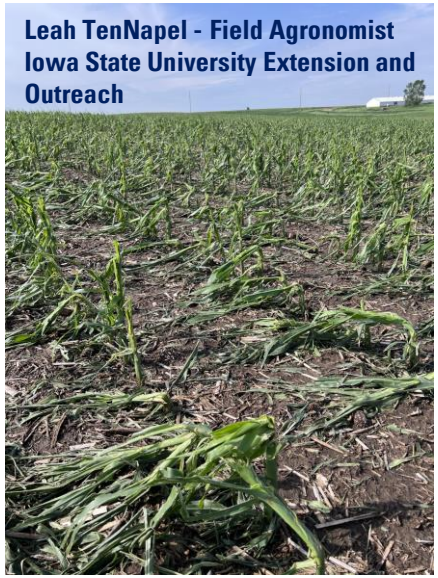
EF3-Grinnell KS: NOAA

INDIANA

- Some replant across the state
- Heavy rains this week on drought ground in NW IN/NE IL
- Wet conditions (number of rainy day) keep folks from harvesting wheat in time – leading to lodging concerns
- Weeds growing concern – areawide where rains have been plentiful

IOWA

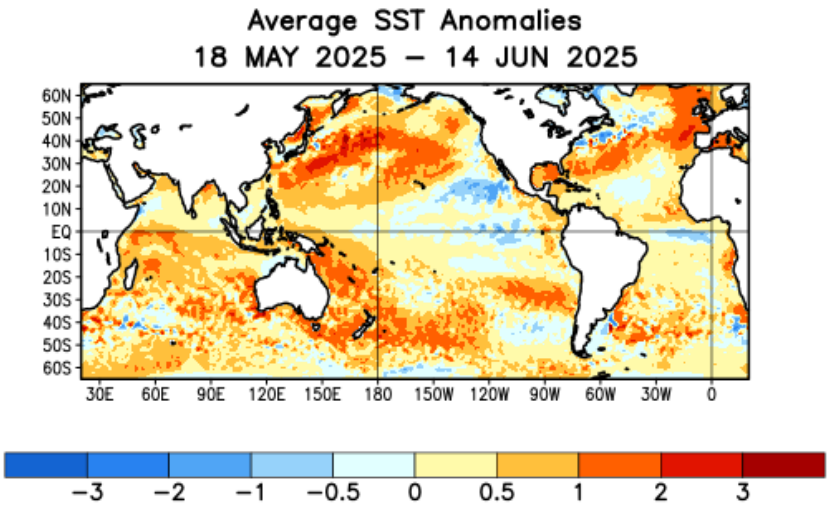
- Some replant and crop hail damage in spots
- 5” of rain in Des Moines on May 18th
- Nitrates and poor water quality leading to lawn watering restrictions in Des Moines

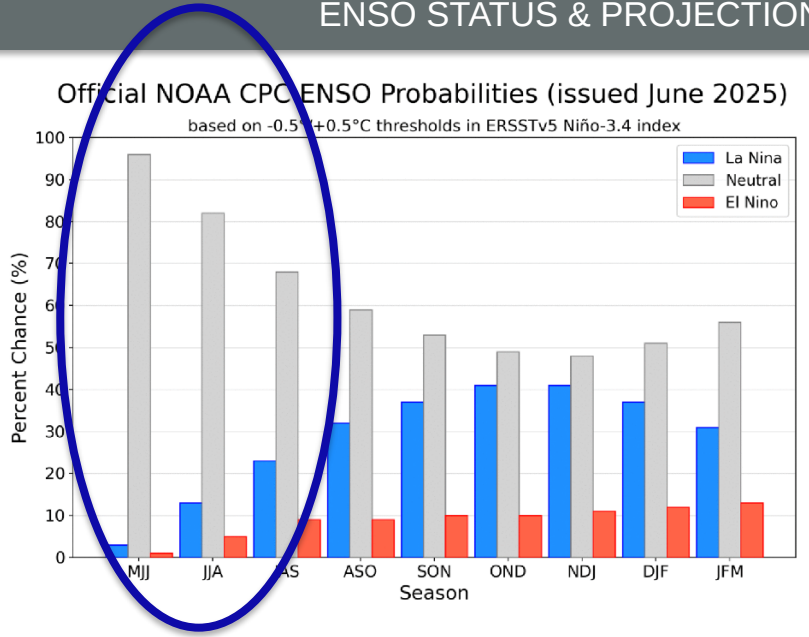


WISCONSIN

- Early 90-degree days in southern WI about a month early this year
- Temperature flip flop to cool conditions later in May
- 4-inch hail (Eau Claire County – pic)
- June 4, peak AQI levels of 171 in Madison, WI, were the second-highest AQI due to concentrations of PM2.5 reported in Madison since 1999, topped only by the record-smoky summer of 2023

Outlooks





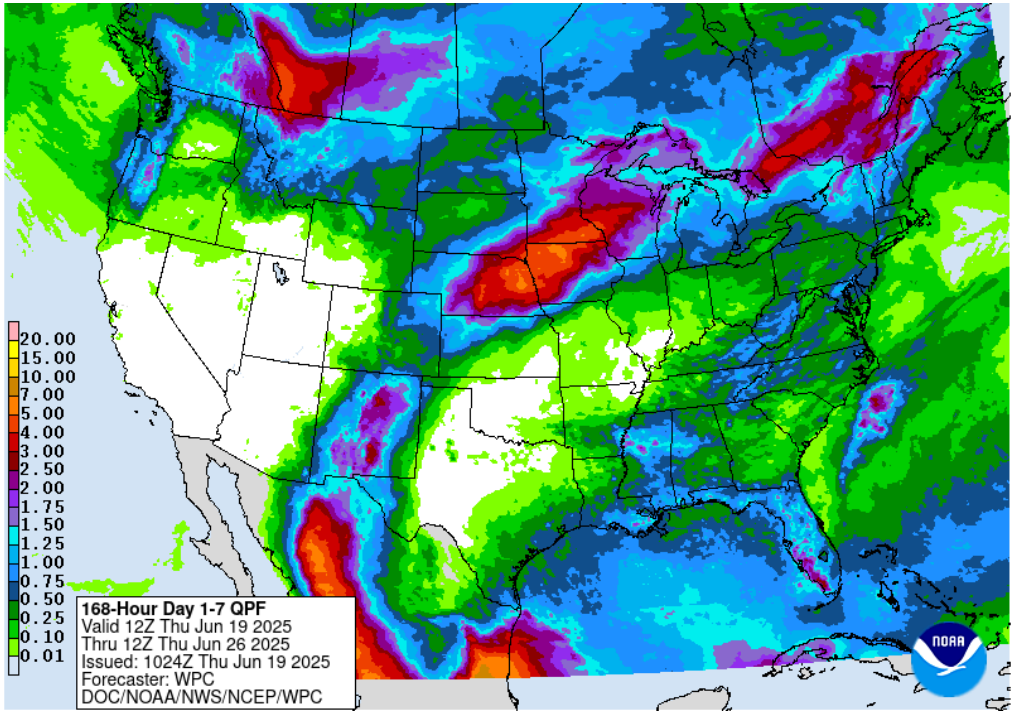
- ENSO-neutral is present
- Equatorial sea surface temperatures (SSTs) are near average across most of the Pacific Ocean.

- ENSO-Neutral is likely in the Northern Hemisphere summer 2025
- May continue into winter 2025-26, though confidence is lower (La Niña???)

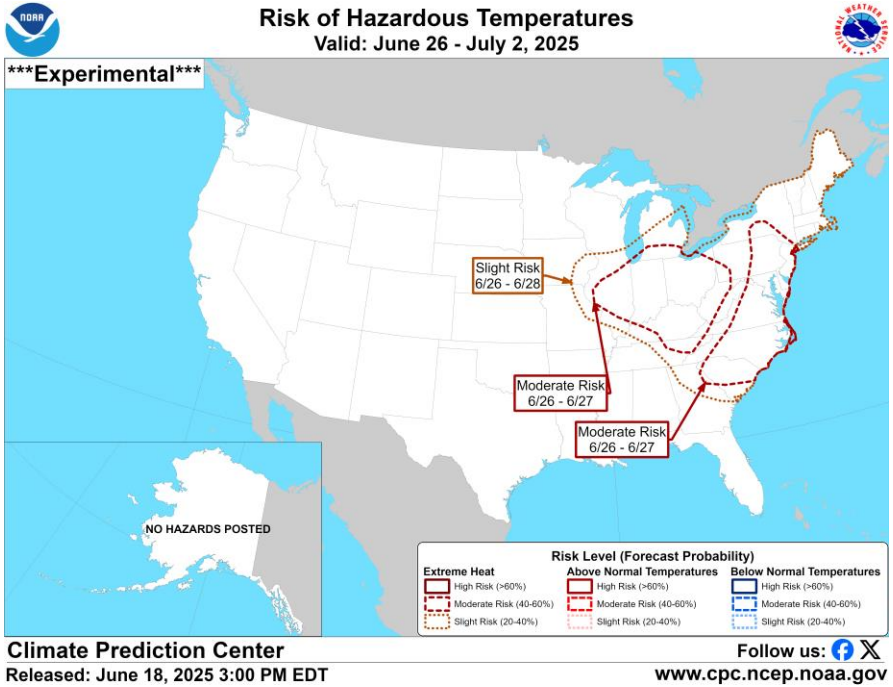
Source: https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.ppt

Valid Thu June 19 – Thu Jun 26

- High pressure in OH Valley and SE US this upcoming week will keep activity confined to northern Great Plains and Upper Midwest
- Frontal boundary sags south into the weekend across NE-IA-MN-WI with heavy rain potential – Tropical moisture pulled up from south (Remnants of Hurricane Erick)
- A chance for southern region (MO-IL-IN-KY-OH) to "dry" out but heat and humidity will be the major concern



Source: https://www.wpc.ncep.noaa.gov/#



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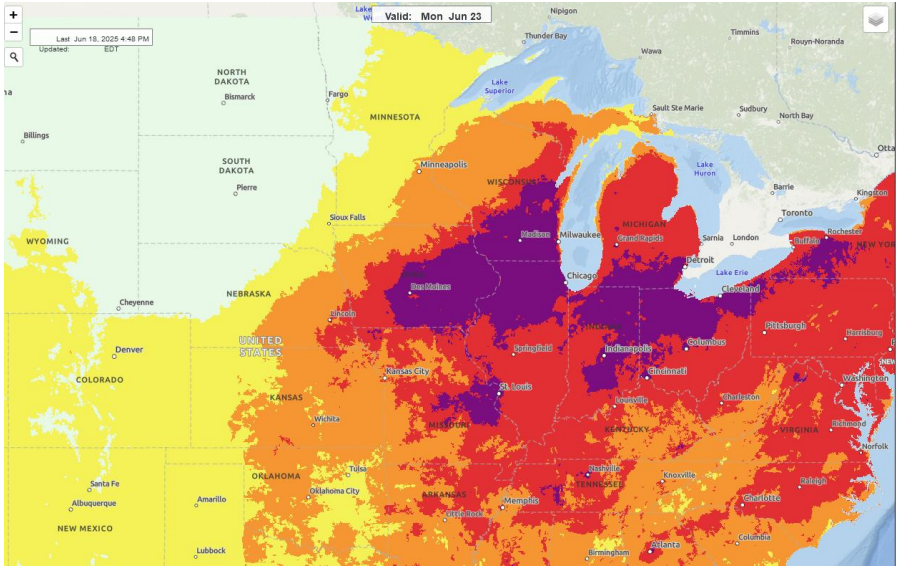
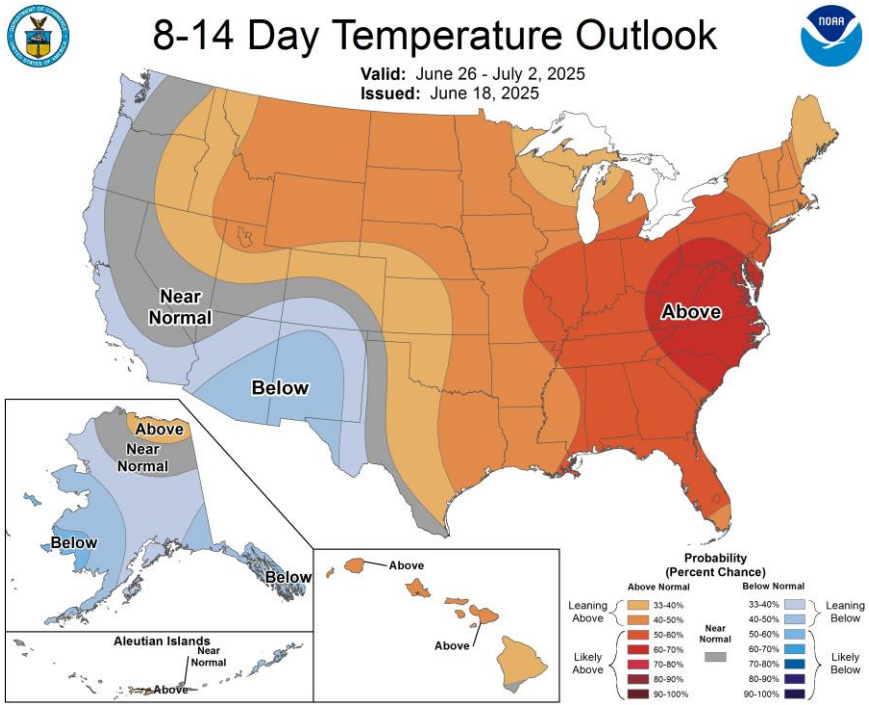
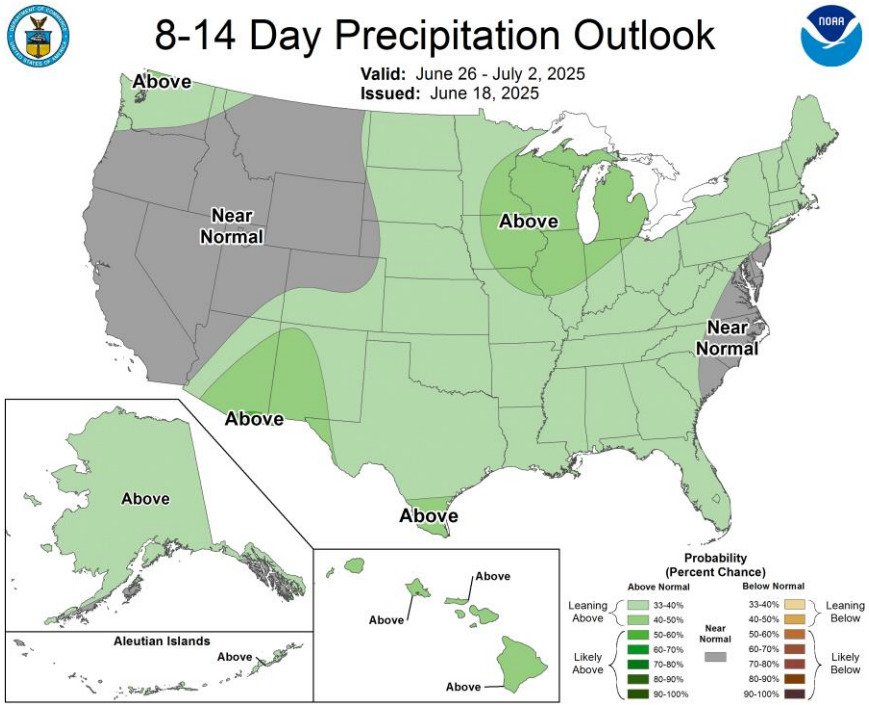


Category	Risk of Heat-Related Impacts
Green 0	Little to no risk from expected heat.
Yellow 1	Minor - This level of heat affects primarily those individuals extremely sensitive to heat, especially when outdoors without effective cooling and/or adequate hydration.
Orange 2	Moderate - This level of heat affects most individuals sensitive to heat, especially those without effective cooling and/or adequate hydration. Impacts possible in some health systems and in heat-sensitive industries.
Red 3	Major - This level of heat affects anyone without effective cooling and/or adequate hydration. Impacts likely in some health systems, heat-sensitive industries and infrastructure.
Magenta 4	Extreme - This level of rare and/or long-duration extreme heat with little to no overnight relief affects anyone without effective cooling and/or adequate hydration. Impacts likely in most health systems, heat-sensitive industries and infrastructure.

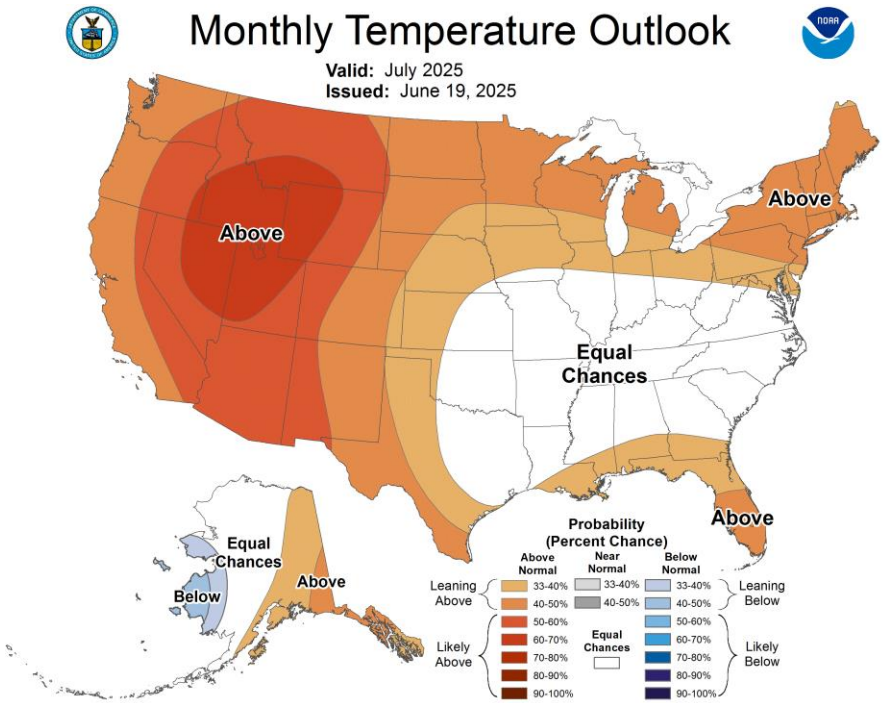
Source: https://www.wpc.ncep.noaa.gov/heatrisk/

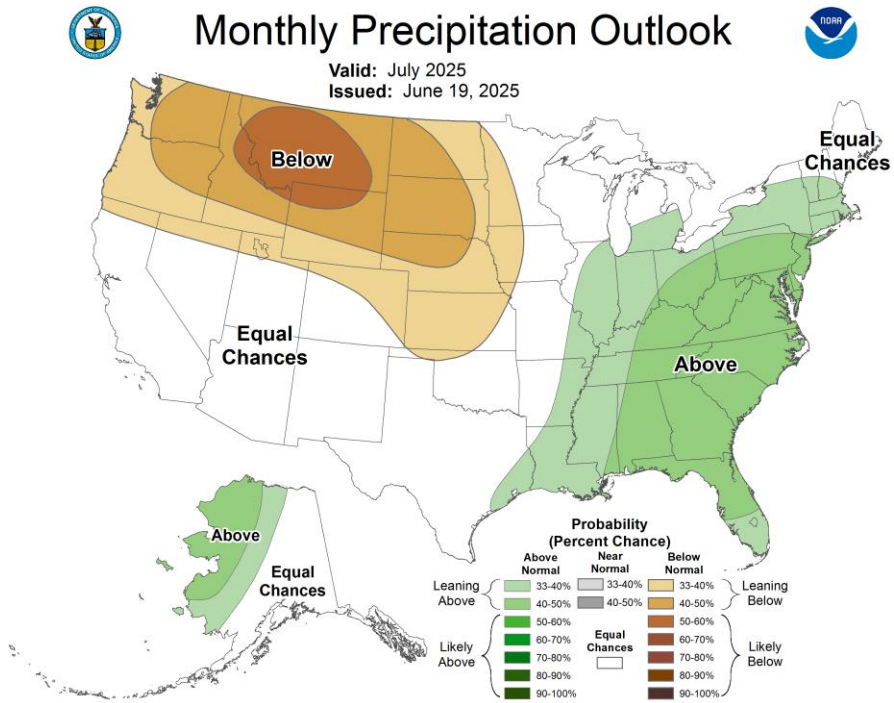
VALID June 26 – July 2





Source: https://www.cpc.ncep.noaa.gov/





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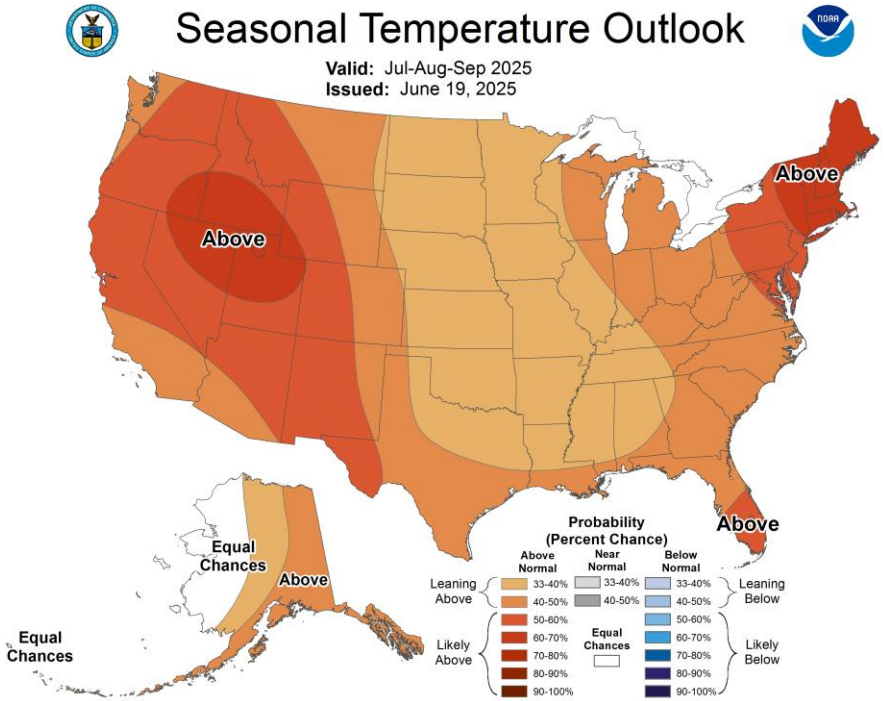
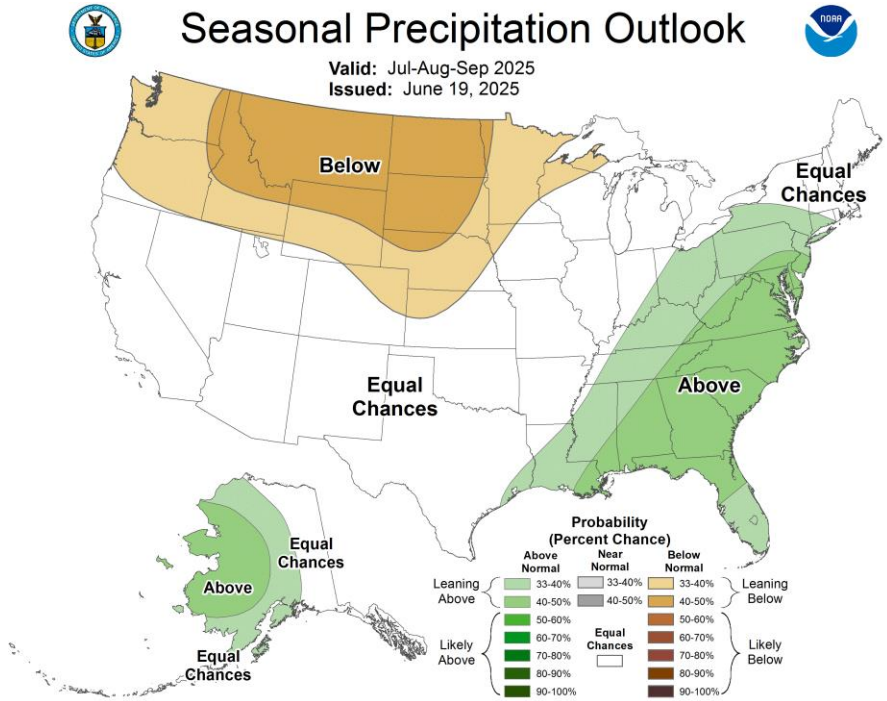
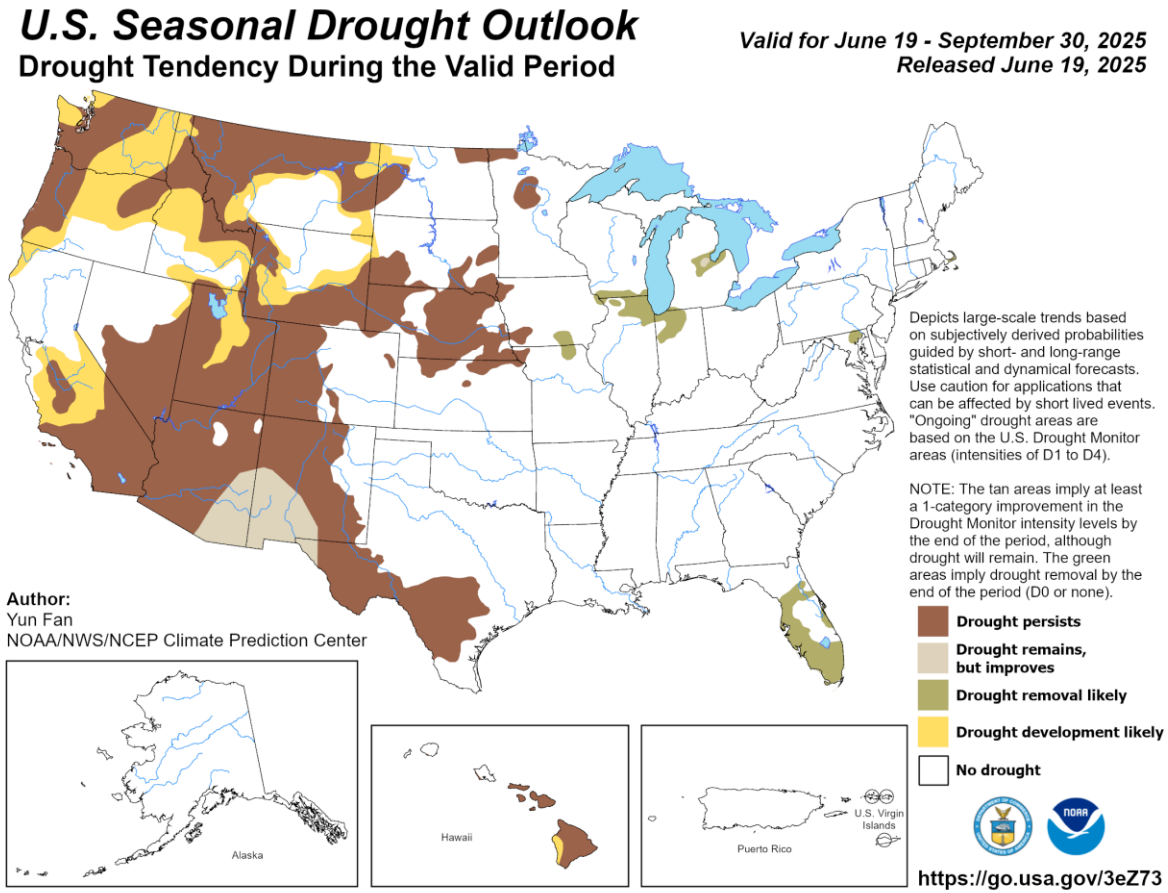




Source: https://www.cpc.ncep.noaa.gov/


U.S. Seasonal Drought Outlook
Drought Tendency During the Valid Period
Valid for June 19 - September 30, 2025
Released June 19, 2025
Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).
NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).
Drought persists
Drought remains, but improves
Drought removal likely
Drought development likely
No drought
Author:
Yun Fan
NOAA/NWS/NCEP Climate Prediction Center
Alaska
Hawaii
Puerto Rico
U.S. Virgin Islands
https://go.usa.gov/3eZ73

- Short-term: Above normal heat and humidity but summer heat will prevail
- ENSO-neutral conditions through Summer
- July Temperature probabilities leaning toward warmer than average across North Central Region except south and east (strongly wet soil moisture signals)
- July Precipitation leaning above average for eastern part of region and below average in the west and north; response to overall expected atmospheric flow
- Any major drought outbreak that might occur likely to affect northern Great Plains.
- Central-eastern Corn Belt looking decent into July.
- Mississippi/Ohio Rivers likely to remain fine but Missouri forecasted to trail normal levels

Today and Past Recorded Presentations

- https://mrcc.purdue.edu/webinars
- http://www.hprcc.unl.edu/webinars.php

State Climatologists/AASC: http://www.stateclimate.org

NOAA's National Centers for Environmental Information: https://www.ncei.noaa.gov/

Monthly climate reports (U.S. & Global): www.ncdc.noaa.gov/sotc/

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

Climate Portal: www.climate.gov

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

National Drought Mitigation Center: http://drought.unl.edu/

USDA Climate Hubs https://www.climatehubs.usda.gov/

Regional climate centers: http://mrcc.purdue.edu and http://www.hprcc.unl.edu

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