

NOAA Climate Science and Services Monthly Climate Update

Karin Gleason

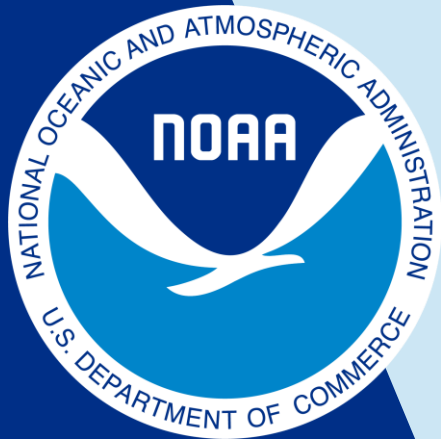
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Meteorologist, NOAA Climate Prediction Center (CPC)



National Oceanic and
Atmospheric Administration

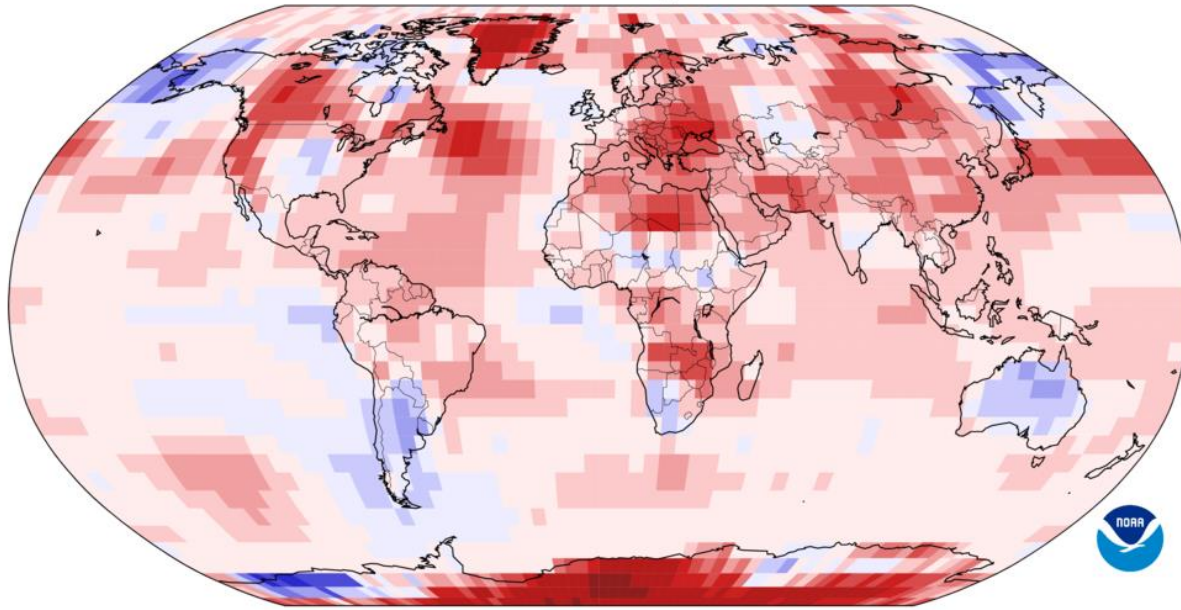
July 2024

July 2024 Global Temperature

The global temperature record dates back to 1850 (175 years)

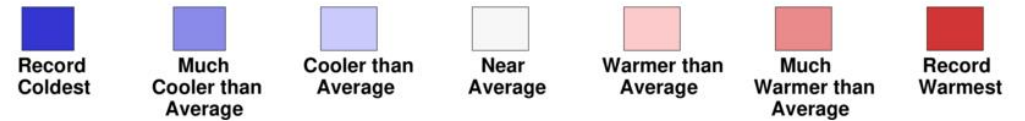
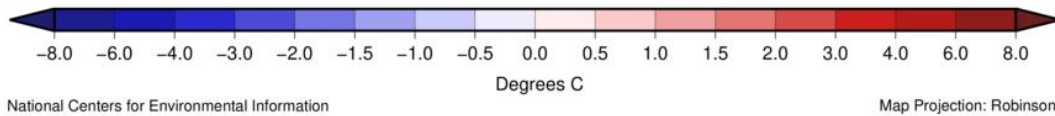
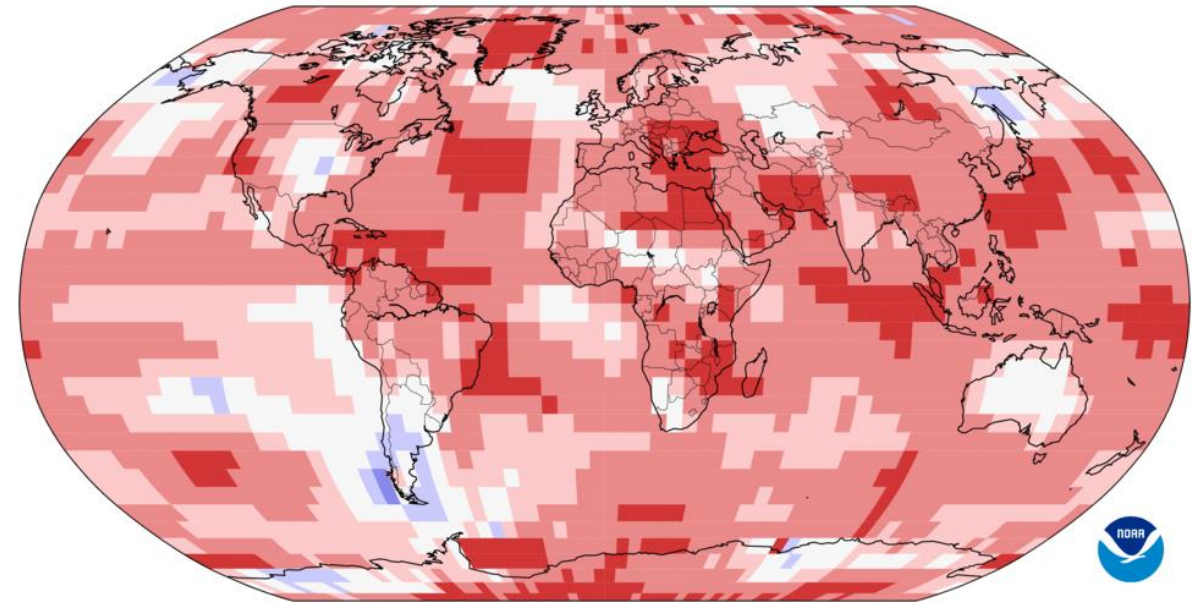
Land & Ocean Temperature Departure from Average Jul 2024
(with respect to a 1991-2020 base period)

Data Source: NOAAGlobalTemp v6.0.0-20240806



Land & Ocean Temperature Percentiles Jul 2024
NOAA's National Centers for Environmental Information

Data Source: NOAAGlobalTemp v6.0.0-20240806



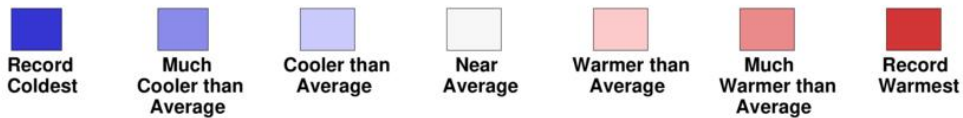
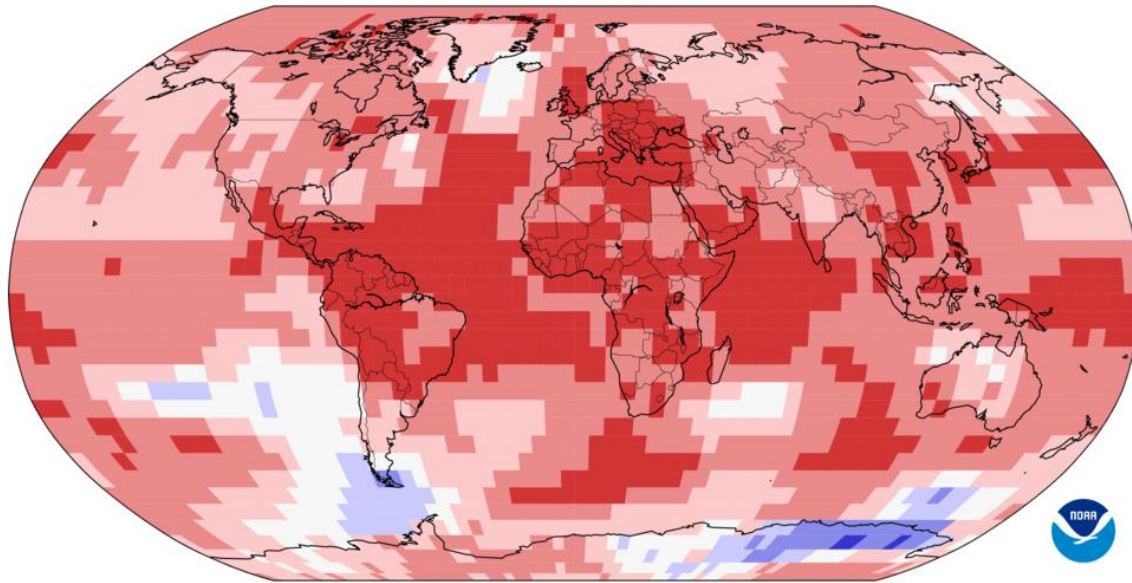
- **Global Land & Ocean: +1.21°C/+2.18°F; warmest for July on record**
- **Global Land-only: +1.70°C/+3.06°F; warmest for July on record**
- **Global Ocean-only: +0.98°C/+1.76°F; 2nd warmest for July on record**



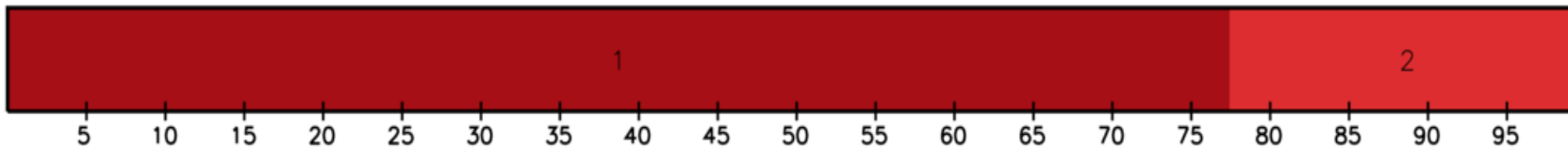
January-July 2024 Global Temperature

The global temperature record dates back to 1850 (175 years)

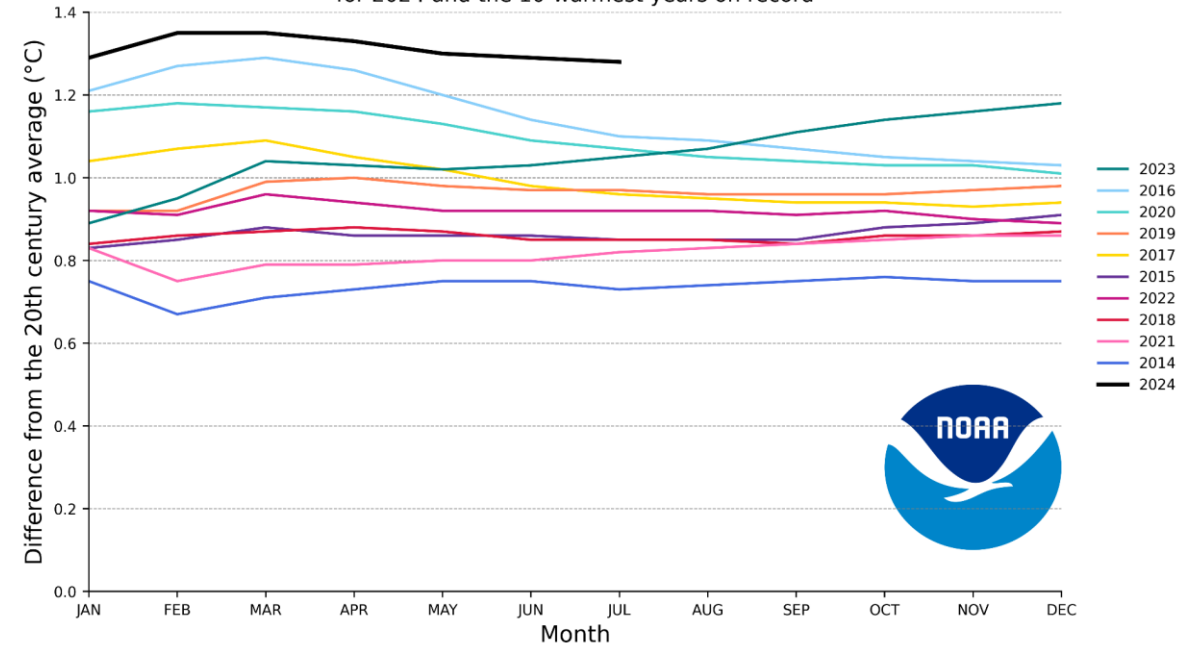
Land & Ocean Temperature Percentiles Jan-Jul 2024
 NOAA's National Centers for Environmental Information
 Data Source: NOAAGlobalTemp v6.0.0-20240806



Global Land & Ocean: +1.28°C/+2.30°F; warmest for Jan-Jul on record

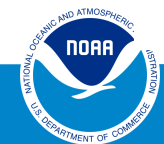


Global Year-to-Date Temperature Anomalies
 for 2024 and the 10-warmest years on record



~77% chance 2024 will be warmest year on record

Nearly a 100% chance 2024 will be a top 5 year



Contiguous U.S. July 2024

The U.S. record dates back to 1895 (130 years)

Statewide Average Temperature Ranks July 2024

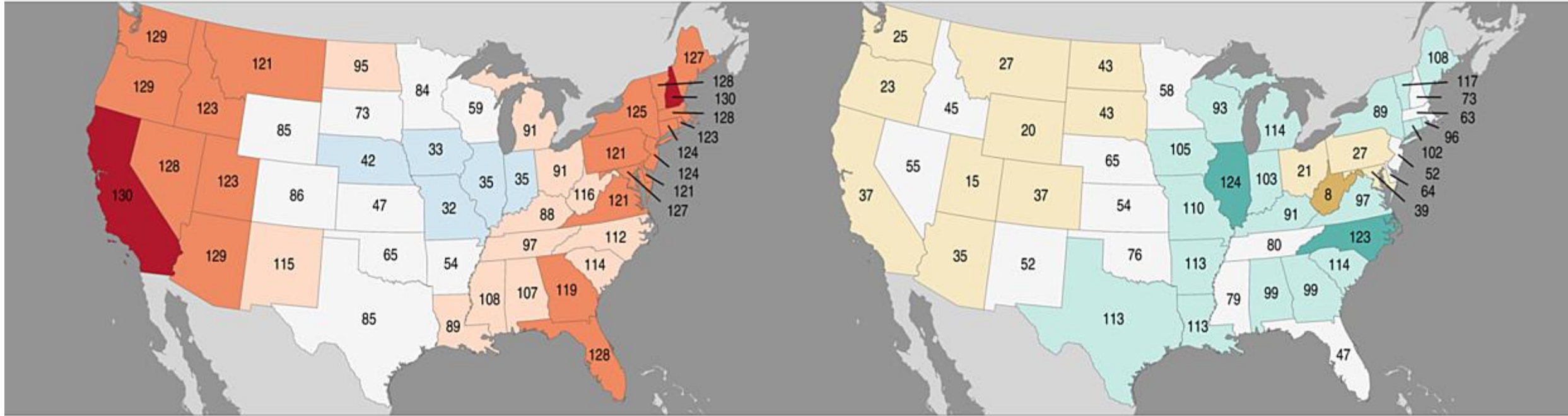
Ranking Period: 1895-2024

NOAA's National Centers for Environmental Information

Statewide Precipitation Ranks July 2024

Ranking Period: 1895-2024

NOAA's National Centers for Environmental Information



Created: Tue Aug 6 2024
Source: nClimGrid - Monthly

Created: Tue Aug 6 2024
Source: nClimGrid - Monthly

- **Temperature: 75.7°F/+2.1°F; 11th warmest**
- **Precipitation: 3.04 inches/+0.26 inch; above average**

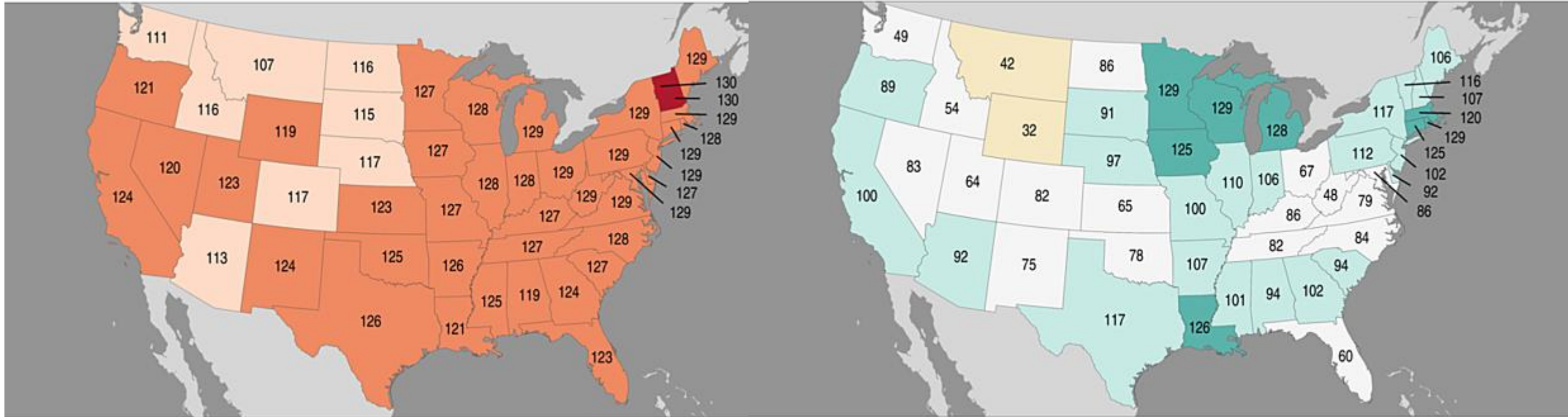


Contiguous U.S. January-July 2024

The U.S. record dates back to 1895 (130 years)

Statewide Average Temperature Ranks
January - July 2024
Ranking Period: 1895-2024
NOAA's National Centers for Environmental Information

Statewide Precipitation Ranks
January - July 2024
Ranking Period: 1895-2024
NOAA's National Centers for Environmental Information



Created: Tue Aug 6 2024
Source: nClimGrid - Monthly

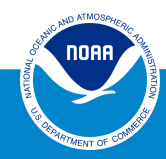
Record Coldest (1)
Much Below Average
Below Average
Near Average
Above Average
Much Above Average
Record Warmest (130)

Created: Tue Aug 6 2024
Source: nClimGrid - Monthly

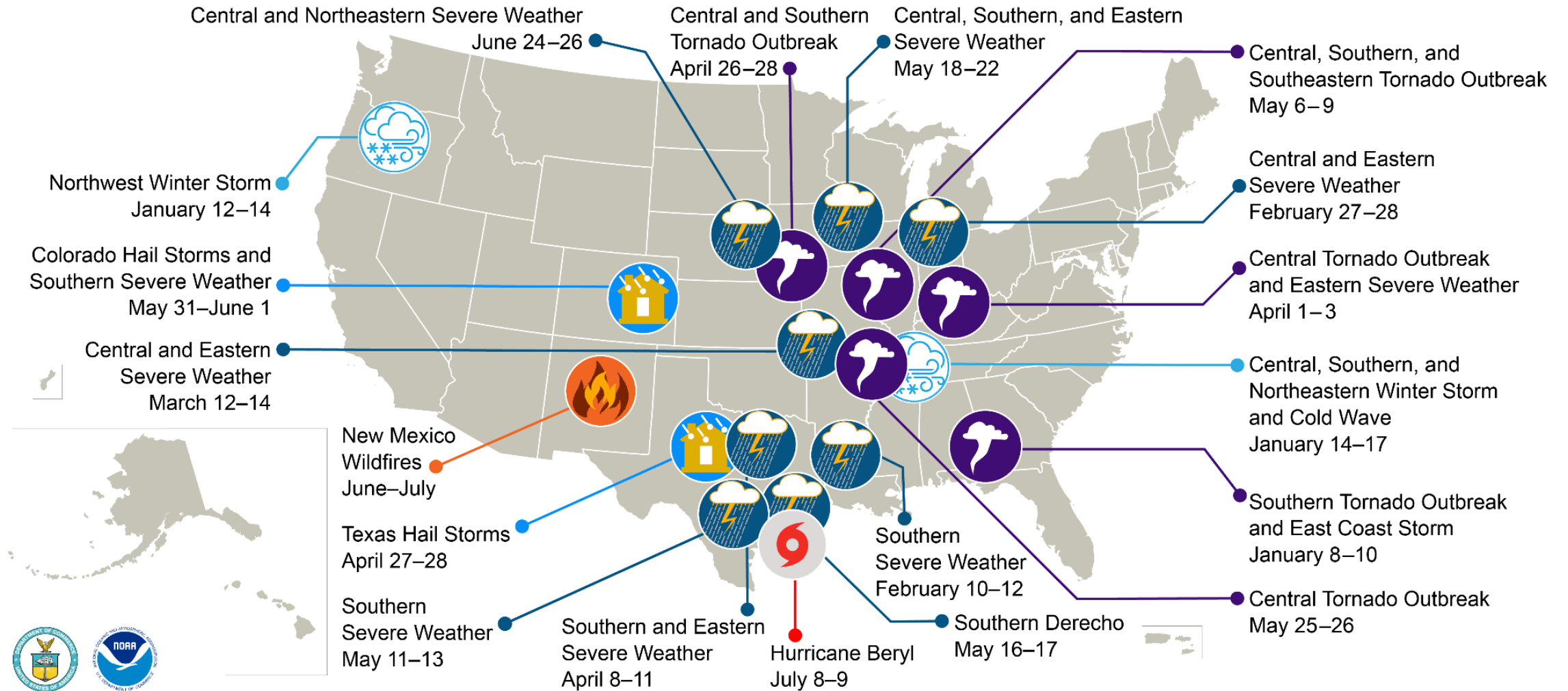
Record Driest (1)
Much Below Average
Below Average
Near Average
Above Average
Much Above Average
Record Wettest (130)



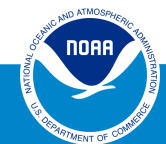
- **Temperature: 54.5F/+3.2°F; 2nd warmest**
- **Precipitation: 20.44 inches/+2.36 inches; 11th wettest**



U.S. 2024 Billion-Dollar Weather and Climate Disasters



This map denotes the approximate location for each of the 19 separate billion-dollar weather and climate disasters that impacted the United States through July 2024.



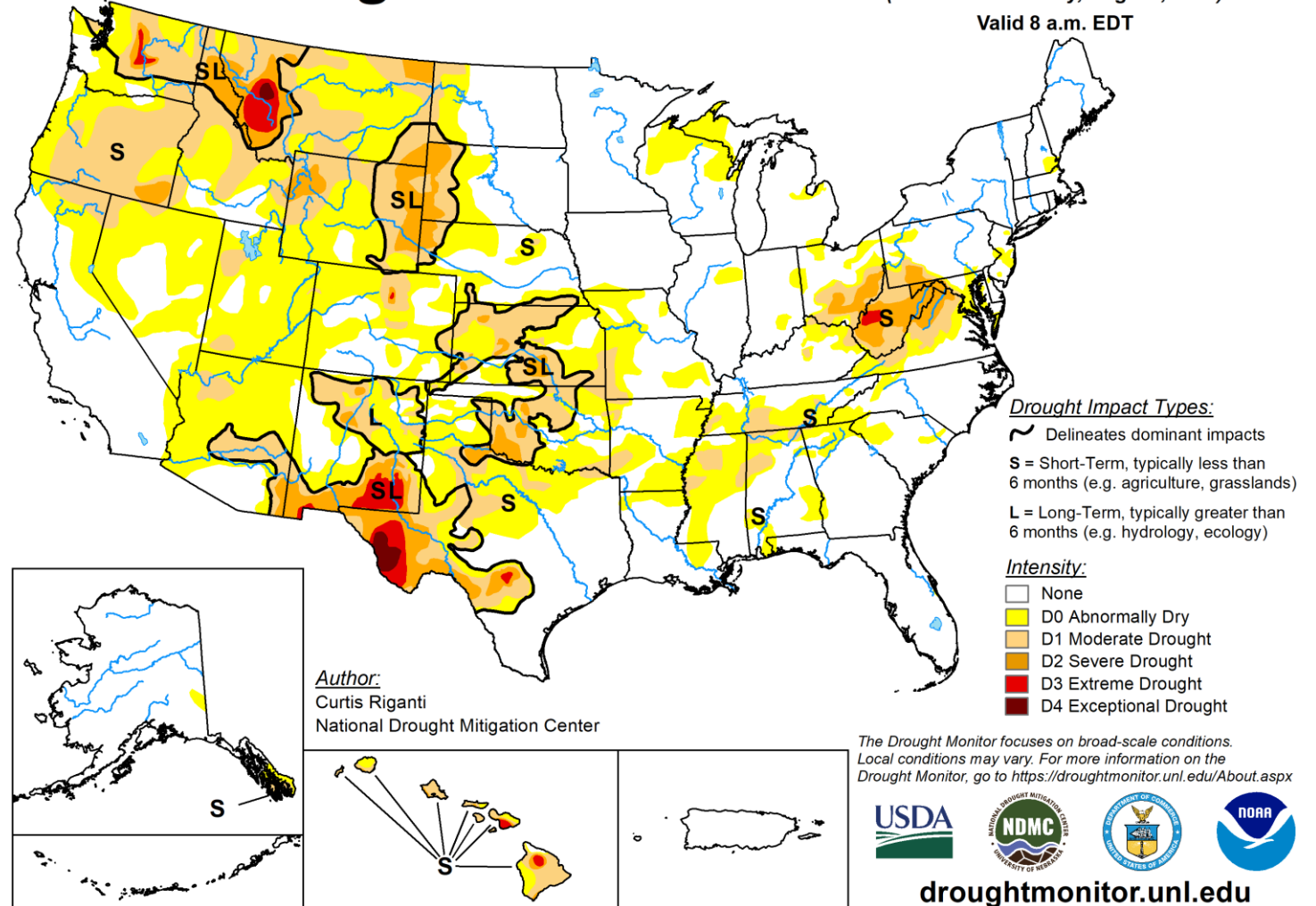
Current U.S. Drought

22.2% of the contiguous U.S. is in drought (up about 3.5% since early July)

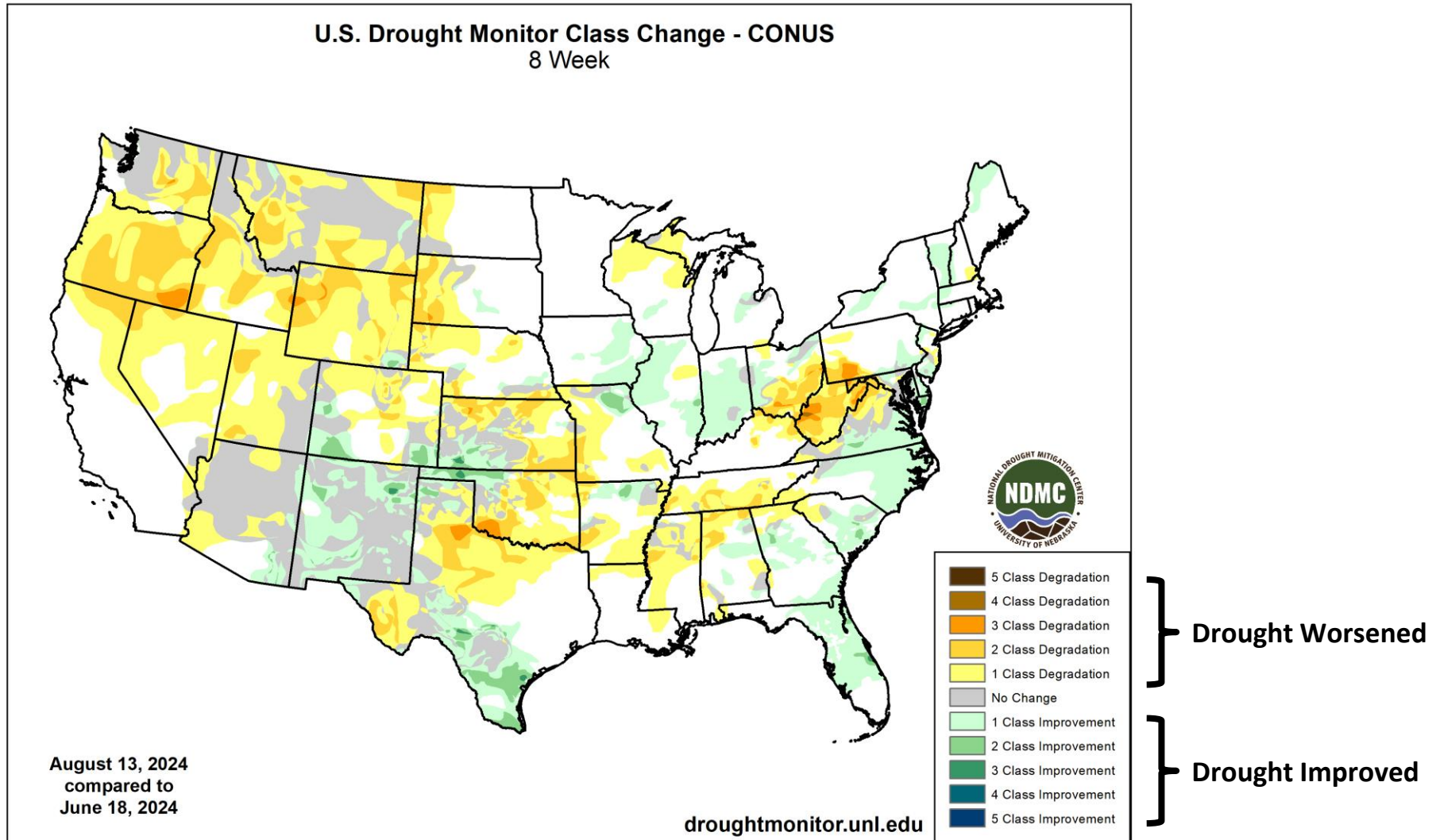
- **Drought conditions lessened/diminished:** Southeast, Midwest
- **Drought conditions expanded/intensified:** Ohio Valley, central & southern Plains, PNW, northern Rockies
- **Outside the contiguous U.S.:** Drought coverage expanded and intensified across Hawaii

U.S. Drought Monitor

August 13, 2024
(Released Thursday, Aug. 15, 2024)
Valid 8 a.m. EDT

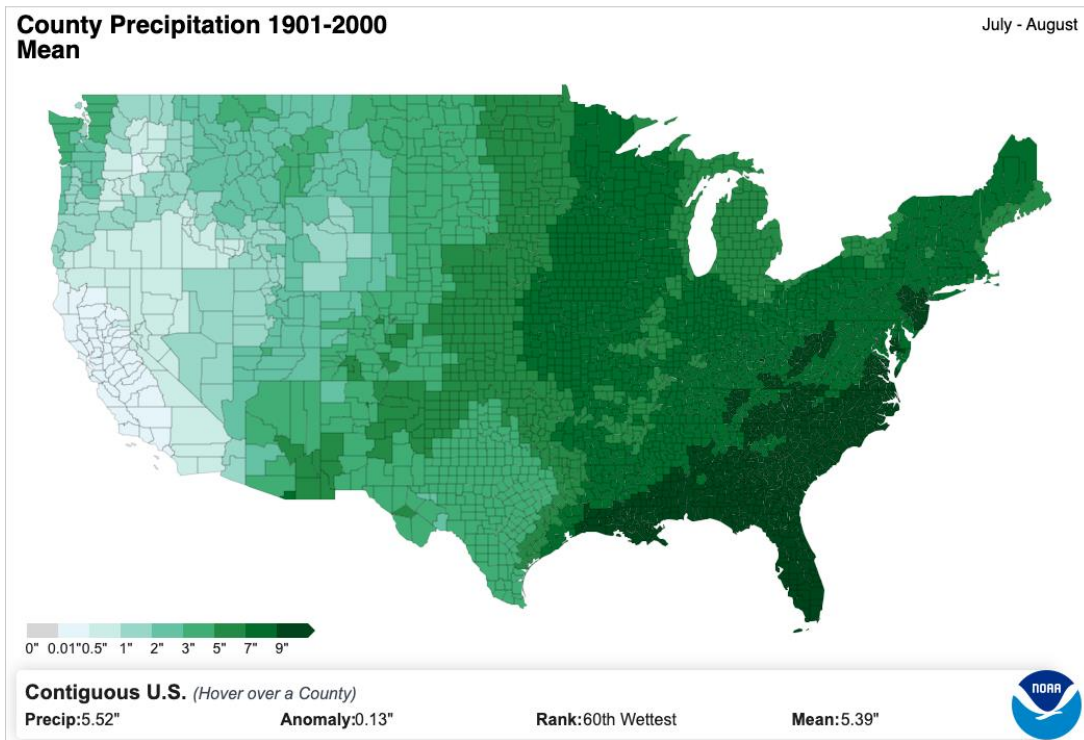


Drought Recently Worsened in Western U.S.

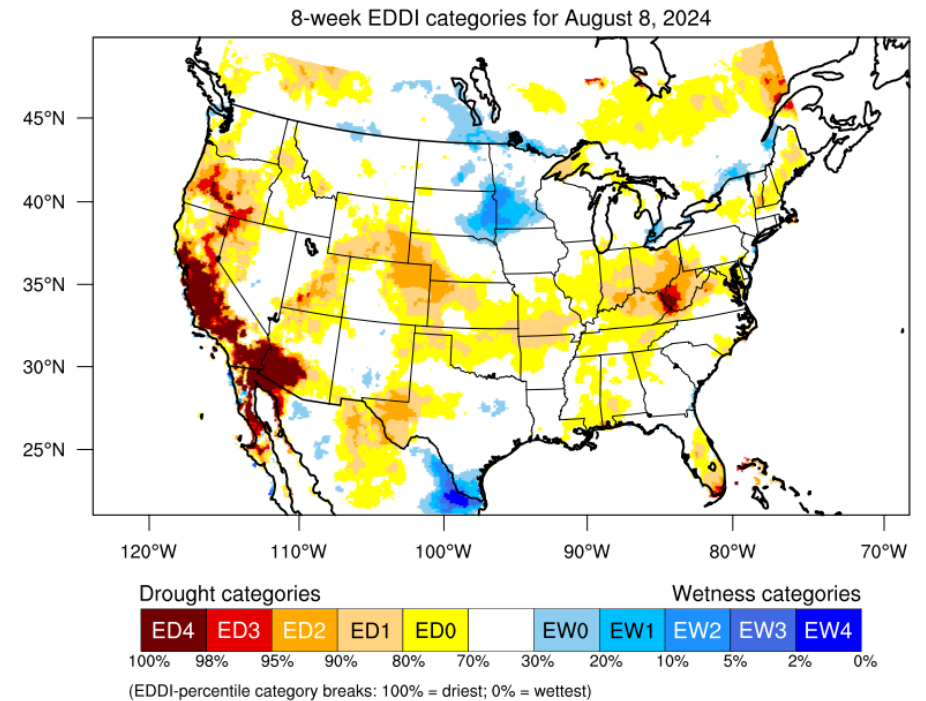


Drought Intensification Due to Loss of Moisture to Atmosphere Compared to its Supply

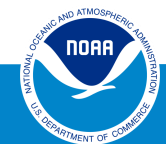
Summer Moisture Supply in Western U.S. is Small



Meanwhile, Large Loss of Moisture to Atmosphere

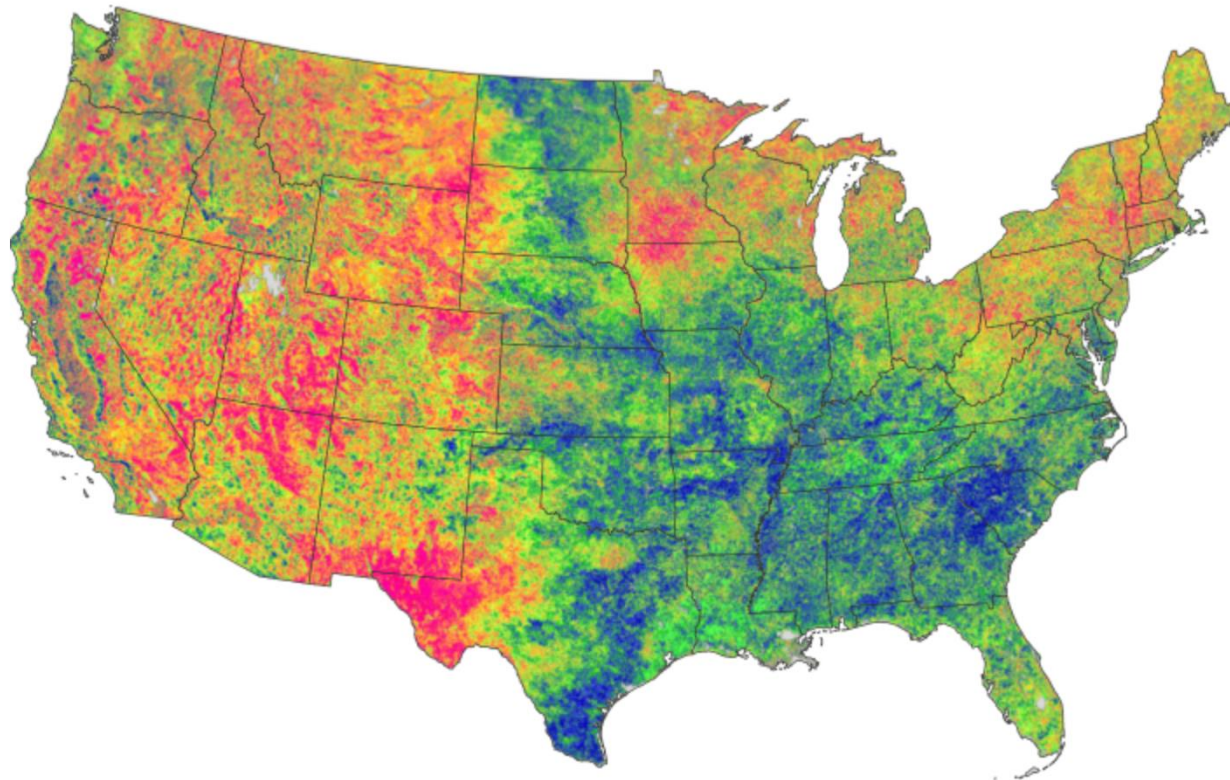


Generated by NOAA/ESRL/Physical Sciences Laboratory



Drought Intensification Led to Vegetation Health Declines

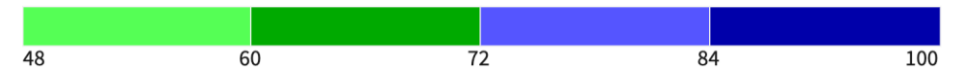
Vegetation Health Index



Unfavorable Conditions



Favorable Conditions



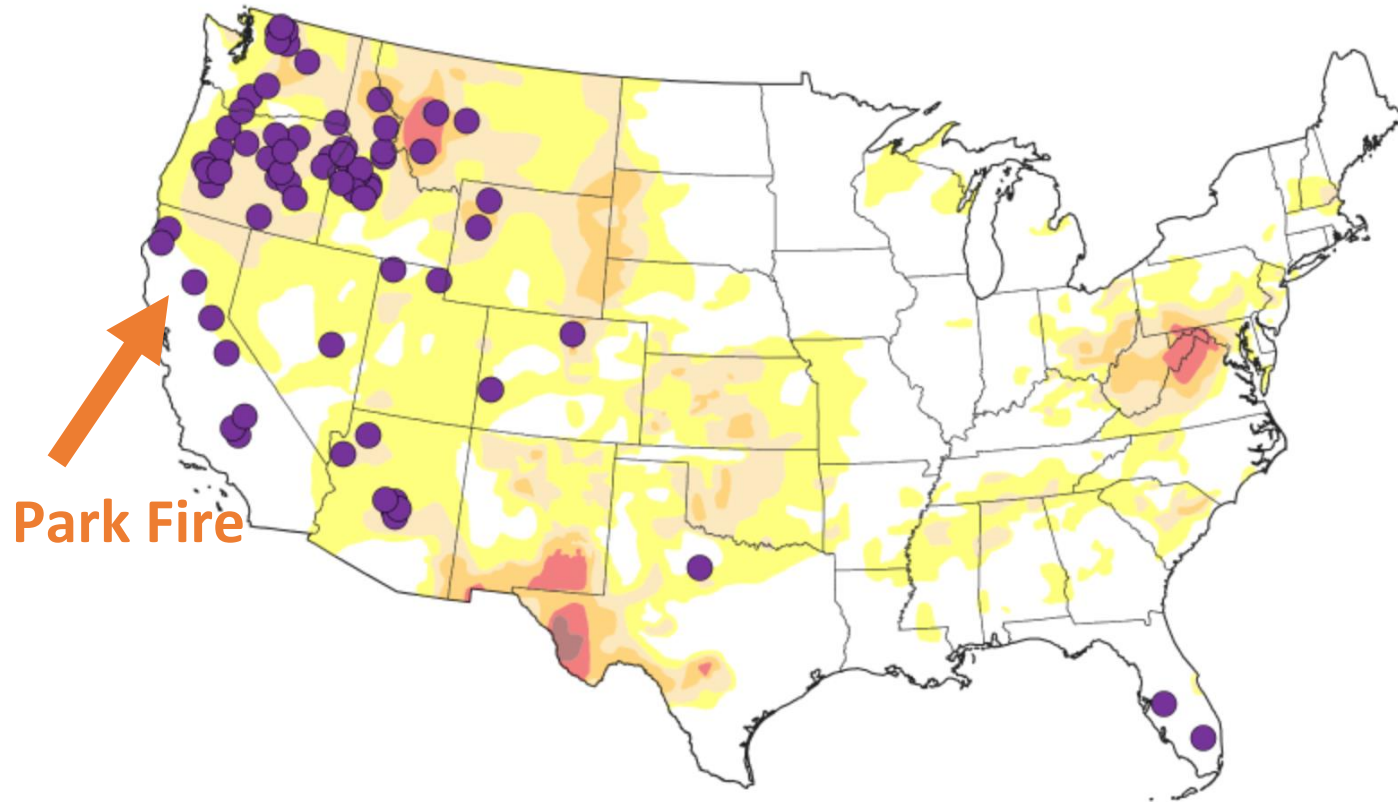
Source(s): NOAA STAR
Data Valid: 08/06/24

Drought.gov



Diminished Vegetation Health Fuels Wildland Fires

Active Large Wildfire Incidents



Active Large Wildfires

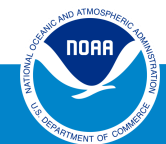
Large Fire

U.S. Drought Monitor



Source(s): National Interagency Fire Center, U.S. Drought Monitor
Data Valid: 08/13/24

Drought.gov



California Park Fire

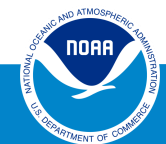
Ignition: July 24, 2024, 2:52pm

Area Burned: 429,263 acres (4th Largest)

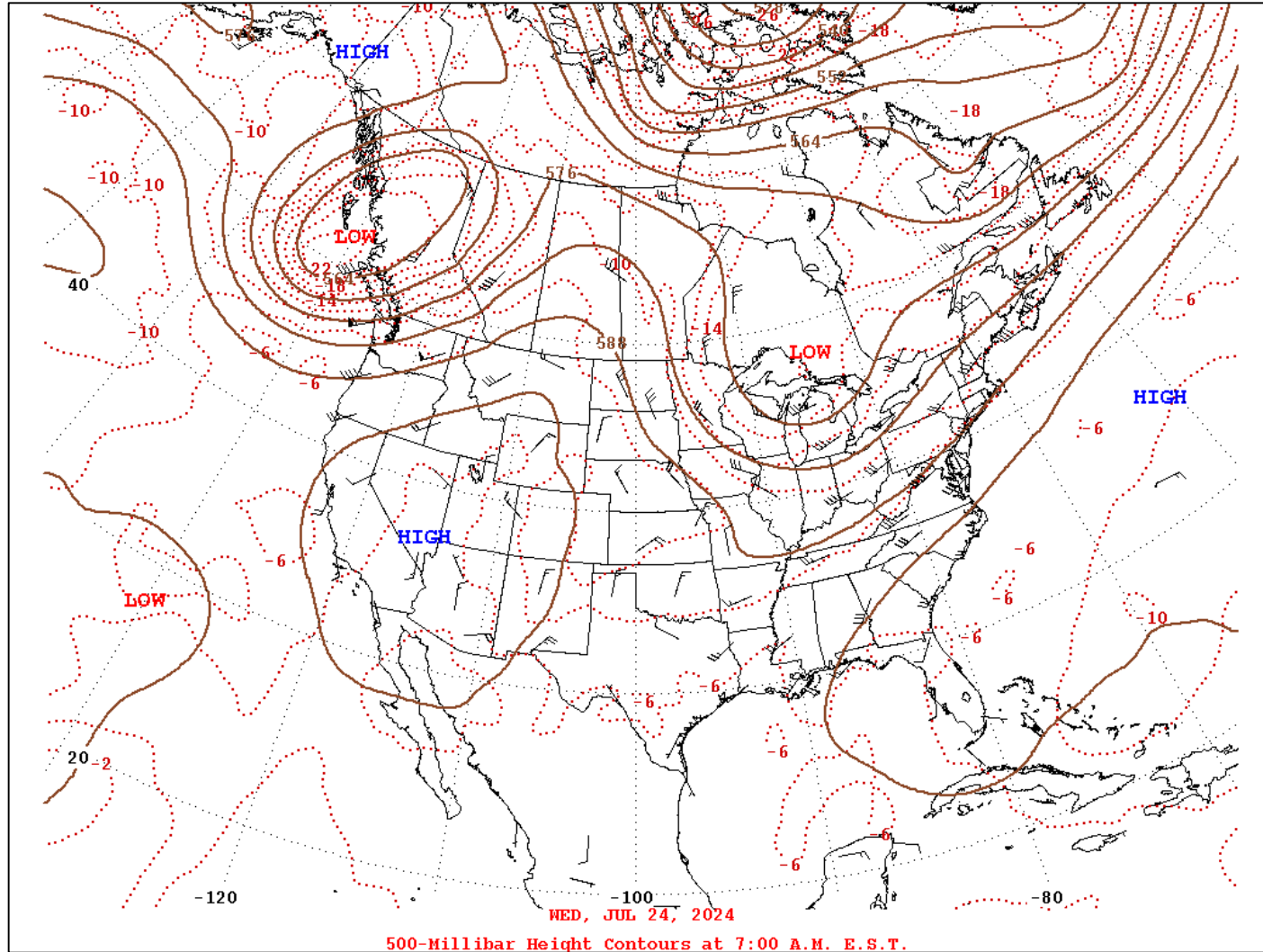
Cause: Arson

	July 24, 2024 2:53pm	July 24, 2024 Daily Extremes	July 25, 2024 Daily Extremes	July 26, 2024 Daily Extremes
Temperature (°F)	107	108	102	102
Relative Humidity (%)	14	14	10	11
Wind Speed (mph)	18 SSE	29 S	30 SSE	16 S

Conditions at Chico Regional Airport (KCIC)

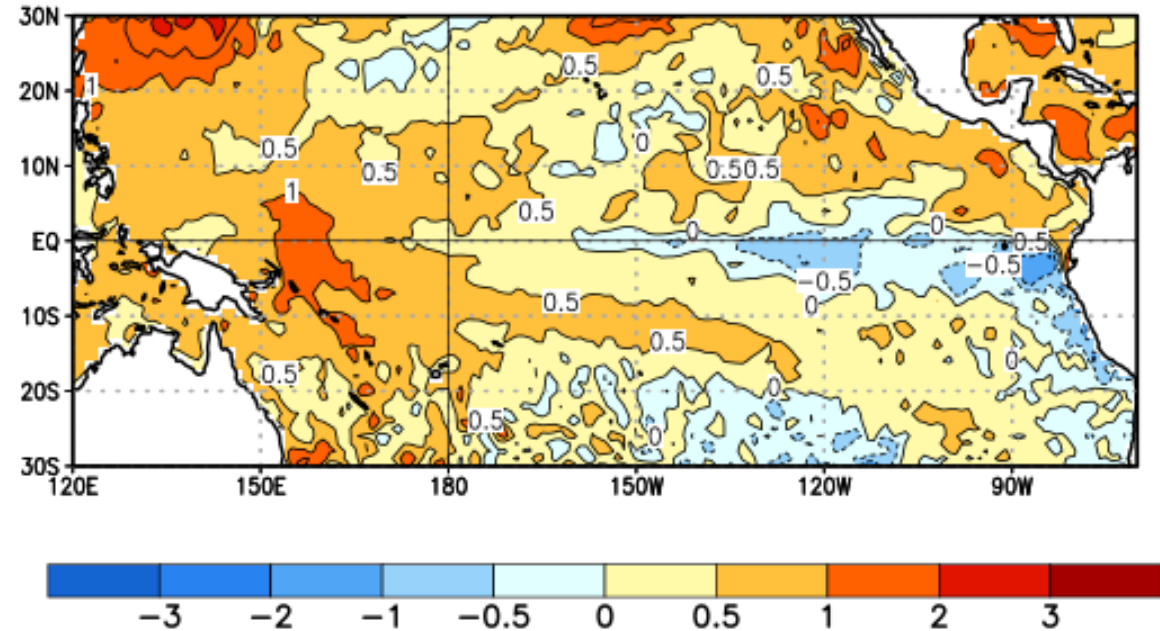


Weather Pattern Conducive for Western Fires

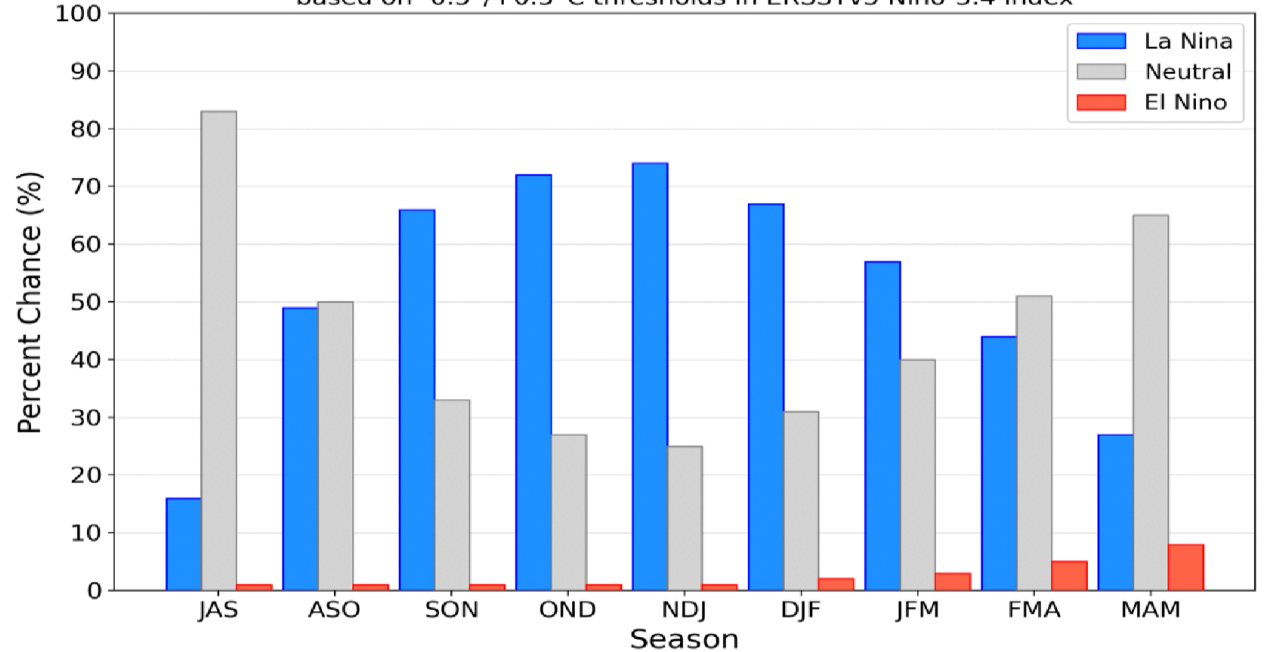


Sea Surface Temperatures and ENSO

Average SST Anomalies
14 JUL 2024 – 10 AUG 2024



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



- Sea surface temperatures

- Below normal sea surface temperatures are starting to develop across the eastern equatorial Pacific
- The oceanic and atmospheric observations currently reflect ENSO-neutral conditions

- ENSO forecast

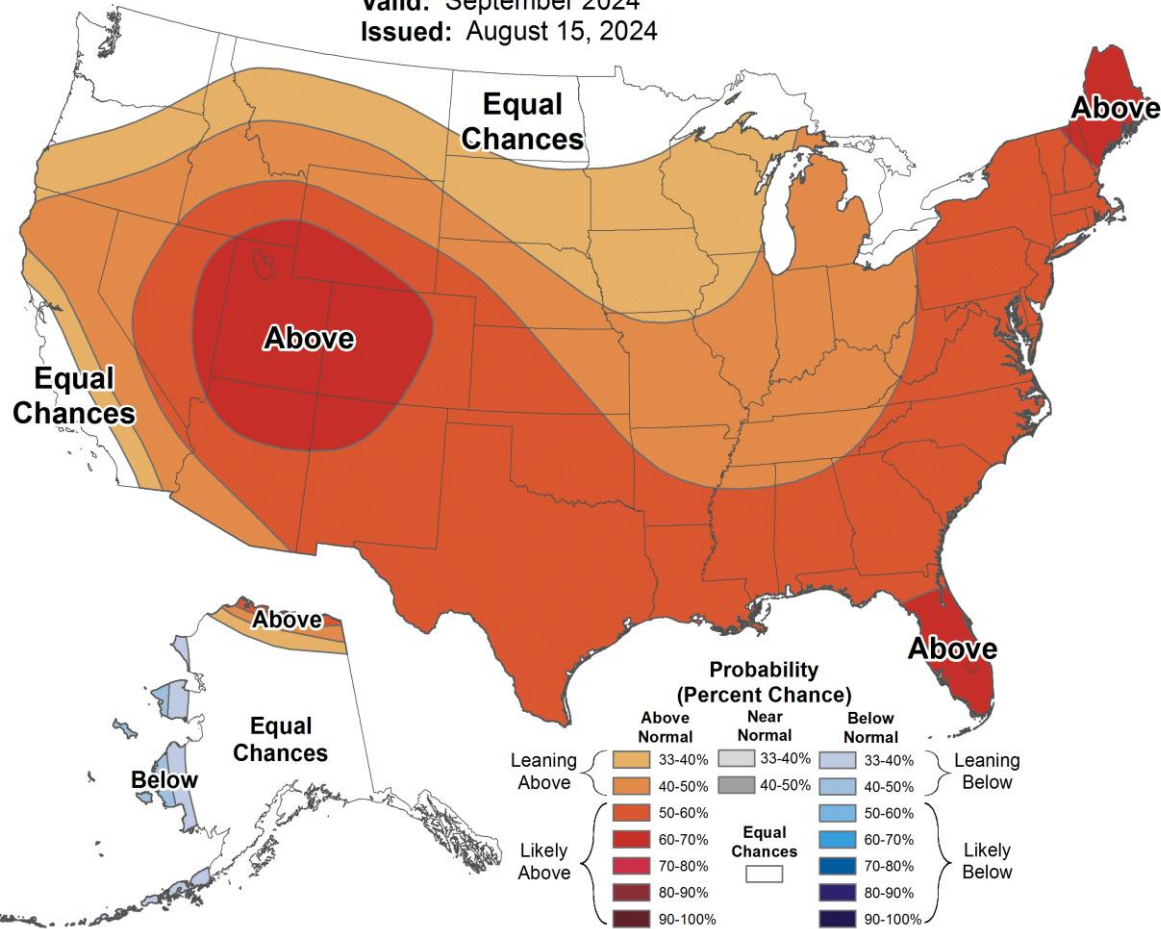
- 66 percent chance of La Niña developing during September-October-November 2024
- Greater than a 60 percent chance that La Niña persists through the winter 2024-2025

Monthly Forecast (September)



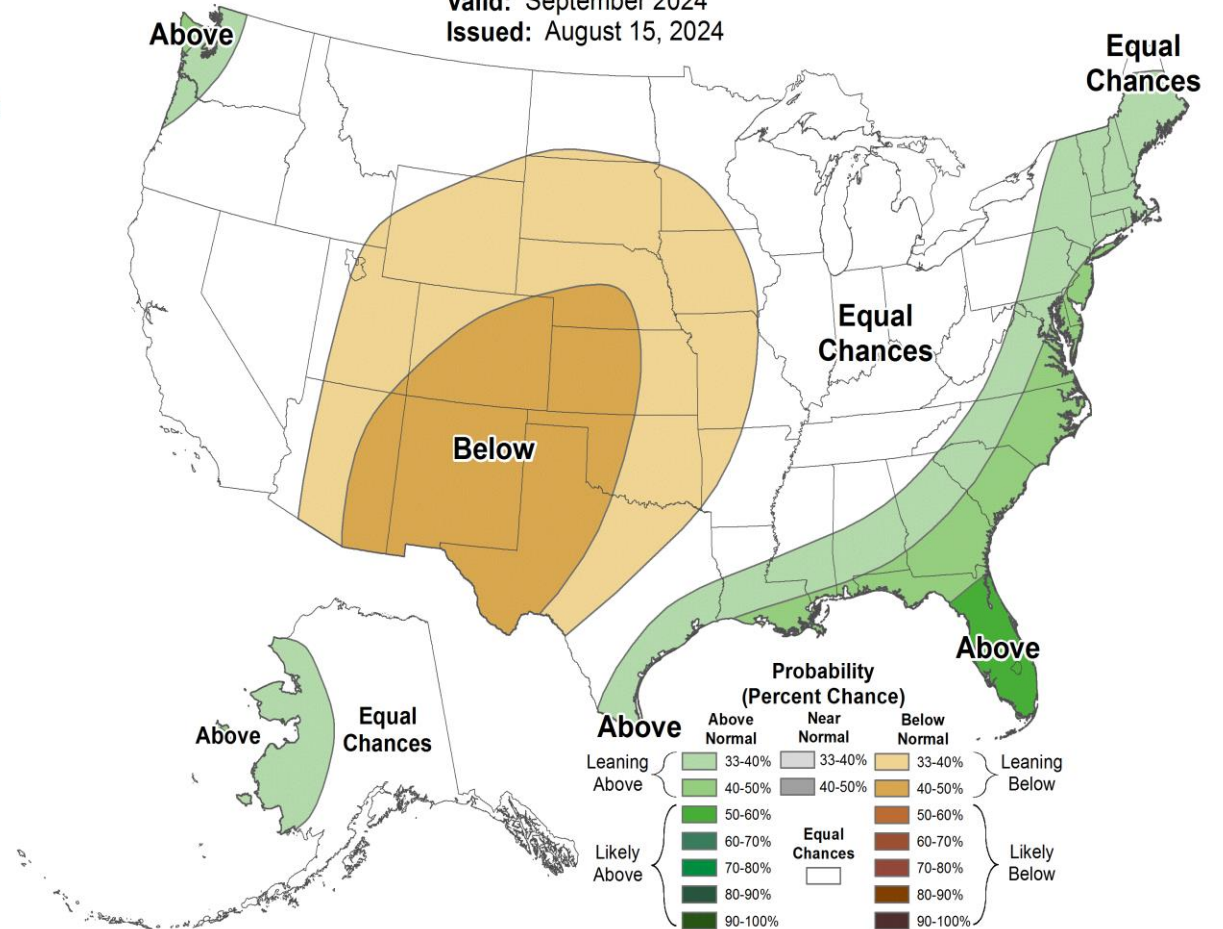
Monthly Temperature Outlook

Valid: September 2024
Issued: August 15, 2024



Monthly Precipitation Outlook

Valid: September 2024
Issued: August 15, 2024



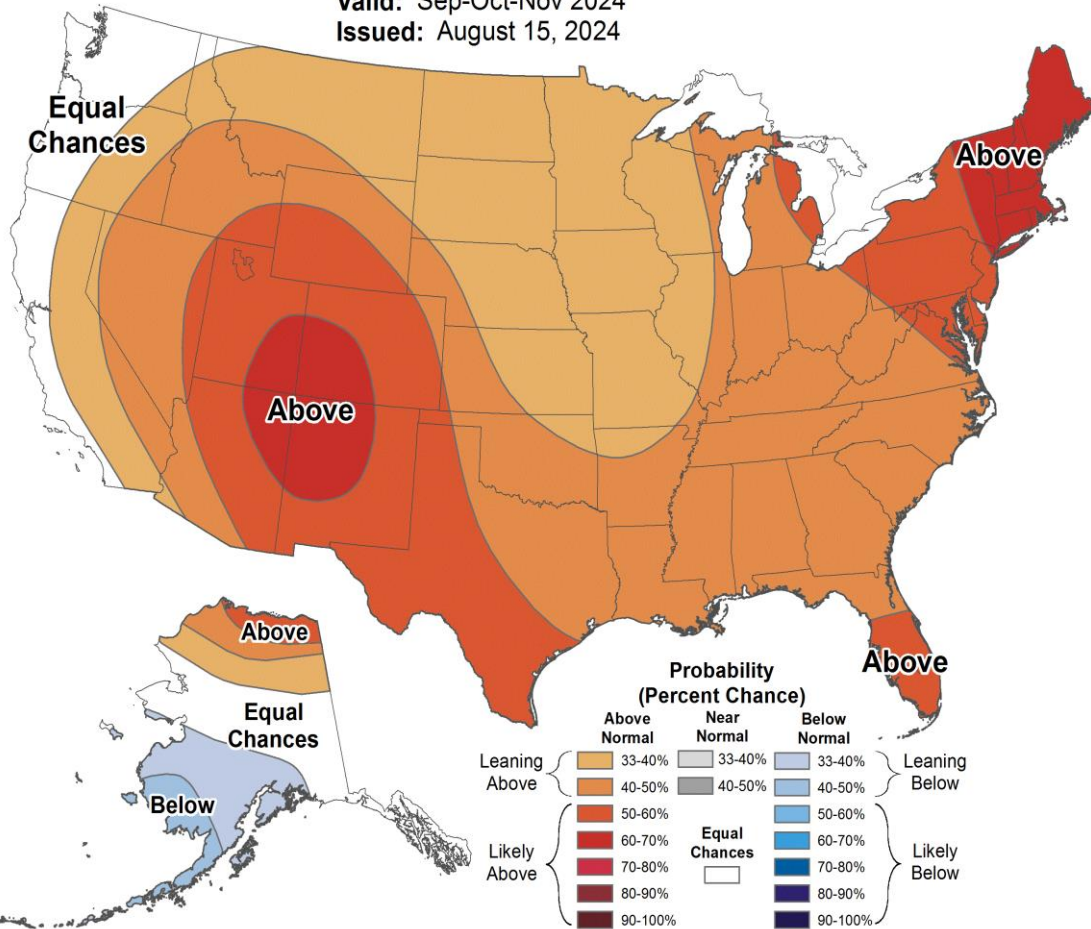
Three-Month Forecast (Sep, Oct, Nov)



Seasonal Temperature Outlook



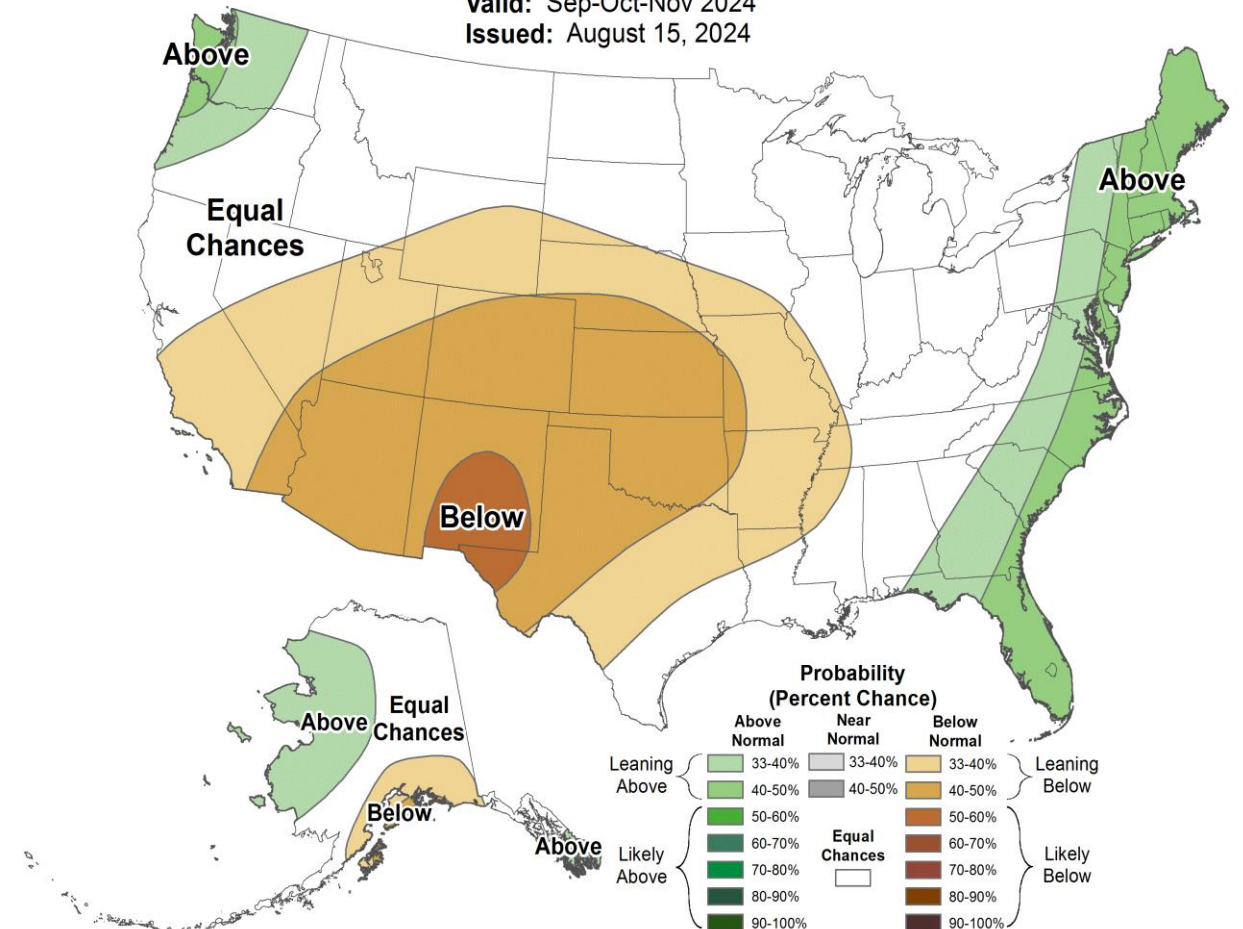
Valid: Sep-Oct-Nov 2024
Issued: August 15, 2024



Seasonal Precipitation Outlook



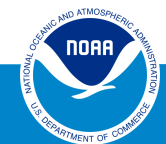
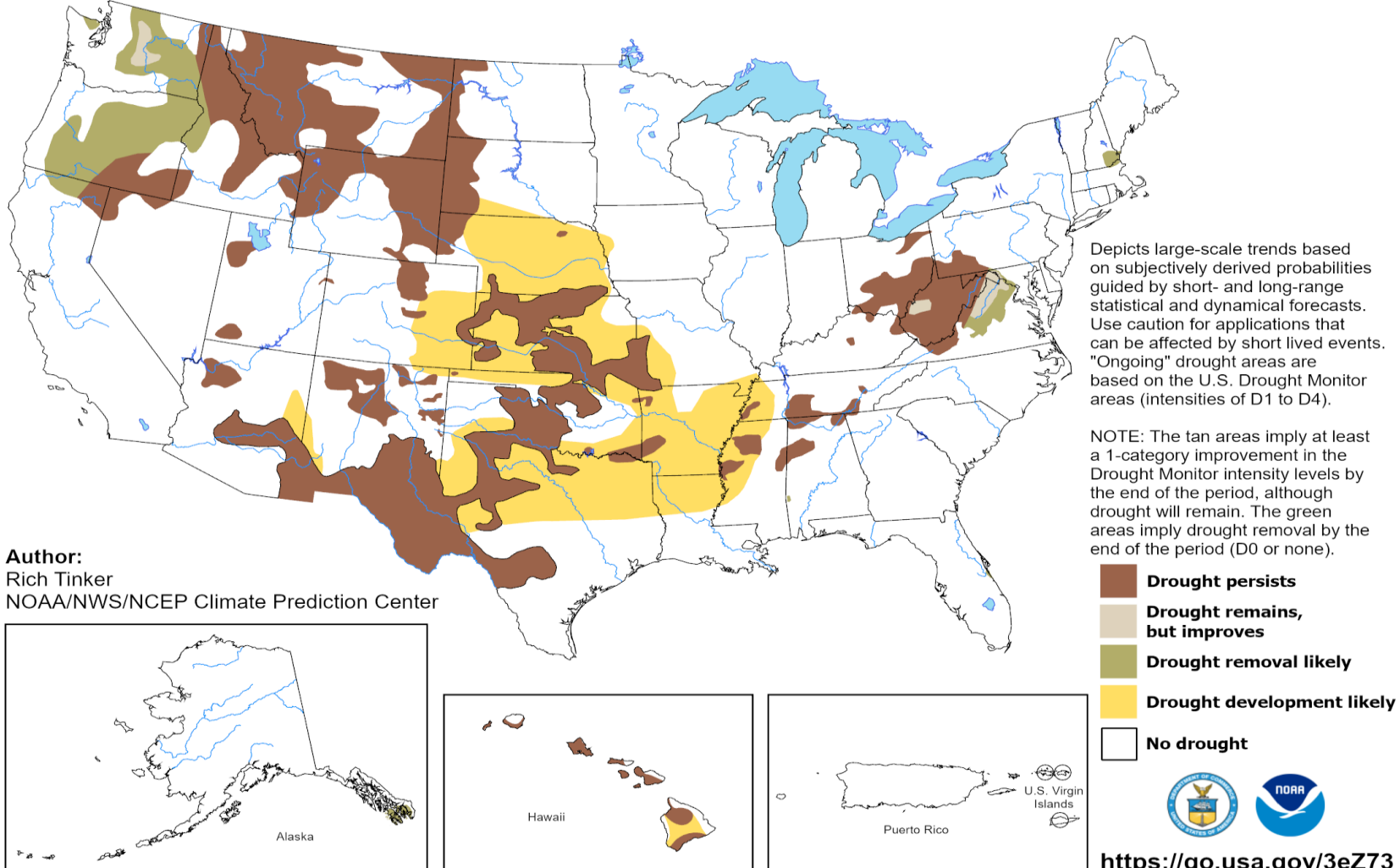
Valid: Sep-Oct-Nov 2024
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Drought Outlook

U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

Valid for August 15 - November 30, 2024
Released August 15, 2024



For More Information



Today's presentation:

- <https://www.ncei.noaa.gov/access/monitoring/monthly-report/briefings>

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

- Monthly climate reports (U.S. & Global): <https://www.ncei.noaa.gov/access/monitoring/monthly-report/>
- Dates for upcoming reports: <https://www.ncei.noaa.gov/access/monitoring/dyk/monthly-releases>

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

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

NOAA's Storm Prediction Center: www.spc.noaa.gov

Climate Portal: www.climate.gov

NOAA media contacts: john.jones-bateman@noaa.gov, 202-424-0929 (NOAA/NESDIS PAO)

