

El Niño/Fall and Winter Weather Update

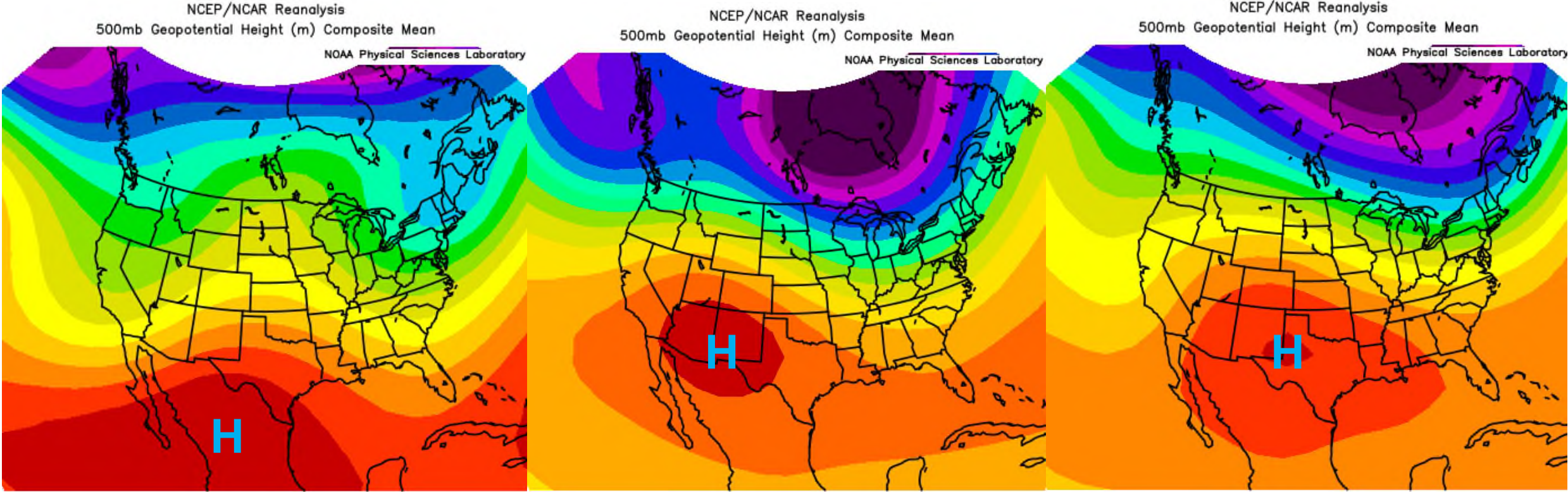
Water Operations Committee
Meeting

Sept. 20, 2023





This Summer's Persistent Heat Dome



June

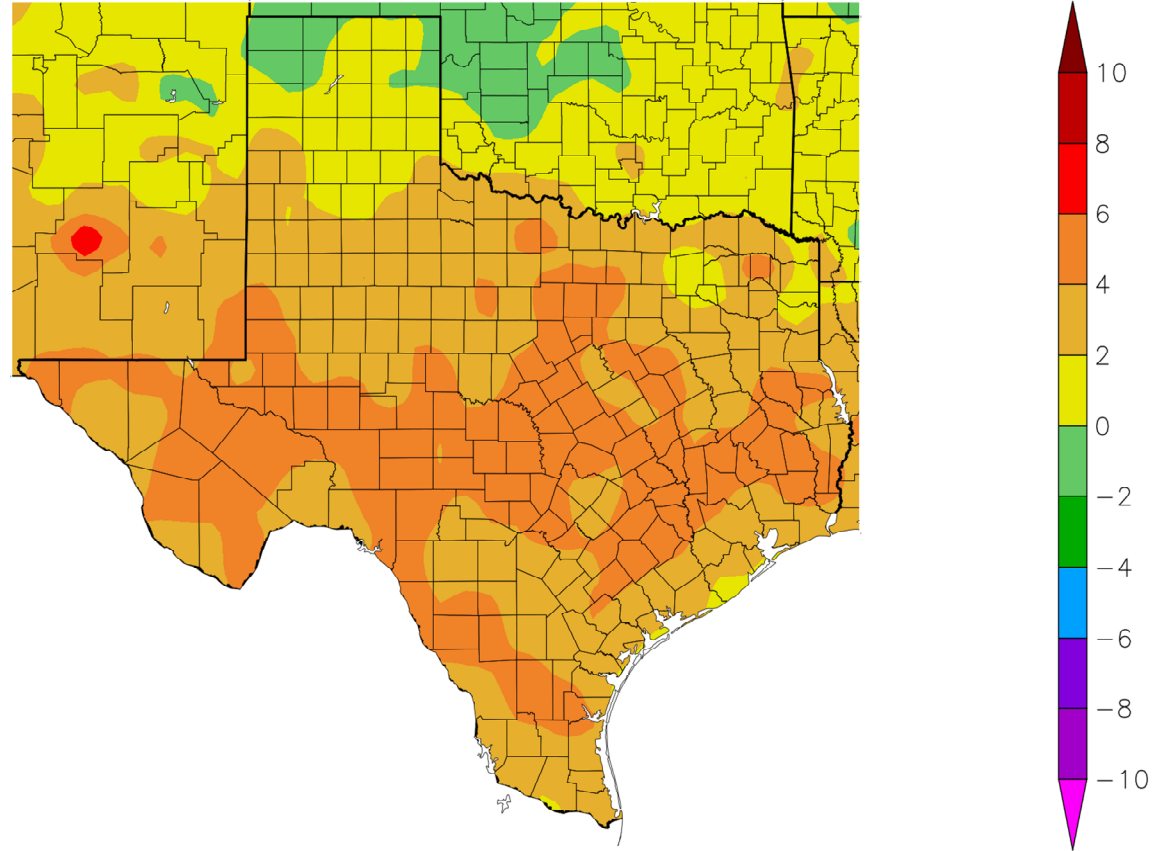
July

August

Summer 2023

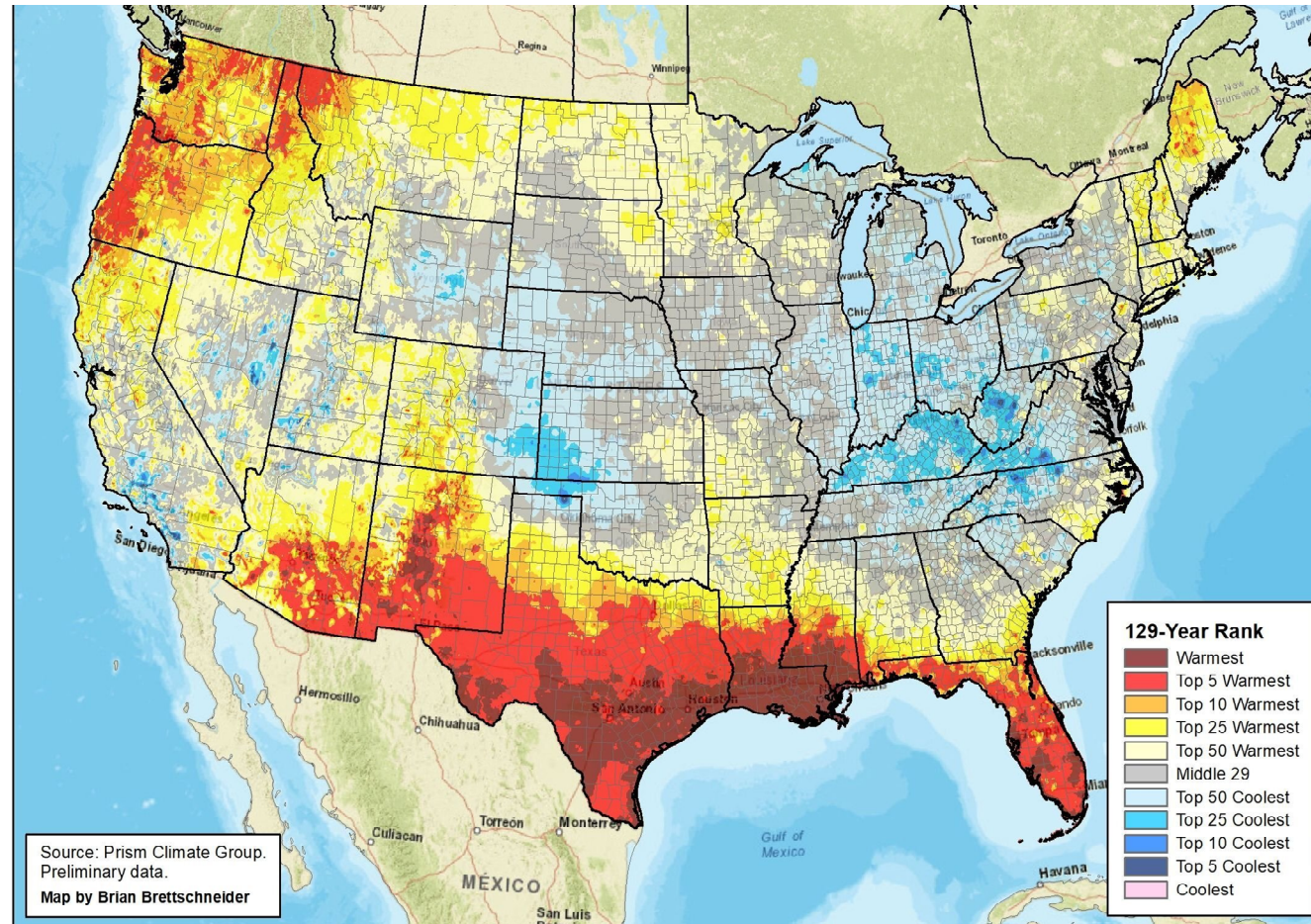
Departure From Normal Temperature (Degrees Fahrenheit)
June 1-Aug. 31

- Statewide, the second hottest summer on record behind 2011



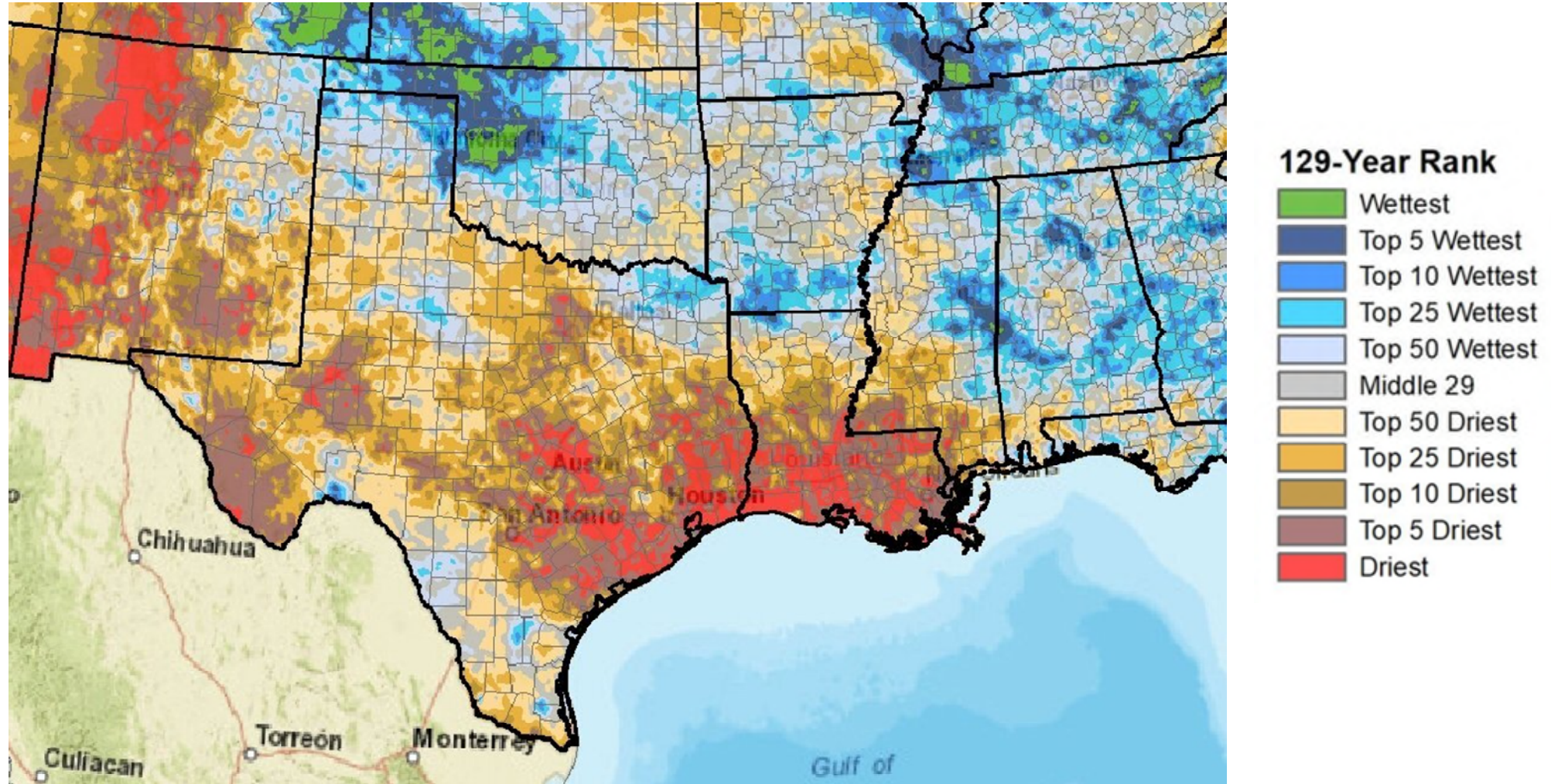
Much of the Lower Colorado River Basin Experienced the Hottest Summer on Record

June-August 2023 Temperature Ranking (Since 1985)



Summer 2023 was one of the Driest Summers on Record

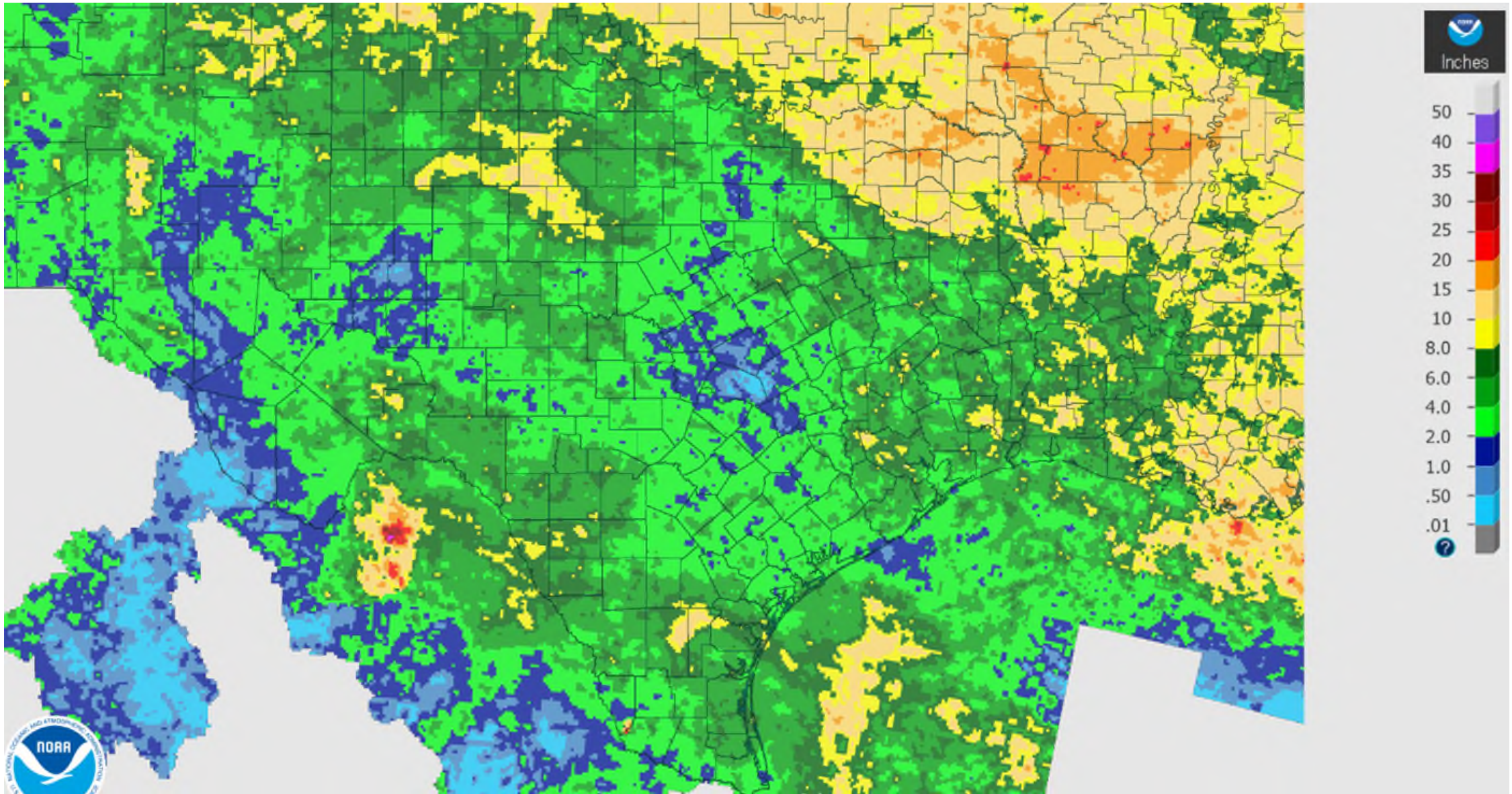
June-August 2023 Precipitation Ranking (Since 1895)



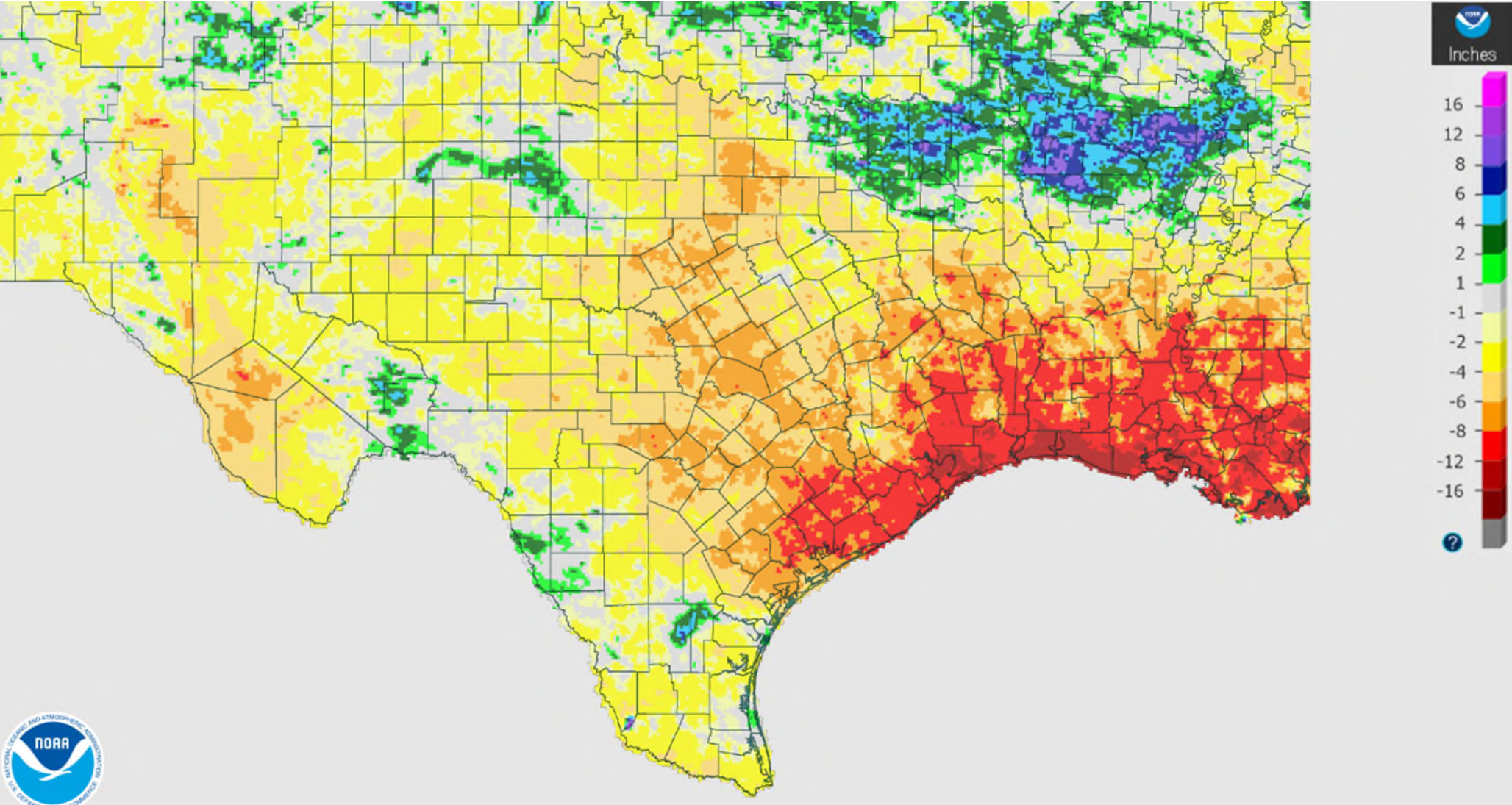
Summer 2023 was one of the Driest Summers on Record (Continued)

Location	Rainfall in Inches	Driest Summer Ranking
Austin	1.31	2nd
Llano	0.94	5th
Johnson City	2.03	11th
Brady	3.20	5th
Brownwood	2.57	10th
Giddings	0.26	Driest
Columbus	2.28	2nd
El Campo	2.43	2nd
Bay City	2.24	Driest

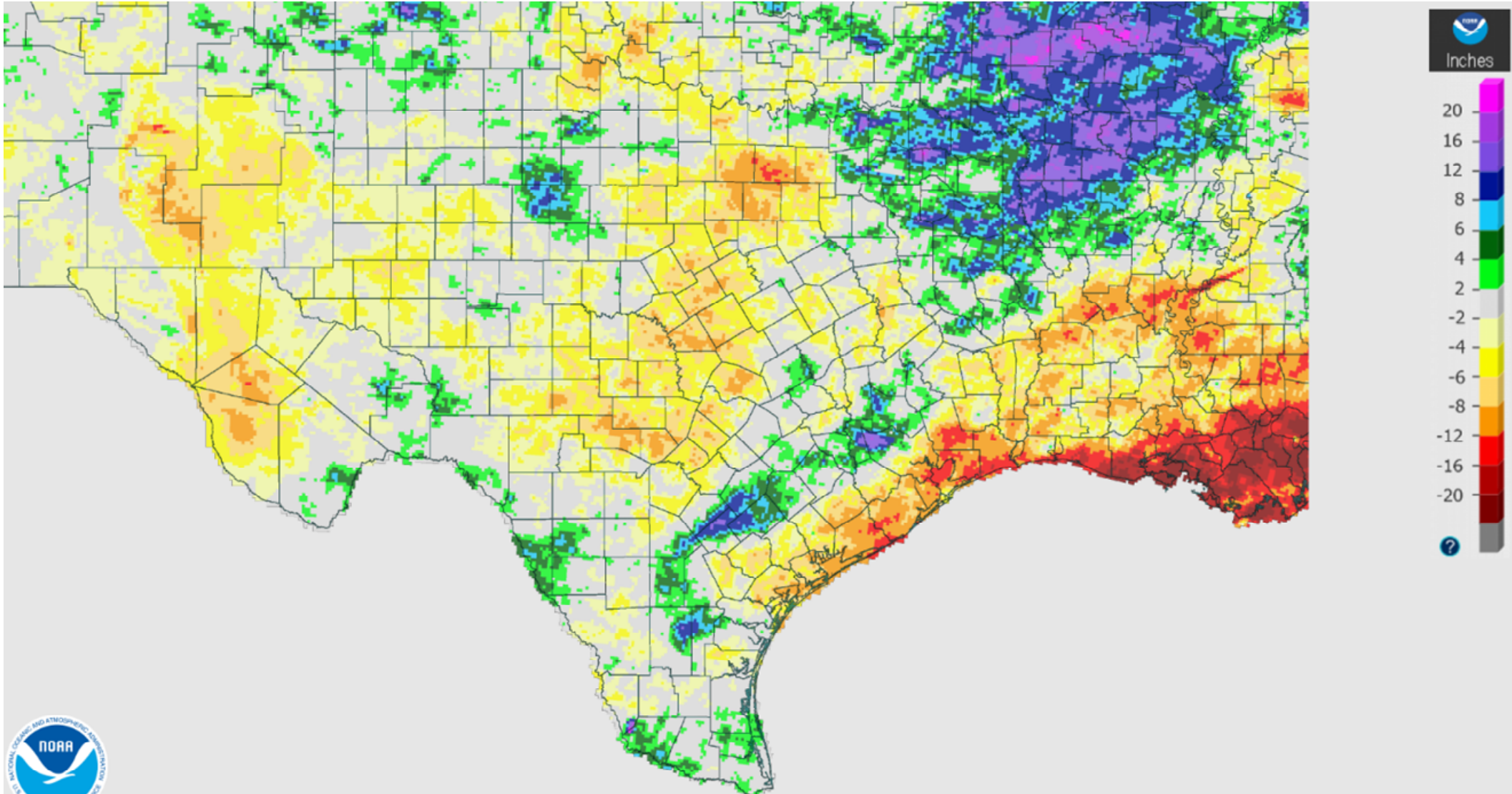
Rainfall June 1-Aug. 31



Rainfall Departure From Normal June 1-Aug. 31



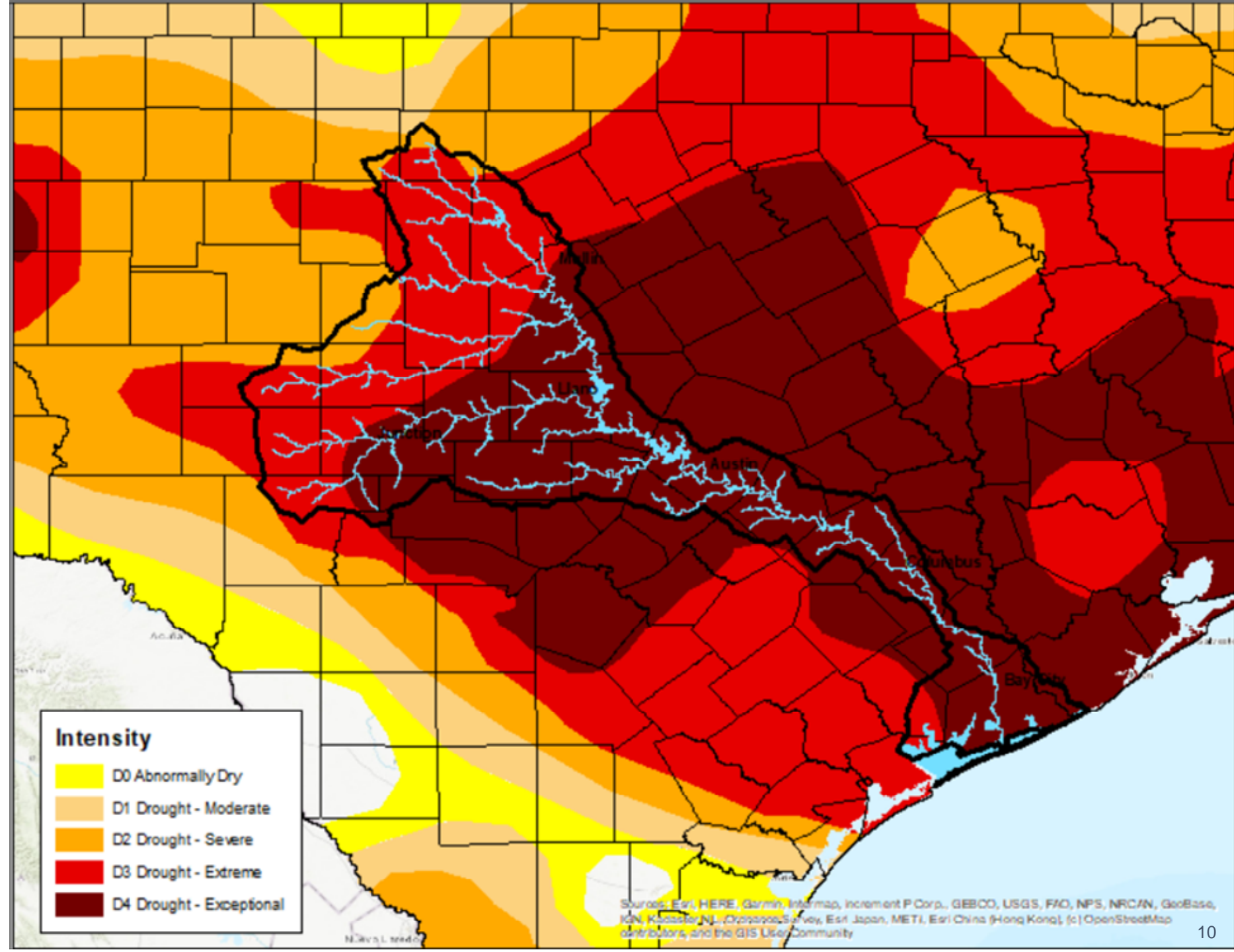
Rainfall Departure From Normal Year to Date



U.S. Drought Monitor

Lower Colorado River Basin

As of Sept. 12, 2023



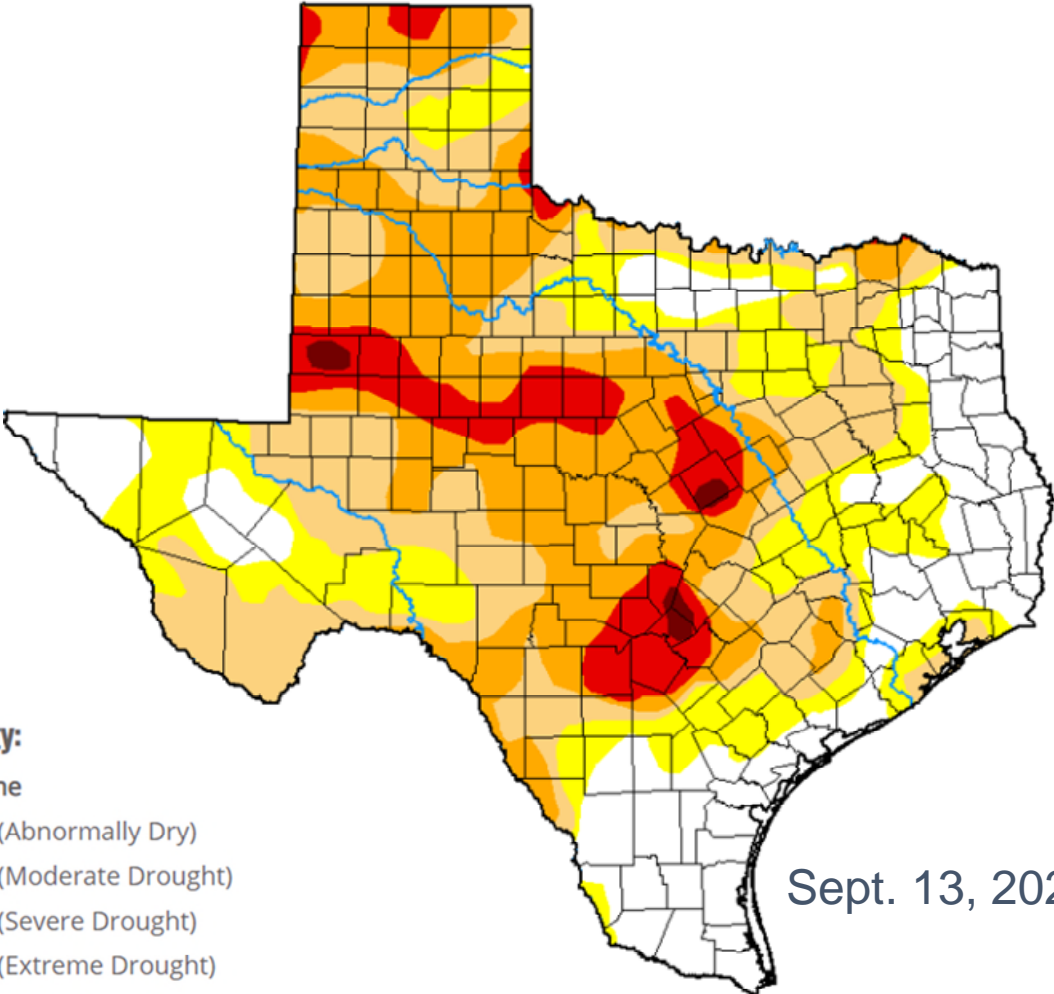
U.S. Drought Monitor Texas

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>

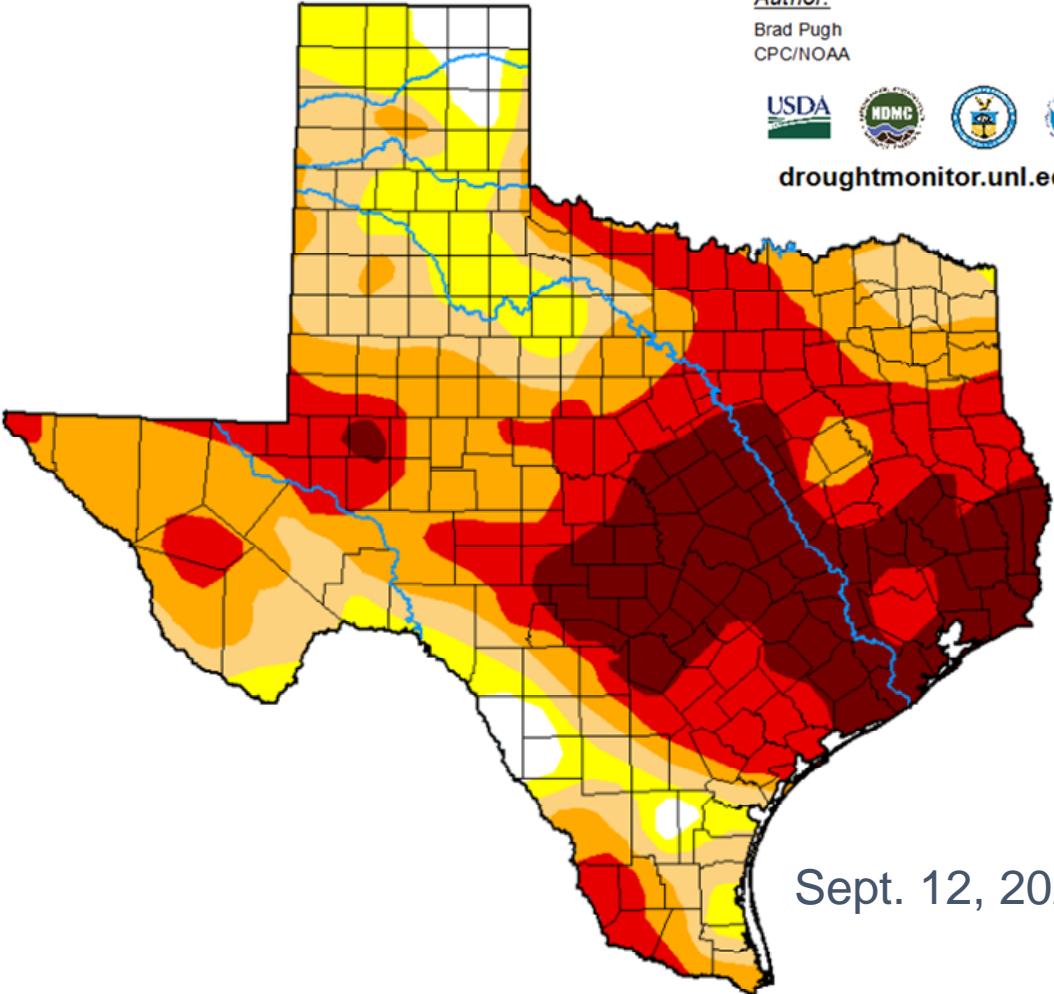
Author:
Brad Pugh
CPC/NOAA



droughtmonitor.unl.edu



Sept. 13, 2022



Sept. 12, 2023

- Intensity:**
- None
 - D0 (Abnormally Dry)
 - D1 (Moderate Drought)
 - D2 (Severe Drought)
 - D3 (Extreme Drought)
 - D4 (Exceptional Drought)
 - No Data

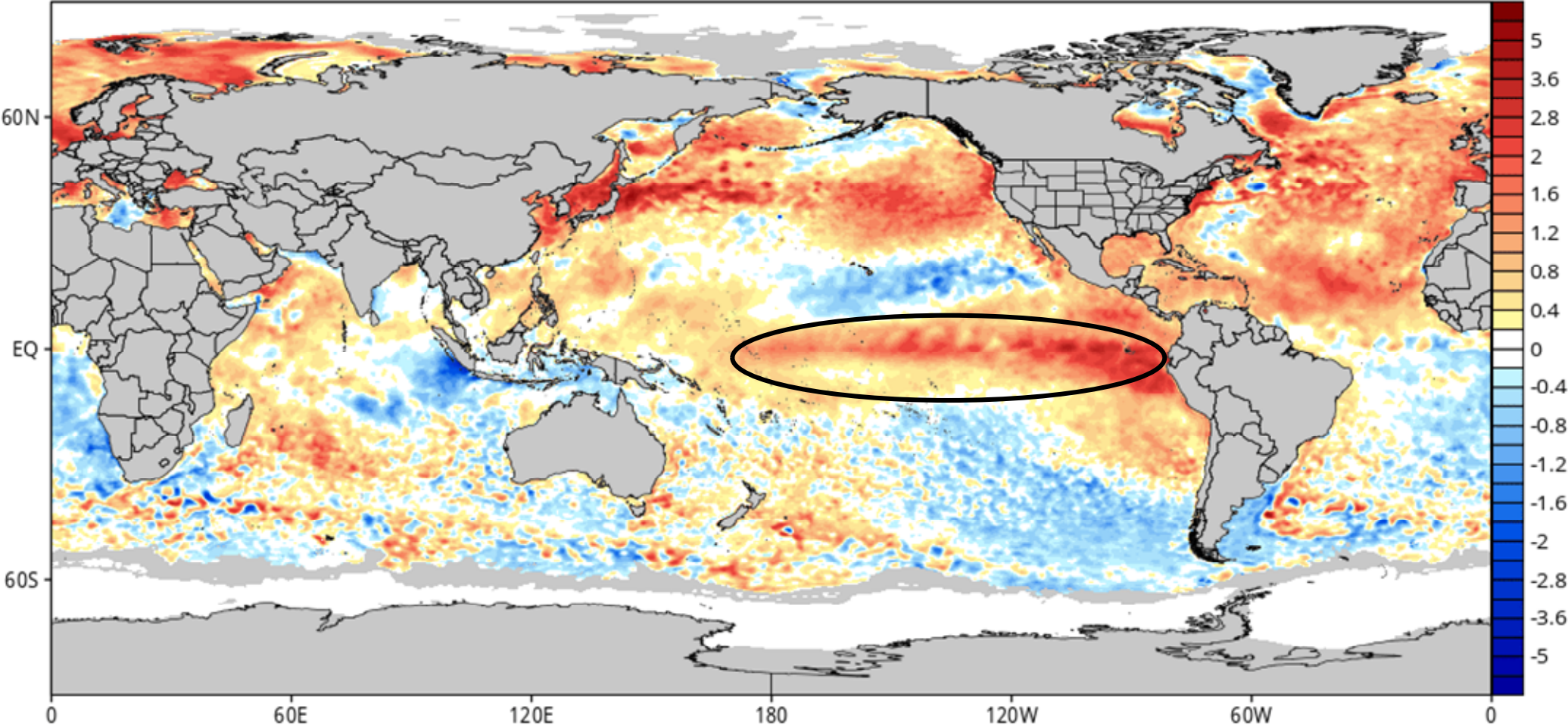
Where is El Niño?

September 2023: A Strong El Niño is in Place

CDAS Sea Surface Temperature Anomaly (°C) (based on CFSR 1981-2010 Climatology)

Analysis Time: 06z Sep 14 2023

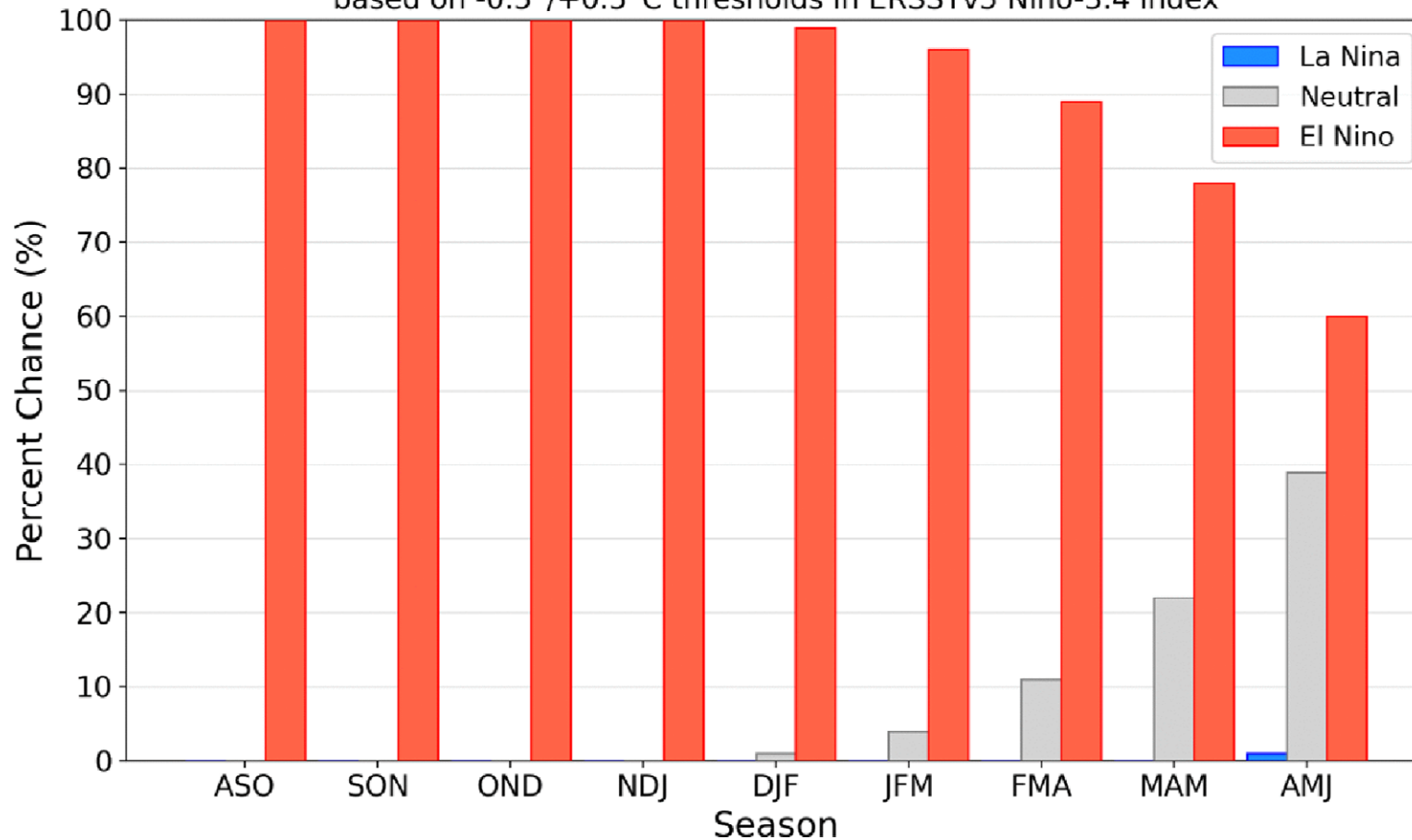
TROPICALTIDBITS.COM



High Odds That El Niño Will Persist Into Spring 2024

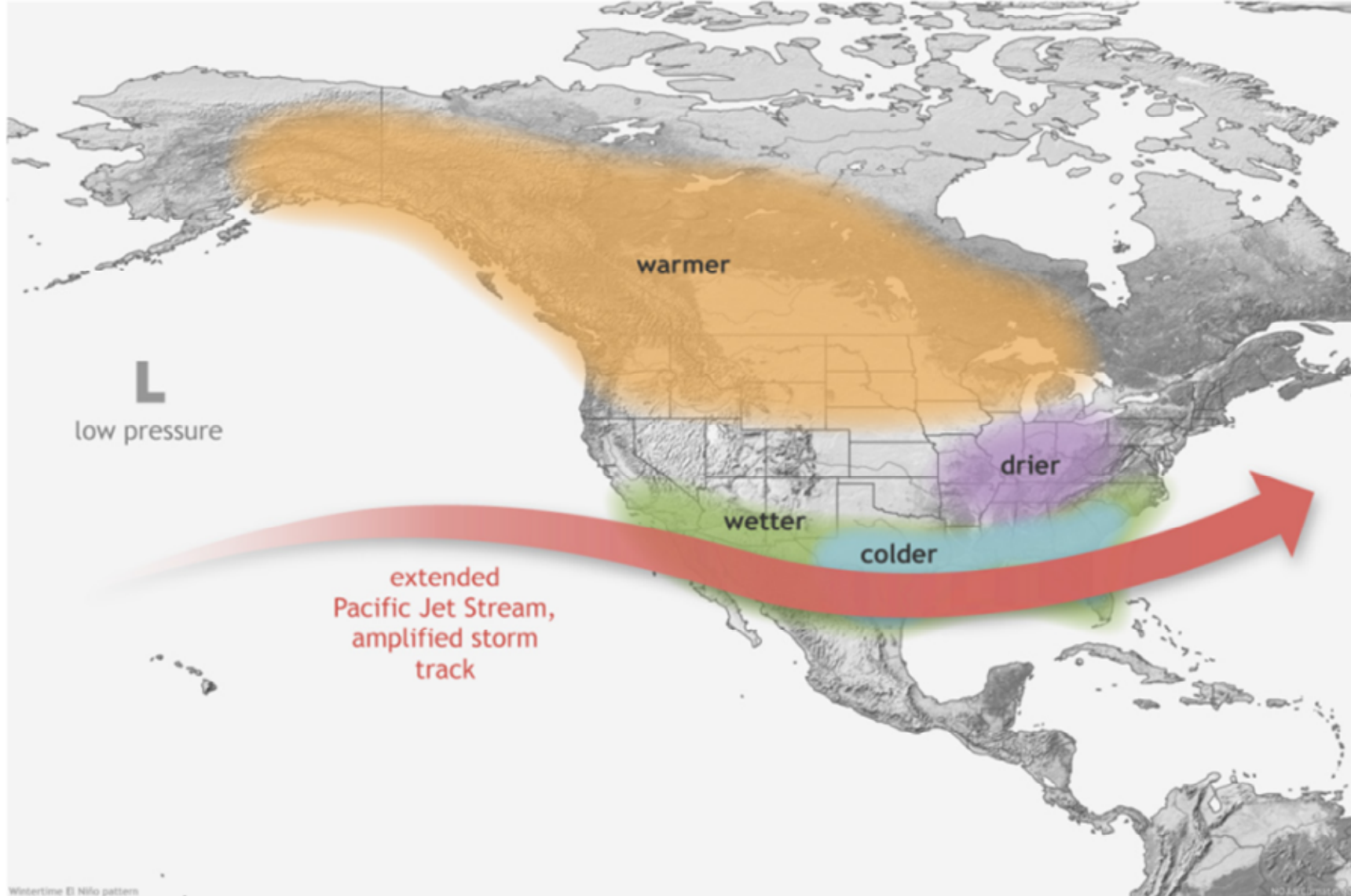
Official NOAA CPC ENSO Probabilities (issued Sep. 2023)

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



Typical Fall/Winter El Niño Pattern

TYPICAL EL NIÑO WINTERS



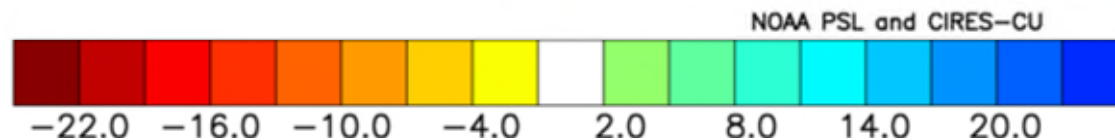
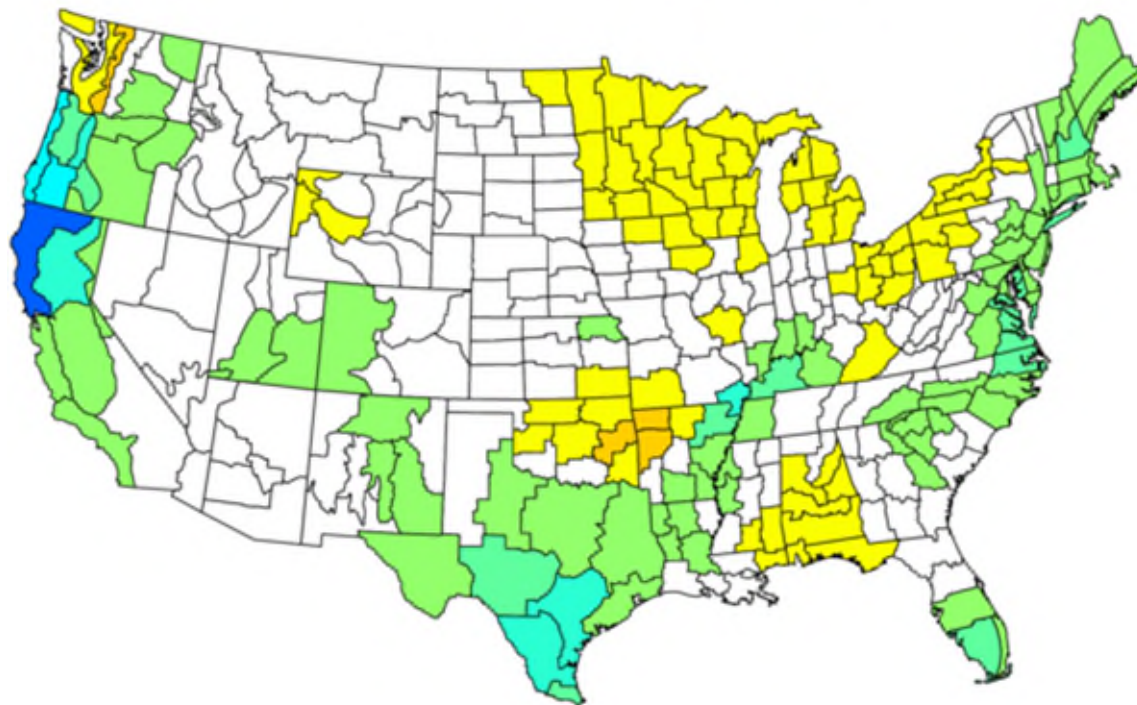
Wintertime El Niño pattern

Five Strong El Niño Periods Since 1950

- **1957-1958**
- **1965-1966**
- **1972-1973**
- **1986-1987**
- **1991-1992**

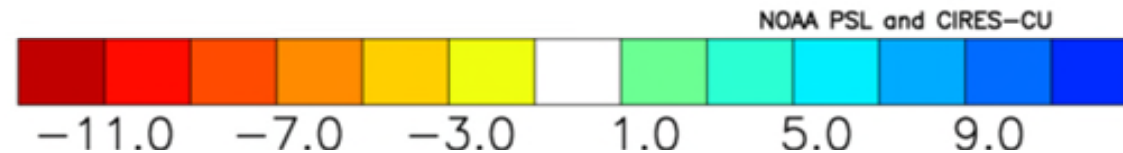
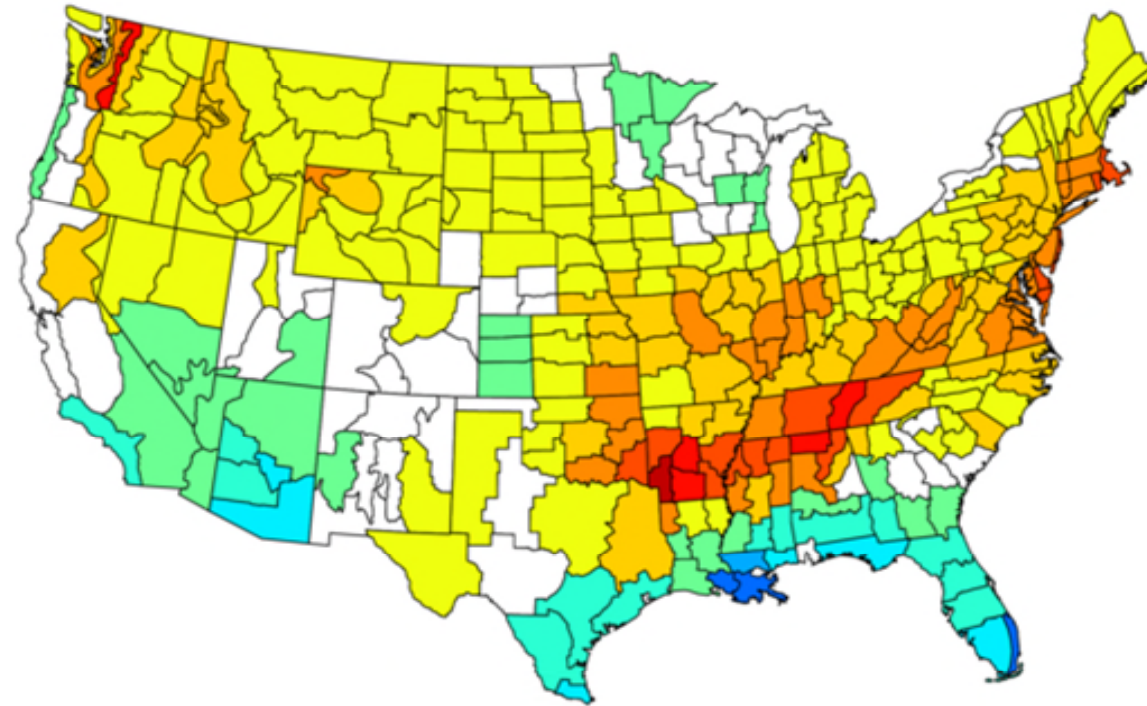
1957-1958 October Through February Rainfall Departure From Normal

NOAA/NCEI Climate Division Precipitation Anomalies (in)
Oct to Feb 1957-58
Versus 1991-2020 Longterm Average



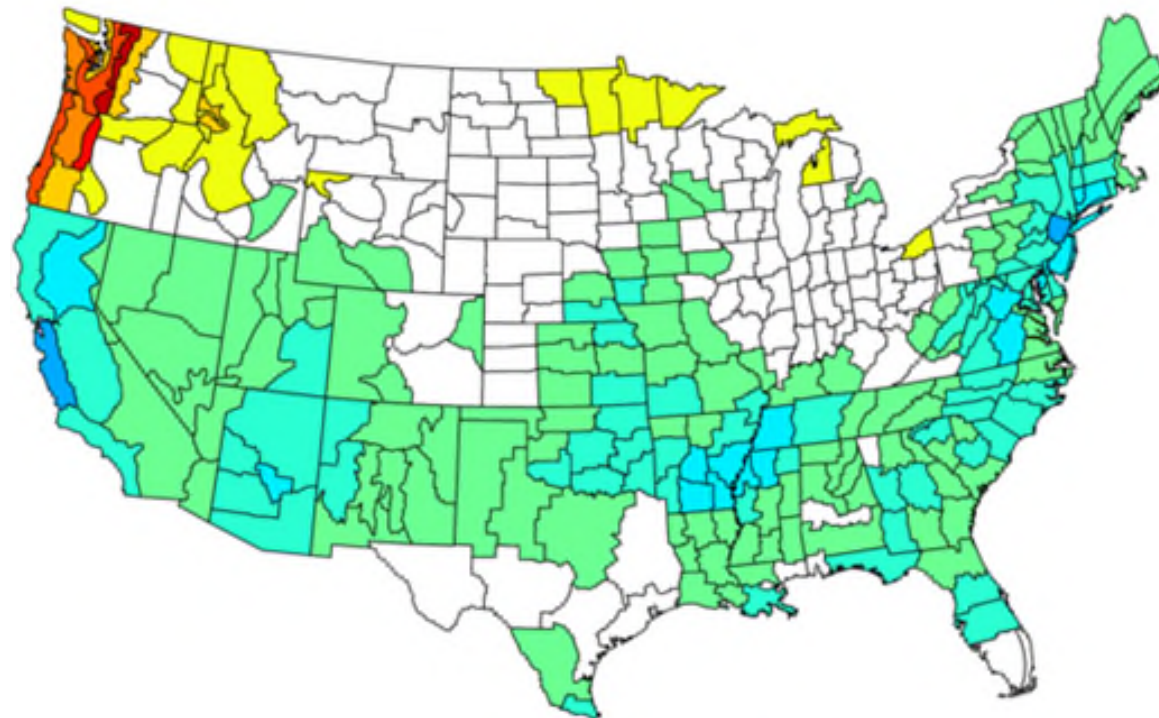
1965-1966 October Through February Rainfall Departure From Normal

NOAA/NCEI Climate Division Precipitation Anomalies (in)
Oct to Feb 1965-66
Versus 1991-2020 Longterm Average



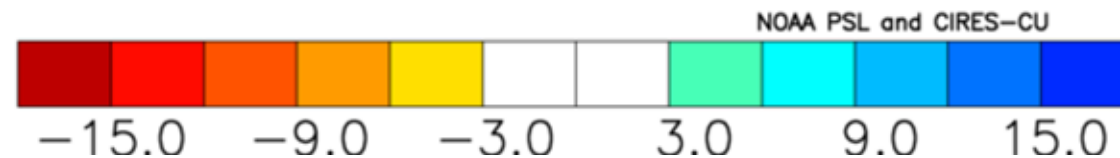
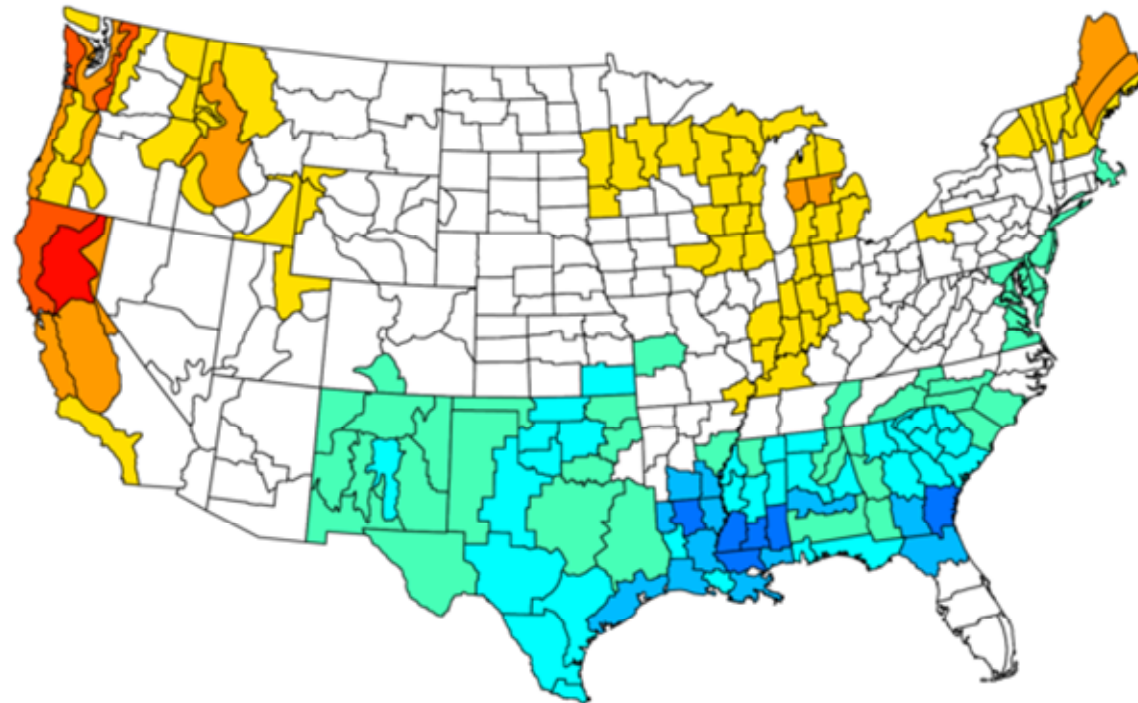
1972-1973 October Through February Rainfall Departure From Normal

NOAA/NCEI Climate Division Precipitation Anomalies (in)
Oct to Feb 1972-73
Versus 1991-2020 Longterm Average



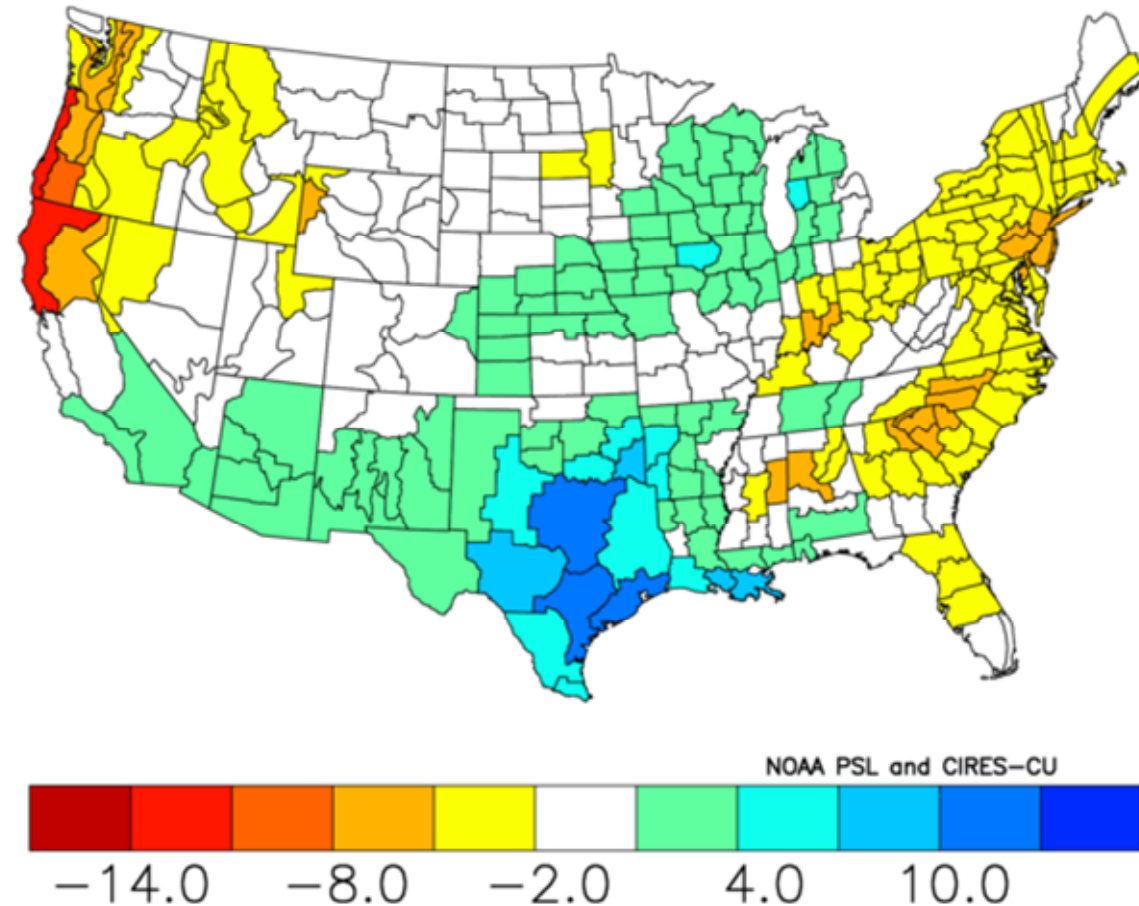
1986-1987 October Through February Rainfall Departure From Normal

NOAA/NCEI Climate Division Precipitation Anomalies (in)
Oct to Feb 1986-87
Versus 1991-2020 Longterm Average

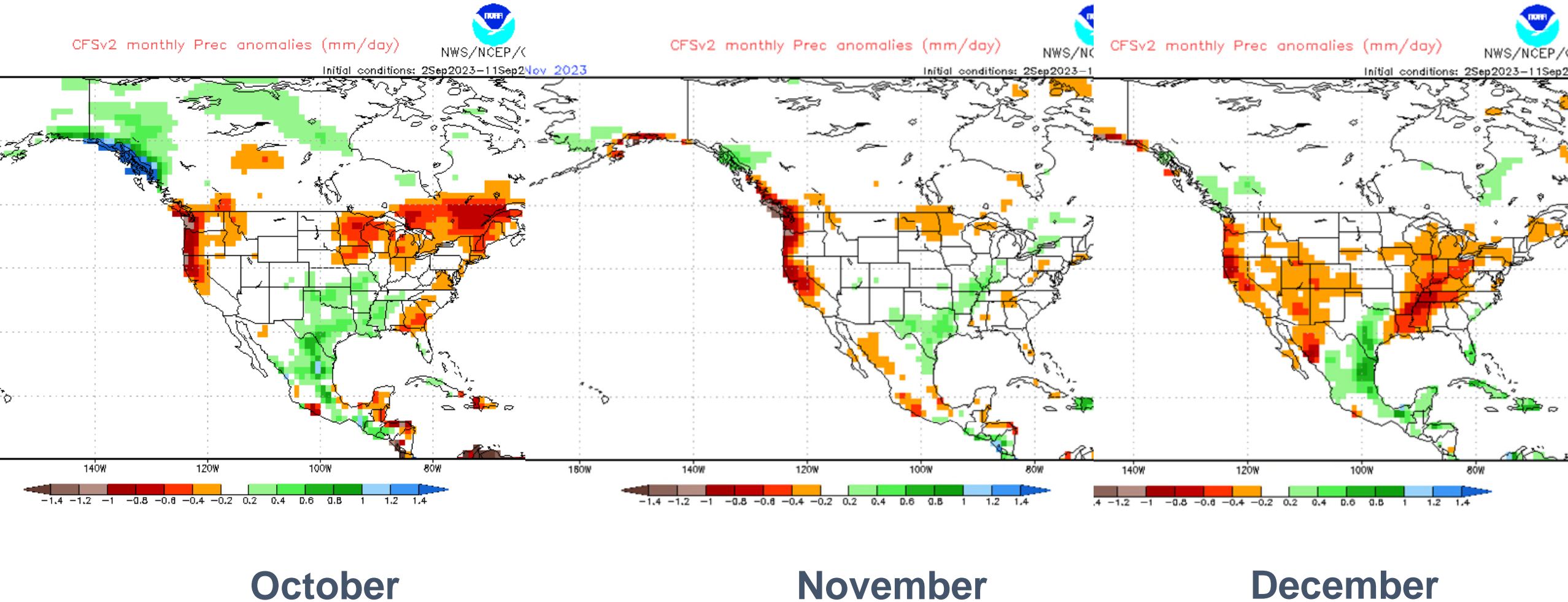


1991-1992 October Through February Rainfall Departure From Normal

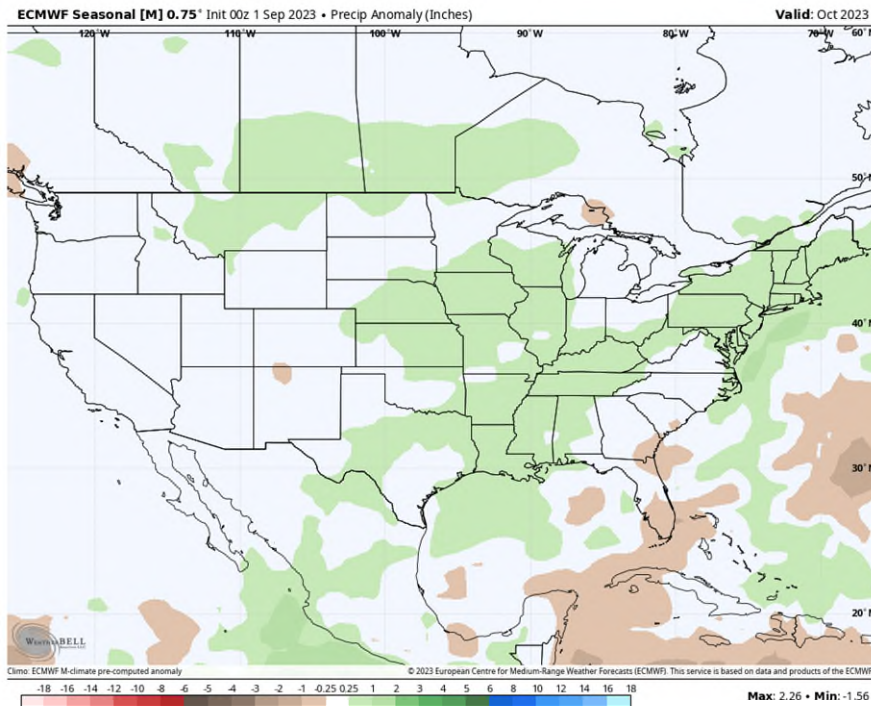
NOAA/NCEI Climate Division Precipitation Anomalies (in)
Oct to Feb 1991-92
Versus 1991-2020 Longterm Average



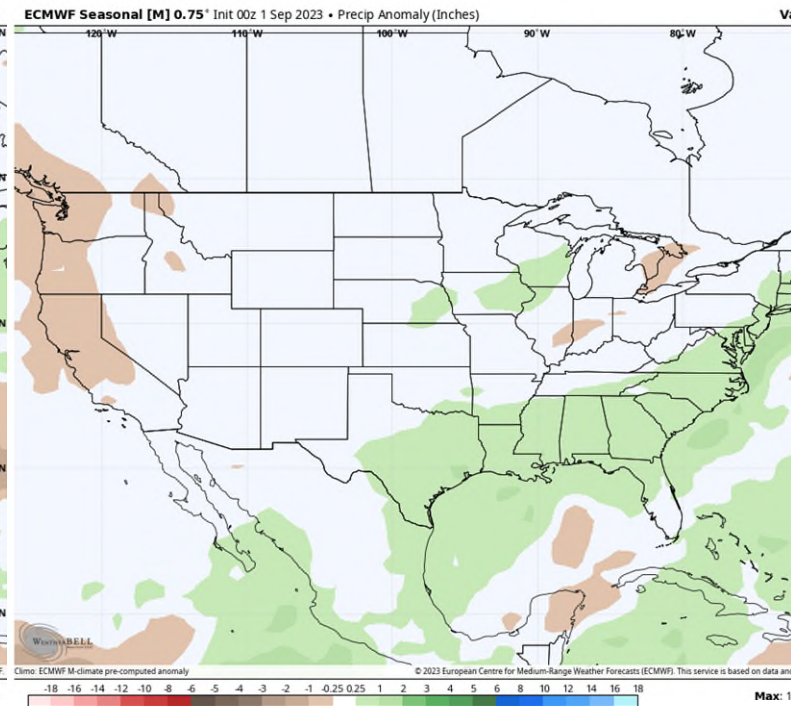
Fall Rainfall Outlook – Climate Forecast System Model



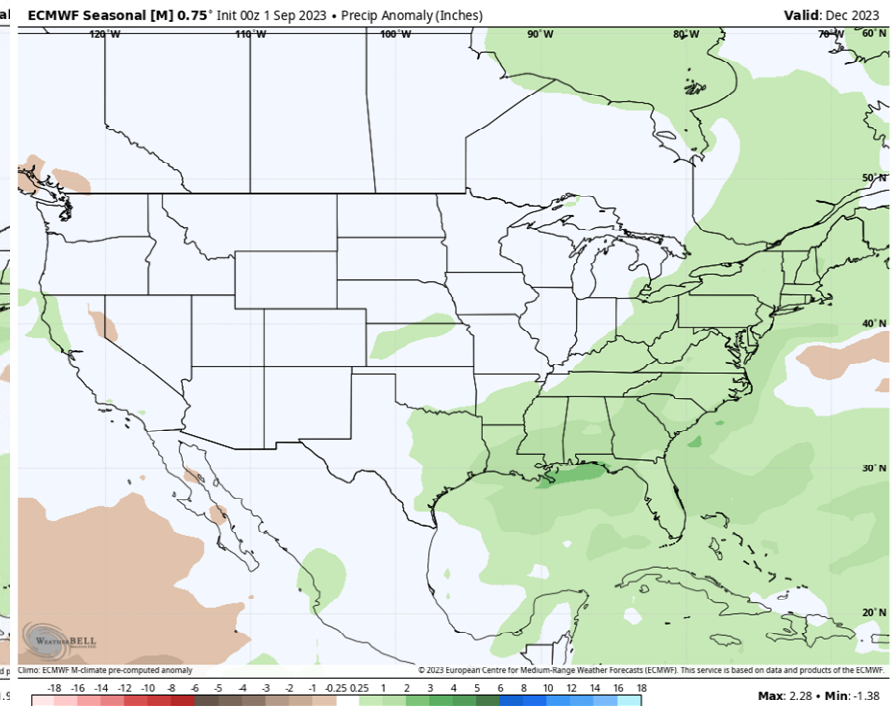
Fall Rainfall Outlook – European Model



October

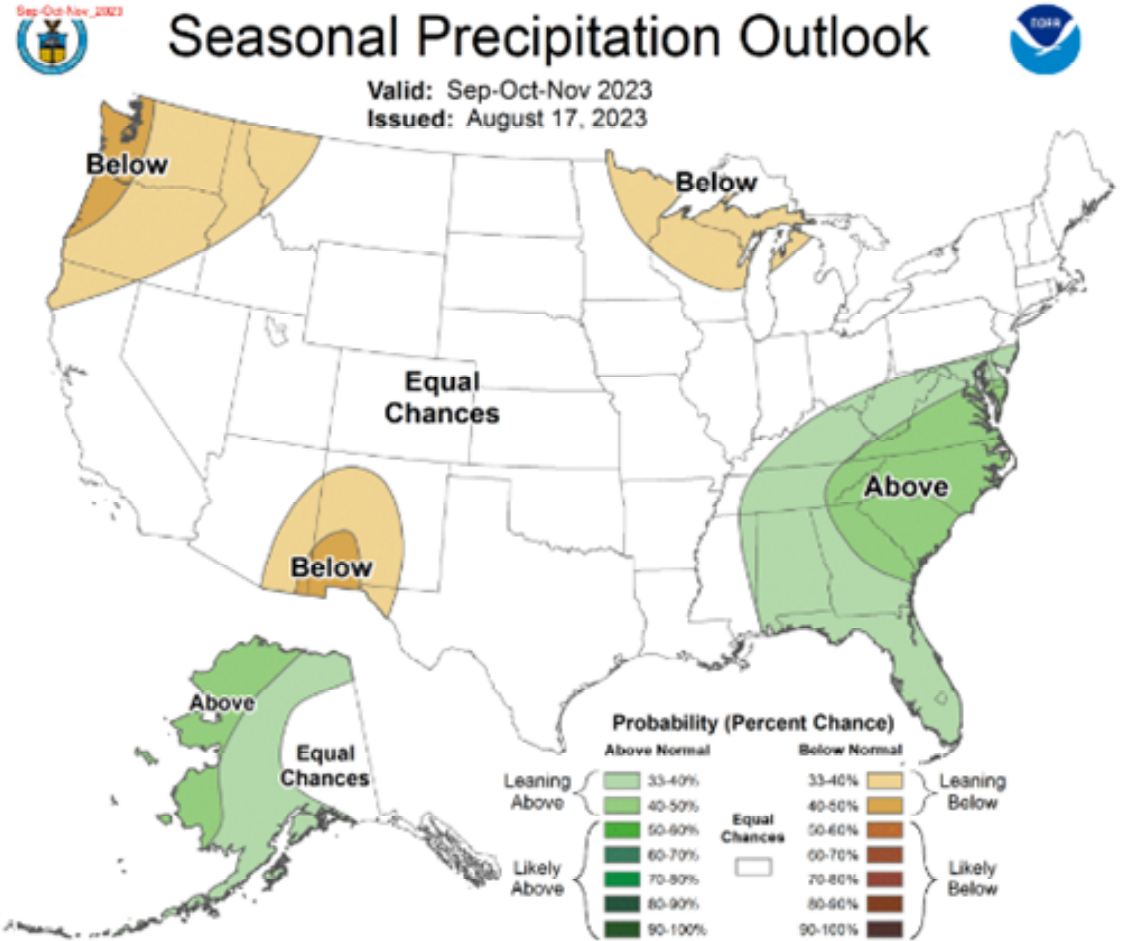
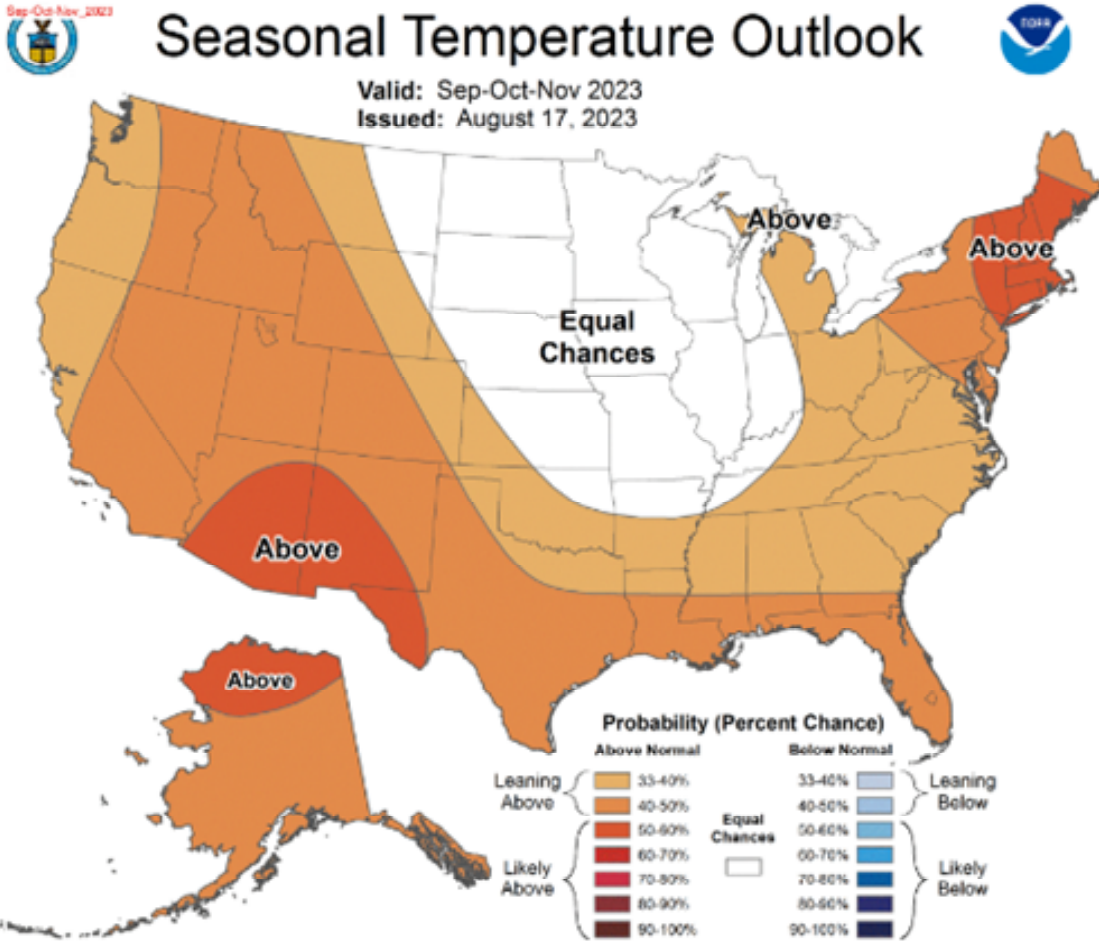


November



December

NOAA's September-November Outlook



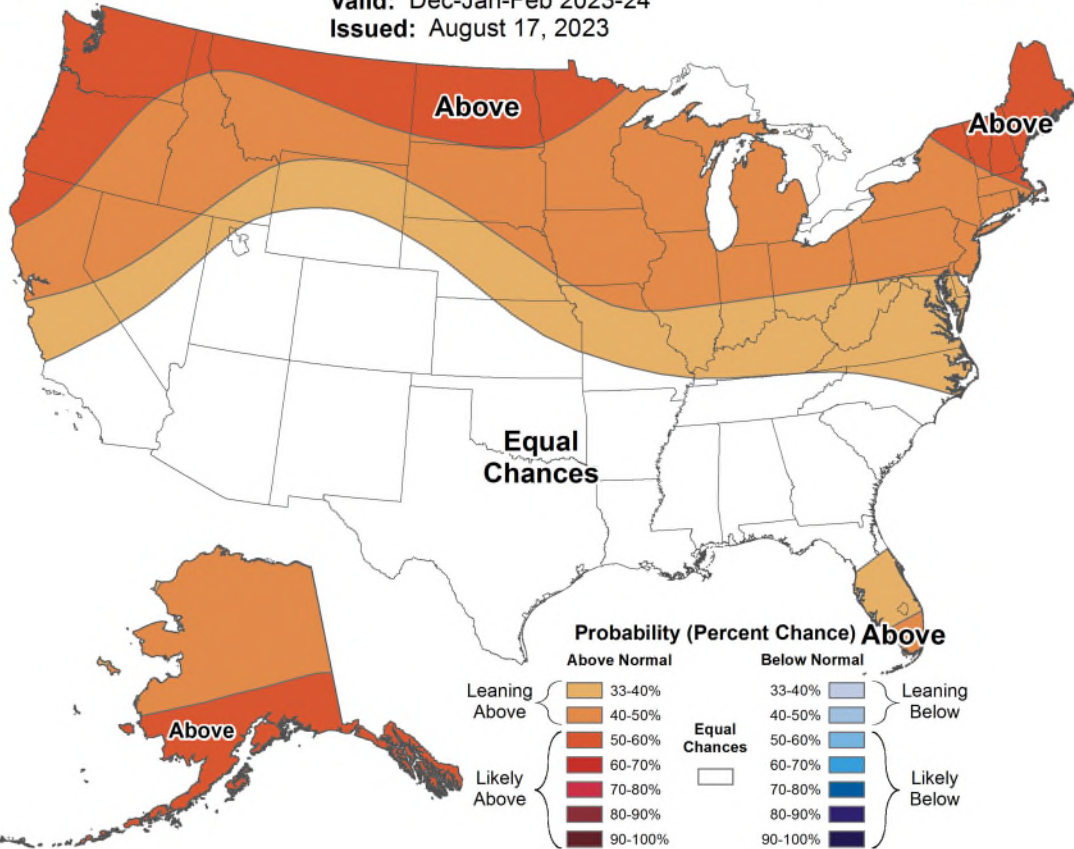
NOAA's December-February Outlook



Seasonal Temperature Outlook



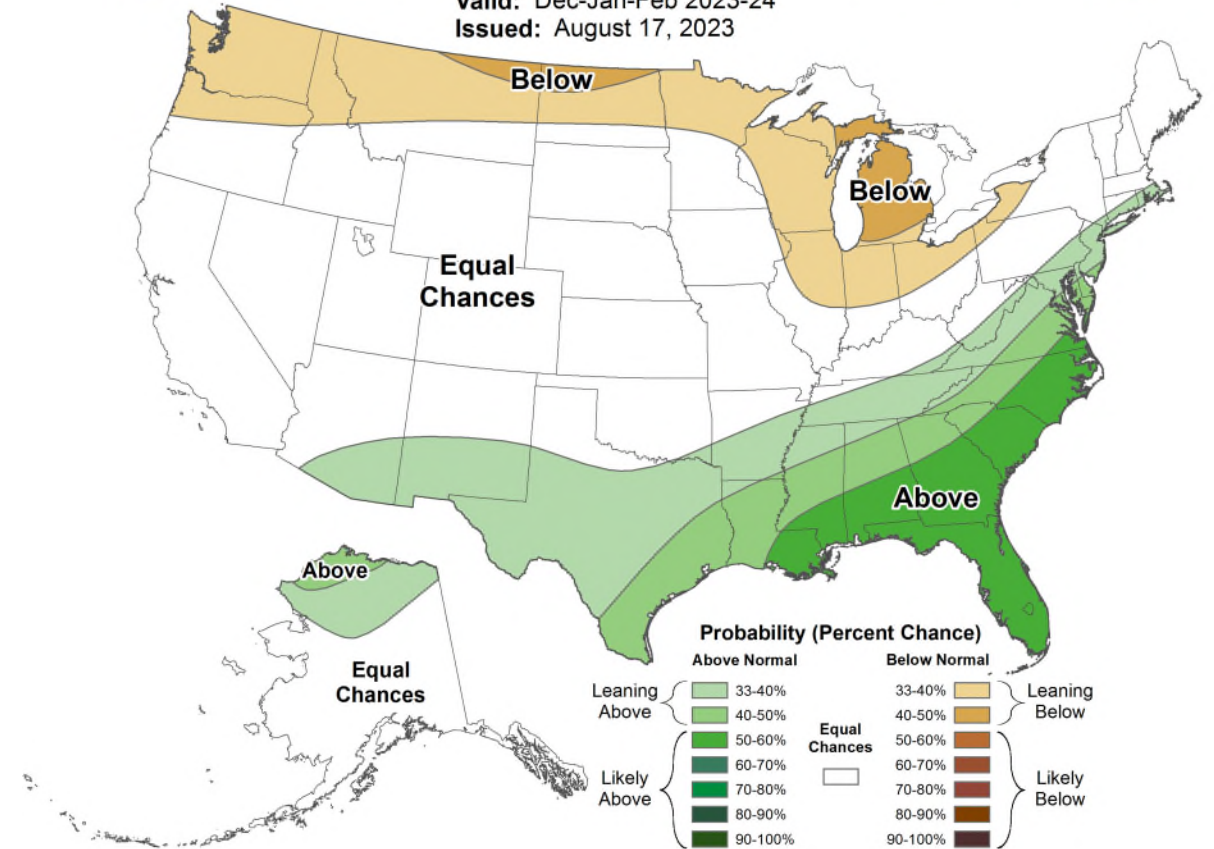
Valid: Dec-Jan-Feb 2023-24
 Issued: August 17, 2023



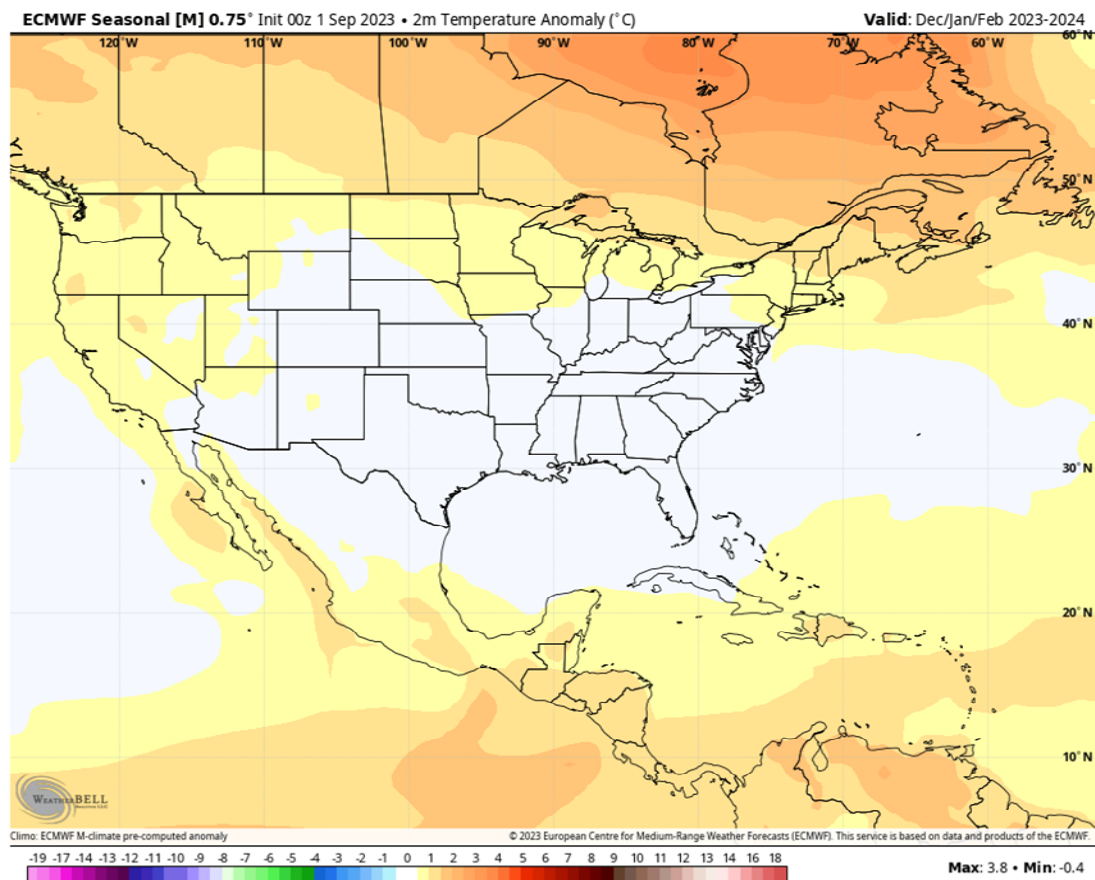
Seasonal Precipitation Outlook



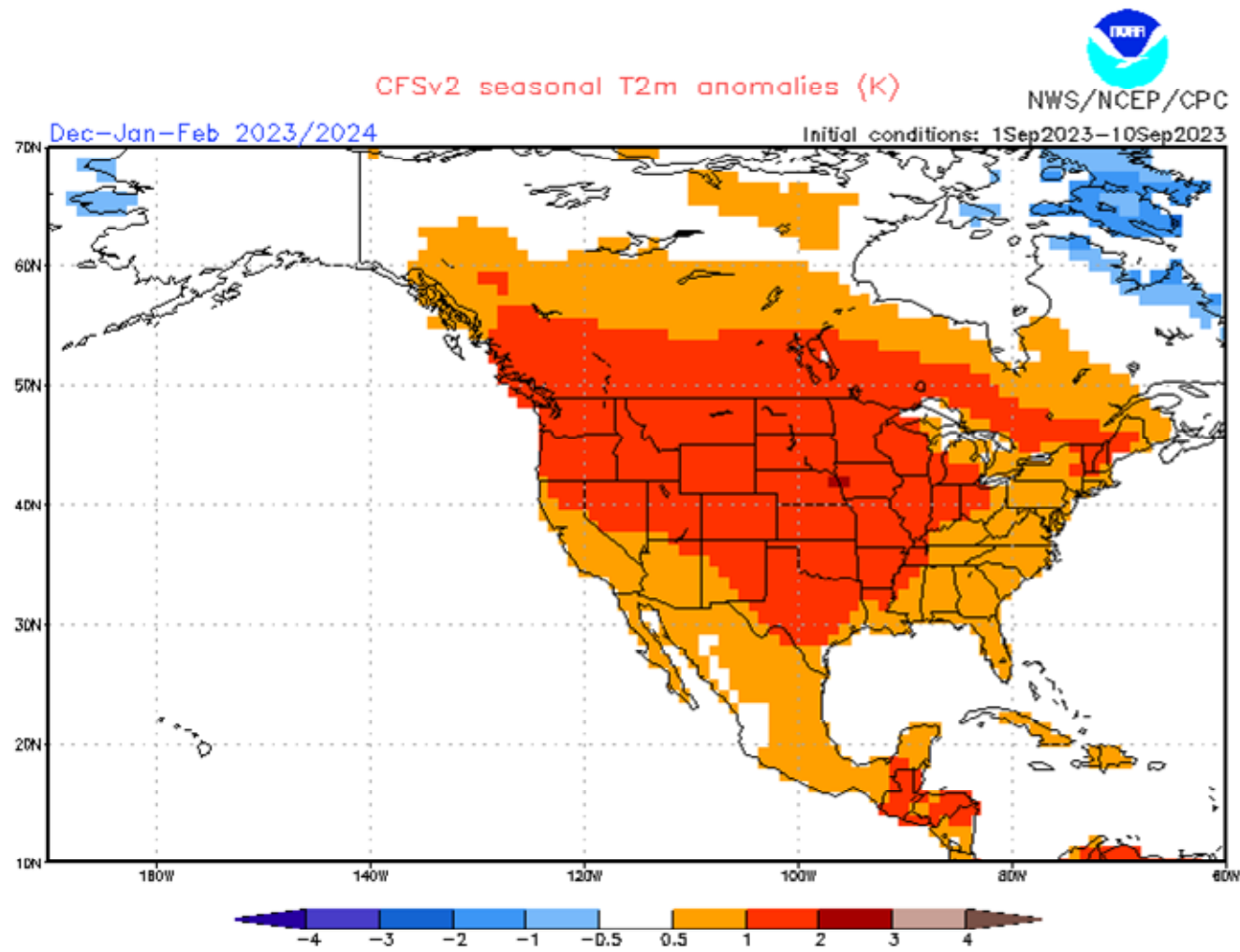
Valid: Dec-Jan-Feb 2023-24
 Issued: August 17, 2023



Winter Temperature Outlook



European Model

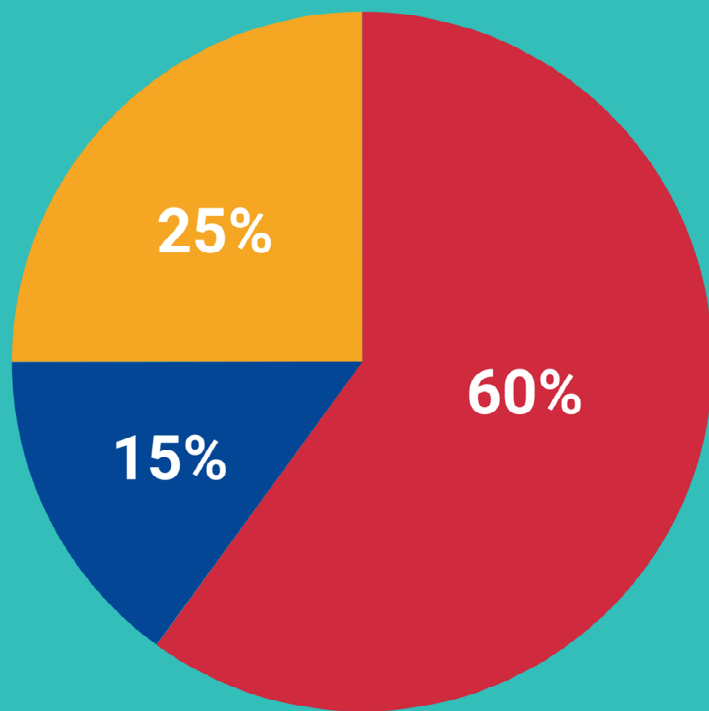


American CFS Model



2023 Atlantic Hurricane Season Outlook

AUGUST 10 UPDATE



■ Above normal ■ Near normal ■ Below normal

Season probability

Named storms

14 - 21

Hurricanes

6 - 11

Major hurricanes

2 - 5

Fall/Winter Weather Outlook

- An active hurricane season will continue
- El Niño will be in place through winter
- Hot temperatures and below-normal rainfall are forecast for September
- A trend toward near-normal rainfall is predicted for October
- Above-normal rainfall is forecast for November through February
- Temperatures will remain warmer than normal in October
- Temperatures will trend near normal to slightly below normal for December through February

An aerial photograph of a landscape at sunset. The sun is low on the horizon, casting a warm, golden glow over the scene. The landscape is a mix of green trees and brown, dry ground. A river or stream flows through the center of the image. Several power lines and towers are visible, stretching across the landscape. The sky is filled with soft, golden light and some clouds.

LORA

ENERGY • WATER • COMMUNITY SERVICES