



Austin / San Antonio
WEATHER FORECAST OFFICE



Austin / San Antonio
WEATHER FORECAST OFFICE

South Central Texas Spring 2024 Climate Outlook Webinar

Thursday, March 7th, 2023

Keith White

NWS Austin/San Antonio



NWSSanAntonio

www.weather.gov/SanAntonio

Winter 2023-2024 In Review



Austin / San Antonio
WEATHER FORECAST OFFICE

Spring Seasonal Outlook

- ❑ El Niño rains for mainly central and eastern areas, dry west.
Much of this rain came in one 4 day period Jan 22-25.
- ❑ Slightly above normal temperatures, fewer freezes than average

San Antonio:

- **T -33rd warmest winter**
 - 9 freezing days
- **17th wettest winter (8.70")**

Austin Mabry:

- **T - 25th warmest Winter**
 - 8 freezing days
- **27th wettest Winter (9.48")**

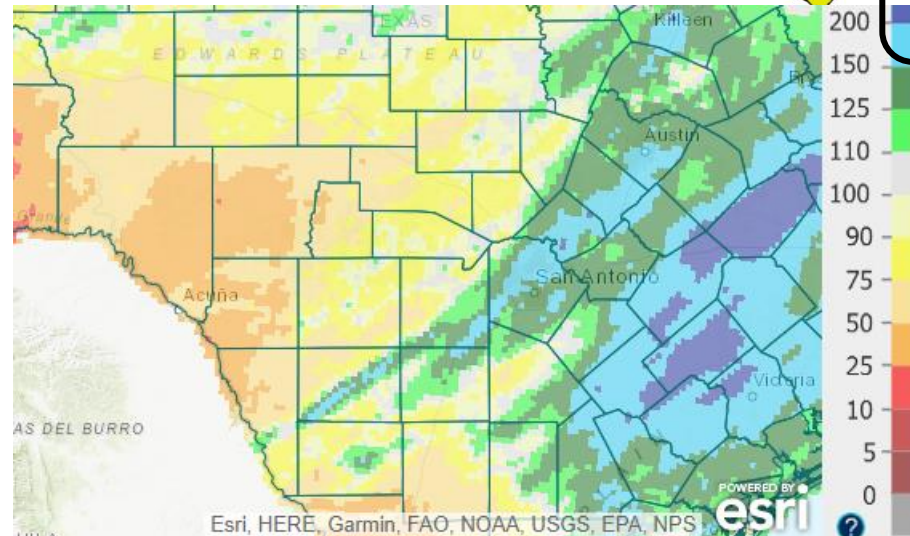
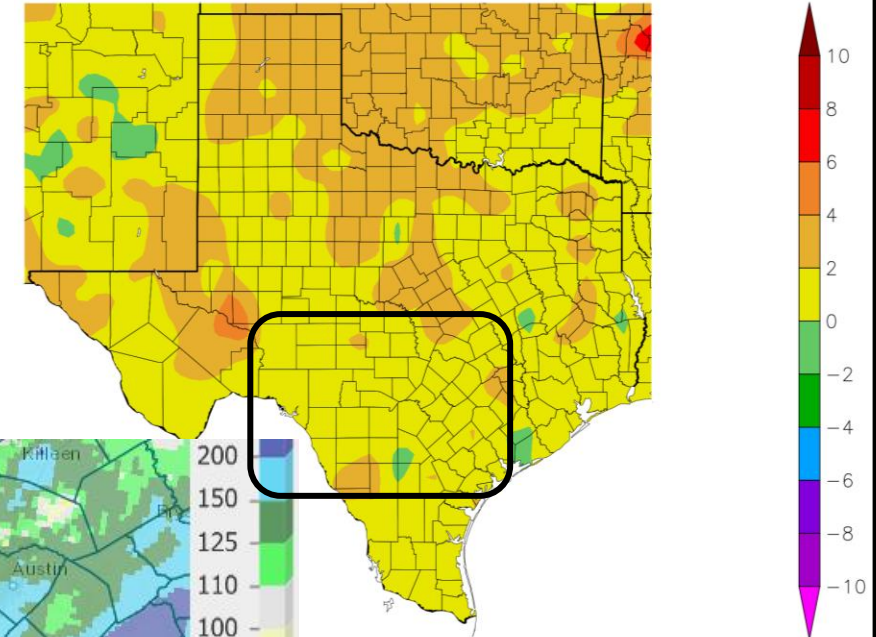
Austin Bergstrom:

- **T - 32nd warmest winter**
 - 23 freezing days
- **9th wettest Winter (11.18")**

Del Rio:

- **T - 5th warmest Winter**
 - 8 freezing days
- **T - 42nd driest Winter (1.19")**

Departure from Normal Temperature (F)
11/30/2023 - 2/27/2024



Percent of normal precipitation for 90 days ending 2/29

6 and 12 Month Rainfall as of March 5

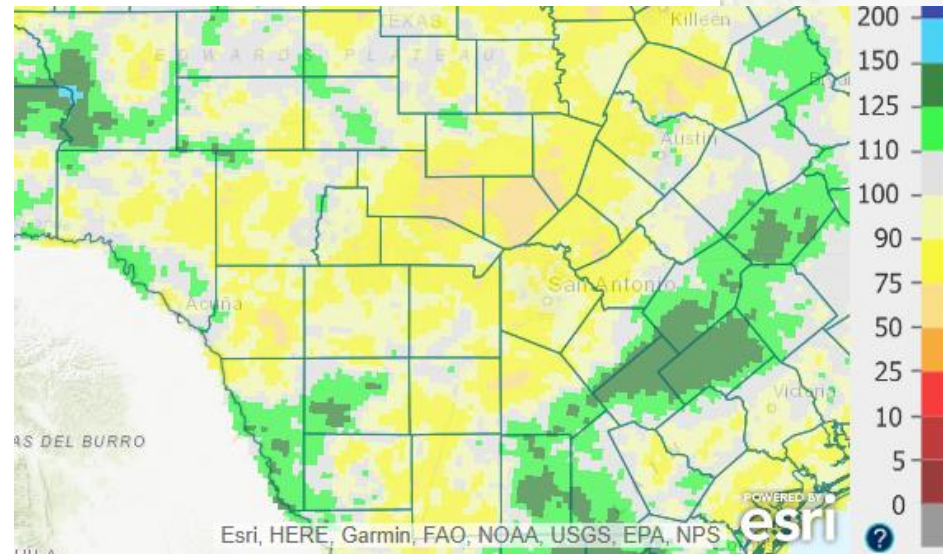
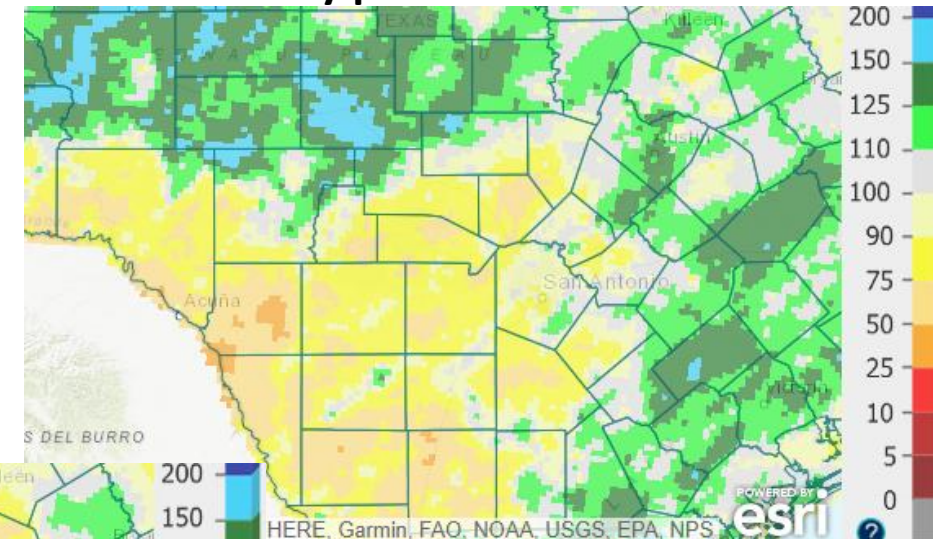


Austin / San Antonio
WEATHER FORECAST OFFICE

Spring Seasonal Outlook

- ❑ Over the past 6 months, rainfall surpluses have occurred across: the northern Hill Country, portions of the Austin Metro, and much of the Coastal Plains. Rainfall deficits have occurred elsewhere.
- ❑ Going back 12 months, some of these surpluses are washed out, but the Rio Grande had some better rains last spring
- ❑ The 50-75% of normal areas (i.e. Kendall, E Kerr) correspond to 8-12+” rainfall deficits

180 day percent of normal rainfall



365 day percent of normal rainfall

Longer-range rainfall deficits

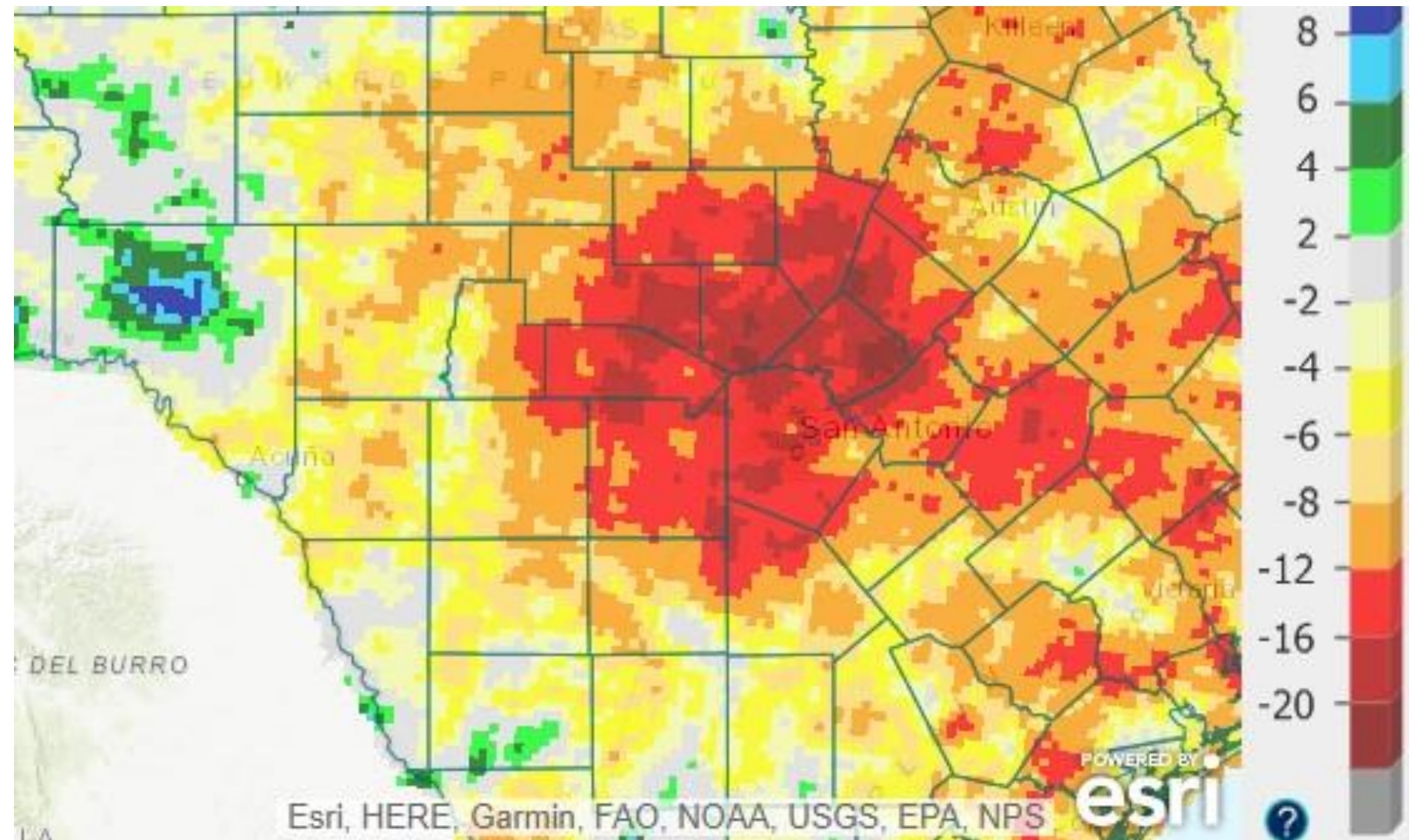


Austin / San Antonio
WEATHER FORECAST OFFICE

Spring Seasonal Outlook

- ❑ Nearly all of south-central Texas below normal
- ❑ Large areas of >1 foot rainfall deficits, patches of 20+”!
- ❑ This manifested in low aquifer and reservoir levels as well as streamflows.

365 day departure from normal rainfall
March 10, 2022 to March 9, 2023

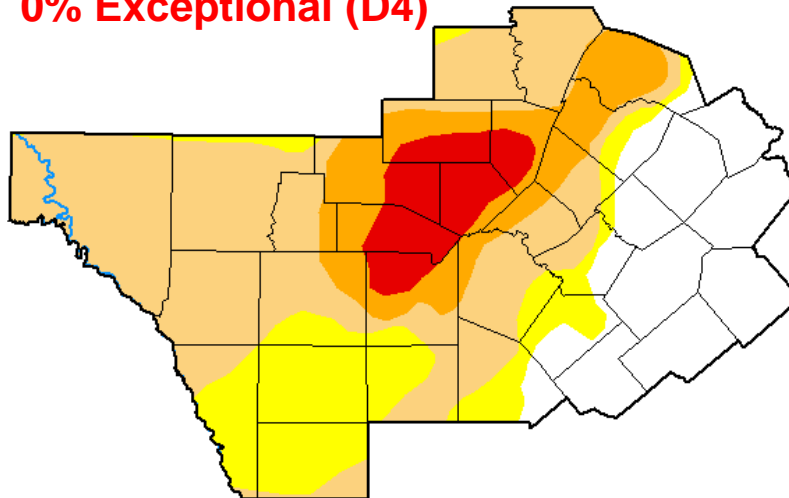




3/5 Drought Monitor

U.S. Drought Monitor
Austin/San Antonio, TX WFO

18% Abnormally Dry (D0)
39% Moderate Drought (D1)
13% Severe (D2)
7% Extreme (D3)
0% Exceptional (D4)



March 5, 2024

(Released Thursday, Mar. 7, 2024)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

| | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4 |
|--|-------|-------|-------|-------|-------|-------|
| Current | 22.25 | 77.75 | 59.82 | 19.80 | 7.18 | 0.00 |
| Last Week <i>02-27-2024</i> | 22.20 | 77.80 | 59.82 | 19.80 | 7.18 | 0.00 |
| 3 Months Ago <i>12-05-2023</i> | 13.15 | 86.85 | 76.61 | 46.93 | 23.37 | 0.00 |
| Start of Calendar Year <i>01-02-2024</i> | 11.10 | 88.90 | 76.25 | 44.58 | 24.19 | 0.00 |
| Start of Water Year <i>09-26-2023</i> | 7.30 | 92.70 | 81.89 | 68.24 | 59.29 | 37.20 |
| One Year Ago <i>03-07-2023</i> | 0.95 | 99.05 | 88.74 | 61.04 | 30.87 | 10.15 |

Intensity:

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

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

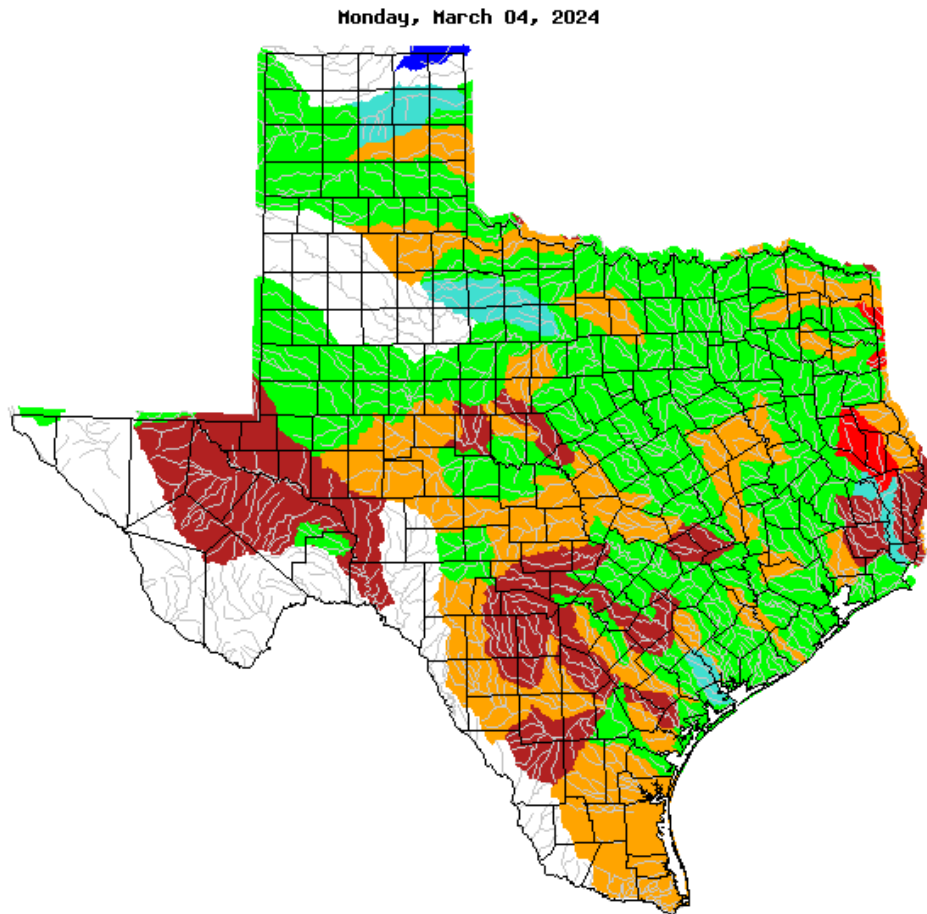
A look at drought impacts after 3 years of La Nina



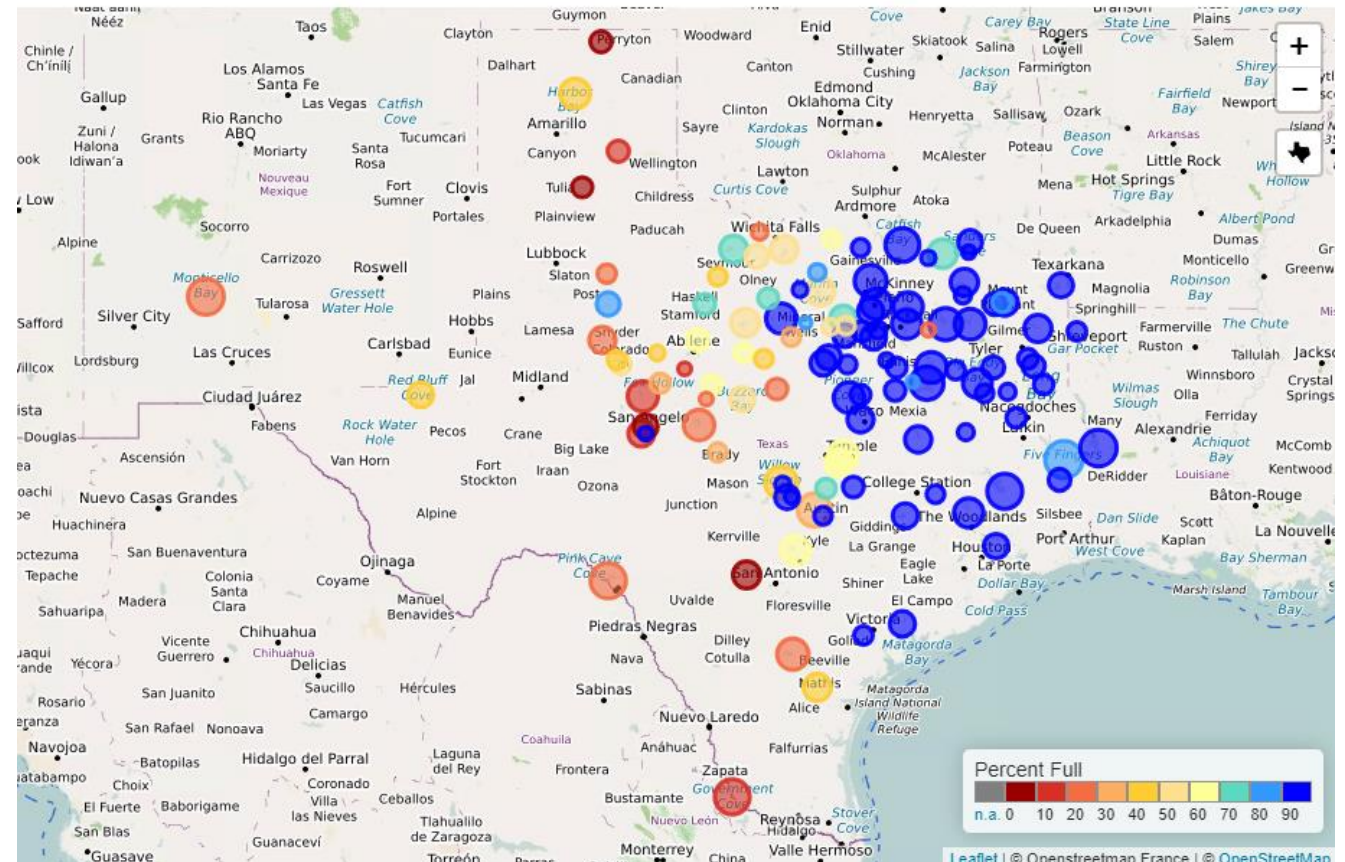
Austin / San Antonio
WEATHER FORECAST OFFICE

Spring Seasonal Outlook

USGS 7-day average streamflow



Texas Reservoirs: Monitored Water Supply Reservoirs are 73.1% full on 2024-03-04



Notables:

Medina Lake* 3.1% full
Lake Travis 38.2% full

Amistad* 26.3% full
Lake Buchanan 46.0% full

Canyon*: 60% full
(*lowest on record)

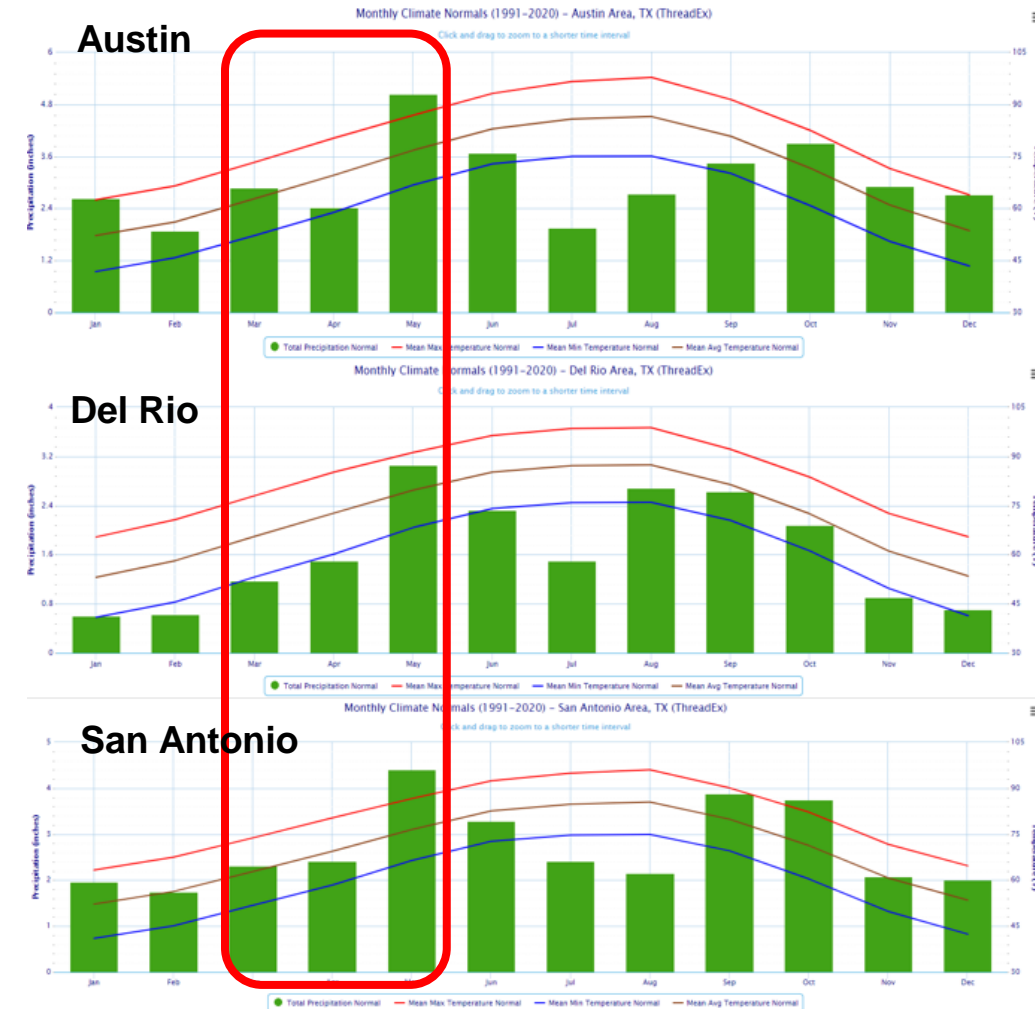
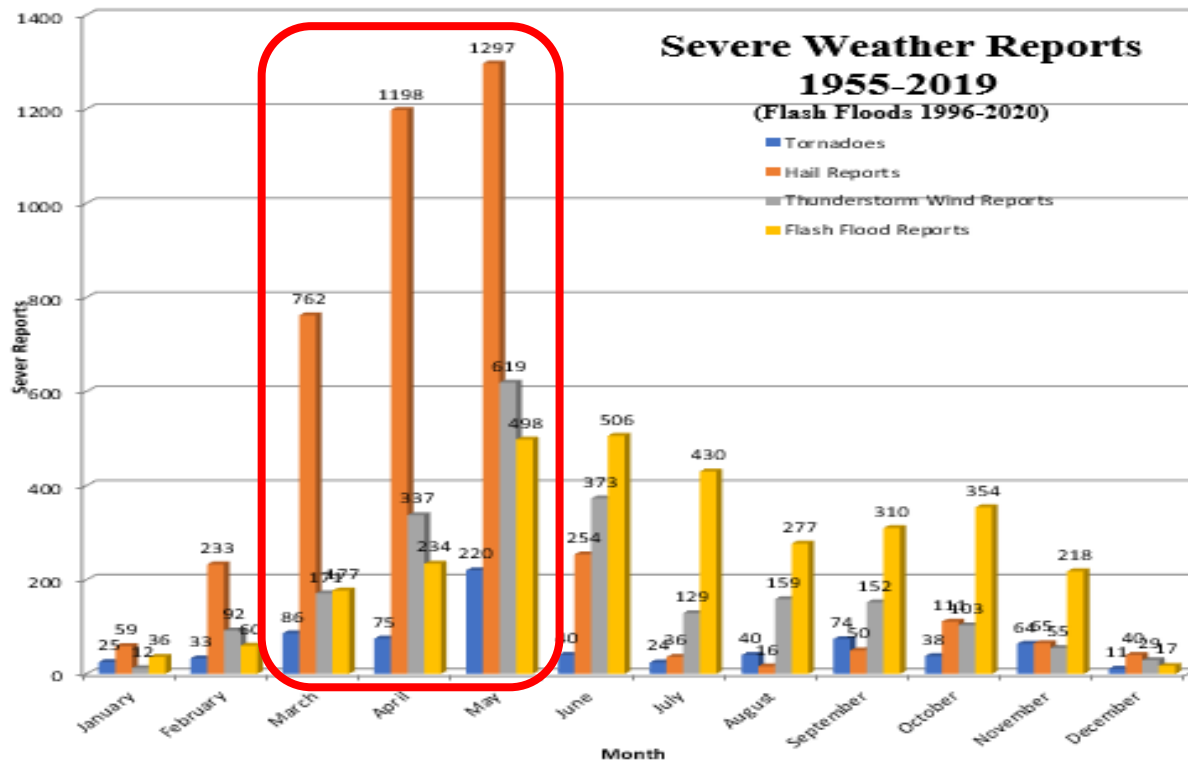
Spring Climatology



Austin / San Antonio
WEATHER FORECAST OFFICE

Spring Seasonal Outlook

- ❑ Severe weather season is here! Increases through May. May is highest risk month for hail, wind, and tornadoes
- ❑ May is the wettest month of year at all sites
- ❑ Flash flooding a concern, highest in May and June



ENSO Outlook



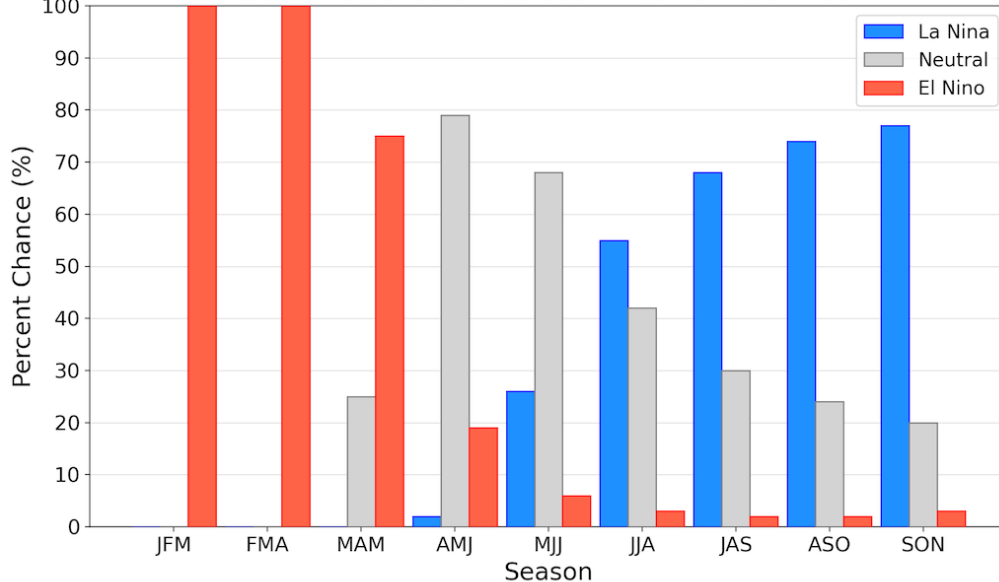
Austin / San Antonio
WEATHER FORECAST OFFICE

Spring Seasonal Outlook

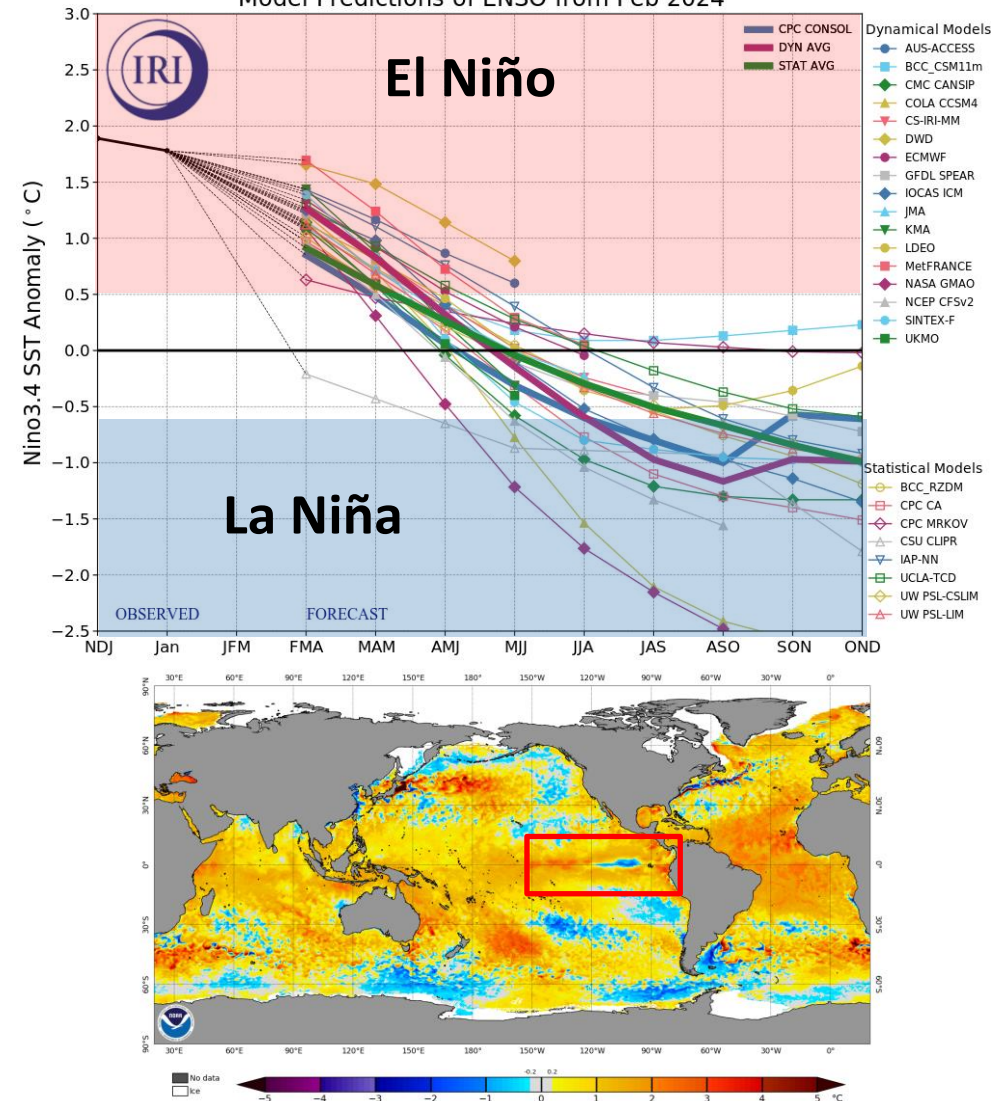
- ☐ El Niño will begin to quickly fade this spring
- ☐ Equatorial SSTs are returning to near average in the tropical eastern Pacific Ocean
- ☐ CPC predicts ~55% chance to return to La Niña this summer and ~76% chance by Fall

Official NOAA CPC ENSO Probabilities (issued Feb. 2024)

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



Model Predictions of ENSO from Feb 2024



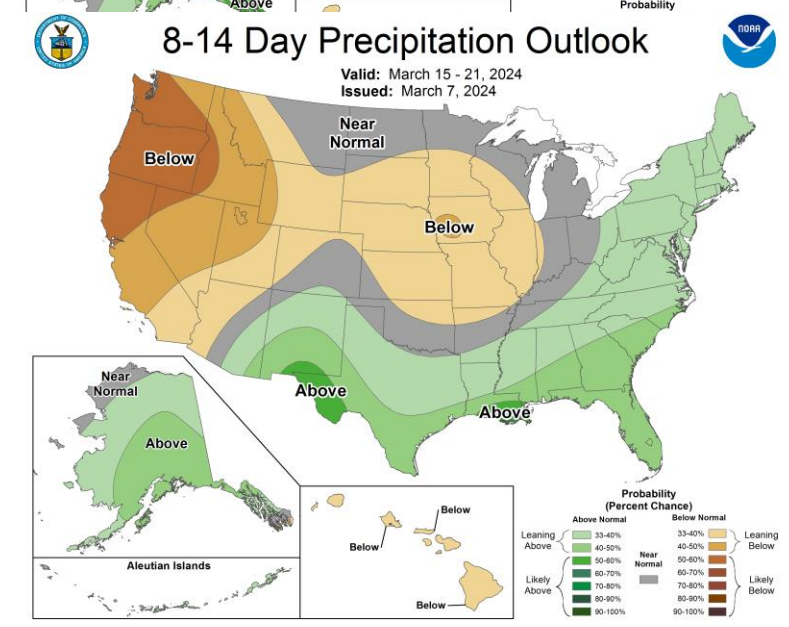
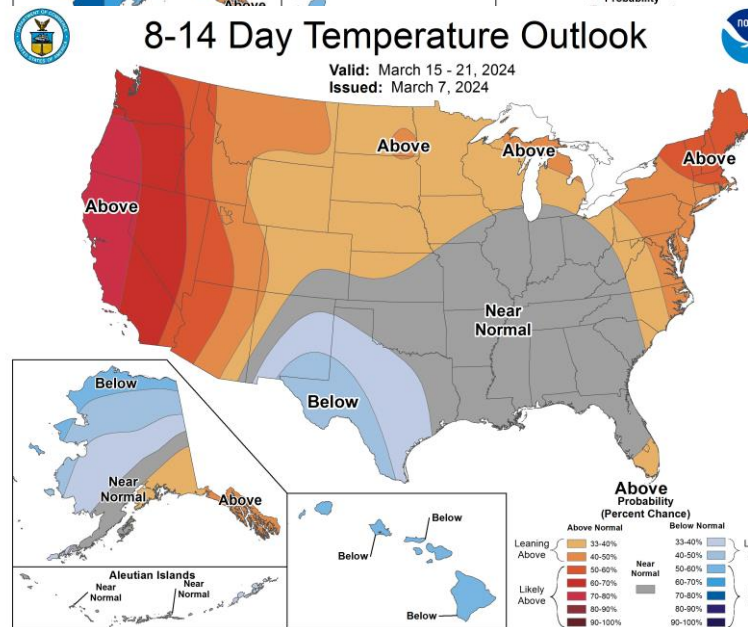
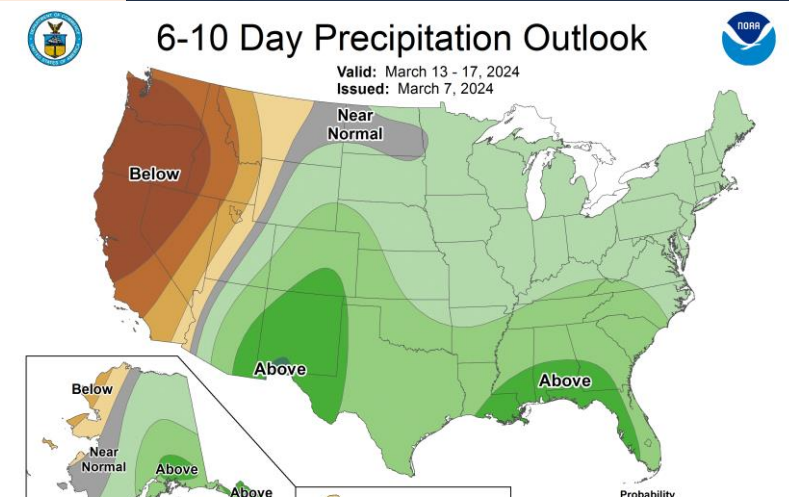
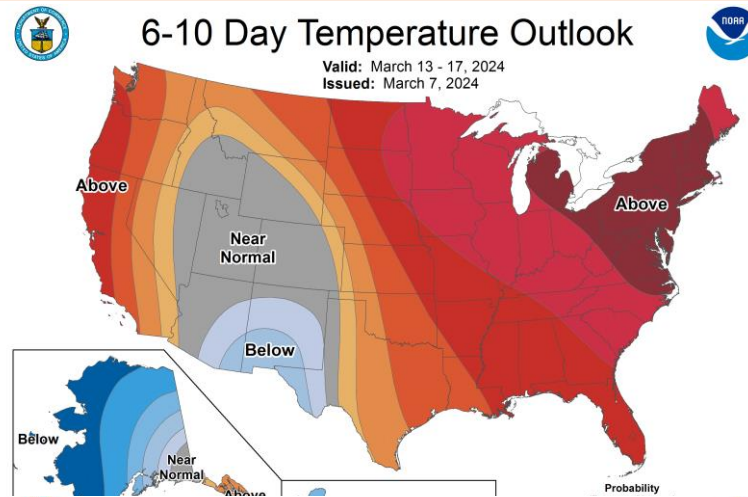
CPC 6-10 and 8-14 Day Outlooks



Austin / San Antonio
WEATHER FORECAST OFFICE

Spring Seasonal Outlook

- ☐ Above normal temperatures favored March 13-17 on average, trending cooler March 16-21
- ☐ Odds lean slightly (40-50%) towards wetter than normal conditions through mid-March



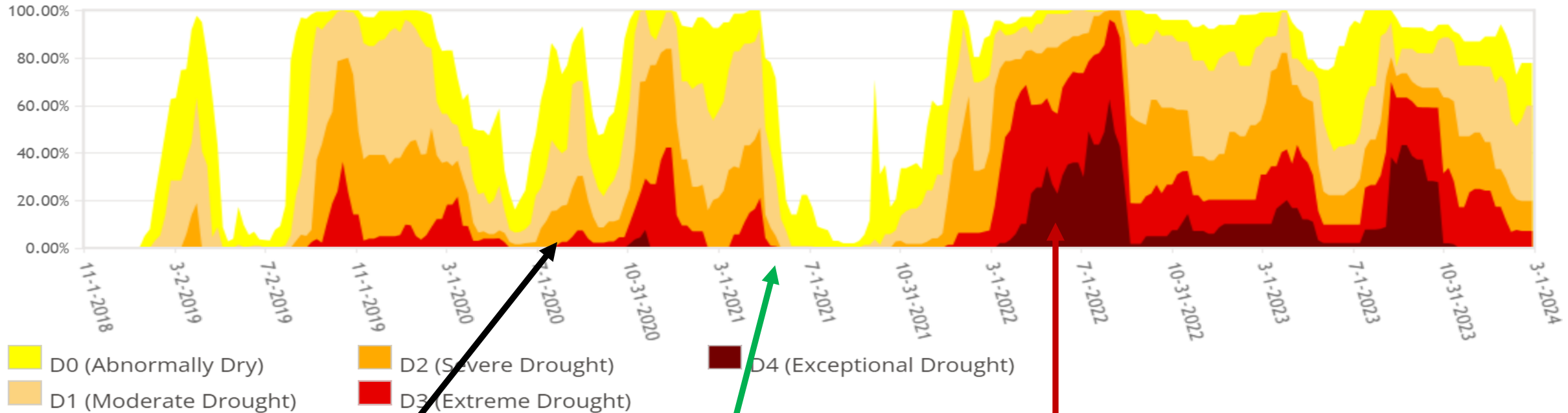
A look at drought impacts of 3 years of La Nina



Austin / San Antonio
WEATHER FORECAST OFFICE

Spring Seasonal Outlook

Austin/San Antonio, TX (EWX) WFO Percent Area in U.S. Drought Monitor Categories



Beginning of 3
straight La Niña
years

Wet spring 2021; led
to mild, drought-free
summer

Peak drought
spring-summer
2022; extremely hot

Longest streak of D3+
since 9/11/2012
through 5/12/2015.

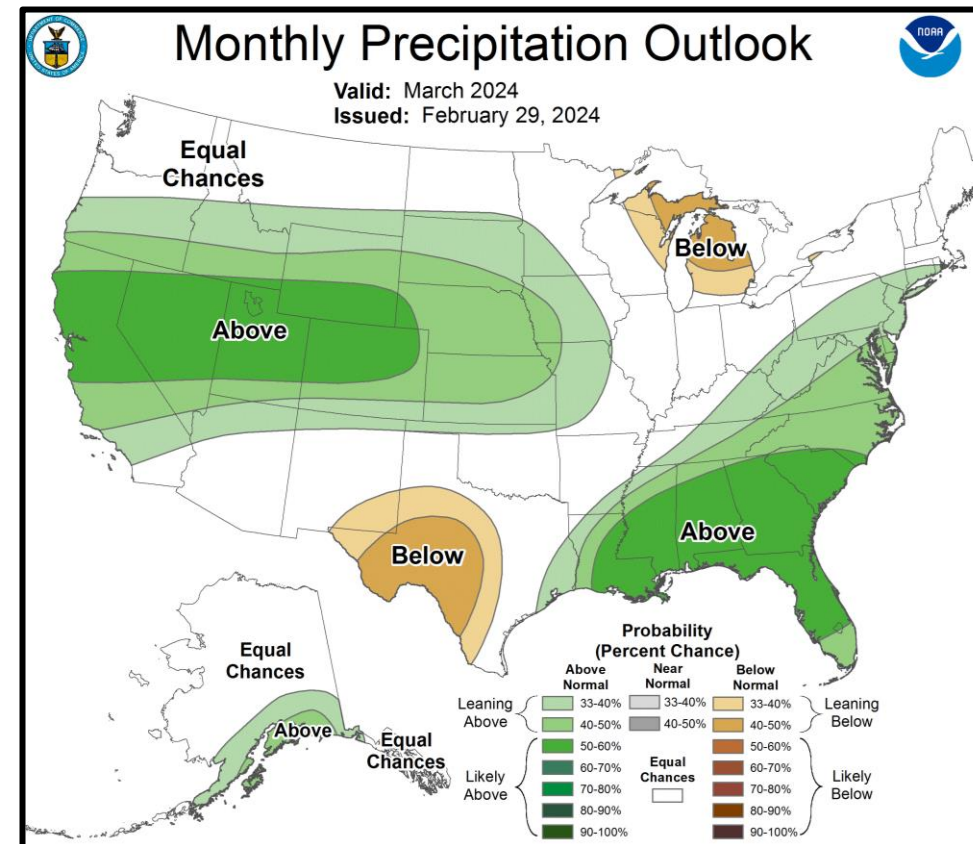
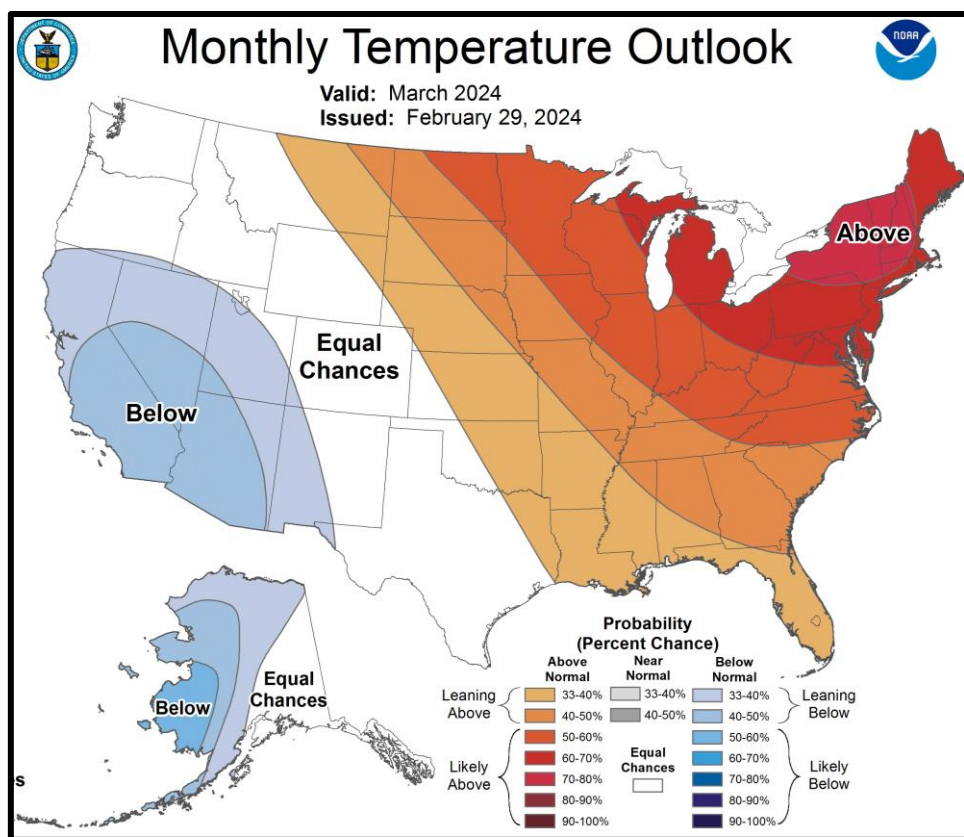
CPC March Temperature and Rainfall Outlook



Austin / San Antonio
WEATHER FORECAST OFFICE

Spring Seasonal Outlook

- ❑ Equal chances of below, near, or above normal temperatures in March
- ❑ Odds lean towards drier than normal conditions west of US-281 (33-50%)



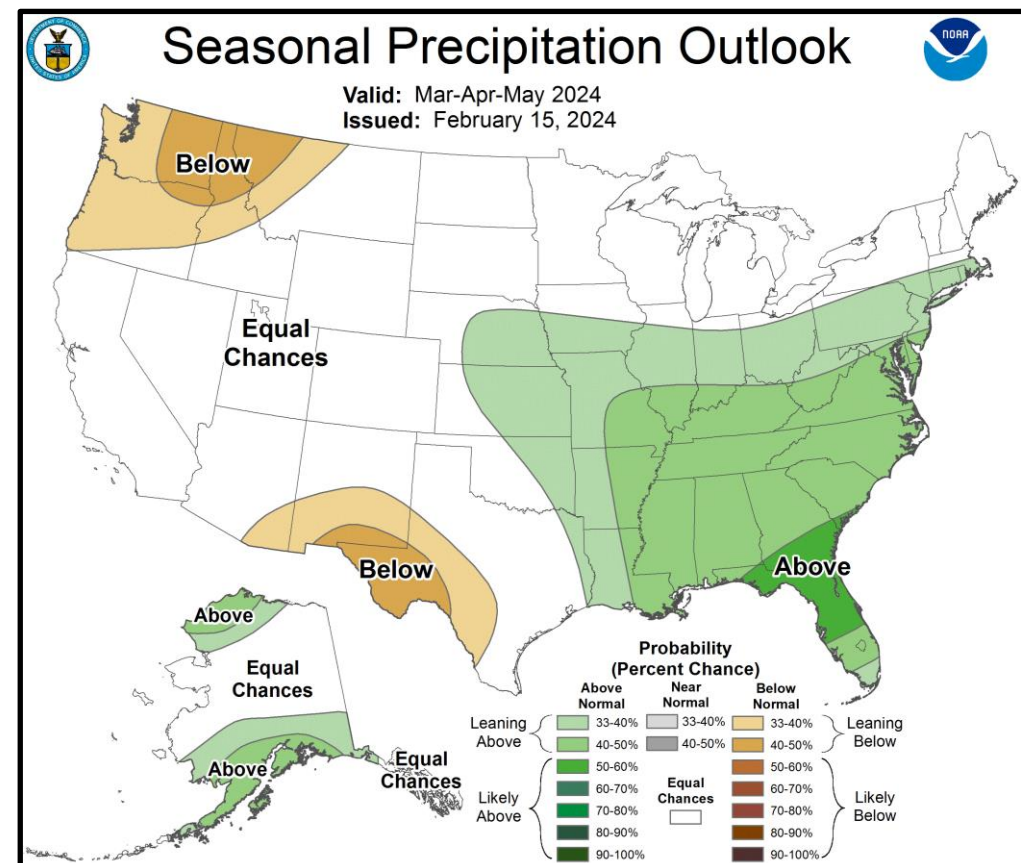
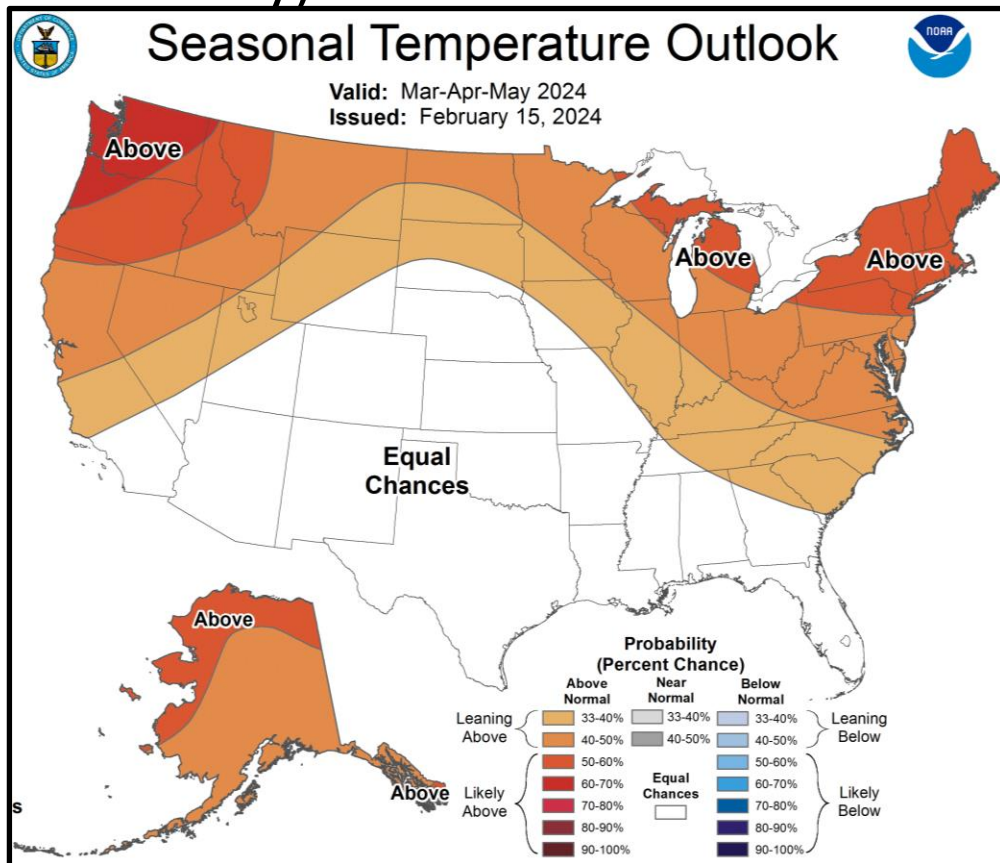
CPC Spring Temperature and Rainfall Outlook



Austin / San Antonio
WEATHER FORECAST OFFICE

Spring Seasonal Outlook

- Equal chances of below, near, or above normal temperatures through May 31
- Odds lean towards drier than normal conditions west of US-281 (33-40%, 40-50% in Val Verde County)



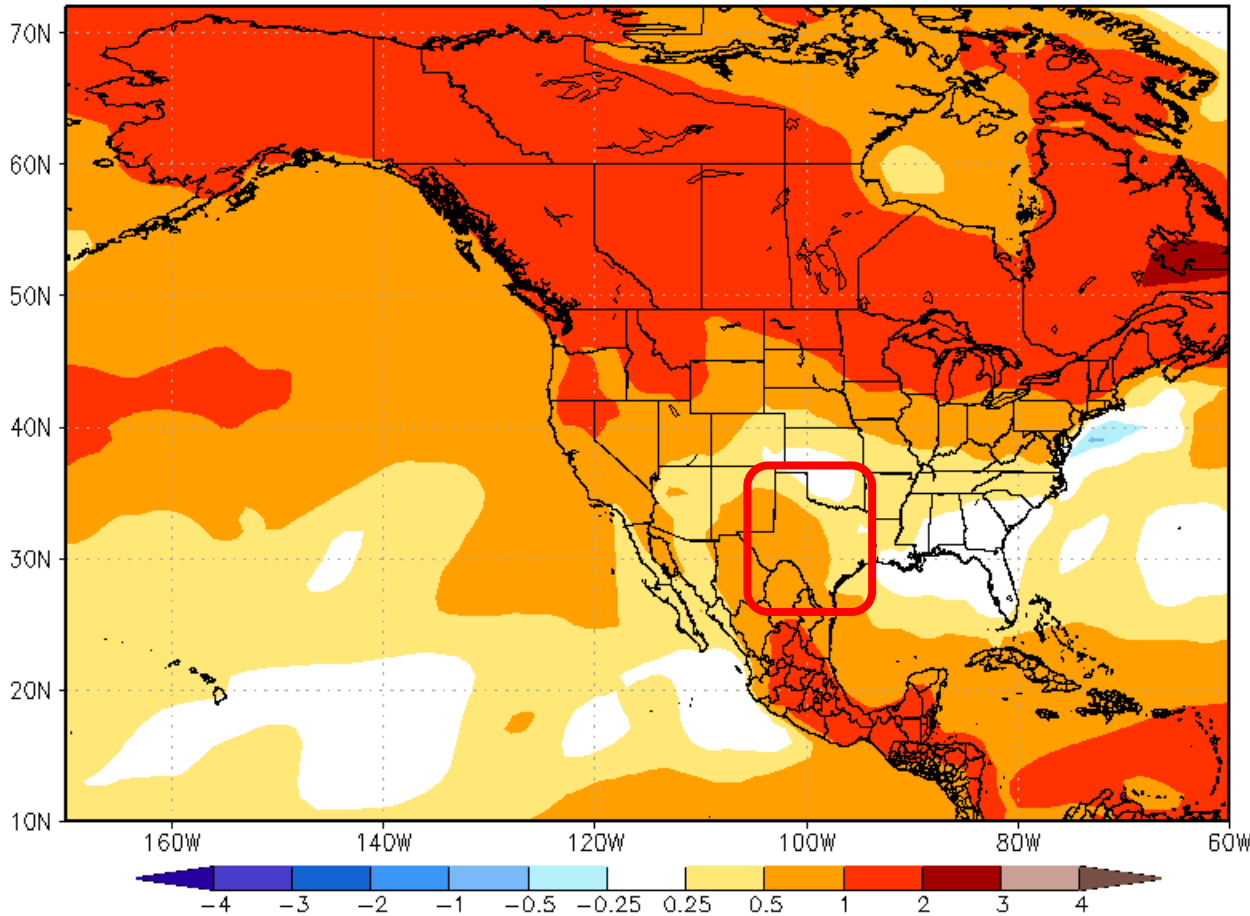
Spring Temperatures Outlook



Austin / San Antonio
WEATHER FORECAST OFFICE

Spring Seasonal Outlook

NMME Forecast of TMP2m Anom IC=202402 for Lead 1 2024MAM



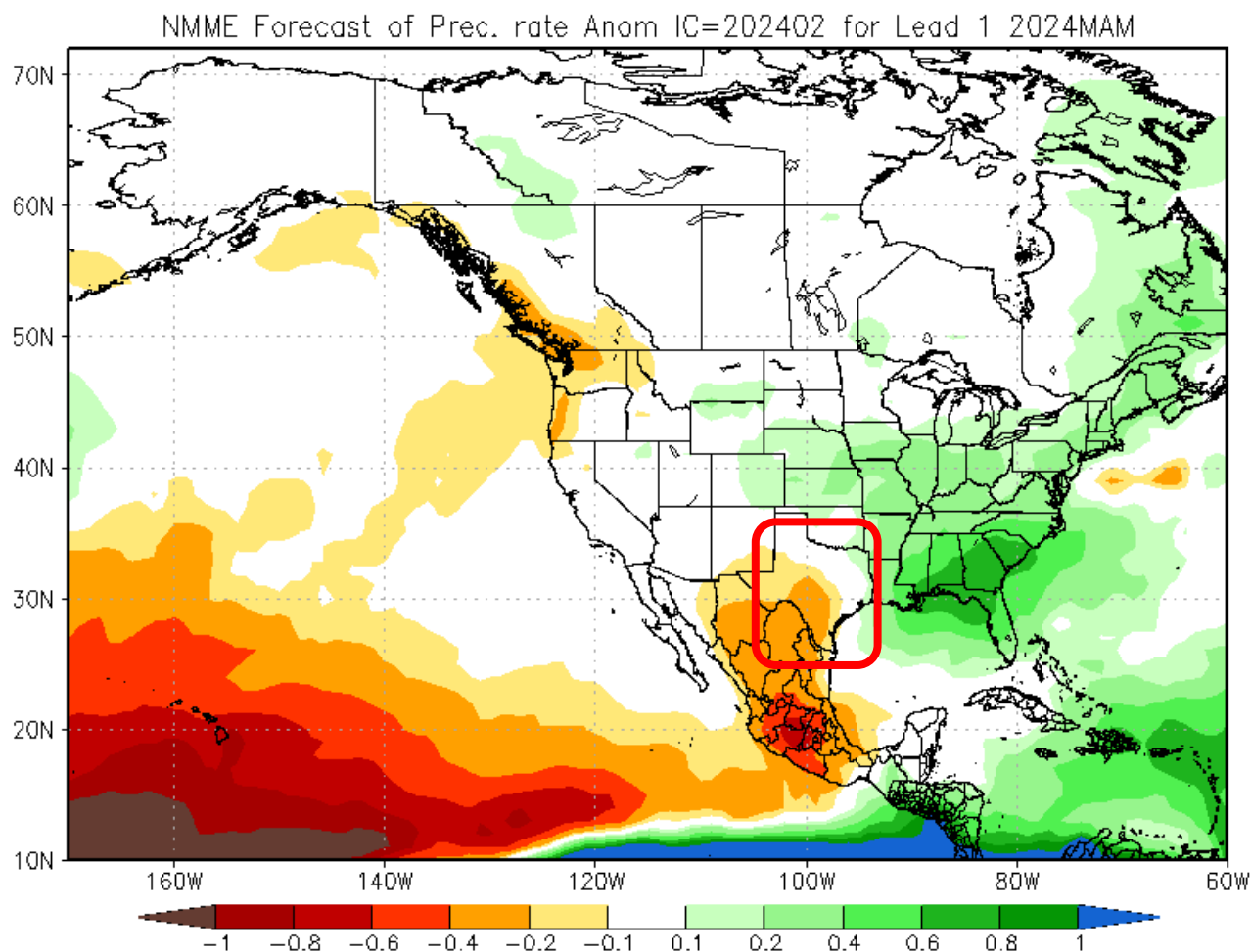
- NMME (North American Multi-Model Ensemble, [Kirtman et al. 2014](#)) is a mid to long range group of models
- Suggests a Positive temperature anomaly through end of May (0.5-1 C)
- Monthly anomalies suggest strongest signal in May; could have an early start to extreme heat this year
- With all of this information, it appears likely that we will see a warmer than average spring

Spring Rainfall Outlook



Austin / San Antonio
WEATHER FORECAST OFFICE

Spring Seasonal Outlook



- ❑ NMME ensemble shows a negative precipitation anomaly (drier than normal) through the end of May for most of the region.
- ❑ NMME mean (average) shows slight lean towards wetter than normal AMJ, with the highest probabilities of wetter than normal conditions in May (already our wettest month)

Spring Drought Outlook



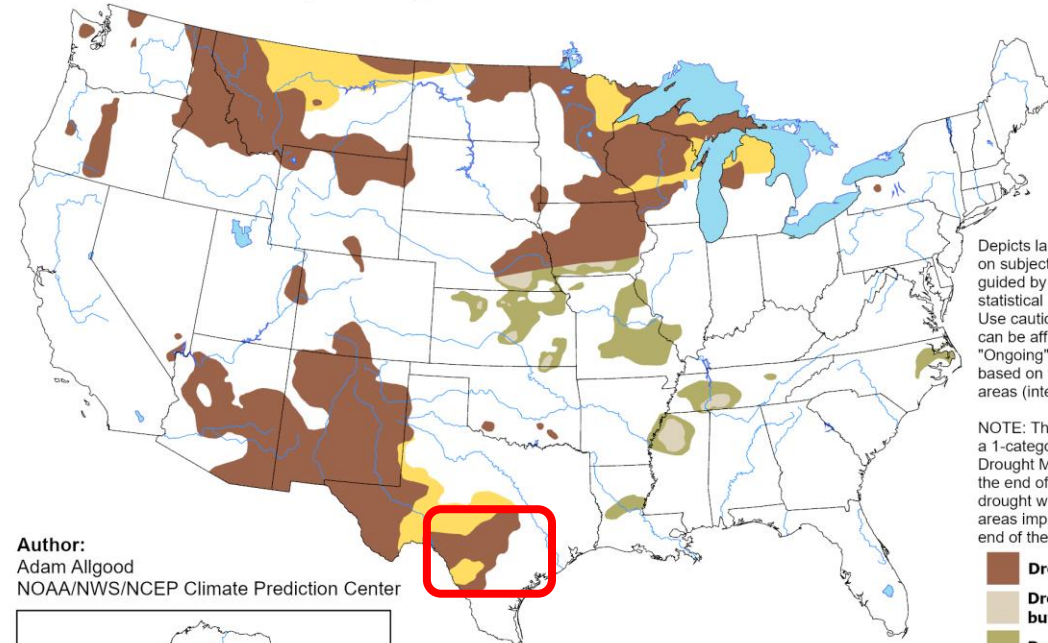
Austin / San Antonio
WEATHER FORECAST OFFICE

Spring Seasonal Outlook

- Drought status likely to expand and worsen this month, except east of I-35 where conditions have been much wetter.
- CPC anticipates drought conditions remaining in place through Spring.
- While there are no official drought outlooks beyond May, I would suggest preparing for a likelihood of continued long term drought impacts throughout the remainder of 2024.

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

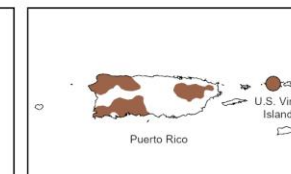
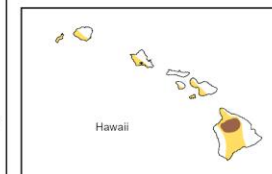
Valid for March 2024
Released February 29, 2024



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).

Author:
Adam Allgood
NOAA/NWS/NCEP Climate Prediction Center



- Drought persists
- Drought remains, but improves
- Drought removal likely
- Drought development likely
- No drought



<https://go.usa.gov/3eZGd>

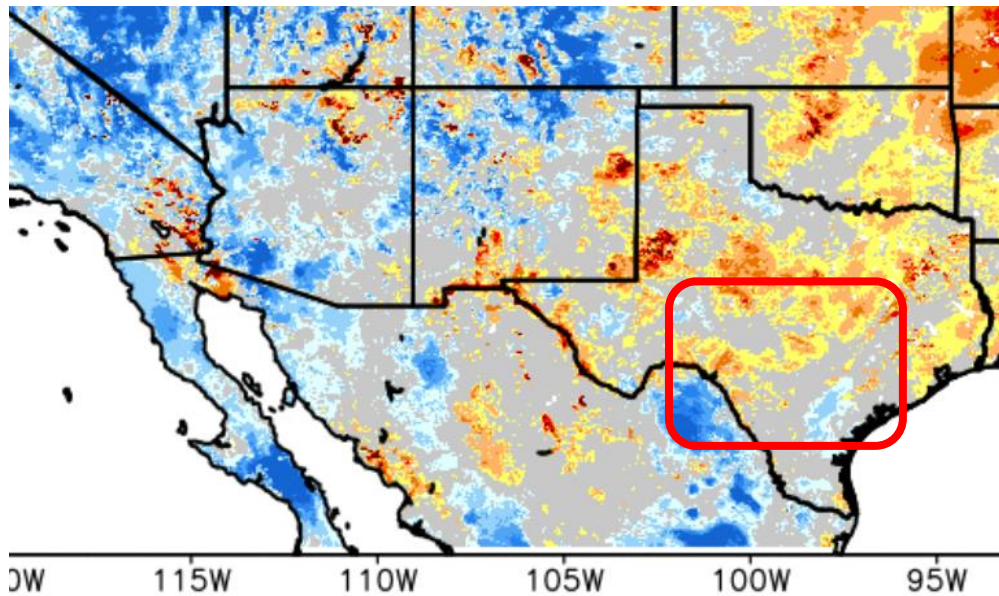
Soil Moisture Conditions



Austin / San Antonio
WEATHER FORECAST OFFICE

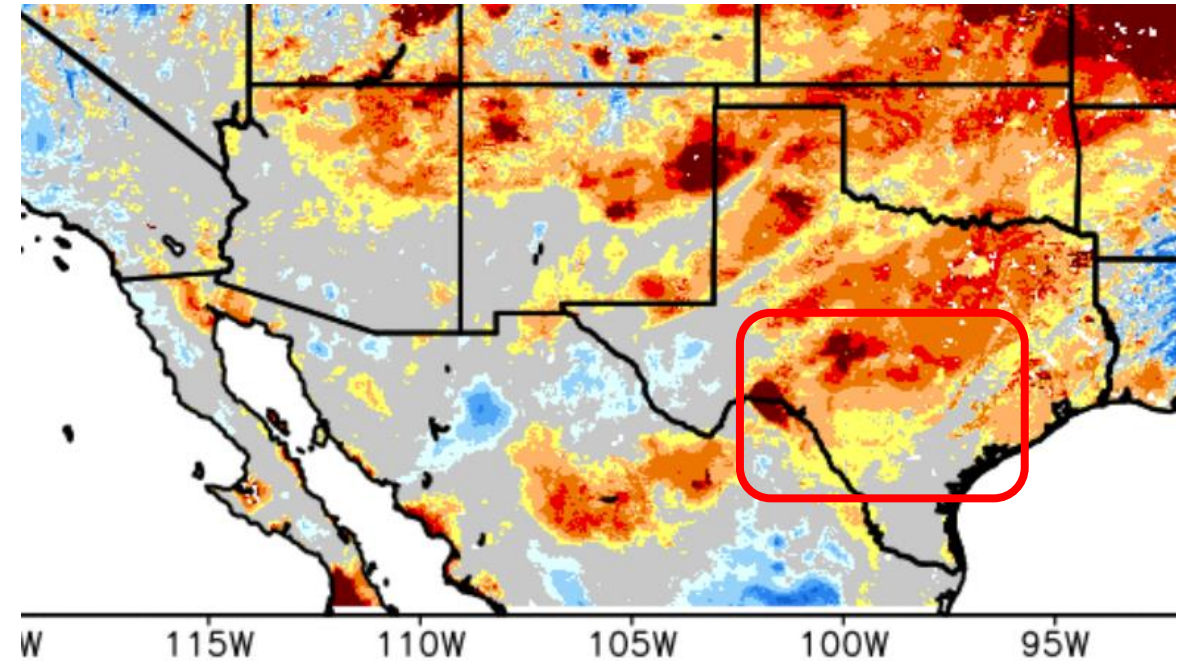
Spring Seasonal Outlook

- ❑ Soil moisture is drier than normal over both shallow and deep layers over the Hill Country, Southern Edwards Plateau, and Rio Grande Plains



Deep layer soil moisture percentile (2 meters)

Shallow soil moisture percentile (10 cm)

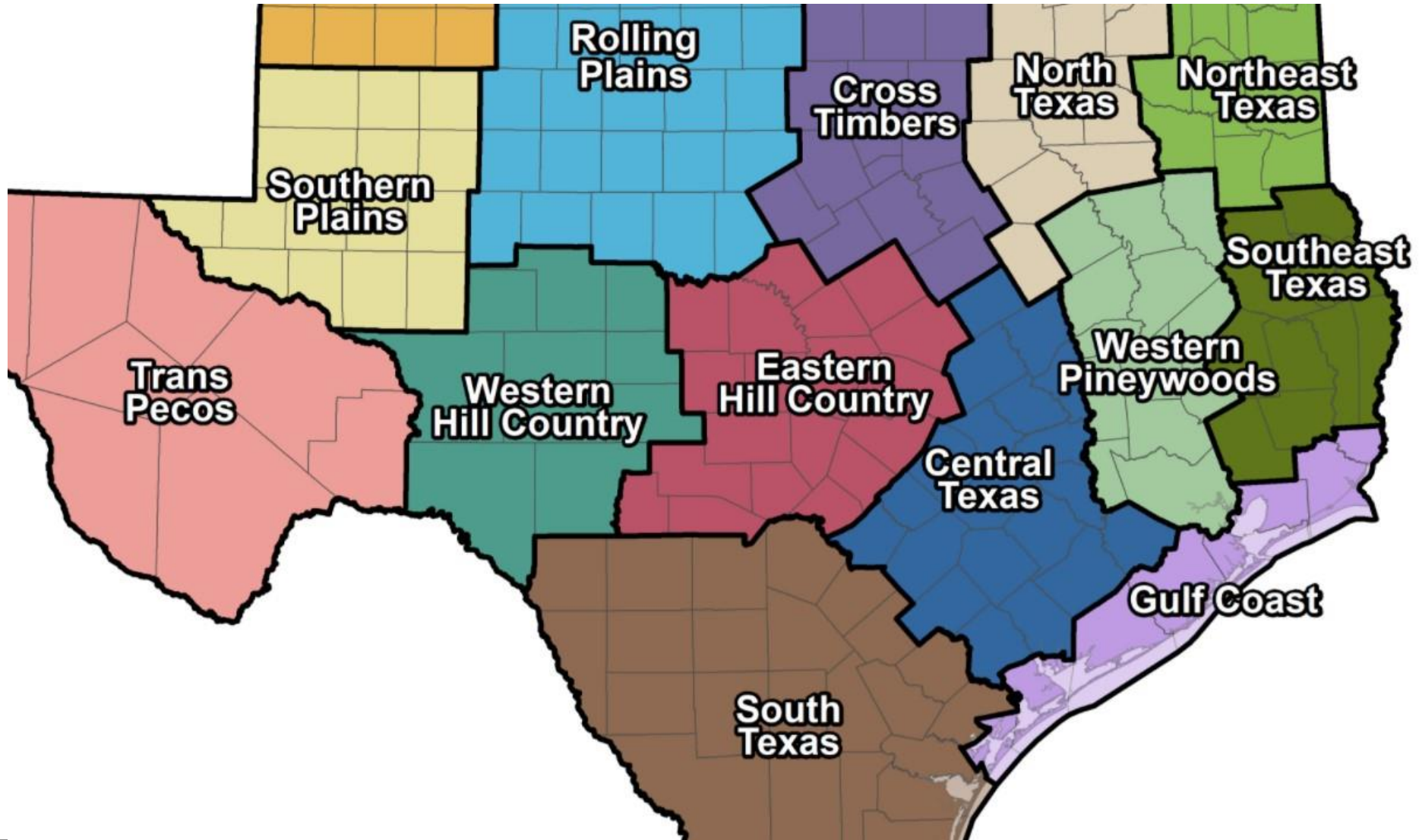


Spring Fire Weather Outlook



Austin / San Antonio
WEATHER FORECAST OFFICE

Spring Seasonal Outlook



Spring Fire Weather Outlook

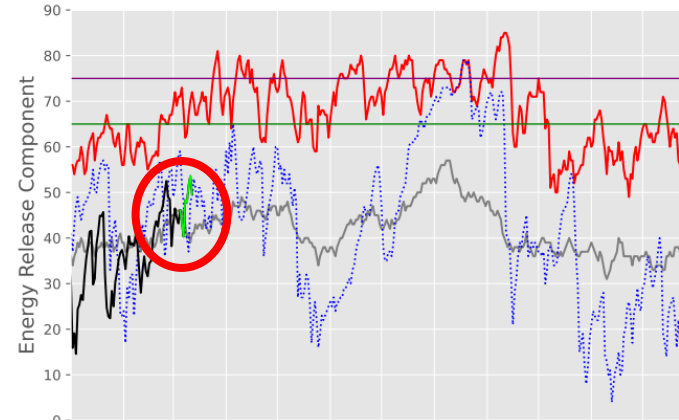


Austin / San Antonio
WEATHER FORECAST OFFICE

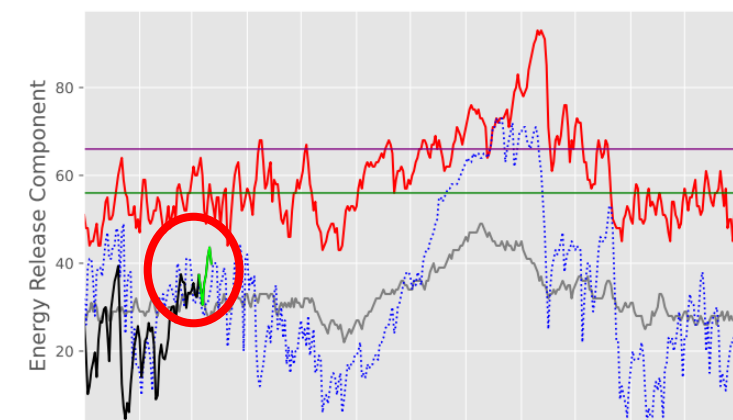
Spring Seasonal Outlook

- ❑ Energy Release Component is near average for this time of year, but forecast to increase this week.
- ❑ Will see continued periods of elevated to critical fire conditions behind strong, dry cold fronts (pairing of high winds and low RH).
- ❑ However, fuel situation is less dire. Little rain west means less vegetative growth, lots of rain east means wet fuels...at least for now.

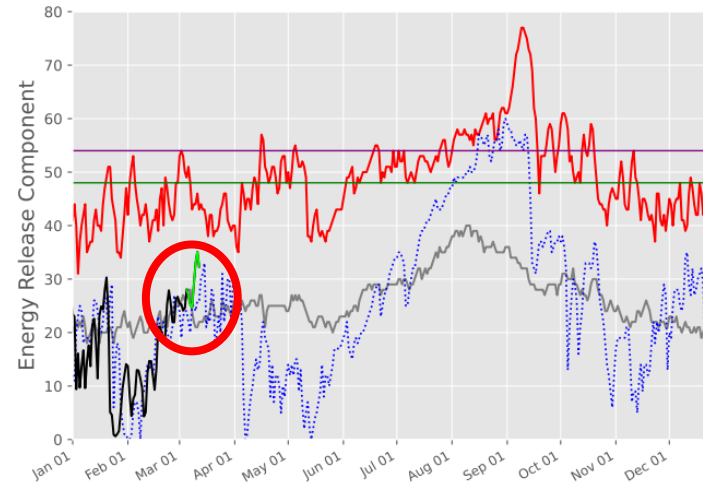
WESTERN HILL COUNTRY Predictive Service Area
2007-2024



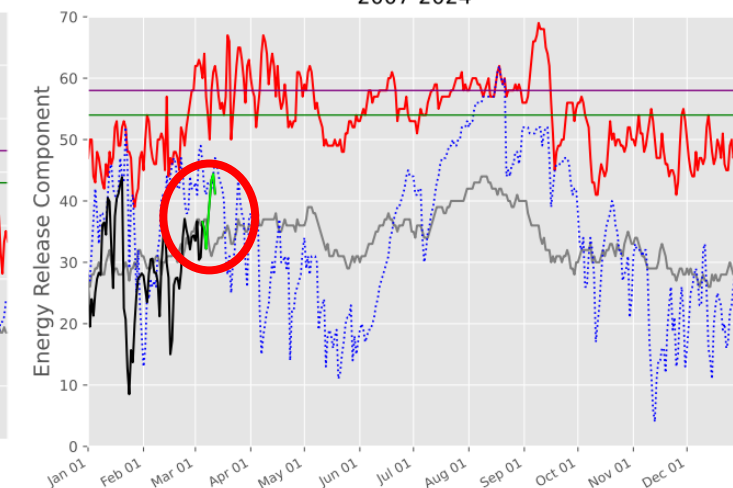
EASTERN HILL COUNTRY Predictive Service Area
2007-2024



CENTRAL TEXAS Predictive Service Area
2007-2024



SOUTH TEXAS Predictive Service Area
2007-2024



1 Day Periods Fuel Model: G
7542 Wx Observations
Generated on 03/06/2024-00:45

1 Day Periods Fuel Model: G
7177 Wx Observations
Generated on 03/06/2024-00:45

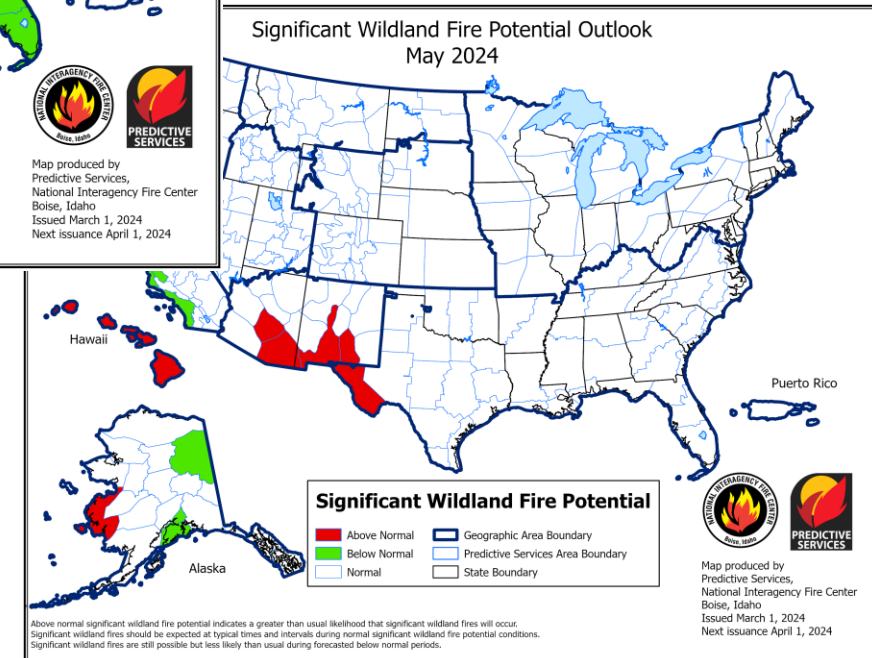
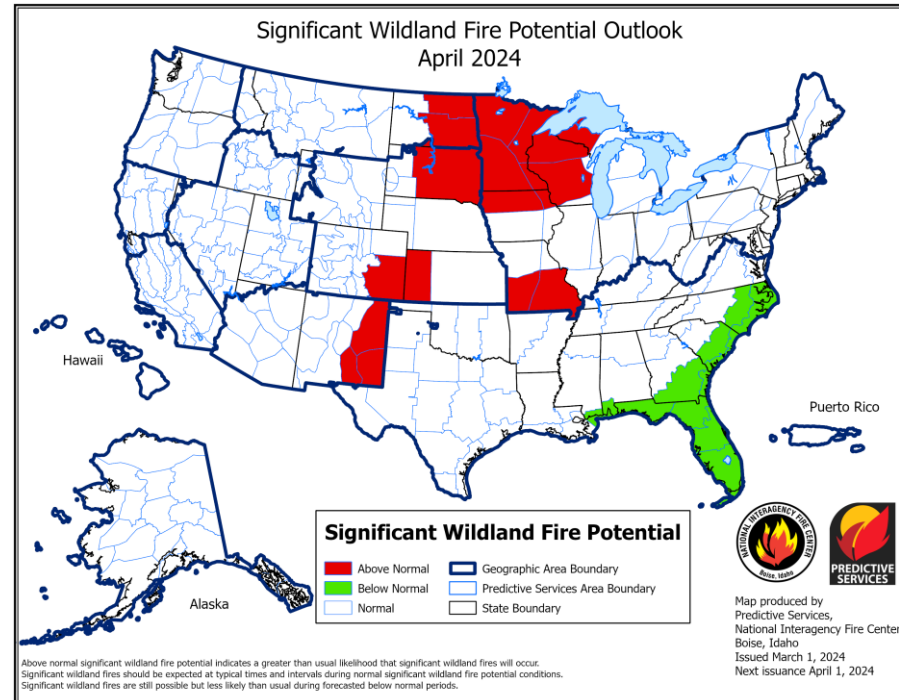
Spring Fire Weather Outlook



Austin / San Antonio
WEATHER FORECAST OFFICE

Spring Seasonal Outlook

- ❑ Near-normal Wildland Fire Potential in the outlooks currently.
- ❑ **HOWEVER:** These outlooks are averaged over large regions. Should the drier than normal conditions verify over the next couple of months out west, we could move into the “above normal” category later this spring.
- ❑ [NICC monthly outlooks](#) are issued on the 1st of each month
- ❑ [Texas A&M Forest Service](#) for shorter range info



A few quick thoughts on the rest of 2024



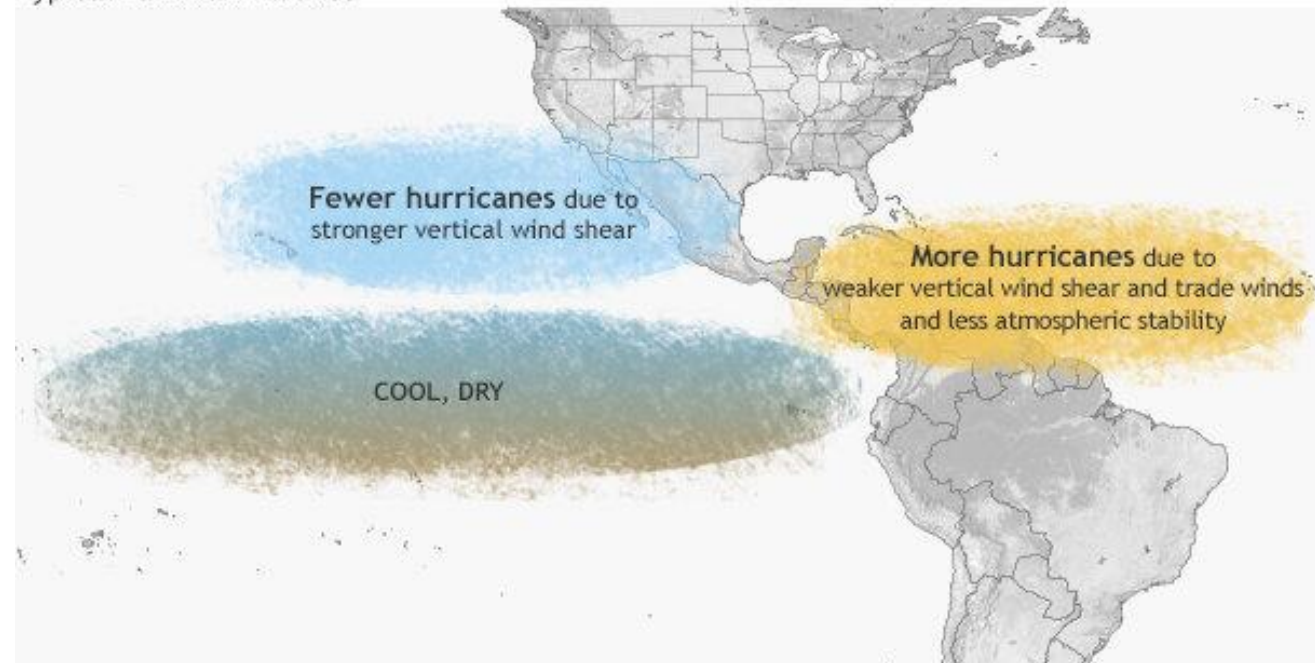
Austin / San Antonio
WEATHER FORECAST OFFICE

Spring Seasonal Outlook

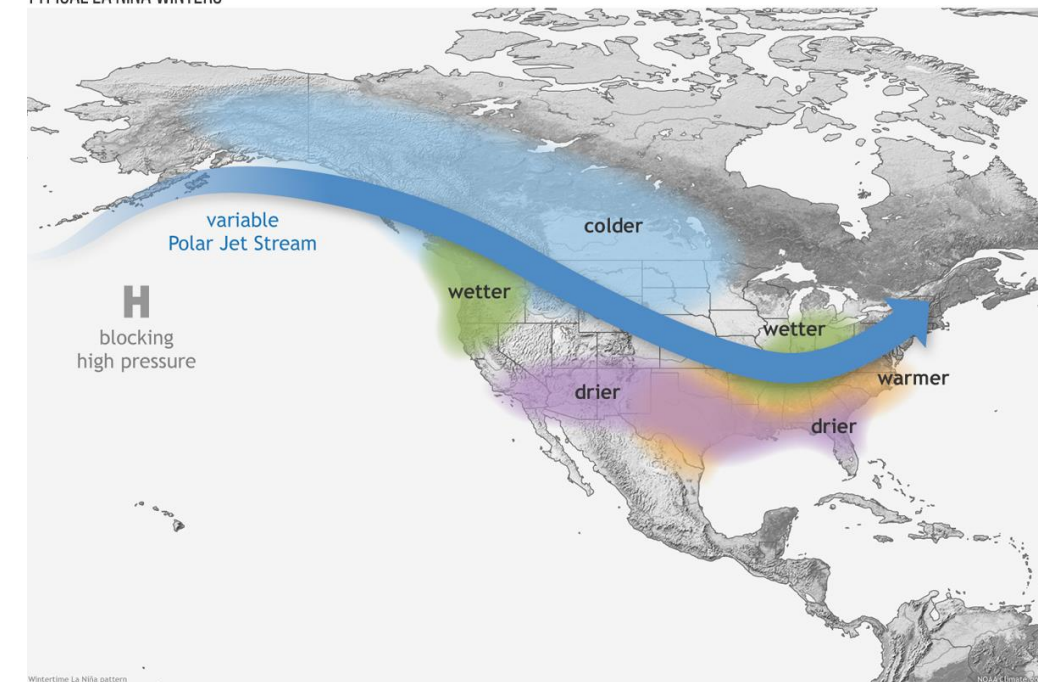
Should La Niña conditions develop later this year:

- It would increase the chances of above normal activity during the Atlantic Basin hurricane season (This doesn't guarantee a TX landfalling event)
- It would increase the chances of warmer, drier than normal conditions in TX late this fall through the winter

Typical La Niña influence



TYPICAL LA NIÑA WINTERS





Impacts Outlook Summary

Spring 2024

Below Normal Normal Above Normal

Drought



Flash Flooding



River Flooding



Severe Weather



Fire Weather



Temperatures:

- Expecting **above** normal temperatures, including a risk for extreme heat by May

Heavy rain/flash flooding/river flooding:

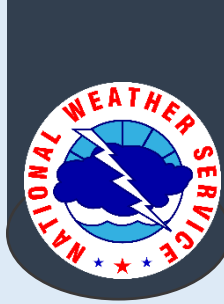
- Near to slightly above** normal Flash Flood risk, highest chances in May
- Expecting **near normal** *riverine* impacts due to antecedent low soil moisture/streamflow
 - However, it only takes one high impact event!

Severe weather:

- Expecting **near normal** impacts, but this is our busiest severe weather season!

Fire weather:

- Expecting **near normal impacts** from wildland but may trend towards **above normal** in western areas if dryness persists.



Impacts Outlook Summary

Spring 2024

Below Normal *Normal* *Above Normal*

Drought



Flash Flooding



River Flooding



Severe Weather



Fire Weather



South Central Texas Spring 2024 Climate Outlook Webinar

Questions?

Contact Information:

830-606-3617 (public line)

keith.white@noaa.gov

[Weather.gov/Austin](https://www.weather.gov/Austin) or [/SanAntonio](https://www.weather.gov/SanAntonio)