



March 2024

Monthly Hydrologic and Flood

Stage Report (E5/E3)

NWS Austin/San Antonio, TX

Prepared by: Chris Morris

April 11, 2024

An X inside this box indicates that no flooding occurred within this hydrologic service area.



National Oceanic and
Atmospheric Administration

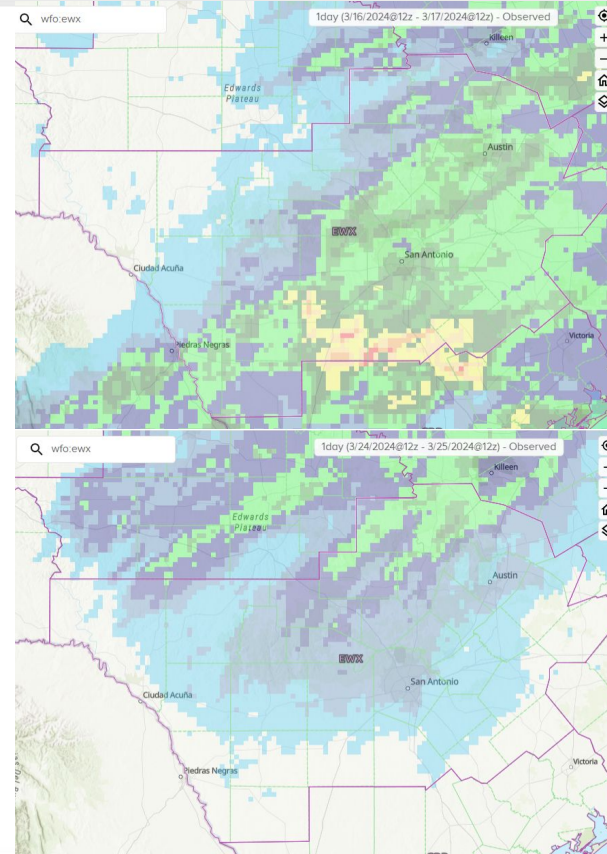
U.S. Department of Commerce



Monthly Summary

Monthly recap

- While March saw a several rounds of rainfall, the bulk of widespread rainfall occurred during two systems one on the 16th and the other on the 24th.
 - The higher rainfall amounts from the 16th system were focused across portions of the Coastal Plains and Rio Grande Plains
 - The higher rainfall amounts from the 24th system were focused across portions of the Hill Country
- Overall, the service area saw below normal rainfall for the month however, isolated spots in the Coastal Plains, Rio Grande Plains, southern Edwards Plateau, and Hill Country saw near to above normal rainfall.
- Given the persistent lower streamflows, rivers remained within banks for the month.
- Drought conditions saw only minor adjustments with slight worsening across the southern Edwards Plateau and slight improvement across the Coastal Plains.





Hydrologic Products Issued for the Month

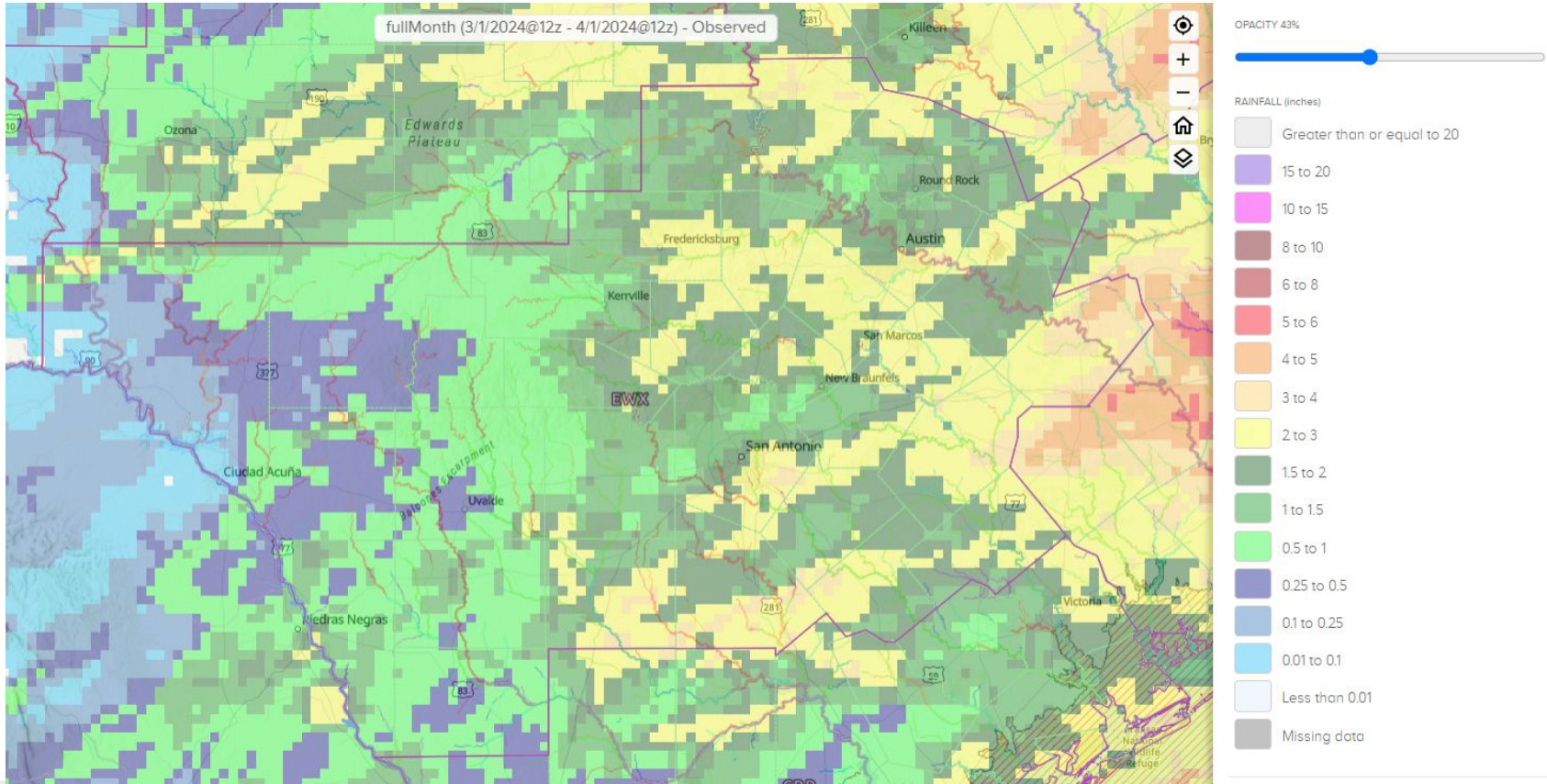
Product Issued	Number Issued	Additional Comments
River Flood Warning/Area Flood Warning (FLW)	0	
River Flood Statement/Area Flood Advisory (FLS)	4	3 Areal Flood Advisories, 1 Areal Flood Advisory cancelation
Flood Watch (FFA)	0	
Flash Flood Warning (FFW)	0	
Flash Flood Statement (FFS)	0	
Hydrologic Outlook (ESF)	6	AHPS probabilistic forecasts for the Brazos, Colorado, Guadalupe, San Antonio, Pecos, and Nueces Rivers





March 2024 Rainfall

Observed Rainfall (Inches)



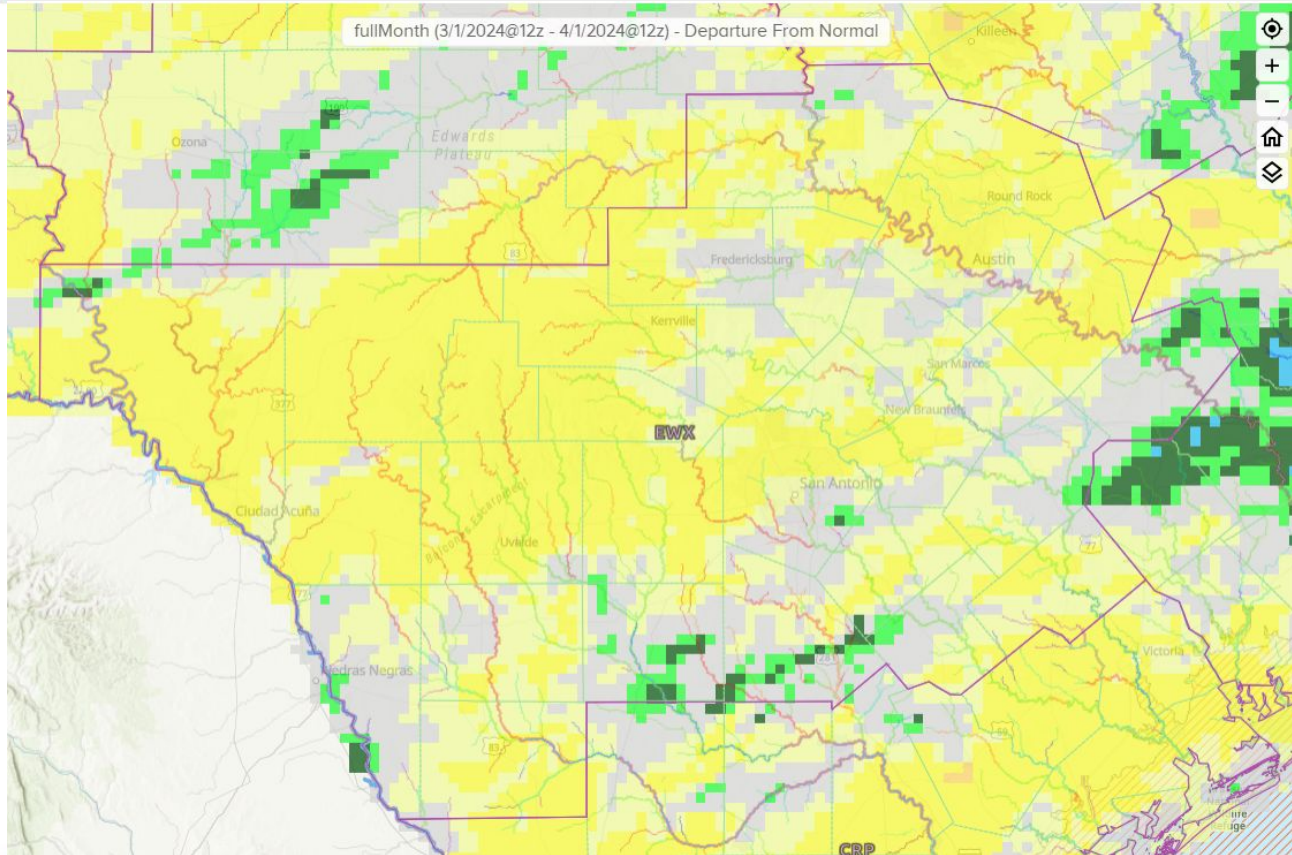
National Oceanic and Atmospheric Administration
U.S. Department of Commerce

National Weather Service
Austin/San Antonio, TX



March 2024 Rainfall

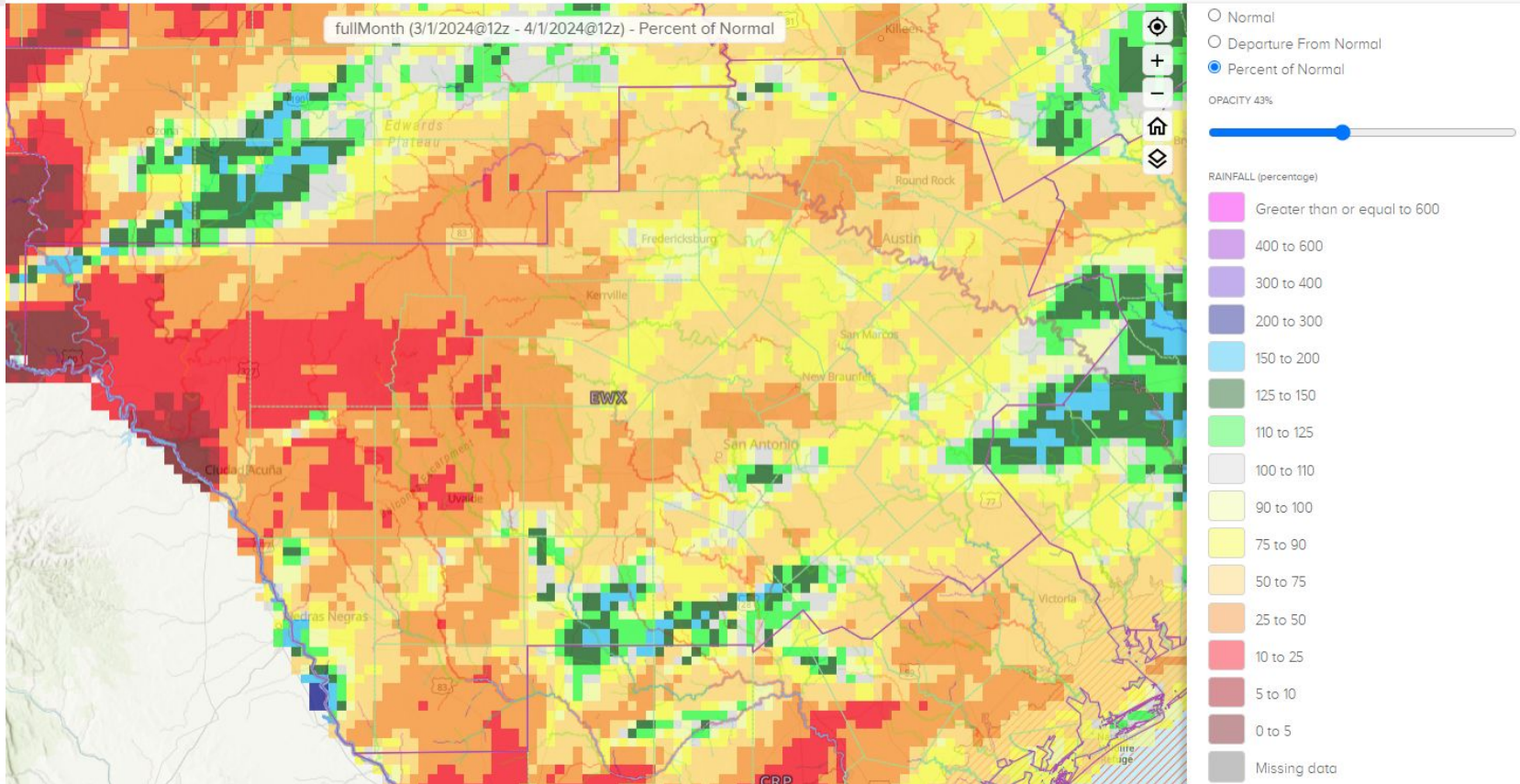
Departure from Normal Rainfall (Inches)





March 2024 Rainfall

Percent of Normal Rainfall (%)





Climate Station Rainfall Data For the Month

Austin/San Antonio Area

	Monthly Rainfall	Monthly Average	2024 Rainfall Through Month	1991-2020 Normal Through Month	2024 Percent of Normal
Austin – Bergstrom	2.39”	2.90”	11.25”	7.61”	148%
Austin – Mabry	1.34”	2.88”	8.04”	7.41”	109%
Del Rio	0.07”	1.18”	0.64”	2.42”	26%
San Antonio	0.88”	2.31”	8.47”	6.01”	141%

*The monthly averages and normal values are for the period 1991-2020





Climate Station Rainfall Data For the Month

Nearby Offices:

	Monthly Rainfall	Monthly Average	2024 Rainfall Through Month	1991-2020 Normal Through Month	2024 Percent of Normal
College Station	1.62"	3.41"	12.49"	9.74"	128%
Corpus Christi	0.85"	2.28"	5.36"	4.96"	108%
Laredo	0.19"	1.60"	0.88"	3.33"	26%
San Angelo	0.40"	1.48"	1.54"	3.60"	43%
Victoria	1.93"	2.99"	12.76"	7.62"	167%
Waco	2.82"	3.31"	6.15"	8.58"	72%

*The monthly averages and normal values are for the period 1991-2020





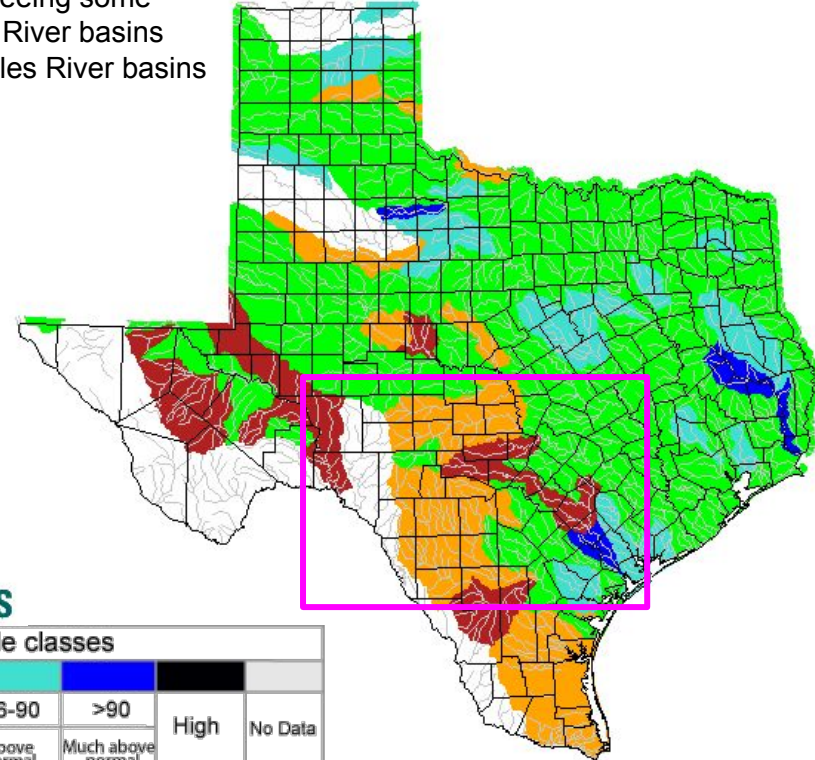
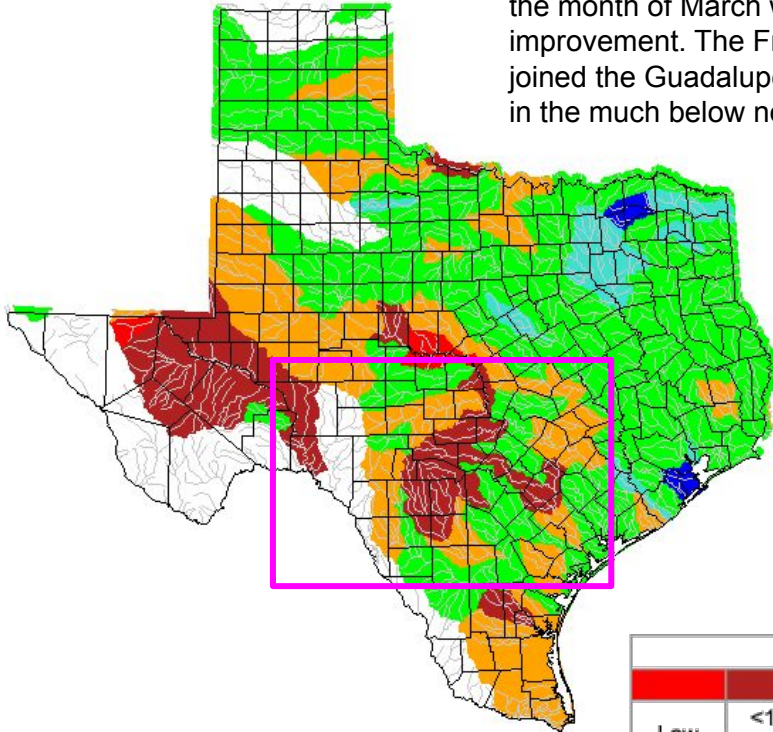
March 2024 - Historical Streamflow Comparison

Streamflow Comparison

March 2024

A slight decrease in streamflow percentiles were seen over the month of March with isolated basins seeing some improvement. The Frio River and Medina River basins joined the Guadalupe River, and Pedernales River basins in the much below normal category.

February 2024



Explanation - Percentile classes

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





Reservoir Data For the Month

Data from the TWDB [Water Data For Texas Dashboard](#)

Reservoir	Conservation Elevation (feet)	End of Month Elevation (feet)	Monthly Change (Feet)
Lake Buchanan	1020	995.06	0.26
Lake Travis	681	630.90	-0.72
Canyon Lake	909	887.24 All time low 887.13ft	-0.31
Medina Lake	1064.2	973.19	-0.68
Lake Amistad	1117	1050.91	0.19





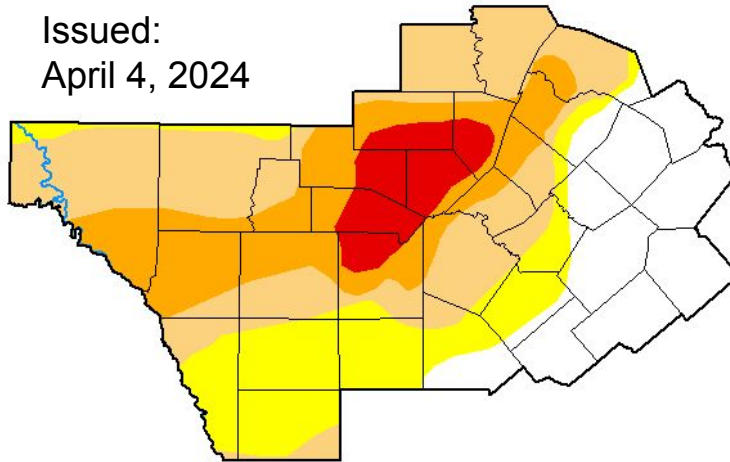
Drought Conditions

Monthly Drought Monitor Comparison

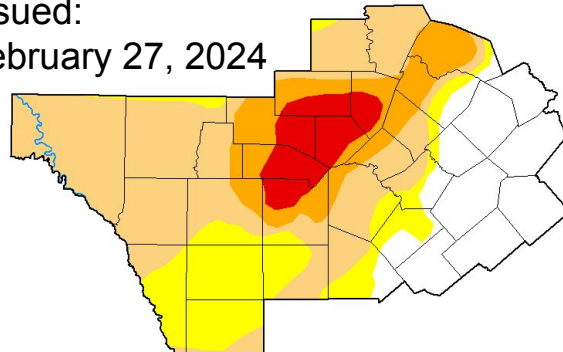
The localized above normal precipitation seen over the course of the month allowed for localized improvements to drought conditions across the portions of the Rio Grande Plains where D1 was reduced to D0. The flip side, is that drought conditions worsened just north of that improvement as D2 was extended from the Hill Country west-southwest to the Rio Grande.

- D3 drought encompasses 7% of the CWA
- Drought doesn't affect 41% of the CWA

Issued:
April 4, 2024



Issued:
February 27, 2024



March 26, 2024

(Released Thursday, Mar. 28, 2024)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0	D1	D2	D3	D4
Current	21.90	19.03	32.44	19.46	7.18	0.00
Last Week <small>03-19-2024</small>	21.82	18.84	33.98	18.19	7.18	0.00
3 Months Ago <small>12-26-2023</small>	11.10	12.65	31.67	20.39	24.19	0.00
Start of Calendar Year <small>01-01-2024</small>	11.10	12.65	31.67	20.39	24.19	0.00
Start of Water Year <small>09-26-2023</small>	7.30	10.81	13.65	8.95	22.09	37.20
One Year Ago <small>03-28-2023</small>	0.00	0.96	16.92	41.83	21.98	18.32

Intensity:





One Month Outlook

The most recent Monthly Outlook

- The Precipitation Outlook for the month of April leans towards above normal rainfall across the service area.
- Mirroring the Precipitation Outlook, the Temperature Outlook leans towards above normal temperatures for April.

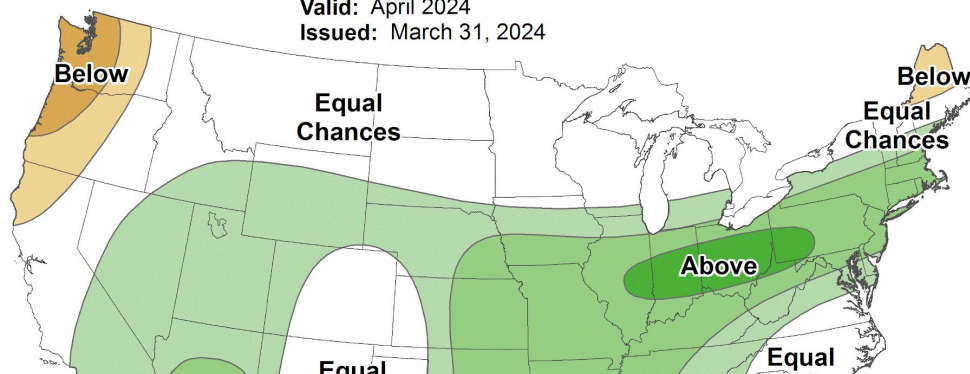
[Click for latest graphics](#)



Monthly Precipitation Outlook



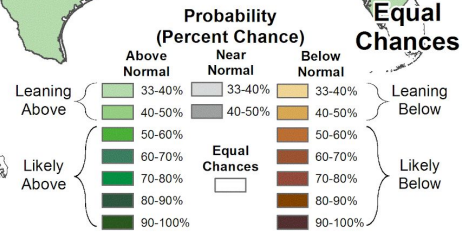
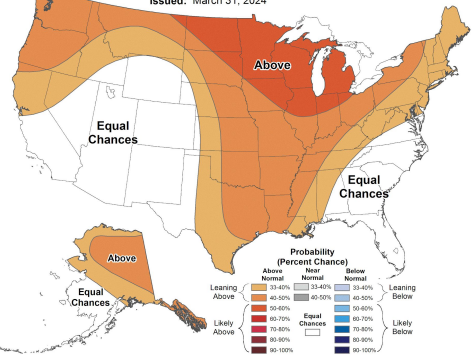
Valid: April 2024
Issued: March 31, 2024



Monthly Temperature Outlook



Valid: April 2024
Issued: March 31, 2024





Three Month Outlook

Looking at the Seasonal Outlooks

- The Precipitation Outlook shows equal chances of above, below, or near normal precipitation for the eastern half of the service area
 - However, the western half is shown to lean towards below normal rainfall
- The Temperature Outlook leans towards above normal temperatures across the service area, with higher chances across the Rio Grande Plains, southern Edwards Plateau, and portions of the Hill Country.

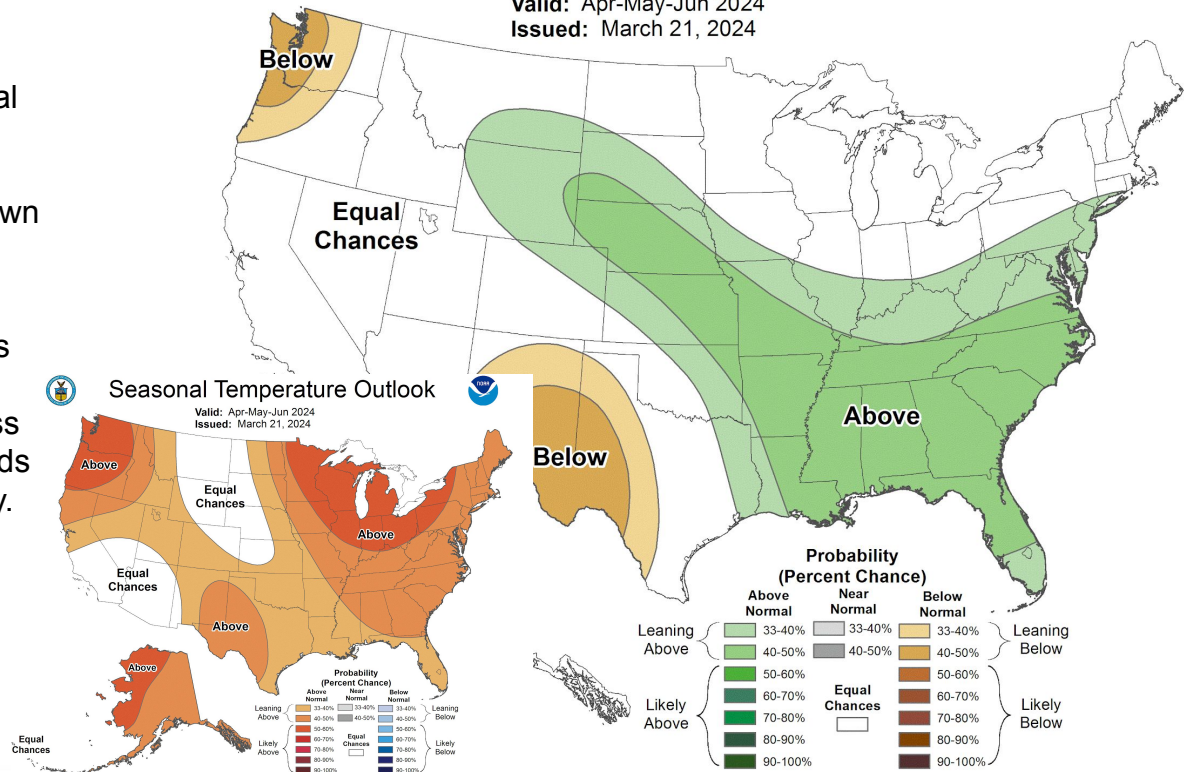
[Click for latest graphics](#)



Seasonal Precipitation Outlook



Valid: Apr-May-Jun 2024
Issued: March 21, 2024





For additional rainfall, stream, soil moisture, or drought information please refer to the links provided below.

Daily, Monthly and Yearly summaries of precipitation and departure from normal are available from the West Gulf River Forecast Center at: <http://www.weather.gov/wgrfc/>

Or from the Precipitation Analysis page at: <http://water.weather.gov/precip/>

Streamflow conditions are available from the United States Geological survey at:
<http://waterdata.usgs.gov/tx/nwis/rt>

Soil moisture conditions are available from the Climate Prediction Center at:
http://www.cpc.ncep.noaa.gov/products/Soilmst_Monitoring/US/Soilmst/Soilmst.shtml

National Integrated Drought Information System: <http://www.drought.gov/>