December 2024
Monthly Hydrologic and Flood Stage Report (E5/E3)

NWS Austin/San Antonio, TX

Prepared by: Chris Morris

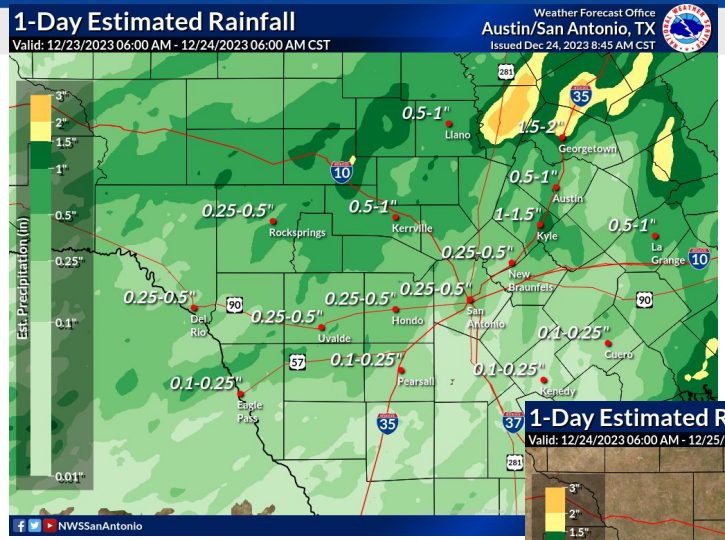
January 4, 2024

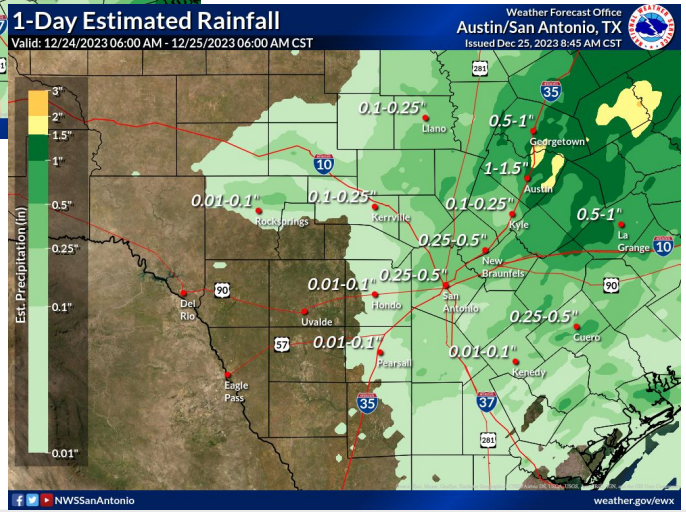
X An X inside this box indicates that no flooding occurred within this hydrologic service area.

Monthly Summary

Recap

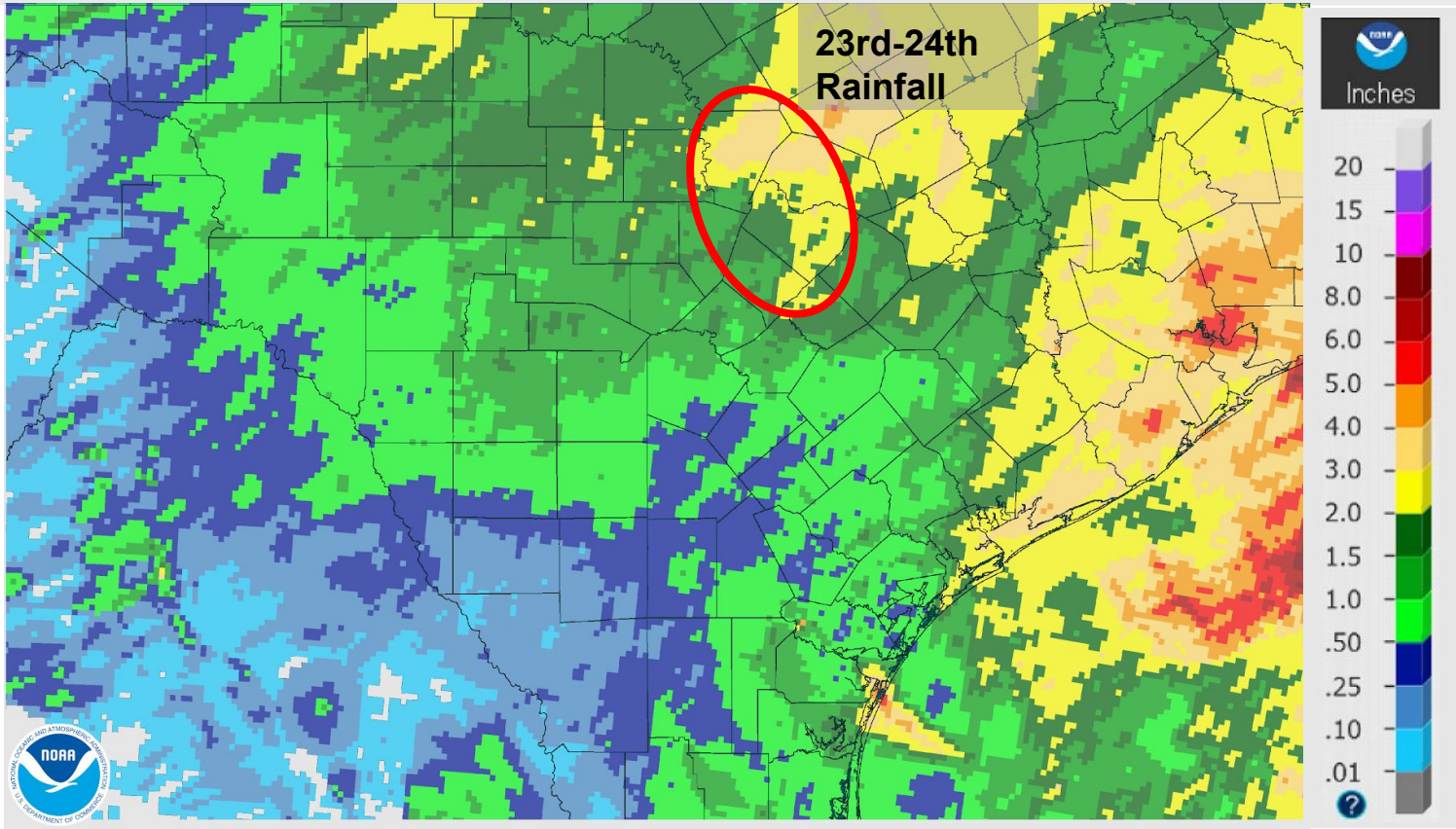
- While the month had several systems pass through the forecast area, only a couple brought rainfall with them.
- Around the middle of the month a system brought widespread 0.10-0.25” rainfall totals.
- However a stronger system brought locally heavy rainfall to portions of the Hill Country and I-35 corridor from the 23rd through the 24th.
    - No forecast points reached minor flood with this event however one data point on Shoal Creek at 12th Street did briefly peak in the minor flood category





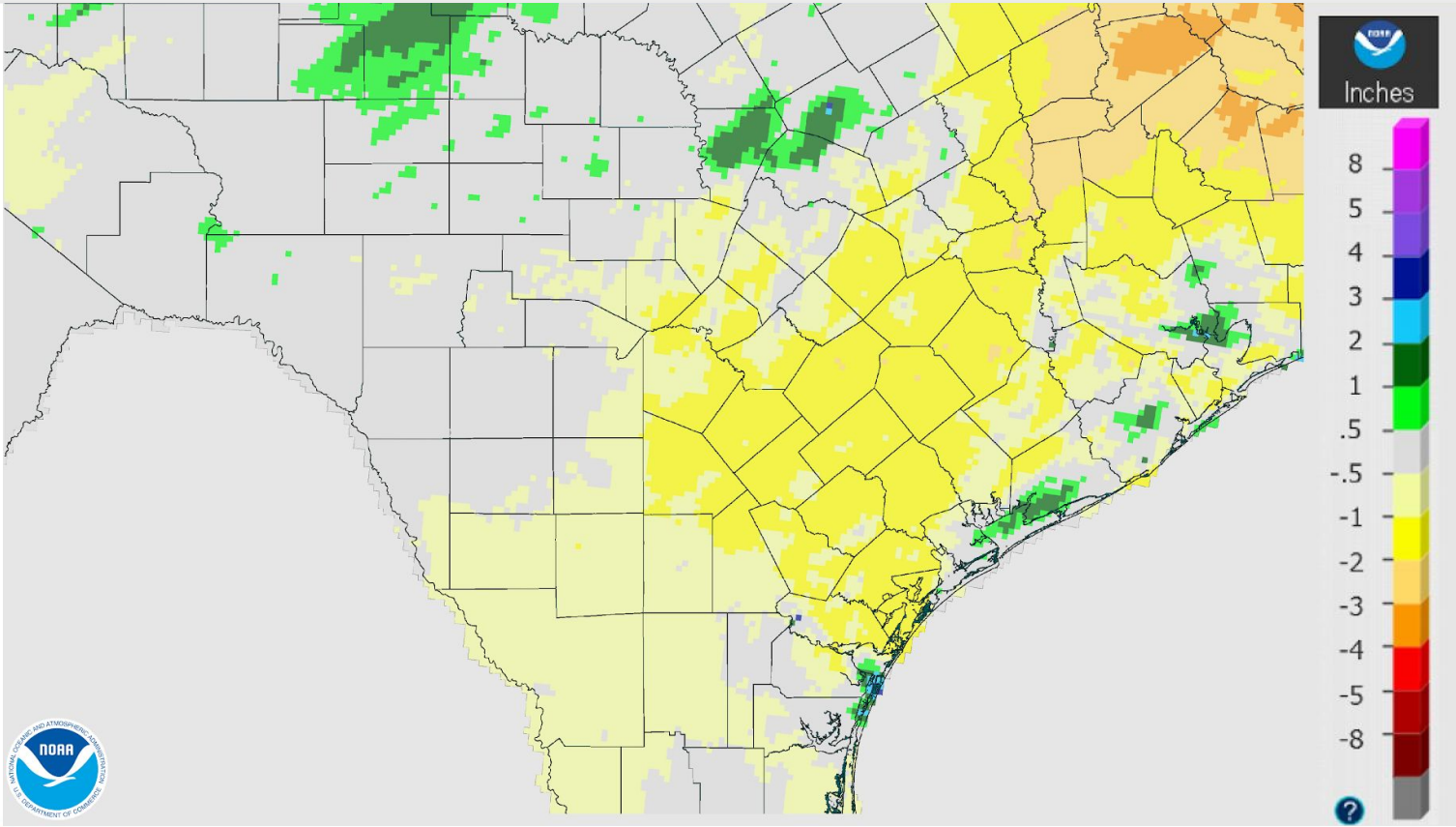
December 2023 Rainfall

Observed Rainfall (Inches)



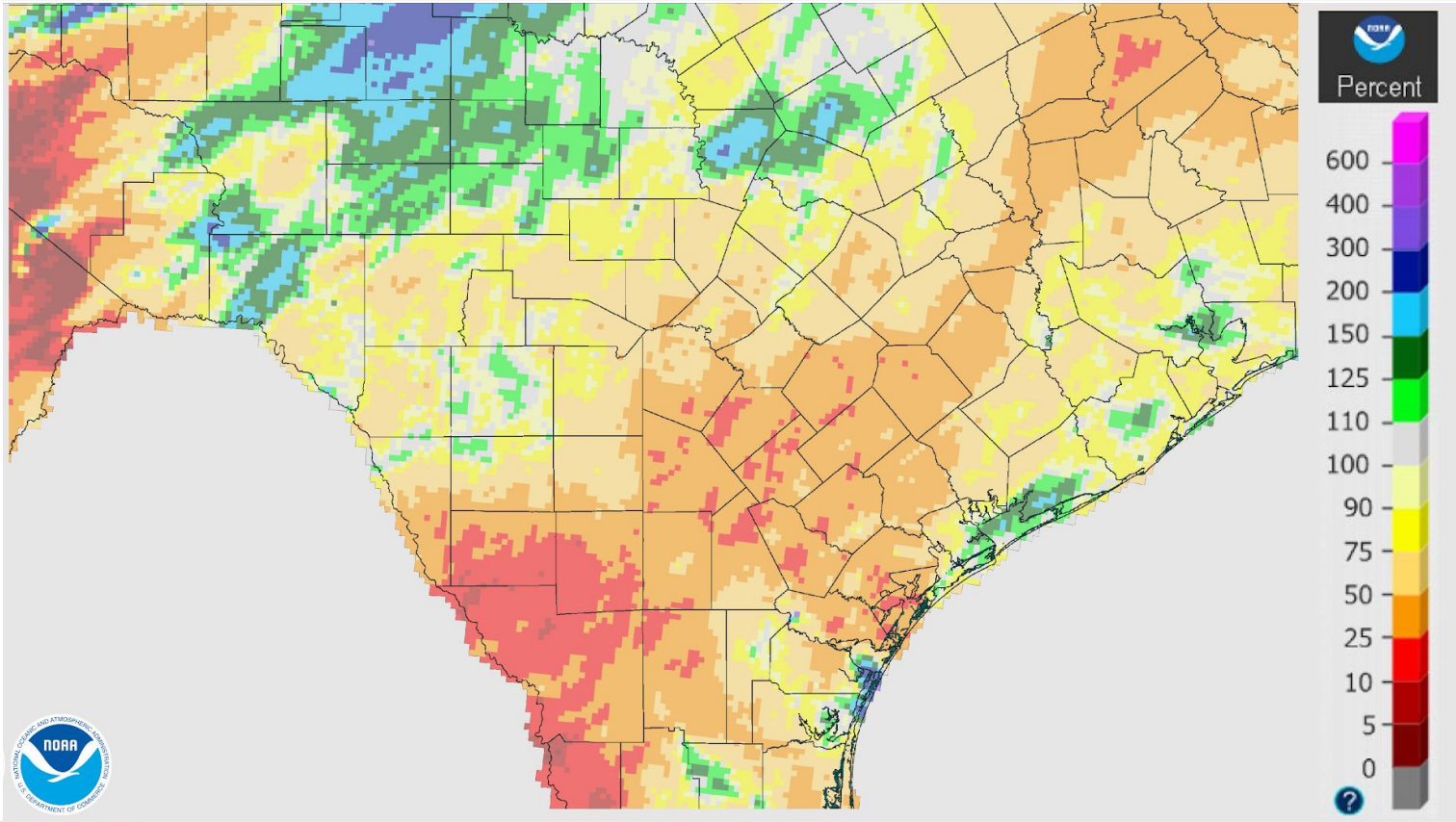
December 2023 Rainfall

Departure from Normal Rainfall (Inches)



December 2023 Rainfall

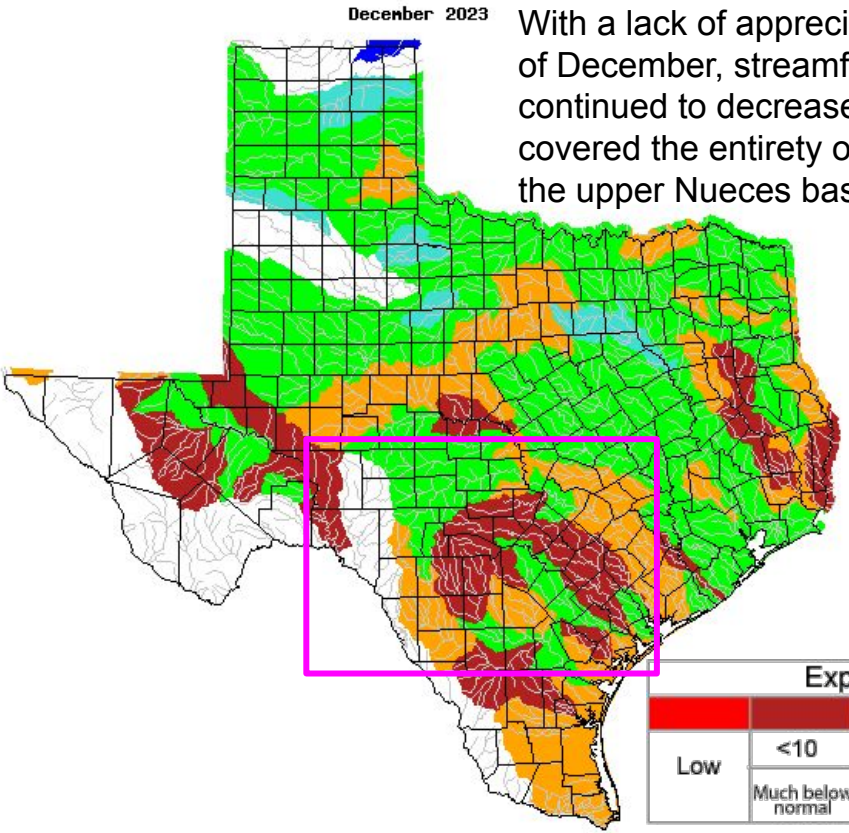
Percent of Normal Rainfall (%)

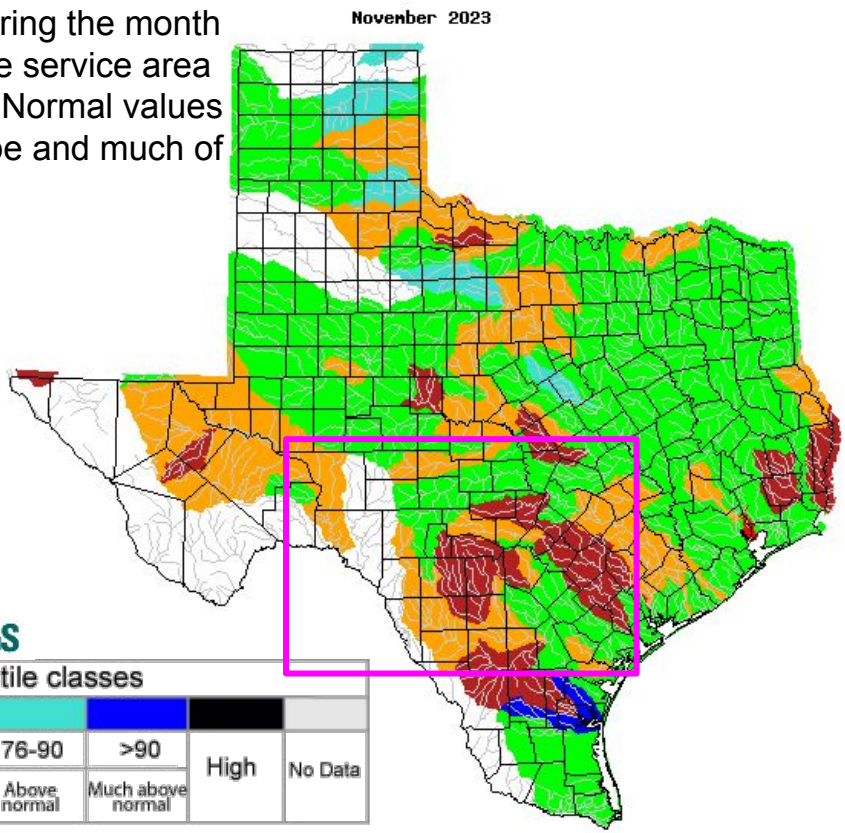


December 2023 - Historical Streamflow Comparison

Streamflow Comparison

With a lack of appreciable rainfall during the month of December, streamflows across the service area continued to decrease. Much Below Normal values covered the entirety of the Guadalupe and much of the upper Nueces basins.





USGS

Explanation - Percentile classes

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

Climate Station Rainfall Data For the Month

Austin/San Antonio Area

	Monthly Rainfall	Monthly Average	2023 Rainfall Through Month	1991-2020 Normal Through Month	2023 Percent of Normal
Austin – Bergstrom	2.32”	2.61”	26.99”	35.57”	76%
Austin – Mabry	2.42”	2.72”	26.83”	36.25”	74%
Del Rio	0.62”	0.71”	15.07”	19.82”	76%
San Antonio	1.11”	2.00”	20.01”	32.38”	62%

*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	2023 Rainfall Through Month	1991-2020 Normal Through Month	Percent of Normal
College Station	1.93”	3.71”	28.35”	41.21”	69%
Corpus Christi	0.46”	1.93”	27.72”	31.74”	87%
Laredo	0.24”	1.07”	22.58”	21.35”	105%
San Angelo	2.16”	0.89”	19.32”	20.93”	92%
Victoria	0.71”	2.34”	32.11”	40.41”	79%
Waco	3.14”	2.87”	29.34”	36.40”	81%

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

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	994.24 Stating 2024 15% lower than the start of 2023	0.20
Lake Travis	681	631.06 Stating 2024 ~8% lower than the start of 2023	-0.41
Canyon Lake	909	887.64 Setting new record low elevation nearly daily since August 22nd	-0.72
Medina Lake	1064.2	974.89 Still above 2014 drought lowest elevation of 972.42	-0.76
Lake Amistad	1117	1061.79 Stating 2024 ~20% lower than the start of 2023	0.04

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)	2	1 initial issuance plus cancelation message
Flood Watch (FFA)	2	1 erroneous watch issued during product testing plus cancelation message
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

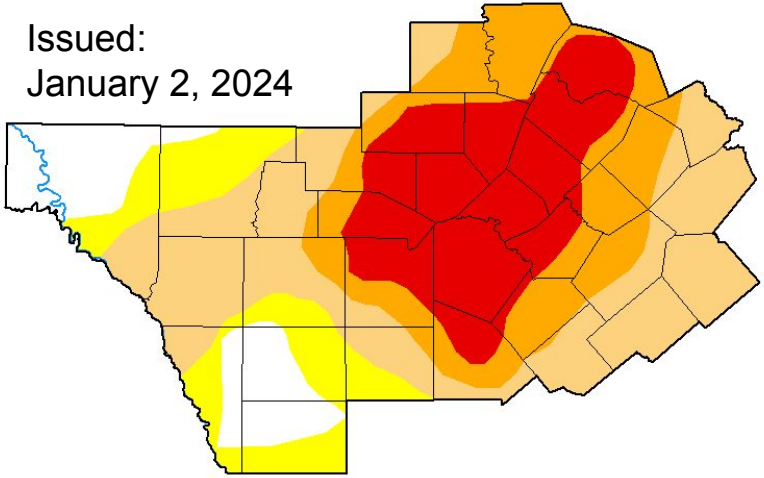
Drought Conditions

Monthly Drought Monitor Comparison

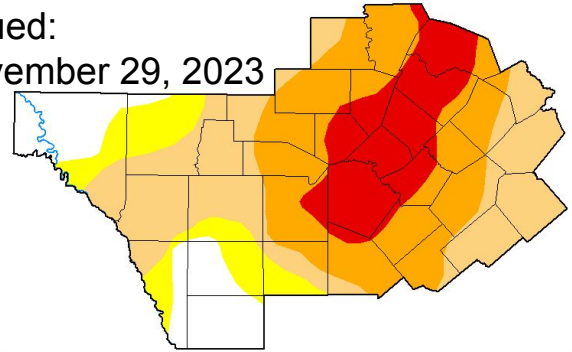
Below normal rainfall for the month of December (outside of localized pockets) resulted in expansion of the Extreme Drought (D3) category into the Hill Country.

- D3 drought encompasses 24% of the CWA
- Drought doesn't affect 23% of the CWA

Issued:
January 2, 2024



Issued:
November 29, 2023



January 2, 2024

(Released Thursday, Jan. 4, 2024)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0	D1	D2	D3	D4
Current	11.10	12.65	31.67	20.39	24.19	0.00
Last Week 12-26-2023	11.10	12.65	31.67	20.39	24.19	0.00
3 Months Ago 10-03-2023	7.30	10.81	14.54	8.29	21.87	37.20
Start of Calendar Year 01-02-2024	11.10	12.65	31.67	20.39	24.19	0.00
Start of Water Year 09-26-2023	7.30	10.81	13.65	8.95	22.09	37.20
One Year Ago 01-03-2023	6.21	14.33	40.02	19.13	11.66	8.65

Intensity:

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

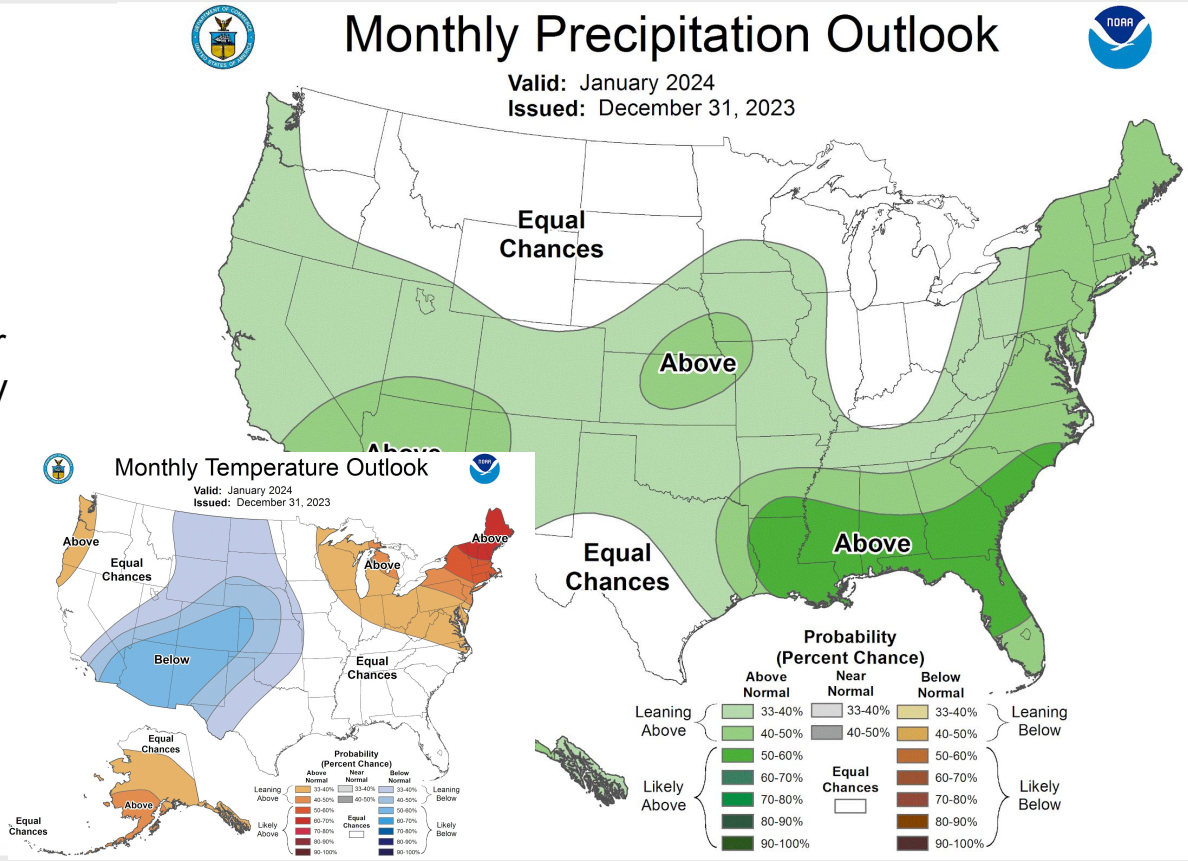
One Month Outlook

The most recent Monthly Outlook

- The Precipitation Outlook shows equal chances of above, near, or below normal precipitation for the month of January with a small portion of the eastern I-35 corridor and Coastal Plains leaning slightly towards above normal chances.

- The Temperature Outlook for January shows equal chances of above, below, or near normal values.

[Click for latest graphics]

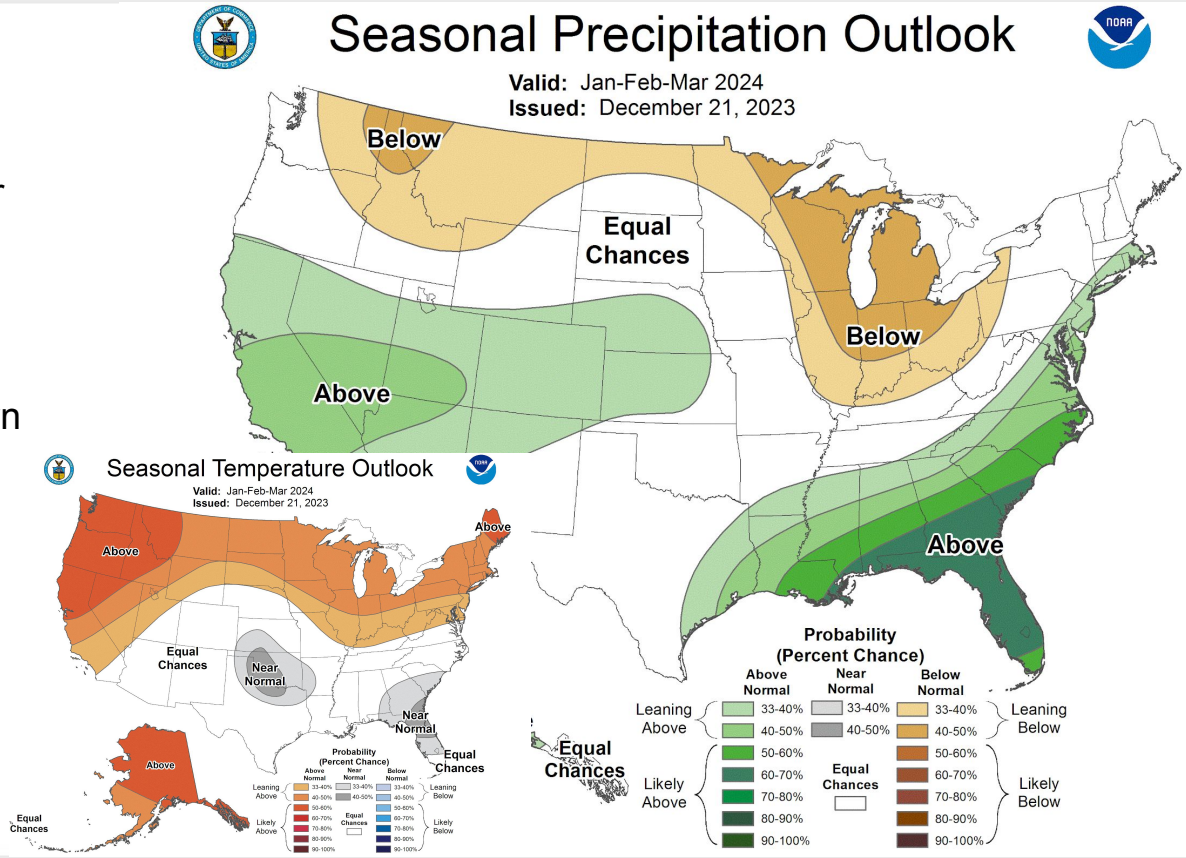


Three Month Outlook

Looking at the Seasonal Outlooks

- The Precipitation Outlook shows equal chances of above, below, or near normal precipitation for the majority of the service area.
  - However, the far eastern portions of the I-35 corridor and coastal Plains are shown as having a slight lean towards above normal into Spring.
- The Temperature Outlook shows equal chances for either above, below, or near normal into the Spring.

[Click for latest graphics]



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/