



# August 2024

# Monthly Hydrologic and Flood

# Stage Report (E5/E3)

NWS Austin/San Antonio, TX

Prepared by: Chris Morris

September 9, 2024

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



# Monthly Summary

## Key Messages

- Overall August was bookended with localized above normal rainfall while the remainder of the month was warm and saw below normal rainfall
  - Despite locally heavy rainfall during these bookend rainfall events, streamflows didn't respond enough to cause river forecast points to reach minor flood stage
- After seeing some improvement in reservoir levels in July, August showed a return to the long term trend of decreasing storage
- Given the above normal temperatures and a lack of appreciable moisture for the majority of the month, the drought monitor showed drought categories persist or expand across the service area
- The monthly outlook for September shows chances for above normal precipitation chances which would be beneficial for reservoirs and drought conditions

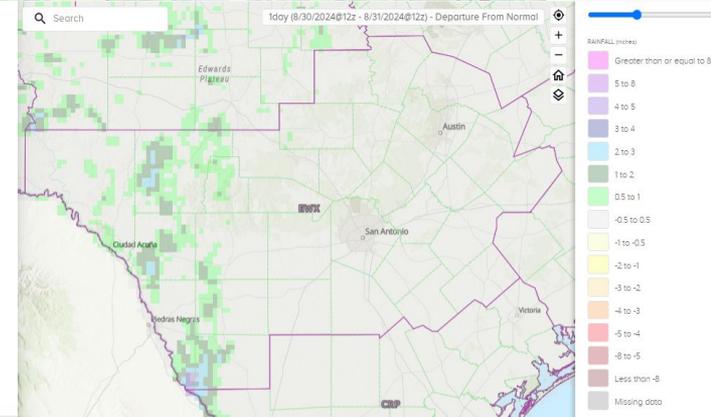
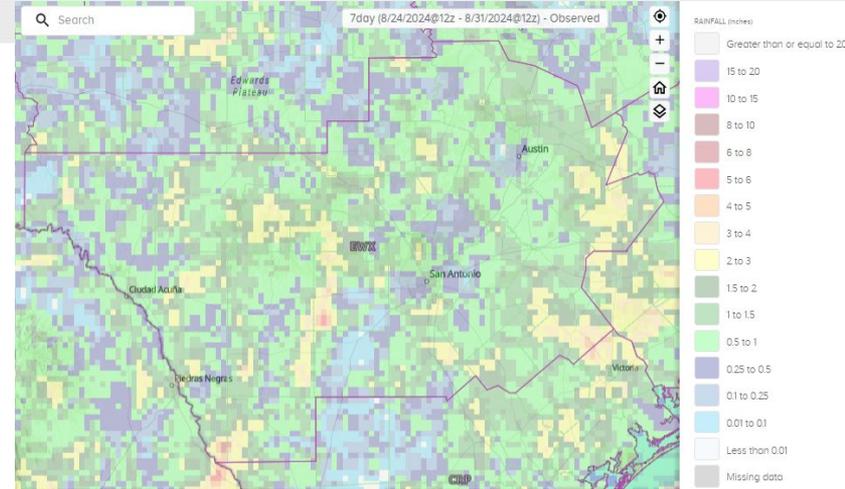




# Monthly Summary

## Late month rainfall

- The rainfall between the 24th and 31st represented the majority of the monthly rainfall for August
  - Top right image is the 7-day observed rainfall; the bottom right image is the 7-day departure from normal rainfall during the same period
- Locations that saw the most benefit were portions of the southern Edwards Plateau and Rio Grande Plains
- Despite this rainfall, reservoirs in that portion of the service area saw little benefit
- Outside of urbanized and rural flooding, no river forecast points reached minor flood stage by the end of the month





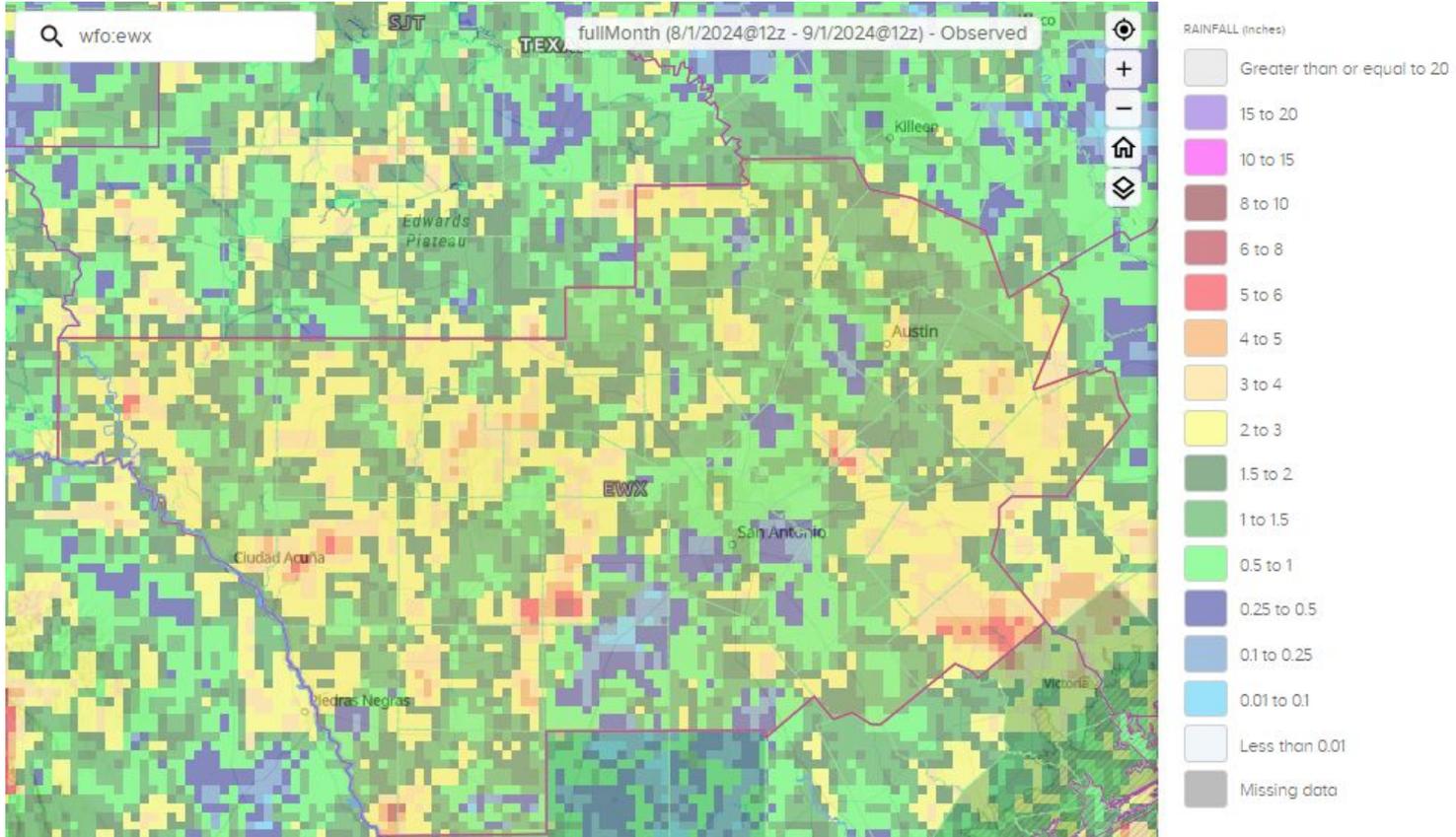
# Hydrologic Products Issued for the Month

Product Issued	Number Issued	Additional Comments
River Flood Warning/Area Flood Warning (FLW)	0	
River Flood Statement/Area Flood Advisory (FLS)	16	
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



# Monthly Rainfall

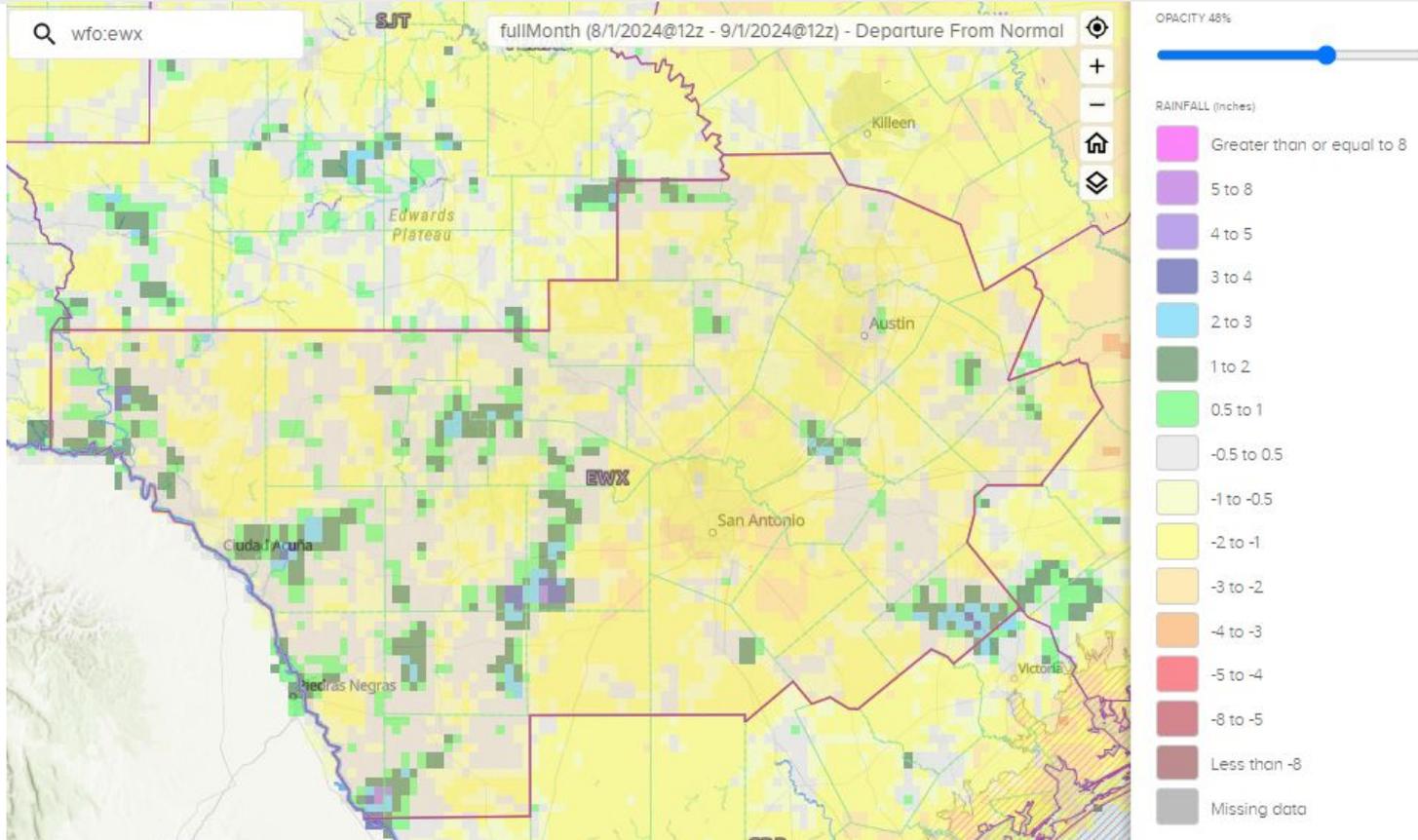
Observed Rainfall (Inches)





# Monthly Rainfall

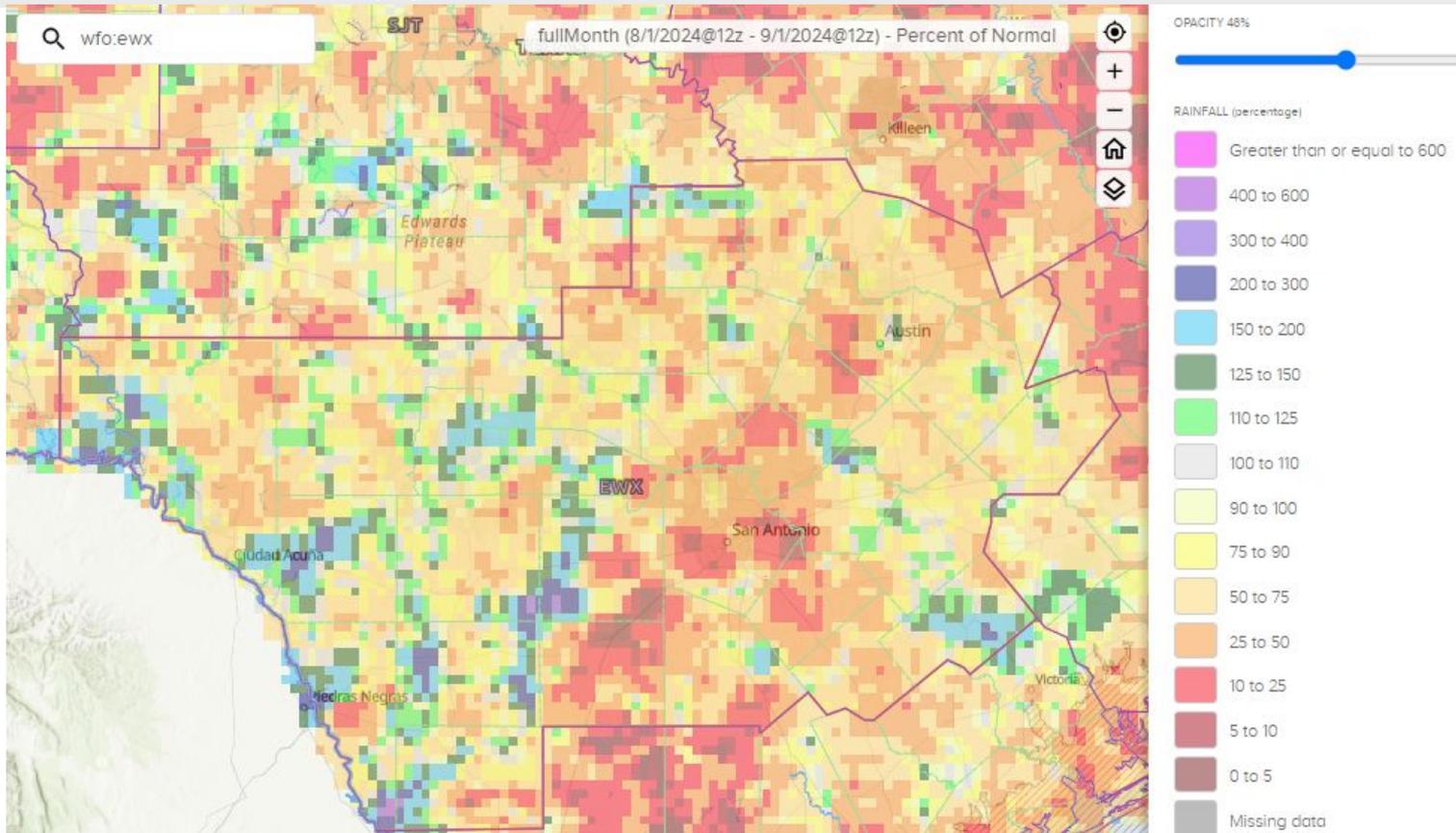
Departure from Normal Rainfall (Inches)





# Monthly 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	1.26”	2.47”	26.64”	23.00”	116%
Austin – Mabry	1.51”	2.74”	24.05”	23.25”	103%
Del Rio	1.23”	2.69”	3.46”	13.49”	26%
San Antonio	0.38”	2.15”	19.83”	20.67”	96%

\*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	0.70"	3.10"	39.21"	26.30"	149%
Corpus Christi	0.56"	2.75"	19.54"	19.23"	102%
Laredo	0.17"	1.68"	6.46"	13.85"	47%
San Angelo	0.44"	2.42"	7.97"	13.95"	57%
Victoria	1.45"	3.11"	30.85"	26.64"	116%
Waco	0.20"	2.05"	28.67"	23.54"	122%

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





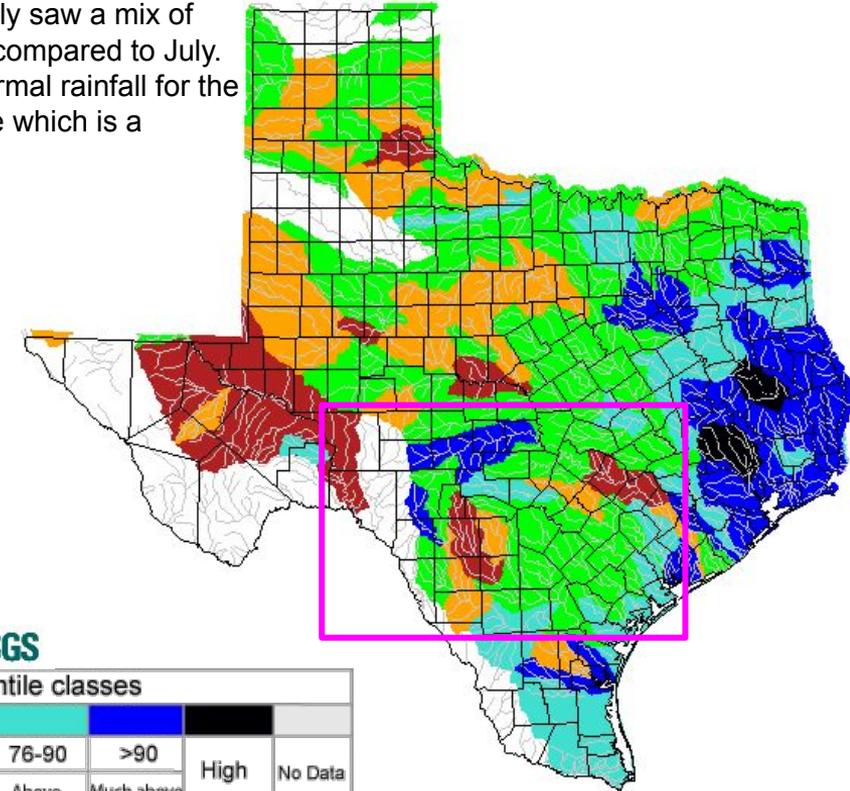
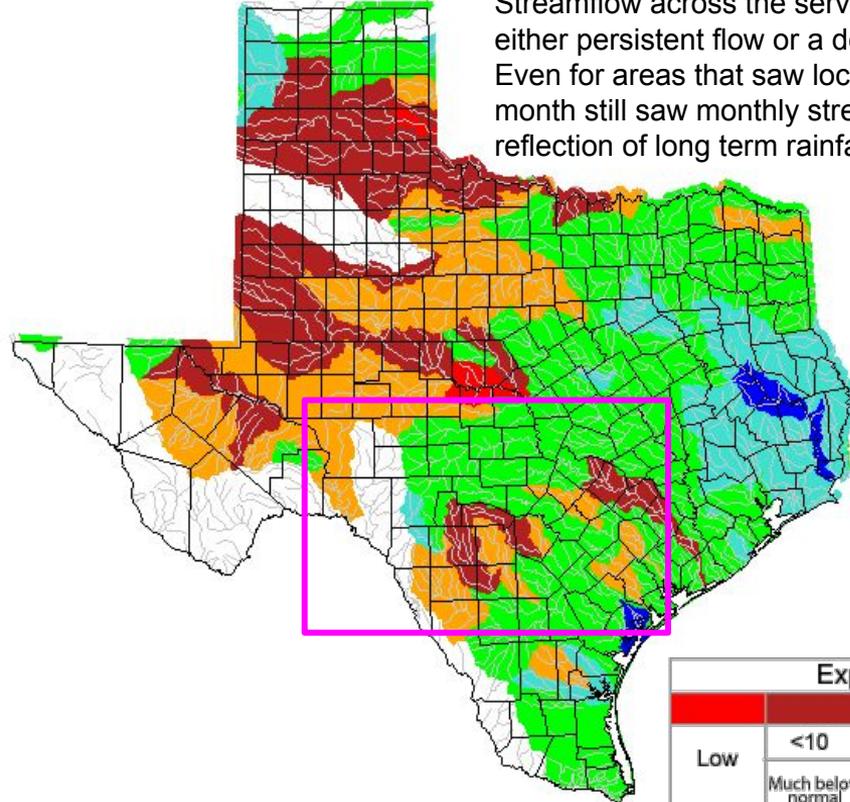
# Monthly Historical Streamflow Comparison

## Streamflow Comparison

August 2024

Streamflow across the service area generally saw a mix of either persistent flow or a decrease in flow compared to July. Even for areas that saw localized above normal rainfall for the month still saw monthly streamflows decline which is a reflection of long term rainfall deficits.

July 2024



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		





# 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	1005.34	-1.83
Lake Travis	681	640.77	-1.2
Canyon Lake	909	884.71	-1.24
Medina Lake	1064.2	974.63	-1.32
Lake Amistad	1117	1048.69	-0.08





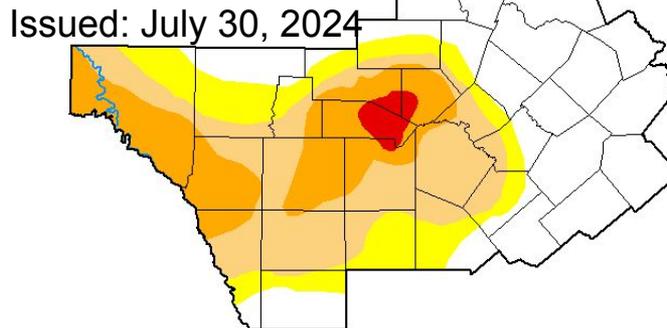
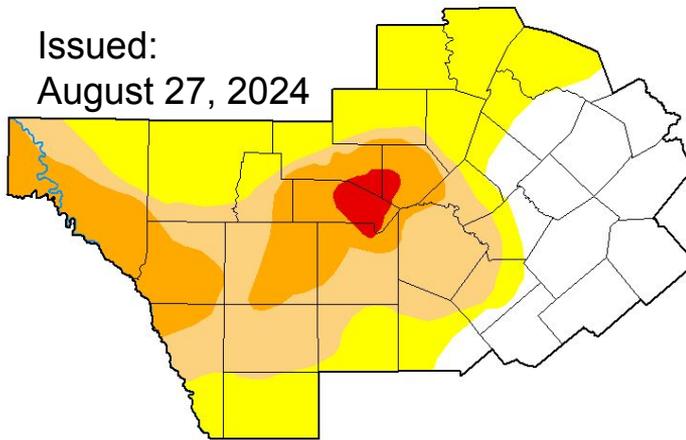
# Drought Conditions

## Monthly Drought Monitor Comparison

Slightly below normal rainfall, minus a few localized spots that saw above normal rainfall, and well above normal temperatures led to persistent to a slight expansion of drought conditions during the month of August.

Long term rainfall deficits, and very low water resource reservoirs continue to drive the worst drought category.

- D3 drought encompasses 1.7% of the CWA
- Drought doesn't affect 58% of the CWA



**August 27, 2024**

(Released Thursday, Aug. 29, 2024)

Valid 8 a.m. EDT

*Drought Conditions (Percent Area)*

	None	D0	D1	D2	D3	D4
<b>Current</b>	24.60	33.45	22.76	17.49	1.70	0.00
<b>Last Week</b> <i>08-20-2024</i>	39.41	18.64	22.76	17.49	1.70	0.00
<b>3 Months Ago</b> <i>05-28-2024</i>	29.47	7.64	19.57	36.69	6.63	0.00
<b>Start of Calendar Year</b> <i>01-02-2024</i>	11.10	12.65	31.67	20.39	24.19	0.00
<b>Start of Water Year</b> <i>09-26-2023</i>	7.30	10.81	13.65	8.95	22.09	37.20
<b>One Year Ago</b> <i>08-29-2023</i>	3.21	20.60	3.87	9.12	28.10	35.11

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 for the month of September shows chances for above normal rainfall for all of the service area
  - A greater chance for above normal rainfall is shown over the southern Edwards Plateau
- The Temperature Outlooks leans towards above normal for much of the service area for September

[Click for latest graphics](#)



## Monthly Precipitation Outlook



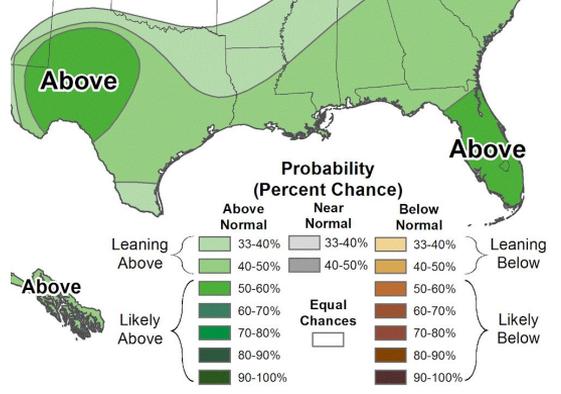
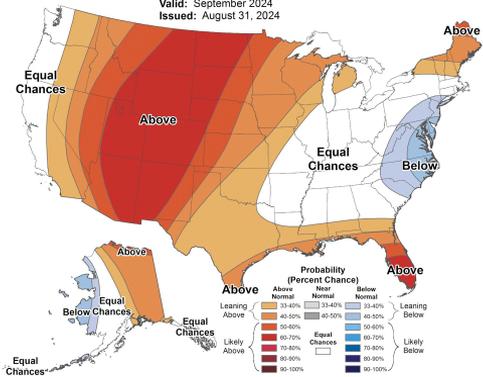
Valid: September 2024  
Issued: August 31, 2024



## Monthly Temperature Outlook



Valid: September 2024  
Issued: August 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 Winter Garden, and Coastal Plains however:
  - The remainder of the service area leans slightly towards below normal precipitation chances
- The Temperature Outlook shows above normal temperatures across the service area

[Click for latest graphics](#)

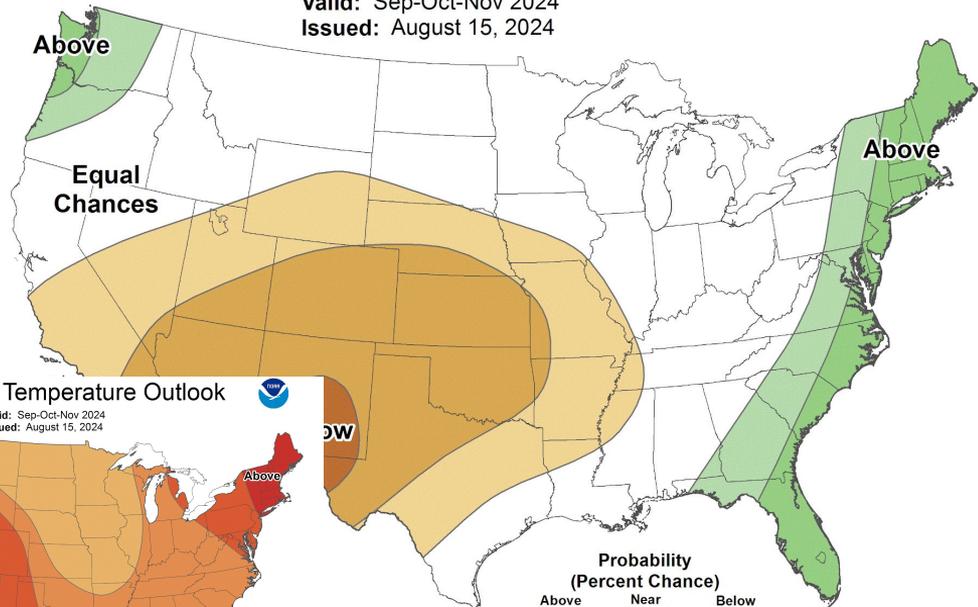


## Seasonal Precipitation Outlook



Valid: Sep-Oct-Nov 2024

Issued: August 15, 2024

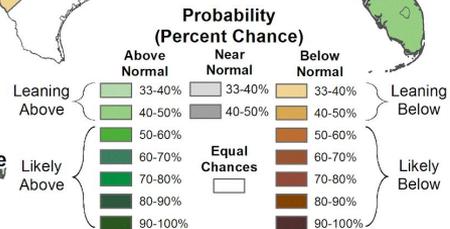
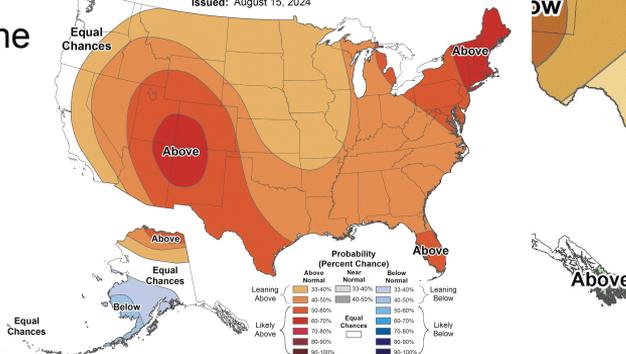


## Seasonal Temperature Outlook



Valid: Sep-Oct-Nov 2024

Issued: August 15, 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: <https://water.noaa.gov/>

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](http://www.cpc.ncep.noaa.gov/products/Soilmst_Monitoring/US/Soilmst/Soilmst.shtml)

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