



# July 2023

# Monthly Hydrologic Report (E5)

NWS Austin/San Antonio, TX

Prepared by: Chris Morris

August 2, 2023

**X** 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

## Recap

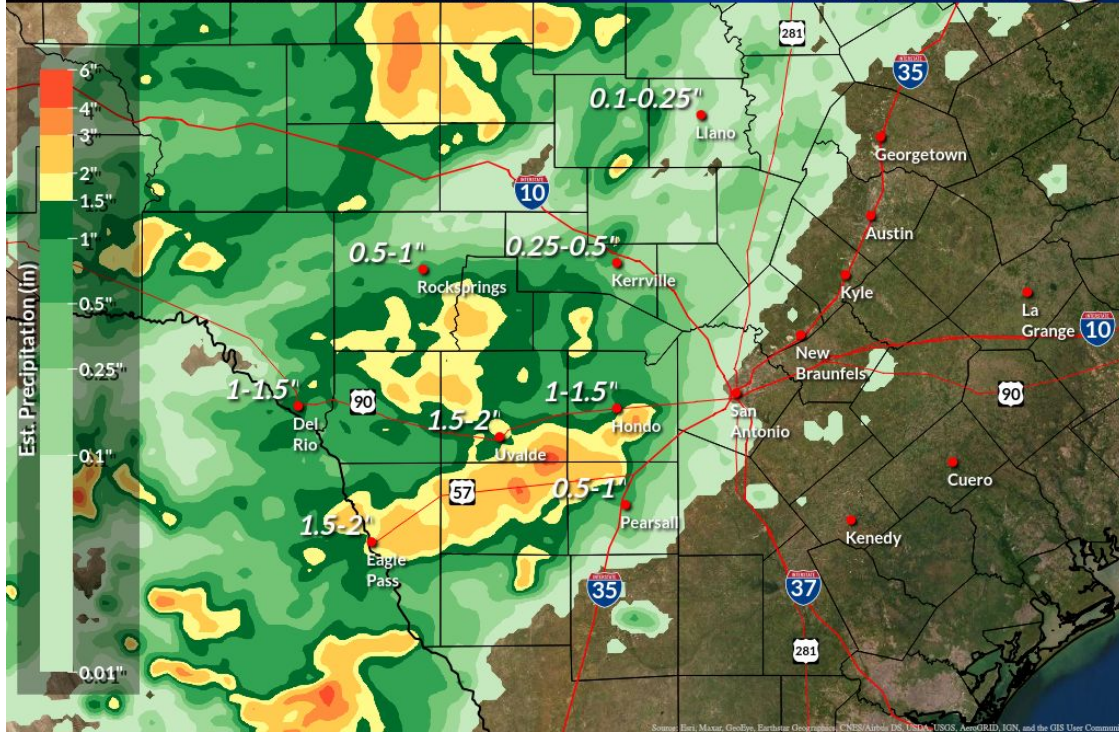
- Much of the area saw below normal rainfall for the month of July
- There was one round of heavy rainfall which prompted the issuance of a few flood advisories across the Rio Grande Plains and southern Edwards Plateau
  - Storm total map displayed to the right
- Most streamflows across the service area have dropped into the below to much below normal category
  - Storm total map displayed to the right
- Reservoir levels dropped by at least a foot over the course of the month
- The combination of above normal temperatures, gusty afternoon winds, and below normal precipitation resulted in widespread expansion of drought conditions

## 1-Day Estimated Rainfall

Valid: 07/01/2023 07:00 AM - 07/02/2023 07:00 AM CDT

Weather Forecast Office  
Austin/San Antonio, TX

Issued Jul 02, 2023 9:45 AM CDT



f t v NWSSanAntonio

weather.gov/ewx



National Oceanic and  
Atmospheric Administration

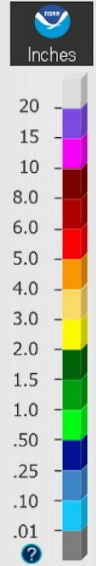
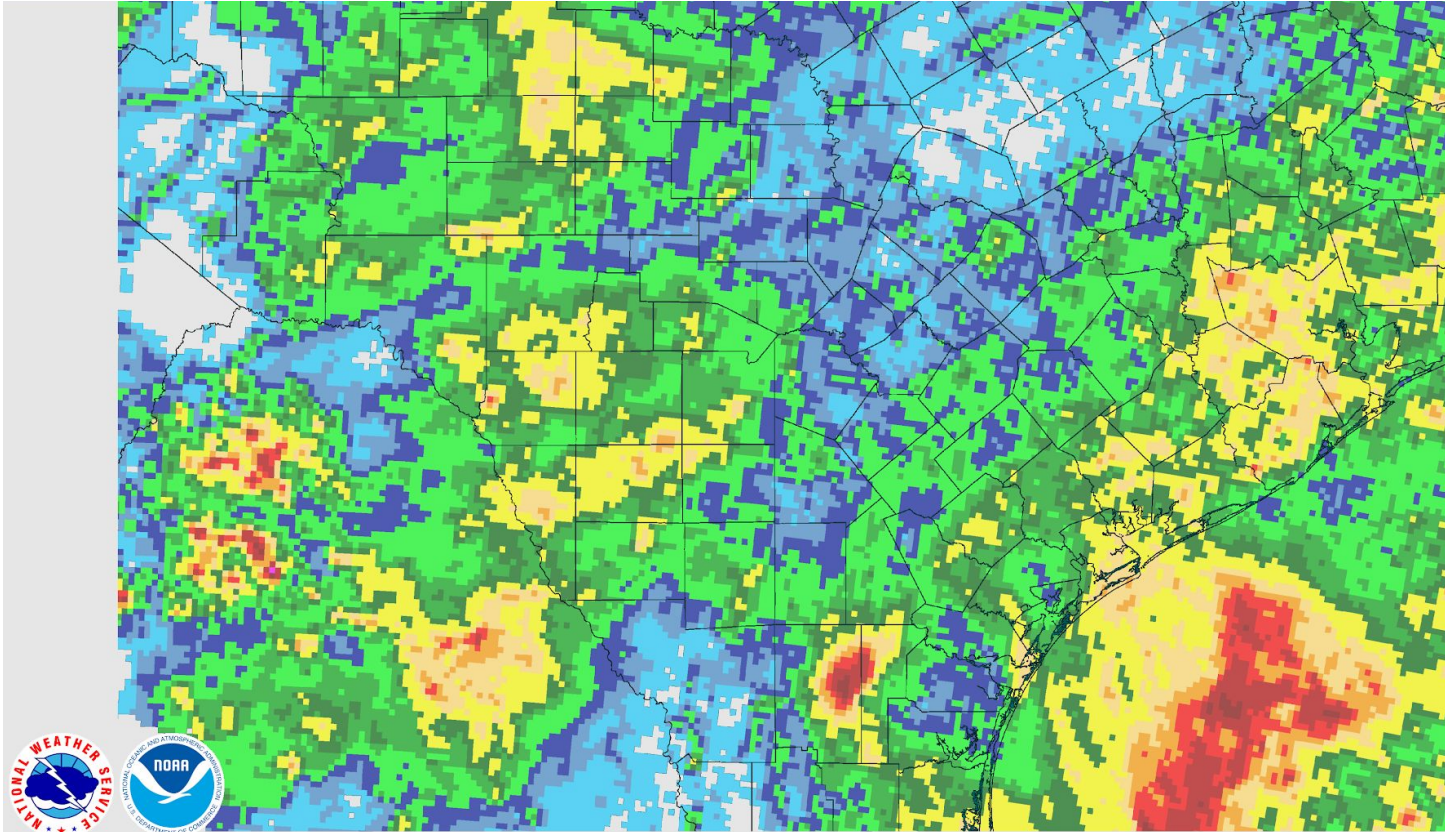
U.S. Department of Commerce

National Weather Service  
Austin/San Antonio, TX



# July 2023 Rainfall

Observed Rainfall (Inches)

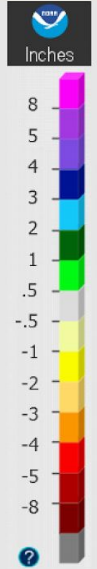
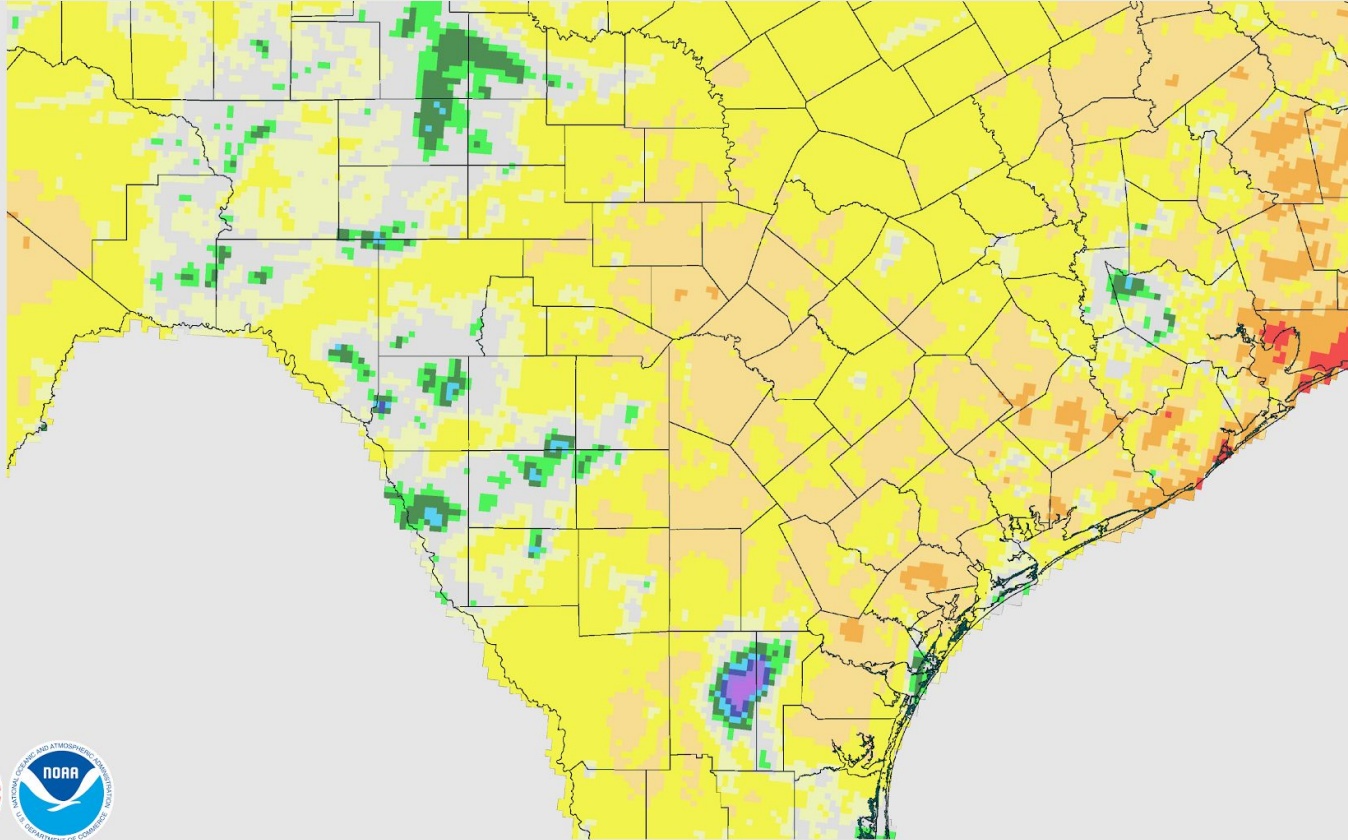






# July 2023 Rainfall

Departure from Normal Rainfall (Inches)



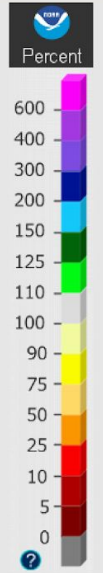
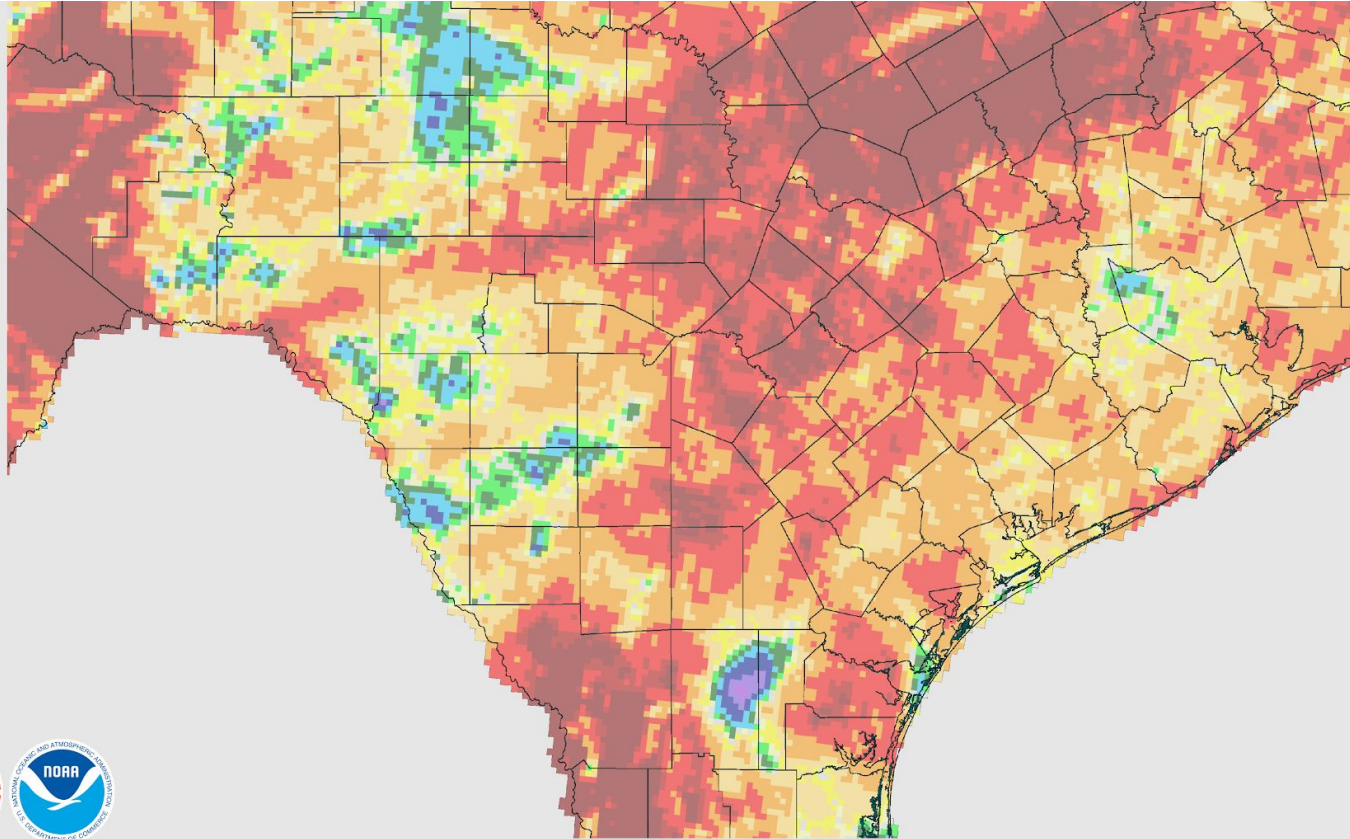
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Austin/San Antonio, TX



# July 2023 Rainfall

Percent of Normal Rainfall (%)



National Oceanic and Atmospheric Administration  
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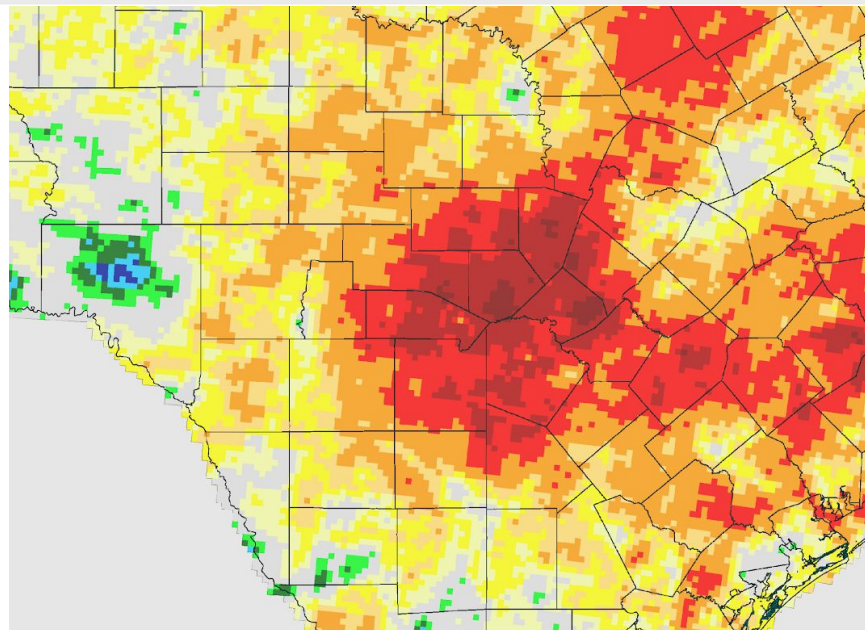
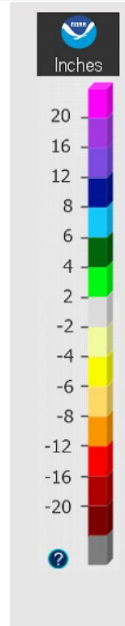
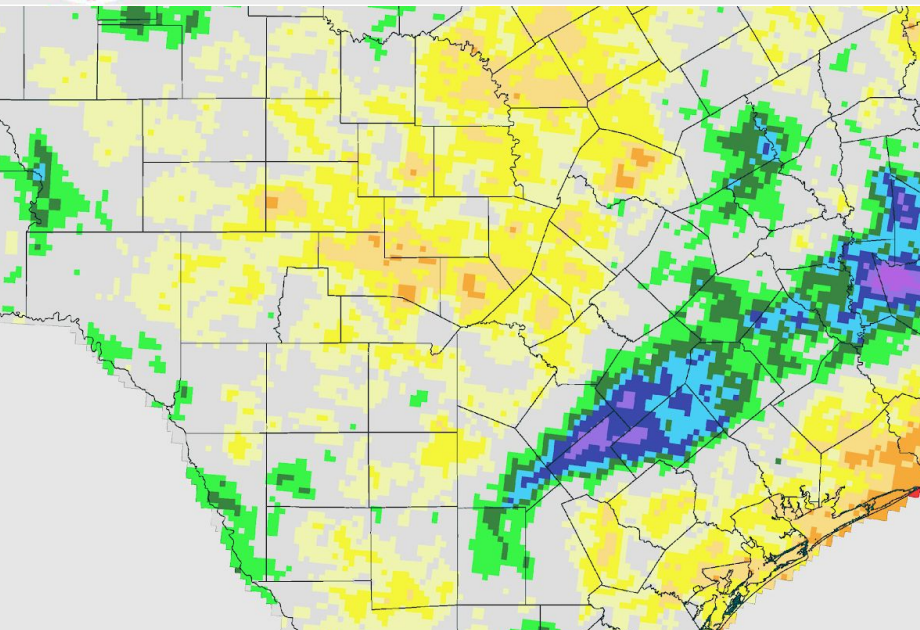
National Weather Service  
Austin/San Antonio, TX





# 2022 vs 2023 Rainfall Comparison

Departure from Normal Rainfall (Inches)



January to July 2023 Rainfall Departure from Normal

2022 Rainfall Departure from Normal

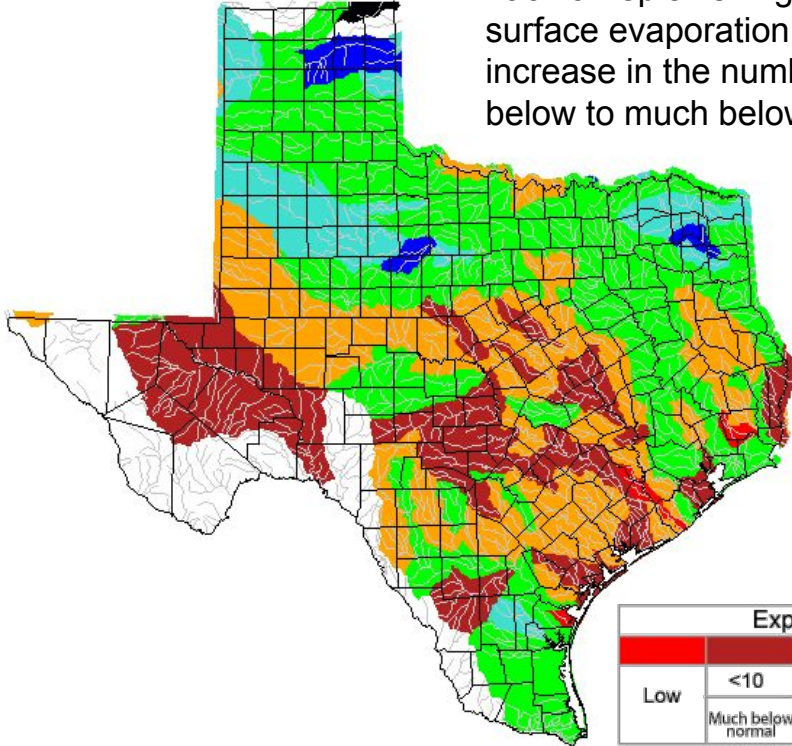
Comparing both years shows that only the Coastal Plains has seen rainfall sufficient to mitigate last year's rainfall deficit while much of the area is compounding the deficit.



# July 2023 - Historical Streamflow Comparison

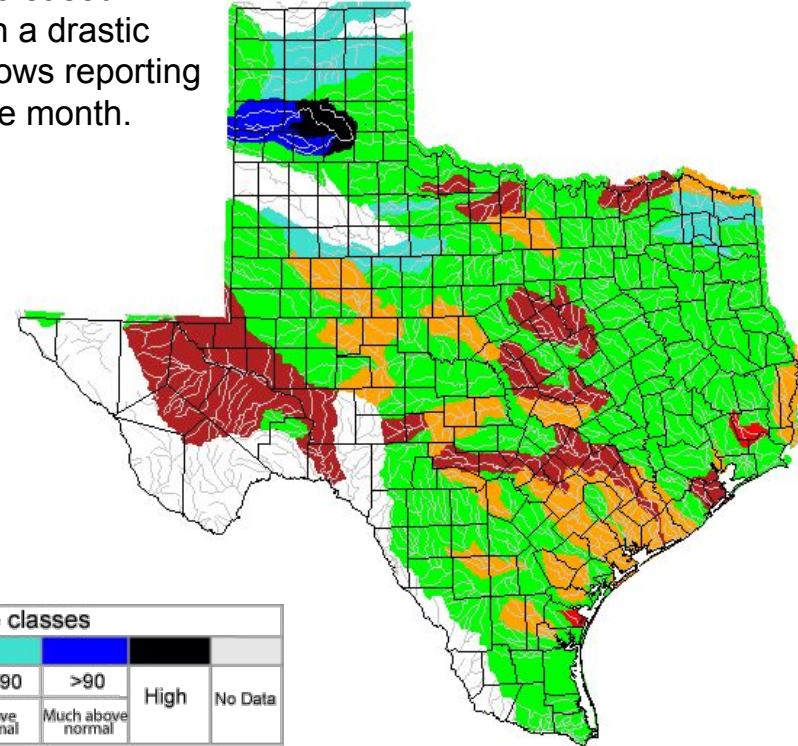
## Streamflow Comparison

July 2023



Lack of replenishing rainfall and increased surface evaporation has resulted in a drastic increase in the number of streamflows reporting below to much below normal for the month.

June 2023



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	0.16”	2.16”	15.84”	20.53”	77%
Austin – Mabry	0.04”	1.96”	13.84”	20.51”	67%
Del Rio	1.66”	1.50”	10.02”	10.80”	93%
San Antonio	0.17”	2.41”	13.19”	18.52”	71%

\*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	0.65"	1.98"	21.47"	23.20"	93%
Corpus Christi	0.39"	2.54"	13.64"	16.48"	83%
Laredo	T	2.11"	8.08"	12.17"	66%
San Angelo	0.86"	1.10"	8.95"	11.53"	78%
Victoria	1.09"	3.46"	19.94"	23.53"	85%
Waco	T	1.82"	15.66"	21.49"	73%

\*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](#)

<b>Reservoir</b>	<b>Conservation Elevation (feet)</b>	<b>End of Month Elevation (feet)</b>	<b>Monthly Change (Feet)</b>
Lake Buchanan	1020	997.90	-4.60
Lake Travis	681	635.29	-3.96
Canyon Lake	909	894.31	-2.65
Medina Lake	1064.2	979.59	-1.65
Lake Amistad	1117	1066.94	-1.22





# Hydrologic Products Issued for the Month

Product Issued	Number Issued	Additional Comments
River Flood Warning (FLW)	0	
River Flood Statement/Area Flood Advisory (FLS)	7	
Flash 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







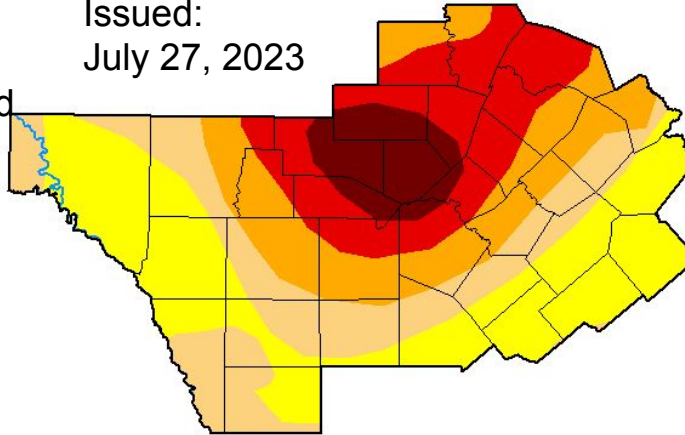
# Drought Conditions

## Monthly Drought Monitor Comparison

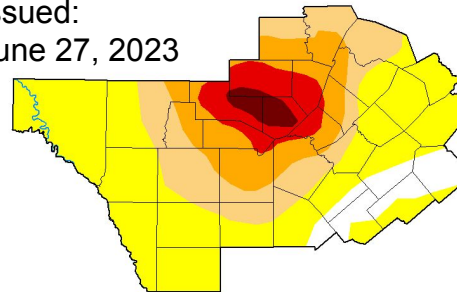
The combination of well above normal daily temperatures, below normal precipitation, degrading streamflows and increased surface evaporation has resulted in widespread expansion of drought conditions across the service area. The highest category of drought remains in the area with significant rainfall deficits from 2022.

- D3/D4 drought encompasses 27% of the CWA
- Drought doesn't affect 32% of the CWA

Issued:  
July 27, 2023



Issued:  
June 27, 2023



**July 25, 2023**

(Released Thursday, Jul. 27, 2023)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0	D1	D2	D3	D4
<b>Current</b>	0.00	32.02	22.36	19.10	18.75	7.76
<b>Last Week</b> <small>07-18-2023</small>	0.00	37.44	20.78	16.42	17.60	7.76
<b>3 Months Ago</b> <small>04-25-2023</small>	9.24	13.48	13.49	25.56	26.18	12.05
<b>Start of Calendar Year</b> <small>01-03-2023</small>	6.21	14.33	40.02	19.13	11.66	8.65
<b>Start of Water Year</b> <small>09-27-2022</small>	1.55	13.06	33.69	29.92	16.79	4.98
<b>One Year Ago</b> <small>07-26-2022</small>	0.00	0.59	1.91	15.59	38.40	43.51

Intensity:





# One Month Outlook

Looking at the Monthly Outlook for August

- The Precipitation Outlook continues to lean towards below normal chances for the month.
- The Temperature Outlook shows above normal temperatures likely through the month.

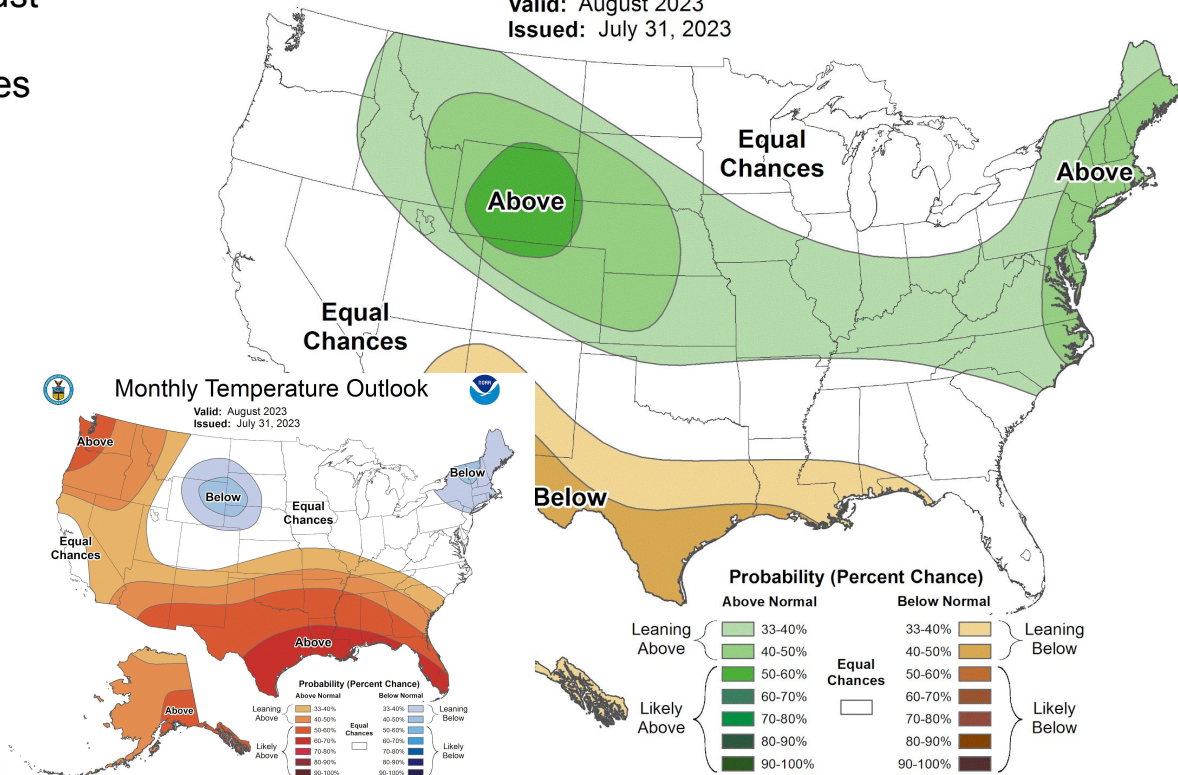
[Click for latest graphics](#)



## Monthly Precipitation Outlook



Valid: August 2023  
Issued: July 31, 2023





# Three Month Outlook

Looking at the Seasonal Outlooks

- The Precipitation Outlook shows equal chances for above, below, normal amounts as we move into the fall.
- The Temperature Outlook continues to lean towards above normal for the entire area.

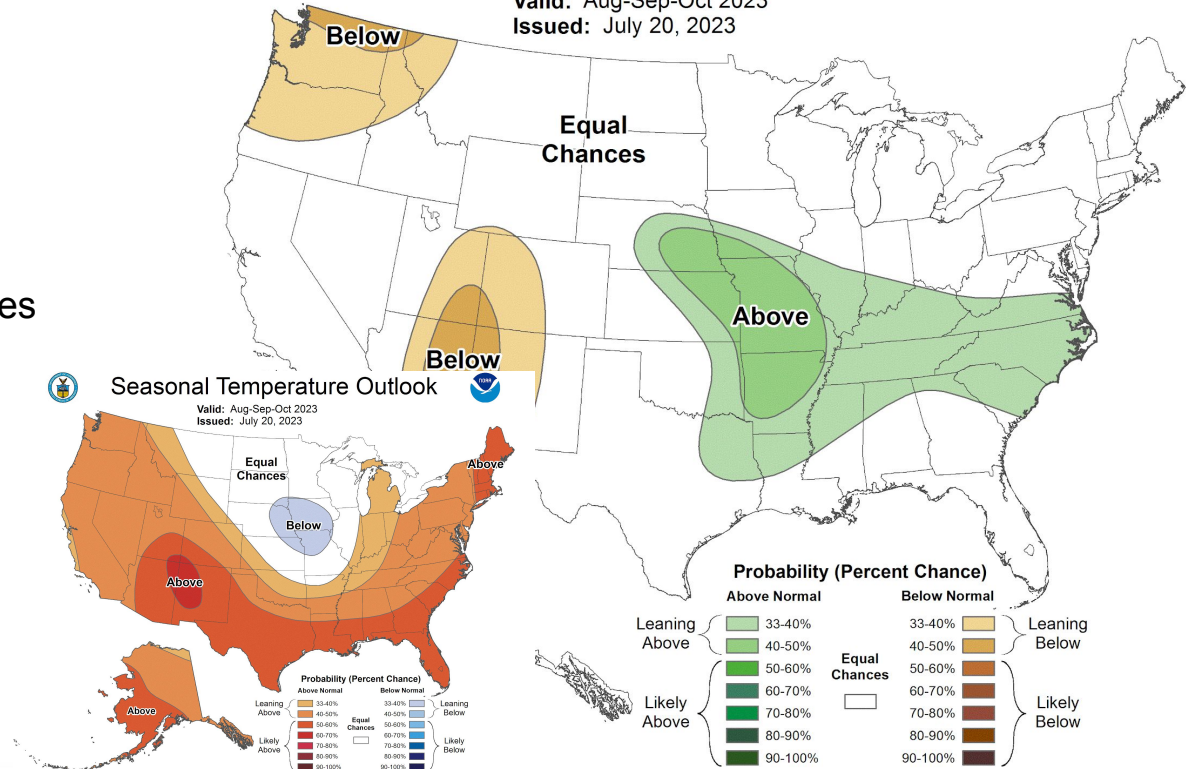
[Click for latest graphics](#)



## Seasonal Precipitation Outlook



Valid: Aug-Sep-Oct 2023  
Issued: July 20, 2023







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

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