



September 2023

Monthly Hydrologic Report (E5)

NWS Austin/San Antonio, TX

Prepared by: Chris Morris

October 10, 2023

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



Monthly Summary

Recap

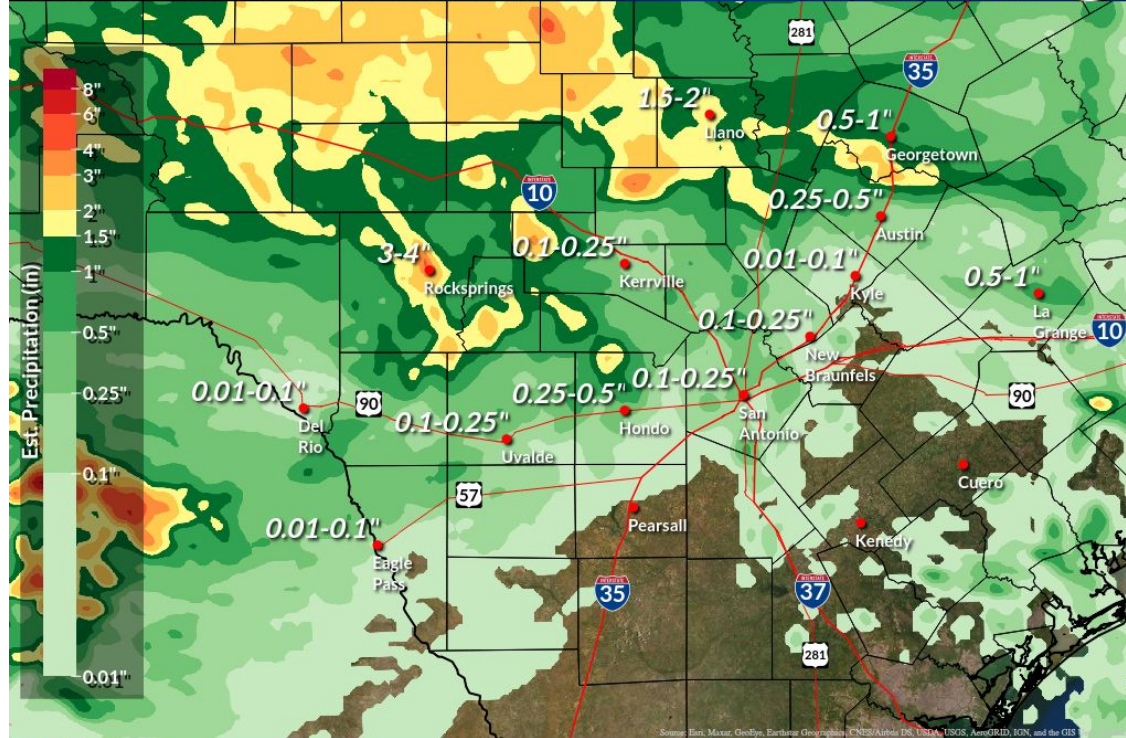
- A pattern shift around the 9th allowed numerous weather disturbances to move into the service area during the middle and late portions of the month.
- The image to right shows widespread light amounts across a sizable portion of the area with locally higher amounts near 3-4 inches across portions of the Hill Country and southern Edwards Plateau.
 - While localized flooding was observed, no rivers reached minor flood.

5-Day Estimated Rainfall

Valid: 09/09/2023 07:00 AM - 09/14/2023 07:00 AM CDT

Weather Forecast Office
Austin/San Antonio, TX

Issued Sep 14, 2023 9:46 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



Monthly Summary

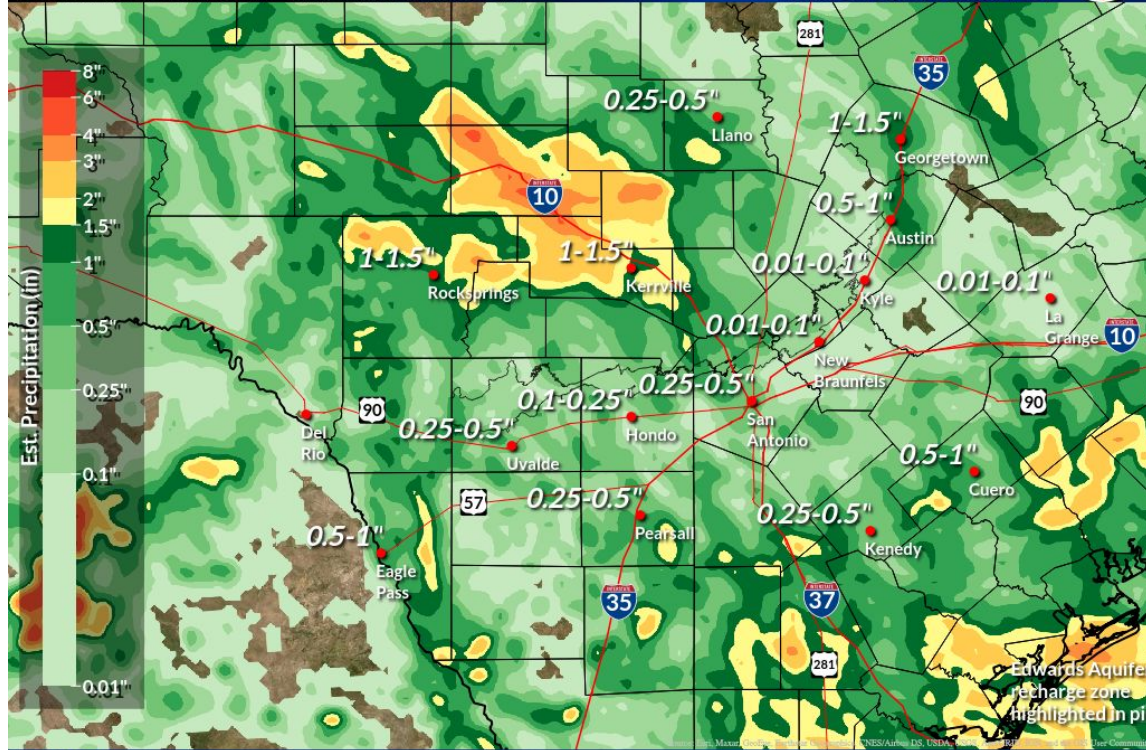
- The later portions of the month saw another series of disturbances move through to bring widespread rain and locally higher amounts.
- The image to right shows that portions of the southern Edwards Plateau and Hill Country saw additional locally heavy rainfall of near 2-3 inches during the later portion of the month.
 - Given the severely low streamflows, no river rose into minor flood with these round of rain.

10-Day Estimated Rainfall

Valid: 09/22/2023 07:00 AM - 10/02/2023 07:00 AM CDT

Weather Forecast Office
Austin/San Antonio, TX

Issued Oct 02, 2023 9:45 AM CDT



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National Oceanic and
Atmospheric Administration

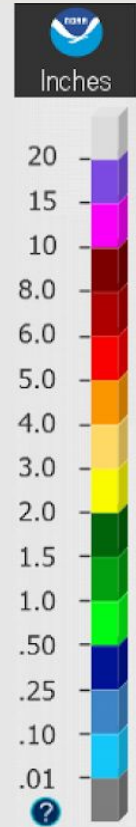
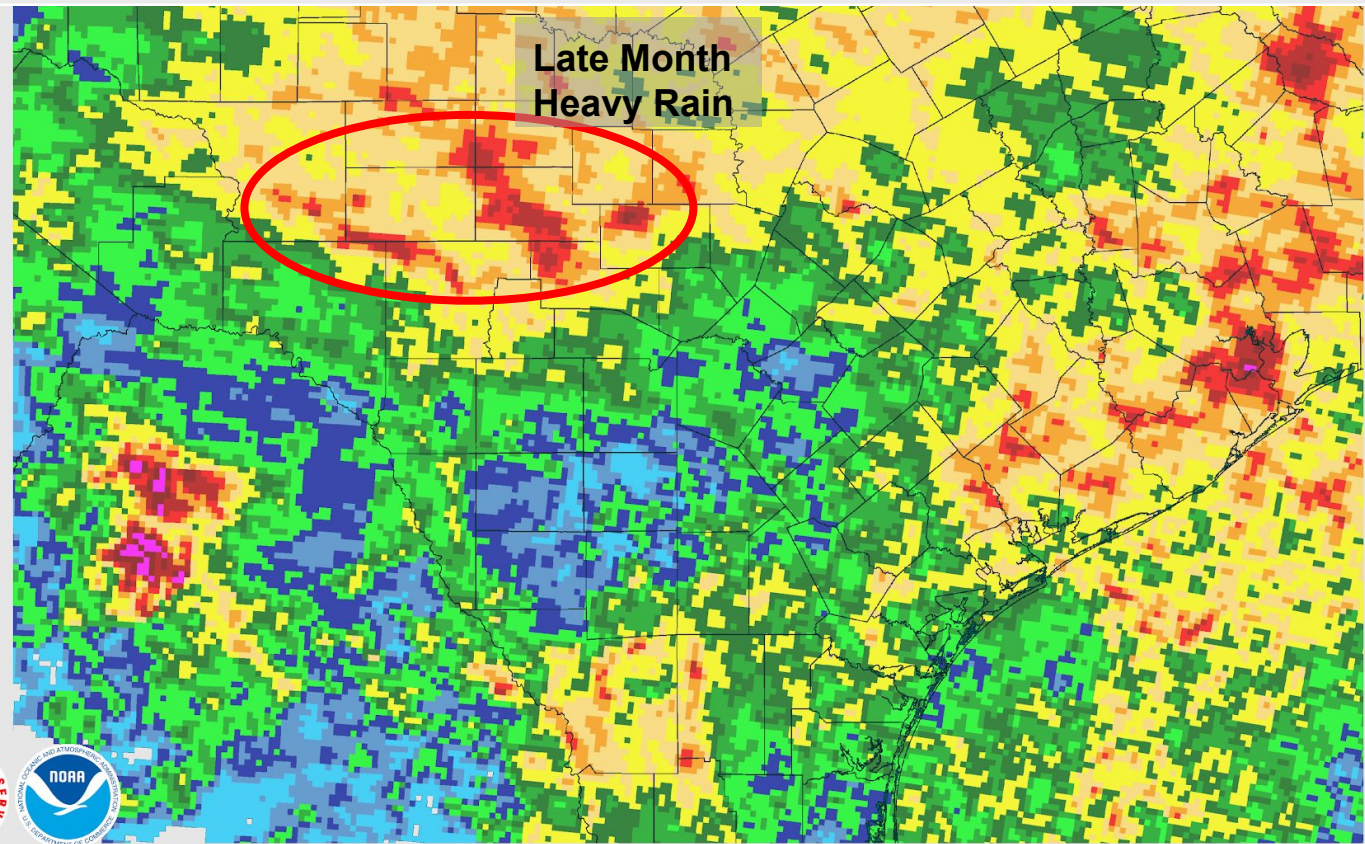
U.S. Department of Commerce

National Weather Service
Austin/San Antonio, TX



September 2023 Rainfall

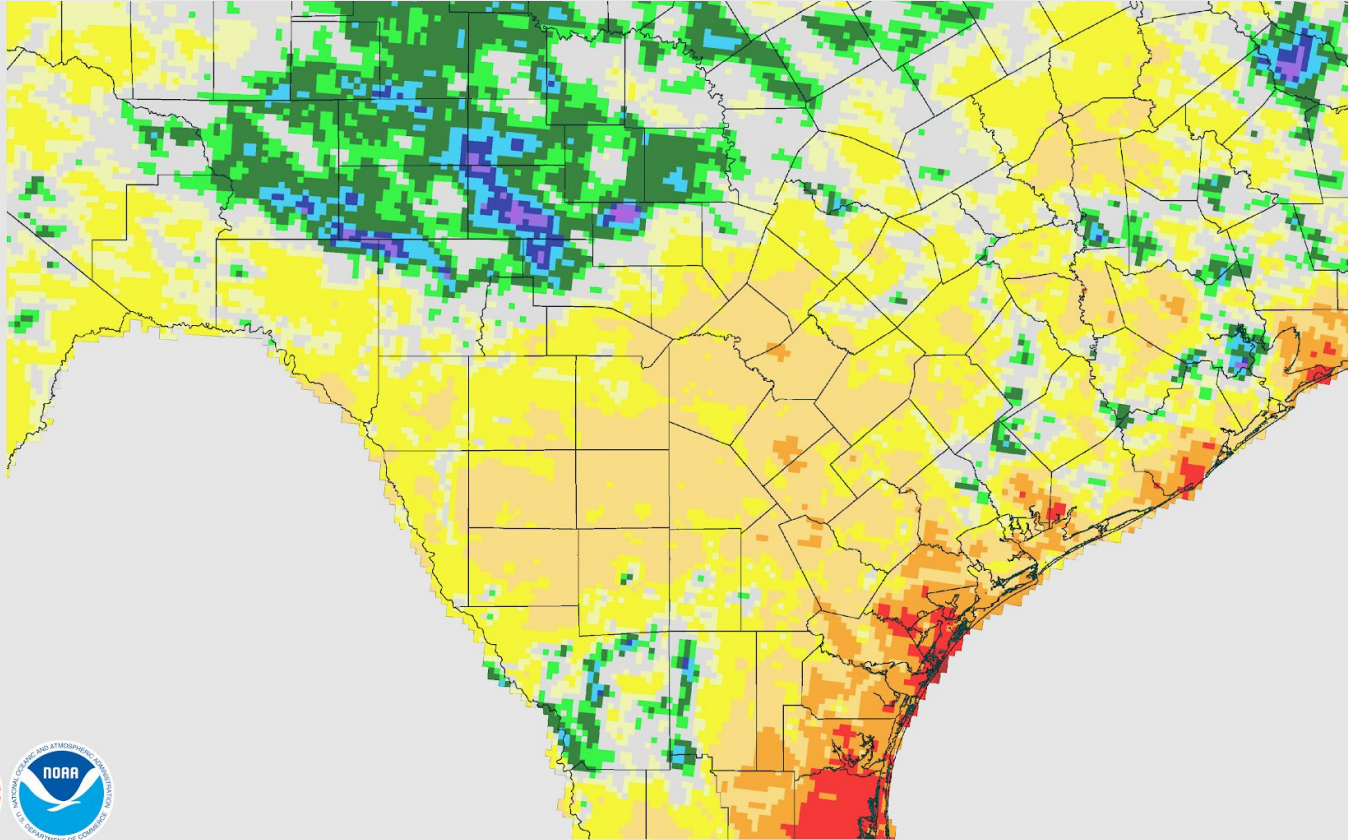
Observed Rainfall (Inches)



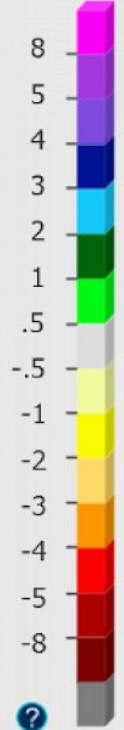


September 2023 Rainfall

Departure from Normal Rainfall (Inches)



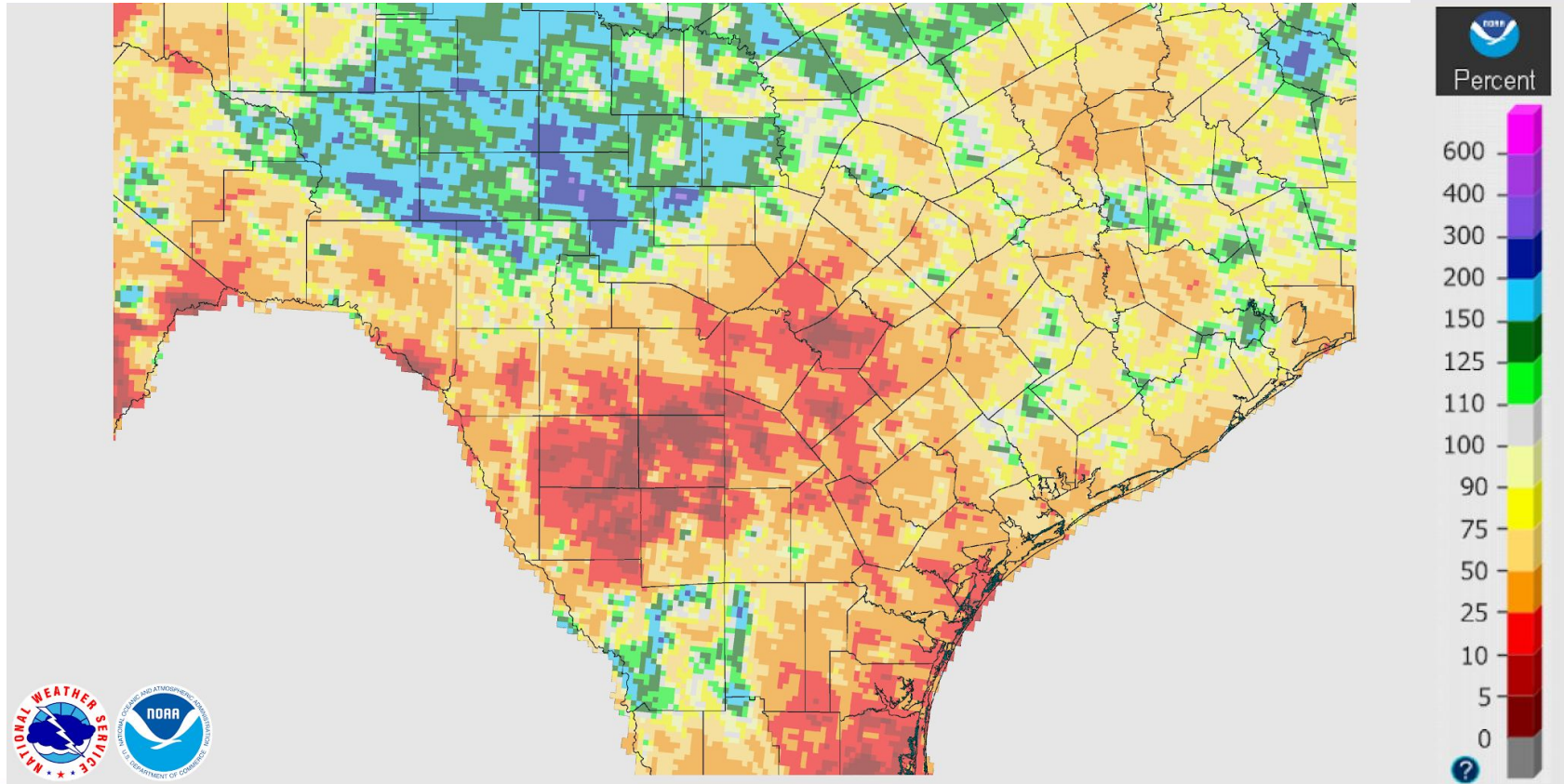
 Inches





September 2023 Rainfall

Percent of Normal Rainfall (%)



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

National Weather Service
Austin/San Antonio, TX

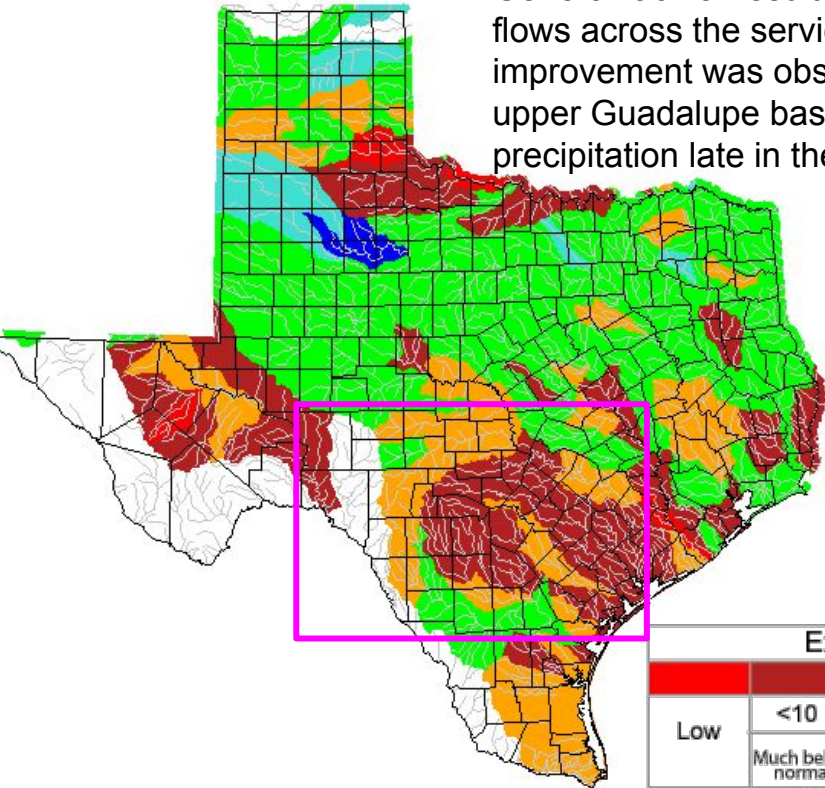


September 2023 - Historical Streamflow Comparison

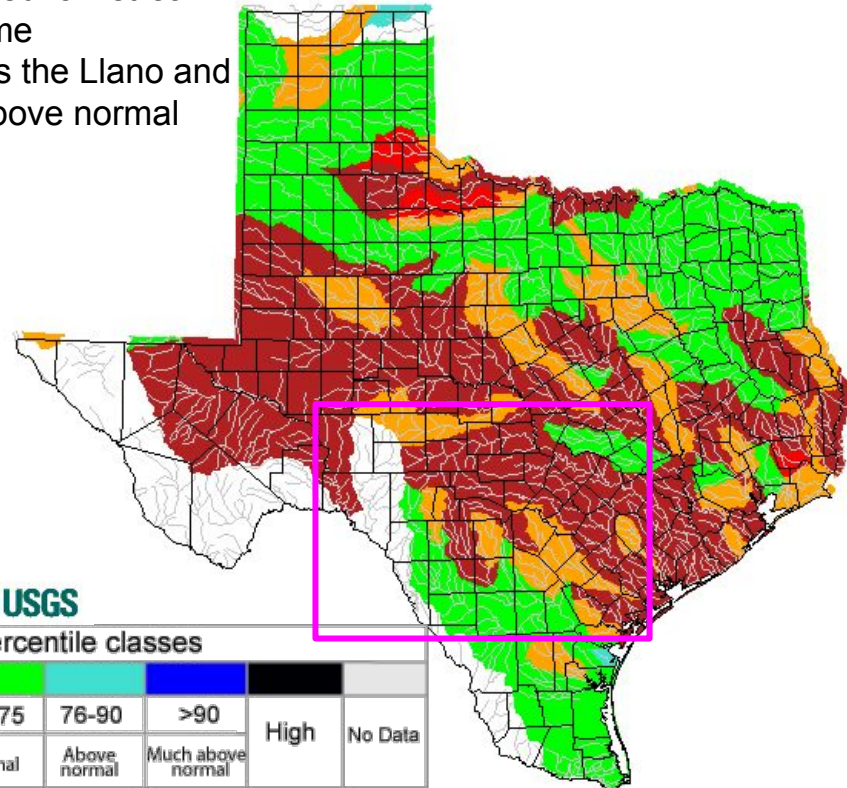
Streamflow Comparison

September 2023

General lack of resulted in continued low stream flows across the service area. Some improvement was observed across the Llano and upper Guadalupe basins due to above normal precipitation late in the month.



August 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	1.26”	3.03”	17.24”	26.03”	66%
Austin – Mabry	1.58”	3.45”	16.05”	26.70”	60%
Del Rio	0.08”	2.63”	11.94”	16.12”	74%
San Antonio	0.43”	3.88”	14.29”	24.55”	58%

*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	0.23"	3.50"	21.76"	29.80"	73%
Corpus Christi	1.01"	5.42"	19.69"	24.65"	80%
Laredo	3.33"	3.64"	15.39"	17.49"	88%
San Angelo	3.92"	2.51"	13.16"	16.46"	80%
Victoria	5.34"	4.53"	25.58"	31.17"	82%
Waco	3.34"	2.87"	19.34"	26.41"	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](#)

Reservoir	Conservation Elevation (feet)	End of Month Elevation (feet)	Monthly Change (Feet)
Lake Buchanan	1020	992.80	-1.10
Lake Travis	681	628.77	-2.63
Canyon Lake	909	890.74	-1.36
Medina Lake	1064.2	977.34	-0.96
Lake Amistad	1117	1066.05	-1.05





Hydrologic Products Issued for the Month

Product Issued	Number Issued	Additional Comments
River Flood Warning (FLW)	0	
River Flood Statement/Area Flood Advisory (FLS)	10	
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



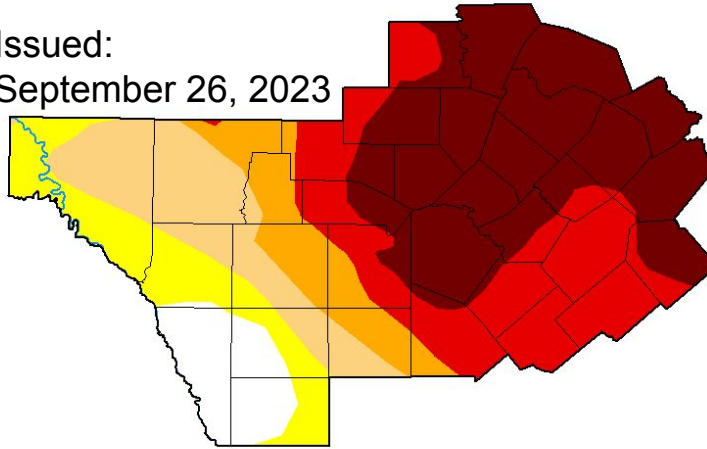
Drought Conditions

Monthly Drought Monitor Comparison

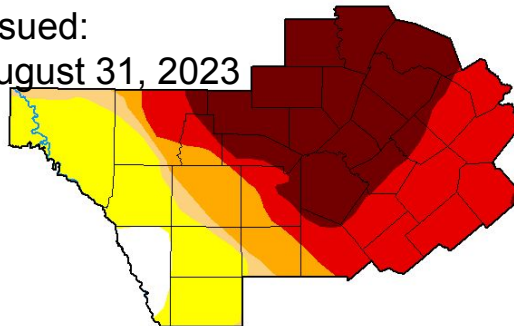
The lack of widespread rainfall over the course of the month of September resulted in the expansion of the Exceptional Drought (D4) into portions of the Coastal Plains. Some improvement was noted across portions of the Hill Country and southern Edwards Plateau due to localized heavy rainfall late in the month.

- D3/D4 drought encompasses 59% of the CWA
- Drought doesn't affect 18% of the CWA

Issued:
September 26, 2023



Issued:
August 31, 2023



September 26, 2023

(Released Thursday, Sep. 28, 2023)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0	D1	D2	D3	D4
Current	7.30	10.81	13.65	8.95	22.09	37.20
Last Week <i>09-19-2023</i>	7.30	8.99	13.82	8.18	23.00	38.71
3 Months Ago <i>06-27-2023</i>	7.27	49.14	19.37	14.31	7.74	2.16
Start of Calendar Year <i>01-03-2023</i>	6.21	14.33	40.02	19.13	11.66	8.65
Start of Water Year <i>09-27-2022</i>	1.55	13.06	33.69	29.92	16.79	4.98
One Year Ago <i>09-27-2022</i>	1.55	13.06	33.69	29.92	16.79	4.98

Intensity:





One Month Outlook

The most recent Monthly Outlook

- The Precipitation Outlook leans towards above normal chances for October.
- The Temperature Outlook leans towards above normal temperatures for the month of October.

[Click for latest graphics](#)

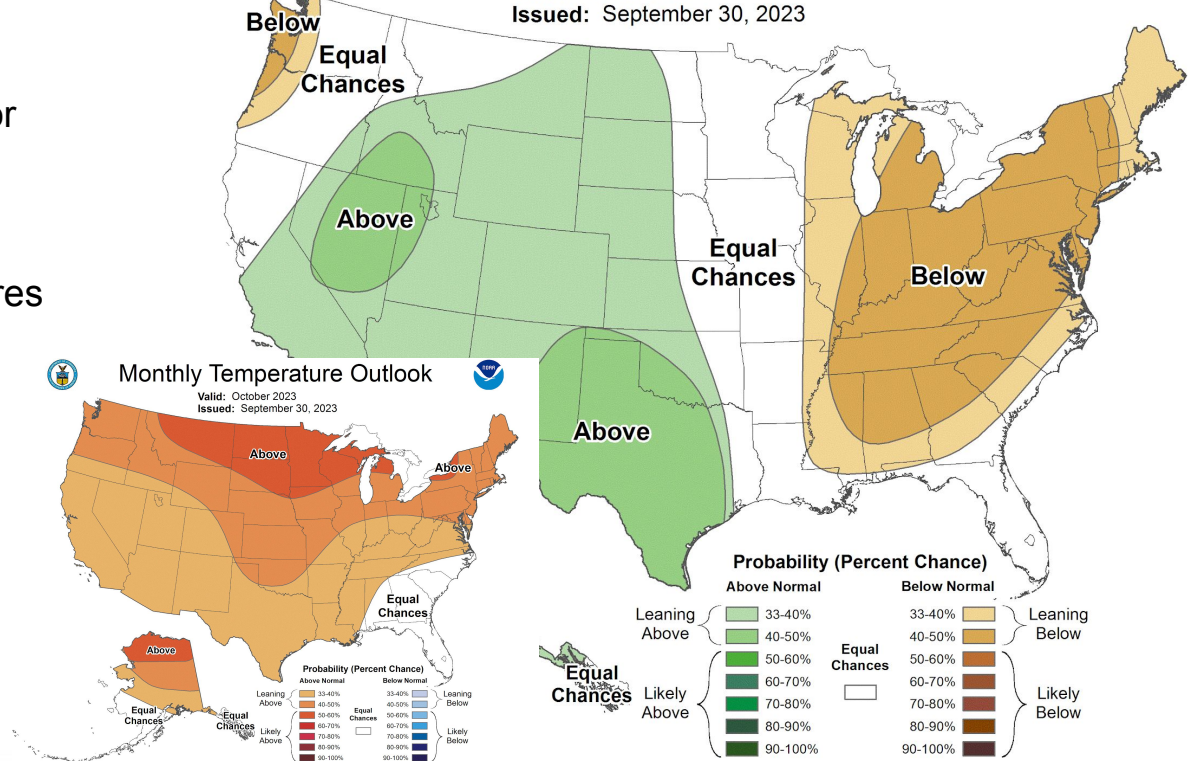


Monthly Precipitation Outlook



Valid: October 2023

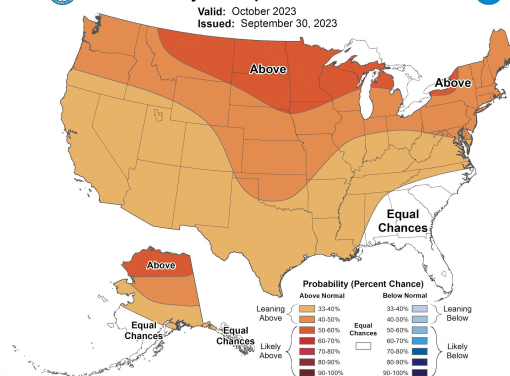
Issued: September 30, 2023



Monthly Temperature Outlook

Valid: October 2023

Issued: September 30, 2023





Three Month Outlook

Looking at the Seasonal Outlooks

- The Precipitation Outlook leans towards chances for above normal precipitation through the end of the year.
- The Temperature Outlook continues to lean towards above normal for the entire area through the remainder of the year.

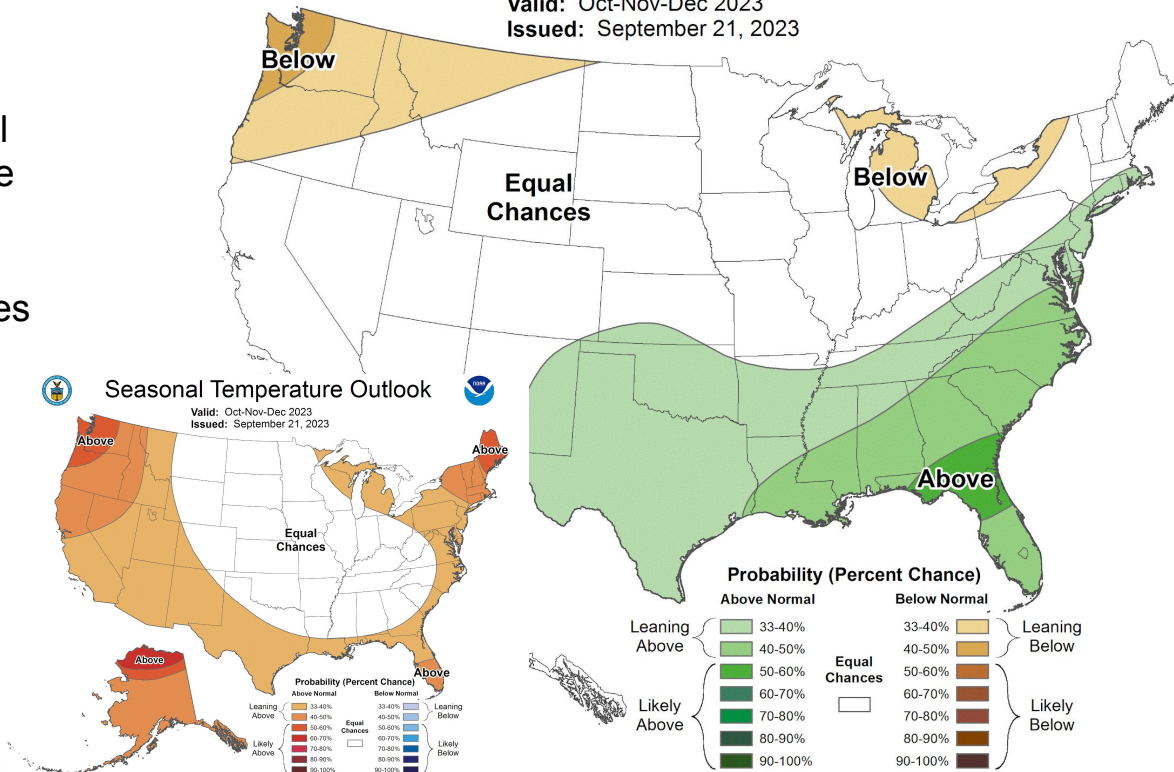
[Click for latest graphics](#)



Seasonal Precipitation Outlook



Valid: Oct-Nov-Dec 2023
Issued: September 21, 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

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