



August 2023

Monthly Hydrologic Report (E5)

NWS Austin/San Antonio, TX

Prepared by: Chris Morris

September 14, 2023

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



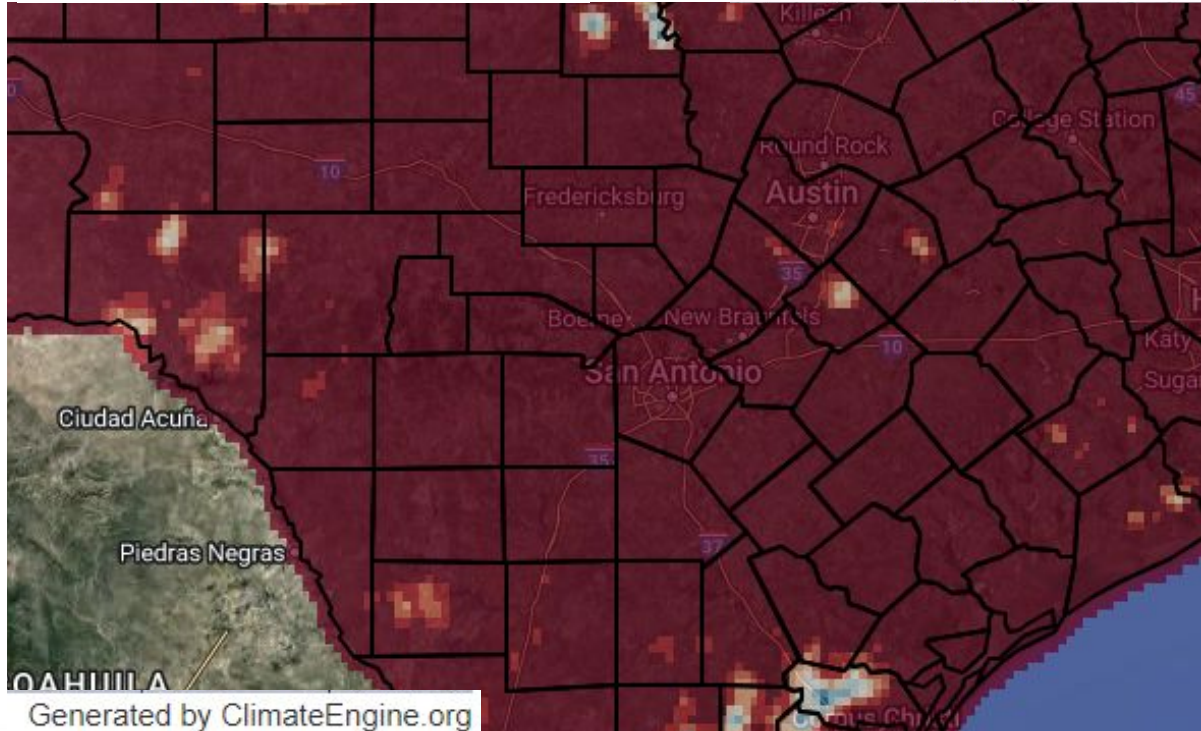
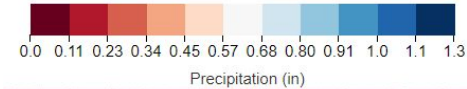
Monthly Summary

Recap

- Minimal rainfall was experienced across much of the area for the majority of the month.
 - Gridded depiction of rainfall from August 1st - 20th (right)
- Relief was provided for the Rio Grande Plains and portions of the Coastal Plains in the form of Tropical Storm Harold on August 22-23.
 - One forecast point rose above flood stage associated with runoff from Tropical Storm Harold.

Precipitation (gridMET)

2023-08-01 to 2023-08-20, Total



Generated by ClimateEngine.org

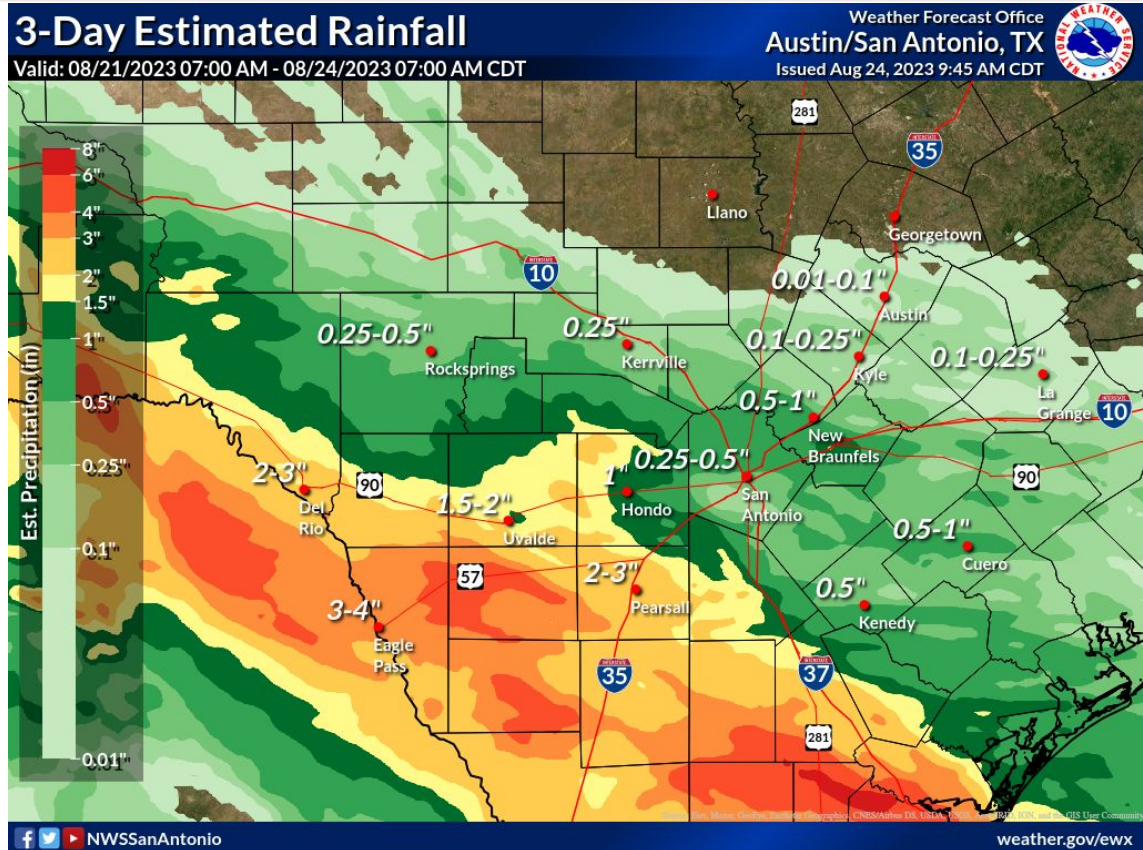




Monthly Summary

Harold Impacts

- Tropical Storm Harold made landfall the morning of August 22nd and brought rainfall for areas along and south of I-10.
- The highest rainfall report in the HSA was 5.58" which occurred 0.5 miles east of Crystal City in Zavala County.
 - A full list of rainfall amounts can be found [here](#)
- While this rainfall was beneficial for the areas that received it, there was one forecast point which rose above flood stage associated with the runoff.
 - Rio Grande at Foster Ranch (LNYT2)

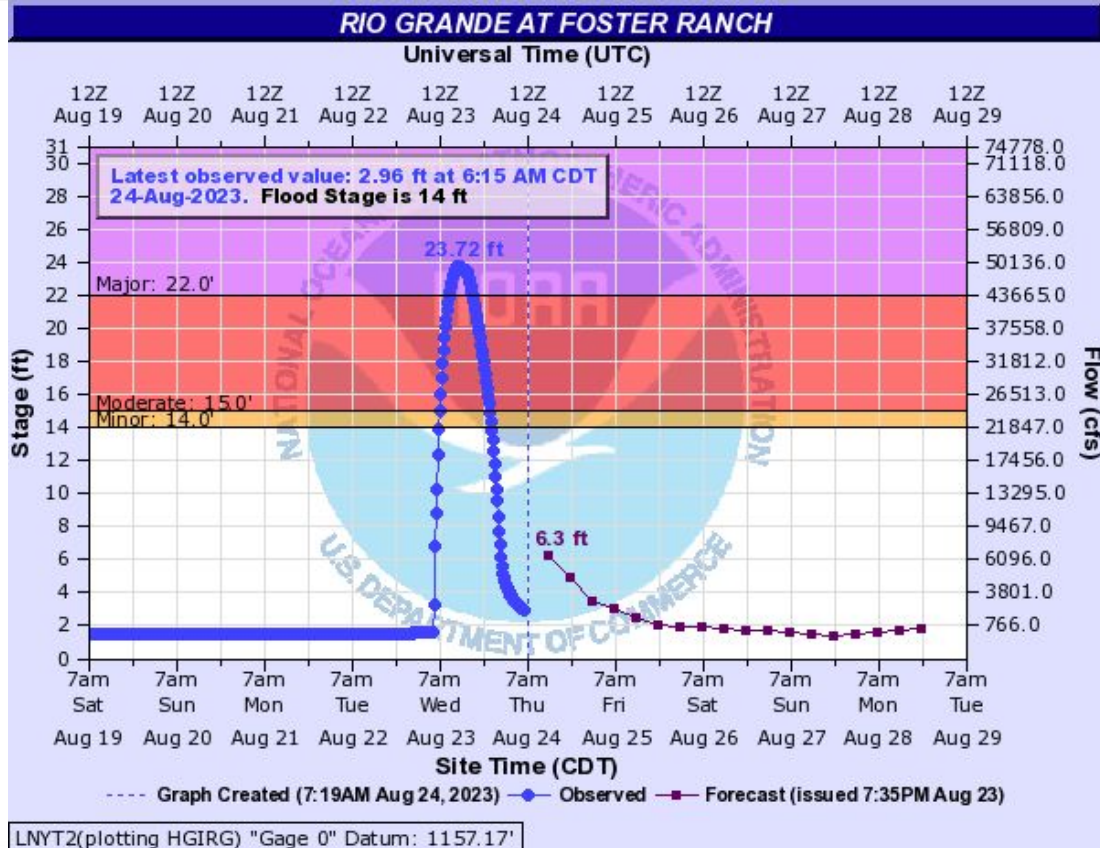




Monthly Summary

Harold Impacts

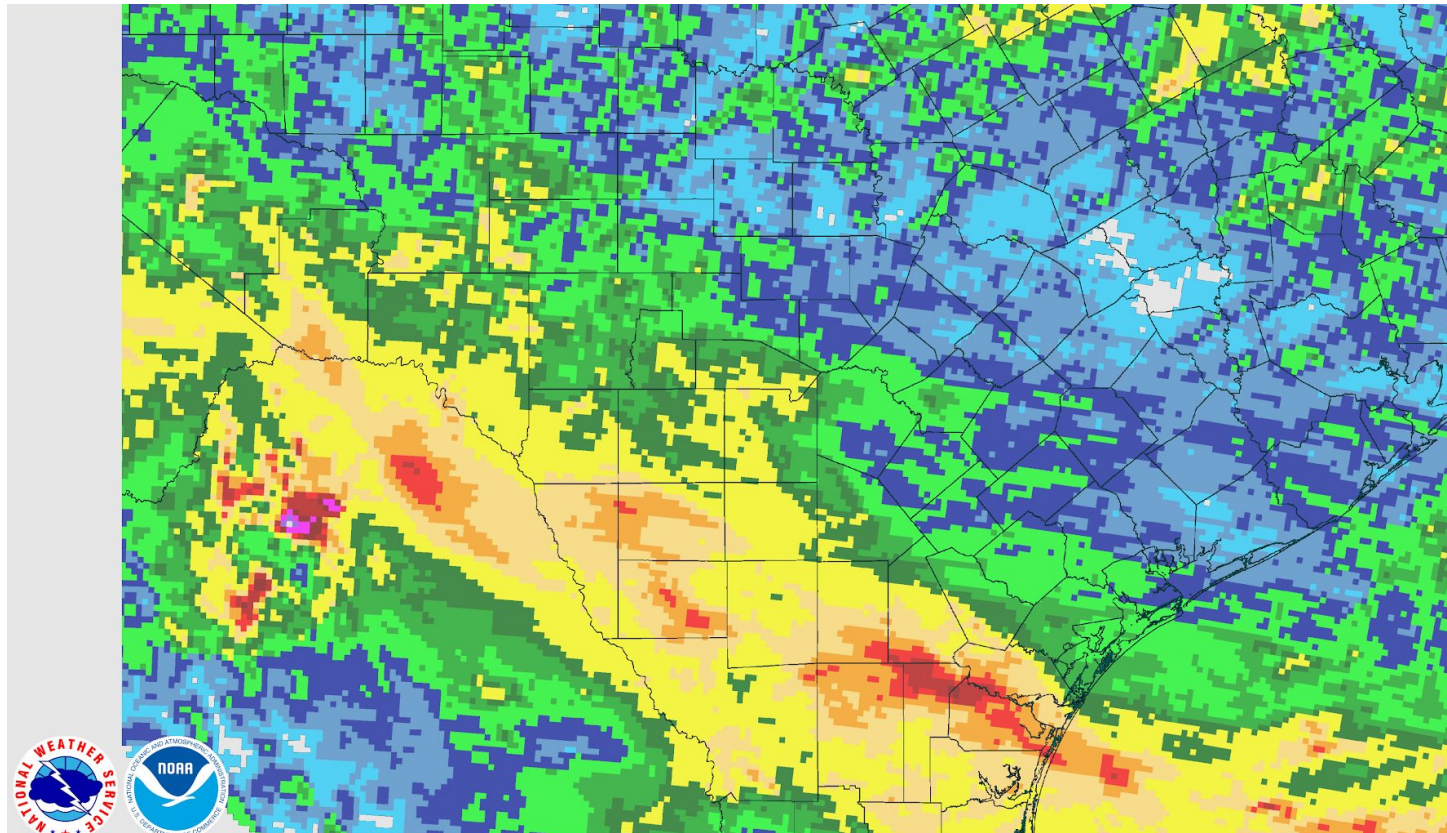
- LNYT2 Flood Summary:
 - Max Flood Category: Major
 - Reached Flood: 8/22 at 7:00 am
 - Crest: 23.72ft on 8/22 at 12:15 pm
 - Dropped below flood: 8/22 at 9:00 pm
- The rise was a result of rapid rainfall over northern Mexico and upstream near the Rio Grande at Dryden (DYNT2).
 - MRMS data shows rainfall rates across the basin peaked near 2 in/hr.
- The river went from normal flow of 1.63ft to flood stage of 14ft in 1 hour and 30 minutes.



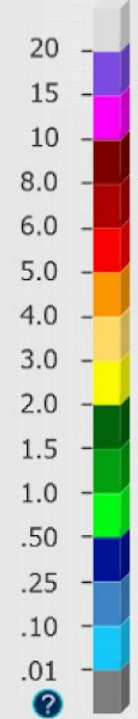


August 2023 Rainfall

Observed Rainfall (Inches)



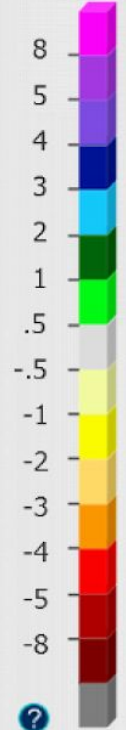
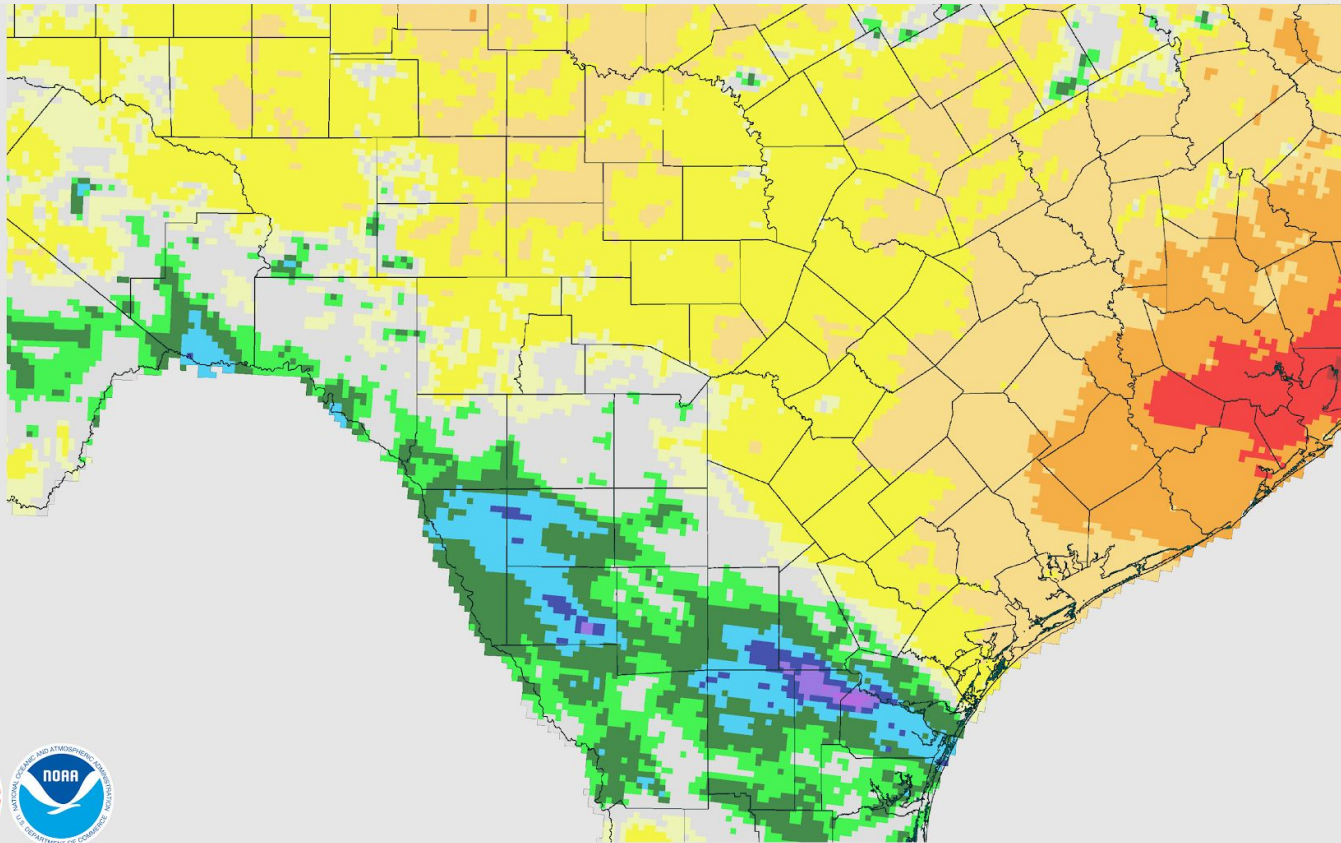
NOAA
Inches





August 2023 Rainfall

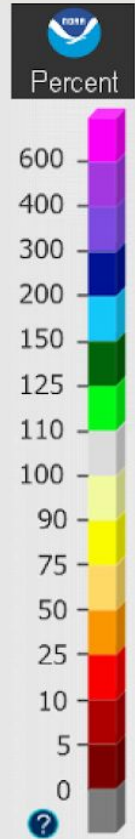
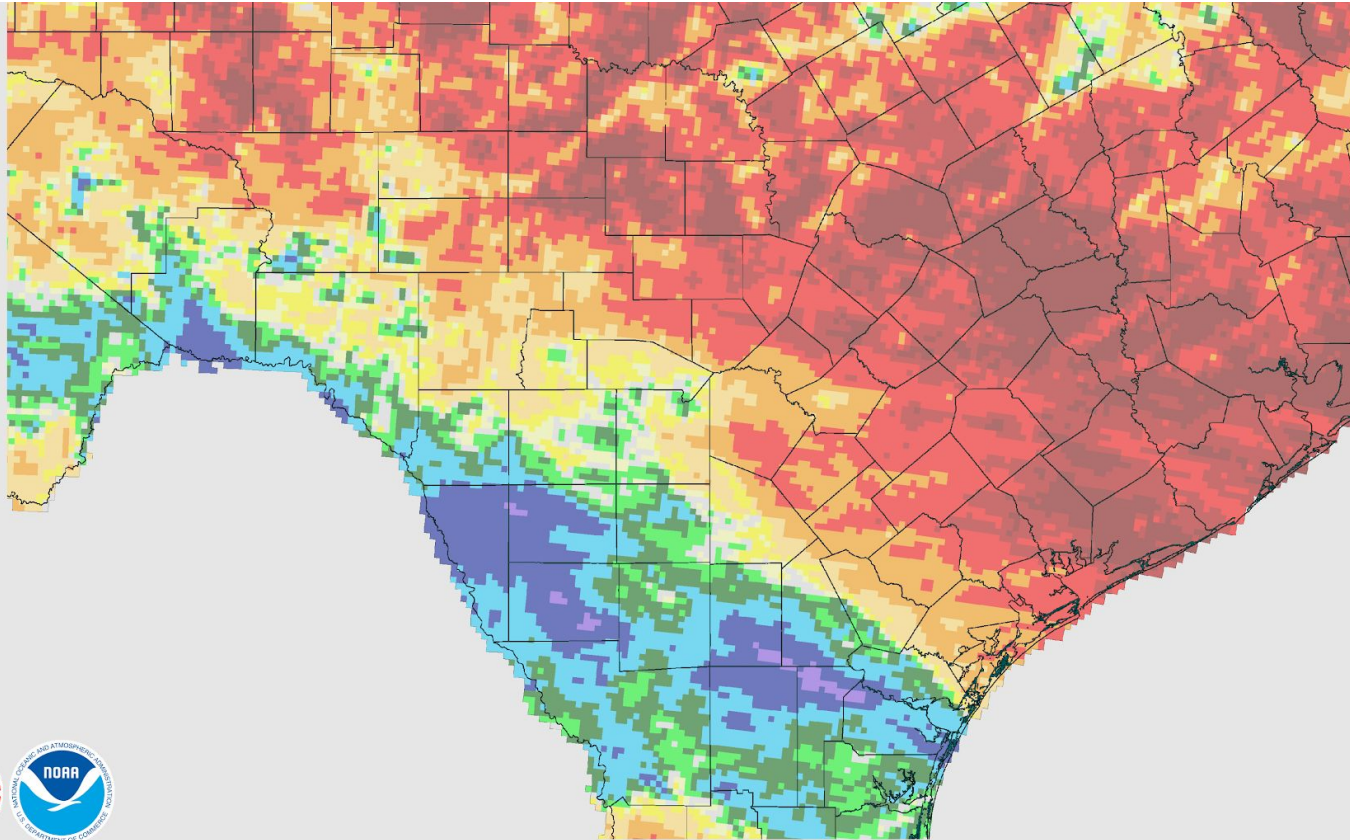
Departure from Normal Rainfall (Inches)





August 2023 Rainfall

Percent of Normal Rainfall (%)



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

National Weather Service
Austin/San Antonio, TX

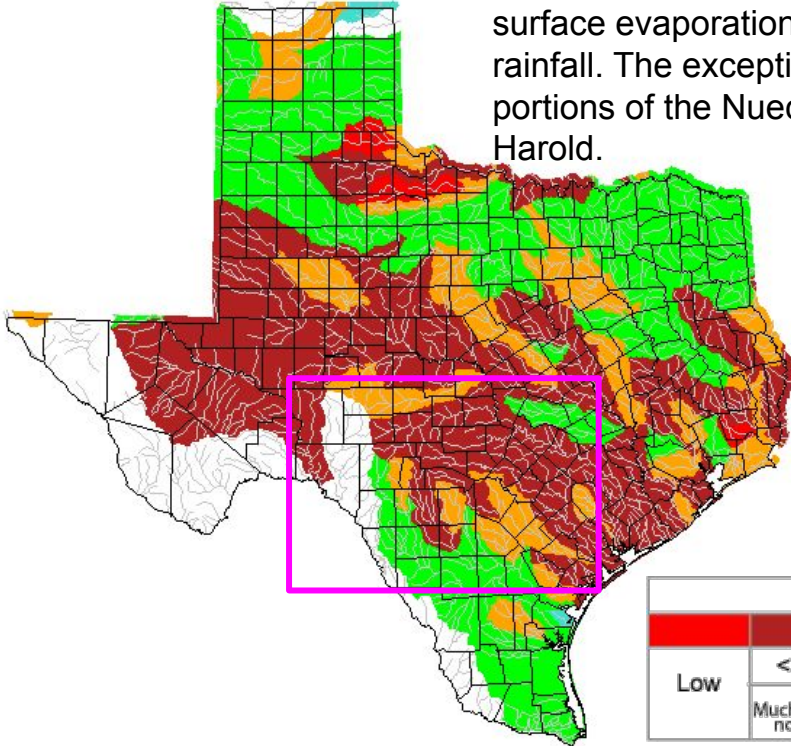


July 2023 - Historical Streamflow Comparison

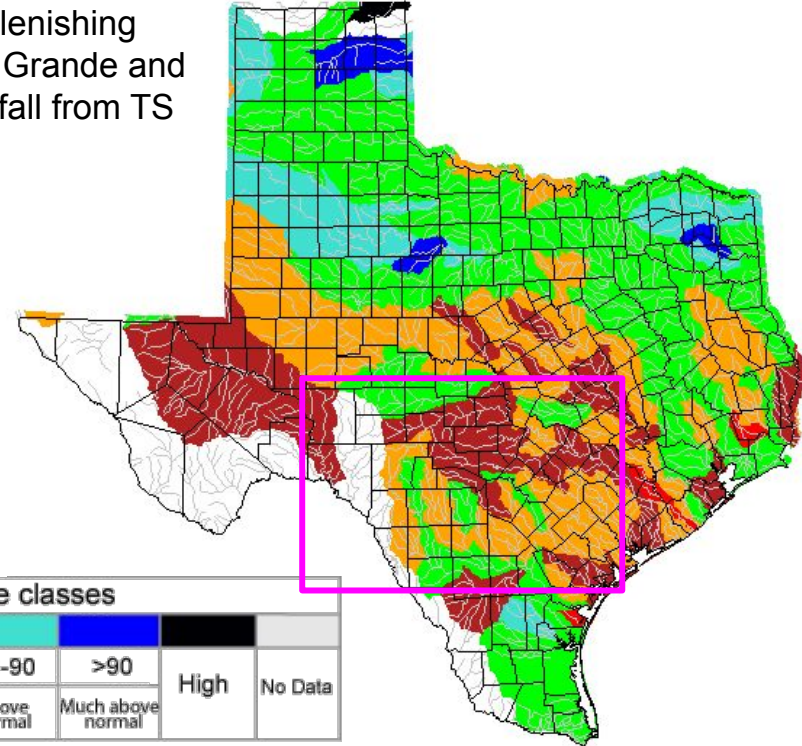
Streamflow Comparison

Further reduction of streamflow across a sizable portion of the service area due to the combination of increased surface evaporation and absence of replenishing rainfall. The exception is across the Rio Grande and portions of the Nueces River where rainfall from TS Harold.

August 2023



July 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	0.14”	2.47”	15.98”	23.00”	69%
Austin – Mabry	0.11”	2.74”	14.47”	23.25”	62%
Del Rio	1.84”	2.69”	11.86”	13.49”	88%
San Antonio	0.94”	2.15”	13.86”	20.67”	67%

*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	0.06"	3.10"	21.53"	26.30"	82%
Corpus Christi	5.04"	2.75"	18.68"	19.23"	97%
Laredo	3.98"	1.68"	12.06"	13.85"	87%
San Angelo	0.29"	2.42"	9.24"	13.95"	66%
Victoria	0.30"	3.11"	20.24"	26.64"	76%
Waco	0.34"	2.05"	16.00"	23.54"	68%

*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	993.9	-4
Lake Travis	681	631.4	-3.89
Canyon Lake	909	892.1	-2.21
Medina Lake	1064.2	978.3	-1.29
Lake Amistad	1117	1067.1	0.16





Hydrologic Products Issued for the Month

Product Issued	Number Issued	Additional Comments
River Flood Warning (FLW)	1	
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



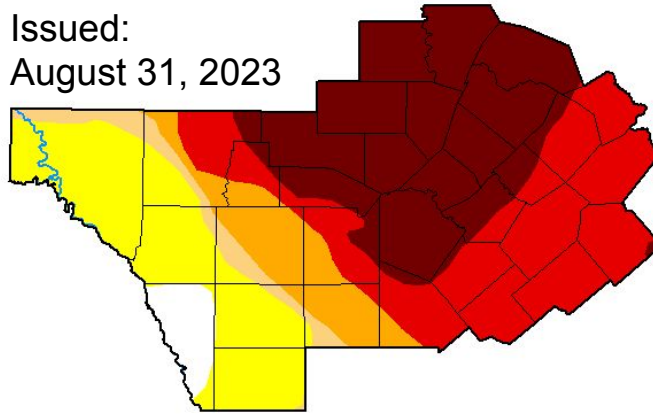
Drought Conditions

Monthly Drought Monitor Comparison

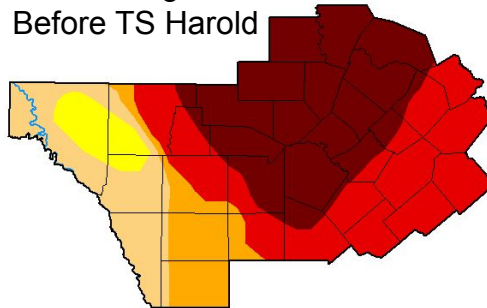
Vast expansion of the highest category of drought (D4) across the area due to above normal daily temperatures, below normal precipitation, degrading streamflows and increased surface evaporation. The only area which saw improvement is across the Rio Grande Plains and portions of the southern Edwards Plateau due to TS Harold.

- D3/D4 drought encompasses 63% of the CWA
- Drought doesn't affect 24% of the CWA

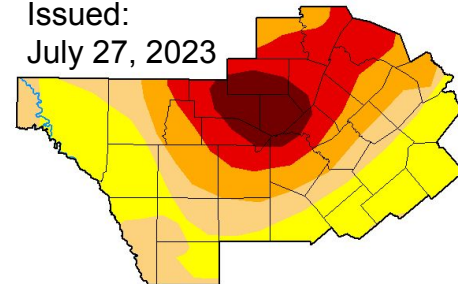
Issued:
August 31, 2023



Issued: August 22, 2023
Before TS Harold



Issued:
July 27, 2023



August 29, 2023
(Released Thursday, Aug. 31, 2023)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0	D1	D2	D3	D4
Current	3.21	20.60	3.87	9.12	28.10	35.11
Last Week 08-22-2023	0.00	5.00	14.79	10.44	31.52	38.26
3 Months Ago 05-30-2023	25.14	28.60	24.10	12.26	7.74	2.16
Start of Calendar Year 01-03-2023	6.21	14.33	40.02	19.13	11.66	8.85
Start of Water Year 09-27-2022	1.55	13.06	33.69	29.92	16.79	4.98
One Year Ago 08-30-2022	0.00	0.19	11.58	29.12	35.03	24.07

Intensity:





One Month Outlook

Looking at the Monthly Outlook for September

- The Precipitation Outlook leans towards below normal chances for September.
- The Temperature Outlook shows above normal temperatures likely through the month.

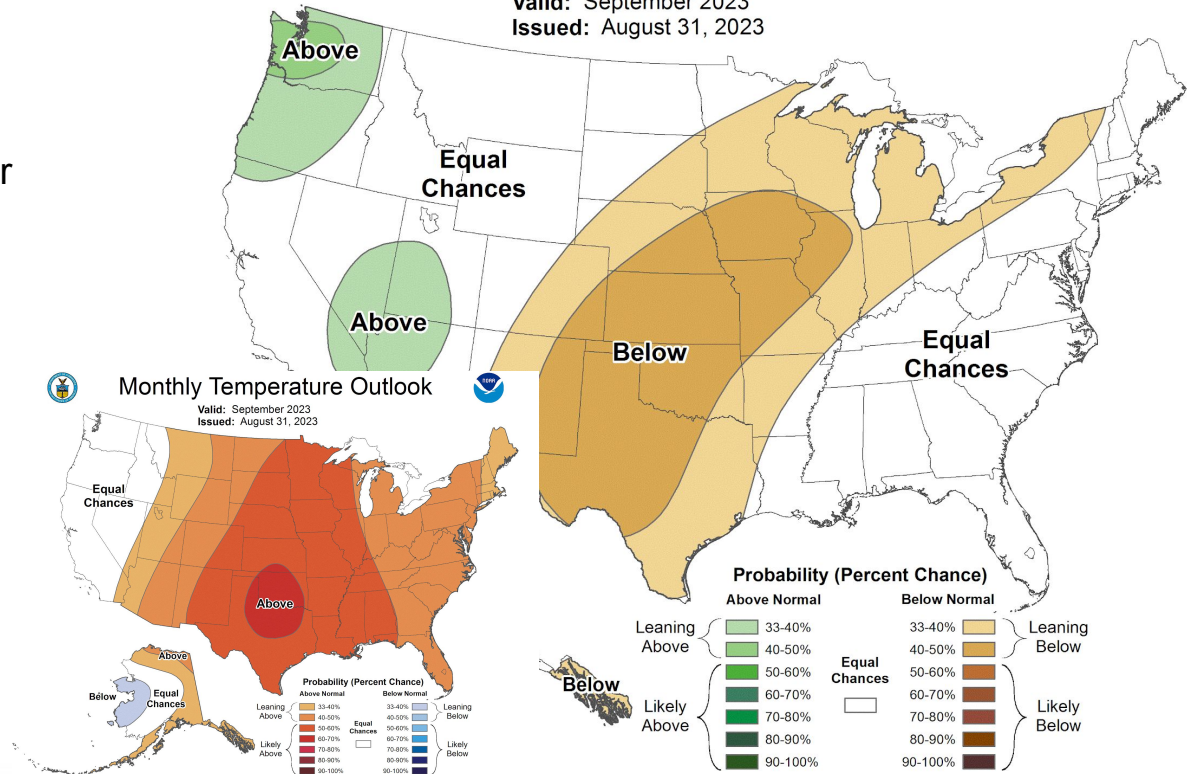
[Click for latest graphics](#)



Monthly Precipitation Outlook



Valid: September 2023
Issued: August 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](#)

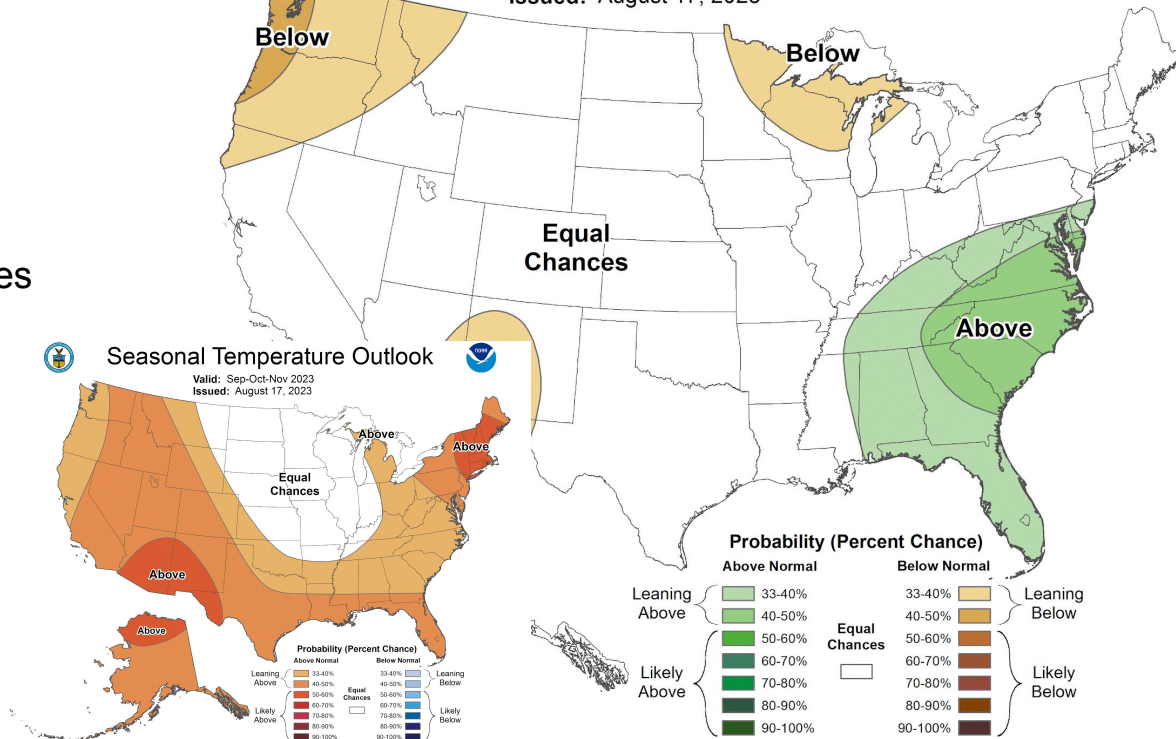


Seasonal Precipitation Outlook



Valid: Sep-Oct-Nov 2023

Issued: August 17, 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/>