



April 2023

Monthly Hydrologic Report (E5)

NWS Austin/San Antonio, TX

Prepared by: Chris Morris

May 9, 2023

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



National Oceanic and
Atmospheric Administration

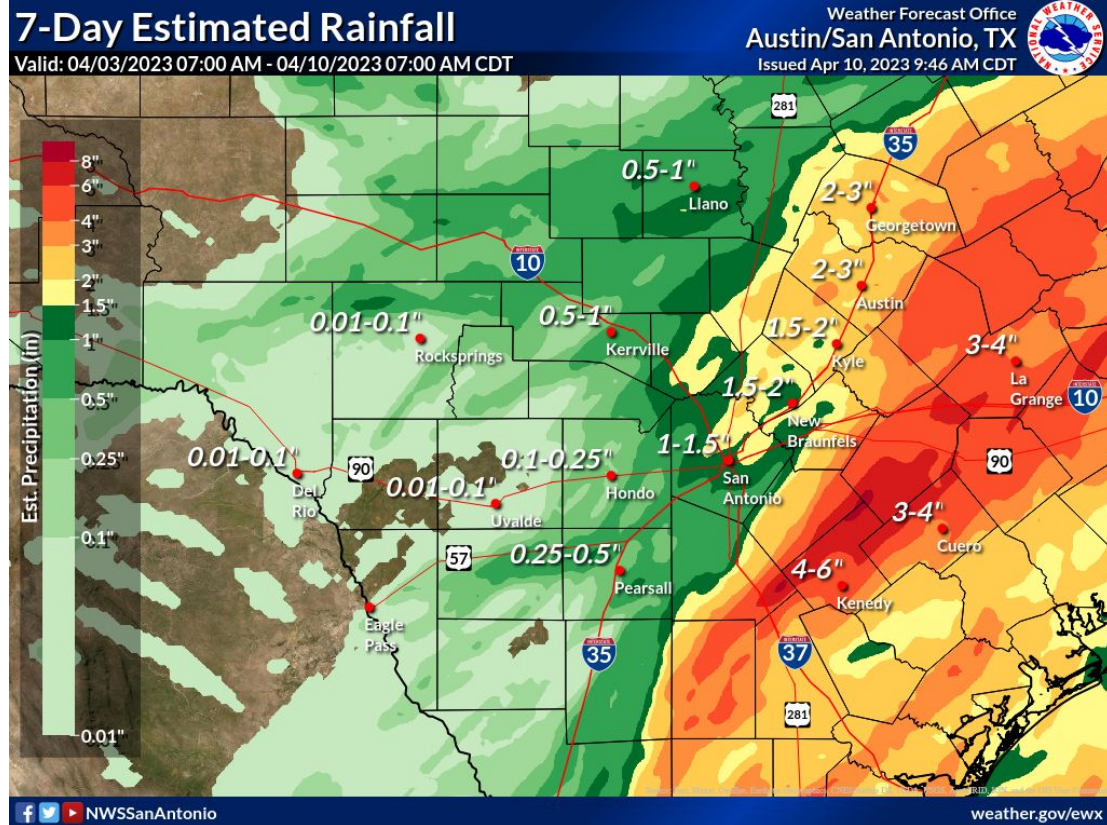
U.S. Department of Commerce



Monthly Summary

Recap

- A stalled cold front brought overrunning precipitation from the 6th through the 8th. Precipitation amounts ranged from 1 inch to 4 inches across the I-35 corridor, Coastal Plains and portions of the Hill Country.
- A higher swath of 4 inches to 6 inches across portions of Atascosa, Karnes, Gonzales, Wilson, and DeWitt counties.
- This precipitation resulted in moderate flooding on the San Antonio River and Sandies Creek near Westhoff.
- The Atascosa County Sheriff's office also reported that FM 791 was closed and impassable at the intersection of CR 445 due to water over the roadway.





Monthly Summary

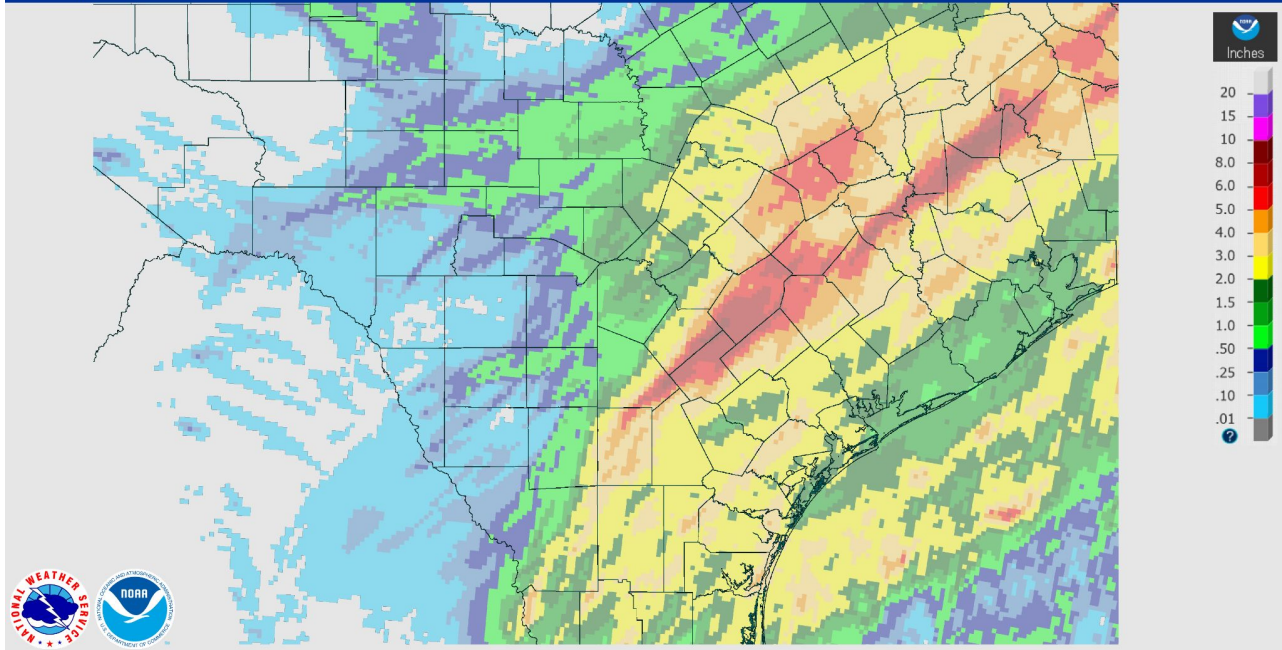
Recap

- Cocorahs showed a max precip of 7.28 inches over the duration of the event. [Map link](#)
- A PNS with additional precipitation amounts over 72 hours as of 4/8/2023 at 10:21am is available [here](#).

April 10, 2023 7-Day Observed Precipitation

Created on: April 10, 2023 - 17:29 UTC

Valid on: April 10, 2023 12:00 UTC

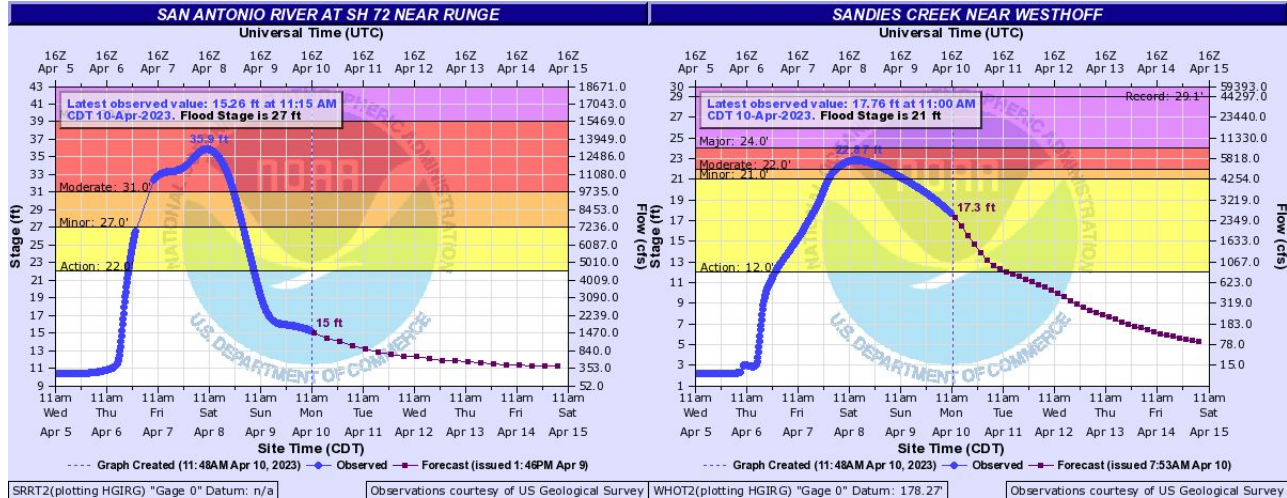




Monthly Summary

Recap

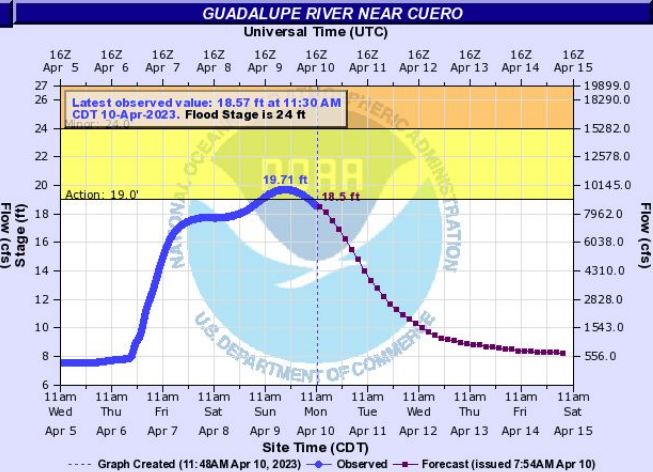
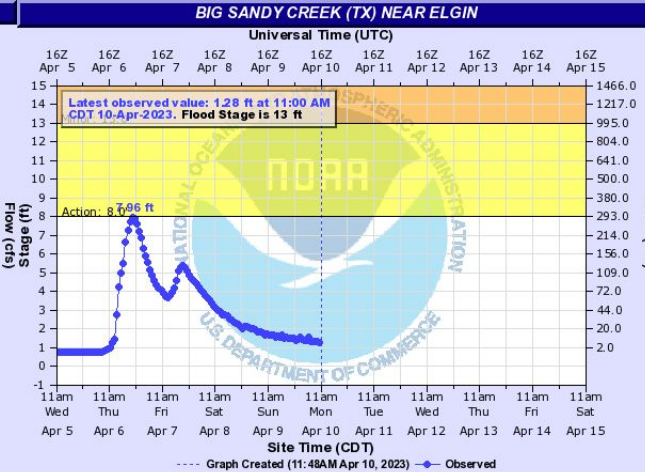
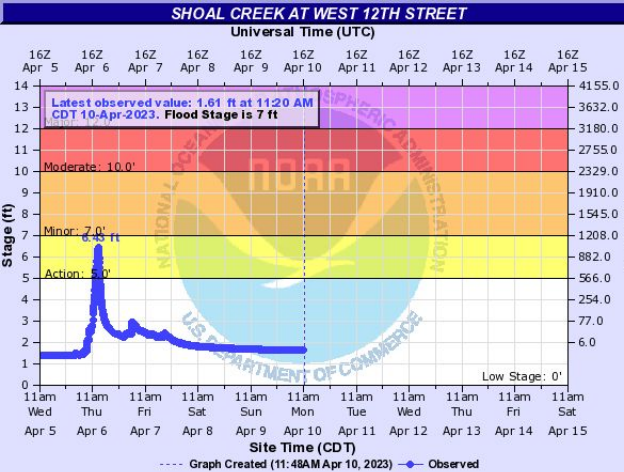
- The San Antonio River at SH 72 near Runge crested at 35.9ft on 4/8/2023 at 15:30 UTC.
- The Sandies Creek near Westhoff crested at 22.87 ft on 4/8/2023 at 19:30 UTC.





Monthly Summary

Recap



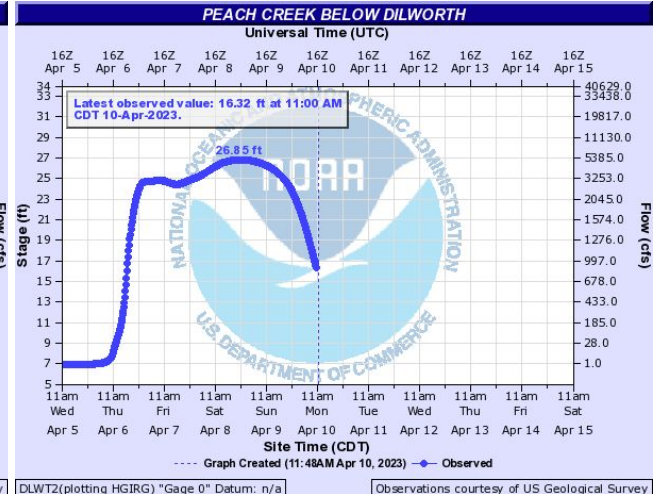
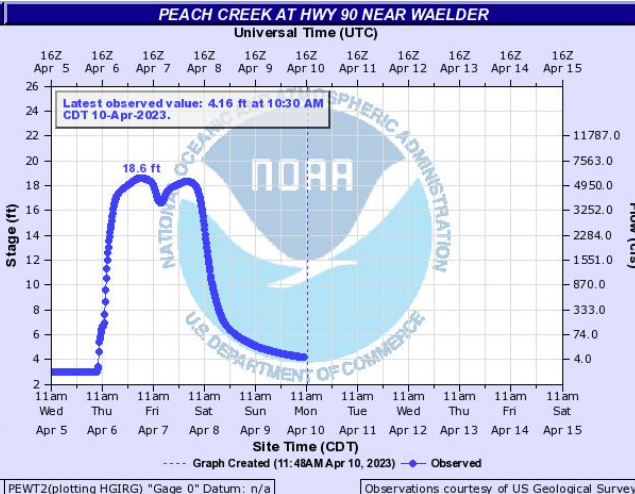
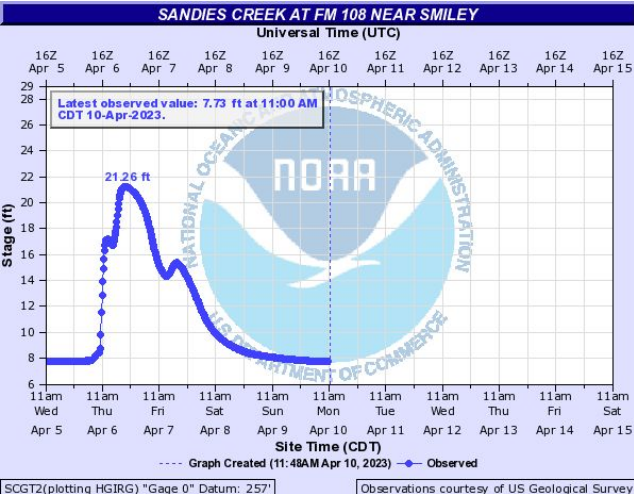
AHOT2(plotting HGIRG) "Gage 0" Datum: 455.33' | Observations courtesy of US Geological Survey | EGZT2(plotting HGIRZ) "Gage 0" Datum: 0' | Observations courtesy of US Geological Survey | CUET2(plotting HGIRG) "Gage 0" Datum: 128.64' | Observations courtesy of US Geological Survey

While these locations are not forecast points, they are notable rises from this event.



Monthly Summary

Recap



While these locations are not forecast points, they are notable rises from this event.



Monthly Summary

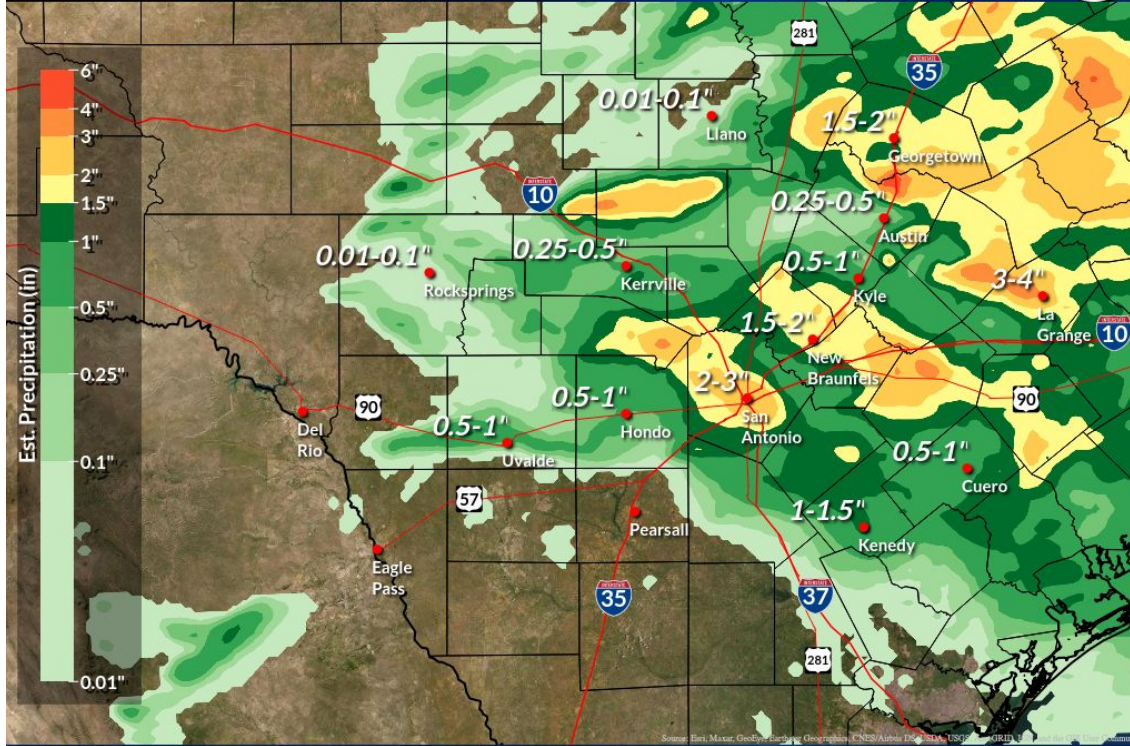
Recap

- A slow moving cold front and associated pre-frontal disturbance initiated scattered severe convection during the afternoon and overnight hours of the 20th.
- One slow moving thunderstorm brought swaths of 2-4 inches of rain across portions of Bandera and Bexar counties. The intensity of the rain resulted in rapid responses on area rivers, and urban flash flooding.
- Thunderstorms which moved parallel to the cold front brought a wide swath of rainfall across portions of the Hill Country and I-35 corridor.
- While no forecast points reached minor flood stage, a few data points did reach into minor and moderate flood.
- Flooding in the Austin area resulted in approximately 50 water rescues with 21 of those at US HWY 183 and Duval Road in Austin.

1-Day Estimated Rainfall

Valid: 04/20/2023 07:00 AM - 04/21/2023 07:00 AM CDT

Weather Forecast Office
Austin/San Antonio, TX
Issued Apr 21, 2023 9:16 AM CDT



NWSSanAntonio

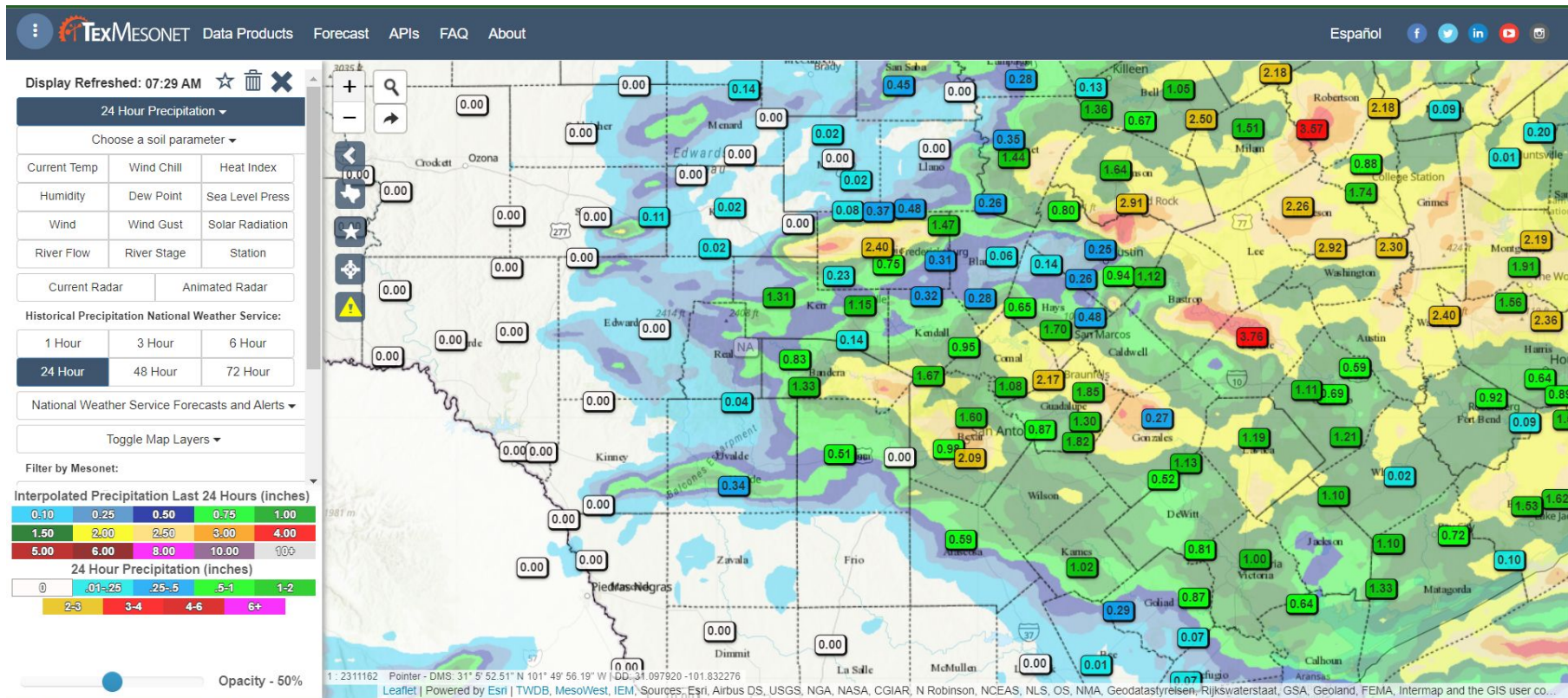
weather.gov/ewx





Monthly Summary

Recap (Point amounts from 20th rainfall)



TEXAS WATER DEVELOPMENT BOARD (Disclaimer)



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

National Weather Service
Austin/San Antonio, TX



Monthly Summary

Recap (Point amounts from 20th rainfall)

Display Refreshed: 07:30 AM

24 Hour Precipitation

Choose a soil parameter

| | | |
|--------------|-------------|-----------------|
| Current Temp | Wind Chill | Heat Index |
| Humidity | Dew Point | Sea Level Press |
| Wind | Wind Gust | Solar Radiation |
| River Flow | River Stage | Station |

Current Radar Animated Radar

Historical Precipitation National Weather Service:

| | | |
|---------|---------|---------|
| 1 Hour | 3 Hour | 6 Hour |
| 24 Hour | 48 Hour | 72 Hour |

National Weather Service Forecasts and Alerts

Toggle Map Layers

Filter by Mesonet:

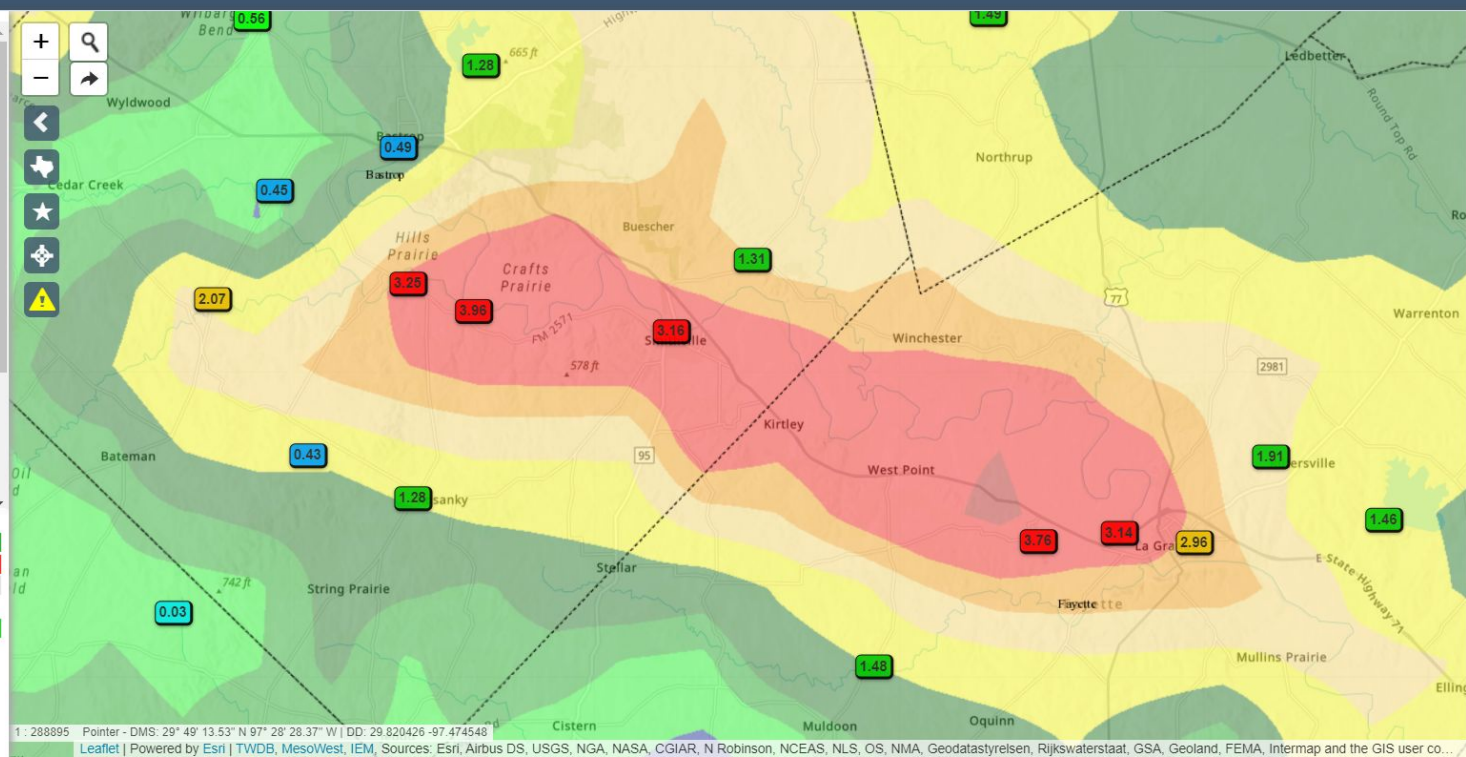
Interpolated Precipitation Last 24 Hours (inches)

| | | | | |
|-------|------|------|-------|------|
| 0-1.0 | 0.25 | 0.50 | 0.75 | 1.00 |
| 1.50 | 2.00 | 2.50 | 3.00 | 4.00 |
| 5.00 | 6.00 | 8.00 | 10.00 | 100+ |

24 Hour Precipitation (inches)

| | | | | |
|-----|---------|--------|------|-----|
| 0 | .01-.25 | .25-.5 | .5-1 | 1-2 |
| 2-3 | 3-4 | 4-6 | 6+ | |

Opacity - 50%

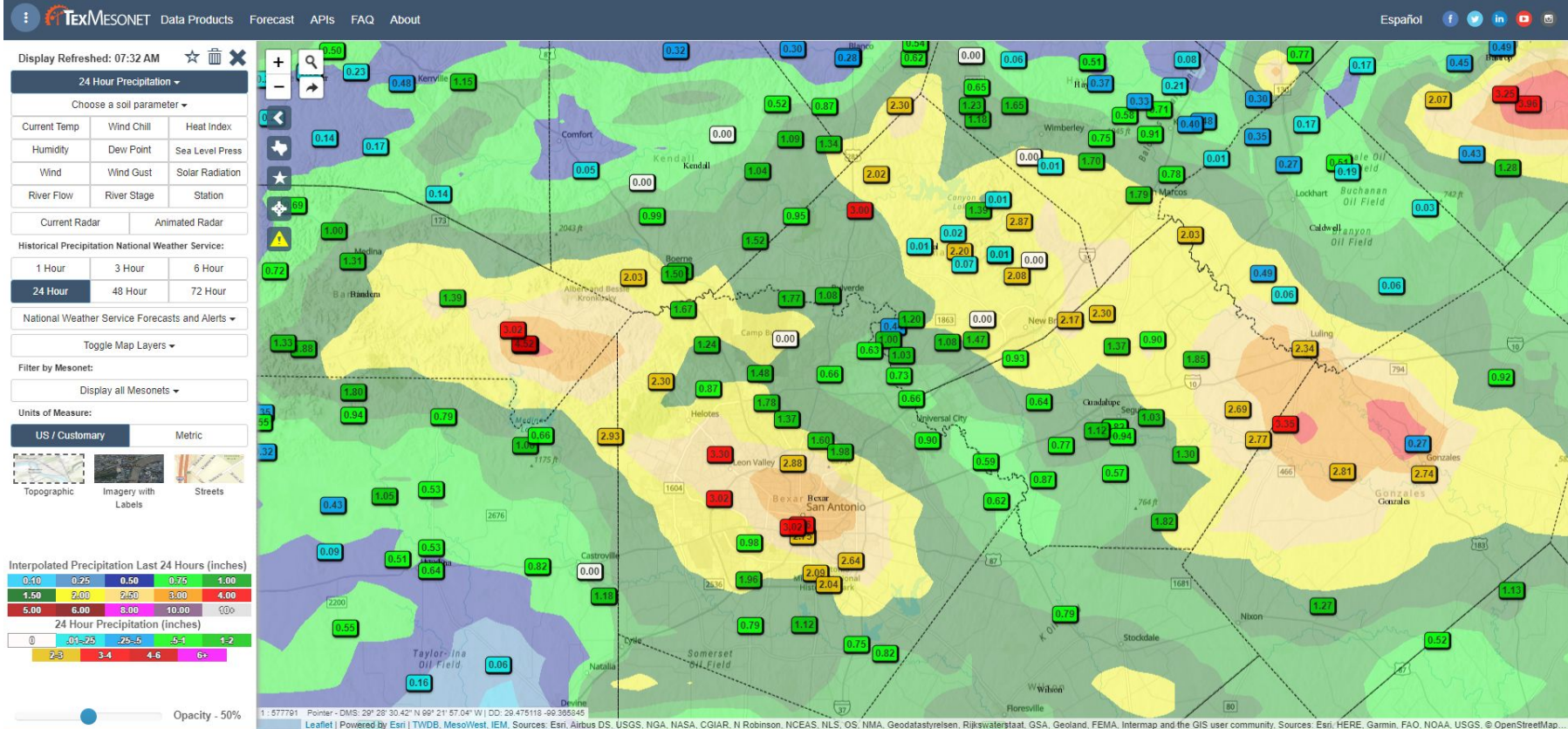


National Weather Service
Austin/San Antonio, TX



Monthly Summary

Recap (Point amounts from 20th rainfall)



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

National Weather Service
Austin/San Antonio, TX



Monthly Summary

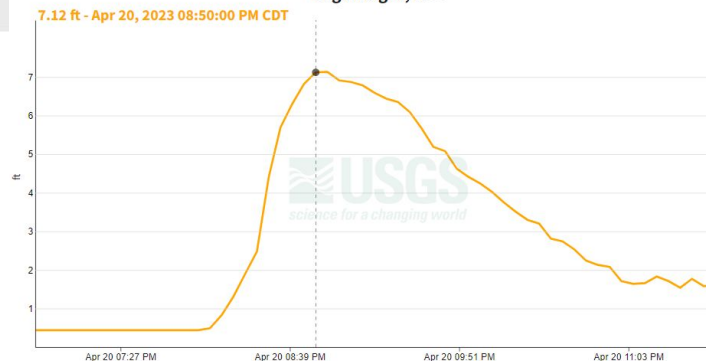
Recap

- While there isn't a forecast point on the Little Walnut Creek in Austin, a rapid rise resulted in [flooded homes](#) along the creek. There is a site just downstream of these flooded homes. The river reached 7.12ft.

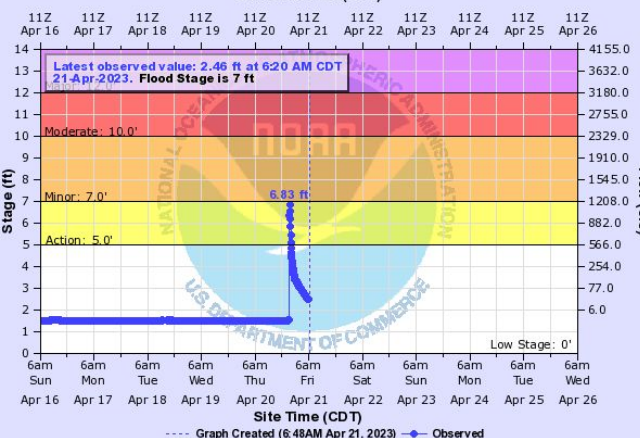
Little Walnut Ck at Georgian Dr, Austin, TX - 08158380

April 20, 2023 - April 20, 2023

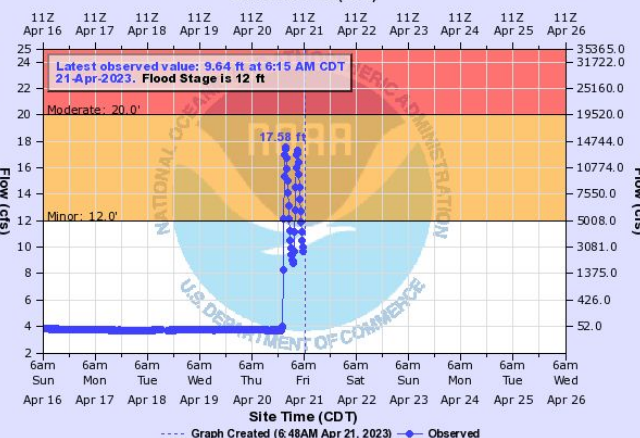
Gage height, ft



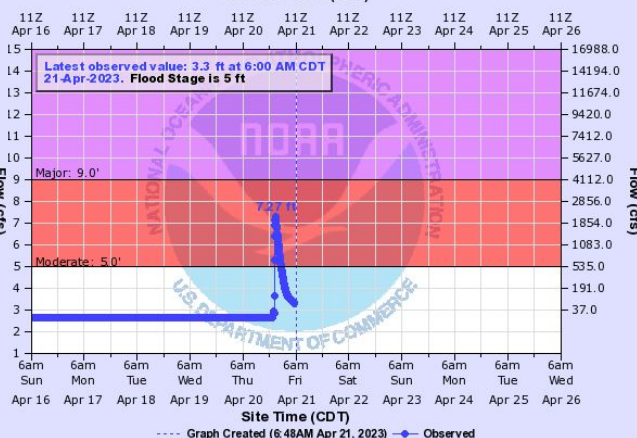
SHOAL CREEK AT WEST 12TH STREET



SAN ANTONIO RIVER AT LOOP 410



BULL CREEK ABOVE LOOP 360



AHOT2(plotting HGIRG) "Gage 0" Datum: 455.33'

Observations courtesy of US Geological Survey

IPT2(plotting HGIRG) "Gage 0" Datum: 488.11'

Observations courtesy of US Geological Survey

JUT2(plotting HGIRG) "Gage 0" Datum: 535.05'

Observations courtesy of US Geological Survey





Monthly Summary

Recap

Reports of flooding from the 21st:

- [LSR Summary](#)
- [Riverwalk flooding video](#)
- [Kens5 roadway flooding](#).
- Flooding [story](#) from KENS5



BEXAR flood

providing current flood information and emergency road closures

The screenshot shows the BEXAR flood website interface. At the top, it says "BEXAR flood" and "providing current flood information and emergency road closures". Below this is a navigation bar with "About", "Subscribe", and "Links". A search bar is present with the text "Enter a location" and "Zoom Extents". The main content is a map of San Antonio, Texas, with various colored markers indicating road status: red for closed, green for open, grey for inactive, yellow for caution, and blue for subscribed. A "Map Legend" is visible in the bottom left corner of the map area. On the right side, there is an "ALERTS" section with a "TWITTER FEED" link. The alerts list shows "Closed Locations: 15 of 198" and includes the following items:

- Alamo Heights
- Blue Wing
- Comanche Cross
- Doheny @ Culebra Creek
- Dreamland
- Gass Road South of Culebra Road
- Hildebrand
- Old Blanco Rd.
- Old Fredericksburg North of Lost Creek Gap
- Old Grissom
- Old Sequin Rd

At the bottom right, there is a "CONTACT US" link and a note: "site managed by the San Antonio River Authority".



National Oceanic and Atmospheric Administration

U.S. Department of Commerce

National Weather Service
Austin/San Antonio, TX



Monthly Summary

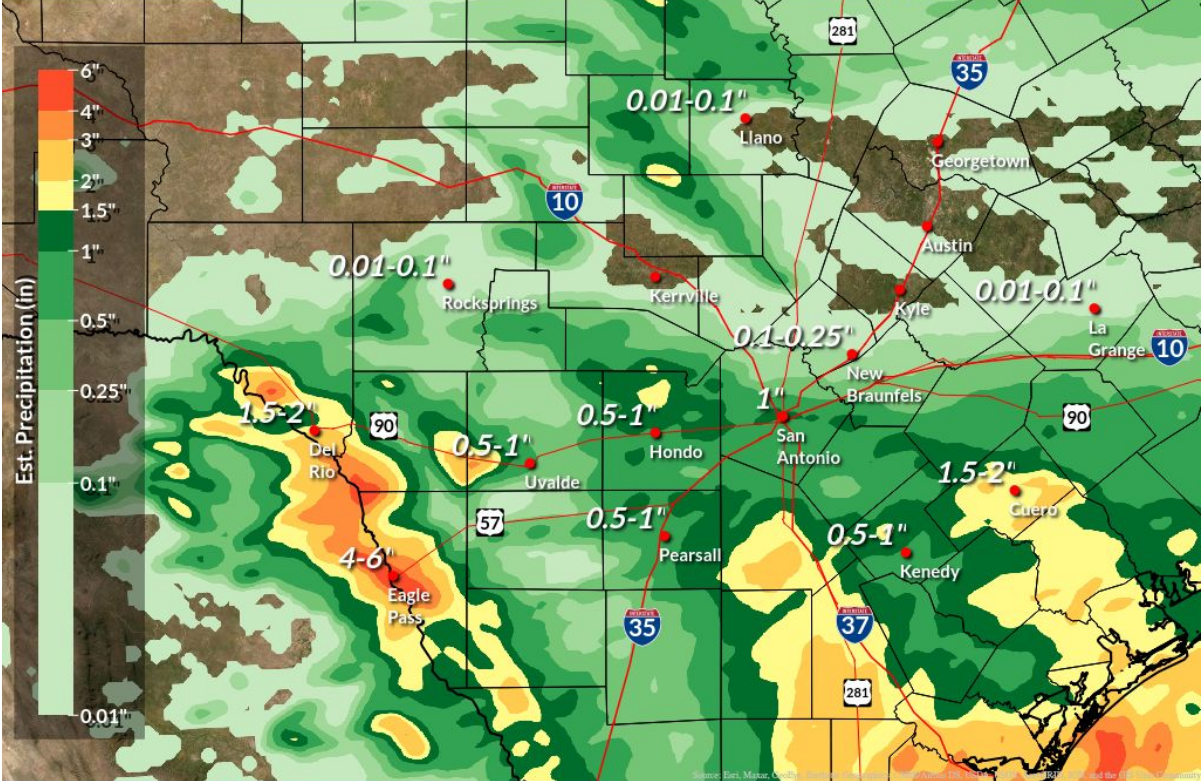
Recap

- A cluster of thunderstorms moved across the HSA from Saturday, April 23-24, 2023 evening through Sunday midday.
- While significant rises were not observed, there was some smaller streams that did flood particularly in the [Eagle Pass area](#).

2-Day Estimated Rainfall

Valid: 04/22/2023 07:00 AM - 04/24/2023 07:00 AM CDT

Weather Forecast Office
Austin/San Antonio, TX
Issued Apr 24, 2023 9:45 AM CDT



f t v NWSSanAntonio

weather.gov/ewx





Monthly Summary

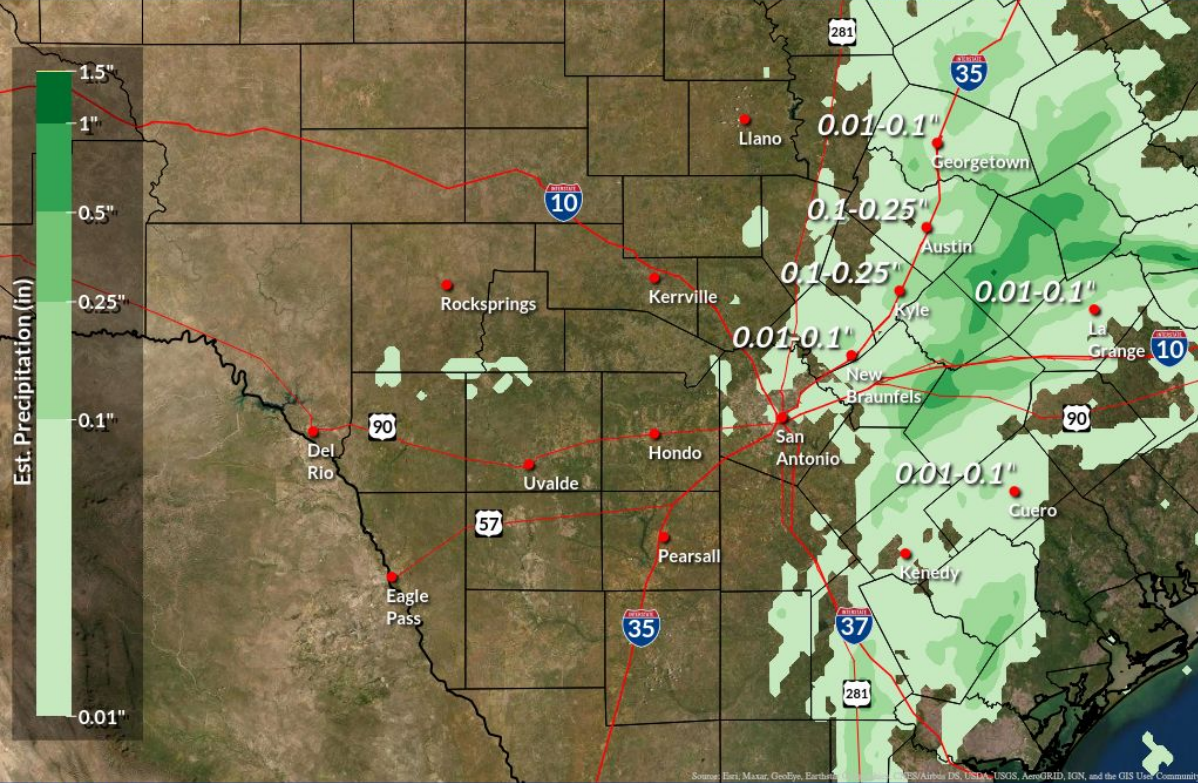
Recap

- A series of upper level shortwaves and a stationary front sparked thunderstorms during the afternoon and evening hours of the 25th.
- These storms brought between one half inch and one inch from Wilson to Lee counties.
- Despite recent rainfall, flooding was isolated and only minor rises were observed on streams, creeks, and rivers.

1-Day Estimated Rainfall

Valid: 04/25/2023 07:00 AM - 04/26/2023 07:00 AM CDT

Weather Forecast Office
Austin/San Antonio, TX
Issued Apr 26, 2023 9:16 AM CDT



NWSSanAntonio

weather.gov/ewx



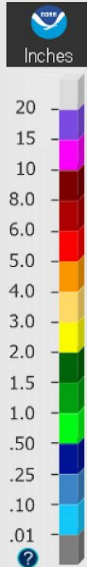
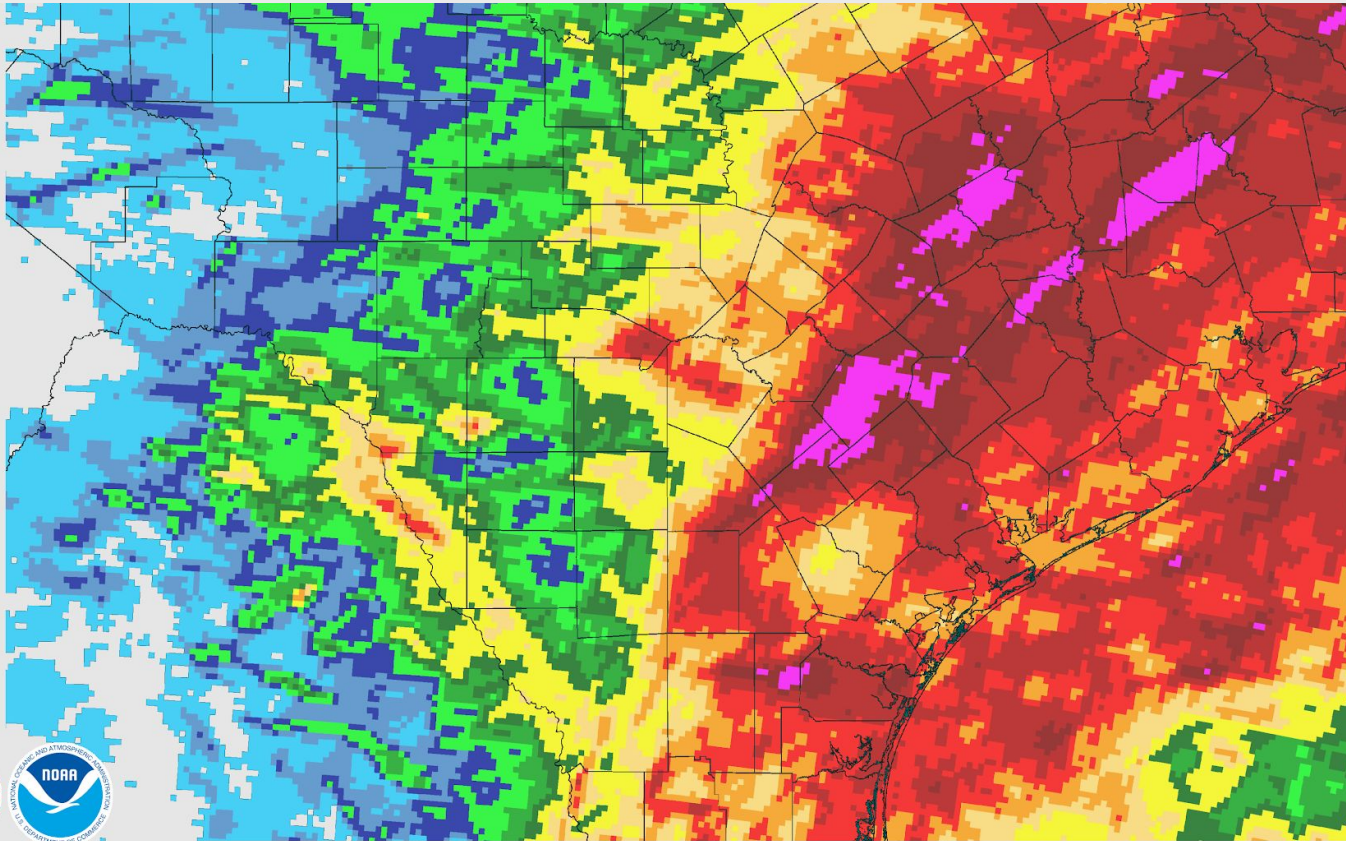
National Oceanic and Atmospheric Administration
U.S. Department of Commerce

National Weather Service
Austin/San Antonio, TX



April 2023 Monthly Rainfall

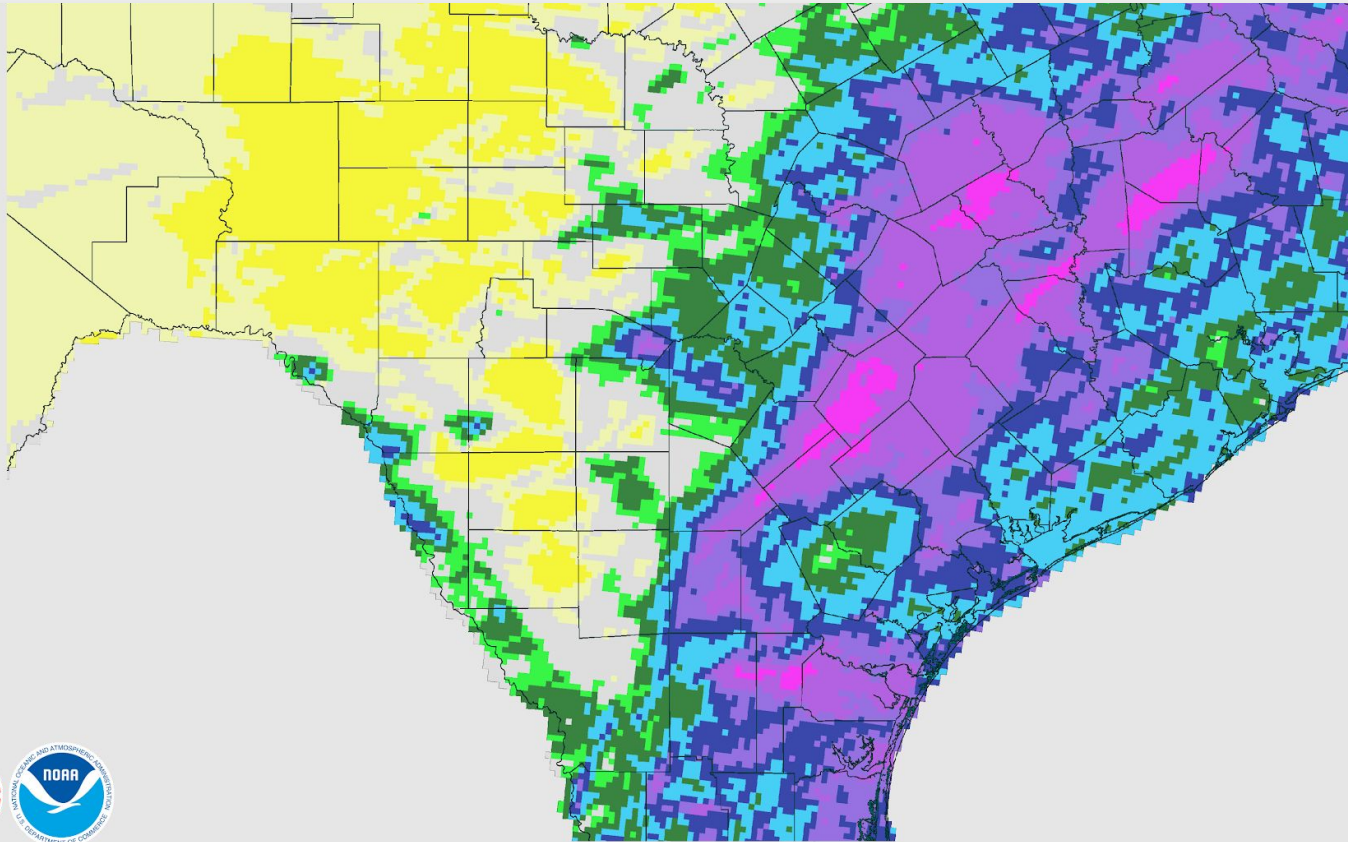
Observed Rainfall (Inches)





April 2023 Monthly Rainfall

Departure from Normal Rainfall (Inches)



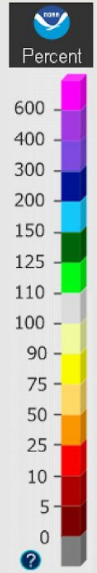
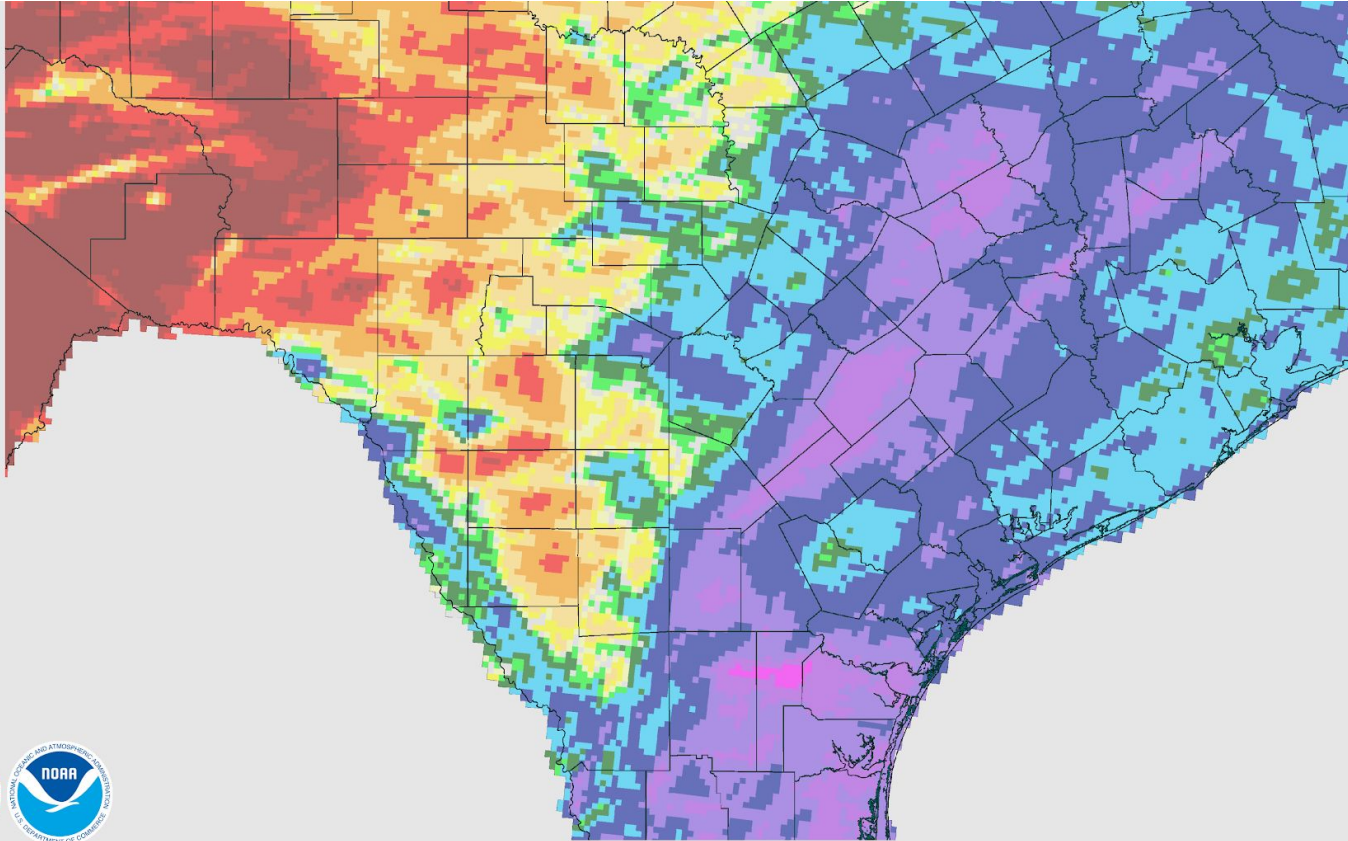
National Oceanic and Atmospheric Administration
U.S. Department of Commerce

National Weather Service
Austin/San Antonio, TX



April 2023 Monthly Rainfall

Percent of Normal Rainfall (%)



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

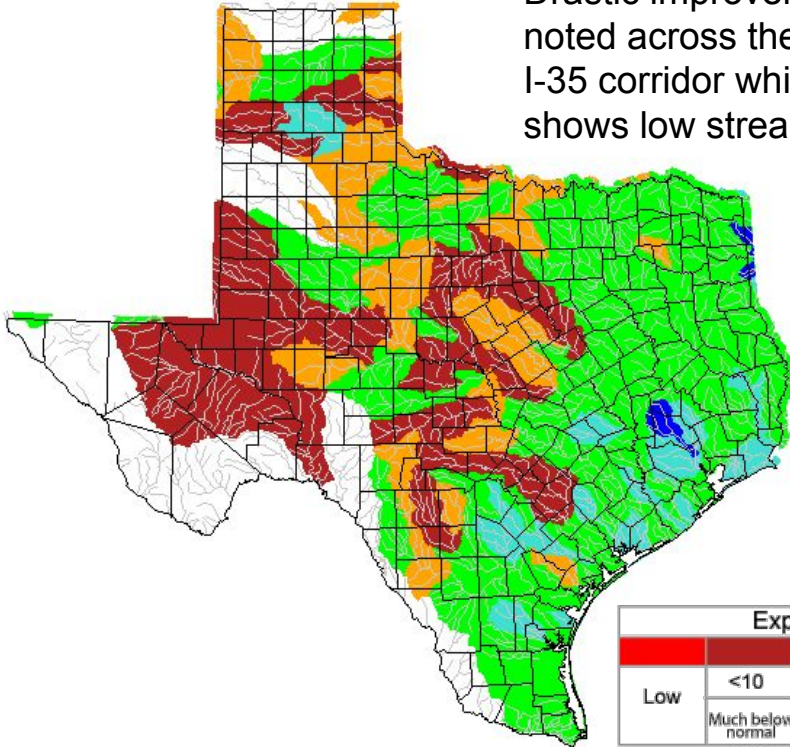
National Weather Service
Austin/San Antonio, TX



April 2023 - Historical Streamflow Comparison

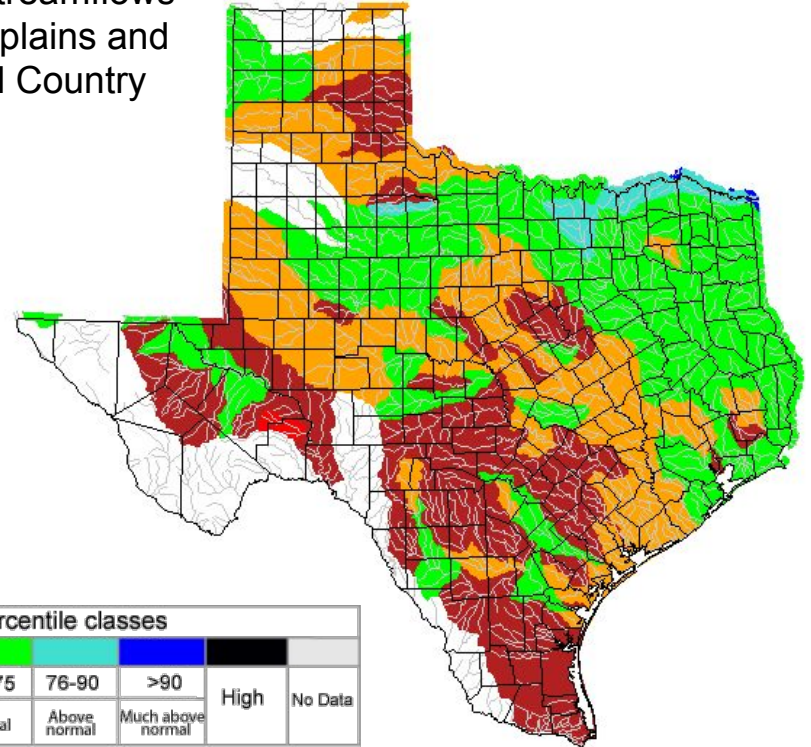
Streamflow Comparison

April 2023



Drastic improvement in streamflows noted across the coastal plains and I-35 corridor while the Hill Country shows low streamflows.

March 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 | Percent of Normal |
|--------------------|------------------|-----------------|-----------------------------|--------------------------------|-------------------|
| Austin – Bergstrom | 5.06” | 2.39” | 10.00” | 10.00” | 100% |
| Austin – Mabry | 4.18” | 2.42” | 8.34” | 9.83” | 85% |
| Del Rio | 1.18” | 1.50” | 3.24” | 3.92” | 83% |
| San Antonio | 4.75” | 2.42” | 7.92” | 8.43” | 94% |

*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 | 8.94" | 2.87" | 15.28" | 12.61" | 121% |
| Corpus Christi | 7.49" | 2.04" | 9.12" | 7.00" | 130% |
| Laredo | 3.69" | 1.47" | 4.43" | 4.80" | 92% |
| San Angelo | 0.20" | 1.47" | 2.23" | 5.07" | 44% |
| Victoria | 6.16" | 3.01" | 14.23" | 10.63" | 134% |
| Waco | 3.90" | 3.33" | 10.00" | 11.88" | 84% |

*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 | 1001.18 | -0.22 |
| Lake Travis | 681 | 637.90 | -0.57 |
| Canyon Lake | 909 | 896.99 | -0.12 |
| Medina Lake | 1064.2 | 981.58 | -0.66 |
| Lake Amistad | 1117 | 1075.56 | -10.30 |





Hydrologic Products Issued for the Month

| Product Issued | Number Issued | Additional Comments |
|---|---------------|---|
| River Flood Warning (FLW) | 4 | |
| River Flood Statement/Area Flood Advisory (FLS) | 59 | |
| Flash Flood Watch (FFA) | 0 | |
| Flash Flood Warning (FFW) | 11 | |
| Flash Flood Statement (FFS) | 16 | |
| Hydrologic Outlook (ESF) | 6 | AHPS probabilistic forecasts for the Brazos, Colorado, Guadalupe, San Antonio, Pecos, and Nueces Rivers |



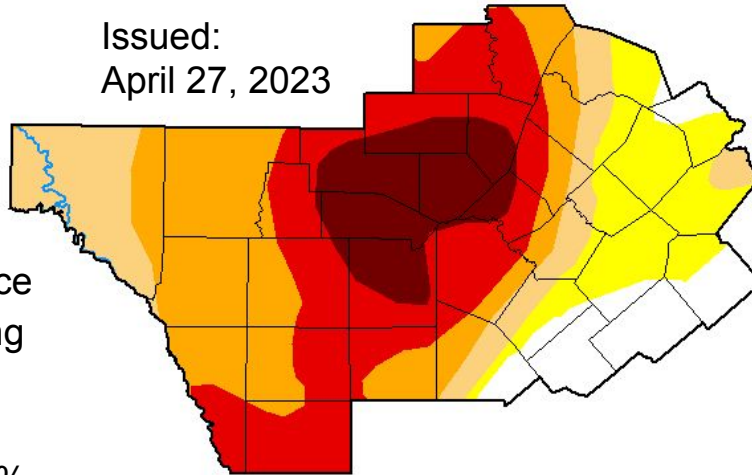
Drought Conditions

Monthly Drought Monitor Comparison

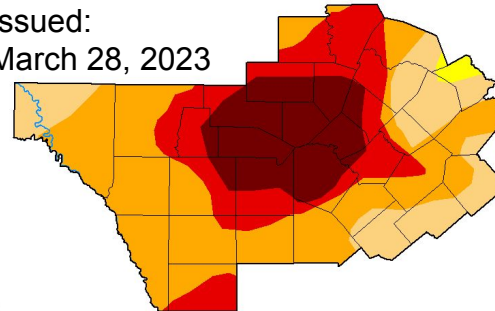
The well above normal precipitation across the coastal Plains allowed for significant improvement in drought categories over the month of april. However, below to near normal rainfall across the western portion of the service area resulted in status quo to worsening drought conditions.

- D3/D4 drought encompasses 38% of the CWA
- Drought doesn't affect 9% of the CWA

Issued:
April 27, 2023



Issued:
March 28, 2023



April 25, 2023

(Released Thursday, Apr. 27, 2023)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

| | None | D0 | D1 | D2 | D3 | D4 |
|---|------|-------|-------|-------|-------|-------|
| Current | 9.24 | 13.48 | 13.49 | 25.56 | 26.18 | 12.05 |
| Last Week 04-18-2023 | 7.74 | 12.61 | 11.06 | 25.25 | 26.55 | 16.79 |
| 3 Months Ago 01-24-2023 | 6.25 | 11.14 | 33.87 | 28.43 | 10.16 | 10.15 |
| Start of Calendar Year 01-03-2023 | 6.21 | 14.33 | 40.02 | 19.13 | 11.66 | 8.65 |
| Start of Water Year 09-27-2022 | 1.55 | 13.06 | 33.69 | 29.92 | 16.79 | 4.98 |
| One Year Ago 04-26-2022 | 2.80 | 6.98 | 6.99 | 23.13 | 37.17 | 22.94 |

Intensity:





One Month Outlook

Looking at the Monthly Outlook for May

- The Precipitation Outlook continues to lean towards above normal chances for the month of May. Portions of the Edwards Plateau show equal chances for above, below, and near normal chances.
- The Temperature Outlook has shifted to equal chances for above, below, or near normal for the month of May.

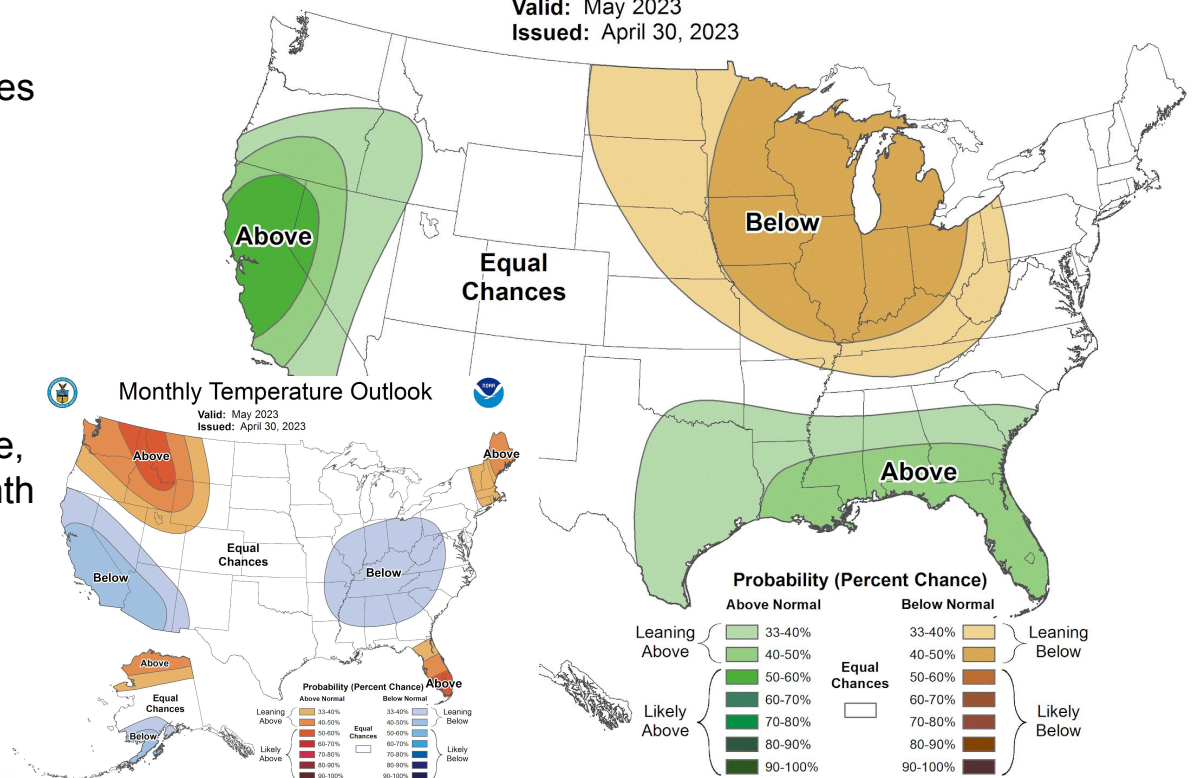
[Click for latest graphics](#)



Monthly Precipitation Outlook

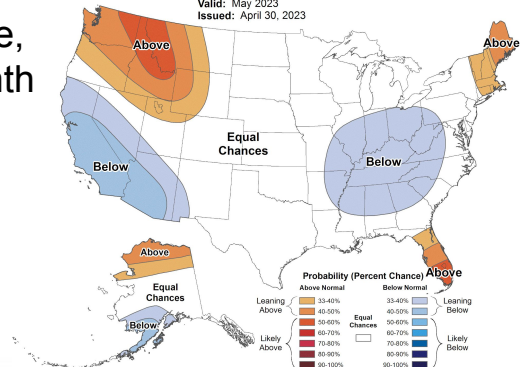


Valid: May 2023
Issued: April 30, 2023



Monthly Temperature Outlook

Valid: May 2023
Issued: April 30, 2023





Three Month Outlook

Looking at the Seasonal Outlooks

- The Precipitation Outlook continues to show equal chances for above, below, normal amounts.
- The Temperature Outlook continues to show above normal for the entire area.

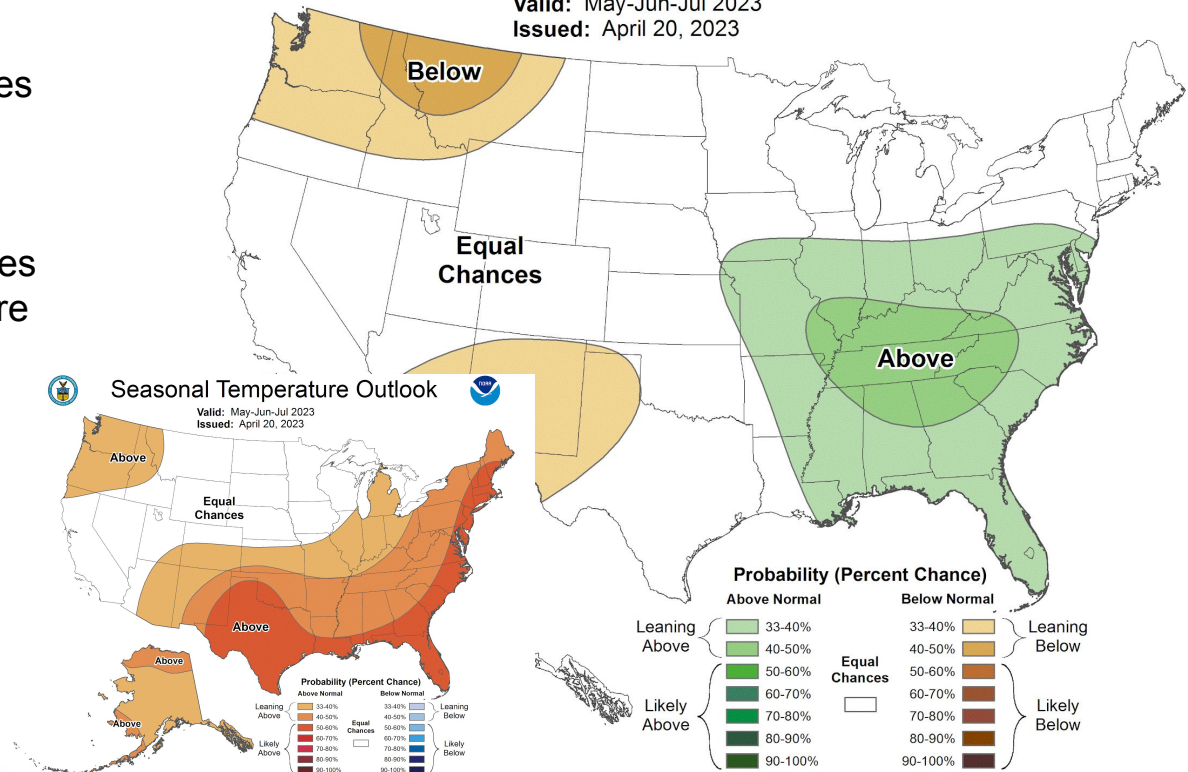
[Click for latest graphics](#)



Seasonal Precipitation Outlook



Valid: May-Jun-Jul 2023
Issued: April 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

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