

May 2024 Climate Summary

Significant Weather Events:

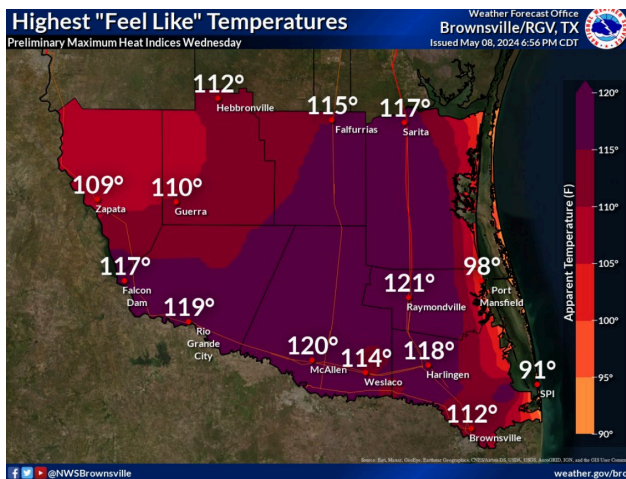
After the hectic month that was April 2024, it is difficult to believe the month that followed would be even more of a weather wonder, but May 2024 was not just an action packed adventure, but more like a sea of endless significant weather for the State. May 1 set the theme for the remainder of the month with a severe weather episode that tallied 88 severe weather reports on its opening day. Being the prominent showmaker for the month of May, the severe weather was not alone in its deeds. Flash flooding, excessive heat, and powerful winds all joined in to create a diverse month that brought a sampling of a large part of atmospheric wonders that Texas usually has to offer, short of events involving wintry weather. Being that almost every day of the month featured severe weather of some sort, only the days with the most extreme severe weather will be mentioned in the Significant Dates section.

Significant Dates:

- May 1- A severe weather outbreak to begin the month painted the picture for what the rest of the month had in store for Texas.
 - 88 total severe weather reports with 35 hail and 38 wind reports, and 15 tornado reports
 - This day featured several high-end severe weather reports. The highest *measured* wind gust recorded on this day was a gust of **80 mph** in Kent County. Significant hail reports up to **4.00"** in Donley County were also noted.
 - Some of the tornado reports included landspout tornadoes in Pecos County
- May 2- Training thunderstorms across parts of southeast Texas produced monumental precipitation totals. Areas such as Huntsville, Tx (**9.05" on May 2, 2024**) saw their rainiest May day on record, and among their highest single-day totals on record.
- May 8-10 - A sampling of some of the worst heat a Texas Summer can deliver (comfort wise) was felt across deep South Texas. Daytime high temperatures in the upper 90's and triple digits combined with exceptionally high dew-points in the high 70's to low 80's in order to produce monumental heat index values over **120°F** in places.
- May 9 - While exceptional heat was ongoing in South Texas, a prolific severe weather event took place across the State. This event was most notable for the immense hailstone that fell in Johnson City, measuring a whopping **6.25"** in diameter. This hailstone was about a quarter of an inch shy of the Statewide record of 6.4" which fell in Hondo Tx, on April 28, 2021.
- May 10- A powerful solar storm caused the Aurora Borealis to make its way as far south as Texas, delivering a nocturnal spectacle to those with optimal sky cover conditions.

- May 16 - A savage wind event associated with severe storms rocked the City of Houston, producing wind gusts *estimated* to have topped **100 mph**. Winds of this strength are in a league of their own, producing damage reminiscent of a hurricane or a weak tornado. This event caused significant disruptions to daily living and claimed several lives. This day also featured heavy rainfall across parts of the state, producing instances of significant flash flooding.
- May 22 - An EF2 tornado moved through Bell County. This tornado resulted in 30 injuries and no known fatalities. The tornado had peak *estimated* winds of 120 mph.
- May 23 - A high-end EF1 tornado with estimated peak winds of 105 mph caused two injuries southeast of Bruceville in Falls County.
- May 25- This day featured the strongest tornado the State saw during the month of May 2024. An EF3 with *estimated* peak winds of 165 mph blasted structures apart in Celina. Several other tornadoes were noted on this day, all from the same supercell storm including another EF3 with *estimated* 140 mph winds responsible for seven lives lost. Two EF1 tornadoes with the stronger of the two having *estimated* peak winds of 110 mph were also reported.
- May 26 - Powerful winds shook North Texas as a cluster of thunderstorms sideswiped the region. Winds from evaporating precipitation caused spotty damage as many stations across the regions reported peak wind gusts between 60-70 mph. DFW airport reported a maximum gust to 64 mph. Other stations with surprising peak wind gusts are Fort Worth Meacham (66 mph), Fort Worth Alliance (54 mph), Dallas Love Field (58 mph), and McKinney (70 mph). Some stations reported a modest temperature jump as the winds increased, indicating a possible heat burst.
- May 28 - Just two days after the aforementioned wind event, another, even more powerful windstorm targeted North Texas. A line of thunderstorms dropping south from Oklahoma developed a distinct ‘bow echo’, where several locations measured wind gusts over 70 mph. Widespread tree damage was reported along with some structural damage, and an airplane was moved by winds at DFW airport. A sampling of some of the peak wind reports from this event are DFW airport (**77 mph peak gust**), Dallas Love Field (**75 mph**), Arlington (**77 mph**). A weather station in The Colony reported a peak wind gust of **95 mph**, the highest recorded statewide gust for May 2024 (Tied with another gust in Lynn County)!
- May 31- A mighty cluster of thunderstorms moved through a large portion of the State producing notable winds and mighty rainfall reports. College Station reported peak gusts to 53 mph on this day, and Houston Intercontinental Airport reported an absurdly high rainfall rate. The airport saw 0.54” of rain between 7:05 and 7:10 am local time,

indicating a rainfall rate of 6.48” per hour. For reference, a rainfall rate of just 2.00” per hour is typically considered ‘blinding rain’.





A view of some of the major meteorological (and astronomical) events that occurred in May 2024. At top, a magnificent view of the Aurora Borealis as a powerful magnetic storm caused the northern lights to shift to areas unaccustomed to seeing them. The image was captured by Will Leverett near Llano, and obtained from LMT online.

Second row, left: A map showing seemingly mythical heat index values in Deep South Texas on May 8, 2024. Between May 8 and 10, 2024, some places recorded heat indices over [120°F](#), blazing past previous monthly heat index records. Map courtesy of NWS Brownsville

Second row, right: Among the largest hailstones in Texas records. The stone was noted to have a [6.25"](#) diameter. Courtesy of Katie Puckett in Johnson City.

Third row, left: Transmission towers succumb to wind gusts estimated over [100 mph](#) in Houston on May 16, 2024. Widespread damage from this wind event led to fatalities, injuries, power outages, and general disruptions to daily living in the heart of the city.

Third row, right: A home is virtually leveled by a high-end EF3 tornado that moved through the area on May 25. With estimated peak winds of 165 mph, this tornado was on the cusp of the EF4 threshold. The path length of 0.7 miles is an unusual trait of this tornado as typically, strong tornados tend to stay on the ground for longer than their weaker counterparts. Image courtesy of the Dallas Morning News.

Bottom, left: Texas A&M meteorology student, Alonso Lopez captures tree damage in South Fort Worth after strong winds buffeted the DFW area due to evaporating precipitation. A

ground (6ft high) wind gust of 47 mph was recorded near the intersection of I-20 and I-35 just after the strongest period of winds passed, and many airports in the DFW area measured 10 meter (32.8 feet) wind gusts over 60 mph.

Bottom Right: An American Airlines airplane is moved some distance by powerful winds as a complex of storms moves in from the northwest at DFW airport. DFW airport recorded a peak wind gust of 77 mph as the storms moved in, just shy of the highest wind gust reported at the site (79 mph, March 13, 2019). This speed however, is the highest the site has experienced in the month of May, beating the old record of 67 mph on May 1 and 2, 2006.

Temperature:

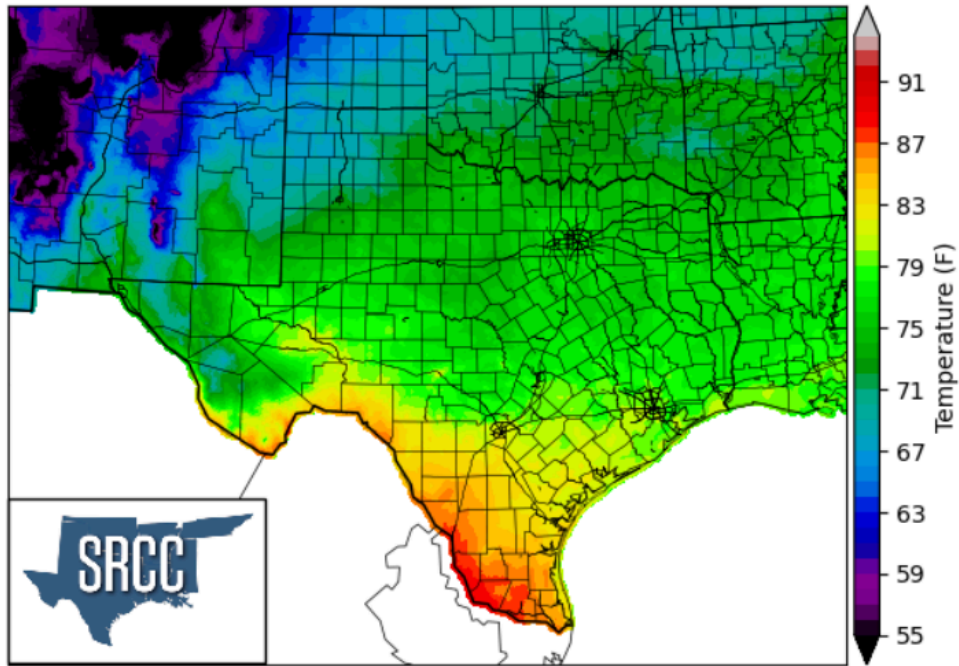
May 2024 was an exceptionally warm month across the State of Texas. The heat wave in South Texas was mentioned above, but the reality is that May 2024 was among the hottest Mays on record for many regions across the state. May 2024 was characterized by both hot days and very warm nights, with the nighttime temperatures being much more above average than the daytime temperatures in general. This is to be expected given the rainy nature of the month, which typically keeps daytime temperatures at bay, while simultaneously inhibiting efficient nighttime cooling.

Some notable populated areas that saw May 2024 rank among their top 10 hottest Mays are El Paso (79.5°F; 2nd hottest May), San Angelo (79.3°F; 5th hottest May), Dallas-Fort Worth (77.3°F; 10th hottest May), Tyler (77.2°F; 7th hottest May), Austin (79.4°F 2nd hottest May), San Antonio (81.5°F; 4th hottest May), College Station (79.3°F; 4th hottest May), Houston (79.3°F; 6th hottest May), Corpus Christi (83.2°F; Hottest May on record), Laredo (87.7°F; Hottest May), and Brownsville (87.4°F; Hottest May).

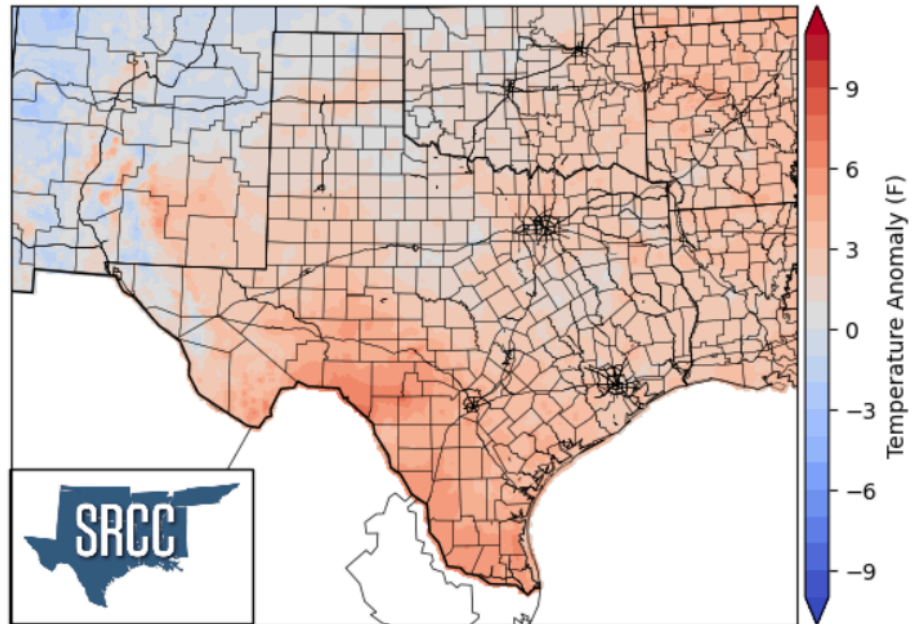
The extremes across the State for May 2024 are as follows:

- The coolest monthly average temperature was 61.9°F at the Guadalupe Peak Texas RAWS site in Culberson County
- The hottest monthly average temperature was 88.5°F at the Rio Grande City Co-op site in Starr County.
- The hottest recorded temperature across the State was **115°F** at the Rio Grande Village Co-op site in Brewster County on May 28, 2024.
- The coldest recorded temperature was 37°F seen at the Hart Co-op site in Castro County on May 7, 2024

Average Temperature (F) May, 2024



Mean Temperature Anomaly (F) May, 2024 vs 1991-2020 Normals



Precipitation:

Continuing the extremely rainy pattern from April, May 2024 amplified some of these rainfall totals to just legendary levels. Monthly rainfall accumulations of over 30.00" were reported in two CoCoRahs sites in Montgomery and Walker Counties. To put this in perspective, this rainfall accumulation is not far from the normal yearly totals from many places of the State (except for the rainy piney woods of East Texas, or the arid climate of West Texas). Though the heaviest

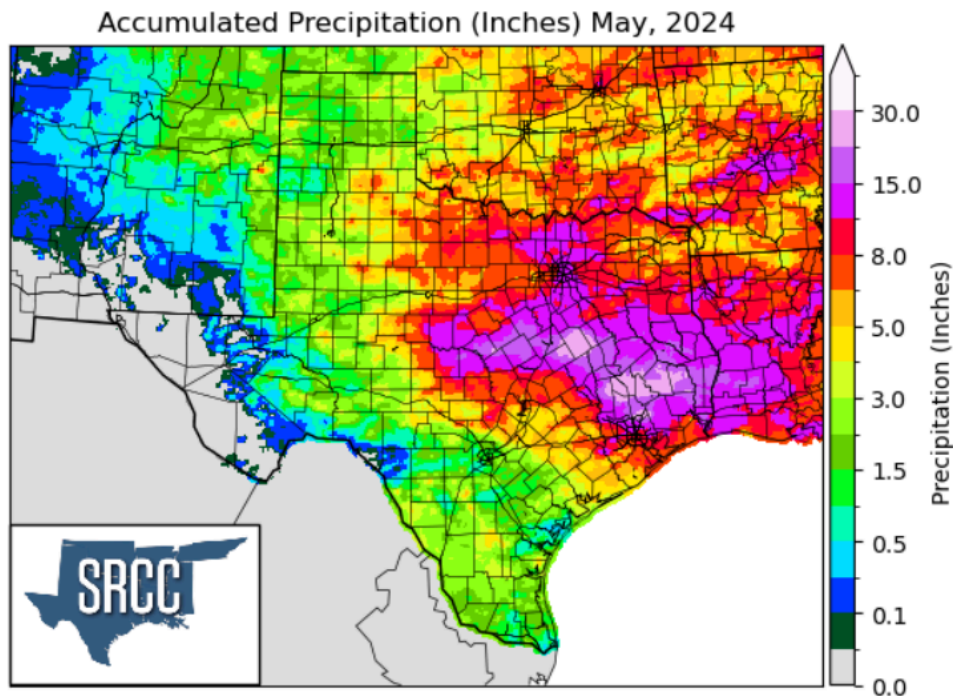
rainfall totals were seen east and north of a line from Abilene to Austin to Houston, most of the state saw what can be considered an appreciable amount of rainfall for the month.

Some areas saw May 2024 rise to the top of the leaderboard and become their rainiest May on record such as Huntsville with 24.70" (beats May 1929's 19.00" total) and Waco with 15.28" (beats May 1965's 15.00" total).

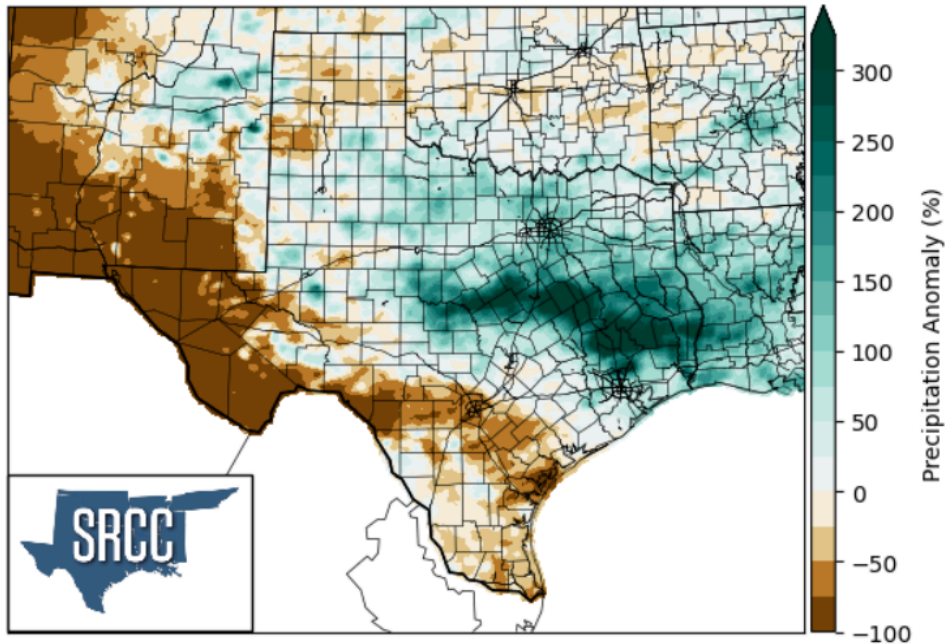
One remarkable feature is the sharp cutoff between very impressive rainfall surpluses to relatively high deficits seen just to the south and southwest of Austin and Houston.

Some Precipitation extremes across the State are:

- Highest monthly total: 30.99" at the Montgomery 4.0N CoCoRaHS Site in Montgomery County
- The highest calendar day total across the State was 12.51" at the Huntsville 1.3 SSE CoCoRaHS site in Walker County on May 2, 2024. This observation was done at 9:00 am local time on May 2, so it is possible that this may not be a strict calendar day total.



Precipitation Anomaly (%) May, 2024 vs 1991-2020 Normals

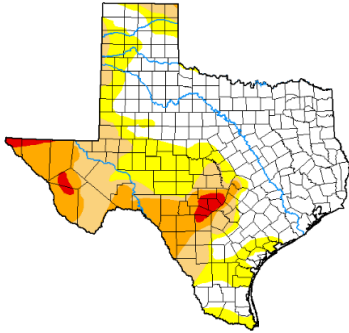


Drought:

As has been the theme for much of 2024, the areas with remarkable rainfall totals are those not affected by drought, and so, for May 2024, drought either stayed the same or slightly worsened in areas that missed out on the heavier precipitation totals. With this said, the State in general saw little change, but some areas of drought degradation was noted along the Rio Grande Valley and parts of the Texas Panhandle. Drought improvements were seen more toward the central parts of the State.

| Drought category | End of April (April 30, 2024) | End of May (May 28, 2024) | Change |
|-----------------------------|--|--------------------------------------|---------------|
| Abnormally dry or greater | 47.2% | 49.2% | +2.0% |
| Moderate drought or greater | 27.4% | 26.5% | -0.9% |
| Severe drought or greater | 13.4% | 13.0% | +0.4% |
| Extreme drought or greater | 2.1% | 1.9% | -0.2% |
| Exceptional drought | 0.0% | 0.0% | 0.0% |

U.S. Drought Monitor
Texas



April 30, 2024
(Released Thursday, May 2, 2024)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

| | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4 |
|---|-------|-------|-------|-------|-------|-------|
| Current | 52.78 | 47.22 | 27.41 | 13.40 | 2.05 | 0.00 |
| Last Week 04-23-2024 | 51.85 | 48.15 | 28.10 | 13.37 | 2.05 | 0.00 |
| 3 Months Ago 01-30-2024 | 26.93 | 43.07 | 22.75 | 9.68 | 1.92 | 0.00 |
| Start of Calendar Year 01-01-2024 | 20.60 | 60.40 | 39.47 | 17.78 | 5.08 | 0.68 |
| Start of Water Year 09-26-2023 | 3.03 | 96.97 | 80.64 | 59.66 | 38.06 | 12.68 |
| One Year Ago 04-30-2023 | 21.81 | 68.19 | 53.65 | 37.73 | 20.66 | 3.37 |

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

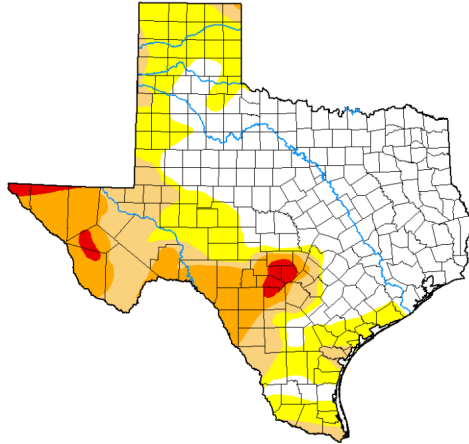
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

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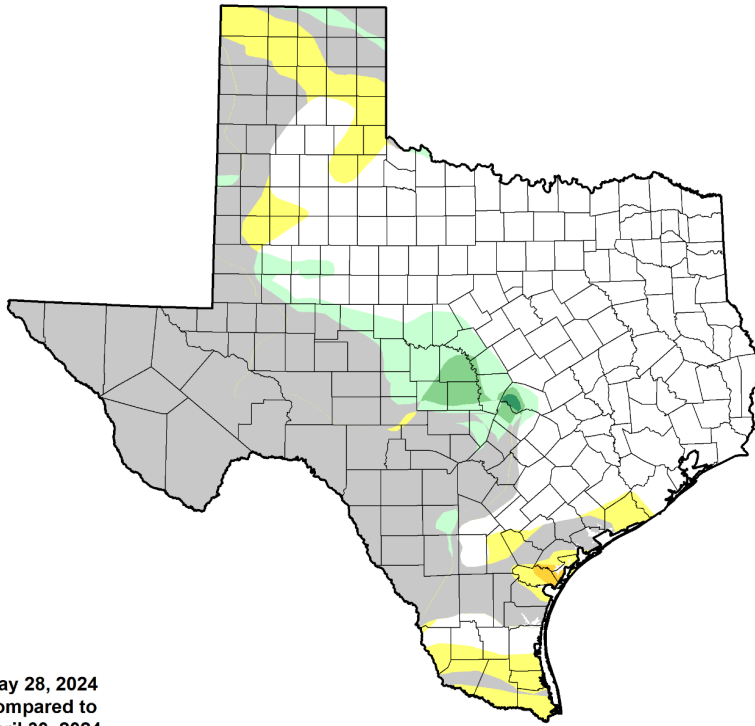


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May 28, 2024



U.S. Drought Monitor Class Change - Texas
4 Week



May 28, 2024
compared to
April 30, 2024

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- 5 Class Degradation
- 4 Class Degradation
- 3 Class Degradation
- 2 Class Degradation
- 1 Class Degradation
- No Change
- 1 Class Improvement
- 2 Class Improvement
- 3 Class Improvement
- 4 Class Improvement
- 5 Class Improvement