

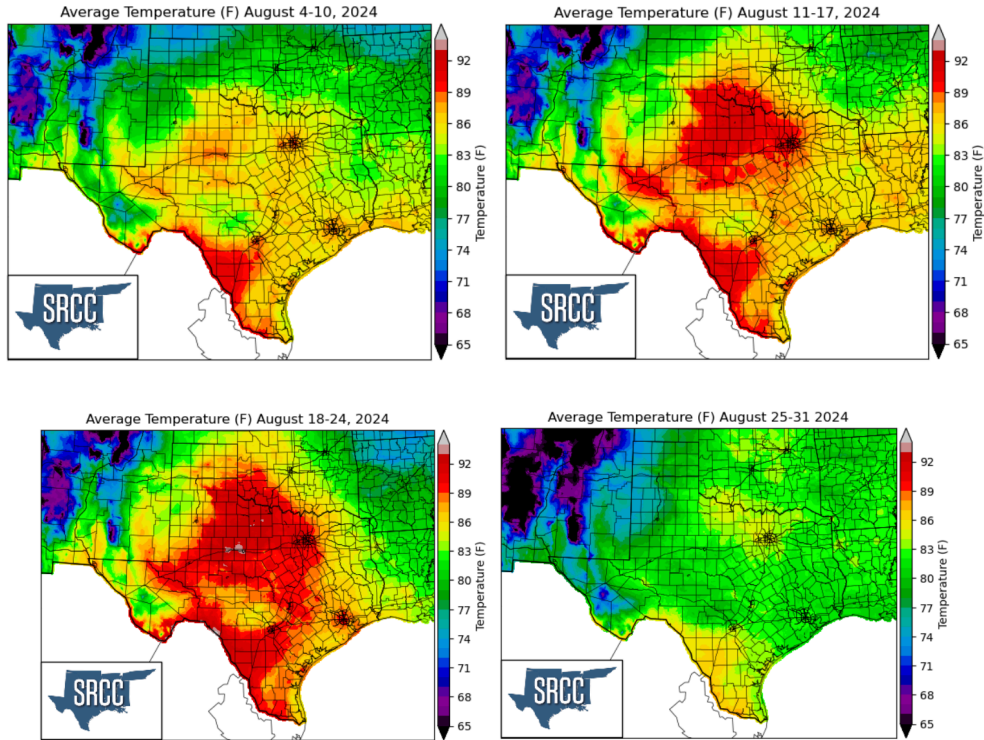
August 2024 Climate Summary

Significant Weather Events:

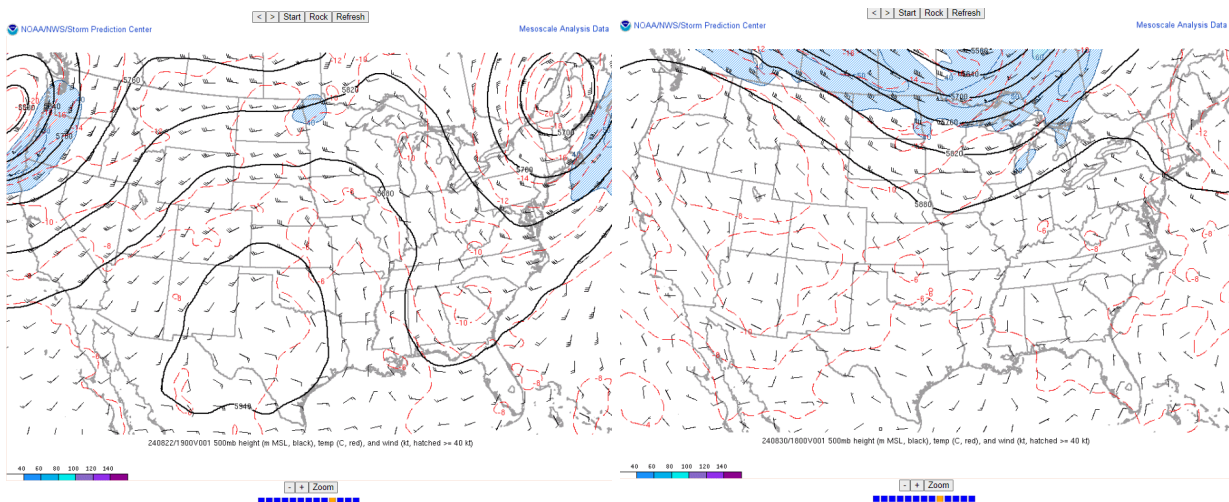
One of the two titans of summer heat, August is when parts of Texas experience their hottest temperatures of the year. According to NOAA, August is the second hottest month of the year statewide (1901-2000 average of 81.9°F), with only July being hotter (82.3°F 1901-2000 statewide average). In 2024, this was flipped. A rainy July statewide ensured that the typical summertime heat the month brings was subdued for many. The pattern responsible for the wet and relatively cool weather broke to allow the typical summertime ridge to develop and reign over the state for most of the month of August 2024. This made the climate for the month hot, dry, and very little of anything else. Above normal temperatures persisted throughout most of the month, with only the final week breaking character and bringing cooler temperatures and relatively abundant precipitation. Overall, when taking a look at statewide averages, August 2024 was hotter than normal and drier than normal, yet was still a step down from August 2023 when the state endured its second hottest August on record.

Significant Dates:

- August 1-18: August began just as the rainy and cool pattern of mid and late July concluded. Dry conditions and high temperatures led to expansion and worsening of drought across Texas.
- August 19-23: The westward retreat of the dominant area of high pressure allowed a weak cold front to meander in from the northeast and stall across Texas. Air coming together along the boundary served as a seed for thunderstorms to form, bringing a few lucky folks scattered showers and thunderstorms. Areas southwest of this stalled frontal boundary saw some extremely hot temperatures, with readings well in excess of 110°F in select locations.
- August 24-31 : The last few days of August saw the area of high pressure shift to the north, allowing upper level disturbances to pivot in from the east. The unusual east to west flow throughout the depth of the atmosphere resulted in storms that moved from east to west, rather than the traditional west to east motion most thunderstorms typically exhibit. By the end of the month, the ridge had weakened substantially, eventually dissipating by the 30th.



Maps showing the progression of August heat. The beginning of the month featured seasonable summertime heat for Texas, yet as the month progressed, the persistence of the ridge of high pressure allowed temperatures to progressively get hotter, so that by the third week of August, Texas was experiencing the hottest conditions of 2024. The breakdown of the weather pattern responsible for the hot, dry weather allowed the final week of August to return to more seasonal values.



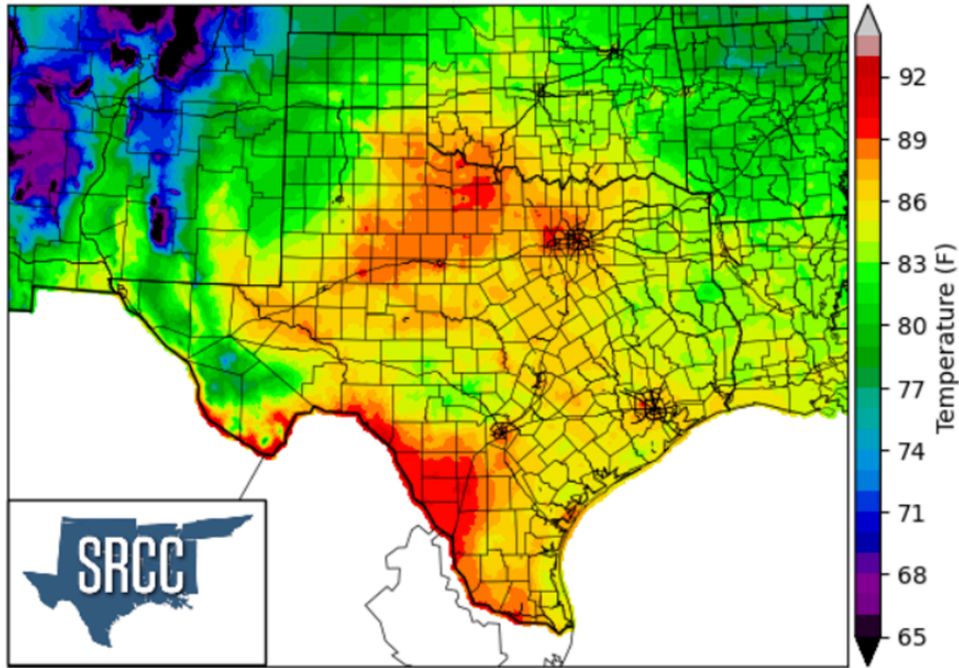
Maps showing the state of the atmosphere about 18,000 feet above sea level. The map on the left shows the ridge of high pressure (wavy black circle surrounding most of Texas centered over West Texas on August 22, 2024 when parts of west central Texas were seeing their hottest temperatures. This map serves as an illustration of what most of August had in store. By the end of the month, the dissolution of the area of high pressure (shown on the map to the right on August 30) allowed the weather to take a more interesting turn, bringing thunderstorms and appreciable rainfall for most of Texas. This in turn helped bring temperatures down to sub-seasonal averages for much of the state. Maps courtesy of the Storm Prediction Center's mesoanalysis archive.

Temperature:

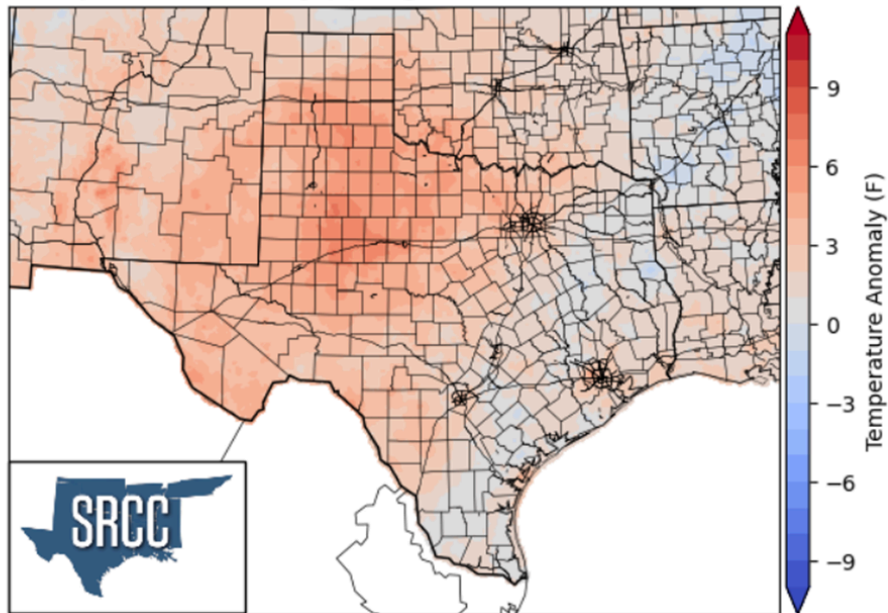
August set its personality as a hot and dry month for Texas, a characteristic that is not very atypical given the time of the year, yet such a tone allowed the summer of 2024 to tell the story of two hot months sandwiching a refreshing July. This is a difference from the previous two years where all three months of their respective summers were among the hottest on record for the state.

- The coolest monthly average temperature was **68.8°F** at the Guadalupe Peak Texas RAWS site in Culberson County
- The average temperature for Texas stations was **86.1°F**
 - 2.2°F below than that of August 2023
 - 3.0°F above that of last month
- The hottest monthly average temperature was **92.6°F** at the Del Rio International Airport in Val Verde County
- The hottest recorded temperature in Texas was **116°F** at the Comanche County City Airport in Comanche County on August 22, 2024
- The coldest recorded temperature was **51°F** at the Guadalupe Peak Texas RAWS site in Culberson County on August 27, 2024

Average Temperature (F) August 2024



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



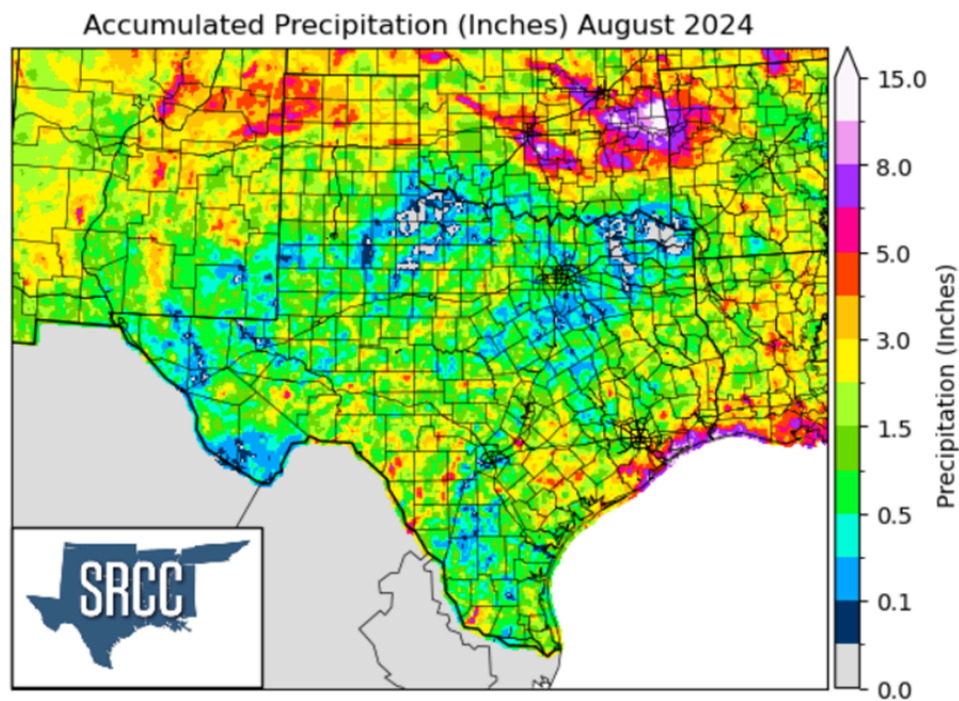
Precipitation:

The precipitation totals across Texas for the month of August were lackluster at best, with most of Texas seeing below average precipitation for the month. The scattered nature of thunderstorms allowed for some to miss out on appreciable rainfall, leading to holes of areas devoid of precipitation, as was the case in Northeast Texas, where some locations saw August 2024 rank among their driest Augusts on record. Most of the precipitation seen for the month were

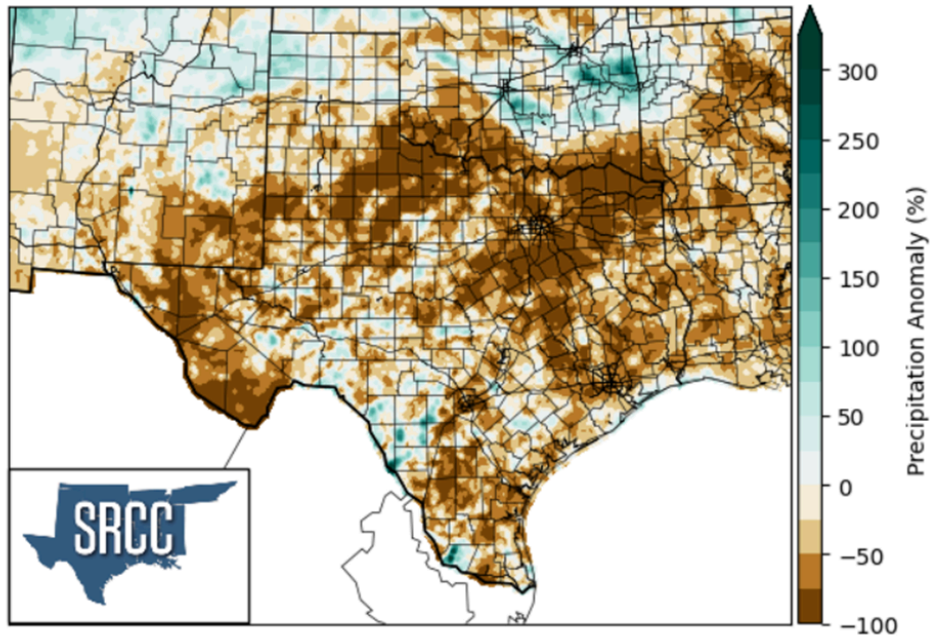
compounded during the last week as the weather pattern shifted to one that is more permissive for thunderstorm development.

Some precipitation statistics across the state are:

- Average of Texas Stations: **1.10"**
 - 3.72" below last month
 - 0.47" above August 2023
- Highest monthly total: **8.28"** at the Galveston 8.3 NE CoCoRaHS site in Galveston County
- The rainiest day at any site across the State of Texas was August 29, 2024 where **4.20"** of rain was reported at the D'Hanis 0.4NNE CoCoRaHS Site in Medina County



Precipitation Anomaly (%) August 2024 vs 1991-2020 Normals



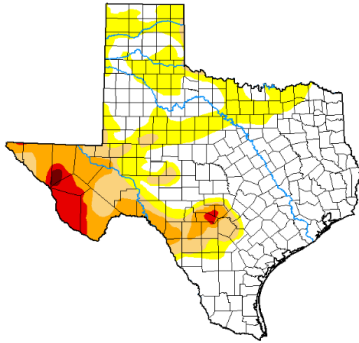
Drought:

Much of the month of August was very dry for the State of Texas, with only the last few days resulting in appreciable rainfall for most. This combined with unseasonable heat resulted in quite a stark change in drought conditions in the form of degradation and expansion. Virtually all categories of drought just about doubled in coverage across the state, a telling sign of a dry month. Much of the drought degradation was seen across the Trans Pecos, Northwest Texas, and parts of the North Texas regions with parts of the Trans Pecos region suffering from exceptional drought.

Drought category	End of July (July 30, 2024)	End of August (August 27, 2024)	Change
Abnormally dry or greater	41.9%	81.0%	+ 39.1%
Moderate drought or greater	20.4%	48.1%	+ 27.7%
Severe drought or greater	11.9%	22.3%	+ 10.4%
Extreme drought or greater	3.4%	7.6%	+ 4.2%
Exceptional drought	0.3%	1.8%	+ 1.5%

**U.S. Drought Monitor
Texas**

July 30, 2024
(Released Thursday, Aug. 1, 2024)
Valid 8 a.m. EDT



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>

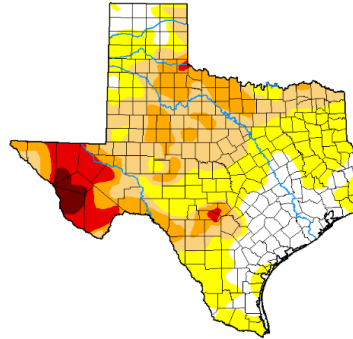
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droughtmonitor.unl.edu

**U.S. Drought Monitor
Texas**

August 27, 2024
(Released Thursday, Aug. 29, 2024)
Valid 8 a.m. EDT



Intensity:

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

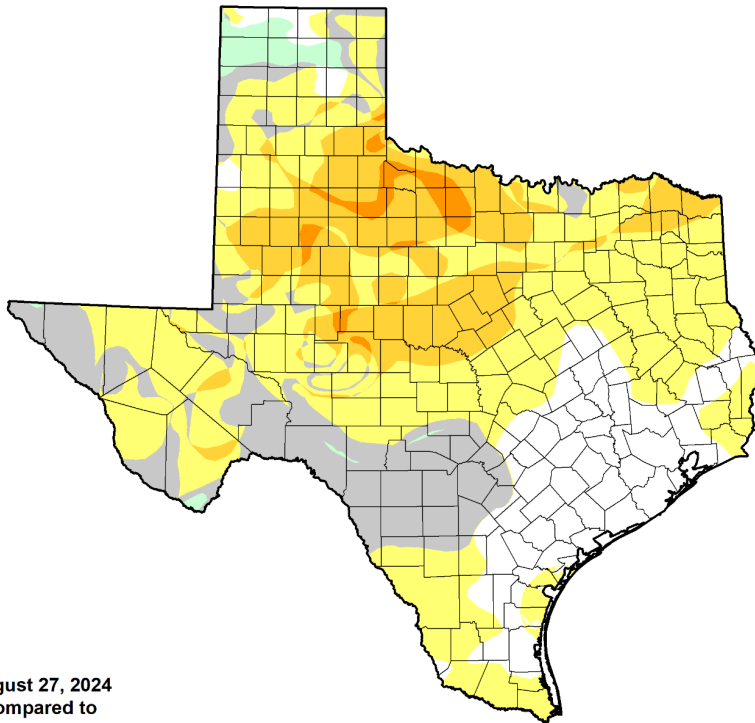
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droughtmonitor.unl.edu

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



**August 27, 2024
compared to
July 30, 2024**



- 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

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