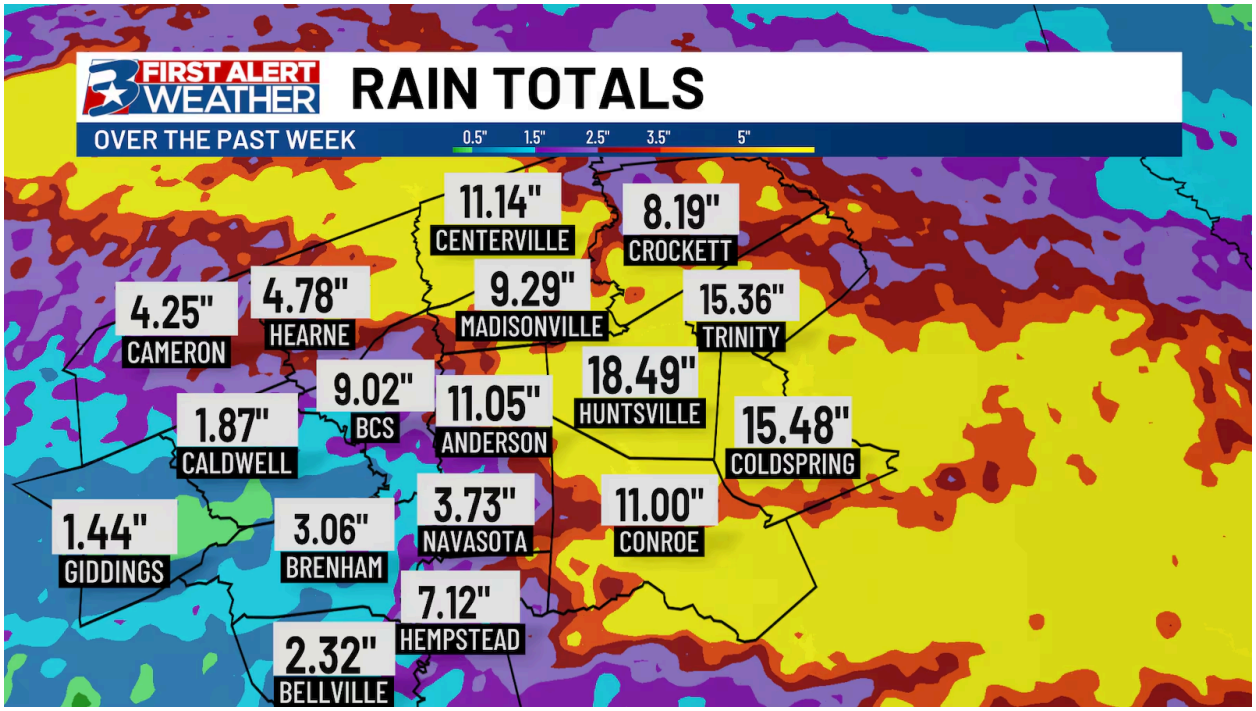
Weekly Climate Summary: 4/28/2024-5/4/2024

Climate in the News:

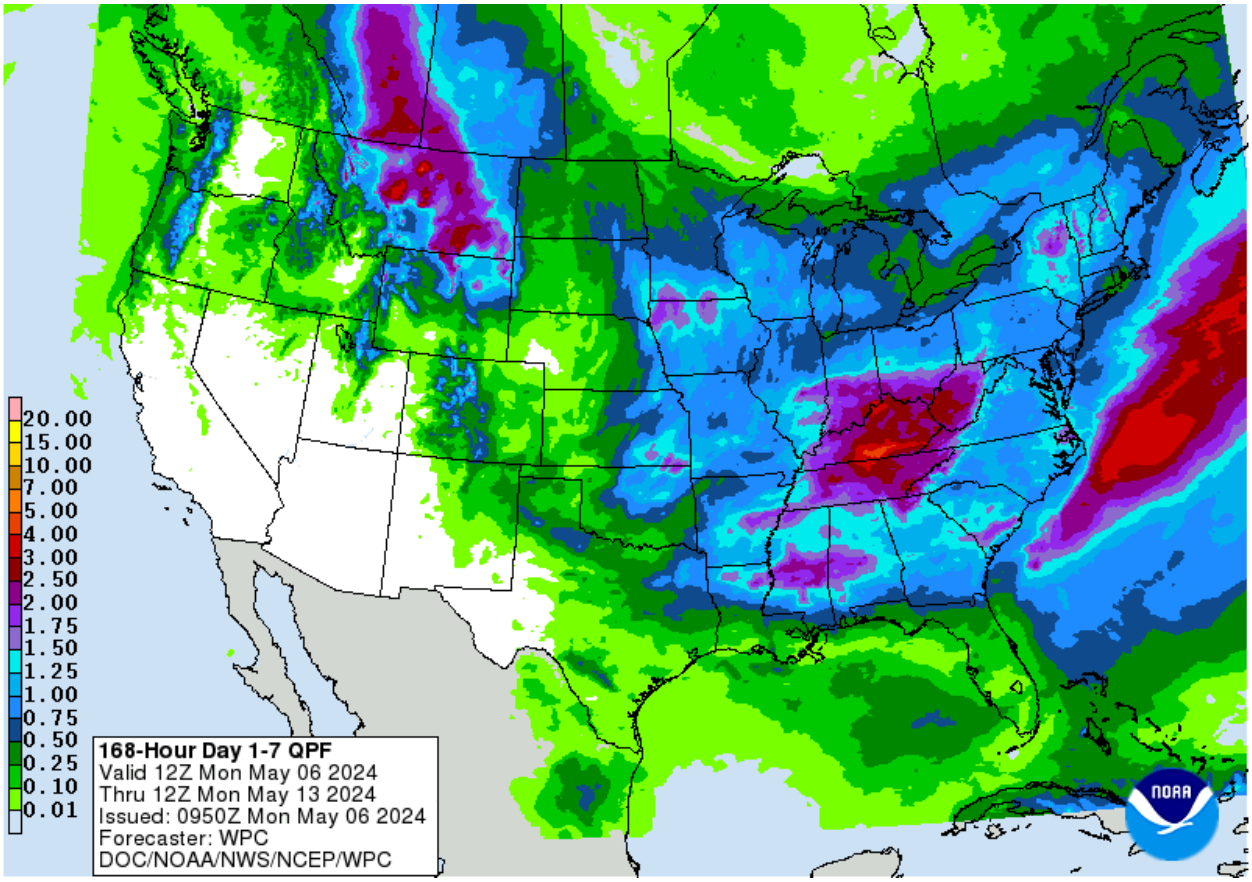
Immense rainfall totals were the name of the game for the week of April 28-May 4. A sizable bullseye of extreme rainfall was present in Southeast Texas, where over 10.00" of rain fell for the week. Such extreme rainfall was bound to cause issues in the form of flooding. On April 28, 2024, a monumental rain event set up encompassing the Bryan-College Station area, blasting away records in a spectacular way. With the excessive rainfall, severe weather also broke out across the State. Temperatures acted to remain above normal, with an emphasis on warm nights across much of the State, which is the expectation given the ample cloud cover and rainfall that limits daytime heating, but also prevents efficient nighttime cooling.



A map showing extremely high rainfall totals in and around the Bryan-College Station area. Though College Station saw record breaking rainfall amounts, areas slightly to the east got an even more significant dousing. Rainfall totals on the map ended on May 5. Courtesy of Kayleigh Thomas from KBTX news.

An image showing significant flooding in The Quad at Texas A&M university on April 28. Ponding of water resulted in water generally between 2-4 inches in depth (pictured 3.25" or so here) around the campus of Texas A&M, with some areas seeing water depths over 7 inches. Photo courtesy of Texas A&M students Adam Neuville and Avery Finney.

Image showing an unsuspecting driver in a black sedan driving into a creek that is invisible due to the presence of unusually deep water. The creek runs between two parking lots, yet, the swollen nature of the creek makes the two parking lots seem as one large parking lot, which the driver attempted to drive through. Fortunately, the driver was unharmed. The image was taken in College Station by Ryan Star, obtained from Fox Weather.



Weather Prediction Center's 7-day outlook for precipitation between May 6 and May 13. The outlook paints a significantly drier picture than the preceding seven days, however, the weather regime in question is still supportive of areas of thunderstorms which can lead to highly variable rainfall totals across the region, and potentially isolated areas seeing much higher precipitation quantities than illustrated on the map. Courtesy: Weather Prediction Center.

Weather Synopsis: The week of April 28-May 4 was so significant that it deserves a synopsis section split into two parts: a Severe Weather section and a Rainfall Records section.

Severe Weather: The seven day period of April 28 to May 4 tallied yet another week in a very active period from a severe weather standpoint. This fits the expectation of consistent severe weather that is seen as we approach the zenith of severe weather season in the month of May. Broken down by day, we note the following:

- April 28- A day with multiple threats as the flash flooding threat combined with the severe weather threat. Thunderstorms wielding the dual threat of flash flooding and severe weather were concentrated mainly in East Texas, with 63 reports across Texas, divvied up into the following:
  - 46 wind reports with the highest measured gust of ***79 mph*** occurring five miles east of Madisonville in Madison County.
  - 10 hail reports with the largest diameter being 1.75" in Madison and Houston Counties

- ➢ 7 tornado reports, unfortunately, one tornado proved fatal in Trinity County. This tornado was rated an EF1. One injury was also reported.

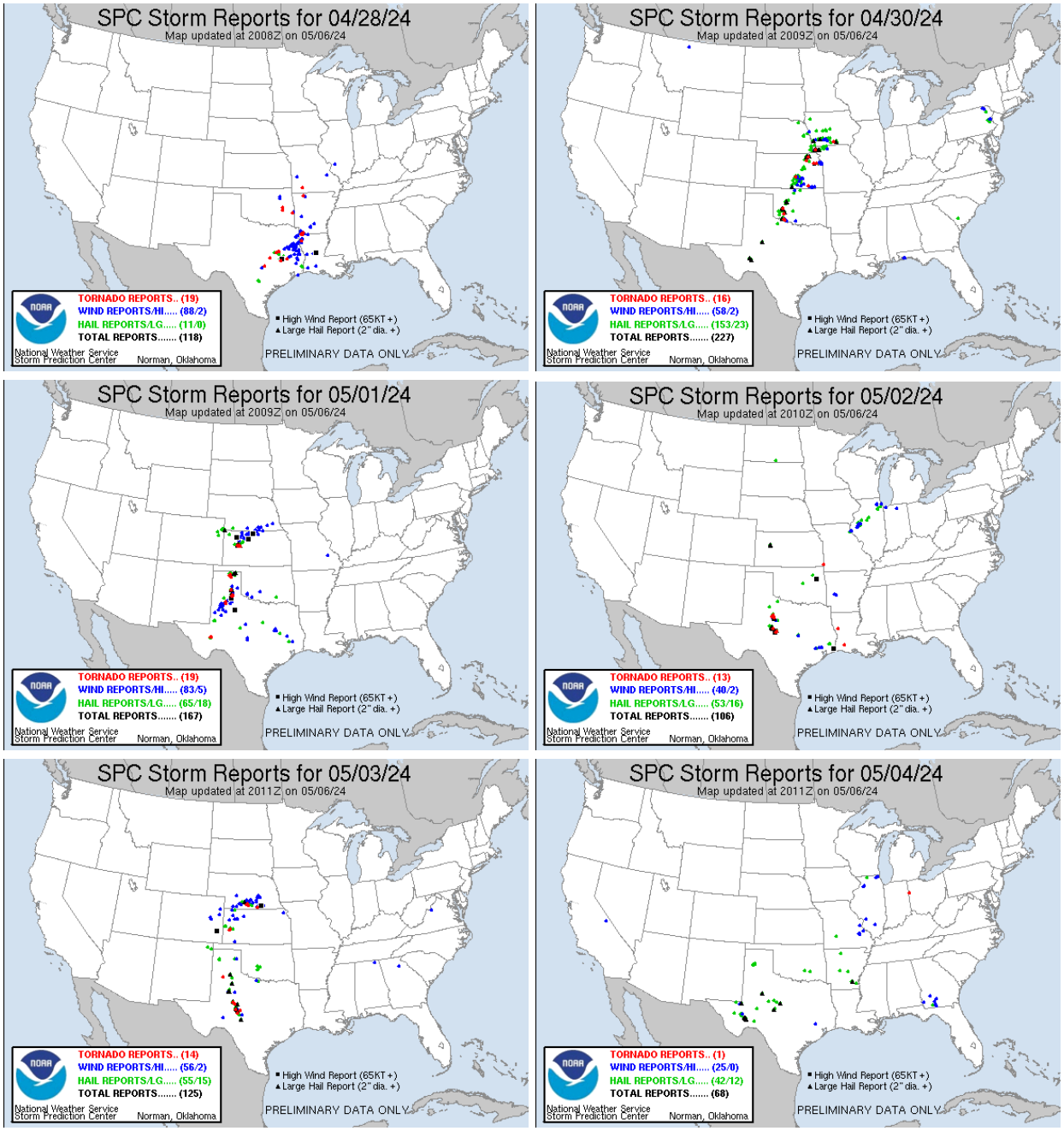
❖ April 30- After a reprieve on April 29, where Texas received no severe weather reports, this day saw 5 total reports of severe weather, across mainly West Texas. All the reports were for hail, and the largest diameter was 2.00" seen in Pecos and Mitchell Counties.

❖ May 1- The month of May began with a bang as 88 severe weather reports were seen across the State. The reports were concentrated mainly across the Texas Panhandle.
- ➢ 38 wind reports with the highest measured gust being ***80 mph*** in Kent County. A similar wind gust intensity was also *estimated* in Motley County
- ➢ 35 hail reports with the largest diameter being ***4.00"*** in Donley County
- ➢ 15 tornado reports, including two reports of landspout tornadoes in Pecos County

❖ May 2- More severe weather broke out across Texas, mainly across the western Big Country. The 47 reports were characterized as follows:
- ➢ 12 wind reports with the strongest measured gust being 70 mph in Taylor County
  - ■ Winds were *estimated* to be as high as ***85 mph*** in Jefferson County
  - ■ Winds of unknown intensity caused two injuries in Jones County
- ➢ 25 hail reports with the largest in diameter being ***4.00"*** in Jones and Concho Counties
- ➢ 10 tornado reports

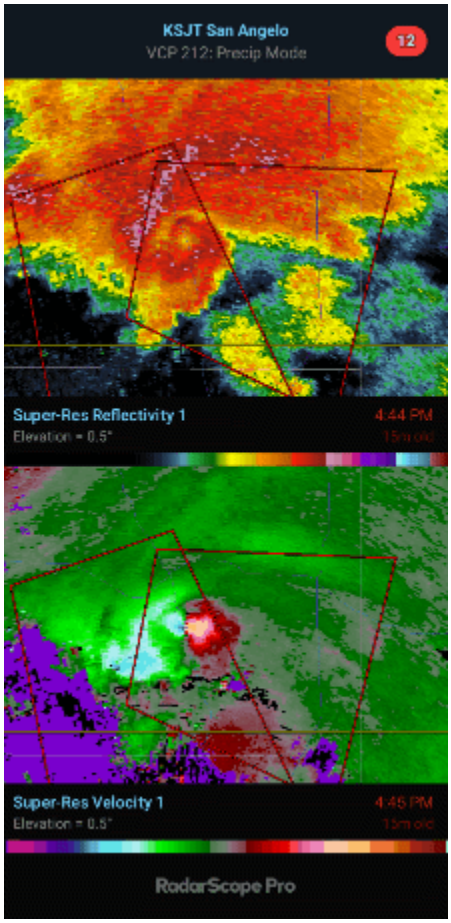
❖ May 3- Severe weather extended from the Texas Panhandle to the Midland-Odessa area. The 42 reports are as follows:
- ➢ 8 wind reports, with the highest measured gust being 72 mph in Hemphill County
- ➢ 27 hail reports, with reports of ***4.00"*** hail being noted in Tom Green County
- ➢ 7 tornado reports, occurring in remote locations, these tornadoes were not rated.

❖ May 4- Even more severe weather affected West Texas, with 35 severe weather reports noted, hail being the dominant hazard. May 4 was the only day where severe weather was reported in Texas, but no tornadoes were seen.
- ➢ 4 wind reports with the maximum gust being 62 mph in Winkler County
- ➢ 31 hail reports with the maximum diameter reported being ***4.00"*** in Winkler and Scurry Counties.
- ➢ 0 tornado reports



*Maps of the reports of severe weather received by the Storm Prediction Center during the week of April 28-May 4, 2024. Six out of the seven days saw severe weather of some kind break out across the State. A prolific week in terms of severe weather, a total of **280 reports** were noted across Texas, with 108 wind reports, 133 hail reports, and 39 tornado reports throughout the week. Courtesy: Storm Prediction Center.*

Some snapshots of the severe weather that broke out across Texas. At top left, a very large hailstone fell near Turkey, Tx, measuring over 3" in diameter. At right, powerful thunderstorm winds flipped over a small animal shed about 8 miles north of Lorenzo, Tx. Both images Courtesy of the National Weather Service Lubbock.



Dual panel radar image from the KSJT San Angelo radar showing radar reflectivity and radial velocity. A seemingly ominous signature is noted just south of Robert Lee, Tx, where an 'eye' can

be seen as a large rain-wrapped tornado meanders slowly to the east. An intense velocity couplet can also be seen with greens and reds indicating rotation very close to the ground. Due to the remote location of this tornado, it is unlikely to be rated, specifically if it impacted no structures, since there would be no proxy from which to derive a possible wind speed from the tornado

Rainfall Records: The extreme nature of the rainfall observed is best illustrated through the overview of rainfall records where the most extreme totals occurred. Below are some notable records that the extreme rain event of April 28 and May 2 broke or contributed to breaking in two stations that have a long period of record; College Station (Thread-Ex, records to 1888), and Huntsville (Co-op, records to 1903)

College Station-

Daily records

April 28, 2024 saw ***5.43"*** of rain, making it:

-The rainiest April day on record, beating April 12, 1969's 5.17" total
- The 3rd rainiest meteorological spring day on record
-The 15th rainiest calendar day on record.

Weekly records

The 7-day period between April 28 and May 4, 2024 saw ***8.14"*** of rain, making it:

-The rainiest April 28- May 4 period on record, beating 1922's 6.44" total
-The 21st rainiest 7-day period in meteorological spring (March 1- May 31)

Other records

-April 2024 ended as the 3rd rainiest April on record with 9.33" of rain, largely due to the total from April 28.
-Through May 5, College Station has recorded its 5th rainiest spring to date with ***14.53"*** of rain and its 3rd rainiest year to date with ***25.40"*** of rain.

Huntsville-

Daily Records

April 28, 2024 saw ***7.56"*** or rain, making it

-The rainiest April day on record, beating April 22, 1926's 6.70" total
-The 3rd rainiest meteorological spring day on record
-The 7th rainiest overall day on record

May 2, 2024 saw ***9.05"*** of rain, making it:

-The rainiest May and meteorological spring day on record, beating May 14, 1908 (7.65")
-The 4th rainiest overall day on record

Weekly records

The 7-day period between April 28 and May 4, 2024 saw ***19.49"*** of rain, making it:

-The rainiest April 28-May 4 period on record

-The 2nd rainiest 7-day period in meteorological spring *only behind April 29- May 5, 2024 (21.98")*

-The 8th rainiest 7-day period on record

Other records

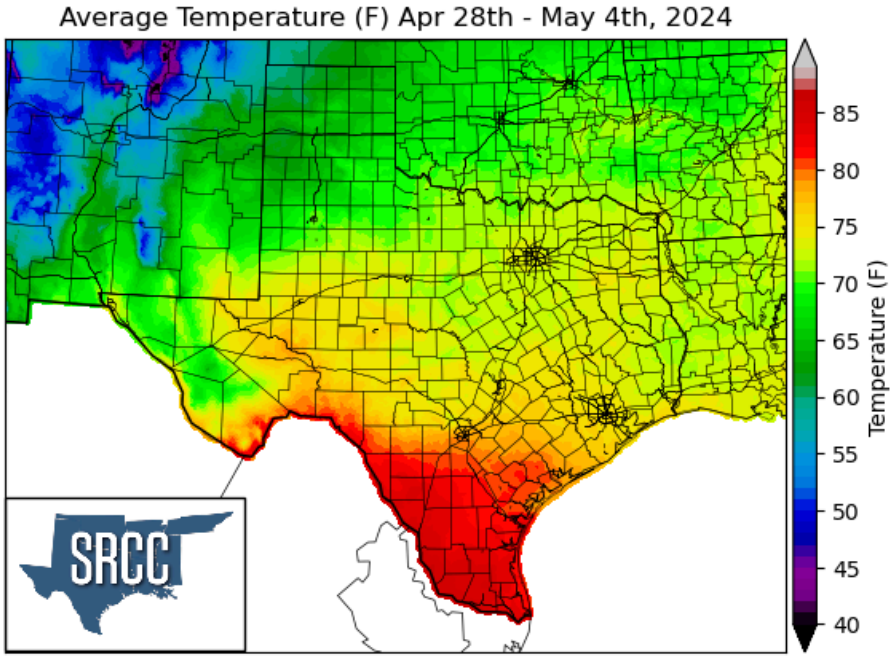
-April 2024 ended as Huntsville's 2nd rainiest April on record, with ***13.20"*** of rain

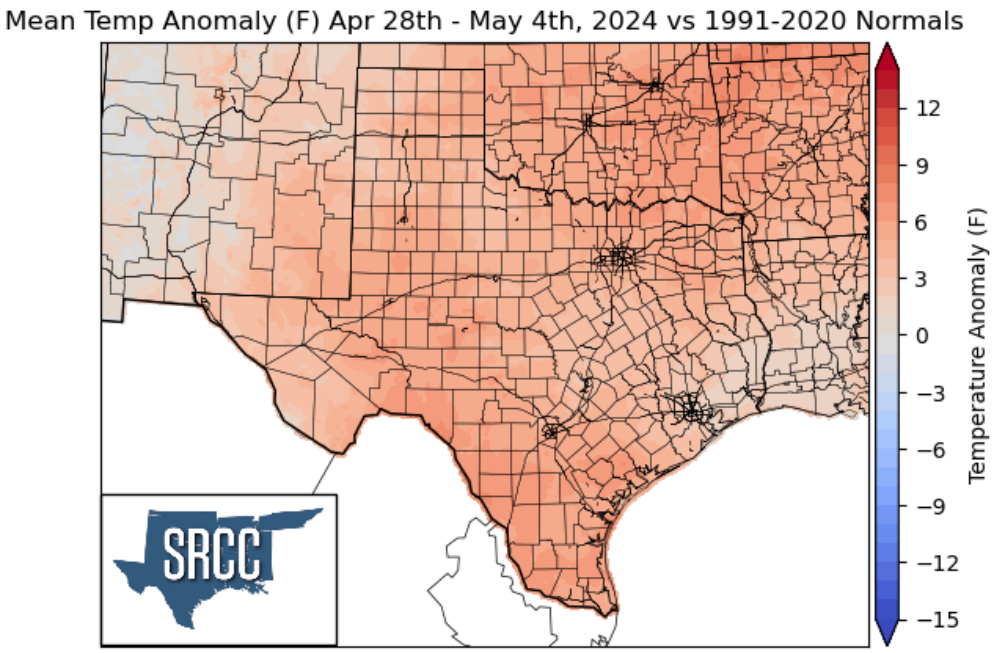
-Through May 5, Huntsville has recorded its rainiest spring to date with ***30.42"*** of rain, as well as its rainiest year to date, with ***48.53"*** or rain, which is ***almost twice*** the amount of the second place holder (1992 with 25.51"), and close to what an entire year normally sees (51.32" annual normal)

Temperature:

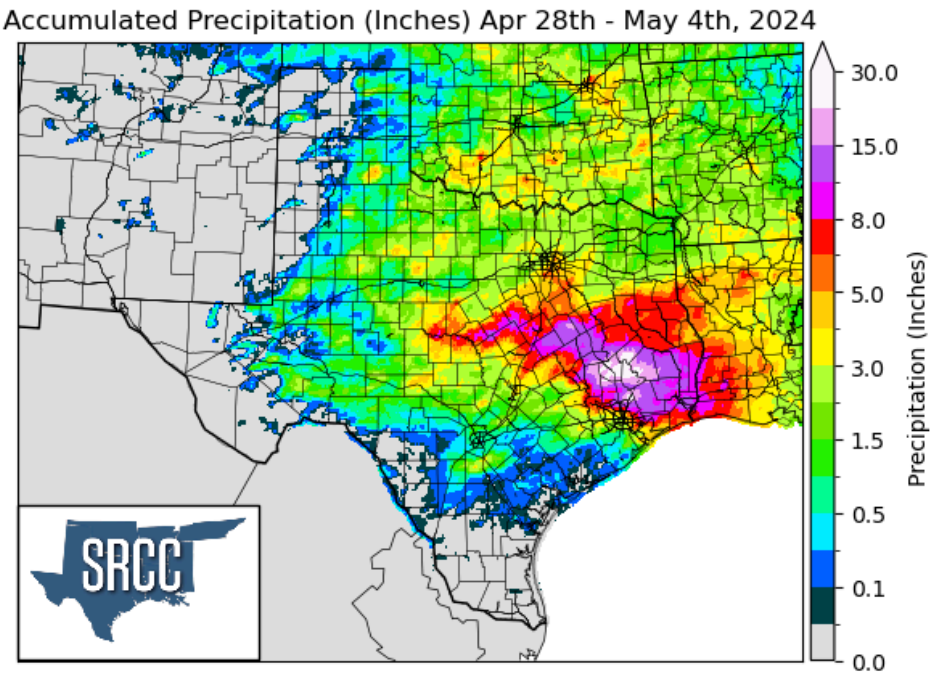
Switching gears from extreme precipitation to temperature, we find that the State overall saw warmer average weekly temperatures than the week prior. No significant cool downs were seen across Texas, with the state experiencing either a warm and wet pattern or a hot and dry pattern, depending on the region. Climatologically, we are entering a time of the year where powerful cold air intrusions become rare, and statewide average temperatures start to become more dependent on precipitation patterns, rather than large scale movement of air masses. The weekly average temperatures typically ranged from 60°F to 85°F, with a few stations in Webb and Hidalgo Counties above the upper limit.

- The Dalhart FAA Airport in Dallam County saw the lowest weekly average at 61.7°F
- The McAllen Miller International Airport in Hidalgo County saw the highest weekly average at 86.1°F





Precipitation:
We already had an extensive discussion on the extreme rainfall seen across parts of the State, however, here we overview the State of Texas as a whole, and see that the extreme rainfall values were concentrated in Southeast Texas, where two days stick out, April 28 and May 2. Some stations saw daily rainfall accumulations of between 5 and 10 inches on either or both of these days. Such anomalous rainfall caused some locations to receive several months worth of rainfall in just one week. We even needed to adjust our rainfall scale to stop at 30” account for the absurdly high rainfall totals! Outside of this (very large) bullseye, the remainder of Texas saw a relatively wet week, but rainfall totals were much more conceivable and manageable than those seen across the southeastern portions of Texas.



The U.S Drought Monitor reports minimal changes from the week prior. This is due in large part because the bulk of the drenching rainfall was focused on areas out of any drought categories, where no improvements can be made. Areas suffering from drought saw minimal rainfall totals, allowing existing drought to continue or worsen slightly. The rainfall seen at the beginning of May is just outside the Drought Monitor reporting period.

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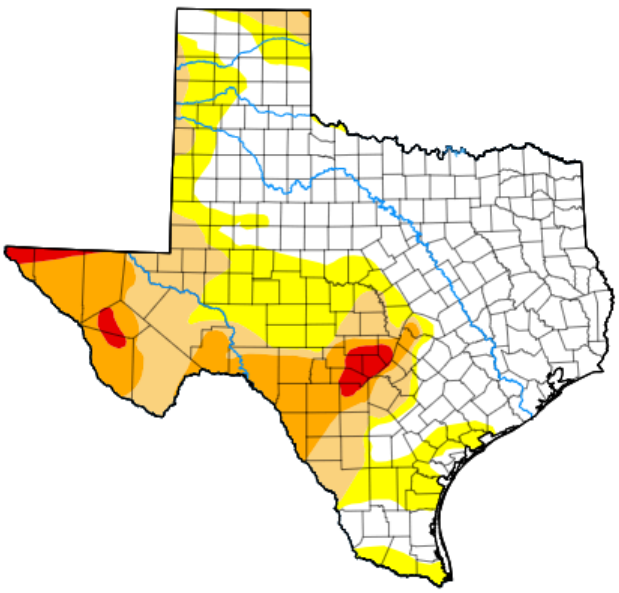
Texas



Map released: Thurs. May 2, 2024

Data valid: April 30, 2024 at 8 a.m. EDT

Intensity

- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)
- No Data

Authors

United States and Puerto Rico Author(s):
Curtis Riganti, National Drought Mitigation Center

Pacific Islands and Virgin Islands Author(s):
Lindsay Johnson, National Drought Mitigation Center

Statewide extremes:

-The hottest recorded temperature of the week was 107°F at the at the Rio Grande Village Co-op site in Brewster County on May 4, 2024

-The coldest recorded temperature of the week was 37°F at the Muleshoe No 1 Co-op site, in Bailey County on April 28, 2024

-The most precipitation recorded in the week of April 28-May 4, 2024 was ***21.01"*** at the Splendora 3.9 ENE CoCoRaHS site in Liberty County.

-The rainiest day at any site across the State of Texas was May 2, 2024 at the Huntsville 1.3 SSE CoCoRahs site in Walker County, where ***12.51"*** of rain were recorded on this day.