

Weekly Climate Summary: 12/22/2024-12/28/2024

I. Climate in the News:

A week filled to the brim with active and impactful weather, 2024 closes with a bang in its last full week. Showers and thunderstorms erupted beginning on Christmas Eve, dampening holiday plans for many. Precipitation was ample for East Texas and came in three main rounds. Abnormally warm late December conditions meant that the storms had enough energy to turn nasty, so severe weather was seen in Texas on December 24, 26, and 28. A brief summary of each day is provided below:

December 24, 2024:

- Texas had 18 total severe weather reports with 16 severe hail, one severe wind, and one tornado report
- The largest hail was 2.75" in diameter in Fayette County, and a 58 mph wind gust was recorded in Victoria County
- An EF0 tornado with peak estimated winds of 85 mph touched down in Freestone County, tearing aluminum cladding off a home's roof and breaking several large tree branches
- No injuries or fatalities were reported with this event

December 26, 2024:

- Texas had nine total severe weather reports with five confirmed tornados, three severe hail reports, and one severe wind report. Severe weather later continued into Louisiana
- The largest hail was 1.25" in diameter in Hill County. High winds in Angelina County downed several powerlines
- Two EF1 and three EF0 tornados were reported in Wharton, Harris, and Liberty Counties. The strongest tornado had estimated peak wind speeds of 95 mph.
- No fatalities or injuries were associated with this event

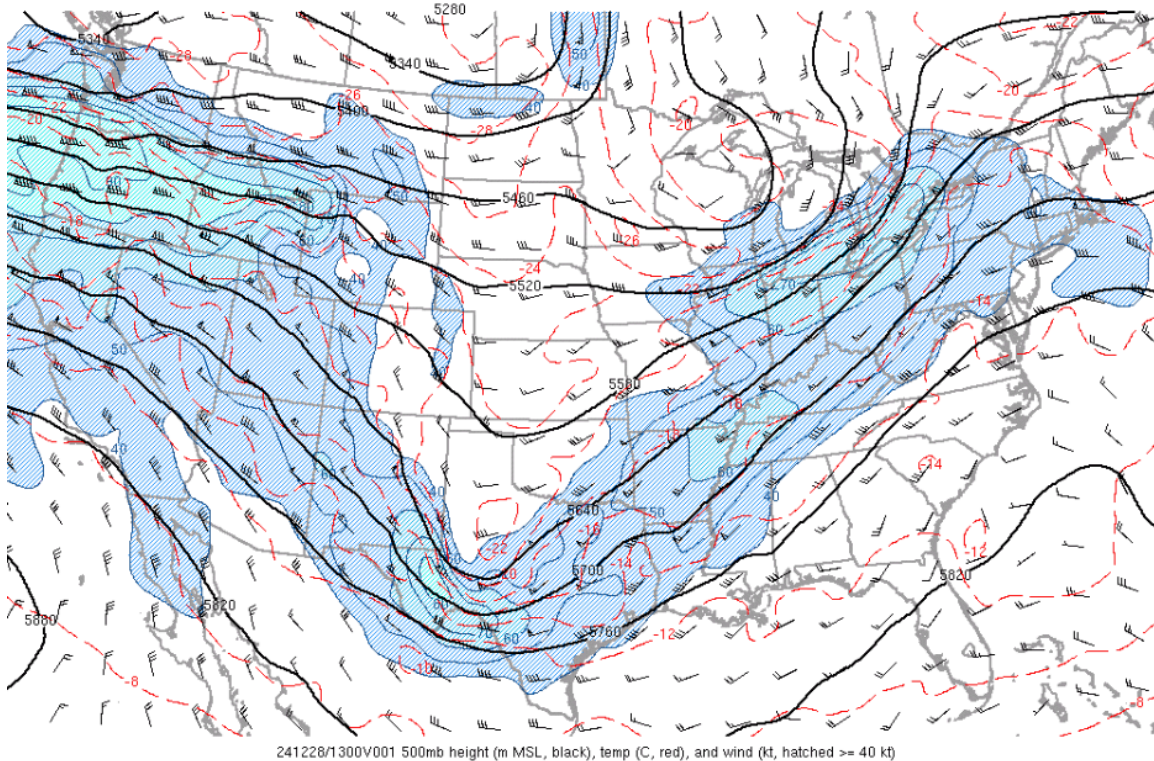
December 28, 2024: The most prolific day of severe weather, a powerful line of storms fired off in East and Southeast Texas, and continued for hundreds of miles, bringing hail wind, and tornados to the Southeast United States. No fatalities were reported in Texas, yet there were 14 injuries. Ten were in Montgomery County as powerful thunderstorm winds damaged or destroyed many homes. Five confirmed tornados were seen in Texas, with the strongest being two EF3 tornados in Montgomery and Jefferson Counties with peak estimated winds of 145 and 138 mph respectively. Two injuries were reported with the EF3 tornado in Jefferson County.



Significant damage to the Walt Disney Elementary School in Alvin, TX. Portions of the roof were blown away, and exterior walls buckled amidst the extreme winds. No one was injured in the school as students and staff were home for winter break. This tornado was rated an EF2 with maximum wind speeds of 125 mph. Image courtesy of Alvin ISD and Community Impact.

II. Weather Synopsis:

Winter is typically not when Texas sees most of its severe weather, yet it can still occur occasionally. Cold air tends to subdue the occurrence of severe weather, but when it retreats to the north, the warmth brought on by southerly winds can sometimes be enough to allow storms to grow into prolific severe weather producers. In this week's severe weather, an upper-level low allowed for the gentle ascent of air, favoring the development of low pressure at the surface. The presence of a cold front triggered storm development, and with the atmospheric ingredients, the storms matured and coalesced into mighty clusters, producing lots of severe weather reports.



This map shows the atmospheric conditions at about 18,000 feet above sea level on the morning of December 28. The black solid contours can be thought of as lines of equal pressure. The dip in the lines is a low-pressure system. Due to how the atmosphere works, areas just ahead of these lows are typically favored for the most active weather. Image courtesy of the Storm Prediction Center.

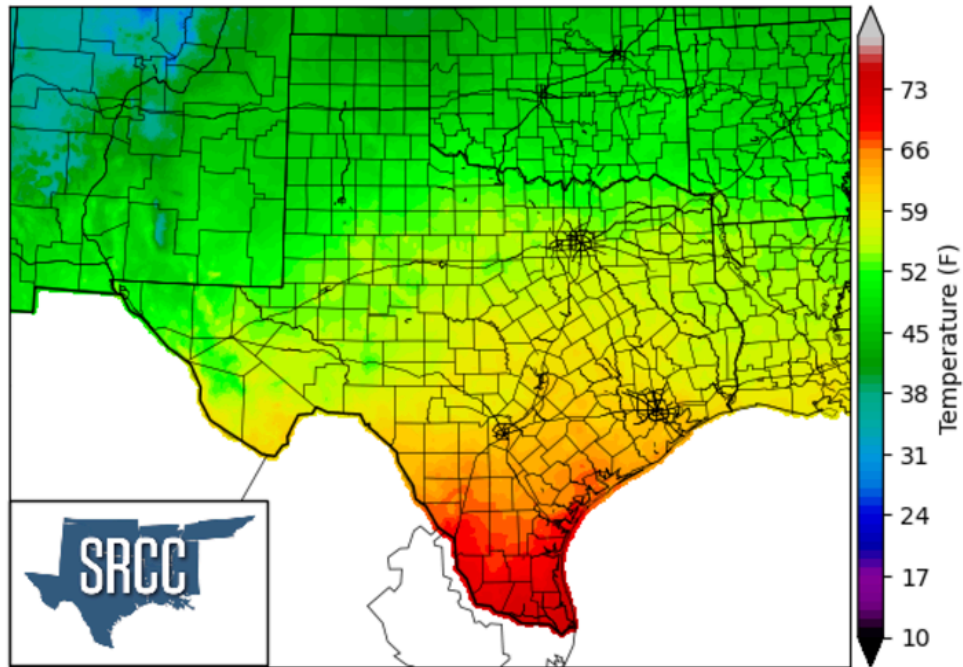
III. Temperature:

Like the previous week, temperatures across Texas were extremely warm relative to what is typical this time of the year. Pretty much the whole state saw weekly average temperatures 5°F or more above normal. This warmth destabilized the atmosphere and allowed any thunderstorms that *did* develop to have the potential to turn severe.

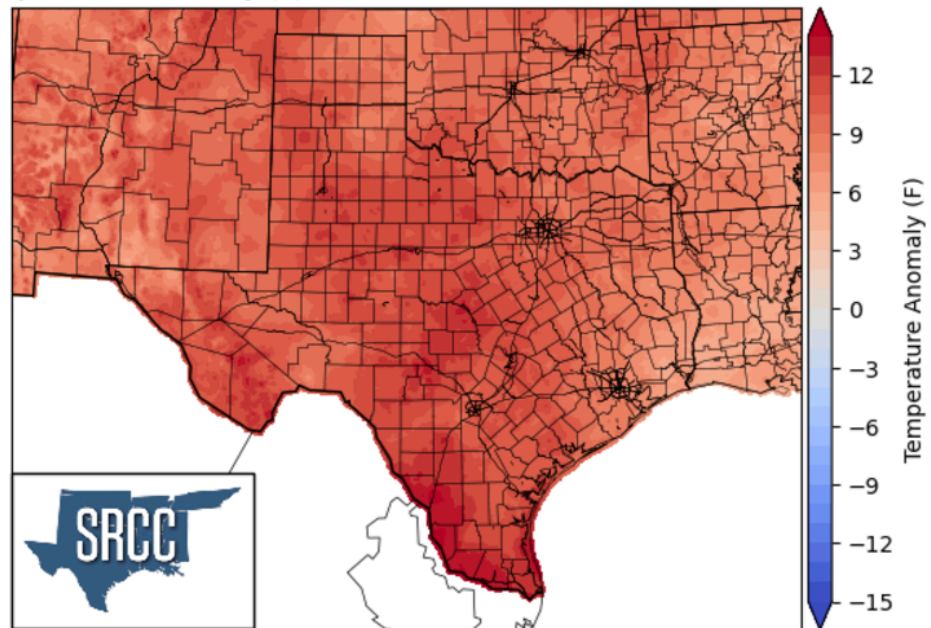
The at-a-glance temperature statistics for Texas for the week of December 22-28 are listed below.

- **41.4°F** - weekly average at the Follett Co-op site in Lipscomb County, the coldest in Texas
- **57.9°F** - the weekly average temperature of Texas stations
 - The same as the week before
- **75.1°F** - weekly average at the McAllen Miller International Airport in Hidalgo County, the warmest in Texas

Average Temperature (F) December 22-28 2024



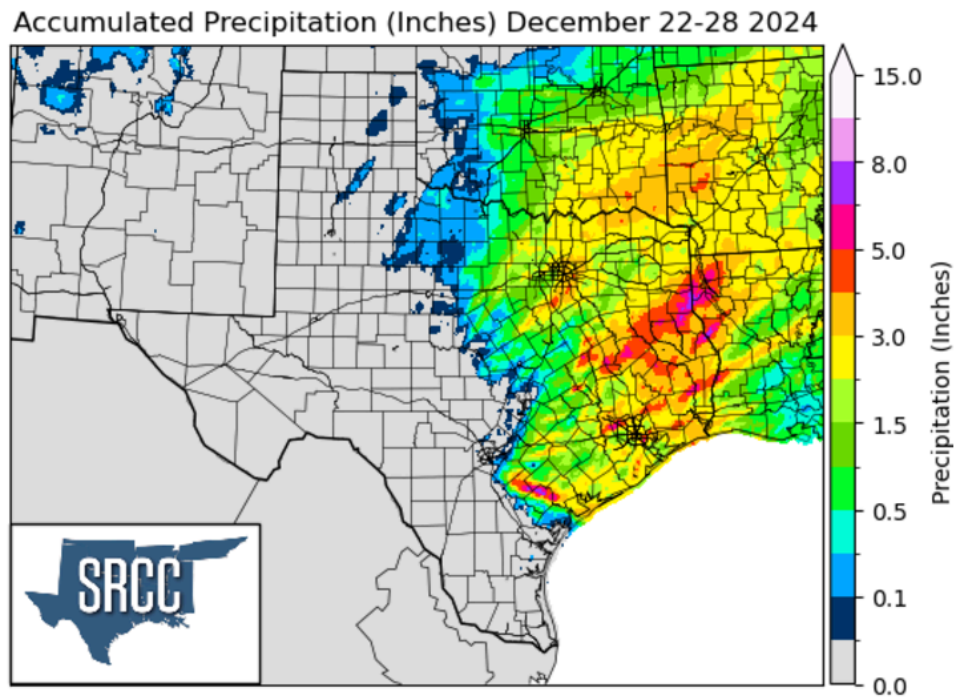
Mean Temperature Anomaly (F) December 22-28 2024 vs 1991-2020 Normals



IV. Precipitation

Rainfall was quite impressive for portions of North, Central, East, and Southeast Texas with weekly totals exceeding three inches in many places. The heaviest totals can be where

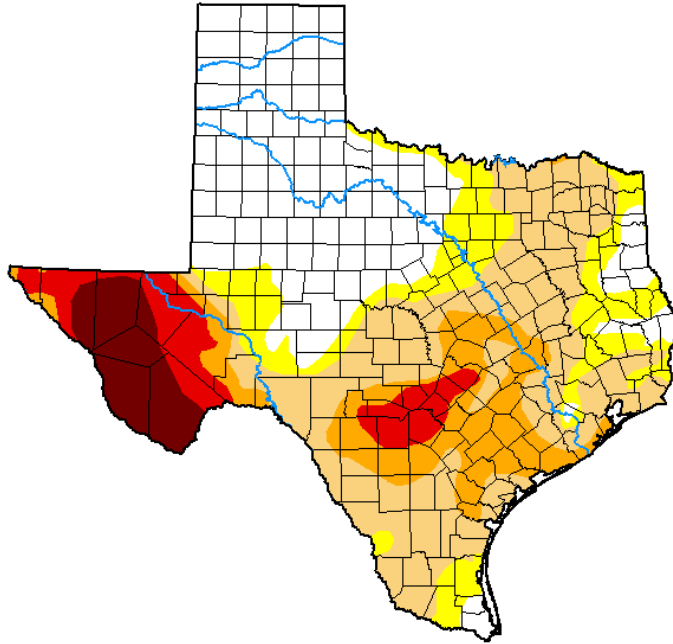
thunderstorms lined up and passed over the same areas. Other regions of Texas remained completely dry.



Areas affected by thunderstorms saw remarkable drought improvement (for one week standards), while those that were missed by the active weather saw drought degrade minimally.

U.S. Drought Monitor Texas

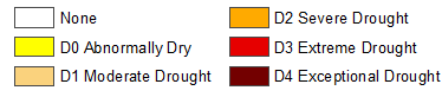
December 24, 2024
(Released Wednesday, Dec. 25, 2024)
Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	32.90	67.10	53.89	24.83	12.99	6.30
Last Week <i>12-17-2024</i>	33.64	66.36	49.52	22.88	12.99	6.30
3 Months Ago <i>09-24-2024</i>	37.31	62.69	33.15	16.17	7.10	1.65
Start of Calendar Year <i>01-02-2024</i>	39.60	60.40	39.47	17.78	5.68	0.68
Start of Water Year <i>10-01-2024</i>	26.09	73.91	34.39	16.62	8.91	3.36
One Year Ago <i>12-26-2023</i>	40.22	59.78	39.21	17.38	5.68	0.68

Intensity:



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>

Author:

Brad Pugh
CPC/NOAA



droughtmonitor.unl.edu

V. Statewide extremes

- The hottest recorded temperature of the week was **91°F** seen at the McAllen Miller International Airport in Hidalgo County on December 28, 2024
- The coldest recorded temperature of the week was **19°F** seen at three Muleshoe sites in Bailey County on December 22, 2024
- The most precipitation recorded in the week of December 22-28, 2024 was **6.30"** at the Crockett Co-op site in Houston County and the Goliad 11.5 N CoCoRaHS site in Goliad County
- The rainiest day at any site across the state of Texas was **Christmas day** 🌲 when **6.20"** of rain fell at the Goliad 11.5 N CoCoRaHS site in Goliad County