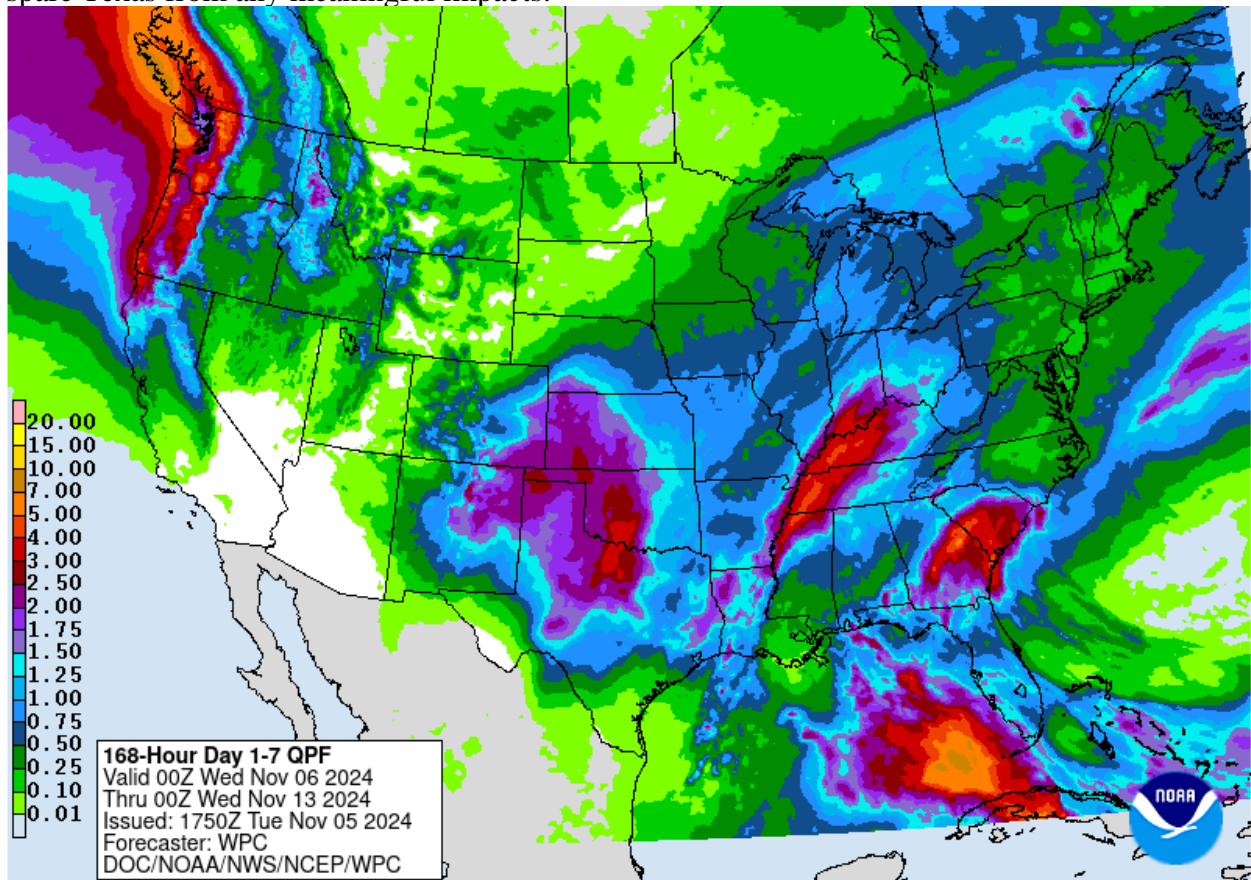


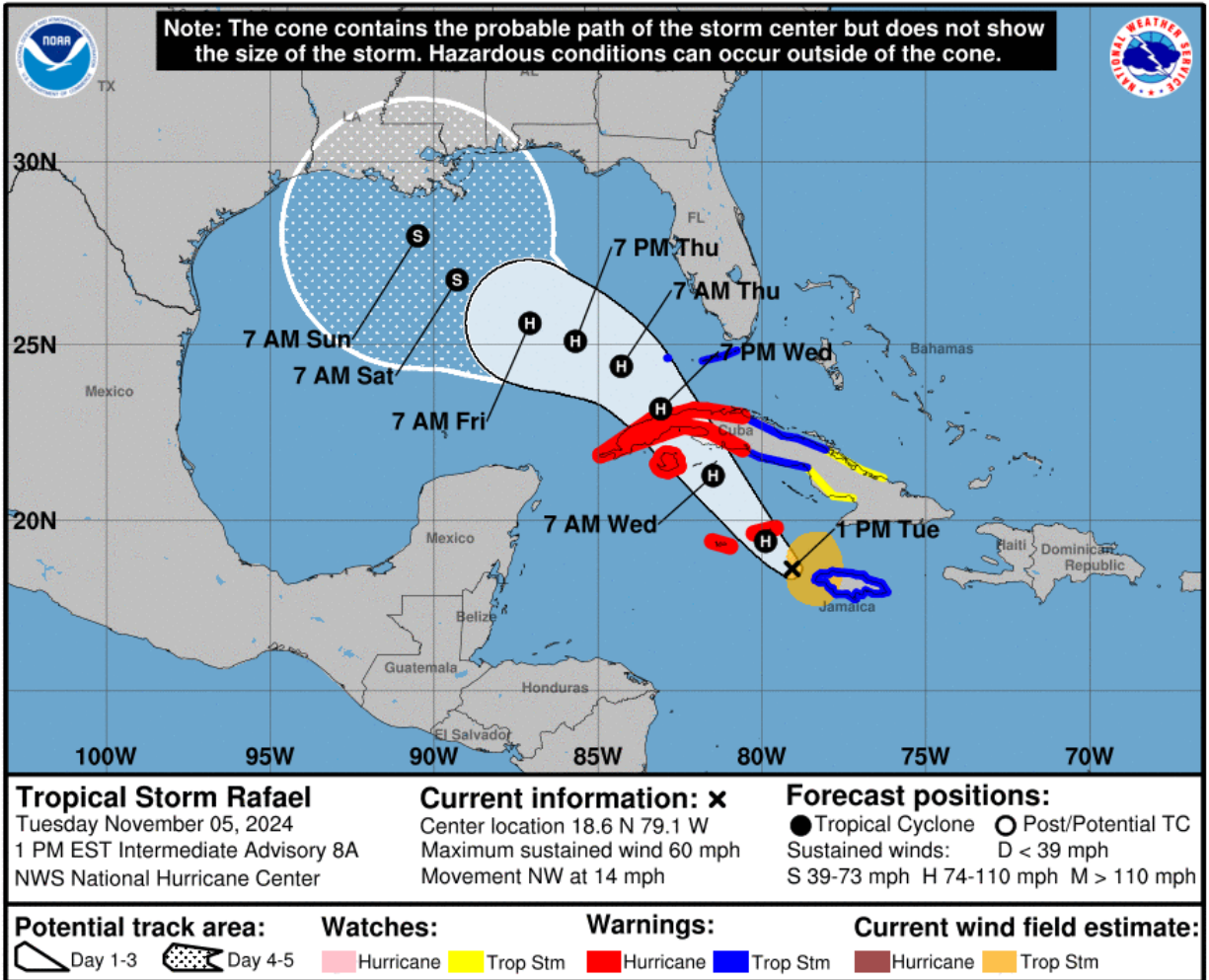
## Weekly Climate Summary: 10/27/2024-11/2/2024

### **I. Climate in the News:**

What was a historically dry October concluded with a speckle of rain, just in time for Halloween festivities. This unsettled pattern marked the beginning of the most active pattern the region had seen since September. It brought a robust severe weather outbreak, especially to our neighbors to the north. Some of this severe weather spilled over into Texas, prompting 28 severe weather reports to be received by the Storm Prediction Center, including the first tornado report for the state since September 21, 2024. This unsettled weather pattern looks to stick around long enough to give a good dousing of rainfall for much of Texas, with parts of the Low Rolling Plains and North Texas being favored for having the highest totals. Another feature of note is Tropical Storm Rafael, which has formed just west of Jamaica. Its position and eventual track look to spare Texas from any meaningful impacts.



*The development of a sizeable low-pressure system in the Texas and Oklahoma panhandles looks to contribute to a very wet period in the week ahead for Texas. Precipitation totals of over an inch look to encompass much of the state, with a bullseye of 3-5" appearing near the Wichita Falls area. Interestingly, none of this rain is associated with Tropical Storm Rafael. The map is courtesy of the Weather Prediction Center.*



*The current location and forecast track of Tropical Storm Rafael from the National Hurricane Center. Guidance suggests that the eventual path of this storm may bring impacts to the mainland United States. If the storm remains as far east as the model and forecasts suggest, then other atmospheric features, such as a cold front moving through Texas during the weekend would prevent the storm from having any impacts.*

## II. Weather Synopsis:

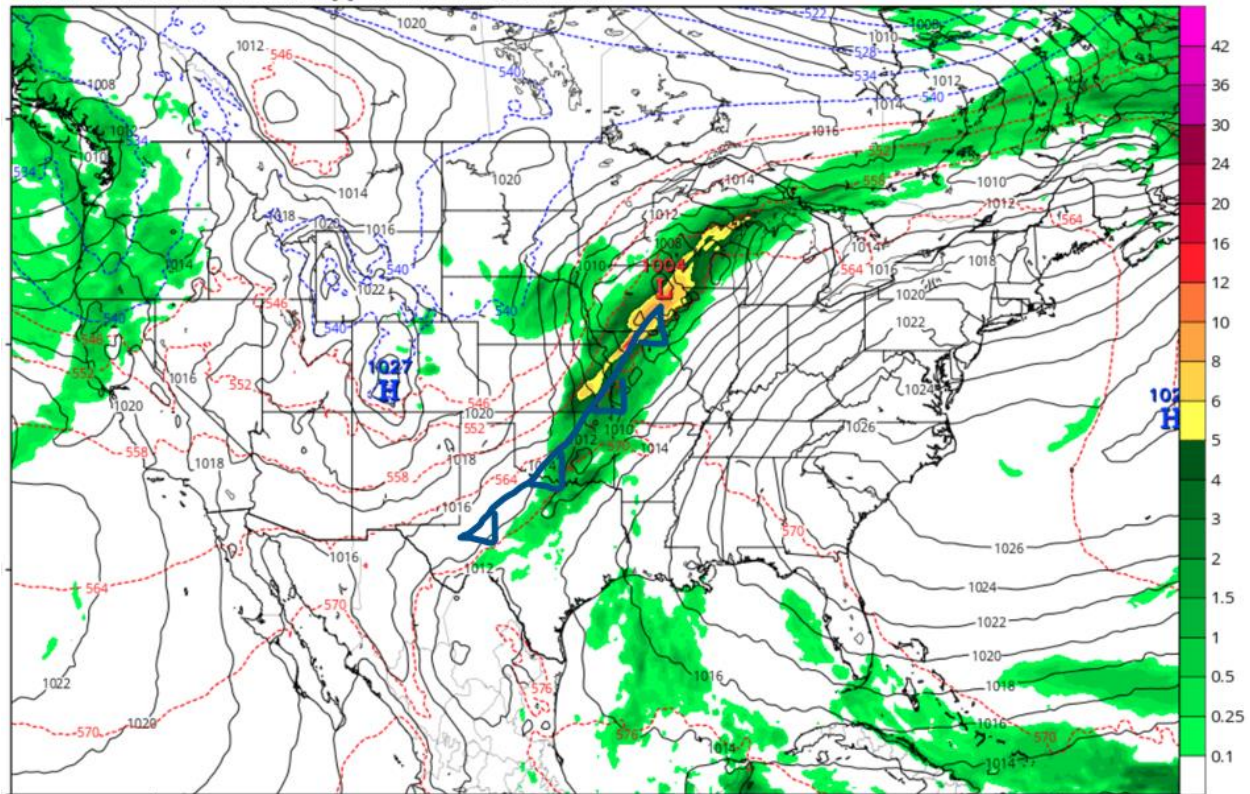
### **A. Retrospective**

The stagnant weather pattern that characterized much of October broke in the last few days to allow some lucky folks some rainfall to close out the month. Much of this activity was associated with a low-pressure system and cold front as shown in the image below. Other atmospheric conditions aligned themselves to favor most of the precipitation and active weather in the northern portions of Texas.

GFS 6-hour Averaged Precip Rate (mm/hr), MSLP (hPa) & 1000-500mb Thickness (dam)

Init: 00z Oct 31 2024 Forecast Hour: [6] valid at 06z Thu, Oct 31 2024

TROPICALTIDBITS.COM

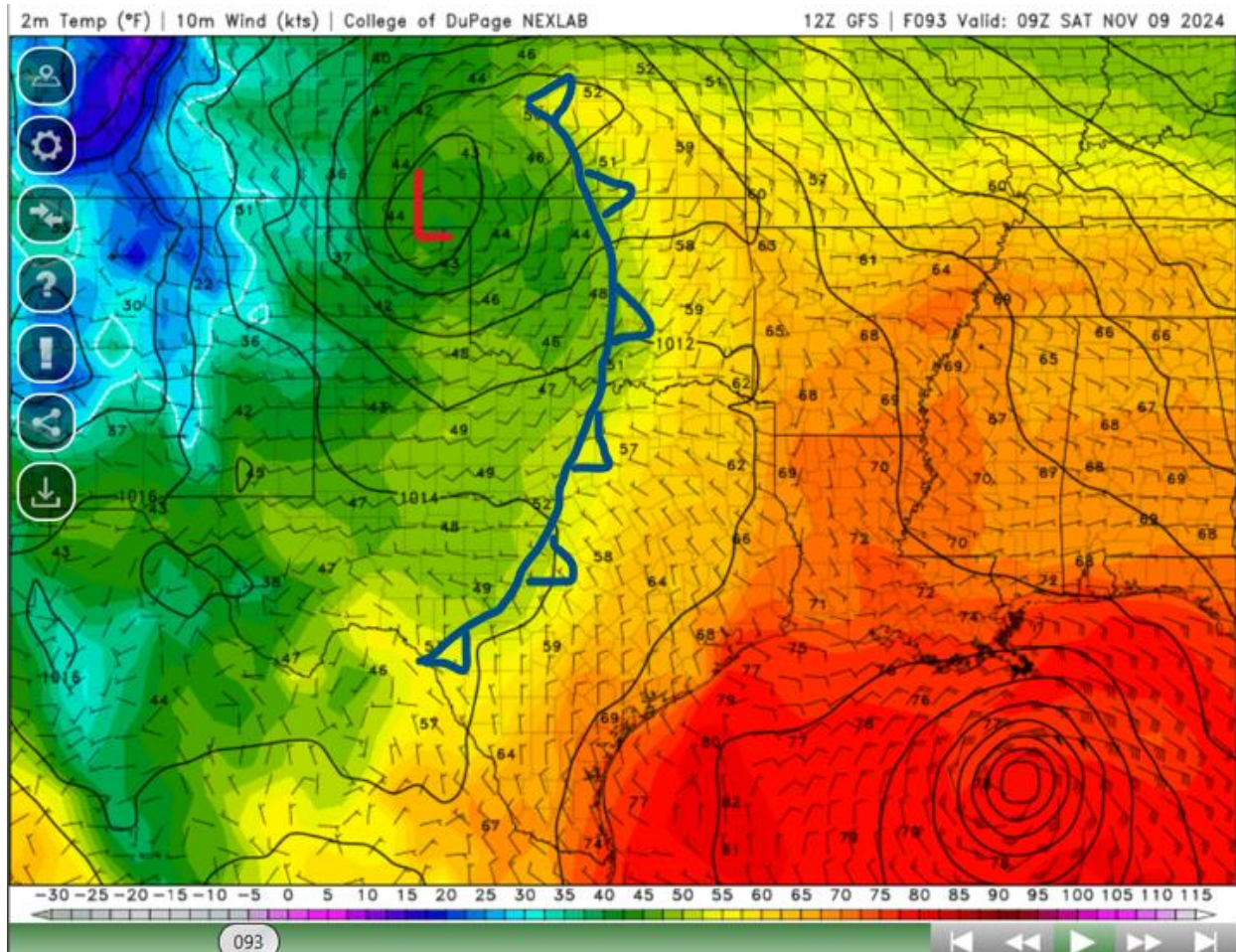


Map showing a model analysis of the surface pressure and areas of precipitation at 12:00 CDT on October 31, 2024. Image courtesy of Tropicaltidbits.com.

### B. Looking ahead

The development of a low-pressure system in the Texas Panhandle/Western Oklahoma looks to drag a cold front through much of Texas the end of the week of November 3-9. The presence of this system looks to provide sufficient ingredients for ample precipitation, as well as serve as a steering mechanism for what is now Tropical Storm Rafael. As of this writing, the eventual track is still being hashed out, however, we can confidently state that impacts to Texas are unlikely.





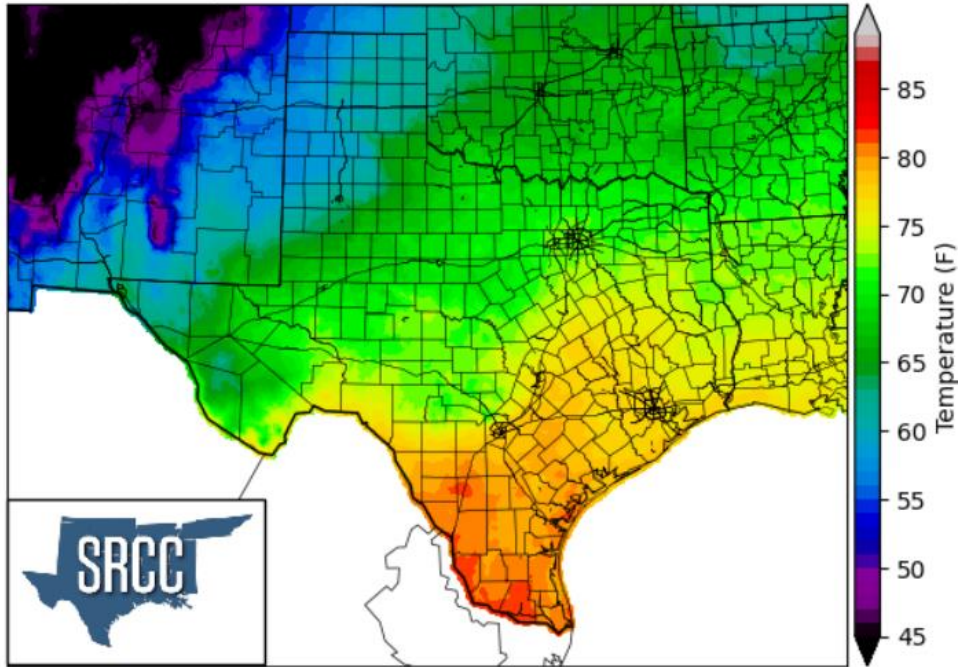
*A specific model's forecast for November 9. A low-pressure system can be seen in the Texas/Oklahoma Panhandles denoted by the red "L". An associated cold front is expected to be dragged eastward as the low moves northeast. Tropical Storm Rafael can be seen by the nested contours off the Louisiana coast. An important message to take away is that the placement of these features may be different than what is suggested here. This is only one model's interpretation of what **may** happen. A thing of note is that many models agree on these three key features being present, but exactly what they do and how they influence one another is still somewhat uncertain. Model run courtesy of the Global Forecast System and College of DuPage.*

### **III. Temperature:**

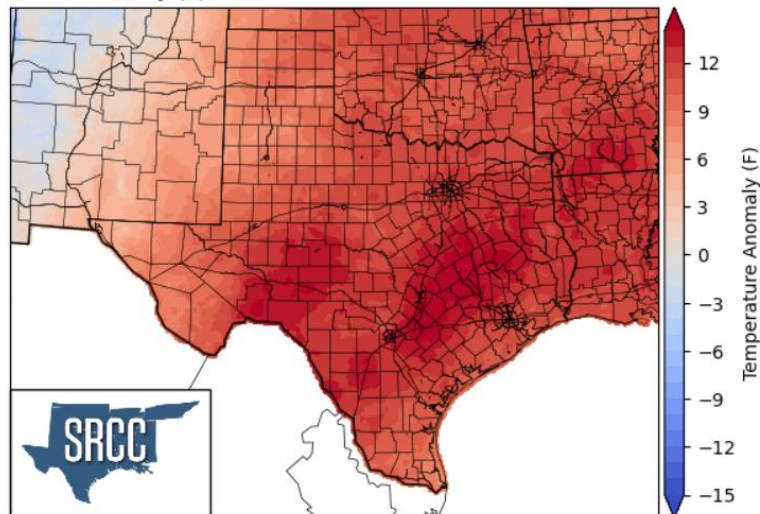
The temperature departures the week of October 27-November 2 have been quite impressive. Much of the state saw temperatures of 10°F above normal or the week, with bullseyes of up to 15°F noted in places. This represents temperatures more typical of late September to early October rather than November values. This is right after coming off the heels of the hottest October the majority of the state experienced in their respective records. For the week of October 27- November 2, some at-a-glance statewide average weekly temperatures statistics are as follows:

- **56.7°F** - weekly average at the Guadalupe Peak Texas RAWS site in Culberson County; the coolest in Texas
- **73.5°F** - the weekly average temperature of Texas stations
  - 1.0°F above that of last week
- **82.8°F** - weekly average at the McAllen Miller International Airport in Hidalgo County; the hottest in Texas

Average Temperature (F) October 27- November 2 2024



Mean Temperature Anomaly (F) October 27- November 2 2024 vs 1991-2020 Normals

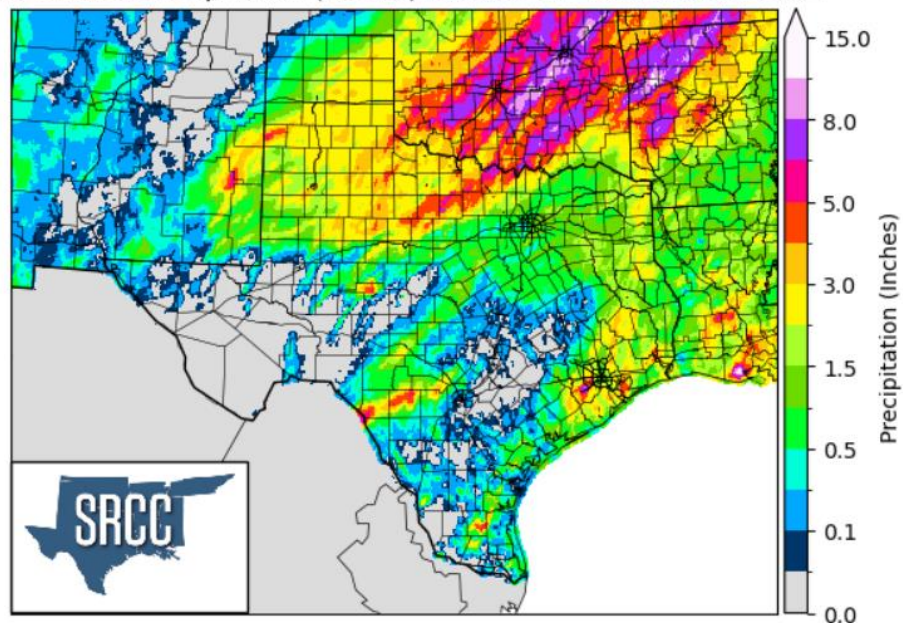


#### IV. Precipitation

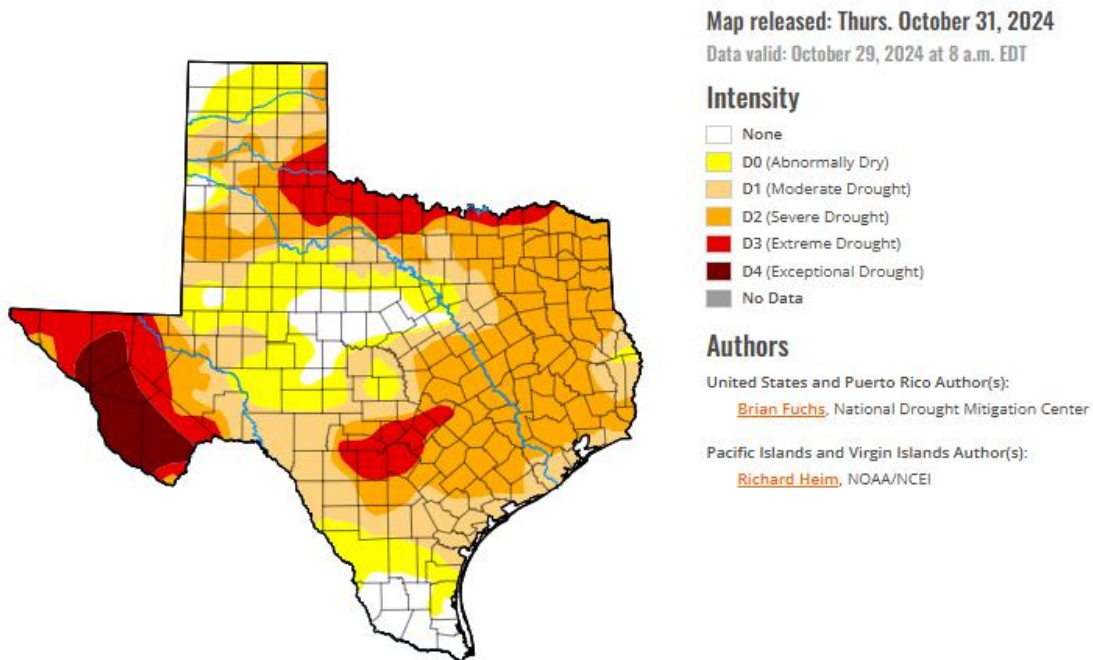


What was a very rainy week in Oklahoma spilled over into much of the northern half of Texas. A weather pattern conducive to the development of thunderstorms capable of producing heavy rain resulted in quite the turnaround from the weeks prior in the precipitation department. Despite this, near record dry October precipitation values still leave many with a sizeable rainfall deficit to make up, some deficits are to the point where Autumn 2024 is among the driest autumns to date for some stations. Unlike temperature, precipitation distribution is highly variable, and so a dry autumn in one place is not always a dry autumn everywhere.

Accumulated Precipitation (Inches) October 27- November 2 2024



The rainfall in the week of October 27- November 2 and the expected rain in the days following paint an uplifting picture in which we can begin to erode some of the significant drought accumulation that resulted from the long stretches of dry weather that characterized the state for October. As of now, most of Texas is under some kind of drought, with almost *half the state* seeing *at least* severe drought or greater (drought classification of 3 to 5 out of 5 possible drought categories). Such the widespread and significant nature of drought means that we would need an extended period of continued rainfall to alleviate it. The short term works in our favor with this prospect, but given that we are entering a la niña winter, continued and persistent rainfall are not favored on the seasonal scale.



## V. Statewide extremes

- The hottest recorded temperature of the week was **101°F** seen at the Rio Grande Village Co-op site in Brewster County on October 30, 2024
- The coldest recorded September temperature was **22°F** seen at two Muleshoe sites in Bailey County on **Halloween 🎃**. This is the coldest temperature seen anywhere in the state since March 26, 2024
- The most precipitation recorded in the week of October 27 through November 2, 2024 was **5.52"** at the Houston Sugarland Memorial Airport in Fort Bend County
- The rainiest day at any site across the state of Texas was November 1, 2024, when **5.16"** of rain fell at the Richmond 3.4 NE CoCoRaHS site in Fort Bend County