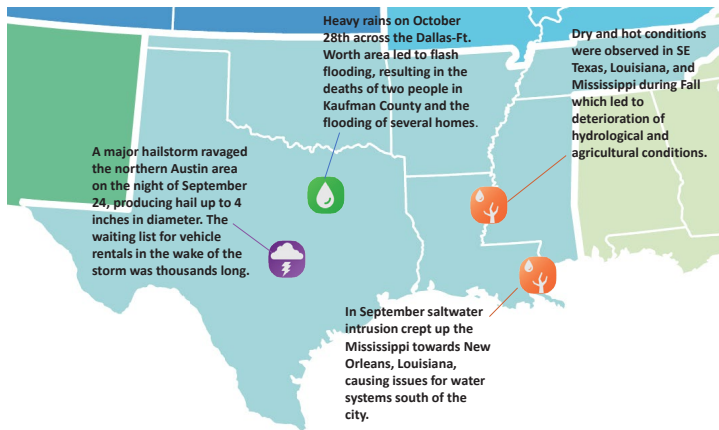


Southern Region Significant Events — Fall 2023



Ongoing dry and hot conditions led to deteriorating drought conditions in the eastern half of the region. Above normal temperatures were prevalent in the western half of the region as well but timely rains during the Fall led to improvements in drought conditions. Severe impacts to agriculture, water resources, infrastructure, and livestock were prevalent in the drought-affected east.

Overview

Fall began in September with above normal temperatures for much of the Southern Region. Precipitation was also below normal for all six states in the Southern Region. Low flows on the Mississippi River snarled barge traffic and contributed to saltwater intrusion that crept up the Mississippi as far as Algiers, LA.

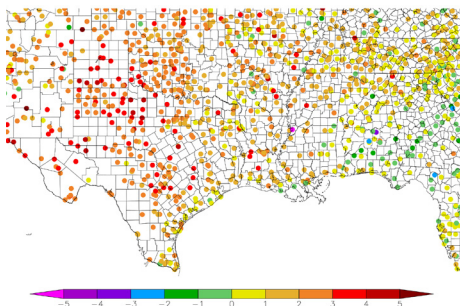
October saw much-needed rain across much of Texas, Oklahoma, and Arkansas which led to improvements in drought conditions in these areas. October saw above-normal temperatures for the Region. Heavy rains on October 28th across the Dallas-Ft. Worth area led to flash flooding, resulting in the deaths of two people.

Temperatures were near normal across much of the Southern Region during November. Precipitation in the Southern Region during November was generally below normal with isolated areas of well above normal precipitation in Oklahoma and Texas. Particularly striking were reports of livestock fatalities in Mississippi where cattle became trapped in soil fissures that had opened due to dry conditions.

Regional Climate Overview — Fall 2023

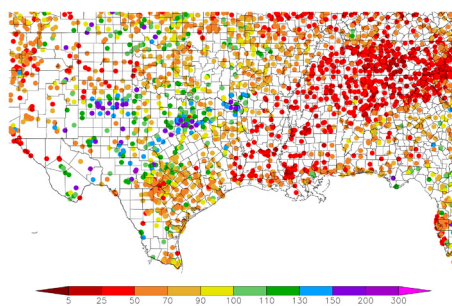
Temperature and Precipitation

Departure from Normal Temperature °F
9/1/2023 – 11/30/2023



Fall 2023 temperatures were well above normal for western portions of the Southern Region, with most stations in Texas and Oklahoma averaging 2F to 5F above normal. Across Louisiana, Mississippi, Arkansas, and Tennessee were also above normal with most stations averaging 1F to 3F above normal. Along the Gulf Coast of Mississippi and extreme southeast Louisiana temperatures were normal to 1F below normal.

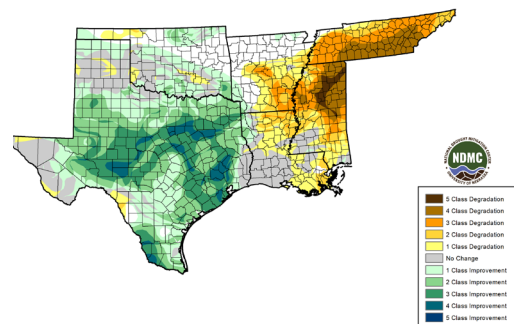
Percent of Normal Precipitation (%)
9/1/2023 – 11/30/2023



Extremely dry conditions continued to affect Louisiana and expanded into Mississippi, southeastern Arkansas, Tennessee, and extreme southeast Texas during Fall 2023, with most stations in these areas receiving 25 percent of normal precipitation or less. Below normal precipitation was also common across much of the Region. Isolated areas of north Texas received above normal precipitation with many stations exceeding 150 percent of normal rainfall.

Drought

Overall Change
9/5/2023 – 11/28/2023



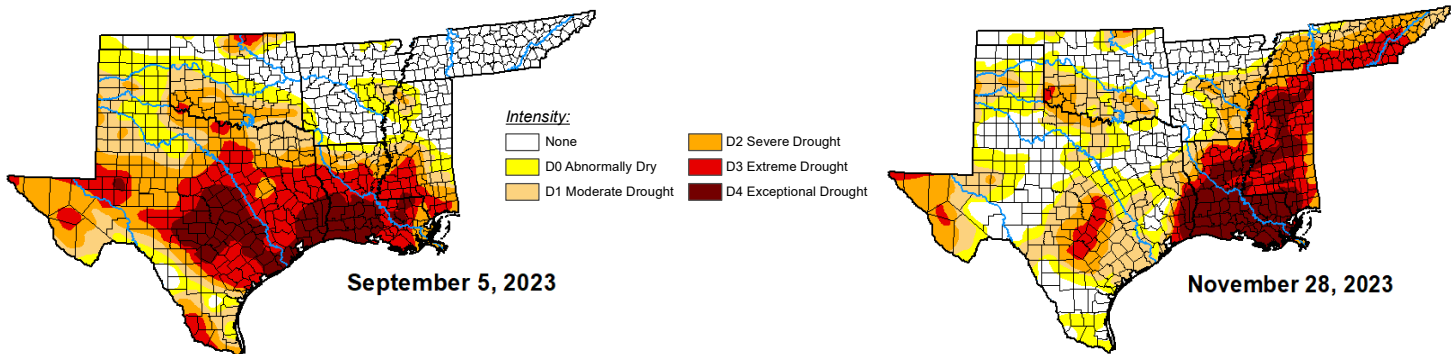
Large areas of Louisiana, southeastern Arkansas, northern and eastern Mississippi, and much of Tennessee saw degradation in drought conditions, which have been accompanied by record dry and above normal temperatures in these areas. Southwestern Louisiana, southwestern Mississippi, and deep southeast Texas continued to experience extreme and exceptional drought conditions. Across much of Texas and portions of Oklahoma saw above normal precipitation and drought conditions, with areas seeing as much as 4 categories of improvement according to the US Drought Monitor.

Southern Regional Impacts

Drought, Agriculture, and Water Supply

Fall 2023 saw the total amount of area experiencing in the Southern Region remaining relatively steady from 62 percent of the region experiencing some level of drought on September 5th to 55 percent on November 28th. However, the spatial representation of drought changed considerably with large improvements in drought conditions across Texas and sharp deterioration in drought conditions across Louisiana, Arkansas, Mississippi, and Tennessee. Isolated areas of Texas, Oklahoma, and western and northern Arkansas remain drought free. The total area of the Southern Region experiencing Extreme Drought decreased by 7 percent from 18 percent on September 5th to 11 percent on November 30th, while Exceptional Drought areal coverage held nearly steady at 10 percent.

Agricultural crops in much of the Southern Region continued to be hampered by ongoing hot and dry conditions during the 2023 growing season. The USDA Crop Progress Report for October 29th reported that the cotton crops in Texas and Oklahoma were only reporting ten and three percent of crops to be in Good to Excellent condition, while cotton crops in the east of the region generally fared better. Corn generally did well across the region this past year.

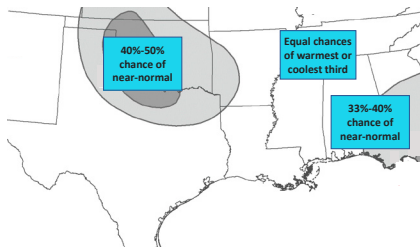


US Drought Monitor depiction of the Southern Region. The US Drought Monitor is produced by the National Drought Mitigation Center, the USDA, and NOAA.

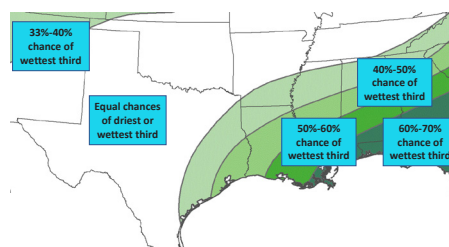
Seasonal Outlook

Temperature

Outlook for January-March 2024



Precipitation



The seasonal temperature outlook from NOAA's Climate Prediction Center calls for equal chances of above average or below average temperature across much of Texas, portions of Oklahoma and Arkansas, as well as all of Louisiana, Mississippi, and Tennessee. The only exception is northcentral Texas and much of Oklahoma where the outlook calls for elevated probabilities of near-normal temperatures. This is primarily supported by dynamical model forecasts and the ongoing El Niño event.

The precipitation outlook for January through March reflects the ongoing El Niño conditions and call for higher probabilities for above normal precipitation across eastern Texas, Louisiana, Mississippi, southern Arkansas. The highest probabilities for above normal precipitation are in extreme southeast Louisiana and along the Mississippi Gulf Coast. The remainder of the Region shows equal chances for above normal or below normal precipitation.

ENSO Outlook

El Niño conditions persisted through the fall and are expected to persist into the spring months of 2024. Long-range forecasts suggest a weakening of the El Niño event later in the spring. Across the Southern Region during El Niño winters, above normal precipitation is common.

Southern Partners

NOAA/NWS Climate Prediction Center
(cpc.ncep.noaa.gov)

NOAA National Centers for Coastal Ocean Science (coastalscience.noaa.gov)

NOAA Gulf of Mexico Collaboration Team
(regions.noaa.gov/gulf-mexico)

NOAA/NESDIS National Centers for Environmental Information (ncei.noaa.gov)

NOAA/NWS Southern Region (weather.gov/srh)

Southern Climate Impacts Planning Program
(southernclimate.org)

Southern Regional Climate Center
(srcc.tamu.edu)