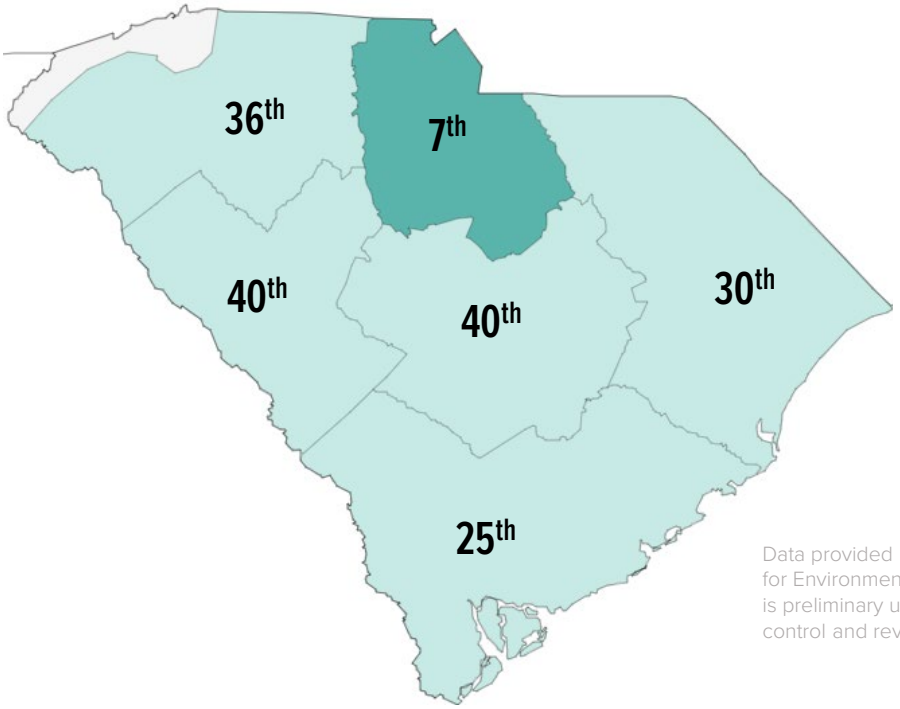
2024 South Carolina Year in Review

South Carolina State Climatology Office

Detailed information from the Weekly Weather and Climate Reports from the South Carolina State Climatology Office was used to compile this comprehensive report.

Statewide Precipitation Data 2024



Data provided by National Centers for Environmental Information. Data is preliminary until final quality control and review.

2024 Statewide Precipitation Totals, Departures and Rankings

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total	4.80”	2.79”	6.36”	2.58”	4.68”	2.69”	7.69”	8.52”	6.39”	0.13”	3.07”	2.99”
Depart	1.08”	-1.11”	2.08”	-0.76”	1.10”	-1.99”	2.15”	3.24”	2.15”	-2.86”	0.46”	-0.62”
Rank	29th	37th	18th	--	28th	13th	17th	11th	15th	2nd	--	--

Record Driest | Top 10 Driest | Top 40 Driest | Normal | Top 40 Wettest | Top 10 Wettest | Record Wettest

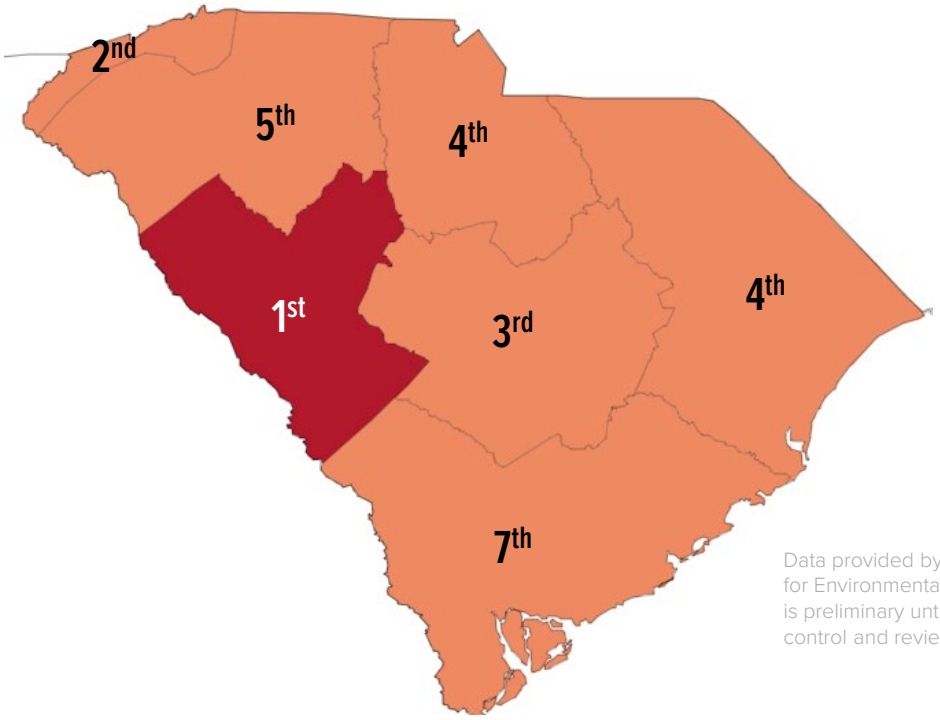
Drier than Normal

Wetter than Normal

The statewide precipitation total for 2024 was 52.69 inches, 4.80 inches above the long-term average of 47.89 inches (1895 – 2023), and the thirtieth wettest year on record. However, precipitation totals varied across the state. The average annual precipitation totals of six of the seven state’s climate divisions ranked in the top fortieth wettest years on record. Five months out of the year statewide averages were wetter than normal, and four months were drier than normal, including the second driest October on record.

The National Weather Service (NWS) station near Manning recorded 44.19 inches for the year, 11.55 inches below the 1991-2020 normal value; and the NWS station near Caesars Head reported 99.35 inches, 25.15 inches above normal. Two of the highest 24-hour rainfall totals recorded during the year were 12.90 inches, measured at the CoCoRaHS station Green Pond 1.3 S in Colleton County on August 6 (associated with Tropical Storm Debby), and 12.53 inches measured by the CoCoRaHS station McCormick 10.5 E in Edgefield County, produced by Hurricane Helene on September 27.

Statewide Temperature Data 2024



Data provided by National Centers for Environmental Information. Data is preliminary until final quality control and review.

2024 Statewide Average Temperatures, Departures and Rankings

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total	45.7°F	50.6°F	58.2°F	64.4°F	72.7°F	78.7°F	82.1°F	79.1°F	74.8°F	64.7°F	59.3°F	45.7°F
Depart	1.1°F	3.8°F	4.4°F	2.5°F	2.4°F	1.7°F	2.2°F	0.4°F	1.1°F	1.5°F	6.2°F	1.9°F
Rank	--	29th	19th	21st	19th	25th	13th	--	--	--	2nd	--

Record Coldest | Top 10 Coldest | Top 40 Coldest | Normal | Top 40 Warmest | Top 10 Warmest | Record Warmest

Colder than Normal | Warmer than Normal

The statewide average temperature for 2024 was 64.8°F, which was 2.4°F above average, making it the fifth warmest year on record (since 1895) for South Carolina. All seven of the climate divisions reported one of the top ten warmest years on record.

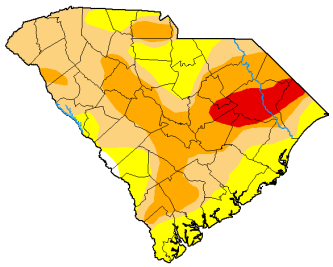
The NWS station at the Greenville-Spartanburg Airport (GSP) reported 46 days with low temperatures at or below freezing (32°F) in 2024. Charleston (CHS) recorded 16 days at or below freezing, while Florence (FLO) had 32 days, and there were 39 days at Columbia (CAE). The coldest temperature recorded in 2024 was 4°F on January 17 at the NWS station near Caesars Head in Greenville County and on January 22 near Jocassee in Oconee County.

During the warm season (May to October), CAE, CHS, and FLO recorded over 60 days with high temperatures at or above 90°F; with 7 days at or above 100° at CAE, 5 days at or above 100°F at FLO, and 2 days at or above 100°F at GSP. The first 90°F day at CAE, CHS, and FLO was April 18. However, it was June 14 before GSP hit 90°F. The hottest temperature recorded during the year was 106°F on June 25 at the NWS station at the University of South Carolina in Richland County.

Impactful Weather Events in 2024

Drought Conditions

The statewide average precipitation for 2024 was 52.69 inches, 4.80 inches above the long-term average of 47.89 inches (1895 – 2023). However, the state went through various periods of drought and excessive rainfall throughout the year, especially from June through November.



July 16, 2024
(Released Thursday, Jul. 18, 2024)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.54	99.46	72.64	35.59	6.13	0.00
Last Week 07-09-2024	0.54	99.46	72.73	29.98	5.55	0.00
3 Months Ago 04-16-2024	100.00	0.00	0.00	0.00	0.00	0.00
Start of Calendar Year 01-02-2024	60.82	39.18	16.08	1.61	0.00	0.00
Start of Water Year 09-26-2023	76.91	23.09	1.19	0.00	0.00	0.00
One Year Ago 07-18-2023	100.00	0.00	0.00	0.00	0.00	0.00

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

Author:
Brian Fuchs
National Drought Mitigation Center

droughtmonitor.unl.edu

Lack of Winter Precipitation

For the second winter in a row, no measurable snow was reported in the state, making it the only time on record since 1894 with back-to-back winters without more than 0.1" of snow. Multiple stations only recorded a Trace of snowfall for the entire season.

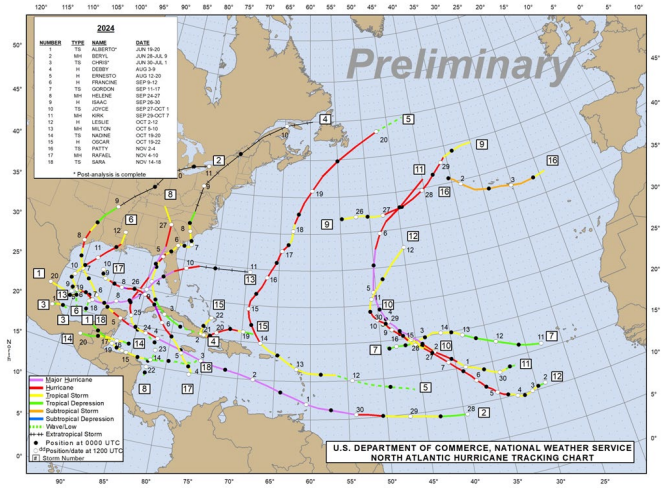
Even if the Lowcountry, Midlands, and Pee Dee miss out on winter weather events, the Upstate, especially the mountain locations, typically has two to three winter storms with measurable snow (>=0.1") or ice accumulations.

Least Snow Recorded in South Carolina (1894 – 2024)

Season	Snowfall Totals (Nov 1 – Apr 30)	Location
1908 – 1909	Trace	Multiple Stations
2022 – 2023	Trace	Multiple Stations
2023 - 2024	Trace	Multiple Stations
1902 – 1903	0.2"	Newberry
1949 – 1950	0.4"	Pelzer
1956 – 1957	0.9"	Caesars Head

2024 Hurricane Season

The 2024 Atlantic Hurricane Season had 18 named storms, 11 hurricanes, and five major hurricanes. It was the first season since 2019 to have multiple Category 5 hurricanes, Beryl and Milton. Hurricane Helene was the strongest hurricane to make landfall in the United States and was the deadliest hurricane to affect the US since Hurricane Katrina (2005). Tropical Storm Debby and Hurricane Helene impacted the state and are discussed further in this report.



Coastal Flooding

In 2024, the tidal gauge at Charleston Harbor reported 54 coastal flooding events (tides reported more than 7.0 ft), the seventh most events on record (1922-2024). There were 15 events recorded in September 2024. The Charleston Harbor tidal gauge recorded tides at or above 8 feet mean low lower water (MLLW) three times during 2024, including a crest of 8.25 ft MLLW on November 16 and 8.02 ft MLLW on September 27, associated with the passage of Tropical Storm Helene.

Top 10 Total Event Counts (Years)

1. 89 (2019)
2. **75 (2023)**
3. 70 (2022)
4. 68 (2020)
5. 58 (2015)
6. 55 (2016)
7. **54 (2024)**
8. 46 (2017, 2021)
9. 42 (2014, 2018)
10. 36 (2009)

Recent Crests

1. 8.25 ft on 11-16-2024
2. 8.08 ft on 11-14-2024
3. 8.02 ft on 09-27-2024
4. 9.86 ft on 12-17-2023
5. 8.06 ft on 09-28-2023

More information at https://www.weather.gov/chs/coastalflood

January 2024

A severe storm on January 9 led to school closures statewide and wind gusts of 40 to 70 mph, with a peak gust of 69 mph recorded at Charleston International Airport. Almost 90,000 people lost power during the event from the high winds. Two tornadoes were confirmed, including an EF2 in downtown Bamberg with winds of 125 mph. Rainfall reached two to five inches, causing flash flooding in several counties.

On January 25, unseasonably warm temperatures persisted, with highs up to 83 degrees at Charleston International Airport, which broke the previous daily record of 80 degrees set in 1949. This also tied the record highest January temperature set on January 13, 1950. The record high temperatures and humid conditions resulted in dense fog in inland areas of the Lowcountry and Pee Dee and coastal waters.

Tornado Damage in Bamberg.
Courtesy: NWS Columbia

February 2024

Temperatures during February were well above normal, feeling more like the middle of spring than the last month of winter. The NWS station at the Greenville-Spartanburg International Airport set a new daily high-temperature record of 72 degrees on February 10, breaking the previous 70 degrees set in 1996 and 2009.

February 2024 Climate Data (Temperature)

	Charleston	Columbia	Florence	Greenville
Average Temperature	55.2°F	51.2°F	51.3°F	49.5°F
Departure From Normal	2.5°F	2.1°F	1.3°F	3.6°F
Highest Temperature	78°F (2/28)	76°F (2/28)	78°F (2/28)	75°F (2/28)
Lowest Temperature	32°F (2/20)	27°F (2/8 and 2/20)	26°F (2/19)	26°F (2/20)

On Thursday, February 22, morning temperatures were in the low to mid-30s but rose into the upper 60s and low 70s ahead of an approaching cold front. As the cold front passed through the region on the 23rd, it triggered isolated thunderstorms across parts of the state. A few severe storms produced pea- to dime-sized hail in portions of Fairfield, Kershaw, Lee, Lexington, Newberry, and Richland counties.

March 2024

A strengthening low-pressure system passed through the central Carolinas on March 9, producing showers with heavy rainfall in portions of the Lowcountry as a warm front lifted north through the area. One CoCoRaHS observer in Mount Pleasant and another on the Isle of Palms recorded over four inches of rain by the following morning. Portions of the Upstate recorded up to two inches of rain, while most Midlands and Pee Dee regions missed the heavier rain. Also, on March 10, the Charleston Harbor Tidal Gauge recorded a high astronomical tide of 7.59 feet MLLW, causing moderate flooding in low-lying coastal areas.

A cold front moved through the state early on Monday, March 18, with drier and colder air funneling in behind it. Strong high pressure originating in Canada caused northwest winds across the region, prompting the NWS to issue lake wind advisories for the parts of the Midlands and Coastal Plain. Freeze warnings were issued for the Upstate and northern Midlands, and morning temperatures on March 19 dropped below freezing in locations north of the Fall Line.

Minimum Temperatures – March 18

Station	County	Temperature (°F)
Caesars Head	Greenville	21
Sandy Springs 2 NE	Anderson	26
Chester 1 SE	Chester	27
Cedar Creek 2 E	Richland	28
York 5 SSE	York	28
Saluda	Saluda	29
Barnwell 5 ENE	Barnwell	29
Laurens	Laurens	30
Cheraw	Chesterfield	32

April 2024

A strong cold front moved into the area late Wednesday, April 10 into Thursday, April 11, bringing thunderstorms and widespread rain that affected the state, especially in the Lowcountry. Non-thunderstorm winds behind the front produced gusts up to 55 mph reported in the Midlands and Lowcountry. This caused downed trees and powerlines across several counties.

Hail in downtown Rock Hill, SC. Courtesy: Linda Pickett via WCNC

On Saturday, April 20, a severe thunderstorm struck York County, causing extensive wind damage from York to Rock Hill and Lancaster County. Winds ranged from 70-90 mph, resulting in considerable downed trees and power lines and damage to buildings, including collapsed gas station canopies and broken windows. The storm also produced large hail, up to 2.75 inches, which added to the damage.

Hail in Leslie Community in Rock Hill, SC. Courtesy: Roy Boyd via WCNC

May 2024

Multiple rounds of severe storms occurred at the beginning of the month, producing heavy rain, damaging wind, tornadoes, and hail. There were widespread reports of downed trees and powerlines on May 8 across the Upstate and Midlands, with isolated reports in the Lowcountry. The NWS station at the Greenville-Spartanburg International Airport reported a high of 89 degrees, breaking the daily high-temperature record of 88 in 2014. On early Thursday, May 9, an upper-level disturbance brought more severe weather across the state. National Weather Service storm survey teams confirmed three tornadoes in the Midlands: a brief EF-0 tornado with peak winds of 80 mph in northwestern Fairfield County near Jenkinsville; another tornado in Fairfield County, an EF-1, with peak winds of 100 mph near Ridgeway; and an EF-0 tornado in Newberry County near Whitmire with peak winds of 80 mph.

Storm damage in downtown Anderson, SC.
Courtesy: NWS Greer

Tree damage from a tornado in Fairfield County.
Courtesy: NWS Columbia

June 2024

Temperatures were well above average, and high dewpoints during the second half of June led heat index values to rise to over 100 degrees, with some locations reporting values over 110 degrees. The NWS station on the University of South Carolina campus in Richland County tied or broke the daily record high maximum temperature three days in a row: 104 degrees on June 24, 106 degrees on June 25, and 105 degrees on June 26.

In addition to the record maximum temperatures, low temperatures were five to ten degrees above normal. Some NWS stations near the coast recorded lows at or above 80 degrees, including 81 degrees at Beaufort MCAS and 80 degrees at Charleston International Airport on June 24. The NWS station at the Columbia Metropolitan Airport reached a heat index of 112 degrees on June 30, and heat indices at the Anderson Regional Airport and Greenville-Spartanburg International Airport reached 103 degrees.

Highest Temperatures – June 2024

Station	County	Temperature (°F)
Columbia - USC	Richland	106
Barnwell 5 ENE	Barnwell	105
Pelion 0.8 NW	Lexington	103
Aiken 2 E	Aiken	102
Johnston 4 SW	Edgefield	101
Indian Land 5 SSE	Lancaster	101
Little Mountain	Newberry	100
Calhoun Falls	Abbeville	99
Clinton	Laurens	98

July 2024

Consistent high pressure off the coast during most of July led to increased heat and humidity across the region, resulting in high heat indices, with a daily chance of showers and thunderstorms. In July, multiple locations recorded minimum temperatures of 80 degrees.

Maximum Temperatures – July 2024

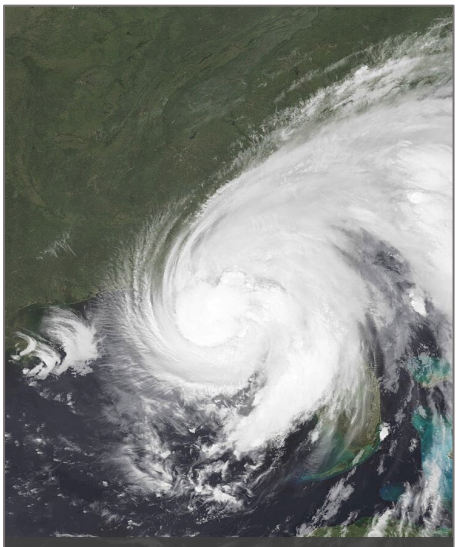
Station	Number of Days >= 90°F	Number of Days >= 100°F
Charleston Int'l AP	28	0
Florence Reg AP	25	4
Columbia Metro AP	26	3
Gr'nvl-Spart. Int'l Ap	21	2

Maximum temperatures during most of the month exceeded 90 degrees, with some high temperatures reported over 100 degrees, including 101 degrees recorded at the Anderson Regional Airport and Greenville-Spartanburg International Airport on July 5. Heat indices approached 110 degrees throughout the month, including a heat index of 109 degrees reported at the Charleston International Airport, prompting heat advisories and excessive heat warnings to be issued across the state.

On July 22, a thunderstorm led to heavy rain and flooding in Timmonsville, with over 8 inches measured by the following morning. The unsettled conditions continued through the end of the month and flash flooding was reported in Columbia, Bennettsville, and Prosperity. Heavy rain also was reported in Charleston on July 26, with 1.23 inches of rain reported in 30 minutes at The Citadel, causing flooding and road closures downtown.

August 2024

Tropical Storm Debby strengthened over the eastern Gulf of Mexico on August 5, becoming a Category 1 hurricane before making landfall near Steinhatchee, Florida. It moved through Florida and Georgia, slowing down off the Georgia coast on August 6, then made a second landfall near Bulls Bay, South Carolina, on August 8.



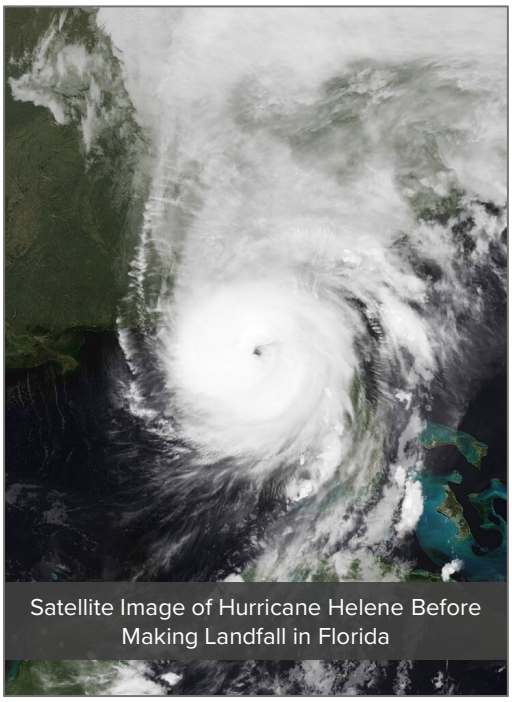
Satellite Image of Hurricane Debby Making Landfall in Florida

Debby produced eight tornadoes, including four EF1 and four EF0, with damage reported in Edisto Beach and Moncks Corner. The storm produced high wind gusts over 50 mph along the coast, with the highest wind gust of 63 mph reported at the South End of Folly Beach. Debby produced heavy rainfall, particularly in the Coastal Plain and Pee Dee regions. Totals over five inches were measured mainly east of the Interstate 20 corridor, and totals in much of the area east of Interstate 95 were reported to be more than ten inches, with some values over fifteen inches. A CoCoRaHS observer in Moncks Corner reported a total of 22.02 inches from August 5 to the morning of August 9.

More details about Tropical Storm Debby's impacts are available via our Open-File Report.

September 2024

On September 23, Potential Tropical Cyclone Helene formed in the western Caribbean Sea and became a hurricane by September 25. It strengthened to a Category 4 hurricane with 140 mph winds before making landfall near Perry, Florida, just before midnight. Helene then moved through southern Georgia, weakening to a strong tropical storm near Franklin, Tennessee, by Friday morning. The storm's wind field extended over 200 miles, with reported gusts of up to 75 mph in South Carolina, although there were estimated wind gusts of over 100 mph near the Augusta, Georgia, area. While no notable storm surge was recorded, tidal levels reached 8.02 feet in Charleston Harbor, causing flooding. Twenty-one confirmed tornadoes occurred across the state. Rainfall from Helene ranged from six to eighteen inches, especially north and west of Interstate 20 and 77, with an event total of 19.69 inches reported near Jocassee and high rainfall amounts recorded in parts of the Upstate and Central Savannah River Area.



Satellite Image of Hurricane Helene Before Making Landfall in Florida

More details about Hurricane Helene's impacts are available via our Open-File Report.

October 2024

Statewide, October 2024 was the second driest October on record and the second driest month on record for the state since 1895. It was tied for the driest October (2000) at the NWS station at Columbia Metropolitan Airport, the second driest October at the Charleston International Airport, and the third driest October on record at the Florence Regional Airport.

Station	October 2024 Rainfall (")	Normal October Rainfall (")	Departure from Normal
Charleston Int'l AP	0.03	4.33	-4.30
Florence Reg AP	0.01	3.42	-3.41
Columbia Metro AP	Trace	3.13	-3.13
Gr'nvl-Spart. Int'l Ap	0.38	3.59	-3.21

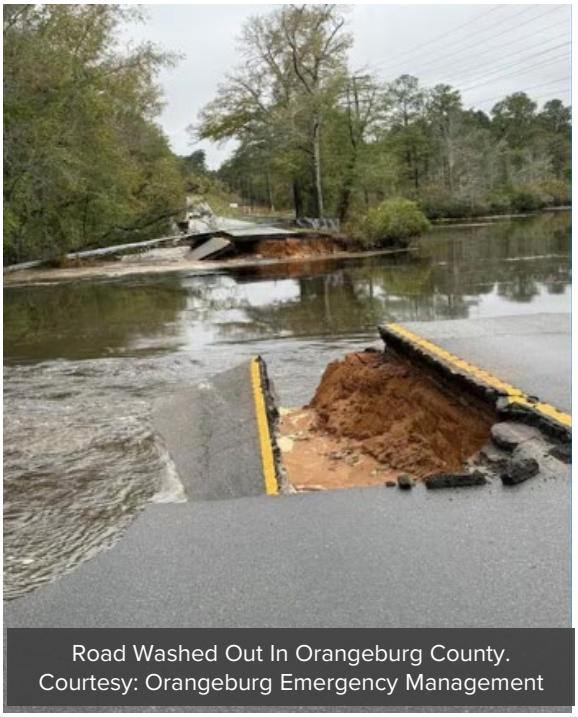
Some locations across the state did not report any rainfall since the passage of Tropical Cyclone Helene (September 26 – 29), with some NWS stations not reporting measurable rainfall for three or more weeks.

Run Of Consecutive Days Without Rain Since Helene (Sep 26 – 29)

Charleston: 30 days; ended on Nov 3
Columbia: 38 days; ended on Nov 4
Florence: 29 days; ended on Oct 26
Greenville: 28 days; ended on Oct 25

November 2024

Heavy rain started across portions of Orangeburg, Aiken, Lexington, Calhoun, Bamberg, Dorchester, and Colleton counties on the afternoon of Wednesday, November 6, due to interactions between a stalled front across the southeast U.S. and deep tropical moisture from the Caribbean and tropical Atlantic, leading to training cells along a line from Barnwell County through lower Richland/western Sumter counties. By Thursday morning, radar estimates showed over a foot of rain across portions of Orangeburg County, an uncommon event, especially for November, which is typically one of the drier months. The excessive rainfall caused multiple road closures, breaching dams, and requiring water rescues in the impacted areas.



Road Washed Out In Orangeburg County. Courtesy: Orangeburg Emergency Management

From November 14 – 16, the tidal levels at the Charleston Harbor gauge ranged between 7.40 and 8.25 feet MLLW, reaching 8.08 ft MLLW on the 14th and 8.25 ft MLLW on the 16th, the highest values since September 27.

December 2024

Crews Repairing Damaged Electric Poles in Fairfield County on December 29. Courtesy: NWS Columbia

On the heels of the second warmest November on record, including one of the latest first freezes on record at some of the NWS sites across the state, December 2024 started with temperatures well below normal. Maximum and minimum temperatures were up to fifteen degrees below normal, with overnight temperatures in the low 20s and highs struggling to get out of the 40s, including locations near the coast during the first part of the month.

The NWS stations in North Myrtle Beach and the Florence Regional Airport reported new daily records of low maximum temperatures of 43 degrees on December 6, breaking the previous records set in 2010.

The warming trend during the second half of the month continued ahead of a strong frontal boundary that moved through the region on December 29, producing severe weather. There were eight tornadoes confirmed in the Midlands and Upstate: an EF1 south of Winnsboro and seven EF0 tornadoes in Lexington, Newberry, Spartanburg, Union, and York counties. Minor wind damage was reported in portions of the Midlands and Upstate.