

November 2024 Central NC Climate Summary

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November Ember

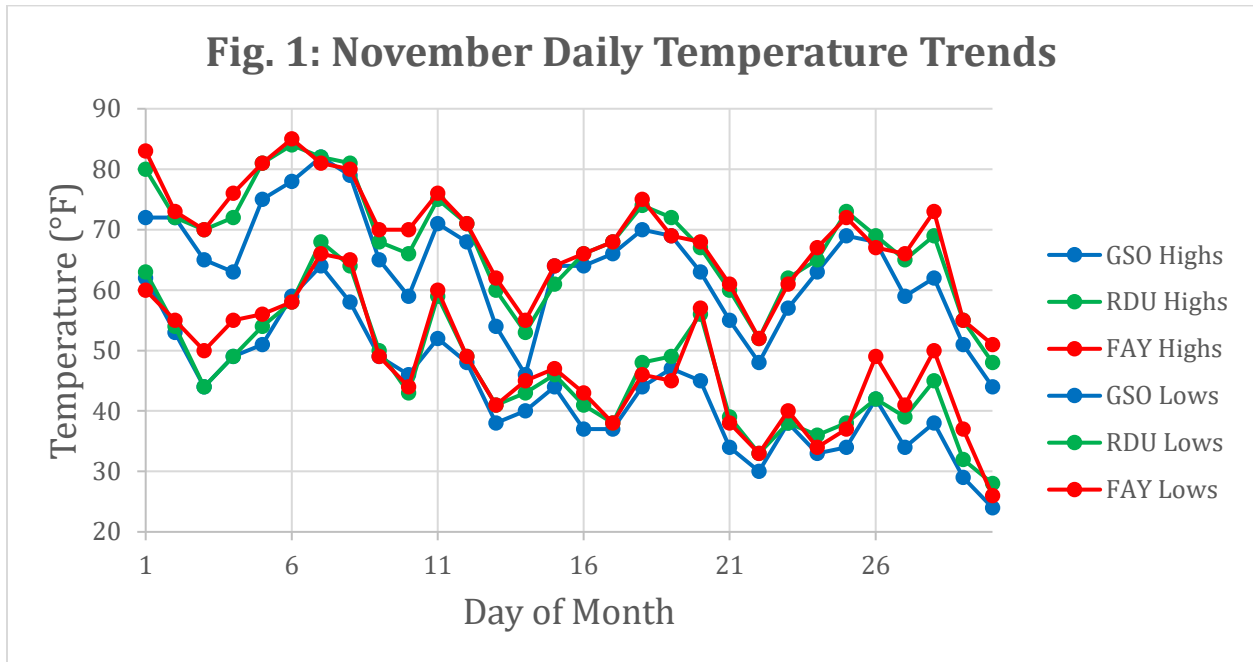
The late season's unusual warmth lasted well into November but finally faded with the passage of a strong cold front on the 20th. Raleigh had recorded daily temperatures as much as 15 to 21°F above normal before the 21st, with only 2 days of below normal temperatures. After the 20th, the warmth eased off some with near temperatures overall. The National Centers for Environmental Information (NCEI) reported the average temperature across the state of NC was 56.2°F, making it the 2nd-warmest November on record since 1895. Much of central NC finished with an average temperature that was well above normal, by around 4 or 5°F. Raleigh recorded its 3rd-warmest November since records began in 1887, while Fayetteville tied for its 7th-warmest going back to 1910 and Greensboro had its 10th-warmest going back to 1903. The warmest monthly temperatures occurred at the end of the first week. On the 6th, Raleigh topped out at 84°F while Fayetteville reached 85°F, which broke and tied daily high temperature records, respectively. Greensboro reached 82°F on the 7th which also tied a daily high temperature record.

The extreme lingering warmth led to the fall's first freeze to be significantly delayed. Typically, the first freeze in the fall season occurs in late October or early November for most of central NC. This year, Raleigh did not record a first freeze until November 29 while Fayetteville's first freeze was on the 30th. This was the 2nd-latest first freeze in recorded history at both locations and over 3 weeks later than the historical average. Greensboro had its first freeze on November 22, also over 3 weeks behind the historical average and the 3rd-latest first freeze on record. In addition, 32°F or below was only reached 3 times at Greensboro, 2 times at Raleigh, and 1 time at Fayetteville. The monthly low temperatures were all on the 30th when lows at the three climate sites were in the mid-to-upper-20s. The monthly temperature statistics are depicted in Table 1.

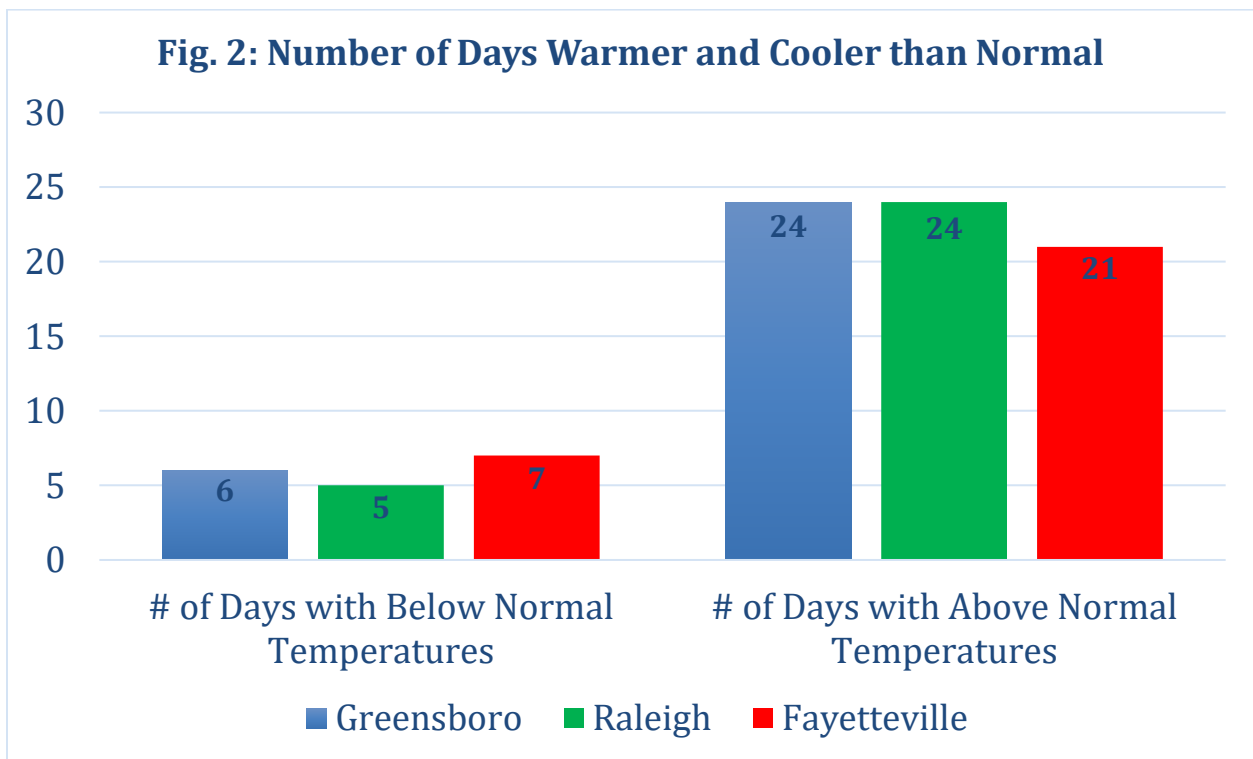
Table 1: Monthly Temperature Statistics

Site	Avg High Temp (°F)	Avg Low Temp (°F)	Avg Temp (°F)	Departure From Normal (°F)	Maximum Temperature (°F)	Minimum temperature (°F)
Greensboro (GSO)	64.0	43.4	53.7	+4.0	82 on 11/7	24 on 11/30
Raleigh-Durham (RDU)	68.0	46.2	57.1	+5.6	84 on 11/6	28 on 11/30
Fayetteville (FAY)	68.9	47.1	58.0	+4.4	85 on 11/6	26 on 11/30

The time series of daily temperature for the month at Greensboro, Raleigh, and Fayetteville can be found in Figure 1.



As shown in Figure 2, the vast majority of days in November at the three climate sites (70-80%) were warmer than normal.

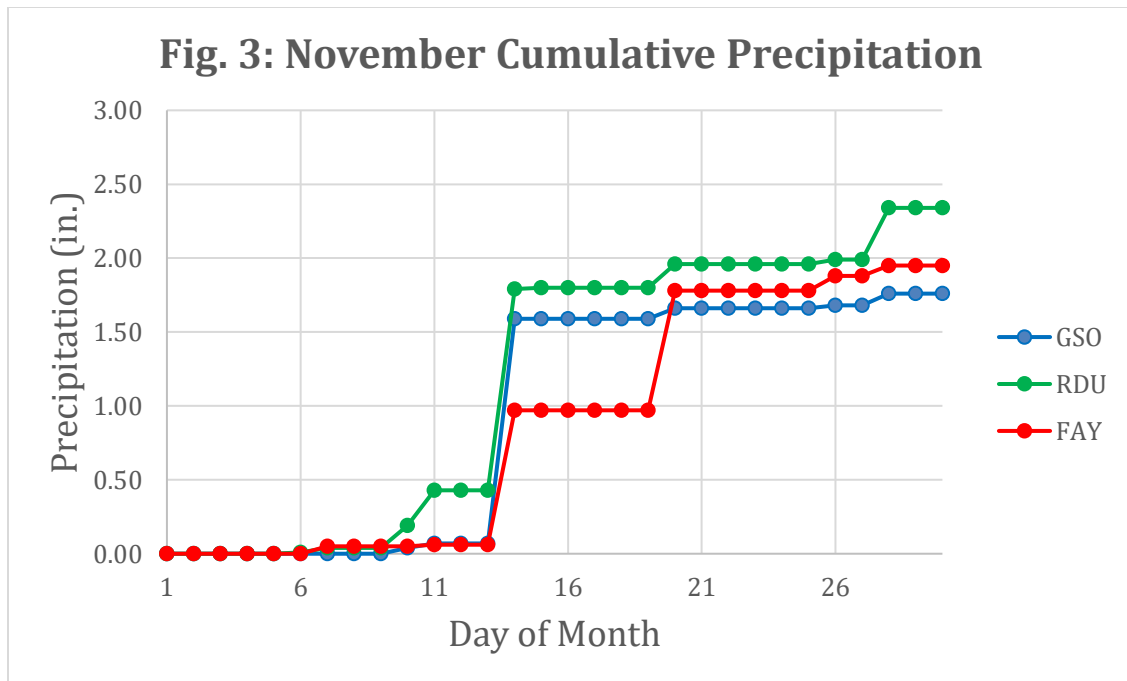


Overall, the very dry conditions that started in October eased some in November, but it was still drier than normal and much of the rain fell in one or two events. The heaviest rain event was on the 14th when a half to one and a half inches of rain fell across central NC. This day alone brought the vast majority of the month’s rain to Greensboro, with only about a quarter inch otherwise, and over half of November’s rain fell on the 14th at Raleigh. This day plus a few smaller events were enough to bring monthly totals of 1 to 3 inches of rain to central NC, which far surpassed the scanty half inch or less amounts that fell in October. However, the rainfall totals still remained lower than the historic normals. According to preliminary data from NCEI, the statewide average rainfall was 1.98 inches. Thus, November 2024 will go down as the 35th-driest November in the past 130 years. The November 2024 monthly precipitation totals are found in Table 2.

Table 2: Monthly Precipitation Statistics

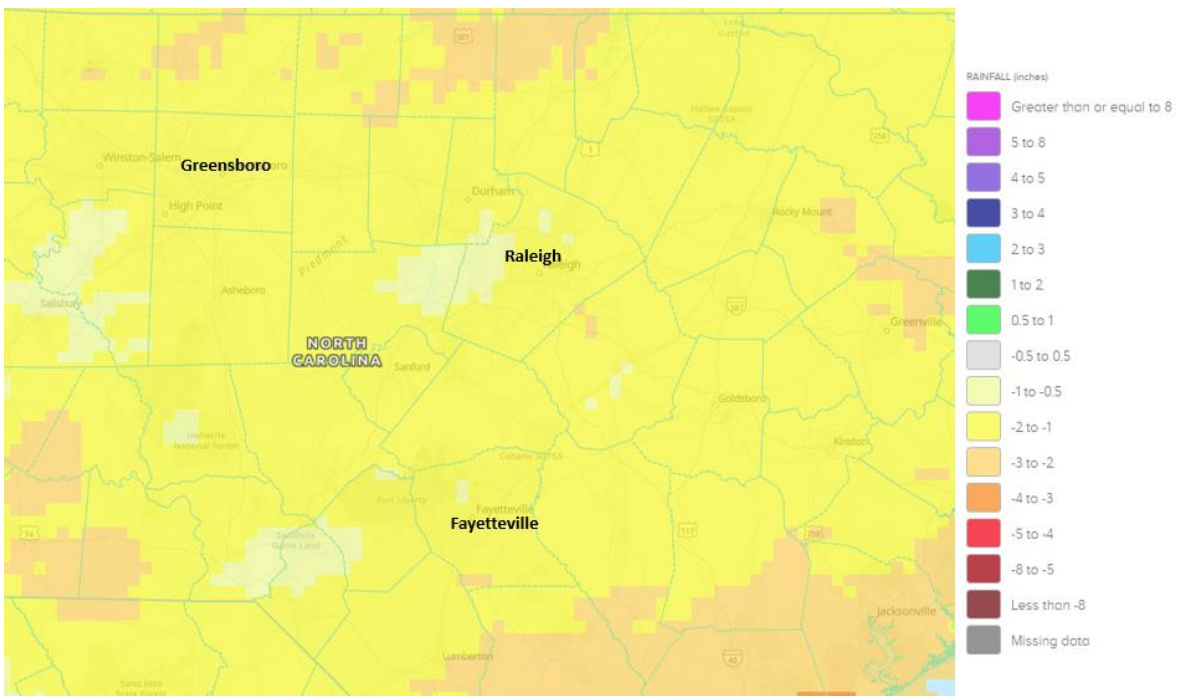
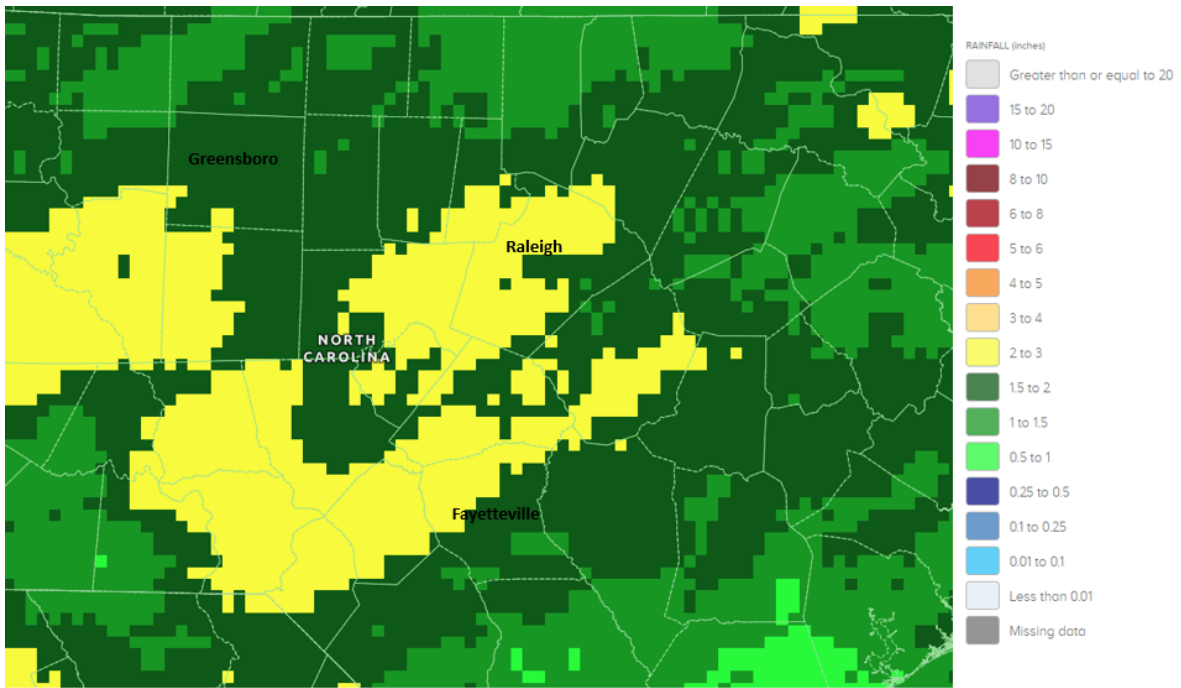
Site	Total precipitation (in.)	Departure from Normal (in.)	Max Daily Precipitation (in.)
Greensboro (GSO)	1.76	-1.51	1.52 on 11/14
Raleigh-Durham (RDU)	2.34	-0.98	1.36 on 11/14
Fayetteville (FAY)	1.95	-1.09	0.91 on 11/14

The cumulative precipitation at the three climate sites for the month of November is shown in Figure 3.



As displayed by the radar-estimated precipitation and the radar-estimated precipitation departure from normal in Figure 4, the final monthly totals were in the 1 to 3 inch range across central NC. This was generally 1 to 2 inches below normal.

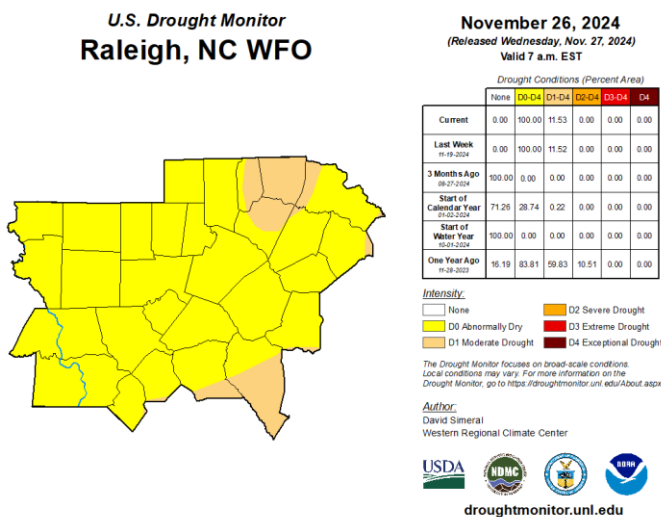
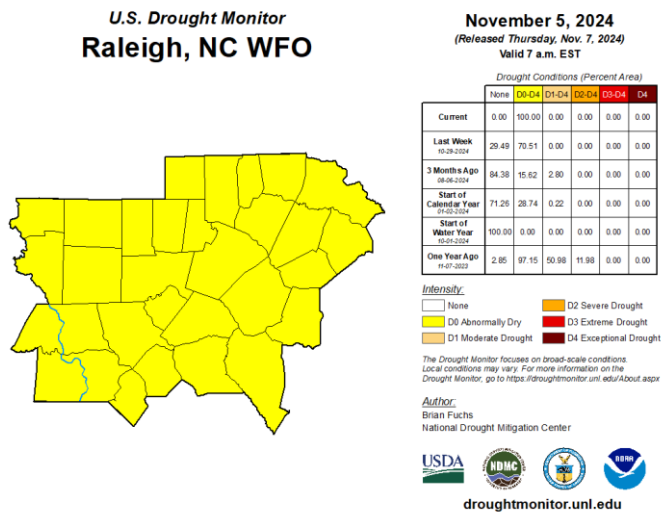
Fig. 4: Radar-Estimated Monthly Precipitation and Departure from Normal Precipitation



Some of the local cooperative station rainfall reports from around central NC from November 2024 included: Sparta 3.13 inches (-1.41), Winston-Salem 1.34 inches (-1.72), Albemarle 1.39 inches (-1.95), Burlington 1.79 inches (-1.48), Mount Airy 1.77 inches (-1.67), Danbury 1.53 inches (-1.54), Henderson 1.99 inches (-1.65), Cary 1.88 inches (-1.72), Roxboro 1.58 inches (-1.89), Apex 2.04 inches (-1.41), Laurinburg 1.19 inches (-1.95), Rocky Mount 1.50 inches (-1.59), and Clinton 1.96 inches (-1.48).

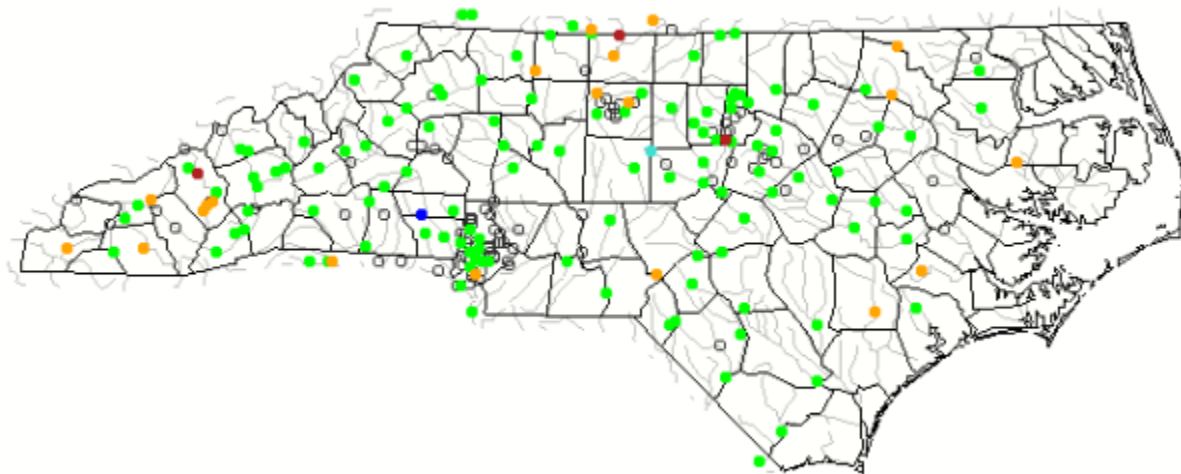
With the very dry conditions in October followed up by a dry November, the Drought Monitor as of November 26 depicted areas of drought expanding west over central and eastern NC, after only Abnormally Dry (D0) conditions everywhere at the beginning of the month. Moderate Drought conditions (D1) extended into parts of the northern and southern Coastal Plain, as well as the far NE Piedmont around Warrenton. D0 covered the rest of central NC. The US Drought Monitor maps in Figure 5 show the D1 and D0 areas.

Fig. 5: US Drought Monitor for NC on November 5 (top) and November 26 (bottom)



As shown in Figure 6, streamflows were mostly in the normal range across central NC even as they continued to fall with the lack of rain. This was due to previously high streamflows from the remnants of Hurricane Helene in late September.

Fig. 6: Monthly Streamflow compared to Historical Streamflow across NC in November 2024



Explanation - Percentile classes							
●	●	●	●	●	●	●	○
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

Other notes:

Days with thunderstorms this month:

- Greensboro: 0
- Raleigh: 1
- Fayetteville: 1

Days with dense fog (visibility of ¼ mile or less):

Greensboro: 1
Raleigh: 3
Fayetteville: 3

Strongest wind gusts and direction:

Greensboro: NW (310 degrees) at 48 mph on November 20
Raleigh: NW (300 degrees) at 37 mph on November 20
Fayetteville SW (230 degrees) 39 mph on November 28

Number of days with low temperatures at 32°F or below:

Greensboro: 3
Raleigh: 2
Fayetteville: 1

Monthly records:

Greensboro:

November 2024 was the 10th-warmest November on record with an average temperature of 53.7°F.

Greensboro recorded its first freeze on November 22, over 3 weeks behind the historical average and its 3rd-latest first freeze on record.

Raleigh:

November 2024 was the 3rd-warmest November on record with an average temperature of 57.1°F.

Raleigh recorded its first freeze on November 29, over 3 weeks behind the historical average and its 2nd-latest freeze on record.

Fayetteville:

November 2024 tied for the 7th-warmest November on record with an average temperature of 58.0°F.

Fayetteville recorded its first freeze on November 30, over 3 weeks behind the historical average and its 2nd-latest freeze on record.

Daily records:

Greensboro:

A daily record high minimum temperature of 62°F was set on November 1. This broke the old record of 61°F set in 1919.

A daily record high temperature of 82°F was tied on November 7. This record was previously set in 2022.

A daily record high minimum temperature of 64°F was set on November 7. This broke the old record of 61°F last set in 2022.

A daily record high minimum temperature of 58°F was set on November 8. This broke the old record of 57°F set in 1975.

A daily rainfall record of 1.52 inches was set on November 14. This broke the previous record of 1.38 inches set in 1940.

Raleigh:

A daily record high minimum temperature of 63°F was tied on November 1. This record was previously set in 1919.

A daily record high temperature of 84°F was set on November 6. This broke the old record of 83°F last set in 2022.

A daily record high minimum temperature of 68°F was set on November 7. This broke the old record of 65°F set in 2022.

A daily record high temperature of 81°F was set on November 8. This broke the old record of 80°F recorded in 1986.

A daily record high minimum temperature of 64°F was tied on November 8. This record was previously set in 1895.

Fayetteville:

A daily record high temperature of 85°F was tied on November 6. This record was previously set in 2022.

A daily record high minimum temperature of 66°F was set on November 7. This broke the old record of 65°F set in 2003.

A daily record high minimum temperature of 65°F was tied on November 8. This record was previously set in 1946.