

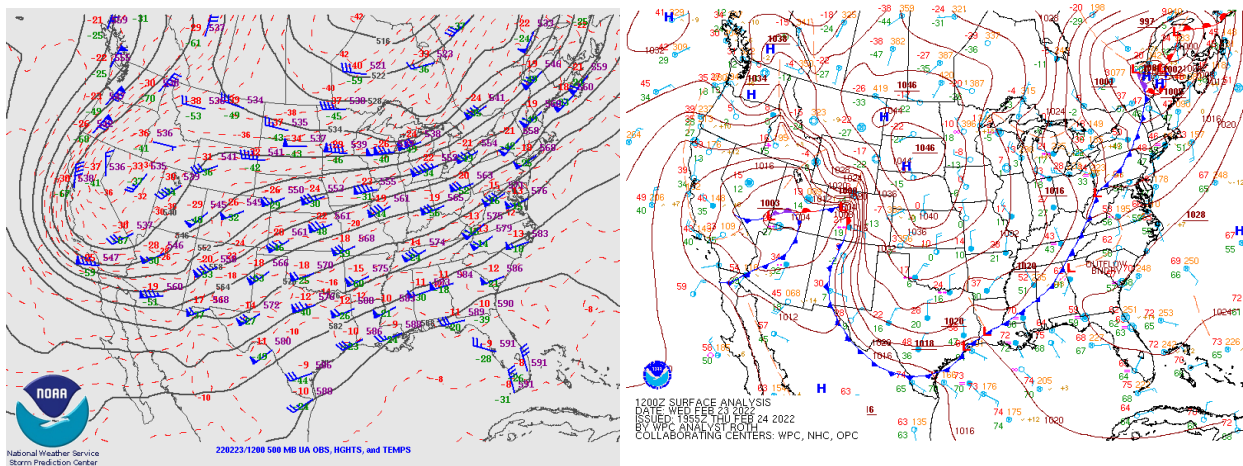
# February 2022 Central NC Climate Summary

*By Phillip Badgett and James Danco*

## Warmer and drier conditions ruled in February 2022.

For the most part, February 2022 warmed up and dried out after the chilly, wet January, bringing early spring-like weather to central North Carolina. However, wet conditions did continue over the northwestern third of NC. The mean storm track was often well to the north and west of NC, roughly from the Plains to the Great Lakes with strong ridging centered just offshore. This allowed deep moisture transport out ahead of frequent cold fronts that moved from the Tennessee Valley across the Appalachians with ample rainfall. These fronts often weakened as they neared the Coastal Plain. Figure 1 depicts the upper level and surface patterns as observed on February 23, 2022. Note the cold front moving into the Appalachians with the parent surface low pressure system over northern New England, and upper ridging off the coast. This pattern became rather repetitive throughout the month with often soaking rains in the western and central parts of NC followed by much lighter rain nearer to the coast. By month's end, Greensboro was slightly wetter than normal while Raleigh and Greensboro were drier than normal. All three climate sites were warmer than normal.

**Fig. 1: 500 mb Observations, Heights, and Temperatures (left) and Surface Analysis (right) on 2/23**



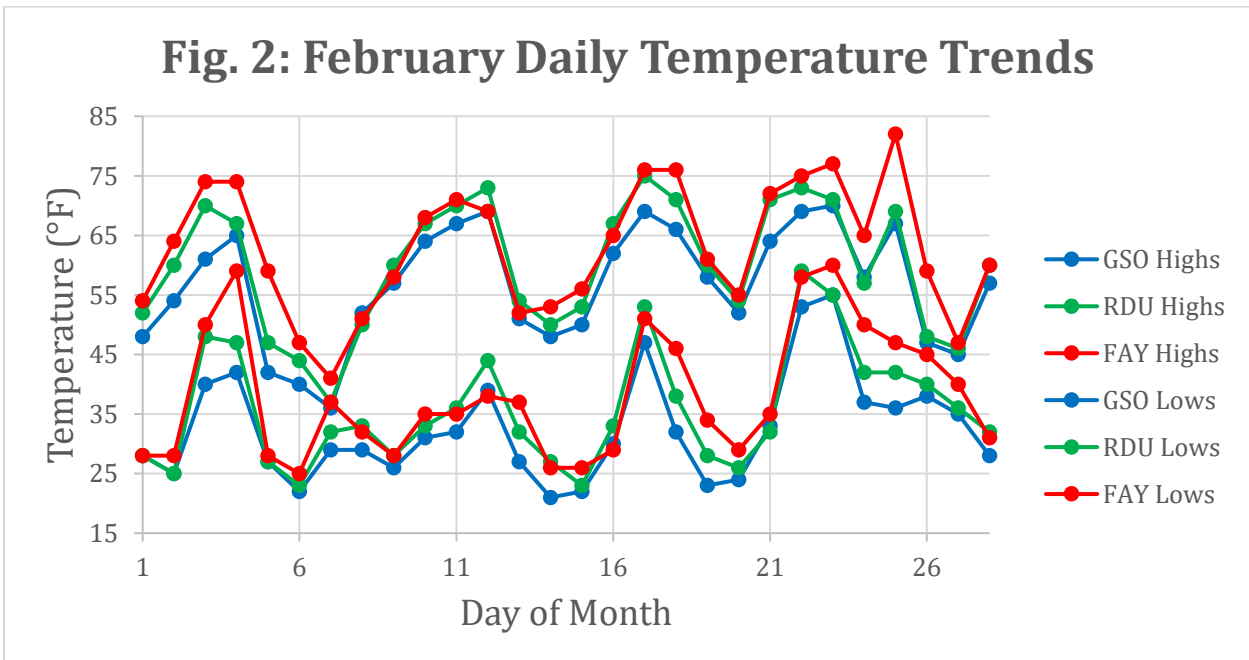
February 2022 had a statewide average temperature of 45.7°F according to data reported by the North Carolina State Climate Office (NCSCO), making it the 24<sup>th</sup>-warmest February since 1895. It was particularly warm across the Coastal Plain. Greensboro was 1.6°F warmer than normal, Raleigh 2.8°F warmer than normal, and Fayetteville 3.5°F warmer than normal. Driving this were the especially warm highs compared to average, by 3-5°F across central NC. The February monthly average temperatures and their departures from normal at the three climate sites are depicted in Table 1.

**Table 1: Monthly Temperature Statistics**

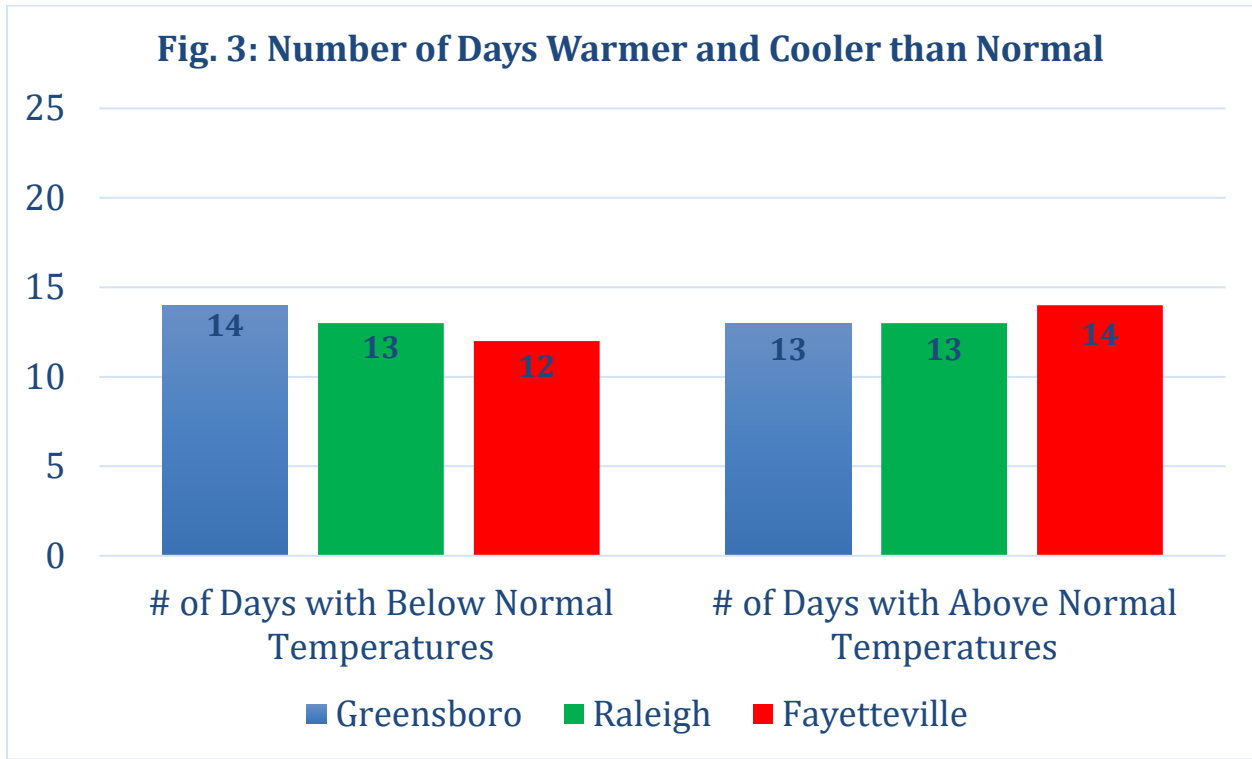
Site	Avg High Temp (°F)	Avg Low Temp (°F)	Avg Temp (°F)	Departure From Normal (°F)	Maximum Temperature (°F)	Minimum temperature (°F)
Greensboro (GSO)	56.7	32.5	44.6	+1.6	70 on 2/23	21 on 2/14
Raleigh-Durham (RDU)	59.9	35.8	47.8	+2.8	75 on 2/17	23 on 2/6 and 2/15
Fayetteville (FAY)	62.9	38.1	50.5	+3.5	82 on 2/25	25 on 2/6

The time series of daily temperature for the month at Greensboro, Raleigh, and Fayetteville can be found in Figure 2. There were many mild afternoons, with Raleigh reaching at least 60°F on 16 of the 28 days in February, and at least 70°F on 8 of the days. The coldest temperatures of the month occurred just after cold frontal passages. Greensboro recorded a monthly low temperature of 21°F on February 14. This was followed closely by a low of 22°F on February 6 and 15, and 23°F on the 19<sup>th</sup>. Raleigh reported a monthly low of 23°F on February 6 and 15. Raleigh also fell to 25°F on the 2<sup>nd</sup> and 26°F on the 20<sup>th</sup>. Fayetteville reported a monthly low of 25°F on February 6, followed by lows of 26°F on February 14 and 15.

**Fig. 2: February Daily Temperature Trends**



Despite the warm month overall, the number of days warmer and cooler than normal was actually roughly equal at all three climate sites, as shown in Figure 3.



February was a relatively dry month for much of central NC, particularly in southern and eastern parts of the region. According to NCEI data relayed by the NCSCO, the statewide average precipitation totaled 2.47 inches. This made it the 31<sup>st</sup>-driest February since 1895. The February 2022 monthly precipitation totals at the three climate sites are found in Table 2. Raleigh had its 12<sup>th</sup>-driest February since records began in 1887, and Fayetteville had its 15<sup>th</sup>-driest February since records began in 1910, with both locations around 1.5 inches below normal. No snowfall was recorded during the month at the major reporting sites. Thus, snowfall averaged 2.0 inches below normal at Greensboro and 1.4 inches below normal at Raleigh.

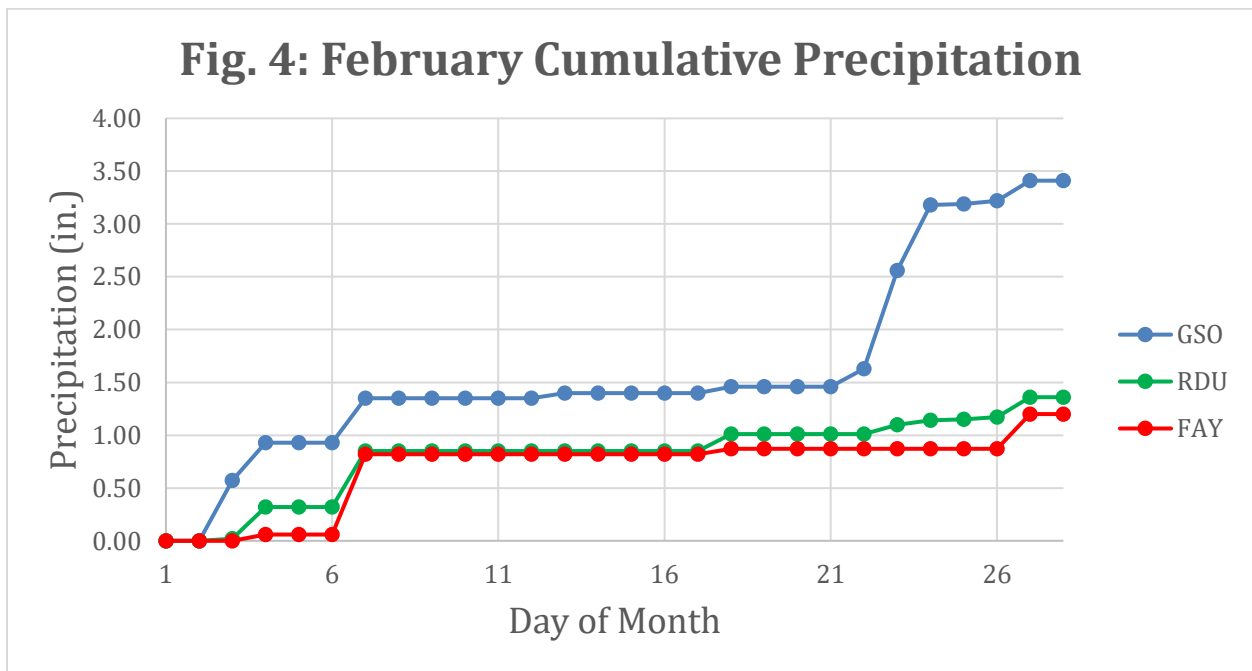
**Table 2: Monthly Precipitation Statistics**

Site	Total precipitation (in.)	Departure from Normal (in.)	Max Daily Precipitation (in.)
Greensboro (GSO)	3.41	+0.60	0.93 on 2/23
Raleigh-Durham (RDU)	1.36	-1.42	0.53 on 2/7
Fayetteville (FAY)	1.20	-1.58	0.76 on 2/7

Additional selected ASOS or cooperative observations for February 2022 are listed below. Note the above-normal rainfall in the northwestern part of NC and below-normal rainfall elsewhere.

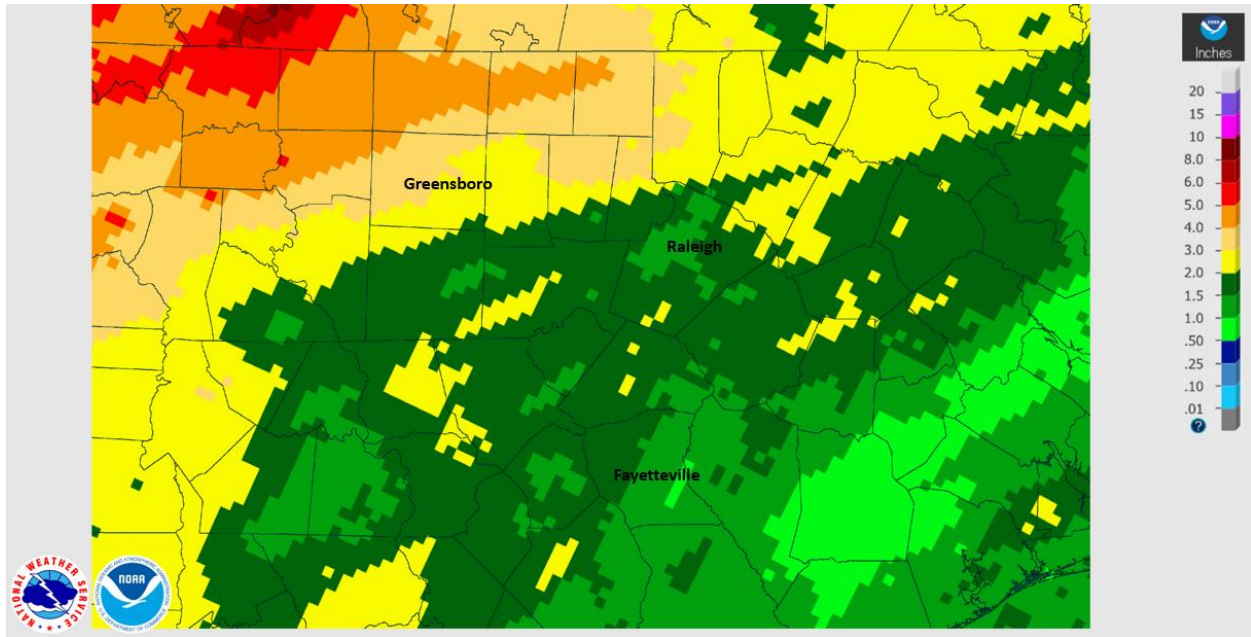
Winston-Salem (Forsyth County) 4.50 inches (1.61 above normal), Mount Airy (Surry County) 5.42 inches (2.28 above normal), Raleigh (NCSU) 1.62 inches (1.26 below normal), Louisburg (Franklin County) 1.44 inches (1.42 below normal), Rocky Mount (Nash County) 1.76 inches (1.11 below normal), Clinton (Sampson County) 0.79 inches (2.32 below normal), Asheboro (Randolph County) 1.99 inches (1.23 below normal), Yadkinville (Yadkin County) 5.43 inches (2.31 above normal), and Reidsville (Rockingham County) 4.83 inches (1.68 above normal).

The cumulative precipitation at the three climate sites for the month of February is shown in Figure 4. Greensboro’s rainfall well exceeded Raleigh’s and Fayetteville’s thanks to nearly 2 inches of rain from February 22-24.

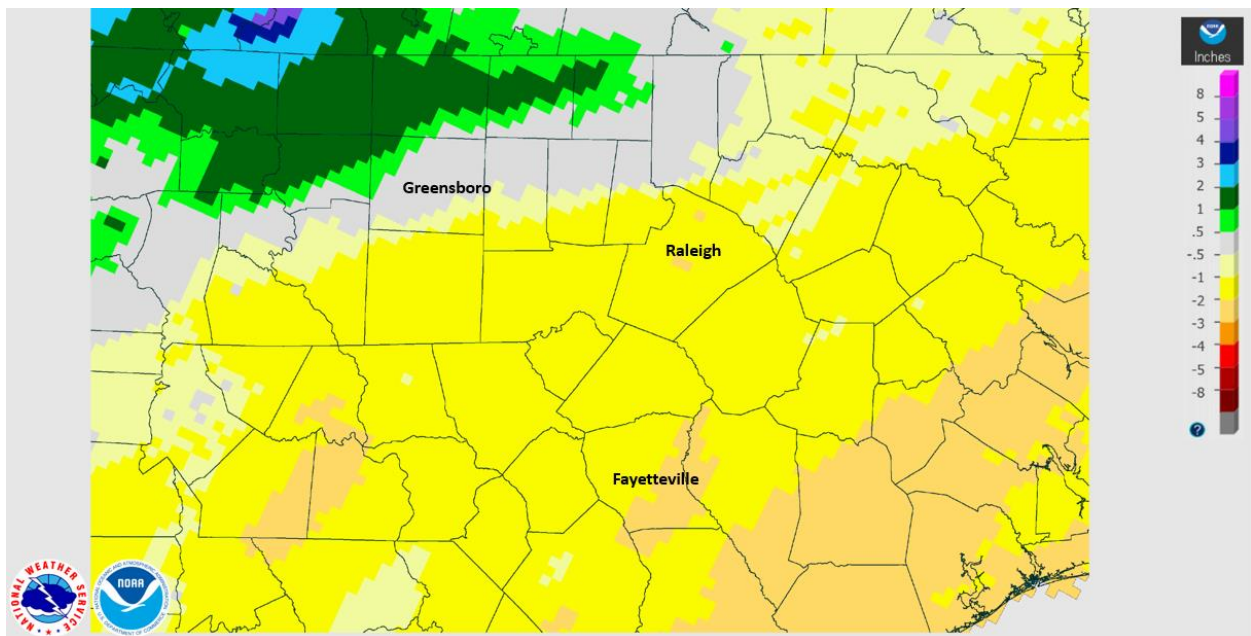


The radar-estimated precipitation and radar-estimated precipitation departure from normal across central NC are shown in Figures 5 and 6. The only part of central NC that was slightly wetter than normal was in the far northwest around Winston-Salem and Greensboro, which had 3-5 inches for the month. Totals decreased to just 0.5-2 inches in most places outside of the northernmost counties, driest in the far southeast. This was 1-3 inches drier than normal.

**Fig. 5: Radar-Estimated Monthly Precipitation**

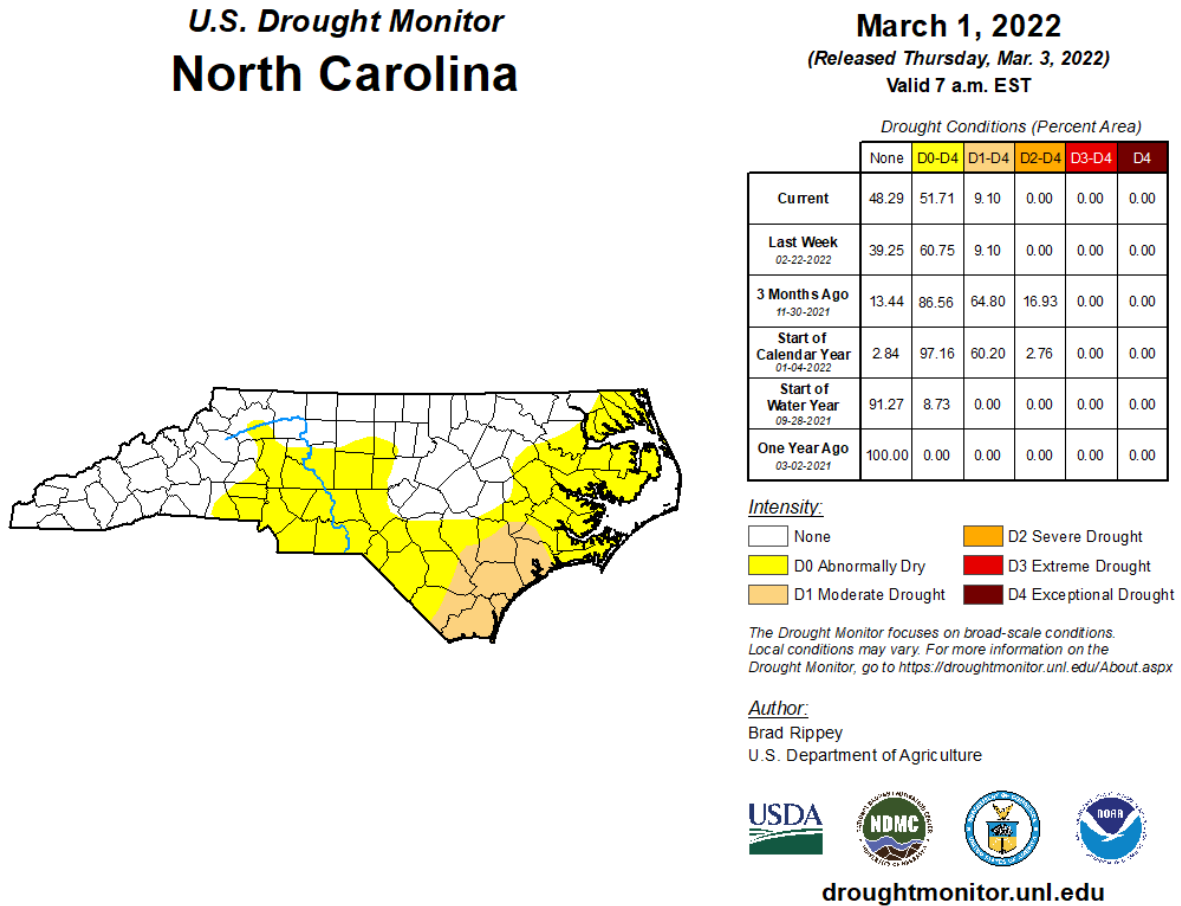


**Fig. 6: Radar-Estimated Monthly Departure from Normal Precipitation**



As shown in Figure 7, drier conditions in February kept the Abnormally Dry (D0) conditions in place over southeastern and southern NC. The dryness also expanded Moderate Drought (D1) in the southern Coastal Plain and D0 across the northern and central coast. But there was enough rain to remove the D1 and reduce the D0 for the northern and western Piedmont, as well as the NC mountains.

**Fig. 7: U.S. Drought Monitor for North Carolina on March 1**



**Other notes:**

**Days with thunderstorms this month:**

Greensboro: 0  
Raleigh: 0  
Fayetteville: 0



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

Greensboro: 3

Raleigh: 3

Fayetteville: 4

**Days with snow reported this month:**

Greensboro: 0

Raleigh: 0

Fayetteville: 0

**Strongest wind gusts and direction:**

Greensboro: S (180 degrees) at 47 mph on February 17

Raleigh: SW (210 degrees) at 41 mph on February 18

Fayetteville: S (190 degrees) at 40 mph on February 18

**Daily records for February 2022:**

**Greensboro:**

A record high minimum temperature of 55°F was set at Greensboro on February 23. This broke the old record of 52°F set in 1922.

**Raleigh:**

None.

**Fayetteville:**

A record high minimum temperature of 59°F was set at Fayetteville on February 4. This broke the old record of 57°F set in 1932.

A record high minimum temperature of 60°F was set at Fayetteville on February 23. This broke the old record of 55°F set in 2018.

**Monthly records:**

None.