

# March 2024 Central NC Climate Summary

*By Phillip Badgett and James Danco*

## Warmth dominates March.

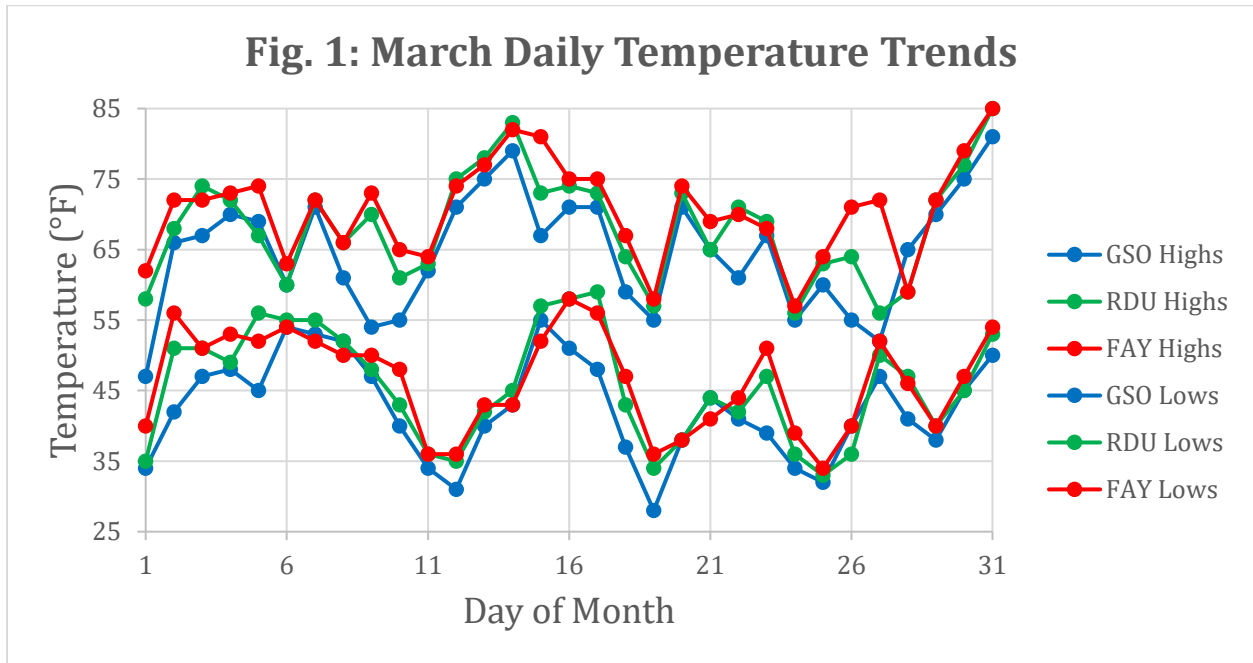
March 2024 began warm in central NC, and the warmth remained generally consistent throughout. High temperatures reached the 70s as early as March 2-4. By March 13-14, highs reached the upper-70s to lower-80s in many spots. There was a significant cooldown that arrived March 24-27 as high pressure to the north brought colder air to the state. The morning of March 25 was especially cold as some outlying areas reached the upper-20s. Greensboro fell to the freezing mark that morning, but Raleigh and Fayetteville didn't quite get there, reaching their monthly lows of 33°F and 34°F respectively. The cooling did not last long as temperatures soared back into the lower-to-mid-80s by the last day of the month. Both Fayetteville and Raleigh hit 85°F for the monthly high on March 31, while Greensboro reached 81°F. Rainfall during the month was generous with most areas receiving amounts that were slightly above normal.

NCEI reported that the preliminary average temperature across the state of NC for the month was 53.8°F, making it the 16<sup>th</sup>-warmest March in the last 130 years. Most of central NC finished the month with an average temperature that ranged from 3°F to 5°F above normal. The temperatures fell to 32°F or below in March only 3 times at Greensboro, which had its monthly low of 28°F on the 19<sup>th</sup>. Raleigh and Fayetteville did not reach the freezing mark at all. According to the NC climate office, this was the first time since 1945 that Raleigh and Wilson did not fall to 32°F or below in March and only the second time in the last 100 years. The monthly temperature statistics at the three climate sites are depicted in Table 1. Raleigh tied for its 9<sup>th</sup>-warmest March with records going back to 1887, Fayetteville had its 9<sup>th</sup>-warmest March with records going back to 1910, and Greensboro tied for its 14<sup>th</sup>-warmest March with records going back to 1903.

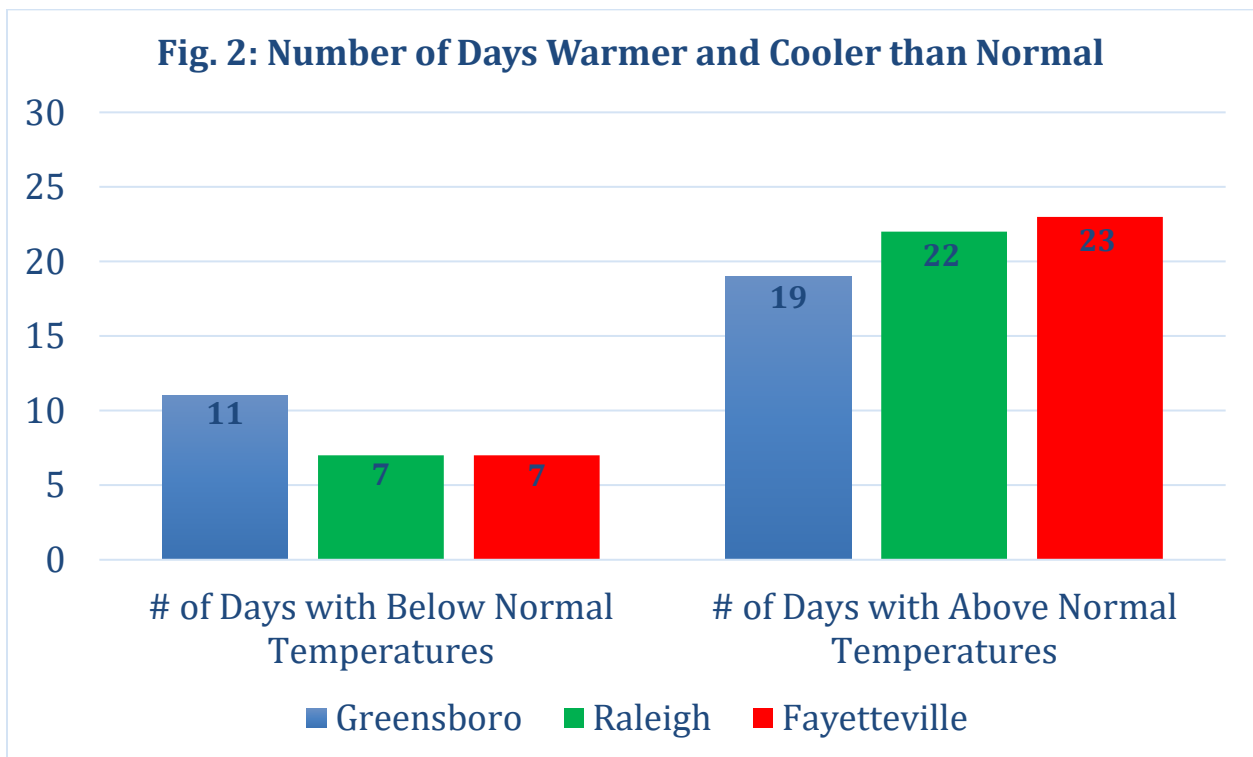
**Table 1: Monthly Temperature Statistics**

Site	Avg High Temp (°F)	Avg Low Temp (°F)	Avg Temp (°F)	Departure From Normal (°F)	Maximum Temperature (°F)	Minimum temperature (°F)
Greensboro (GSO)	64.7	42.5	53.6	+3.3	81 on 3/31	28 on 3/19
Raleigh-Durham (RDU)	68.3	45.6	57.0	+5.2	85 on 3/31	33 on 3/25
Fayetteville (FAY)	70.5	46.4	58.5	+4.7	85 on 3/31	34 on 3/25

The time series of daily temperature for the month at Greensboro, Raleigh, and Fayetteville can be found in Figure 1. Raleigh reached at least 70°F on 15 of the 31 days in March, while Fayetteville reached 70°F on a whopping 19 days.



A majority of days in March (60-75%) were warmer than normal at the three climate sites, as shown in Figure 2.



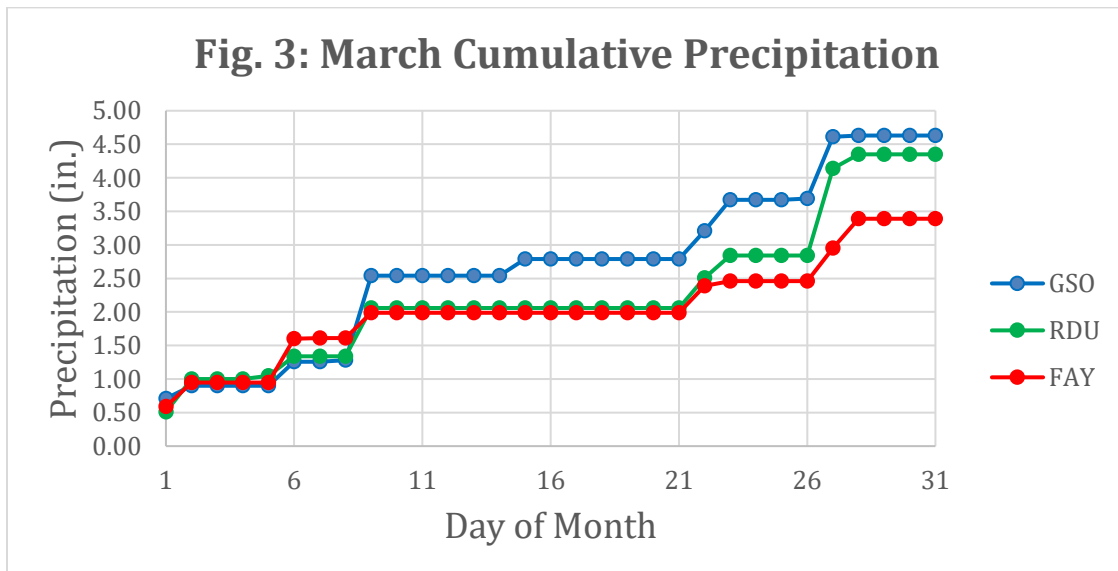
Frequent rainfall in March allowed the month to end with slightly wetter than normal conditions across central NC. All three climate sites were wetter than normal, but by less than an inch. According to the NCEI, March 2024 was the 28<sup>th</sup>-wettest March for the state as a whole since 1895, with an average rainfall of 5.45 inches. No snowfall occurred during the month of March across central NC, and all areas continued their snowfall drought that will extend into next winter season. The March 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)	4.63	+0.91	1.26 on 3/9
Raleigh-Durham (RDU)	4.35	+0.25	1.30 on 3/27
Fayetteville (FAY)	3.39	+0.31	0.65 on 3/6

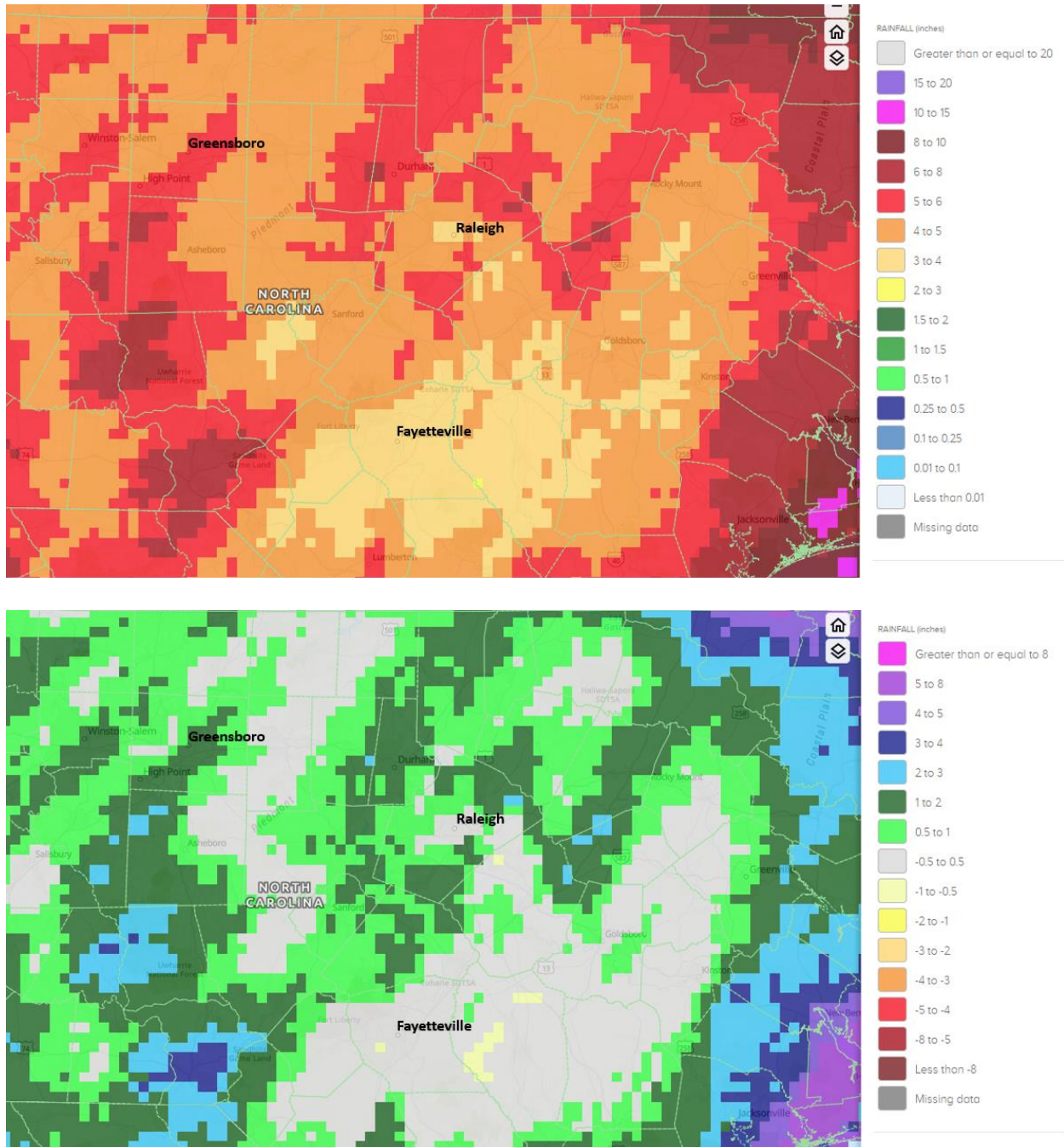
Some of the cooperative station rainfall reports from around central NC from March 2024 included: Sparta 6.16 inches (+0.25 inches from normal), Winston-Salem 4.68 inches (+1.08), Albemarle 5.94 inches (+ 1.95), Burlington 3.98 inches (+0.10), Mount Airy 4.45 inches (+0.26), Danbury 4.90 inches (+0.81), Henderson 5.80 inches (+1.63), Cary 3.27 inches (-0.77), Raleigh (NCSU) 4.51 inches (+0.34), Louisburg 5.11 inches (+1.05), Apex 4.14 inches (+0.06), Laurinburg 3.23 inches (-0.19), Rocky Mount 5.76 inches (+1.79), and Clinton 4.29 inches (+0.61).

The cumulative precipitation at the three climate sites for March is shown in Figure 3. Some of the heaviest rainfall events occurred on March 1-2, March 9, and March 27-28.



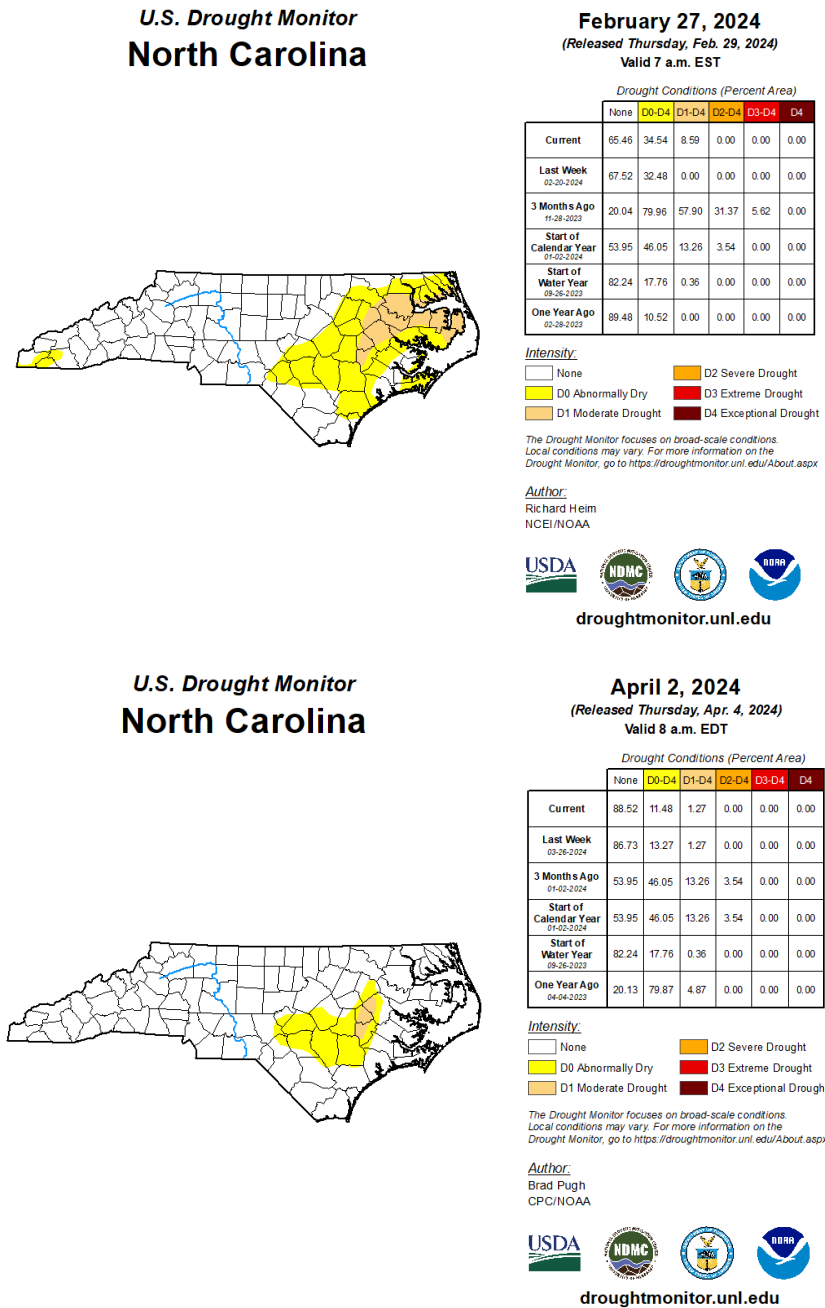
As displayed by Figure 4, the final monthly precipitation totals across central NC mostly ranged from 4 to 6 inches, which was 0.5 to 2 inches above normal. Localized spots particularly over the southern Piedmont received as much as 6 to 8 inches, which was 2 to 4 inches above normal. However, rainfall over parts of the eastern Sandhills and central/southern Coastal Plain was near normal, with totals in the 3 to 4 inch range.

**Fig. 4: Radar-Estimated Monthly Precipitation (top) and Departure from Normal Precipitation (bottom)**



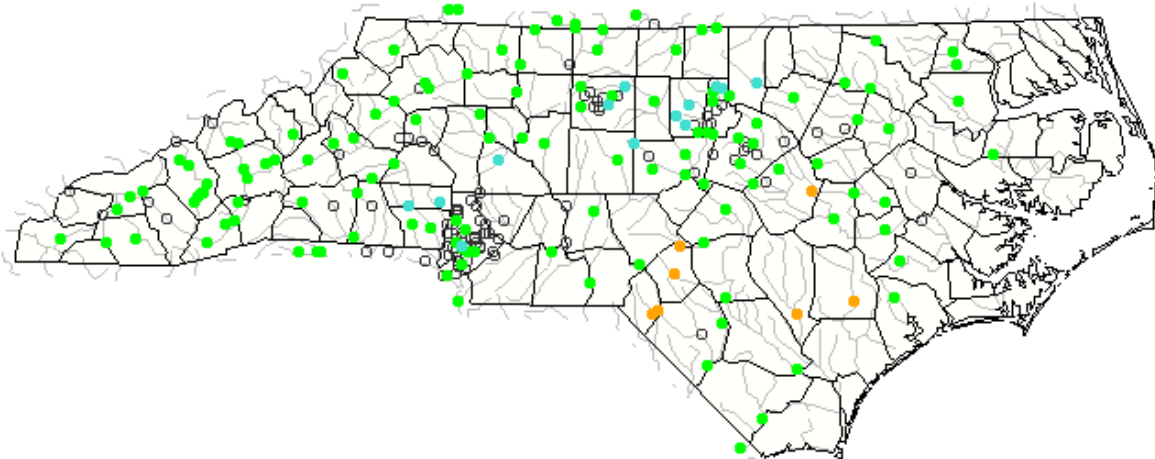
The rain in March knocked back the D0 (Abnormally Dry) conditions that were experienced in February. Note the US Drought Monitor Maps for NC from February 27 and April 2 displayed in Figure 5. By April 2, the D0 conditions were only confined to the eastern Sandhills and central/southern Coastal Plain, with only a small area of D1 (Moderate Drought) conditions just east of Goldsboro.

**Fig. 5: US Drought Monitor for NC on February 27 (top) and April 2 (bottom)**



After a dry February, streamflow across central NC recovered nicely from all the rain in March, as displayed in Figure 6. Most spots were back to near normal, with even some above-normal streamflows across the Piedmont.

**Fig. 6: Monthly Streamflow across NC compared to Historical Streamflow for March 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: 3  
 Raleigh: 3  
 Fayetteville: 2

**Days with dense fog (visibility of 1/4 mile or less):**

Greensboro: 1  
 Raleigh: 1  
 Fayetteville: 3

### **Strongest wind gusts and direction:**

Greensboro: W (290 degrees) at 47 mph on March 10  
Raleigh: W (290 degrees) at 43 mph on March 10  
Fayetteville NW (310 degrees) at 43 mph on March 10

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

Greensboro: 3  
Raleigh: 0  
Fayetteville: 0

### **Monthly records:**

#### **Greensboro:**

None.

#### **Raleigh:**

None.

#### **Fayetteville:**

None.

### **Daily records:**

#### **Greensboro:**

None.

#### **Raleigh:**

None.

#### **Fayetteville:**

None.