

# April 2022 Central NC Climate Summary

*By Phillip Badgett and James Danco*

April showers were hard to come by in 2022.

April showers were few and far between this year. Widespread showers occurred only during a few periods. Those included: April 5-8, 17-18, and April 26. The lack of rainfall events led to a drier than normal month for most of central NC. Greensboro, Raleigh, and Fayetteville all had rainfall totals that were over an inch below normal. According to NCEI, the preliminary statewide average precipitation totaled 2.84 inches. This made it the 36<sup>th</sup>-driest April since 1895. Other drier than normal reports from around central NC included: Winston-Salem 2.53 inches (1.22 below normal), Asheboro 3.17 inches (0.77 below normal), Henderson 2.70 inches (1.16 below normal), Louisburg 0.85 inches (2.63 below normal), Raleigh NCSU 2.33 inches (2.33 below normal), Erwin-Dunn 2.70 inches (0.87 below normal), and Clinton 3.25 inches (0.16 below normal). The April 2022 monthly precipitation totals at the three climate sites are found in Table 1. Greensboro had its 25<sup>th</sup>-driest April on record going back to 1903, Raleigh had its 36<sup>th</sup>-driest April with records going back to 1887, and Fayetteville had its 22<sup>nd</sup>-driest April since records began in 1910. This dryness really limited severe storms, and in fact there were no confirmed tornadoes in the entire state of North Carolina all month, even though April is historically one of the most active months for tornadoes.

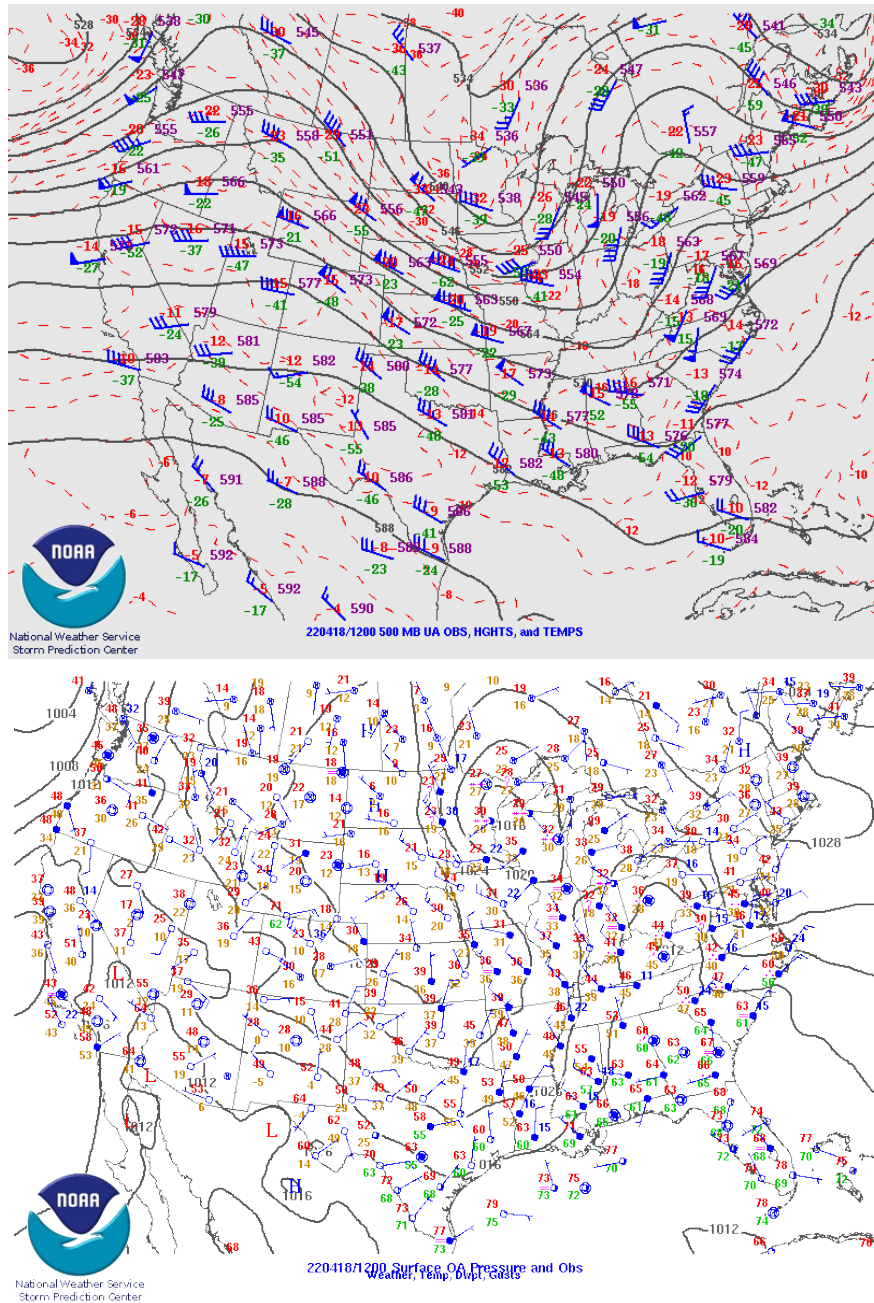
**Table 1: Monthly Precipitation Statistics**

Site	Total precipitation (in.)	Departure from Normal (in.)	Max Daily Precipitation (in.)
Greensboro (GSO)	2.19	-1.59	1.64 on 4/18
Raleigh-Durham (RDU)	2.05	-1.48	1.39 on 4/18
Fayetteville (FAY)	2.11	-1.04	0.99 on 4/5

The system of the month of April was the much-needed, widespread rain that occurred on April 17-18. It was followed by much colder weather, as well. A mid/upper trough approached NC from the west on April 17. This occurred as a cold front dipped south through the region during the day. The cold front was driven south through the mid-Atlantic states into SC by a strong 1030 mb high pressure system over the Great Lakes. A low pressure system developed over the Tennessee Valley and tracked in Miller B fashion into the Southeastern States during April 18, reforming off the SC coast. The system then tracked up the mid-Atlantic and New England coast late on April 18 through April 19. Cold air damming resulted in high temperatures only in the 50s

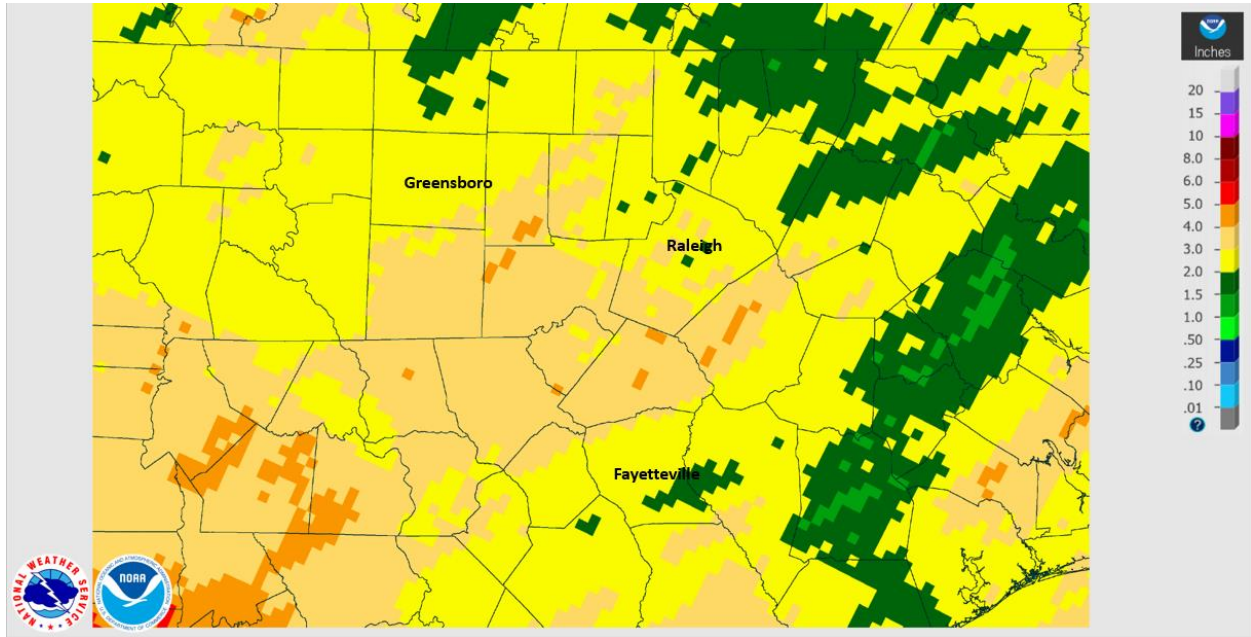
observed April 18 with widespread rain and a NE wind. This was followed by several nights of lows in the 30s. Rainfall totals were impressive with Greensboro receiving 1.64 inches, Raleigh 1.39 inches, and Fayetteville 0.90 inches. Figure 1 depicts the upper level and surface patterns as observed at 8:00 AM on April 18. Note the cold air damming over central NC, with chilly surface high pressure over New England extending into the Carolinas. There was a primary storm over eastern TN that was becoming secondary, with a new surface low developing and becoming primary off the SC coast. This pattern is much more common in the cool season.

**Fig. 1: 500 mb Observations, Heights, and Temperatures (top) and Surface Analysis (bottom) on 4/18**

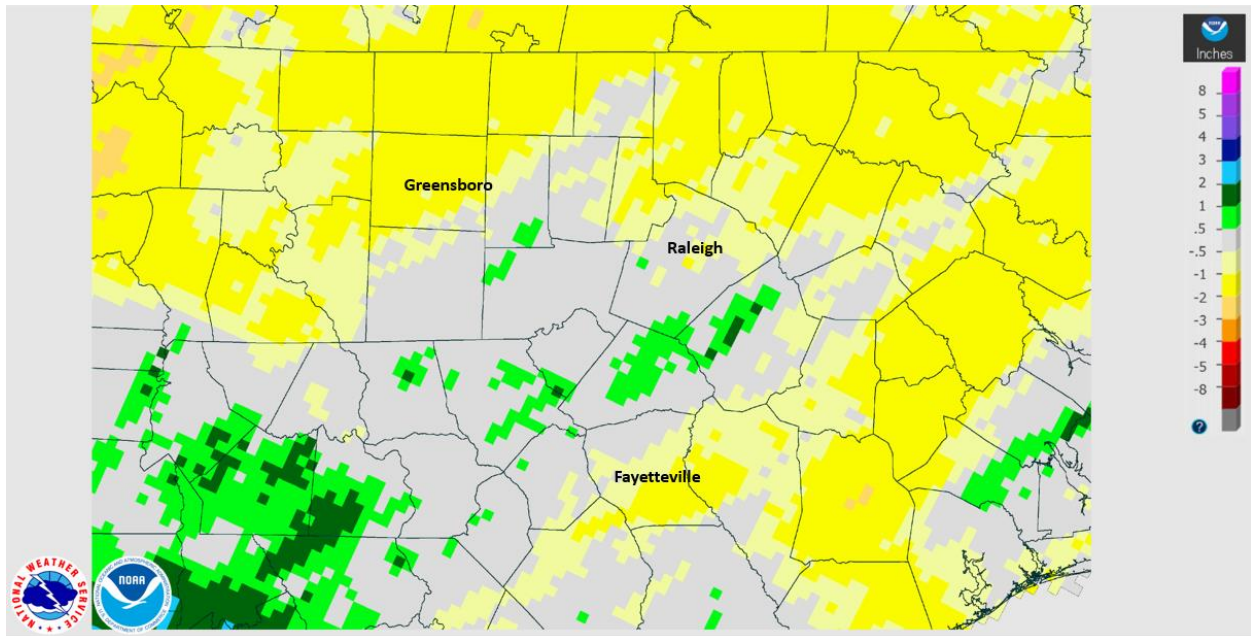


Radar-estimated precipitation and the radar-estimated precipitation departure from normal in Figures 2 and 3 show monthly totals ranged from 1.5-3 inches (0.5-2 inches below normal) in much of the Coastal Plain and northern Piedmont to 3-4 inches (near normal) across the southwest.

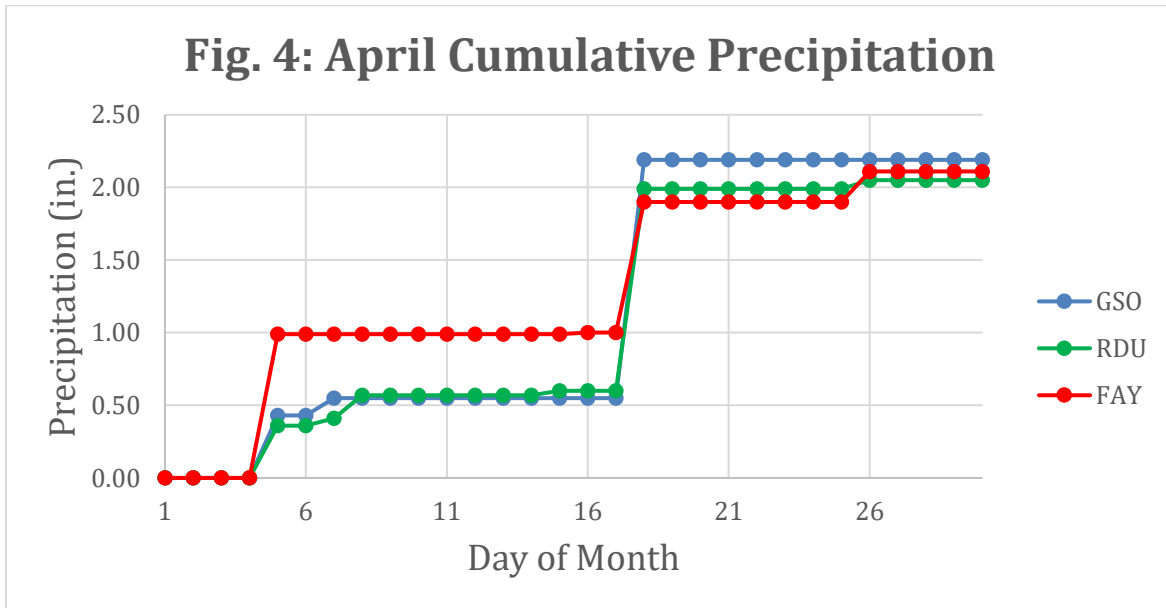
**Fig. 2: Radar-Estimated Monthly Precipitation**



**Fig. 3: Radar-Estimated Monthly Departure from Normal Precipitation**

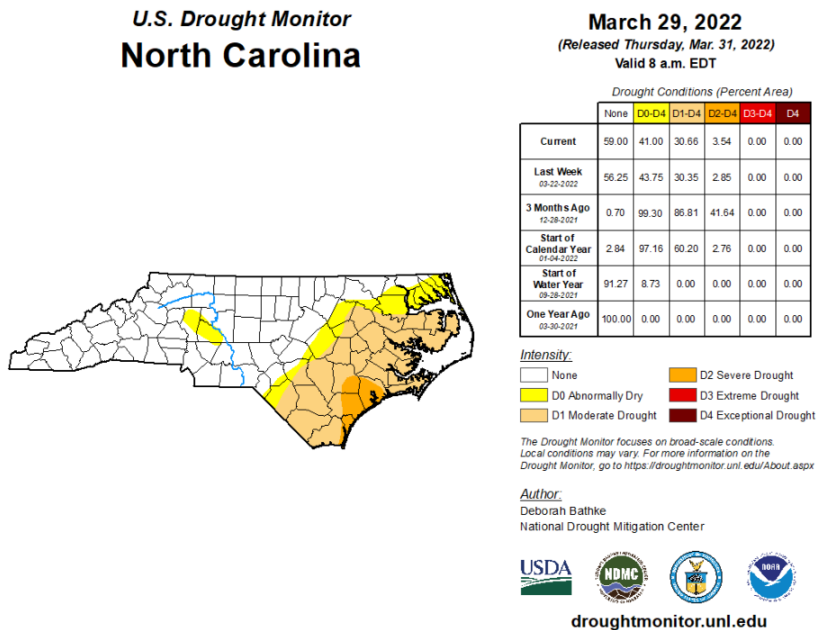


The cumulative precipitation at the three climate sites for the month of April is shown in Figure 4. The few wet periods are clear, particularly on April 18, with very dry conditions otherwise.



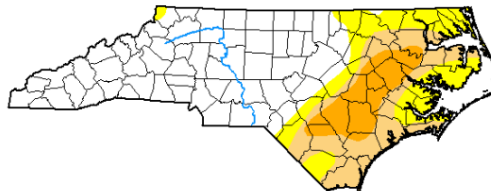
As shown in Figure 5, the below normal rainfall totals expanded the D2 (Severe Drought) conditions in the Coastal Plain region. However, the dryness wasn't severe enough to expand the drought into new places across the rest of the state.

**Fig. 5: U.S. Drought Monitor for North Carolina on March 29 (top) and April 26 (bottom)**



**U.S. Drought Monitor  
North Carolina**

**April 26, 2022**  
(Released Thursday, Apr. 28, 2022)  
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	56.68	43.32	26.62	10.17	0.00	0.00
<b>Last Week</b> 04-19-2022	55.52	44.48	25.03	8.13	0.00	0.00
<b>3 Months Ago</b> 01-25-2022	40.40	59.60	14.22	0.00	0.00	0.00
<b>Start of Calendar Year</b> 01-04-2022	2.94	97.16	60.20	2.76	0.00	0.00
<b>Start of Water Year</b> 09-26-2021	91.27	8.73	0.00	0.00	0.00	0.00
<b>One Year Ago</b> 04-27-2021	49.22	50.78	0.00	0.00	0.00	0.00

**Intensity:**  
 None (White)      D2 Severe Drought (Orange)  
 D0 Abnormally Dry (Yellow)      D3 Extreme Drought (Red)  
 D1 Moderate Drought (Light Orange)      D4 Exceptional Drought (Dark Red)

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>

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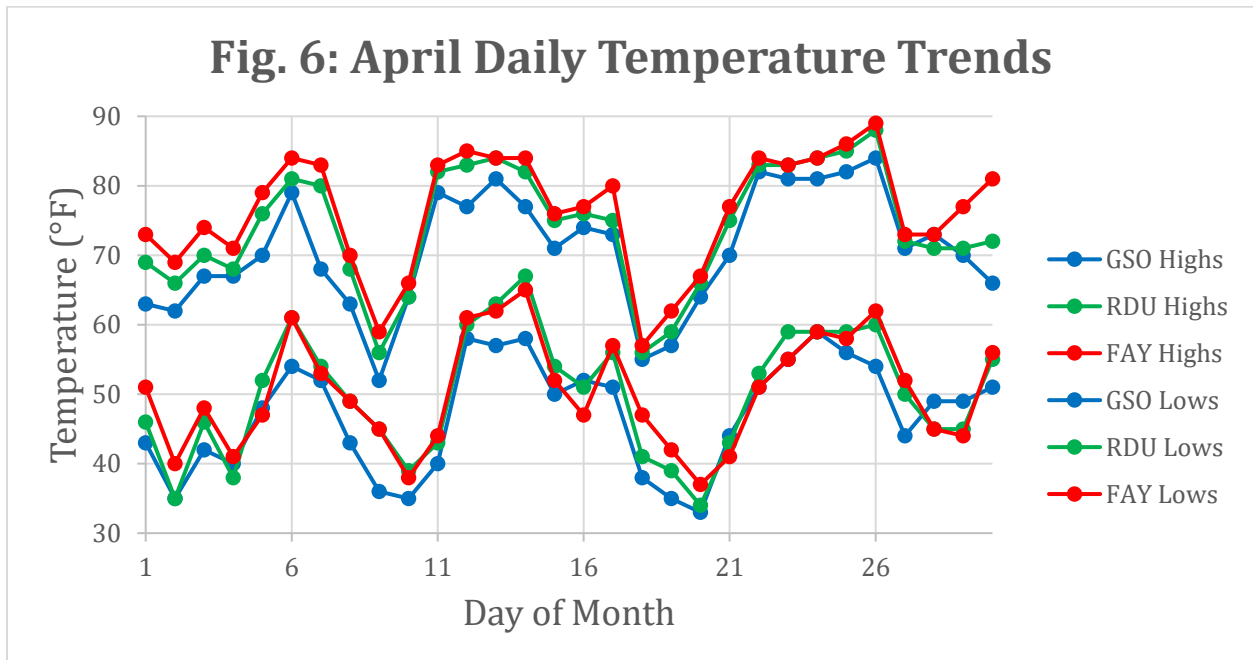
[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)

Temperatures during April showed a wide range, often during the same week. For instance Raleigh hit 84°F on the 13th. This was followed by a dip to 34°F on the 20th, then a surge back to 83°F on the 22nd. The coldest period during the month followed widespread rain in the middle of April. Many areas dipped into the 30s during April 19 and 20. A light freeze or scattered frost was reported in some areas of the northern and central Piedmont. Some other reports included: Winston-Salem 33°F, Greensboro 33°F, Albemarle 35°F, Cary 35°F, Apex 35°F, Louisburg 30°F, Henderson 29°F, Tarboro 35°F, Erwin-Dunn 41°F, Fayetteville 35°F, and Sanford 31°F. Much hotter weather followed the cold spell. The warmest day of the month was April 26, when Greensboro hit a monthly high of 84°F, Raleigh had a high of 88°F, and Fayetteville hit 89°F. By month's end, these temperature swings largely cancelled each other out. The preliminary monthly temperatures across the state of NC averaged 58.8°F degrees according to NCEI, which ranked April 2022 as the 44<sup>th</sup>-warmest April since 1895 but actually 0.2°F below the 1991-2020 average. In central North Carolina, Greensboro's monthly average temperature was slightly below normal while Raleigh's and Fayetteville's were slightly above. The April monthly average temperatures and their departures from normal at the three climate sites are depicted in Table 2.

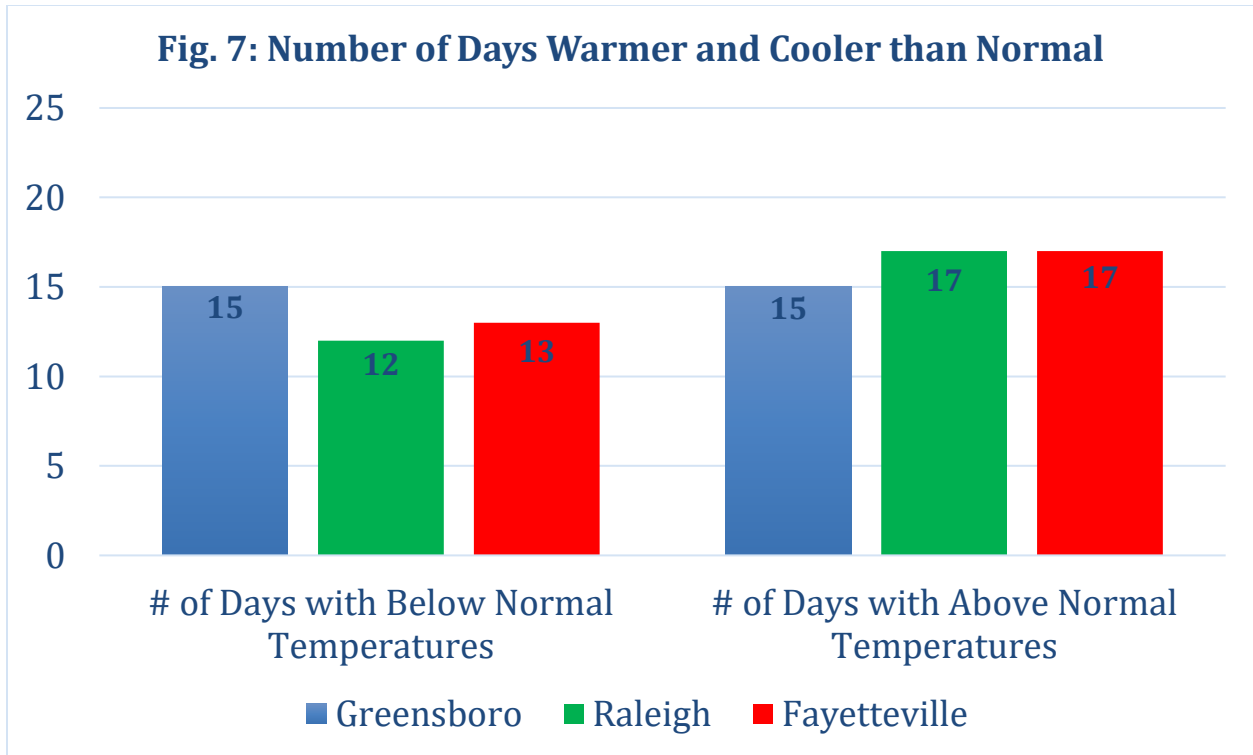
**Table 2: Monthly Temperature Statistics**

Site	Avg High Temp (°F)	Avg Low Temp (°F)	Avg Temp (°F)	Departure From Normal (°F)	Maximum Temperature (°F)	Minimum temperature (°F)
Greensboro (GSO)	70.8	47.1	58.9	-0.5	84 on 4/26	33 on 4/20
Raleigh-Durham (RDU)	74.0	50.0	62.0	+1.2	88 on 4/26	34 on 4/20
Fayetteville (FAY)	76.3	50.3	63.3	+0.5	89 on 4/26	37 on 4/20

The time series of daily temperature for the month at Greensboro, Raleigh, and Fayetteville can be found in Figure 6. The large swings throughout the month are evident.



The number of days with above and below normal temperatures was the same at Greensboro, while there were slightly more days with above normal temperatures at Raleigh and Fayetteville (Figure 7).



**Other notes:**

**Days with thunderstorms this month included:**

Greensboro: 1  
 Raleigh: 3  
 Fayetteville: 3

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

Greensboro: 1  
 Raleigh: 0  
 Fayetteville: 0

**Strongest wind gusts and direction:**

Greensboro: NW (320 degrees) at 44 mph on April 26  
 Raleigh: W (260 degrees) at 40 mph on April 26  
 Fayetteville: SW (220 degrees) at 36 mph on April 7 and W (270 degrees) at 36 on April 26

## **Daily records:**

### **Greensboro:**

A daily record rainfall of 1.64 inches was set on April 18. This broke the old record of 0.76 inches set in 1969.

### **Raleigh:**

A daily record rainfall of 1.39 inches was set on April 18. This broke the old record of 0.81 inches set in 1924.

### **Fayetteville:**

None.

## **Monthly records:**

None.