

# July 2020 Central NC Climate Summary

*By Phillip Badgett and James Danco*

July was hot and dry to start, with a stormy ending.

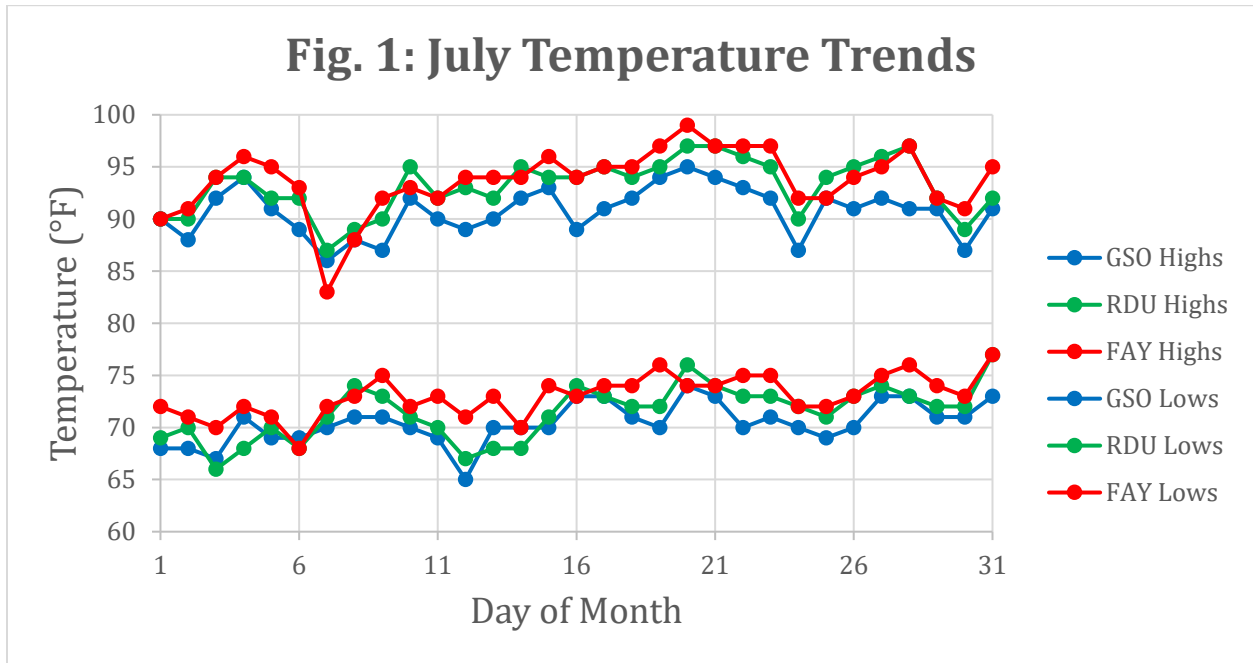
July 2020 went down in the record books as tied for the 4<sup>th</sup> hottest July on record in Raleigh, the 8<sup>th</sup> hottest July in Greensboro, and tied for the 8<sup>th</sup> hottest in Fayetteville. In addition, Raleigh recorded its most days in July in which the temperature reached or exceeded 90°F, at 28. Greensboro tallied 22 such 90°F days, while Fayetteville hit 90°F on 29 days, including 23 straight days to end the month. One thing that occasionally tempered the July heat was thunderstorms. The month started dry with high pressure aloft in control. Thunderstorms were limited to isolated occurrences. However, thunderstorms became more frequent and even numerous during the back half of the month as the high pressure aloft weakened over NC. By the end of July 2020, Greensboro totaled 18 days in the month with a thunderstorm, while Raleigh recorded 13 and Fayetteville recorded 12. These storms brought much-needed water and temporary cooling to area crops and gardens in a very hot July.

All climate sites recorded above-normal temperatures for July 2020. The monthly average temperatures and their departures from normal at the three climate sites are depicted in Table 1. The monthly record information can be found in the records section at the end of the July 2020 Climate Report.

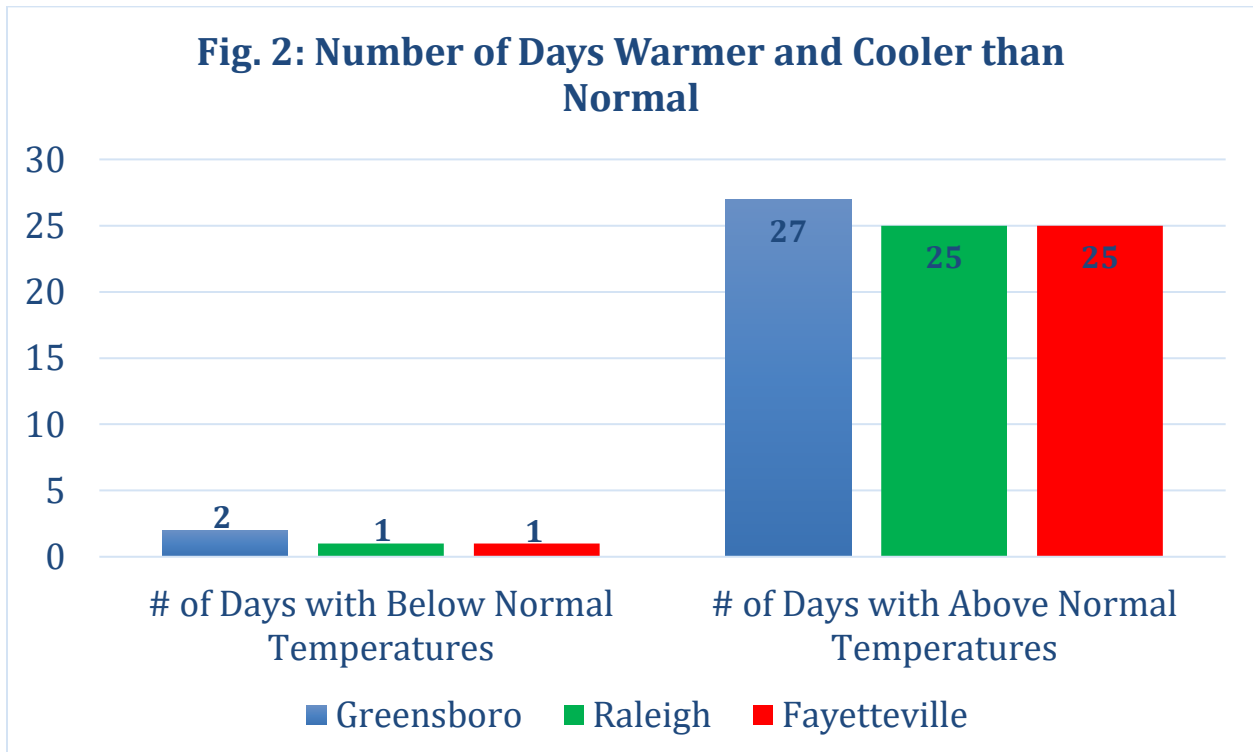
**Table 1: Monthly Temperature Statistics**

Site	Avg High Temp (°F)	Avg Low Temp (°F)	Avg Temp (°F)	Departure From Normal (°F)	Maximum Temperature (°F)	Minimum temperature (°F)
Greensboro (GSO)	90.7	70.4	80.6	+2.1	95 on 7/20	65 on 7/12
Raleigh-Durham (RDU)	93.1	71.5	82.3	+2.3	97 on 7/20, 7/21, 7/28	66 on 7/3
Fayetteville (FAY)	93.7	73.0	83.4	+2.0	99 on 7/20	68 on 7/6

The time series of daily temperature for the month at Greensboro, Raleigh, and Fayetteville can be found in Figure 1. Temperatures were mostly steady, with highs in the 90s and lows in the upper-60s to mid-70s.



As shown in Figure 2, the vast majority of days in July (80-90%) had above-normal temperatures, with only a single day with below-normal temperatures at Raleigh and Fayetteville.



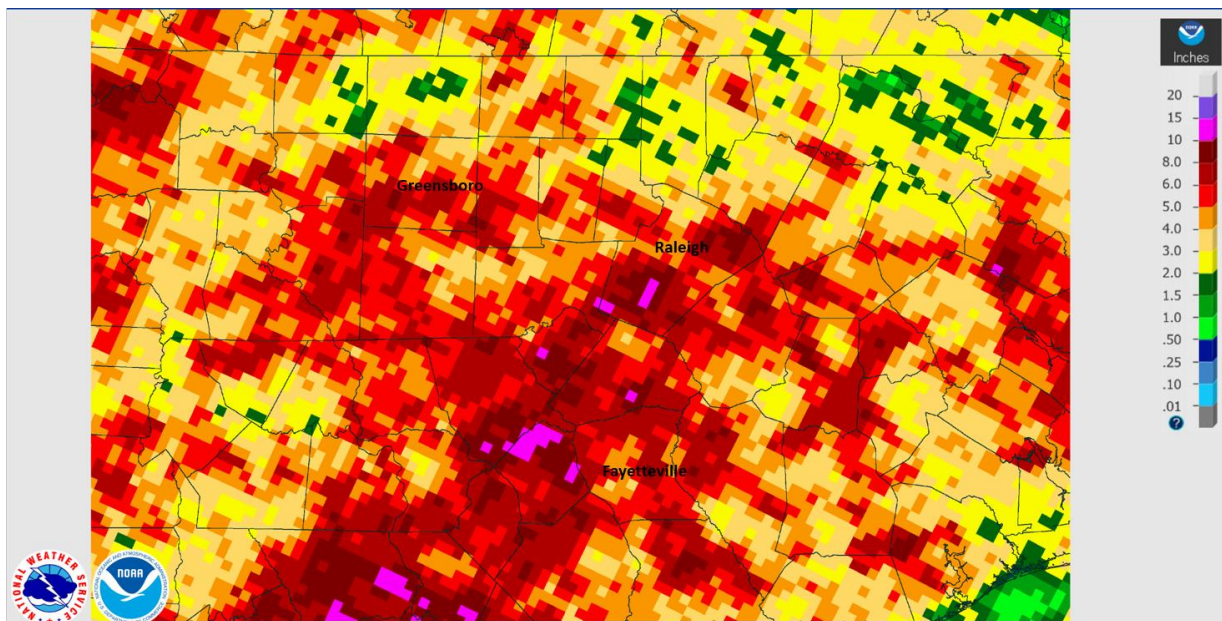
Rainfall during July was relegated to sporadic thunderstorms. While some locations received heavy rainfall from these storms, others were left out. The first 15 days of the month were largely dry, especially over the northern and eastern part of central NC. However, the storms become more frequent during the month, spreading the rainfall out more generously. By the end of the month, most areas (except for the far Northeast Piedmont and Northern Coastal Plain) had recovered from the dry start with final monthly totals ending up just slightly below the July norms. July 2020 final monthly totals are found in Table 2.

**Table 2: Monthly Precipitation Statistics**

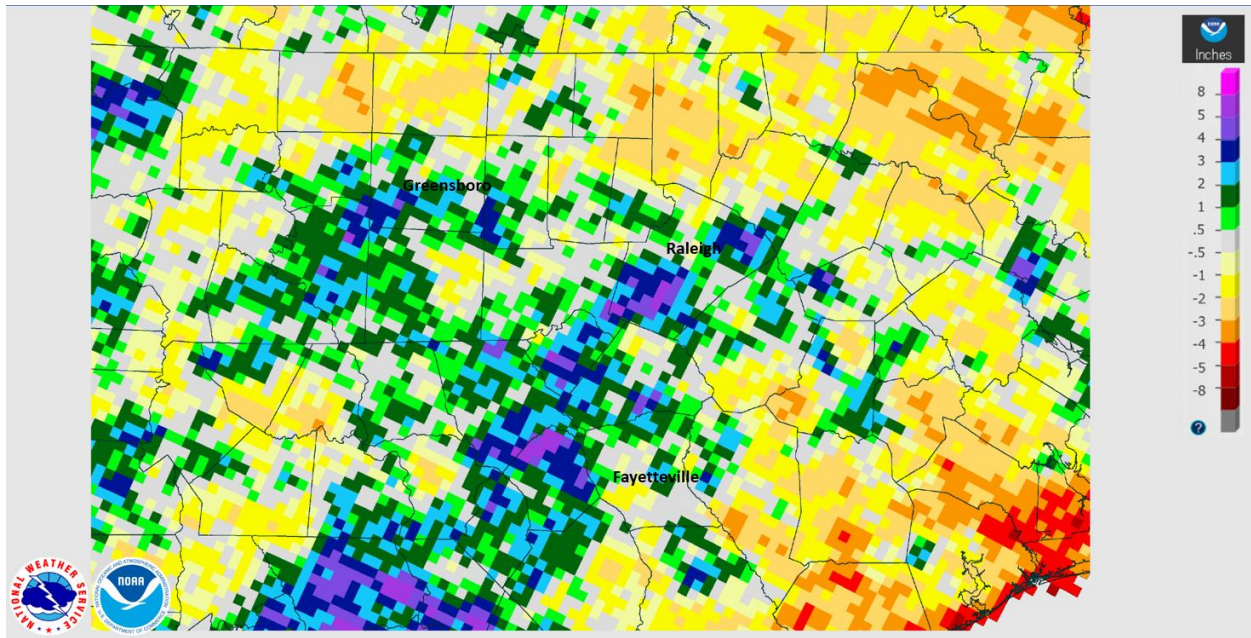
Site	Total precipitation (in.)	Departure from Normal (in.)	Max Daily Precipitation (in.)
Greensboro (GSO)	3.49	-0.99	0.97 on 7/18, 7/23
Raleigh-Durham (RDU)	4.15	-0.58	1.03 on 7/28
Fayetteville (FAY)	4.17	-1.75	1.14 on 7/24

As displayed by the radar-estimated precipitation and its departure from normal in Figures 3 and 4, final monthly totals were quite variable and generally below normal (especially in the NE part of NC). However, there were localized pockets of above-normal rainfall where storms occurred, mainly from around Raleigh to the south and west.

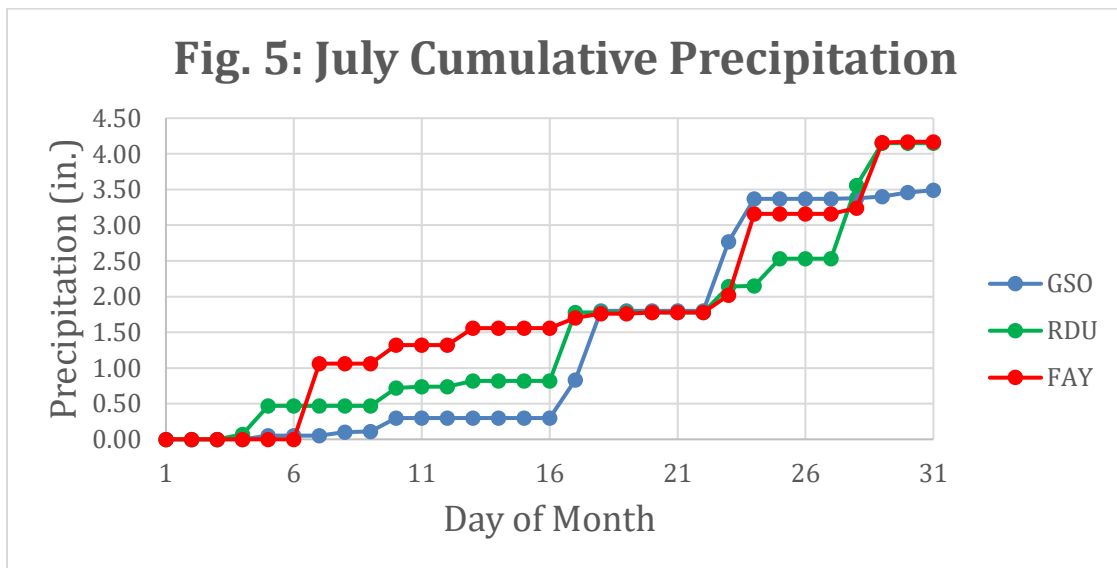
**Fig. 3: Radar-Estimated Monthly Precipitation**



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



The cumulative precipitation at the three climate sites for July 2020 is shown in Figure 5.



Some of the selected cooperative observations for July 2020: Smithfield (Johnston County) 5.31 inches (0.61 below normal), Louisburg (Franklin County) 2.84 inches (1.60 below normal), Clinton (Sampson County) 3.87 inches (2.25 below normal), Carthage (Moore County) 3.93 (1.05 below normal), Albemarle (Stanly County) 5.00 inches (0.53 below normal), and Winston-Salem (Forsyth County) 4.28 inches (0.72 inches below normal).

## Other notes:

### Number of days with high temperatures at or above 90 °F this month:

Greensboro: 22  
Raleigh: 28  
Fayetteville: 29

### Number of 90 °F days this year:

Greensboro: 22  
Raleigh: 38  
Fayetteville: 41

### Strongest wind gusts and direction:

Greensboro: W at 36 mph on July 31 (thunderstorm)  
Raleigh: SW at 36 mph on July 20 (thunderstorm)  
Fayetteville: S at 39 mph on July 24 (thunderstorm)

### Monthly records:

July 2020 tied July 2010 as the fourth-warmest July on record in Raleigh, averaging 82.3°F. The warmest July on record was in 2011, averaging 83.7°F.

July 2020 set the record for the most number of 90+°F days in July in Raleigh with 28. The old record was 25 days set just last year.

### Daily records:

Raleigh tied a record high minimum temperature of 76 degrees on July 20. The first record was recorded in 1981.

Raleigh tied a record high minimum temperature of 77 degrees on July 31. The record was previously recorded in 1917.