

March 2020 Central NC Climate Summary

By Phillip Badgett and James Danco

March 2020 was very warm and relatively dry.

March 2020 began the spring season with record warmth. Raleigh and Fayetteville recorded their fifth warmest March on record, and Greensboro recorded its sixth warmest March on record. It was also drier than normal, breaking a streak of three straight wetter than normal months across central NC. The March 2020 temperatures averaged generally 5 to 6.5°F degrees warmer than the 30-year average across central NC. Precipitation was generally 1 to 2 inches below normal.

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 March 2020 Climate Report.

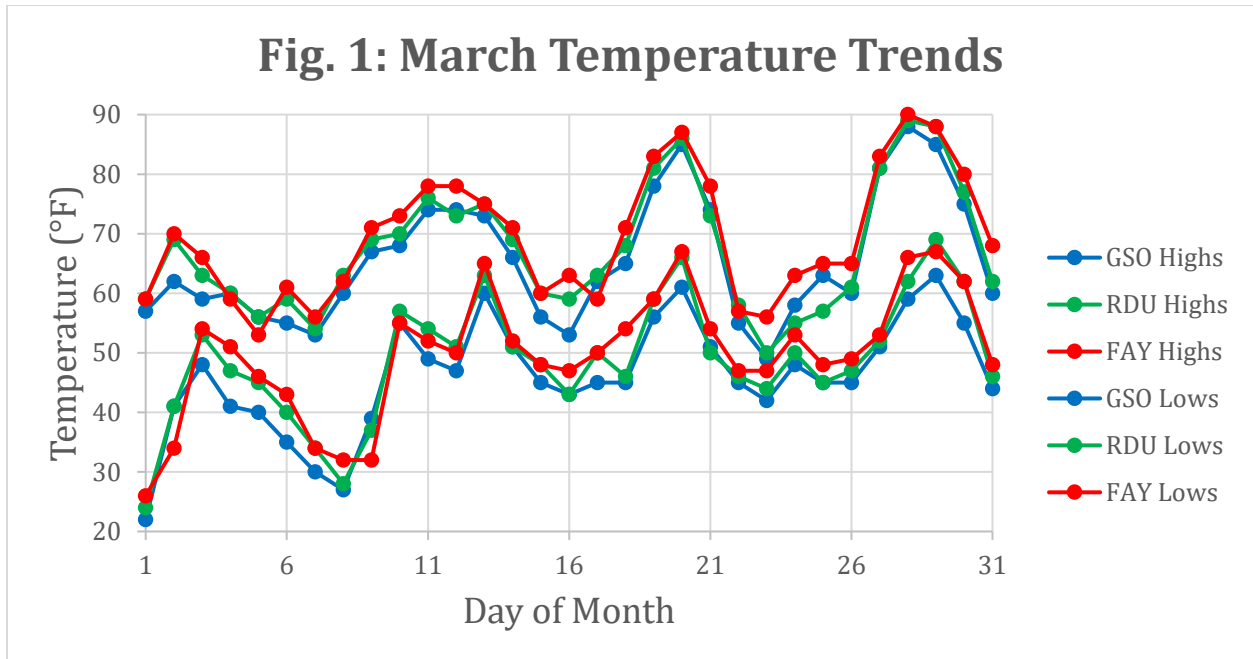
Table 1: Monthly Temperature Statistics

Site	Avg High Temp (°F)	Avg Low Temp (°F)	Avg Temp (°F)	Departure From Normal (°F)	Maximum Temperature (°F)	Minimum temperature (°F)
Greensboro (GSO)	65.5	46.1	55.8	+5.8	88 on 3/28	22 on 3/1
Raleigh-Durham (RDU)	67.2	48.7	58.0	+6.4	89 on 3/28	24 on 3/1
Fayetteville (FAY)	69.3	49.8	59.6	+5.3	90 on 3/28	26 on 3/1

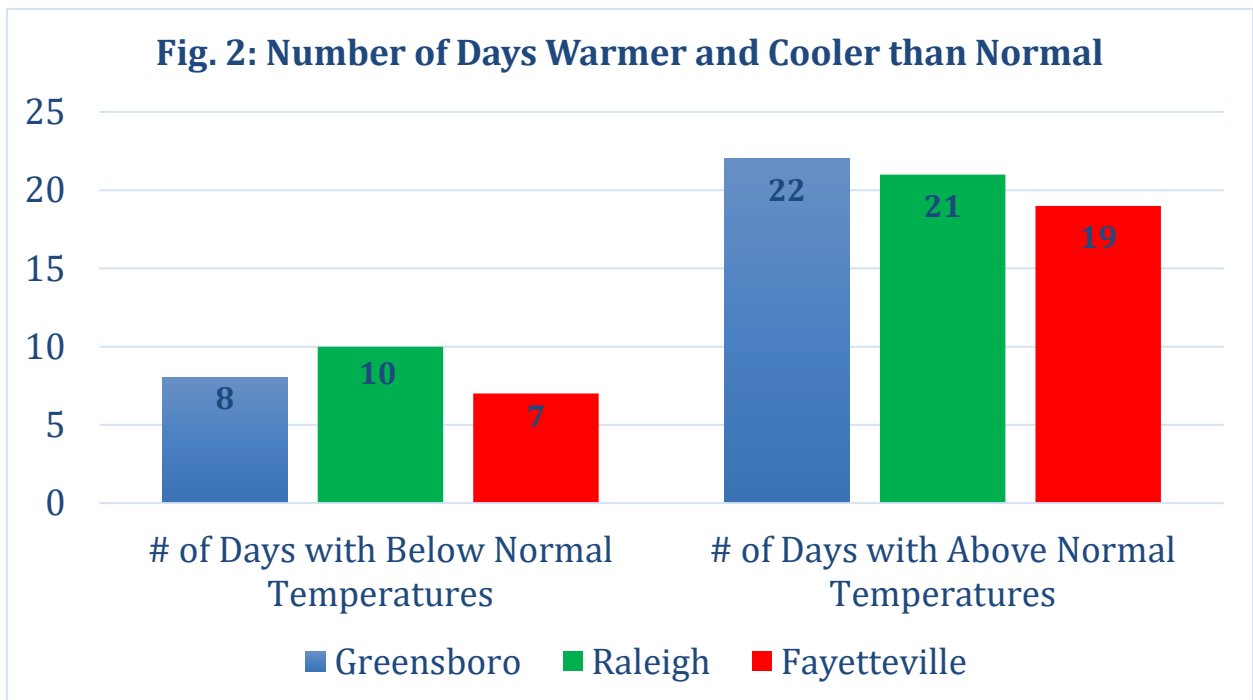
The time series of daily temperature for the month at Greensboro, Raleigh, and Fayetteville can be found in Figure 1. March began with a rare cold night with widespread lows in the 20s on the 1st of the month. The temperatures bottomed out at 22°F at Greensboro on March 1, while Raleigh fell to 24°F and Fayetteville 26°F. These temperatures were not close to the daily records even though they were the coldest temperatures for the month. This was followed quickly by moderation to above normal temperatures for much of the month. There were only a couple more brief “chilly spells” in which below normal temperatures were recorded.

The warmest periods occurred March 19-21 and the last week of the month. The daily high temperatures soared into the 80s to around 90°F during these two warm episodes. Raleigh reported a daily departure from normal of +24°F on March 29 when the high was 88°F. Raleigh reached 89°F on March 28 for its highest temperature of the month, and Greensboro reached 88°F on the

same day, a new record high. Fayetteville reached its monthly high temperature of 90°F on March 28, and 88°F on March 29, which both set new daily record highs. There were numerous new daily record high minimum temperatures set at the climate sites during the month as well. A full list can be found at the end of this document.



The warmth was felt through a majority of March with about 60-75% of the days recording above normal temperatures (Figure 2). Note Raleigh had 21 days with above normal temperatures and only 10 with below normal temperatures. Greensboro and Fayetteville recorded similar results.



March 2020 turned drier than normal, but this doesn't tell the full story as there were many days with at least some precipitation. Measurable rain (0.01 inches or more) was recorded on 12, 11, and 13 of the 31 days at Greensboro, Raleigh, and Fayetteville, respectively. However, this rainfall was mostly light. Only two or three days had at least 0.25 inches at each site. Furthermore, only one day with at least 0.50 inches occurred at Greensboro and Raleigh, with two such days at Fayetteville. As shown in Table 2, Raleigh totaled 2.13 inches of precipitation, which was nearly 2 inches below normal. This broke the string of five consecutive months with above normal precipitation in Raleigh. The last drier-than-normal month was September 2019. Greensboro and Fayetteville were both about an inch drier than normal.

Table 2: Monthly Precipitation Statistics

Site	Total precipitation (in.)	Departure from Normal (in.)	Max Daily Precipitation (in.)
Greensboro (GSO)	2.69	-1.04	0.93 on 3/24
Raleigh-Durham (RDU)	2.13	-1.98	0.86 on 3/25
Fayetteville (FAY)	2.51	-1.04	0.91 on 3/25

As displayed by the radar-estimated precipitation in Figure 3, final monthly totals were generally in the 2 to 4 inch range across central NC, wettest in the east along the Coastal Plain and driest in the interior central Piedmont. These amounts generally ranged around 1 to 2 inches below normal, or about 50-70 percent of normal (Figure 4).

Fig. 3: Radar-Estimated Monthly Precipitation

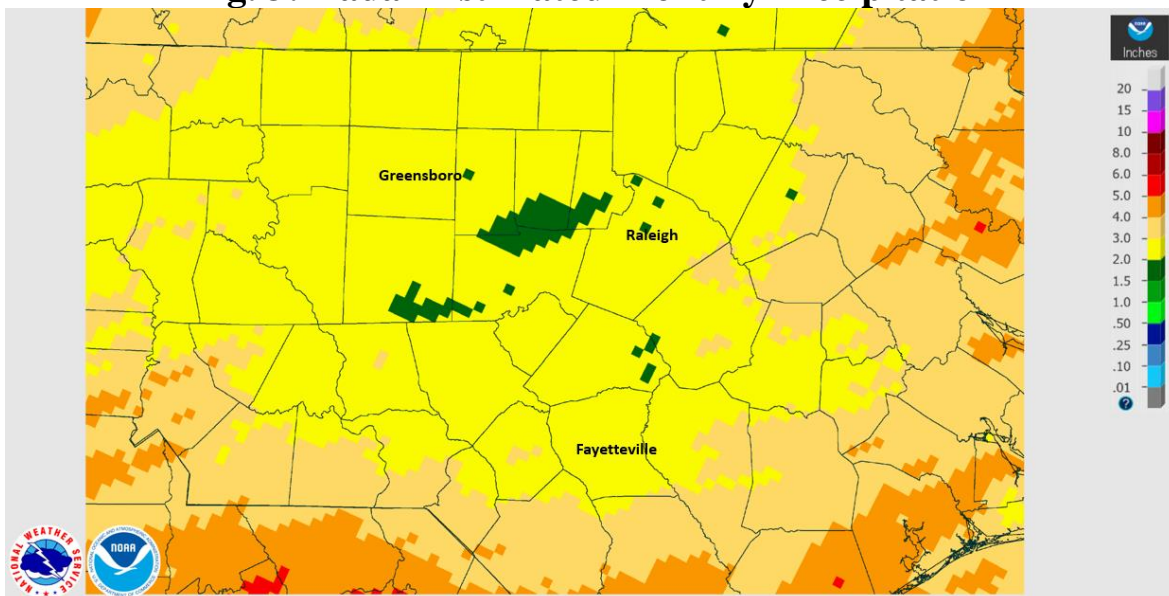
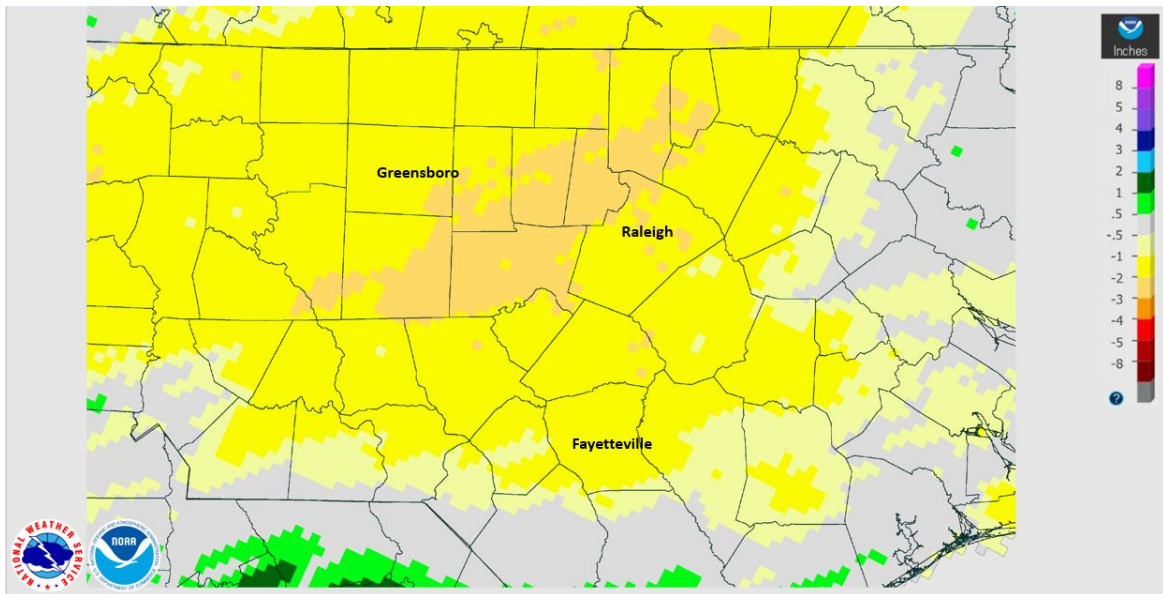
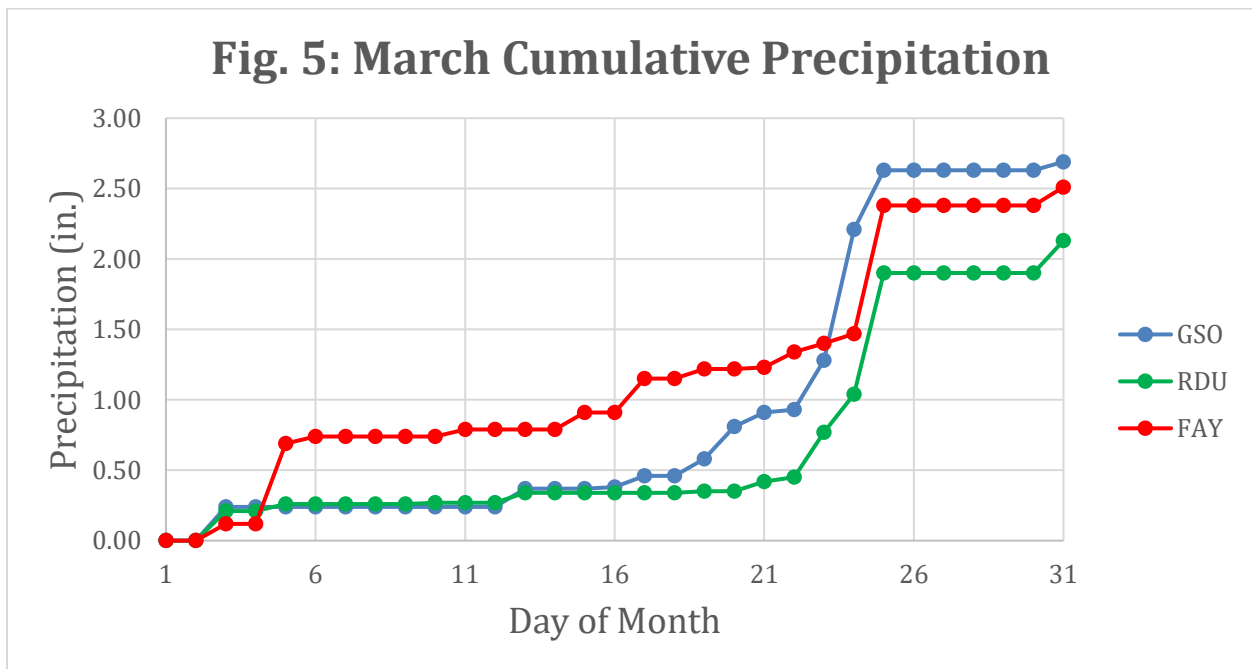


Fig. 4: Radar-Estimated Monthly Departure from Normal Precipitation



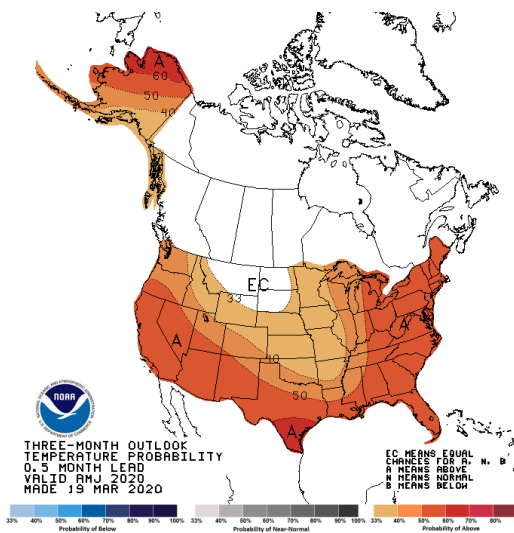
The cumulative precipitation at the three climate sites for the month of March is shown in Figure 5. Over a third of the days in the month had measurable precipitation, but as previously stated, it was mostly light. The heaviest rainfall event occurred on March 23-25, with the highest amounts to the west. Greensboro received 1.70 inches during this time, while Raleigh and Fayetteville received 1.45 inches and 1.04 inches, respectively.



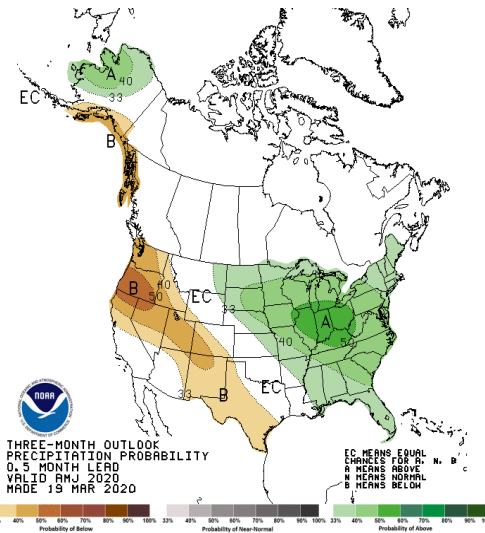
Spring 2020 Outlook

The latest outlook from the Climate Prediction Center for the three-month period of April-May-June indicates a higher probability of both warmer and wetter than normal conditions for our region.

Temperature Outlook



Precipitation Outlook



Other notes:

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

Greensboro: 3
Raleigh: 2
Fayetteville: 3

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

Greensboro: 0
Raleigh: 0
Fayetteville: 1

Strongest wind gusts and direction:

Greensboro: NW at 43 mph on March 6
Raleigh: SW at 38 mph on March 2
Fayetteville: W at 41 mph on March 11

Monthly Records:

March 2020 was the sixth warmest March on record at Greensboro, averaging 55.8°F. The warmest March on record was in 2012, averaging 59.0°F.

March 2020 was the fifth warmest March on record at Raleigh, averaging 58.0°F. The warmest March on record was in 2012, averaging 60.4°F.

March 2020 tied for the fifth warmest March on record at Fayetteville, averaging 59.6°F. The warmest March on record was in 1945, averaging 64.2°F.

Daily records for Greensboro:

A record daily high temperature of 88°F was set at Greensboro on March 28. This broke the old record of 87°F set in 1907.

A record high minimum temperature of 63°F was set at Greensboro on March 29. This broke the old record of 61°F set in 1989.

Daily records for Raleigh:

Record high minimum temperatures were broken or tied at Raleigh on March 10th, 13th, 20th, and 29th. The new records were 57°F on the 10th (tying the old record from 2016), 63°F on the 13th (old record 62°F in 2006), 66°F on the 20th (old record 65°F in 1948), and 69°F on the 29th (old record 66°F in 1907).

Daily records for Fayetteville:

A record high temperature of 90°F was set at Fayetteville on March 28. This broke the old record of 87°F last set in 2012.

A record high temperature of 88°F was set at Fayetteville on March 29. This broke the old record of 87°F last set in 2012.

Record high minimum temperatures were broken at Fayetteville on March 13th, 28th, 29th. The new records were 65°F on the 13th (old record 63°F in 2006), 66°F on the 28th (old record 65°F in 1921), and 67°F on the 29th (old record 65°F in 1924).