

April 2024 Central NC Climate Summary

By Phillip Badgett and James Danco

Temperatures stay up, while rainfall abates in April.

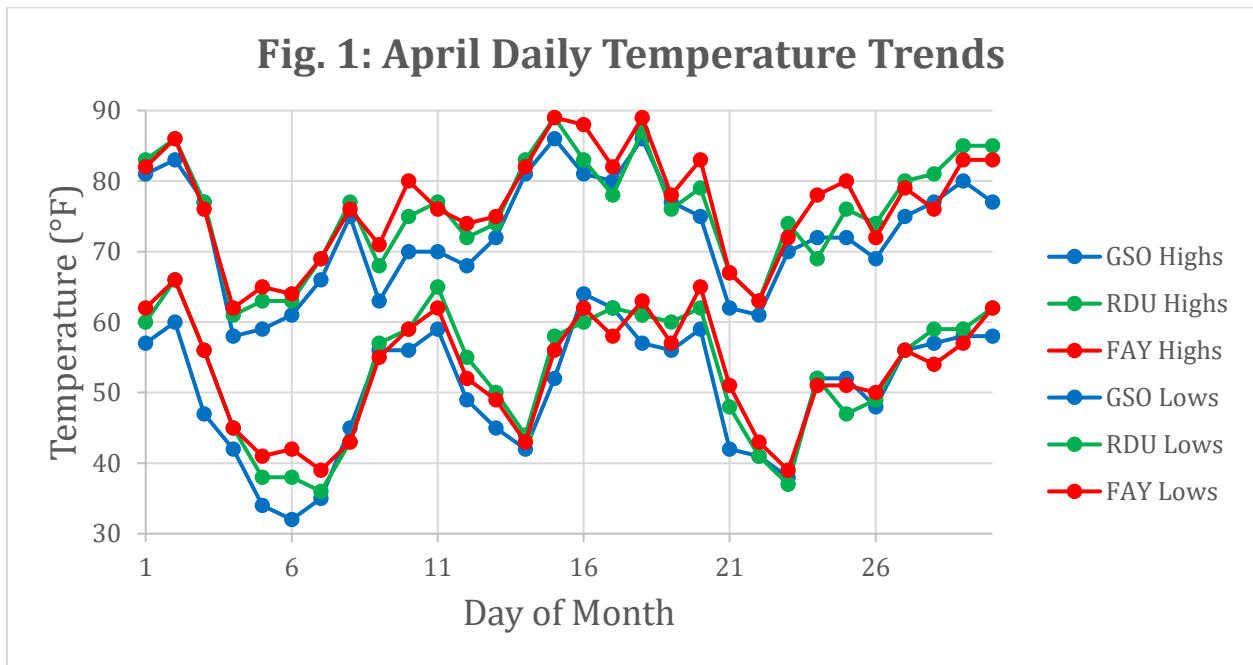
April 2024 began warm and the warmth remained generally consistent throughout, with only a couple of cool periods. Raleigh recorded its 2nd-warmest April on record going back to 1887. Greensboro had its 11th-warmest April since records began in 1903, while Fayetteville tied for its 9th-warmest April with records beginning in 1910. The National Centers for Environmental Information (NCEI) reported that the preliminary average temperature across the state of NC for the month of April was 61.1°F. This made it the 15th-warmest April since 1895. Most of central NC finished the month with an average temperature that ranged between 2 and 3.5°F above normal. The monthly temperature statistics at Greensboro, Raleigh and Fayetteville are shown in Table 1.

Table 1: Monthly Temperature Statistics

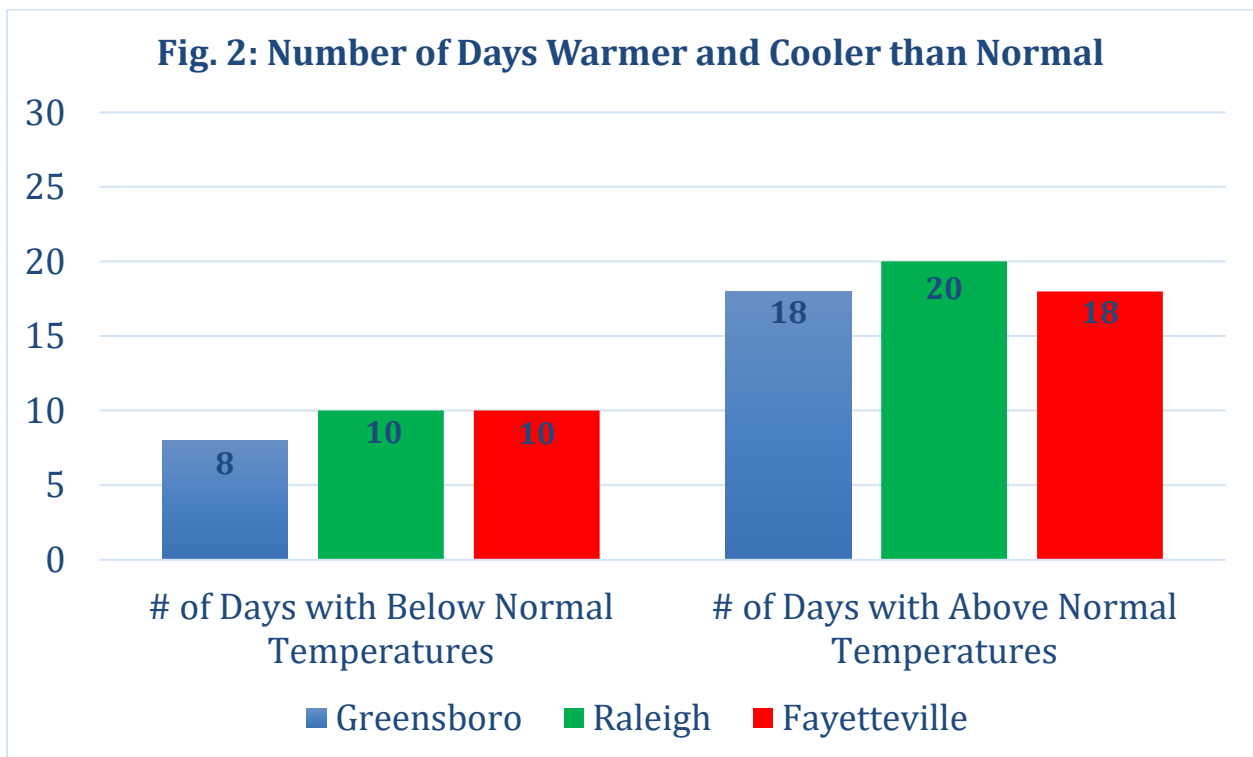
Site	Avg High Temp (°F)	Avg Low Temp (°F)	Avg Temp (°F)	Departure From Normal (°F)	Maximum Temperature (°F)	Minimum temperature (°F)
Greensboro (GSO)	72.8	50.4	61.6	+2.2	86 on 4/15 and 4/18	32 on 4/6
Raleigh-Durham (RDU)	75.8	52.8	64.3	+3.5	89 on 4/15	36 on 4/7
Fayetteville (FAY)	76.7	53.0	64.8	+2.0	89 on 4/15 and 4/18	39 on 4/7 and 4/23

The time series of daily temperature for the month at the three climate sites can be found in Figure 1. High temperatures reached the 80s on April 1-2, with Raleigh and Fayetteville topping out at 86°F on the 2nd. According to the NC state climate office, Goldsboro reached 88°F on the 2nd which was a daily record high with records going back to 2000. The warm low temperatures on April 2 were even more anomalous, averaging 15-20+°F above normal and setting some records. Both Raleigh and Fayetteville had lows of only 66°F on April 2, which set daily record high minimums at both sites. Then there was a brief cooldown brought on by a cold frontal passage on April 3. Greensboro fell to 32°F on the 6th, Raleigh fell to 36°F on the 7th, while Fayetteville dropped to 39°F on the 7th. The temperatures fell to 32°F or below in April only that one time at Greensboro, while Raleigh and Fayetteville did not reach freezing at all. Mid-month brought the hottest temperatures in the month with Raleigh reaching 89°F on the 15th and Fayetteville reaching

89°F on the 15th and the 18th. Greensboro, not far behind, topped out at 86°F on the 15th and the 18th. Smithfield and Clayton both hit 91°F on the 15th, according to ECONet data from the state climate office.



As shown in Figure 2, 60-70% of days in the month of April were warmer than normal at the three climate sites.

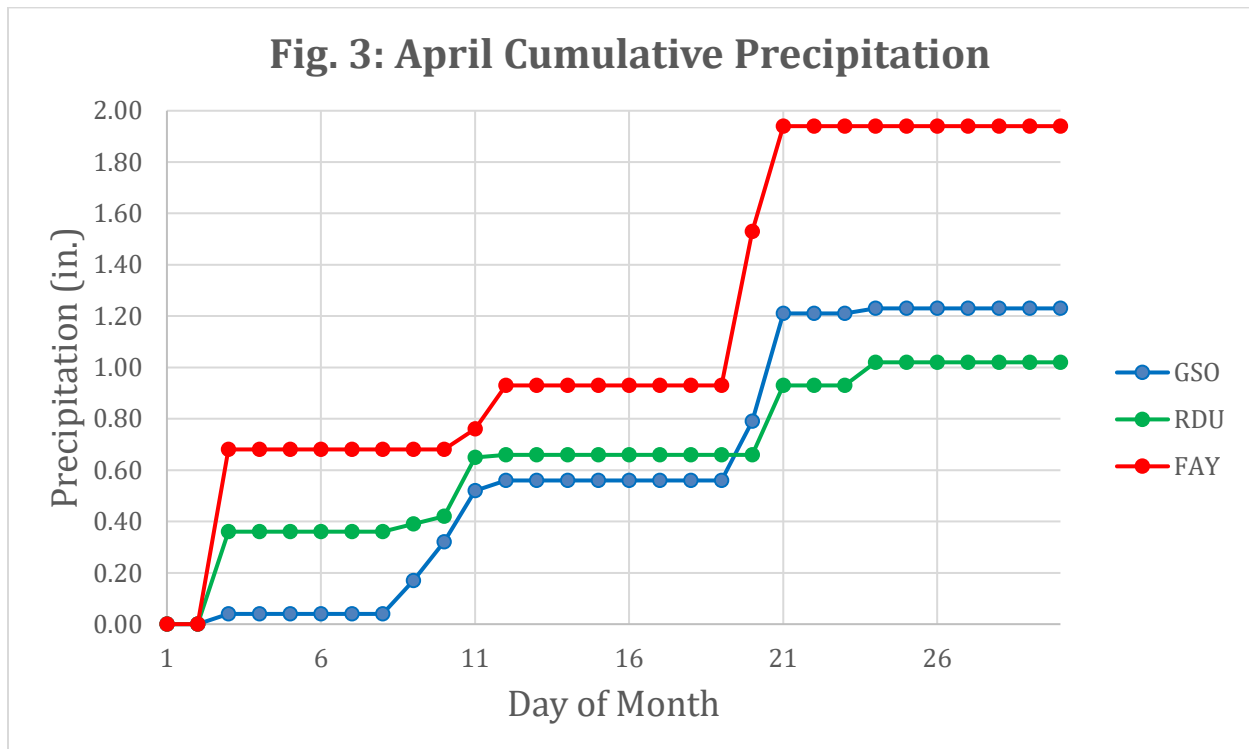


Very scanty rainfall led April 2024 to end with well below normal totals. After a wet March it turned dry again in April for most locations. Raleigh barely reached over 1 inch, recording 1.02 inches. This was 2.51 inches below normal and the 8th-driest April at Raleigh since records began in 1887. It was the 10th-driest April at Greensboro going back to 1903 with only 1.23 inches, and it was the 20th-driest April at Fayetteville going back to 1910. According to the NCEI, April 2024 was the 13th-driest April across the state of NC since 1895. The preliminary statewide average rainfall was only 1.92 inches. Of course, no snowfall occurred during the month of April at any of the climate sites. The April 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)	1.23	-2.55	0.42 on 4/21
Raleigh-Durham (RDU)	1.02	-2.51	0.36 on 4/3
Fayetteville (FAY)	1.94	-1.21	0.68 on 4/3

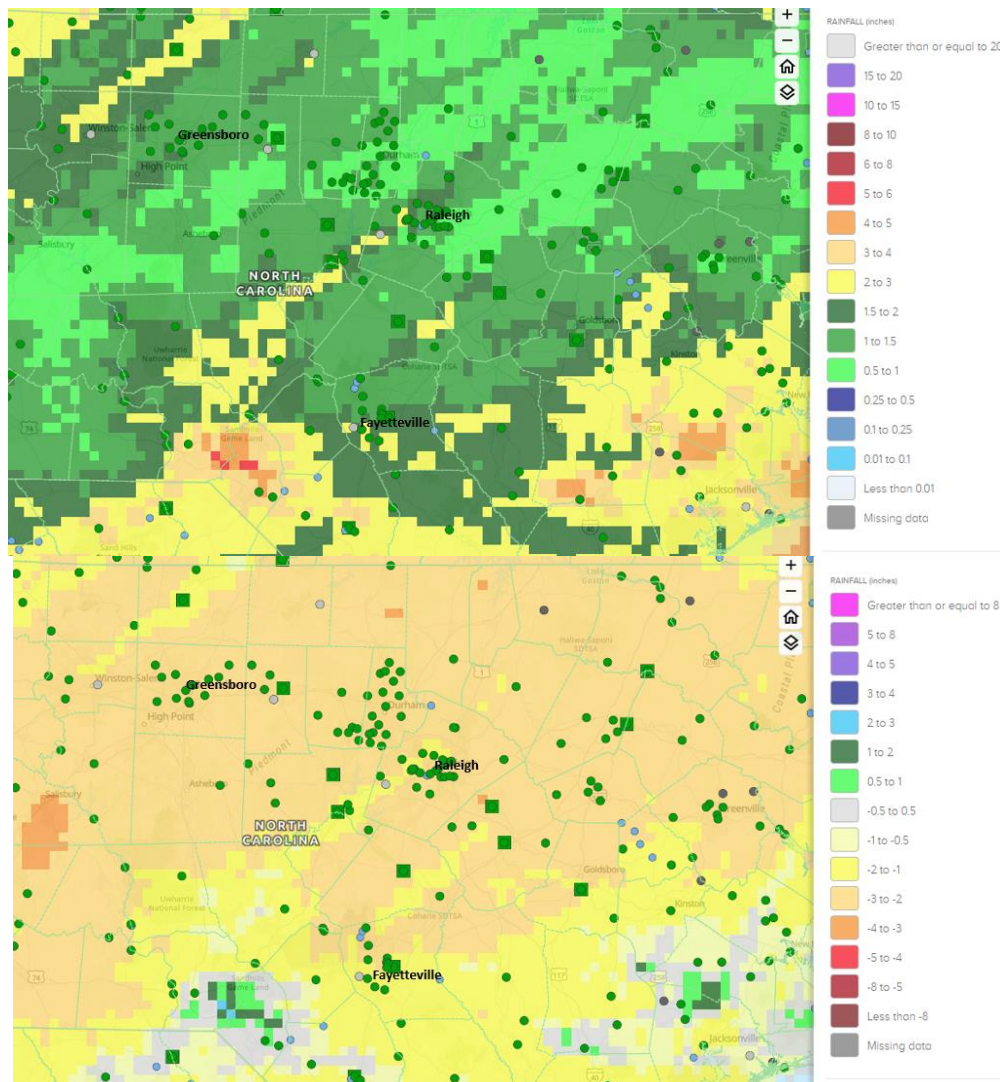
The cumulative precipitation at the three climate sites in April is shown in Figure 3. The only real rainfall events occurred on the 3rd, the 9th-12th, and the 20th-21st.



Some of the cooperative station rainfall reports from around central NC from April 2024 included: Sparta 3.82 inches (-1.54), Winston-Salem 1.79 inches (-1.92), Lexington 0.47 inches (-3.49), Burlington 0.98 inches (-2.85), Mount Airy 2.77 inches (-1.52), Danbury 1.67 inches (-2.26), Henderson 0.95 inches (-2.91), Cary 1.00 inches (-2.73), Raleigh (NCSU) 1.72 inches (+1.91), Louisburg 1.32 inches (-2.16), Apex 1.75 inches (-1.88), Laurinburg 3.22 inches (+0.27), Rocky Mount 0.92 inches (-2.71), and Clinton 2.27 inches (+1.14).

As displayed by the radar-estimated precipitation and the radar-estimated precipitation departure from normal in Figure 4, the final monthly totals ranged from just 0.5 to 1.5 inches across most of central NC. This was 2 to 3 inches below normal. Portions of the southern Piedmont, Sandhills and southern Coastal Plain had a bit more (1.5 to 3 inches) which was still 1 to 2 inches below normal. Only a small pocket in Scotland and southern Richmond counties had near to above normal precipitation.

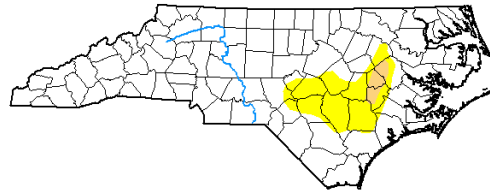
Fig. 4: Radar-Estimated Monthly Precipitation (top) and Departure from Normal Precipitation (bottom)



The lack of rain in April led to much of NC being put back into the D0 (Abnormally Dry) category on the US Drought Monitor. Note the US Drought Monitor Maps for NC from April 2 and April 30 in Figure 5. Only the Sandhills and central and southern Coastal Plain were under D0 on April 2, but by April 30 nearly all of central NC and over 60% of the state was.

Fig. 5: US Drought Monitor for NC on April 2 (top) and April 30 (bottom)

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



April 2, 2024
(Released Thursday, Apr. 4, 2024)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	88.52	11.48	1.27	0.00	0.00	0.00
Last Week 03-26-2024	86.73	13.27	1.27	0.00	0.00	0.00
3 Months Ago 01-02-2024	53.95	46.05	13.26	3.54	0.00	0.00
Start of Calendar Year 01-01-2024	53.95	46.05	13.26	3.54	0.00	0.00
Start of Water Year 09-26-2023	82.24	17.76	0.36	0.00	0.00	0.00
One Year Ago 04-04-2023	20.13	79.87	4.87	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)

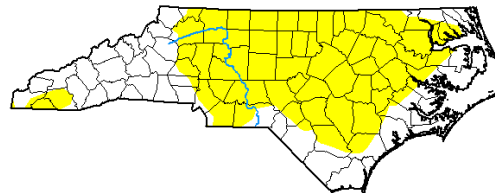
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

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droughtmonitor.unl.edu

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



April 30, 2024
(Released Thursday, May 2, 2024)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	39.10	60.90	0.00	0.00	0.00	0.00
Last Week 04-23-2024	59.89	40.11	0.00	0.00	0.00	0.00
3 Months Ago 01-30-2024	97.14	2.86	0.00	0.00	0.00	0.00
Start of Calendar Year 01-01-2024	53.95	46.05	13.26	3.54	0.00	0.00
Start of Water Year 09-26-2023	82.24	17.76	0.36	0.00	0.00	0.00
One Year Ago 05-02-2023	100.00	0.00	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)

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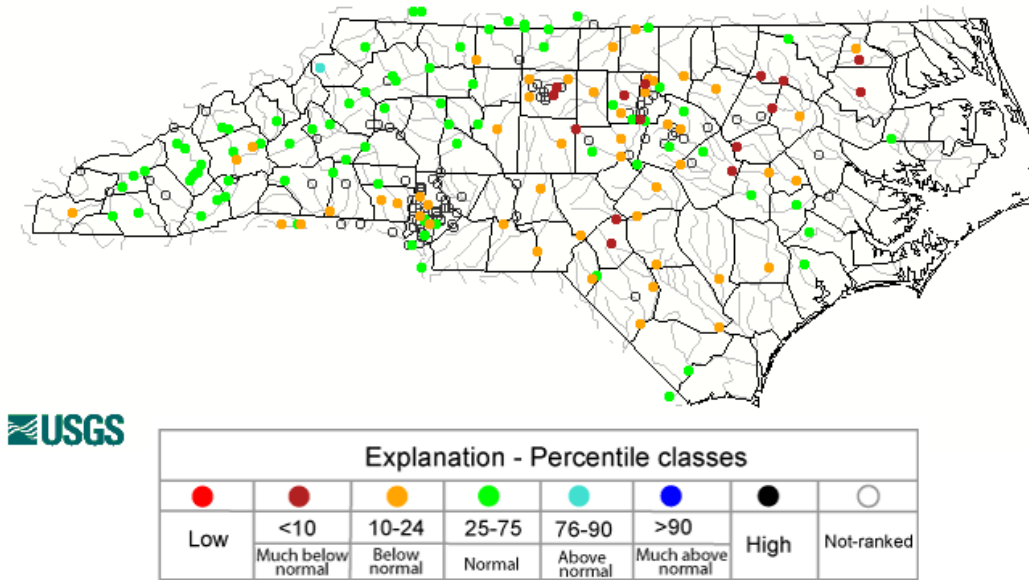
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National Drought Mitigation Center



droughtmonitor.unl.edu

As seen in Figure 6, streamflow levels became below normal to much below normal across most of central NC during the month.

Fig. 6: Map of 28-day Average Streamflow compared to Historical Streamflow in April 2024



Other notes:

Days with thunderstorms this month:

Greensboro: 1
Raleigh: 1
Fayetteville: 2

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

Greensboro: 0
Raleigh: 1
Fayetteville: 1

Strongest wind gusts and direction:

Greensboro: W (290 degrees) at 51 mph on April 4
Raleigh: SW (230 degrees) at 45 mph on April 11
Fayetteville W (280 degrees) at 59 mph on April 12

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

Greensboro: 1
Raleigh: 0
Fayetteville: 0

Monthly records:

Greensboro:

The 1.23 inches of rainfall made April 2024 the 10th-driest April since records began in 1903.

Raleigh:

The 1.02 inches of rainfall made April 2024 the 8th-driest April since records began in 1887.

The monthly average temperature of 64.3°F made April 2024 the 2nd-warmest April on record.

Fayetteville:

The monthly average temperature of 64.8°F made April 2024 tied for the 9th-warmest April since records began in 1910.

Daily records:

Greensboro:

None.

Raleigh:

A record high minimum temperature of 66°F was set on April 2. This broke the old record of 62°F set in 1945.

Fayetteville:

A record high minimum temperature of 66°F was set on April 2. This broke the old record of 63°F set in 1999.