

January 2021 Central NC Climate Summary

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January started mild and wet, but ended on the cold side.

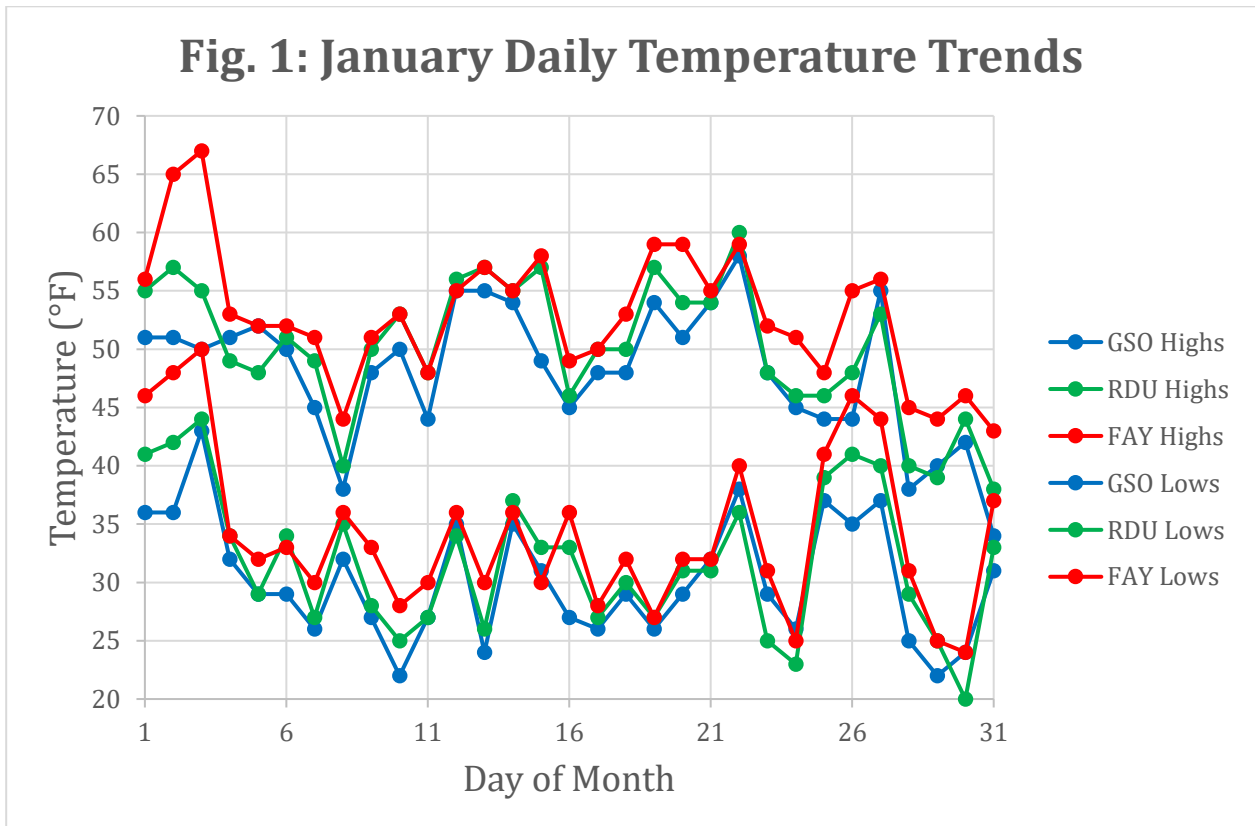
Wet conditions carried over to the new year as the first week of 2021 brought periods of heavy rainfall across much of NC. The heaviest rainfall fell over the eastern Piedmont to the coast. Raleigh reported 2.18 inches of rain between January 1 and 3, which was already more than 60 percent of the total January average precipitation of 3.50 inches. Fayetteville reported 2.03 inches of rain in the same three-day period. This was also over 60 percent of the normal January rainfall in the first three days of the month. It was not as wet to start the month in the western part of NC, including the Northwest Piedmont. Greensboro only totaled 0.68 inches during the first week. The rest of the month brought mostly lighter precipitation events. However, a few of these involved some wintry precipitation. The final week of the month turned wet again with heavy rain over central NC and heavy snow in the mountains. To go along with the cold rain, there was a period of freezing rain and a little snow on the last day of the month for portions of central NC including the Piedmont Triad region.

After the mild start to the new year with high temperatures in the 50s and 60s (as much as 10-20°F above normal) for January 1-3, several cold air intrusions occurred in which the temperatures fell to below normal at times through the end of the month. However, daily readings through much of the month showed little extreme variability, often averaging within 5°F of normal each day. By the end, the month turned out to average very close to the 30-year January normal temperatures. The final temperature statistics for January 2021 at the three climate sites are shown in Table 1. Raleigh had a monthly average temperature of 41.0°F, which was exactly the 30-year normal, and Greensboro and Fayetteville were within a few tenths of a degree from normal.

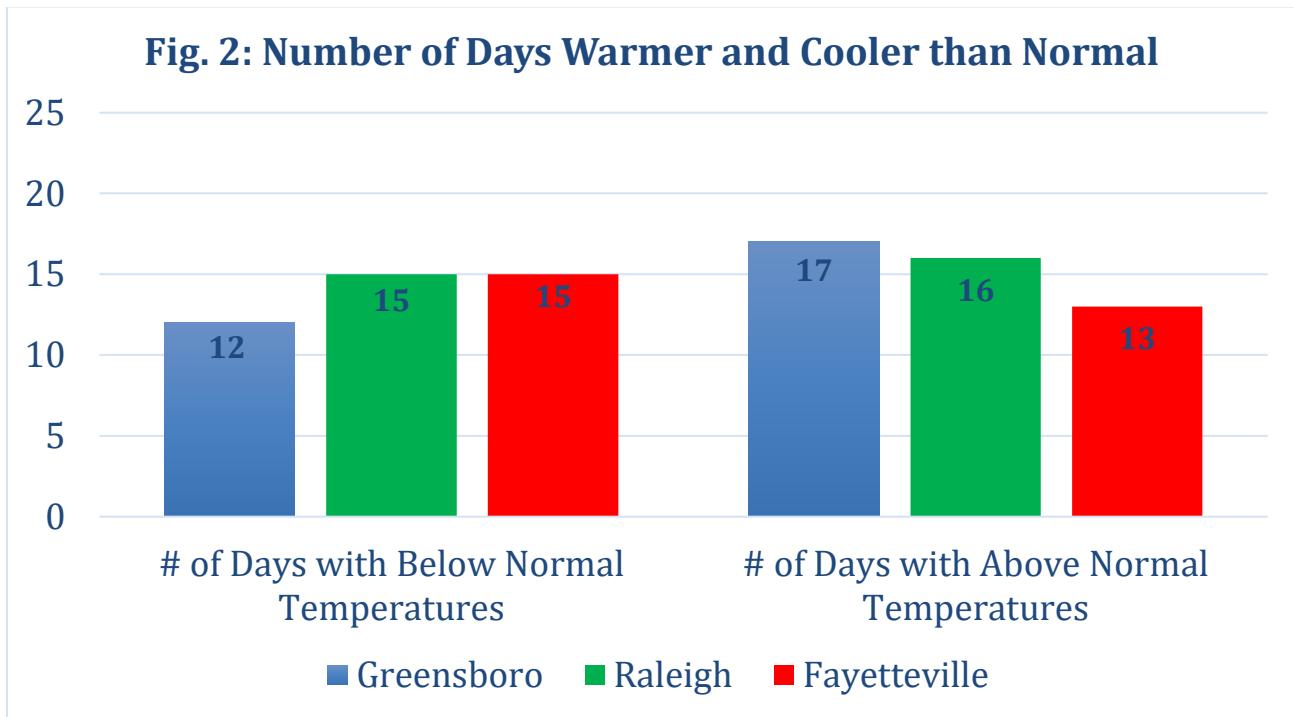
Table 1: Monthly Temperature Statistics

Site	Avg High Temp (°F)	Avg Low Temp (°F)	Avg Temp (°F)	Departure From Normal (°F)	Maximum Temperature (°F)	Minimum temperature (°F)
Greensboro (GSO)	48.1	30.2	39.2	+0.3	58 on 1/22	22 on 1/10 and 1/29
Raleigh-Durham (RDU)	50.1	31.8	41.0	0.0	60 on 1/22	20 on 1/30
Fayetteville (FAY)	52.9	34.3	43.6	+0.1	67 on 1/3	24 on 1/30

The time series of daily temperature for the month at Greensboro, Raleigh, and Fayetteville can be found in Figure 1. Note the warm start, then a fluctuation between cool and mild through much of the month. Overall, January 2021 had little in the way of extreme temperatures. The month did end with more sustained cold air that brought readings around 10°F below normal, with a few bouts of light wintry precipitation. The coldest temperatures of the month (lower-to-mid-20s) occurred during this period. The temperatures only hit 60°F a few times during the month, with Greensboro failing to hit 60°F and even Fayetteville only reaching it during the warm spell on January 2 and 3. As is normal for the heart of winter, January brought plenty of freezes. The number of lows of 32°F or lower was 22 at Greensboro and 16 at both Raleigh and Fayetteville.



As shown in Figure 2, there was a similar number of days with above and below normal temperatures across central NC.



January 2021 ended where it began: wet. All three climate sites had above-normal precipitation, though only slightly at Greensboro. The month was roughly 2 inches wetter than normal at both Raleigh and Fayetteville. The total of 5.42 inches at both Raleigh and Fayetteville made it the 18-wettest January on record at Raleigh and the 12-wettest January at Fayetteville. The January 2021 monthly precipitation totals and their departures from normal are found in Table 2.

Table 2: Monthly Precipitation Statistics

Site	Total precipitation (in.)	Departure from Normal (in.)	Max Daily Precipitation (in.)
Greensboro (GSO)	3.31	+0.25	0.75 on 1/31
Raleigh-Durham (RDU)	5.42	+1.92	1.07 on 1/31
Fayetteville (FAY)	5.42	+2.12	0.83 on 1/2

As displayed by the radar-estimated precipitation and the departure from normal in Figures 3 and 4, the final monthly totals were the wettest in the south and east. Here they mainly ranged from 4 to 6 inches, with isolated totals as high as 6 to 8 inches. This was about 1 to 3 inches above normal. The northwest Piedmont was drier, with totals of 2 to 4 inches (close to normal).

Fig. 3: Radar-Estimated Monthly Precipitation

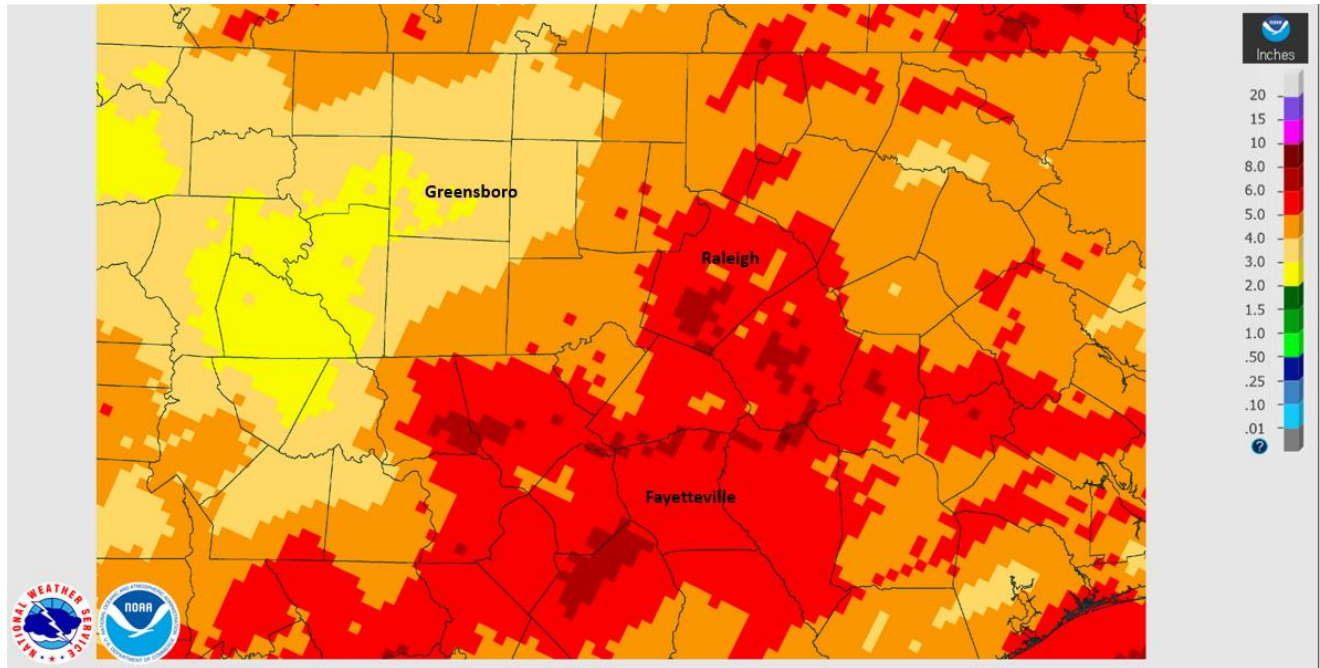
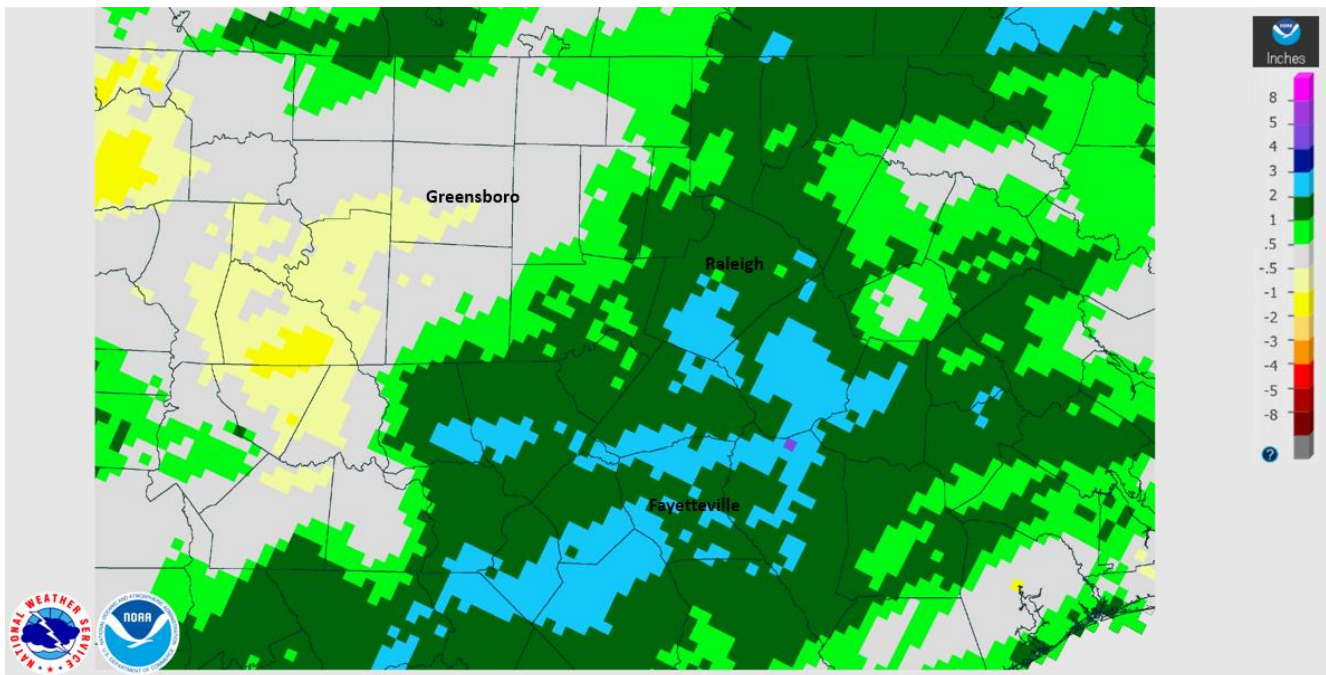
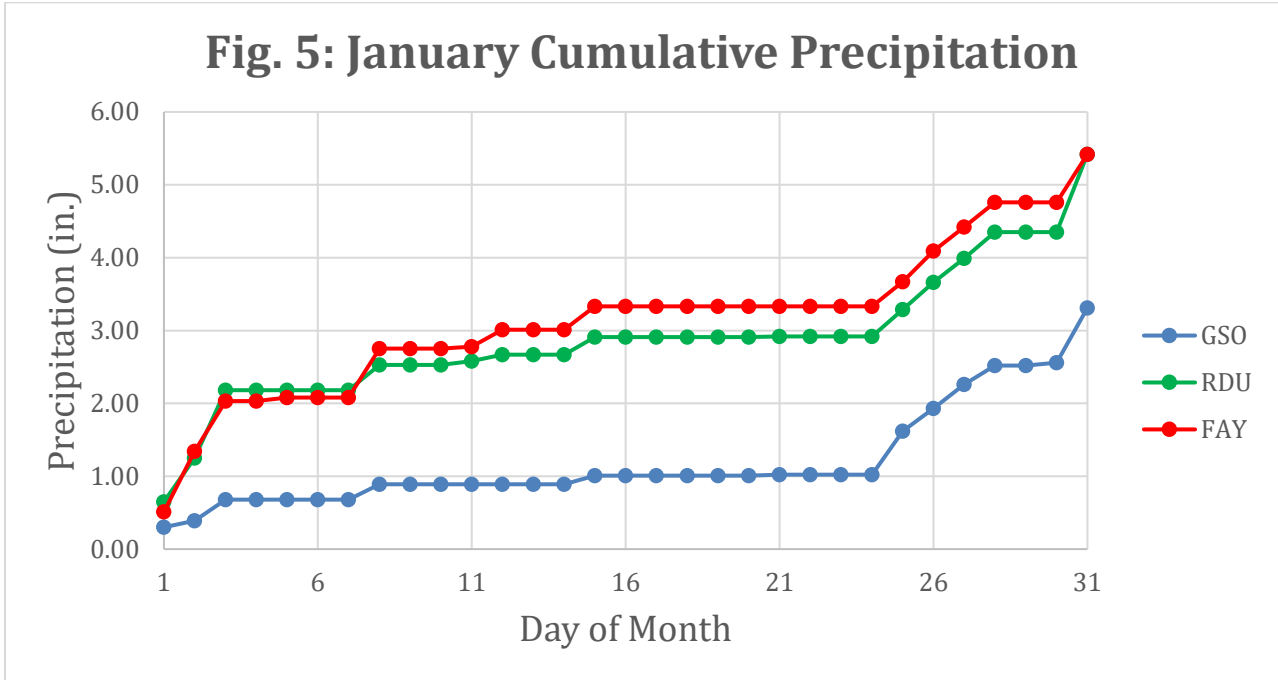


Fig. 4: Radar-Estimated Monthly Departure from Normal Precipitation



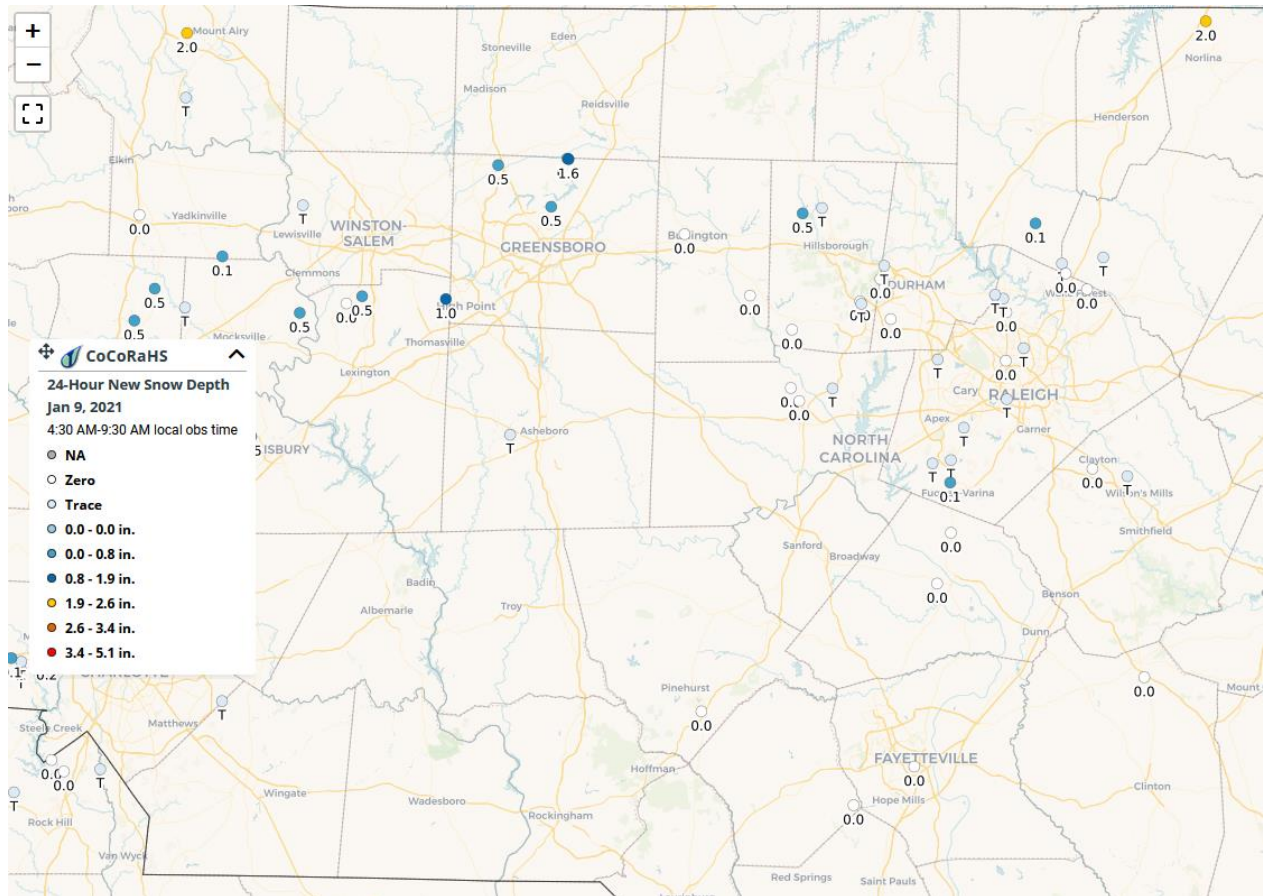
The cumulative precipitation at the three climate sites for the month of January is shown in Figure 5. The wettest periods were at the beginning and end of the month, with the middle being relatively dry.



Additional selected cooperative observations for January 2021 include: Winston-Salem (Forsyth County) 3.40 inches (0.21 inches below normal), Lexington (Davidson County) 3.09 inches (0.50 below normal), Louisburg (Franklin County) 4.09 inches (0.39 above normal), Rocky Mount (Nash County) 5.06 inches (1.46 above normal), Clinton (Sampson County) 6.43 inches (2.72 above normal), and Carthage (Moore County) 4.51 inches (0.56 above normal).

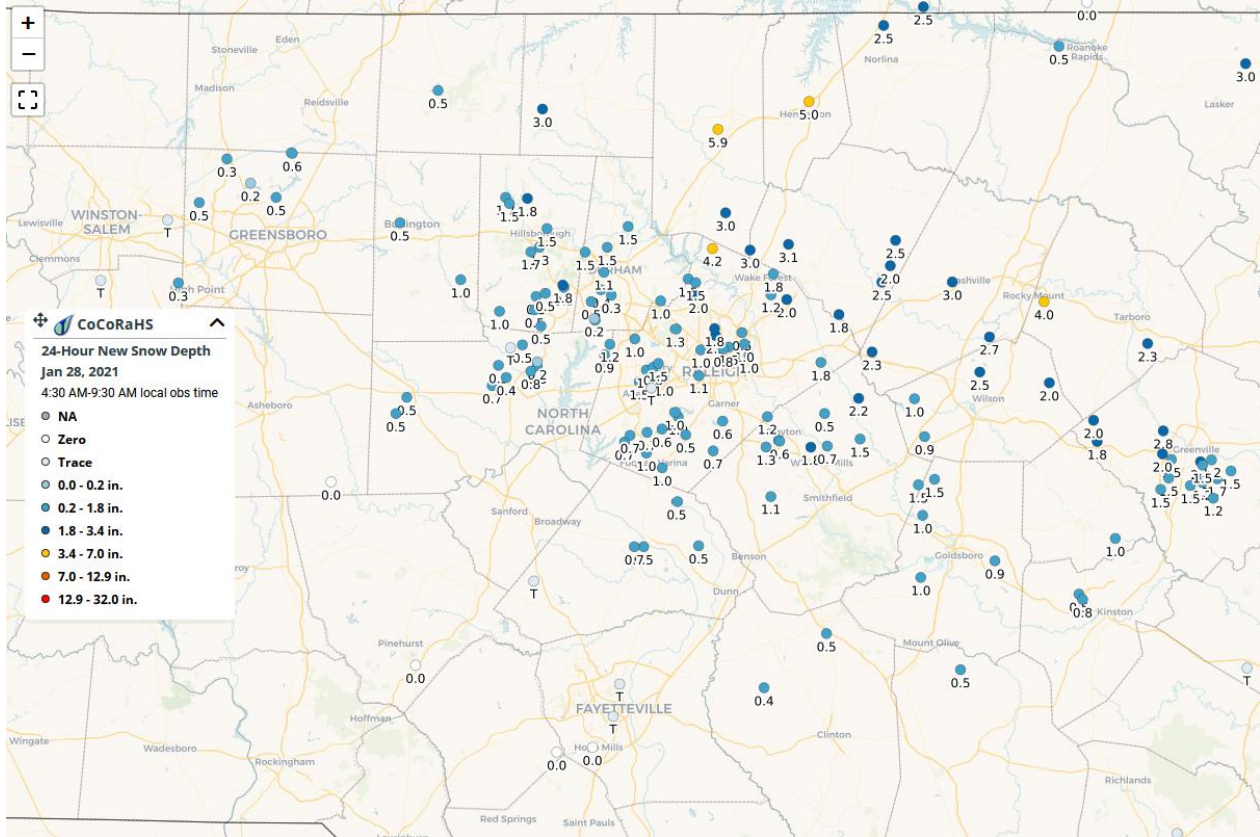
There were a few minor winter weather events during the month of January 2021. The first event on January 7-8 dumped up to 4-5 inches of snow in the Blue Ridge Mountains, but as shown by Figure 6, only a dusting to an inch fell over the Piedmont. This occurred due to the system drying up as it moved east into a much drier air mass. Only 0.3 inches of snow officially fell at Greensboro, with just a trace reported at Raleigh.

Fig. 6: CoCoRaHS 24-Hour Snowfall on January 8-9, 2021



The most significant wintry event of the month occurred on January 27-28. The mountains and portions of the northeastern Piedmont and northern Coastal Plain received the most snowfall. As displayed in Figure 7, this included portions of Person, Granville, Vance, Franklin, Nash, and Edgecombe Counties where roughly 2-5 inches fell. Henderson and Oxford were the winners for top snowfall with 5 and 6 inches. Raleigh officially received 1.6 inches, with only 0.4 inches at Greensboro.

Fig. 7: CoCoRaHS 24-Hour Snowfall on January 27-28, 2021



Other notes:

Strongest wind gusts and direction:

Greensboro: NW at 34 mph on January 28

Raleigh: S at 34 mph on January 15

Fayetteville: W at 37 mph on January 16

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

Greensboro: 22

Raleigh: 16

Fayetteville: 16

Monthly records of note for January 2021:

January 2021 was the 12th-wettest January on record at Fayetteville with a total of 5.42 inches. The wettest January on record was 7.84 inches in 1987.

Daily records:

There were no daily records set this month at Raleigh, Greensboro, or Fayetteville.