

**PUBLISH DATE: MAY 4, 2024**

**EASTERN NORTH CAROLINA  
MONTHLY CLIMATE REPORT**

# **MARCH 2024**

**WEATHER FORECAST OFFICE  
NEWPORT/MOREHEAD CITY, NC**

---

# National Weather Service

## NEWPORT/MOREHEAD CITY, NC

# MONTHLY SUMMARY

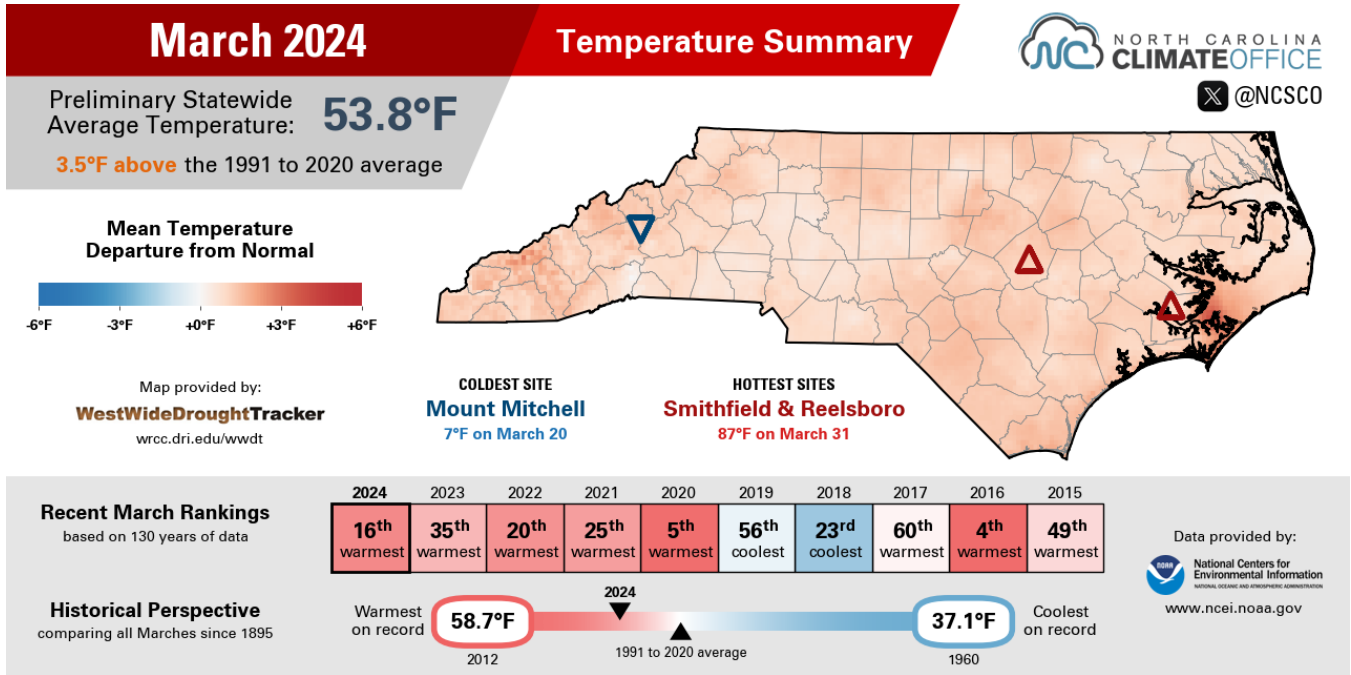
**W**et and warm weather dominated eastern North Carolina in March, especially so across the Outer Banks where over a foot of rain fell in many locations. Cape Hatteras recorded its wettest March on record, picking up nearly 14 inches of precipitation. This was also the 21st wettest month ever for the site since record-keeping began in 1893. The rainfall gradient was stark, quickly dropping off towards the coastal plain. Although all areas saw above-average rainfall, it was not enough to eliminate stubborn moderate drought across the inner coastal plain. Overall rainfall was 100-150% of normal across the coastal plain and up to 300% above normal along the Outer Banks, with an areawide average of 6.40”.

March continued the trend of above-average temperatures, in line with the rest of the state. The warmest temperatures were observed at the beginning of the month, gradually trending cooler into April. Overall temperatures were between 3 and 5 degrees above average, with an areawide average temperature of 56°F. Reelsboro joined Smithfield as the warmest spot in the state for the month, reaching a high of 87° on the 31st.

**The April 2024 report will be published around May 30th, 2024.**

# TEMPERATURES

Meteorological spring started off on a warm note across North Carolina. The average temperature for March was 53.8°F, or 3.5°F above the 1991-2020 average. This was the 16th warmest March since records began in 1895, with 130 years of data.



March 2024 Temperature Summary | Source: NC State Climate Office

Across Eastern North Carolina, temperatures were near to slightly above the statewide average and about 4.5 degrees above the 20th-century average. Since their respective records began, March 2024 was the 14th warmest at New Bern and the 19th warmest at Cape Hatteras. Additional observations can be found in Appendix A.

## MHX Select Site Temperature Statistics: March 2024

| Site            | Avg. High (°F) | Avg. Low (°F) | Avg. Temp (°F) | Normal (°F) | Departure (°F) |
|-----------------|----------------|---------------|----------------|-------------|----------------|
| Beaufort (KMRH) | 66.7           | 51.0          | 58.9           | 54.0        | 4.9            |
| Hatteras (KHSE) | 62.4           | 49.9          | 56.2           | 53.8        | 2.4            |

| Site            | Avg. High (°F) | Avg. Low (°F) | Avg. Temp (°F) | Normal (°F) | Departure (°F) |
|-----------------|----------------|---------------|----------------|-------------|----------------|
| New Bern (KEWN) | 68.3           | 46.5          | 57.4           | 53.2        | 4.2            |

Normals are based on a period from 1990-2020.

County-averaged statistics are presented in the following table. Note that mean temperature and anomaly calculations are based on a period of 1901-2000, rather than 1990-2020. Data courtesy of the National Centers for Environmental Information (NCEI).

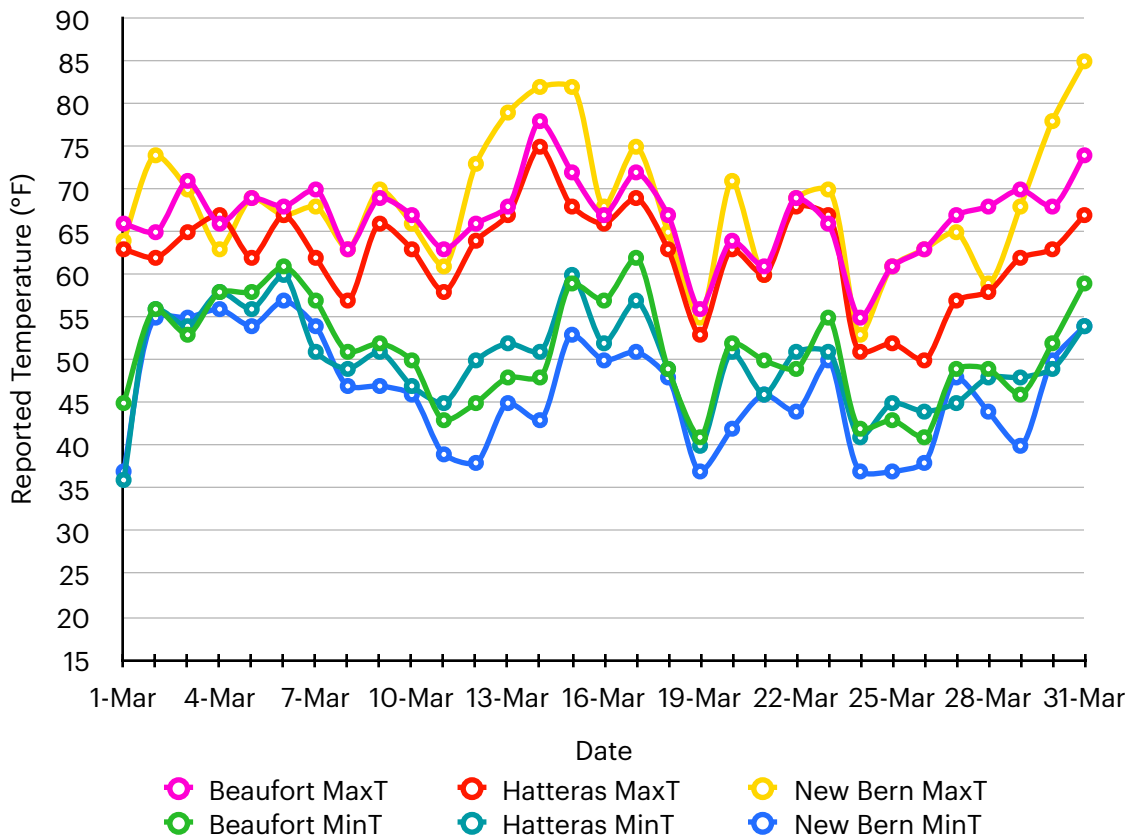
| County              | Avg. Temperature (°F) | Mean (°F)   | Departure (°F) | Rank |
|---------------------|-----------------------|-------------|----------------|------|
| Beaufort            | 56.1                  | 51.6        | 4.5            | 15 W |
| Carteret            | 57.1                  | 52.7        | 4.4            | 14 W |
| Craven              | 56.6                  | 52.0        | 4.6            | 12 W |
| Dare                | 54.9                  | 50.7        | 4.2            | 16 W |
| Duplin              | 56.7                  | 52.1        | 4.6            | 14 W |
| Greene              | 55.7                  | 51.3        | 4.4            | 15 W |
| Hyde                | 56.1                  | 51.9        | 4.2            | 17 W |
| Jones               | 56.4                  | 51.9        | 4.5            | 13 W |
| Lenoir              | 55.8                  | 51.7        | 4.1            | 19 W |
| Martin              | 55.1                  | 50.5        | 4.6            | 15 W |
| Onslow              | 57.1                  | 52.5        | 4.6            | 13 W |
| Pamlico             | 56.6                  | 52.4        | 4.2            | 17 W |
| Pitt                | 55.9                  | 51.2        | 4.7            | 13 W |
| Tyrrell             | 55.2                  | 50.9        | 4.3            | 16 W |
| Washington          | 55.2                  | 50.6        | 4.6            | 16 W |
| <b>Area Average</b> | <b>56.0</b>           | <b>51.6</b> | <b>4.4</b>     |      |

Means are based on a period from 1901-2000. For rankings, "C" designates coldest and "W" designates warmest.

Temperatures were warmest in the first half of the month while upper-level ridging remained in control over the eastern United States. By the second half of the month, troughing became the dominant weather feature, with temperatures easing modestly. By the end of March, temperatures trended slightly below average. Analysis from the National Centers for Environmental Information (NCEI) showed an average temperature departure of 3-6 degrees area-wide, considered much above average for the period. No temperature records were set at New Bern or Cape Hatteras.

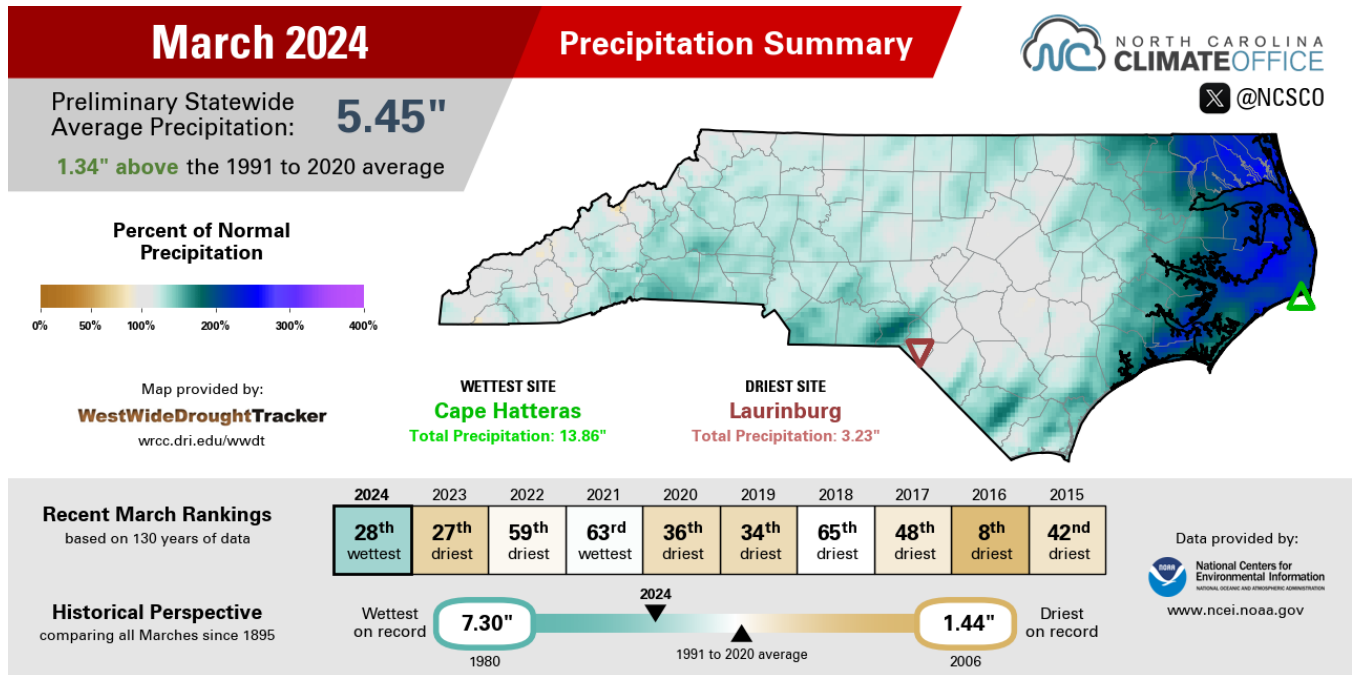
**Reelsboro** in Pamlico County was the warmest location in the state, recording a high of 87°F on Mar 31st.

**Daily Maximum and Minimum Temperatures**



# PRECIPITATION

Analysis conducted by the North Carolina State Climate Office showed above-normal precipitation for March, considerably so for coastal North Carolina. Statewide, precipitation averaged 5.45", or 1.34" above the 30-year average. This was the 28th wettest March for the state since records began in 1895.



March 2024 Precipitation Summary | Source: NC State Climate Office

Eastern North Carolina was much wetter than the rest of North Carolina. New Bern recorded its 5th wettest March, while Cape Hatteras recorded its wettest with a whopping 13.86 inches, besting the prior record of March 1989 (11.20 inches). Nine CWA counties saw a top ten wettest March since tracking began in 1895.

## MHX Select Site Precipitation Statistics: March 2024

| Site            | Total Precipitation (in.) | Normal (in.) | Departure (in.) |
|-----------------|---------------------------|--------------|-----------------|
| Beaufort (KMRH) | 7.28                      | 3.31         | 3.97            |
| Hatteras (KHSE) | 13.86                     | 4.43         | 9.43            |
| New Bern (KEWN) | 6.81                      | 3.85         | 2.96            |

County-averaged statistics are presented in the following table. Like temperatures, mean and anomaly precipitation calculations are based on a period 1901-2000. Data courtesy of the National Centers for Environmental Information (NCEI).

| County              | Avg. Accum. (in.) | Mean (in.)  | Departure (in.) | Rank |
|---------------------|-------------------|-------------|-----------------|------|
| Beaufort            | 6.21              | 3.89        | <b>2.32</b>     | 8 W  |
| Carteret            | 7.07              | 3.98        | <b>3.09</b>     | 5 W  |
| Craven              | 6.29              | 3.93        | <b>2.36</b>     | 8 W  |
| Dare                | 8.24              | 3.84        | <b>4.4</b>      | 3 W  |
| Duplin              | 5.14              | 3.99        | <b>1.15</b>     | 26 W |
| Greene              | 4.68              | 3.93        | <b>0.75</b>     | 38 W |
| Hyde                | 8.05              | 3.97        | <b>4.08</b>     | 2 W  |
| Jones               | 6.07              | 3.98        | <b>2.09</b>     | 13 W |
| Lenoir              | 4.91              | 3.96        | <b>0.95</b>     | 29 W |
| Martin              | 5.99              | 3.90        | <b>2.09</b>     | 9 W  |
| Onslow              | 6.60              | 4.02        | <b>2.58</b>     | 12 W |
| Pamlico             | 7.22              | 3.89        | <b>3.33</b>     | 2 W  |
| Pitt                | 5.12              | 3.88        | <b>1.24</b>     | 26 W |
| Tyrrell             | 7.58              | 3.92        | <b>3.66</b>     | 3 W  |
| Washington          | 6.82              | 3.95        | <b>2.87</b>     | 4 W  |
| <b>Area Average</b> | <b>6.40</b>       | <b>3.94</b> | <b>2.46</b>     |      |

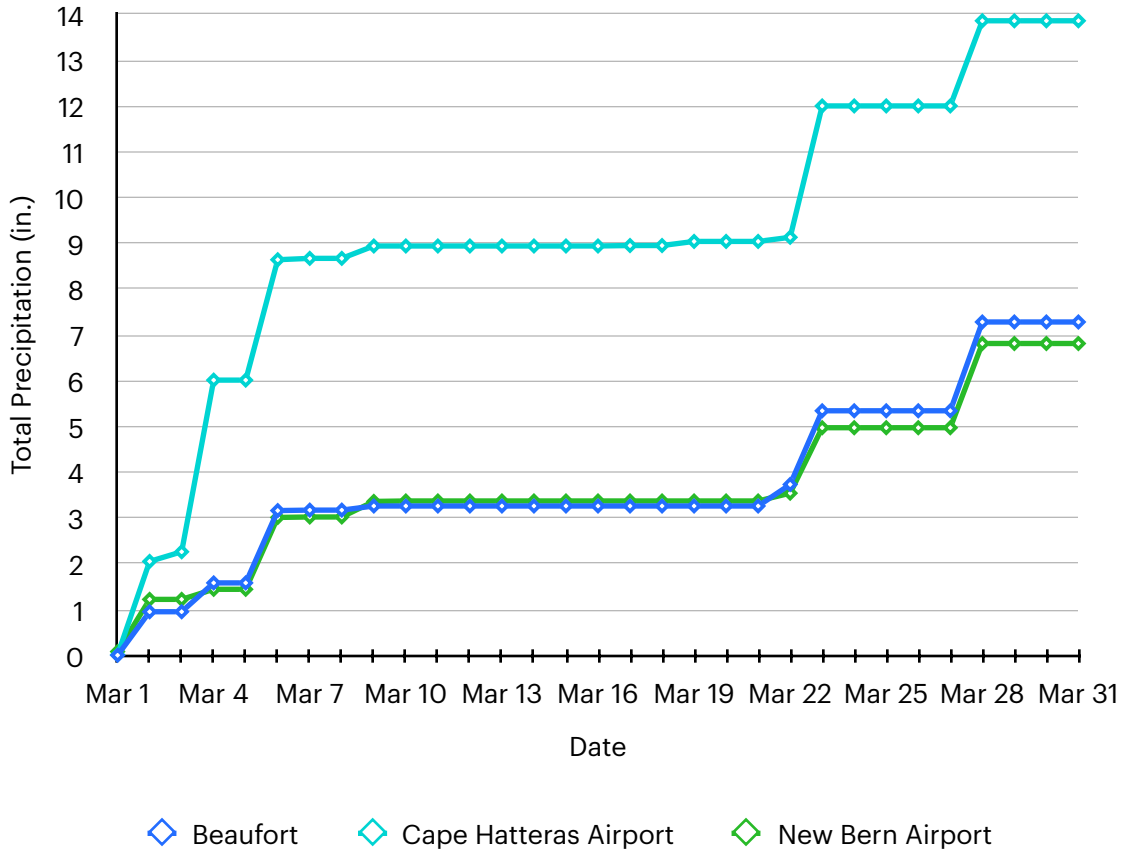
Means are based on a period from 1901-2000. For rankings, “W” designates wettest and “D” designates driest.

Precipitation fell primarily in two periods in March - the first week, which saw a stubborn offshore front and low linger just off the coast of the Outer Banks, dousing the region in heavy precipitation. A relative lull set in until the last week, when a series of strong cold fronts swept across the Carolinas. Although all areas saw beneficial rainfall, the gradient was stark - the coastal plain saw 100-150% of normal precipitation, while the Outer Banks picked up 200-300% of normal.



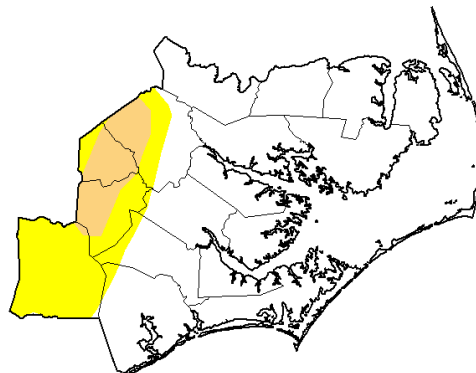
Multiple 24-hour precipitation records were set in March. **New Bern** broke records on the 23rd (1.43 inches - old record 1.06"/1989), and the 28th (1.84 inches - old record 1.61"/2005). **Cape Hatteras** set new records on the 4th (3.75 inches - old record 2.47"/2016) and the 23rd (2.87 inches - old record 1.43"/1989).

### Monthly Accumulated Precipitation



Drought conditions generally improved across eastern NC in March, most starkly across the northern Outer Banks and areas along Highway 17. Despite above-average rainfall, moderate drought conditions persisted across the inner coastal plain.

### U.S. Drought Monitor Newport/Morehead City, NC WFO



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                                 | 75.10                             | 24.90  | 7.66  | 0.00  | 0.00  | 0.00 |
| Last Week<br>03-26-2024                 | 69.08                             | 30.92  | 7.66  | 0.00  | 0.00  | 0.00 |
| 3 Months Ago<br>01-02-2024              | 96.09                             | 3.91   | 0.00  | 0.00  | 0.00  | 0.00 |
| Start of<br>Calendar Year<br>01-01-2024 | 96.09                             | 3.91   | 0.00  | 0.00  | 0.00  | 0.00 |
| Start of<br>Water Year<br>09-26-2023    | 100.00                            | 0.00   | 0.00  | 0.00  | 0.00  | 0.00 |
| One Year Ago<br>04-04-2023              | 0.00                              | 100.00 | 20.03 | 0.00  | 0.00  | 0.00 |

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

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>

Author:  
Brad Pugh  
CPC/NOAA





## ADDITIONAL CLIMATE RESOURCES

For a look at climate on the national scale, as well as statistics from a CONUS-wide to county and city level, please visit the **National Centers for Environmental Information** at <https://www.ncei.noaa.gov/>. Additional maps and data, as well as teaching materials and a climate resiliency toolkit, can be found at **NOAA's** <https://www.climate.gov>.

For additional drought information, including a wealth of maps of data focused on topics such as agriculture, fire, and water supply, please visit **NOAA's National Integrated Drought Information System (NIDIS)** at <https://www.drought.gov>.

For climate statistics and real-time observations across the state of North Carolina, please visit the **North Carolina State Climate Office** at <https://climate.ncsu.edu/>.

For climate forecasts and outlooks, visit the **Climate Prediction Center** at <https://www.cpc.ncep.noaa.gov/>.

For community-based precipitation observations from across the United States, visit **CoCoRaHS** at <https://www.cocorahs.org/>.

For climate statistics relevant to various regions of North Carolina, please visit the following climate pages:

**Eastern (WFO Morehead City):** <https://www.weather.gov/wrh/climate?wfo=mxh>

**Southeastern (WFO Wilmington):** <https://www.weather.gov/wrh/climate?wfo=ilm>

**Northeastern (WFO Wakefield, VA):** <https://www.weather.gov/wrh/climate?wfo=akq>

**Central (WFO Raleigh):** <https://www.weather.gov/wrh/climate?wfo=rah>

**Northwestern (WFO Blacksburg, VA):** <https://www.weather.gov/wrh/climate?wfo=rnk>

**Southwestern (WFO Greer, SC):** <https://www.weather.gov/wrh/climate?wfo=gsp>

**Cherokee and Clay Co. (WFO Knoxville, TN):** <https://www.weather.gov/wrh/climate?wfo=mrj>

## APPENDIX A: ADDITIONAL TEMPERATURE DATA

### Cooperative Observation Site Temperature Statistics: March 2024

| Site        | Avg. High (°F) | Avg. Low (°F) | Avg. Temp (°F) | Normal (°F) | Departure (°F) |
|-------------|----------------|---------------|----------------|-------------|----------------|
| Greenville  | 67.9           | 46.0          | 57.0           | 52.6        | 4.4            |
| Kinston     | 67.2           | 44.5          | 55.9           | 54.5        | 1.4            |
| Williamston | 65.4           | 44.5          | 55.0           | 51.8        | 3.2            |
| Plymouth    | 67.4           | 44.9          | 56.2           | 52.5        | 3.7            |
| Bayboro     | 65.9           | 45.7          | 55.8           | 52.2        | 3.6            |
| Manteo      | 62.6           | 45.2          | 53.9           | 50.6        | 3.3            |

Normals are based on a period from 1990-2020. Sites in red have missing data.

### Maximum and Minimum Monthly Temperatures: March 2024

| Site            | Max High (°F) | Date Observed | Min Low (°F) | Date Observed       |
|-----------------|---------------|---------------|--------------|---------------------|
| Beaufort (KMRH) | 78            | Mar 14        | 41           | Mar 19, 26          |
| Hatteras (KHSE) | 75            | Mar 14        | 36           | Mar 1               |
| New Bern (KEWN) | 85            | Mar 31        | 37           | Mar 1, 19, 24-25    |
| Greenville      | 84            | Mar 31        | 34           | Mar 25              |
| Kinston         | 81            | Mar 15        | 34           | Mar 25              |
| Williamston     | 81            | Mar 15        | 35           | Mar 1               |
| Plymouth        | 82            | Mar 31        | 31           | Mar 1               |
| Bayboro         | 81            | Mar 16        | 38           | Mar 1, 12-13, 26-27 |
| Manteo          | 75            | Mar 16, 19-20 | 30           | Mar 20              |

## APPENDIX B: ADDITIONAL PRECIPITATION DATA

### Cooperative Observation Site Precipitation Statistics: March 2024

| Site        | Total Precipitation (in.) | Normal (in.) | Departure (in.) |
|-------------|---------------------------|--------------|-----------------|
| Greenville  | 4.62                      | 4.22         | 0.4             |
| Kinston     | 4.36                      | 3.84         | 0.52            |
| Williamston | 6.71                      | 4.13         | 2.58            |
| Plymouth    | 7.15                      | 4.16         | 2.99            |
| Bayboro     | 7.92                      | 3.70         | 4.22            |

Sites in red have missing data in their record.

### CoCoRaHS Monthly Accumulated Precipitation: March 2024

| Site                     | County   | Amount (in.) |
|--------------------------|----------|--------------|
| Pantego 0.4 WSW          | Beaufort | 7.94         |
| Washington 1.0 SSW       | Beaufort | 6.21         |
| Beaufort 12.1 N          | Carteret | 9.89         |
| Newport 1.0 N            | Carteret | 9.74         |
| Swansboro 3.7 NNE        | Carteret | 9.58         |
| Ocean 0.5 S              | Carteret | 9.26         |
| Newport 0.2 SW           | Carteret | 9.19         |
| Newport 1.7 SSE          | Carteret | 9.14         |
| Cedar Point 0.7 NNE      | Carteret | 9.10         |
| Pine Knoll Shores 0.3 NE | Carteret | 9.08         |
| Emerald Isle 2.3 WSW     | Carteret | 8.88         |

| Site                    | County   | Amount (in.) |
|-------------------------|----------|--------------|
| Swansboro 2.7 NE        | Carteret | 8.86         |
| Cedar Point 0.9 WSW     | Carteret | 8.80         |
| Newport 2.3 SE          | Carteret | 8.75         |
| Beaufort 3.8 N          | Carteret | 8.63         |
| Beaufort 5.3 N          | Carteret | 8.03         |
| Morehead City 6.0 WNW   | Carteret | 7.91         |
| Morehead City 2.9 WNW   | Carteret | 7.88         |
| Cedar Island 0.3 SSE    | Carteret | 7.78         |
| Pine Knoll Shores 1.4 E | Carteret | 7.70         |
| Beaufort 0.5 W          | Carteret | 7.23         |
| Trent Woods 1.3 SSE     | Craven   | 8.41         |
| Trent Woods 1.2 ENE     | Craven   | 8.40         |
| New Bern 7.3 ESE        | Craven   | 7.60         |
| New Bern 1.3 NNE        | Craven   | 7.54         |
| New Bern 2.9 SSE        | Craven   | 7.46         |
| Bridgeton 0.3 SSE       | Craven   | 7.00         |
| Rodanthe 1.0 SSE        | Dare     | 11.33        |
| Manteo 2.8 NW           | Dare     | 11.23        |
| Southern Shores 0.5 NNE | Dare     | 10.65        |
| Wallace 14.8 E          | Duplin   | 6.35         |
| Albertson 1.2 WNW       | Duplin   | 4.43         |
| Ayden 6.5 WNW           | Greene   | 5.21         |
| Ocracoke 0.6 SW         | Hyde     | 13.01        |

| Site                 | County  | Amount (in.) |
|----------------------|---------|--------------|
| Ocracoke 0.2ESE      | Hyde    | 12.54        |
| SQ Tower             | Hyde    | 10.36        |
| Kinston 4.6 ESE      | Lenoir  | 4.60         |
| Kinston 4.7 ESE      | Lenoir  | 4.53         |
| Pink Hill 2.5 NE     | Lenoir  | 4.38         |
| Kinston 5.1 WNW      | Lenoir  | 4.29         |
| Kinston 7.0 SW       | Lenoir  | 4.24         |
| Williamston 8.9 SSE  | Martin  | 6.78         |
| Jamesville 6.1 SW    | Martin  | 6.62         |
| Swansboro 2.8 WSW    | Onslow  | 9.24         |
| Hubert 4.9 SE        | Onslow  | 9.06         |
| Sneads Ferry 3.3 SW  | Onslow  | 8.46         |
| Holly Ridge 9.0 ENE  | Onslow  | 8.01         |
| Jacksonville 1.0 NW  | Onslow  | 7.56         |
| Jacksonville 3.3 W   | Onslow  | 7.23         |
| Jacksonville 5.4 WSW | Onslow  | 7.15         |
| Oriental 4.3 NNW     | Pamlico | 10.29        |
| Oriental 1.9 WSW     | Pamlico | 10.18        |
| Merritt 1.5 WSW      | Pamlico | 9.35         |
| Lowland 0.2 SE       | Pamlico | 8.79         |
| Oriental 5.2 NE      | Pamlico | 8.37         |
| Greenville 5.0 SE    | Pitt    | 6.37         |
| Greenville 7.1 SSE   | Pitt    | 5.81         |

| Site               | County | Amount (in.) |
|--------------------|--------|--------------|
| Greenville 4.4 SSE | Pitt   | 5.68         |
| Fountain 0.1 NE    | Pitt   | 5.55         |
| Winterville 3.5 W  | Pitt   | 4.96         |
| Columbia 0.8 NNE   | Tyrell | 10.29        |

CoCoRaHS inclusion in this table is based on a complete 31-day liquid precipitation record. Thank you to all observers!