

PUBLISH DATE: APRIL 17, 2023

**EASTERN NORTH CAROLINA
MONTHLY CLIMATE REPORT**

MARCH 2023

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

National Weather Service

NEWPORT/MOREHEAD CITY, NC

MONTHLY SUMMARY

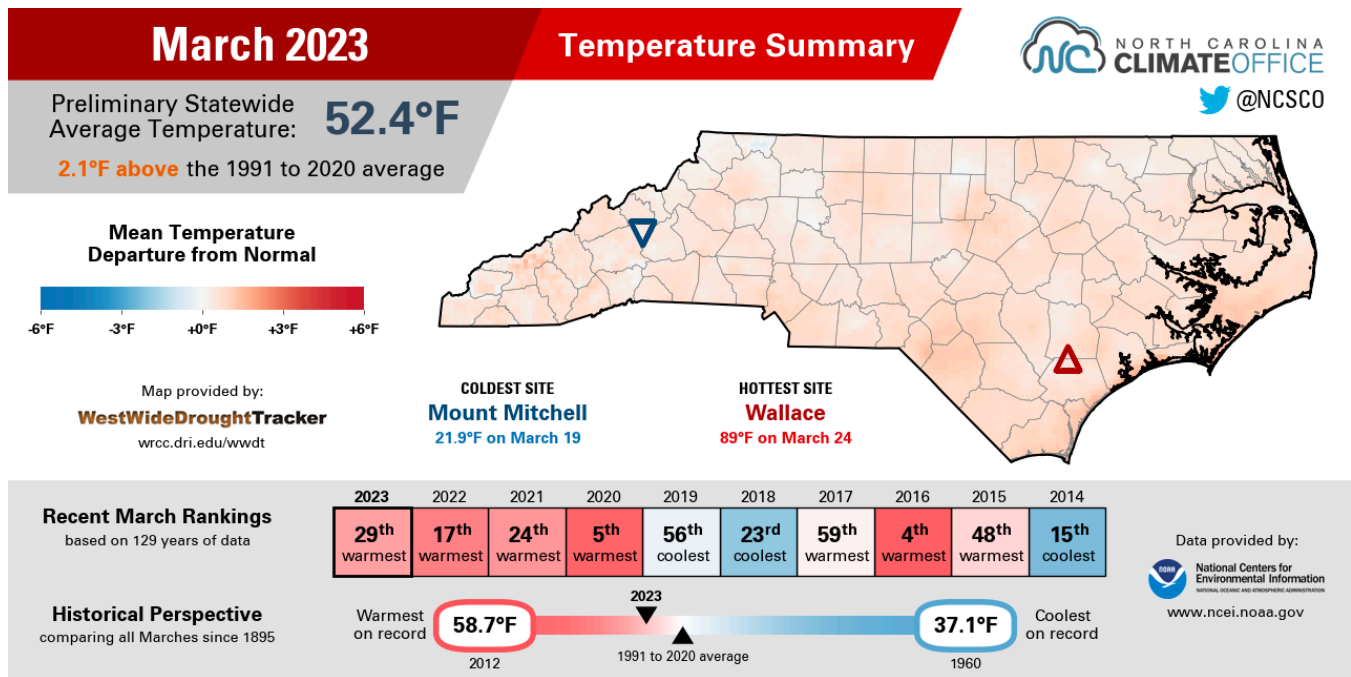
March extended the warmer-than-average trend from February across Eastern North Carolina. Temperatures at their warmest during the first week of March, continuing the warm run at the end of February with temperatures reaching as high as 15 degrees above average, particularly for areas south of U.S. Highway 70. The end of the month saw a temperature rollercoaster, as a second warm streak near the end of the month set record highs at New Bern just a few days after a record low. Overall, average temperatures were up to 3 degrees above average for the month.

Precipitation across eastern North Carolina fell in two main events, the strongest at the end of the month with a stalled frontal boundary. It was not enough to offset significant dry stretches, and monthly precipitation ended up at about 50-75% of normal. Consequently, drought conditions expanded with abnormally dry conditions over the entire region and pockets of moderate drought. Seasonal forecasts call for this to be short-lived with no drought expected by July as the wetter season kicks in.

The April 2023 report will be published around May 25th, 2023.

TEMPERATURES

Although not as anomalous as February, meteorological spring started on a warm note, based on analysis from the NC State Climate Office. The average temperature statewide for March was 52.4°F or 2.1°F above the 1991-2020 average. This was the 29th warmest February statewide since records began in 1895, with 129 years of data.



March 2023 Temperature Summary | Source: NC State Climate Office

Eastern North Carolina temperatures were mostly in line with the statewide average but slightly cooler over the Outer Banks. New Bern recorded its 25th warmest March, while Hatteras saw its 44th warmest. Additional observations can be found in Appendix A.

MHX Select Site Temperature Statistics: March 2023

Site	Avg. High (°F)	Avg. Low (°F)	Avg. Temp (°F)	Normal (°F)	Departure (°F)
Beaufort (KMRH)	65.4	47.9	56.7	54.0	2.7
Hatteras (KHSE)	61.4	47.0	54.2	53.8	0.4

Site	Avg. High (°F)	Avg. Low (°F)	Avg. Temp (°F)	Normal (°F)	Departure (°F)
New Bern (KEWN)	67.2	44.5	55.9	53.2	2.7

Normals are based on a period from 1990-2020.

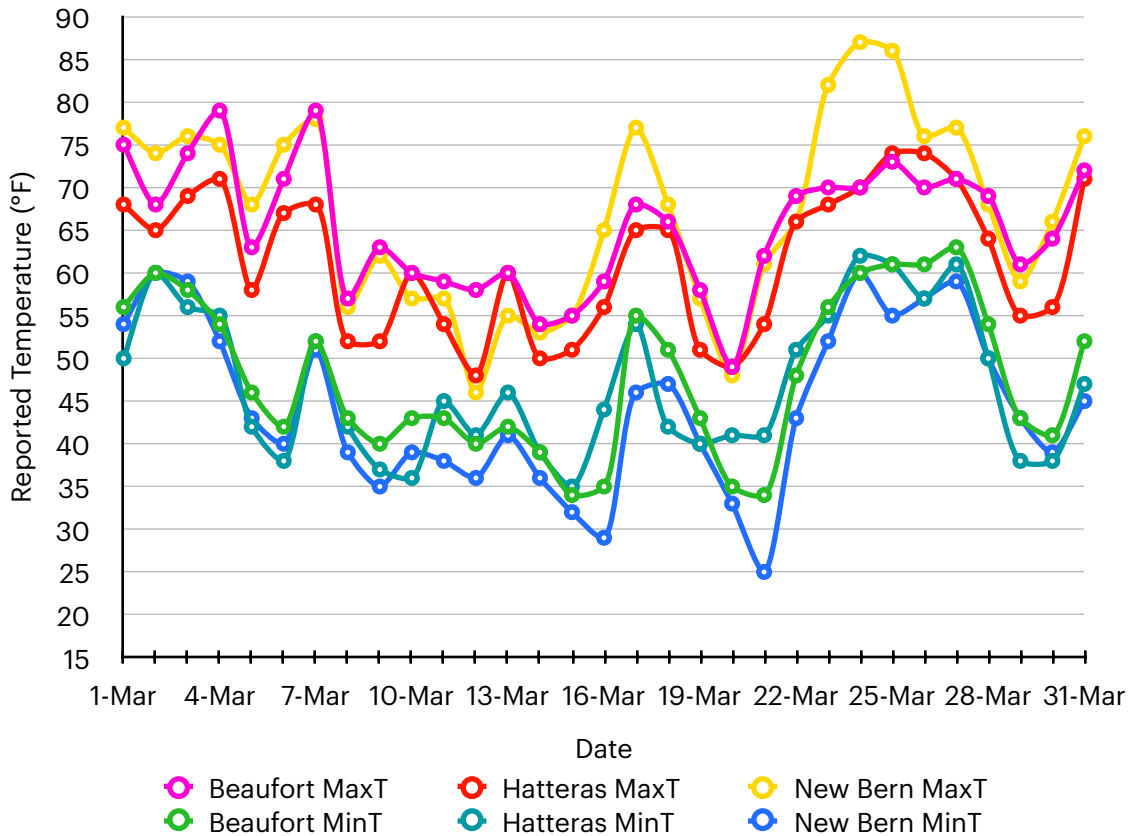
County-averaged statistics are presented in the following table. Note that mean temperature and anomaly calculations are based on a period of 1901-2000, rather than 1990-2020. Data courtesy of the National Centers for Environmental Information (NCEI).

County	Avg. Temperature (°F)	Mean (°F)	Departure (°F)	Rank
Beaufort	54.6	51.6	3	34 W
Carteret	55.8	52.7	3.1	31 W
Craven	55.3	52.0	3.3	28 W
Dare	52.8	50.7	2.1	40 W
Duplin	55.4	52.1	3.3	26 W
Greene	54.4	51.3	3.1	33 W
Hyde	54.0	51.9	2.1	41 W
Jones	55.2	51.9	3.3	28 W
Lenoir	54.7	51.7	3	31 W
Martin	53.6	50.5	3.1	32 W
Onslow	56.2	52.5	3.7	24 W
Pamlico	55.2	52.4	2.8	36 W
Pitt	54.3	51.2	3.1	34 W
Tyrrell	53.5	50.9	2.6	37 W
Washington	53.6	50.6	3	35 W
Area Average	54.6	51.6	3.0	

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

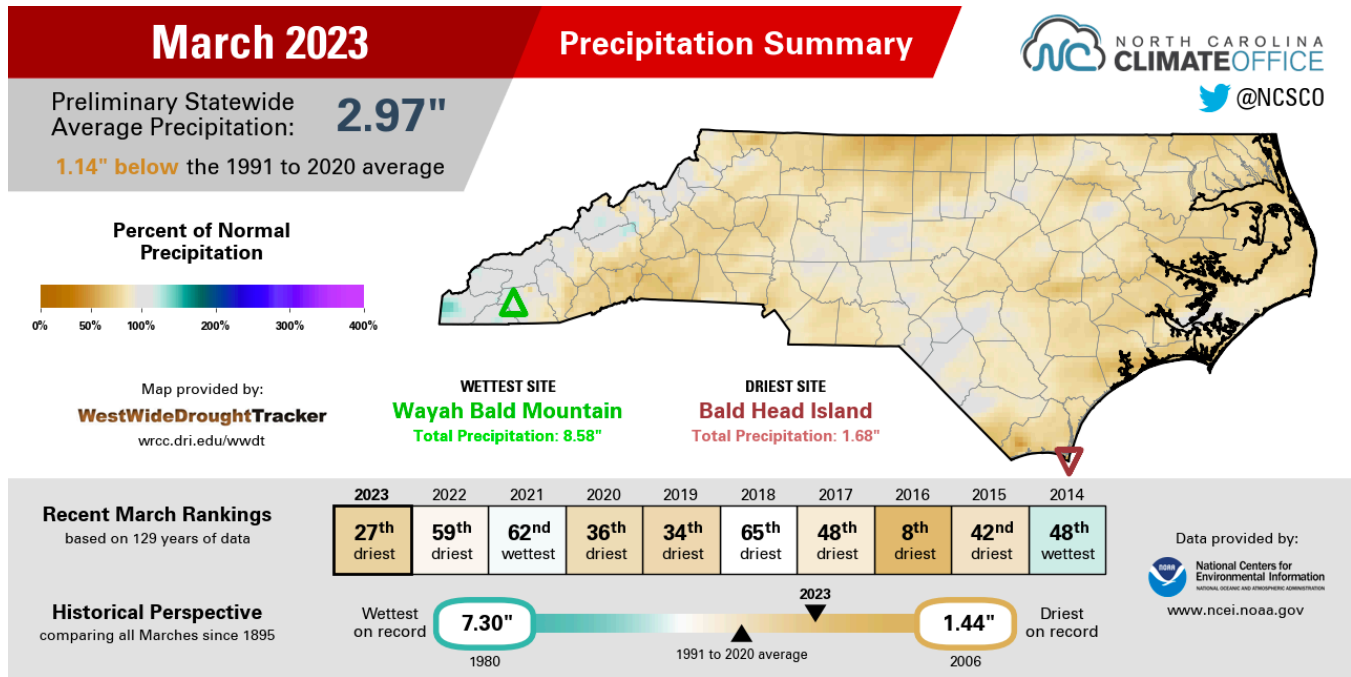
The first week of March was by far the warmest across eastern North Carolina as temperatures sat anywhere from 9 to 15 degrees above average. Temperatures returned to near or below average for the next two weeks, with the coldest day falling on March 21 under Canadian high pressure. Temperatures quickly rebounded, and by the beginning of the final week, record warmth was overspreading the region. **New Bern** set a record low on the 21st of 25 (the previous record was 28 in 1965), followed by a record high on the 24th (87, old record 85 in 1939 and 2007) and a tie on the 25th (86, tying 1939).

Daily Maximum and Minimum Temperatures



PRECIPITATION

Analysis conducted by the North Carolina State Climate Office showed continued drier conditions than normal, with an average 2.97" in March - 1.14" inches below average. This was the 27th driest March for the state since records began in 1895.



March 2023 Precipitation Summary | Source: NC State Climate Office

Eastern North Carolina saw below average precipitation as well, generally in line with the statewide average. Most of the region saw a widespread 2 to 3 inches of rain, with a relative maximum over the southern Outer Banks. This was **New Bern's** 7th driest March and **Hatteras'** 61st driest.

MHX Select Site Precipitation Statistics: March 2023

Site	Total Precipitation (in.)	Normal (in.)	Departure (in.)
Beaufort (KMRH)	2.07	3.31	-1.24
Hatteras (KHSE)	3.38	4.43	-1.05
New Bern (KEWN)	2.14	3.85	-1.71

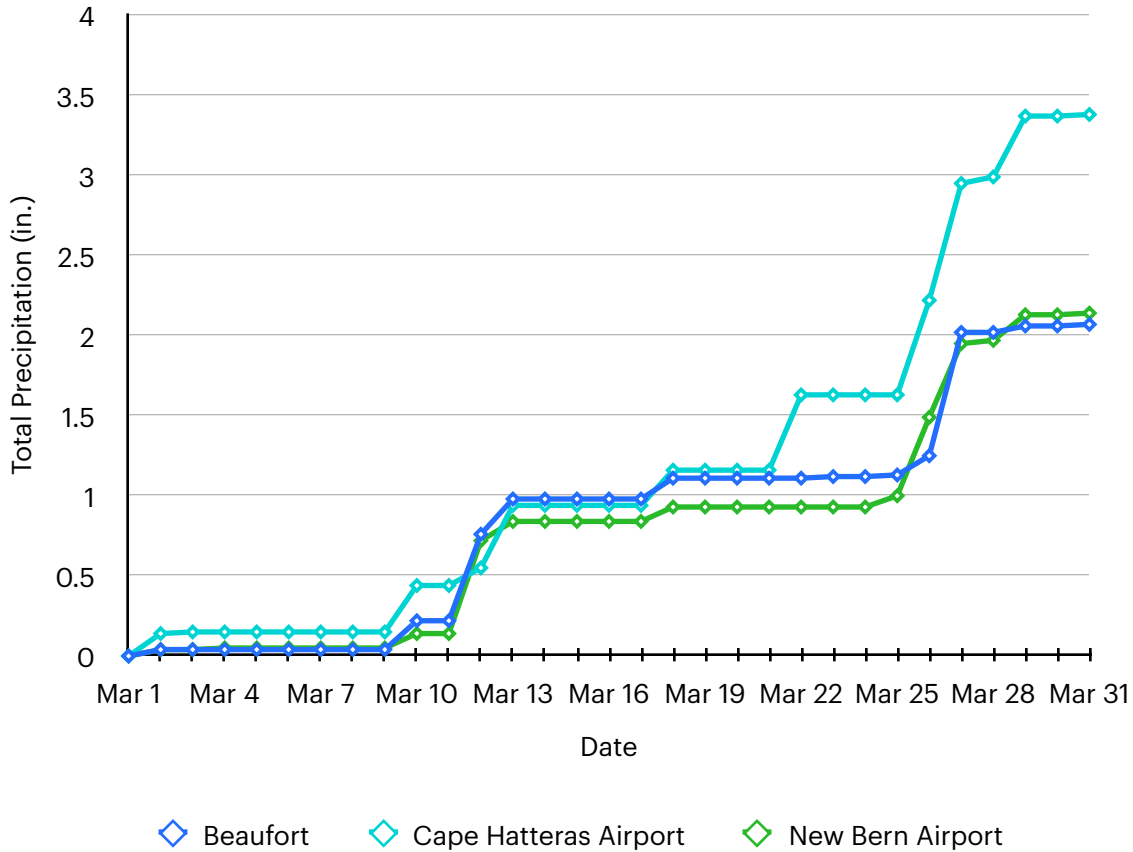
County-averaged statistics are presented in the following table. Like temperatures, mean and anomaly precipitation calculations are based on a period 1901-2000. Data courtesy of the National Centers for Environmental Information (NCEI).

County	Avg. Accum. (in.)	Mean (in.)	Departure (in.)	Rank
Beaufort	2.43	3.89	-1.46	17 D
Carteret	2.70	3.98	-1.28	29 D
Craven	2.41	3.93	-1.52	16 D
Dare	2.64	3.84	-1.2	32 D
Duplin	2.48	3.99	-1.51	28 D
Greene	2.65	3.93	-1.28	26 D
Hyde	2.70	3.97	-1.27	29 D
Jones	2.32	3.98	-1.66	14 D
Lenoir	2.49	3.96	-1.47	25 D
Martin	2.58	3.90	-1.32	22 D
Onslow	2.21	4.02	-1.81	15 D
Pamlico	2.55	3.89	-1.34	20 D
Pitt	2.48	3.88	-1.4	21 D
Tyrrell	2.45	3.92	-1.47	21 D
Washington	2.51	3.95	-1.44	21 D
Area Average	2.51	3.94	-1.43	

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

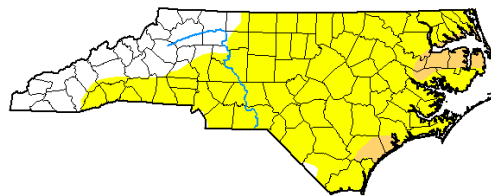
March precipitation fell mainly with two systems - the first being a wave of low pressure lifting across the Carolinas on March 10th, mainly benefiting areas along the Crystal Coast with rainfall amounts of up to a quarter inch. The second system was a cold front that stalled over the Carolinas on the 26th, dropping as much as an inch and a half to two inches of rain along the Crystal Coast and around a half to three-quarters inch along Highway 64.

Monthly Accumulated Precipitation



Drought conditions worsened across eastern North Carolina in February. As of April 4, all of eastern NC was abnormally dry, with pockets of moderate drought. These conditions are expected to be short-term, with no drought conditions forecast to last into July.

U.S. Drought Monitor North Carolina



April 4, 2023
 (Released Thursday, Apr. 6, 2023)
 Valid 8 a.m. EDT

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	20.13	79.87	4.87	0.00	0.00	0.00
Last Week 03-28-2023	42.15	57.85	2.40	0.00	0.00	0.00
3 Months Ago 01-03-2023	56.06	43.94	24.97	0.00	0.00	0.00
Start of Calendar Year 01-01-2023	56.06	43.94	24.97	0.00	0.00	0.00
Start of Water Year 09-27-2022	38.94	61.06	15.04	0.00	0.00	0.00
One Year Ago 04-05-2022	54.62	45.38	30.66	11.02	0.00	0.00

Intensity:

- None
- D2 Severe Drought
- D0 Abnormally Dry
- D3 Extreme Drought
- D1 Moderate Drought
- D4 Exceptional Drought

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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 Western Regional Climate Center



droughtmonitor.unl.edu

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=mrx>

APPENDIX A: ADDITIONAL TEMPERATURE DATA

Cooperative Observation Site Temperature Statistics: March 2023

Site	Avg. High (°F)	Avg. Low (°F)	Avg. Temp (°F)	Normal (°F)	Departure (°F)
Greenville	65.8	43.9	54.9	52.6	2.3
Kinston	66.2	42.4	54.3	54.5	-0.2
Williamston	63.5	42.7	53.1	51.8	1.3
Plymouth	65.7	42.9	54.3	52.5	1.8
Bayboro	65.8	43.7	54.8	52.2	2.6
Manteo	62.3	43.6	53.0	50.6	2.4

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

Maximum and Minimum Monthly Temperatures: March 2023

Site	Max High (°F)	Date Observed	Min Low (°F)	Date Observed
Beaufort (KMRH)	79	Mar 4, Mar 7	34	Mar 15, Mar 21
Hatteras (KHSE)	74	Mar 25-26	35	Mar 15
New Bern (KEWN)	87	Mar 24	25	Mar 21
Greenville	86	Mar 24	28	Mar 21
Kinston	86	Mar 25	25	Mar 21
Williamston	79	Mar 24, Mar 26	27	Mar 21
Plymouth	85	Mar 24-25	26	Mar 21
Bayboro	83	Mar 25	29	Mar 21
Manteo	81	Mar 9	25	Mar 9

APPENDIX B: ADDITIONAL PRECIPITATION DATA

Cooperative Observation Site Precipitation Statistics: March 2023

Site	Total Precipitation (in.)	Normal (in.)	Departure (in.)
Bayboro	2.51	3.70	-1.19
Greenville	2.57	4.22	-1.65
Kinston	2.46	3.84	-1.38
Plymouth	2.81	3.40	-0.59
Williamston	2.56	4.13	-1.57

Sites in red have missing data in their record.

CoCoRaHS Monthly Accumulated Precipitation: March 2023

Site	County	Amount (in.)
Bath 1.6 SSE	Beaufort	1.98
Pantego 0.4 WSW	Beaufort	2.11
Cedar Island 0.3 SSE	Carteret	3.53
Beaufort 12.1 N	Carteret	2.90
Beaufort 5.3 N	Carteret	2.18
Beaufort 3.8 N	Carteret	2.46
Beaufort 0.5 W	Carteret	2.18
Atlantic Beach 0.6 W	Carteret	3.10
Pine Knoll Shores 1.4 E	Carteret	3.19
Pine Knoll Shores 0.3 NE	Carteret	2.79
Morehead City 0.6 NW	Carteret	2.42

Site	County	Amount (in.)
Morehead City 2.9 WNW	Carteret	2.11
Morehead City 5.7 W	Carteret	2.69
Newport 1.7 SSE	Carteret	2.87
Newport 0.2 SW	Carteret	2.23
Newport 1.0 N	Carteret	2.33
Newport 2.5 W	Carteret	1.89
Swansboro 3.7 NNE	Carteret	1.92
Swansboro 2.7 NE	Carteret	1.57
Cedar Point 0.4 WSW	Carteret	2.54
Havelock 1.9 SSE	Craven	2.20
New Bern 5.3 SW	Craven	2.32
New Bern 1.3 NNE	Craven	2.02
New Bern 5.2 SE	Craven	2.52
Trent Woods 1.0 NNE	Craven	2.50
Trent Woods 1.2 ENE	Craven	2.71
New Bern 3.8 S	Craven	2.27
New Bern 4.2 S	Craven	2.31
Trent Woods 1.3 SSE	Craven	2.65
Southern Shores 0.5 NNE	Dare	1.92
Manteo 2.8 NW	Dare	2.93
Manteo 2.5 WNW	Dare	2.67
Rodanthe 1.0 SSE	Dare	2.72
Albertson 1.2 WNW	Duplin	2.62

Site	County	Amount (in.)
Kenansville 1.1 SW	Duplin	1.90
Rose Hill 0.1 NNW	Duplin	2.84
Wallace 14.8 E	Duplin	2.85
Ayden 6.5 WNW	Greene	2.90
SQ Tower	Hyde	2.03
Ocracoke 0.2 ESE	Hyde	3.49
Pink Hill 2.5 NE	Lenoir	2.73
Kinston 5.1 WNW	Lenoir	2.61
Kinston 4.4 WNW	Lenoir	2.31
Kinston 1.2 NW	Lenoir	2.48
Williamston 8.9 SSE	Martin	2.65
Jamesville 6.1 SW	Martin	2.68
Jacksonville 4.5 NW	Onslow	2.96
Jacksonville 2.4 NNE	Onslow	2.97
Holly Ridge 9.0 ENE	Onslow	2.76
Sneads Ferry 3.3 SW	Onslow	3.03
Sneads Ferry 1.2 SSW	Onslow	2.84
Hubert 4.9 SE	Onslow	1.76
Swansboro 2.8 WSW	Onslow	1.69
Swansboro 3.3 NW	Onslow	2.00
Lowland 0.2 SE	Pamlico	2.37
Merritt 1.5 WSW	Pamlico	3.20
Oriental 4.3 NNW	Pamlico	3.38

Site	County	Amount (in.)
Oriental 5.2 NE	Pamlico	3.32
Oriental 2.1 WSW	Pamlico	3.97
Oriental 1.9 WSW	Pamlico	3.77
Greenville 5.7 NW	Pitt	2.86
Greenville 4.6 W	Pitt	3.27
Winterville 2.8 WNW	Pitt	2.87
Winterville 3.5 W	Pitt	2.89
Greenville 5.0 SE	Pitt	2.82
Greenville 7.1 SSE	Pitt	2.68
Columbia 0.8 NNE	Tyrrell	2.50

CoCoRaHS inclusion in this table is based on a complete 28-day liquid precipitation record. Thank you to all observers!