

PUBLISH DATE: NOVEMBER 30, 2023

**EASTERN NORTH CAROLINA
MONTHLY CLIMATE REPORT**

OCTOBER 2023

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

National Weather Service

NEWPORT/MOREHEAD CITY, NC

MONTHLY SUMMARY

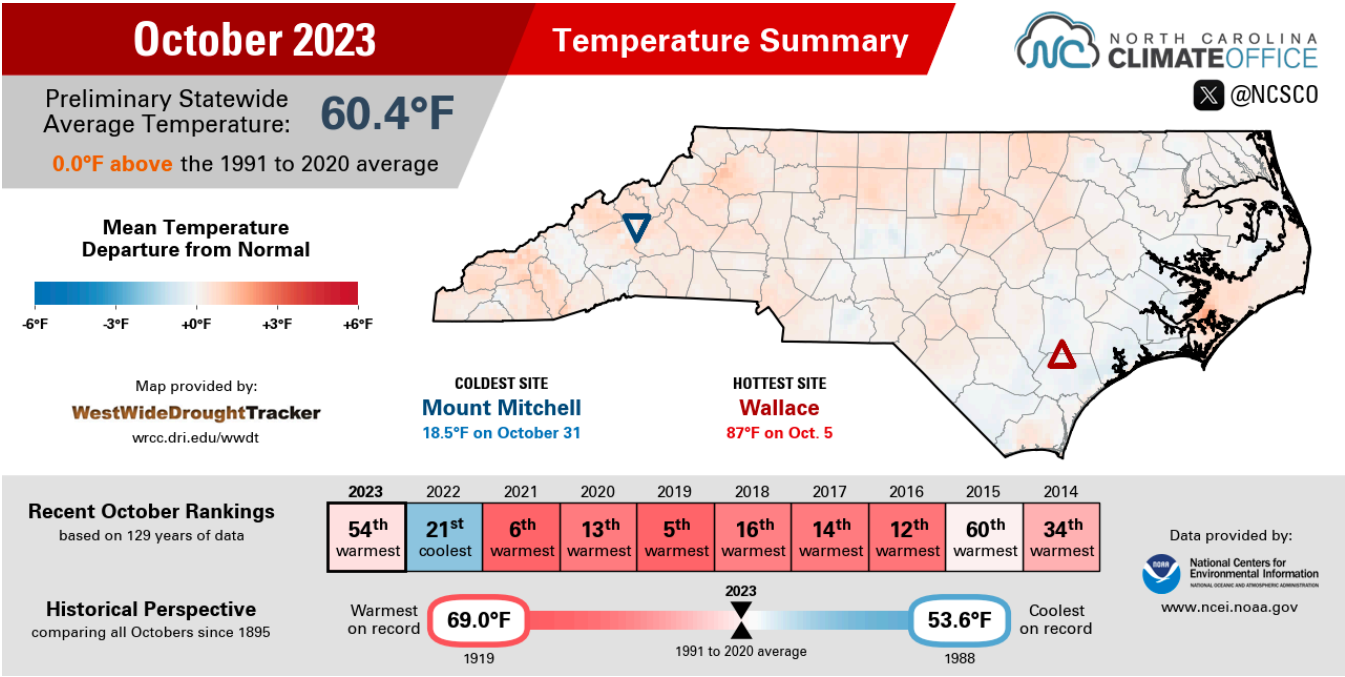
October 2023 was a very dry month across eastern North Carolina, with temperatures right around the 30-year average. Cooler and wet conditions dominated the middle of the month as troughing persisted over the eastern United States, but the first and especially final week ran warmer than average with hardly any measurable precipitation.

Eastern NC typically begins its dry season in October, and this month was no exception. According to an analysis by the National Centers for Environmental Information (NCEI), only 10-25% of expected precipitation fell across our area. **New Bern** picked up less than an inch of rain for the second October in a row; the last time this happened was 2000-2001. The lack of precipitation contributed to the development and expansion of drought conditions across much of the area, most starkly along the southern shore of the Albemarle Sound and the northern Outer Banks.

The November 2023 report will be published around December 31st, 2023.

TEMPERATURES

Temperatures were near climatological norms across North Carolina during October. The average temperature statewide for the month was 60.4°F, right in line with the 1991-2020 average. This was the 50th warmest September statewide since records began in 1895, with 129 years of data.



October 2023 Temperature Summary | Source: NC State Climate Office

Across Eastern North Carolina, temperatures were close to the statewide average. Both Cape Hatteras and New Bern recorded their 45th warmest Octobers since records began at those respective sites. Additional observations can be found in Appendix A.

MHX Select Site Temperature Statistics: October 2023

Site	Avg. High (°F)	Avg. Low (°F)	Avg. Temp (°F)	Normal (°F)	Departure (°F)
Beaufort (KMRH)	75.2	57.5	66.4	66.0	0.4
Hatteras (KHSE)	73.6	61.0	67.3	68.2	-0.9

Site	Avg. High (°F)	Avg. Low (°F)	Avg. Temp (°F)	Normal (°F)	Departure (°F)
New Bern (KEWN)	75.6	52.9	64.3	64.2	0.1

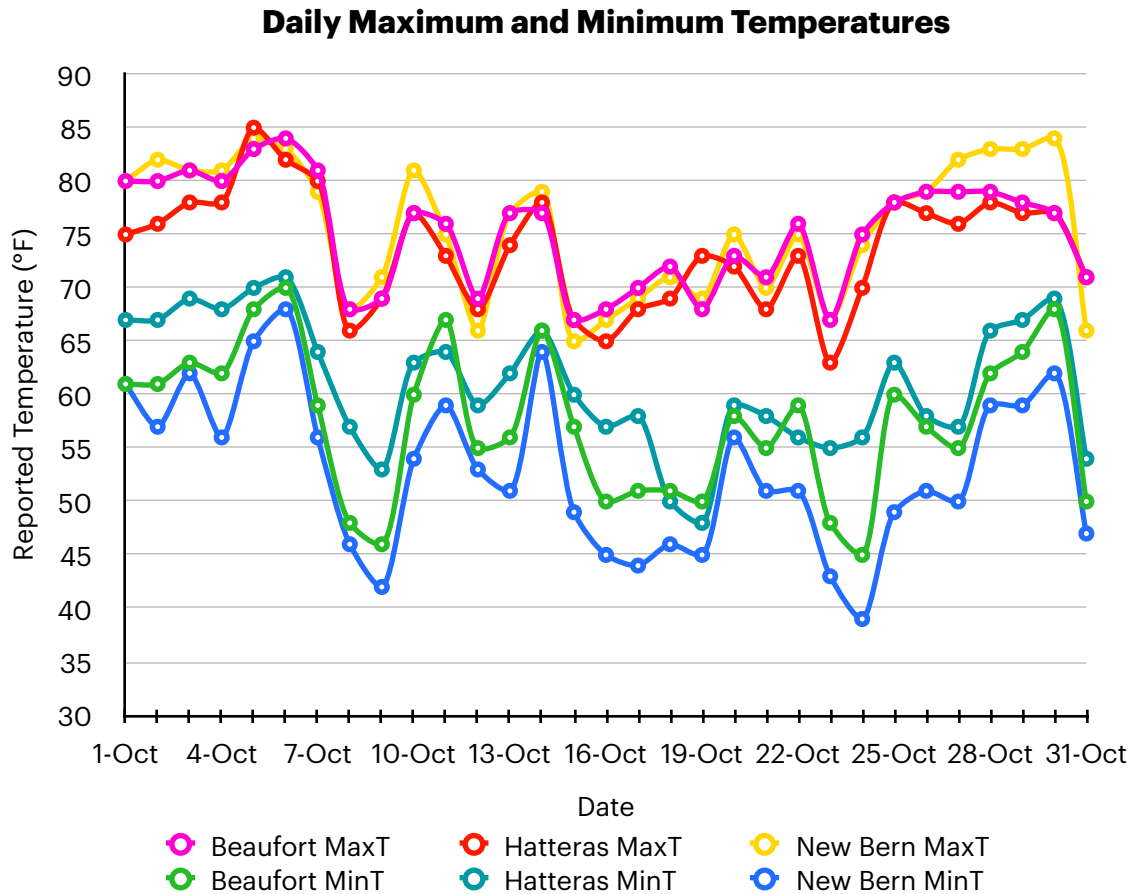
Normals are based on a period from 1990-2020.

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	63.3	62.5	0.8	56 W
Carteret	65.0	64.7	0.3	63 W
Craven	63.2	62.8	0.4	62 W
Dare	65.5	64.0	1.5	40 W
Duplin	62.4	62.0	0.4	60 W
Greene	62.0	61.5	0.5	62 W
Hyde	64.8	63.8	1	50 W
Jones	62.6	62.2	0.4	65 W
Lenoir	61.9	61.8	0.1	60 C
Martin	62.5	61.0	1.5	45 W
Onslow	63.5	63.0	0.5	61 W
Pamlico	64.1	63.8	0.3	65 W
Pitt	62.4	61.7	0.7	59 W
Tyrrell	64.2	62.7	1.5	42 W
Washington	63.1	61.6	1.5	45 W
Area Average	63.4	62.6	0.8	

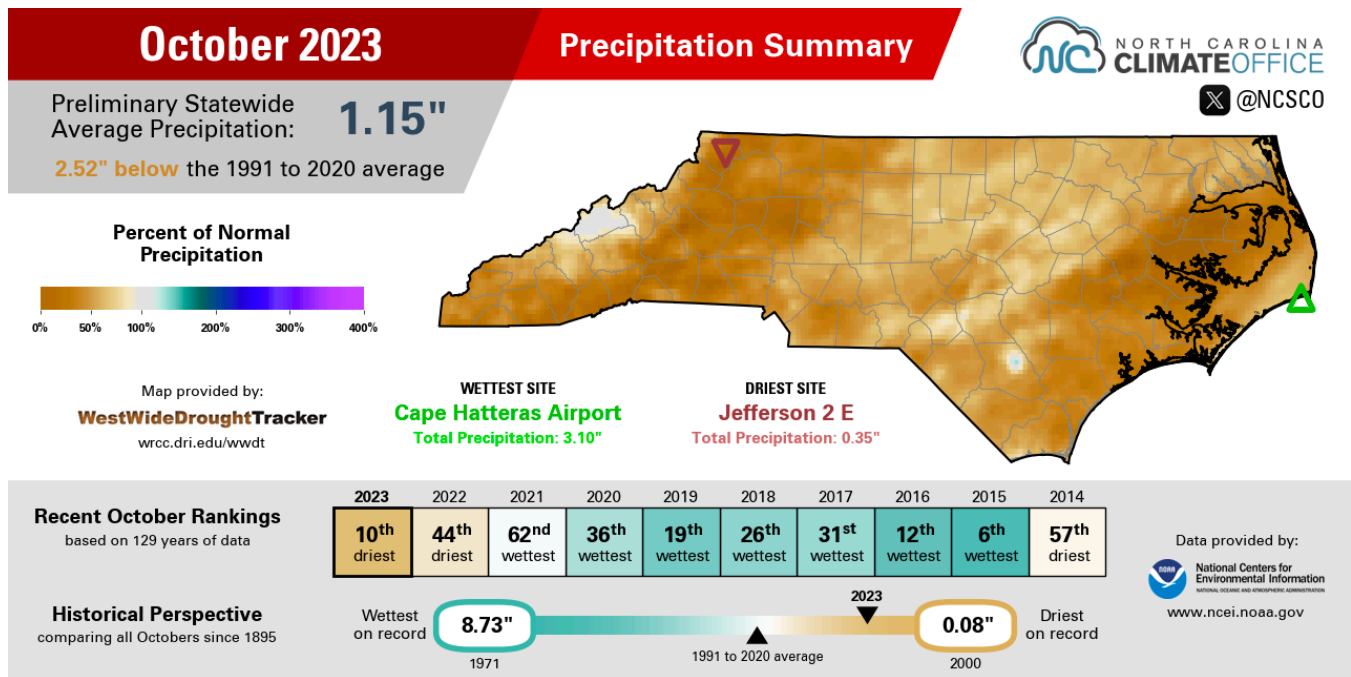
Means are based on a period from 1901-2000. For rankings, "C" designates coldest and "W" designates warmest.

October was book-ended by above-average temperatures at the beginning and end of the month, but a prolonged period of near or below-average temperatures in between. According to analysis from the [National Centers for Environmental Information \(NCEI\)](#), temperatures were within 3 degrees of normal the first week of October, 3-6 degrees below average during the second and third week, and then 6-9 degrees above average on the final week. No temperature records were set at New Bern or Hatteras.



PRECIPITATION

Analysis conducted by the North Carolina State Climate Office showed much drier than average conditions for October. Statewide, precipitation averaged a mere 1.15", or 2.52" below the 30-year average. This was the 10th driest October for the state since records began in 1895.



October 2023 Precipitation Summary | Source: NC State Climate Office

Eastern North Carolina was, on average, even drier than the rest of the state. Cape Hatteras recorded its 48th driest October on record, while New Bern recorded its 13th driest. Due to equipment issues, **Beaufort's** rainfall total relied partially on readings from a COOP site in Morehead City.

MHX Select Site Precipitation Statistics: October 2023

Site	Total Precipitation (in.)	Normal (in.)	Departure (in.)
Beaufort (KMRH)	1.54	4.14	-2.6
Hatteras (KHSE)	3.10	5.59	-2.49
New Bern (KEWN)	0.91	3.56	-2.65

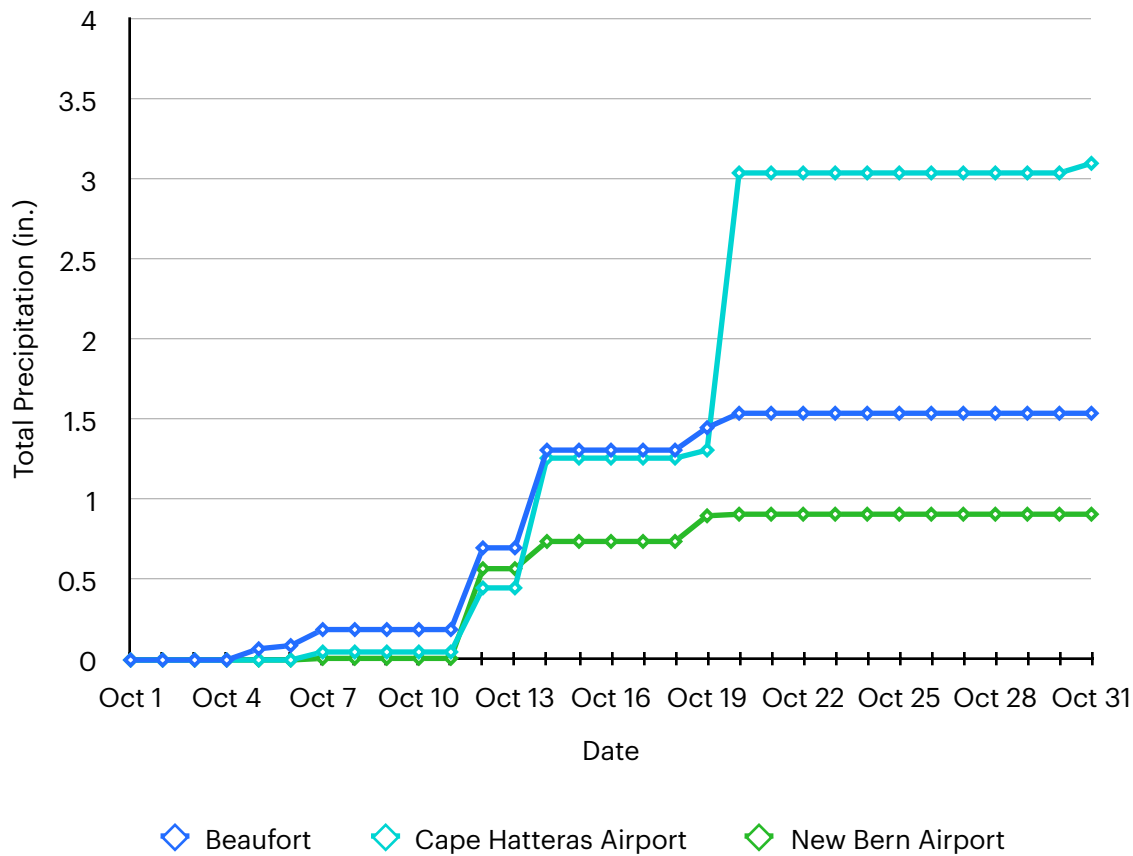
County-averaged statistics are presented in the following table. Like temperatures, mean and anomaly precipitation calculations are based on a period 1901-2000. Data courtesy of the National Centers for Environmental Information (NCEI).

County	Avg. Accum. (in.)	Mean (in.)	Departure (in.)	Rank
Beaufort	0.78	3.22	-2.44	8 D
Carteret	1.16	3.73	-2.57	15 D
Craven	0.85	3.22	-2.37	12 D
Dare	1.79	3.66	-1.87	27 D
Duplin	0.75	2.88	-2.13	11 D
Greene	0.89	2.87	-1.98	14 D
Hyde	1.34	3.50	-2.16	13 D
Jones	0.78	3.09	-2.31	12 D
Lenoir	0.66	2.87	-2.21	9 D
Martin	0.89	3.02	-2.13	12 D
Onslow	0.84	3.19	-2.35	14 D
Pamlico	0.98	3.46	-2.48	11 D
Pitt	0.87	2.95	-2.08	14 D
Tyrrell	1.20	3.37	-2.17	11 D
Washington	0.89	3.19	-2.3	11 D
Area Average	0.98	3.21	-2.24	

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

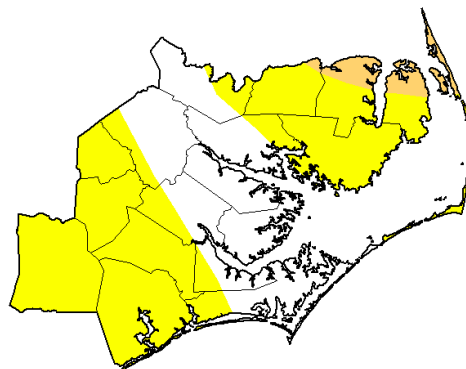
The only appreciable precip fell during the second and third weeks of the month when mid-level toughing tended to dominate the eastern United States. Even then, total precipitation during this time was only between 25-50% of normal. Taking the entire month in context, this October saw only 10-25% of expected precipitation across eastern North Carolina.

Monthly Accumulated Precipitation



The lack of rainfall contributed to developing and expanding drought conditions across our area in October. The most notable change in conditions was across the Northern Outer Banks and areas along the southern Albemarle Sound, where D1 conditions were in place after having no drought at the end of September.

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



October 31, 2023
(Released Thursday, Nov. 2, 2023)
Valid 8 a.m. EDT

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	34.38	65.62	3.97	0.00	0.00	0.00
Last Week 10-24-2023	96.66	3.34	0.00	0.00	0.00	0.00
3 Months Ago 08-01-2023	99.14	0.86	0.00	0.00	0.00	0.00
Start of Calendar Year 01-01-2023	0.00	100.00	63.79	0.00	0.00	0.00
Start of Water Year 09-26-2022	100.00	0.00	0.00	0.00	0.00	0.00
One Year Ago 10-01-2022	14.12	85.88	14.69	0.00	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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National Drought Mitigation Center



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: October 2023

Site	Avg. High (°F)	Avg. Low (°F)	Avg. Temp (°F)	Normal (°F)	Departure (°F)
Greenville	73.4	51.8	62.6	63.0	-0.4
Kinston	75.5	50.4	63.0	64.6	-1.7
Williamston	74.6	50.5	62.6	62.6	-0.1
Plymouth	74.9	51.9	63.4	63.5	-0.1
Bayboro	74.8	49.3	62.1	63.1	-1.1
Manteo	73.4	58.7	66.1	64.8	1.3

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

Maximum and Minimum Monthly Temperatures: October 2023

Site	Max High (°F)	Date Observed	Min Low (°F)	Date Observed
Beaufort (KMRH)	84	Oct 6	45	Oct 24
Hatteras (KHSE)	85	Oct 5	48	Oct 19
New Bern (KEWN)	84	Oct 5,30	39	Oct 24
Greenville	83	Oct 5	37	Oct 24
Kinston	85	Oct 29,31	37	Oct 24-25
Williamston	84	Oct 29,31	39	Oct 24
Plymouth	84	Oct 30	38	Oct 24
Bayboro	84	Oct 30-31	38	Oct 24-25
Manteo	92	Oct 4	48	Oct 19

APPENDIX B: ADDITIONAL PRECIPITATION DATA

Cooperative Observation Site Precipitation Statistics: October 2023

Site	Total Precipitation (in.)	Normal (in.)	Departure (in.)
Greenville	0.98	3.57	-2.59
Kinston	0.58	3.56	-2.98
Williamston	0.86	4.29	-3.43
Plymouth	0.88	4.14	-3.26
Bayboro	0.98	4.19	-3.21

Sites in red have missing data in their record.

CoCoRaHS Monthly Accumulated Precipitation: October 2023

Site	County	Amount (in.)
Pantego 0.4 WSW	Beaufort	0.55
Bath 1.6 SSE	Beaufort	0.20
Atlantic Beach 0.6 W	Carteret	1.53
Morehead City 0.6 NW	Carteret	1.52
Cape Carteret 1.5 NE	Carteret	1.52
Pine Knoll Shores 1.4 E	Carteret	1.48
Cedar Point 0.9 WSW	Carteret	1.43
Cape Carteret 0.8 NE	Carteret	1.40
Beaufort 3.4 NNW	Carteret	1.36
Beaufort 5.3 N	Carteret	1.34
Cedar Point 0.7 NNE	Carteret	1.32

Site	County	Amount (in.)
Beaufort 3.8 N	Carteret	1.29
Beaufort 12.1 N	Carteret	1.28
Cedar Point 0.4 WSW	Carteret	1.28
Swansboro 2.7 NE	Carteret	1.20
Morehead City 2.9 WNW	Carteret	1.17
Cedar Island 0.3 SSE	Carteret	1.16
Newport 1.7 SSE	Carteret	1.09
Newport 2.5 W	Carteret	1.05
Newport 0.2 SW	Carteret	1.02
Stella 2.5 SE	Carteret	1.02
Indian Beach 0.0W	Carteret	0.98
Newport 1.0 N	Carteret	0.95
Morehead City 6.0 WNW	Carteret	0.57
Trent Woods 1.3 SSE	Craven	1.16
Trent Woods 1.0 NNE	Craven	1.15
Trent Woods 1.2 ENE	Craven	1.13
New Bern 3.8 S	Craven	1.11
New Bern 2.6 SW	Craven	1.10
New Bern 5.3 SW	Craven	1.09
New Bern 2.9 SSE	Craven	1.01
New Bern 7.3 ESE	Craven	0.98
New Bern 1.3 NNE	Craven	0.96
Bridgeton 0.3 SSE	Craven	0.86

Site	County	Amount (in.)
Buxton 0.3 ENE	Dare	2.70
Rodanthe 1.0 SSE	Dare	1.61
Southern Shores 0.5 NNE	Dare	0.97
Wallace 14.8 E	Duplin	1.01
Rose Hill 0.1 NNW	Duplin	0.85
Mount Olive 6.0 SE	Duplin	T
Snow Hill 3.1 NNE	Greene	1.02
Ayden 6.5 WNW	Greene	0.45
Ocracoke 0.2 ESE	Hyde	2.50
Ocracoke 0.6 SW	Hyde	2.17
Engelhard 0.8 NW	Hyde	1.06
SQ Tower	Hyde	0.63
Kinston 7.0 SW	Lenoir	0.72
Kinston 3.7 WNW	Lenoir	0.66
Kinston 5.1 WNW	Lenoir	0.62
Kinston 4.4 WNW	Lenoir	0.59
Jamesville 6.1 SW	Martin	0.54
Williamston 8.9 SSE	Martin	0.42
Jacksonville 2.4 NNE	Onslow	1.23
Holly Ridge 3.7 E	Onslow	1.22
Holly Ridge 9.0 ENE	Onslow	1.11
Hubert 4.9 SE	Onslow	1.05
Swansboro 2.8 WSW	Onslow	1.03

Site	County	Amount (in.)
Sneads Ferry 1.2 SSW	Onslow	1.01
Jacksonville 4.5 NW	Onslow	0.96
Jacksonville 5.4 WSW	Onslow	0.83
Sneads Ferry 3.3 SW	Onslow	0.83
Oriental 5.2 NE	Pamlico	0.98
Merritt 1.5 WSW	Pamlico	0.91
Oriental 4.3 NNW	Pamlico	0.90
Oriental 1.9 WSW	Pamlico	0.89
Lowland 0.2 SE	Pamlico	0.59
Fountain 0.1 NE	Pitt	1.23
Winterville 1.0 ENE	Pitt	0.46
Winterville 3.5 W	Pitt	0.40
Greenville 7.1 SSE	Pitt	0.37
Greenville 4.4 SSE	Pitt	0.33
Greenville 5.0 SE	Pitt	0.29
Roper 2.4 NE	Washington	0.43

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