

PUBLISH DATE: OCTOBER 2, 2023

**EASTERN NORTH CAROLINA
MONTHLY CLIMATE REPORT**

**AUGUST
2023**

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

National Weather Service

NEWPORT/MOREHEAD CITY, NC

MONTHLY SUMMARY

August 2023 was very warm and mostly dry before Tropical Storm Idalia impacted the area at the end of the month. After a surprisingly cool start to the month, setting a couple of low-temperature records, temperatures rebounded and remained modestly (but persistently) above average for the rest of the month. Many sites saw this August fall in their top 10 warmest on record, with New Bern and Hatteras coming in 7th and 8th, respectively.

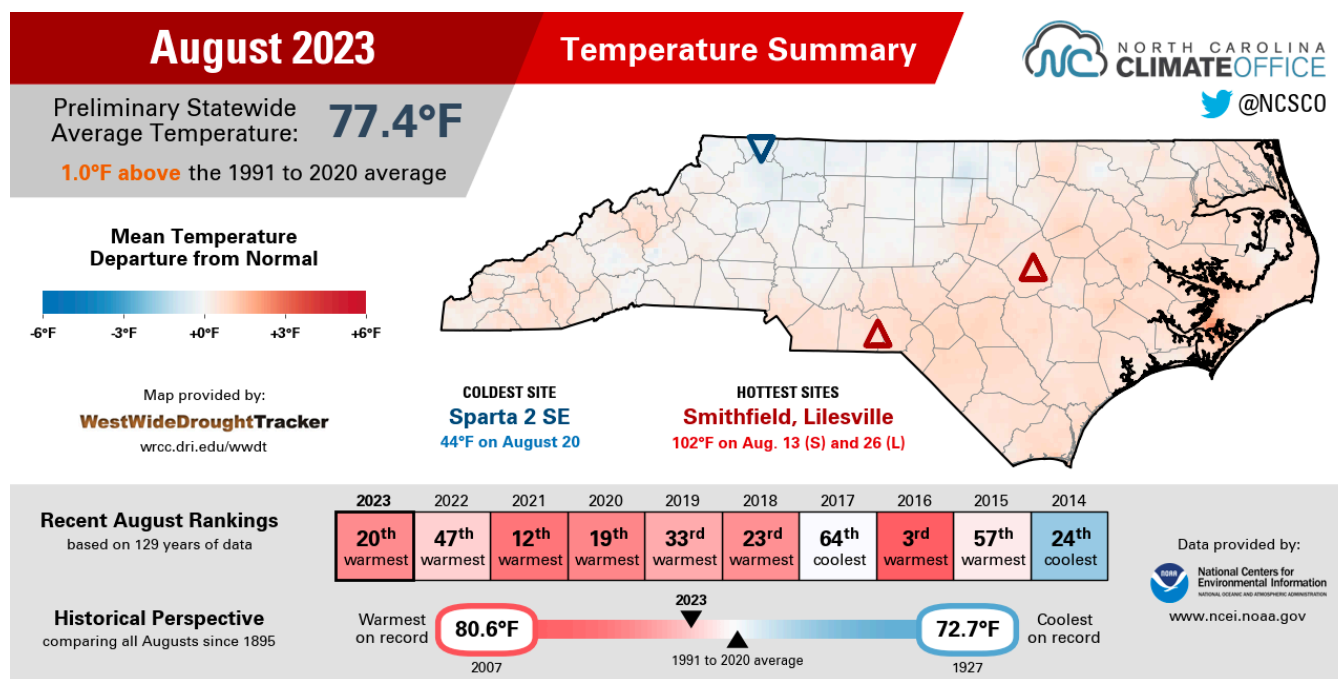
Precipitation was hard to come by for much of the month, and we would've likely ended well below average if it wasn't for Tropical Storm Idalia, which brought up to half a foot of rain to portions of the Outer Banks and the Crystal Coast. While some spots did end August with over a foot of rain, precipitation area-wide only averaged between 75-125% of normal. Abnormally dry conditions expanded slightly in August, according to the U.S. Drought Monitor.

For more information on Tropical Storm Idalia, visit the Tropical Event Summary page at <https://www.weather.gov/mhx/TropicalEventSummary>. The observational data summary and impacts report are good starting places, with more detailed information available in CSV files.

The September 2023 report will be published around November 1st, 2023.

TEMPERATURES

Above-average temperatures prevailed across North Carolina in August. The average temperature statewide for the month was 77.4°F or 1.0°F above the 1991-2020 average. This was the 20th warmest August statewide since records began in 1895, with 129 years of data.



August 2023 Temperature Summary | Source: NC State Climate Office

Eastern North Carolina temperatures were generally higher than the statewide average. New Bern recorded its 7th warmest August on record, while Hatteras saw its 8th warmest. Additional observations can be found in Appendix A.

MHX Select Site Temperature Statistics: August 2023

Site	Avg. High (°F)	Avg. Low (°F)	Avg. Temp (°F)	Normal (°F)	Departure (°F)
Beaufort (KMRH)	86.4	73.9	80.2	79.5	0.7
Hatteras (KHSE)	86.7	75.3	81.0	80.7	0.3

Site	Avg. High (°F)	Avg. Low (°F)	Avg. Temp (°F)	Normal (°F)	Departure (°F)
New Bern (KEWN)	90.6	71.9	81.3	78.9	2.4

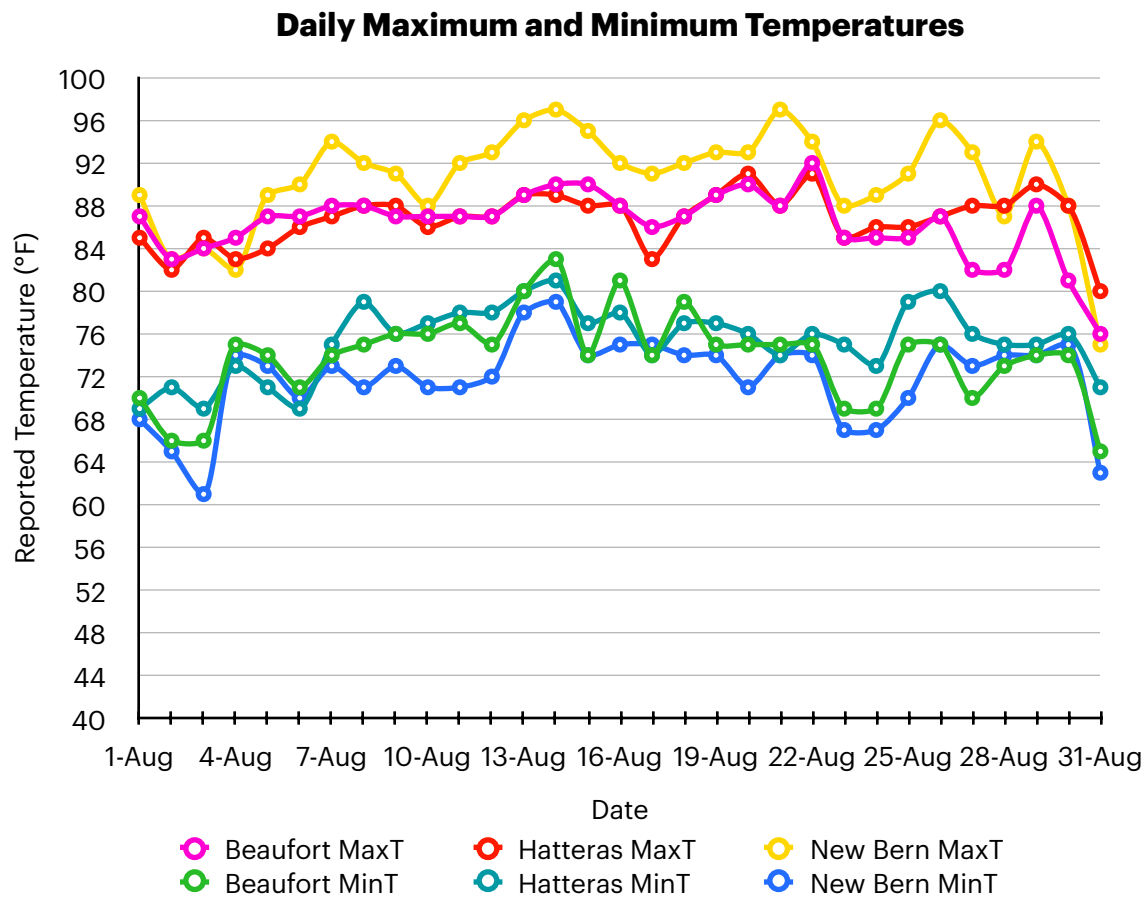
Normals are based on a period from 1990-2020.

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	80.0	77.8	2.2	12 W
Carteret	80.7	78.7	2	11 W
Craven	80.3	77.8	2.5	6 W
Dare	80.8	78.2	2.6	8 W
Duplin	80.6	77.6	3	4 W
Greene	80.2	77.6	2.6	6 W
Hyde	80.7	78.5	2.2	10 W
Jones	80.2	77.5	2.7	5 W
Lenoir	80.5	77.7	2.8	4 W
Martin	79.4	77.0	2.4	12 W
Onslow	80.5	77.8	2.7	5 W
Pamlico	80.4	78.5	1.9	17 W
Pitt	79.5	77.6	1.9	18 W
Tyrrell	80.4	77.7	2.7	9 W
Washington	79.7	77.2	2.5	14 W
Area Average	80.3	77.8	2.4	

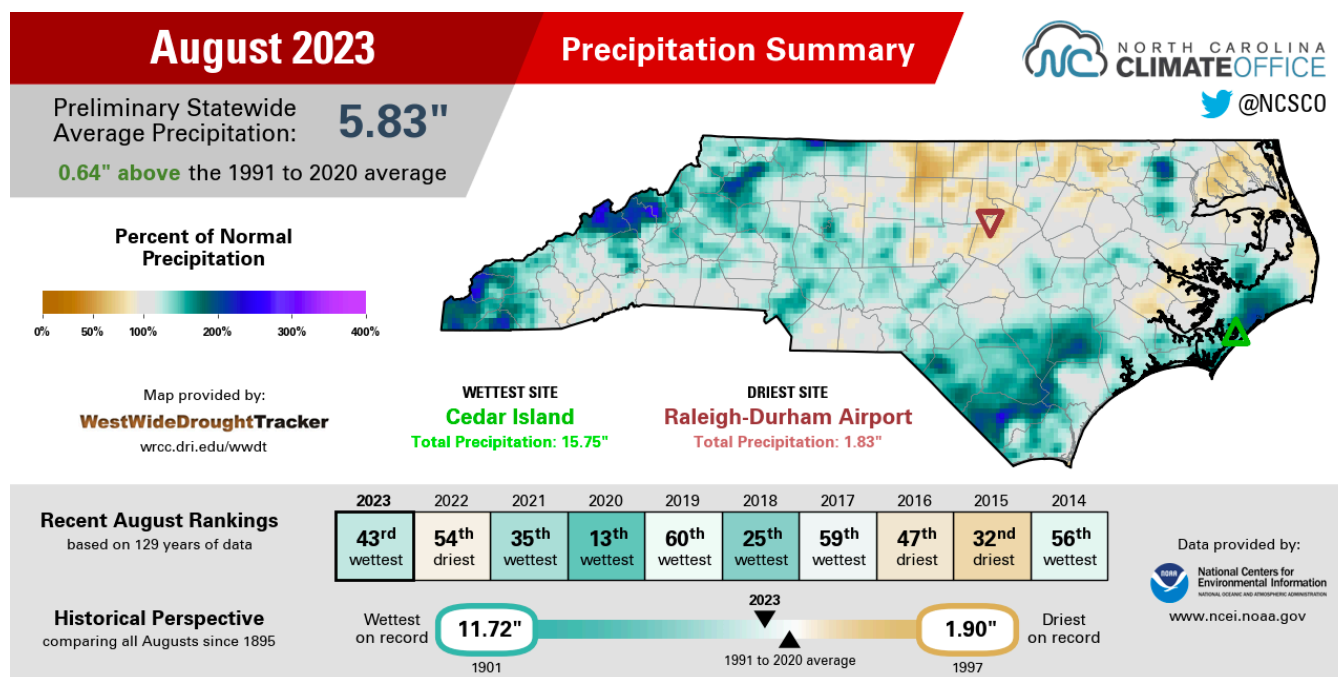
Means are based on a period from 1901-2000. For rankings, "C" designates coldest and "W" designates warmest.

August 2023 started off on a slightly cooler than average with the first third of the month seeing average temperature departures of up to 3 degrees below normal. **New Bern** set a daily record low of 61 on the 3rd, breaking the old record of 63 set in 1959. By mid-month, however, the heat was back on with average temperatures of 3-6 degrees above average region wide. **New Bern** set a daily high record of 96 on the 13th , besting the old record of 95 set in 1933. **Cape Hatteras** also saw impressive heat, hitting 91 degrees on the 22nd and tying a record from 2005.



PRECIPITATION

Analysis conducted by the North Carolina State Climate Office showed generally wetter than average conditions for August, with statewide average precipitation of 5.83", or 0.64" above normal. This was the 43rd wettest August for the state since records began in 1895.



August 2023 Precipitation Summary | Source: NC State Climate Office

Eastern North Carolina was generally wetter than the statewide average, although totals along the Crystal Coast were well above average owing to the passage of Tropical Storm Idalia. Several monthly totals here were above one foot. New Bern saw its 36th driest August on record, while Hatteras recorded its 15th wettest.

MHX Select Site Precipitation Statistics: August 2023

Site	Total Precipitation (in.)	Normal (in.)	Departure (in.)
Beaufort (KMRH)	12.29	7.29	5
Hatteras (KHSE)	10.58	6.73	3.85
New Bern (KEWN)	5.50	6.81	-1.31

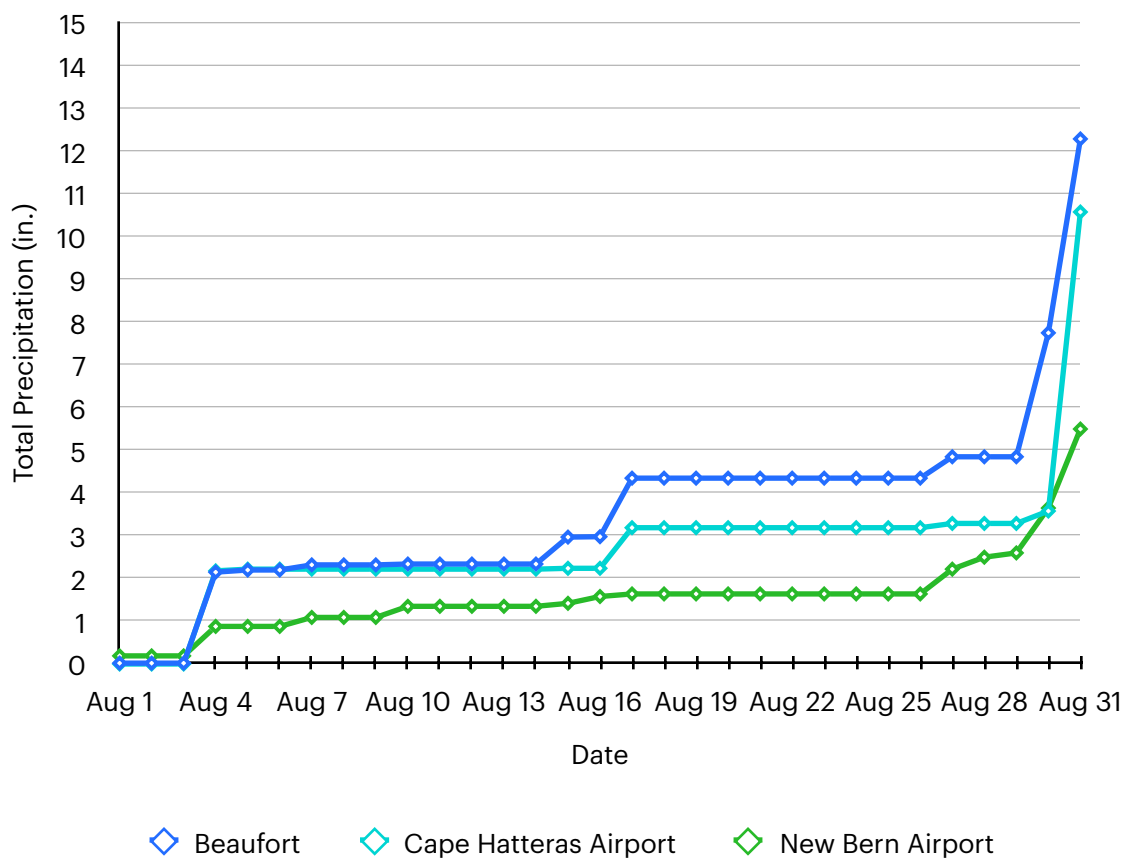
County-averaged statistics are presented in the following table. Like temperatures, mean and anomaly precipitation calculations are based on a period 1901-2000. Data courtesy of the National Centers for Environmental Information (NCEI).

County	Avg. Accum. (in.)	Mean (in.)	Departure (in.)	Rank
Beaufort	6.89	6.18	0.71	42 W
Carteret	9.07	6.87	2.2	31 W
Craven	7.15	6.47	0.68	46 W
Dare	5.94	5.78	0.16	56 W
Duplin	7.59	5.86	1.73	25 W
Greene	6.13	5.47	0.66	38 W
Hyde	7.82	6.19	1.63	34 W
Jones	7.14	6.33	0.81	46 W
Lenoir	6.61	5.73	0.88	42 W
Martin	5.43	5.58	-0.15	57 W
Onslow	8.43	6.57	1.86	26 W
Pamlico	8.24	6.69	1.55	35 W
Pitt	6.07	5.64	0.43	43 W
Tyrrell	5.92	5.90	0.02	60 W
Washington	5.93	5.82	0.11	57 W
Area Average	6.96	6.07	0.89	

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

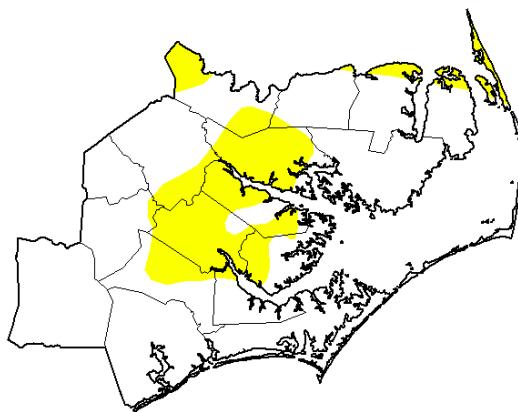
Precipitation ran below average for almost the entire month, with only a few passing convective events boosting totals. Tropical Storm Idalia’s rainfall at the end of the month managed to push areas generally south of Highway 64 to around or above average, while areas farther north still ran a deficit. Monthly totals area-wide ended up ranging from around 75-125% of normal, according to analysis from the National Centers for Environmental Information (NCEI).

Monthly Accumulated Precipitation



Despite the beneficial rainfall from Idalia at the end of the month, drought conditions modestly expanded across eastern NC in August, although no area saw moderate drought or worse. Seasonal outlooks favor little or no drought through the next three months.

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



September 5, 2023

(Released Thursday, Sep. 7, 2023)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	76.55	23.45	0.00	0.00	0.00	0.00
Last Week 08-29-2023	12.10	87.90	28.19	0.00	0.00	0.00
3 Months Ago 06-06-2023	80.93	19.07	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 09-27-2022	0.00	100.00	42.11	0.00	0.00	0.00
One Year Ago 09-06-2022	87.45	12.55	0.00	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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CPC/NOAA/NWS/NCEP



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: August 2023

Site	Avg. High (°F)	Avg. Low (°F)	Avg. Temp (°F)	Normal (°F)	Departure (°F)
Greenville	88.6	70.3	79.5	79.0	0.5
Kinston	91.1	70.5	80.8	79.2	1.6
Williamston	89.9	70.2	80.1	78.4	1.7
Plymouth	89.0	69.8	79.4	78.3	1.1
Bayboro	90.1	70.4	80.3	77.9	2.4
Manteo	87.7	74.4	81.1	78.2	2.9

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

Maximum and Minimum Monthly Temperatures: August 2023

Site	Max High (°F)	Date Observed	Min Low (°F)	Date Observed
Beaufort (KMRH)	92	Aug 22	65	Aug 31
Hatteras (KHSE)	91	Aug 20,22	69	Aug 1,3,6
New Bern (KEWN)	97	Aug 14,21	61	Aug 3
Greenville	100	Aug 15	61	Aug 3
Kinston	99	Aug 14,16	59	Aug 3
Williamston	98	Aug 14	60	Aug 3
Plymouth	96	Aug 13-15	57	Aug 3
Bayboro	96	Aug 14-15	60	Aug 3
Manteo	96	Aug 16,20	65	Aug 6

APPENDIX B: ADDITIONAL PRECIPITATION DATA

Cooperative Observation Site Precipitation Statistics: August 2023

Site	Total Precipitation (in.)	Normal (in.)	Departure (in.)
Greenville	7.39	6.01	1.38
Kinston	6.24	6.36	-0.12
Williamston	6.46	5.70	0.76
Plymouth	6.25	6.60	-0.35
Bayboro	8.99	7.85	1.14

Sites in red have missing data in their record.

CoCoRaHS Monthly Accumulated Precipitation: August 2023

Site	County	Amount (in.)
Pantego 0.4 WSW	Beaufort	4.91
Bath 1.6 SSE	Beaufort	4.08
Beaufort 12.1 N	Carteret	15.44
Beaufort 5.3 N	Carteret	13.26
Beaufort 3.8 N	Carteret	12.31
Beaufort 0.5 W	Carteret	11.86
Morehead City 0.6 W	Carteret	11.83
Atlantic Beach 0.6 W	Carteret	11.72
Morehead City 2.9 WNW	Carteret	10.83
Pine Knoll Shores 1.4 E	Carteret	10.70
Pine Knoll Shores 0.3 NE	Carteret	10.48

Site	County	Amount (in.)
Morehead City 6.0 WNW	Carteret	10.38
Newport 1.7 SSE	Carteret	9.98
Newport 0.2 SW	Carteret	9.78
Newport 1.0 N	Carteret	9.75
Emerald Isle 2.1 E	Carteret	9.33
Cape Carteret 1.0 NNW	Carteret	8.88
Swanboro 2.7 NE	Carteret	8.78
Swansboro 3.7 NNE	Carteret	8.77
Cedar Point 0.9 WSW	Carteret	6.80
New Bern 7.3 ESE	Craven	9.29
Bridgeton 0.3 SSE	Craven	9.15
New Bern 2.9 SSE	Craven	8.85
Trent Woods 1.2 ENE	Craven	8.63
Trent Woods 1.0 NNE	Craven	8.35
New Bern 2.6 SW	Craven	7.17
New Bern 5.3 SW	Craven	6.84
New Bern 3.8 S	Craven	6.68
New Bern 4.2 S	Craven	6.59
Trent Woods 1.3 SSE	Craven	5.42
Rodanthe 1.0 SSE	Dare	5.09
Southern Shores 0.5 NNE	Dare	3.32
Wallace 14.8 E	Duplin	10.48
Albertson 1.2 WNW	Duplin	9.05

Site	County	Amount (in.)
Mount Olive 6.0 SE	Duplin	7.20
Ayden 6.5 WNW	Greene	7.25
SQ Tower	Hyde	7.45
Kinston 3.7 WNW	Lenoir	8.23
Kinston 5.1 WNW	Lenoir	7.83
Kinston 4.4 WNW	Lenoir	7.76
Kinston 4.7 ESE	Lenoir	6.66
Kinson 7.0 SW	Lenoir	3.91
Jamesville 6.1 SW	Martin	4.81
Swansboro 3.3 NW	Onslow	13.74
Swansboro 2.8 WSW	Onslow	11.98
Jacksonville 2.4 NNE	Onslow	11.24
Jacksonville 1.0 NW	Onslow	10.52
Jacksonville 4.5 NW	Onslow	10.30
Sneads Ferry 3.3 SW	Onslow	9.98
Holly Ridge 9.0 ENE	Onslow	8.77
Oriental 4.3 NNW	Pamlico	8.38
Meritt 1.5 WSW	Pamlico	8.35
Oriental 1.9 WSW	Pamlico	8.17
Oriental 2.1 WSW	Pamlico	7.52
Greenville 2.8 ESE	Pitt	9.15
Greenville 5.0 SE	Pitt	6.88
Greenville 4.4 SSE	Pitt	6.48

Site	County	Amount (in.)
Greenville 7.1 SSE	Pitt	5.84
Winterville 2.5 NNW	Pitt	5.81
Winterville 2.8 WNW	Pitt	5.48
Winterville 3.5 W	Pitt	5.40
Fountain 0.1 NE	Pitt	4.99
Columbia 0.8 NNE	Tyrrell	6.86
Roper 2.4 NE	Washington	7.08

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