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EASTERN NORTH CAROLINA MONTHLY CLIMATE REPORT

JUNE 2024

WEATHER FORECAST OFFICE
NEWPORT/MOREHEAD CITY, NC

National Weather Service

NEWPORT/MOREHEAD CITY, NC

MONTHLY SUMMARY

June in eastern North Carolina saw near-record dryness as prolonged periods of upper-level ridging kept rainfall at bay. Although many areas did see shower and thunderstorm activity, primarily around the beginning and end of the months, they did little more to contribute a quick inch or so of rainfall at a time. New Bern recorded under an inch of rain in June, their 2nd driest since local records began. According to analysis from the National Center for Environmental Information (NCEI), the area's average rainfall ended at a measly one and three-quarter inches.

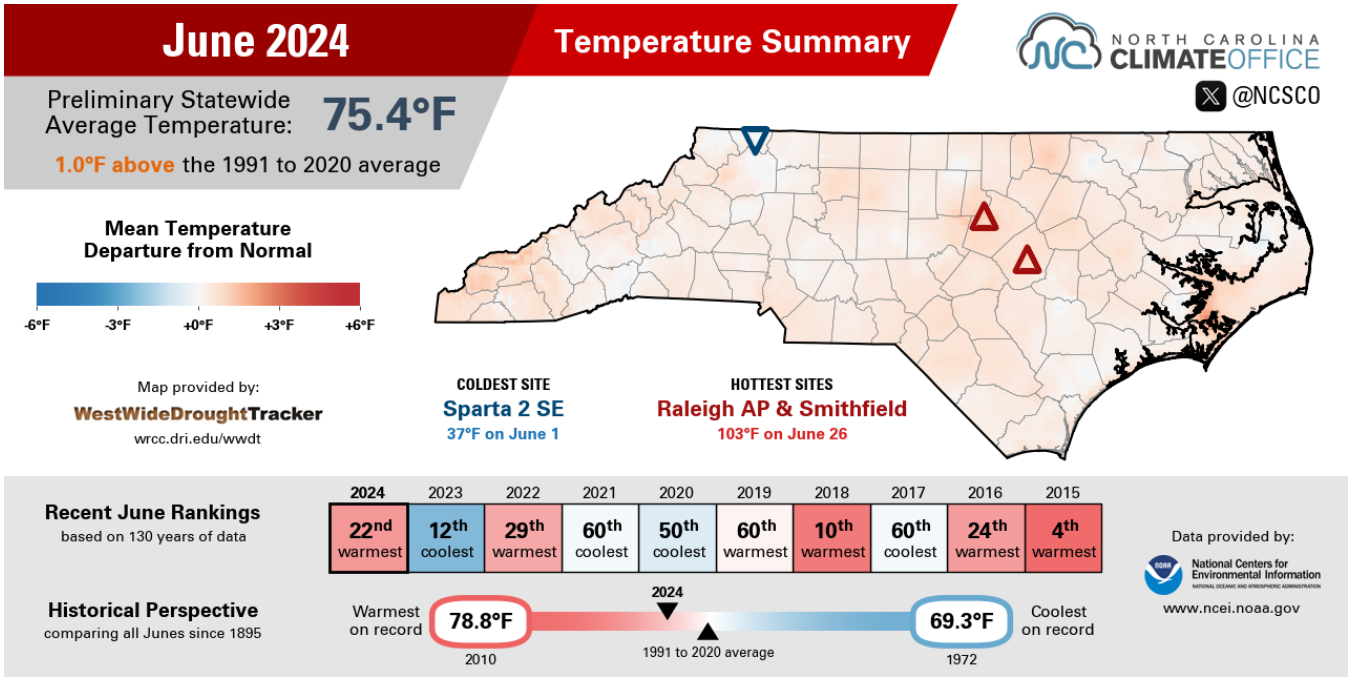
Temperatures remained modestly above average for yet another month, with the warmest period focused at the end of June as the area came under the influence of a strong sub-tropical ridge. The most noticeable temperature increase was seen more in overnight lows than daytime highs, as increasing moisture kept temperatures from dropping below 70. The area's average temperature for the month was 77.7°F, with most regions ending within 3 degrees of the 30-year average.

The combination of heat and dry weather contributed to a rapid expansion of drought conditions across eastern NC. By the end of the month, all areas in the region were abnormally dry (D0), with a third of the region experiencing severe (D2) drought.

The July 2024 report will be published around the end of August.

TEMPERATURES

June continued the streak of above-average temperatures in North Carolina. The average temperature for the month was 75.4°F, or 1.0°F above the 1991-2020 average. This was the 22nd warmest June since records began in 1895, with 130 years of data.



June 2024 Temperature Summary | Source: NC State Climate Office

Across Eastern North Carolina, temperatures were close to the statewide average and about 2.4°F above the 20th-century average. Since their respective records began, June 2024 was the 22nd warmest at New Bern and the 11th warmest at Cape Hatteras. Additional observations can be found in Appendix A.

MHX Select Site Temperature Statistics: June 2024

Site	Avg. High (°F)	Avg. Low (°F)	Avg. Temp (°F)	Normal (°F)	Departure (°F)
Beaufort (KMRH)	86.0	72.3	79.2	77.3	*1.9*
Hatteras (KHSE)	85.2	70.7	78.0	77.5	*0.5*

Site	Avg. High (°F)	Avg. Low (°F)	Avg. Temp (°F)	Normal (°F)	Departure (°F)
New Bern (KEWN)	89.6	67.6	78.6	77.0	*1.6*

Normals are based on a period from 1990-2020.

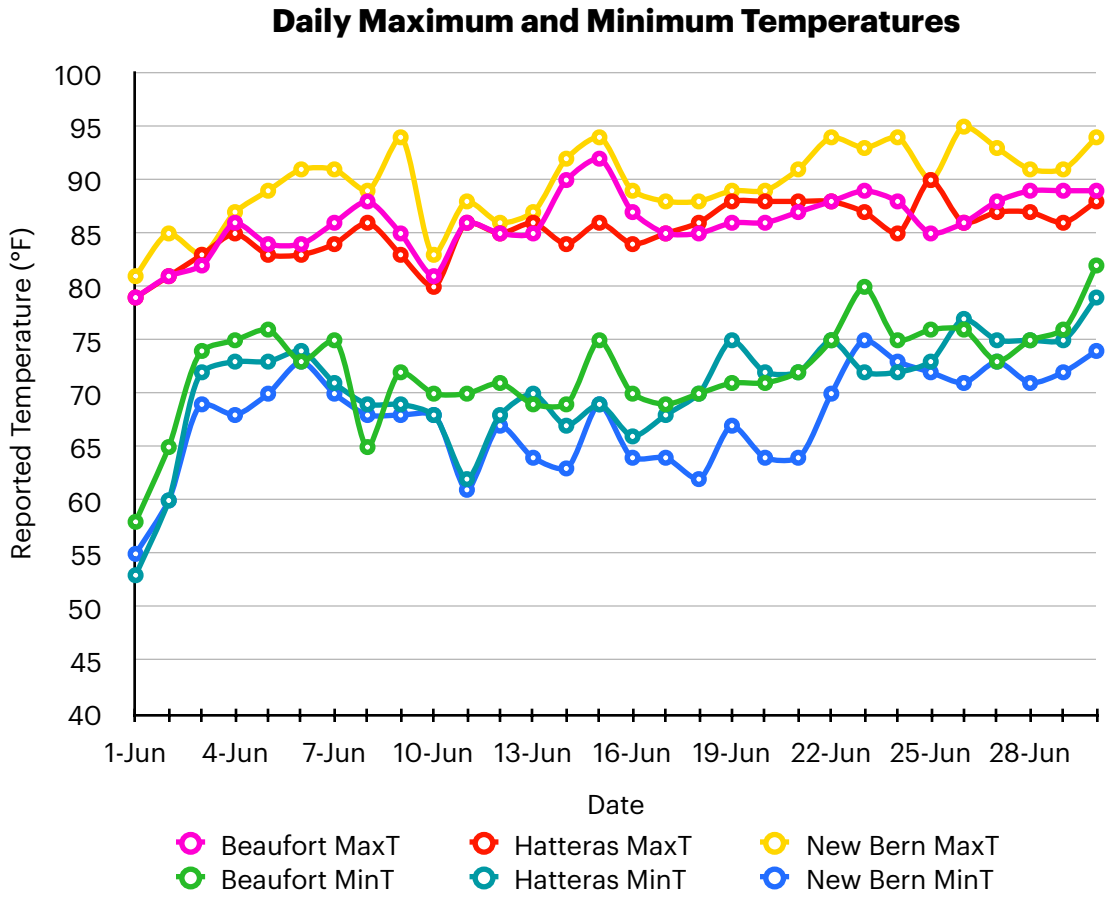
County-averaged statistics are presented in the following table. Note that mean temperature and anomaly calculations are based on a period of 1901-2000, rather than 1990-2020. Data courtesy of the National Centers for Environmental Information (NCEI).

County	Avg. Temperature (°F)	Mean (°F)	Departure (°F)	Rank
Beaufort	77.8	75.5	**2.3**	18 W
Carteret	78.2	75.9	**2.3**	17 W
Craven	77.7	75.3	**2.4**	17 W
Dare	77.7	74.9	**2.8**	12 W
Duplin	77.6	75.4	**2.2**	17 W
Greene	77.7	75.5	**2.2**	20 W
Hyde	78.3	75.7	**2.6**	15 W
Jones	77.4	75.1	**2.3**	17 W
Lenoir	77.4	75.4	**2.0**	22 W
Martin	77.5	74.8	**2.7**	15 W
Onslow	77.9	75.4	**2.5**	15 W
Pamlico	78.0	76.0	**2.0**	19 W
Pitt	77.8	75.4	**2.4**	20 W
Tyrrell	77.7	75.0	**2.7**	15 W
Washington	77.4	74.8	**2.6**	18 W
Area Average	**77.7**	**75.3**	**2.4**	

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

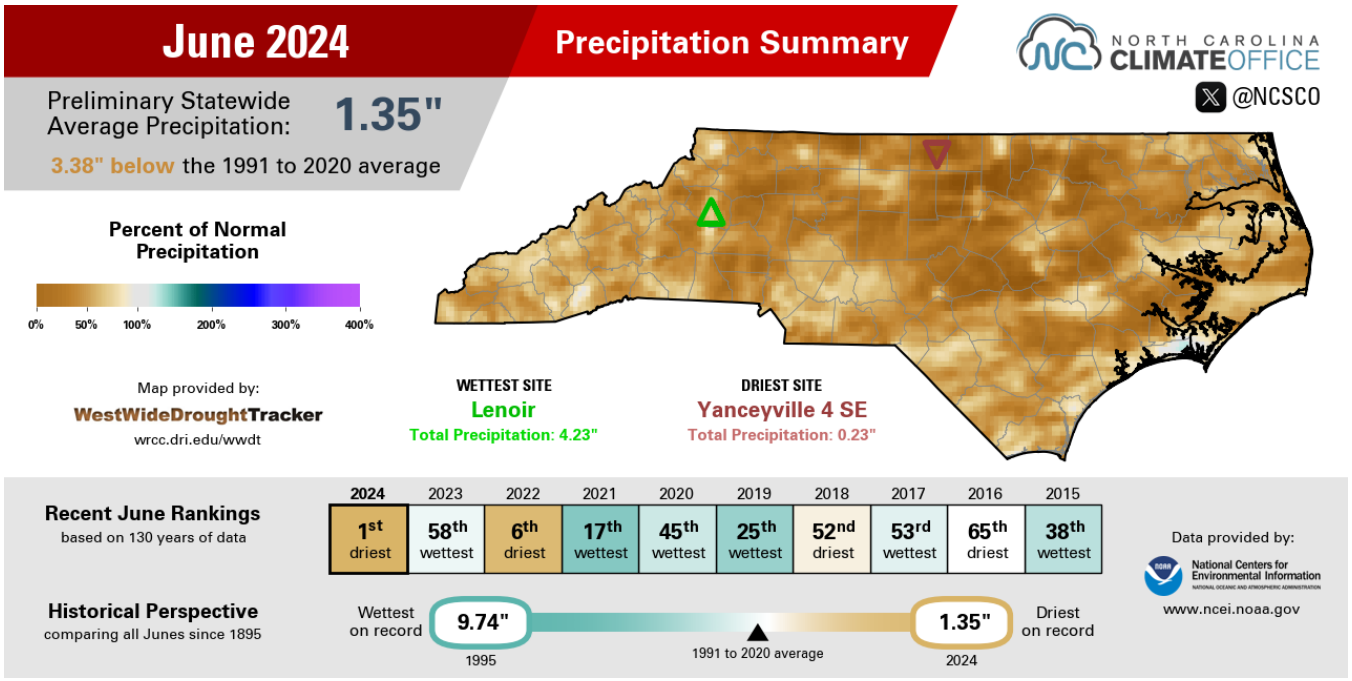
The upper air pattern for the first half of June was similar to that of the end of May, characterized by modest troughing over the eastern half of the country and near-average temperatures across the Carolinas. By the middle of the month, more pronounced ridging had built back overhead, although New England had seen more pronounced heat from this feature. Temperature anomalies over eastern NC were highest during the end of the month as a strong and persistent subtropical ridge extended over much of the southern U.S., nudging temperatures to 3-6 degrees above average, according to NCEI. Much of this jump is owed to an increase in overnight lows.

No temperature records were set at local climate stations in June.



PRECIPITATION

Analysis conducted by the North Carolina State Climate Office showed considerable precipitation deficits across the state in June. Statewide, precipitation averaged a mere 1.35", or 3.38" above the 30-year average. This was the driest observed June for the state since records began in 1895.



June 2024 Precipitation Summary | Source: NC State Climate Office

Eastern North Carolina was generally as dry as the rest of the state, save for a few spots that experienced rare shower and thunderstorm activity. New Bern recorded its 2nd driest June, while Cape Hatteras recorded its 50th driest. For ten of our fifteen counties, this June was among the 5 driest in their respective histories.

MHX Select Site Precipitation Statistics: June 2024

Site	Total Precipitation (in.)	Normal (in.)	Departure (in.)
Beaufort (KMRH)	3.22	4.06	*-0.84*
Hatteras (KHSE)	2.96	4.41	*-1.45*
New Bern (KEWN)	0.89	4.60	*-3.71*

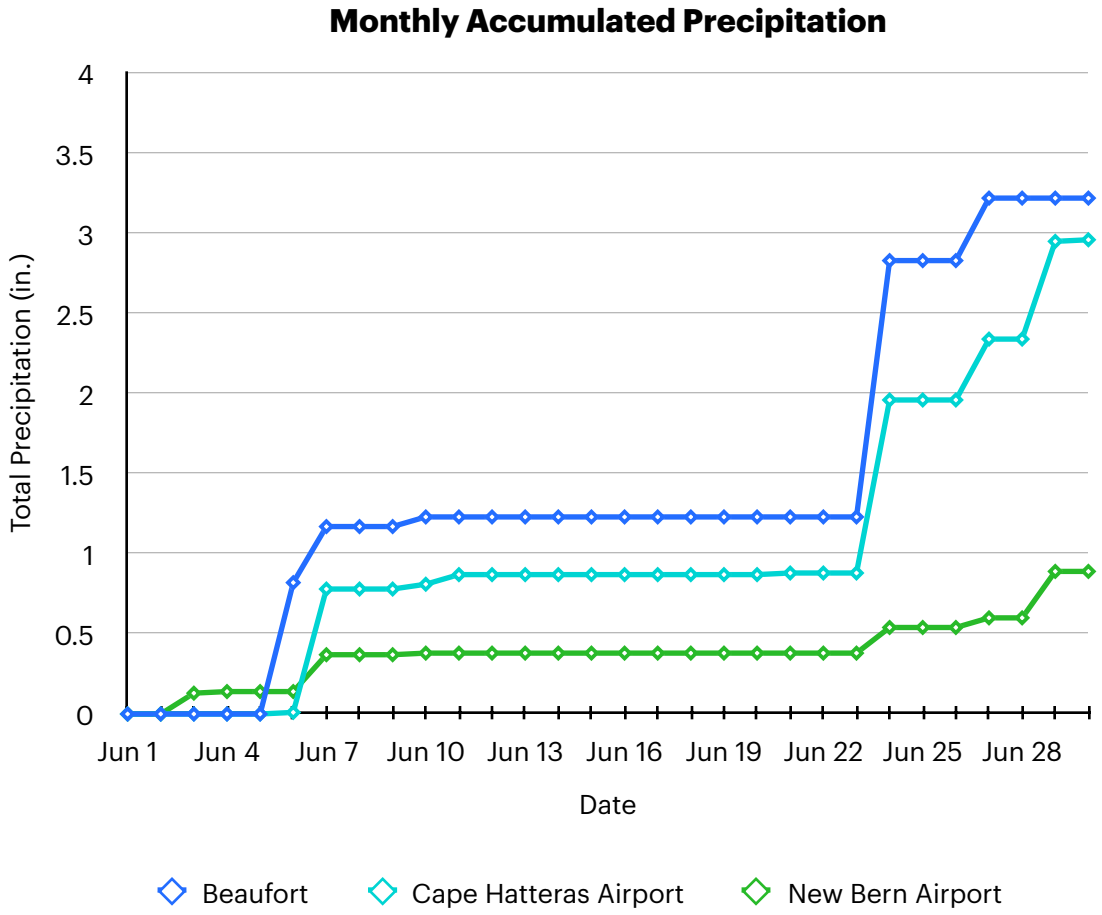
County-averaged statistics are presented in the following table. Like temperatures, mean and anomaly precipitation calculations are based on a period 1901-2000. Data courtesy of the National Centers for Environmental Information (NCEI).

County	Avg. Accum. (in.)	Mean (in.)	Departure (in.)	Rank
Beaufort	1.62	5.03	**-3.41**	5 D
Carteret	1.65	4.91	**-3.26**	4 D
Craven	1.44	5.13	**-3.69**	3 D
Dare	2.95	4.65	**-1.70**	31 D
Duplin	1.92	5.04	**-3.12**	4 D
Greene	1.24	4.81	**-3.57**	2 D
Hyde	2.05	4.83	**-2.78**	10 D
Jones	1.66	5.21	**-3.55**	5 D
Lenoir	1.64	5.02	**-3.38**	6 D
Martin	1.16	4.83	**-3.67**	2 D
Onslow	2.10	5.30	**-3.20**	5 D
Pamlico	1.40	5.03	**-3.63**	4 D
Pitt	1.17	4.93	**-3.76**	3 D
Tyrrell	2.43	4.76	**-2.33**	13 D
Washington	1.89	4.86	**-2.97**	6 D
Area Average	**1.75**	**4.96**	**-3.20**	

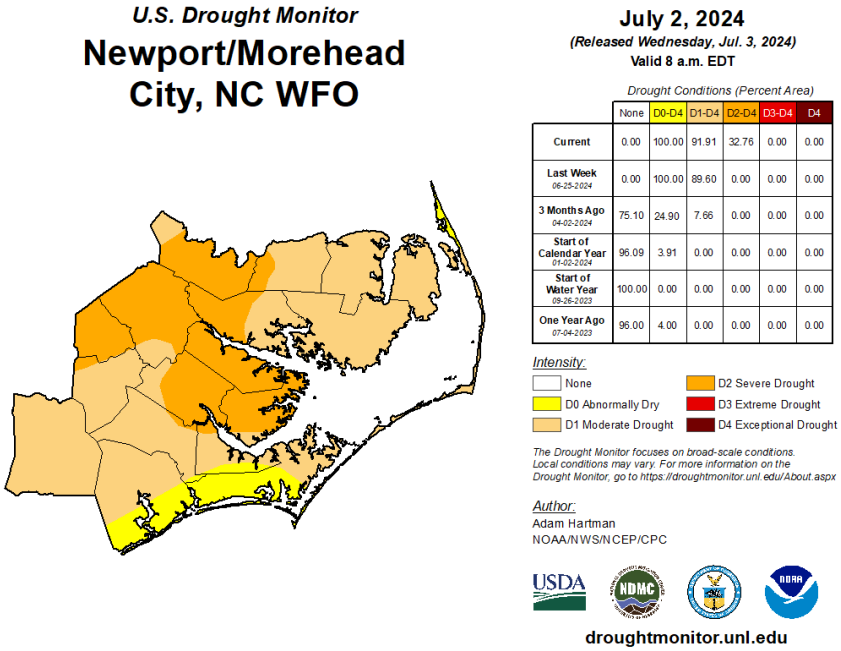
Means are based on a period from 1901-2000. For rankings, “W” designates wettest and “D” designates driest.

Rainfall was difficult to come by all month, but the middle of the month was by far the driest as mid-level ridging amplified over much of the eastern United States. Any rain that did fall came primarily in the form of convection, which brought quick bursts of an inch or so. The upper pattern was modestly more conducive for precipitation at the beginning and end of the month when ridging was at its weakest. Areawide, precipitation ranged from 10-50% of normal - well below average.

There were no precipitation records at our climate sites for the month of June



The combination of above average temperatures and near-record monthly precipitation deficits contributed to the rapid onset of drought conditions across eastern North Carolina. By the beginning of July, the entire forecast area was at least abnormally dry with roughly a third of the area in severe drought.



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=mhx

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: June 2024

Site	Avg. High (°F)	Avg. Low (°F)	Avg. Temp (°F)	Normal (°F)	Departure (°F)
Greenville	90.9	68.5	79.7	77.3	*2.4*
Kinston	89.1	67.6	78.4	77.7	*0.7*
Williamston	88.3	66.6	77.5	76.3	*1.2*
Plymouth	87.9	65.8	76.9	76.5	*0.4*
Bayboro	86.8	63.3	75.1	75.7	*-0.7*
Manteo	84.6	69.3	77.0	75.5	*1.5*

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

Maximum and Minimum Monthly Temperatures: June 2024

Site	Max High (°F)	Date Observed	Min Low (°F)	Date Observed
Beaufort (KMRH)	92	Jun 15	58	Jun 1
Hatteras (KHSE)	90	Jun 25	53	Jun 1
New Bern (KEWN)	95	Jun 26	55	Jun 1
Greenville	98	Jun 26, 30	52	Jun 1
Kinston	96	Jun 27	53	Jun 1
Williamston	97	Jun 27	51	Jun 1
Plymouth	95	Jun 23, 26	49	Jun 1
Bayboro	93	Jun 23, 27-28	50	Jun 1-2
Manteo	92	Jun 24-25	55	Jun 1-3

APPENDIX B: ADDITIONAL PRECIPITATION DATA

Cooperative Observation Site Precipitation Statistics: June 2024

Site	Total Precipitation (in.)	Normal (in.)	Departure (in.)
Greenville	0.45	4.36	*-3.91*
Kinston	2.30	5.53	*-3.23*
Williamston	0.82	5.13	*-4.31*
Plymouth	0.24	5.42	*-5.18*
Bayboro	1.02	5.40	*-4.38*

Sites in red have missing data in their record.

CoCoRaHS Monthly Accumulated Precipitation: June 2024

Site	County	Amount (in.)
Pantego 0.4 WSW	Beaufort	4.35
Newport 1.0 N	Carteret	5.77
Beaufort 3.4 NNW	Carteret	4.67
Beaufort 5.3 N	Carteret	4.46
Newport 2.3 SE	Carteret	4.41
Newport 2.5 W	Carteret	4.13
Newport 0.2 SW	Carteret	4.12
Newport 1.7 SSE	Carteret	4.03
Beaufort 3.8 N	Carteret	3.72
Beaufort 12.1 N	Carteret	3.56
Beaufort 0.5 W	Carteret	3.42

Site	County	Amount (in.)
Cedar Point 0.9 WSW	Carteret	3.25
Morehead City 6.0 WNW	Carteret	3.23
Morehead City 2.9 WNW	Carteret	3.16
Morehead City 0.6 NW	Carteret	3.04
Ocean 0.5 S	Carteret	2.85
Cape Carteret 0.8 NE	Carteret	2.85
Cedar Point 0.7 NNE	Carteret	2.78
Cedar Point 0.4 WSW	Carteret	2.15
Swansboro 3.7 NNE	Carteret	1.97
Cedar Island 0.3 SSE	Carteret	1.94
New Bern 5.3 SW	Craven	1.01
New Bern 4.2 S	Craven	0.88
New Bern 1.3 NNE	Craven	0.84
Trent Woods 1.3 SSE	Craven	0.80
New Bern 3.8 S	Craven	0.78
Bridgeton 0.3 SSE	Craven	0.69
Trent Woods 1.2 ENE	Craven	0.55
New Bern 7.3 ESE	Craven	0.54
Trent Woods 1.0 NNE	Craven	0.52
Trent Woods 1.3 WNW	Craven	0.51
New Bern 2.6 SW	Craven	0.39
Buxton 0.3 ENE	Dare	3.09
Manteo 2.8 NW	Dare	2.58

Site	County	Amount (in.)
Rodanthe 1.0 SSE	Dare	1.24
Southern Shores	Dare	1.03
Albertson 1.2 WNW	Duplin	3.20
Mount Olive 2.4 SW	Duplin	2.49
Wallace 14.8 E	Duplin	2.24
Mount Olive 6.0 SE	Duplin	1.33
Rose Hill 0.1 NNW	Duplin	0.77
Ocracoke 0.2 ESE	Hyde	1.72
Engelhard 0.8 NW	Hyde	1.67
Ocracoke 0.6 SW	Hyde	1.43
Kinston 5.1 WNW	Lenior	3.58
Kinston 4.4 WNW	Lenoir	4.13
Kinston 1.2 NW	Lenoir	3.08
Kinston 7.0 SW	Lenoir	2.57
Pink Hill 2.5 NE	Lenoir	2.30
Kinston 4.6 ESE	Lenoir	1.42
Kinston 4.7 ESE	Lenoir	1.28
Jamesville 6.1 SW	Martin	1.50
Hubert 4.9 SE	Onslow	3.37
Swansboro 2.8 WSW	Onslow	3.28
Jacksonville 5.4 WSW	Onslow	3.14
Sneads Ferry 3.3 SW	Onslow	2.42
Holly Ridge 5.0 E	Onslow	2.24

Site	County	Amount (in.)
Jacksonville 4.5 NW	Onslow	1.51
Jacksonville 1.0 NW	Onslow	1.32
Jacksonville 2.4 NNE	Onslow	0.95
Oriental 4.3 NNW	Pamlico	1.28
Lowland 0.2 SE	Pamlico	1.05
Merritt 1.5 WSW	Pamlico	0.99
New Bern 6.4 ENE	Pamlico	0.42
Greenville 7.1 SSE	Pitt	1.93
Greenville 5.0 SE	Pitt	1.40
Greenville 4.4 SSE	Pitt	1.05
Winterville 1.0 ENE	Pitt	0.71
Winterville 2.5 NNW	Pitt	0.65
Fountain 0.1 NE	Pitt	0.57
Greenville 4.6 W	Pitt	0.56
Winterville 3.5 W	Pitt	0.52
Greenville 5.7 NW	Pitt	0.33

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