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EASTERN NORTH CAROLINA MONTHLY CLIMATE REPORT

JULY 2025

WEATHER FORECAST OFFICE
NEWPORT/MOREHEAD CITY, NC

National Weather Service
NEWPORT/MOREHEAD CITY, NC

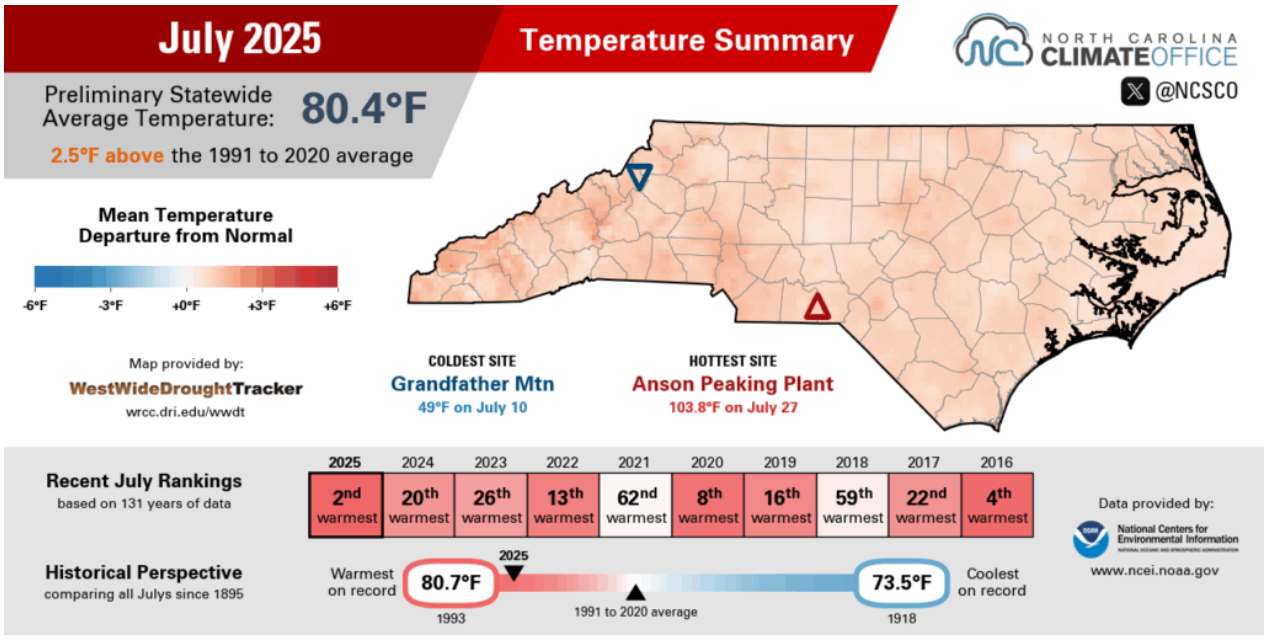
MONTHLY SUMMARY

July continued the unrelenting streak of above average temperatures across eastern North Carolina, while precipitation trended modestly drier. Like in June, the precipitation pattern across the region was highly variable owing to convective patterns. Areas along the Albemarle Peninsula and northern Outer Banks saw the most rainfall through the month, some spots in remarkable fashion – a rain gauge just outside of Manteo in Dare County recorded over a foot of rain, nearly a third of it falling in just a day with slow moving thunderstorms. Overall, precipitation across the region was roughly an inch below the 1991-2020 normal, or about 80% of average. Abnormally dry conditions returned to areas along the Neuse and Bay Rivers, but the rest of the forecast area remained drought free.

Temperatures remained above average in July and were in line with the rest of the state. The average temperature was 82.3°F, or 2.3°F above the 1991-2020 normal. All 15 counties in the forecast area experienced among their top 10 warmest Julys on record, and 5 of those counties set new monthly records. New Bern and Hatteras set and tied multiple daily high temperature records, especially at the end of the month. The temperature anomalies were partially driven by unusually warm low temperatures, aided by a stubbornly humid airmass being fed by the Gulf and the Atlantic Ocean. New Bern broke their record for the warmest monthly average minimum temperature across all months on record.

TEMPERATURES

Summer temperatures continued to run above average across North Carolina in July, according to the North Carolina State Climate Office. The average temperature statewide for the month was 80.4°F or 2.5°F above the 1991-2020 average. This was the 2nd warmest July statewide since records began in 1895, with 131 years of data.



July 2025 Temperature Summary | Source: NC State Climate Office

Eastern North Carolina temperature anomalies were on par compared to the rest of the state, with temperatures across our 15 counties 2.3°F above the 1991-2020 average. 5 counties experienced their warmest July on record. Since their respective records began, July 2025 was the 2nd warmest for Cape Hatteras and 3rd warmest for New Bern.

MHX Select Site Temperature Statistics: July 2025

Site	Avg. High (°F)	Avg. Low (°F)	Avg. Temp (°F)	Normal (°F)	Departure (°F)
Beaufort (KMRH)	87.4	77.4	82.4	80.6	1.8
Hatteras (KHSE)	87.9	77.2	82.6	81.3	1.3
New Bern (KEWN)	91.2	74.8	83.0	80.4	2.6

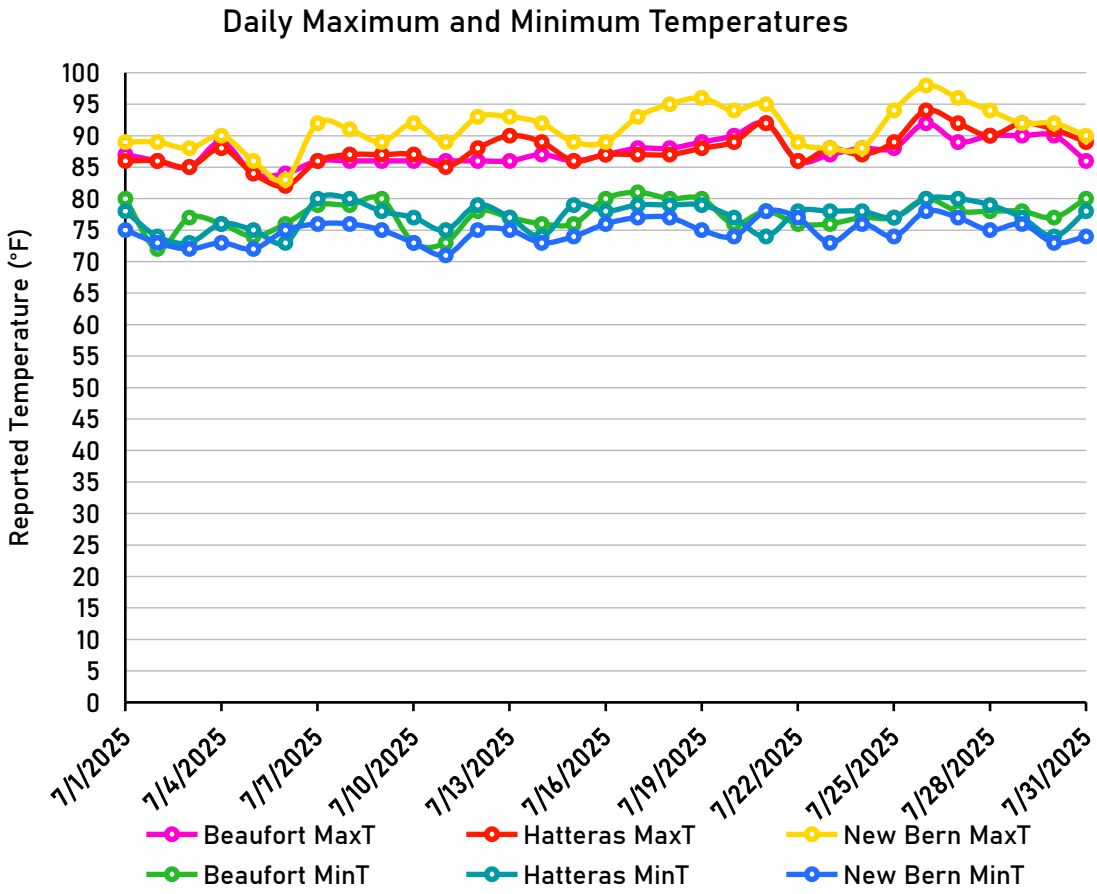
Normals are based on a period from 1990-2020.

County-averaged statistics are presented in the following table. Mean and departure calculations are based on the 1991-2020 climate normals. Data courtesy of the National Centers for Environmental Information (NCEI).

County	Avg. Temperature (°F)	Mean (°F)	Departure (°F)	Rank
Beaufort	82.6	80.1	**2.5**	**1 W**
Carteret	82.6	80.5	**2.1**	2 W
Craven	82.5	80.0	**2.5**	**1 W**
Dare	81.9	79.7	**2.2**	4 W
Duplin	82.0	79.8	**2.2**	5 W
Greene	82.3	80.0	**2.3**	2 W
Hyde	82.3	80.3	**2.0**	4 W
Jones	82.1	79.7	**2.4**	**1 W**
Lenoir	82.1	80.0	**2.1**	6 W
Martin	82.1	79.5	**2.6**	**1 W**
Onslow	82.3	79.9	**2.4**	2 W
Pamlico	82.9	80.5	**2.4**	**1 W**
Pitt	82.4	79.9	**2.5**	2 W
Tyrrell	82.0	79.9	**2.1**	5 W
Washington	81.8	79.6	**2.2**	4 W
Area Average	**82.3**	**80.0**	**2.3**	

Means are based on a period from 1991-2020. For rankings, “C” designates coldest and “W” designates warmest.

The upper air pattern in July generally featured above average heights across the eastern United States although flow was highly progressive with multiple fast moving troughs progressing across the region. Given the observed anomalies, it should be no surprise there was not any period during the month eastern NC saw below average temperatures. The warmest anomalies occurred at the end of the month in line with the strongest mid-level height anomalies. Here, temps were up to 3-6 degrees above normal. Of particular note were abnormally high minimum temperatures, kept elevated by very moist flow off of the Gulf and Atlantic. New Bern recorded its warmest-ever average minimum temperature

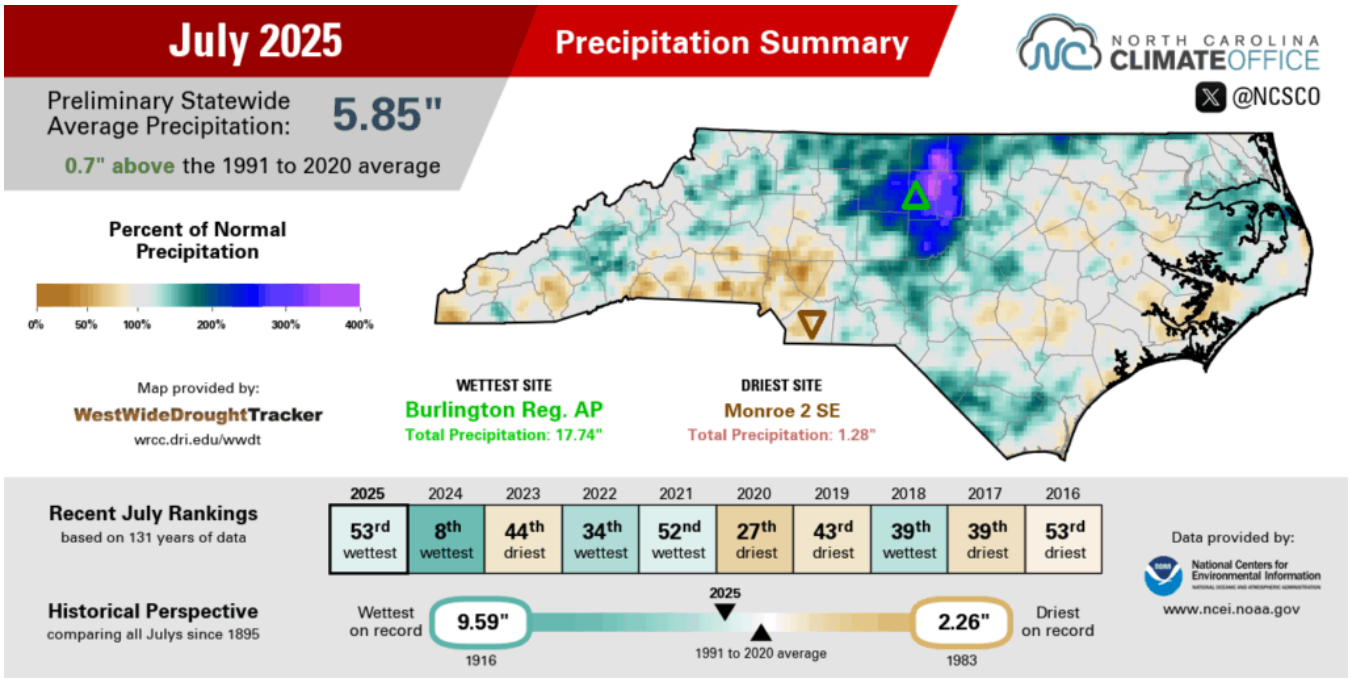


(74.8°F, beating the old record of 74.5° set July 1991), while Hatteras recorded its third-ever warmest (77.2°F, tying August 2020 and just behind July 2020 and August 2018).

New Bern tied a high temperature record on July 26, hitting 98°F (Original Record [OR]: 98/1940). Hatteras set two new high temperature records, one on July 26 with a high of 94°F (OR: 93/1949) and another on July 29 with a high of 92°F (OR: 90/1993). It also tied a high temperature record on July 27, touching 92°F (OR: 92/2020).

PRECIPITATION

Analysis conducted by the North Carolina State Climate Office indicated average statewide precipitation was 5.85” for July, or 0.70” inches above average. This was the 53rd wettest July since records began in 1895.



July 2025 Precipitation Summary | Source: NC State Climate Office

Eastern North Carolina was generally drier than the rest of the state, although precipitation was highly variable owing to convective patterns (a rain gauge outside of Manteo recorded over a foot of rain for the month, for example). Cape Hatteras recorded its 50th wettest July, while New Bern experienced its 57th wettest. The average accumulation across the MHX forecast area was 4.85”, or 1.12” below the 1991-2020 average. Due to a rain gauge failure, precipitation reports for New Bern after July 5th were provided by the official backup site in Perrytown, NC.

MHX Select Site Precipitation Statistics: July 2025

Site	Total Precipitation (in.)	Normal (in.)	Departure (in.)
Beaufort (KMRH)	5.40	5.81	-0.41
Hatteras (KHSE)	5.98	5.39	0.59
New Bern (KEWN)	5.39	6.26	-0.87

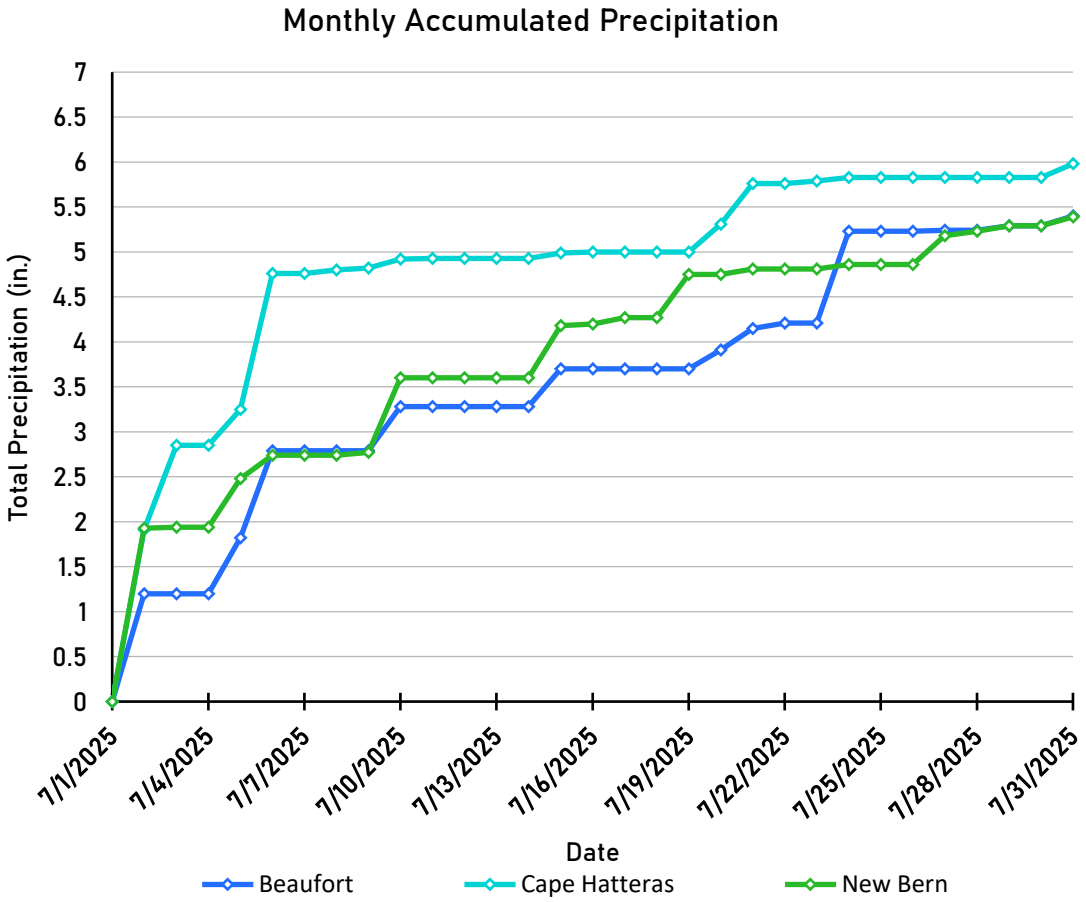
County-averaged statistics are presented in the following table. Mean and departure calculations are based on the 1991-2020 climate normals. Data courtesy of the National Centers for Environmental Information (NCEI).

County	Avg. Accum. (in.)	Mean (in.)	Departure (in.)	Rank
Beaufort	4.81	5.74	-0.93	33 D
Carteret	4.36	6.21	-1.85	26 D
Craven	4.19	6.32	-2.13	16 D
Dare	5.77	5.57	0.20	65 D
Duplin	5.43	6.20	-0.77	37 D
Greene	4.84	5.77	-0.93	40 D
Hyde	5.03	5.63	-0.60	50 D
Jones	4.21	6.48	-2.27	16 D
Lenoir	4.70	6.09	-1.39	30 D
Martin	4.91	5.52	-0.61	46 D
Onslow	4.93	6.50	-1.57	20 D
Pamlico	4.27	6.23	-1.96	23 D
Pitt	4.96	5.68	-0.72	45 D
Tyrrell	5.40	5.77	-0.37	57 D
Washington	4.93	5.84	-0.91	42 D
Area Average	4.85	5.97	-1.12	

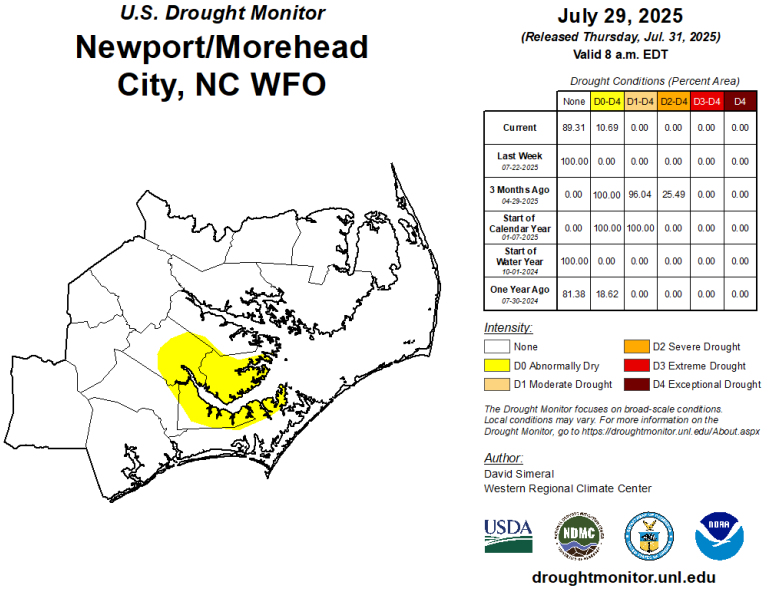
Means are based on a period from 1991-2020. For rankings, "W" designates wettest and "D" designates driest.

As would be expected, the bulk of precipitation in July fell in convective episodes. The passage of Tropical Storm Chantal on July 5-6 did bring some enhanced precipitation, especially for areas south of Highway 264, although the highest anomalies were seen across central NC. Locales across the Albemarle Peninsula and the northern Outer Banks saw the highest rainfall totals compared to the rest of the region. Overall, precipitation was roughly 80% of 1991-2020 normals for eastern North Carolina.

New Bern and **Hatteras** set daily rainfall records on July 2nd as a strong cold front approached the region. **New Bern** saw 1.93" of rain (OR: 1.77/1943), while **Hatteras** recorded 1.91" (OR: 1.89/1931).



July's modest rainfall deficit allowed some abnormally dry conditions to return to portions of eastern North Carolina, mainly focused along the Neuse and Bay Rivers in Craven and Pamlico counties (nearly 11% of the forecast area). The remainder of the MHX forecast area stayed drought free by the end of the month.



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: July 2025

Site	Avg. High (°F)	Avg. Low (°F)	Avg. Temp (°F)	Normal (°F)	Departure (°F)
Greenville	92.1	74.3	83.2	80.8	2.4
Kinston	91.7	74.1	82.9	81.0	1.9
Williamston	91.3	73.8	82.6	79.9	2.6
Plymouth	89.8	72.8	81.3	79.8	1.5
Bayboro	91.1	73.8	82.5	79.4	3.0
Manteo	88.4	77.4	82.9	79.6	3.3

Normals are based on a period from 1991-2020.

Maximum and Minimum Monthly Temperatures: July 2025

Site	Max High (°F)	Date Observed	Min Low (°F)	Date Observed
Beaufort (KMRH)	92	Jul 21, 26	72	Jul 2
Hatteras (KHSE)	94	Jul 26	73	Jul 3,6
New Bern (KEWN)	98	Jul 26	71	Jul 11
Greenville	98	Jul 26-27	69	Jul 5-6, 23
Kinston	98	Jul 27-28	67	Jul 23
Williamston	96	Jul 19, 27-28	68	Jul 5-6
Plymouth	97	Jul 26	63	Jul 5
Bayboro	97	Jul 27-28	71	Jul 4-5, 14, 30-31
Manteo	94	Jul 1	72	Jul 6, 11

APPENDIX B: ADDITIONAL PRECIPITATION DATA

Cooperative Observation Site Precipitation Statistics: July 2025

Site	Total Precipitation (in.)	Normal (in.)	Departure (in.)
Greenville	5.50	5.87	-0.37
Kinston	5.37	5.79	-0.42
Williamston	4.70	5.75	-1.05
Plymouth	4.71	5.70	-0.99
Bayboro	4.30	6.79	-2.49

Sites in red have missing data in their record.

CoCoRaHS Monthly Accumulated Precipitation: July 2025

Site	County	Amount (in.)
Pantego 0.4 WSW	Beaufort	6.40
Aurora 4.8 NE	Beaufort	5.26
Washington 1.0 SSW	Beaufort	4.25
Newport 1.0 N	Carteret	8.55
Newport 0.2 SW	Carteret	8.45
Newport 2.5 W	Carteret	8.31
Newport 1.7 SSE	Carteret	7.91
Beaufort 12.1 N	Carteret	7.20
Swansboro 3.7 NNE	Carteret	6.51
Morehead City 2.9 WNW	Carteret	6.09
Swnasboro 2.7 NE	Carteret	5.99

CoCoRaHS Monthly Accumulated Precipitation: July 2025

Site	County	Amount (in.)
Morehead City 4.7 W	Carteret	5.95
Cedar Point 0.4 WSW	Carteret	5.79
Beaufort 3.8 N	Carteret	5.51
Cedar Point 0.9 WSW	Carteret	5.37
Cedar Point 0.7 NNE	Carteret	5.33
Ocean 0.5 S	Carteret	5.27
Beaufort 5.3 N	Carteret	5.23
Cape Carteret 0.8 NE	Carteret	4.74
Cape Carteret 1.5 NE	Carteret	4.68
Morehead City 0.6 NW	Carteret	4.53
Beaufort 0.5 W	Carteret	4.32
Pine Knoll Shores 1.4 E	Carteret	4.03
Emerald Isle 2.3 WSW	Carteret	3.82
New Bern 5.3 SW	Craven	5.64
New Bern 7.3 ESE	Craven	4.96
Trent Woods 1.3 SSE	Craven	4.88
Brice Creek 0.9 WNW	Craven	4.73
New Bern 3.8 S	Craven	4.42
Trent Woods 1.2 ENE	Craven	4.32
Trent Woods 1.0 NNE	Craven	4.12
Bridgeton 0.3 SSE	Craven	3.15

CoCoRaHS Monthly Accumulated Precipitation: July 2025

Site	County	Amount (in.)
New Bern 1.3 NNE	Craven	2.36
Manteo 2.8 NW	Dare	12.24
Buxton 0.3 ENE	Dare	6.75
Southern Shores 0.5 NNE	Dare	6.42
Kill Devil Hills 1.6 W	Dare	5.85
Kill Devil Hills 0.9 NW	Dare	5.27
Rodanthe 1.0 SSE	Dare	4.31
Rose Hill 0.1 NNW	Duplin	4.41
Faison 3.3 SSE	Duplin	4.36
Kenansville 1.1 SW	Duplin	4.08
Ayden 6.5 WNW	Greene	6.28
Ocracoke 0.2 ESE	Hyde	9.03
Ocracoke 0.6 SW	Hyde	8.50
SQ Tower	Hyde	8.11
Engelhard 0.8 NW	Hyde	7.43
Kinston 3.1 W	Lenoir	6.36
Kinston 5.1 WNW	Lenoir	6.14
Pink Hill 2.5 NE	Lenoir	5.20
Kinston 7.0 SW	Lenoir	5.11
Kinston 1.2 NW	Lenoir	4.58
Kinston 4.4 WNW	Lenoir	4.53

CoCoRaHS Monthly Accumulated Precipitation: July 2025

Site	County	Amount (in.)
Kinston 4.6 ESE	Lenoir	4.36
Kinston 4.7 ESE	Lenoir	4.27
Jamesville 6.1 SW	Martin	3.61
Williamston 8.9 SSE	Martin	3.43
Jacksonville 1.0 NW	Onslow	8.61
Jacksonville 2.4 NNE	Onslow	6.51
Swansboro 1.2 NNW	Onslow	6.30
Swansboro 2.8 WSW	Onslow	4.76
Hubert 4.9 SE	Onslow	4.01
Sneads Ferry 3.3 SW	Onslow	3.69
Lowland 0.2 SE	Pamlico	5.33
Oriental 2.1 WSW	Pamlico	4.35
Oriental 4.3 NNW	Pamlico	3.79
Merritt 1.5 WSW	Pamlico	3.52
Oriental 1.7 WNW	Pamlico	3.35
Farmville 0.8 ESE	Pitt	4.81
Greenville 2.8 ESE	Pitt	4.64
Greenville 4.6 W	Pitt	4.36
Winterville 3.5 W	Pitt	4.18
Greenville 5.0 SE	Pitt	3.41
Greenville 4.4 SSE	Pitt	3.28

CoCoRaHS Monthly Accumulated Precipitation: July 2025

Site	County	Amount (in.)
Greenville 7.1 SSE	Pitt	3.12
Fountain 0.1 NE	Pitt	2.83

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