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EASTERN NORTH CAROLINA MONTHLY CLIMATE REPORT

MARCH 2022

WEATHER FORECAST OFFICE
NEWPORT/MOREHEAD CITY, NC

National Weather Service

NEWPORT/MOREHEAD CITY, NC

MONTHLY SUMMARY

Meteorological spring began across eastern North Carolina on the same note that winter ended - drier and warmer than average. Despite several abrupt temperature shifts with passing cold fronts (including one in mid-March that brought hurricane-force winds non-accumulating snow to portions of the Outer Banks), temperatures ended up about 4-5 degrees above average across the region. Precipitation varied from near normal along the coast, with spotty areas of above-average precipitation with thunderstorms, to well below average across the inner coastal plain. Drought conditions worsened, especially west of Highway 17.

Although it is not the only driver of global climate, La Niña is more than likely to continue through April and the rest of meteorological spring. Climate Prediction Center seasonal outlooks slightly favor above-average temperatures for the period of April-May-June (around 40-50%), and near-equal chances for above or below-average precipitation in the same period. Drought conditions are forecast to improve over the next three months as the region transitions into its wetter climatological range.

NOTABLE EVENTS IN MARCH 2022

MARCH 12 BOMBING CYCLONE AND COLD FRONT

Low pressure quickly deepened and lifted along the Appalachians and eventually off the mid-Atlantic coast on the morning of March 12, quickly dragging a cold front and associated squall line across North Carolina. Ahead of the front, powerful southwesterly winds reached hurricane force at times, especially over the Outer Banks. This resulted in minor coastal flooding and some inundation of Highway 12 near Rodanthe and Salvo. Behind the front, snow was observed north of Highway 264 and portions of the Outer Banks, although none accumulated.

More information, courtesy of the Iowa State Mesonet, is below.

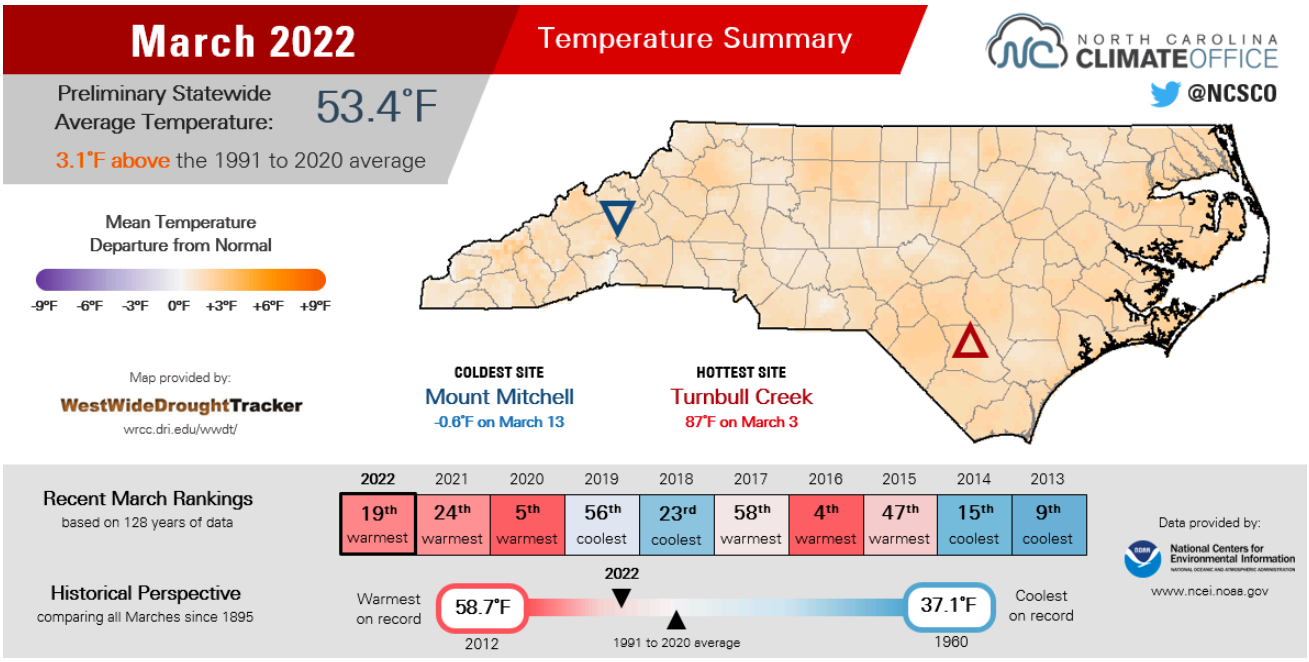
Wind and Coastal Flooding Reports: https://mesonet.agron.iastate.edu/wx/afos/p.php?pil=LSRMHX&e=202203121822

Snowfall Reports: https://mesonet.agron.iastate.edu/wx/afos/p.php?pil=LSRMHX&e=202203130304

Maximum Wind Speeds: https://mesonet.agron.iastate.edu/wx/afos/p.php?pil=PNSMHX&e=202203122209

TEMPERATURES

Analysis conducted by the North Carolina State Climate Office showed that temperatures continued their above-average streak from February. The average temperature statewide was 53.4°F or 3.1°F above the 1991-2020 average. This was the 19th warmest March statewide since records began in 1895.



Eastern North Carolina was warmer than the statewide average. The three primary climate sites in the Morehead City CWA were 4-5°F degrees above average for the month. Additional observations can be found in Appendix A.

MHX Select Site Temperature Statistics: March 2022

Site	Avg. High (°F)	Avg. Low (°F)	Avg. Temp (°F)	Normal (°F)	Departure (°F)
Beaufort (KMRH)	67.0	49.4	58.2	54.0	*4.2*
Hatteras (KHSE)	66.2	52.2	59.2	53.8	*5.4*
New Bern (KEWN)	69.5	45.2	57.4	53.2	*4.2*

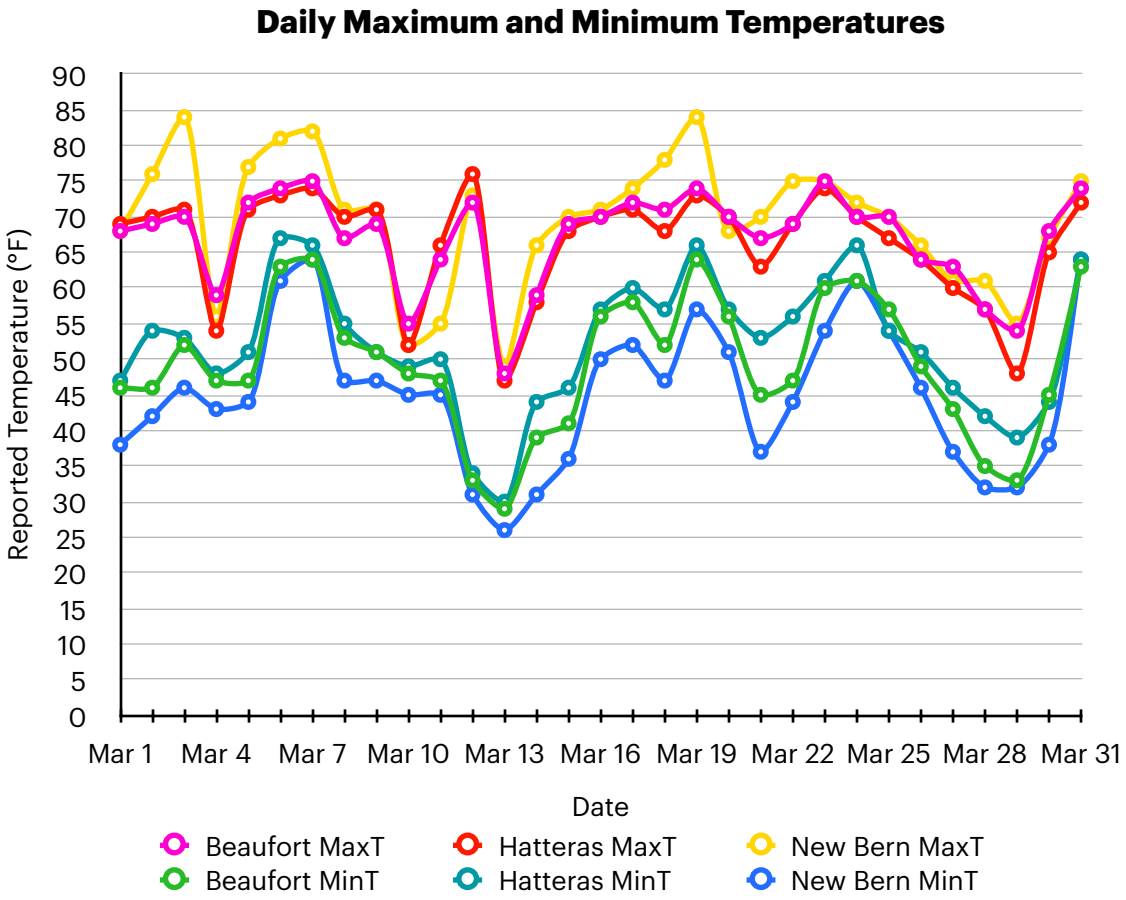
Normals are based on a period from 1990-2020.

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	55.9	51.6	**4.3**	17 W
Carteret	56.9	52.7	**4.2**	19 W
Craven	56.2	52.0	**4.2**	19 W
Dare	55.5	50.7	**4.8**	13 W
Duplin	55.8	52.1	**3.7**	24 W
Greene	54.8	51.3	**3.5**	26 W
Hyde	56.3	51.9	**4.4**	16 W
Jones	55.7	51.9	**3.8**	23 W
Lenoir	54.8	51.7	**3.1**	31 W
Martin	55.0	50.5	**4.5**	15 W
Onslow	56.3	52.5	**3.8**	23 W
Pamlico	56.5	52.4	**4.1**	21 W
Pitt	55.2	51.2	**4**	18 W
Tyrrell	55.7	50.9	**4.8**	12 W
Washington	55.6	50.6	**5**	13 W
Area Average	**55.7**	**51.6**	**4.1**	

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

Area-wide, temperatures were about 4 to 5 degrees above average. Like the previous month, March 2022 placed in the top one-third warmest for all counties. Temperatures fluctuated often from very below average with strong cold frontal passages to warm spells more typical for late May.

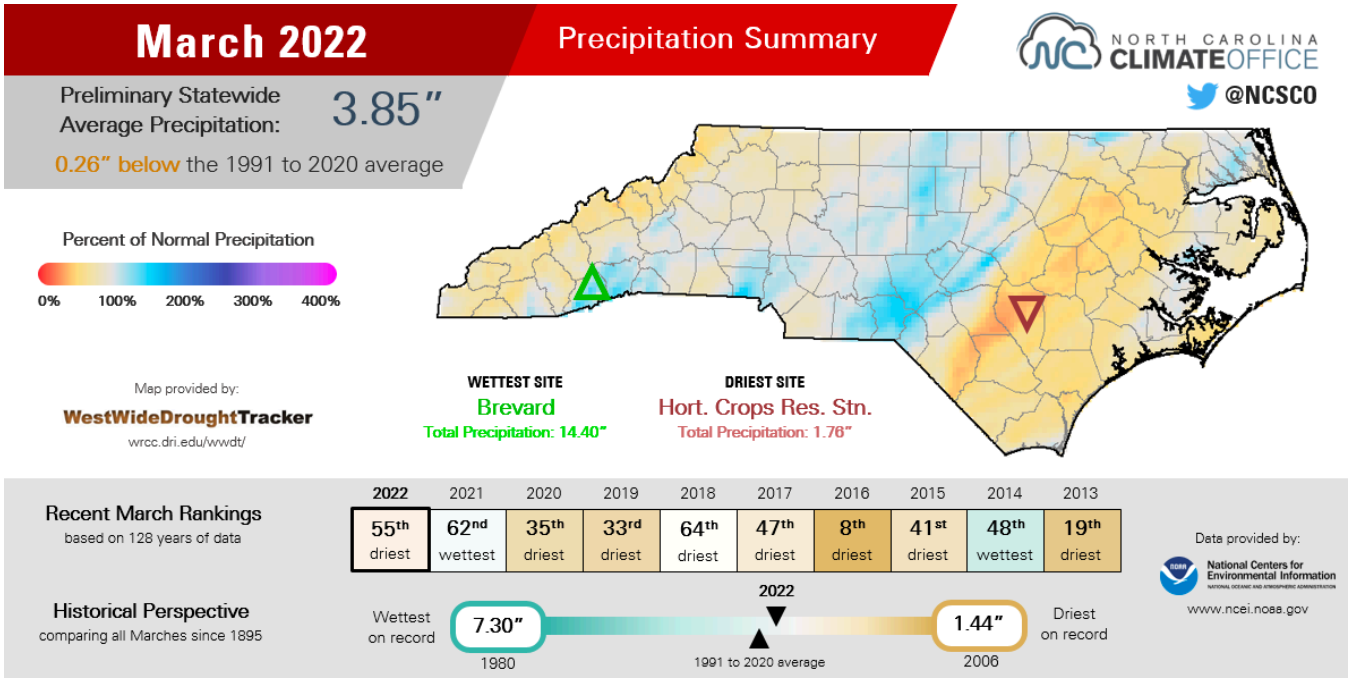


RECORDS OF NOTE

Cape Hatteras tied a record high of 74°F on March 7. This tied the previous record of 74° set in 1974.

PRECIPITATION

Analysis conducted by the North Carolina State Climate Office indicated average statewide precipitation of 3.85" for March or about 0.26" inches below average. This was the 55th driest month for the state since records began in 1895.



The inner coastal plain of North Carolina was by far the driest portion of the state, coming in as much as 3 inches below normal. A narrow strip of eastern North Carolina, mainly oriented along the Highway 17 corridor, saw near normal rainfall for the month. Additional observations can be found in Appendix B.

MHX Select Site Precipitation Statistics: March 2022

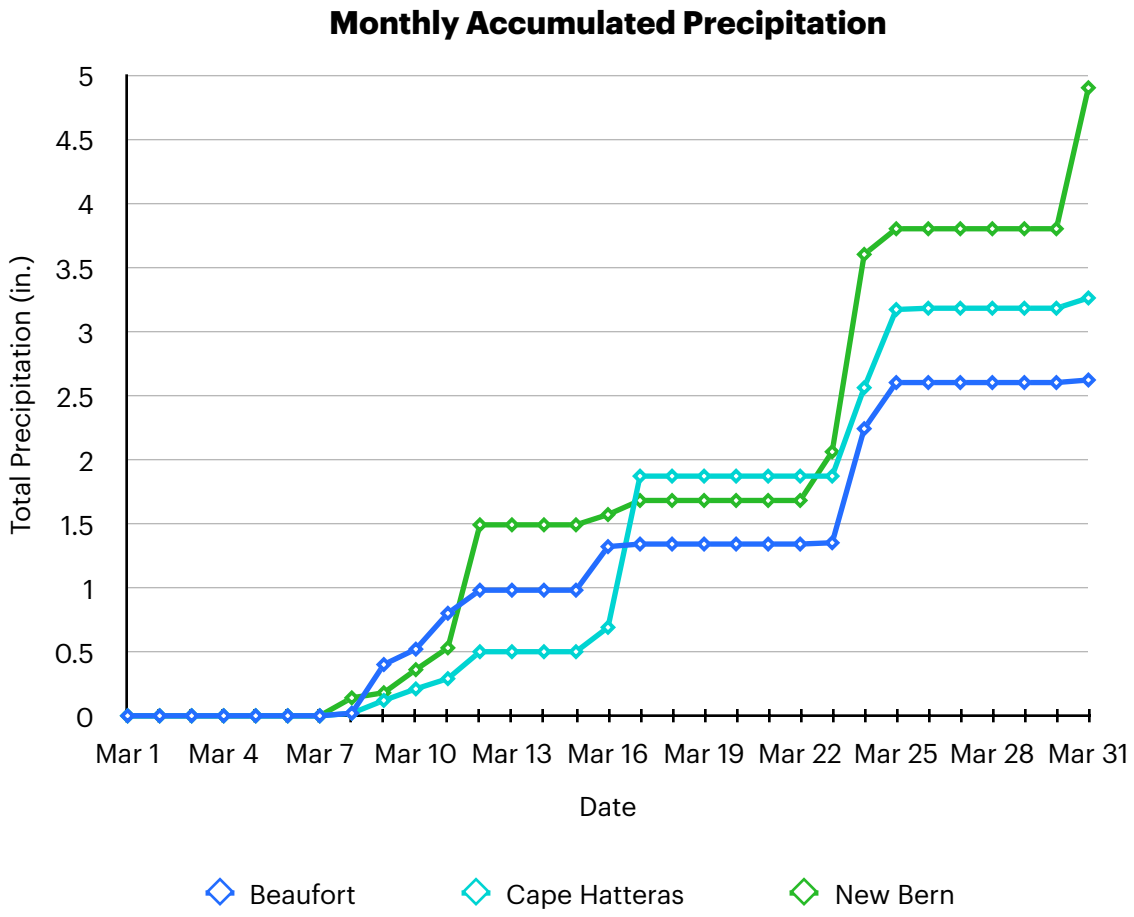
Site	Total Precipitation (in.)	Normal (in.)	Departure (in.)
Beaufort (KMRH)	2.62	3.31	*-0.69*
Hatteras (KHSE)	3.26	4.43	*-1.17*
New Bern (KEWN)	4.90	3.85	*1.05*

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).

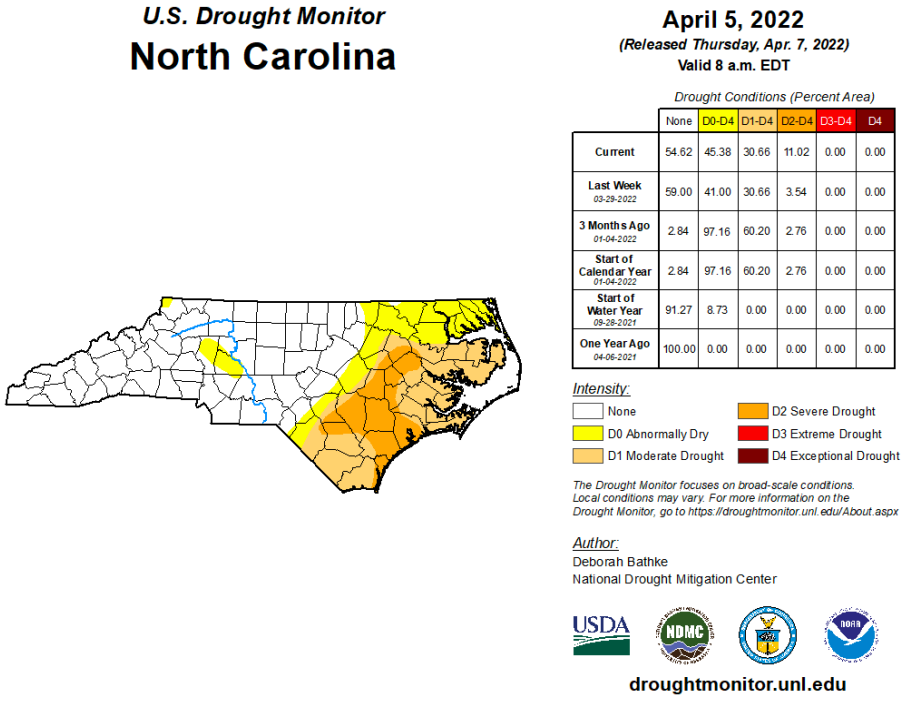
County	Avg. Accum. (in.)	Mean (in.)	Departure (in.)	Rank
Beaufort	3.23	3.89	**-0.66**	49 D
Carteret	3.85	3.98	**-0.13**	57 W
Craven	3.66	3.93	**-0.27**	61 W
Dare	3.44	3.84	**-0.4**	61 D
Duplin	2.69	3.99	**-1.3**	30 D
Greene	2.38	3.93	**-1.55**	17 D
Hyde	3.18	3.97	**-0.79**	49 D
Jones	3.57	3.98	**-0.41**	62 D
Lenoir	2.63	3.96	**-1.33**	29 D
Martin	2.51	3.90	**-1.39**	20 D
Onslow	3.71	4.02	**-0.31**	64 D
Pamlico	3.83	3.89	**-0.06**	52 W
Pitt	2.33	3.88	**-1.55**	16 D
Tyrrell	3.55	3.92	**-0.37**	58 D
Washington	3.38	3.95	**-0.57**	51 D
Area Average	**3.20**	**3.94**	**-0.74**	

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

The primary precipitation events were a squall line and an associated cold front crossing the Carolinas on the morning of March 12, and a prolonged stratiform rain event ahead of deepening low pressure on the 24th. **New Bern** set a daily rainfall record of 1.54” that day, breaking the old record of 1.36” set in 1989. The month ended with another round of showers and a few thunderstorms ahead of another cold front.



The continued rainfall deficit continued to exacerbate drought conditions across the coastal plain. A D2, or Severe Drought, was declared from Pitt County south to Onslow county, with D1 or Moderate Drought elsewhere across the region. Drought is expected to persist through April, but the CPC seasonal outlook forecasts drought removal over the period of April 1 to June 30.



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/.

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: March 2022

Site	Avg. High (°F)	Avg. Low (°F)	Avg. Temp (°F)	Normal (°F)	Departure (°F)
Greenville	68.9	45.4	57.2	52.6	*4.6*
Kinston	68.5	42.8	55.7	54.5	*1.2*
Williamston	66.9	42.8	54.9	51.8	*3.1*
Plymouth	69.0	44.4	56.7	52.5	*4.2*
Bayboro	68.0	43.7	55.9	52.2	*3.7*
Manteo	62.5	46.0	54.3	50.6	*3.7*

Normals are based on a period from 1990-2020.

Maximum and Minimum Monthly Temperatures: March 2022

Site	Max High (°F)	Date Observed	Min Low (°F)	Date Observed
Beaufort (KMRH)	75	Mar 7, Mar 23	29	Mar 13
Hatteras (KHSE)	76	Mar 12	30	Mar 13
New Bern (KEWN)	84	Mar 3, Mar 19	26	Mar 13
Greenville	83	Mar 6-7	25	Mar 13
Kinston	83	Mar 8	24	Mar 13
Williamston	83	Mar 8	24	Mar 13
Plymouth	82	Mar 3, Mar 7	24	Mar 13
Bayboro	82	Mar 4	31	Mar 13-14
Manteo	77	Mar 4	28	Mar 13-14

APPENDIX B: ADDITIONAL PRECIPITATION DATA

Cooperative Observation Site Precipitation Statistics: March 2022

Site	Total Precipitation (in.)	Normal (in.)	Departure (in.)
Bayboro	3.79	3.70	*0.09*
Greenville	1.62	4.22	*-2.6*
Kinston	2.28	3.84	*-1.56*
Manteo	2.31	3.80	*-1.49*
Plymouth	3.77	4.16	*-0.39*
Williamston	2.19	4.13	*-1.94*

Sites in red have missing data in their record.

CoCoRaHS Monthly Accumulated Precipitation: March 2022

Site	County	Amount (in.)
Bath 6.6 ESE	Beaufort	3.74
Pantego 0.4 WSW	Beaufort	4.37
Bath 0.7 N	Beaufort	4.47
Cedar Island 0.3 SSE	Carteret	2.23
Beaufort 5.3 N	Carteret	2.28
Beaufort 12.2 N	Carteret	2.66
Beaufort 3.8 N	Carteret	2.37
Beaufort 0.5 W	Carteret	2.74
Harkers Island 3.2 NE	Carteret	2.94
Morehead City 5.7 W	Carteret	3.48

Site	County	Amount (in.)
Newport 1.7 SSE	Carteret	4.14
Newport 10.3 SW	Carteret	3.51
Atlantic Beach 0.6 W	Carteret	2.89
Swansboro 3.7 NNE	Carteret	2.91
Swansboro 2.7 NE	Carteret	2.32
Morehead City 2.9 WNW	Carteret	2.64
Morehead City 6.0 WNW	Carteret	3.52
Morehead City 0.6 NW	Carteret	2.59
Pine Knoll Shores 0.3 NE	Carteret	2.91
Pine Knoll Shores 1.4 E	Carteret	2.68
Cape Carteret 1.5 NE	Carteret	2.83
Cape Carteret 0.8 NE	Carteret	2.74
Cape Carteret 1.0 NNW	Carteret	2.60
Cedar Point 0.9 WSW	Carteret	2.30
Cedar Point 0.4 WSW	Carteret	2.55
Emerald Isle 2.3 WSW	Carteret	2.52
Stella 2.5 SE	Carteret	2.73
Trent Woods 1.0 NNE	Craven	4.41
New Bern 3.8 S	Craven	4.63
New Bern 8.8 W	Craven	2.55
New Bern 4.9 SW	Craven	3.40
Trent Woods 1.3 SSE	Craven	4.66
Trent Woods 0.9 WNW	Craven	3.81

Site	County	Amount (in.)
New Bern 1.3 NNE	Craven	3.46
New Bern 5.3 SW	Craven	3.26
New Bern 5.2 SE	Craven	3.53
Buxton 0.3 ENE	Dare	2.72
Rodanthe 1.0 SSE	Dare	2.60
Manteo 2.8 NW	Dare	2.93
Southern Shores 0.5 NNE	Dare	2.93
Mount Olive 6.0 SE	Duplin	2.44
Albertson 1.2 WNW	Duplin	2.17
Belleville 4.8 SE	Duplin	2.10
Rose Hill 0.1 NNW	Duplin	2.59
Wallace 14.8 E	Duplin	2.65
Ayden 6.5 WNW	Greene	1.79
Ocracoke 0.2 ESE	Hyde	1.87
SQ Tower	Hyde	3.08
Kinston 5.1 WNW	Lenoir	2.45
Kinston 4.4 WNW	Lenoir	2.51
Kinston 1.2 NW	Lenoir	1.95
Jamesville 6.1 SW	Martin	2.25
Swansboro 1.4 N	Onslow	3.59
Sneads Ferry 1.2 SSW	Onslow	2.55
Holly Ridge 9.0 ENE	Onslow	2.80
Jacksonville 1.0 NW	Onslow	3.33

Site	County	Amount (in.)
Swansboro 2.8 WSW	Onslow	2.80
Jacksonville 5.4 WSW	Onslow	2.95
Jacksonville 3.3 W	Onslow	2.96
Camp Lejeune 1.4 NW	Onslow	3.73
Jacksonville 4.5 NW	Onslow	2.61
Oriental 2.1 WSW	Pamlico	2.84
Merritt 1.5 WSW	Pamlico	4.16
Oriental 4.3 NNW	Pamlico	3.73
Oriental 1.9 WSW	Pamlico	2.63
Lowland 0.2 SE	Pamlico	3.16
Greenville 4.6 W	Pitt	2.19
Fountain 0.1 NE	Pitt	1.93
Winterville 2.8 WNW	Pitt	2.15
Winterville 3.5 W	Pitt	1.95
Winterville 1.0 ENE	Pitt	2.19
Greenville 2.0 SE	Pitt	2.19
Greenville 5.0 SE	Pitt	2.05
Columbia 0.8 NNE	Tyrrell	3.38
Roper 2.4 NE	Washington	4.92

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