



GeoBulletin

Informative Bulletin

Information taken from the National Hurricane Center. Miami - Florida
 Public Advisory 56A - 08:00 AM EDT
 September 13th, 2018

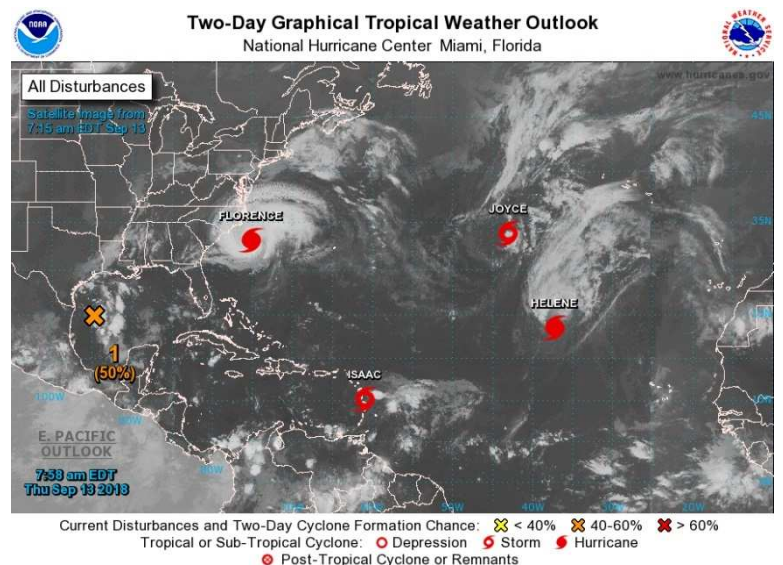
Hurricane Florence

The National Hurricane Center (NHC) is issuing warnings of the Hurricane Florence, which is heading toward the U.S. Southeast Coast. Squally rain bands with tropical-storm-force winds moving onshore of the outer banks of North Carolina. Life-threatening storm surge and rainfall expected. Tornado threat increasing as Florence moves closer.

General Information

Location:	33.3N, 75.4W
Nearest Sites:	160 MI ESE of Wilmington North Carolina 205 MI E of Myrtle Beach South Carolina.
Maximum Winds:	110 mph
Central Pressure:	955 mb
Present Movement:	NW at 10 mph
Tropical Storm Force Winds:	Up to 195 mi from the center
Hurricane Force Winds:	Up to 80 mi from the center

Water Vapor Satellite Image



Warning issued by the National Hurricane Center

Storm Surge Watch and Warning

A Storm Surge Warning is in effect for South Santee River South Carolina to Duck North Carolina; and for Albemarle and Pamlico Sounds, including the Neuse and Pamlico Rivers.

A Storm Surge Watch is in effect for Edisto Beach South Carolina to South Santee River South Carolina, and for North of Duck North Carolina to the North Carolina/Virginia border

Tropical Storm Watch and Warning

A Tropical Storm Warning is in effect for North of Duck North Carolina to Cape Charles Light

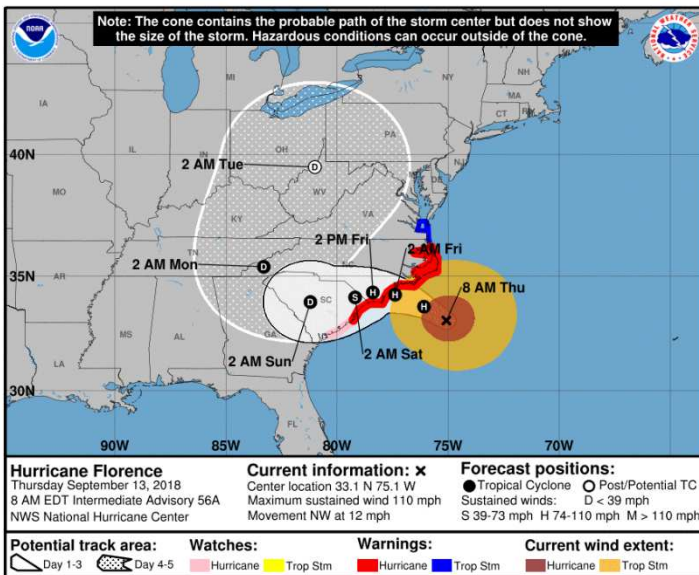
Virginia, and for Chesapeake Bay south of New Point Comfort.

Hurricane Watch and Warning

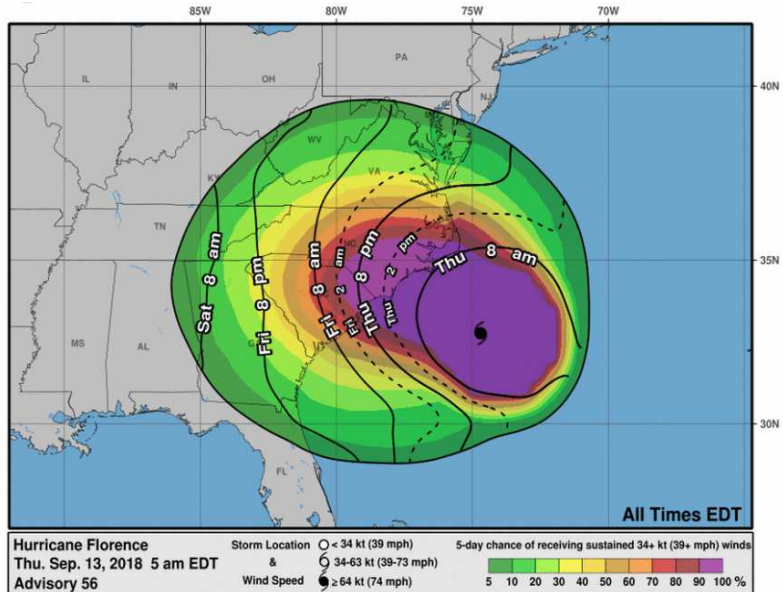
A Hurricane Warning is in effect for South Santee River South Carolina to Duck North Carolina and for Albemarle and Pamlico Sounds.

A Hurricane Watch is in effect for Edisto Beach South Carolina to South Santee River South Carolina

Wind Speed Probabilities



Arrival time of Winds



48 Hours Forecast Discussion

- Florence is moving slower toward the northwest at about 12 mph. This general motion, accompanied by a further decrease in forward speed, is expected to continue through today. A turn to the west-northwest and west at an even slower forward speed is expected tonight and Friday, and a slow west-southwestward motion is forecast Friday night and Saturday.
- The center of Florence is forecast to approach the coasts of North and South Carolina later today, then move near or over the coast of southern North Carolina and eastern South Carolina in the hurricane

warning area tonight and Friday. A slow motion over eastern South Carolina is forecast Friday night through Saturday night.

- Maximum sustained winds are near 110 mph with higher gusts. Little change in strength is expected before the center reaches the coast, with weakening expected after the center moves inland.

Hazard to continental and insular soil

Storm Surge: The combination of a dangerous storm surge and the tide will cause normally dry areas near the coast to be flooded by rising waters moving inland from the shoreline. The water has the potential to reach the following heights above ground if peak surge occurs at the time of high tide:

Sites	Heights above ground (ft)
Cape Fear NC to Cape Lookout NC, including the Neuse, Pamlico, Pungo, and Bay Rivers	9 to 13
North Myrtle Beach SC to Cape Fear NC	6 to 9
Cape Lookout NC to Ocracoke Inlet NC	6 to 9
South Santee River SC to North Myrtle Beach SC	4 to 6
Ocracoke Inlet NC to Salvo NC	4 to 6
Salvo NC to North Carolina/Virginia Border	2 to 4
Edisto Beach SC to South Santee River SC	2 to 4

The deepest water will occur along the immediate coast in areas of onshore winds, where the surge will be accompanied by large and destructive waves. Surge-related flooding depends on the relative timing of the surge and the tidal cycle and can vary greatly over short distances.

Precipitation: Florence is expected to produce heavy and excessive rainfall in the following areas:

Sites	Precipitation (in)	Isolated amounts (in)
Coastal North Carolina into far northeastern South Carolina	20 to 30	40
Rest of South and North Carolina into southwest Virginia	6 to 12	24

This rainfall would produce catastrophic flash flooding and prolonged significant river flooding.

Wind: Hurricane conditions are expected to reach the coast within the hurricane warning area this evening or early Friday. Winds are expected to first reach tropical storm strength by later this morning or early this afternoon. Preparations to protect life and property should be nearing completion.

Tornado: A few tornadoes are possible in eastern North Carolina through Friday.

Surf: Swells generated by Florence are affecting Bermuda, portions of the U.S. East Coast and the northwestern and central Bahamas. These swells are likely to cause life-threatening surf and rip current conditions.

Analysis of Cementos Argos locations

Tropical-storm-force wind speed probabilities and accumulated 72-hour precipitation forecast for the United States, published by the Florida National Hurricane Center and the U.S. National Oceanic and Atmospheric Administration's (NOAA) Climate Prediction Center, were loaded and processed in GeoSURA to determine the associated risk for each of Cementos ARGOS locations.

The results obtained for each location of Cementos ARGOS are presented in Table 1 and Table 2 respectively

Tropical-storm-force wind probability map (speed > 63 km/h)



72-hour Quantitative Precipitation Forecasts Hurricane

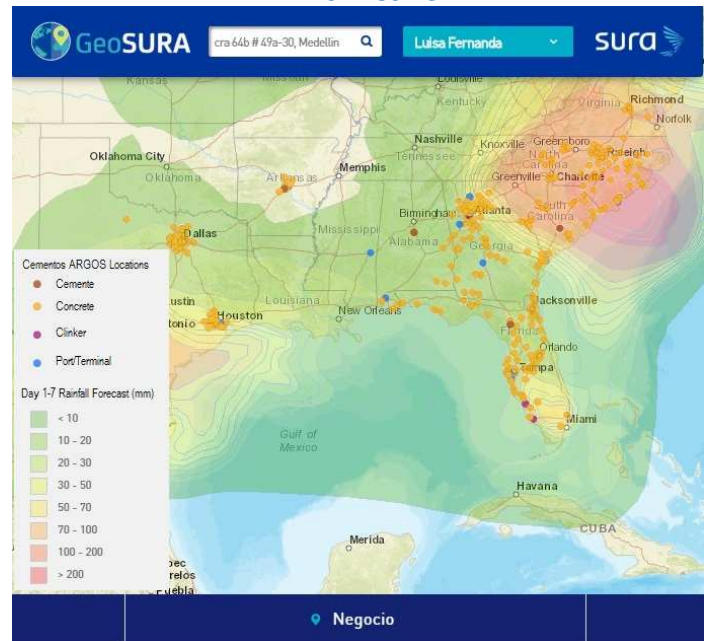


Table 1. Quantitative precipitation forecasts on Cementos ARGOS location.

Type	Name	Location	Sum Insured (USD)	Precipitation (mm)
Port/Terminal	Wilmington	North Carolina	\$ 1,457,000.00	508
Concrete	Havelock	North Carolina	\$ 837,588.00	508
Concrete	Jacksonville	North Carolina	\$ 741,936.00	508
Concrete	Newport	North Carolina	\$ 508,620.00	508
Concrete	Wilmington (Hwy. 421)	North Carolina	\$ 792,000.00	508
Concrete	Wilmington (Castle Hayne)	North Carolina	\$ -	508
Concrete	Wilmington (Leland)	North Carolina	\$ -	508
Concrete	Wilmington (Scotts Hill)	North Carolina	\$ -	508
Concrete	North Myrtle Beach	South Carolina	\$ 1,438,000.00	508
Concrete	Shallotte, NC	South Carolina	\$ -	508
Concrete	Clinton	North Carolina	\$ 700,000.00	381

Table 1. Quantitative precipitation forecasts on Cementos ARGOS location.

Type	Name	Location	Sum Insured (USD)	Precipitation (mm)
Concrete	New Bern	North Carolina	\$ 1,024,460.00	381
Concrete	Lumberton	North Carolina	\$ 1,772,400.00	381
Concrete	Conway	South Carolina	\$ 367,000.00	381
Concrete	Myrtle Beach (Surfside)	South Carolina	\$ 1,438,000.00	381
Concrete	Marion	South Carolina	\$ 514,600.00	381
Concrete	Ayden	North Carolina	\$ 469,800.00	254
Concrete	Goldsboro	North Carolina	\$ 1,204,200.00	254
Concrete	Kinston	North Carolina	\$ 630,040.00	254
Concrete	Dunn	North Carolina	\$ 833,300.00	254
Concrete	Fayetteville	North Carolina	\$ 1,300,000.00	254
Concrete	Laurinburg	North Carolina	\$ 700,000.00	254
Concrete	Raeford	North Carolina	\$ 1,515,000.00	254
Concrete	Spring Lake	North Carolina	\$ 1,000,000.00	254
Concrete	Georgetown	South Carolina	\$ 284,000.00	254
Concrete	Dillon	South Carolina	\$ 728,236.00	254
Concrete	Florence	South Carolina	\$ 681,960.00	254
Concrete	Timmons ville	South Carolina	\$ 548,000.00	254

Table 2. Tropical-storm-force wind probability map on Cementos ARGOS locations.

Type	Name	Location	Sum Insured (USD)	Wind probability > 34 mph
Port/Terminal	Wilmington	North Carolina	\$ 1,457,000.00	>90%
Concrete	Ayden	North Carolina	\$ 469,800.00	>90%
Concrete	Clinton	North Carolina	\$ 700,000.00	>90%
Concrete	Farmville	North Carolina	\$ 146,440.00	>90%
Concrete	Goldsboro	North Carolina	\$ 1,204,200.00	>90%
Concrete	Havelock	North Carolina	\$ 837,588.00	>90%
Concrete	Jacksonville	North Carolina	\$ 741,936.00	>90%
Concrete	Kinston	North Carolina	\$ 630,040.00	>90%
Concrete	New Bern	North Carolina	\$ 1,024,460.00	>90%
Concrete	Newport	North Carolina	\$ 508,620.00	>90%
Concrete	Smithfield	North Carolina	\$ 1,004,240.00	>90%
Concrete	Washington	North Carolina	\$ 553,960.00	>90%
Concrete	Dunn	North Carolina	\$ 833,300.00	>90%
Concrete	Fayetteville	North Carolina	\$ 1,300,000.00	>90%
Concrete	Laurinburg	North Carolina	\$ 700,000.00	>90%
Concrete	Lumberton	North Carolina	\$ 1,772,400.00	>90%
Concrete	Raeford	North Carolina	\$ 1,515,000.00	>90%
Concrete	Spring Lake	North Carolina	\$ 1,000,000.00	>90%
Concrete	Wilmington (Hwy. 421)	North Carolina	\$ 792,000.00	>90%

Table 2. Tropical-storm-force wind probability map on Cementos ARGOS locations.

Type	Name	Location	Sum Insured (USD)	Wind probability > 34 mph
Concrete	Wilmington (Castle Hayne)	North Carolina	\$ -	>90%
Concrete	Wilmington (Leland)	North Carolina	\$ -	>90%
Concrete	Wilmington (Scotts Hill)	North Carolina	\$ -	>90%
Concrete	Conway	South Carolina	\$ 367,000.00	>90%
Concrete	Myrtle Beach (Surfside)	South Carolina	\$ 1,438,000.00	>90%
Concrete	North Myrtle Beach	South Carolina	\$ 1,438,000.00	>90%
Concrete	Shallotte, NC	South Carolina	\$ -	>90%
Concrete	Dillon	South Carolina	\$ 728,236.00	>90%
Concrete	Florence	South Carolina	\$ 681,960.00	>90%
Concrete	Marion	South Carolina	\$ 514,600.00	>90%
Concrete	Greenville	North Carolina	\$ 1,773,496.00	80-90%
Concrete	Plymouth	North Carolina	\$ 449,000.00	80-90%
Concrete	Rocky Mount	North Carolina	\$ 924,500.00	80-90%
Concrete	Sims	North Carolina	\$ 821,200.00	80-90%
Concrete	Williamston	North Carolina	\$ 417,700.00	80-90%
Concrete	Cary	North Carolina	\$ -	80-90%
Concrete	Fuquay-Varina	North Carolina	\$ 407,400.00	80-90%
Concrete	Knightdale	North Carolina	\$ 637,700.00	80-90%
Concrete	Raleigh (Pershing Rd.)	North Carolina	\$ 975,480.00	80-90%
Concrete	Pinehurst	North Carolina	\$ 483,180.00	80-90%
Concrete	Sanford	North Carolina	\$ 925,000.00	80-90%
Concrete	Georgetown	South Carolina	\$ 284,000.00	80-90%
Concrete	Timmonsville	South Carolina	\$ 548,000.00	80-90%
Cemente	Harleyville	South Carolina	\$ 285,456,411.00	70-80%
Port/Terminal	Durham	North Carolina	\$ 1,998,254.50	70-80%
Concrete	Charlotte (Indian Trl.)	North Carolina	\$ -	70-80%
Concrete	Butner	North Carolina	\$ 365,860.00	70-80%
Concrete	Chapel Hill	North Carolina	\$ -	70-80%
Concrete	Durham (Hwy. 55)	North Carolina	\$ 942,920.00	70-80%
Concrete	Durham (Plum St.)	North Carolina	\$ 1,053,900.00	70-80%
Concrete	Hillsborough	North Carolina	\$ 503,020.00	70-80%
Concrete	Louisburg	North Carolina	\$ 392,600.00	70-80%
Concrete	Wake Forest (Capital Blvd.)	North Carolina	\$ 1,936,600.00	70-80%
Concrete	Moncks Corner	South Carolina	\$ 935,730.00	70-80%
Concrete	North Charleston	South Carolina	\$ 2,644,560.00	70-80%
Concrete	Summerville	South Carolina	\$ 701,560.00	70-80%
Concrete	Columbia (Downtown)	South Carolina	\$ 604,800.00	70-80%
Concrete	Columbia (Northeast)	South Carolina	\$ 466,000.00	70-80%
Concrete	Charlotte (Hebron St.)	North Carolina	\$ 1,220,240.00	60-70%
Concrete	Fort Mill, SC	North Carolina	\$ -	60-70%

Table 2. Tropical-storm-force wind probability map on Cementos ARGOS locations.

Type	Name	Location	Sum Insured (USD)	Wind probability > 34 mph
Concrete	Roanoke Rapids	North Carolina	\$ 535,000.00	60-70%
Concrete	Kernersville	North Carolina	\$ 445,400.00	60-70%
Concrete	Rougemont	North Carolina	\$ 455,960.00	60-70%
Concrete	Chapin	South Carolina	\$ 488,880.00	60-70%
Concrete	Lexington	South Carolina	\$ 406,720.00	60-70%
Port/Terminal	Guadalupe	Guadalupe	\$ -	60-70%
Concrete	Augusta	Georgia	\$ 1,191,173.70	50-60%
Concrete	Martínez	Georgia	\$ -	50-60%
Concrete	Aiken, SC	Georgia	\$ -	50-60%
Concrete	Rincon	Georgia	\$ 449,368.16	50-60%
Concrete	Denver	North Carolina	\$ 760,708.00	50-60%
Concrete	High Point	North Carolina	\$ 733,000.00	50-60%
Concrete	Mooresville	North Carolina	\$ 2,038,160.00	50-60%
Concrete	Rural Hall	North Carolina	\$ 310,400.00	50-60%
Concrete	Statesville	North Carolina	\$ 3,541,400.00	50-60%
Concrete	Winston-Salem (Downtown)	North Carolina	\$ 1,242,040.00	50-60%
Concrete	Winston-Salem (Clemmons Rd.)	North Carolina	\$ 950,000.00	50-60%
Concrete	Aiken	South Carolina	\$ 348,072.90	50-60%
Concrete	Jackson	South Carolina	\$ 741,819.41	50-60%
Concrete	Hilton Head	South Carolina	\$ -	50-60%
Port/Terminal	Savannah	Georgia	\$ 8,085,850.00	40-50%
Concrete	Hinesville	Georgia	\$ -	40-50%
Concrete	Pooler	Georgia	\$ 704,477.57	40-50%
Concrete	Richmond Hill	Georgia	\$ 463,238.70	40-50%
Concrete	Savannah (Louisville Rd.)	Georgia	\$ 1,007,000.00	40-50%
Concrete	Statesboro	Georgia	\$ 740,800.00	40-50%
Concrete	Hickory	North Carolina	\$ 1,759,202.00	40-50%
Concrete	Taylorsville	North Carolina	\$ 352,120.00	40-50%
Concrete	Athens	Georgia	\$ 566,474.21	30-40%
Concrete	Cornelia	Georgia	\$ 417,817.28	30-40%
Concrete	Jefferson	Georgia	\$ 1,092,315.91	30-40%
Concrete	McRae	Georgia	\$ 334,138.61	30-40%
Concrete	Brunswick	Georgia	\$ 1,053,557.00	30-40%
Concrete	Brunswick	Georgia	\$ 404,583.15	30-40%
Concrete	Chester	Virginia	\$ 940,300.00	30-40%
Concrete	Richmond (Bryan Park)	Virginia	\$ 469,600.00	30-40%
Concrete	Richmond (Warboro Rd.)	Virginia	\$ 2,324,500.00	30-40%
Concrete	Williamsburg (Lee Hall)	Virginia	\$ 650,564.00	30-40%
Port/Terminal	Ball Ground	Georgia	\$ 6,243,852.00	20-30%
Concrete	Jacksonville (New Berlin Rd)	Florida	\$ 2,241,678.00	20-30%

Table 2. Tropical-storm-force wind probability map on Cementos ARGOS locations.

Type	Name	Location	Sum Insured (USD)	Wind probability > 34 mph
Concrete	Yulee	Florida	\$ 966,831.00	20-30%
Concrete	Alpharetta	Georgia	\$ 726,000.00	20-30%
Concrete	Atlanta (Glenwood Ave.)	Georgia	\$ 439,238.53	20-30%
Concrete	Atlanta (Armour Dr.)	Georgia	\$ 2,178,150.30	20-30%
Cemente	Ball Ground	Georgia	\$ 416,022.25	20-30%
Concrete	Buford	Georgia	\$ 379,382.32	20-30%
Concrete	Cumming	Georgia	\$ 1,008,376.50	20-30%
Concrete	Dahlonega	Georgia	\$ 488,130.65	20-30%
Concrete	Doraville	Georgia	\$ 2,024,895.54	20-30%
Concrete	Duluth	Georgia	\$ 1,783,626.49	20-30%
Concrete	Gainesville	Georgia	\$ 756,018.65	20-30%
Concrete	Grayson	Georgia	\$ 208,456.82	20-30%
Concrete	Griffin	Georgia	\$ 611,715.99	20-30%
Concrete	Hampton	Georgia	\$ 155,544.26	20-30%
Concrete	Jackson	Georgia	\$ 163,215.63	20-30%
Concrete	Locust Grove	Georgia	\$ 589,939.08	20-30%
Concrete	Lawrenceville	Georgia	\$ 660,916.47	20-30%
Concrete	Oxford	Georgia	\$ 359,070.82	20-30%
Concrete	Stockbridge	Georgia	\$ 680,257.03	20-30%
Concrete	Winder	Georgia	\$ 506,479.50	20-30%
Concrete	Bolingbroke	Georgia	\$ 132,198.41	20-30%
Concrete	Byron	Georgia	\$ 1,092,682.79	20-30%
Concrete	Eastman	Georgia	\$ 453,608.33	20-30%
Concrete	Hawkinsville	Georgia	\$ 140,607.80	20-30%
Concrete	Macon (Roff Ave.)	Georgia	\$ 941,930.27	20-30%
Concrete	Warner Robins	Georgia	\$ 1,166,904.11	20-30%
Concrete	Kingsland	Georgia	\$ 923,356.00	20-30%
Clinker	Atlanta	Atlanta	\$ -	20-30%