Storm Analysis

As of 09/12/2018 00:00 AST, water levels from Fort Pulaski, GA to Ocean City, MD continue to be elevated and range from 0.5 to 1.3 feet above normal tide levels. Elevated water levels from Duck, NC to Ocean City, MD are a result of the strong easterly flow from the weekend weather system.
Winds continue to be light and breezy along the Mid-Atlantic coast. Barometric Pressure is holding steady or even rising gradually across the region.

Water Level and Meteorological plots available below are updated automatically. A line denoting Mean Higher High Water (MHHW) is displayed to provide an approximate indication of when flooding inundation may occur.

For additional real-time and historical inundation information for select stations affected by this storm, please visit Coastal Inundation Dashboard. For additional data, please see the Center for Operational Oceanographic Products & Services website.

For more information or archived products and reports, please visit the Storm QuickLook Homepage.

Analyst: CMF

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Select National Hurricane Center Advisory Information:

Hurricane Florence Advisory Number 51
NWS National Hurricane Center Miami FL AL062018
1100 PM AST Tue Sep 11 2018

...DANGEROUS FLORENCE EXPECTED TO BRING LIFE-THREATENING STORM SURGE AND RAINFALL TO PORTIONS OF THE CAROLINAS AND MID-ATLANTIC STATES...

WATCHES AND WARNINGS
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CHANGES WITH THIS ADVISORY:

None.

SUMMARY OF WATCHES AND WARNINGS IN EFFECT:

A Storm Surge Warning is in effect for...
* South Santee River South Carolina to Duck North Carolina
* 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
* North of Duck North Carolina to the North Carolina/Virginia border

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

A Hurricane Watch is in effect for...
* Edisto Beach South Carolina to South Santee River South Carolina
* North of Duck North Carolina to the North Carolina/Virginia border

A Tropical Storm Watch is in effect for...
* North of the North Carolina/Virginia border to Cape Charles Light Virginia
* Chesapeake Bay south of New Point Comfort

Interests elsewhere in the southeastern and mid-Atlantic states should monitor the progress of Florence.

A Storm Surge Warning means there is a danger of life-threatening inundation, from rising water moving inland from
the coastline, during the next 36 hours in the indicated locations. For a depiction of areas at risk, please see the
National Weather Service Storm Surge Watch/Warning Graphic, available at hurricanes.gov. This is a
life-threatening situation. Persons located within these areas should take all necessary actions to protect life and
property from rising water and the potential for other dangerous conditions. Promptly follow evacuation and other
instructions from local officials.

A Storm Surge Watch means there is a possibility of life-threatening inundation, from rising water moving inland
from the coastline, in the indicated locations during the next 48 hours.

A Hurricane Warning means that hurricane conditions are expected somewhere within the warning area. A warning
is typically issued 36 hours before the anticipated first occurrence of tropical-storm-force winds, conditions that make
outside preparations difficult or dangerous. Preparations to protect life and property should be rushed to completion.

A Hurricane Watch means that hurricane conditions are possible within the watch area. A watch is typically issued
48 hours before the anticipated first occurrence of tropical-storm-force winds, conditions that make outside
preparations difficult or dangerous.

A Tropical Storm Watch means that tropical storm conditions are possible within the watch area, generally within 48
hours.

For storm information specific to your area, including possible inland watches and warnings, please monitor products
issued by your local National Weather Service forecast office.

DISCUSSION AND OUTLOOK
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At 1100 PM AST (0300 UTC), the eye of Hurricane Florence was located near latitude 28.4 North, longitude 68.7
West. Florence is moving toward the west-northwest near 17 mph (28 km/h). A motion toward the west-northwest
and northwest is expected through early Thursday. Florence is expected to slow down considerably by late Thursday
into Friday. On the forecast track, the center of Florence will move over the southwestern Atlantic Ocean between
Bermuda and the Bahamas through Wednesday, and approach the coast of North Carolina or South Carolina in the
hurricane warning area on Thursday and Friday.

Maximum sustained winds are near 140 mph (220 km/h) with higher gusts. Florence is a category 4 hurricane on the
Saffir-Simpson Hurricane Wind Scale. Strengthening is forecast through Wednesday. While some weakening is
expected on Thursday, Florence is forecast to be an extremely dangerous major hurricane through landfall.

Hurricane-force winds extend outward up to 60 miles (95 km) from the center and tropical-storm-force winds extend
outward up to 175 miles (280 km).

The minimum central pressure reported by an Air Force Hurricane Hunter aircraft is 946 mb (27.93 inches).

HAZARDS AFFECTING LAND
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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...
Cape Fear to Cape Lookout, including the Neuse, Pamlico, Pungo, and Bay Rivers...9-13 ft
North Myrtle Beach to Cape Fear...6-9 ft
Cape Lookout to Ocracoke Inlet...6-9 ft
South Santee River to North Myrtle Beach...4-6 ft
Ocracoke Inlet to North Carolina/Virginia Border...4-6 ft
Edisto Beach to South Santee River...2-4 ft

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. For information specific to your area, please see products issued by your local National Weather Service forecast office.

RAINFALL: Florence is expected to produce total rainfall accumulations of 15 to 25 inches with isolated maximum amounts of 35 inches near the storm's track over portions of the Carolinas and Mid-Atlantic States from late this week into early next week. This rainfall would produce catastrophic flash flooding and significant river flooding.

WIND: Hurricane conditions are expected to reach the coast within the hurricane warning area on Friday. Winds are expected to first reach tropical storm strength on Thursday, making outside preparations difficult or dangerous. Preparations to protect life and property should be rushed to completion.

SURF: Swells generated by Florence are affecting Bermuda and portions of the U.S. East Coast. These swells are likely to cause life-threatening surf and rip current conditions. Please consult products from your local weather office.

NEXT ADVISORY
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Next intermediate advisory at 200 AM AST.
Next complete advisory at 500 AM AST.

Forecaster Pasch

For the purpose of timely release, data contained within this QuickLook have undergone a "limited" NOS Quality Assurance/Control; however, the data have not yet undergone final verification. All data subject to NOS verification.
Last Observed Sample: 09/11/2018 23:54 (EDT). Data relative to MHHW

Observed: 0.23 ft. Predicted: -0.22 ft. Residual: 0.45 ft.

Historical Maximum Water Level: Oct 8 2016, 4.94 ft.

Next High Tide: 09/12/2018 10:52 (EDT), 0.73 ft.

Last Observed Sample: 09/11/2018 23:54 (EDT)

Wind Speed: 1 knots  Gusts: 1 knots  Direction: 120° T
NOAA/NOS/CO-OPS 8670870 Fort Pulaski, GA

Barometric Pressure

Last Observed Sample: 09/11/2018 23:54 (EDT)
Barometric Pressure: 1018.2 mb

NOAA/NOS/CO-OPS 8665530 Charleston, Cooper River Entrance, SC

Preliminary Water Level, relative to Mean Higher High Water (MHHW)

Last Observed Sample: 09/11/2018 23:54 (EDT). Data relative to MHHW:
Observed: 0.39 ft. Predicted: -0.29 ft. Residual: 0.68 ft.
Historical Maximum Water Level: Sep 21 1989, 6.76 ft.
Next High Tide: 09/12/2018 10:47 (EDT), 0.66 ft.
NOAA/NOS/CO-OPS 8665530 Charleston, Cooper River Entrance, SC

Wind Speed / Gusts / Direction

Wind Speed: 1 knots  Gusts: 2 knots  Direction: 5° T

Barometric Pressure

Barometric Pressure: 1018.0 mb
NOAA/NOS/CO-OPS 8662245 Oyster Landing (N Inlet Estuary), SC

Last Observed Sample: 09/11/2018 23:54 (EDT). Data relative to MHHW
Observed: 0.80 ft. Predicted: 0.12 ft. Residual: 0.68 ft.
Historical Maximum Water Level: Oct 8 2016, 4.64 ft.
Next High Tide: 09/12/2018 11:36 (EDT), 0.40 ft.

NOAA/NOS/CO-OPS 8661070 Springmaid Pier, SC

Last Observed Sample: 09/11/2018 23:54 (EDT). Data relative to MHHW
Observed: -0.54 ft. Predicted: -1.15 ft. Residual: 0.61 ft.
Historical Maximum Water Level: Sep 21 1989, 8.77 ft.
Next High Tide: 09/12/2018 10:11 (EDT), 0.80 ft.
NOAA/NOS/CO-OPS 8661070 Springmaid Pier, SC

Barometric Pressure

Last Observed Sample: 09/11/2018 23:54 (EDT)
Barometric Pressure: 1021.6 mb

NOAA/NOS/CO-OPS 8658163 Wrightsville Beach, NC

Preliminary Water Level, relative to Mean Higher High Water (MHHW)

Last Observed Sample: 09/12/2018 00:06 (EDT). Data relative to MHHW
Observed: -0.41 ft. Predicted: -1.20 ft. Residual: 0.79 ft.
Historical Maximum Water Level: Oct 4 2015, 2.97 ft.
Next High Tide: 09/12/2018 10:00 (EDT), 0.87 ft.
NOAA/NOS/CO-OPS 8658163 Wrightsville Beach, NC

Wind Speed / Gusts / Direction

Wind Speed: 6 knots  Gusts: 8 knots  Direction: 116° T

Barometric Pressure

Barometric Pressure: 1018.4 mb
Last Observed Sample: 09/11/2018 23:54 (EDT). Data relative to MHHW

- Observed: 1.15 ft.
- Predicted: 0.38 ft.
- Residual: 0.77 ft.

Historical Maximum Water Level: Oct 8 2016, 3.48 ft.
Next High Tide: 09/11/2018 23:58 (EDT), 0.38 ft.

Last Observed Sample: 09/11/2018 23:54 (EDT)
Barometric Pressure: 1018.1 mb
Last Observed Sample: 09/11/2018 23:54 (EDT). Data relative to MHHW

Observed: 0.52 ft. Predicted: -0.33 ft. Residual: 0.85 ft.
Historical Maximum Water Level: Sep 19 1955, 3.39 ft.
Next High Tide: 09/12/2018 10:33 (EDT), 0.62 ft.

Last Observed Sample: 09/11/2018 23:54 (EDT)

Wind Speed: 2 knots G <sub>usts</sub>: 3 knots Direction: 60° T
NOAA/NOS/CO-OPS 8656483 Beaufort, Duke Marine Lab, NC

Barometric Pressure

Last Observed Sample: 09/11/2018 23:54 (EDT)
Barometric Pressure: 1018.8 mb

NOAA/NOS/CO-OPS 8654467 USCG Station Hatteras, NC

Preliminary Water Level, relative to Mean Higher High Water (MHHW)

Last Observed Sample: 09/12/2018 00:06 (EDT). Data relative to MHHW
Observed: 0.81 ft. Predicted: 0.07 ft. Residual: 0.74 ft.
Historical Maximum Water Level: Oct 9 2016, 5.76 ft.
Next High Tide: 09/12/2018 11:06 (EDT), 0.15 ft.
NOAA/NOS/CO-OPS 8654467 USCG Station Hatteras, NC

Wind Speed / Gusts / Direction

Last Observed Sample: 09/12/2018 00:06 (EDT)
Wind Speed: 5 knots Gusts: 7 knots Direction: 114° T

NOAA/NOS/CO-OPS 8654467 USCG Station Hatteras, NC

Barometric Pressure

Last Observed Sample: 09/12/2018 00:06 (EDT)
Barometric Pressure: 1019.1 mb
Last Observed Sample: 09/11/2018 23:54 (EDT). Data relative to MHHW
Observed: 0.89 ft. Predicted: 0.09 ft. Residual: 0.80 ft.
Historical Maximum Water Level: Aug 28 2011, 6.31 ft.
Next High Tide: 09/12/2018 10:36 (EDT), 0.26 ft.

Last Observed Sample: 09/11/2018 23:54 (EDT)
Wind Speed: 3 knots Gusts: 4 knots Direction: 115° T
NOAA/NOS/CO-OPS 8652587 Oregon Inlet Marina, NC

Barometric Pressure

Last Observed Sample: 09/11/2018 23:54 (EDT)
Barometric Pressure: 1019.3 mb

NOAA/NOS/CO-OPS 8651370 Duck, NC

Preliminary Water Level, relative to Mean Higher High Water (MHHW)

Last Observed Sample: 09/11/2018 23:54 (EDT). Data relative to MHHW
Oberved: 0.10 ft. Predicted: -0.77 ft. Residual: 0.87 ft.
Historical Maximum Water Level: Sep 18 2003, 4.13 ft.
Next High Tide: 09/12/2018 10:04 (EDT), 0.66 ft.
Last Observed Sample: 09/11/2018 23:54 (EDT)
Wind Speed: 7 knots  Gusts: 7 knots  Direction: 118° T

Barometric Pressure: 1019.1 mb
Last Observed Sample: 09/11/2018 23:54 (EDT). Data relative to MHHW

- **Observed**: 1.28 ft.
- **Predicted**: -0.02 ft.
- **Residual**: 1.30 ft.
- **Historical Maximum Water Level**: n/a
- **Next High Tide**: 09/12/2018 10:56 (EDT), 0.53 ft.

Last Observed Sample: 09/11/2018 23:54 (EDT)

- **Wind Speed**: 6 knots
- **Gusts**: 7 knots
- **Direction**: 152° T
NOAA/NOS/CO-OPS 8638901 CBBT, Chesapeake Channel, VA

Barometric Pressure

Last Observed Sample: 09/11/2018 23:54 (EDT)
Barometric Pressure: 1018.6 mb

NOAA/NOS/CO-OPS 8631044 Wachapreague, VA

Preliminary Water Level, relative to Mean Higher High Water (MHHW)

Last Observed Sample: 09/11/2018 23:54 (EDT). Data relative to MHHW
Observed: 0.82 ft. Predicted: 0.05 ft. Residual: 0.77 ft.
Next High Tide: 09/12/2018 11:15 (EDT), 0.59 ft.
NOAA/NOS/CO-OPS 8631044 Wachapreague, VA

Wind Speed / Gusts / Direction

Last Observed Sample: 09/11/2018 23:54 (EDT)
Wind Speed: 3 knots Gusts: 4 knots Direction: 122° T

NOAA/NOS/CO-OPS 8570283 Ocean City Inlet, MD

Preliminary Water Level, relative to Mean Higher High Water (MHHW)

Last Observed Sample: 09/11/2018 23:54 (EDT). Data relative to MHHW
Observed: 0.81 ft. Predicted: 0.12 ft. Residual: 0.69 ft.
Next High Tide: 09/12/2018 10:38 (EDT), 0.46 ft.
Last Observed Sample: 09/11/2018 23:54 (EDT)

Wind Speed: 1 knots  Gusts: 2 knots  Direction: 155° T
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<thead>
<tr>
<th>Station ID</th>
<th>Station Name</th>
<th>Date/Time</th>
<th>Observed Water Level</th>
<th>Predicted Tide</th>
<th>Residual Water Level</th>
<th>24 Hour Maximum Storm Tide</th>
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<tbody>
<tr>
<td>8670870</td>
<td>Fort Pulaski, GA</td>
<td>09/11/2018 23:54 (EDT)</td>
<td>0.23 ft</td>
<td>-0.22 ft</td>
<td>0.45 ft</td>
<td>1.48 ft</td>
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<td>Oyster Landing (N Inlet Estuary), SC</td>
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<td>1.45 ft</td>
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Center for Operational Oceanographic Products & Services (CO-OPS) | National Ocean Service (NOS) | National Oceanic and Atmospheric Administration | U.S. Department of Commerce