Storm Analysis

As of 10/06/2016 12:00 EDT, water levels along the coast from south Florida to South Carolina range from 0.6 to 2.0 feet above tidal predictions. Winds are currently measuring between 10 and 20 kts with gusts up to 35 kts along the east coast of Florida. Barometric pressure is beginning to decrease 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 data, please see the Center for Operational Oceanographic Products & Services website. For more information or archived products and reports, please see the Storm QuickLook Homepage.

Analyst: CRD

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SELECT NATIONAL HURRICANE CENTER ADVISORY INFORMATION:

HURRICANE MATTHEW ADVISORY NUMBER NATIONAL HURRICANE CENTER MIAMI FL
1100 AM EDT THU OCT 06 2016

...EXTREMELY DANGEROUS HURRICANE MATTHEW HEADING FOR FLORIDA...

SUMMARY OF 1100 AM EDT INFORMATION

LOCATION...25.1N 77.8W
ABOUT 25 MI...WNW OF NASSAU
ABOUT 180 MI... SE OF WEST PALM BEACH FLORIDA
MAXIMUM SUSTAINED WINDS...140 MPH
PRESENT MOVEMENT...NW OR 325 DEGREES AT 14 MPH
MINIMUM CENTRAL PRESSURE...940 MB

WATCHES AND WARNINGS

CHANGES WITH THIS ADVISORY:

The Hurricane Warning has been extended northward to Edisto Beach, South Carolina.

A Tropical Storm Warning has been issued for the west coast of Florida from Anclote River to Suwannee River.

SUMMARY OF WATCHES AND WARNINGS IN EFFECT:

A Hurricane Warning is in effect for...
* Central Bahamas, including Long Island, Exuma, Rum Cay, San Salvador, and Cat Island
* Northwestern Bahamas, including the Abacos, Andros Island, Berry Islands, Bimini, Eleuthera, Grand Bahama Island, and New Providence
* North of Golden Beach Florida to Edisto Beach South Carolina
* Lake Okeechobee

A Hurricane Watch is in effect for...
* North of Edisto Beach to South Santee River South Carolina

A Tropical Storm Warning is in effect for...
* Chokoloskee to Golden Beach
* Florida Keys from Seven Mile Bridge eastward
* Florida Bay
* Anclote River to Suwannee River

A Tropical Storm Watch is in effect for...
* North of Chokoloskee to Anclote River

Interests elsewhere in the Florida Peninsula, the Florida Keys, and in the Carolinas should monitor the progress of Matthew.

For storm information specific to your area in the United States, including possible inland watches and warnings, please monitor products issued by your local National Weather Service forecast office. For storm information specific to your area outside the United States, please monitor products issued by your national meteorological service.

DISCUSSION AND 48-HOUR OUTLOOK

At 1100 AM EDT (1500 UTC), the eye of Hurricane Matthew was located near latitude 25.1 North, longitude 77.8 West. The eye is moving toward the northwest near 14 mph (22 km/h) between Andros Island and Nassau in the Bahamas. This general motion is expected to continue today with a turn toward the north-northwest tonight or early Friday. On the forecast track, Matthew should cross the northwestern Bahamas later today and move close to or over the east coast of the Florida peninsula through Friday night.

Reports form an Air Force plane indicate that the maximum sustained winds are near 140 mph (220 km/h) with higher gusts. Matthew is a category 4 hurricane on the Saffir-Simpson Hurricane Wind Scale. Some additional strengthening is possible, and Matthew should remain a Category 4 hurricane while it approaches the Florida coast.

Hurricane-force winds extend outward up to 60 miles (95 km) from the center and tropical storm-force winds extend outward up to 160 miles (260 km).

The minimum central pressure estimated by an Air Force plane was 940 mb (27.76 inches).

HAZARDS AFFECTING LAND

WIND: Hurricane conditions are still affecting the central Bahamas and these condition will spread into the northwestern Bahamas during the next few hours.

Hurricane conditions are expected to first reach the hurricane warning area in Florida by late today and will spread northward within the warning area through Friday. Tropical storm conditions are first expected in Florida within the next several hours.

Hurricane conditions are possible in the hurricane watch area in northeast Georgia and South Carolina by early Saturday, with tropical storm conditions possible on Friday night.

Winds increase rapidly in elevation in a tropical cyclone. Residents in high-rise buildings should be aware that the winds at the top of a 30-story building will be, on average, about one Saffir-Simpson category higher than the winds near the surface.
STORM SURGE: The combination of a dangerous storm surge and large and destructive waves could raise water levels by as much as the following amounts above normal tide levels...

The water could reach the following heights above ground if the peak surge occurs at the time of high tide...

Sebastian Inlet to Edisto Beach, including portions of the St. Johns River...6 to 9 ft
Edisto Beach to South Santee River...3 to 5 ft
Deerfield Beach to Sebastian Inlet...3 to 5 ft
Virginia Key to Deerfield Beach...1 to 3 ft

Surge-related flooding depends on the relative timing of the surge and the tidal cycle, and can vary greatly over short distances. Large waves generated by Matthew will cause water rises to occur well in advance of and well away from the track of the center.

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. There is a danger of life-threatening inundation during the next 36 hours along the Florida east coast, the Georgia coast, and the South Carolina coast from Deerfield Beach, Florida to Edisto Beach, South Carolina. There is the possibility of life-threatening inundation during the next 48 hours from north of Edisto Beach to South Santee River, South Carolina. For a depiction of areas at risk, please see the Prototype National Weather Service Storm Surge Watch/Warning Graphic. For information specific to your area, please see products issued by your local National Weather Service forecast office.

The Prototype Storm Surge Watch/Warning Graphic is a depiction of areas that would qualify for inclusion under a storm surge watch or warning currently under development by the National Weather Service and planned for operational use in 2017. The Prototype Graphic is available at hurricanes.gov.

RAINFALL: Matthew is expected to produce total rainfall amounts in the following areas:

The Bahamas...8 to 12 inches, isolated totals of 15 inches Coastal eastern Florida, Georgia, and South Carolina....4 to 8 inches, isolated 12 inches
The Florida Keys...1 to 3 inches, isolated 5 inches
Eastern Cuba...additional 2 to 4 inches, isolated storm-totals of 20 inches Central Cuba...additional 2 to 4 inches, isolated storm-totals of 8 inches

Life-threatening flash floods and mudslides are likely in central and eastern Cuba.

SURF: Swells generated by Matthew will continue to affect portions of the north coast of Cuba and the Bahamas during the next few days, and will spread northward along the east coast of Florida and the southeast U.S. coast through the weekend. These swells will likely 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 PM EDT.
Next complete advisory at 500 PM EDT.

Forecaster Avila
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.

Jump to: Virginia Key - Water Level, Virginia Key - Winds, Virginia Key - Barometric, Lake Worth Pier - Water Level, Lake Worth Pier - Winds, Trident Pier - Water Level, Trident Pier - Winds, Trident Pier - Barometric, Mayport (Bar Pilots Dock) - Water Level, Mayport (Bar Pilots Dock) - Winds, Southbank Riverwalk, St Johns River - Water Level, I-295 Bridge, St Johns River - Water Level, I-295 Bridge, St Johns River - Winds, I-295 Bridge, St Johns River - Barometric, Fernandina Beach - Water Level, Fernandina Beach - Winds, Fort Pulaski - Water Level, Fort Pulaski - Winds, Charleston - Water Level, Charleston - Winds, Charleston - Barometric, Oyster Landing (N Inlet Estuary) - Water Level, Springmaid Pier - Water Level, Springmaid Pier - Winds
Last Observed Sample: 10/06/2016 12:30 (EDT). Data relative to MHHW
Observed: 0.85 ft. Predicted: 0.16 ft. Residual: 0.69 ft.
Next High Tide: 10/06/2016 13:23 (EDT), 0.25 ft.

Last Observed Sample: 10/06/2016 12:30 (EDT)
Wind Speed: 6 knots Gusts: 15 knots Direction: 358° T
NOAA/NOS/CO-OPS 8723214 Virginia Key, FL

Barometric Pressure

Last Observed Sample: 10/06/2016 12:30 (EDT)
Barometric Pressure: 1003.6 mb

NOAA/NOS/CO-OPS 8722670 Lake Worth Pier, FL

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

Last Observed Sample: 10/06/2016 12:24 (EDT). Data relative to MHHW
Observed: 1.05 ft. Predicted: 0.11 ft. Residual: 0.94 ft.
Historical Maximum Water Level: Nov 23 1984, 1.88 ft.
Next High Tide: 10/07/2016 00:22 (EDT), -0.25 ft.
NOAA/NOS/CO-OPS 8722670 Lake Worth Pier, FL

Last Observed Sample: 10/06/2016 12:24 (EDT)
Wind Speed: 30 knots Gusts: 36 knots Direction: 31° T

NOAA/NOS/CO-OPS 8721604 Trident Pier, FL

Last Observed Sample: 10/06/2016 12:24 (EDT)
Data relative to MHHW
Observed: 1.29 ft. Predicted: 0.13 ft. Residual: 1.16 ft.
Historical Maximum Water Level: Sep 26 2004, 4.01 ft.
Next High Tide: 10/07/2016 00:11 (EDT), -0.55 ft.
Wind Speed: 15 knots
Gusts: 21 knots
Direction: 35° T

Barometric Pressure: 1009.5 mb
Last Observed Sample: 10/06/2016 12:24 (EDT). Data relative to MHHW.

Observed: 1.37 ft. Predicted: 0.27 ft. Residual: 1.10 ft.

Historical Maximum Water Level: Sep 27 2004, 2.47 ft.

Next High Tide: 10/06/2016 12:43 (EDT), 0.30 ft.

Wind Speed: 25 knots  Gusts: 29 knots  Direction: 36° T
NOAA/NOS/CO-OPS 8720226 Southbank Riverwalk, St Johns River, FL
Preliminary Water Level, relative to Mean Higher High Water (MHHW)

Last Observed Sample: 10/06/2016 12:30 (EDT). Data relative to MHHW

Historical Maximum Water Level: Sep 27 2004, 3.44 ft.
Next High Tide: 10/06/2016 13:28 (EDT), -0.06 ft.

NOAA/NOS/CO-OPS 8720357 I-295 Bridge, St Johns River, FL
Preliminary Water Level, relative to Mean Higher High Water (MHHW)

Last Observed Sample: 10/06/2016 12:24 (EDT). Data relative to MHHW

Observed: 1.49 ft. Predicted: 0.18 ft. Residual: 1.31 ft.
Historical Maximum Water Level: Sep 27 2004, 3.46 ft.
Next High Tide: 10/06/2016 15:01 (EDT), 0.61 ft.
Wind Speed: 13 knots  
Gusts: 21 knots  
Direction: 16° T

Barometric Pressure: 1013.4 mb
NOAA/NOS/CO-OPS 8720030 Fernandina Beach, FL

Last Observed Sample: 10/06/2016 12:24 (EDT). Data relative to MHHW

Observed: 1.11 ft. Predicted: -0.17 ft. Residual: 1.28 ft.

Historical Maximum Water Level: Oct 2 1898, 6.94 ft.

Next High Tide: 10/06/2016 13:01 (EDT), -0.06 ft.

NOAA/NOS/CO-OPS 8720030 Fernandina Beach, FL

Wind Speed / Gusts / Direction

Last Observed Sample: 10/06/2016 12:24 (EDT)

Wind Speed: 12 knots Gusts: 20 knots Direction: 12° T
Last Observed Sample: 10/06/2016 12:24 (EDT). Data relative to MHHW

- Observed: 1.00 ft. Predicted: -0.39 ft. Residual: 1.39 ft.
- Next High Tide: 10/07/2016 00:32 (EDT), -0.98 ft.

Last Observed Sample: 10/06/2016 12:24 (EDT)

- Wind Speed: 14 knots
- Gusts: 18 knots
- Direction: 9° T
Last Observed Sample: 10/06/2016 12:24 (EDT). Data relative to MHHW

- Observed: 1.11 ft.
- Predicted: -0.19 ft.
- Residual: 1.30 ft.

Historical Maximum Water Level: Sep 21 1989, 6.76 ft.
Next High Tide: 10/07/2016 00:10 (EDT), -0.77 ft.

Last Observed Sample: 10/06/2016 12:24 (EDT)

Wind Speed: 14 knots
Gusts: 18 knots
Direction: 9° T
NOAA/NOS/CO-OPS 8665530 Charleston, SC

Barometric Pressure

Last Observed Sample: 10/06/2016 12:24 (EDT)
Barometric Pressure: 1018.1 mb

NOAA/NOS/CO-OPS 8662245 Oyster Landing (N Inlet Estuary), SC

Last Observed Sample: 10/06/2016 12:18 (EDT). Data relative to MHHW

Observed: 0.89 ft. Predicted: -0.15 ft. Residual: 1.04 ft.

Historical Maximum Water Level: Aug 26 2011, 2.40 ft.

Next High Tide: 10/06/2016 12:54 (EDT), -0.07 ft.
NOAA/NOS/CO-OPS 8661070 Springmaid Pier, SC

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

Last Observed Sample: 10/06/2016 12:24 (EDT). Data relative to MHHW

Observed: 0.75 ft. Predicted: -0.42 ft. Residual: 1.17 ft.

Historical Maximum Water Level: Jan 1 1987, 3.65 ft.

Next High Tide: 10/06/2016 23:49 (EDT), -1.03 ft.

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

Wind Speed / Gusts / Direction

Last Observed Sample: 10/06/2016 12:24 (EDT)

Wind Speed: 13 knots Gusts: 15 knots Direction: 350° T
## Latest Water Level Observations on MHHW

<table>
<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>
</tr>
</thead>
<tbody>
<tr>
<td>8723214</td>
<td>Virginia Key, FL</td>
<td>10/06/2016 12:30 (EDT)</td>
<td>0.85 ft</td>
<td>0.16 ft</td>
<td>0.69 ft</td>
<td>0.85 ft</td>
</tr>
<tr>
<td>8722670</td>
<td>Lake Worth Pier, FL</td>
<td>10/06/2016 12:24 (EDT)</td>
<td>1.05 ft</td>
<td>0.11 ft</td>
<td>0.94 ft</td>
<td>1.13 ft</td>
</tr>
<tr>
<td>8721604</td>
<td>Trident Pier, FL</td>
<td>10/06/2016 12:24 (EDT)</td>
<td>1.29 ft</td>
<td>0.13 ft</td>
<td>1.16 ft</td>
<td>1.48 ft</td>
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<tr>
<td>8720218</td>
<td>Mayport (Bar Pilots Dock), FL</td>
<td>10/06/2016 12:24 (EDT)</td>
<td>1.37 ft</td>
<td>0.27 ft</td>
<td>1.10 ft</td>
<td>1.37 ft</td>
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<tr>
<td>8720226</td>
<td>Southbank Riverwalk, St Johns River, FL</td>
<td>10/06/2016 12:30 (EDT)</td>
<td>1.23 ft</td>
<td>-0.17 ft</td>
<td>1.40 ft</td>
<td>1.23 ft</td>
</tr>
<tr>
<td>8720357</td>
<td>I-295 Bridge, St Johns River, FL</td>
<td>10/06/2016 12:24 (EDT)</td>
<td>1.49 ft</td>
<td>0.18 ft</td>
<td>1.31 ft</td>
<td>1.59 ft</td>
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<tr>
<td>8720030</td>
<td>Fernandina Beach, FL</td>
<td>10/06/2016 12:24 (EDT)</td>
<td>1.11 ft</td>
<td>-0.17 ft</td>
<td>1.28 ft</td>
<td>1.26 ft</td>
</tr>
<tr>
<td>8670870</td>
<td>Fort Pulaski, GA</td>
<td>10/06/2016 12:24 (EDT)</td>
<td>1.00 ft</td>
<td>-0.39 ft</td>
<td>1.39 ft</td>
<td>1.00 ft</td>
</tr>
<tr>
<td>8665530</td>
<td>Charleston, SC</td>
<td>10/06/2016 12:24 (EDT)</td>
<td>1.11 ft</td>
<td>-0.19 ft</td>
<td>1.30 ft</td>
<td>1.11 ft</td>
</tr>
<tr>
<td>8662245</td>
<td>Oyster Landing (N Inlet Estuary), SC</td>
<td>10/06/2016 12:18 (EDT)</td>
<td>0.89 ft</td>
<td>-0.15 ft</td>
<td>1.04 ft</td>
<td>0.99 ft</td>
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<tr>
<td>8661070</td>
<td>Springmaid Pier, SC</td>
<td>10/06/2016 12:24 (EDT)</td>
<td>0.75 ft</td>
<td>-0.42 ft</td>
<td>1.17 ft</td>
<td>0.94 ft</td>
</tr>
</tbody>
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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