Storm Analysis

As of 9/18/2017 18:00 AST, water levels surrounding Barbuda, the U.S. Virgin Islands and Puerto Rico are measuring within 1 foot of predicted tide levels. Winds are generally between 10 and 20 knots. Barometric pressure is slowly decreasing across the region as Maria approaches from the southeast.
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: AC

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SELECT NATIONAL HURRICANE CENTER ADVISORY INFORMATION:

Hurricane Maria Advisory Number 10

NWS National Hurricane Center Miami FL

500 PM AST Mon Sep 18 2017

...MARIA BECOMES AN EXTREMELY DANGEROUS CATEGORY 4 HURRICANE...

...THE EYE AND THE INTENSE INNER CORE IS EXPECTED TO PASS NEAR DOMINICA DURING THE NEXT FEW HOURS...

SUMMARY OF 500 PM AST...2100 UTC...INFORMATION

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LOCATION...15.1N 60.7W

ABOUT 45 MI...70 KM ESE OF DOMINICA

ABOUT 35 MI...55 KM NE OF MARTINIQUE

MAXIMUM SUSTAINED WINDS...130 MPH...215 KM/H

PRESENT MOVEMENT...WNW OR 290 DEGREES AT 9 MPH...15 KM/H

MINIMUM CENTRAL PRESSURE...950 MB...28.06 INCHES

WATCHES AND WARNINGS

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CHANGES WITH THIS ADVISORY:

A Hurricane Warning has been issued for Puerto Rico, Culebra, and Vieques.

The Meteorological Service of St. Lucia has changed the Hurricane Warning for that island to a Tropical Storm Warning.
The Government of the Dominican Republic has issued a Hurricane Watch from Isla Saona to Puerto Plata, and a Tropical Storm Watch west of Puerto Plata to the northern Dominican Republic-Haiti border.

SUMMARY OF WATCHES AND WARNINGS IN EFFECT:

A Hurricane Warning is in effect for...
* Guadeloupe
* Dominica
* St. Kitts, Nevis, and Montserrat
* Martinique
* U.S. Virgin Islands
* British Virgin Islands
* Puerto Rico, Culebra, and Vieques

A Tropical Storm Warning is in effect for...
* Antigua and Barbuda
* Saba and St. Eustatius
* St. Maarten
* Anguilla
* St. Lucia

A Hurricane Watch is in effect for...
* Saba and St. Eustatius
* St. Maarten
* St. Martin and St. Barthelemy
* Anguilla
* Isla Saona to Puerto Plata

A Tropical Storm Watch is in effect for...
* St. Vincent and the Grenadines
* West of Puerto Plata to the northern Dominican Republic-Haiti border
A Hurricane Warning means that hurricane conditions are expected somewhere within the warning area. Preparations to protect life and property should be rushed to completion.

A Tropical Storm Warning means that tropical storm conditions are expected somewhere within the warning area.

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.

Interests elsewhere in Hispaniola should monitor the progress of this system. Additional watches and warnings may be required later tonight or on Tuesday.

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 500 PM AST (2100 UTC), the eye of Hurricane Maria was located by satellite imagery and data from the French radar on Martinique near latitude 15.1 North, longitude 60.7 West. Maria is moving toward the west-northwest near 9 mph (15 km/h), and this general motion is expected to continue through Wednesday. On the forecast track, the center of Maria will move near Dominica and the adjacent Leeward Islands during the next few hours, over the extreme northeastern Caribbean Sea the remainder of tonight and Tuesday, and approach Puerto Rico and the Virgin Islands Tuesday night and Wednesday.

Maximum sustained winds have increased to near 130 mph (215 km/h) with higher gusts. Maria is an extremely dangerous category 4 hurricane on the Saffir-Simpson Hurricane Wind Scale. Additional strengthening is forecast during the next 24 to 36 hours, and Maria is expected to be an extremely dangerous major hurricane during the next couple of days.

Hurricane-force winds extend outward up to 25 miles (35 km) from the center and tropical-storm-force winds extend outward up to 125 miles (205 km).

The estimated minimum central pressure is 950 mb (28.06 inches).

HAZARDS AFFECTING LAND

WIND: Hurricane conditions should be spreading across Dominica, Guadeloupe, and Martinique during the next few hours, with tropical storm conditions already occurring over portions of the Leeward Islands. Hurricane conditions should spread through the remainder of the hurricane warning area tonight through Wednesday. Hurricane conditions are possible within the hurricane watch area Tuesday through Wednesday, with tropical storm conditions possible tonight. Tropical storm conditions are possible in the tropical storm watch area in St. Vincent and the Grenadines through tonight, and are possible in the tropical storm watch area in the Dominican Republic on
Wednesday.

STORM SURGE: A dangerous storm surge accompanied by large and destructive waves will raise water levels by as much as 6 to 9 feet above normal tide levels in the hurricane warning area near where the center of Maria moves across the Leeward Islands and the British Virgin Islands.

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 is expected to reach the following heights above ground if the peak surge occurs at the time of high tide...

Puerto Rico and the U.S. Virgin Islands...6 to 9 ft

The deepest water will occur along the immediate coast near and to the north and east of the landfall location, 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: Maria is expected to produce the following rain accumulations through Thursday:

Central and southern Leeward Islands...10 to 15 inches, isolated 20 inches.

U.S. and British Virgin Islands...10 to 15 inches, isolated 20 inches.

Puerto Rico...12 to 18 inches, isolated 25 inches.

Northern Leeward Islands from Barbuda to Anguilla...4 to 8 inches, isolated 10 inches.

Windward Islands and Barbados...2 to 4 inches, isolated 6 inches. Eastern Dominican Republic...4 to 8 inches, isolated 12 inches.

Rainfall on all of these islands could cause life-threatening flash floods and mudslides.

SURF: Swells generated by Maria are affecting the Lesser Antilles. These swells are likely to cause life-threatening surf and ripcurrent conditions. Please consult products from your local weather office.

NEXT ADVISORY

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Next intermediate advisory at 800 PM AST.

Next complete advisory at 1100 PM AST.

Forecaster Beven

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.
NOAA/NOS/CO-OPS 9761115 Barbuda

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

Last Observed Sample: 09/18/2017 17:54 (AST). Data relative to MHHW

Observed: 0.07 ft. Predicted: 0.10 ft. Residual: -0.03 ft.

Historical Maximum Water Level: Aug 23 2012, 1.05 ft.

Next High Tide: 09/19/2017 04:15 (AST), 0.09 ft.

NOAA/NOS/CO-OPS 9761115 Barbuda

Barometric Pressure

Last Observed Sample: 09/18/2017 17:54 (AST)

Barometric Pressure: 1008.5 mb
NOAA/NOS/CO-OPS 9751364 Christiansted Harbor, St Croix, VI

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

Last Observed Sample: 09/18/2017 17:54 (AST). Data relative to MHHW
  Observed: 0.35 ft. Predicted: 0.04 ft. Residual: 0.31 ft.
  Next High Tide: 09/18/2017 19:33 (AST), 0.09 ft.

NOAA/NOS/CO-OPS 9751364 Christiansted Harbor, St Croix, VI

Wind Speed / Gusts / Direction

Last Observed Sample: 09/18/2017 17:54 (AST)
  Wind Speed: 8 knots Gusts: 13 knots Direction: 58° T
NOAA/NOS/CO-OPS 9751364 Christiansted Harbor, St Croix, VI

Barometric Pressure

Last Observed Sample: 09/18/2017 17:54 (AST)
Barometric Pressure: 1011.1 mb

NOAA/NOS/CO-OPS 9751381 Lameshur Bay, St John, VI

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

Last Observed Sample: 09/18/2017 18:00 (AST). Data relative to MHHW
Observed: 0.77 ft. Predicted: 0.02 ft. Residual: 0.75 ft.
Historical Maximum Water Level: Aug 30 2010, 0.89 ft.
Next High Tide: 09/18/2017 20:16 (AST), 0.15 ft.
NOAA/NOS/CO-OPS 9751381 Lameshur Bay, St John, VI

Barometric Pressure

Last Observed Sample: 09/18/2017 18:00 (AST)
Barometric Pressure: 1012.9 mb

NOAA/NOS/CO-OPS 9751401 Lime Tree Bay, St. Croix, VI

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

Last Observed Sample: 09/18/2017 17:54 (AST). Data relative to MHHW
Observed: 0.22 ft. Predicted: 0.00 ft. Residual: 0.22 ft.
Historical Maximum Water Level: Nov 17 1999, 1.88 ft.
Next High Tide: 09/18/2017 20:57 (AST), 0.09 ft.
Wind Speed / Gusts / Direction

Last Observed Sample: 09/18/2017 17:54 (AST)
Wind Speed: 4 knots Gusts: 11 knots Direction: 68° T

Barometric Pressure

Last Observed Sample: 09/18/2017 17:54 (AST)
Barometric Pressure: 1012.0 mb
NOAA/NOS/CO-OPS 9752235 Culebra, PR

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

Last Observed Sample: 09/18/2017 17:54 (AST). Data relative to MHHW
Observed: 0.24 ft. Predicted: 0.04 ft. Residual: 0.20 ft.
Historical Maximum Water Level: Nov 6 2006, 0.84 ft.
Next High Tide: 09/18/2017 19:38 (AST), 0.20 ft.

NOAA/NOS/CO-OPS 9752235 Culebra, PR

Barometric Pressure

Last Observed Sample: 09/18/2017 17:54 (AST)
Barometric Pressure: 1011.8 mb
Last Observed Sample: 09/18/2017 18:00 (AST). Data relative to MHHW

Observed: 0.28 ft. Predicted: 0.04 ft. Residual: 0.24 ft.

Historical Maximum Water Level: Aug 22 2011, 0.99 ft.

Next High Tide: 09/18/2017 20:00 (AST), 0.09 ft.

Wind Speed: 3 knots  Gusts: 5 knots  Direction: 57° T
NOAA/NOS/CO-OPS 9752695 Esperanza, Vieques Island, PR

Last Observed Sample: 09/18/2017 18:00 (AST)
Barometric Pressure: 1011.6 mb

NOAA/NOS/CO-OPS 9752619 Isabel Segunda, Vieques Island, PR

Last Observed Sample: 09/18/2017 18:00 (AST).
Data relative to MHHW
Observed: 0.19 ft. Predicted: -0.11 ft. Residual: 0.30 ft.
Historical Maximum Water Level: n/a
Next High Tide: 09/18/2017 19:53 (AST), 0.10 ft.
NOAA/NOS/CO-OPS 9752619 Isabel Segunda, Vieques Island, PR

Wind Speed / Gusts / Direction

Last Observed Sample: 09/18/2017 18:00 (AST)
Wind Speed: 5 knots Gusts: 9 knots Direction: 75° T

NOAA/NOS/CO-OPS 9753216 Fajardo, PR

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

Last Observed Sample: 09/18/2017 18:00 (AST). Data relative to MHHW
Observed: 0.28 ft. Predicted: -0.11 ft. Residual: 0.39 ft.
Historical Maximum Water Level: Aug 30 2010, 0.84 ft.
Next High Tide: 09/18/2017 19:39 (AST), 0.12 ft.
NOAA/NOS/CO-OPS 9753216 Fajardo, PR

Wind Speed / Gusts / Direction

- Last Observed Sample: 09/18/2017 18:00 (AST)
- Wind Speed: 11 knots
- Gusts: 14 knots
- Direction: 44° T

This data type is not currently available from this station.

- Last Observed Sample: 09/18/2017 18:00 (AST)
- Barometric Pressure: n/a
NOAA/NOS/CO-OPS 9754228 Yabucoa Harbor, PR

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

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<tr>
<th>Date</th>
<th>Time</th>
<th>Height in Feet (MHHW)</th>
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<td>09/18</td>
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<td>0.00</td>
</tr>
<tr>
<td>09/19</td>
<td>12:00</td>
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</table>

**Last Observed Sample:** 09/18/2017 18:00 (AST). Data relative to MHHW

- **Observed:** 0.25 ft.
- **Predicted:** -0.06 ft.
- **Residual:** 0.31 ft.

**Historical Maximum Water Level:** n/a

**Next High Tide:** 09/18/2017 21:04 (AST), 0.06 ft.

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**NOAA/NOS/CO-OPS 9754228 Yabucoa Harbor, PR**

**Wind Speed / Gusts / Direction**

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<th>Speed (knots)</th>
<th>00:00</th>
<th>12:00</th>
<th>00:00</th>
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<tr>
<td>09/19</td>
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</table>

**Last Observed Sample:** 09/18/2017 18:00 (AST)

- **Wind Speed:** 2 knots
- **Gusts:** 4 knots
- **Direction:** 14° T
Last Observed Sample: 09/18/2017 17:54 (AST). Data relative to MHHW

- Observed: -0.09 ft.
- Predicted: -0.10 ft.
- Residual: 0.01 ft.

Historical Maximum Water Level: Sep 18 1989, 2.77 ft.
Next High Tide: 09/18/2017 19:58 (AST), 0.25 ft.

Last Observed Sample: 09/18/2017 17:54 (AST)

Wind Speed: 12 knots  Gusts: 15 knots  Direction: 76° T
NOAA/NOS/CO-OPS 9755371 San Juan, La Puntilla, San Juan Bay, PR

Barometric Pressure

![Barometric Pressure Graph]

Last Observed Sample: 09/18/2017 17:54 (AST)
Barometric Pressure: 1012.1 mb

NOAA/NOS/CO-OPS 9757809 Arecibo, PR

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

![Water Level Graph]

Last Observed Sample: 09/18/2017 18:00 (AST). Data relative to MHHW
Observed: 0.00 ft. Predicted: -0.05 ft. Residual: 0.05 ft.
Historical Maximum Water Level: Oct 8 2010, 0.90 ft.
Next High Tide: 09/18/2017 19:23 (AST), 0.13 ft.
NOAA/NOS/CO-OPS 9757809 Arecibo, PR

Wind Speed / Gusts / Direction

Last Observed Sample: 09/18/2017 18:00 (AST)

Wind Speed: 7 knots Gusts: 11 knots Direction: 67° T

Barometric Pressure

Last Observed Sample: 09/18/2017 18:00 (AST)
Barometric Pressure: 1013.8 mb
NOAA/NOS/CO-OPS 9759110 Magueyes Island, PR

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

Last Observed Sample: 09/18/2017 17:54 (AST). Data relative to MHHW

- Observed: 0.19 ft.
- Predicted: 0.04 ft.
- Residual: 0.15 ft.

Historical Maximum Water Level: Aug 31 1979, 1.96 ft.

Next High Tide: 09/18/2017 20:45 (AST), 0.16 ft.

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NOAA/NOS/CO-OPS 9759110 Magueyes Island, PR

Wind Speed / Gusts / Direction

Last Observed Sample: 09/18/2017 17:54 (AST)

Wind Speed: 4 knots  Gusts: 7 knots  Direction: 40° T
NOAA/NOS/CO-OPS 9759110 Magueyes Island, PR

Last Observed Sample: 09/18/2017 17:54 (AST)
Barometric Pressure: 1011.4 mb

NOAA/NOS/CO-OPS 9759394 Mayaguez, PR

Last Observed Sample: 09/18/2017 17:54 (AST). Data relative to MHHW
Observed: 0.10 ft. Predicted: -0.08 ft. Residual: 0.18 ft.
Historical Maximum Water Level: Oct 1 2015, 0.99 ft.
Next High Tide: 09/18/2017 19:39 (AST), 0.15 ft.
NOAA/NOS/CO-OPS 9759394 Mayaguez, PR

Wind Speed / Gusts / Direction

Last Observed Sample: 09/18/2017 17:54 (AST)
Wind Speed: 4 knots Gusts: 5 knots Direction: 141° T

NOAA/NOS/CO-OPS 9759394 Mayaguez, PR

Barometric Pressure

Last Observed Sample: 09/18/2017 17:54 (AST)
Barometric Pressure: 1011.5 mb
NOAA/NOS/CO-OPS 9759938 Mona Island, PR

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

Last Observed Sample: 09/18/2017 18:00 (AST). Data relative to MHHW

Observed: 0.31 ft. Predicted: -0.05 ft. Residual: 0.36 ft.

Historical Maximum Water Level: Dec 23 2010, 1.24 ft.

Next High Tide: 09/18/2017 19:39 (AST), 0.05 ft.

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Barometric Pressure

Last Observed Sample: 09/18/2017 18:00 (AST)

Barometric Pressure: 1011.3 mb
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<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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<td>Barbuda</td>
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