Hurricane IRMA QuickLook
Posted: 18:00 EDT 09/10/2017

NOAA and NOAA Partnership Stations Relative to the Storm

Storm Analysis

IRMA made landfall on Marco Island at about 16:00 EDT on 09/10/2017.

As of 09/10/2017 18:00 EDT, water levels at Naples, FL have dramatically risen by nearly 8 feet over the past 2 hours and a currently 3.2 feet above normal tide levels. Within the Florida Keys, water levels remain elevated and range from 0.8 to 2.3 feet above normal tide levels. Water levels along the east coast of Florida to South Carolina are
also elevated and generally range from 1.0 to 4.5 feet above normal tide levels. Along the west coast of Florida from Fort Myers to the Florida panhandle, water levels continue to fall and are measuring 3.5 to 5.6 feet below normal tide levels.

Winds in southern Florida range from 30 to 50 knots with gusts up to 70 knots. Winds within the Florida Keys are decreasing and range from 20 to 30 knots. As Irma continues to move north, winds are increasing to 20 to 30 knots with gusts to 40 knots. Barometric pressure continues to rapidly fall across southern Florida and has begun to rise within the Florida Keys.

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: CMF

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SELECT NATIONAL HURRICANE CENTER ADVISORY INFORMATION:

Hurricane Irma Advisory Number 47
NWS National Hurricane Center Miami FL AL112017
500 PM EDT Sun Sep 10 2017

...IRMA NEAR NAPLES FLORIDA...
...DANGEROUS STORM SURGES EXPECTED IMMEDIATELY AFTER THE EYE PASSAGE ALONG THE FLORIDA WEST COAST...

SUMMARY OF 500 PM EDT...2100 UTC...INFORMATION
---------------------------------------------
LOCATION...26.2N 81.8W
ABOUT 5 MI...10 KM N OF NAPLES FLORIDA
ABOUT 30 MI...45 KM SSE OF FT. MYERS FLORIDA
MAXIMUM SUSTAINED WINDS...110 MPH...175 KM/H
PRESENT MOVEMENT...N OR 350 DEGREES AT 14 MPH...22 KM/H
MINIMUM CENTRAL PRESSURE...938 MB...27.70 INCHES

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 southward to Jupiter Inlet
* North Miami Beach southward around the Florida peninsula to the Ochlockonee River
* Florida Keys
* Tampa Bay
A Hurricane Warning is in effect for...
* Fernandina Beach southward around the Florida peninsula to Indian Pass
* Florida Keys
* Lake Okeechobee
* Florida Bay

A Hurricane Watch is in effect for...
* North of Fernandina Beach to Edisto Beach

A Tropical Storm Warning is in effect for...
* West of Indian Pass to the Okaloosa/Walton County Line
* North of Fernandina Beach to South Santee River

A Tropical Storm Warning is in effect for...
* Bimini and Grand Bahama

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.

Interests elsewhere in the southeastern United States should monitor the progress of Irma.

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 EDT (2100 UTC), the center of Hurricane Irma was located near latitude 26.2 North, longitude 81.8 West. Irma is moving toward the north near 14 mph (22 km/h), and a north-northwestward motion with an increase in forward speed is expected by tonight, with that motion continuing through Monday. On the forecast track, the eye of Irma should move near or over the west coast of the Florida Peninsula through Monday morning. Irma should then move inland over northern Florida and southwestern Georgia Monday afternoon.

Maximum sustained winds are near 110 mph (175 km/h) with higher gusts. Although weakening is forecast, Irma is expected to remain a hurricane at least through Monday morning.

Hurricane-force winds extend outward up to 80 miles (130 km) from the center, and tropical-storm-force winds extend outward up to 220 miles (350 km). A mesonet site at Naples Municipal Airport recently reported a sustained wind of 88 mph (142 km/h) with a gust to 135 mph (217 km/h) while in the northern eyewall of Irma.

The minimum central pressure reported by an Air Force Hurricane Hunter aircraft is 938 mb (27.70 inches). A pressure of 937 mb (27.67 inches) was measured by a storm spotter on Marco Island while in Irma's eye.

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 is expected to reach the following HEIGHTS ABOVE GROUND if the peak surge occurs at the time of high tide...

Cape Sable to Captiva...10 to 15 ft  
Captiva to Ana Maria Island...6 to 10 ft  
Card Sound Bridge through Cape Sable, including the Florida Keys...5 to 10 ft  
Anna Maria Island to Clearwater Beach, including Tampa Bay...5 to 8 ft  
North Miami Beach to Card Sound Bridge, including Biscayne Bay...3 to 5 ft  
South Santee River to Fernandina Beach...4 to 6 ft  
Clearwater Beach to Ochlockonee River...4 to 6 ft  
Fernandina Beach to Jupiter Inlet...3 to 5 ft  
North of North Miami Beach to Jupiter Inlet...1 to 2 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.

WIND: Hurricane conditions are continuing across portions of the southern Florida peninsula. Winds affecting the upper floors of high-rise buildings will be significantly stronger than those near ground level. Tropical storm and hurricane conditions are expected to spread northward across the remainder of the warning areas through Monday. Tropical storm conditions are expected in portions of the warning area in the Northwestern Bahamas this evening.

RAINFALL: Irma is expected to produce the following rain accumulations through Wednesday:

Western Bahamas...Additional 2 to 4 inches, isolated 6 inches.

The Florida Keys...Additional 3 to 6 inches with storm total amounts from 15 to 20 inches, isolated 25 inches.

Western Florida peninsula...10 to 15 inches, isolated 20 inches.

Eastern Florida peninsula and southeast Georgia...8 to 12 inches, isolated 16 inches.

The rest of Georgia, the eastern Florida Panhandle, southern and western South Carolina, and western North Carolina...3 to 8 inches, isolated 12 inches.

Southern Tennessee, northern Mississippi and much of Alabama...2 to 5 inches.

In all areas this rainfall may cause life-threatening flash floods.

TORNADOES: Tornadoes remain possible through tonight, mainly across central and eastern portions of the Florida Peninsula and extreme southeast Georgia.

THE EYE: Do not venture outside when the calm eye of the hurricane passes over, as dangerous winds will return very quickly when the eye moves away.

SURF: Swells generated by Irma are affecting the southeast coast of the United States. These swells are likely to cause life-threatening surf and rip current conditions. Please consult products from your local weather office.

NEXT ADVISORY
Next intermediate advisory at 800 PM EDT.
Next complete advisory at 1100 PM EDT.

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.

Jump to: Key West - Water Level, Key West - Winds, Key West - Barometric, Vaca Key, Florida Bay - Water Level, Vaca Key, Florida Bay - Winds, Vaca Key, Florida Bay - Barometric, Virginia Key, Biscayne Bay - Water Level, Virginia Key, Biscayne Bay - Winds, Virginia Key, Biscayne Bay - Barometric, Naples, Gulf of Mexico - Water Level, Naples, Gulf of Mexico - Winds, Naples, Gulf of Mexico - Barometric, Lake Worth Pier, Atlantic Ocean - Water Level, Lake Worth Pier, Atlantic Ocean - Winds, Fort Myers, Caloosahatchee River - Water Level, Fort Myers, Caloosahatchee River - Winds, Port Manatee - Water Level, Port Manatee - Barometric, St Petersburg, Tampa Bay - Water Level, St Petersburg, Tampa Bay - Winds, Clearwater Beach - Water Level, Clearwater Beach - Winds, Trident Pier, Port Canaveral - Water Level, Trident Pier, Port Canaveral - Winds, Cedar Key - Water Level, Cedar Key - Winds, Apalachicola - Water Level, Apalachicola - Winds, Mayport (Bar Pilots Dock) - Water Level, Mayport (Bar Pilots Dock) - Winds, Fernandina Beach - Water Level, Fernandina Beach - Winds, Fort Pulaski - Water Level, Fort Pulaski - Winds, Charleston, Cooper River Entrance - Water Level, Charleston, Cooper River Entrance - Winds, Oyster Landing (N Inlet Estuary) - Water Level, Springmaid Pier - Water Level
Last Observed Sample: 09/10/2017 18:06 (EDT). Data relative to MHHW
Observed: 1.97 ft. Predicted: -0.26 ft. Residual: 2.23 ft.
Next High Tide: 09/11/2017 01:36 (EDT), 0.29 ft.

Last Observed Sample: 09/10/2017 18:06 (EDT)
Wind Speed: 29 knots  Gusts: 40 knots  Direction: 240° T
NOAA/NOS/CO-OPS 8724580 Key West, FL

Barometric Pressure

Last Observed Sample: 09/10/2017 18:06 (EDT)
Barometric Pressure: 986.4 mb

NOAA/NOS/CO-OPS 8723970 Vaca Key, Florida Bay, FL

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

Last Observed Sample: 09/10/2017 18:06 (EDT). Data relative to MHHW
Observed: 0.77 ft. Predicted: 0.06 ft. Residual: 0.71 ft.
Next High Tide: 09/11/2017 05:18 (EDT), 0.28 ft.
NOAA/NOS/CO-OPS 8723970 Vaca Key, Florida Bay, FL

Wind Speed / Gusts / Direction

Wind Speed: 13 knots Gusts: 27 knots Direction: 212° T

Barometric Pressure

Barometric Pressure: 993.0 mb
Last Observed Sample: 09/10/2017 18:00 (EDT). Data relative to MHHW

- Observed: 1.35 ft. Predicted: -1.67 ft. Residual: 3.02 ft.
- Next High Tide: 09/11/2017 01:00 (EDT), 0.32 ft.

Last Observed Sample: 09/10/2017 18:00 (EDT)

- Wind Speed: 35 knots
- Gusts: 56 knots
- Direction: 152° T
NOAA/NOS/CO-OPS 8723214 Virginia Key, Biscayne Bay, FL

Barometric Pressure

Last Observed Sample: 09/10/2017 18:00 (EDT)
Barometric Pressure: 991.5 mb

NOAA/NOS/CO-OPS 8725110 Naples, Gulf of Mexico, FL

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

Last Observed Sample: 09/10/2017 18:00 (EDT). Data relative to MHHW
Observed: 3.22 ft. Predicted: -0.42 ft. Residual: 3.64 ft.
Historical Maximum Water Level: Dec 21 1972, 3.11 ft.
Next High Tide: 09/11/2017 03:40 (EDT), 0.18 ft.
Wind Speed / Gusts / Direction

Last Observed Sample: 09/10/2017 18:00 (EDT)
Wind Speed: 56 knots Gusts: 72 knots Direction: 285° T

Barometric Pressure

Last Observed Sample: 09/10/2017 18:00 (EDT)
Barometric Pressure: 953.9 mb
Last Observed Sample: 09/10/2017 18:00 (EDT). Data relative to MHHW
Observed: -0.74 ft  Predicted: -2.68 ft  Residual: 1.94 ft.
Historical Maximum Water Level: Oct 28 2012, 2.00 ft.
Next High Tide: 09/11/2017 00:00 (EDT), 0.09 ft.

Last Observed Sample: 09/10/2017 18:00 (EDT)
Wind Speed: 51 knots  Gusts: 61 knots  Direction: 153° T
Last Observed Sample: 09/10/2017 18:06 (EDT). Data relative to MHHW  
Observed: -3.82 ft. Predicted: -0.30 ft. Residual: -3.52 ft.  
Historical Maximum Water Level: Nov 23 1988, 3.41 ft.  
Next High Tide: 09/10/2017 19:57 (EDT), -0.12 ft.

Last Observed Sample: 09/10/2017 18:06 (EDT)  
Wind Speed: 39 knots  Gusts: 48 knots  Direction: 43° T
Last Observed Sample: 09/10/2017 18:06 (EDT). Data relative to MHHW
Historical Maximum Water Level: Sep 6 2004, 2.29 ft.
Next High Tide: 09/11/2017 04:35 (EDT), 0.22 ft.

Last Observed Sample: 09/10/2017 18:06 (EDT)
Barometric Pressure: 990.3 mb
Last Observed Sample: 09/10/2017 18:00 (EDT). Data relative to MHHW
Observed: -4.72 ft. Predicted: -0.21 ft. Residual: -4.51 ft.
Historical Maximum Water Level: Aug 31 1985, 4.00 ft.
Next High Tide: 09/10/2017 18:03 (EDT), -0.19 ft.

Wind Speed: 27 knots  Gusts: 40 knots  Direction: 17° T
Last Observed Sample: 09/10/2017 18:00 (EDT). Data relative to MHHW


Historical Maximum Water Level: Mar 13 1993, 4.00 ft.

Next High Tide: 09/11/2017 02:57 (EDT), 0.20 ft.

Last Observed Sample: 09/10/2017 18:00 (EDT)

Wind Speed: 32 knots  Gusts: 40 knots  Direction: 9° T
Last Observed Sample: 09/10/2017 18:06 (EDT). Data relative to MHHW
Historical Maximum Water Level: Sep 26 2004, 4.01 ft.
Next High Tide: 09/10/2017 23:45 (EDT), 0.04 ft.

Last Observed Sample: 09/10/2017 18:06 (EDT)
Wind Speed: 28 knots  Gusts: 37 knots  Direction: 57° T
NOAA/NOS/CO-OPS 8727520 Cedar Key, FL

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

Last Observed Sample: 09/10/2017 18:06 (EDT). Data relative to MHHW

Observed: -5.89 ft. Predicted: -0.22 ft. Residual: -5.67 ft.


Next High Tide: 09/11/2017 05:21 (EDT), 0.25 ft.

NOAA/NOS/CO-OPS 8727520 Cedar Key, FL

Wind Speed / Gusts / Direction

Last Observed Sample: 09/10/2017 18:06 (EDT)

Wind Speed: 19 knots Gusts: 28 knots Direction: 18° T
Last Observed Sample: 09/10/2017 18:06 (EDT). Data relative to MHHW
Observed: -2.25 ft. Predicted: -0.29 ft. Residual: -1.96 ft.
Historical Maximum Water Level: Jul 10 2005, 6.43 ft.
Next High Tide: 09/10/2017 20:16 (EDT), -0.02 ft.

Wind Speed: 22 knots Gusts: 28 knots Direction: 33° T
Last Observed Sample: 09/10/2017 18:06 (EDT). Data relative to MHHW
Observed: -0.94 ft. Predicted: -4.45 ft. Residual: 3.51 ft.
Next High Tide: 09/11/2017 00:39 (EDT), 0.17 ft.

Last Observed Sample: 09/10/2017 18:06 (EDT)
Wind Speed: 31 knots Gusts: 37 knots Direction: 61° T
NOAA/NOS/CO-OPS 8720030 Fernandina Beach, FL

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

Last Observed Sample: 09/10/2017 18:06 (EDT). Data relative to MHHW


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

Next High Tide: 09/11/2017 00:55 (EDT), 0.01 ft.

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

Wind Speed / Gusts / Direction

Last Observed Sample: 09/10/2017 18:06 (EDT)

Wind Speed: 8 knots Gusts: 17 knots Direction: 43° T
Last Observed Sample: 09/10/2017 18:00 (EDT). Data relative to MHHW
Next High Tide: 09/11/2017 00:08 (EDT), -0.11 ft.

Wind Speed: 19 knots  Gusts: 25 knots  Direction: 45° T
Last Observed Sample: 09/10/2017 18:00 (EDT). Data relative to MHHW

- Observed: -3.50 ft.  Predicted: -5.34 ft.  Residual: 1.84 ft.
- Historical Maximum Water Level: Sep 21 1989, 6.76 ft.
- Next High Tide: 09/10/2017 23:55 (EDT), -0.07 ft.

Last Observed Sample: 09/10/2017 18:00 (EDT)

- Wind Speed: 18 knots  Gusts: 25 knots  Direction: 23° T
NOAA/NOS/CO-OPS 8662245 Oyster Landing (N Inlet Estuary), SC

Last Observed Sample: 09/10/2017 18:00 (EDT). Data relative to MHHW
Observed: -2.02 ft. Predicted: -4.56 ft. Residual: 2.54 ft.
Historical Maximum Water Level: Oct 8 2016, 4.64 ft.
Next High Tide: 09/11/2017 00:43 (EDT), -0.08 ft.

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

Last Observed Sample: 09/10/2017 18:00 (EDT). Data relative to MHHW
Observed: -4.24 ft. Predicted: -5.01 ft. Residual: 0.77 ft.
Historical Maximum Water Level: Jan 1 1987, 3.65 ft.
Next High Tide: 09/10/2017 23:29 (EDT), -0.10 ft.
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<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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<tr>
<td>8724580</td>
<td>Key West, FL</td>
<td>09/10/2017 18:06 (EDT)</td>
<td>1.97 ft</td>
<td>-0.26 ft</td>
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<td>3.22 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