

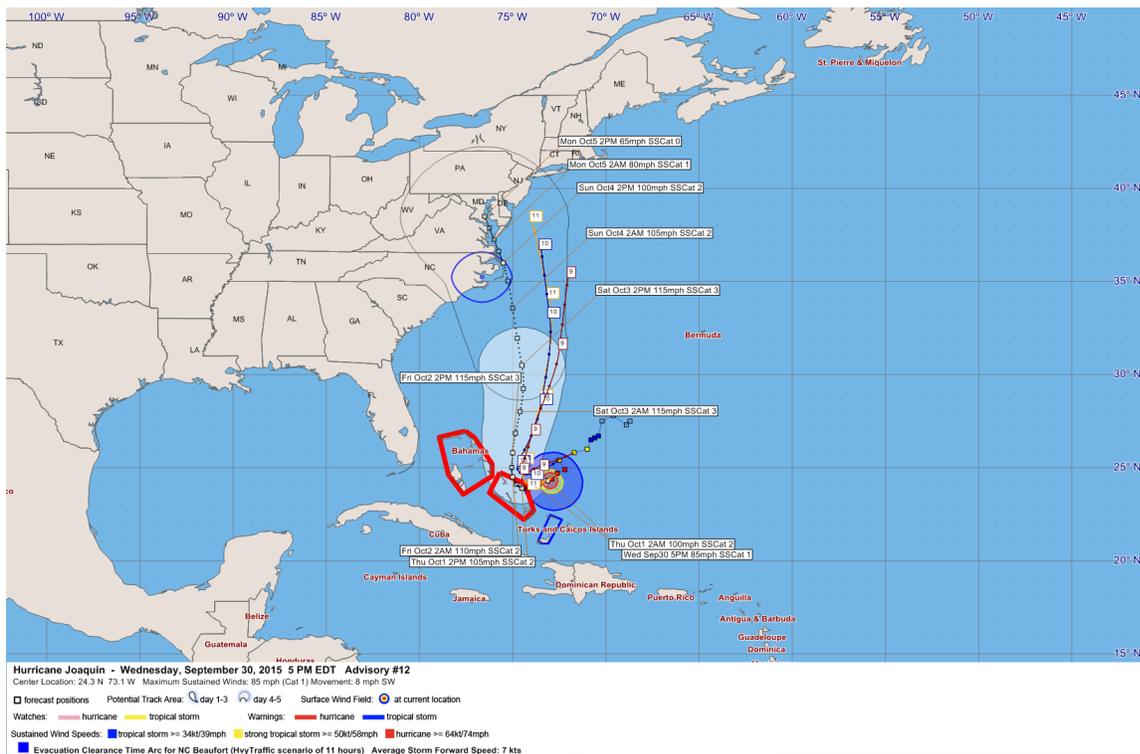
# Storm Summary for Hurricane Joaquin

Wednesday, September 30, 2015 at 5 PM EDT

(Output from Hurrevac, based on National Hurricane Center Forecast Advisory #12)

Joaquin is currently a Category 1 hurricane on the Saffir-Simpson Hurricane Wind Scale, with maximum sustained winds of 85 mph (75 kts), moving southwest at 8 mph. The estimated minimum central pressure is 967 mb. Hurricane-force winds extend outward up to 35 miles (55 km) from the storm center. Tropical storm-force winds extend outward up to 125 miles (205 km) from the storm center.

Certain coastal locations are under Hurricane Warning and Tropical Storm Warning. The geographic extents of these watches and warnings are detailed in the advisory text at the end of this report.



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WTNT31 KNHC 302050

BULLETIN  
HURRICANE JOAQUIN ADVISORY NUMBER 12  
NWS NATIONAL HURRICANE CENTER MIAMI FL AL112015  
500 PM EDT WED SEP 30 2015

...JOAQUIN MOVING SOUTHWESTWARD TOWARD THE CENTRAL BAHAMAS...

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

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LOCATION...24.3N 73.1W  
ABOUT 175 MI...285 KM ENE OF THE CENTRAL BAHAMAS  
MAXIMUM SUSTAINED WINDS...85 MPH...140 KM/H  
PRESENT MOVEMENT...SW OR 225 DEGREES AT 8 MPH...13 KM/H  
MINIMUM CENTRAL PRESSURE...967 MB...28.56 INCHES

WATCHES AND WARNINGS

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CHANGES WITH THIS ADVISORY:

The Government of the Bahamas has issued a Hurricane Warning for the Northwestern Bahamas including the Abacos, Berry Islands, Eleuthera, Grand Bahama Island, and New Providence, but excluding Andros Island and Bimini.

The Government of the Bahamas has issued a Tropical Storm Warning for the Southeastern Bahamas, including the Acklins, Crooked Island, Long Cay, the Inaguas, Mayaguana, and the Ragged Islands, but excluding the Turks and Caicos Islands.

SUMMARY OF WATCHES AND WARNINGS IN EFFECT:

A Hurricane Warning is in effect for...

- \* Central Bahamas including Cat Island, the Exumas, Long Island, Rum Cay, and San Salvador
- \* Northwestern Bahamas including the Abacos, Berry Islands, Eleuthera, Grand Bahama Island, and New Providence, but excluding Andros Island and Bimini

A Hurricane Watch is in effect for...

- \* Bimini

A Tropical Storm Warning is in effect for...

- \* Southeastern Bahamas including the Acklins, Crooked Island, Long Cay, the Inaguas, Mayaguana, and the Ragged Islands, but excluding the Turks and Caicos Islands.

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 Hurricane Watch means that hurricane conditions are possible within the watch area.

A Tropical Storm Warning means that tropical storm conditions are

expected somewhere within the warning area within 36 hours.

For storm information specific to your area, please monitor products issued by your national meteorological service.

#### DISCUSSION AND 48-HOUR OUTLOOK

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At 500 PM EDT (2100 UTC), the center of Hurricane Joaquin was located near latitude 24.3 North, longitude 73.1 West. Joaquin is moving toward the southwest near 8 mph (13 km/h), and this general motion is expected to continue through Thursday. A turn toward the northwest and north is expected Thursday night and Friday. The center of Joaquin is expected to move near or over portions of the central Bahamas tonight and Thursday, and near or over portions of the Northwestern Bahamas Thursday night or Friday.

Maximum sustained winds are near 85 mph (140 km/h) with higher gusts. Strengthening is forecast during the next 48 hours, and Joaquin could become a major hurricane by Friday.

Hurricane force winds extend outward up to 35 miles (55 km) from the center and tropical storm force winds extend outward up to 125 miles (205 km).

The estimated minimum central pressure is 967 mb (28.56 inches).

#### HAZARDS AFFECTING LAND

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**WIND:** Hurricane conditions are expected to reach portions of the Central Bahamas by early Thursday morning. Winds are expected to first reach tropical storm strength in the warning area tonight, making outside preparations difficult or dangerous. Preparations to protect life and property should be rushed to completion. Tropical storm conditions are expected in the southeastern Bahamas beginning tonight. Hurricane conditions are expected over portions of the Northwestern Bahamas Thursday night or Friday.

**STORM SURGE:** A dangerous storm surge will raise water levels by as much as 3 to 5 feet above normal tide levels in areas of onshore flow. Near the coast, the surge will be accompanied by large and dangerous waves.

**RAINFALL:** Joaquin is expected to produce total rain accumulations of 10 to 15 inches over the central Bahamas and 5 to 10 inches over the northwestern Bahamas and southeastern Bahamas. Isolated maximum amounts of 20 inches are possible in the central Bahamas. This rainfall could result in life-threatening flash floods.

**SURF:** Swells generated by Joaquin will affect portions of the Bahamas during the next few days, and will begin to affect portions of the southeastern coast of the United States by Thursday. 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 800 PM EDT.

Next complete advisory at 1100 PM EDT.

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Forecaster Beven

WTNT41 KNHC 302055

HURRICANE JOAQUIN DISCUSSION NUMBER 12  
NWS NATIONAL HURRICANE CENTER MIAMI FL AL112015  
500 PM EDT WED SEP 30 2015

There has been little change in the organization of Joaquin during the past several hours. While the hurricane continues to produce cloud tops colder than -80C in the eyewall, the eye has not become better defined since the last advisory. Satellite intensity estimates are 77 kt from both TAFB and SAB, so the advisory intensity is now 75 kt.

The initial motion is 225/7. The shortwave ridge causing this motion is expected to weaken during the next 24-48 hours as a strong deep-layer trough develops over the southeastern United States. Thus, a generally southwestward motion is expected for the next 36 hours or so, followed by a turn toward the north as the trough becomes the dominant steering mechanism. There is an increased disagreement between the GFS, UKMET, Canadian, and NAVGEM models versus the ECMWF since the last advisory. The ECMWF has continued its forecast of showing a northeastward motion after 72 hours, taking Joaquin just west of Bermuda and out to sea. The other models have all shifted their forecasts to the left and now call for landfall in the Carolinas and the mid-Atlantic states, followed by merger with the baroclinic trough. Given the shift in the non-ECMWF models, a major westward adjustment has been made to the forecast track at 96 and 120 hours, bringing the center of Joaquin near or over portions of the mid-Atlantic states. Due to the use of the ECMWF in the consensus models, the new track lies near the various consensus models. However, it lies well to the east of the GFS and the other similar models. The NOAA G-IV jet is currently flying a synoptic surveillance mission, which, along with special rawinsonde launches, hopefully will reduce the spread of the guidance.

There is little change to the intensity forecast philosophy since the last advisory. Joaquin is expected to remain in an environment of moderate northeasterly vertical shear for the next 24-36 hours, possibly including strong winds seen at 400 mb in recent dropsondes from the G-IV aircraft. However, since it has been steadily strengthening in such an environment, there is no obvious reason to think it will stop doing so. After 36 hours, the hurricane is likely to move into an area of divergent southerly upper-level winds associated with the eastern U. S. trough. While there is uncertainty as to how much shear should occur, it is expected that additional intensification could occur through at least 48 hours. Based on this, the intensity forecast calls for Joaquin to peak as a major hurricane in 48-72 hours, and it is possible it could be stronger than currently forecast. After 72 hours, increasing shear, cold air intrusion, and land interaction should cause weakening and the start of extratropical transition.

## KEY MESSAGES:

1. Preparations to protect life and property within the warning areas in the Bahamas should be rushed to completion.
2. A significant adjustment to the forecast has been made this afternoon, and this shows an increased threat to the mid-Atlantic states and the Carolinas. However, confidence in the details of the forecast after 72 hours remains low, since we have one normally excellent model that keeps Joaquin far away from the United States east coast. The range of possible outcomes is still large, and includes the possibility of a major hurricane landfall in the Carolinas.
3. Every effort is being made to provide the forecast models with as much data as possible. The NOAA G-IV jet has begun a series of missions in the storm environment, and the National Weather Service is launching extra balloon soundings.
4. Because landfall, if it occurs, is still more than three days away, it is too early to talk about specific wind, rain, or surge impacts from Joaquin in the United States. Even if Joaquin stays well out to sea, strong onshore winds will create minor to moderate coastal flooding along the coasts of the mid-Atlantic and northeastern states through the weekend.
5. A hurricane watch for a portion of the U.S. coast could be required as early as Thursday evening.
6. Many areas of the eastern U.S. are currently experiencing heavy rains and gusty winds associated with a frontal system. This inclement weather is expected to continue over the next few days, which could complicate preparations for Joaquin should it head toward the coast, and greatly exacerbate the impacts from the hurricane. Heavy rains are likely to continue over these areas even if the center of Joaquin stays out to sea.

## FORECAST POSITIONS AND MAX WINDS

INIT 30/2100Z 24.3N 73.1W 75 KT 85 MPH  
12H 01/0600Z 24.0N 73.8W 85 KT 100 MPH  
24H 01/1800Z 23.9N 74.5W 90 KT 105 MPH  
36H 02/0600Z 24.5N 75.0W 95 KT 110 MPH  
48H 02/1800Z 25.8N 75.0W 100 KT 115 MPH  
72H 03/1800Z 30.5N 74.5W 100 KT 115 MPH  
96H 04/1800Z 36.0N 75.5W 85 KT 100 MPH  
120H 05/1800Z 38.5N 76.5W 55 KT 65 MPH

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