



Tropical Cyclone Jose (AL122017)

Wind and Storm Surge

Preliminary Event Briefing

Anguilla and Antigua and Barbuda

12 September 2017

1 SUMMARY

Tropical Cyclone Jose formed as a tropical storm on 5 September at 15UTC west of the Cape Verde Islands and was upgraded to hurricane status on 6 September at 21UTC. While moving across the Atlantic Ocean, Jose intensified and approached the northern Leeward Islands as a major hurricane (category 4) on 9 September at approximately 18UTC. Antigua and Barbuda and Anguilla experienced tropical-storm-force winds. During the following days, Jose moved towards the west-northwest. At the time this report, Jose was forecasted to complete a clockwise loop over the western Atlantic and finally dissipate in the ocean.

The preliminary runs of CCRIF's loss model for wind and storm surge produced government losses for Antigua and Barbuda and Anguilla, which were below the attachment point for each country's Tropical Cyclone policy, even the Aggregate Deductible Cover (ADC) for the policies was activated there was not disaster alert declaration from ReliefWeb related to a monitored event for Jose and therefore no payout is due.

This event briefing is designed to review the CCRIF modelled losses as well as damages from wind and storm surge but not rainfall. A separate briefing that addresses loss and damages from excess rainfall will be issued.

2 INTRODUCTION

On 5 September at 15UTC, the US National Hurricane Center (NHC) reported that a tropical storm developed west of the Cape Verde Islands at 12.3N 39.1W, with maximum sustained winds of 45 mph (65 km/h). During the following three days, Jose moved toward the west-northwest with an initial forward velocity of 14 mph (22 km/h), which gradually increased up to 18 mph (30 km/h) on the southern periphery of the Bermuda-Azores high pressure system (Figure 1). The very favourable environmental conditions of sea surface temperature at 29°C, low shear and high humidity in the middle atmosphere caused the rapid intensification of Jose.

On 6 September at 21UTC, the system was upgraded to a category 1 hurricane on the Saffir-Simpson Hurricane Wind Scale. At that time, Jose was located at 13.9N 45.8W (Figure 1), featuring maximum sustained winds of 75 mph (120 km/h), and an estimated minimum pressure of 994 mb.

On 7 September at 21UTC, Jose became a major hurricane (category xxx) with maximum sustained winds of 120 mph (195 km/h), located at 15.5N 52.4W.

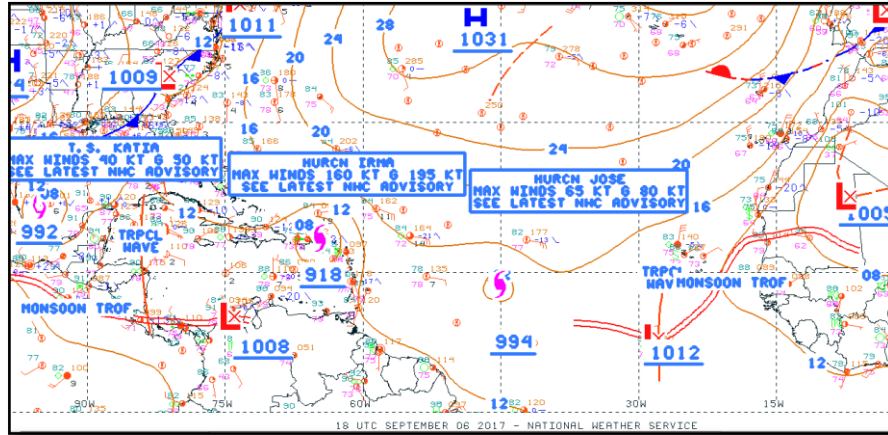


Figure 1 Surface analysis of the tropical Atlantic on 6 September at 18UTC. Jose is located in the Central Atlantic.
Source: NOAA Ocean Prediction Center

On 8 September at 18UTC, Jose steered towards the north-northwest, in response to the weakening of the subtropical high pressure system, and it headed for the northern Leeward Islands as a category 4 hurricane (Figure 2). Jose showed a well-defined eye with top clouds symmetrically distributed around the eye.

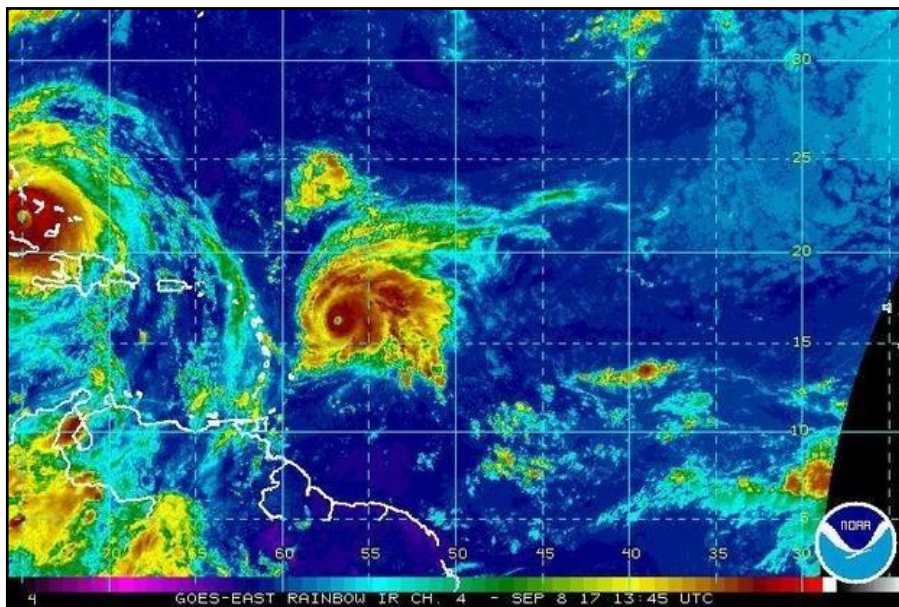


Figure 2 Image in rainbow colours from GEOS-EAST satellite of Jose hurricane on 8 September at 18UTC.
Source: NOAA

On 9 September at 18UTC, the eye of Jose, located at 18.8N 61.9W, was the closest to the northern Leeward Islands (Figure 3). At this time Jose was a category 4 hurricane, with maximum sustained winds of 145 mph (230 km/h). Hurricane-force winds extended outward up to 35 miles (55 km) from the centre and tropical-storm-force winds extended outward up to 140 miles (220 km).

Two CCRIF member countries – Anguilla and Antigua and Barbuda – were affected by tropical-storm-force winds from 9 September at 15UTC to 10 September at 03UTC. Storm surge along their coasts was estimated between 2 to 4 feet (0.6 to 1.2 m)

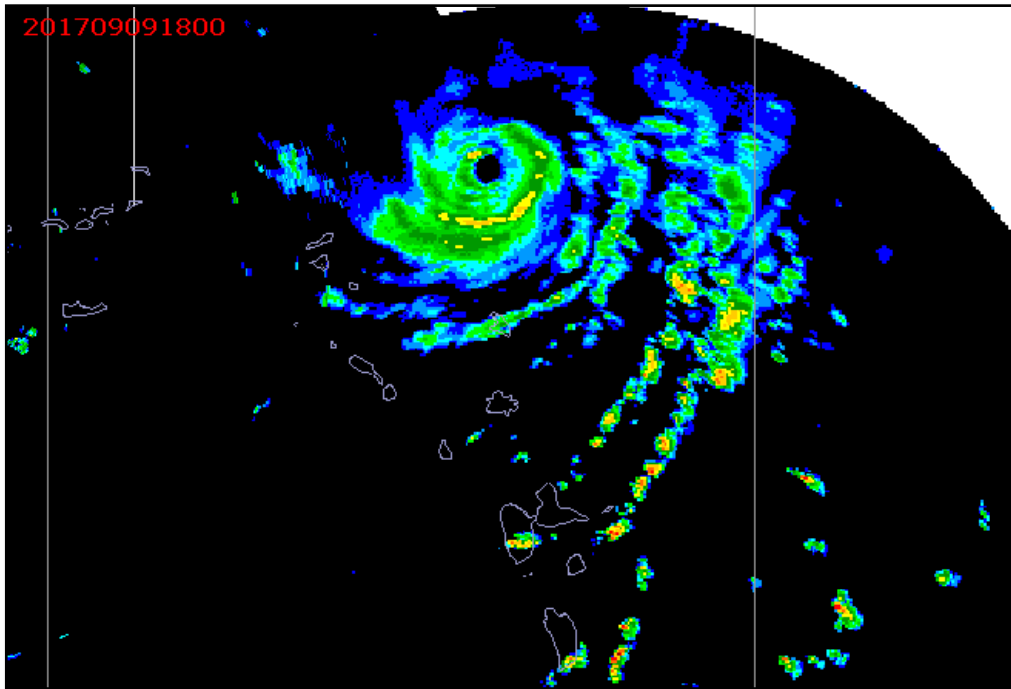


Figure 3 Reflectivity map over the northern Leeward Islands on 9 September at 18UTC.
Source: NOAA

During the following hours, the hurricane continued its movement towards the northwest at approximately 14 mph (22 km/h), being driven by a mid-level ridge located to the north-northeast of the cyclone. At the time of this report the hurricane was forecasted to complete a clockwise loop over the western Atlantic and to weaken due to intensification of the high-level northerly shear.

3 CCRIF SPC MODEL OUTPUTS

Under CCRIF’s loss calculation protocol, a CCRIF Multi-Peril Risk Estimation System (MPRES) report is required for any tropical cyclone affecting at least one member country with winds greater than 39 mph (62.7 km/h). For Anguilla and Antigua and Barbuda, Tropical Cyclone Jose qualified as a Loss Event¹.

The wind footprint (Figure 4 and Figure 6) and surge field (Figure 5 and Figure 7) are two of the outputs from the CCRIF model. These figures show the regions affected by certain magnitudes of wind velocity and storm surge in each country.

¹ An event registers a loss in one or more member countries but does not trigger the CCRIF policy in any country (i.e. no payout).

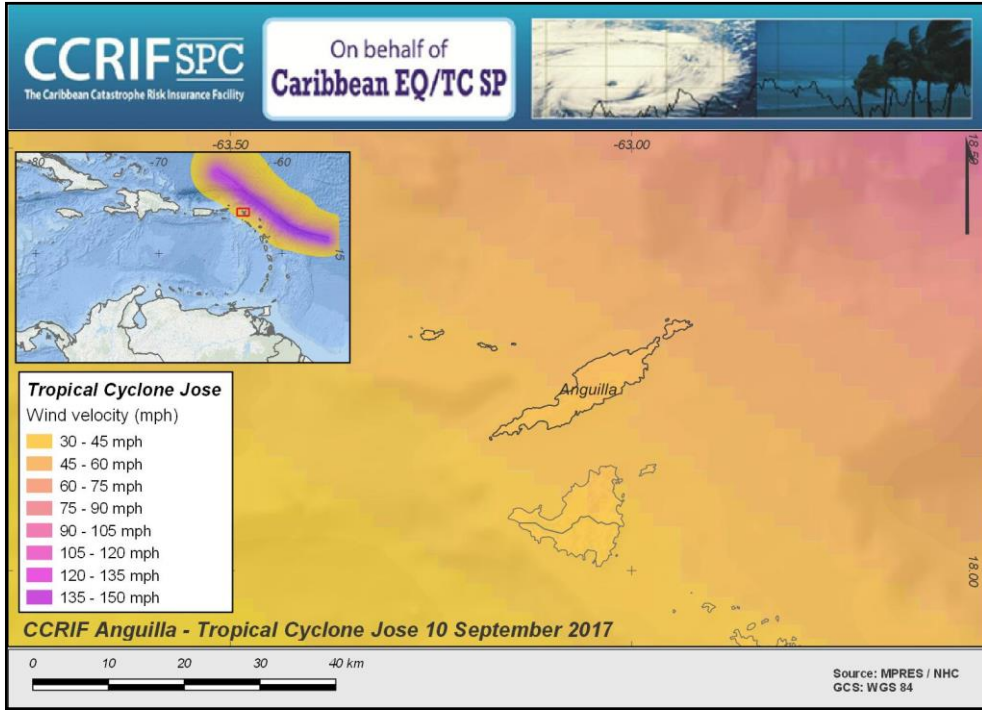


Figure 4 Map showing the wind field associated with Tropical Cyclone Jose on Anguilla.
Source: NHC & CCRIF/MPRES

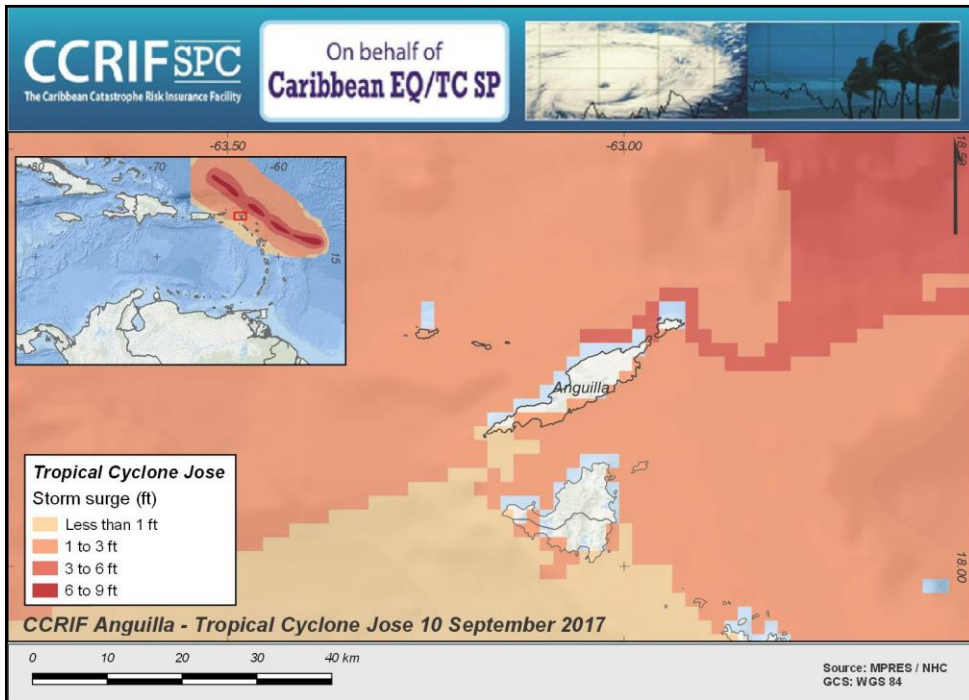


Figure 5 Map showing the storm surge field associated with Tropical Cyclone Jose on Anguilla.
Source: NHC & CCRIF/MPRES

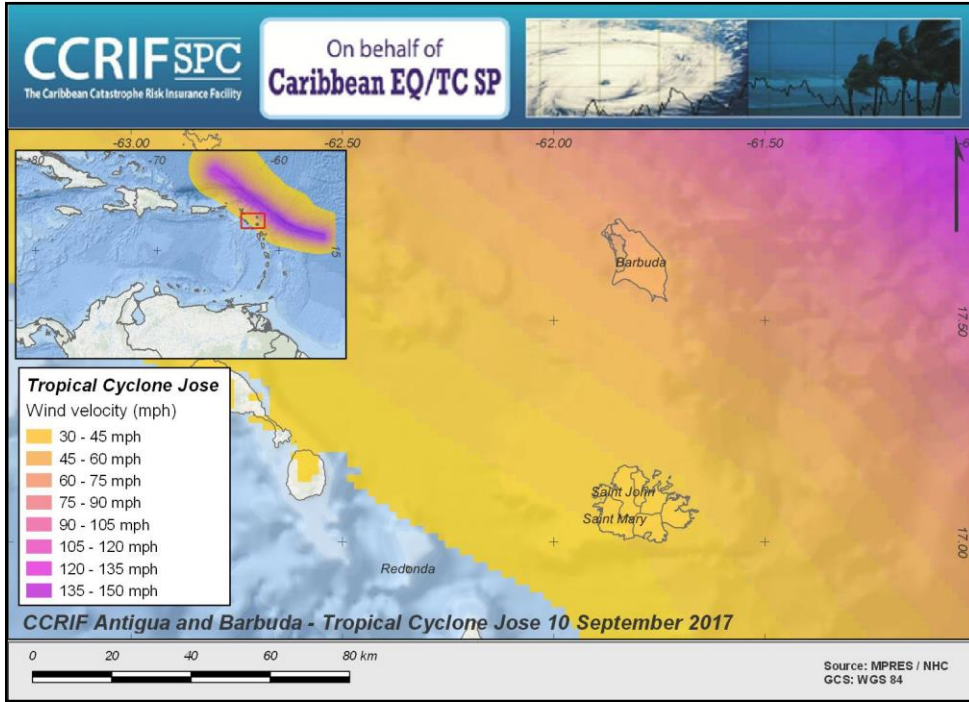


Figure 6 Map showing the wind field associated with Tropical Cyclone Jose on Antigua and Barbuda.
Source: NHC & CCRIF/MPRES

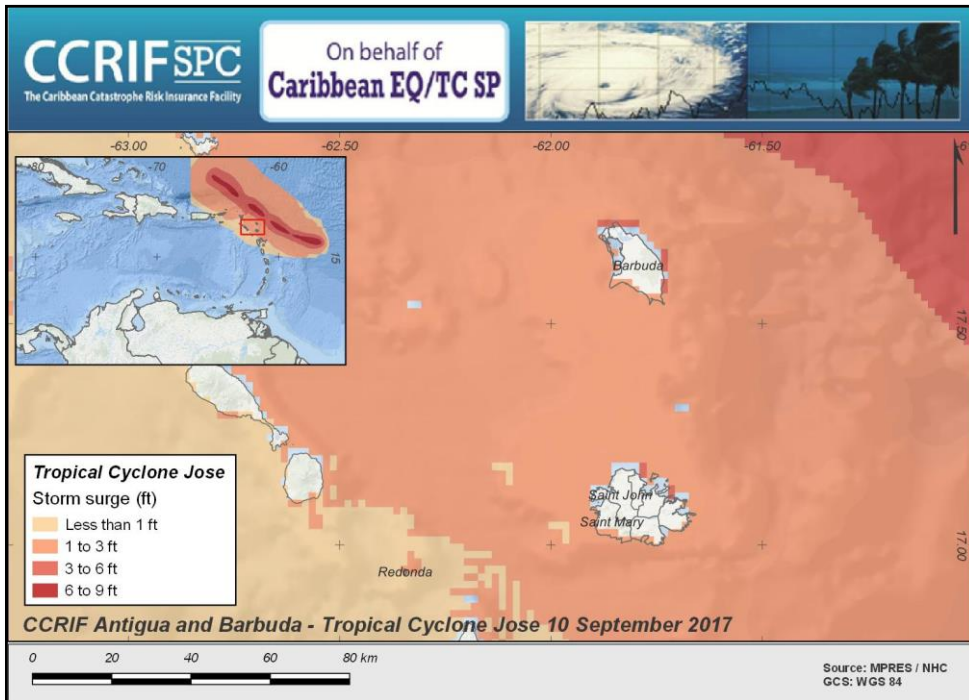


Figure 7 Map showing the storm surge field associated with Tropical Cyclone Jose on Antigua and Barbuda.
Source: NHC & CCRIF/MPRES

4 IMPACTS

In both Anguilla and Antigua and Barbuda, it is difficult to evaluate the impacts of Hurricane Jose and to differentiate those from the impacts of Hurricane Irma.. The passage of Irma, the most powerful Atlantic Ocean hurricane in recorded history, left total devastation with regards to these islands a few days earlier on 6 September as reported by authorities of both nations.

According to Sir Ronald Sanders, ambassador to the United States from Antigua and Barbuda, reported that Hurricane Jose would have only added to the debris. There is no one there now, referring to the island of Barbuda.

Anguilla

At the time of this report and according to the initial reports and assessments provided by the Caribbean Disaster Emergency Management Agency (CDEMA), the airport runway was serviceable for emergency flights.

Before the arrival of Hurricane Jose, Anguilla had suffered damage to 90 per cent of government buildings, business structures and the electrical infrastructure, which was generated after Hurricane Irma occurred in the days before.

Antigua and Barbuda

Prime Minister Gaston Browne reported that in Barbuda, Hurricane Irma completely destroyed the vast majority of homes and businesses (90 per cent of the buildings were destroyed), and that the extent of the destruction in Barbuda was unprecedented. In Anguilla, the ports and the airport remained closed due to the damage by Irma, so evacuations were impossible.

Prior to the arrival of Hurricane Jose, the authorities carried out precautionary measures such as evacuating the entire population of 1,600 people from Barbuda in fishing boats and private vessels to Antigua.

5 CCRIF LOSS MODEL

The preliminary runs of CCRIF's loss model for wind and storm surge produced government losses for Anguilla and the Antigua and Barbuda, which were below the attachment point for each country's Tropical Cyclone policy, even the Aggregate Deductible Cover (ADC) for the policies was activated there was not disaster alert declaration from ReliefWeb related to a monitored event for Jose and therefore no payout is due.

CCRIF expresses sympathy with the Government and people of Anguilla and Antigua and Barbuda for the impacts on communities and infrastructure caused by this event, especially at this vulnerable time as they recover from Hurricane Irma.

For further information, please contact ERN-RED, the CCRIF SPC Risk Management Specialist.

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