



# **Tropical Cyclone Gonzalo (AL072020)**

## **Wind and Storm Surge**

### **Final Event Briefing**

#### **Trinidad and Tobago – Trinidad**

**5 August 2020**

## 1 SUMMARY

Gonzalo was the seventh tropical cyclone in the 2020 Atlantic Hurricane Season. On 22 July it developed as a tropical storm over the central Atlantic, to the east of the southern Windward Islands. On 25 July, Tropical Storm Gonzalo made landfall on Trinidad, affecting the island with tropical-storm-force winds, while Tobago experienced winds below 39 mph.

Final runs of the CCRIF loss model for wind and storm surge produced government losses for Trinidad which were below the attachment point of this country Tropical Cyclone policy for Trinidad<sup>1</sup>. Therefore, no payout under the policy for Trinidad is due.

The Aggregated Deductible Cover (ADC) for the policy for Trinidad was not activated because the modelled losses were below 10 per cent of the minimum payment of the policy and there was no disaster alert declaration for Trinidad and Tobago from ReliefWeb related to Tropical Cyclone Gonzalo. Therefore, no payment under the ADC is due.

Final runs of the CCRIF loss model for wind and storm surge produced no government losses for Tobago and therefore, no payout under the Tropical Cyclone policy for Tobago is due.

This event briefing is designed to review the modelled losses due to wind and storm surge calculated by CCRIF's models for affected CCRIF member countries, to be analyzed with respect to members' Tropical Cyclone policies. A separate report on rainfall impacts on affected CCRIF member countries will be issued if applicable.

---

<sup>1</sup> The Government of Trinidad and Tobago has two Tropical Cyclone policies: one for Trinidad and one for Tobago.

---

## 2 INTRODUCTION

On 22 July at 1250UTC, the US National Hurricane Center (NHC) reported that a tropical depression located over the tropical central Atlantic developed as a tropical storm, and it was named Gonzalo. The tropical storm presented well-defined bands of clouds wrapping from the center to the outer periphery, with a small eye. The estimated centre of circulation was located at 9.9N, 43.1W, to the east of the southern Windward Islands. The minimum central pressure was 1003 mb and the maximum sustained winds were estimated at 45 mph (75 km/h). Gonzalo was a small tropical cyclone, as tropical-storm-force winds extended outward only up to 25 miles (35 km) from the centre. The system was moving towards the west along the south periphery of the Bermuda-Azores high pressure system located over the Atlantic Ocean. Its forward velocity was estimated at 14 mph (22 km/h) and it was directed towards the southern Windward Islands.

In the following three days, the intensification of the tropical storm was hindered by the presence of dry air and large-scale subsidence. Therefore, on 25 July, the force of the tropical storm and its small size were generally unchanged. On 25 July at 1500UTC, the centre of the tropical storm was located at 10.5N 60.5W, and it was at a distance of approximately 55 mi (90 km) to the east of Trinidad (Figure 1 and Figure 2). The maximum sustained winds were estimated at 40 mph (65 km/h), with tropical-storm-force winds extending outward up to 25 miles (35 km) mainly to the northeast of the centre (as shown in Figure 3). The system was moving with forward velocity of approximately 18 mph (30 km/h) and at 1800UTC, its centre made landfall on Trinidad. However, at this time, the system lost its tropical storm intensity and was downgraded to a tropical depression. Maximum sustained winds were estimated at approximately 35 mph (55 km/h) with higher gusts.

In the next few hours, the remnants of Gonzalo left the Windward Islands, moving across the southeastern Caribbean Sea. Over these waters, due to the unfavorable environment, the system lost its closed circulation, opened into a tropical wave and dissipated.

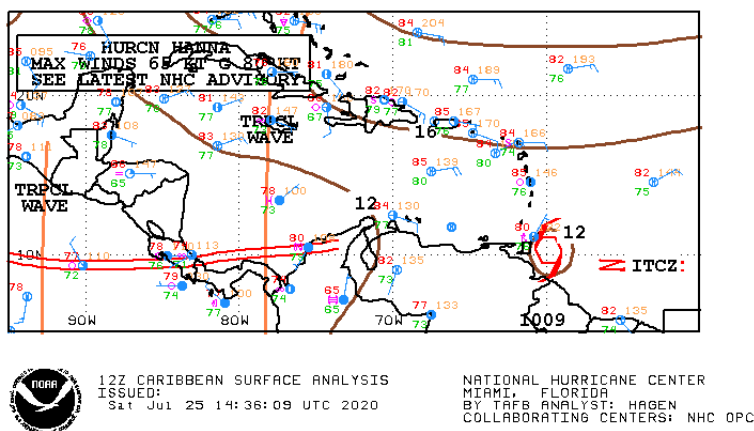


Figure 1 Surface analysis over the Caribbean area on 25 July at 1200UTC. The Tropical Storm Gonzalo is visible just east of Trinidad. Source: US National Hurricane Center<sup>2</sup>

<sup>2</sup> National Oceanic and Atmospheric Administration - FTP, National Hurricane Center, review date: 25 July 2020, available at: [https://www.nhc.noaa.gov/tafb/CAR\\_12Z.gif](https://www.nhc.noaa.gov/tafb/CAR_12Z.gif)

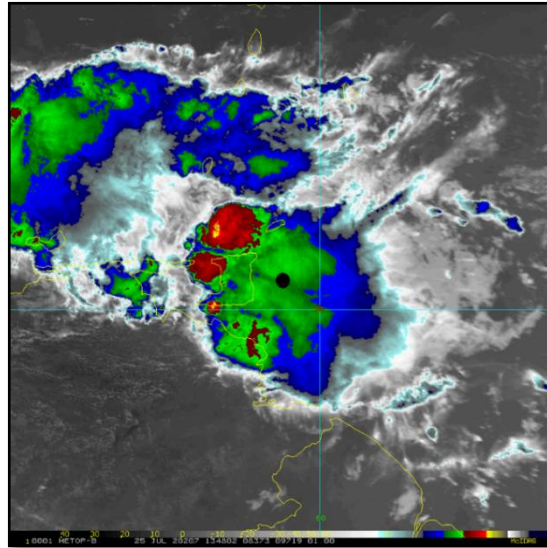


Figure 2 Satellite imagery on 25 July at 1348UTC from thermal infrared channel enhanced with colour. Blue/green colours represent high altitude clouds (top cloud temperature between  $-50^{\circ}\text{C}$  and  $-70^{\circ}\text{C}$ ), while the red colour represents very high altitude clouds (top cloud lower than  $-70^{\circ}\text{C}$ ). High altitude clouds indicate strong convection associated with intense precipitation. The centre of Tropical Storm Gonzalo is indicated by the black dot just east of Trinidad. Source: NOAA, National Environmental Satellite, Data and Information Service<sup>3</sup>.

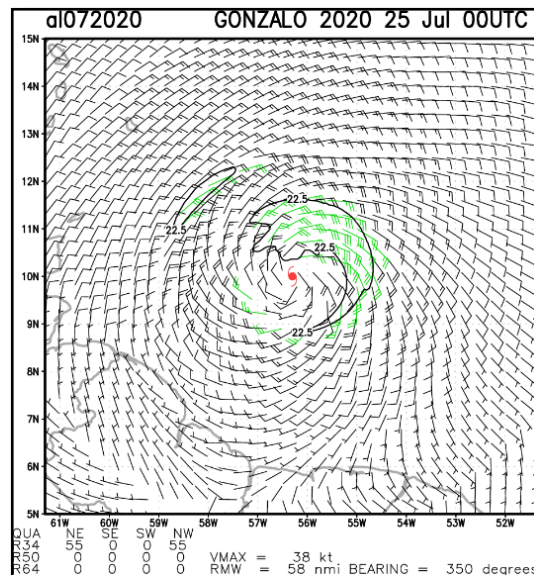


Figure 3 Aircraft based tropical cyclone surface wind analysis estimated on 25 July at 0000UTC. Contouring indicates wind intensity at 20 kn (23 mph, 37 km/h). Source: NOAA, National Environmental Satellite, Data and Information Service<sup>4</sup>.

---

<sup>3</sup> RAMSDIS Online Archive, NOAA Satellite and Information Service, review date: 25 July 2020, available at: [http://rammb.cira.colostate.edu/ramsdis/online/archive.asp?data\\_folder=tropical/tropical\\_ge\\_14km\\_wv&width=640&height=480](http://rammb.cira.colostate.edu/ramsdis/online/archive.asp?data_folder=tropical/tropical_ge_14km_wv&width=640&height=480)

<sup>4</sup> RAMSDIS Online Archive, NOAA Satellite and Information Service, review date: 25 July 2020, available at: [https://rammb-data.cira.colostate.edu/tc\\_realtime/storm.asp?storm\\_identifier=al072020](https://rammb-data.cira.colostate.edu/tc_realtime/storm.asp?storm_identifier=al072020)

---

### 3 CCRIF SPC MODEL OUTPUTS

Under CCRIF’s loss calculation protocol, a CCRIF System for Probabilistic Hazard Evaluation and Risk Assessment (SPHERA) report is required for any tropical cyclone affecting at least one member country with winds greater than 39 mph (62.7 km/h). Tropical Cyclone Gonzalo qualified as a Loss Event<sup>5</sup> for Trinidad.

The wind footprint (Figure 4) and surge field are two of the outputs from the CCRIF model, which show the regions affected by certain extents of Tropical Cyclone Gonzalo in Trinidad. Given that Gonzalo remained only as a tropical storm, the storm surge values computed by the model were technically null values, which are too low to be represented on a hazard map.

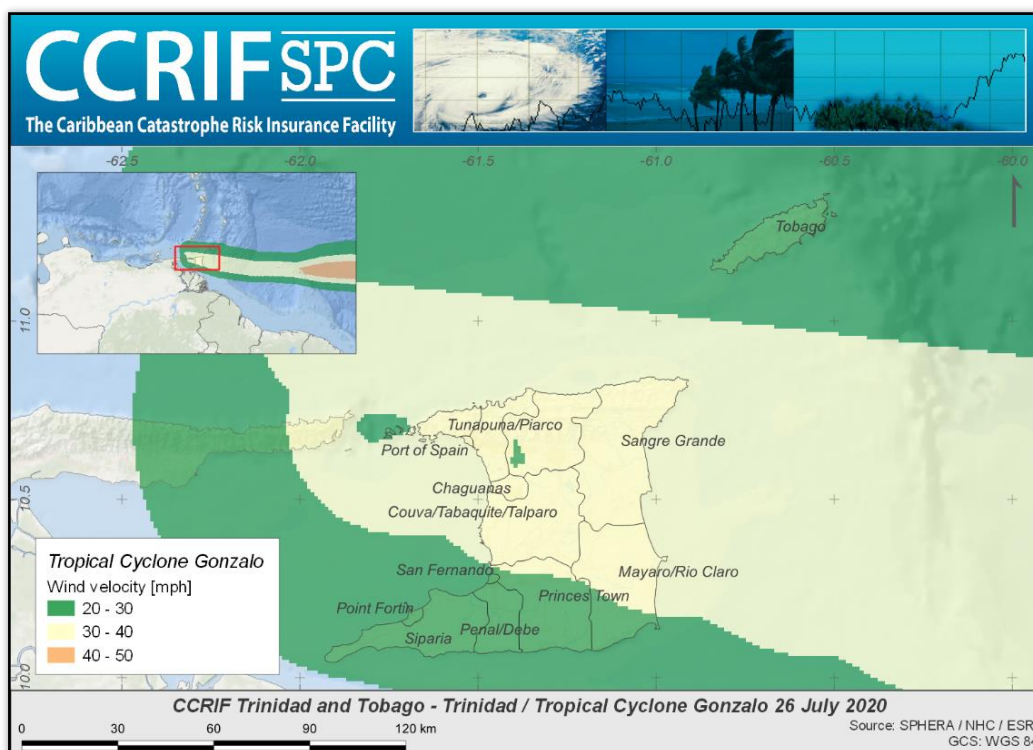


Figure 4 Map showing the wind field associated with Tropical Cyclone Gonzalo in Trinidad and Tobago. Source: NHC & CCRIF/SPHERA

### 4 IMPACTS

Ten days after the passage of Tropical Cyclone Gonzalo and according to the Ministry of Rural Development and Local Government, the affected areas were in the Diego Martin, Sangre Grande, Mayaro/Rio Claro and San Juan/ Laventille Regional Corporations of Trinidad. The majority of the wind damage reports pertained to fallen trees, while other reports were as a result of blown roofs and downed power lines.

<sup>5</sup> Any Tropical Cyclone event which produces a modelled loss greater than zero in one or more policyholder countries.



Prior to the arrival of Gonzalo, Trinidad and Tobago’s authorities took precautionary measures such as activating the National Emergency Operations Centre. The Trinidad and Tobago Meteorological Service activated the Adverse Weather Alert and the Hazardous Seas Alert.



Figure 5 Damage caused by Tropical Storm Gonzalo in Trinidad – July 2020.  
Source: Ministry of Rural Development and Local Government

## 5 CCRIF LOSS MODEL

For Trinidad, the final run of CCRIF’s loss model for wind and storm surge generated government losses, but these losses were below the attachment point for the Tropical Cyclone policy for Trinidad and therefore no payout under this policy is due. The Aggregated Deductible Cover (ADC) for the Trinidad policy was not activated because the modelled losses were below 10 per cent of the minimum payment and there was no disaster alert declaration for Trinidad and Tobago from ReliefWeb related to Tropical Cyclone Gonzalo. Therefore, no payment under the ADC for Trinidad’s Tropical Cyclone policy is due.

For Tobago, the final run of CCRIF’s loss model for wind and storm surge generated no modelled losses and therefore no payout is due under the Tropical Cyclone policy for Tobago.

For additional information, please contact CCRIF SPC at: [pr@ccrif.org](mailto:pr@ccrif.org)