



Tropical Cyclone Ida (AL092021)

Wind and Storm Surge

Final Event Briefing

Cayman Islands

6 September 2021

1 SUMMARY

Tropical Cyclone Ida was the ninth named storm of the 2021 Atlantic Hurricane Season. On 26 August it developed as a tropical storm while it was over the central Caribbean Sea, east of Jamaica. On 27 August, Tropical Storm Ida moved through the Cayman Islands, passing approximately 30 mi (50 km) from Grand Cayman. Tropical-storm-force winds occurred across this country. In the following days, Ida rapidly strengthened while traversing the Gulf of Mexico, becoming a major hurricane.

Final runs of the CCRIF loss model for wind and storm surge produced government losses for the Cayman Islands, which were below the attachment point of this country's tropical cyclone policy. Therefore, no payout under the policy is due.

The Aggregated Deductible Cover (ADC) for this country's TC policy was not activated because the modelled losses were below 10 per cent of the minimum payment of the policy. Therefore, no payment under the ADC feature is due for the Cayman Islands.

This event briefing is designed to review the modelled losses due to wind and storm surge calculated by CCRIF's SPHERA TC model for affected CCRIF member countries, to be analyzed with respect to members' tropical cyclone policies. The Cayman Islands was the only CCRIF member country where wind speeds, computed with the CCRIF SPHERA model, were greater than 39 mph (62.7 km/h) due to Tropical Cyclone Ida. A separate report on rainfall impacts on affected CCRIF member countries with excess rainfall policies will be issued if applicable.

2 INTRODUCTION

On 26 August at 2120UTC, the US National Hurricane Center (NHC) reported that a tropical storm named Ida developed west of Jamaica. Its centre was located approximately at latitude 18.0° North and longitude 79.8° West; at about 128 mi (206 km) SE of Grand Cayman, Cayman Islands (Figure 1). The minimum central pressure was 1006 mb and the maximum sustained winds were estimated at 40 mph (65 km/h). Tropical-storm-force winds spread outward up to 70 miles (110 km) north of the centre. The system moved towards the northwest with an estimated forward velocity of 14 mph (22 km/h). It originated from a tropical wave moving westward across the Caribbean Sea, which developed a low-level closed circulation.

Satellite imagery showed that the cloud pattern of the system and the wind field were asymmetric, likely due to a southwesterly vertical wind shear affecting the vertical structure of the tropical storm (Figure 2). Moreover, this condition prevented a rapid intensification of the system and nine hours later, on 27 August at 0600UTC, the tropical storm had unvaried strength. At this time the centre of Ida passed through the Cayman Islands, about 30 mi (50 km) ENE of Grand Cayman (at latitude 19.4° North and longitude 80.9° West). Tropical-storm-force winds spread outward up to 70 miles (110 km) from the centre, mostly over the northeast quadrant (Figure 3). Estimates from the satellite imagery indicated that tropical-storm-force winds hit the Cayman Islands from 0000UTC to 0900UTC, mainly Cayman Brac and Little Cayman (Figure 3).

The tropical storm moved towards the northwest with an estimated forward velocity of 12 mph (19 km/h) and in the following hours its centre moved away from the Cayman Island heading for the northwest Caribbean Sea. Over the waters to the north of the Cayman Islands, a decrease of the wind shear combined with the warm sea surface and the moist environment supported a steady strengthening of the tropical cyclone. At 1200 UTC, the maximum sustained winds increased to 60 mph (95 km/h) and the minimum central pressure was estimated at 996 mb. The centre of Ida was located at near 20.3° North and longitude 81.7° West, about 75 mi (125 km) NNW of Grand Cayman. A few hours later, at 1710 UTC, the NHC reported that Ida became a Category 1 hurricane as it approached the Isle of Youth, Cuba.

On the following day, Ida intensified rapidly while traversing the Gulf of Mexico. At the time of this report, Ida was making landfall on Louisiana, United States of America as a Category 4 hurricane.

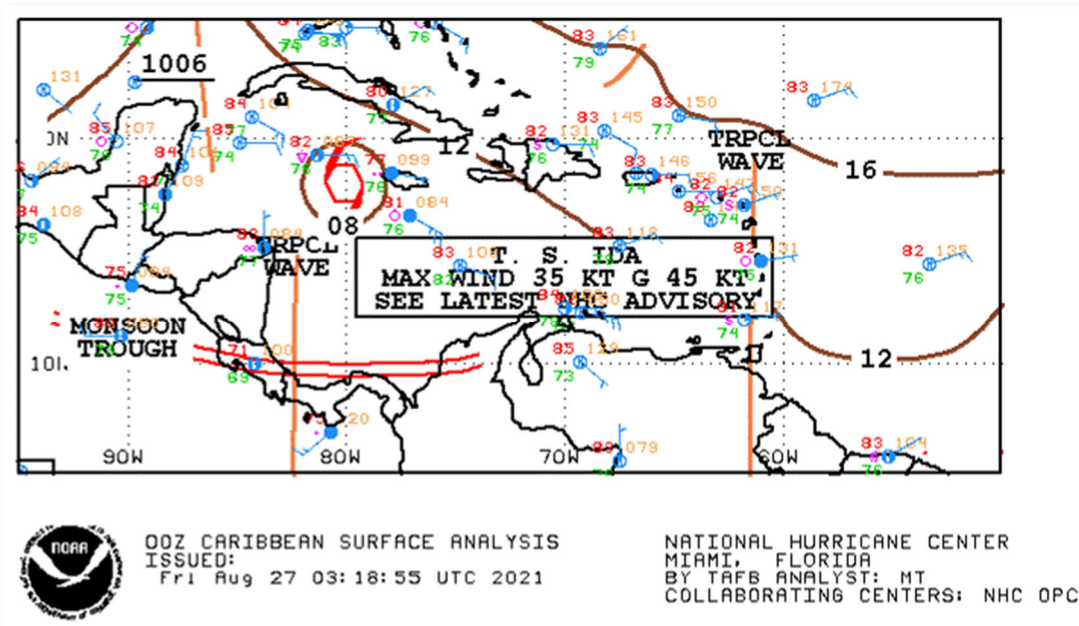


Figure 1 Surface analysis over the Caribbean area on 27 August at 0318 UTC as indicated in the label.
Source: US National Hurricane Center¹

¹ National Oceanic and Atmospheric Administration - FTP, National Hurricane Center, review date: 27 August 2021, available at: https://www.nhc.noaa.gov/tafb/CAR_00Z.gif

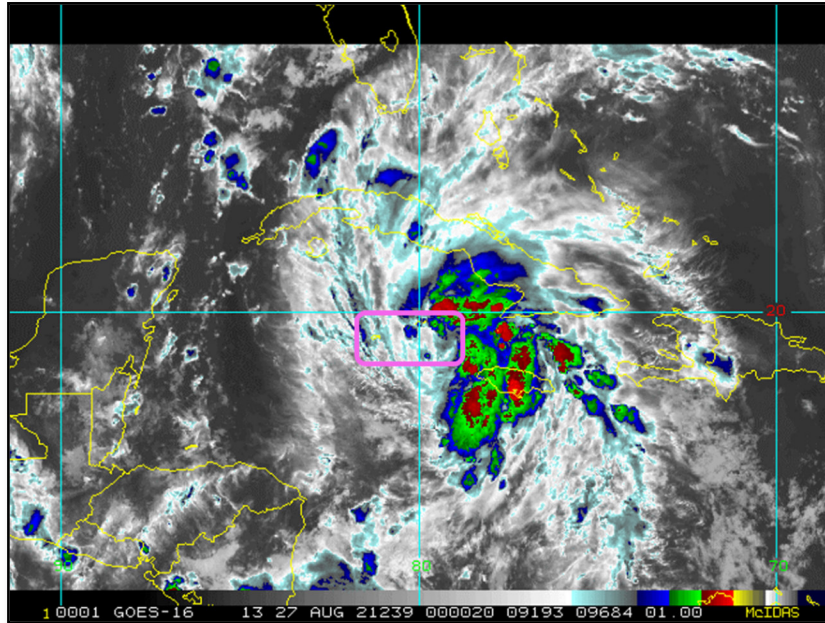
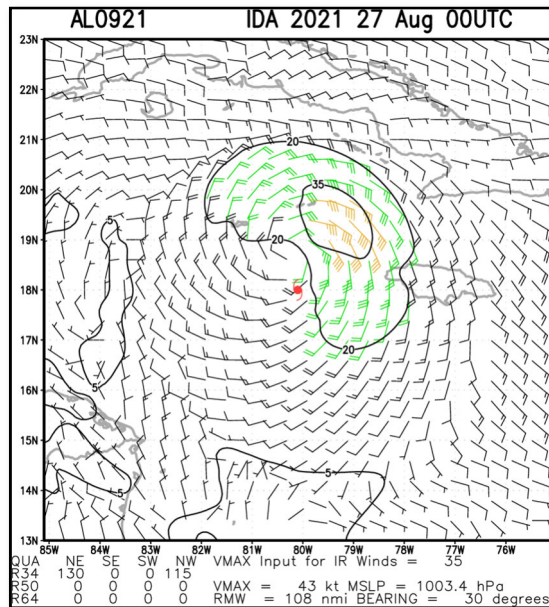
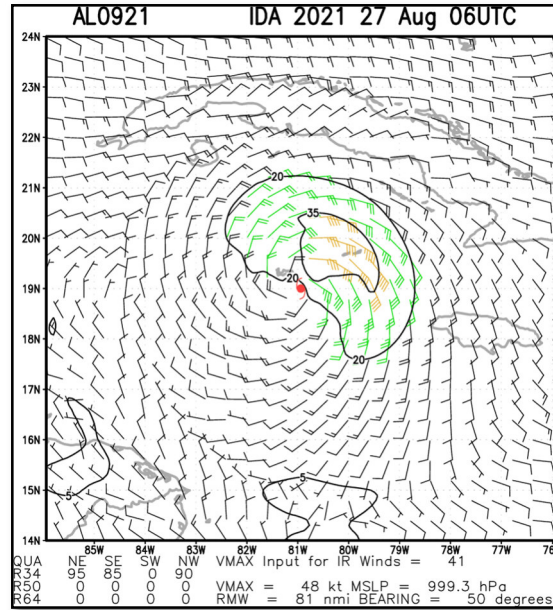


Figure 2 Satellite imagery on 27 August at 0000UTC (as indicated in the labels) from thermal infrared channel enhanced with colour. The violet box indicated the Cayman Islands and the surrounding waters. Blue/green colours represent high altitude clouds (top cloud temperature between -50°C and -70°C), while the red/yellow colours represent very high altitude clouds (top cloud lower than -70°C). High altitude clouds indicate strong convection associated with intense precipitation. Source: NOAA, National Environmental Satellite, Data and Information Service².

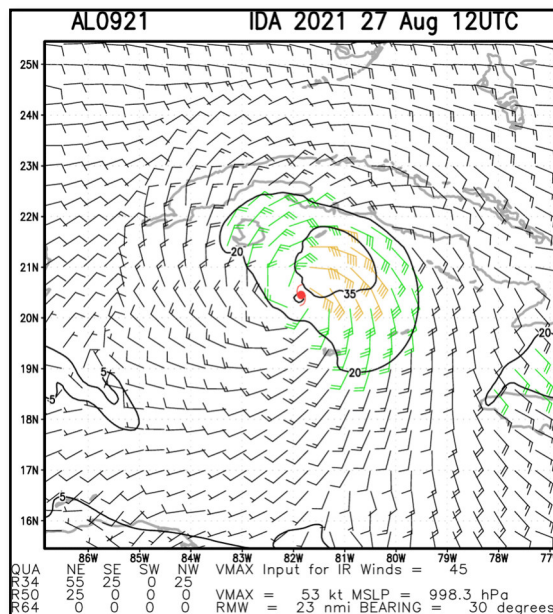


a) 27 August at 0000 UTC

² RAMSDIS Online Archive, NOAA Satellite and Information Service, available at : https://rammb-data.cira.colostate.edu/tc_realtime/storm.asp?storm_identifier=al092021



b) 27 August at 0600 UTC



c) 27 August at 1200 UTC

Figure 3 Multiplatform satellite based tropical cyclone surface wind analysis estimated at different times as indicated in the labels. Contouring indicates wind intensity at 20 kn (23 mph, 37 km/h) and at 35 kn (40 mph, 65 km/h). Source: NOAA, National Environmental Satellite, Data and Information Service³.

³ RAMSDIS Online Archive, NOAA Satellite and Information Service, available at: https://rammb-data.cira.colostate.edu/tc_realtime/storm.asp?storm_identifier=al092021

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 Ida qualified as a Loss Event⁴ for the Cayman Islands.

The wind footprint (Figure 4) and surge field are two of the outputs from the CCRIF model, which show the regions affected by Tropical Cyclone Ida in the Cayman Islands. Due to the relatively low wind speeds, storm surge was insignificant, did not contribute to the damage, and is therefore not shown on the hazard map.

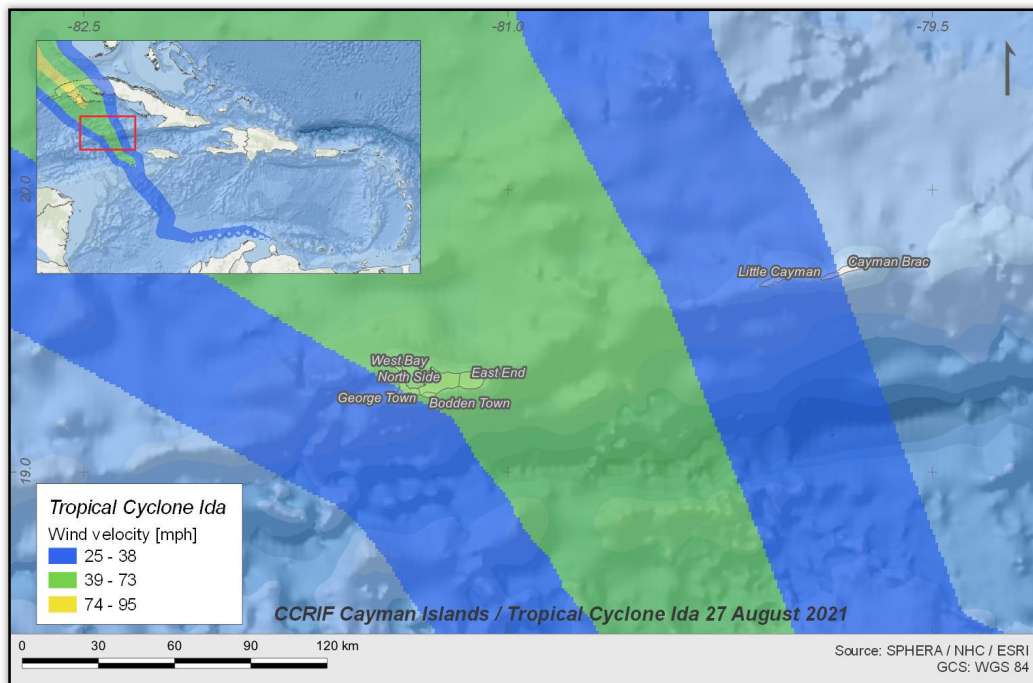


Figure 4 Map showing the wind field associated with Tropical Cyclone Ida in the Cayman Islands.
Source: NHC & CCRIF/SPHERA

4 IMPACTS

According to information published in the local news⁵, due to Tropical Storm Ida, strong winds, heavy rain and significant interruptions of electric power were reported in Cayman Brac and Little Cayman islands. Deputy Governor Franz Manderson reported that “We are thankful that the Cayman Brac and Little Cayman will soon be able to put Tropical Storm Ida behind them”.

⁴ Any Tropical Cyclone event which produces a modelled loss greater than zero in one or more policyholder countries.

⁵ Cayman Compass, review date: 29 August 2021, available at: [‘All clear issued for Sister Islands’](#)

The National Emergency Operations Centre declared Grand Cayman All Clear of Tropical Storm Ida⁶ on 27 August 2021. There were no reports of losses caused by the passage of Tropical Storm Ida.

Prior to the arrival of the storm, a Tropical Storm Warning was put into effect. The National Weather Service and Hazard Management Cayman Islands activated Flood and Marine Warnings. The Cayman Islands' authorities took precautionary measures such as opening some emergency shelters and government and private schools were temporarily closed.

5 CCRIF LOSS MODEL

Final runs of the CCRIF loss model for wind and storm surge produced government losses for the Cayman Islands, which were below the attachment point of the country's tropical cyclone policy and therefore no payout under the policy is due.

The Aggregated Deductible Cover (ADC) for this country's TC policy was not activated because the modelled losses were below 10 per cent of the minimum payment of the policy. Therefore, no payment under the ADC feature is due for the Cayman Islands.

For additional information, please contact CCRIF SPC at: pr@ccrif.org

⁶ Caymanian Times, review date: 29 August 2021, available at: ['Grand Cayman Clear of Ida, Sister Islands Still Under Warning'](#)
