



# **Tropical Cyclone Bret (AAL032023)**

## **Wind and Storm Surge**

### **Final Event Briefing**

**Barbados  
Saint Lucia  
Vincent and The Grenadines**

**25 June 2023**

## 1 SUMMARY

Tropical Storm Bret was the third named tropical cyclone of the 2023 Atlantic Hurricane Season. On 22 and 23 June, Bret passed over Barbados and the Windward Islands. Tropical-storm-force winds spread over Barbados, Saint Lucia and Saint Vincent and the Grenadines. At the time of writing this report, Bret was about to pass north of Aruba, Bonaire and Curacao, and was expected to dissipate within a few hours.

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. Barbados, Saint Lucia and Saint Vincent and the Grenadines were the only CCRIF member countries for which the CCRIF loss model for wind and storm surge produced government losses due to Tropical Cyclone Bret. A separate report on rainfall impacts on affected CCRIF member countries will be issued if applicable.

The final runs of the CCRIF loss model for wind and storm surge produced government losses for Barbados, Saint Lucia and Saint Vincent and the Grenadines. For all three countries' Tropical Cyclone policies, the government losses were below the attachment point. Therefore, no payouts under the policies for Barbados, Saint Lucia and Saint Vincent and the Grenadines are due.

The Aggregated Deductible Cover (ADC) feature for the Tropical Cyclone policies for Barbados, Saint Lucia and Saint Vincent and the Grenadines were not activated. For Saint Lucia, the modelled losses were below 10% of the Minimum Payment of the policy for this country's Tropical Cyclone policy. Therefore, no payment under the ADC feature is due for Saint Lucia. For Barbados and Saint Vincent and the Grenadines, the modelled loss amounts were between 10% of the Minimum Payment and 50% of the policies' Attachment Points. However, at the time of issuing this final event briefing, a disaster alert was not reported by ReliefWeb for Barbados and Saint Vincent and the Grenadines due to this tropical cyclone. Therefore, no payments under the ADC feature are due for Barbados and Saint Vincent and the Grenadines.

## 2 INTRODUCTION

On 22 June at 0600 UTC, the US National Hurricane Center (NHC) reported that a Tropical Storm named Bret was located at about 250 mi (465 km) east of Barbados. Its centre was approximately sited near latitude 13.5° North, longitude 55.8° West. The minimum central pressure was 996 mb and the maximum sustained winds were estimated at 70 mph (110 km/h). The system moved towards the west with an estimated forward velocity of 16 mph (26 km/h).

In the following 12 hours, Bret continued to move westward approaching Barbados. During this period, its centre reached latitude 13.4° North and longitude 58.9° West 45 mi (70 km) E-NE of Barbados and 140 mi (225 km) E-SE of Saint Lucia. The minimum central pressure was 1,002 mb

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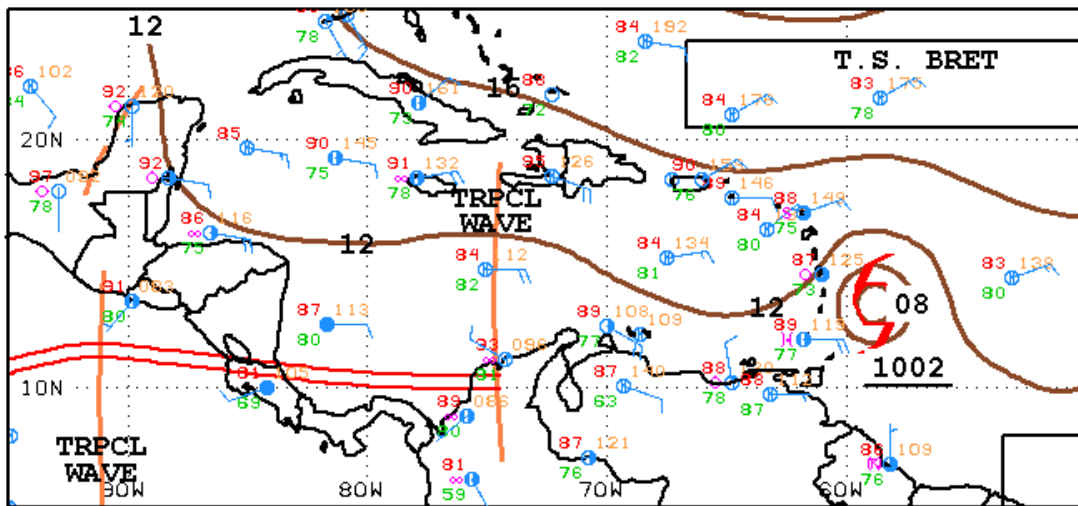
and the maximum sustained winds were estimated at 65 mph (100 km/h). The system moved towards the west with an estimated forward velocity of 14 mph (22 km/h).

The intensity and features of Tropical Storm Bret were almost unchanged on 22 June at 2100 UTC, when tropical-storm conditions spread across portions of the Windward Islands. Surface observations from Barbados recorded wind gusts of tropical-storm force during the following few hours. Sustained tropical-storm-force winds was reported in Saint Lucia. The system centre was located about 15 mi (25 km) N-NW of Barbados and about 100 mi (160 km) E-SE of Saint Lucia (13.4°N, 59.6°W). The maximum sustained winds were almost 65 mph (100 km/h) and the minimum central pressure was 1,002 mb. The system moved towards the west with an estimated forward velocity of 16 mph (26 km/h). Radar data from Barbados and satellite images indicate that Bret was strongly sheared with deep convection mostly confined to the northeastern part of the circulation.

On 23 June at 0300 UTC the center of Bret approached Saint Vincent and Saint Lucia. Its centre was sited near latitude 13.3° North, longitude 61.1° West, 5 mi (10 km) east of Saint Vincent and 35 mi (55 km) south of Saint Lucia. Tropical-storm-force winds extended outward up to 115 miles (185 km) from the centre. Tropical-storm conditions were also reported from Martinique. Satellite imagery and radar data from Barbados indicated that the cyclone was losing organization due to increasing vertical wind shear, with only minimal convection near the centre. The remainder of the convection was in bands and clusters well removed from the centre in the eastern area. Maximum sustained winds were almost 60 mph (95 km/h) and the minimum central pressure was 1,004 mb. The system moved towards the west with an estimated forward velocity of 18 mph (30 km/h).

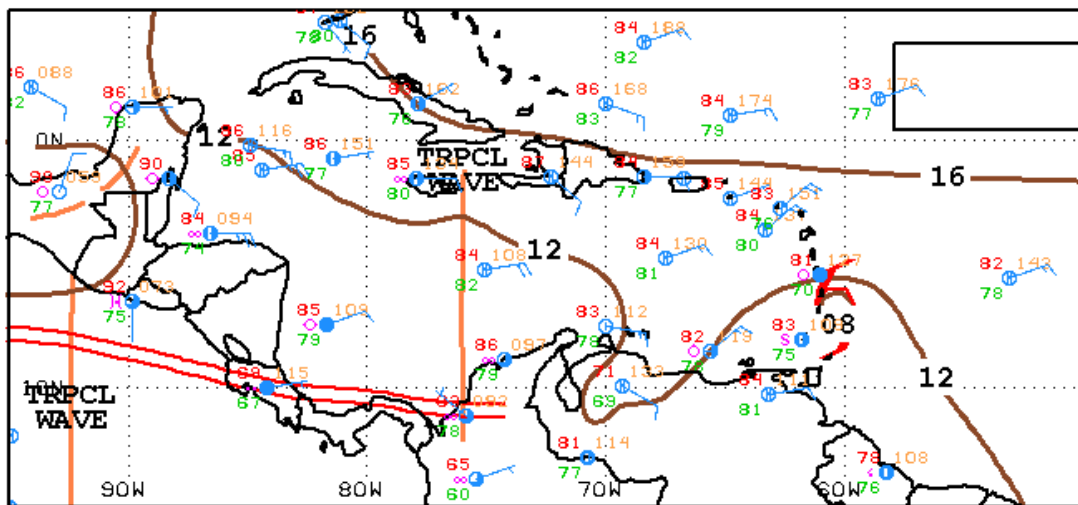
Three hours later, the centre of the tropical storm passed to the west of Saint Lucia and Saint Vincent. It was located at 13.4°N, 61.9°W at a distance of 50 mi (75 km) west of Saint Vincent and at about 65 mi (105 km) W-SW of Saint Lucia. Tropical-storm-force winds extended outward up to 115 miles (185 km) from the centre. Grantly Adams International Airport in Barbados reported sustained winds of 44 mph (70 km/h) and a gust up to 56 mph (91 km/h) in thunderstorm activity well to the east of Bret's centre. The intensity and features of Tropical Storm Bret remained unchanged. The system moved towards the west with an estimated forward velocity of 17 mph (28 km/h).

At the time of writing this report, Bret was about to pass north of Aruba, Bonaire and Curacao, and was expected to dissipate within a few hours.



18Z CARIBBEAN SURFACE ANALYSIS  
ISSUED:  
Thu Jun 22 20:44:37 UTC 2023

NATIONAL HURRICANE CENTER  
MIAMI, FLORIDA  
BY TAFB ANALYST: KRV/SDR  
COLLABORATING CENTERS: NHC OPC



00Z CARIBBEAN SURFACE ANALYSIS  
ISSUED:  
Fri Jun 23 02:44:40 UTC 2023

NATIONAL HURRICANE CENTER  
MIAMI, FLORIDA  
BY TAFB ANALYST: MT  
COLLABORATING CENTERS: NHC OPC

Figure 1 Surface analysis over the Caribbean area on 22 June at 1800UTC and on 23 June at 0000UTC. Tropical Cyclone Bret was located over Barbados and later over the Windward Islands. Source: US National Hurricane Center<sup>1</sup>

<sup>1</sup>National Oceanic and Atmospheric Administration - FTP, National Hurricane Center, review date: 22 June 2023, available at: [https://www.nhc.noaa.gov/tafb/CAR\\_18Z.gif](https://www.nhc.noaa.gov/tafb/CAR_18Z.gif)

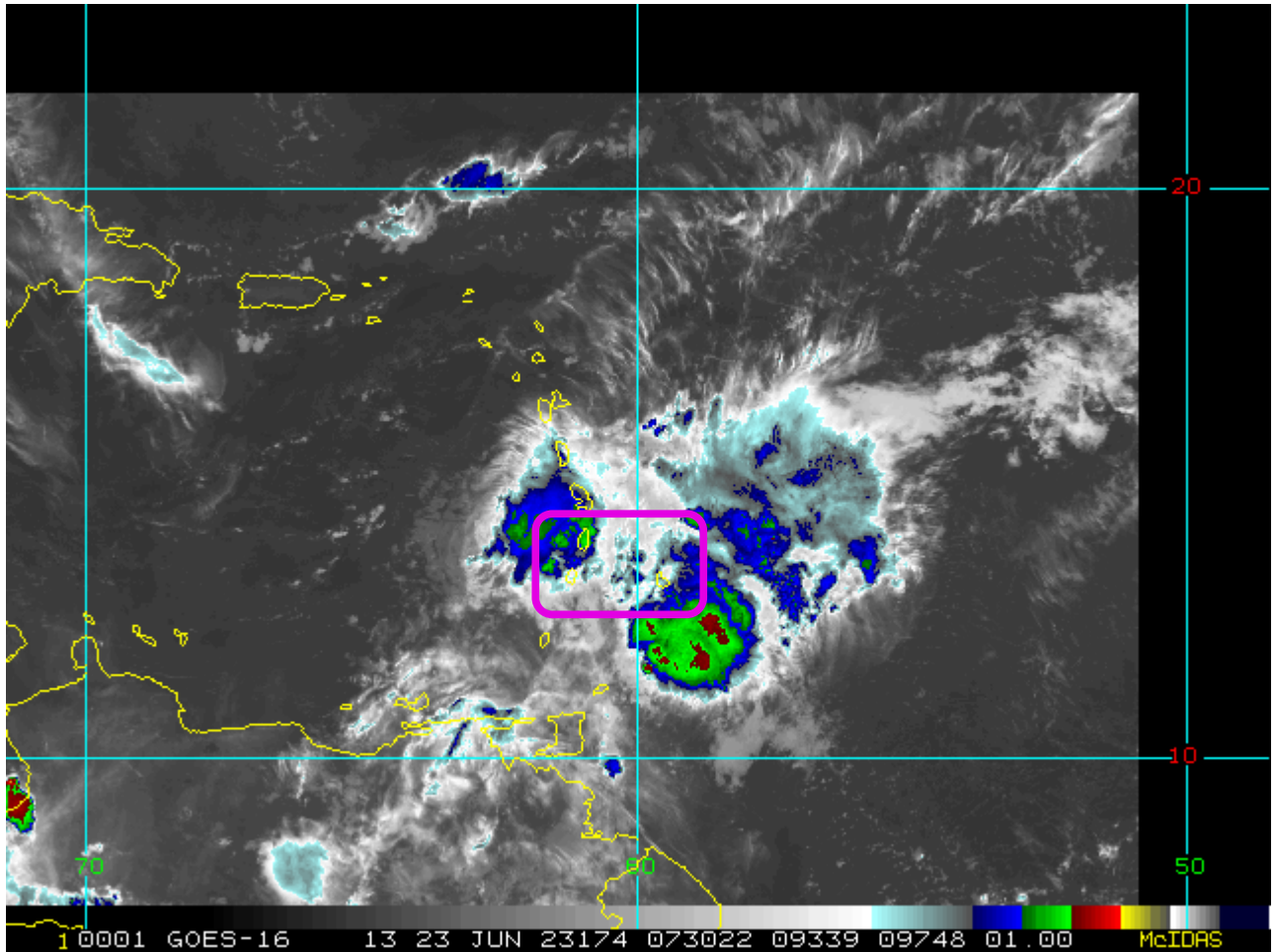


Figure 2 Satellite imagery on 23 June at 0730UTC from thermal infrared channel enhanced with colour. Blue/green colours represent high altitude clouds (top cloud temperature between  $-50^{\circ}\text{C}$  and  $-70^{\circ}\text{C}$ ), while the red/yellow colours represent very high altitude clouds (top cloud lower than  $-70^{\circ}\text{C}$ ). High altitude clouds indicate strong convection associated with intense precipitation. Barbados, Saint Lucia and Saint Vincent and the Grenadines are surrounded by a violet square. Source: NOAA, National Environmental Satellite, Data and Information Service<sup>2</sup>.

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<sup>2</sup>RAMSDIS Online Archive, NOAA Satellite and Information Service, available at: [https://rammb-data.cira.colostate.edu/tc\\_realtime/storm.asp?storm\\_identifier=al032023](https://rammb-data.cira.colostate.edu/tc_realtime/storm.asp?storm_identifier=al032023)

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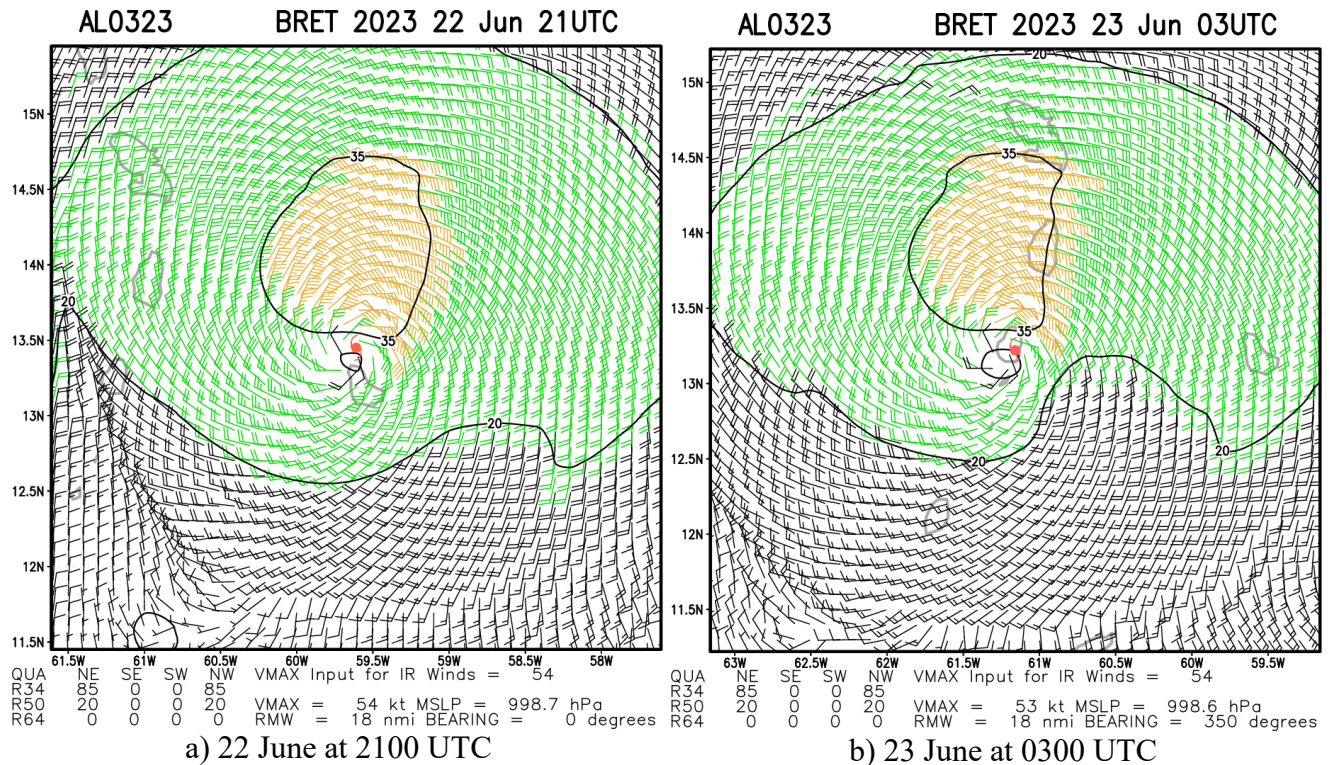


Figure 3 Multiplatform satellite based tropical cyclone surface wind analysis estimated on 22 June at 2100UTC and on 23 June at 0300UTC as indicated in the labels. Contouring indicates wind intensity at 20 kn (23 mph, 37 km/h) and at 35 kn (40mph, 65km/h). Source: NOAA, National Environmental Satellite, Data and Information Service<sup>3</sup>

### 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). Barbados, Saint Lucia and Saint Vincent and The Grenadines were affected by Tropical Cyclone Bret, which qualified as a Loss Event for all three countries<sup>4</sup>. Figure 4 shows the wind footprint for the regions around these countries affected by Tropical Cyclone Bret.

<sup>3</sup>RAMSDIS Online Archive, NOAA Satellite and Information Service, available at: [https://rammb-data.cira.colostate.edu/tc\\_realtime/storm.asp?storm\\_identifier=al032023](https://rammb-data.cira.colostate.edu/tc_realtime/storm.asp?storm_identifier=al032023)

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

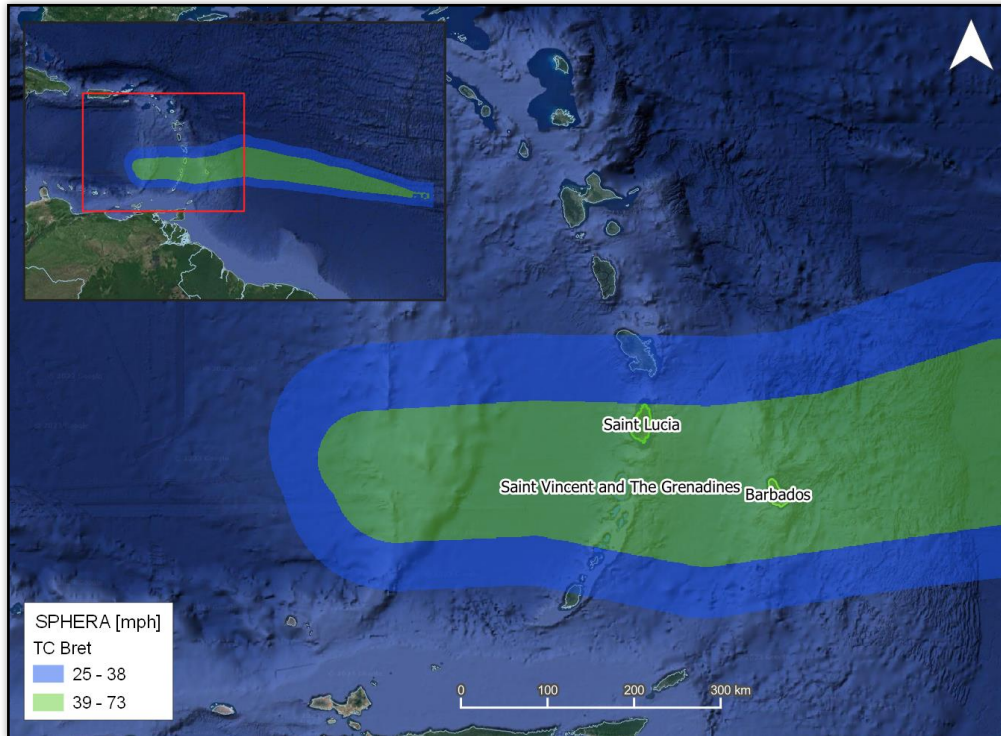


Figure 4 Map showing the wind field associated with Tropical Cyclone Bret around Barbados, Saint Lucia and Saint Vincent and The Grenadines  
Source: NHC & CCRIF/SPHERA

## 4 IMPACTS

At the time of writing this report, local news in Barbados reported that Tropical Storm Bret left its mark on the country. It caused heavy rainfall in some areas, wind gusts that removed at least 1 roof and surging surf that affected the coastline, causing considerable damage to a cliff-side restaurant.

The Government of Saint Vincent and the Grenadines ordered a full shutdown of the country<sup>5</sup> with the exception of essential services. Emergency shelters were opened. At the time of writing this reports no damages or impacts are reported on this country.

Heavy rains and strong winds affected Saint Lucia, resulting downed power lines, flattened banana crops, damage roofs, caused flooding and mudslides in some communities. At this time, there has been no report of infrastructural damage. The St. Lucia Electricity Services Limited (LUCELEC) estimated a loss of 60 percent of their network as a result of the storm's passage over the island<sup>6</sup>.

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<sup>5</sup> [St Vincent & the Grenadines orders full shutdown in the wake of Tropical Storm Bret | The Habari Network](#)

<sup>6</sup> [Damage from Tropical Storm Bret's Passage Still Under Review - St. Lucia News From The Voice \(thevoiceslu.com\)](#)

## **5 CCRIF LOSS MODEL**

The final runs of the CCRIF loss model for wind and storm surge produced government losses for Barbados, Saint Lucia and Saint Vincent and The Grenadines, which were below the attachment point of these three countries' Tropical Cyclone policies. Therefore, no payouts under their policies are due.

The Aggregated Deductible Cover (ADC) feature for the Tropical Cyclone policy for Barbados, Saint Lucia and Saint Vincent and the Grenadines was not activated. The modelled losses were below 10 per cent of the Minimum Payment of the tropical cyclone policy these countries. Therefore, no payment under the ADC feature is due.

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