



# **Tropical Cyclone Philippe (AAL172023)**

## **Final Event Briefing**

### **Reportable event**

## **Anguilla Electricity Company (ANGLEC)**

**13 October 2023**

## 1 SUMMARY

Tropical Cyclone Philippe was the sixteenth named storm of the 2023 Atlantic Hurricane Season. On 2 October at 2200UTC, Tropical Cyclone (TC) Philippe made landfall on Antigua and Barbuda as a tropical storm and on 3 October, its centre moved over the Atlantic Ocean just east of the northern Leeward Islands, spreading tropical storm conditions over the region. On 4 October, TC Philippe moved away from the northern Leeward Islands, towards the north Atlantic Ocean.

This event briefing is designed to review the modelled losses due to wind and storm surge due to TC Philippe, calculated by CCRIF's Public Utilities model. The Anguilla Electricity Company (ANGLEC) was the only utility with a CCRIF Public Utilities policy for which the CCRIF Public Utilities loss model reported wind speeds greater than 39 mph (62.7 km/h) due to Philippe.

The final run of the CCRIF Public Utilities loss model did not produce any losses for ANGLEC. Therefore, no payout under ANGLEC's CCRIF policy is due.

## 2 INTRODUCTION

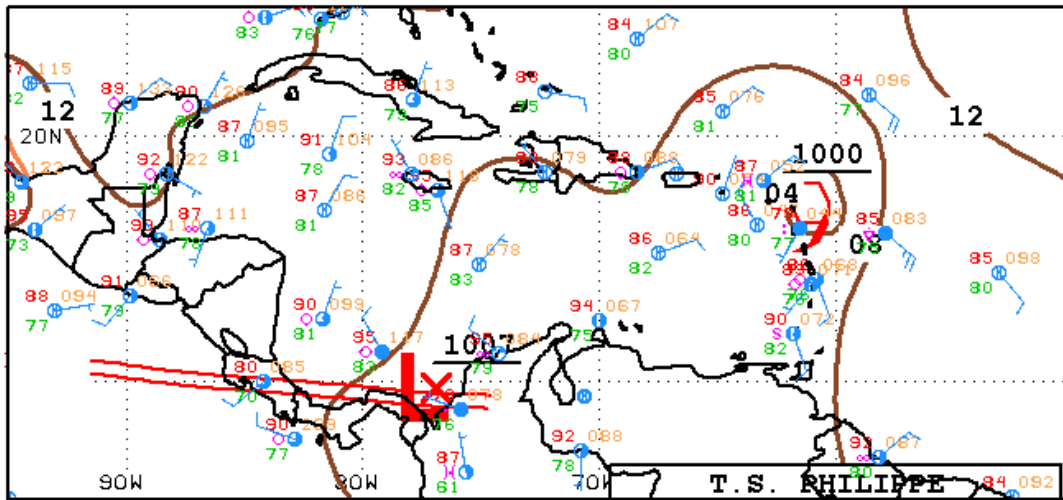
On 23 September at 2100UTC, the US National Hurricane Center (NHC) reported that a tropical storm (TS) formed in the central tropical Atlantic Ocean, and it was named Philippe. Its centre was sited near latitude 15.6° North, longitude 39.7° West, about 1400 mi (2300 km) E of the Leeward Islands. The system proceeded with estimated forward velocity of 14 mph (22 km/h) towards the west. The minimum central pressure was 1005 mb and the maximum sustained winds were estimated at 40 mph (65 km/h).

During the next three days, the tropical storm proceeded with the same forward velocity and direction over the tropical Atlantic Ocean. The strong environmental wind shear and the entrainment of dry air hindered the intensification of the system, and the maximum sustained winds remained constant at about 50 mph (85 km/h). Moreover, the shear caused a marked asymmetry of the storm, with the convective bursts shifted well to the east of the system centre. From 27 September to 2 October, the intensity of the storm remained unvaried, but its forward velocity decreased and the storm started to meander to the east of the northern Leeward Islands.

On 2 October at 2200UTC, the centre of Philippe made landfall on the island of Barbuda (Antigua and Barbuda), with maximum sustained winds estimated at 50 mph (85 km/h) and minimum central pressure of 999 mb (Figure 1). TS Philippe presented a poorly defined circulation centre, sited near the northwestern edge of the large convective mass (Figure 2). Due to the high asymmetry of the system, the most intense winds were located to the south and south-east of the centre. Therefore, tropical-storm-force winds started to affect the Leeward Islands (at first Antigua and Barbuda and Saint Kitts and Nevis), only a few hours later from 3 October at 0600UTC (Figure 3a). At this time, the centre of Philippe was located near latitude 18.0° North, longitude 62.4° West, about 45 mi (75 km) NW of Barbuda and about 45 mi (75 km) E of Sint Maarten. The intensity

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and sheared shape of the tropical storm was unchanged, while it gained forward velocity, moving west-northwest at 7mph (11 km/h) along the western periphery of a mid-level high pressure area over the central Atlantic Ocean.



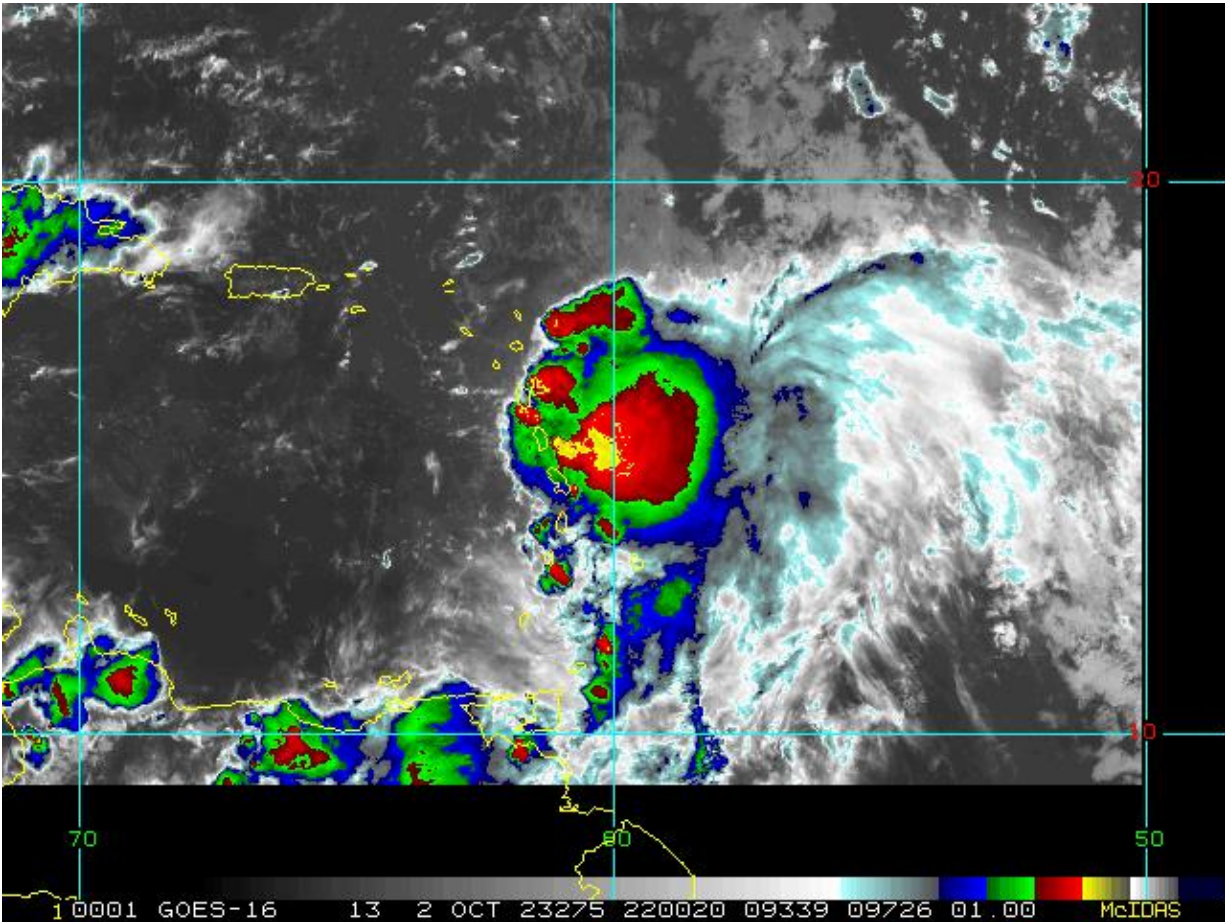
18Z CARIBBEAN SURFACE ANALYSIS  
ISSUED:  
Mon Oct 2 20:42:39 UTC 2023

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

02 October at 1800UTC

Figure 1 Surface analysis over the Caribbean area on 2 October, 2023 at 1800UTC. Source: US National Hurricane Center<sup>1</sup>

<sup>1</sup> National Oceanic and Atmospheric Administration - FTP, National Hurricane Center, review date: 2 October 2023, available at: [https://www.nhc.noaa.gov/tafb/CAR\\_18Z.gif](https://www.nhc.noaa.gov/tafb/CAR_18Z.gif)



02 October at 2200UTC

Figure 2 Satellite imagery on 2 October, 2023 at 2200UTC from the 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. Source: NOAA, National Environmental Satellite, Data and Information Service<sup>2</sup>.

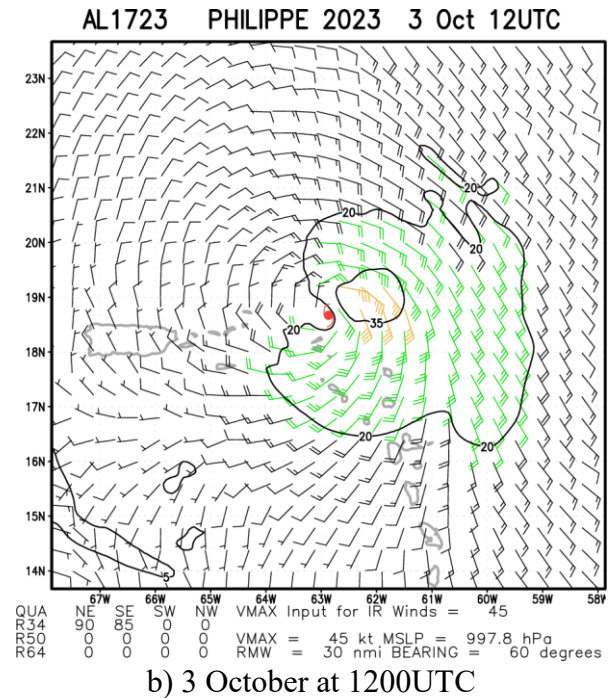
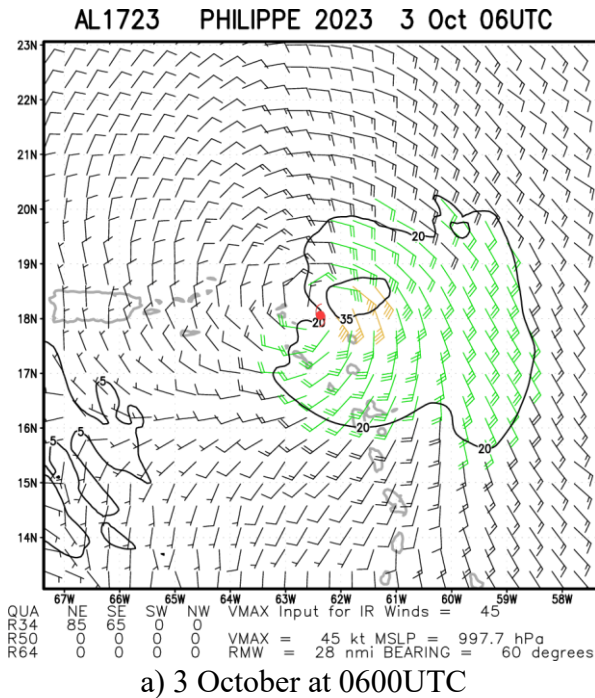
At 1200UTC, the centre of Philippe was sited near latitude  $18.6^{\circ}$  North, longitude  $63.5^{\circ}$  West, about 40 mi (60 km) NW of Anguilla. As in the previous hours, most of the stronger convection was over the southern and eastern portions of the storm, and the Leeward Islands continued to experience strong winds and heavy rains even when the centre of the storm moved north of those islands. At this time, Antigua and Barbuda, Saint Kitts and Nevis, Sint Maarten and Anguilla were still affected by strong winds (Figure 3b).

The tropical storm proceeded toward northwest at 10 mph (17 km/h) and at 1800UTC its centre was located near latitude  $19.0^{\circ}$  North, longitude  $64.4^{\circ}$  West, about 17 mi (27 km) N of The Settlement, Anegada, British Virgin Islands (Figure 3c). Despite the proximity to the British Virgin

<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=al082023](https://rammb-data.cira.colostate.edu/tc_realtime/storm.asp?storm_identifier=al082023)

Islands, tropical-storm-force winds marginally affected portions of the country due to the sheared shape of the system. At 2100UTC, the strong winds associated with Philippe ceased over the other northern Leeward Islands (Figure 3c, 3d).

In the next six hours, TS Philippe lost organization and moved away from the British Virgin Islands, proceeding north-northwest for the north Atlantic Ocean.



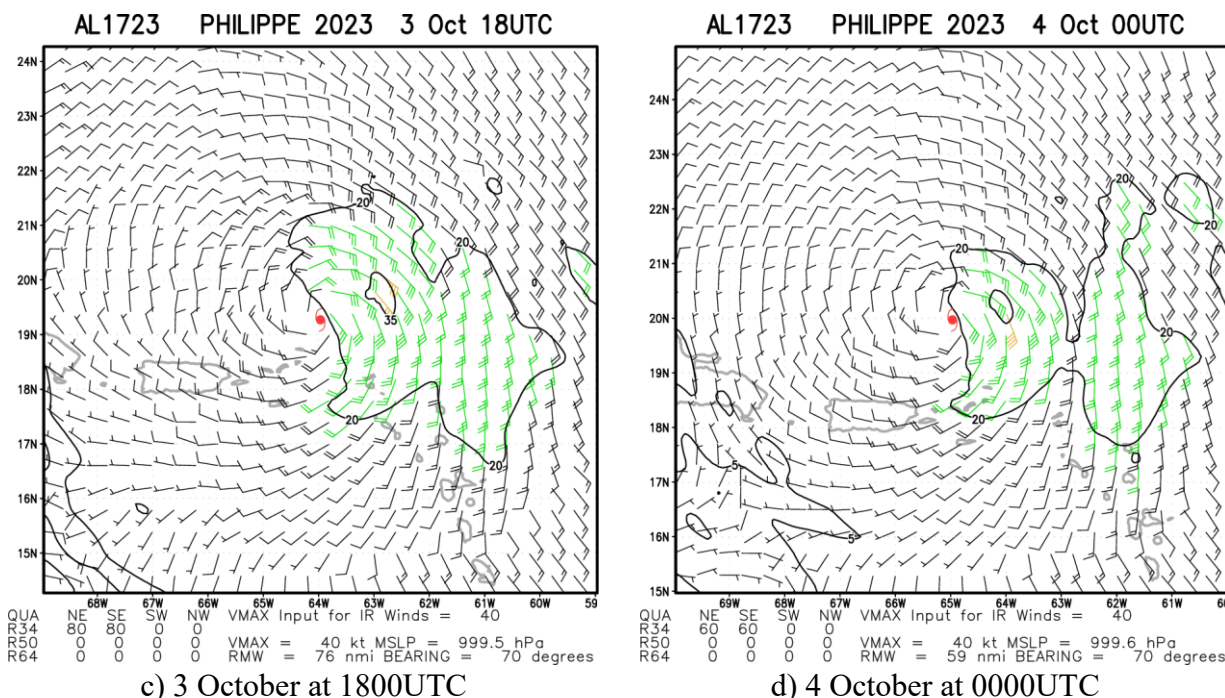


Figure 3 Multi-platform satellite based tropical cyclone surface wind analysis estimated on 3-4 October, 2023 at different times as indicated by the labels. Contouring indicates wind intensity at 20 kn (23 mph, 37 km/h) and at 35 kn (40 mph, 65 km/h). Source: NOAA, National Environmental Satellite, Data and Information 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). A Caribbean Public Utilities (CPU) report is required for any CCRIF member country whose electric utility company has a Public Utilities policy, which meets this criterion. Anguilla was affected by Tropical Cyclone Philippe, which qualified as a Reportable Event<sup>4</sup>. Figure 4 shows the wind footprint for the regions affected by Tropical Cyclone Philippe around the country.

<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=al172023](https://rammb-data.cira.colostate.edu/tc_realtime/storm.asp?storm_identifier=al172023)

<sup>4</sup> Any named Tropical Cyclone event (i.e. one that reaches Tropical Storm status or higher) which produces modelled winds of at least 39 mph in one or more grid cells of at least one CCRIF policyholder country but does not generate a modelled loss greater than zero.

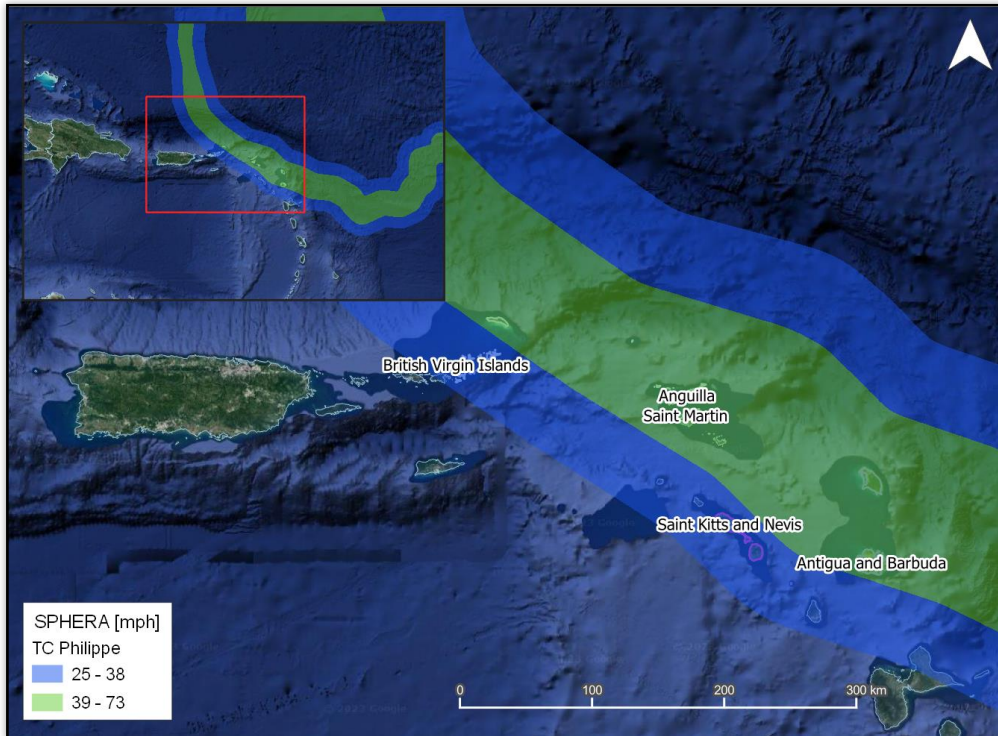


Figure 4 Map showing the wind field associated with Tropical Cyclone Philippe around Anguilla  
Source: NHC & CCRIF/SPHERA

## 4 IMPACTS

No information was available related to damages or losses to the electric service sector in Anguilla due to Tropical Cyclone Philippe. ANGLEC, at the time of this report had not reported any damage or impact to its services.

## 5 CCRIF LOSS MODEL

The final run of the CCRIF SPHERA Public Utilities Model, using the input data downloaded from the National Hurricane Center on 13 October 2023, did not produce any modelled losses for the Anguilla Electricity Company (ANGLEC). Therefore, no payout under ANGLEC's CCRIF Public Utilities policy is due.

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