

Tropical Cyclone Nicole (AL162010)

Event Briefing

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1 SUMMARY

Tropical Cyclone Nicole emerged in the northwestern Caribbean Sea on 28 September as a disorganised area of cloudiness and thunderstorms and was partially related to the remnants of Tropical Storm Matthew and a monsoonal low pressure system present in the area.

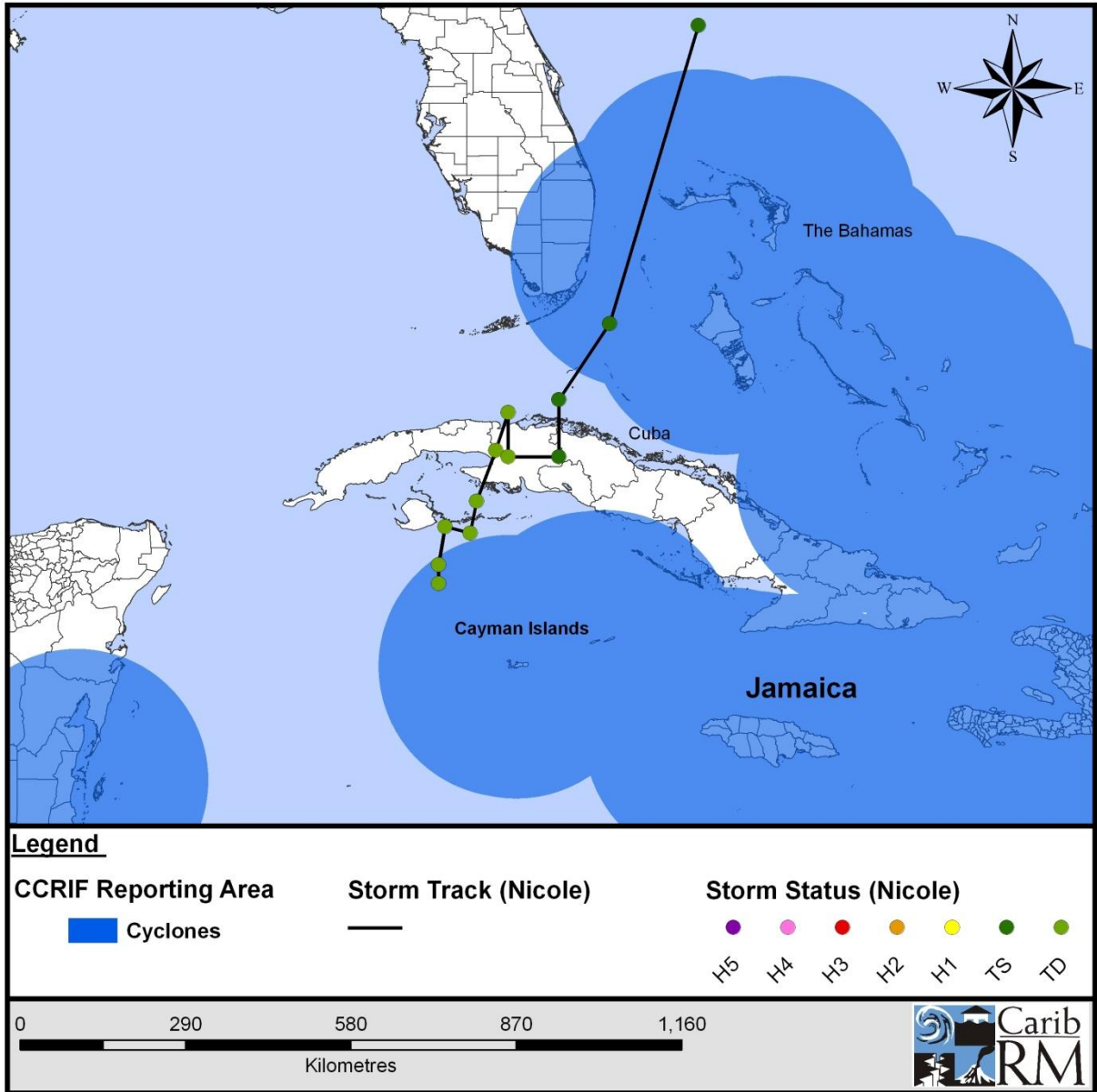


Figure 1 Track for Tropical Cyclone Matthew. *Source: NOAA/NHC.*

The system became Tropical Depression 16 at 11 a.m. EDT on 28 September and was upgraded to Tropical Storm Nicole 24 hours later as it approached Cuba. Although generally poorly defined, it generated torrential rainfall and thunderstorms, particularly in the eastern and southern sections as it moved slowly to the northeast towards the Bahamas.

The large system affected a number of CCRIF member countries, these being the Cayman Islands, Jamaica and the Bahamas. Heavy rains, high winds and rough seas were experienced across the region, but Jamaica appears to have been the most severely affected in terms of persistent, torrential rainfall. Figure 2 shows the estimated rainfall totals for Nicole from the Tropical Rainfall Measurement Mission satellite ensemble.

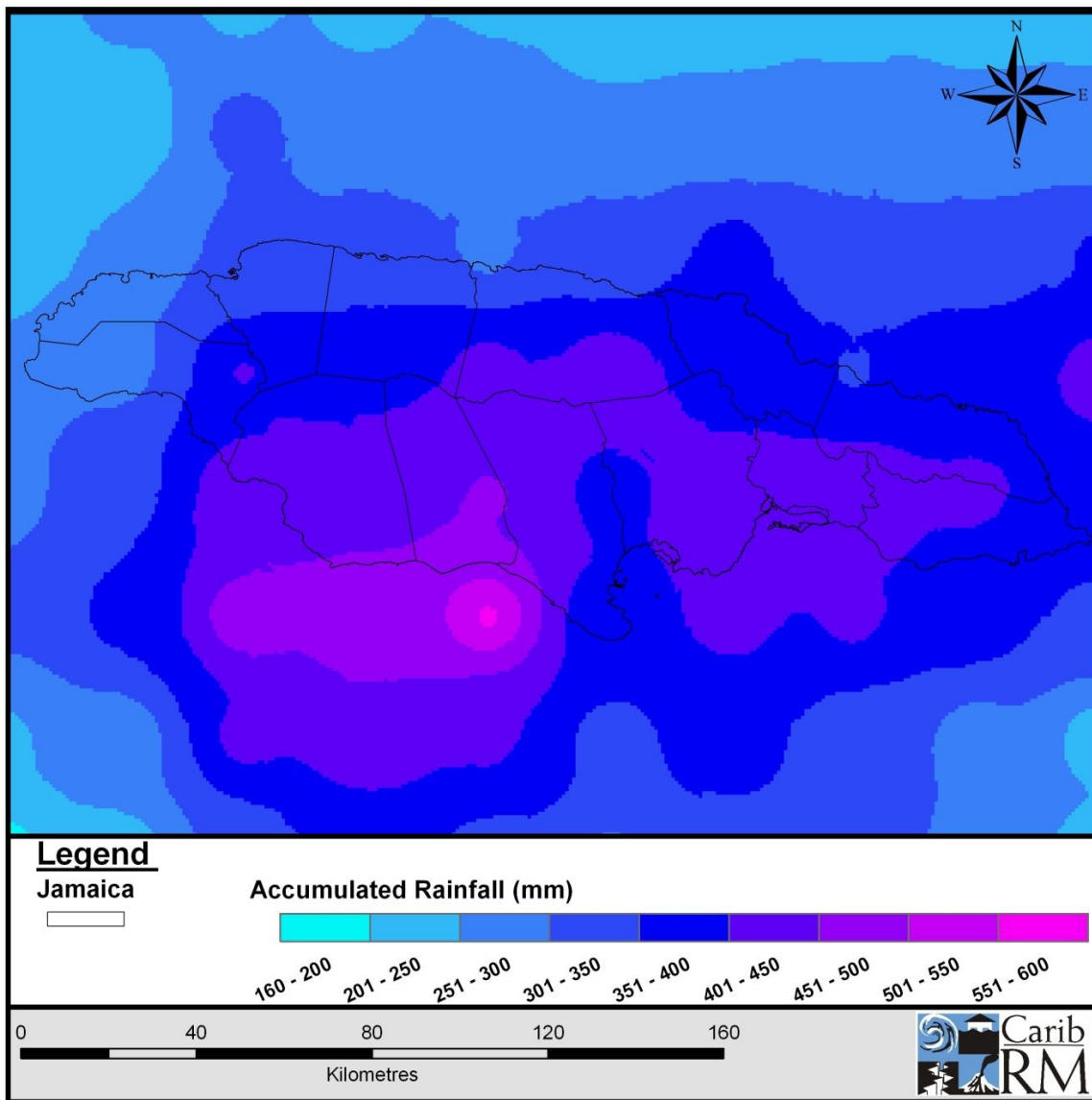


Figure 2 TRMM rainfall totals for Nicole. *Source: NASA/JSA TRMM.*

Although we are awaiting on-the-ground rainfall data to further characterise this event, data from NASA/JSA TRMM indicate that as much as 20 inches (500 mm) of rain fell in the southern parishes of St Elizabeth, Manchester, Clarendon, St Catherine and St Andrew over a 72-hour period from September 27 to September 30 (Figure 2). The Jamaica Meteorological Service confirmed in a late news release on 29 September that rainfall accumulations in excess of 4 inches (100 millimetres) had been recorded over a 12-hour period at various weather stations across the island.

Sustained wind speeds associated with the system did not exceed 40 mph with its lowest pressure being measured at 996 mbar. Nicole quickly dissipated to a Tropical Depression on 29 September as it moved through the Florida Straits.

As the winds and ocean hazard parameters associated with Nicole were well below Tropical Storm force in the region of closest CCRIF member countries (the Bahamas, the Cayman Islands and Jamaica) the event did not qualify as a triggered event under CCRIF's hurricane policies with these countries.

2 IMPACT

News reports indicate that as many as 13 people were killed and two people missing following the floods in Jamaica. A number of bridges and roads were destroyed or seriously damaged, although there were no reports of significant damage to commercial properties. Some residential areas however appear to have been flooded. The electricity supply was disrupted due to downed trees and poles and the Jamaica Public Service Company (JPS) had to activate its emergency operations centres across the island in order to restore power to some 170,000 customers in affected areas.

Jamaica's Prime Minister, The Honourable Bruce Golding, stated that preliminary assessments estimate that the floods will cost the government at least US\$151 million. Assessments carried out by the Ministry of Transport and Works and the Department of Local Government indicate that the damage to the road network, drainage systems, river protection and associated infrastructure will require US\$123 million to restore. US\$19.7 million will also be required to initiate immediate clearance and works on roads that have been damaged or infrastructure that poses some danger to life and property. Loss of farm roads is estimated at US\$5.8 million and loss of crops and livestock is estimated at US\$5.8 million. Damage to schools island wide is estimated at US\$1.16 million and damage to health facilities at US\$1.14 million. While reports indicate that tourist arrivals during the period were not adversely affected, significant damage was done to beaches and buildings in Negril which is estimated at over US\$1 million. Additionally, the National Water Commission estimates the damage to its systems and installations at US\$3.13 million.

Photographs illustrating various aspects of damage are provided overleaf in Figures 3 to 6.

The occurrence of this event and the damage experienced in Jamaica highlights the imposing impacts and costs which natural disasters continue to have on Caribbean countries. Although this event did not become a tropical cyclone until well after passing Jamaica, it still had a significant physical and human impact which is further pronounced by the delicate fiscal situation of the country. The risk spectrum imposed by natural disasters on Caribbean countries range from the more frequent, less intense events to the less frequent but larger and more catastrophic events. The rains associated with Tropical Cyclone Nicole highlight the urgent need for a more holistic approach to effectively managing all of these risks.



Figure 3



Figure 4



Figure 5



Figure 6