



World Meteorological Organization
RA IV HURRICANE COMMITTEE
FORTY-FIRST SESSION

Curaçao, Dutch Caribbean,
18 to 22 March 2019

RA IV/HC-41/Doc. 3.2(2)

Submitted by: Cuba
11.02.2019
Original: English

AGENDA ITEM NO.3: REVIEW OF THE 2018 CYCLONE SEASON

AGENDA ITEM NO.3.2: COUNTRY REPORT

AGENDA ITEM NO.3.2(2): CUBA

Reports of hurricanes, tropical storms, tropical disturbances and related flooding during 2018.

Cuba was affected by two tropical cyclones in the 2018 hurricane season: Sub-tropical Storm Albert and Hurricane Michael.

Sub-Tropical Storm ALBERTO:

After several days as a broad low pressure system between Honduras and Cayman Islands, Alberto developed on May 25 near the Yucatan Peninsula as a Subtropical Depression that became a subtropical storm by 1800 UTC 26 May, while it was centered about 90 km north-northwest of the Western tip of Cuba. As it entered the Gulf of Mexico, Alberto intensified and transitioned into a tropical cyclone.

1. Impacts related to Sub-Tropical Storm Alberto in Cuba.

Heavy rainfall occurred well to the east, across much of Central and Western Cuba. A maximum of 430.0 mm in 24 hours was recorded in Real Campiña, Cienfuegos, while 122 measuring gauges reported 24-hour rainfall between 100 and 300 millimeters in the provinces of provinces of Pinar del Rio, Artemisa, Matanzas, Cienfuegos, Sancti Spiritus, and Ciego de Avila. Flooding and mudslides were reported in Central and Western Cuba, and the heavy rainfall caused Cuba's largest reservoir, the Zaza Dam, in Sancti Spiritus province, to reach its second highest level on record.

Despite the timely information and forecasts of heavy and intense rainfall over Central Cuba, ten people died by drowning in floodwaters. Reports indicated that at least seven of the victims were men between the ages of 26 and 77. Cuban Interior Minister informed that at least four of the deaths were "all due to reckless behaviour" of the victims. Cuba has relatively more deaths in flooding than in a hurricane. It means that more awareness work has to be done in this sense.

More than 40,000 people were evacuated in four of Cuba's central provinces due to heavy rainfall and flooding. The rains severely damaged segments of the National Highway and rail transport, and several communities were isolated from the rest of the country. A bridge was swept away in Taguasco, Sancti Spiritus, due to the high, fast-moving waters of the Zaza River. In Villa Clara province, 64 homes totally collapsed, and another 138 partially collapsed; damage occurred to the corn, cassava, and sweet potato crops. Wastewater treatment ponds

at the Cienfuegos oil refinery overflowed, causing 12,000 cubic meters of oily water to spill into the adjacent bay.

A tornado was reported over the municipality of San Juan y Martínez, Pinar del Río, on the 8th, associated with the passage of a spiral band. The tornado occurred at 11:20 a.m. and was reported by the meteorological observer at the San Juan y Martínez station (78314).

Coastal flooding was also recorded at the Cortez Inlet and in the lower areas of the south coast of the province of Pinar del Rio and Artemisa.

2 Coordination with emergency managers and other stakeholders

There was a big challenge to issue information and forecasts on a Sub-tropical Storm, taking into account that it is something very rare in the latitude of Cuba; most people had never heard of it before.

Therefore, there was a good job made by the forecasters in explaining what it was and how the main threat, heavy rains, were located well removed to the east and far from the center of circulation, over Central Cuba, making the people and the Civil Defence officers to better understand this feature. TV and Radio were an excellent media for forecasters to explain all the details as well as the forecast made of the rain areas over Central Cuba. Besides, forecasters participated in several meetings with the Civil Defence, both at the National and local levels.

The Early Warning, and the Watch and Warning system worked well and everybody was prepared for the heavy rains in Central Cuba. Unfortunately, awareness in some persons is still very needed regarding flooding, and it could be seen in the amount of casualties because of drownings.

Hurricane MICHAEL:

Michael originated from a broad low pressure area formed in the southwestern Caribbean Sea on October 2. The disturbance became a tropical depression Fourteen on October 7, after nearly a week of slow development, and the same day it was upgraded to Tropical Storm Michael. By October 8, Michael had intensified into a hurricane near the Western tip of Cuba, as it moved northward towards the Gulf of Mexico.

1. Impacts related to Hurricane Michael in Cuba.

Maximum sustained winds related to Michael were recorded at the Cape San Antonio weather station (78310), with sustained speeds between 120 and 140 kilometers per hour, with a maximum gust of 171 kilometers per hour. This station was the closest to the hurricane center, No other station reported hurricane winds, but some stations in western Cuba reported winds just above the tropical storm threshold.

The most intense rains associated with Hurricane Michael occurred in the provinces of Pinar del Rio and Artemisa, during the 8th and 9th of October 2018. These rains were in the order of 200 to 250 mm in the Westernmost provinces of Cuba, Pinar del Rio and Artemisa. The highest report was 270 mm in 24 hours at Los Palacios, Artemisa. In the Isle of Youth, South of Western Cuba, rainfall reports ranged between 100 and 120 mm.

About 70% of the Isle of Youth lost power. High winds left more than 200,000 people without electricity in the province of Pinar del Rio, mainly in the westernmost sector. The Ministry of Energy sent 500 power workers to the area to restore electricity in a short time.

2 Coordination with emergency managers and other stakeholders

As usual, forecasters were on TV and Radio updating the weather information at any time. There were frequent meetings with the Civil Defence and authorities, at national and local levels, which permitted to make an efficient evacuation in the areas with any danger.

The number of evacuees due to this hurricane did not need to be as high as on other occasions, with about 300 people in Pinar del Río, although there were neighbors that were also evacuated from areas vulnerable to coastal flooding in the Isle of Youth and in the province of Artemisa.

Damages were minor and there were no casualties not injured people.