= Tropical Storm Emily (2011) =

Tropical Storm Emily was a weak Atlantic tropical cyclone that brought torrential rains to much of the northern Caribbean in 2011 . The fifth named storm of the annual hurricane season , Emily developed from a strong but poorly organized tropical wave that tracked the open Atlantic for several days in late July . On August 1 , it approached the Lesser Antilles and became better defined , producing inclement weather over much of the area . Two days later , the disturbance developed a closed wind circulation center , marking the formation of Tropical Storm Emily . The storm remained fairly disorganized as it proceeded into the Caribbean , though it generated strong thunderstorms and gusty winds along its path . On August 4 , Emily was declassified as a tropical cyclone , after the mountainous areas of Hispaniola disrupted its weak circulation . Upon exiting the northeastern Caribbean on August 6 , its remnants regenerated into a tropical storm , ultimately dissipating the next day .

Despite its poor organization , Emily wrought havoc across many Caribbean nations . Gusty winds felled trees and heavy rains triggered widespread flooding throughout the Lesser Antilles ; any significant damage in those islands was confined to Martinique , however , where one fatality occurred . In Puerto Rico , similar floods affected residences and roads , with infrastructural losses in the territory estimated at $ 5 million . Even after dissipating , the remnants of Emily continued to produce prolonged rainfall over much of Hispaniola . Extensive floods and mudslides in the Dominican Republic displaced over 7 @,@ 000 residents , and three people drowned in the capital of Santo Domingo . In neighboring Haiti , hundreds of homes were flooded in the department of Artibonite , prompting evacuations . Only minor wind damage occurred throughout the country 's southern peninsula , but one death was reported in the region .

= = Meteorological history = =

The cyclogenesis of Tropical Storm Emily was complicated , extending over several days from late July into early August . An easterly tropical wave ? an equatorward trough of low pressure ? exited the west African coast in the fourth week of July , at which point it became largely embedded within the monsoon trough . Located to the south of a ride of high pressure , the wave moved west @-@ northwestward across the open Atlantic ; it retained a broad circulation with little to no precipitation for a day or two . Over time , clusters of convection increased around the broad system , and it developed two distinct centers of circulation on July 30 . During the morning of July 31 , the large low markedly gained in organization , and the National Hurricane Center (NHC) noted it was close to becoming a tropical depression . Later that day , however , the main circulation became increasingly elongated ; its westernmost component soon detached to form a separate tropical wave . This new disturbance featured widely scattered convection and rainbands , which briefly affected the Lesser Antilles . The next day , a new area of deep convection with a dominant center formed as the circulation became better defined . It passed through the Leeward Islands with some improvement in its structure , and the surface winds rose to near tropical storm force . A reconnaissance flight into the system revealed the circulation center had become well defined near the deep convection . The system was upgraded to tropical storm status and given the name Emily at 0000 UTC on August 2 , when it was located to the south of Dominica . During the initial stages of its existence , the storm accelerated toward the west @-@ northwest in response to the strong high pressure to its north .

With a relatively dry environment along its projected path , Emily was expected to strengthen only gradually until its predicted passage through the Greater Antilles . For several hours into August 2 , the cyclone fluctuated little in intensity and organization as it developed banding features . Emily 's appearance later improved on satellite images , and it developed a ragged central dense overcast ; the NHC estimated that the storm had reached its peak sustained winds of 50 mph (80 km / h) by 0000 UTC on August 3 . Nevertheless , reconnaissance revealed that its circulation remained poorly organized , and at the time , several forecast models even supported dissipation prior to landfall in Hispaniola . An increase in upper wind shear removed the deepest convection from the circulation

center , and it would remain so for the rest of the storm 's duration . On August 4 , the cloud pattern and convective banding became better organized near the center as the upper outflow over the cyclone expanded . Emily proceeded to track just south of the Dominican Republic , where its weak circulation became increasingly disrupted due to the adjacent high terrain and increasing vertical wind shear . The cyclone accelerated over Hispaniola and degenerated into an open trough around 2100 UTC that day .

The remnant trough proceeded northwestward into the Bahamas , where the NHC assessed a high chance of redevelopment based on relenting upper wind shear . Over the next couple of days , it moved over the Bahamas and proceeded east of southern Florida . Late on August 6 , the trough developed a new center of circulation and regenerated into a weak tropical depression by 1800 UTC near Grand Bahama . Emily briefly reattained tropical storm strength six hours later , although it once again dissipated to a remnant low the next day owing to increasing wind shear . The low took on an accelerated east @-@ northeastward motion , bypassing Bermuda before heading eastward over the open Atlantic . It briefly retained a broad area of gale @-@ force winds with deep convection , which prompted the NHC to remonitor the system . The combination of strong wind shear and its rapid forward speed inhibited significant development , and the remnant dissipated around 1200 UTC on August 11 , about 980 mi (1 @,@ 565 km) west of the Azores .

= = Preparations = =

Because of the high potential for tropical cyclone development , Météo @-@ France declared yellow cyclone alerts for Guadeloupe and Martinique , warning of imminent squally weather . Due to the presence of Emily , a state of emergency was declared for all of Puerto Rico . Officials ordered the preparation of over 400 storm shelters and ensured adequate water supply . The morning before the storm , government workers were dismissed , and national courtrooms remained closed . The United States Coast Guard issued a statement urging residents of Puerto Rico and the U.S. Virgin Islands to avoid recreational boating and swimming until Emily had passed . JetBlue Airways waived fees for flights into the Dominican Republic because of the inclement weather conditions . Four cruise ships , Oasis of the Seas , Freedom of the Seas , Carnival Dream and Carnival Liberty altered their courses through the Caribbean to avoid the storm .

In Haiti , about 630 @,@ 000 people were still living in tents across areas devastated by the January 2010 earthquake prior to Emily 's arrival . Due to the lack of sturdy structure to ride out a storm , fears arose over how they would fare with a tropical cyclone passing through the country . Emergency officials in the country set aside 22 large buses to evacuate thousands of people at the risk of flooding . Additionally , residents were urged to conserve food and safeguard their belongings . The United Nations placed 11 @,@ 500 troops in the country on standby to assist in recovery efforts should they be necessitated . The International Federation of Red Cross and Red Crescent Societies also put emergency teams on standby to deliver food support in addition to the 125 @,@ 000 people already assisted . In advance of the storm , authorities closed all airports and landing sites in country .

= = Impact = =

= = = Lesser Antilles = = =

Intense rainbands produced gusty winds and heavy precipitation totaling to 5 @.@ 90 in (150 mm) in Martinique , causing street flooding and inundating homes . Roughly 5 @,@ 000 residences lost power at the height of the storm , though the outages were brief and confined to the southeast of the island . A large landslide occurred in the capital of Fort @-@ de @-@ France due to excessive soil saturation , prompting some 40 families to evacuate the area . Across the city , deep flood waters affected 29 houses ; a man was electrocuted and killed by an exposed wire in his flooded home .

In Guadeloupe , damage from the storm was limited ; potent gusts uprooted numerous trees and

blew debris onto streets throughout Basse @-@ Terre . One road was blocked off to traffic during its passage as a precautionary measure , but was reopened soon thereafter . Gale @-@ force winds downed some electricity lines in Saint Kitts and Nevis , causing two island @-@ wide outages . The storm enhanced moisture to produce intermittent torrents over the Virgin Islands , with localized totals of no more than 1 inch (25 mm) . Winds in the area were also limited ; the highest gust was experienced on Buck Island , measuring 52 mph (83 km / h) .

= = = Puerto Rico = = =

While moving little near Puerto Rico , Emily brought prolonged tropical storm conditions to many parts of the island . The heaviest rainfall occurred in southern regions ; Caguas recorded a total of 8 @.@ 22 in (209 mm) of rain during the storm . High winds damaged an electrical grid , cutting off power to about 18 @,@ 500 customers ; roughly 6 @,@ 000 people were left without drinking water during the storm . Dozens of residents evacuated to shelters , in particular those living near risk zones . Torrential rains of up to 10 inches (250 mm) overflowed three rivers , which resulted in the flooding and subsequent closure of the PR @-@ 31 highway and PRI @-@ 3 intersection . Throughout the island , multiple other roads were made impassable by landslides and fallen objects ; infrastructural damage surmounted $ 5 million , according to preliminary estimates . The two @-@ day suspension of about 280 @,@ 000 employees ? about 30 percent of the territory 's workforce ? affected the local economy significantly , with capital losses estimated at $ 55 million .

In San Lorenzo , 25 families became isolated when a bridge threatened to collapse . Flooded homes and cluttered streets were reported in Ceiba , with one residential gate collapsing in the municipality . The agricultural sector also sustained losses from the storm ; in Yabucoa , heavy rains washed out 1 @,@ 200 acres (490 ha) of banana seedlings .

= = = Hispaniola = = =

Albeit disorganized , Emily and its remnants dropped extensive precipitation across the Dominican Republic , with maximum totals of up to 21 inches (528 mm) recorded in Neiba . Among other consequences , severe flooding and isolated mudslides left 56 communities isolated from surrounding areas . The storm displaced up to 7 @,@ 534 people throughout the country , of which 1 @,@ 549 sought refuge in storm shelters . Consecutive hours of rainfall resulted in the overflow of some rivers , although no significant damage was reported to adjacent areas . Offshore , squalls generated rough waves that briefly affected boating operations and oceanside homes . To the east of Santo Domingo , two men drowned after getting caught in a swollen river . A third drowning fatality occurred elsewhere in the capital due to flooding .

Owing to the timing of its dissipation , Emily spared neighboring Haiti from the devastation initially anticipated . At least 235 people in Jacmel and Tabarre , as well as 65 prisoners from Gonaïves and Miragoâne , required evacuation at the height of the storm . In Artibonite , civil protection teams evacuated roughly 300 residents . Rainfall triggered floods that damaged over 300 homes throughout the country , while several cholera treatment centers were destroyed . At the risk of new outbreaks , special sterilizers were distributed to sanitize possibly contaminated waters . A body was recovered from a ravine near Les Cayes , but the exact cause of death was disputed ; another person in the area sustained injuries after being hit by a fallen tree . High winds caused some property damage in Léogâne and Jacmel .

= = = Elsewhere = = =

The successor trough to Emily produced torrential rains over eastern Cuba , causing some rivers to overflow . Damaging flood waters spread across roads in Santiago de Cuba , where 37 homes were affected by mud . While regenerating into a tropical depression , Emily dropped prolonged rainfall in the Bahamas ; a severe thunderstorm warning was accordingly issued for Grand Bahama and adjacent waters . Precipitation totals of up to 7 @.@ 9 in (200 mm) were recorded during the time .