

= Tropical Storm Gilda ( 1973 ) =

Tropical Storm Gilda in 1973 was the first documented tropical cyclone on record to transition into a subtropical cyclone . It formed on October 16 in the western Caribbean Sea from a tropical wave , and strengthened to reach peak winds of 70 mph ( 110 km / h ) before striking Cuba . It later moved slowly through the Bahamas before weakening to tropical depression status . On October 24 , with the assistance of a cold front off the coast of the eastern United States , Gilda transformed into a subtropical storm , becoming very large and strong . The storm later accelerated northeastward and became extratropical , ultimately dissipating near Greenland .

The storm first brought heavy rainfall to Jamaica , causing six deaths and some damage from mudslides . While crossing Cuba and later the Bahamas , the storm caused little impact , limited to some crop damage . As a subtropical storm , Gilda brought gusty winds and high waves to much of the east coast of the United States , causing minor beach erosion and coastal property damage .

= = Storm history = =

A tropical wave moved off the west coast of Africa on October 3 . It tracked westward , reaching the Caribbean Sea on October 10 . By October 13 , a large area of convection persisted from Hispaniola southwestward through Panama , and over the next few days the convection organized and concentrated in the northwestern Caribbean Sea . An anticyclone became established near Jamaica on October 15 , which created a favorable upper @-@ level environment for the system by reducing wind shear . Around the same time , a low @-@ level trough emerged from the Intertropical Convergence Zone , heading north off the coast of Nicaragua . Early on October 16 , the system developed into a broad tropical depression about halfway between Central America and Jamaica .

The initial motion of the depression was uncertain , as steering currents could have resulted in a motion either to the west or to the north @-@ northeast . With the possibility of the western track , the storm was remarked as being the first serious hurricane threat for southern Florida since Hurricane Gladys in 1968 . However , after formation the depression moved slowly north @-@ northeastward . The thunderstorm activity gradually became better organized while rainbands increased around the circulation . By 0000 UTC on October 18 , the depression attained tropical storm status about 100 mi ( 160 km ) northwest of the Cayman Islands , after which it was named Gilda by the National Hurricane Center ( NHC ) . The storm quickly strengthened as it moved toward southern Cuba , reaching peak winds of 70 mph ( 110 km / h ) about 18 hours after reaching tropical storm status . Shortly thereafter , Gilda made landfall near the border of the present day Cuban provinces of Sancti Spíritus and Ciego de Ávila .

Tropical Storm Gilda weakened slightly over Cuba , crossing the island in less than twelve hours before emerging into the Atlantic Ocean early on October 19 . At the time , the anticyclone over Jamaica which previously assisted the cyclone instead remained over the Caribbean , which increased shear over the storm . This caused the convection to gradually separate from the low @-@ level circulation . Early on October 20 , Gilda passed just southeast of Andros Island in the Bahamas , around the same time that the Hurricane Hunters recorded an atmospheric pressure of 994 mbar ; this was the lowest recorded pressure in association with Gilda while it was a tropical cyclone . It gradually weakened due to the wind shear , resulting in the low @-@ level steering currents becoming dominant . After moving through the Exuma island chain , the storm passed near or over Eleuthera , and late on October 21 Gilda became nearly stationary about 60 mi ( 95 km / h ) east of Harbour Island . Late on October 22 , after moving only about 6 mi ( 10 km ) in a 24 ? hour period , Gilda weakened to a tropical depression .

Now a tropical depression , Gilda remained nearly stationary for another 24 hours before accelerating northeastward , under the influence of an upper @-@ level trough exiting the east coast of the United States . Cold air from the trough interacted with Gilda , providing a baroclinic environment for intensifying , and on October 24 the storm transitioned into a subtropical storm about halfway between Hispaniola and North Carolina . This made Gilda the first tropical storm on

record to transition into a subtropical cyclone . Operationally , tropical storm advisories were still issued on Gilda while it was subtropical , due to the need to maintain consistency and the possibility it could again become tropical . The circulation of the storm became very large , at one point stretching from New England to the Bahamas , and eastward beyond Bermuda , or a diameter of more than 1300 mi ( 2100 km ) . On October 25 , Gilda passed about halfway between Bermuda and Cape Hatteras , when it reached peak winds of 70 mph ( 110 km / h ) . Subsequently it turned northeastward , and on October 27 attained a minimum pressure of 984 mbar , the lowest of its duration while tropical or subtropical . Later that day , Gilda became an extratropical cyclone southeast of the Canadian Maritimes as it moved over colder waters . After passing just southeast of Newfoundland , the storm continued northeastward , becoming nearly stationary off the coast of Greenland before dissipating on October 30 .

= = Preparations , impact , and records = =

Tropical Storm Gilda first affected Jamaica , bringing heavy rainfall in a three @-@ day period . The highest amount measured in a 24 ? hour period within Jamaica was 411 millimetres ( 16 @.@ 2 in ) , which triggered many landslides across eastern sections of the island . The rains produced landslides , particularly in Saint Andrew Parish where six houses were destroyed . Elsewhere on the island , the mudslides caused further property damage and left some roads unpassable . Six people were killed throughout the country . The storm did not have significant impact in Cuba . A station in the mountains of what was then known as Oriente Province recorded winds of 60 mph ( 95 km / h ) . The city of Morón , located along the northern coast of Cuba , recorded 6 @.@ 13 inches ( 155 mm ) of rainfall in the 6 hour period prior to the storm passing the area . Damage was minor , limited to some crop damage in the eastern portion of the island , as well as power outages . The threat of the storm forced several thousand people to leave their homes .

In the Bahamas , officials closed schools , and many businesses closed early on the day the storm moved through the country . The storm 's stationary motion caused several days of high tides and heavy rains . Tropical storm force wind gusts were reported on Andros Island , and gusts peaked at 75 mph ( 120 km / h ) on Golden Cay . Gilda 's passage left crop damage on several islands , although monetary losses in the country were minor .

When Gilda was forecast to move near southeastern Florida , gale warnings were issued from North Key Largo to Fort Lauderdale . Rough seas affected the Florida coastline for about 72 hours , causing moderate coastal property damage and beach erosion . After becoming a large subtropical cyclone , gale warnings were issued at various times from Cape Hatteras , North Carolina to the mouth of the Merrimack River in Massachusetts . High surf and minor beach erosion were reported along the coastline , and gale force winds were observed from North Carolina to New Jersey . Over the western Atlantic Ocean , the storm produced strong winds and rough seas . One ship reported a wave height of 28 ft ( 8 @.@ 5 m ) , though no significant marine losses were reported . Around the time of it becoming extratropical , Sable Island off the coast of Nova Scotia recorded a wind gust of 74 mph ( 119 km / h ) .

Tropical Storm Gilda was notable as being the first observed tropical cyclone to transition into a subtropical cyclone ; several subtropical cyclones have undergone tropical cyclogenesis , but never the opposite . Since Gilda , a few other storms accomplished the feat . In 1980 , a tropical depression dissipated , reformed as a subtropical depression , and later became Hurricane Georges over the open Atlantic Ocean . The next year , Tropical Storm Jose became subtropical near the end of its duration , and in 1984 , Hurricane Klaus became a subtropical storm over the western Atlantic Ocean . In 2001 , Tropical Storm Allison , after causing devastating flooding in Texas , became a subtropical storm over the Gulf of Mexico and moved across much of the southeastern United States . In 2011 , Tropical Storm Lee transitioned into a subtropical storm while approaching Louisiana .