

= Hurricane Erika (1997) =

Hurricane Erika was the strongest and longest @-@ lasting tropical cyclone in the 1997 Atlantic hurricane season . It developed from a tropical wave on September 3 and moved west @-@ northwestward across the tropical Atlantic Ocean , steadily intensifying until it attained hurricane status on September 4 , becoming the fifth named storm and third hurricane of the season . Erika passed a short distance to the north of the Lesser Antilles , and later turned to the north in response to an approaching trough . The hurricane quickly strengthened to become the only major hurricane of the season , reaching maximum sustained winds of 125 mph (205 km / h) on September 8 ; after maintaining its peak strength for 24 hours , Erika began to weaken as it passed over cooler waters . It turned to the east , weakened to a tropical storm , and became extratropical after passing near the Azores archipelago .

The hurricane produced light rainfall and winds throughout the northern Lesser Antilles . The passage of Erika carried a cloud of volcanic ash to Antigua from the eruption of the Soufrière Hills Volcano on Montserrat , a rare occurrence . Strong waves from the hurricane produced beach erosion and coastal flooding in northern Puerto Rico , and caused the death of two surfers . Moderate wind gusts in the northern Leeward Islands and Puerto Rico left thousands of residents without power , and resulted in \$ 10 million (1997 USD , \$ 12 @. @ 6 million 2006 USD) in damage in the U.S. Caribbean territories . Erika also produced gusty winds and light rain in the Azores . Erika was the only tropical cyclone in the Atlantic Ocean in the months of August and September , the first occurrence of such event in an Atlantic hurricane season since 1929 .

= = Meteorological history = =

A large tropical wave , which eventually became Erika , moved off the coast of Africa on August 31 . Shortly after leaving the coast , it displayed a large low @-@ level circulation , though as it tracked westward , the circulation failed to contract significantly . It slowly organized , and by September 3 the convection within the circulation had sufficiently organized for the system to be classified as Tropical Depression Six , while located about 1150 miles (1850 km) east of the southernmost Lesser Antilles . The depression moved west @-@ northwestward at approximately 20 mph (32 km / h) under the influence of a well @-@ established subtropical ridge , and late on September 3 the system intensified into a tropical storm . At that time , the National Hurricane Center in Miami gave the storm the name of Erika .

Erika continued to the west @-@ northwest , and in the early hours of September 4 , an eye @-@ like feature appeared to have developed in the center of the deep convection . The feature was not an eye , though , as visible satellite imagery revealed a center partially exposed from the convection . Despite unfavorable wind shear , Erika strengthened further and intensified into a hurricane late on September 4 , while located 530 miles (850 km) east @-@ southeast of Guadeloupe . Deep convection re @-@ developed near the center , and the hurricane slowly strengthened as it continued west @-@ northwestward . Hurricane Erika decelerated its forward motion as it approached the Lesser Antilles , and passed within 85 miles (135 km) of the islands as a Category 1 hurricane . An approaching trough weakened the subtropical ridge , resulting in Erika turning to the north and later to the northeast . On September 7 , Erika began to quickly intensify , and the hurricane reached its peak strength of 125 mph (205 km / h) on September 8 , while located about 350 miles (565 km) north of the Lesser Antilles . Erika maintained peak intensity for about 24 hours before weakening over cooler waters .

After passing about 350 miles (565 km) east of Bermuda on September 10 , Erika turned to the east @-@ northeast in response to westerly steering currents . Increased upper @-@ level wind shear weakened the hurricane to a tropical storm on September 12 . Erika continued to weaken as it turned to the east @-@ southeast , though it maintained deep convection near the center despite unfavorable atmospheric conditions . On September 14 the storm turned to the northeast again , and re @-@ strengthened to reach winds of 70 mph (110 km / h) while located 510 miles (820 km) west @-@ southwest of the Azores . On September 15 Erika passed near the western Azores

islands , and quickly weakened as deep convection diminished . Erika became an extratropical cyclone on September 16 north of the Azores , and after executing a clockwise loop , the extratropical storm dissipated on September 19 about 230 miles (370 km) southwest of Ireland .

= = Preparations = =

Early in the storm 's development , forecasting Erika 's motion was difficult , with a persistent leftward bias in official forecasts . In response to Erika 's threat , the government of Saint Martin first issued a tropical storm warning late on September 4 . The next day , the respective governments of Antigua , Montserrat , Barbuda , Saint Kitts and Nevis , Anguilla , Dominica , Guadeloupe , and Saint Barthélemy issued tropical storm warnings for their islands . When Erika 's motion resulted in a path that would take it closer to the islands , all of the aforementioned islands excluding Guadeloupe upgraded the tropical storm warning to a hurricane warning . In addition , a hurricane watch was issued for the British and United States Virgin Islands , as well as Puerto Rico . In public advisories , the National Hurricane Center stated tropical storm conditions were likely to be experienced in the Azores . Early forecasts anticipated a threat to the island of Bermuda .

The governments of the islands in the predicted path of Erika urged residents to quickly prepare for the hurricane through radio addresses . In the wake of busy seasons in 1995 and 1996 , which some islands were still recovering from , emergency preparations began . In Puerto Rico , fishermen secured their boats in preparation for the storm . Also on the island , citizens formed long lines at gas stations and purchased emergency supplies . Officials in Anguilla enacted a plan that would turn off the island 's power supply if the winds exceeded 50 mph (80 km / h) . As a precaution , authorities on Saint Martin enacted a curfew for all but those in service jobs .

= = Impact = =

Hurricane Erika produced strong waves and high low @-@ level winds throughout the Lesser Antilles . Just weeks after the eruption of the Soufrière Hills Volcano on Montserrat , the storm blew a cloud of falling ash over Antigua . Tropical storm @-@ force winds affected several of the islands in the Lesser Antilles .

Winds from Hurricane Erika peaked at 37 mph (60 km / h) with a gust of 47 mph (76 km / h) in the Cyril E. King Airport on Saint Thomas . The outer rainbands produced light to moderate rainfall in the Virgin Islands , peaking at 3 @.@ 28 inches (83 mm) at the University of the Virgin Islands in Saint Thomas and 1 @.@ 32 inches (36 mm) in Saint John . The precipitation produced localized street flooding , while the combination of winds and rain caused power interruptions . Offshore , strong waves capsized one dinghy and broke a 50 @-@ foot (15 m) boat from its moorings . On Saint Croix , the hurricane produced sustained winds of 25 mph (40 km / h) and a peak wind gust of 29 mph (46 km / h) at the Henry E. Rohlsen Airport . Rainfall on the island was light , peaking at 0 @.@ 83 inches (21 mm) at Christiansted . The wind gusts downed a few power lines , and damage was minor .

The outer rainbands of Erika passed over Puerto Rico , producing maximum sustained winds of 23 mph (37 km / h) and a peak wind gust of 42 mph (68 km / h) at the Luis Muñoz Marín International Airport . The wind gusts snapped tree branches into power lines , leaving up to 12 @,@ 000 people without power in San Juan , Guaynabo and Bayamón . Rainfall was light on the island , with Caguas reporting a peak total of 0 @.@ 77 inches (20 mm) . The hurricane produced swells of 10 to 12 ft (3 to 3 @.@ 7 m) on the northern coast of Puerto Rico , causing beach erosion or coastal flooding . One road was closed when sections of it were flooded or washed out . The strong waves forced the evacuation of eight families in the northern portion of the island . The strong waves killed two surfers in the northeastern waters of the island . Damage in Puerto Rico and the U.S. Virgin Islands totaled to \$ 10 million (1997 USD , \$ 12 @.@ 6 million 2006 USD) in a preliminary estimate .

Thirty @-@ one ships encountered Erika from September 4 , when it was a tropical storm , to September 18 , when it was extratropical . Two recorded hurricane force winds , with a peak wind

report of 99 mph (159 km / h) . The lowest recorded pressure by a ship was 1000 @. @ 4 mbar (29 @. @ 542 inHg) while located 105 miles (170 km) from Erika as an extratropical storm . The lowest recorded pressure while Erika was a tropical cyclone was 1000 @. @ 5 mbar (29 @. @ 545 inHg) while located 190 miles (305 km) from the center . While passing near the Azores , Tropical Storm Erika produced maximum sustained winds of 30 mph (48 km / h) at Lajes Field . Gusts were much stronger , with a report of 87 mph (140 km / h) in Flores . In addition , a 200 ft (61 m) tower on Lajes recorded a gust of 105 mph (169 km / h) . The storm dropped up to 2 @. @ 35 inches (60 mm) of rain in Flores and produced rough seas throughout the archipelago . Damage , if any , is unknown in the Azores .