

= Hurricane Erin (2001) =

Hurricane Erin was the longest @-@ lived hurricane in the 2001 Atlantic hurricane season . The sixth tropical depression , fifth tropical storm , and first hurricane , Erin developed from a tropical wave on September 1 . After strengthening to a 60 mph (95 km / h) tropical storm as it moved to the west @-@ northwest , wind shear weakened Erin and caused it to dissipate on September 5 . The remnants re @-@ organized into a tropical depression the next day , and Erin strengthened into a hurricane on September 9 while moving northwestward . This was the latest date for the first hurricane of the season since Hurricane Diana on September 10 , 1984 . Erin quickly intensified and reached peak winds of 120 mph (195 km / h) later on September 9 . At its closest approach , Erin passed 105 miles (170 km) east @-@ northeast of Bermuda near peak intensity , and subsequently weakened as it turned to the east . A trough turned Erin to the northeast , and after passing just east of Cape Race , Newfoundland it became extratropical on September 15 . The extratropical remnant continued northeastward and lost its identity near Greenland on September 17 .

Though it passed 105 miles (170 km) east of Bermuda , Hurricane Erin caused little damage or effects on the island . Large swells from the hurricane produced rough surf and rip currents along the East Coast of the United States . In Newfoundland , Erin dropped moderate amounts of rain and gusty winds , though no damage was reported . Throughout its path , Erin caused no casualties , no injuries , and minor damage .

= = Meteorological history = =

A tropical wave moved off the coast of Africa on August 30 . It almost immediately displayed signs of tropical cyclone formation with the development of deep convection and curved rainbands . Organization continued , and late on August 30 Dvorak classifications began on the system . On August 31 , after passing well south of the Cape Verde islands , the system stopped its organization trend . Convection became sporadic , and the system became poorly organized as it moved westward at 20 mph (32 km) . However , environmental conditions remained favorable . On September 1 , the cloud pattern became better organized , and a low @-@ level circulation quickly developed . Following an increase in convection and conformation of a low @-@ level circulation by a buoy , it is estimated the system developed into Tropical Depression Six late on September 1 while located 1 @, @ 600 miles (2 @, @ 590 km) east of the Lesser Antilles .

Located to the south of a mid @-@ level ridge , the depression moved to the west @-@ northwest . With weak to moderate upper @-@ level wind shear over the system , the depression gradually organized , and intensified into Tropical Storm Erin on September 2 . Though Erin had favorable upper @-@ level outflow and developing convection , the inner core of the storm remained disorganized . The storm slowly strengthened , and attained an initial peak intensity of 60 mph (95 km / h) while located about 1 @, @ 150 miles (1 @, @ 855 km) east of the Lesser Antilles . Favorable conditions were expected to allow Erin to continue to strengthen to reach winds of 85 mph (135 km / h) . However , an upper @-@ level low to the northwest of Erin produced strong vertical shear over the storm , and Erin quickly weakened as the low @-@ level circulation became exposed to the southwest of the deep convection . The shear slightly abated on September 4 , allowing Erin to briefly re @-@ strengthen . However , the storm remained disorganized , and following an increase in southwesterly wind shear Erin began a weakening trend . On September 5 , Erin weakened to a tropical depression , and hours later the low @-@ level circulation dissipated .

The remnant low pressure area continued to the west @-@ northwest , and on September 6 the system gradually produced deep convection . A surface circulation redeveloped in the northern portion of the remnants of Erin , and the system developed into a tropical depression again late on September 6 while located 365 miles (585 km) north @-@ northwest of where it previously dissipated . The depression moved to the north @-@ northeast , then turned to the north @-@ northwest , and regained tropical storm status on September 7 . Erin steadily intensified , and its convection and cloud pattern became much better organized on September 8 . On September 9

Erin intensified into a hurricane while located 275 miles (440 km) , and a 40 mile (65 km) wide eye developed . Erin quickly strengthened on September 9 to reach a peak intensity of 120 mph (195 km / h) . , however some sources claim that Erin may have been a little stronger .

Shortly after reaching its peak intensity , Erin passed 105 miles (170 km) east @-@ northeast of Bermuda , its closest approach to the island . The hurricane maintained peak strength for 18 hours before slowly weakening . Its weakening trend was slower than usual due to warmer than usual water temperatures , and by late on September 10 Erin weakened to a Category 2 hurricane . Multiple short @-@ wave troughs weakened the western portion of the subtropical ridge , and on September 11 Erin decelerated as it turned to the east . A strengthening mid- to upper @-@ level trough over eastern Canada turned the hurricane to the northeast . It gradually accelerated its forward motion , and on September 15 , after weakening to a strong tropical storm , Erin passed just east of Cape Race , Newfoundland . Convection gradually diminished as it moved through the north Atlantic Ocean , and later on September 15 Erin became extratropical . The extratropical storm continued northeastward , and after crossing over southern Greenland Erin merged with a high @-@ latitude cyclonic flow to the east of Greenland on September 17 .

= = Impact and preparations = =

When the hurricane appeared to pose a threat to Bermuda , its government issued a hurricane watch . Around 24 hours before Erin made its closest approach , the watch was upgraded to a hurricane warning . Initial forecasts indicated Erin would pass within 15 miles (24 km) of the island . As a result , ferry and bus transport was suspended . Officials prepared a school to be used as an emergency shelter , though few people used it . The threat of the hurricane cancelled several flights in and out of the Bermuda International Airport , stranding hundreds of travellers . Cruise ships and cargo ships also cancelled or delayed their arrivals . The strongest winds of Erin remained to the east of the island . As a result , the highest winds on the island peaked at 41 mph (66 km / h) . Moderate winds downed several trees onto power lines , leaving dozens of homes without power for several hours . Prolonged durations of strong waves resulted in coastal beach erosion . Large waves broke a boat from its moorings , though two men swam through the rough seas to prevent the yacht from running aground . The storm produced rainfall on the island , yet no flooding was reported . Little structural damage occurred on Bermuda , and there were no reported injuries or casualties .

Swells from Erin produced rip currents along the North Carolina coastline . Waves were expected to reach over 6 feet (1 @. @ 8 m) in height . Officials at the National Hurricane Center cautioned authorities and residents to monitor the rough seas .

Erin produced moderate winds across Newfoundland , including a maximum sustained wind report of 53 mph (85 km / h) with a gust of 67 mph (108 km / h) at Cape Race . The storm also produced moderate amounts of precipitation , peaking at 5 @. @ 1 inches (131 mm) at Sagona Island . Along the coast , the passage of the storm led to wave heights of up to 30 feet (9 @. @ 3 m) , while offshore a buoy recorded a wave height of 47 feet (14 @. @ 2 m) . No damage was reported in Canada .