

= Hurricane Humberto (2001) =

Hurricane Humberto was a moderately powerful hurricane that briefly affected Bermuda in September 2001 . It was the eighth named storm of the season , as well as the fourth hurricane . It formed on September 21 between Puerto Rico and Bermuda , partially related to previous Hurricane Gabrielle . Humberto passed about 140 miles (225 km) west of Bermuda , which spared the island with its strongest winds . After weakening and believed to be on the verge of dissipating , Humberto unexpectedly restrengthened to the southeast of Atlantic Canada . The intensification was short @-@ lived and the storm dissipated on September 27 . There were a series of significant observational flights into the hurricane that produced a wealth of data on the structure of hurricanes .

= = Meteorological history = =

Hurricane Humberto originated from a trough that extended southwestward from Hurricane Gabrielle , which had previously moved across Florida into the western Atlantic Ocean . The trough interacted with an upper @-@ level low , resulting in an increase of convection , or thunderstorms , in the region . A surface low developed on September 19 , and it gradually organized as it moved westward . After deep convection developed over the center , it is estimated the system reached tropical depression strength (39 miles per hour (63 km / h)) on September 21 , about halfway between Puerto Rico and Bermuda . The National Hurricane Center (NHC) first published an advisory on the storm at 11 AM EDT , identifying it as Tropical Depression Ten . Upon its formation , the depression moved northwestward toward a break in the mid @-@ level ridge . On satellite imagery , the depression looked well @-@ organized , with banding features , outflow , and convection , although Hurricane Hunters had difficulty locating a closed center of circulation . The unfavorable conditions were from the upper @-@ level low to its southwest , which was producing wind shear over the storm ; nevertheless , the NHC anticipated strengthening .

On September 22 , the surface circulation rapidly became better organized , and based on confirmation from the Hurricane Hunters , the NHC upgraded the depression to Tropical Storm Humberto . Throughout its life , the storm was smaller than average , and as it moved around the subtropical ridge , it gradually intensified . Tropical Storm Humberto developed an eye feature on September 23 . Shortly thereafter , the storm reached hurricane status about 175 miles (285 km) west @-@ southwest of Bermuda . After passing about 140 miles (225 km) west of Bermuda , Hurricane Humberto turned more to the northeast , and reached Category 2 status on the Saffir @-@ Simpson scale . Subsequently , strong upper @-@ level westerlies began affecting the storm , which caused a marked decrease in intensity ; by September 25 , the winds decreased to 75 mph (120 km / h) , or minimal hurricane status . At that time , the NHC expected Humberto to continue weakening due to the shear , as well as steadily decreasing water temperatures .

Unexpectedly , the weakening trend stopped , as the steering winds came from the same direction behind the hurricane . It slowed down slightly , and on September 26 the eye of the hurricane became much more distinct . Humberto quickly re @-@ intensified and reached peak winds of 105 mph (170 km / h) , while located about 200 miles (320 km) south @-@ southeast of Sable Island , off the coast of Nova Scotia . Just as quickly it strengthened , the hurricane began weakening again . The eye became distorted as the convection became asymmetrical , due to the cooler waters and stronger westerlies . Initially , the NHC forecast Humberto to become extratropical . On September 27 , it turned more eastward and later to the east @-@ southeast , and Humberto weakening to tropical storm status about 400 miles (645 km) southeast of Newfoundland . The cloud pattern became increasingly elongated and removed from the center , and late on the 27th , the circulation of Humberto degenerated into an open trough in the far northern Atlantic Ocean . The remnants were expected to be absorbed quickly by a larger extratropical storm to its north .

There were three major aircraft flights into the hurricane over a three @-@ day period which , according to NASA , " were the most comprehensive measurements of the structure of the hurricane ever recorded . " The flights were designed to obtain data for better hurricane forecasting .

= = Impact and naming = =

Prior to its passage by Bermuda , the National Hurricane Center advised the residents " should monitor the progress of Humberto until it is safely past . " On September 23 when the hurricane passed the island , the hurricane force winds extended 30 miles (50 km) from the center , while tropical storm force winds only extended 105 miles (170 km) from the center . As a result , Bermuda only experienced peak sustained winds of 27 mph (44 km / h) , with gusts to 43 mph (69 km / h) . During its passage , the island also recorded 1 @.@ 69 inches (4 @.@ 3 cm) of rainfall .

Only two ships recorded tropical storm force winds , both of which were away from the center . Some higher surf was recorded along the New Jersey coastline . In September 2001 , two men sought to break the record for sailing the quickest time from New York to Melbourne , Australia ; Humberto disrupted their early path slightly , but they ultimately broke the record by 28 hours . Later in its path , there were several marine warnings issued for offshore Newfoundland , although no severe weather affected coastal Atlantic Canada . Overall , there were no reports of casualties or damage from the hurricane .